



**CITY OF MONTEBELLO
CALIFORNIA**

**CONTRACT DOCUMENTS
SPECIFICATIONS**

FOR

**FIRE STATION 56 RENOVATION AT 1166 S. GREENWOOD AVENUE
C.P. No. 923**

**SCARLET PERALTA – MAYOR
SALVADOR MELENDEZ – MAYOR PRO TEM
ANGIE M. JIMENEZ – COUNCILMEMBER
GEORGINA TAMAYO – COUNCIL MEMBER
DAVID N. TORRES – COUNCILMEMBER**

**RAUL ALVAREZ – CITY MANAGER
CESAR ROLDAN - PUBLIC WORKS DIRECTOR**

PREPARED BY:

**Nam Tran
Assistant Engineer**

1600 W Beverly Blvd
Montebello, CA 90640
Tel: 323-887-1200 ext. 1473

**Bid Opening (Electronic Bid through PlanetBids): October 07, 2024 at 11:00
A.M.**

**City of Montebello
Office of the City Clerk
1600 W. Beverly Boulevard
Montebello, CA 90640**

FIRE STATION 56 RENOVATION AT 1166 S. GREENWOOD AVENUE

C.P. No. 923

IN THE CITY OF MONTEBELLO

BID SCHEDULE

- Bid Period - September 12, 2024 to October 07, 2024 at 11:00 A.M.
- Mandatory Pre-Bid Meeting - September 23, 2024 9:00 A.M
- Questions or Request for Information - September 26, 2024 on or before 12:00 P.M.
- Bid Opening - October 07, 2024 at 11:00 A.M.
- Award of Contract (Tentative) - October 23, 2024
- Commence Construction - December 31, 2024
- Close out Project - February 2025

Bid proposals will be received via PlanetBids until 11:00 A.M. on October 07, 2024.
(<https://www.montebellocity.gov/cms/One.aspx?portalId=58756&pageId=61544>)

These Specifications have been prepared
under the direction of:



Cesar Roldan, Director of Public Works



**CITY OF MONTEBELLO
CALIFORNIA**

TO PROSPECTIVE BIDDERS:

The City of Montebello invites you to become a prospective bidder on one of its public projects. It is the City's intention to provide you with thorough and complete information regarding this project and to present an accurate description of the necessary work so that you may successfully bid and construct the project.

Submittal of your bid assumes that you have made a thorough and complete investigation of the project site and that you have discovered no apparent discrepancies between the scope of work set forth in the plans and specifications and the actual field conditions.

If there are any questions regarding this project, please contact the Public Works Director's office at (323) 887-1200, ext. 1462.

CESAR ROLDAN
Director of Public Works

IN THE CITY OF MONTEBELLO

TABLE OF CONTENTS

NOTICE INVITING SEALED BIDS	A-1 to A-5
INSTRUCTIONS TO BIDDERS	B-1 to B-3
BID PROPOSAL	C-1 to C-27
CONTRACT AGREEMENT	D-1 to D-18
SPECIAL PROVISIONS	GP-1 to GP-2
PART 1 - GENERAL PROVISIONS	GP-3 to GP-35
PART 4 – EXISTING IMPROVEMENTS	GP-35 to GP-36
CONSTRUCTION SPECIFICATIONS (CSI FORMAT)	APPENDIX “A”
DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) CONTRACTOR REGISTRATION NUMBER FORM	APPENDIX “B”
PROJECT SIGN	APPENDIX “C”
CDBG REQUIREMENTS	APPENDIX “D”
FEDERAL WAGES	APPENDIX “E”

NOTICE INVITING SEALED BIDS

FOR

FIRE STATION 56 RENOVATION AT 1166 S. GREENWOOD AVENUE

C.P. No. 923

IN THE CITY OF MONTEBELLO

PUBLIC NOTICE IS HEREBY GIVEN that the City of Montebello as AGENCY, invites sealed bids for the above stated project and will receive such bids **electronically ONLY thru PlanetBids, <https://www.cityofmontebello.com/rfp-bids/bid-opportunities.html>, by 11:00 am on October 07, 2024.** The Bid results can be publicly viewed on PlanetBids shortly after the above date and time.

SCOPE OF WORK: The Contractor shall provide all materials, labor, tools, plant, supplies, equipment, transportation, superintendence, temporary construction of every nature, and all other services and facilities necessary to complete the construction of the Fire Station 56 at 1166 S Greenwood Avenue, Montebello, CA 90640, including all incidental work described in the contract documents. The scope of work includes but is not limited to the following: renovation of existing restroom and shower rooms w/ new finishes & plumbing fixtures, renovation of existing laundry room, janitor room, storage rooms, dorm rooms, wellness room, renovation of existing kitchen & dining room, office rooms and living rooms. For a more detailed scope of work please refer to “Summary of Work” in Appendix ‘A’.

HUD SECTION 3

This Project is funded with Housing and Urban Development (HUD), Community Development Block Grant (CDBG) Program. The work to be performed under this Project is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance of HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low-and very low- income persons, particularly persons who are recipients of HUD assistance for housing. Contractors and subcontractors must comply with HUDs prioritization of effort for employment, training, and contracting as well as meet or exceed the applicable Section 3 benchmarks for Targeted Section 3 Workers and Section 3 Workers. The requirements in this part apply to an entire Section 3 project, regardless of whether the project is fully or partially assisted under HUD programs that provide housing and community development financial assistance.

The Bidder/Proposer must declare an intent to comply with Section 3 requirements, including benchmarks, in order to be a responsive bidder/proposer eligible for contract award.

Bidders that fail to submit intent to comply with the requirements of Section 3 will be considered non-responsive and excluded from further consideration.

MANDATORY SECTION 3 PRE-BID MEETING:

A mandatory Section 3 Pre-bid meeting will be held on September 23, 2024 at 9:00 AM., at 1166 S. Greenwood Avenue, Montebello, CA 90640. Bidders that fail to attend Mandatory Section 3 Pre-Bid Meeting will be considered non-responsive and excluded from further consideration.

DEBARRED, SUSPENDED, PROPOSED FOR DEBARMENT

The bidder assures that neither it nor any of its principals is presently debarred, suspended, proposed for debarment, or declared ineligible or voluntarily excluded from participation in this transaction by any federal department or agency in accordance with the requirements of Executive Order 12549 and 12689, 2 CFR Part 180. Bidders and all Subcontractors are required to: (i) Be registered in SAM.gov; (ii) Provide a valid unique entity identifier (UEI); and (iii) Continue to maintain an active SAM registration with current information at all times during the Project duration. Failure to do so shall be just cause for annulment of the award.

BUILD AMERICA, BUY AMERICA ACT (BABA)

The Build America, Buy America Act defines a project to include “the construction, alteration, maintenance, or repair of infrastructure in the United States” and includes within the definition of infrastructure those items traditionally included along with buildings and real property. This is Federally funded project subject to the Build America, Buy America Act (BABA) preference for American materials and products, all iron, steel, manufactured products, and construction materials used in the project have been produced in the United States. Construction materials as defined by 2 CFR 184.3 include: (i) Non-ferrous metals; (ii) Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables); (iii) Glass (including optic glass); (iv) Fiber optic cable (including drop cable); (v) Optical fiber; (vi) Lumber; (vii) Engineered wood; and (viii) Drywall. For more information: https://www.hud.gov/program_offices/general_counsel/build_america_buy_america

CONTRACT DOCUMENTS:

Copies of the contract documents are available on the City’s website at
<https://www.cityofmontebello.com/rfp-bids/bid-opportunities.html>.

In order to be on the Planholder List for this project, each bidder must submit a Bidders Information Sheet thru PlanetBids. Bids will not be accepted unless the bidder is on the Planholder List. All questions from planholders, are to be posted on the website.

Questions: All questions relative to this project prior to the opening of bids shall be submitted electronically and received **no later than 12:00 p.m. on Thursday, September 26, 2024.**

PREVAILING WAGE:

This contract will be funded in whole or in part with federal housing and community development funds through the U.S. Department of Housing and Urban Development (HUD) under the Community Development Block Grant (CDBG) program. The Federal Labor Standards Provisions outlined in the HUD-4010 form, including the prevailing wage requirements of the Davis-Bacon and Related Acts (DBRA) will be enforced upon all contractors performing work on the project, regardless of contract amount. The “current Federal Wage Decision” is the one in effect ten (10) days prior to the bid opening date and can be found on-line at <https://sam.gov/content/wage-determinations>.

This project is a public work in the State of California, funded in whole or in part with public funds. In the event of a conflict between federal and state wage rates, the higher of the two will

prevail. “The Contractor’s duty to pay State prevailing wages can be found under Labor Code Section 1770 et seq. and Labor Code Sections 1775 and 1777.7 outline the penalties for failure to pay prevailing wages and employ apprentices including forfeitures and debarment.” As this project is a “public work,” the Contractor and any Subcontractors must pay wages in accordance with the determination of the Director of the Department of Industrial Relations (“DIR”) regarding the prevailing rate of per diem wages for work of a similar character in the locality in which the public work is performed, and not less than the general prevailing rate per diem wages for holiday and overtime work. Copies of those rates are available by clicking on the link, <https://www.dir.ca.gov/oprl/dprevwagedetermination.htm>. Contractor shall post a copy of the Federal and State determination of the prevailing rate of per diem wages at each job site.

Apprenticeship Program: Attention is directed to Sections 1777.5, 1777.6, and 1777.7 of the California Labor Code and Title 8 of the California Administrative Code, Section 200, *et. Seq.*, to ensure compliance and complete understanding of the law regarding the employment of apprentices by the contractor or any subcontractor on the project.

Public Works Contractor Registration: To comply with SB 854, beginning January 1, 2015, the following applies:

1. No contractor or subcontractor may be listed on a bid proposal for public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations (DIR) pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].
2. No contractor or subcontractor may be awarded a contract for public works on a public works project awarded on or after April 1, 2015, unless registered with the DIR.
3. The project is subject to compliance monitoring and enforcement by the DIR.
4. Require the prime contractor to post job site notices prescribed by regulation (regulation not created yet) or the City must post the notices itself.
5. Require all contractors and subcontractors to submit electronic certified payroll reports (eCPRs) to the DIR Labor Commissioner.

The Contractor shall fill in the Department of Industrial Relations (DIR) Contractor Registration Number Form provided in Appendix “B” and submit it with the sealed Bid.

Debarment: In accordance with 2 CFR 200, these provisions restrict Federal awards, subawards and contracts with certain parties that are debarred, suspended or otherwise excluded from or ineligible for participation in Federal programs or activities.

In addition, in accordance with the provisions of the Labor Code, contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to section 1777.1 or section 1777.7 of the Labor Code. 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. Any public money that is paid to a debarred subcontractor by the Contractor shall be returned to the City. The Contractor shall be

responsible for the payment of wages to workers of a debarred subcontractor used on the Work. **Minority and Women Business Enterprises:** The AGENCY hereby affirmatively ensures that minority business enterprises will be afforded full opportunity to submit bids in response to this notice and will not be discriminated against on the basis of race, color, national origin, ancestry, sex, marital status or religion in any consideration leading to the award of contract. All bidders will be required to document their status as a Minority Business Enterprise (MBE), Women Business Enterprise or non-MBE/WBE entity. Bidders will be required to make a good faith effort to contract with MBE/WBE entities and submit documentation of those efforts as part of their bid.

Conflict of Interest: In the procurement of supplies, equipment, construction, and services by subrecipients, the conflict of interest provisions in 2 CFR 200.317, 2 CFR 200.318 and 24 CFR 570.611, respectively, shall apply. No persons who is an employee, agent, consultant, officer, or elected official or appointed official of the Agency, or of any designated public agencies, or of subrecipients that are receiving funds under this part who exercise or have exercised any functions or responsibilities with respect to CDBG activities assisted under this part, or who are in a position to participate in a decision making process or gain inside information with regard to such activities, may obtain a financial interest or benefit from a CDBG-assisted activity, or have a financial interest in any contract, subcontract, or agreement with respect to a CDBG-assisted activity, or with respect to the proceeds of the CDBG-assisted activity, either for themselves or those with whom they have business or immediate family ties, during their tenure or for one year thereafter

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

Bid Guarantee: Bids must be prepared on the approved Proposal forms in conformance with the "Instructions to Bidders" and submitted in a sealed envelope plainly marked on the outside. The bid must be accompanied by certified or cashier's check, or bidder's bond, made payable to the AGENCY for an amount no less than ten percent of the amount bid.

Contractor's License: Contractor shall possess any and all contractor licenses, in form and class as required by any and all applicable laws with respect to any and all of the work to be performed under this contract; including, but not limited to, a Class "B" License (General Engineering Contractor) in accordance with the provisions of the Contractor's License Law (California Business and Professions Code, Section 7000 et. seq.) and rules and regulation adopted pursuant thereto.

The Contractor, pursuant to the "California Business and Professions Code," Section 7028.15, shall indicate his or her State License Number on the bid, together with the expiration date, and be signed by the Contractor declaring, under penalty of perjury, that the information being provided is true and correct.

City Business License: No bid will be accepted from a Contractor who has not been licensed in accordance with provisions of the Business and Professions Code. The successful Contractor and his subcontractors will be required to possess business licenses from the City.

Retention: The AGENCY will deduct **five percent (5%)** retention from all progress payments as specified in Section 9-3.2 of these Specifications. The Contractor may substitute an escrow holder surety of equal value to the retention and the Contractor shall be beneficial owner of the surety and shall receive any interest thereon.

Award of Contract: The AGENCY shall award the contract to the lowest responsive, responsible bidder. The AGENCY reserves the right to reject any or all bids, to accept any bid or portion thereof, to waive any irregularity or informalities and to take all bids, under advisement for a period of sixty (60) days.

Time of Completion: The contract period for this project is **Sixty (60) working days** from the effective date of the Notice-to-Proceed to be issued by the City.

Tentative Proposed Award Date: October 23, 2024.

BY ORDER OF: The City of Montebello, California

Christopher Jimenez, City Clerk

INSTRUCTIONS TO BIDDERS

FOR

FIRE STATION 56 RENOVATION AT 1166 S. GREENWOOD AVENUE

C.P. No. 923

IN THE CITY OF MONTEBELLO

GENERAL INFORMATION

ELECTRONIC proposals, including all documents required to be submitted with the bid, will be received until the date and time specified in the legal notice or addendum to the project documents, whichever occurs latest, for the construction of work described in the project documents or said legal notice. The Bid(s) will be opened and publicly read by the City Clerk staff or their respective designees, in the Council Chambers, or other designated location, at the City of Montebello.

In addition to the Proposal Documents described in the 'INVITATION TO BIDDERS', the City Clerk's Department will be requesting the fully executed **original Bid Bond** from consider all bidders, and shall be delivered to the Montebello City Clerk 's Office prior to the Bid opening date and time.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

No contractor or subcontractor may be listed on a bid proposal for a Public Works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

No contractor or subcontractor may be awarded a contract for public work on a Public Works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

PROPOSAL FORMS

Bids shall be submitted in writing on the Proposal forms provided by the AGENCY. All information requested therein must be clearly and legibly set forth in the manner and form indicated. The AGENCY will not consider any proposal not meeting these requirements.

PROPOSAL GUARANTEE

Proposals must be accompanied by a proposal guarantee consisting of a certified or cashier's check or bid bond payable to the AGENCY in the amount not less than ten percent of the total amount bid. Any proposal not accompanied by such a guarantee will not be considered. If a bidder to whom a contract is awarded fails or refuses to execute the contract documents or furnish the required insurance policies and bonds as set forth in those documents, the proposal guarantee shall

be forfeited to the AGENCY. The proposal guarantees of all bidders will be held until the successful bidder has properly executed all contract documents.

DELIVERY OF PROPOSAL

Electronic Bids shall be submitted electronically at <https://www.cityofmontebello.com/rfp-bids/bid-opportunities.html> by 11:00 am on January 11, 2023. It is the bidder's responsibility to ensure the bids have been successfully submitted thru PlanetBids. Bidders can contact the AGENCY'S Purchasing Officials for confirmation. Late proposals will not be considered.

WITHDRAWAL OF PROPOSALS

A proposal may be withdrawn by a written request signed by the bidder. Such requests must be delivered to the AGENCY's designated official prior to the bid-opening hour stipulated in the Notice Inviting Sealed Bids. Proposals may not be withdrawn after said hour without forfeiture of the proposal guarantee. The withdrawal of the proposal will not prejudice the right of the bidder to submit a new proposal, providing there is time to do so.

IRREGULAR PROPOSALS

Unauthorized conditions, limitations, or provisions attached to a proposal will render it irregular and may cause its rejection. The completed proposal forms shall be without interlineations, alterations, or erasures. Alternative proposals will not be considered unless specifically requested. No oral, telegraphic, telephonic, facsimile or electronic proposal, modification or withdrawal will be considered.

TAXES

No mention shall be made in the proposal of Sales Tax, Use Tax, or any other tax, as all amounts bid will be deemed and held to include any such taxes, which may be applicable.

DISQUALIFICATION OF BIDDERS

In the event that any bidder acting as a prime contractor has an interest in more than one proposal, all such proposals will be rejected, and the bidder will be disqualified. This restriction does not apply to subcontractors or suppliers who may submit quotations to more than one bidder, and while doing so, may also submit a formal proposal as a prime contractor. No proposal will be accepted from a bidder who has not been licensed in accordance with the provisions of the State Business and Professions Code.

DISCREPANCIES AND MISUNDERSTANDINGS

Bidders must satisfy themselves by personal examination of the work site, Plans, Specifications, and other contract documents and by any other means as they may believe necessary, as to the actual physical conditions, requirements and difficulties under which the work must be performed. No bidder shall at any time after submission of a proposal make any claim or assertion that there was any misunderstanding or lack of information regarding the nature or amount of work necessary for the satisfactory completion of the job. Any errors, omissions, or discrepancies found in the

Plans, Specifications, or other contract documents shall be called to the attention of the AGENCY and clarified prior to the submission of proposals.

EQUIVALENT MATERIALS

Although the bidder may believe that by use of a different material than that specified on/in the plans and specifications, a lower cost project/bid may result. The bidder is to bid the project on the basis of using the material(s) as named keeping in mind that all materials named herein by manufacturer is not to prohibit the bidder considering using in his bid what he consider to be an equal material except where the AGENCY has designated a sole product. Once the bids have been opened the successful Contractor may discuss with the AGENCY the use of another product; which may result in a determination by the AGENCY that the other product is equal and possibly that by the AGENCY allowing the use of the Contractor proposed equal that a change in the contract amount may result.

LEGAL RESPONSIBILITIES

All proposals must be submitted, filed, made, and executed in accordance with State and Federal laws relating to bids for contracts of this nature whether the same or expressly referred to herein or not. Any bidder submitting a proposal shall by such action thereby agree to each and all of the terms, conditions, provisions, and requirements set forth, contemplated, and referred to in the Plans, Specifications, and other contract documents, and to full compliance therewith.

AWARD OF CONTRACT

The award of contract, if made, will be to the lowest responsible bidder as determined solely by the AGENCY. Additionally, the AGENCY reserves the right to accept or reject any or all proposals, to waive any irregularity, and to make an award as may best serve the interests of the AGENCY.

SURETY BOND PERIOD

Surety Faithful Performance Bond shall be maintained for one (1) year after completion of project construction.

PROPOSAL
FOR
FIRE STATION 56 RENOVATION AT 1166 S. GREENWOOD AVENUE
C.P. No. 923
IN THE CITY OF MONTEBELLO

TO THE CITY OF MONTEBELLO, as AGENCY

In accordance with AGENCY's Notice Inviting Sealed Bids, the undersigned BIDDER hereby proposes to furnish all materials, equipment, tools, labor, and incidentals required for the above stated project as set forth in the Plans, Specifications, and contract documents therefor and to perform all work in the manner and time prescribed therein.

BIDDER declares that this proposal is based upon careful examination of the work site, Plans, Specifications, Instruction to Bidders, and all other contract documents. If this proposal is accepted for award, BIDDER agrees to enter into a contract with AGENCY at the unit and/or lump sum prices set forth in the following Bid Schedule. BIDDER understands that failure to enter into a contract in the manner and time prescribed will result in forfeiture to AGENCY of the guarantee accompanying this proposal. This bid may not be withdrawn within a period of sixty (60) days after the date of its proper opening by the City.

BIDDER understands that a bid is required for the entire work and that the estimated quantities set forth in the Bid Schedule are solely for the purpose of comparing bids, and that final compensation under the contract will be based upon the actual quantities of work satisfactorily completed. THE AGENCY RESERVES THE RIGHT TO INCREASE OR DECREASE THE AMOUNT OF ANY QUANTITY SHOWN AND TO DELETE ANY ITEM FROM THE CONTRACT. It is agreed that the unit and/or lump sum prices bid include all appurtenant expenses, taxes, royalties, and fees. In the case of discrepancies in the amounts bid, unit prices shall govern over extended amounts, and words shall govern over figures.

If awarded the Contract, the undersigned further agrees that in the event of the BIDDER's default in executing the required contract and filing the necessary bonds and insurance certificates within ten (10) working days after the date of the AGENCY's notice of award of contract to the lowest responsive BIDDER, the proceeds of the security accompanying this bid shall become the property of the AGENCY and this bid and the acceptance hereof may, at the AGENCY'S option, be considered null and void.

The foregoing quantities are approximate only, being given as a basis for the comparison of bids, and the City does not expressly or by implication agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work or to omit portions of the work as may be deemed necessary or advisable by

the engineer. All bids will be compared on the basis of the Engineer's estimated quantities of work to be performed.

The contractor's attention is directed to both sec. 7-3.5.2 "Increases of more than 25 percent" and sec. 7-3.5.3 "Decreases of more than 25 percent" of the Standard Specifications which have been eliminated and are replaced by the following:

No adjustments for any unit bid price for any quantity that will vary by more than 25% will be allowed.

The bidder agrees that in case of not executing the required contract with necessary bonds within ten (10) working days, after having received notice that the contract is ready for signature, the proceeds of the check or bond accompanying his/her bid shall become the property of the City of Montebello.

The bidder also certifies that the bid is a balanced bid. In accordance with section 7028.15 of the California Business and Professions Code, the undersigned certifies under penalty of perjury that the foregoing is true and correct.

BID PROPOSAL

FOR

FIRE STATION 56 RENOVATION AT 1166 S. GREENWOOD AVENUE

C.P. No. 923

IN THE CITY OF MONTEBELLO

The undersigned declares that he has carefully examined the location of the proposed work, that he has examined the specifications and read the accompanying instructions to bidders, and hereby proposes to do all the work in accordance with said specifications for the amounts set forth below:

Construct improvements as reiterated above, located in the City of Montebello, California, in accordance with the specifications for the unit price set forth in the following items:

BASE BID ITEMS:

ITEM NO.	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	EXTENDED AMOUNT
1	Demolition of interior for new renovation scope	LS	1	\$	\$
2	Site work for new accessible parking stall, signage, striping, detectable warning	LS	1	\$	\$
3	Concrete slab work for new bathrooms and locker room	LS	1	\$	\$
4	Concrete footing for structural columns	LS	1	\$	\$
5	Wood framing for new interior walls, structural beams, openings	LS	1	\$	\$
6	Cabinetry and carpentry at kitchenette and bathrooms	LS	1	\$	\$
7	Insulation for new walls and ceilings	LS	1	\$	\$
8	Flashing and patching of roof for new penetrations	LS	1	\$	\$
9	Pipe insulation Wrap	LS	1	\$	\$
10	New doors, door hardware and thresholds	LS	1	\$	\$
11	Gyp. Board (drywall) at New walls and Ceilings	LS	1	\$	\$
12	Painting and Caulking at Interior	LS	1	\$	\$
13	New 24" x 48" Acoustical Ceiling tiles and grid	LS	1	\$	\$

ITEM NO.	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	EXTENDED AMOUNT
14	Floor, wall, cove tile, grout, mortar	LS	1	\$	\$
15	Quartz Counter Tops	LS	1	\$	\$
16	Polished concrete slab	LS	1	\$	\$
17	Rubber wall base	LS	1	\$	\$
18	Fire Extinguisher Cabinets	LS	1	\$	\$
19	Room Signage	LS	1	\$	\$
20	Bathroom/Restroom Accessories	LS	1	\$	\$
21	Mechanical Renovations: ducting, registers, extensions, duct cleaning, air balancing, restroom exhaust systems	LS	1	\$	\$
22	Plumbing Renovations: Supply, sewer, venting, sinks, faucets lavatories, showers, valves and hoses, drains, lavatories	LS	1	\$	\$
23	Electrical Renovations: Service, power, switching, distribution, outlets, light fixtures, occupancy sensors, services to install speakers, data and communications outlets, illuminated exit signs, smoke detectors	LS	1	\$	\$
24	Installation of furniture (purchased by owner)	LS	1	\$	\$
25				\$	\$
26				\$	\$
27				\$	\$
28				\$	\$
29				\$	\$
30				\$	\$
31				\$	\$
32				\$	\$
33				\$	\$
34				\$	\$

ITEM NO.	DESCRIPTION	UNIT	EST. QTY.	UNIT PRICE	EXTENDED AMOUNT
35				\$	\$
36				\$	\$
TOTAL AMOUNT BID IN FIGURES					\$

TOTAL AMOUNT BID IN WORDS _____

_____ Dollars

Bidder's Signature

Title

Company Name

IN CASE OF DISCREPANCY BETWEEN THE WORDS AND FIGURES, THE WORDS SHALL PREVAIL.

() ()

PHONE FAX

RECEIPT OF ADDENDUM NO(S) . . . , IS/ARE HEREBY ACKNOWLEDGED. _____

Before signing the contract, the lowest responsible bidder shall furnish all necessary bonds within ten (10) days after receiving the Contract notification. This bid is based upon completing the work in one-hundred and twenty (120) working days from the date of the Notice to Proceed.

After opening bids, the City will contact the lowest responsive/responsible bidder and inform him/her to submit signed contract, and required bonds and insurances to the City within ten (10) calendar days. These signed documents will be included in the City Council report to award the contract at the City Council Meeting to the lowest monetary bidder who will be determined by the Total Lump Sum Bid amount indicated above. Upon approval of the contract by City Council, the City will issue the "Notice to Proceed with Construction".

Enclosed is a Bidder's Bond, Certified Check or Cashier's Check number _____ on

the _____ Bank, which is not less than ten percent (10%), as a guarantee that the undersigned will enter into the Contract if awarded to the undersigned. The undersigned further agrees that in case of default in executing the required contract with necessary bonds and insurance, within the time limits above specified, said bond or check and the money payable therein shall be forfeited to and become the property of the City of Montebello, State of California.

SIGNATURE OF BIDDER _____ TEL NO. (____) _____

BUSINESS ADDRESS _____

CONTRACTOR'S LICENSE

NUMBER & EXPIRATION DATE _____

TYPE OF LICENSE _____

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

_____, Dated this ____ day of _____, 20_.

CONTRACTOR'S SIGNATURE

SURETY COMPANY'S

NAME

ADDRESS

CITY

STATE / ZIP CODE

DESIGNATION OF SUBCONTRACTORS

California Public Contract Code 6109

The City of Montebello cannot permit a contractor or subcontractor who is ineligible to bid or work on, or be awarded, a public works project pursuant to Section 1777.1 or 1777.7 of the Labor Code to bid on, be awarded, or perform work as a subcontractor on, a public works project.

In compliance with the Subletting and Subcontracting Fair Practices Act (Chapter 2, commencing at Section 4100, Division 5, Title 1 of the California Public Contract Code) and any amendments thereof, each bidder shall set forth below: (a) the name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement to be performed under this contract in an amount in excess of one-half of one percent of the prime contractor's total bid, and (b) the portion of the work which will be done by each subcontractor under this act. The prime contractor shall list only one subcontractor for each such portion as is defined by the prime contractor in this bid.

If a prime contractor fails to specify a subcontractor or if a prime contractor specifies more than one subcontractor for the same portion of work to be performed under the contract in excess of one-half of one percent of the prime contractor's total bid, the prime contractor shall be deemed to have agreed that he/she is fully qualified and will perform that portion themselves.

No prime contractor whose bid is accepted shall (a) substitute any subcontractor, (b) permit any subcontract to be voluntarily assigned or transferred or allow it to be performed by anyone other than the original subcontractor listed in the original bid, or (c) subcontract any portion of the work in excess of one-half of one percent of the prime contractor's total bid as to which his/her original bid did not designate a subcontractor, except as authorized in the Subletting and Subcontracting Fair Practices Act. Subletting or subcontracting of any portion of the work in excess of one-half of one percent of the prime contractor's total bid as to which no subcontractor was designated in the original bid shall only be permitted in cases of public emergency or necessity, and then only after a finding reduced to writing as a public record of the authority awarding this contract setting forth the facts constituting the emergency or necessity.

California Public Contract Code 7104

Contractor shall, in any activity involving trenching more than four feet deep, notify the Engineer of hazardous materials, subsurface or latent physical site conditions different from those indicated and any unusual site conditions. Contractor shall, in contracts exceeding \$25,000, provide detailed plans for trenches or excavations of five feet or more in depth. Cal. Lab. Code § 6705.

Bidder's List of subcontractor

As of March 1, 2015 Contractors (and sub-contractors) wishing to bid on public works contracts shall be registered with the State Division of Industrial Relations and certified to bid on Public Works contracts. Please register at:

<https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRRegistrationForm>

In accordance with Title 49, Section 26.11 of the Code of Federal Regulations, and Section 4104 of the Public Contract Code of the State of California, as amended, the following information is required for each sub-contractor who will perform work amounting to more than one half of one percent (0.5%) of the Total Base Bid or \$10,000 (whichever is greater). Photocopy this form for additional firms.

Subcontractor Name and Location	Line Item # & Description	Subcontract Amount	Percentage of Bid Item Subcontracted	Contractor License Number
				DIR Reg Number
Name: City, State				
Name: City, State				
Name: City, State				
Name: City, State				
Name: City, State				

REFERENCES

The following are the names, addresses, and telephone numbers for three public agencies for which BIDDER has performed similar work within the past two years:

1. __ Name and Address of Agency

Name and telephone number of person familiar with project

Contract amount Type of work Date completed

2. __ Name and Address of Agency

Name and telephone number of person familiar with project

Contract amount Type of work Date completed

3. __ Name and Address of Agency

Name and telephone number of person familiar with project

Contract amount Type of work Date completed

The following are the names, addresses, and telephone numbers of all brokers and sureties from whom BIDDER intends to procure insurance and bonds:

(THE BIDDER'S EXECUTION ON THE SIGNATURE PORTION OF THIS PROPOSAL SHALL ALSO CONSTITUTE AN ENDORSEMENT AND EXECUTION OF THOSE CERTIFICATIONS WHICH ARE A PART OF THIS PROPOSAL)

EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

The bidder _____, proposed subcontractor _____, hereby certifies that he has____, has not____, participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

PUBLIC CONTRACT CODE

Public Contract Code Section 10285.1 Statement

In conformance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares

under penalty of perjury under the laws of the State of California that the bidder has , has not been convicted

within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or Federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The bidder must place a checkmark after "has" or "has not" in one of the blank spaces provided. The above Statement is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Public Contract Code Section 10162 Questionnaire

In conformance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

Yes No

If the answer is yes, explain the circumstances in the following space.

Public Contract Code 10232 Statement

In conformance with Public Contract Code Section 10232, the Contractor, hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two-year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

Note: The above Statement and Questionnaire are part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement and Questionnaire.
Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Non-collusion Affidavit
(Title 23 United States Code Section 112 and
Public Contract Code Section 7106)

To the CITY / COUNTY of _____
DEPARTMENT OF PUBLIC WORKS.

In conformance with Title 23 United States Code Section 112 and Public Contract Code 7106 the bidder declares that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Note: The above Noncollusion Affidavit is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Noncollusion Affidavit. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

NON-COLLUSION AFFIDAVIT

The undersigned is submitting a bid for performing the following work by contract, being duly sworn, deposes and says:

That he/she has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such contract.

(Fill in description of contract)

Company

Name of Bidder

Signature of Bidder

Business Address

City State Zip Code

Subscribed and sworn to before me this _____ day of _____, 20__.

Notary Public in and for the County of

_____, State of California.

My Commission Expires _____, 20__.

DEBARMENT AND SUSPENSION CERTIFICATION

TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29

The bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, manager:

- is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal agency;
- has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal agency within the past 3 years;
- does not have a proposed debarment pending; and
- has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Notes: Providing false information may result in criminal prosecution or administrative sanctions.

The above certification is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Certification.

NONLOBBYING CERTIFICATION FOR FEDERAL-AID CONTRACTS

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in conformance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such subrecipients shall certify and disclose accordingly.

DISCLOSURE OF LOBBYING ACTIVITIES

COMPLETE THIS FORM TO DISCLOSE LOBBYING ACTIVITIES PURSUANT TO 31 U.S.C. 1352

1. Type of Federal Action:

☐

- b. grant
- c. cooperative agreement
- d. loan
- e. loan guarantee
- f. loan insurance

2. Status of Federal Action:

☐

- b. initial award
- c. post-award

3. Report Type:

☐

- b. material change

For Material Change Only:

year _____ quarter _____
date of last report _____

4. Name and Address of Reporting Entity

☐

Prime

☐

Subawardee

Tier _____, if known

**5. If Reporting Entity in No. 4 is Subawardee,
Enter Name and Address of Prime:**

Congressional District, if known

6. Federal Department/Agency:

Congressional District, if known

7. Federal Program Name/Description:

CFDA Number, if applicable _____

8. Federal Action Number, if known:

9. Award Amount, if known:

10. a. Name and Address of Lobby Entity
(If individual, last name, first name, MI)

b. Individuals Performing Services (including
address if different from No. 10a)
(last name, first name, MI)

(attach Continuation Sheet(s) if necessary)

11. Amount of Payment (check all that apply)

\$ _____ ☐ actual ☐ planned

12. Form of Payment (check all that apply):

☐

a. cash

b. in-kind; specify: nature _____
value _____

13. Type of Payment (check all that apply)

☐
☐
☐
☐
☐
☐

- a. retainer
- b. one-time fee
- c. commission
- d. contingent fee
- e. deferred
- f. other, specify _____

**14. Brief Description of Services Performed or to be performed and Date(s) of Service, including
officer(s), employee(s), or member(s) contacted, for Payment Indicated in Item 11:**

(attach Continuation Sheet(s) if necessary)

15. Continuation Sheet(s) attached:

Yes ☐

No ☐

- 16.** Information requested through this form is authorized by Title 31 U.S.C. Section 1352. This disclosure of lobbying reliance was placed by the tier above when his transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to Congress semiannually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Signature: _____

Print Name: _____

Title: _____

Telephone No.: _____ Date: _____

Authorized for Local Reproduction

Federal Use Only:

Standard Form - LLL

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether sub-awardee or prime Federal recipient, at the initiation or receipt of covered Federal action or a material change to previous filing pursuant to title 31 U.S.C. section 1352. The filing of a form is required for such payment or agreement to make payment to lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress an officer or employee of Congress or an employee of a Member of Congress in connection with a covered Federal action. Attach a continuation sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence, the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last, previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District if known. Check the appropriate classification of the reporting entity that designates if it is or expects to be a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the first tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in Item 4 checks "Subawardee" then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organization level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identification in item 1 (e.g., Request for Proposal (RFP) number, Invitation for Bid (IFB) number, grant announcement number, the contract grant. or loan award number, the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitments for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influenced the covered Federal action.
(b) Enter the full names of the individual(s) performing services and include full address if different from 10 (a). Enter Last Name, First Name and Middle Initial (MI).
11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a

material change report, enter the cumulative amount of payment made or planned to be made.

12. Check the appropriate box. Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
13. Check the appropriate box. Check all boxes that apply. If other, specify nature.
14. Provide a specific and detailed description of the services that the lobbyist has performed or will be expected to perform and the date(s) of any services rendered. Include all preparatory and related activity not just time spent in actual contact with Federal officials. Identify the Federal officer(s) or employee(s) contacted or the officer(s) employee(s) or Member(s) of Congress that were contacted.
15. Check whether or not a continuation sheet(s) is attached.
16. The certifying official shall sign and date the form, print his/her name title and telephone number.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, D.C. 20503. SF-LLL-Instructions Rev. 06-04-90«ENDIF»

Note: The standard printed bid bond form of any bonding company acceptable to the City of Montebello may be used in lieu of the following approved sample bond form, provided the security stipulations protecting the City of Montebello are not in any way reduced by use of the surety company's printed standard form.

PROPOSAL GUARANTEE
BID BOND

FOR

FIRE STATION 56 RENOVATION AT 1166 S. GREENWOOD AVENUE

C.P. No. 923

IN THE CITY OF MONTEBELLO

KNOW ALL MEN BY THESE PRESENTS that _____,
_____, as BIDDER, and _____,
_____, as SURETY, are held and firmly
bound unto the City of Montebello, as AGENCY, in the penal sum of _____
_____ dollars (\$_____), which is ten percent of the
total amount bid by BIDDER to AGENCY for the above stated project, for the payment of which
sum, BIDDER and SURETY agree to be bound, jointly and severally, firmly be these presents.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH that, whereas BIDDER is about to
submit a bid to AGENCY for the above stated project, if said bid is rejected, or if said bid is
accepted and a contract is awarded and entered into by BIDDER in the manner and time specified,
then this obligation shall be null and void, otherwise it shall remain in full force and effect in favor
of AGENCY.

IN WITNESS WHEREOF the parties hereto have set their names, titles, hands, and seals, this
_____ day of _____, 20__.

BIDDER* _____

SURETY* _____

Subscribed and sworn to this _____ day of _____, 20__.

NOTARY PUBLIC _____

*Provide BIDDER/SURETY name, address and telephone number and the name, title, address
and telephone number of authorized representative.

BIDDER'S VIOLATION OF LAW/SAFETY QUESTIONNAIRE

FOR

FIRE STATION 56 RENOVATION AT 1166 S. GREENWOOD AVENUE

C.P. No. 923

IN THE CITY OF MONTEBELLO

In accordance with Government Code Section 14310.5, the BIDDER shall complete, under penalty of perjury, the following questionnaire.

QUESTIONNAIRE

Has the Bidder, any officer of the bidder or any employee of the Bidder who has a proprietary interest in the Bidder ever been disqualified, removed or otherwise prevented from bidding on or completing a Federal, State or local government project because of a violation of law or a safety regulation?

Yes _____

No _____

If the answer is yes, explain the circumstances in the space provided.

BIDDER proposes to subcontract certain portions of the work, which are in excess of one-half of one percent of the bid, and to procure materials and equipment from suppliers and vendors as follows:

Prior to award of contract, Contractor shall submit a list of suppliers and vendors, in writing, to the City Engineer.

REFERENCES

The following are the names, addresses, and telephone numbers for three public agencies for which BIDDER has performed similar work within the past two years:

1. __ Name and Address of Agency

Name and telephone number of person familiar with project

Contract amount	Type of work	Date completed

2. __ Name and Address of Agency

Name and telephone number of person familiar with project

Contract amount	Type of work	Date completed

3. __ Name and Address of Agency

Name and telephone number of person familiar with project

Contract amount	Type of work	Date completed

The following are the names, addresses, and telephone numbers of all brokers and sureties from whom BIDDER intends to procure insurance and bonds:

EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCE

BIDDER certifies that in all previous contracts or subcontractors, all reports which may have been due under the requirements of any AGENCY, State, or Federal equal employment opportunity orders have been satisfactorily filed, and that no such reports are currently outstanding.

AFFIRMATIVE ACTION CERTIFICATION

BIDDER certifies that affirmative action has been taken to seek out and consider minority business enterprises for those portions of the work to be subcontracted, and that such affirmative actions have been fully documented, that said documentation is open to inspection, and that said affirmative action will remain in effect for the life of any contract awarded thereunder. Furthermore, BIDDER certifies that affirmative action will be taken to meet all equal employment opportunity requirements of the contract documents.

NON-COLLUSION AFFIDAVIT

BIDDER declares that the only persons or parties interested in this proposal as principals are those named herein; that no officer, agent, or employee of the AGENCY is personally interested, directly or indirectly, in this proposal; that this proposal is made without connection to any other individual, firm, or corporation making a bid for the same work and that this proposal is in all respects fair and without collusion or fraud.

BIDDER'S INFORMATION

BIDDER certifies that the following information is true and correct:

Bidder's Name _____

Business Address: _____

Telephone _____

State Contractor's License No. and Class: _____

Original Date Issued _____ Expiration Date _____

The following are the names, titles, addresses, and phone numbers of all individuals, firm members, partners, joint ventures, and/or corporate officers having a principal interest in this proposal:

The date of any voluntary or involuntary bankruptcy judgments against any principal having an interest in this proposal is as follows:

All current and prior DBA's, alias, and/or fictitious business names for any principal having an interest in this proposal are as follows:

IN WITNESS WHEREOF, BIDDER executes and submits this proposal with the names, title, hands, and seals of all forenamed principals this _____ day of _____, 20____.

BIDDER _____

The undersigned declares under penalty of perjury under the laws of the State of California that the representations made hereto are true and correct.

Signature of Contractor's Representative

Printed Name

Title

Subscribed and sworn to this _____ day of _____, 20____.

NOTARY PUBLIC _____

CITY OF MONTEBELLO
STANDARD PUBLIC WORKS AGREEMENT

THIS STANDARD PUBLIC WORKS AGREEMENT (“**AGREEMENT**”) is dated _____ for reference purposes only and is made and entered into by and between the CITY OF MONTEBELLO, a Municipal corporation (the “**CITY**”) and _____ (“**CONTRACTOR**”) whose address is _____.

SEC. 1. RECITALS

WHEREAS, the CITY duly advertised a Notice Inviting Bids to be submitted on or before _____ on _____ for the work of _____ (describe work), (“**PROJECT**”).

WHEREAS, on _____, the City Council accepted the bid of CONTRACTOR as the lowest responsible, responsive bid received and directed that a written contract be entered into with CONTRACTOR for the PROJECT.

NOW, THEREFORE, in consideration of the promises and the mutual covenants and agreements herein contained, the parties do hereby agree as follows:

SEC. 2. CONTRACT DOCUMENTS.

A. The CONTRACT DOCUMENTS for the PROJECT shall consist of the Notice Inviting Sealed Bids, the Instructions to Bidders, Bidders Proposal, Addendums, General Specifications and all referenced specifications, details, standard drawings, and appendices, together with this Contract and all required bonds, and insurance certificates. All of the “Contract Documents” are intended to complement the other documents so that any work called for in one, and not mentioned in the others, or vice versa, is to be executed the same as if mentioned in all of said documents. The CONTRACT DOCUMENTS are incorporated herein by this reference and made part hereof as though they were fully set forth herein.

B. In case any of the CONTRACT DOCUMENTS conflict with each other, the order of preference for the CONTRACT DOCUMENTS is:

1. This AGREEMENT
2. Appendices
3. Standard drawings
4. Details
5. Special Provisions, if any
6. Addendums
7. General Specifications and all referenced specifications

8. Bidders Proposal
9. Instructions to Bidders
10. Notice Inviting Sealed Bids

SEC. 3. THE WORK.

For and in consideration of the payments and agreements to be made and performed by CITY, CONTRACTOR agrees to furnish all materials and perform all work required for the PROJECT and to fulfill all other obligations as set forth in the CONTRACT DOCUMENTS.

SEC. 4. COMPENSATION.

CONTRACTOR hereby agrees to receive and accept the total amount of _____, which is based on performing all of the work shown on Bidders Proposal as full compensation for furnishing all materials, performing all work, and fulfilling all obligations hereunder. Said compensation shall cover all expenses, losses, damages, and consequences arising out of the nature of the work during its progress or prior to its acceptance including those for well and faithfully completing the work and the whole thereof in the manner and time specified in the CONTRACT DOCUMENTS, and also including those arising from actions of the elements, unforeseen difficulties or obstructions encountered in the prosecution of the work, suspension or discontinuance of the work, and all other unknowns or risks of any description connected with the work. CITY shall herein retain five percent (5%) of said price until said time as the provisions of SEC. 18 herein have been met.

Sec. 4.1. Progress Payments

Progress Payments shall be made in accordance with section _____ of the General Provisions and the provisions of this Section 4.1. Upon receipt of a properly presented payment request, the CITY shall process the payment request in accordance with Public Contracts Code Section 20104.5. The CITY shall review the payment request as soon as possible. If the CITY rejects the payment request, it shall be returned to the CONTRACTOR within seven days of its receipt by the CITY with an explanation for the reasons of its rejection. If the payment request is approved in writing by the CITY, payment shall be made in thirty (30) days of receipt of an undisputed and properly presented payment request. Late payments shall bear interest at the legal rate of interest in accordance with Code of Civil Procedure 685.010. CITY shall pay CONTRACTOR a sum based upon ninety five percent (95%) of the contract price apportionment of the labor and materials incorporated into the work under the contract during the period covered by said statement. The remaining five percent (5%) thereof shall be retained as performance security. Refer to Section 4.2 of this Agreement for retention of funds.

Sec. 4.2. Retention of Funds

Progress payments shall be made in accordance with the provisions of Section 4.1 of this Agreement. In accordance with said section, CITY shall pay CONTRACTOR a sum based upon ninety five percent (95%) of the contract price in proportion to the labor and materials incorporated into the work under the contract during the month covered by said statement. The remaining five percent (5%)

thereof shall be retained as performance security to be paid to the CONTRACTOR within sixty (60) days after final acceptance of the work by the City Council, after CONTRACTOR shall have furnished CITY with a release of all undisputed contract amounts, if required by CITY. In the event there are any claims specifically excluded by CONTRACTOR from the operation of the release, the CITY may retain proceeds (per Public Contract Code 7107) of up to 150% of the amount in dispute. CITY's failure to deduct or withhold shall not affect CONTRACTOR's obligations hereunder.

Sec. 4.3. Substitution of Securities.

Pursuant to Public Contracts Code Sec. 22300 CONTRACTOR shall be allowed to substitute securities for any moneys withheld by the CITY to ensure performance under a contract, unless, federal regulations or policies, or both, do not allow the substitution of securities. At the request and expense of the CONTRACTOR, securities equivalent to the amount withheld shall be deposited with the CITY, or with a state or federally chartered bank in this state as the escrow agent, who shall then pay those moneys to the CONTRACTOR. Upon satisfactory completion of the contract, the securities shall be returned to the contractor.

SEC. 5. UNDOCUMENTED WORKERS.

CONTRACTOR hereby promises and agrees to comply with all of the provisions of Federal and/or State law as the same shall apply to this PROJECT pertaining to the employment of unauthorized aliens as defined therein. Should CONTRACTOR so employ unauthorized aliens for the performance of work and/or services covered by this Contract, and should the Federal Government impose sanctions against the CITY for use of unauthorized aliens, CONTRACTOR hereby agrees to, and shall, hold harmless, indemnify and defend CITY for the cost of all such sanctions imposed, together with any and all costs, including attorneys' fees, incurred by the CITY in connection therewith.

SEC. 6. NOTICE TO PROCEED.

CONTRACTOR shall commence work on the date specified in the Notice to Proceed to be issued in writing to CONTRACTOR by the CITY and shall complete work on the PROJECT within **one- hundred and twenty (120)** Working Days from the commencement thereof.

SEC. 7. DISCOVERY OF HAZARDOUS OR LATENT CONDITIONS.

- A. CONTRACTOR shall, without disturbing the condition, notify CITY in writing as soon as CONTRACTOR, or any subcontractor, agent or employees have knowledge and reporting is possible, of the discovery of any of the following conditions:
1. The presence of any material that the CONTRACTOR believes is hazardous waste, as defined in Section 25117 of the Health and Safety Code;
 2. Subsurface or latent physical conditions at the site differing from those indicated in the specifications; or,
 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 this Contract.

- B. Pending a determination by the CITY of appropriate action to be taken, CONTRACTOR shall provide security measures (e.g., fences) adequate to prevent the hazardous waste or physical conditions from causing bodily injury to any person.
- C. CITY shall promptly investigate the reported conditions. If CITY, through the City Engineer or his/her designee, and in the exercise of its sole discretion, determines that the conditions do materially differ, or do involve hazardous waste, and will cause a decrease or increase in the CONTRACTOR's cost of or time required for performance of any part of the work, then CITY shall issue a change order.
- D. In the event of a dispute between CITY and CONTRACTOR as to 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, CONTRACTOR shall not be excused from any schedule completion date, and shall proceed with all work to be performed under the Contract. CONTRACTOR shall retain any and all rights which pertain to the resolution of disputes and protests between the parties.

SEC. 8. MISCELLANEOUS STATUTORY REQUIREMENTS

Sec. 8.1. Contractor License.

CONTRACTOR shall possess a California contractor's license type "B" for the performance of the Project.

Sec. 8.2. Ineligible Contractor Prohibited.

Any contractor or subcontractor who is ineligible to perform work on a public works project pursuant to Section 1777.1 or 1777.7 of the Labor Code is prohibited from performing work under this Agreement.

Sec. 8.3. Compliance with SB 854 Registration.

This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. No prime contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. No prime contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. The CONTRACTOR will be required to post job site notices as described in 8 California Code of Regulation section 16451(d).

Sec. 8.4. Trench and Pipeline Safety.

If this Contract is for more than \$25,000 and involves excavation of any trench five feet or more in depth, the CONTRACTOR shall submit a detailed plan of shoring, bracing, sloping or other provisions to be made for worker protection in accordance with Labor Code Section 6705. Such plan shall be approved by a qualified representative of the CITY.

Sec. 8.5. Utility Relocation.

CITY is responsible for removal, relocation, or protection of existing main or trunkline utilities to the extent such utilities were not identified in the invitation for bids or specifications. CITY shall

reimburse contractor for any costs incurred in locating, repairing damage not caused by contractor and removing or relocating such unidentified utility facilities, including equipment idled during such work. CONTRACTOR shall not be assessed liquidated damages for delay arising from the removal or relocation of such unidentified utility facilities.

Sec. 8.6. Third Party Claims Notification.

The CITY shall timely notify the CONTRACTOR in writing of any third party claims relating to the Agreement.

Sec. 8.7. Unfair Business Practices Claims.

The CONTRACTOR or subcontractor offers and agrees to assign to the CITY all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2, (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the CITY renders final payment to the CONTRACTOR without further acknowledgment by the parties. (Section 7103.5, California Public Contract Code.).

Sec. 8.8. Day's Work.

CONTRACTOR acknowledges that under California Labor Code sections 1810 and following, 8 hours of labor constitutes a legal day's work. CONTRACTOR will forfeit as a penalty to CITY the sum of \$25.00 for each worker employed in the execution of this Contract by CONTRACTOR or any subcontractor for each calendar day during which such worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of Labor Code section 1810. (Labor Code § 1813).

Sec. 8.9. Payroll Records.

CONTRACTOR shall maintain the certified payroll records required by Labor Codes Sec. 1776 and shall report such records directly to the California Labor Commissioner as required by Labor Code Sec. 1771.4. The CONTRACTOR shall inform the CITY of the location of the records enumerated under Labor Code Sec. 1776, including the street address, city, and county, and shall, within five working days, provide a notice of a change of location and address.

Sec. 8.10. Employment of Apprentices.

Nothing in this Contract prevents CONTRACTOR or any subcontractor from employing properly registered apprentices in the execution of the Contract. CONTRACTOR is responsible for compliance with Labor Code section 1777.5 for all apprenticeable occupations. This statute requires that contractors and subcontractors must submit contract award information to the applicable joint apprenticeship committee, must employ apprentices in apprenticeable occupations in a ratio of not less than one hour of apprentice's work for every five hours of labor performed by a journeyman (unless an exception is granted under §1777.5), must contribute to the fund or funds in each craft or trade or a like amount to the California Apprenticeship Council, and that contractors and subcontractors must not discriminate among otherwise qualified employees as apprentices solely on the ground of sex, race, religion, creed, national origin, ancestry or color. Only apprentices defined in Labor Code section 3077, who are in training under apprenticeship standards and who have written apprentice contracts, may be employed on public works in apprenticeable occupations.

Sec. 8.11. Records Audit

In accordance with Government Code, Section 8546.7, records of both the CITY and the CONTRACTOR shall be subject to examination and audit by the Auditor General for a period of three (3) years after final payment.

SEC. 9. PREVAILING WAGES

A. CONTRACTOR shall pay prevailing Wage rates for this Project in accordance with the "General Wage Determination Made by the Director of Industrial Relations Pursuant to California Labor Code, Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.1", for Los Angeles County. Wage rates shall conform to those posted at _____ and the Project site.

B. The following Labor Code sections are hereby referenced and made a part of this Agreement:

1. Section 1775 - Penalty for Failure to Comply with Prevailing Wage Rates.
2. Section 1777.4 - Apprenticeship Requirements.
3. Section 1777.5 - Apprenticeship Requirements.
4. Section 1813 - Penalty for Failure to Pay Overtime.
5. Sections 1810 and 1811 - Working Hour Restrictions.
6. Section 1775 - Payroll Records.
7. Section 1773.8 - Travel and Subsistence Pay.

SEC. 10. INDEMNITY, DEFENSE AND HOLD HARMLESS

A. CONTRACTOR shall indemnify, defend with legal counsel approved by CITY, and hold harmless CITY, its officers, officials, employees and volunteers from and against all liability, loss, damage, expense, cost (including without limitation reasonable legal counsel fees, expert fees and all other costs and fees of litigation) of every nature arising out of or in connection with CONTRACTOR's negligence, recklessness or willful misconduct in the performance of work hereunder or its failure to comply with any of its obligations contained in this Agreement, except such loss or damage which is caused by the sole or active negligence or willful misconduct of the CITY. Should conflict of interest principles preclude a single legal counsel from representing both CITY and CONTRACTOR, or should CITY otherwise find CONTRACTOR's legal counsel unacceptable, then CONTRACTOR shall reimburse the CITY its costs of defense, including without limitation reasonable legal counsel fees, expert fees and all other costs and fees of litigation. The CONTRACTOR shall promptly pay any final judgment rendered against the CITY (and its officers, officials, employees and volunteers) with respect to claims determined by a trier of fact to have been the result of the CONTRACTOR's negligent, reckless or wrongful performance. It is expressly understood and agreed that the foregoing provisions are intended to be as broad and inclusive as is permitted by the law of the State of California and will survive termination of this Agreement.

B. CONTRACTOR obligations under this section apply regardless of whether such claim, charge, damage, demand, action, proceeding, loss, stop notice, cost, expense, judgment, civil fine or penalty, or liability was caused in part or contributed to by an Indemnitee. However, without affecting the rights

of CITY under any provision of this agreement, CONTRACTOR shall not be required to indemnify and hold harmless CITY for liability attributable to the active negligence of CITY, provided such active negligence is determined by agreement between the parties or by the findings of a court of competent jurisdiction. In instances where CITY is shown to have been actively negligent and where CITY'S active negligence accounts for only a percentage of the liability involved, the obligation of CONTRACTOR will be for that entire portion or percentage of liability not attributable to the active negligence of CITY.

SEC. 11. BONDS.

A. CONTRACTOR, before commencing said PROJECT, shall furnish and file with CITY, a Performance Bond, or bonds in the sum of one hundred percent (100%) of the Agreement price thereof conditioned upon the faithful performance of this Agreement in the form attached hereto as Exhibit "B."

B. CONTRACTOR, before commencing said PROJECT, shall furnish and file with CITY, a Payment Bond in the sum of 100% of the Agreement price, conditioned upon the payment of all labor and materials furnished in connection with this Agreement in the form attached hereto as Exhibit "C."

SEC. 12. INSURANCE REQUIREMENTS.

Prior to commencing work hereunder, CONTRACTOR shall provide the CITY with proof of insurance naming the CITY and each of its directors, officers, agents, and employees as additional-named insured's on a policy or policies of insurance providing and maintaining the coverage's set forth in the Insurance Schedule attached hereto as Exhibit A. CITY shall have the right to hold the policies and policy renewals, and CONTRACTOR shall promptly furnish to CITY all renewal notices and all receipts of paid premiums. CITY may make proof of loss if not made promptly by CONTRACTOR.

SEC. 13. LIQUIDATED DAMAGES.

See Section 6-9 Liquidated Damages of the General Provisions. In addition, pursuant to the authority of California Public Contracts Code Section 7102, CITY and CONTRACTOR agree that the determination of actual damages for any unreasonable delay in performance of this Agreement caused by CITY would be extremely difficult or impractical to determine in the event of a breach of this Agreement by CITY. Therefore, if the CITY is determined to be liable for such unreasonable delays, the CITY and its sureties shall be liable to the CONTRACTOR for the sum of five hundred dollars (\$500.00) as liquidated damages for each working day of delay in the performance of any service required hereunder

SEC. 14. DISPUTE RESOLUTION

Sec. 14.1. Claims of \$375,000 or Less

A. A claim by the CONTRACTOR for a time extension, for money damages for work, or a payment disputed by the CITY must be submitted to a resolution process in accordance with Public Contracts Code Sections 21040-21040.4. A summary of Sections 21040-21040.4 are as follows:

- (1) Informal negotiation between the CITY and CONTRACTOR.
- (2) Mediation with the CONTRACTOR.
- (3) Court mandated Arbitration.
- (4) Court trial. If the party requesting the court trial does not prevail, then that party must pay all court costs and attorney's fees.

Sec. 14.2 Public Contracts Code 9204 Claims

CONTRACTOR shall comply with the procedure set forth in Public Contracts Code section 9204 for any claim, as that term is defined therein, for one or more of the following: 1) a time extension, including, without limitation, for relief from damages or penalties for delay, 2) payment of money or damages arising from work done pursuant to this Agreement, and/or 3) payment of an amount disputed by the CITY under this Agreement. A summary of the provisions of Public Contracts Code Section 9204 is as follows:

1. CONTRACTOR must send a claim to the CITY for a time extension, payment for work not in the Agreement, or payments disputed by the CITY by registered mail or certified mail with return receipt requested.
2. CITY must respond within 45 days as to which claims are disputed and undisputed.
3. If claim remains in dispute, CONTRACTOR may request informal meet and confer meeting with CITY.
4. After meet and confer, an disputed claim remaining shall be submitted to non-binding mediation.
5. All undisputed claims shall be paid within 60 days.

SEC. 15. TERMINATION.

Sec. 15.1. Termination for Convenience.

The CITY may terminate this contract, in whole or in part, with 30 days written notice to the CONTRACTOR when it is in the CITY's best interest. The CONTRACTOR shall be paid its costs, including contract close-out costs, and profit on work performed up to the time of termination. The CONTRACTOR shall promptly submit its termination claim to CITY to be paid the CONTRACTOR. If the CONTRACTOR has any property in its possession belonging to the CITY, the CONTRACTOR will account for the same, and dispose of it in the manner the CITY directs. The CONTRACTOR may terminate this contract, in whole, with 90 days written notice to the CITY.

Sec. 15.2 Termination for Default.

If at any time the CONTRACTOR is determined to be in material breach of the Contract, a Notice of Potential Breach of Contract shall be prepared by the CITY, and will be served upon the CONTRACTOR and its sureties. If the CONTRACTOR continues to neglect or refuses to comply with the Contract or with the Notice of Potential Breach of Contract to the satisfaction of the CITY within the time specified in such Notice, the CITY shall have the authority to terminate the Contract for this Project.

Sec. 15.3 Waiver of Remedies for any Breach.

In the event that CITY elects to waive its remedies for any breach by CONTRACTOR of any covenant, term or condition of this Contract, such waiver by CITY shall not limit CITY's remedies for any succeeding breach of that or of any other term, covenant, or condition of the Contract.

SEC. 16. CONTRACTOR'S FAILURE TO PROCURE COMPLETION OF PROJECT

In the event CONTRACTOR fails to furnish tools, equipment, or labor in the necessary quantity or quality, or fails to prosecute the work or any part thereof contemplated by this Agreement in a diligent and workmanlike manner, and if the CONTRACTOR for a period of three (3) calendar days after receipt of written demand from CITY or its designated representative to do so, fails to furnish tools, equipment, or labor in the necessary quantity or quality, and to prosecute its work and all parts thereof in a diligent and workmanlike manner, or after commencing to do so within said three (3) calendar days, fails to continue to do so; then the CITY may exclude the CONTRACTOR from the premises, or any portion thereof, and take possession of said premises or any portion thereof, together with all material and equipment thereon, and may complete the work contemplated by this Agreement or any portion of said work, either by furnishing the tools, equipment, labor or material necessary, or by letting the unfinished portion of said work, or the portion taken over by the CITY to another contractor or by a combination of such methods. In any event, the procuring of the completion of said work, or the portion thereof taken over by the CITY, shall be a charge against the CONTRACTOR, and may be deducted from any money due or becoming due to CONTRACTOR from the CITY, or the CONTRACTOR shall pay the CITY the amount of said charge, or the portion thereof unsatisfied. The sureties, provided for under this Agreement shall become liable for payment should CONTRACTOR fail to pay in full any said cost incurred by the CITY.

SEC. 17. COMPLIANCE WITH APPLICABLE LAWS.

CONTRACTOR hereby promises and agrees to comply with all of the provisions of all applicable state and federal laws in connection with the performance of its obligations under this Contract.

SEC. 18. NOTICE OF COMPLETION.

Upon completion of the PROJECT and acceptance of same by the City Council, the CITY Administrator shall have cause to be recorded a Notice of Completion with the office of the Los Angeles County Recorder; and, after thirty-five (35) days from the date said Notice of Completion is recorded, the Director of Finance of CITY shall release the funds retained pursuant to SEC. 4 hereof; provided there have been no mechanics' liens or stop notices filed against said work which have not been paid, withdrawn or eliminated as liens against said work.

SEC. 19. AUTHORITY.

Any person executing this Contract on behalf of the CONTRACTOR warrants and represents that he or she has the authority to execute this Contract on behalf of the CONTRACTOR and has the authority to bind the CONTRACTOR to the performance of its obligations hereunder.

SEC. 20. ENTIRE CONTRACT.

This Contract, including the Contract Documents and any other documents incorporated herein by specific reference, represents the entire and integrated Contract between the CITY and the CONTRACTOR. This Contract supersedes all prior oral or written negotiations, representations or agreements. This Contract may not be modified or amended, nor any provision or breach waived, except in a writing signed by both parties that expressly refers to this Contract.

SEC. 21. ATTORNEY'S FEES AND COSTS.

If either party to this Contract is required to initiate or defend or made a party to any action or proceeding in any way connected with this Contract, the prevailing party in such action or proceeding, in addition to any other relief which may be granted, whether legal or equitable, shall be entitled to reasonable attorney's fees. Attorney's fees shall include attorney's fees on any appeal, and in addition a party entitled to attorney's fees shall be entitled to all other reasonable costs for investigating such action, taking depositions and discovery and all other necessary costs the court allows which are incurred in such litigation. All such fees shall be deemed to have accrued on commencement of such action and shall be enforceable whether or not such action is prosecuted to judgment.

SEC. 22. INDEPENDENT CONTRACTOR.

The CONTRACTOR is and shall at all times remain as to the CITY, a wholly independent contractor. Neither the CITY, nor any of its officers, employees or agents shall have control over the conduct of the CONTRACTOR or any of the Contractors' officers, employees or agents, except as herein set forth. The CONTRACTOR shall not at any time or in any manner represent that it or any of its officers, employees or agents are in any manner officers, employees or agents of the CITY, nor shall CITY officers, employees or agents be deemed the officers, employees, or agents of CONTRACTOR as a result of this Contract.

SEC. 23. NOTICE.

Any notice, demand, request, document, consent, approval, or communication either party desires or is required to give to the other party or any other person shall be in writing and shall be deemed to be given when served personally or deposited in the U.S. Mail, prepaid, first-class mail, return receipt requested, addressed as follows:

To CITY: City of Montebello
Attention: City Engineer

To CONTRACTOR: _____

SEC. 24. PROHIBITION AGAINST ASSIGNMENT.

The experience, knowledge, capability and reputation of CONTRACTOR, its principals and employees were a substantial inducement for the CITY to enter into this Contract. Neither this Contract nor any

interest herein may be transferred, assigned, conveyed, hypothecated or encumbered voluntarily or by operation of law, whether for the benefit of creditors or otherwise, without the prior written approval of CITY. Transfers restricted hereunder shall include the transfer to any person or group of persons acting in concert of more than twenty five percent (25%) of the present ownership and/or control of CONTRACTOR, taking all transfers into account on a cumulative basis. In the event of any such unapproved transfer, including any bankruptcy proceeding, this Contract shall be void. No approved transfer shall release the CONTRACTOR or any surety of CONTRACTOR of any liability hereunder without the express consent of CITY.

SEC. 25. CUMULATIVE REMEDIES.

The provisions of this Contract are cumulative and in addition to and not in limitation of any rights or remedies available to CITY.

SEC. 26. COUNTERPARTS.

This Contract may be executed in counterpart originals, duplicate originals, or both, each of which is deemed to be an original for all purposes.

IN WITNESS WHEREOF the parties hereto have caused this Contract to be executed on the date next to their respective officers duly authorized signatures in that behalf.

CITY OF MONTEBELLO	CONTRACTOR
By: _ Mayor	By: _____
Date: _____	Date: _____
ATTEST:	By: _____
_____	Date: _____
City Clerk	_____
APPROVED AS TO FORM	

City Attorney	

EXHIBIT "A"

INSURANCE REQUIREMENTS

On or before beginning any of the work called for by any term of this Contract, CONTRACTOR, at its own cost and expense, shall carry, maintain for the duration of this Contract, and provide proof thereof that is acceptable to CITY of its procurement of the insurance specified below from insurers and under forms of insurance satisfactory in all respects to CITY. Such insurance shall not be in derogation of CONTRACTOR's obligations to provide indemnity under this Contract.

1. Comprehensive General Liability and Automobile Liability Insurance Coverage.

CONTRACTOR shall carry and maintain Comprehensive General Liability and Automobile Liability Insurance which provides the following:

Minimum coverage: Bodily injury limits of \$2,000,000 for each person and \$2,000,000 for each occurrence; property damage limits of \$2,000,000 for each occurrence, \$5,000,000 aggregate.

Products/Completed Operations Hazard Insurance in an amount of not less than FIVE MILLION DOLLARS (\$5,000,000);

A combined single limit policy with aggregate limits in an amount of not less than Five MILLION DOLLARS (\$5,000,000) shall be considered equivalent to the said required minimum limits set forth herein above.

If a Commercial General Liability Insurance form or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the work to be performed under this Contract or the general aggregate limit shall be at least twice the required occurrence limit. Such coverage shall include but shall not be limited to, protection against claims arising from bodily and personal injury, including death resulting therefrom, and damage to property resulting from activities contemplated under this Contract, including the use of owned and non-owned real property and automobiles. Insurance coverage shall not be subject to any type of pollution exclusion or owned property exclusions.

2. Automobile Liability.

CONTRACTOR shall carry and maintain Automobile Liability Insurance which provides a minimum coverage of at least \$5,000,000 per accident for bodily injury and property damage.

3. Worker's Compensation.

CONTRACTOR shall carry and maintain worker's compensation in the amount of \$1,000,000 as required by the California Labor Code for all persons employed directly or indirectly in connection with this Contract by CONTRACTOR. To the extent that CONTRACTOR utilizes any subcontractor for the performance of any part of the work under this Contract, CONTRACTOR shall require and assure that such subcontractor also carry and maintain worker's compensation as required by the California Labor Code for all persons directly or indirectly in connection with this Contract.

4. Additional Insureds.

The CITY, its officers, agents and employees must be named as additional insureds or as additional loss payees in all insurance policies required by this Contract. An endorsement to this effect shall be delivered to CITY prior to the commencement of any work. Satisfaction of any deductible requirement shall be the responsibility of CONTRACTOR. Such insurance shall be primary and noncontributory with any other insurance maintained by the CITY.

5. Notice of Cancellation.

CONTRACTOR agrees to oblige its insurance agent or broker and insures to provide CITY with a thirty (30) day notice of cancellation (except for nonpayment for which a ten (10) day notice is required) or nonrenewal of coverage for each required coverage.

6. Severability Clause.

Each of the policies of insurance shall contain a clause substantially as follows:

The insurance afforded by this policy applies separately to each insured against whom a claim or suit is made or suit is brought, except with respect to the limit of the insurer's liability.

7. Qualifications of Insurer.

All policies of insurance shall be issued by an insurance company acceptable to CITY and authorized to issue said policy in the State of California.

8. Approval of Insurer.

The insurance carrier providing the insurance shall be chosen by CONTRACTOR subject to approval by CITY, provided that such approval shall not be unreasonably withheld.

9. Payment of Premiums.

All premiums on insurance policies shall be paid by CONTRACTOR making payment, when due, directly to the insurance carrier, or in a manner agreed to by CITY.

10. Evidence of Insurance and Claims.

CONTRACTOR shall provide certificates of insurance to CITY as evidence of insurance coverage required herein, along with a waiver of subrogation endorsement for workers' compensation. The CITY's Risk Manager must approve insurance certificates and endorsements prior to commencement of performance. Current certification of insurance shall be kept on file with the CITY at all times during the term of this Contract. The CITY reserves the right to require complete, certified copies of all required insurance policies, at any time.

(Use of City Bond Form is required)

EXHIBIT "B"
Faithful Performance Bond

FAITHFUL PERFORMANCE BOND
PUBLIC WORK (CALIFORNIA)

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the Principal and the City of Montebello ("Obligee") have entered into a written contract, hereinafter called the Contract, a copy of which is or may be attached hereto, dated the _____ day of _____, _____ referred to and made a part hereof for all appurtenant work in accordance with Project No. _____, which agreement requires the Principal to provide Obligee with this bond.

NOW THEREFORE, we, _____, as Principal, and _____, a corporation organized under the laws of _____, and duly authorized to transact business in the State of California, as Surety, are held firmly bound unto the City of _____, as Obligee, in the sum of _____ Dollars (\$ _____), lawful money of the United States of America, for the payment whereof well and truly to be made the Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

The address at which the Surety may be served with notices, papers and other documents is:

The address at which the Principal may be served with notices, papers and other documents is:

The condition of the foregoing obligation is such that if the Principal, his or its heirs, executors, administrators, successors or assigns, and each of his or its subcontractors shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of said contract, and during the life of any guaranty required under the contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said contract that may hereafter be made, then this obligation shall be void; otherwise it shall be and remain in full force and effect.

As part of the obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by the obligee in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

The Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the agreement or to the work to be performed thereunder or the specifications accompanying the same

shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the agreement or to the work or to the specifications.

This document is signed by the respective parties on the dates next to their names.

Principal

By: _____ Date: _____

Title: _____

Surety

By: _____ Date: _____

Title: _____

I declare under penalty of perjury under the laws of the State of California that the contents of the above Faithful Performance Bond are true and correct, and that I have been duly authorized to sign this Faithful Performance Bond on behalf of Surety. This Declaration is signed on _____, in the City of _____, State of California.

--OR--

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

State of California)
)
County of _____)

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

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

WITNESS my hand and official seal.

Signature _____ (Seal)

-- AND --

(Proof of signature authorization or power of attorney must be attached)

APPROVED AS TO FORM:

City Attorney

EXHIBIT "C"
Labor and Materials Payment Bond

(Use of City Bond Form is Required)

**LABOR AND MATERIAL PAYMENT BOND
PUBLIC WORK (CALIFORNIA)**

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, _____, as Principal, has entered into a contract dated _____, (the "Contract") with the City of MONTEBELLO (Obligee) referred to and made a part hereof to perform the following work of public improvement, to wit:

_____ and all appurtenant work in accordance with the plans and specifications for Project No. _____, which requires Principal to file this bond to secure claims made under Civil Code Sections 9550-9554..

NOW THEREFORE, we, _____, as Principal,
and _____, a corporation organized under the laws of

_____ and duly authorized to transact business in the State of California, as
Surety, are held firmly bound unto the City of _____, as Oblige, and all
subcontractors, laborers, material persons and other persons employed in the performance of the
referenced agreement, in the sum of
Dollars (\$ _____), lawful money of the United States of America, which is 100%
of the amount of the Contract, for the payment whereof well and truly to be made the Principal and
Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and
severally, firmly by these presents.

The address at which the Surety may be served with notices, papers and other documents is:

The address at which the Principal may be served with notices, papers and other documents is:

If the above bounden Principal, his or its heirs, executors, administrators, successors, assigns, or any of his or its subcontractors, fails to pay for any materials, provisions, provender, or other supplies, or teams, implements or machinery, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor to persons named in Section 9100 of the Civil Code, or for amounts due under the Unemployment Insurance Code with respect to such 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 and subcontractors pursuant to Section 13020

of the Unemployment Insurance Code, then the Surety on this bond will pay the same, in an amount not exceeding the sum specified in this bond, and also, in case suit is brought upon this bond, a reasonable attorney's fee, which shall be awarded by the court to the prevailing party in said suit, said attorney's fee to be taxed as costs in said suit and to be included in the judgment herein rendered.

As part of the obligation secured hereby, the Surety shall not be exonerated or released from the obligation of the bond by any change, alteration, or modification in or of any contract, plans, specifications, or agreement pertaining or relating to any scheme or work of improvement or pertaining or relating to the furnishing of labor, materials, or equipment therefor, nor by any change or modification of any terms of payment or extension of the time for any payment pertaining or relating to any scheme of work of improvement, nor by any rescission or attempted rescission of the contract, agreement or bond, nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement, or under the bond, nor, where the bond is given for the benefit of claimants, by any fraud practiced by any person other than the claimant seeking to recover on the bond.

This bond shall inure to the benefit of any and all persons, companies and corporations named in Civil Code Section 9100 so as to give them a right of action in a suit on this bond.

This bond is executed for the purpose of complying with the laws of the State of California designated as Title 3, Chapter 5, Payment Bond, commencing with Section 9550 of the Civil Code of the State of California and all amendments thereto, and shall inure to the benefit of any of the persons named in Section 9100 of the Civil Code of the State of California.

This document is signed by the respective parties on the dates next to their names.

Principal

By: _____

Date: _____

Title: _____

Surety

By: _____

Date: _____

Title: _____

I declare under penalty of perjury under the laws of the State of California that the contents of the above Labor and Materials Payment Bond are true and correct, and that I have been duly authorized to sign this Labor and Materials Payment Bond on behalf of Surety. This Declaration is signed on _____, in the City of _____, State of California.

--OR--

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

State of California)
)
County of _____)

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

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

WITNESS my hand and official seal.

Signature _____ (Seal)

-- AND --

(Proof of signature authorization or power of attorney must be attached)

APPROVED AS TO FORM:

City Attorney

SPECIAL PROVISIONS

FOR

FIRE STATION 56 RENOVATION AT 1166 S. GREENWOOD AVENUE

C.P. No. 923

IN THE CITY OF MONTEBELLO

TABLE OF CONTENTS

PART 1 GENERAL PROVISIONS

(NOTE: SECTION NUMBERS CORRESPOND TO THE STANDARD SPECIFICATIONS 2021 EDITION)

<u>SECTION</u>		<u>PAGE</u>
1.	GENERAL	GP-3
2.	SCOPE OF THE WORK	GP-11
3.	CONTROL OF THE WORK	GP-13
4.	CONTROL OF MATERIALS	GP-17
5.	LEGAL RELATIONS AND RESPONSIBILITIES	GP-18
6.	PROSECUTION AND PROGRESS OF THE WORK	GP-23
7.	MEASUREMENT AND PAYMENT	GP-24
8.	FACILITIES FOR AGENCY PERSONNEL	GP-32
9.	CITY STANDARDS, STANDARD PLANS & DRAWINGS	GP-32
10.	CLAIMS AND PROTEST	GP-32

PART 4 EXISTING IMPROVEMENTS

400	PROTECTION AND RESTORATION	GP-35

SPECIAL PROVISIONS

FOR

FIRE STATION 56 RENOVATION AT 1166 S. GREENWOOD AVENUE

C.P. No. 923

IN THE CITY OF MONTEBELLO

Except as otherwise provided in the Plans, Special Provisions, Special Specifications, or as modified herein, the work embraced herein shall be done in accordance with the appropriate provisions of the Standard Specifications for Public Works Construction, "Green Book", 2021 Edition, which are hereinafter referred to as the Standard Specifications. Work shall also be done in accordance with the California Building Standards Code (California Code of Regulations, Title 24) and Montebello Municipal Code.

The intention of the contract documents is to include all plant labor, services, materials, tools, equipment, supplies, transportation, utilities, and all other items and facilities necessary therefore, as provided in the contract documents for the proper execution and completion of the work on the project in strict accordance with the plans and specifications.

The Standard Specifications and Standard Plans of the AGENCY are contained in the 2021 Edition, and applicable amendments to, of the Standard Specifications for Public Works Construction (SSPWC) and Standard Plans for Public Works Construction (SPPWC). Copies of these Standard Specifications and Plans are available from the publisher, Building News, Incorporated, 1612 South Clementine Street, Anaheim, CA 92802, telephone (714) 517-0970. The Building Code can of the AGENCY are contained in the 2019 Edition, and applicable amendments to, of the California Building Standards Code (California Code of Regulations, Title 24).

The AGENCY also uses the Standard Specifications and plans of the State of California Department of Transportation (Caltrans) which Standard Specifications and Plans are available from Caltrans District 7, Los Angeles or Caltrans Office in Sacramento.

The Standard Specifications set forth above will control the general provisions, construction materials, and construction methods for this contract except as amended by the Plans, Special Provisions, or other contract documents. The following Special Provisions are supplementary and in addition to the provisions of the Standard Specifications unless otherwise noted and the section numbers of the Special Provisions coincide with those of the said Standard Specifications. Only those sections requiring elaboration, amendment, specifying of options, or additions are called out.

PART 1 – GENERAL PROVISIONS

SECTION 1 – GENERAL

1-2 TERMS AND DEFINITIONS.

In addition to the terms and definitions of subsection 1-2, whenever in the contract documents the following terms are used, they shall be understood to mean and refer to the following:

ALLOWABLE COSTS means those costs not covered by agreed unit prices, which are to be used in calculating adjustments to the Contract Sum.

ALLOWABLE MARKUPS means the percentage of markups for Work not covered by agreed unit prices, which are to be used in calculating adjustments to the Contract Sum.

APPLICABLE LAWS means all applicable federal, state and municipal laws (legal and equitable), statutes, building codes, ordinances, regulations and lawful orders (including, without limitation, the City acting in its regulatory capacity) having jurisdiction over the Project, Work, Site, City, or Contractor (including, without limitation, Environmental Laws) and all ordinances, rules and regulations enacted by City. In the event of a conflict between or among Applicable Laws governing Contractor's performance of the Work, the more stringent shall apply.

APPLICATION FOR PAYMENT means Contractor's certified application for payment for Work in accordance with the Contract Documents.

ARCHITECT means the individual or firm under contract with City primarily responsible to provide design, engineering and related construction administration for the Project.

AGENCY: City of Montebello

BOARD: City Council of the City of Montebello

COUNTY: County of Los Angeles

FEDERAL: United State of America

BIDDING DOCUMENTS means the following collection of documents prepared and issued for the purpose of soliciting Bids for the Work: (1) Invitation to Submit Bids, (2) Instructions to Bidders, (3) Bid Forms, (4) Construction Contract, (5) Special Provisions, (6) Drawings and Schedules, (7) Details, (8) Addenda(s), and (9) those documents, or those portions or provisions of documents that, although not listed among the documents described in Clauses (1) through (8) hereinabove, are expressly cross-referenced therein or attached thereto.

CERTIFICATE FOR PAYMENT means the statement from the Engineer certifying both the undisputed amount of money due to Contractor and the amount of money, if any, that are disputed upon an Application for Payment.

CHANGE means a modification, change, addition, substitution or deletion in the Work or in Contractor's means, methods, manner, time or sequence of performing the Work arising from any

cause or circumstances, including, without limitation, either directly at the request of City or constructively by reason of other circumstances. Use of the term “Change,” in any context, in the Contract Documents shall not be interpreted as implying that Contractor is entitled to an adjustment increasing the Contract Sum or extending the Contract Time on any basis other than for Compensable Change or Compensable Delay.

CHANGE ORDER means a written instrument, signed by City and Contractor in accordance with the requirements of the General Conditions, designating any work that is a change of scope requiring additional expenditure of materials and labor and/or requiring additional time to complete. Its purpose is to establish the terms of City and Contractor’s mutual agreement to an adjustment of the Contract Sum or Contract Time on account of Compensable Change, Deleted Work, Compensable Delay or Excusable Delay.

CHANGE ORDER REQUEST means Contractor’s written request for an adjustment in the Contract Sum and/or Contract Time due to a Compensable Change, Compensable Delay or Deleted Work.

CITY means the City of Montebello, a municipal corporation organized under the laws of the State of California, acting through the City Council or other representatives duly authorized by the City Council to act on City’s behalf.

CITY CONSULTANT means the designated Consultant, other than the Architect, engaged by City (or engaged as a subconsultant to the Architect or Consultant) to provide professional advice with respect to the design, construction or management of the Project.

CITY COUNCIL means the City Council of the City of Montebello.

CLAIM means a written demand or assertion by City or Contractor seeking, as a matter of right, an interpretation of contract, payment of money, recovery of damages or other relief. A CLAIM does not include the following: (1) a tort claims for personal injury or death, (2) stop notice claims, (3) the right of City to specific performance or injunctive relief to compel performance, or (4) any rights remedies, administrative action, and/or penalties that the City has under applicable law.

CLOSE-OUT DOCUMENTS means the warranties, guarantees, maintenance and operations manuals that, along with electronic versions, are required to be delivered by Contractor to the City upon Final Completion of the Project Work.

COMPENSABLE CHANGE means Extra Work: (1) that is the result of (a) Differing Site Conditions, or (b) revisions in Applicable Laws enacted after the execution of the Construction Contract by City and Contractor, (c) a Change requested in a writing signed by the Engineer, or (d) other circumstances involving a Change in the Work or which Contractor is given under the Contract Documents a specific and express right to adjustment of the Contract sum; and (2) that is not caused, in whole or part, by the negligence or willful misconduct of Contractor or a Subcontractor of any Tier or a failure to comply with Contractor’s obligations under the Contract Documents; and (3) for which an adjustment to the Contract Sum is not prohibited by nor waived under the terms of the Contract Documents; and (4) that if performed would require Contractor to incur additional and unforeseeable Allowable Costs that would not have been required to be incurred in the absence of such Extra Work.

COMPENSABLE DELAY means a Delay to the critical path of activities affecting Contractor's ability to achieve Final Completion of the Project Work within the Contract Time, not caused, in whole or in part, by the negligence or willful misconduct of Contractor or a Subcontractor or any Tier or a failure to comply with Contractor's obligations under the Contract Documents, and that is caused solely by any of the following: (1) a Compensable Change, (2) the active negligence of City, Engineer, Architect, City Consultant or a Separate Contractor, or (3) other circumstances involving Delay for which Contractor is given under the Contract Documents a specific and express right to both an adjustment of the Contract Sum and/or Contract Time.

COMPLETION PUNCH LIST means the list of items of Work to be completed or corrected by Contractor for Final Completion of the Project Work.

CONSEQUENTIAL DAMAGES means damages incurred by either City or Contractor for loss of use, loss of profit or income, loss of revenue, lost opportunity, additional or unabsorbed overhead, loss of management or services, loss of productivity, loss of financing or funding, loss of business reputation, loss of bonding and all similar indirect, economic damages that are caused as a result of either Delay or that result from a termination or suspension (for default or convenience) of all or any portion of the Construction Contract or the Work. Consequential Damages do not include direct or indirect damage or injury to persons or tangible property, including without limitation, the repair or replacement of tangible property damaged or lost.

CONSTRUCTION CONTRACT means the written contract contained in the Bidding Documents and executed between City and Contractor for the Work.

CONTRACT DOCUMENTS means the following collection of documents governing Contractor's performance of the Work: (1) the Bidding Documents, (2) the Construction Contract between City and Contractor, other terms, conditions and requirements applicable to the performance of the Construction Contract and Work (including General Provisions, any supplemental and Special Provisions and the General Requirements), Drawings, Specifications, Addenda issued prior to execution of the Construction Contract and other documents listed in the Construction Contract and Modifications issued after execution of the Construction Contract, (3) a Change Order signed by both City and Contractor and/or such others, if any, as required by the General Conditions, (4) a Unilateral Change Order signed by City and/or others, if any, as required by the General Conditions, (5) a Field Order signed by City and/or others, if any, as required by the General Conditions, (6) a written order for a Minor Change in the Work issued by the Engineer, and (7) the Declaration of Sufficiency of Funds completed and signed by Contractor.

CONTRACT SUM means the total amount of compensation stated in the Construction Contract, including adjustments authorized by Change Orders or Unilateral Change Orders, that is payable to Contractor for the performance of the Work in accordance with the Contract Documents.

CONTRACT TIME means the total number of working days set forth in the Construction Contract within which Contractor is obligated to submit Materials Confirmations and achieve Completion and Final Completion of the Project Work and/or Project Work, as adjusted for extensions of time permitted under the terms of the Contract Documents and approved by City.

CONTRACTOR means the person or entity under contract with City pursuant to the Construction Contract to serve as the general contractor for construction of the Work.

DAY, whether capitalized or not, and unless otherwise specifically provided, means Monday, Tuesday, Wednesday, Thursday, Friday, and does not include weekends or City recognized legal holidays.

DEFECTIVE WORK means Work by Contractor or a Subcontractor that is unsatisfactory, faulty, omitted, incomplete, deficient or does not conform to Applicable laws, the Contract Documents or the requirements of any inspection, reference standard, test, code or approval specified in the Contract Documents.

DELAY, whether capitalized or not, means any circumstances involving delay, disruption, hindrance or interference in the performance of the Work.

DELETED WORK means work that is eliminated due to a Change requested by City.

DESIGN DOCUMENTS means all plans, drawings, tracings, specifications, programs, reports, calculations, models, presentation materials and other materials or documents containing designs, specifications or engineering information prepared by the Architect, City Consultants, Contractor, Separate Contractors or Subcontractors including, without limitation, computer aided design materials, electronic data files and paper copies. The term "Design Documents" includes, without limitation, all building and other designs depicted therein, as well as the written documents themselves.

DIFFERING SITE CONDITION means an unforeseen condition at a Site or in Existing improvements at a Site. Specifically they are those conditions, located at a Site or in Existing Improvements, not otherwise ascertainable by Contractor through the exercise of thorough care and diligence in its inspection of the Sites and Bidding Documents, that constitute: (1) hazardous materials that constitute hazardous waste, as defined in California Health and Safety Code Section 25117, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of Applicable Laws; or (2) subsurface or concealed conditions at the Sites or concealed conditions in Existing Improvements which differ materially from those indicated by the Contract Documents or other information available to Contractor prior to submission of the Bid; or (3) unknown physical conditions at the Sites or concealed conditions in Existing improvements of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the Work of the character provided for in the Contract Documents.

DISCOVERY DATE, used in reference to Contractor's obligation to give written notice of certain facts, conditions or circumstances, means the earlier of the dates the Contractor either: (1) discovered such facts, conditions or circumstances, or (2) should have discovered such facts, conditions or circumstances in the exercise of reasonable care practiced by the general contractors performing public works construction projects in the Southern California area.

DRAWINGS means the graphic and pictorial portions of the Contract Documents prepared by the Architect or a City Consultant showing the design, location and dimensions of the Work, including plans, elevations, details, schedules and diagrams. The term "Drawings" is used interchangeably with "Plans."

ENGINEER means the City Engineer or the Public Works Director for City of Montebello acting either directly or through properly authorized agents, acting within the scope of the particular duties entrusted to them.

EXCUSABLE DELAY means a Delay, other than a Compensable Delay, to Contractor's ability to perform within the Contract Time that is (1) not caused, in whole or in part, by the negligence or willful misconduct of Contractor or a Subcontractor of any Tier or a failure to comply with the obligations of Contractor under the Contract Documents; and (2) is unforeseeable, unavoidable and beyond the control of Contractor and the Subcontractor, of any Tier; and (3) the result of a Force Majeure Event. Without limitation to the foregoing, neither the bankruptcy, insolvency nor financial inability of Contractor or any Subcontractor, nor any failure by a Subcontractor to perform any obligation imposed by contract or Applicable Laws, shall constitute grounds for Excusable Delay.

EXTRA WORK means Work (other than Work that is either a logical evolution of the Consultant's detailing, refinement and clarification of the Drawings and Specifications that are part of the Contract Documents or that is reasonably inferable as necessary to satisfy the design intent for a completed and fully operational system, facility or structure) that is not indicated by the Contract Documents, the performance of which requires the expenditure by Contractor of additional and unforeseen Allowable Costs. Reference to Extra Work shall not be interpreted to mean or imply that Contractor is entitled to an adjustment to the Contract Sum or Contract Time unless such Extra Work constitutes a Compensable Change.

FIELD ORDER means a written directive signed by the City and Contractor that: (1) directs the performance of a Minor Change, (2) directs performance of Work or a Change with respect to which there exists a dispute or question regarding adjustment of the Contract Sum or Contract Time, or (3) establishes a mutually agreed basis for compensation to Contractor for a Compensable Change or Deleted Work under circumstances where performance needs to proceed in advance of the Contractor having completed its substantiation and evaluation of the impact thereof on the Contract Sum or Contract Time.

FINAL COMPLETION, FINALLY COMPLETE means (1) with respect to Project Work, the point at which the following conditions have occurred with respect to such Work: (a) the entirety of such Work is fully completed, including all minor corrective, or "punch list," items, (b) a permanent and unconditional waiver for the entirety of such Work has been delivered to City, (c) all documents required to be submitted, including without limitation, warranties, guaranties and other Close-Out Documents, (d) such Work and the related portions of the Site have been thoroughly cleared of all construction debris and cleaned in accordance with the requirements of the Contract Documents, including, but not necessarily limited to where applicable, the following: removal of temporary protections; removal of marks, stains, fingerprints and other soil and dirt from painted, decorated and natural-finished woodwork; removal of spots, plaster, soil and paint from ceramic tile, marble and other finished materials; all surfaces, fixtures, cabinet work and equipment are wiped in accordance with recommendations of the manufacturer; and all stone, tile and resilient floors are cleaned thoroughly in accordance with manufactures recommendations and buff dried by machine to bring the surfaces to sheen, and (d) all conditions set forth in the Contract Documents for completion of such Work have been, and continue to be, fully satisfied; and (2) with respect to the Project Work, the point at which: (a) all of the conditions set forth in Clause (1) of the Paragraph have occurred for each and every Home comprising the Project; and (b) all

contractors and subcontractors have been paid and there are no outstanding stop orders claims or claims of any kind that may delay the payment by the City of its ten-percent self-retention monies.

FORCE MAJEURE EVENT means, and is restricted to, any of the following: (1) Acts of God, (2) terrorism or other acts of public enemy, (3) acts or omissions of Governmental Authorities beyond the reasonable foreseeability and control of Contractor, (4) epidemics or quarantine restrictions, (5) strikes, other than those resulting from a violation by Contractor or a Subcontractor of Applicable Laws or applicable collective bargaining agreements, resulting in the unavailability of workers or replacement workers, (6) acts or omissions of the Homeowner that Delay access to a Home or performance of the Work, or (7) unusual shortages in materials that are supported by documented proof that (a) Contractor made every effort to obtain such materials from all available sources located within a reasonable distance of the Site where those materials are to be used in performing the Work, (b) such shortage is due to the fact that such materials are not physically available or could not have been obtained only at exorbitant prices entirely inconsistent with current rates taking into account the quantities involved and the usual industry practices in obtaining such quantities, and (c) such shortages and the difficulties in obtaining alternate sources of materials could not have been known or anticipated at the time the Construction Contract was entered into.

GENERAL CONDITIONS means the herein set forth general terms and conditions.

HAZARDOUS SUBSTANCE means: (1) any chemical, material or other substance defined as or included within the definition of “hazardous substances,” “hazardous wastes”, “extremely hazardous substances,” “toxic substances”, “toxic material”, “restricted hazardous waste”, “special waste”, “contamination”, or words of similar import under any Environmental Law, including without limitation, the following: petroleum (including crude oil or any fraction thereof), asbestos, asbestos-containing materials, polychlorinated biphenyls (“PCB:”) and PCB-containing materials, whether or not occurring naturally; (2) lead paint, or (3) any substance that because of its quantity, concentration or physical or chemical characteristics poses a significant present or potential hazard to human health and safety or to the environment, and which has been determined by any Governmental Authority to be a hazardous waste or hazardous substance.

INSPECTOR OF RECORD means the Inspector responsible, among others, for conducting inspections of Project Work.

LABORATORY means the designated laboratory authorized by the Engineer to test materials and work involved in the contract.

LOSS, LOSSES mean any and all economic and non-economic injuries, losses, costs, liabilities, claims, damages, actions, judgments, settlements, expenses, fines and penalties. “Losses” do not include attorney’s fees or court costs, whether arising as an expense or cost or legal proceeding to which Contractor is a party or as a consequential damage claimed against Contractor by any third person.

MINOR CHANGE means a Change in the Work that does not involve either performance of Extra Work or an adjustment to the Contract Sum or Contract.

MODIFICATION means a written agreement of City and Contractor that amends, adds to or revises the provisions of the Construction Contract or other Contract Documents.

NOTICE OF COMPLETION means the written notice by Engineer confirming the date that the Project Work is Finally Completed.

NOTICE TO PROCEED means the written notice issued by City to Contractor to begin the Project Work.

PLANS means the graphic and pictorial portions of the Contract Documents prepared by the Architect or a City Consultant showing the design, location and dimensions of the Work, including plans, elevations, details, schedules and diagrams. The term “Plans” is used interchangeably with “Drawings.”

PROGRESS PAYMENTS means a monthly payment of a portion of the Contract Sum based on Contractor’s progress in the performance of the Work.

PROJECT COMPLETION DATE means the point at which the Project Work is: (1) sufficiently and entirely complete in accordance with Contract Documents so that such Work can be utilized for its intended purpose, (2) receipt by City of all permits and certificates by Governmental Authorities, if any, required to occupy and use such Work, and (3) all systems included in the Work are operational as specified, all designated or required inspections and certifications by Governmental Authorities have been made and posted and has been completed.

PROJECT OR PROJECT WORK means the totality of the Work to be performed by Contractor under the terms of the Contract Documents covered by the Project Contract.

REQUEST FOR EXTENSION means a formal written request required to be submitted by Contractor setting forth the justification and support for Contractor’s request for adjustment in the Contract Time due to an Excusable Delay or Compensable Delay.

REQUEST FOR INFORMATION means a written request by Contractor for clarification of what it perceives to be discrepancies in the Contract Documents, including, without limitation, information in the Contract Documents constituting errors, omissions, conflicts, ambiguities, lack of coordination, noncompliance with Applicable Laws or variances between the information in the Contract Documents and field conditions.

SPECIFICATIONS mean the portion of the Bidding Documents consisting of the written requirements for materials, equipment, standards and workmanship for the Work and performance of related services.

SPECIAL DAYS means the local holiday shopping season from the second Friday of December through Christmas Day.

SUBCONTRACTOR means a person or entity that has a contract to perform a portion of the Work, including without limitation, subcontractors, sub-subcontractors, suppliers and vendors, of any and every Tier.

SURETY means Contractor’s surety issuing the Bid, Performance and/or Labor and Material Bonds.

TIER means the contractual level of a Subcontractor with respect to Contractor. For example, a “first-tier” Subcontractor is under contract with Contractor. A sub-subcontractor under contract with a first-tier Subcontractor is in the “second tier,” and so on. Use of the phrase “of every tier”, or similar phraseology, in the Contract Documents shall not be interpreted as implying that other provisions of the Contract Documents, where such phrases are not used, are intended to be limited application to only the first Tier or to only certain Tiers of Subcontractors.

UNEXCUSED DELAY means any Delay that is not a Compensable Delay or Excusable Delay, including, without limitation, the following: (1) Delay caused by Contractor’s failure to comply with the Contractor’s Documents, (2) Delay for which Contractor has failed to provide timely and complete Request for Extension, or (3) Delay associated with any circumstances where costs or risk associated with such circumstances are designated in the Contract Documents as being at Contractor’s risk or Contractor’s Own Expense.

UNILATERAL CHANGE ORDER means a writing signed by City in accordance with the General Conditions, in which City unilaterally sets forth its determination of the amount of adjustments to the Contract Sum or Contract Time due to a Compensable Change, Compensable Delay or Deleted Work.

WORK means the labor, materials, equipment, services, permits, licenses and taxes and all other things necessary for Contractor to perform its obligations under the Contract Documents, including, without limitation, any Changes requested by City.

WORKING DAY means Mondays, Tuesdays, Wednesdays, Thursdays and Fridays. It does not include Saturdays, Sundays, or Holidays recognized by the City of Montebello.

Other terms appearing in the Standard Specifications shall have the intent and meaning specified therein.

1-7 AWARD AND EXECUTION OF THE CONTRACT.

1-7.1 General.

Subsection 1-7.1 of the Standard Specifications is hereby replaced with the following:

Within ten working days after the date of the AGENCY’s notice of award, the Contractor shall execute and return the following contract documents to the AGENCY:

- Contract Agreement
- Faithful Performance Bond
- Material and Labor Bond
- Public Liability and Property Damage Insurance Certificate
- Worker’s Compensation Insurance Certificate
- Project Schedule

Failure to comply with these requirements will constitute non-responsiveness on the part of the Contractor and will result in annulment of the award by the Agency and forfeiture of the Proposal Guarantee by the Contractor.

The Contract Agreement shall not be considered binding upon the AGENCY until executed by the authorized AGENCY official.

A corporation to which an award is made may be required, before the Contract Agreement is executed by the AGENCY, to furnish evidence of its corporate existence, of its right to enter into contracts in the State of California, and of the authority of its officers to sign contracts and bonds for the corporation.

1-7.2 CONTRACT BONDS.

The second sentence of the fourth paragraph of Subsection 1-7.2 of the Standard Specifications is hereby deleted and replaced with the following: The Faithful Performance Bond (Warranty Bond) shall remain in force until one (1) year of recordation of the Notice of Completion. The Material and Labor Bond shall remain in force until thirty-five days after the date of recordation of the Notice of Completion.

The second and third sentences of the third paragraph of Subsection 1-7.2 of the Standard Specifications are hereby deleted and replaced with the following: The "Payment Bond" (Material and Labor Bond) shall be for not less than 100 percent of the contract price, to satisfy claims of material suppliers and of mechanics and laborers employed by it on the work. The Payment Bond shall remain in effect until thirty-five days after the date of recordation of the Notice of Completion.

SECTION 2 – SCOPE OF THE WORK

2-1 WORK TO BE DONE.

The Contractor shall provide all materials, labor, tools, plant, supplies, equipment, transportation, superintendence, temporary construction of every nature, and all other services and facilities necessary to complete the construction of the Fire Station 56, including all incidental work described in the contract documents. The scope of work includes but is not limited to the following: renovation of existing restroom and shower rooms w/ new finishes & plumbing fixtures, renovation of existing laundry room, janitor room, storage rooms, dorm rooms, wellness room, renovation of existing kitchen & dining room, office rooms and living rooms. For a more detailed scope of work please refer to "Summary of Work" in Appendix 'A'.

2-2 PERMITS.

The text of Subsection 2-2 of the Standard Specifications is hereby deleted and replaced with the following:

Prior to the start of any work, the Contractor shall take out the applicable City permits and make arrangements for City inspections. The City will issue the permits at no charge to the Contractor. The Contractor and all subcontractors shall each obtain a City business license, and shall be

licensed in accordance with the State Business and Professions Code. The Contractor shall also obtain any and all other permits, licenses, inspections, certificates, or authorizations required by any governing body or entity.

The Contractor shall pay all costs incurred by the permit requirements.

Wherever the property of the Federal Government, the State of California, the County of Los Angeles, the City of Montebello, any local utilities, or of any other agency affected by the work included in this contract, **the Contractor shall bear the cost** of all permits and inspection lawfully exacted by said Government, State, County, City, District, Department, or other agency during the time of performing the work affecting said property; also, the Contractor shall bear all cost of traffic regulation and traffic control devices lawfully exacted by said State, County, City, or other agency during the time of performing the work affecting said property.

Where required under the terms of the permits, the Contractor shall obtain liability insurance acceptable to and in an amount required by the public agency having jurisdiction. The policy shall insure said agency against all claims arising out of or in connection with the work to be performed and shall remain in full force and effect until the work is accepted by the City. The Contractor shall furnish to each such agency a certificate of protective liability insurance showing the protection afforded and the amount thereof.

Neither the terms hereof nor anything shown on the drawings in connection with rights-of-way provided by the City shall be construed to entitle the Contractor to conduct operations in said rights-of-way in violation of existing regulations restricting interference with watercourses and drainage channels. The Contractor shall take adequate precautions against obstructing storm water flow in any affected watercourse or channel, and shall not deposit excavated materials in any area where they might interfere with or be subject to erosion from such flow.

2-5 THE CONTRACTOR'S EQUIPMENT AND FACILITIES.

The following is hereby added to this subsection of the Standard Specifications:

2-5.5 A noise level limit of 86 dba at the distance of fifty feet shall apply to all construction equipment on or related to the job whether owned by the Contractor or not. The use of excessively loud warning signals shall be avoided except in those cases required for the protection of personnel.

2-5.6 All noise producing project equipment and vehicles using internal combustion engines shall be equipped with mufflers, and air inlet silencers where appropriate, in good operating condition that meet or exceed original factory specifications. Mobile or fixed "package" equipment (e.g. arc-welders, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.

2-5.7 All mobile or fixed noise producing equipment used on the project, which is regulated for noise output by a local, state, or federal agency, shall comply with such regulation while in the course of project activity.

2-5.8 Electrically powered equipment instead of pneumatic or internal combustion powered equipment shall be used, where feasible.

2-5.9 Material stockpiles and mobile equipment staging, parking, and maintenance areas shall be located as far as practical from residences.

2-5.10 The hours of conventional construction activities shall be restricted to the periods and days permitted by the local noise or other applicable ordinance. In accordance with the City of Montebello Noise Ordinance, these activities include (but are not limited to) construction, noisy maintenance activities, all spoils and material transport, demolition, and grading and are prohibited between the hours of 4:00 p.m. and 8:00 a.m. on weekdays (Monday through Friday), Saturday and Sundays, and legal holidays, except in cases of emergency as determined and approved in writing by the City Engineer.

2-5.11 The use of noise producing signals, including horns, whistles, alarms, and bells shall be for safety warning purposes only.

2-5.12 No project related public address, paging, two-way radio, or music system shall be audible at any adjacent residence.

2-5.13 The on-site construction supervisor shall have the responsibility and authority to receive and resolve noise complaints. An appeal process to the City shall be established prior to construction commencement that will allow for resolution of noise problems that cannot be immediately solved by the site supervisor.

2-5.14 The Contractor shall develop a project noise control plan, which shall be approved and implemented prior to commencement of any construction activity.

2-5.15 Noise control features and plans shall be reviewed and approved by a noise control engineering professional.

2-5.16 Contract incentives may be offered to the construction contractor to minimize or eliminate noise complaints resulting from project activities.

2-5.17 The erection of temporary sound wall barriers shall be considered where project activity is unavoidably close to residences.

2-5.18 Caltrans Standard Specifications (Sections 7 and 42) and Standard Special Provisions (that provide limits on construction noise levels) shall be applied and enforced by the City on the project Contractor.

2-5.19 Arrange noisiest operations together in the construction program to avoid continuing periods of annoyance.

2-5.20 If practical, implement project noise abatement features prior to construction.

SECTION 3 – CONTROL OF THE WORK

3-2 SELF-PERFORMANCE.

The whole paragraph of Subsection 3-2 of the Standard Specifications is hereby deleted and replaced with the following:

The Contractor shall perform or provide, with its own organization, contract labor, materials, and equipment amounting to at least 50 percent of the Contract Price. The contract labor performed or provided by the Contractor shall amount to at least 25 percent of the total contract labor for the Contract. Contract labor shall exclude the Contractor's superintendent. Any designated "Specialty Items" may be performed by subcontract and the amount of any such "Specialty Items" so performed may be deducted from the Contract Price before computing the amount of contract labor, materials, and equipment required to be performed or provided by the Contractor with its own organization. Where an entire item is subcontracted, the value of contract labor, materials, and equipment subcontracted will be based on the estimated percentage of the Contract Unit or Lump Sum Price, determined from information submitted by the Contractor, subject to approval by the Engineer.

The Contractor with the bid package shall submit a list of all subcontractors intended to perform work on the project. This list shall include the name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement, or a subcontractor licensed by the State of California who, under subcontract to the prime 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 the prime contractors total bid. The prime contractor shall provide a description by bid item number or otherwise fully designate the portion of work to be performed by each subcontractor.

3-7 CONTRACT DOCUMENTS.

The contract comprises the following documents, including all additions, deletions, modifications, and appendices and all addenda as prepared prior to the date of bid opening setting forth modifications or interpretations of any of said documents:

The Notice of Inviting Bids, the Instructions to Bidders, the accepted Proposal, the List of Subcontractors, the Bid Security Forms, the Agreement, the Faithful Performance Bond, the Payment Bond, Bid Bond, the Plans, General Provisions and the Special Provisions.

3-7.1 General.

The following is hereby added to this subsection of the General Specifications:

The Contractor shall maintain a control set of Plans and Specifications on the project site at all times. All final locations determined in the field, and any deviations from the Plans and Specifications, shall be marked in red on this control set to show the as-built conditions. Upon completion of all work, the Contractor shall return the control set to the Engineer. Final payment will not be made until this requirement is met.

3-7.2 PRECEDENCE OF THE CONTRACT DOCUMENTS.

The whole Subsection 3-7.2 of the Standard Specifications is hereby deleted and replaced with the following:

All of the CONTRACT DOCUMENTS shall be read as complimentary to one another and requiring the highest quality, highest quantity, and highest standard of performance for the Project

for the City's benefit. In the case of a direct conflict between any of the CONTRACT DOCUMENTS, the order of precedence of the CONTRACT DOCUMENTS shall be:

FIRST:	Requirements of law, including the Charter and Ordinances of the City.
SECOND:	Permits from other Agencies as may be required by law or Ordinance.
THIRD:	Permits from City Departments as may be required by law or Ordinance.
FOURTH:	Change Orders and/or Supplemental Agreements; whichever occurs last.
FIFTH:	Contract/Agreement.
SIXTH:	Addenda.
SEVENTH:	Bid/Proposal.
EIGHTH:	Special Provisions.
NINETH:	Plans.
TENTH:	Standard Plans.
ELEVENTH:	Standard Specifications.
TWELFTH:	Reference Specifications.

Detailed plans shall have precedence over general plans.

3-10 SURVEYING.

3-10.1 General.

The whole Subsection 3-10.1 of the Standard Specifications is hereby deleted and replaced with the following:

The Contractor shall provide construction survey for all the streets shown in the contract documents, including office research of notes, plats or other necessary documents; marking removal limits; grade staking; tying and relocating utilities. All work shall be done to the satisfaction of the Engineer.

The Contractor shall notify the City of Montebello, in advance, in the event that any monumentation or witnesses to the monumentation should fall within any removal area.

The Contractor shall be liable for a back charge in an amount up to \$1,000.00 per point obliterated or destroyed without notice or authorization from the City of Montebello.

Any questionable grade, elevation, location or element of design shown on the plans shall be brought to the immediate attention of the Engineer in writing for clarification prior to construction.

The City reserves the right to verify all staking and monumentation for horizontal and vertical accuracy. The allowable error shall not exceed 0.02 feet vertically or horizontally. Any staking found to exceed allowable error shall be reset at the sole expense of the Contractor and no additional compensation will be made therefore. In cases where the Contractor is unable to place a monument, such as conflicts with underground utilities, the Contractor shall notify the Engineer for review, confirmation, and approval of the omission. All work described in this Section shall be done by or under the direction of a Professional Land Surveyor or a Registered Civil Engineer authorized to practice Land Surveying in the State of California herein referred to as "Surveyor".

3-10.2 Line and Grade.

The following is hereby added to this subsection of the Standard Specifications:

The Contractor's Surveyor shall have all the necessary tools, materials, personnel available at the job site for setting blue, yellow and red top hubs at the time that they are set, and shall adequately reference all such stakes by setting hubs three (3) inches below subsurface.

The Surveyor shall have the option of establishing line and grade either by setting stakes to finished grade, marking the cuts and fills on the pavement, or referring to stakes, spikes, drill holes, chisel cuts, etc., on a grade sheet. Normally, stakes will be set and stationed by the Surveyor for rough grade, curbs, headers, sewers, storm drains, and structures and a corresponding cut or fill to finished grade (or flow line) indicated on a grade sheet. If the Surveyor elects to set stakes to the finished grade, the top of these stakes will be colored with blue crayon or paint. All elevations will be established with a Surveyor's level or Theodolite.

For street improvements, the Surveyor will establish rough grade elevations at 50-foot intervals along the street. After completion of the rough grading, he/she will establish elevations for curb or pavement headers. An elevation for pavement will be established at all points indicated by elevations shown on the plans. Elevations will be established at 25-foot intervals on the centerline and at all grade changes. For resurfacing over existing pavement or constructing 2 or 3 course bituminous pavement, the Surveyor will paint data on the surface of the existing pavement and/or base course and each lift to indicate the fill to finished grade at such locations and intervals as to provide adequate control for laying the wearing surface course to finished grade.

Flow line elevations will be established by the Surveyor at all changes in grade and at 25-foot intervals when the grade is greater than 0.50% and at 10-foot intervals for grades of 0.50% or less. For flow lines adjacent to curbs on grades 0.10% or over, when the curb is new and has a uniform curb face, flow line elevations will not be set on existing curbs, the grade of which may be irregular, grade points will be set at all changes in grade and at 25-foot intervals. Sufficient flow line elevations will be set to facilitate the construction of warped pavement sections or for special drainage conditions.

For integral curb and gutter, blue tops for the flow line will not be set but curb elevations shall be established at all changes in grade and at 25-foot intervals when the grade is more than 0.50% and at 10-foot intervals when the grade is 0.50% or less. In the case of integral curb and gutter with a

varying curb face, grade sheets will show cuts and fills to the top of the curb or to the flow line and indicate the required curb face.

For storm drains, the Surveyor will establish elevations at 25-foot intervals along the main line, at all grade change points indicated on the plans, at inlets and outlets of structures and at the upper ends of house connections and laterals. Normally, elevations for narrow trenches will be established by means of offset stakes and a grade sheet giving cuts from such stakes will be issued. When determined necessary, blue top hubs will be set in the trench for line and grade. Narrow trenches where there are space constraints due to utility conflicts must be approved by the Engineer and must comply with Slurry mix backfill according to Section 306-12.2 of the Greenbook. Use of slurry mix backfill shall include furnishing material, labor, tools, equipment and incidentals, and for doing all work involved in installing slurry mix backfill, as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer; and included in the cost for storm drain pipeline. No additional compensation shall be allowed.

Distances and measurements, except elevations and structural dimensions, are given and made on horizontal planes.

Copies of all grade sheets shall be provided to the Engineer for filing.

SECTION 4 - CONTROL OF MATERIALS

4-1 GENERAL.

The following is hereby added to this subsection of the Standard Specification:

The Contractor and all subcontractors, suppliers, and vendors, shall guarantee that the entire work will meet all requirements of this contract as to the quality of materials, equipment, and workmanship. The Contractor, at no cost to the AGENCY, shall make any repairs or replacements made necessary by defects in materials, equipment, or workmanship that become evident within one (1) years after the date of recordation of the Notice of Completion. Within this one-year period, the Contractor shall also restore to full compliance with requirements of this contract any portion of the work which is found to not meet those requirements. The Contractor shall hold the AGENCY harmless from claims of any kind arising from damages due to said defects or noncompliance. The Contractor shall make all repairs, replacements, and restorations within thirty (30) days after the date of the City Engineer's written notice.

4-6 TRADE NAMES.

The first and second paragraphs of this subsection of the Standard Specifications are hereby replaced with the following:

Although the bidder may believe that by use of a different material than that specified on/in the plans and specifications, a lower cost project/bid may result. The bidder is to bid the project on the basis of using the material(s) as named keeping in mind that all materials named herein by manufacturer is not to prohibit the bidder considering using in his bid what he consider to be an equal material except where the AGENCY has designated a sole product. Once the bids have been opened the successful Contractor may discuss with the AGENCY the use of another product; which may result in a determination by the AGENCY that the other product is equal and possibly

that by the AGENCY allowing the use of the Contractor proposed equal that a change in the contract amount may result.

SECTION 5 – LEGAL RELATIONS AND RESPONSIBILITIES

5-3 LABOR.

5-3.2 Prevailing Wages.

The following is hereby added to this subsection of the Standard Specifications:

The Contractor, and all subcontractors, suppliers and vendors, shall comply with all AGENCY, State and Federal orders regarding affirmative action to ensure equal employment opportunities and fair employment practices. Failure to file any report due under said orders will result in suspension of periodic progress payments. The Contractor shall ensure unlimited access to the job site for all equal employment opportunity compliance officers. In accordance with the labor Code, as provided in Section 1773 et seq., the City has on file in the City Clerk's office the latest prevailing rates as established by the Director of Industrial Relations of the State of California. The Contractor shall not pay less than these rates.

The following subsection(s) are hereby added to Section 5-3 of the Standard Specifications

5-3.6 Laws.

The Contractor, and all subcontractors, suppliers and vendors, shall comply with all City, State and Federal orders regarding affirmative action to ensure equal employment opportunities and fair employment practices. Failure to file any report due under said orders will result in suspension of periodic progress payments. The Contractor shall ensure unlimited access to the job site for all equal employment opportunity compliance officers. In accordance with the labor Code, as provided in Section 1773 et seq., the City has on file in the City Clerk's office the latest prevailing rates as established by the Director of Industrial Relations of the State of California. The Contractor shall not pay less than these rates.

5-4 INSURANCE.

5-4.2 General Liability Insurance.

The whole Subsection 5-4.2 of the Standard Specifications is hereby deleted and replaced with the following:

CONTRACTOR shall carry and maintain Comprehensive General Liability Insurance which provides the following:

Minimum coverage: Bodily injury limits of \$2,000,000 for each person and \$2,000,000 for each occurrence; property damage limits of \$2,000,000 for each occurrence, \$5,000,000 aggregate.

Products/Completed Operations Hazard Insurance in an amount of not less than FIVE MILLION DOLLARS (\$5,000,000).

A combined single limit policy with aggregate limits in an amount of not less than Five MILLION DOLLARS (\$5,000,000) shall be considered equivalent to the said required minimum limits set forth herein above.

If a Commercial General Liability Insurance form or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the work to be performed under this Contract or the general aggregate limit shall be at least twice the required occurrence limit. Such coverage shall include but shall not be limited to, protection against claims arising from bodily and personal injury, including death resulting therefrom, and damage to property resulting from activities contemplated under this Contract, including the use of owned and non-owned real property and automobiles. Insurance coverage shall not be subject to any type of pollution exclusion or owned property exclusions.

5-4.3. Worker's Compensation Insurance.

The following is hereby added to this subsection of the Standard Specification:

CONTRACTOR shall carry and maintain worker's compensation in the amount of \$1,000,000 as required by the California Labor Code for all persons employed directly or indirectly in connection with this Contract by CONTRACTOR. To the extent that CONTRACTOR utilizes any subcontractor for the performance of any part of the work under this Contract, CONTRACTOR shall require and assure that such subcontractor also carry and maintain worker's compensation as required by the California Labor Code for all persons directly or indirectly in connection with this Contract.

5-4.4 Auto Liability Insurance.

The whole Subsection 5-4.4 of the Standard Specifications is hereby deleted and replaced with the following:

CONTRACTOR shall carry and maintain Automobile Liability Insurance which provides a minimum coverage of at least \$5,000,000 per accident for bodily injury and property damage.

The following is hereby added to **subsection 5-4** of the Standard Specifications:

5-4.5 Additional Insureds.

The CITY, its officers, agents and employees must be named as additional insureds or as additional loss payees in all insurance policies required by this Contract. An endorsement to this effect shall be delivered to CITY prior to the commencement of any work. Satisfaction of any deductible requirement shall be the responsibility of CONTRACTOR. Such insurance shall be primary and noncontributory with any other insurance maintained by the CITY.

5-4.6 Notice of Cancellation.

CONTRACTOR agrees to oblige its insurance agent or broker and insures to provide CITY with a thirty (30) day notice of cancellation (except for nonpayment for which a ten (10) day notice is required) or nonrenewal of coverage for each required coverage.

5-4.7 Severability Clause.

Each of the policies of insurance shall contain a clause substantially as follows:

The insurance afforded by this policy applies separately to each insured against whom a claim or suit is made, or suit is brought, except with respect to the limit of the insurer's liability.

5-4.8 Qualifications of Insurer.

All policies of insurance shall be issued by an insurance company acceptable to CITY and authorized to issue said policy in the State of California.

5-4.9 Approval of Insurer.

The insurance carrier providing the insurance shall be chosen by CONTRACTOR subject to approval by CITY, provided that such approval shall not be unreasonably withheld.

5-4.10 Payment of Premiums.

All premiums on insurance policies shall be paid by CONTRACTOR making payment, when due, directly to the insurance carrier, or in a manner agreed to by CITY.

5-4.11 Evidence of Insurance and Claims.

CONTRACTOR shall provide certificates of insurance to CITY as evidence of insurance coverage required herein, along with a waiver of subrogation endorsement for workers' compensation. The CITY's Risk Manager must approve insurance certificates and endorsements prior to commencement of performance. Current certification of insurance shall be kept on file with the CITY at all times during the term of this Contract. The CITY reserves the right to require complete, certified copies of all required insurance policies, at any time.

5-7 SAFETY.

5-7.1 Work Site Safety.

5-7.1.1 General.

The following is hereby added to subsection 5-7.1.1 of the Standard Specifications:

It is part of the service required of the Contractor to make whatever provisions are necessary to protect the public. The Contractor shall use foresight and shall take such steps and precautions as its operations warrant to protect the public from danger, loss of life or loss of property, which would result from interruption or contamination of public water supply, interruption of other public services, or from the failure of partly completed work or partially removed facilities. Unusual conditions may arise on the work, which will require that immediate and unusual provisions be made to protect the public from danger or loss, or damage to life and property, due directly or indirectly to prosecution of work under this contract.

Whenever, in the opinion of the Engineer, an emergency exists against which the Contractor has not taken sufficient precaution for the public safety, protection of utilities and protection of adjacent structures or property, which may be damaged by the Contractor's operations and when, in the opinion of the Engineer, immediate action shall be considered necessary in order to protect the public or property due to the Contractor's operations under this contract, the Engineer will order the Contractor to provide a remedy for the unsafe condition. If the Contractor fails to act on the situation within a reasonable time period, the Engineer may provide suitable protection to said interests by causing such work to be done and material to be furnished as, in the opinion of the Engineer may seem reasonable and necessary.

The cost and expense of said labor and material, together with the cost and expense of such repairs as are deemed necessary, shall be borne by the Contractor. All expenses incurred by the AGENCY for emergency repairs will be deducted from the progress payments and the final payment due to the Contractor. However, if the AGENCY does not take such remedial measures, the Contractor is not relieved of the full responsibility for public safety.

The following subsection(s) are hereby added to Section 5-7 of the Standard Specifications:

5-7.9 Traffic and Access.

The Contractor shall notify the occupants of all affected properties in writing at least forty-eight (48) hours (2 working days) prior to any temporary obstruction of access. Contractor to revise all dates daily on no-parking signs. If works does not begin on the date posted on the no-parking sign, Contractor then shall replace all signs with the new correct dates. Vehicular access to the property line shall be maintained except as required for construction for a reasonable period of time. No overnight closure of any driveway will be allowed except as permitted by the Engineer.

At least one twelve-foot-wide traffic lane shall be provided for each direction of travel on all streets at all times except as permitted by the Engineer. The Contractor must submit a traffic control plan to the City and obtain approval of same in writing from the City Engineer. The Contractor shall maintain at least one lane of traffic in each direction at all times during construction. The plan shall be prepared per latest edition of California Manual on Traffic Control Devices (CA-MUTCD).

There are some driveways that require replacement in order to be handicap compliant. Where a property has two driveways, only one driveway at a time can be closed for replacement. Where a single driveway to a property has a considerable width, half of the driveway is to be closed, worked on and reopened for usage before the other half of the driveway can be worked on.

All driveways have to be open for access during project non-construction hours and days which may require use of plating and other devices or methods.

No driveway can be worked on until the owner/tenant has been informed in writing with five (5) working days' notice of the scheduled work and has agreed to the planned schedule of the Contractor.

Under situations of driveway closure to pedestrians, the Contractor shall post advance notice on barricades to direct pedestrian to use the sidewalk on the opposite side of the street or the Contractor may elect to provide continuous K-rail in the curb lane to allow pedestrians to walk in

the curb lane behind the K-rail. Any and all devices such as plates, barricades, K-rails and notices shall be continuously maintained for pedestrian and vehicle safety. No curb lanes shall be closed during non-working days of the week. Appropriate advance warning signs shall be continuously maintained as needed during the project. All such devices, warning signs and interruptions of normal vehicle lanes, parking lanes and pedestrian walkways shall be shown on the Traffic Control Plan for advance approval by the City.

Clearances from traffic lanes shall be five feet to the edge of any excavation and two feet to the face of any curb, pole, barricade, delineator, or other vertical obstruction.

Clearances from traffic lanes shall be five feet to the edge of any excavation and two feet to the face of any curb, pole, barricade, delineator, or other vertical obstruction.

Any striped roadway shall be delineated by the Contractor with temporary raised reflective markers when it is to be left un-striped overnight.

5-7.9.1 Street Closures, Detours, Barricades.

This subsection is hereby added to section 5-7.9 of the Standard Specifications:

Street closures will not be allowed except as specifically permitted by the Engineer.

At the Pre-Construction meeting, the Contractor shall submit to the Engineer a detailed written plan for traffic control and construction sequencing for the project. The plan shall include drawings as necessary to clearly outline how traffic flow and pedestrian walkways will be handled during the course of construction and where detour and advance notice signs will be posted.

Traffic lane transitions shall not be sharper than a taper of thirty to one.

Temporary traffic channelization shall be accomplished with barricades, K-rail sections or delineators. Temporary striping will not be allowed unless specifically permitted by the Engineer. The Contractor shall prepare any plans that may be required for temporary striping to the satisfaction of the Engineer. In no event will temporary striping be allowed to remain on finish pavement surfaces.

In no case shall traffic be diverted from the existing traveled way without prior approval of the City Engineer.

The contractor shall include in his Traffic Control Plan use of lighted message boards to notify traffic of project and any changes in vehicle or pedestrian travel routes.

If the Contractor shall fail to provide and install any of the signs or traffic control devices ordered by the Engineer, the Engineer may either stop the work or cause such signs or traffic control devices to be placed by others and charge the cost therefor against the Contractor, and deduct same from the next progress payment

5-7.9.2 Protection of the Public.

This subsection is hereby added to section 5-7.9 of the Standard Specifications:

It is part of the service required of the Contractor to make whatever provisions are necessary to protect the public. The Contractor shall use foresight and shall take such steps and precautions as its operations warrant to protect the public from danger, loss of life or loss of property, which would result from interruption or contamination of public water supply, interruption of other public services, or from the failure of partly completed work or partially removed facilities. Unusual conditions may arise on the work, which will require that immediate and unusual provisions be made to protect the public from danger or loss, or damage to life and property, due directly or indirectly to prosecution of work under this contract.

Whenever, in the opinion of the Engineer, an emergency exists against which the Contractor has not taken sufficient precaution for the public safety, protection of utilities and protection of adjacent structures or property, which may be damaged by the Contractor's operations and when, in the opinion of the Engineer, immediate action shall be considered necessary in order to protect the public or property due to the Contractor's operations under this contract, the Engineer will order the Contractor to provide a remedy for the unsafe condition. If the Contractor fails to act on the situation within a reasonable time period, the Engineer may provide suitable protection to said interests by causing such work to be done and material to be furnished as, in the opinion of the Engineer may seem reasonable and necessary.

The cost and expense of said labor and material, together with the cost and expense of such repairs as are deemed necessary, shall be borne by the Contractor. All expenses incurred by the City for emergency repairs will be deducted from the progress payments and the final payment due to the Contractor. However, if the City does not take such remedial measures, the Contractor is not relieved of the full responsibility for public safety.

SECTION 6 – PROSECUTION AND PROGRESS OF THE WORK

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK.

The following is hereby added to this subsection of the Standard Specifications:

The Contractor's proposed Construction Schedule shall be submitted to the Engineer within ten working days after the date of the Agency's execution of the Contract Agreement. The schedule shall be supported by written statements from each supplier of materials or equipment indicating that all orders have been placed and acknowledged and setting forth the dates that each item will be delivered.

Prior to issuing the Notice to Proceed, the Engineer will schedule a preconstruction meeting with the Contractor to review the proposed Construction Schedule and delivery dates, arrange utility coordination, discuss construction methods, and clarify inspection procedures.

The Contractor shall submit periodic Progress Reports to the Engineer by the last day of each month. The Report shall include an updated Construction Schedule. Any deviations from the original schedule shall be explained. Progress payments will be withheld pending receipt of any outstanding reports.

6-3 TIME OF COMPLETION.

6-3.1 General.

This subsection of the Standard Specifications shall be replaced by the following:

All construction work is to be completed within **one-hundred and twenty (120) working days**.

6-3.2 Contract Time Accounting.

The following is hereby added to this subsection of the Standard Specifications:

The Contractor's activities shall be confined to the hours between 7:00 a.m. and 3:30 p.m., Monday through Friday, excluding holidays, for daytime work and to the hours between 8:00 p.m. starting Monday and 5:00 a.m. ending Saturday, excluding holidays, for nighttime work (Night Work Requires The City Engineer Approval). Deviation from these hours will not be permitted without the prior consent of the Engineer, except in emergencies involving immediate hazard to persons or property. In the event of either a requested or emergency deviation, inspection service fees will be charged against the Contractor. The service fees will be calculated at overtime rates including benefits, overhead, and travel time. The service fees will be deducted from any amounts due the Contractor. Should the Contractor choose nighttime work, any and all lighting and traffic control, as needed, shall be provided by the Contractor.

6-9 LIQUIDATED DAMAGES

The liquidated damages value is hereby amended to be \$500.00 per day.

SECTION 7 – MEASUREMENT AND PAYMENT

7-3 PAYMENT

7-3.2 Partial and Final Payment.

The text of Subsection 7-3.2 of the Standard Specifications is hereby deleted and replaced with the following:

The closure date for the purpose of making partial progress payments will be on or about the twenty-fifth (25th) day of each month. The Contractor shall prepare the approximate measurement of the work performed through the closure date and submit it to the AGENCY for approval along with an updated construction schedule.

When the work is complete, the Engineer will determine the final quantities of the work performed and prepare the final progress payment.

Payments are commonly authorized and made within forty-five days following the last day of the month submitted. However, payments will be withheld pending receipt of any outstanding reports required by the contract documents. In addition, the final progress payment will not be released

until the Contractor returns the control set of Plans and Specifications showing the as-built conditions and any other required documents.

A full five percent (5%) retention will be deducted from all progress payments. The final retention will be authorized for final payment forty-five (45) days after the date of recordation of the Notice of Completion.

Decisions to Withhold Progress Payments

The Engineer may withhold or nullify the requested Progress Payments in whole or in part due to the Contractor to such extent as may be necessary to protect the City from loss as a result of because of any of the circumstances listed below:

1. Defective work not remedied in accordance with provisions of the Contract Documents;
2. Third party claims, liens or stop notices filed or reasonable evidence indicating probable filing of such claims, liens or stop notices;
3. Failure of the Contractor to make payments properly for labor, services, materials, equipment, or other facilities or to subcontractor;
4. A reasonable doubt that the work can be completed for the unpaid balance of the Contract Sum;
5. A reasonable doubt that the Contractor will complete the work within the agreed Contract Time;
6. Costs to the Owner resulting from failure of the Contractor to complete the work within the stipulated time, or in accordance with the terms of the contract;
7. Damage to other work or property;
8. Failure to fulfill all the requirements of the Contract Documents;
9. When there is pending litigation against the City related to this contract or reasonable anticipation thereof;
10. Failure of the contractor to maintain all records as required; to submit progress schedules, weekly payroll records, minority enterprise utilization reports and forms and any other such item required by these specifications;
11. Failure to pay laborers and mechanics employed by the contractor or any subcontractor on the work the full amount of wages required by this contract, after written notice to the contractor.
12. Failure of Contractor of the subcontractors to comply with applicable laws;
13. Any reason specified elsewhere in the Contract Documents as grounds for a withholding, offset or setoff or that would legally entitle City to a setoff or recoupment;

14. Additional professional, consultant or inspection services required due to Contractor's failure to comply with Contract Documents;
15. Liquidated damages payable to City;
16. Materials ordered or paid by City on behalf of Contractor;
17. Damage loss caused to City, a separate contractor, homeowner contractor or any other person or entity due to the actions of the Contractor;
18. Cleanup performed by City and chargeable to Contractor;
19. Failure of Contractor to pay contributions due and owing to employee benefits funds pursuant to applicable collective bargaining agreements or trust agreements;
20. Failure of Contractor or any Subcontractor to properly pay prevailing wages as defined in California Labor Code Section 1720 et/ seq.;
21. A breach by Contractor of any obligation or provision of the Contract Documents.
22. Whenever the City shall, in accordance herewith, withhold any monies otherwise due the Contractor, written notice of the amount withheld and the reasons therefore shall be given the Contractor, and, when the Contractor shall remove the grounds for such withholding, the City will pay to the Contractor, within 35 calendar days, the amount so withheld.

Application of Withholding

Sums properly withheld in good faith may be used by City without a prior judicial determination of City's actual rights with respect to recovery of any Loss on which such withholding is based. Contractor agrees and hereby designates City as its agent in for such purposes, and agrees that such payments shall be considered as payments made under the Construction Contract by City to Contractor. City shall submit to Contractor accounting of such funds disbursed on behalf of Contractor. As an alternative to such payment, City may, in its sole discretion, elect to exercise its rights to adjust the Contract Sum.

Payment by City

After an Application for Progress Payment has been made, the City shall make payment in a timely manner unless there is a good faith reason for withholding the payments in accordance with the provisions of the Contract Documents or Applicable Law.

Payment to Subcontractors

Upon receipt of payment from City, Contractor shall pay the Subcontractors performing the Work, out of the amount paid to Contractor on account of such Subcontractor's portion of the work, the amount of which said Subcontractor is entitled in accordance with the terms of its contract with Contractor and Applicable Laws, including, without limitation, California Public Contract Code Section 7107. Contractor shall remain responsible, notwithstanding a withholding by City pursuant to the terms of these General Conditions, to promptly satisfy from its own funds sums due to all Subcontractors who have performed the Work that is included in Contractor's

Application for Payment. Contractor shall, by appropriate agreement, require each Subcontractor to make payments to its sub-contractors and suppliers in similar manner. City shall have no obligation to pay or be responsible in any way for payments to Subcontractors, of any Tier.

Direct Negotiation of Stop Notices

City shall have the right to directly discuss, negotiate, settle or pay, without notice to or participation by Contractor, any stop notice claims asserted by the Subcontractors, of any Tier, and to deduct such sums paid from sums due to Contractor.

Release of Stop Notices

Except to the extent of any payments that City fails to make to Contractor under circumstances that constitute a breach by City of its payment obligations under the Contract Documents, if any stop notice, whether invalid or valid, is made, filed with, served upon or asserted against City or a Homeowner by any of the Subcontractors, of any Tier, or their agent or employee, for money claimed due for Work of any kind provided, then Contractor shall within five (5) Days after written notice by City and at Contractor's Own Expense, procure, furnish and record appropriate releases or other instruments which under Applicable Laws will full release, extinguish and removed such stop notice. Unless and until such stop notice is fully released as afore-stated, City shall have the right to retain from any payments then due, or thereafter to become due, an amount equal to one hundred and fifty percent (150%) of the amount necessary to satisfy, discharge and defend against any such stop notice and any action or proceeding thereon which may be brought to judgment or award. If the amount to be paid, or the amount retained thereon, is insufficient to satisfy, discharge or defend against such stop notice and any action of proceeding thereon, then Contractor shall be liable for the difference and upon written demand shall immediately deposit the same with City. The provisions in this paragraph are in addition to such other rights as City may have against Contractor under the Contract Documents or Applicable Laws.

Failure of Payment by City

If, through no fault of Contractor or failure by Contractor to comply with its obligations under the Contract Documents, Payment is not issued within thirty (30) Days after receipt of an undisputed and properly prepared and submitted Application for Payment then Contractor may, upon fourteen (14) additional Days' written notice to City, stop the Project Work for which such Application for Payment is received until payment is received as to any undisputed and owing work. Any resulting Delay associated with the shut down and start-up of the Project Work as a result of Contractor's proper exercise of its rights under this paragraph shall constitute a Compensable Delay.

Disputed Payments, Continuous Work

No dispute or disagreement with respect to the amount of any payment claimed due by Contractor shall relieve or excuse Contractor from the obligation to proceed with and maintain continuous, expeditious and uninterrupted performance of the Work.

Completion. Inspection. Punch List. Re-Inspection

A Contractor-generated punch list must be provided to the City or its representative prior to the request for final inspection. It will be the discretion of the City or its representative to grant the final inspection based on the Contractor generated punch list. Contractor shall achieve Completion

of the Project Work in accordance with the requirements of the Contract Time and other provisions of the Contract Documents. Contractor shall notify Engineer when Contractor believes that the Project Work for is Complete.

Unless the Engineer determines that the Project Work is not sufficiently complete to warrant an inspection to determine Compliance, the Engineer, accompanied by the Inspector of Record and any others deemed appropriate by the Engineer, will inspect the Project Work performed. Contractor, along with such Subcontractors and others as Engineer deems necessary shall participate in the inspection. If the Project Work is found to be Complete, then Engineer shall proceed to issue a written completion notice as provided hereinafter.

Any items necessary for Compliance that are found missing, incomplete or requiring correction shall be summarized by Contractor in a Completion Punch List and promptly signed by Contractor and delivered to Engineer. Contractor shall proceed within forty-eight (48) hours after signing the Completion Punch List to commence correction and completion of the items listed.

Contractor shall notify Engineer when the items listed are completed at which time a re-inspection shall be scheduled in the same manner as the original inspection. If said inspection discloses any item, whether or not included on the original Punch List, which is found missing, incomplete, or requiring correction said item shall be corrected before a Notice of Completion shall be issued.

The City shall be reimbursed or at its option shall withhold from Contractor's payments, amounts incurred by City to conduct more than two (2) inspections to determine Compliance of the Project Work. A Notice of Completion shall be issued by the Engineer when he determines that Compliance of the Project Work has occurred.

Final Completion

Contractor shall expeditiously and diligently perform all items of Project Work on the Final Completion Punch List so as to achieve Final Completion of the Project Work within the requirements of the Contract Time for Final Completion of the Project Work. Contractor shall forward to Engineer a written notice when Contractor believes that it has completed all of the items on the Final Completion Punch List and is read for a Final Completion Inspection. Unless Engineer determines that the Project Work is not sufficiently complete to warrant an inspection to determine Final Completion, Engineer, accompanied by Inspector of Record and any others deemed appropriate by Engineer, will inspect Project Work performed. If the Project Work is found to be Finally Complete, then Engineer shall proceed to issue a Notice of Final Completion as provided hereinafter.

If said inspection discloses any item, whether or not included on the Final Completion Punch List, which is found missing, incomplete, or requiring correction said item shall be corrected before a Notice of Final Completion shall be issued. The City shall be reimbursed or at its option shall withhold from Contractor's payments, amounts incurred by City to conduct more than two (2) inspections to determine Final Compliance of the Project Work for any Home. A Notice of Final Completion shall be issued by the Engineer when he determines that Final Compliance of the Project Work has occurred.

Concluding Payment

Upon issuance by Engineer of the Notice of Final Completion for the Project Work Contractor shall submit to Engineer its Application for Payment requesting payment for completion. Without limitations to any other conditions to payment set forth elsewhere in the Contract Documents, the following shall be conditions precedent to a proper submission, and to Engineer's approval, of Contractor's Application for Final Payment:

1. Submission of an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Project Work for which City or City's or Homeowner's property or funds might be liable have been paid or otherwise satisfied;
2. Submission of consent of Surety, if any, to Completion Payment;
3. Submission of a certificate evidencing that the insurance required by the Contract Documents is in force;
4. Submission of conditional releases and waivers of stop notice and bond rights upon final payment in the form required by California Code Section 3262(d)(3) executed by Contractor and by all Subcontractors, of every Tier, performing any portion of the Project Work;
5. Submission of all Close-Out Documents for the Project Work;
6. Submission of adequate and complete certified payroll records as required by the Contract Documents for any time period that Project Work was performed, which have not been submitted by Contractor in connection with its previous Applications for Payments.
7. Proper payment of prevailing wages as defined in California Labor Code Section 1720, et seq for the Project Work.
8. Submission of certificates by Contractor and each Subcontractor, as required by any applicable collective bargaining agreement or trust agreement or Applicable Laws, certifying that all employees' benefits relating to the Project Work due and owing having been paid in full; and
9. Submission of any other documents or information required by the Contract Documents as a condition of Final Payment or Final Completion of the Project Work.

Final Payment Terminates Liability

No claim shall be made or be filed, and neither the City nor any of its officers or agents shall be liable or held to pay any money, except as specifically provided in the Contract Documents.

The acceptance by the Contractor of the final payment aforesaid shall operate as, and shall be, a release to the City and its agents, from all claim and liability to the Contractor for anything done or furnished for, or relating to, the work or for any act or neglect of the City or of any person relating to or affecting the work, except the claim against the City for the remainder, if any there be, of the amounts kept or retained as provided elsewhere in these General Conditions.

Securities in Lieu of Retention

Provisions of California Public Contract Code Section 22300 et. seq. substitution of eligible and equivalent securities for retention held by City to ensure Contractors performance under the Contract will be permitted at the request and expense of the Contractor and in conformity with California Section 22300. The foregoing notwithstanding, the Contractor shall have ten (10) days following action by the City to award the Agreement to the Contractor to submit its written request to the City to permit the substitution of securities for retention under California Public Contract Code Section 22300. The failure of such Contractor to make such a written request for the City within said ten (10) day period shall be deemed a waiver of the Contractor's right under California Public Contract Code Section 22300.

In the event the Contractor wishes to choose to exercise its rights under California Public Contract Code Section 22300, the Contractor shall enter into an escrow agreement with the City, and the escrow agent, a state or federally chartered bank in California with a current A.M. Best Rating of not less than "A," in the form specified by said Section 22300. Contractor shall have the obligation of ensuring that such securities deposited are sufficient to maintain its total fair market value an amount equal to the cash amount of the sums to be withheld under the Agreement. If upon written notice from the City or from the appropriate escrow agent, indicating that the fair market value of the securities has dropped below the dollar amount of monies to be withheld by the City to ensure performance, Contractor shall, within five (5) days of the date of such notice, post additional securities as necessary to ensure that the total fair market value of all such securities held by the City, or in escrow, is equivalent to the amount of money to be withheld by the City under the Agreement.

Any escrow agreement entered into shall contain the following provisions:

- (a) The amount of surety to be deposited;
- (b) The terms and conditions of conversion to cash in case of default of the Contractor; and
- (c) The termination of the escrow upon completion of the contract.

7.3.3 Delivered Materials.

This subsection of the Standard Specifications is hereby replaced in its entirety by the following:

Materials and equipment delivered but not incorporated into the work will not be included in the estimate for progress partial payment.

7-3.5 Contract Unit Prices.

7-3.5.1 General.

Replace this subsection with the following:

If the Engineer orders a change in quantity of an item of Work, and the change does not involve a substantial change in character of the Work from that shown in the Plans or Specifications, the City will adjust the total payment to be made for the item of Work by multiplying the amount authorized and installed by the Contract Unit Price. This amount may be greater or less than the amount shown in the Bid.

If the total quantity of a Major Bid Item is changed, the quantity changes of the quantity shown in the Bid, either more or less, will be adjusted at the Contract Unit Price.

7-3.5.2 Increases of More than 25 Percent

This subsection of the Standard Specifications is hereby replaced by the following:

No adjustments for any unit bid price for any quantity that will vary by more than 25% will be allowed.

7-3.5.3 Decreases of More than 25 Percent

This subsection of the Standard Specifications is hereby replaced by the following:

No adjustments for any unit bid price for any quantity that will vary by more than 25% will be allowed.

7-4 PAYMENT FOR EXTRA WORK.

7-4.3 Markup.

Replace this subsection with the following:

7-4.3.1 Work by Contractor.

The following percentages shall be added to the Contractor's costs and shall constitute the markup for all overhead and profit:

Labor	20%
Materials	15%
Equipment Rentals	15%
Other Contractor's costs	15%

One percent (1%) may also be added to the sum of costs and markups as compensation for the Contractor's bond premium.

7-4.3.2 Work by Subcontractor.

When a subcontractor performs all or any part of the extra work, the markups in paragraph (a) shall be added to the subcontractor's actual cost of such work. The Contractor may add an additional markup of 10% of the first \$5,000 of the subcontracted portion of the extra work and 5% on work added in excess of \$5,000 of the subcontracted portion of work.

SECTION 8 – FACILITIES FOR AGENCY PERSONNEL

The following is hereby added to this subsection of the Standard Specifications:

No field offices for AGENCY personnel will be required, however, the AGENCY personnel shall have the right to enter upon the project at all times and shall be admitted to the offices of the Contractor for the project in the City if so, provided by the Contractor for his own personnel.

SECTION 9 – CITY STANDARDS, STANDARD PLANS AND DRAWINGS

Section 9 is hereby added to the Standard Specifications as follows:

All public improvements, construction and dedications required and described in this manual shall conform to the standards and specifications of the City. Standards, Standard Plans and Drawings of the following agencies are used by the City of Montebello and are part of the City's standards. Where there is ambiguity or conflict between standards over which standard shall apply, the City Engineer shall determine what shall apply, and his determination shall be final. All construction is subject to the approval of the City Engineer.

Standard Plans – Standard Plans for Public Works Construction, SPPWC, “Latest Edition and Supplement”.

Los Angeles County Public Works Department – Grey Book and all plans except those modified or replaced by City Standards.

Los Angeles County Flood Control District - Applicable storm drains.

Sanitation Districts of Los Angeles County - Applicable sewer and manholes.

State of California – California Department of Transportation (Caltrans) Standard Specifications and Standard Plans - Pavement markings and traffic loops.

City Standards - All applicable standard plans.

Standard Specifications - The 2021 edition of, and applicable amendments to, the “Standard Specifications for Public Works Construction (SSPWC).”

California Manual on Traffic Control Devices (CA-MUTCD), “Latest Edition”.

California Building Standards Code – California Code of Regulations, Title 24.

SECTION 10 – CLAIMS AND PROTESTS

Section 10 is hereby added to the Standard Specifications as follows:

Excerpts from the Public Contract Code 9204.

(a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.

(b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this section shall apply to any claim by a contractor in connection with a public works project.

(c) For purposes of this section:

(1) “Claim” means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) A time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.

(B) Payment by the public entity of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

(C) Payment of an amount that is disputed by the public entity.

(2) “Claim” means a “Contractor” means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who has entered into a direct contract with a public entity for a public works project.

(3)(A) “Public entity” means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.

(B) “Public entity” shall not include the following:

(i) The Department of Water Resources as to any project under the jurisdiction of that department.

(ii) The Department of Transportation as to any project under the jurisdiction of that department.

(iii) The Department of Parks and Recreation as to any project under the jurisdiction of that department.

(iv) The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the Penal Code.

(v) The Military Department as to any project under the jurisdiction of that department.

(vi) The Department of General Services as to all other projects.

(vii) The High-Speed Rail Authority.

(4) “Public works project” means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

(5) “Subcontractor” means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with a contractor or is a lower tier subcontractor.

(d)(1)(A) Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.

(B) The claimant shall furnish reasonable documentation to support the claim.

(C) If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.

(D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

(2)(A) If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.

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

(C) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

(D) Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

(E) This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.

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

(4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

(5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

(e) The text of this section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this section.

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

PART 4 – EXISTING IMPROVEMENTS

SECTION 400 – PROTECTION AND RESTORATION

400-1 GENERAL.

The second paragraph of Subsection 400-1 of the Standard Specifications is hereby deleted and replaced with the following:

The Contractor shall relocate, repair, replace or re-establish all existing improvements within the project limits which are not designated for removal (e.g., curbs, sidewalks, driveways, fences, walls, sprinkler systems, signs, utility installations, pavements, structures, etc.) which are damaged or removed as a result of the operations or as required by the Plans and Specifications. The Contractor shall make the effort to repair all sprinklers, pipe, etc by the end of the day.

Where existing traffic striping, pavement markings, and curb markings are damaged or their reflectivity reduced by the Contractor's operations, such striping or markings shall also be

considered as existing improvements and the Contractor shall repaint or replace such improvements.

Relocations, repairs, replacements or re-establishments shall be at least equal to the existing improvements and shall match such improvements in finish and dimensions unless otherwise specified.

All existing improvements including Fence/Wall/Gates/Plants/Grass/Trees/Irrigation Systems/etc. that might be damaged during construction should be videotaped and it is Contractor's responsibility to protect all existing adjacent features such as landscaping, irrigation system, property's fence/wall/gates, curb and gutter, pull boxes, utility boxes, and etc. in place per section 400-1 of Standard Specifications for Public Works Construction. All damages to these items shall be fixed to the satisfaction of the City of Montebello without any additional compensation.

400-2 PERMANENT SURVEY MARKERS.

The following is added to this subsection of the Standard Specifications:

The Contractor shall be responsible for the protection and preservation of existing permanent survey monuments and benchmarks during construction. Damaged or lost monuments and benchmarks shall be restored to existing condition by a Registered Civil Engineer or a Land Surveyor licensed by the State of California at no increase in cost to the City.

The Contractor, at its own expense, shall employ a qualified surveyor to perform all survey work required for the completion of the project as specified in the plans and these specifications, comply with the requirements of Section 8771 of the Land Surveyors Act as amended and submit the documents from the County Surveyor as proof of compliance to the City of Montebello.

400-3 PAYMENT

This subsection of the Standard Specifications is hereby deleted and replaced with the following:

No separate or additional payment will be made for 1) protection of existing improvements, 2) restoration of existing improvements and 3) permanent survey markers. All costs to the Contractor for protecting, removing, restoring, relocating, repairing, replacing, or re-establishing existing improvements shall be included in the bid.

APPENDIX “A”

CONSTRUTION SPECIFICATIONS

DOCUMENT 000102
TABLE OF CONTENTS

INTRODUCTORY INFORMATION

Document 000102 Table of Contents

SPECIFICATIONS

DIVISION 1 - GENERAL REQUIREMENTS

Section	01 1000	Summary of Work
Section	01 2976	Progress Payment Procedures
Section	01 3300	Submittal Procedures
Section	01 3543	Environmental Procedures
Section	01 4000	Quality Requirements
Section	01 5000	Temporary Facilities and Controls
Section	01 6000	Product Requirements
Section	01 7300	Execution
Section	01 7419	Construction Waste Management Disposal
Section	01 7704	Closeout Procedures and Training

DIVISION 2 – EXISTING CONDITIONS

Section	024119	Selective Structure Demolition

DIVISION 3 – CONCRETE

Section	03 2000	Concrete Reinforcement
Section	03 3000	Cast-In-Place Concrete
Section	03 3543	Concrete Polish

DIVISION 4 – MASONRY – NOT USED

DIVISION 5 – METALS – NOT USED

DIVISION 6 – WOOD, PLASTICS, AND COMPOSITES

Section	06 1000	Rough Carpentry
Section	06 1600	Sheathing
Section	06 4000	Architectural Woodwork

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

Section	07 1000	Dampproofing
Section	07 2100	Building Insulation
Section	07 9200	Joint Sealants

DIVISION 8 - OPENINGS

Section	08 1113	Hollow Metal Frames
Section	08 1400	Flush Wood Doors
Section	08 3100	Access Doors & Panels
Section	08 7100	Door Hardware
Section	08 8000	Glazing

DIVISION 9 – FINISHES

Section	09 0565	Moisture Testing for Flooring Installation
Section	09 2800	Cement Board
Section	09 2900	Gypsum Board
Section	09 3000	Tile
Section	09 5113	Acoustical Panel Ceiling
Section	09 6513	Rubber Base
Section	09 6518	Rubber Flooring
Section	09 9123	Interior Painting

DOCUMENT 000102
TABLE OF CONTENTS

DIVISION 10 - SPECIALTIES

Section	10 1400	Signage
Section	10 2813	Toilet Accessories

DIVISION 11 – EQUIPMENT – NOT USED

DIVISION 12 – FURNISHINGS – NOT USED

DIVISION 13 - SPECIAL CONSTRUCTION – NOT USED

DIVISION 14 - CONVEYING EQUIPMENT – NOT USED

DIVISION 21 – FIRE SUPPRESSION – NOT USED

DIVISION 22 – PLUMBING

Section	22 0500	Plumbing
Section	22 0522	Common Work Results for Plumbing
Section	22 1116	Domestic Water Piping
Section	22 1319	Sanitary Waste Piping Specialties
Section	22 4000	Plumbing Fixtures and Equipment
Section	22 4223	Commercial Showers and Valves

DIVISION 23 – HEATING, VENTILATING, AND AIR CONDITIONING

Section	23 0593 - Testing, Adjusting, and Balancing for HVAC
Section	23 0713 - Duct Insulation
Section	23 3100 - HVAC Ducts and Casings
Section	23 3200 - Air Duct Cleaning
Section	23 3713 - Diffusers, Registers, and Grilles

DIVISION 25 – INTEGRATED AUTOMATION – NOT USED

DIVISION 26 – ELECTRICAL

Section	26 0500 - Electrical
Section	26 0513 – Electrical Basic Materials and Methods
Section	26 0519 - Low Voltage Wires
Section	26 2726 - Wiring Devices
Section	26 5100 – Interior Lighting

DIVISION 27 – COMMUNICATIONS – NOT USED

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY – NOT USED

DIVISION 31 – EARTHWORK – NOT USED

DIVISION 32 – EXTERIOR IMPROVEMENTS – NOT USED

DIVISION 33 – UTILITIES – NOT USED

SCHEDULE, CLAUSES AND ATTACHMENTS, AND SOLICITATION REQUIREMENTS
Issued separately by the City

END OF DOCUMENT

**SECTION 01 1000
SUMMARY OF WORK**

GENERAL

1.1 SCOPE

- A. The Contractor shall provide all materials, labor, tools, plant, supplies, equipment, transportation, superintendence, temporary construction of every nature, and all other services and facilities necessary to complete the construction of the Fire Station 56, including all incidental work described in the contract documents.
- B. The scope of work is contained in the contract documents.
- C. The scope of work includes, but is not limited to the following:
 - 1. Renovation of existing Restroom and new Shower Rooms w/ new finishes & plumbing fixtures.
 - 2. Renovation of existing selected Office Rooms.
 - 3. Renovation of existing Kitchenette.
 - 4. Renovation of areas adjacent to the above rooms.
 - 5. Selected door replacement.
 - 6. New exhaust fans.
 - 7. New light fixtures.
 - 8. New Gyp board over existing and new wood framing at walls and ceilings.
 - 9. New R-15 insulation.
 - 10. New polishing finish of existing concrete.
 - 11. New polishing finish of new concrete slab.
 - 12. New beams, posts and footings
 - 13. New ceiling joists.
 - 14. New Acoustic Ceiling Tiles and Grid and Light Fixtures
 - 15. Provide and install all electrical power, conduits, pull boxes, devices, relays, circuit breakers, smoke detectors, occupancy sensors, emergency illuminated signage
 - 16. New speakers, data, ready conduits & J-Box for installation and coordination with County communication data plan.
 - 17. Installation of furniture provided by owner.
 - 18. New accessible Van parking and detectable warning/domes near entrance door.
 - 19. Fully cooperate with all City agencies and other Contractors under contract to the City and assigned to this project.
 - 20. Contractor to obtain building permits from the City's Building Department. Plans are already check and approved by the Building Department.
 - 21. Install electrical power and water connections for all contractors use. Provide and install one chemical toilet, fencing with green screening around the construction site and dumpster/laydown area (if needed, with prior approval of location from City Engineer).
 - 22. The contractor is responsible to familiarize themselves with the existing utilities and electronic systems inside and outside the Fire Station to facilitate their work on this project.
 - 23. The contractor is responsible for providing all required insurance, bonds, schedule of values, construction schedules, monthly updated schedules, attending weekly Owner, Architect, Contractor meetings, submitting monthly invoices, certified payrolls, three sets of closeout binders.
 - 24. Contractor shall maintain during construction and provide final as-built drawings at completion of project.
- D. All work shall be in accordance with applicable codes and local regulations that may apply. In case of conflict in or between the Contract Documents and a governing code or ordinance, the more stringent standard as determined by the Engineer shall apply.

**SECTION 01 1000
SUMMARY OF WORK**

1.2 MISCELLANEOUS CONTRACT EXPENSES

- A. The Contractor must include in its bid the cost fees or charges payable to State, local, or special community development agencies unless otherwise stated in the General Requirements. Contractor will be required to obtain building permits from the City's Building Department as this is a City Public Works Project.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTIONI (Not used)

END OF SECTION

SECTION 01 2976
PROGRESS PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for a certified Application for Payment.
 - 1. Coordinate the certified Schedule of Values and certified Application for Payment with, but not limited to, the Construction Schedule, submittal log, and list of Subcontractors.

1.2 RELATED REQUIREMENTS:

- A. Section 01 3300 – Submittal Procedures.
- B. Section 01 7704 – Closeout Procedures and Training.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION

3.01 APPLICATION FOR PAYMENT

- A. Each certified Application for Payment shall be consistent with previous applications and payments as reviewed by Engineer, paid for by City, and:
 - 1. The Initial Application for Payment and Final Application for Payment at time of Substantial Completion involve additional requirements.
- B. Payment Application Times: The period of Work covered by each Application for Payment is payment date for each progress payment as specified in the General Conditions. The period covered by each Application for Payment is previous month.
- C. Payment Application Forms: Use City provided forms for the Application for Payment.
- D. Application Preparation: Complete every entry on the form. Include execution by a person authorized to sign legal documents on behalf of General Contractor. Engineer will return incomplete applications without action.
- E. Transmittal: Submit a minimum of one signed and original copies of each certified Application for Payment to Engineer. All copies shall be complete, including releases and similar attachments.
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to Engineer.
- F. Initial Application for Payment within 60 days of issuance of Notice to Proceed: Administrative actions and submittals, that must precede or coincide with submittal for first certified Application for Payment include, but are not limited to, the following:
 - 1. Certified Schedule of Values.
 - 2. Performance and payment bonds.
 - 3. List of principal suppliers and fabricators.
 - 4. Worker Compensation certificates, if applicable.
 - 5. Auto Insurance, if applicable.

SECTION 01 2976
PROGRESS PAYMENT PROCEDURES

6. Hazardous Material Insurance Certificates, if applicable.
 7. Construction Schedule.
 8. Submittal Schedule.
 9. Emergency Contact List.
 10. Copies of authorizations and licenses from governing authorities for performance of Work.
 11. Certified Payroll (Submitted directly to Labor Compliance in electronic format as specified by City including hard copy).
- G. Applications for Payment: Administrative actions and submittals that must precede or coincide with submittal of Progress Applications for Payment include, but are not limited to, the following:
1. Certified Payroll (submitted directly to Labor Compliance in electronic format as specified by City including hard copy).
 2. Updated and current Project Record Drawings (as-built).
 3. Monthly Construction Schedule (updated, submitted and approved).
 4. Approved Schedule of Values.
 5. List of Subcontractors (Payments Summary).
- H. Final Application for Payment at Substantial Completion: Following Engineer issuance of certificate of Substantial Completion, submit an Application for Payment:
1. Administrative actions, submittals and/or Work that shall precede or coincide with this application include:
 - a. Occupancy permits and similar approvals by authorities having legal jurisdiction over Work.
 - b. Removal of temporary facilities and services.
 - c. Testing, adjusting and balance records.
 - d. Removal of surplus materials, rubbish, and similar elements.
 - e. Meter readings.
 - f. Start-up performance reports.
 - g. City personnel training and orientations.
 - h. Operating and maintenance instruction manuals.
 - i. Preliminary Warranties, guarantees and maintenance agreements.
 - j. Delivery of extra materials, products and or stock.
 - k. Change over information related to City occupancy, use, operation, and maintenance.
 - l. Final cleaning.
 - m. Ensure that Work is completed.
 - n. Advise on shifting insurance coverage.
 - o. List of defective Work, recognized as exceptions to certificate of Substantial Completion.
 - p. Change of door locks, including keys, to City system.
 - q. Certified Payroll (submitted directly to Labor Compliance in electronic format as specified by the City including hard copy).
 - r. Certification that all benefit contributions due and owing to appropriate union trusts has been paid by General Contractor and Subcontractors, as specified by the Project Stabilization Agreement (PSA) and Article 6.49 of the General Conditions.
 - s. Waivers and releases for General Contractor.

Payment amount to be based on actual quantities of work completed and unit bid prices. Total bid item quantities completed x unit bid price.

END OF SECTION

**SECTION 01 3300
SUBMITTAL PROCEDURES**

PART 1 - GENERAL

1.1 Schedule of Submittals

- A. Within 30 days after receiving a Notice to Proceed, the Contractor must submit a Schedule of Submittals, in the format indicated below, in duplicate, listing all items that must be furnished for review and approval by the Engineer. The schedule must indicate the type of items (such as sample, shop drawings, catalog cut, and so forth) and include the scheduled dates of submittal. In preparing the schedule, adequate time (10 days or more exclusive of time in the mail) must be allowed for review and approval and possible resubmittal. Also, the schedule must be coordinated with the approved construction progress chart. The Contractor must revise and/or update the schedule monthly. Such revised schedules must be submitted to the Engineer for approval.
- B. During bidding and within 30 days after receiving a Notice to Proceed, the Contractor must complete and submit to the Engineer a listing of all subcontractors, including subcontractor name, address, telephone number, fax number and email address. Include an updated list with each progress payment request.
- C. Schedule of Submittals Format

Project _____

Contract No. _____

Project Description _____

Spec. Section	Spec. Description	Paragraph Number	*Submittal Type	Date		Action Taken	Assigned Number
				Submittal	Returned		

*Submittal Type:

C – Certificate

S – Sample

SD – Shop Drawing

CD – Catalog Data

PL – Spare Parts List

MM – Maintenance Manual

1.2 Shop Drawings and Related Data

- A. Prior to submittal, the Contractor must stamp and sign the submittal to indicate that it is in accordance with the contract documents without deviation and has been reviewed and approved by the Contractor. The Contractor must make any corrections required by the Engineer. If the Contractor considers any correction indicated on the drawings to constitute a change to the contract drawings or specifications, notice must be given to the Engineer. Four prints of all approved shop drawings must be given to the Engineer. The approval of the drawings by the Engineer must not be construed as a complete check but indicates only that the submittal appears to comply with the contract documents. Approval of the shop drawings does not relieve the Contractor of responsibility for any error that may exist because the Contractor is responsible for

SECTION 01 3300
SUBMITTAL PROCEDURES

the dimensions and for satisfactory construction of all work. The submission by the Contractor must be accompanied by a transmittal letter in a format approved by the Engineer.

1.3 Material, Equipment, and Fixture Lists

- A. When required by the technical provisions, lists of materials, equipment, and fixtures must be submitted by the Contractor in accordance with the requirements specified for shop drawings. The lists must be supported by sufficient descriptive material, such as catalogs, cuts, diagrams, and other data published by the manufacturer, as well as by evidence of compliance with safety and performance standards, to demonstrate conformance to the specification requirements. Catalog numbers alone are not acceptable. The data must include the name and address of the nearest service and maintenance organization that regularly stocks repair parts. No consideration will be given to partial lists submitted from time to time. Approval of materials and equipment is tentative, subject to submission of complete shop drawings indicating compliance with the contract documents.

1.4 Certificates of Compliance

- A. Any certificates required for demonstrating proof of compliance of materials with specification requirements, including statements of application, and extended guarantees, must be signed and submitted in quadruplicate to the Engineer at least 10 days before delivery. The Contractor must review all certificates before submissions are made to the Engineer, to ensure compliance with the contract specification requirements and to ensure that the affidavit is properly signed. Each certificate must be signed by an official authorized to certify on behalf of the manufacturing company and must contain the name and address of the Contractor, the project name and location, and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates must contain the name and address of the testing laboratory and the dates of tests to which the report applies. Certification must not be construed as relieving the Contractor from furnishing satisfactory material if, after tests are performed on selected samples, the material is found not to meet the specific requirements.

1.5 Review of Submittals

- A. When submittals are reviewed by others, each submittal must be returned to the Engineer stamped and signed or marked in one of the following ways:
 - 1. A Action: The Contractor is advised that "A Action" means that fabrication, manufacture, or construction may proceed, provided the work complies with the contract documents.
 - 2. B Action: The Contractor is advised that "B Action" means that fabrication, manufacture, or construction may proceed, provided the work complies with the notations and the contract documents.
 - 3. C Action: The Contractor is advised that "C Action" means that no work may be fabricated, manufactured, or constructed and that the Contractor must make a new submittal. Any submission marked "C Action" is not permitted on the site.
- B. The "A Action" or "B Action" submittals must be returned to the Engineer. The Contractor is responsible for obtaining prints of them and for distributing them to the field and to subcontractors.
- C. In the case of shop drawings in the form of manufacturers' descriptive literature, catalog cuts, and brochures stamped "A Action" or "B Action," returned to the Engineer, the Contractor is responsible for distributing them to the field and to the subcontractors. If the shop drawings are stamped "C Action," the Engineer will provide copies to the Contractor, who must submit new shop drawings to the Engineer.

SECTION 01 3300
SUBMITTAL PROCEDURES

- D. In the case of samples stamped "A Action" or "B Action," the Engineer will provide one of the samples to the Contractor. In the case of samples stamped "C Action," all of the submitted samples must be returned.

1.6 Spare Parts Data

- A. Spare parts data must be submitted in quadruplicate.

1.7 Schedule of Values

- A. The Contractor must submit a construction cost breakdown using the City provided Schedule of Values. When applicable, a separate cost breakdown form must be submitted for each separate building. However, the total cost of site work for each facility must be included in the cost estimate breakdown for each restroom building and exterior work. The number of items provided on the Systems Construction Cost Estimate Breakdown form are the minimum required. Additional subdivision of these items may be used by the Contractor.
- B. Submit the construction cost breakdown after contract award to the Engineer.
- C. Do not delete items from the Schedule of Values form. However, expand the schedule "Description of Work" as necessary to allow evaluation of work or to make progress payments.
- D. If the contract price changes, the Schedule of Values must be revised to reflect the change(s) and forwarded to the Engineer.
- E. A current Schedule of Values must accompany all Contractor Requests for Payment.
- F. See following exhibit for Schedule of Values.

1.8 As-built plans.

- A. Contractor to submit as built plans.
- B. During construction, maintain as-built redline drawings for all drawings and final as-builds for contractor-generated coordination drawings. Update after completion of commissioning.

PART 2 - PRODUCTS (Not used)
PART 3 - EXECUTION (Not used)

END OF SECTION

**SECTION 01 3543
ENVIRONMENTAL PROCEDURES**

PART 1 - GENERAL

1.1 Scope

- A. The work covered by this section consists of furnishing all labor, material, and equipment and performing all work required for compliance with environmental regulations and preventing pollution during, and as a result of, construction operations under this contract, in addition to those measures set forth in other technical provisions of these specifications.
- B. The Contractor and subcontractors must comply with all applicable environmental federal, state, local environmental, health and safety laws and regulations.

1.2 Notification

- A. The Contractor must, after receiving a notice of noncompliance with the foregoing provisions, immediately take corrective action. The notice, when delivered to its Contractor or its authorized representative at the site of the work, is deemed sufficient for this purpose. If the Contractor fails or refuses to comply promptly, the Engineer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost because of any such stop orders may be made the subject of a claim for extension of time or for excess costs or damages by the Contractor unless it is subsequently determined that the Contractor complied.

1.3 Environmental Regulatory Compliance

- A. Within 30 days after receiving the notice to proceed or not less than 15 days prior to commencing on-site work, the Contractor must submit any environmental documents that are required by federal, state or local environmental regulations. Plans must be approved by the Engineer prior to commencing on-site work and must describe and include, but is not limited to, the following
 - 1. Waste Minimization and Management Plan must describe how natural resources potentially impacted by construction will be protected or managed; construction wastes will be stored and disposed of or recycled; and pollutants associated with building materials will be controlled. The waste minimization and management section of the plan must also list materials and construction debris to be recycled, and address the disposal of solid and hazardous wastes and materials, including asbestos and lead-based paint. It must also include tables applicable to the reclamation of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) in accordance with the City recycling code and 1.4 (B) below.
 - 2. Environmental Compliance Plan must document NEPA compliance by describing mitigation measures to address environmental concerns/sensitive receptors identified in the National Environmental Policy Act (NEPA) document(s) in Section B. 1500, Attachments, and as set out in the mitigation measures in the General Requirements.

1.4 Environmental Site Controls

- A. Location of Hazardous Materials: The location of the Contractor's temporary storage of any hazardous materials and/or wastes must be appropriately marked and included in the health and Safety Plan (see Section 1.5 below).

**SECTION 01 3543
ENVIRONMENTAL PROCEDURES**

- B. Post Construction Cleanup or Obliteration: The Contractor must remove and properly dispose of all signs of temporary construction facilities such as haul roads, work area, structures, foundations of temporary structures, excess or waste materials, or any other vestiges of construction as directed by the Engineer. No separate or direct payment may be made for post construction cleanup and all associated costs must be considered included in the contract price.
- C. Dust Control: The Contractor must keep the site free from dust in accordance with applicable regulations.
- D. Noise Minimization: The Contractor must perform demolition and construction operations to minimize noise including conducting work during less sensitive hours of the day in accordance with the City's Noise Ordinance.

1.5 Health and Safety

- A. Prior to commencing on-site work, the Contractor must submit an Occupational Safety and Health Administration (OSHA) Emergency Action Plan (EAP) to the Engineer to demonstrate compliance by the Contractor and subcontractors with applicable OSHA regulations. If the Contractor is not required by OSHA to develop a written EAP, i.e., if 10 or fewer are employed for the construction project or any other specific regulations identified by OSHA, then the Contractor shall submit to the Engineer a signed letter stating the Contractor shall meet OSHA's EAP requirements in a verbal communication to all employees.
- B. Copies of Material Safety Data Sheets (MSDSs) for any hazardous material(s), as defined by OSHA's Hazard Communications Standard, must be included whenever such materials arrive on-site. MSDSs must be kept together and maintained centrally on-site through to project completion. Provide a copy of each MSDS in the Operating and Maintenance Manual. The use of asbestos containing materials, in excess of one percent as defined by US Environmental Protection Agency regulations, is prohibited in the construction of this project. Provide an executed copy of the "Certificate of Asbestos and Lead-Based Paint (New Work)" in the Operating and Maintenance Manual.
- C. The use of lead-based paint is prohibited in the construction of this project.
- D. The use of lead-containing solder for plumbing and plumbing fixtures is prohibited in the construction of this project.
- E. The Contractor must sign and submit to the Engineer a "Certification of Asbestos and Lead-Based Paint" for this project.
- F. See following exhibits for additional information.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION (Not used)

END OF SECTION

**SECTION 01 3543
ENVIRONMENTAL PROCEDURES**

Safety and Health and Related Environmental Requirements

The Contractor is required to meet all applicable OSHA, federal, state, and local safety, health, and related environmental requirements in addition to the City requirement listed in this table.

Issue	City Requirements
Asbestos	<i>Review of Facility Asbestos Survey:</i> Before any building maintenance, equipment installation, renovation, alteration, demolition, or other project begins, determine whether ACBM will be disturbed. <i>Proper Work Practices:</i> If ACBM is present, follow proper control procedures and work practices. <i>Consultation With Facility Asbestos Coordinator:</i> Consult with the facility manager or his or her designee before the start of any work likely to disturb ACBM. Disturbance means activities that crumble or pulverize ACBM or presumed asbestos-containing material (PACM) or generate visible debris. Operations may include drilling, abrading, cutting a hole, pulling cable, and crawling through tunnels or attics and spaces above the ceiling where asbestos is actively disturbed or asbestos-containing debris is actively disturbed. <i>Asbestos Work Authorization:</i> You must have an approved Form 8210, <i>Work Authorization - Asbestos</i>, before work begins within any building containing asbestos.
Barricades, Barriers, and Warnings	Your barricades must meet the OSHA requirements. In addition, you assume control of your work area during your activities unless otherwise specified in writing by the City Engineer (CE) or City Engineer's representative (CER).
Confined Spaces	Confined space work must meet the OSHA requirements. You must have a comprehensive confined space program that includes a written program, employee training, entry and testing equipment, and rescue capabilities. If you require access to confined space requiring a permit, then the trained, designated City representative must review and approve the project and permit. Entry into other confined spaces must be in accordance with OSHA regulations.
Electrical Work	Lock or rope off work areas involving exposed energized equipment or have an attendant present to prevent accidental contact by unqualified people. Refer to the Barricade section of this guideline for additional information.
Elevated Work and Fall Protection	Follow strictly the applicable OSHA fall protection requirements.
Excavation	All excavations 4 feet or more in depth must be properly shored or sloped and meet all OSHA requirements. Before any digging or drilling commences, inform the City COR and call Dig Safe or its local equivalent to determine whether any underground utilities are located in the work area. Submit documentation that these notifications have been performed. You must not begin digging or drilling until you have verified that underground utilities have been identified and are properly marked so that work may be accomplished in a safe manner.
Fire Protection	Do not block, remove, or otherwise prevent City fire extinguishers from being immediately accessible and usable. If a system must be impaired by a scheduled shutdown, notify the Engineer and do not proceed without the Engineer's authorization.
Hazard Communication	Inform the Engineer before any chemicals are used. Before materials are brought on site, provide material safety data sheets (MSDSs) and an inventory of materials. For projects that are anticipated to use substantial quantities of hazardous materials, you may be required to provide a routing, storage, and waste disposal plan.
Hazardous Materials	Follow all OSHA requirements regarding hazardous materials. Hazardous materials include, but are not limited to, flammable and combustible liquids, gasoline, diesel

**SECTION 01 3543
ENVIRONMENTAL PROCEDURES**

	fuel, motor oil, lubricating oil, hydraulic oil, corrosive cleaners, and battery acid. Provide secondary containment for all containers of liquids that are over 5 gallons in capacity. Immediately report all hazardous material releases ("spills"), regardless of how small or where they occur, to the designated Engineer. Releases include solids, liquids, and gases.
Hot Work	Do not begin any hot work until the Engineer has completed and signed a City Hot Work Permit. The permit will be valid for only a single work shift. You must display the permit at the work site. You are prohibited from performing hot work (a) when the City has not authorized it, (b) in locations in which fire protection systems have been impaired, (c) in the presence of explosive or flammable atmospheres, or (d) in locations where large quantities of flammable and combustible materials are unprotected.
Powered Industrial Trucks	Powered industrial trucks and other mobile equipment must follow all traffic rules of the City facility. The maximum speed limit for in-plant powered vehicles is 5 miles per hour. Many work areas have posted speed limits that you must strictly follow. Perform refueling only in authorized locations following safe procedures. As a general rule, the City does not allow gas- or diesel-powered industrial equipment inside City facilities. Coordinate exceptions to the rule through the City safety office.
Ladders	Strictly follow all OSHA requirements regarding ladders. Barricade the ladder use area to prevent contact with mobile equipment and employees.
Lead-Based Paint	<i>Review of Facility Lead Survey:</i> Before any construction, alterations, and/or repair activities begin, determine whether LBP will be disturbed. If the painted surface has not been tested, you must have it tested before beginning any activities that could potentially disturb LBP. <i>Proper Work Practices:</i> If LBP is present, follow proper control procedures and work practices. <i>Consultation With Engineer:</i> Consult with the Engineer before the start of any work likely to disturb LBP. Examples of activities that may affect LBP include paint removal by scraping, sanding, power tools, or heat guns; alterations that include removing drywall, structural steel, or other building materials coated with LBP; welding, cutting, or other hot work on coated metal surfaces; abrasive blasting of mail boxes and other equipment; and moving or cleaning of abrasive blasting enclosures.
Lockout/Tagout	Provide a copy of your lockout/tagout procedures, which must meet or exceed the OSHA Lockout/Tagout standard. You will be given access to and must review the City lockout/tagout program. If you encounter a City lockout/tagout device that prevents the continuation of work, do not make any attempts to remove, tamper with, or bypass the devices. Contact the Engineer and make arrangements to have the lockout device removed in accordance with City lockout removal policies.
Personal Protective Equipment	Before beginning work, evaluate the work area for hazards, determine whether contract employees will be required to use personal protective equipment (PPE) to protect themselves from these hazards, and document the hazard assessment. Wear the PPE required regardless of your perception of hazard potential.
Regulated And Prohibited Materials	<i>Pesticides.</i> The City has restricted the use of pesticides. Obtain prior approval of the City environmental compliance coordinator for special cases that may require the use of pesticide treatments. <i>Seventeen Chemical Prohibition.</i> Adhere to chemical prohibition policies. Do not use on City property any of the 17 chemicals prohibited by EPA unless the Engineer authorizes its use (each of these chemicals must be authorized separately). The district environmental compliance coordinator can supply the list.

SECTION 01 3543
ENVIRONMENTAL PROCEDURES

	<i>Asbestos-Free Products.</i> Install no asbestos-containing products or materials in City facilities. <i>Lead.</i> Apply no lead-based paint in City facilities.
Scaffolding	Follow strictly the applicable OSHA scaffolding requirements. Provide adequate barrier protection around the scaffolding to prevent hazards to City staff.
Walking and Working Surfaces	If the project requires temporary modifications to the means of egress, inform the Engineer before performing such actions, provide appropriate alternative means of egress, and communicated these to all employees.

**SECTION 01 3543
ENVIRONMENTAL PROCEDURES**

Emergency Procedures

Preparations for Emergency	Be prepared for emergency situations. Ensure that emergency telephone numbers are site specific, readily available, easily read, and communicated to all employees. Train and authorize employees to implement emergency procedures.
Medical Emergencies	Have procedures and medical supplies to provide emergency medical services for your own personnel. Determine how to contact emergency medical services before work begins, and have on-site capabilities to contact such services immediately.
Fires	See Fire Protection above. In the event of a fire, you must: - Immediately remove personnel from the area or building following City evacuation procedures. - Immediately contact the nearest City employee and inform him or her of the fire. You may also activate an emergency alarm in the area. If no City employees are on-site, immediately contact the local fire department. Personnel trained in the use and limitations of fire extinguishers may attempt to extinguish the fire if it is safe to do so.
Chemical Releases	See Hazardous Materials above. If the event of a hazardous material release, you must: - Immediately remove personnel from the area or building following City evacuation procedures. - Immediately contact the designated City representative and inform him or her of the release. You may also activate an emergency alarm in the area. If no City employees are on-site, immediately contact the local fire department. Contractor personnel should not respond to the release unless specifically trained and protected to perform hazardous material response.
Power Outages	In the event of a power outage, you must: - Immediately stop work and assemble for a head count and possible facility egress. - Inform all contract employees that equipment may automatically restart when power resumes. - Immediately contact the designated City representative and inform him or her of the status of contract work and personnel head count. Relay at this time all hazards created due to the power outage. When power resumes evaluate the status of operations that were being performed relative to hazard potential. For example, the interruption of ventilation in confined spaces may generate atmospheric hazards.
Accident Investigation and Reporting	As soon as is practical after an accident, investigate and document an accident investigation. The documentation must describe the incident and identify the causes and the corrective actions that will prevent future incidents. Report all accidents, whether or not they result in injury. Give the written report to the Engineer within 24 hours of the accident or incident.

CERTIFICATE OF ASBESTOS AND LEAD-BASED PAINT

**SECTION 01 3543
ENVIRONMENTAL PROCEDURES**

(New Work)

To: City Engineer

Subject: Certification for new construction

City facility name: _____

City facility address: _____

Certification for new construction:

This Contractor/Owner hereby certifies that no asbestos-containing material in excess of 1 percent as defined by applicable US Environmental Protection Agency regulations, and no lead-based paint has been furnished or installed at the referenced project.

Contractor/Owner name: _____

Signature: _____

Address: _____

Telephone: _____ Date executed: _____

**SECTION 01 1000
SUMMARY OF WORK**

GENERAL

1.1 SCOPE

- A. The Contractor shall provide all materials, labor, tools, plant, supplies, equipment, transportation, superintendence, temporary construction of every nature, and all other services and facilities necessary to complete the construction of the Fire Station 56, including all incidental work described in the contract documents.
- B. The scope of work is contained in the contract documents.
- C. The scope of work includes, but is not limited to the following:
 - 1. Renovation of existing Restroom and Shower Rooms w/ new finishes & plumbing fixtures.
 - 2. Renovation of existing selected Office Rooms.
 - 3. Renovation of existing Kitchenette.
 - 4. Renovation of areas adjacent to the above rooms.
 - 5. Selected door replacement.
 - 6. New exhaust fans.
 - 7. New light fixtures.
 - 8. New Gyp board over existing and new wood framing at walls and ceilings.
 - 9. New R-15 insulation.
 - 10. New polishing finish of existing concrete.
 - 11. New polishing finish of new concrete slab.
 - 12. New beam
 - 13. New ceiling joist.
 - 14. Provide and install all electrical power, conduits, pull boxes, devices, relays, circuit breakers.
 - 15. New speakers, data, ready conduits & J-Box for installation and coordination with County communication data plan.
 - 16. New accessible Van parking and detectable warning/domes near entrance door.
 - 17. Fully cooperate with all City agencies and other Contractors under contract to the City and assigned to this project.
 - 18. Contractor to obtain building permits from the City's Building Department. Plans are already check and approved by the Building Department.
 - 19. Install electrical power and water connections for all contractors use. Provide and install one chemical toilet, fencing with green screening around the construction site and dumpster/laydown area (if needed, with prior approval of location from City Engineer).
 - 20. The contractor is responsible to familiarize themselves with the existing utilities and electronic systems inside and outside the Fire Station to facilitate their work on this project.
 - 21. The contractor is responsible for providing all required insurance, bonds, schedule of values, construction schedules, monthly updated schedules, attending weekly Owner, Architect, Contractor meetings, submitting monthly invoices, certified payrolls, three sets of closeout binders.
 - 22. Contractor shall maintain during construction and provide final as-built drawings at completion of project.
- D. All work shall be in accordance with applicable codes and local regulations that may apply. In case of conflict in or between the Contract Documents and a governing code or ordinance, the more stringent standard as determined by the Engineer shall apply.

1.2 MISCELLANEOUS CONTRACT EXPENSES

**SECTION 01 1000
SUMMARY OF WORK**

- A. The Contractor must include in its bid the cost fees or charges payable to State, local, or special community development agencies unless otherwise stated in the General Requirements. Contractor will be required to obtain building permits from the City's Building Department as this is a City Public Works Project.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTIONI (Not used)

END OF SECTION

SECTION 01 2976
PROGRESS PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for a certified Application for Payment.
 - 1. Coordinate the certified Schedule of Values and certified Application for Payment with, but not limited to, the Construction Schedule, submittal log, and list of Subcontractors.

1.2 RELATED REQUIREMENTS:

- A. Section 01 3300 – Submittal Procedures.
- B. Section 01 7704 – Closeout Procedures and Training.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION

3.01 APPLICATION FOR PAYMENT

- A. Each certified Application for Payment shall be consistent with previous applications and payments as reviewed by Engineer, paid for by City, and:
 - 1. The initial Application for Payment and Final Application for Payment at time of Substantial Completion involve additional requirements.
- B. Payment Application Times: The period of Work covered by each Application for Payment is payment date for each progress payment as specified in the General Conditions. The period covered by each Application for Payment is previous month.
- C. Payment Application Forms: Use City provided forms for the Application for Payment.
- D. Application Preparation: Complete every entry on the form. Include execution by a person authorized to sign legal documents on behalf of General Contractor. Engineer will return incomplete applications without action.
- E. Transmittal: Submit a minimum of one signed and original copies of each certified Application for Payment to Engineer. All copies shall be complete, including releases and similar attachments.
 - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to Engineer.
- F. Initial Application for Payment within 60 days of issuance of Notice to Proceed: Administrative actions and submittals, that must precede or coincide with submittal for first certified Application for Payment include, but are not limited to, the following:
 - 1. Certified Schedule of Values.
 - 2. Performance and payment bonds.
 - 3. List of principal suppliers and fabricators.
 - 4. Worker Compensation certificates, if applicable.
 - 5. Auto Insurance, if applicable.

SECTION 01 2976
PROGRESS PAYMENT PROCEDURES

6. Hazardous Material Insurance Certificates, if applicable.
 7. Construction Schedule.
 8. Submittal Schedule.
 9. Emergency Contact List.
 10. Copies of authorizations and licenses from governing authorities for performance of Work.
 11. Certified Payroll (Submitted directly to Labor Compliance in electronic format as specified by City including hard copy).
- G. Applications for Payment: Administrative actions and submittals that must precede or coincide with submittal of Progress Applications for Payment include, but are not limited to, the following:
1. Certified Payroll (submitted directly to Labor Compliance in electronic format as specified by City including hard copy).
 2. Updated and current Project Record Drawings (as-built).
 3. Monthly Construction Schedule (updated, submitted and approved).
 4. Approved Schedule of Values.
 5. List of Subcontractors (Payments Summary).
- H. Final Application for Payment at Substantial Completion: Following Engineer issuance of certificate of Substantial Completion, submit an Application for Payment:
1. Administrative actions, submittals and/or Work that shall precede or coincide with this application include:
 - a. Occupancy permits and similar approvals by authorities having legal jurisdiction over Work.
 - b. Removal of temporary facilities and services.
 - c. Testing, adjusting and balance records.
 - d. Removal of surplus materials, rubbish, and similar elements.
 - e. Meter readings.
 - f. Start-up performance reports.
 - g. City personnel training and orientations.
 - h. Operating and maintenance instruction manuals.
 - i. Preliminary Warranties, guarantees and maintenance agreements.
 - j. Delivery of extra materials, products and or stock.
 - k. Change over information related to City occupancy, use, operation, and maintenance.
 - l. Final cleaning.
 - m. Ensure that Work is completed.
 - n. Advise on shifting insurance coverage.
 - o. List of defective Work, recognized as exceptions to certificate of Substantial Completion.
 - p. Change of door locks, including keys, to City system.
 - q. Certified Payroll (submitted directly to Labor Compliance in electronic format as specified by the City including hard copy).
 - r. Certification that all benefit contributions due and owing to appropriate union trusts has been paid by General Contractor and Subcontractors, as specified by the Project Stabilization Agreement (PSA) and Article 6.49 of the General Conditions.
 - s. Waivers and releases for General Contractor.

Payment amount to be based on actual quantities of work completed and unit bid prices. Total bid item quantities completed x unit bid price.

END OF SECTION

**SECTION 01 3300
SUBMITTAL PROCEDURES**

PART 1 - GENERAL

1.1 Schedule of Submittals

- A. Within 30 days after receiving a Notice to Proceed, the Contractor must submit a Schedule of Submittals, in the format indicated below, in duplicate, listing all items that must be furnished for review and approval by the Engineer. The schedule must indicate the type of items (such as sample, shop drawings, catalog cut, and so forth) and include the scheduled dates of submittal. In preparing the schedule, adequate time (10 days or more exclusive of time in the mail) must be allowed for review and approval and possible resubmittal. Also, the schedule must be coordinated with the approved construction progress chart. The Contractor must revise and/or update the schedule monthly. Such revised schedules must be submitted to the Engineer for approval.
- B. During bidding and within 30 days after receiving a Notice to Proceed, the Contractor must complete and submit to the Engineer a listing of all subcontractors, including subcontractor name, address, telephone number, fax number and email address. Include an updated list with each progress payment request.
- C. Schedule of Submittals Format

Project _____

Contract No. _____

Project Description _____

Spec. Section	Spec. Description	Paragraph Number	*Submittal Type	Date		Action Taken	Assigned Number
				Submittal	Returned		

*Submittal Type:

C – Certificate

S – Sample

SD – Shop Drawing

CD – Catalog Data

PL – Spare Parts List

MM – Maintenance Manual

1.2 Shop Drawings and Related Data

- A. Prior to submittal, the Contractor must stamp and sign the submittal to indicate that it is in accordance with the contract documents without deviation and has been reviewed and approved by the Contractor. The Contractor must make any corrections required by the Engineer. If the Contractor considers any correction indicated on the drawings to constitute a change to the contract drawings or specifications, notice must be given to the Engineer. Four prints of all approved shop drawings must be given to the Engineer. The approval of the drawings by the Engineer must not be construed as a complete check but indicates only that the submittal appears to comply with the contract documents. Approval of the shop drawings does not relieve the Contractor of responsibility for any error that may exist because the Contractor is responsible for

SECTION 01 3300
SUBMITTAL PROCEDURES

the dimensions and for satisfactory construction of all work. The submission by the Contractor must be accompanied by a transmittal letter in a format approved by the Engineer.

1.3 Material, Equipment, and Fixture Lists

- A. When required by the technical provisions, lists of materials, equipment, and fixtures must be submitted by the Contractor in accordance with the requirements specified for shop drawings. The lists must be supported by sufficient descriptive material, such as catalogs, cuts, diagrams, and other data published by the manufacturer, as well as by evidence of compliance with safety and performance standards, to demonstrate conformance to the specification requirements. Catalog numbers alone are not acceptable. The data must include the name and address of the nearest service and maintenance organization that regularly stocks repair parts. No consideration will be given to partial lists submitted from time to time. Approval of materials and equipment is tentative, subject to submission of complete shop drawings indicating compliance with the contract documents.

1.4 Certificates of Compliance

- A. Any certificates required for demonstrating proof of compliance of materials with specification requirements, including statements of application, and extended guarantees, must be signed and submitted in quadruplicate to the Engineer at least 10 days before delivery. The Contractor must review all certificates before submissions are made to the Engineer, to ensure compliance with the contract specification requirements and to ensure that the affidavit is properly signed. Each certificate must be signed by an official authorized to certify on behalf of the manufacturing company and must contain the name and address of the Contractor, the project name and location, and the quantity and date or dates of shipment or delivery to which the certificates apply. Copies of laboratory test reports submitted with certificates must contain the name and address of the testing laboratory and the dates of tests to which the report applies. Certification must not be construed as relieving the Contractor from furnishing satisfactory material if, after tests are performed on selected samples, the material is found not to meet the specific requirements.

1.5 Review of Submittals

- A. When submittals are reviewed by others, each submittal must be returned to the Engineer stamped and signed or marked in one of the following ways:
1. A Action: The Contractor is advised that "A Action" means that fabrication, manufacture, or construction may proceed, provided the work complies with the contract documents.
 2. B Action: The Contractor is advised that "B Action" means that fabrication, manufacture, or construction may proceed, provided the work complies with the notations and the contract documents.
 3. C Action: The Contractor is advised that "C Action" means that no work may be fabricated, manufactured, or constructed and that the Contractor must make a new submittal. Any submission marked "C Action" is not permitted on the site.
- B. The "A Action" or "B Action" submittals must be returned to the Engineer. The Contractor is responsible for obtaining prints of them and for distributing them to the field and to subcontractors.
- C. In the case of shop drawings in the form of manufacturers' descriptive literature, catalog cuts, and brochures stamped "A Action" or "B Action," returned to the Engineer, the Contractor is responsible for distributing them to the field and to the subcontractors. If the shop drawings are stamped "C Action," the Engineer will provide copies to the Contractor, who must submit new shop drawings to the Engineer.

SECTION 01 3300
SUBMITTAL PROCEDURES

- D. In the case of samples stamped "A Action" or "B Action," the Engineer will provide one of the samples to the Contractor. In the case of samples stamped "C Action," all of the submitted samples must be returned.

1.6 Spare Parts Data

- A. Spare parts data must be submitted in quadruplicate.

1.7 Schedule of Values

- A. The Contractor must submit a construction cost breakdown using the City provided Schedule of Values. When applicable, a separate cost breakdown form must be submitted for each separate building. However, the total cost of site work for each facility must be included in the cost estimate breakdown for each restroom building and exterior work. The number of items provided on the Systems Construction Cost Estimate Breakdown form are the minimum required. Additional subdivision of these items may be used by the Contractor.
- B. Submit the construction cost breakdown after contract award to the Engineer.
- C. Do not delete items from the Schedule of Values form. However, expand the schedule "Description of Work" as necessary to allow evaluation of work or to make progress payments.
- D. If the contract price changes, the Schedule of Values must be revised to reflect the change(s) and forwarded to the Engineer.
- E. A current Schedule of Values must accompany all Contractor Requests for Payment.
- F. See following exhibit for Schedule of Values.

1.8 As-built plans.

- A. Contractor to submit as built plans.
- B. During construction, maintain as-built redline drawings for all drawings and final as-builds for contractor-generated coordination drawings. Update after completion of commissioning.

PART 2 - PRODUCTS (Not used)
PART 3 - EXECUTION (Not used)

END OF SECTION

SECTION 01 4000
QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 Contractor Quality Control

- A. Contractor Quality Control: The Contractor is responsible for the overall quality of all its own work and the work performed by their subcontractors working under this contract. The quality of any part of the work installed must not be less than that required by the technical divisions of this specification. If the Engineer determines that the quality of work does not conform to the applicable specifications and drawings, the Contractor will be advised in writing of the areas of nonconformance, and within 7 days the Contractor must correct the deficiencies and advise the Engineer in writing of the corrective action taken.
- B. Noncompliance with Quality Control Requirements: Failure of the Contractor to comply with the above requirements may be cause for termination for default as defined in the contract documents.

1.2 Submittals

- A. Prior to the start of on-site work, the Contractor must submit to the Engineer a Contractor Quality Control Plan that includes the following information:
 - 1. Procedures for reviewing coordination drawings, shop drawings, certificates, certifications, or other submittals.
 - 2. Testing and inspection schedule, keyed to Construction Schedule, indicating tests and inspections to be performed, names of persons responsible for inspection and testing for each segment of work including preparatory, initial, and follow-up.
 - 3. Proposed forms to be used including Contractor's Daily Report, Contractor Test and Inspection Report and Non-Compliance Check-Off List.

1.3 Quality Control Procedures

- A. Monitor quality control over Contractor staff, subcontractors, suppliers, manufacturer's, products, services, site conditions, and workmanship.
- B. Comply fully with manufacturer's published instructions, including each step-in sequence of installation.
- C. Should manufacturer's published instructions conflict with Contract Documents, request clarification from the Engineer before proceeding.
- D. Comply with specified standards as a minimum quality for work, except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons who are thoroughly qualified and trained in their respective trade, to produce workmanship of specified quality.
- F. Perform tests required by governing authorities having jurisdiction and utilities having jurisdiction.

1.4 Testing and Inspection Laboratory Services

- A. Selection and Payment:
 - 1. The City shall select and pay for services of an Independent Testing and Inspection Laboratory to perform specified testing and inspection.

SECTION 01 4000
QUALITY REQUIREMENTS

2. Employment of Independent Testing and Inspection Laboratory in no way relieves Contractor of obligation to perform work in accordance with requirements of Contract Documents.
 - B. Quality Assurance:
 1. Comply with requirements of all applicable ASTM standards.
 2. Laboratory: Authorized to operate in State in which Project is located.
 3. Laboratory Staff: Maintain a full-time registered engineer on staff to review services.
 4. Testing Equipment: Calibrated at reasonable intervals with devices of and accuracy traceable to either National Bureau of Standards or accepted values of natural physical constraints.
 - C. Laboratory Responsibilities. Contractor shall ensure the Laboratory has the following responsibilities and limits on authority:
 1. Test samples of mixes submitted by Contractor.
 2. Provide qualified personnel at Project site. Cooperate with the Engineer and Contractor in performance of services.
 3. Perform specified sampling, testing, and inspection of Products in accordance with specified standards.
 4. Determine compliance of materials and mixes with requirements of Contract Documents.
 5. Promptly notify the Engineer of observed irregularities or non-conformance of work or Products.
 6. Submit one copy of all test results directly to the Engineer.
 7. Perform additional tests as required by the Engineer.
 8. Attend appropriate preconstruction meetings and progress meetings.
 - D. Limits on Authority. Contractor shall ensure the Laboratory has the following limits on authority:
 1. Laboratory may not release, revoke, alter, or expand on requirements of Contract Documents.
 2. Laboratory may not approve or accept any portion of work.
 3. Laboratory may not assume any duties of Contractors.
 4. Laboratory has no authority to stop work.
- 1.5 Contractor Field Inspection and Testing
- A. Contractor: Test and Inspect work provided under this Contract to ensure work is in compliance with Contract requirements. Required tests and inspections are indicated in each individual Specification Section and shall be performed as required by the City inspector.
 - B. Preparatory Inspection: Performed prior to beginning work and prior to beginning each segment of work and includes:
 1. Review of Contract requirements.
 2. Review of shop drawings and other submittal data after return and approval.
 3. Examination to assure materials and equipment conform to Contract requirements.
 4. Examination to assure required preliminary or preparatory work is complete.
 - C. Initial Inspection: Performed when representative portion of each segment of work is completed and includes:
 1. Performance of required tests.
 2. Quality of workmanship.
 3. Review for omissions or dimensional errors.
 4. Examination of products used, connections and supports.
 5. Approval or rejection of inspected segment of work.
 - D. Follow-Up Inspections: Performed daily, and more frequently as necessary, to assure non-complying work has been corrected.

SECTION 01 4000
QUALITY REQUIREMENTS

- E. Testing and Inspection: Perform testing and inspection in accordance with requirements in individual Specification Sections.

1.6 Contractor's Daily Report

- A. The Contractor shall maintain daily reports, and provide copies to the Engineer if requested, for days that work was performed. Include the following information:
 - 1. Date, weather, minimum and maximum temperatures, rainfall, and other pertinent weather occurrences.
 - 2. Daily workforce of Contractor and subcontractors, by trades.
 - 3. Description of work started, ongoing work, and work completed by each subcontractor.
 - 4. Coordination implemented between various trades.
 - 5. Approval of substrates received from various trades.
 - 6. Nonconforming and unsatisfactory items to be corrected.
 - 7. Remarks

1.7 Contractor's Test and Inspection Reports

- A. Prepare and submit to the Engineer, a written report of each test or inspection signed by Contractor Quality Control Representative performing inspection within 2 days following day inspection was made.
- B. Include the following on written reports of inspection:
 - 1. Cover sheet prominently identifying that inspection "CONFORMS" or "DOES NOT CONFORM" to Contract Documents.
 - 2. Date of inspection and date of report.
 - 3. Project name, location, solicitation number, and Contractor.
 - 4. Names and titles of individuals making inspection, if not Contractor's Project Field Superintendent.
 - 5. Description of Contract requirements for inspection by referencing Specification Section.
 - 6. Description of inspection made, interpretation of inspection results, and notification of significant conditions at time of inspection.
 - 7. Requirements for follow-up inspections.

1.8 Non-Compliance Check-Off List

- A. Maintain check-off list of work that does not comply with Contract Documents, stating specifically what is non-complying, date faulty work was originally discovered, and date work was corrected. No requirement to report deficiencies corrected same day it was discovered. Submit copy of Non-Compliance Check-Off List of non-complying work items to the Engineer on a weekly basis.

1.9 Completion and Inspection of Work

- A. Prior to final acceptance by the Engineer and issuance of a Certificate of Substantial Completion and/or Notice of Completion, submit a certification signed by Contractor to the Engineer stating that all work has been inspected and all work, except as specifically noted, is complete and in compliance with Contract Documents.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION (Not used)

END OF SECTION

SECTION 01 5000
TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 General

- A. The Contractor must provide all temporary facilities and services required to complete the work and to comply with OSHA and other applicable regulations.
- B. The Contractor must maintain temporary facilities in a proper, safe, operating and sanitary condition for the duration of this Contract. Upon completion of this Contract, all such temporary work and facilities shall be removed in their entirety.

1.2 Project Sign

- A. The Contractor must construct and erect a minimum of two hard hat signs at locations designated by the Engineer. The signs must be erected prior to the commencement of on-site work.

1.3 Sanitary Provisions

- A. The Contractor must provide and keep in neat and sanitary condition conveniences and accommodations for the use of the construction personnel necessary to comply with the requirements and regulations of the local department of health and of other authorities having jurisdiction.

1.4 Approaches and Exits

- A. The Contractor must provide all necessary approaches and exits required to properly execute the work.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION (Not used)

END OF SECTION

SECTION 01 6000
PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 Product Options and Substitutions

- A. Provide Products that comply with Contract Documents, which are undamaged and new at time of installation.
- B. Provide Products complete with accessories, trim, finish, safety guards, and other devices and details needed for complete installation and intended use and effect.

1.2 Product Delivery Requirements

- A. Transport and handle Products in accordance with manufacturer's instructions, using means and methods that will prevent damage, deterioration and loss, including theft.
- B. Schedule Product delivery to minimize long-term storage at the Project sites and prevent overcrowding of construction spaces.
- C. Coordinate Product delivery with installation schedule to assure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
- D. Deliver Products to Project site in undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
- E. Promptly inspect shipments to ensure that Products comply with project requirements, quantities are correct, Products are undamaged, and properly protected.
- F. Provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.3 Product Storage and Handling Requirements

- A. Store and protect Products in accordance with manufacturers' published instructions, with seals and labels intact and legible.
- B. Store Products subject to damage by elements above ground, under cover in weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's published instructions.
- C. For exterior storage of fabricated Products, place on sloped supports, above ground.
- D. Provide off-site storage and protection when Project site does not permit on-site storage or protection.
- E. Cover Products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation or potential degradation of Product.
- F. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.

SECTION 01 6000
PRODUCT REQUIREMENTS

- G. Provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.
- H. Arrange storage of Products to permit access for inspection. Periodically inspect to verify Products are undamaged and are maintained in acceptable condition.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION (Not used)

END OF SECTION

SECTION 01 7300
EXECUTION

PART 1 - GENERAL

1.1 Meetings

- A. Prior to issuing the Notice to Proceed, the Engineer will schedule a Pre-Construction Meeting with the Contractor to review the proposed construction schedule and delivery dates, arrange utility coordination and clarify inspection procedures.
- B. Notwithstanding any other provisions of the contract, the Contractor shall not be obligated to perform any work and the City shall not be obligated to accept or pay for any work performed by the Contractor prior to delivery of the Notice to Proceed. The City's knowledge of work performed prior to the delivery of the Notice to Proceed shall not obligate the City to accept or pay for such work. The Contractor shall provide the required contract bonds and evidences of insurance prior to commencing work at the site.

1.2 Layout of Work

- A. The Contractor must lay out its work to match existing or as indicated on the drawings. The Contractor must furnish, at its own expense, all stakes, templates, platforms, equipment, tools, materials, and labor as may be required in laying out any part of the work as indicated on the drawings.

1.3 Contractor's Temporary Use of Facilities and Equipment

- A. No new facilities or equipment intended for the permanent installation, including materials-handling vehicles, may be used for temporary purposes unless specified in the contract or unless the Contractor has the written permission of the Engineer.

1.4 Cleaning

A. Cleaning During Construction:

- 1. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- 2. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- 3. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- 4. Collect and remove waste materials, debris, and rubbish from site as specified in the Environmental Compliance and Management Plan as required in Section 01 3543 - Environmental Procedures.

B. Final Cleaning:

- 1. Use cleaning materials and agents recommended by manufacturer or fabricator of surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property, or that might damage finished surfaces.
- 2. Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit of Work to condition expected from a commercial building cleaning and maintenance program. Comply with manufacturer's published instructions.
- 3. Complete following cleaning operations before requesting the Engineer's inspection for Substantial Completion.
 - a. Clean Project Site, yard and grounds if applicable, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste materials, litter and foreign substances. Sweep paved areas broom clean. Remove petro-chemical

SECTION 01 7300
EXECUTION

- spills, stains and other foreign deposits. Rake grounds that are neither planted nor paved, to a smooth even-textured surface.
- b. Remove tools, construction equipment, machinery and surplus material from Project Site.
 - c. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - d. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics and similar spaces.
 - e. Broom clean concrete floors in unoccupied spaces.
 - f. Provide final cleaning, waxing, and buffing of resilient tile, in accordance with manufacturer's requirements.
 - g. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - h. Remove labels that are not permanent labels.
 - i. Touch-up and otherwise repair and restore marred exposed finishes and surfaces. Replace finishes and surfaces that can not be satisfactorily repaired or restored, or that show evidence of repair or restoration. Do not paint over "UL" and similar labels, including mechanical and electrical name plates.
 - j. Wipe surfaces of mechanical and electrical equipment, and other similar equipment. Remove excess lubrication, paint and mortar droppings and other foreign substances.
 - k. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - l. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - m. Clean light fixtures, lamps, globes and reflectors to function with full efficiency. Replace burned out bulbs, and defective and noisy starters in fluorescent and mercury vapor fixtures.
 - n. Leave Project clean and ready for occupancy.
- 4. Remove temporary protection and facilities installed during construction to protect previously completed installations during remainder of construction.
 - 5. Comply with governing regulations and safety standards for cleaning operations. Remove waste materials from Project Site and dispose of in accordance with requirements of local authorities having jurisdiction.
 - a. Where extra materials of value remain after completion of construction have become City property, store these materials as directed by the Engineer.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION (Not used)

END OF SECTION

SECTION 01 7419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes: Procedures for achieving the most environmentally conscious Work feasible within the limits of the Construction Schedule, Contract Sum, and available materials, equipment, and products.
 - 1. Participate in promoting efforts of the City to create an energy-efficient and environmentally-sensitive structure.
 - 2. Use recycled-content, toxic-free, and environmentally-sensitive materials and equipment.
 - 3. Use environmentally-sensitive procedures.
 - a. Protect the environment, both on-site and off-site, during demolition and construction operations.
 - b. Prevent environmental pollution and damage.
 - c. Effect optimum control of solid wastes.
- B. Related Documents: The Contract Documents, as defined in Section 01 1000 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents and prevailing City Ordinances.
- C. Related Sections:
 - 1. Section 01 4000 - Quality Requirements: Contractor's Daily Report.
 - 2. Section 01 5000 - Temporary Facilities And Controls: Temporary ventilation, progress cleaning and waste removal.
 - 3. Section 01 6000 - Product Requirements: Substitutions.
 - 4. Section 02 4119 – Selective Structure Demolition.

1.2 DEFINITIONS

- A. Adequate ventilation: Ventilation, including air circulation and air changes, required to cure materials, dissipate humidity, and prevent accumulation of dust fumes, vapors, or gases.
- B. Construction and demolition waste: Includes solid wastes, such as building materials, packaging, rubbish, debris, and rubble resulting from construction, remodeling, repair, and demolition operations.
 - 1. Rubbish: Includes both combustible and noncombustible wastes, such as paper, boxes, glass, crockery, metal and lumber scrap, metal cans, and bones.
 - 2. Debris: Includes both combustible and noncombustible wastes, such as leaves and tree trimmings that result from construction or maintenance and repair work.
- C. Chemical waste: Includes petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, organic chemicals, and inorganic wastes.
- D. Diversion: Redirection of waste ordinarily deposited in a municipal landfill to a recycling facility or to another destination for reuse.
- E. 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.
- F. Hazardous materials: Includes pesticides, biocides, and carcinogens as listed by recognized authorities, such as the Environmental Protection Agency (EPA) and the International Agency for Research on Cancer (IARC).

SECTION 01 7419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

- G. Interior final finishes: Materials and products that will be exposed at interior, occupied spaces; including flooring, wallcovering, finish carpentry, and ceilings.
 - H. Municipal Solid Waste Landfill: A permitted facility that accepts solid, non-hazardous waste such as household, commercial, and industrial waste, including construction and demolition waste.
 - I. Packaged dry products: Materials and products that are installed in dry form and are delivered to the site in manufacturer's packaging; including carpets, resilient flooring, ceiling tiles, and insulation.
 - J. Sediment: Soil and other debris that has been eroded and transported by storm or well production runoff water.
 - K. Sanitary wastes:
 - 1. Garbage: Refuse and scraps resulting from preparation, cooking, distribution, or consumption of food.
 - 2. Sewage: Domestic sanitary sewage.
 - L. Wet products: Materials and products installed in wet form, including paints, sealants, adhesives, and special coatings.
- 1.3 SUBMITTALS
- A. Solid Waste Management and Environmental Protection Plan: Prepare and submit at the Preconstruction Meeting a Solid Waste Management and Environmental Protection Plan including, but not limited to, the following:
 - 1. Procedures for Recycling/Re-Use Program in compliance with the City recycling code.
 - 2. Schedule for application of interior finishes.
 - 3. Revise and resubmit Solid Waste Management and Environmental Protection Plan as required by the City.
 - a. Approval of the Contractor's Solid Waste Management and Environmental Protection Plan, will not relieve the Contractor of responsibility for adequate and continuing control of pollutants and other environmental protection measures.
 - B. With each Contractor's Report as specified in Section 01 4000 – Quality Requirements, submit an updated Summary Of Solid Waste Disposal And Diversion. Submit on form in Appendix A of this Section. Include manifests, weight tickets, receipts, and invoices specifically identifying the Project and waste material for:
 - 1. Municipal Solid Waste Landfills.
 - 2. Recycling/Reuse Facilities.
 - C. With Record Submittals as specified in Section 01 7704 - Closeout Procedures and Training, submit the following:
 - 1. Final Summary Of Solid Waste Disposal And Diversion. Submit on form in Appendix A of this Section.
 - 2. Resource Conservation and Recovery Act Project Summary. Submit on form in Appendix B of this Section.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.1 RECYCLING AND REUSE

SECTION 01 7419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

- A. Collection: Implement a recycling/reuse program that includes separate collection of waste materials of the following types as appropriate to local and regional recycling/reuse facilities:
1. Concrete.
 2. Metal.
 3. Wood.
 4. Debris.
 5. Glass.
 6. Carpet.
 7. Paper/Cardboard.
 8. Plastic.
 9. Gypsum.
 10. Paint.
 11. Others as appropriate.
- B. Recycling/reuse centers: Contact governmental solid waste offices, Environmental Protection Agency (EPA) regional offices, and applicable non-profit organizations.
1. Concrete.
 2. Metal.
 3. Wood.
 4. Debris.
 5. Glass.
 6. Carpet.
 7. Paper/Cardboard.
 8. Plastic.
 9. Gypsum.
 10. Paint.
 11. Others as appropriate.
- C. Handling:
1. Clean materials which are contaminated prior to placing in collection containers. Deliver materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to recycling process.
 2. Arrange for collection by or delivery to the appropriate recycling or reuse facility.
- D. Participate in re-use programs: identify local and regional re-use programs, including but not limited to non-profit organizations such as schools, local housing agencies, and public arts programs, that accept used materials. The following are examples for contractor's information only.
1. National materials exchange network, such as CAL-MAX a free service provided by various state and regional offices, designed to help businesses find markets for materials that traditionally would be discarded. The premise of the program is that material discarded by one business may be a resource for another business.
 - a. Items and regions covered by materials exchange programs may vary. Contact the applicable regional materials exchange program. In California, contact CAL-MAX at (916) 255-2369.
 2. Habitat For Humanity, a non-profit housing organization that rehabilitates and builds housing for low income families.
 - a. Sites requiring donated materials vary. Contact the national hotline (800) HABITAT.
- E. Rebates, tax credits, and other savings obtained for recycled or re-used materials accrue to Contractor.

3.2 ENVIRONMENTAL CONTROLS

- A. Protection of natural resources: Preserve the natural resources within the Project boundaries and outside the limits of permanent Work performed under this Contract in their existing condition or

SECTION 01 7419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

restore to an equivalent or improved condition as approved by the Engineer, upon completion of the Work.

1. Confine demolition and construction activities to work area limits indicated on the Drawings and as directed by the Engineer.
 - a. Temporary construction: As specified in Section 01 5000 - Temporary Facilities And Controls.
 - b. Demolition and salvage operations: As specified in Section 02 4119 - Selective Structure Demolition.
 - c. Disposal operations for demolished and waste materials that are not identified to be salvaged, recycled or reused:
 - 1) Remove debris, rubbish, and other waste materials resulting from demolition and construction operations, from site.
 - 2) No burning permitted.
 - 3) Transport materials with appropriate vehicles and dispose off-site to areas which are approved for disposal by governing authorities having jurisdiction.
 - 4) Avoid spillage by covering and securing loads when hauling on or adjacent to public streets or highways. Remove spillage and sweep, wash, or otherwise clean project site, streets, or highways.
 - 5) Comply with applicable regulations.
2. Water resources as follows:
 - a. Comply with requirements of the National Pollutant Discharge Elimination System (NPDES) and the State Pollutant Discharge Elimination System (SPDES).
 - b. Oily substances: Prevent oily or other hazardous substances from entering the ground, drainage areas, or local bodies of water.
 - 1) Store and service construction equipment at areas designated for collection of oil wastes.
 - c. Mosquito abatement: Prevent ponding of stagnant water conducive to mosquito breeding habitat.
 - d. Prevent run-off from site during demolition and construction operations.
3. Land resources: Prior to construction, identify land resources to be preserved within the Work area. Do not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, top soil, and land forms without permission from The City.
4. Air Resources: Prevent creation of dust, air pollution, and odors.
 - a. Use water sprinkling, temporary enclosures, and other appropriate methods to limit dust and dirt rising and scattering in air to lowest practical level.
 - 1) Do not use water when it may create hazardous or other adverse conditions such as flooding and pollution.
 - b. Store volatile liquids, including fuels and solvents, in closed containers.
 - c. Properly maintain equipment to reduce gaseous pollutant emissions.
 - d. Interior final finishes: Schedule construction operations involving wet products prior to packaged dry products to the greatest extent possible in accordance with The City approved Solid Waste Management and Environmental Protection Plan.
 - e. Temporary Ventilation: As specified in Section 01 5000 - Temporary Facilities And Controls, and as follows:
 - 1) Provide adequate ventilation during and after installation of interior wet products and interior final finishes.
 - 2) Provide adequate ventilation of packaged dry products prior to installation. Remove from packaging and ventilate in a secure, dry, well-ventilated space free from strong contaminant sources and residues. Provide a temperature range of 60 degrees F minimum to 90 degree F maximum continuously during the ventilation period. Do not ventilate within limits of Work unless otherwise approved by City Engineer.
 - f. Pre-occupancy ventilation: After final completion and prior to initial occupancy, provide adequate ventilation for minimum 5 days. Pre-occupancy ventilation procedures:
 - 1) Use supply air fans and ducts only;

SECTION 01 7419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

- 2) Temporarily seal exhaust ducts;
 - 3) Temporarily disable exhaust fans;
 - 4) Provide exhaust through operable windows or temporary openings.
 - 5) Provide temporary exhaust fans as required to pull exhaust air from deep interior locations. Stair towers may be used for exhausting air from the building during the temporary ventilation.
 - 6) After pre-occupancy ventilation and prior to final testing and balancing of HVAC system, replace air filters and make HVAC system fully operational.
5. Noise Control: Perform demolition and construction operations to minimize noise. Perform noise producing work in less sensitive hours of the day or week as directed by the Engineer .
- a. Repetitive, high level impact noise will be permitted only between the hours permitted in the City Noise Ordinance. Do not exceed the limitations specified by OSHA.
 - b. Provide equipment, sound-deadening devices, and take noise abatement measures that are necessary for compliance.

END OF SECTION

SECTION 01 7419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

Appendix A

SUMMARY OF SOLID WASTE DISPOSAL AND DIVERSION

Project Name: _____

Contractor Name: _____

License Number: _____

Contractor Address: _____

Solid Waste Material	Date Comments Material Disposed/ Diverted	Amount Disposed/ Diverted (ton or cu.yd)	Municipal Solid Waste Facility (name, address, & phone number)	Recycling/Reuse Facility (if disposed, (name, address, & state why phone number)not diverted)	
Concrete					
Metal					
Wood					
Debris					
Glass					
Carpet					
Paper/ Cardboard					
Plastic					
Gypsum					
Paint					
Other:					

Signature: _____

Date: _____

SECTION 01 7419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

Appendix B

RESOURCE CONSERVATION AND RECOVERY ACT - PROJECT SUMMARY.

Project Name: _____

Contractor Name: _____

License Number: _____

Contractor Address: _____

1.0 EPA GUIDELINE ITEMS

A. Fly Ash:

1. Total dollar amount of concrete and cement provided for this project.
\$_____.
2. Total dollar amount of concrete and cement containing fly ash provided for this project.
\$_____.
3. Were there any technical impediments to increasing the amount of concrete and cement containing fly ash provided for this project? _____.
 - a. If yes, please explain. _____

_____.

B. Building Insulation Products:

1. Total dollar amount of building insulation products provided for this project.
\$_____.
2. Total dollar amount of building insulation products containing recycled materials provided for this project. \$_____.
3. Were there any technical impediments to increasing the amount of building insulation products containing recycled materials provided for this project? _____.
 - a. If yes, please explain. _____

_____.

C. Carpet:

1. Total dollar amount of carpet provided for this project. \$_____.
2. Total dollar amount of carpet containing recycled materials provided for this project.
\$_____.
3. Were there any technical impediments to increasing the amount of carpet containing recycled materials provided for this project? _____.
 - a. If yes, please explain. _____

_____.

SECTION 01 7419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

D. Floor Tiles (ceramic):

1. Total dollar amount of floor tile (ceramic) provided for this project.
\$_____.
2. Total dollar amount of floor tile (ceramic) containing recycled materials provided for this project. \$_____.
3. Were there any technical impediments to increasing the amount of floor tile (ceramic) containing recycled materials provided for this project? _____.
 - a. If yes, please explain. _____

_____.

2.0 SPECIFICATIONS - NOT USED

3.0 SOLID WASTE PREVENTION

- A. Total dollar amount of solid waste disposed (landfill) for this project.
\$_____.
- B. Total weight of solid waste disposed (landfill) for this project. \$_____.

4.0 RECYCLING

- A. Total dollar value of solid waste diverted from landfill and recycled or reused for this project. (Express as total dollar amount for solid waste disposal in landfill for equivalent type and amount of diverted waste.) \$_____.
- B. Total weight of solid waste diverted from landfill and recycled or reused for this project. (Express as total weight for solid waste disposal in landfill for equivalent type and amount of diverted waste.) \$_____.

5.0 COMMENTS

- A. Comments and suggestions for increasing amount of recycled materials used in construction materials.

_____.
- B. Comments and suggestions for improving solid waste prevention and recycling efforts during construction.

_____.

Signature: _____ Date: _____

SECTION 01 7704
CLOSEOUT PROCEDURES AND TRAINING

PART 1 - GENERAL

1.1 Manuals

- A. Purpose: Operation and maintenance manuals are for the training of, and use by, City employees in the operation and maintenance of the systems and related equipment as specified below. The manuals must consist of instruction on systems and equipment. A separate manual or chapter must be prepared for each of the following classes of equipment or system:
1. Doors & Windows.
 2. Plumbing systems.
 3. Electrical systems.
 4. Miscellaneous building equipment and systems.
- B. Submittal, In both "hard" and electronic DVD, CD-ROM or flash drive format:
1. Preliminary Submittal: Two draft copies of the completed manuscript for items in this outline must be submitted to the City Engineer for review within 30 days after approval of equipment to be provided. One copy will be returned to the Contractor within 15 days after submittal and, if required, must be revised and resubmitted within 15 days.
 2. Final Submittal: four complete sets of manuals must be furnished to the Engineer not later than 30 days before completion of the project.
 3. Final Submittal must be accepted by the Engineer before training can begin.

1.2 Other Closeout Submittals

- A. Additional requirements for Systems Manuals, Operating Instructions, Warranties, Training and other deliverables are contained in individual Specification Sections. All closeout requirements must be provided to and accepted by the Engineer prior to requesting final payment. Examples of additional closeout requirements include, but are not limited to, the following
1. Final Punch-List with all items certified as complete.
 2. Record "As Built" Drawings, the Contractor shall submit certified As-Built Record Drawings and Specifications in the quantities and media specified.
 3. Warranty, the Contractor shall submit all transferable guarantees and warranties for equipment, materials and installations furnished by any manufacturer, supplier, or installer.
 4. Signed Asbestos and Lead-Based Paint Certificate.
 5. Survey Report.
 6. Material Safety Data Sheets
 7. Signed and sealed Contractor Release of Claims.
 8. Payment for items of work covered in the plans specifications Division 1 will be based on the lump sum unit bid price for mobilization. No additional compensation will be allowed.

1.3 MAINTENANCE

- A. Extra Materials – Paint, Rubber Base, Porcelain Tile, Luxury Vinyl Composite Tile, or similar finishes: Full-size units equal to five (5%) percent of amount installed for each type, and color, pattern, and dyes. Provide extra material not noted here but reference in other specifications for this project.

PART 2 - PRODUCTS (Not used)

PART 3 - EXECUTION (Not used)

END OF SECTION

SECTION 02 4119
SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Procedures for demolition and removal of existing building elements.
 - 2. Removal of designated building equipment and fixtures.
 - 3. Salvaged items.
 - 4. Salvaged material.
 - 5. Salvaged items for re-use.
- B. Related Documents: The Contract Documents, as defined in Section 01 1000- Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents.
- C. Related Sections:
 - 1. Section 01 3543 - Environmental Procedures: Recycling and reuse of waste materials.

1.2 SYSTEM DESCRIPTION

- A. The extent of Selective Demolition Work is that Work necessary, and required to facilitate the new construction indicated.
- B. Demolition shall be such that all construction, new and existing, can be performed, and completed in accordance with the construction documents.
- C. The contractor shall visit the project site and familiarize himself with the existing conditions and project requirements.
- D. Verify the scope of the Work under this Section including salvage material. The City will be responsible for removing all materials and equipment which the City wishes to salvage prior to the beginning of this Work. The Fire Department will be using areas on the project site for storage. These areas shall be protected from damage during construction and no access to them will be available to contractor during construction. City to provide list of areas being used for storage prior to construction OR at the pre-construction meeting.

1.3 QUALITY ASSURANCE

- A. Performance Criteria:
 - 1. Requirements of Structural Work: Do not cut structural work in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio.
 - 2. Operational and Safety Limitations: Do not cut operational elements and safety-related components in a manner resulting in a reduction of capacities to perform in a manner intended or resulting in a decreased operational life, increased maintenance or decreased safety.
 - 3. Visual Requirements: Do not cut work which is exposed on the exterior or exposed in occupied spaces of the building in a manner resulting in a reduction of visual qualities or resulting in substantial evidence of the demolition work judged by the Engineer to be cut and patched in a visually unsatisfactory manner.
 - 4. Loading: Do not superimpose loads at any point upon existing structure beyond design capacity including loads attributable to materials, construction equipment, demolition operations and shoring and bracing.

SECTION 02 4119
SELECTIVE STRUCTURE DEMOLITION

5. Vibration: Do not use means, methods, techniques or procedures which would induce vibration into any element of the structure.
6. Fire: Do not use means, methods, techniques or procedures which would produce any fire hazard unless otherwise approved by the Engineer.
7. Water: Do not use means, methods, techniques or procedures which would produce excessive water run-off, and water pollution.
8. Air Pollution: Do not use means, methods, techniques or procedures which would produce uncontrolled dust, fumes or other damaging air pollution.

1.4 PROJECT SITE

- A. Indicated "Existing Construction" was obtained from existing drawings or other information which may not reflect actual conditions. The Contractor shall verify all existing conditions and notify the Engineer of discrepancies before proceeding with the Work.
- B. Perform the removal, cutting, drilling, etc., of existing work with extreme care, and using small tools in order not to jeopardize the structural integrity of the building.
- C. Occupancy: Contractor shall have full use of the facility during construction. After or prior to construction, the contractor shall schedule and work around the Fire Department schedule. There will be no access to the existing equipment bay (Apparatus Room) except to place threshold ramps as noted on the renovation plan & new wall.
- D. Condition of Structure: The City assumes no responsibility for the actual condition of portions of the structure to be demolished.
- E. Partial removal: Items of salvageable value to the Contractor may be removed from the structure as the work progresses if not claimed by the City. Salvaged items must be transported from the site as they are removed.
- F. Protection: Make sure that the safe passage of persons around the area of demolition is maintained during the demolition operation. Conduct operations to prevent injury to adjacent buildings, structures, other facilities, and persons.

1.5 PROTECTION OF EXISTING CONSTRUCTION

- A. Provide temporary protection of existing construction (floors, roof, and walls) when adjoining new work and in traffic areas.
- B. Provide temporary construction, constructed of framing and plywood, to protect existing construction and surrounding surfaces from damage by movement of materials and personnel.
- C. The contractor is responsible for all damage to existing structure and shall replace or repair all areas of damage.
- D. Repair, replace, or rebuild existing construction as required or as directed which has been removed, altered or disrupted to allow for new construction. Existing construction shall be corrected to match adjacent construction, new or existing.
- E. Perform cutting of existing concrete and masonry construction with saws and core drills. Do not use jack-hammers or explosives.

SECTION 02 4119
SELECTIVE STRUCTURE DEMOLITION

1.6 SHORING AND BRACING

- A. Provide temporary shoring of existing construction to allow removal of existing structural elements. Maintain shoring until new structural elements are in place and accepted by the Engineer and City Inspector(s).

PART 2 - PRODUCTS

2.1 SALVAGED MATERIALS

- A. The Contract Documents indicate the existing materials that are to be reinstalled in the new construction. The Contractor shall remove, protect and reinstall these items as indicated.
 - 1. Items for "Reinstallation" will be indicated as such within the Contract Documents.
- B. Removed and salvaged materials of value not designated for reinstallation, unless claimed as salvage by the City, shall become the property of the Contractor and shall be removed from the premises by the Contractor and recycled, reused or disposed of as specified in Section 01 3543-Environmental Procedures.
- C. The City will remove or, under separate contract, have all materials and equipment which the City requires removed prior to Work under this Section begins.

2.2 SALVAGED ITEMS FOR RE-USE

- A. Materials and items scheduled for re-use which are damaged by the contractor to the extent which they cannot be re-used shall be replaced by the Contractor at no additional cost to the City.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 7300 - Execution: Verification of existing conditions before starting work.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
- C. Report in writing to the Engineer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected and approved by the Engineer.
- D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the City.

3.2 PREPARATION

- A. Temporary Support: Provide adequate temporary support for work to be cut to prevent failure. Do not endanger other work.

SECTION 02 4119
SELECTIVE STRUCTURE DEMOLITION

- B. Provide adequate protection of other work during selective demolition to prevent damage and provide protection of the work from adverse weather exposure.

3.3 PROCEDURE

- A. Employ only skilled tradesmen to perform selective demolition.
- B. Cut work by methods least likely to damage work to the retained and work adjoining.
- C. In general, where physical cutting action is required, cut work with sawing and grinding tools, not with hammering and chopping tools. Core drill openings through concrete and masonry work.
- D. Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.
- E. Where selective demolition terminates at a surface or finish to remain, completely remove all traces of material selectively demolished, including mortar beds. Provide smooth, even, substrate transition.

3.4 POLLUTION CONTROLS

- A. Use temporary enclosures and other suitable methods to limit the amount of dust and dirt rising and scattering in the air to the lowest practical level. Comply with AQMD standards.
- B. Comply with governing authorities pertaining to environmental protection.
 - 1. Protect natural resources as specified in Section 01 3543 - Environmental Procedures.
- C. Clean adjacent portion of the structure and improvement of dust, dirt and debris caused by demolition operations, as directed by the Engineer and governing authorities. Return adjacent areas to its condition prior to the start of the work.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. Collect, recycle, reuse, and dispose of demolished materials as specified in Section 01 3543 - Environmental Procedures and as approved by the City in the Solid Waste Management and Environmental Protection Plan.

3.6 SCHEDULE OF SELECTIVE DEMOLITION

- A. Slab on Grade:
 - 1. Where indicated, saw cut perimeter of existing slab minimum of 50 percent of slab thickness to provide a breaking point to remove existing concrete.
 - 2. Break concrete slab to be removed into portions easily removed, maximum 3-foot dimensions in any side.
 - 3. Remove all concrete pieces within removed area down to the existing subgrade.
- B. Plumbing:
 - 1. Remove all plumbing fixtures and accessories including all exposed supply, waste, and vent piping.
 - 2. Concealed piping within and below slab construction shall be identified, and capped a minimum of 3 inches (8 cm) below finish floor.

SECTION 02 4119
SELECTIVE STRUCTURE DEMOLITION

- C. Electrical Service:
 - 1. All electrical circuits within the existing structure shall be abandoned from the existing service entrance section, beyond.
 - 2. Remove all abandoned electrical conduit, boxes, and wiring back to the existing electrical service which is to remain.
- D. Provide additional selective demolition as indicated and required by the Contract Documents and as required for indicated new construction.
- E. Items for demolition covered under the plans and these specifications include carpet, rubber base, build-in furniture, plumbing features, F.A.U. concrete slab saw cut, cap utilities, remove interior walls, some doors, selective demolition plus asbestos abatement.
- F. Payment for items of work covered in the plans and Division 2 specification will be based on the lump sum bid price for building demolition and removals, no additional compensation will be allowed.

END OF SECTION

**SECTION 03 2000
CONCRETE REINFORCEMENT**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Reinforcing steel bars.
 - 2. Reinforcement accessories.
- B. Related Documents: The Contract Documents, as defined in Division 1 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents.
- C. Related Sections:
 - 1. Section 03 3000 - Cast-in-Place Concrete: Coordination between concrete placement and reinforcing.

1.2 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. ACI 301 - Structural Concrete for Buildings.
 - 2. ACI 318 - Building Code Requirements for Reinforced Concrete.
 - 3. ACI SP-66 - American Concrete Institute - Detailing Manual.
- B. American Society for Testing and Materials (ASTM):
 - 1. ASTM A 184 - Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
 - 2. ASTM A 615 - Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
 - 3. ASTM A 704 - Welded Steel Plain Bar or Rod Mats for Concrete Reinforcement.
- C. American Welding Society (AWS):
 - 1. AWS D 1.4 – Structural Welding Code for Reinforcing Steel.
- D. Concrete Reinforcing Steel Institute (CRSI):
 - 1. CRSI - Manual of Practice.
 - 2. CRSI 63 - Recommended Practice for Placing Reinforcing Bars.
 - 3. CRSI 65 - Recommended Practice for Placing Bar Supports, Specifications and Nomenclature.

1.3 SUBMITTALS

- A. Submittal Procedures:
 - 1. Shop Drawings: Indicate bar sizes, spacing's, locations, and quantities of reinforcing steel [and wire fabric, bending and cutting schedules, and supporting and spacing device. Include special reinforcement required for openings through concrete structures.
 - 2. Assurance/Control Submittals;
 - a. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
 - b. Submit certified copies of mill test report of reinforcement materials analysis.
 - 3. Weld Procedure Specifications: Provide for bars to be welded in accordance with AWS D1.4-11

**SECTION 03 2000
CONCRETE REINFORCEMENT**

4. All WPS's shall be submitted to the Structural Engineer of Record (SEOR) for review and approval prior to use.
5. For WPS's that have been qualified by test, the supporting Procedure Qualification Record (PQR) shall be submitted to the Engineer for review and approval.

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with CRSI 63, 65 and Manual of Practice ACI 301, ACI SP-66, ACI 318, and ASTM A 184.
- B. Reinforcement design is provided by the Structural Engineer of Record, experienced in design of this work and licensed in the State where the Project is located.
- C. Source Quality Control: Testing Laboratory shall perform following conformance testing, shall select test samples of bars, ties, and stirrups from the material at the site or from place of distribution, each sampling including at least two 18" long pieces, and perform the following tests in accordance with ASTM A706.
- D. Identified Bars: If samples are obtained from bundles as delivered from the mill, identified as to heat number, accompanied by mill analyses and mill test reports, and properly tagged with Identification Certificate so as to be readily identified, perform one tensile and one bend test for each 10 tons or fraction thereof of each size of bars. Submit mill reports when samples are selected.
- E. Unidentified Bars: When positive identification of reinforcing bars cannot be made and when random samples are obtained; perform tests for each 2.5 tons or fraction thereof, one tensile and one bend test from each size of bars.
- F. Certification of Welders: All welding both in shop and in field shall be performed by certified welding operators per AWS D1.4.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Comply with pertinent provisions of Division 01 Section 01 6000 "Product Requirements," delivering materials in a timely manner to ensure uninterrupted progress.
- B. Bundle bars, tag with identification and transport and store so as not to damage any material. Use metal tags indicating size, length and other marking shown on placement drawings. Maintain tags after bundles are broken.

1.6 EXTRA MATERIAL:

- A. Provide an allowance of an additional 10% of the total reinforcing steel tonnage in addition to quantities shown on drawings. This additional steel shall be installed at the discretion of, and in the locations directed by the Structural Engineer. Provide unit price for the purpose of adjusting contract price to reflect quantity of extra material actually used. All unused material shall be credited to the owner based upon the agreed unit prices.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

- A. Reinforcing Steel: ASTM A 706, 60 ksi yield grade; deformed billet steel bars, unfinished.
- B. Reinforcing bars for welding: ASTM A706, Grade 60.

**SECTION 03 2000
CONCRETE REINFORCEMENT**

- C. Reinforcing mesh: ASTM A185, mesh size and gauge as shown 60 ksi minimum tensile strength. Provide mesh in flat sheets only.
- D. Tie wire: ASTM A82, Annealed copper-bearing steel, 16 gauge minimum.
- E. Chairs and similar support items:
 - 1. Standard manufactured products conforming to Concrete Reinforcing Steel Institute, "Manual of Standard Practice", latest edition.
- F. Use dense precast concrete supports with embedded wire ties for reinforcement placed on grade. Elsewhere, use wire bar supports.
- G. Welding electrodes: AWS D1.4-11, Table 5.1 and Table 5.3, low hydrogen electrodes, E8018 for A706 Grade 60 steel.

2.2 ACCESSORIES

- A. Tie Wire: Minimum 16 gage annealed type.
- B. Chairs, Bolsters, Bar Supports, and Spacers: Sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent vapor barrier puncture.
- C. Special Chairs, Bolsters, Bar Supports, and Spacers Adjacent to Weather Exposed Concrete Surfaces: Plastic coated steel type (CRSI, Class 1) or stainless steel protected (CRSI, Class 2); size and shape as required.

2.3 FABRICATION

- A. Comply with Concrete Reinforcing Steel Institute (CRSI), "Manual of Standard Practice", latest edition, for fabrication of reinforcing steel.
- B. Bending and Forming: Fabricate bars of the indicated sizes and bend and form to required shapes and lengths by methods not injurious to materials. Do not heat reinforcement for bending. Bend bars No. 6 size and larger in the shop only. Bars with unscheduled kinks or bends are subject to rejection. Use only tested and approved bar materials.
- C. Welding: Use only ASTM A706 steel where welding is proposed. Perform welding, where shown or approved, by the direct electric arc process in accordance with AWS D1.4-11 using specified low-hydrogen electrodes. Preheat 6" each side of joint. Protect joints from drafts during the cooling process; accelerated cooling is prohibited. Do not tack weld bars. Welding shall not be done on or within two bar diameters of any bend portion of the bar that has been bent cold. Welding of crossing bars shall not be permitted for assemble of reinforcement unless authorized by the Engineer. Clean metal surfaces to be welded of all loose scale and foreign material. Clean welds each time electrode is changed and chip burned edges before placing welds. When wire brushed, the completed welds must exhibit uniform section, smooth welded metal, feather edges without undercuts or overlays, freedom from porosity and clinkers, and good fusion and penetration into the base metal. Cut out welds or parts of welds found defective with chisel and replace with proper welding. Fillet welds may be considered prequalified per AWS D1.4, section 6.1.2. Other welds are to be qualified per AWS D1.4, section 6.1.2. . Where ASTM A615 steel is to be used or occurs in existing elements and is to be welded, complete chemical analyses shall be performed to determine chemical composition and, for new bar, provided in the mill certifications to determine weldability in accordance with ACI 318 Section 3.5.2 with modifications per AWS D1.4. The carbon equivalency (CE) shall be clearly defined and bars with a CE above 0.75 shall not be welded. Welding Procedure Specifications and supporting Procedure Qualification Records with required testing per AWS D1.4, shall be provided for review and approval prior to welding. These WPS's and PQR's shall be specific to the CE as determined above, and shall, in addition to the other AWS requirements, include minimum and maximum preheat and interpass temperatures that are specific to the CE. This preheat and interpass

**SECTION 03 2000
CONCRETE REINFORCEMENT**

temperature shall be strictly enforced in the field. If separate shipments of bars vary the weldability, the process listed in the requirements above shall be repeated for these new bars.

- D. Prequalification of welds shall be in accordance with AWS D1.4.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Verify that field measurements, surfaces, and conditions are as required, and ready to receive Work.
- B. Report in writing to the Engineer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- C. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the City.

3.2 PLACEMENT

- A. Place, support and secure reinforcement against displacement. Do not deviate from required position.
- B. Do not displace or damage vapor barrier.
- C. Accommodate placement of formed openings.
- D. Maintain concrete cover around reinforcing in accordance with ACI 318.

3.3 FIELD QUALITY CONTROL

- A. Section 01 4000 - Quality Requirements: Field inspection.
- B. Inspect reinforcing locations, bar types and sizes, wire ties, and welding (if applicable).

END OF SECTION

SECTION 03 3000
CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. Includes all labor, materials and appliances, and perform all operations in connection with the installation of Concrete Work, and all related work incidental to the completion thereof, as shown on the drawings, complete, in strict accordance with the drawings and as specified herein. Section Includes:
1. Cast-in-place (CIP) concrete in building.
 2. Finishing of concrete floor slabs and toppings. Concrete liquid surface treatment, sealer, and slip-resistant coatings.
 3. Expansion and contraction, control joints in CIP concrete.
 4. Concrete curing and protection.
- B. Related Documents: The Contract Documents, as defined in Division 1 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents and References in Section 1.2.
- C. Related Sections: Related work specified elsewhere includes but may not be limited to
1. Section 03 2000 - Concrete Reinforcement.

1.2 REFERENCES

- A. General:
1. The publications listed below form a part of this specification to the extent referenced.
 2. For reference standards, the latest edition available on the date of Notice Inviting Bids shall be used.
- B. Unless otherwise shown or specified, the work shall conform to the following standards and recommendations of the American Concrete Institute (ACI), latest editions adopted:
1. ACI 117, "Standard Specification for Tolerances for Concrete Construction and Materials."
 2. ACI 121R, "Quality Assurance Systems for Concrete Construction."
 3. ACI 211.1, "Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete."
 4. ACI 212.2R, "Guide for Use of Admixtures in Concrete."
 5. ACI 214, "Recommended Practice for Evaluation of Strength Test Results of Concrete."
 6. ACI 301, "Specification for Structure /Concrete."
 7. ACI 302.1R, "Guide for Concrete Floor and Slab Construction."
 8. ACI 304R, "Guide for Measuring, Mixing, Transporting, and Placing Concrete."
 9. ACI 304.2-R, "Placing Concrete by Pumping Methods."
 10. ACI 305, "Hot Weather Concreting."
 11. ACI 306, "Cold Weather Concreting."
 12. ACI 306.1 "Standard Specification for Cold Weather Concreting."
 13. ACI 308, "Standard Practice for Curing Concrete."
 14. ACI 309R, "Guide for Consolidation for Concrete."
 15. ACI 315, "Details and Detailing of Concrete Reinforcement."
 16. ACI 318, "Building Code Requirements for Structural Concrete."
 17. ACI 347, "Guide to Formwork for Concrete."
 18. ACI 347.2R "Guide for Shoring/Reshoring of Concrete Multistory Buildings."

SECTION 03 3000
CAST-IN-PLACE CONCRETE

19. ACI 503.2, "Standard Specification for Bonding Plastic Concrete to Hardened Concrete with a Multi-Component Epoxy Adhesive."
 20. ACI SP-15, "Field Reference Manual" which includes ACI 301 "Specifications for Structural Concrete for Buildings" and reference standards specified therein.
- C. American Welding Society (AWS)
1. AWS D1.4, "Structural Welding Code Reinforcing."
- D. American Society for Testing and Materials (ASTM).
1. ASTM A615, "Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement."
 2. ASTM C31, "Standard Practice for Making and Curing Concrete Test Specimens in the Field."
 3. ASTM C33, "Standard Specification for Concrete Aggregates."
 4. ASTM C39, "Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens."
 5. ASTM C42, "Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete."
 6. ASTM C94, "Standard Specification for Ready-Mixed Concrete."
 7. ASTM C109, "Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)"
 8. ASTM C114, "Standard Test Method for Chemical Analysis of Hydraulic Cement."
 9. ASTM C138, "Standard Test Method for Unit Weight, Yield, and Air Content of Concrete (Gravimetric) of Concrete."
 10. ASTM C143, "Standard Test Method for Slump of Hydraulic Cement-Cement Concrete."
 11. ASTM C150, "Standard Specification for Portland Cement."
 12. ASTM C156, "Standard Test Method for Water Retention by Concrete Curing Materials."
 13. ASTM C171, "Standard Specification for Sheet Materials for Curing Concrete."
 14. ASTM C173, "Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method."
 15. ASTM C231, "Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method."
 16. ASTM C260, "Standard Specification for Air Entraining Admixtures for Concrete."
 17. ASTM C309, "Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete."
 18. ASTM C311, "Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use as a Mineral Admixture in Portland-Cement Concrete."
 19. ASTM C387, "Standard Specification for Packaged, Dry, Combined Materials for Mortars and Concrete."
 20. ASTM C457, "Standard Test Method for Microscopical Determination of Parameters of the Air-Void System in Hardened Concrete."
 21. ASTM C494, "Standard Specification for Chemical Admixtures for Concrete."
 22. ASTM C618, "Standard Specification for Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete."
 23. ASTM C920, "Standard Specification for Elastomeric Joint Sealants."
 24. ASTM C685, "Standard Specification for Concrete Made by Volumetric Batching and Continuous Mixing."
 25. ASTM C989, "Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars."
 26. ASTM C1260, "Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)."
 27. ASTM C1567, "Standard Test Method for Potential Alkali Reactivity of Combinations of Cementitious Materials and Aggregate (Accelerated Mortar-Bar Method)."
 28. ASTM E154, "Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Slabs, On Walls, or as Ground Cover."

SECTION 03 3000
CAST-IN-PLACE CONCRETE

- 29. ASTM E1155, "Standard Test Method for Determining Floor Flatness and FL Floor Levelness Numbers"
- 30. ASTM D2240, "Standard Test Method for Rubber Property-Durometer Hardness."

- E. Concrete Reinforcing Steel Institute (CRSI),
 - 1. CRSI "Manual of Standard Practice."

1.3 SUBMITTALS

- A. Submittal Procedures: Procedures for submittals.
 - 1. Review of submittals will cover general design only. In no case shall submittal review relieve the Contractor of the responsibility for strength of concrete, general or detailed dimension, quality or quantity of materials, or any other conditions, functions, performance or guarantees required.
 - 2. Product Data:
 - a. Manufacturers' literature containing product and installation specifications and details.
 - b. Where Manufacturer's specifications, recommendations, and/or directions are required in this specification, deliver to the Engineer two (2) copies of such printed specifications, recommendations, and/or directions for approval before any work is commenced.
 - c. Sources of fine and coarse aggregate. Once approved, the source of fine and coarse aggregate shall not be changed without written approval of the Engineer.
 - d. List of manufacturers and brand names for cement, mineral and liquid admixtures, bond breakers, curing compounds, joint sealants, and materials other than aggregates and reinforcing steel. Include product data sheets, instructions, and specifications for use.
 - 3. Batch Plant Equipment and Procedures
 - a. Supplier of concrete and ready-mix grout. Only one source will be approved for the Contractor, including all subcontractors. All concrete and ready-mixed grout supplied to the project shall originate from the approved single facility.
 - b. The following information shall be submitted:
 - 1) Name of supplier.
 - 2) Plant location.
 - 3) Plant volume and output capacity.
 - 4) Capacity of transit equipment.
 - 5) Estimated travel time from plant to jobsite.
 - c. If the Contractor elects to use an on-site concrete batching plant, the following information shall be submitted:
 - 1) Drawings and data including proposed location of the batch plant on the site.
 - 2) List of and performance data for material handling equipment.
 - 3) Procedures for processing, handling, transporting, sorting, and proportioning the materials for concrete.
 - d. All other data necessary to show the supplier's capability to produce concrete of the quality and quantity required.
 - 4. Concrete Procedures
 - a. The following information shall be submitted:
 - 1) Placement drawings for slab-on-grade shall be submitted indicating location and size, placement sequence, joint locations, and embedded items.
 - 2) Procedure for mixing and transporting concrete to the point of placement.
 - 3) Procedures for placement of concrete.
 - 4) Methods of obtaining and maintaining the required concrete temperature during placement and initial curing.
 - 5) Procedures for consolidating the concrete.
 - 6) Procedures how concrete is finished and cured (slab-on-grade concrete).

SECTION 03 3000
CAST-IN-PLACE CONCRETE

5. Assurance/Control Submittals:
 - a. Test Reports: Submit the following reports directly to the Engineer from Testing Laboratory, with copy to Contractor. Prepare reports in conformance with Section 01 40 00 - Quality Requirements.
 - b. Submit laboratory test reports for concrete materials and mix design test, including certified copy of results of aggregate tested by ASTM C1260 or C1567. Mix designs for each strength and type of concrete proposed for use. Details to be included are found in section 2.7.
 - c. Certificates: Manufacturer's certificate that Products meet or exceed specified requirements.
 - d. Qualification Documentation: Submit documentation of experience indicating compliance with specified qualification requirements.
 6. Delivery Tickets:
 - a. Copies of delivery tickets for each load of concrete delivered to site.
 - b. Indicate on each ticket information required by ASTM C94 including additional information required herein.
 - c. Mix identification number on ticket shall match number on submitted and approved mix design
 - d. Indicate number of drum revolution from when water is added until concrete is discharged.
 - e. Submit copies to Testing Laboratory same day as concrete delivery.
 7. Verification Samples:
 - a. At exposed concrete location provide a sample of concrete with medium broom finish and sealed for Engineer's approval.
- B. Closeout Procedures and Training: Procedures for closeout submittals.
1. Project Record Documents: Accurately record the following:
 - a. Shop drawings shall be corrected to reflect actual field changes and become part of the "Record As-Built Drawings".

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Division 1 - Product Requirements: Transport, handle, store, and protect Products.
- B. Deliver materials in unopened containers with labels identifying contents.
- C. Store powdered materials in dry area and in a manner to prevent damage. Protect liquid materials from freezing or exceeding maximum storage temperatures set by product manufacturer.

1.5 PROJECT CONDITIONS OR SITE CONDITIONS

- A. Jobsite Requirements:
 1. Conform to ACI 305 R when placing concrete during hot weather.
 2. Conform to ACI 306 R when placing concrete during cold weather.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with project requirements, manufacturers offering Products which may be incorporated in the Work include the following:

City of Montebello
Fire Stations 56
Renovation

SECTION 03 3000
CAST-IN-PLACE CONCRETE

1. Applied Concrete Technology, Inc.,
2. The Euclid Chemical Company,
3. Fortifiber Corporation,
4. ChemRex Inc.,
5. W.R. Meadows, Inc.,
6. Reef Industries,
7. Stego Industries LLC,
8. L & M Construction Chemicals, Inc.
9. Curecrete Chemical Company, Inc.
10. Midwest Floor Care Inc.,
11. General Resource Technology, Inc.,
12. Or approved equal

2.2 CONCRETE MATERIALS

- A. Concrete:
 1. Concrete shall be in accordance with ASTM C94. If a conflict exists between ASTM C94 and these specifications, these specifications shall govern.
- B. Portland Cement: ASTM C150 – Type II unless otherwise specified or approved by the Engineer.
 1. Assume full responsibility for the quality and soundness of cement. Cement is to be of one type and from the same mill; it is to be of uniform color for all concrete with permanently exposed concrete finishes.
- C. Liquid admixtures: All admixtures shall be used in conformance with the manufacturer's recommendations. When air entraining admixtures, water reducing admixtures, high range water reducing admixtures, and non-corrosive accelerating admixtures are used in any combination, all products shall be from the same manufacturer or the ready-mix concrete producer shall certify that they are compatible. The following admixtures are permitted when approved in writing prior to use or are required as specified herein and shall be used in strict accordance with the manufacturer's specifications or recommendations:
 1. Calcium chloride: Conform to ACI 301. The water-soluble chloride ion level shall not exceed 0.3 percent by weight of cement.
 2. Air-entraining admixtures: ASTM C260 shall be used to achieve the specified air content in all permanently exposed exterior concrete. For steel hard trowel interior slab finish, do not use air entrainment admixtures. The total air entrainment (entrained and entrapped air) must not exceed 3 percent. For steel trowel exterior slab finish, comply with ACI 318 and ACI 302.
 - a. Euclid: AEA-92 or Air Mix 200.
 - b. BASF: Micro-Air, MBVR-Standard, and MB AE 90.
 - c. Sika: Sika AEA-14, Sika AEA-15, and Sika Air.
 - d. W.R. Grace: Darex EH, Darex II AEA, Daravair AT60, Daravair 1400, and Daravair 1000.
 - e. Or approved equal.
 3. Water-reducing admixtures: Conform to ASTM C494, Type A, containing not more chloride ions than allowed in paragraph C., above.
 - a. Euclid: Eucon WR series or Eucon MR.
 - b. BASF: Masterpave, Masterpave N, PolyHeed 997, Pozzolith 220N, and Glenium 7500.
 - c. W.R. Grace: Daracem 55 and Daracem 65, WRDA 82 and WRDA with HYCOL.
 - d. Sika: Sikament HP, Plastocrete 161, and Sikament 686.
 - e. General Resource Technology: Polychem 400 NC and Polychem 1000.
 - f. Or approved equal.

SECTION 03 3000
CAST-IN-PLACE CONCRETE

4. Water-reducing/accelerating admixtures: Conform to ASTM C494, Type C or E having long-term test results showing non-rusting on metal deck and reinforcing steel.
 - a. Euclid: Accelguard series.
 - b. BASF: Pozzutec 20+, Pozzoloth NC 534, and Rheocrete CNI.
 - c. Sika: Sika Rapid-1 and Plasocrete 161FL.
 - d. W.R. Grace: Lubricon NCA, Polarset, and DCI.
 - e. Or approved equal.
 5. Water-reducing/retarding admixtures: Conform to ASTM C494, Type D containing not more than 1 percent chloride ions.
 - a. Euclid: Eucon Retarder series.
 - b. BASF: Delvo Stabilizer, Masterpave series, and Pozzoloth 100XR, 200N, 220N and 322N.
 - c. Sika: Plastimet.
 - d. W.R. Grace: Daratard 17, WRDA-64, and WRDA-82.
 - e. Or approved equal.
 6. High-range/water-reducing (HRWR) admixtures: Conform to ASTM C494, Type F or G super plasticizers containing 1 percent maximum chloride ions may be used with low slump (3 inches maximum) concrete to produce flowable concrete (up to 8 inches slump) with early strength gain and 28-day strengths equal to reference concrete. HRWR admixture may be used providing not more than 60 minutes is allowed from addition of admixture to final placement of concrete. HRWR admixture shall be used in concrete with a maximum water/ cement ratio of 0.50 or less and is suggested in the following:
 - a. In pumped concrete.
 - b. In concrete topping slabs
 - c. In lieu of the specified water-reducing admixture (Type A) where confinement of placing due to heavy reinforcement or narrow space requires flowable concrete.
 - d. Where more than 30 minutes is required between the addition of admixtures to final placement of the concrete, a combination of water-reducing, set controlling admixtures (ASTM C494, Types A, D, & E) as in Master Builders Company "Synergized Performance System" may be used.
 - 1) Euclid: Eucon 37 or Eucon 537.
 - 2) BASF: Rheobuild 1000, Glenium 3000 NS, and Glenium 3400NV.
 - 3) Sika: Sikament 300, Viscocrete 2100, and Sikament 686.
 - 4) W.R. Grace: Daracem 100, ADVA Cast 530, Mira 92, and ADVA Cast 575.
 - 5) Or approved equal.
- D. Fly ash: Conform to ASTM C618. The use of a quality fly ash will be permitted as a cement-reducing admixture (minimum 15 percent and maximum 25 percent). Fly ash used in concrete shall be from a single source and of a single class in combination with Portland cement of a single source and single class unless otherwise approved by the Engineer. The fly ash shall meet all of the requirements of ASTM C618, Class C or Class F, with the following special requirements: The loss on ignition in Table 1 shall not exceed 3 percent. Compliance to Table 1A shall apply. The amount retained on the 325 sieve in Table 2 shall not exceed 34 percent. Where a Type II low-alkali cement is specified, the total C₃A shall be less than 8 percent of total cementitious material. The chemical analysis of the fly ash shall be reported in accordance with ASTM C311. Quality assurance testing and reports for a minimum of six months shall be submitted by the fly ash supplier. The option to use fly ash must be approved prior to use.
- E. Granulated Blast Furnace Slag is an alternative to fly ash and shall conform to ASTM C989 Grade 100 Or 120. Granulated blast furnace slag may be used as a substitute for a maximum of 30 percent of Portland cement.
- F. Certification: Certification of the above requirements is required from the admixture manufacturer prior to mix design review and approval by the Engineer. Upon request by the Engineer, a

SECTION 03 3000
CAST-IN-PLACE CONCRETE

qualified representative is to be provided to assure proper use of admixtures. Use of admixtures, other than listed above will be permitted only when approved by the Engineer.

G. Aggregates:

1. Normal-weight concrete - ASTM C33. For slabs, also conform to combined aggregate grading recommendations of ACI 302 and ACI 302.1R, unless otherwise permitted by the Engineer.
2. All concrete exposed to the weather shall conform to the limits of deleterious substances and physical properties of Table 3, ASTM C 33.
3. Local aggregates: Local aggregates not complying with ASTM C33 but which have been shown by special test or actual service to produce concrete of adequate strength and durability may be used when acceptable to the Engineer.
4. The nominal size of an aggregate particle shall not exceed:
 - a. 20 percent of the narrowest dimension between sides of forms.
 - b. 33 percent of the depth of slabs.
 - c. 75 percent of the dimension between reinforcing bars.
 - d. 75 percent of the dimension between reinforcing bars and forms.
5. Maximum size of coarse aggregates and minimum cementitious contents: ACI 301 and ACI 302.1R.
6. Concrete aggregate alkali-silica reactivity (ASR) shall be tested in accordance with ASTM C1260 with a 14-day expansion (no supplementary cementing materials) or ASTM C1567 (with supplementary cementing materials) of less than 0.1 percent. Materials (cement, supplementary cementing materials, and aggregates) to be used in the concrete shall be tested. Coarse aggregates and fine aggregates shall be individually tested. If two grades of coarse aggregates are blended, they shall be individually tested.
7. Abrasive aggregates non-slip finishes: Fused aluminum oxide grits, or crushed emery, as abrasive for non-slip finish with emery aggregate containing not less than 40 percent aluminum oxide and not less than 25 percent ferric oxide. Use material that is factory-graded, packaged, rustproof, non-glazing, and unaffected by freezing, moisture, and cleaning materials.

H. Water:

1. Clean, potable, and free of injurious amounts of oil, acid, alkali, organic or other deleterious matter not detrimental to concrete; drinkable.
2. Water shall contain no more than 650 parts per million of chlorides as Cl or more than 1000 parts per million of sulfates as SO_4 . In no case shall the water contain an amount of impurities that will cause a change in the setting time of Portland cement of neither more than 25 percent nor a reduction in compressive strength of mortar at 14 days of more than 5 percent when compared to the results obtained with distilled water when tested in accordance with ASTM C109.
3. Water used for curing shall not contain impurities in amounts to cause discoloration of the concrete or mortar or to produce etching of the surface.
4. Recycled water shall conform to ASTM C94.

2.3 CURING/SEALING/HARDENERS

- A.** Dissipating liquid membrane-forming compounds for curing concrete; Conform to ASTM C309, Type 1. Curing compound shall be compatible with floor sealer or finish used. Low VOC.
1. Euclid: VOX Kurex DR VOX series; waterborne products.
 2. W.R. Meadows: 1100-Clear series.
 3. Edoco: Burke Aqua Resin Cure.
 4. L&M Construction Chemicals: Cure R.
 5. BASF: Kure 200W
 6. Or approved equal.

SECTION 03 3000
CAST-IN-PLACE CONCRETE

- B. Method of curing shall be approved by the finish flooring applicator where finishes are indicated.
- C. Liquid Densifier/Sealer/Hardener: to be applied on exposed concrete floors cured with dissipating membrane forming curing compound to harden and densify concrete surfaces. Sealers are to be clear, chemically reactive, a waterborne solution of silicate or silicate materials and proprietary components, odorless, and colorless.
 - 1. ChemMasters: Chemisil Plus
 - 2. Conspec Marketing and Manufacturing Co., Inc. Intraseal
 - 3. Euclid Chemical Company: Euco Diamond Hard (Liquid Sealer and Hardener)
 - 4. L&M Construction Chemicals: Seal Hard (Liquid Sealer and Hardener)
 - 5. Curecrete Chemical Company: Ashford Formula (Liquid Sealer and Hardener)
 - 6. W.R. Meadows, Inc.: Liqui-Hard
 - 7. Sika: Sikafloor 3S
 - 8. Sonneborn: Kure-N-Harden
 - 9. Symons Corporation: Buff Hard
 - 10. Or approved equal.

2.4 JOINTS AND EMBEDDED ITEMS:

- A. Construction and Contraction Joints: Comply with ACI 301 and recommendations of ACI 302.1R. Sealant shall be two-part semi-rigid epoxy, and shall have minimum Shore A Hardness of 80 when measured with ASTM D2240.
- B. Isolation Joints: Fillers shall consist of 1/8-inch width strips of neoprene, synthetic rubber, or approved substitute, extending the full depth of the slab. Sealant shall be two-part elastomeric type, polyurethane base.

2.5 VAPOR BARRIER/RETARDER

- A. Provide cover over prepared soil, above aggregate subbase material at slabs-on-grade, where shown on the plans. Use only materials which are resistant to decay when coated in accordance with ASTM E154.
 - 1. Vapor Retarder: Polyethylene sheet not less than 10 mils thick, or
 - 2. Vapor Barrier:
 - a. Stego: Stego Wrap Vapor Barrier 10 –mil
 - b. Fortifiber: Moistop and Moistop Ultra 10.
 - c. Insulation Solution Viper Vaporcheck 10.
 - d. Or approved equal
 - 3. Vapor Barrier:
 - a. Stego: Stego Wrap Vapor Barrier 15 –mil
 - b. Fortifiber: Moistop and Moistop Ultra 15.
 - c. W.R. Grace: Florprufe 120.
 - d. Insulation Solution Viper Vaporcheck 16
 - e. Or approved equal

2.6 PROPORTIONING

- A. Prepare design mixes for each type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301. If laboratory trial batch method is used, use an independent testing facility acceptable to the Engineer for preparing and reporting proposed mix designs.

SECTION 03 3000
CAST-IN-PLACE CONCRETE

- B. Concrete types and strengths: Minimum 28 Day Compressive Strength shall be as shown on drawings.

When the concrete mix design is developed from laboratory trial batching, adjust proportions to produce a design mix at least 1200 psi greater than the specified strength.

When the field experience method is used, the required average compressive strength shall be determined in accordance with ACI 318. Documentation that proposed concrete proportions will produce an average compressive strength equal to or greater than the required average compressive strength shall consist of a field strength test record representing materials and proportions to be used for this project. A field strength test record shall consist of at least 10 consecutive tests encompassing a period of time of not less than 45 days and made within the past 12 months.

Also, see general and specific notes on structural drawings.

- C. Weights: All concrete shall be normal-weight concrete unless otherwise designated on the structural drawings.
- D. Aggregate gradation: For slabs, also conform to combined aggregate grading recommendations of ACI 302.1R, unless otherwise permitted. For all other concrete not otherwise noted the coarse aggregate gradation shall conform to ASTM C33 size no. 57 or larger.
- E. Durability: Conform to ACI 301.
1. All concrete exposed to potentially destructive weathering, such as freezing and thawing, or to de-icer chemicals is to be air-entrained, 6 percent ± 1 percent, a minimum six sacks cementitious per cubic yard of concrete, 0.45 maximum water-cementitious ratio, and, 4-inch maximum slump.
 2. Water-cement ratio: For concrete subject to freezing and thawing or deicer chemicals, the water-cement ratio shall not exceed 0.53 by weight including any water added to meet specified slump in accordance with the requirements of ASTM C94 unless otherwise noted.
- F. Slump: Conform to ACI 301.
1. As indicated in drawings.
- G. Slab-On-Grade
1. Concrete shall conform to ACI 302.1R.
 2. The minimum cementitious content shall be in accordance with ACI 302.1R Table 6.2.
 3. The maximum water-cementitious ratio shall be as shown on drawings
 4. The maximum water content shall not be greater than 250 lbs per cubic yard of concrete.
 5. The air content shall be less than 3 percent.
- H. Production of concrete: Conform to ACI 301:
1. Cast-in-place concrete used in the work shall be produced at a single off-site batching plant or may be produced at an on-site batch plant.
 2. All concrete shall be proportioned conforming to the approved mix designs and of the materials contained in those approved mixes. A certified copy of the design weights for each mix shall be kept at the producing plant for each class of concrete used on the project.
 3. Plant equipment and facilities are to conform to the "Check List for Certification of Ready-Mixed Concrete Production Facilities" of the National Ready-Mixed Concrete Association (NRMCA) and have NRMCA or approved certification within the past year.
 4. Coarse aggregates shall be washed and, if necessary, shall be uniformly moistened just before batching. Each size of coarse aggregate shall be batched from separate bins as required to produce the combined grading requirements.
 5. Prior to adding a high-range water reducer (super plasticizer), slump shall not exceed the working limit. The high-range water reducing admixture shall be accurately measured and

SECTION 03 3000
CAST-IN-PLACE CONCRETE

pressure-injected into the mixer as a single dose. If added at the jobsite, the field dispensing system shall conform to the same requirements as a plant system and tested prior to each day's operation. After the addition of the high-range water reducer, the concrete shall be mixed at mixing speed for a minimum of 5 minutes.

6. Ready-mixed and on-site batched concrete shall be batched, mixed, and transported in accordance with ASTM C94.
 - a. Truck mixers and their operation shall ensure that the discharged concrete is uniformly within acceptable limits of consistency, mix, and grading. All mechanical details of the mixer, such as water-measuring and discharge apparatus, conditions of the blades, speed of rotation, general mechanical condition of the unit, and clearance of the drum shall be checked before the use of the unit will be permitted.
 - b. Truck mixers shall be equipped with approved revolution counters by which the number of revolutions of the drum or blades may readily be verified. The water tank system of the truck shall be equipped with gauges that permit accurate determination of the tank contents.
 - c. Each batch of concrete shall be mixed in a truck mixer for not less than 80 revolutions of the drum or blades and at the rate of rotation designated as mixing speed by the manufacturer of the equipment. Additional mixing, if any, shall be at the speed designated as the agitating speed by the manufacturer of the equipment. All materials, including mixing water but excluding any high-range water reducers added onsite, shall be in the mixer drum before actuating the revolution counter for determining the number of revolutions of mixing.
 - d. The concrete producer shall furnish duplicate delivery tickets, one for the Contractor and one given to the City's Representative for each batch of concrete. The information provided on the delivery ticket shall include the quantity of materials batched including the amount of free water in the aggregate and any water added onsite. Show the date, time of day batched, and if ready-mixed the time of discharge from the truck. The quantity of water that can be added at the site without exceeding the maximum water-cementitious ratio specified shall be noted on the delivery ticket.
7. Concrete produced by on-site volumetric batching and continuous mixing if approved shall conform to ASTM C685.
8. For concrete produced on site with a central batch plant, mixing shall be done in an approved batch mixer.
 - a. The Contractor shall maintain and operate the on-site batch plant and transportation equipment in a manner that will produce the results specified in this section.
 - b. The Engineer reserves the right to reject the proposed on-site plant if, in his/her opinion, the on-site plant will interfere with other operations or impair the quality of the concrete.
 - c. The quantities of cement, pozzolanic materials, and aggregates used in each batch shall be determined by automatic weighing. The quantity of water shall be determined by weighing or volumetric measurement.
 - d. The weighing equipment for aggregates shall be readily adjustable both to compensate for variation in moisture content of the aggregates and for changing mix proportions. Moisture-sensing devices shall automatically compensate the aggregate weights for changes in moisture content. The charging of weigh hoppers directly from aggregate handling equipment such as front-end loaders will not be permitted.
 - e. Mixers in centralized batching and mixing plants shall be arranged so that mixing actions can be observed from a location convenient to the mixing-plant operator's station.
 - f. Equipment shall be provided that discharges pozzolanic material into the cement hopper only after the addition of the Portland cement. Pozzolanic materials shall be stored in such a manner as to permit ready access for the purpose of inspection and sampling and be suitably protected against contamination of moisture. Should any

SECTION 03 3000
CAST-IN-PLACE CONCRETE

- pozzolan show evidence of contamination or be otherwise unsuitable, the Engineer will reject it and require that it be removed from the site.
- g. Dispensers for admixtures shall have the capacity of the full quantity of the properly diluted solution required for each batch. They shall be maintained in a clean and freely operating condition. Admixtures shall be added to the premeasured water for the batch or shall be discharged into the batch by flowing automatically and uniformly into the stream of mixing water from the beginning to end of its flow into the mixer. Equipment for measurement shall give visual confirmation of the accuracy of the measurement for each batch.
 - h. The central batch mixer shall be rotated at a speed recommended by the manufacturer and mixing shall be continued for a minimum of 1-1/2 minutes after all materials are in the drum.
 - i. Each stationary mixer shall be equipped with a mechanically operated timing and signaling device that will indicate and ensure the completion of the required mixing period and will count the batches.
 - j. All concrete shall be mixed until there is a uniform distribution of the materials and shall be discharged completely before the mixer is recharged.
- 9. The Engineer may increase the mixing time when the charging and mixing operations fail to produce a delivered batch in which variations of consistency, mix, or grading are within the limits specified.
 - 10. Variations in consistency during the discharge of a single batch shall not exceed 1 inch of slump, except that a greater variation will be permitted if the slump of the concrete decreases and no water is added. Variations in mix and in grading of different parts of the delivered batch shall be within limits stated in ASTM C94.
 - 11. Water shall be introduced prior to, during, and following mixer-charging operations.
 - 12. When a mixer produces unsatisfactory results, it shall be repaired promptly and effectively, or it shall be replaced.
 - 13. Mixers shall not be loaded in excess of their rated capacity.
 - 14. Overmixing, such as to require addition of water to preserve the required consistency or to reduce slump, will not be permitted.
 - 15. All other concrete: Conform to ACI 301
 - 16. Use of accelerating admixtures in cold weather and retarding admixtures in hot weather shall not relax placement requirements specified herein.
 - 17. All concrete placed at ambient temperatures below 50 degrees F is to contain an approved accelerator. The concrete temperature when delivered at the site shall be at least 50 degrees F.
 - 18. All concrete placed at ambient temperatures above 80 degrees F is to contain an approved retarder.
 - 19. All concrete required to be air-entrained is to contain an approved air-entraining admixture.
 - 20. When improved workability, pumpability, lower water-cement ratio, or high ultimate and/or early strength is required, the HRWR admixture (super plasticizer) may be used.
 - 21. Ensure air content for slabs with steel trowel finish is less than 3.0 percent.
 - 22. The concrete shall be of such consistency and composition that it can be worked readily into the corners and angles of the forms and around reinforcement without permitting materials to segregate or free water to collect on the surfaces. Within the limiting requirements, adjust the consistency of the concrete as may be necessary to produce mixtures which will be placeable with reasonable methods of placing and compacting. Maintain on the job at all times adequate extra cement to be used at rate of 1/2 sack cement per cubic yard concrete for each 2" slump increase for corrections due to wetness desired or obtained. No water shall be added to concrete except with the approval of the City inspector.
 - 23. No water shall be added to concrete except with the approval of the City inspector. The water-cementitious ratio stated on the approved mix designs shall not be exceeded unless approved by the Engineer. Re-tempered concrete shall be mixed for not less than 80 revolutions of the drum or blades and at the rate of rotation designated as mixing speed by the manufacturer of the equipment.

**SECTION 03 3000
CAST-IN-PLACE CONCRETE**

24. Adjustments to concrete mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant at no additional cost to City. Laboratory test data for revised mix design and strength results must be submitted and accepted before using in work.

2.7 REINFORCING MATERIALS

- A. Section 03 20 00: Concrete Reinforcement

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Division 1 - Execution: Verification of existing conditions before starting work.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
- C. Report in writing to the Engineer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected and approved by the Engineer.
- D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the City.

3.2 INSTALLATION - GENERAL

- A. Install all cast-in-place concrete work in accordance with ACI 301 except as herein specified.
- B. All bearing materials shall be inspected by the Engineer prior to placing concrete. The Engineer shall be the sole judge as to the suitability of the bearing material.
- C. Compact stone base aggregate to thickness indicated on drawings. Proof roll stone screenings topping to provide smooth hard surface on which to place slab. Surface should not show footprints or truck tracks when driven over.
- D. Immediately before placing concrete, spaces to be occupied by concrete shall be free from standing water, ice, mud, and debris.
- E. Concrete shall not be deposited under water or where water in motion may injure the surface finish of the concrete.
- F. Immediately before placing concrete for exterior sidewalk, curb and gutter, pavements, and slab-on-grade, subbases and compacted subgrades shall be thoroughly moistened, but not muddied, by sprinkling with water. Surfaces shall be kept moist by frequent sprinkling, as required, up to the time of placing of concrete.
- G. Place and properly support reinforcing steel and anchor bolts.

SECTION 03 3000
CAST-IN-PLACE CONCRETE

3.3 REINFORCEMENT

- A. Placement: Section 03 20 00 - Concrete Reinforcement

3.4 METHODS OF PLACEMENT AND PLACING CONCRETE

- A. Placement: Conform to ACI 301:
1. Maintain concrete cover around reinforcing as per Section 3.3 above and ACI 301.
 2. The methods and equipment used for transporting concrete to the site work and the time that elapses during transportation shall not cause segregation of coarse aggregate or slump loss in excess of 1 inch when measured at the point of discharge.
 3. Concrete shall be placed within 90 minutes after the water has been added to the cement and aggregates. Concrete shall be placed prior to initial concrete set.
- B. Depositing Concrete
1. Deposit concrete as near its final position as possible to avoid segregation due to rehandling or flowing. Hoppers, tremies, pump line, ducts, chutes, or other methods approved by the Engineer shall be used to deposit concrete in its final position within the specified time limits and without segregation of the mix.
 2. The sequence of concrete placement and the number, type, position, and design of joints shall be approved by the Engineer prior to concrete placement.
 3. Place floor slabs-on-grade by "strip cast" method.
- C. Conveyor Belts and Chutes
1. Chutes or conveyor belts shall not be used except as approved by the Engineer.
 2. Concrete shall be conveyed from the mixer to the place of final deposit by methods that will prevent separation and loss of material.
 3. Chutes longer than 50 feet and conveyor belts longer than 110 feet will not be permitted.
- D. Pumping of Concrete
1. The type and operation of a concrete pump shall be subject to the approval of the Engineer. The equipment used in placing the concrete and the method of its operation shall introduce the concrete into the forms without high velocity.
- E. Joints
1. Joints shall be vertical in walls and horizontal in slabs.
 2. Dowel bars and tie bars shall be inspected
 3. Control joints for controlling concrete shrinkage shall be provided in floor slabs, walls, decks, conduits, and channels as shown on the plans or approved by the Engineer.
 4. Joint spacing and sawcut depth for slab-on-grade shall be as follows:
 - a. Sawed control (contraction) joints for pavements and slab-on-grade shall be installed as soon as practical so as not to ravel the concrete but less than 12 hours.
 - b. The minimum sawcut joint depth shall be 1/4 of the slab thickness unless an early-entry SOFF-CUT saw is used in accordance with manufacturer recommendations (typically sawed between 1 to 4 hours after finishing to a 1-inch minimum depth.
 - c. Joint spacing shall in feet shall not exceed 2-1/2 times the slab thickness in inches unless otherwise approved by the Engineer.
 - d. The long dimension of a slab shall not exceed 1.5 times the short dimension unless otherwise approved by the Engineer.
 5. If there is a delay in casting but prior to concrete initial set, the concrete placed after the delay shall be thoroughly spaded and consolidated at the edge of that previously placed to avoid cold joints. Concrete shall then be brought to correct level and struck off with a straight edge. Bullfoats shall be used to smooth slab surfaces, leaving it free of humps or hollows.

SECTION 03 3000
CAST-IN-PLACE CONCRETE

6. Where placing concrete is interrupted long enough for the concrete to take its initial set, the working face shall be made a construction joint.
 - a. Preparation and disposition of unplanned cold joints in walls shall be approved by the Engineer.
 - b. For slab-on-grade, pavements, sidewalk, and curb and gutter, concrete shall be removed back to the nearest planned joint and a construction joint installed.
7. Unless otherwise noted on the drawings, where concrete is to be placed against existing concrete, except in the case of expansion joints, the joint face of the existing concrete shall be roughened.
 - a. Before new concrete is placed against hardened concrete, the bonding surface of the existing concrete shall be roughened to an amplitude of 0.25 inch using bush hammers, abrasive blasting, or high-pressure water blasting.
 - b. Fresh concrete may be green-cut with water blasting and hand tools to remove concrete laitance and spillage and to expose sound aggregate.
 - c. The prepared surfaces of hardened concrete shall be kept thoroughly wet during the 24-hour period immediately prior to the placement of the new concrete. Wetting shall be accomplished by continuous sprinkling or by covering exposed surfaces with wet burlap.
 - d. Where shown on the drawings or permitted by the Engineer, bond-preventing compound shall be applied by brush in accordance with the manufacturer's printed instructions.

F. Consolidation

1. Concrete for slabs 8 inches thick or less may be consolidated with vibrating screeds. Slabs between 8 to 12 inches thick shall be compacted with internal vibrators and (optionally) with vibrating screeds.
2. Concrete shall be consolidated by vibration to the maximum practicable density. The concrete shall be free from pockets of coarse aggregate and entrapped air.
3. Consolidation shall be carried on continuously with the placing of concrete.

G. Repair of surface defects: ACI 301.

1. Inspect concrete surfaces and surfaces to be painted immediately upon removal of forms. Irregularities shall be immediately rubbed or ground to secure a smooth, uniform, and continuous surface.
2. Clean surfaces of tie holes. Tie holes shall be filled solid with patching mortar.
3. Surfaces to be smoothed shall not be plastered or coated.
4. Patch imperfections as needed or as directed by the Engineer. Repairs in accordance with Section 3.8 shall not be made until the surface has been inspected and repair methods have been approved by the Engineer.

3.5 FINISHING

A. Slabs: Minimum slab surface tolerance must satisfy ACI 301 and ACI 302.1R as measured in accordance with ASTM E1155.

1. Slabs-on-grade:
 - a. For exposed slabs, install semi-rigid epoxy sealant in construction and contraction joints after slab has a minimum of 60 days or otherwise approved by the Engineer.
 - b. Separate slabs-on-grade from vertical surfaces with 1/2-inch-thick joint filler. Extend joint filler from bottom of slab to within 1/8 inch of finished slab surface.
 - c. Allowable tolerance for slab on grade surfaces, measured in accordance with ACI 117 and ASTM E1155, shall meet or exceed an overall value of FF35/FI25, with minimum local value of FF24/FL17.
2. Concrete Finishes:
 - a. The following will not be permitted on slab or floor finishes:
 - 1) Dusting dry cement or sand on the surface to absorb excess moisture.

**SECTION 03 3000
CAST-IN-PLACE CONCRETE**

- 2) Use of a mortar finishing coat.
 - 3) Excessive troweling or manipulation that brings water or a large number of fines to the surface.
 - 4) Use of a Fresno.
 - 5) Addition of water to the surface during the finishing operation.
 - 6) Use of the floor during construction in a manner that leads to marring or staining the finish.
- b. Surface preparation
- 1) The concrete shall be brought up evenly to slightly above finished grade and shall be thoroughly compacted and consolidated. The top shall be struck off to accurately established grade strips or grade blocks. Complete screeding before any excess moisture or bleedwater is present on the surface.
 - 2) After bull floating, defer additional finishing operations until the concrete has stiffened sufficiently to sustain foot traffic pressure with an indentation of not more than ¼ inch.
- c. Floor Slabs: Steel trowel finish unless otherwise noted on the plans. The finish surface shall match that of the adjacent existing concrete. As soon as the moisture sheen has disappeared from the floated surface and the concrete has hardened sufficiently to prevent drawing moisture and fine materials to the surface, the surface shall be steel troweled to produce a smooth, hard, uniform finish. Final steel troweling shall be conducted after the concrete is hard enough that no mortar accumulates on the trowel when manipulated with heavy pressure. Machine finishing may be used for troweling.
- d. Exposed concrete slabs shall be sealed or sealed and hardened using a liquid compound compatible with the curing method used as described in: 3.7 Curing, Protection, Liquid Hardeners and Sealers of this Section.

3.6 CURING, PROTECTION, LIQUID HARDENERS AND SEALERS

A. Curing Compound

1. All curing methods shall be placed immediately after final finishing (i.e., within two hours). Contractor's attention is directed to the fact that experience shows the most important time of curing is from three to four hours after placing and extending five to six hours thereafter. It is extremely important, therefore, to prevent loss of moisture, particularly during this period when concrete is especially vulnerable to plastic shrinkage cracks. All exposed surfaces of concrete including floor slabs, whether or not they receive a finish flooring, shall be protected from premature drying for a minimum of seven days.
2. Apply the specified curing compound in strict accordance with manufacturer's written instructions. Curing compound shall not be diluted by the addition of solvents or thinners, nor shall it be altered in any other manner. Curing compound that has become chilled and is too viscous for satisfactory application shall be heated by steam or hot water bath until it has proper fluidity. The temperature of the compound shall not exceed 100 °F. Curing compound shall not be heated by direct exposure of the container to fire.
3. When used on an unformed concrete surface, application of the first coat of curing compound shall commence immediately after finishing operations have been completed. When curing compound is used on a formed concrete surface, the surface shall first be moistened with a fine spray of water immediately after the forms have been removed. The spray shall be continued until the surface does not readily absorb further water. As soon as the surface film of water has disappeared and the surface is almost dry, the first coat of curing compound shall be applied. In the event that application is delayed on either formed or unformed surfaces, the surface shall be kept continuously moist until the compound has been applied or the specified period of water curing has elapsed.
4. Surfaces shall be sprayed uniformly with 2 coats of curing compound. Each coat shall provide a minimum coverage of 1 gallon per 250 square feet of surface. As soon as the first coat has become dry, a second coat shall be applied in the same manner. The direction

SECTION 03 3000
CAST-IN-PLACE CONCRETE

of application of the second coat shall be perpendicular to the first coat. The curing compound shall be sprayed using approved pneumatic or pump driven equipment having the following characteristics:

- a. Separate lines to the nozzle for material and for compressed air
 - b. A filtering system for the removal or entrapment of contaminants
 - c. A constant application pressure
5. Curing compound shall not be used on any concrete surface specified to receive additional concrete, coatings, grout, and chemical treatment

B. Protection

1. The contractor shall allow no traffic and take precautions to avoid damage to the membrane of the curing compound for a period of not less than 28 days. Damage shall be repaired immediately to the satisfaction of the Engineer.
2. Special care shall be taken to prevent avoid damaging the surfaces and joints due to load stresses from construction equipment, heavy shock, and excessive vibration. During construction activities, concrete shall be protected against damage with plywood or other approved materials until final acceptance by the Engineer.

C. All floor slabs shall be cured using products and methods compatible with selected floor adhesives, toppings, and other finish materials.

D. Sealing Coat: Uniformly apply a continuous sealing coat of curing and sealing compound to hardened concrete by power spray or roller according to manufacturer's written instruction.

3.7 PATCHING AND REPAIR

A. Concrete will be considered by the Engineer as not conforming to the intent of the drawings and specifications for the following reasons:

1. Concrete is not formed as shown on the drawings.
2. Concrete is not in true alignment or level.
3. Concrete which exhibits a defective surface.
4. Concrete with defects that reduce the structural integrity of a member or members.
5. Concrete jointed slabs with uncontrolled random cracking.

B. Non-conforming concrete to required thickness, lines, details, and elevations will be rejected by the Engineer and shall be modified or replaced with concrete that conforms to the contract requirements without a claim by the Contractor for additional cost or extension of contract time.

C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of City Engineer for each individual area. Should the City Engineer grant permission for the Contractor to attempt restoration of a defective area by patching or other repair methods, such permission shall not be considered a waiver of the Engineer's right to require complete removal of the defective area if, in the Engineer's opinion, the restoration does not provide the structural or aesthetic integrity of the member or members.

D. All repairs of defective areas shall conform to ACI 301. On areas requiring treatment of defects and until such repairs have been completed, only water cure will be permitted

E. At any time prior to final acceptance, concrete found to be defective, damaged, or not in accordance with the specifications shall be repaired or removed and replaced with acceptable concrete.

3.8 ACCEPTANCE OF STRUCTURE

A. Comply with ACI 301 and modifications in this section.

B. Completed concrete work, which meets all applicable requirements, will be accepted without qualification.

SECTION 03 3000
CAST-IN-PLACE CONCRETE

- C. Completed concrete work which fails to meet one or more requirements but which has been repaired to bring it into compliance will be accepted without qualification.
- D. Completed concrete work which fails to meet one or more requirements and which cannot be brought into compliance may be accepted or rejected by the City Engineer. In this event, modifications may be required to assure that remaining work complies with the requirements.
- E. The costs of any additional tests or analysis, including additional architectural and engineering services, performed to prove the adequacy of the concrete work, shall be borne by the Contractor without extension of contract time.

END OF SECTION

SECTION 03 3543
BONDED ABRASIVE POLISHED CONCRETE FLOORS

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes: Products and procedures for bonded abrasive polished concrete floors using multi-step wet/dry mechanical process, and accessories indicated, specified, or required to complete polishing.

1.2 DEFINITIONS

- A. Terminology: As defined by Concrete Polishing Council (CPC) glossary.
- B. Polished Concrete: The act of changing a concrete floor surface, with or without surface exposure of aggregate, to achieve a specified level of appearance.
- C. Bonded Abrasive Polished Concrete: The multi-step operation of mechanically grinding, honing, and polishing a concrete floor surface with bonded abrasives to cut a concrete floor surface and to refine each cut to the maximum potential to achieve a specified level of appearance as defined by the CPC.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's technical literature for each product indicated, specified, or required. Include manufacturer's technical data, application instructions, and recommendations.
- B. Installer Qualifications: Data for company, principal personnel, experience, and training specified in PART 1 "Quality Assurance" Article.
- C. Maintenance Data: For inclusion in maintenance manual required by Division 01.
 - 1. Include instructions for maintenance of installed work, including methods and frequency recommended for maintaining optimum condition under anticipated use.
 - 2. Include precautions against cleaning products and methods which may be detrimental to finishes and performance.

1.4 QUALITY ASSURANCE

- A. Polisher Qualifications:
 - 1. Experience: Company that has successfully completed five projects similar in design, products, and extent to scope of this Project; with a record of successful in-service performance; and with sufficient production capability, facilities, and personnel to produce specified work.
 - 2. Supervision: Maintain a competent supervisor who is at Project during times specified work is in progress, and is currently certified as Craftsman - Level I or higher by CPAA, CPC Craftsman, or equivalent.
 - 3. Manufacturer Qualification: Approved by manufacturer to apply liquid

SECTION 03 3543
BONDED ABRASIVE POLISHED CONCRETE FLOORS

applied products.

- B. Field Mock-up/Sample: Before performing work of this Section, provide following field mock-up/sample to verify selections made under submittals and to demonstrate aesthetic effects of polishing. Approval does not constitute approval of deviations from Contract Documents, unless Architect specifically approves deviations in writing.

1. Form, reinforce, and cast concrete slab for 10-foot square field mock-up.
2. Mock-up shall be representative of work to be expected.
3. Perform grinding, honing, and polishing work as scheduled for Project using same personnel as will perform work for Project.
4. Approval is for following aesthetic qualities:
 - a. Compliance with approved submittals.
 - b. Compliance with specified aggregate exposure class.
 - c. Compliance with specified appearance level.
 - d. Compliance with specified color.
5. Obtain Architect's approval before starting work on Project.
6. Protect and maintain approved field mock-ups during construction in an undisturbed condition as a standard for judging completed work.
7. Upon completion of mock-up; owner to review and approve desired outcome and sign off. Mock-up to be used as a reference throughout the polishing phases of the project.

- C. Pre-Installation of Concrete Conference: Prior to placing concrete for areas scheduled for polishing, conduct conference at Project to comply with requirements of applicable Division 01 Sections.

1. Required Attendees:
 - a. Owner.
 - b. Architect.
 - c. Contractor, including supervisor.
 - d. Concrete producer.
 - e. Concrete finisher, including supervisor.
 - f. Concrete polisher, including supervisor.
 - g. Technical representative of liquid applied product manufacturers.
2. Minimum Agenda: Polisher shall demonstrate understanding of work required by reviewing and discussing procedures for, but not limited to, following:
 - a. Tour field mock-up and representative areas of required work, discuss and evaluate for compliance with Contract Documents, including substrate conditions, surface preparations, sequence of procedures, and other preparatory work performed by other installers.
 - b. Review Contract Document requirements.
 - c. Review approved submittals and field mock-up.
 - d. Protection of concrete substrate during construction and prior to polishing process.
 - e. Project phasing and scheduling for each step of grinding, honing and polishing operations including, but not limited to:

SECTION 03 3543
BONDED ABRASIVE POLISHED CONCRETE FLOORS

- i. Quality of qualified personnel committed to project.
 - ii. Quality and size of grinders committed to project.
 - iii. Proper disposal of concrete slurry and/or concrete dust.
 - f. Details of each step of grinding, honing, and polishing operations.
 - i. Application of color.
 - ii. Application of liquid applied products.
 - iii. Protecting polished concrete floors after polishing work is complete.
3. Reports: Record discussions, including decisions and agreements reached, and furnish copy of record to each party attending.

1.5 FIELD CONDITIONS

- A. Damage and Stain Prevention: It is the responsibility of others to prevent damage and staining of concrete surfaces to be polished.
- 1. Prohibit use of markers, spray paint, and soapstone.
 - 2. Prohibit improper application of liquid membrane film forming curing compounds.
 - 3. Prohibit vehicle parking over concrete surfaces.
 - 4. Prohibit pipe-cutting operations over concrete surfaces.
 - 5. Prohibit storage of any items over concrete surfaces for not less than 28 days after concrete placement.
 - 6. Prohibit ferrous metals storage over concrete surfaces.
 - 7. Protect from petroleum, oil, hydraulic fluid, or other liquid dripping from equipment working over concrete surfaces.
 - 8. Protect from acids and acidic detergents contacting concrete surfaces.
 - 9. Protect from painting activities over concrete surfaces.
- B. Environmental Limitations: Comply with manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting liquid applied product application.

PART 2 – PRODUCTS

2.1 LIQUID APPLIED PRODUCTS

- A. Liquid Densifier: An aqueous solution of silicon dioxide dissolved in one of the following hydroxides that penetrates into the concrete surface and reacts with the calcium hydroxide to provide a permanent chemical reaction that hardens and densifies the wear surface of the cementitious portion of the concrete.
- 1. Sodium Silicate
 - 2. Potassium Silicate
 - 3. Lithium Silicate
 - 4. Alkali solution of Colloidal Silicates or Silica
- B. Dye: Non-film forming soluble colorant dissolved in a carrier designed to penetrate and alter

SECTION 03 3543
BONDED ABRASIVE POLISHED CONCRETE FLOORS

coloration of a concrete floor surface without a chemical reaction.

- C. Pigmented Micro Stains: Fine pigment particles suspended in water- based silicate solution that penetrates concrete and reacts with calcium hydroxide to lock in color particles.
- D. Acid Stain: Reactive solution of one or more metal salts stabilized by acid that produces coloration in a concrete substrate by neutralization of acid followed by precipitation of metal hydroxides or oxides.

2.2 ACCESSORIES

- A. Repair Material: A product that is designed to repair cracks and surface imperfections. The specified material must have sufficient bonding capabilities to adhere after the polishing to the concrete surface and provide abrasion resistance equal to or greater than the surrounding concrete substrate.
- B. Material: Acceptable products shall be: Clear Epoxy

2.3 POLISHING EQUIPMENT

- A. Field Grinding and Polishing Equipment:
 - 1. A multiple head, counter rotating, walk behind or ride on machine, of various size and weights, with diamond tooling affixed to the head for the purpose of grinding concrete. Excludes janitorial maintenance equipment.
 - 2. If dry grinding, honing, or polishing, use dust extraction equipment with flow rate suitable for dust generated, with squeegee attachments to meet OSHA requirements.
 - 3. If wet grinding, honing, or polishing, use slurry extraction equipment suitable for slurry removal and containment prior to proper disposal.
- B. Edge Grinding and Polishing Equipment: Hand-held or walk-behind machines which produces the same results, without noticeable differences, as field grinding and polishing equipment.
- C. Burnishing Equipment: High speed walk-behind or ride-on machines capable of generating 1000 to 2000 revolutions per minute and with sufficient head pressure of not less than 20 pounds to raise floor temperature by 20 degrees F.
- D. Diamond Tooling: Abrasive tools that contain industrial grade diamonds within a bonded matrix (such as metallic, resinous, ceramic, etc.) that are attached to rotating heads to refine the concrete substrate.
 - 1. Bonded Abrasive: Abrasive medium that is held within a bonding that erodes away to expose new abrasive medium as it is used.
 - 2. Metal Bond Tooling: Diamond tooling that contains industrial grade diamonds with a metallic bonded matrix that is attached to rotating heads to refine the concrete substrate. These tools are available in levels of soft, medium, and hard metallic matrices that are matched with contrasting concrete substrates

SECTION 03 3543
BONDED ABRASIVE POLISHED CONCRETE FLOORS

(i.e. hard matrix/soft concrete, medium matrix/medium concrete, soft matrix/hard concrete) and are typically used in the grinding and early honing stages of the polishing process.

3. Resin Bond Tooling: Diamond tooling that contains industrial grade diamonds within a resinous bonded matrix (poly-phenolic, ester-phenolic, and thermoplastic-phenolic) that is attached to rotating heads to refine the concrete substrate. Resin bond tooling does not have the soft/medium/hard characteristics of metal bond tooling and are typically used for the later honing and polishing stages of the polishing process.
4. Hybrid Tooling: Diamond tooling that combines metal bond and resin bond that has the characteristics of both types of tooling. These types of tools are typically used as either transitional tooling from metal bond tools to resin bond tools or as a first cut tool on smooth concrete surfaces.
5. Transitional Tooling: Diamond tooling that is used to refine the scratch pattern of metal bond tooling prior to the application of resin bond tooling in an effort to extend the life of resin bond tooling and to create a better foundation for the polishing process.
6. Abrasive Pad: An abrasive pad, resembling a typical floor maintenance burnishing pad that has the capability of refining the concrete surface on a microscopic level that may or may not contain industrial grade diamonds. These pads are typically used for the maintenance and/or restoration of previously installed polished concrete flooring.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Acceptance of Surfaces and Conditions:

1. Examine substrates to be polished for compliance with requirements and other conditions affecting performance.

a. Concrete finished floor flatness according to applicable

B. Proceed only when unsatisfactory conditions have been corrected in a manner complying with Contract Documents.

C. Starting work within a particular area will be construed as acceptance of surface conditions.

3.2 PREPARATION

A. Cleaning New Concrete Surfaces:

1. Prepare and clean concrete surfaces.
2. Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, paint splatter, and other contaminants incompatible with liquid applied products and polishing.

SECTION 03 3543
BONDED ABRASIVE POLISHED CONCRETE FLOORS

3.4 COLORING CONCRETE FLOORS

A. Dye or Pigmented Micro Stain Application:

1. Follow manufacturer's recommendation.

3.5 POLISHING CONCRETE FLOORS

A. Perform all polishing procedures to ensure a consistent visual appearance from wall to wall.

B. Initial Grinding:

1. Use grinding equipment with metal or semi-metal bonded tooling.
2. Begin grinding in one direction using sufficient size equipment and diamond tooling to meet specified aggregate exposure class.
3. Make sequential passes with each pass perpendicular to previous pass using finer grit tool with each pass, up to 100 grit metal bonded tooling.
4. Achieve maximum refinement with each pass before proceeding to finer grit tools.
5. Clean floor thoroughly after each pass using dust extraction equipment properly fitted with squeegee attachment or walk behind auto scrubber suitable to remove all visible loose debris and dust.
6. Continue grinding until aggregate surface exposure matches approved field mock-up.

C. Treating Surface Imperfections:

1. Fill surface imperfections including, but not limited to, holes, surface damage, small and micro cracks, air holes, pop-outs, and voids with clear epoxy to eliminate micro pitting in finished work.
2. Work compound and treatment until color differences between concrete surface and filled surface imperfections, compared to mockup, are not reasonably noticeable when viewed from 20 feet away under lighting conditions that will be present after construction.

D. Liquid Densifier Application: Apply undiluted to point of rejection, remove excess liquid, and allow curing according to manufacturer's instructions.

E. Epoxy Grinding:

1. Use grinding equipment and appropriate grit and bond diamond tooling.
2. Apply clear epoxy, into cracks of the concrete slab to fill surface imperfections.
3. Clean floor thoroughly after each pass using dust extraction equipment properly fitted with squeegee attachment or walk behind auto scrubber suitable to remove all visible loose debris and dust.

F. Honing:

1. Use grinding equipment with hybrid or resin bonded tooling.
2. Hone concrete in one direction starting with 100 grit tooling and make as many sequential passes as required to remove scratches, each pass perpendicular to previous pass, up to 400 grit tooling reaching maximum refinement with each pass before proceeding to finer grit tooling.
3. Clean floor thoroughly after each pass using dust extraction equipment properly fitted with squeegee attachment or walk behind auto scrubber suitable to remove all visible loose

SECTION 03 3543
BONDED ABRASIVE POLISHED CONCRETE FLOORS

debris and dust.

G. Polishing:

1. Use polishing equipment with resin-bonded tooling.
2. Begin polishing in one direction starting with 800 grit tooling.
3. Make sequential passes with each pass perpendicular to previous pass using finer grit tooling with each pass until the specified level of appearance has been achieved.
4. Achieve maximum refinement with each pass before proceeding to finer grit pads.
5. Clean floor thoroughly after each pass using dust extraction equipment properly fitted with squeegee attachment or walk behind auto scrubber suitable to remove all visible loose debris and dust.
6. Stain Protection: Uniformly apply and remove excessive liquid according to manufacturer's instructions. Final film thickness should be less than .05 mils after cure.
7. Final Polish: Using burnishing equipment and finest grit abrasive pads, burnish to uniform reflective sheen matching approved field mock-up.

H. Final Polished Concrete Floor Finish:

1. Aggregate Exposure Class B – Fine Aggregate: Surface exposure of 85 to 95% fine aggregate and 5 to 15% cement fines and coarse aggregate based on visual observation of the overall area of the polished floor.
2. Appearance Level 3 – Polished:
 - a. Procedure: Recommended not less than 4 steps with full refinement of each diamond tool with one application of densifier.
 - b. Measurement: Determine the Image Clarity Value, %, and the Haze Index:
 - 1) Image Clarity Value, %: An average value of 40 to 69 measured in accordance with ASTM D5767 prior to the application of sealers.
 - 2) Haze Index: An average value less than 10 measured in accordance with ASTM D4039 prior to the application of sealers.
 - 3) The minimum number of tests distributed across the polished surface should be three, for areas up to 1000 ft² and one additional test for each 1000 ft² or fraction thereof. This applies to both the Image Clarity Value and Haze Index.

3.6 PROTECTION

- A. Protection is the responsibility of others.

END OF SECTION

**SECTION 06 1000
ROUGH CARPENTRY**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Framing with dimension lumber.
- 2. Framing with timber.
- 3. Framing with engineered wood products.
- 4. Shear wall panels.
- 5. Wood blocking and nailers.
- 6. Wood furring.

- B. Related Requirements:

- 1. Section 06 1600 "Sheathing" for sheathing, subflooring, and underlayment.

1.3 DEFINITIONS

- A. Boards or Strips: Lumber of less than 2 inches nominal (38 mm actual) size in least dimension.
- B. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) size or greater but less than 5 inches nominal (114 mm actual) size in least dimension.
- C. Timber: Lumber of 5 inches nominal (114 mm actual) size or greater in least dimension.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
- B. Include data for wood-preservative treatment from chemical treatment manufacturers and certification by treating plant that treated materials comply with

**SECTION 06 1000
ROUGH CARPENTRY**

requirements. Indicate type of preservative used and net amount of preservative retained.

- C. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
- D. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5664.
- E. For products receiving a waterborne treatment, include a statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
- B. Evaluation Reports: For the following, from ICC-ES:
 - 1. Wood-preservative-treated wood.
 - 2. Fire-retardant-treated wood.
 - 3. Engineered wood products.
 - 4. Shear panels.
 - 5. Power-driven fasteners.
 - 6. Post-installed anchors.
 - 7. Metal framing anchors.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.7 DELIVERY, STORAGE, AND HANDLING

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

**SECTION 06 1000
ROUGH CARPENTRY**

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
- B. Factory mark each piece of lumber with grade stamp of grading agency.
- C. Dress lumber, S4S, unless otherwise indicated.
- D. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal (38-mm actual) thickness or less; 19 percent for more than 2-inch nominal (38-mm actual) thickness otherwise indicated.
- E. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
- F. Allowable design stresses, as published by manufacturer, shall meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWP A U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.
- B. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- C. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- D. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- E. Application: Treat all rough carpentry unless otherwise indicated.
- F. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
- G. Wood sills, sleepers, blocking, furring, and similar concealed members in contact with masonry or concrete.
- H. Wood floor plates that are installed over concrete slabs-on-grade.

**SECTION 06 1000
ROUGH CARPENTRY**

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Where fire-retardant-treated materials are indicated, materials shall comply with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
- C. Treatment shall not promote corrosion of metal fasteners.
- D. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
- E. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.
- F. Design Value Adjustment Factors: Treated lumber shall be tested according to ASTM D 5664 and design value adjustment factors shall be calculated according to ASTM D 6841.
- G. Kiln-dry lumber after treatment to maximum moisture content of 19 percent.
- H. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.
- I. For exposed items indicated to receive a stained or natural finish, chemical formulations shall not bleed through, contain colorants, or otherwise adversely affect finishes.
- J. Application: Treat items indicated on Drawings, and the following:
 - 1. Framing for non-load-bearing partitions.
 - 2. Roof construction.

2.4 DIMENSION LUMBER FRAMING

- A. Non-Load-Bearing Interior Partitions: As indicated on Drawings.
- B. Load-Bearing Partitions: As indicated on Drawings.
- C. Joists, Rafters, and Other Framing Not Listed Above: As indicated on Drawings.
- D. Exposed Framing: As indicated on Drawings.
- E. Species and Grade: As indicated on Drawings.

**SECTION 06 1000
ROUGH CARPENTRY**

2.5 TIMBER FRAMING

- A. Comply with the following requirements, according to grading rules of grading agency indicated:
- B. Species and Grade: Douglas fir-larch, Douglas fir-larch (north), or Douglas fir-south; No. 1 grade; NLGA, WCLIB, or WWPA.
- C. Maximum Moisture Content: 19 percent.
- D. Additional Restriction: Free of heart centers.

2.6 ENGINEERED WOOD PRODUCTS

- A. Source Limitations: Obtain each type of engineered wood product from a single source from a single manufacturer.
- B. Rim Boards: Product designed to be used as a load-bearing member and to brace wood I-joists at bearing ends, complying with research or evaluation report for I-joists.
- C. Material: Product made from any combination of solid lumber, wood strands, and veneers.
- D. Thickness: 1-1/4 inches (32 mm), unless indicated on Structural Drawings.
- E. Comply with APA PRR-401, rim board grade. Factory mark rim boards with APA-EWS trademark indicating thickness, grade, and compliance with APA-EWS standard.

2.7 SHEAR WALL PANELS

- A. Wood-Framed Shear Wall Panels: Prefabricated assembly consisting of wood perimeter framing, tie downs, and Exposure I, Structural I plywood or OSB sheathing.

2.8 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
 - 3. Furring.
- B. Dimension Lumber Items: Standard, Stud, or No. 3 grade lumber of any of the following species:
 - 1. Western woods; WCLIB or WWPA.

**SECTION 06 1000
ROUGH CARPENTRY**

- C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- D. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
- E. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.9 FASTENERS

- A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.
- B. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- C. Nails, Brads, and Staples: ASTM F 1667.
- D. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- E. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on appropriate ICC-ES for the substrate.

2.10 METAL FRAMING ANCHORS

- A. Allowable design loads, as published by manufacturer, shall meet or exceed those of products of manufacturers listed. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. Framing anchors shall be punched for fasteners adequate to withstand same loads as framing anchors.
 - 1. Joist Hangers: As indicated on Structural Drawings.
 - 2. Top Flange Hangers: As indicated on Structural Drawings.
 - 3. Post Bases: As indicated on Structural Drawings.
 - 4. Joist Ties: As indicated on Structural Drawings.
 - 5. Hold-Downs: As indicated on Structural Drawings.

2.11 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

**SECTION 06 1000
ROUGH CARPENTRY**

- B. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- C. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate furring, nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- D. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant-treated plywood backing panels with classification marking of testing agency exposed to view.
- E. Install shear wall panels to comply with manufacturer's written instructions.
- F. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- G. Install sill sealer gasket to form a continuous seal between sill plates and foundation walls.
- H. Do not splice structural members between supports unless otherwise indicated.
- I. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
- J. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches (406 mm) o.c.
- K. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
- L. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than 96 inches (2438 mm) o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces.
- M. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96 inches (2438 mm) o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal (38-mm actual) thickness.
- N. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- O. Comply with AWPAC M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- P. Use inorganic boron for items that are continuously protected from liquid water.
- Q. Use copper naphthenate for items not continuously protected from liquid water.
- R. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

**SECTION 06 1000
ROUGH CARPENTRY**

- S. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
- T. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
- U. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
- V. ICC-ES evaluation report for fastener.
- W. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.
- X. Use common nails unless otherwise indicated. Drive nails snug but do not countersink nail heads.

2.12 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches (38 mm) wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

2.13 WOOD FURRING INSTALLATION

- A. Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.
- B. Furring to Receive Plywood or Hardboard Paneling: Install 1-by-3-inch nominal- (19-by-63-mm actual-) size furring at 24 inches (610 mm) o.c. unless noted otherwise.
- C. Furring to Receive Gypsum Board Install 1-by-2-inch nominal- (19-by-38-mm actual-) size furring vertically at 16 inches (406 mm) o.c. unless noted otherwise.

2.14 WALL AND PARTITION FRAMING INSTALLATION

- A. General: Provide single bottom plate and double top plates using members of 2-inch nominal (38-mm actual) thickness whose widths equal that of studs, except single top plate may be used for non-load-bearing partitions. Fasten plates to supporting construction unless otherwise indicated.

**SECTION 06 1000
ROUGH CARPENTRY**

- B. For exterior walls see Structural Drawings.
- C. For interior partitions and walls see Structural Drawings.
- D. Construct corners and intersections as indicated on Structural Drawings.
- E. Frame openings with multiple studs and headers, see Structural Drawings

2.15 CEILING JOIST AND RAFTER FRAMING INSTALLATION

- A. Ceiling Joists: Install with crown edge up and complying with requirements specified above for floor joists. Face nail to ends of parallel rafters.
- B. Rafters: Notch to fit exterior wall plates and use metal framing anchors. Double rafters to form headers and trimmers at openings in roof framing, if any, and support with metal hangers. Where rafters abut at ridge, place directly opposite each other and nail to ridge member or use metal ridge hangers.

2.16 TIMBER FRAMING INSTALLATION

- A. Install timber beams with crown edge up and provide not less than 4 inches (102 mm) of bearing on supports. Provide continuous members unless otherwise indicated; tie together over supports as indicated if not continuous.
- B. Install wood posts using metal anchors indicated on Structural Drawings.
- C. Treat ends of timber beams and posts exposed to weather by dipping in water-repellent preservative for 15 minutes.

END OF SECTION

SECTION 06 4000
INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Plastic-laminate cabinets.
 - 2. Solid-surfacing-material countertops and splashes.
 - 3. Shop finishing of interior woodwork.
 - 4. Plastic-laminate paneling system.
- B. Related Documents: The Contract Documents, as defined in Division 1 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents.

1.2 DEFINITIONS

Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips for installing woodwork items unless concealed within other construction before woodwork installation.

1.3 REFERENCES

- A. American Woodworking Institute (AWI)
- B. Woodwork Institute of California (WIC)

1.4 QUALITY ASSURANCE

- A. Perform work in accordance with WIC custom quality.

1.5 SUBMITTALS

- A. Product Data: For panel products, high pressure decorative laminate, adhesive for bonding plastic laminate, solid surfacing material, cabinet hardware and accessories, and finishing materials and processes.
- B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components. Drawings shall show each type of cabinet, with sufficient details to clearly indicate all features of construction and attachment to structure. Drawings will include, as minimum, the following:
 - 1. Show indication of material and grades.
 - 2. Scaled plans or plan section of each item, showing location and layout of units with relation to surrounding walls, doors, windows and other building components, fully dimensioned.
 - 3. Scaled elevations of each cabinet type, fully dimensioned.

SECTION 06 4000
INTERIOR ARCHITECTURAL WOODWORK

4. Scaled sections to clarify special conditions, and locations and details or anchorage.
 5. Fixed dimensions, with provisions of insertion of field dimensions.
 6. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.
 7. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers and other items installed in architectural woodwork.
 8. Coordinate with other work involved and show on Shop Drawings.
 9. Reproduction of Contract Documents to be used as Shop Drawings is not acceptable.
 10. Conform to WIC custom grade, WIC Certificate not required. Provide compliance label to first page of Shop Drawings.
 11. Keying Schedule: Indicate keying system for cabinet and fixture locks.
- C. Samples for Initial Selection:
1. Plastic Laminates.
 2. PVC edge material.
 3. Thermoset decorative panels.
 4. Solid-surfacing materials.
- D. Samples for Verifications
1. Plastic laminates, 8 by 10 inches, for each type, color, pattern, and surface finish, with 1 sample applied to core material and specified edge material applied to 1 edge.
 2. Plastic Laminate Panel System, 8 by 10 inches, for each type, color, pattern, and surface finish, with edge banding on 1 edge.
 3. Solid-surfacing materials, 6 inches square.
 4. Exposed cabinet hardware and accessories, one unit for each type and finish.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver woodwork until painting and similar operations that could damage woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Project Conditions" Article.
1. Cabinets: Cabinets shall be handled carefully and set or stores inside on a level floor. Care shall be taken to protect exposed finished portions from bumping, scratching, etc. Under no circumstances shall cabinets or countertops be used for "work benches" or convenient places to store other materials.

SECTION 06 4000
INTERIOR ARCHITECTURAL WOODWORK

2. Countertops: Countertops shall be stacked flat, at least four inches off the floor, with protective covering under the bottom unit, and covered on top to protect surfaces from scratching. Strips of wood or other suitable materials shall be placed between tops. Care shall be taken to prevent breakage. Under no circumstance's hall countertops be stood or stacked on end against a wall where they can be broken damaged by falling.
- B. Replacements: in the event of damage, immediately make all repairs and replacements necessary to the approval of the Owner's Representative and at no additional cost to the City.

Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed, and indicate measurements on Shop Drawings.

1.7 COORDINATION

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements and other related units of Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.
- B. Plumbing Fixture Coordination: Coordinate Shop Drawings and fabrication of countertops with sinks and lavatories specified in Division 22- "Plumbing."

PART 2- PRODUCTS

2.1 MATERIALS

- A. General: Provide materials that comply with requirements of WI's quality standard for each type of woodwork and quality grade specified, unless otherwise indicated.
- B. Wood Products: Comply with the following:
 1. Softwood Plywood: DOC PS 1, Medium Density Overlay.
- C. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or, if not indicated, as required by woodwork quality standard.
 1. Manufacturer: Subject to compliance with requirements, provide high-pressure decorative laminates by one of the following:
 - a. Formica Corporation.
 - b. Lamin-Art, Inc.
 - c. Nevamar Company, LLC; Decorative Products Div.
 - d. Wilsonart International; Div. of Premark International, Inc.
 - e. Or Approved Equal.
- D. Countertops: Solid Surface, Stone.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

**SECTION 06 4000
INTERIOR ARCHITECTURAL WOODWORK**

- a. Caesarstone.
- b. Q Premium Natural Quartz.
- c. Or Approved Equal

E. Edge Bands:

3mm PVC banding at exposed edges and 1 mm PVC banding at semi-exposed edge and case body to be machine applied with waterproof hot melt adhesive.

2.2 CABINET HARDWARE AND ACCESSORIES

- A. General: Provide cabinet **heavy duty hardware** and accessory materials associated with architectural cabinets.
- B. Frameless Concealed Hinges: BHMA A156.9, B01602, 107 degrees of opening (90-95 degrees at corners), self-closing and having passed 100,000 cycle tests.
 - 1. Equal to: Blum Modul Hinge series with 170-degree opening.
 - 2. Hinge shall have a lifetime warranty as offered by the hinge manufacturer.
 - 3. Hinges shall be heavy duty wrap-around offset for overlay doors with non-removable pin.
 - 4. Hinge shall not be clip type.
 - 5. Hinges shall be securely anchored to the cabinet and door. Do not screw hinges into holes drilled for adjustable shelf brackets.
 - 6. Number of hinges per door shall be as follows:
 - a. Door height 0"-36": 2 hinges per door
 - b. Doors greater than 36" high and locker doors: Provide heavy duty piano type or continuous hinges.
- C. Provide 4 types of heavy-duty sample of pulls for casework for architect approval.
- D. Catches: Magnetic catches, BHMA A156.9, C03141.
- E. Adjustable Shelf Standards and Supports: BHMA A156.9, B04071; with self-rests, B04081.
- F. Shelf Rests: BHMA A156.9, B04013; metal, two-pin type with self-hold-down clip.
- G. Drawer Slides heavy duty type: BHA A156.9, B05091, side-mounted; full-extension type, zinc-plated steel ball bearing slides, equal to Accuride #7432, and rated for the following loads:
 - 1. File Drawer Slides: Grade 1HD-200 (200 lbf); for all drawers.
- H. Grommets for Cable Passage through Countertops: 2-inch OD, molded-plastic grommets and matching plastic caps with slot for wire passage.

SECTION 06 4000
INTERIOR ARCHITECTURAL WOODWORK

1. Product: Subject to compliance with requirements, provide "SG series" by Doug Mockett & Company, Inc.
2. Color: As selected by Architect from manufacturer's full range.
- I. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.

Satin Chromium Plated: BHMA 626 for brass or bronze base; CHMA 652 for steel base.
- J. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA A156.9.
- K. Bumpers: Provide rubber bumpers on inside corners of all doors to prevent laminate to laminate contact.
- L. Lock Keying: Cabinet lock to be coordinated with Owner for various tiers of security.

2.3 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims and Hanging Strips: Softwood or hardwood lumber, kiln dried to less than 15 percent moisture content.
- B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.
- C. Adhesives, General: Do not use adhesives that contain urea formaldehyde.
- D. VOC Limits for Installation Adhesives and Glues: Use installation adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 1. Wood Glues: 30g/L.
 2. Contact Adhesive: 250 g/L.
- E. Adhesive for Bonding Plastic Laminate: Unpigmented contact cement or Contact cement.

Adhesive for Bonding Edges: Hot-melt adhesive or adhesive specified above for faces.

2.4 FABRICATION, GENERAL

- A. Interior Woodwork Grade: Unless otherwise indicated, provide Custom-grade interior woodwork complying with referenced quality standard.
- B. Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to ambient relative humidity during fabrication and in installation areas.
- C. Fabricate woodwork to dimension, profiles and details indicated. Ease edge to radius indicated for the following:

Corners of Cabinets and Edges of Solid-Wood (Lumber) Members $\frac{3}{4}$ inch thick: $\frac{1}{8}$ inch.

SECTION 06 4000
INTERIOR ARCHITECTURAL WOODWORK

- D. Complete fabrication, including assembly, finishing and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements indicated on Shop Drawings before disassembling for shipment.

- E. Shop-cut opening to maximum extent possible to receive hardware, appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

Seal edges of openings in countertops with a coat of varnish.

2.5 PLASTIC-LAMINATE CABINETS

- A. Grade: Custom.
- B. WI Construction Style: Style A, Frameless.
- C. WI Construction Type: Type I, multiple self-supporting units rigidly joined together.
- D. WI Door and Drawer Front Style: Flush overlay.
- E. Laminate Cladding for Exposed Surfaces: High-pressure decorative laminate complying with the following requirements:
1. Horizontal Surfaces Other Than Tops: Grade HGS.
 2. Post formed Surfaces: Grade HGP.
 3. Vertical Surfaces; Grade VGS.
 4. Edges: PVC edge banding, 0.12-inch-thick, matching laminate in color, pattern, and finish.
- F. Materials for Semi exposed Surfaces, including cabinet interior, interior door faces, and surface of shelving:
1. Surfaces Other Than Drawer Bodies: High-pressure decorative laminate, Grade VGS, or cabinet liner.
 - a. Edges of Plastic-laminate shelves: PVC T-mold matching laminate in color, pattern, and finish.
 - b. For semi exposed backs of panels with exposed plastic-laminate surfaces, provide surface of high-pressure decorative laminate, Grade VGS.
 2. Drawer Sides and Backs: See Paragraph 2.4.I.(1).

SECTION 06 4000
INTERIOR ARCHITECTURAL WOODWORK

3. Drawer Bottoms: See Paragraph 2.4.1.(2).
- G. Concealed Backs of Panels with Exposed Plastic Laminate Surfaces: High-pressure decorative laminate, Grade BKL.
- H. Fabrication: Ends and Divisions: Cabinet ends and divisions shall be a minimum of 0.745" in thickness. The visible top edge of the ends of cabinets 6'-0" or more from the floor do not require an edge band but shall have all voids filled and sanded.
1. Joinery:
 - a. All cabinet members shall be securely fastened together.
 - b. All joints shall be securely glued.
 - c. All exposed and semi-exposed joints shall be tight and true.
 - d. To assemble cabinet bodies and components, the use of finish nails is allowed. They shall be a maximum of 4" on center (except face frames – 8" on center) with a minimum of two (2) fasteners per joint for cabinet body and drawer construction. Staples, screws and T nails are not permitted for exposed surfaces.
 - e. For custom and premium grades, at the option of the manufacturer, construction joinery shall be as follows.
 - 1) Dadoes or Lock Joints: plows or rabbets.
 - 2) Doweled Joints: The dowels shall be a minimum of 8mm x 30mm with a minimum of two (2) dowels per joint. The first dowel shall be spaced a maximum of 37mm from each edge or end, and the second dowel shall be a maximum of 32mm on center from the first dowel. Subsequent dowels shall be spaced a maximum of 128mm on center. All dowel construction shall be glued and clamped.
 - 3) Confirmat Type Screws: Maximum of 37mm from each end with subsequent screw being spaced 28mm on center. Glue is not required with this system.
 - 4) Lamello Type Jointing Plates: The plates shall be a maximum of two (2) inches from each edge or end to the center of the plate. Subsequent plates shall be spaced a maximum of six (6) inches on center. All joints shall be glued and clamped.
 - 5) Mod-eez Type Fastening Systems: The fasteners shall be a maximum of 16" on center and 4" from any edge or end. They shall be fastened with 10 full thread sheet metal screws for cabinet body construction. Glue is not required with this system.
 - 6) No exposed fastening is permitted, except for access panel.
 - f. Vertical or horizontal divisions shall be dadoed or tenoned into adjoining members.

SECTION 06 4000
INTERIOR ARCHITECTURAL WOODWORK

2. **Backs:** Backs are required and shall be plywood, or tempered and sealed hardboard a minimum of 1/4" in thickness. Color to match interior. Backs shall be securely nailed, stapled or dadoed to the case body and intermediate members. Backs shall be rabbeted or dadoed into exposed ends unless a plant-on end is used.

Wood Anchor Strips: Suitable wood anchor strips are required and shall be a minimum of 1/2 "x 2-1/2" in thickness and provided at the top and bottom of the cabinet back.

3. **Tops and Bottoms:** Tops and bottoms shall be plywood with a minimum of 3/4" in thickness.
4. **Bases:** Cabinet bases may be constructed with either separate or integral base. Continuous top-set vinyl base with formed interior and exterior corners, or integral sheet vinyl base to match adjacent room base.

I. Drawers

1. **Drawer Boxes:** Construct subfront sides and back with 1/2" minimum 7 ply Baltic Birch plywood. All corner joints at sides to subfront and back shall be lock jointed, and glued together. Drawer sides, subfront and back shall be plowed to receive bottom, which shall be glued or glue blocked to form a rigid unit. Hardwood shall have a clear factory finish. Provide drawers with metal slides as specified.
2. **Drawer bottoms** shall be 1/4" thick sound hardwood plywood with cabinet liner on the exposed interior face.
3. **Drawer finish fronts** shall be 3/4" plywood with plastic laminate or wood veneer finish on exposed surface and cabinet liner on interior surface. Corners shall be eased and all four edges shall receive 3mm PVC edge with joint on bottom. Secure finish front to drawer box subfront from the inside with #12 particle board screws, 1-1/2" from each side, bottom and top edge of front and 12" O.C. minimum horizontally for the full drawer width.

- J. Doors:** Cabinet doors shall be plywood core a minimum of 0.745" in thickness. The interior faces of cabinet doors including faces shelving shall be 0.030" minimum thickness high pressure thermoplastic cabinet liner. All four edges shall be banded with color to match exterior. Clear distance between doors shall be between 3/32" to 5/32", width of a nickel. Overlay type, hinged to swing flat against the face of adjoining cabinet or the side of cabinet, with eased corners, and 3mm PVC with joint hidden under hinge. Do not notch door or cabinet ends, or divisions to receive hinge.

1. Provide edge bands per paragraph 2.1.E.
2. Provide door hinges per paragraph 2.2.B.
3. Provide door pulls per paragraph 2.2.C.
4. Provide metal strike plates at all cabinet door lock locations.
5. Provide catches per 2.2.D.
6. Provide bumpers per 2.2.K.

SECTION 06 4000
INTERIOR ARCHITECTURAL WOODWORK

7. Provide locks per 1.5.B.(11) and 2.2.L.
- K. Cabinet Shelves: $\frac{3}{4}$ " thick plywood core for spans up to 35 inches and 1" thick for spans over 35 inches and up to 48 inches, and adjustable to 1-inch centers. Comply with WIC Technical Bulletin adjustable shelf loading/deflection requirement. Do not recess metal shelf standards into the end panels; notch shelving to clear standards. Provide edge bands per Paragraph 2.1.E.
- L. Finish for Toe Kick Base: Furnished and stalled under Section 09 65 00.
- M. Visible Edges: All visible edges, exposed or semi-exposed, or ends, tops, bottoms, shelves, webs, stretchers, divisions or partitions, and top edges of drawer sides and backs, top of splash, shall be banded with one of materials listed in Paragraph 2.1.E. Only the front edges of adjustable shelves are required to be banded.
- N. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements.
1. Match color, pattern and finish as indicated by manufacturer's designations.
 2. As selected by Architect from laminate manufacturer's full range in the following categories:
 - a. Solid colors, matte finish.
 - b. Solid colors with core same color as surface, matte finish.
 - c. Wood grains, matte finish.
 - d. Patterns, matte finish.

2.6 SOLID-SURFACING-MATERIAL COUNTERTOPS AND SPLASHES

- A. Grade: Custom.
- B. Solid-Surfacing-Material Thickness: $\frac{3}{4}$ inch.
- C. Colors, Patterns, and Finishes: Provide materials and products that result in colors of solid surfacing material complying with the following requirements:
1. Match color, pattern and finish as indicated by manufacturer's designations.
 2. As selected by Architect from manufacturer's full range.
- D. Fabricate tops in one piece, unless otherwise indicated. Comply with solid-surfacing-material manufacturer's written recommendations for adhesives, sealers, fabrication, and finishing.
1. Fabricate tops with shop-applied edges of materials and configuration indicated.
 2. Fabricate tops with loose backsplashes for field application.
- E. Seal joint between countertop and splashes and between splashes and walls with sealant as specified in Division 07 "Joint Sealants."

SECTION 06 4000
INTERIOR ARCHITECTURAL WOODWORK

- F. Edge treatment: As indicated.
- G. Drill holes in countertops for plumbing fittings and soap dispenses in shop.

2.7 SHOP FINISHING

- A. Grade: Provide finishes of same grades as items to be finished.
- B. General: Finish architectural woodwork at fabrication shop as specified in this Section. Defer only final touchup, cleaning, and polishing until after installation.
- C. Preparation for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural woodwork, as applicable to each unit of work.

Back priming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to back of paneling and to end-grain surfaces. Concealed surfaces of plastic-laminate-clad woodwork do not require back priming when surfaced with plastic laminate, backing paper, or thermoset decorative panels.

PART 3 – EXECUTION

3.1 PREPARATION

- A. Before Installation, condition woodwork to average prevailing humidity conditions installation areas.
- B. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and back priming.

3.2 INSTALLATION

- A. GRADE: Install woodwork to comply with requirements for the same grade specified in Part 2 for fabrication of type of woodwork involved.
- B. Assemble woodwork and complete fabrication at Project site comply with requirements for fabrication in Part 2, to extent that it was not completed in the shop.
- C. Install woodwork level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb (including tops) to a tolerance of 1/8 inch in 96 inches.
- D. Scribe and cut woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish cuts.
- E. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork and matching final finish if transparent finish is indicated.
- F. Cabinets: Install without distortion so doors and drawers' fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.

**SECTION 06 4000
INTERIOR ARCHITECTURAL WOODWORK**

1. Install cabinets with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.
 2. Fasten wall cabinets through back, near top and bottom, at ends and not more than 16 inches O.C. with No.10 wafer-head screw sized for 1-inch penetration into wood framing, blocking, or hanging strips.
- G. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop.
1. Align adjacent solid-surfacing-material countertops and form seams to comply with manufacturer's written recommendations using adhesive in color to match countertop. Carefully dress joints smooth, remove surface scratches, and clean entire surface.
 2. Install countertops with no more than 1/8 inch in 96-inche sag, bow, or other variation from a straight line.
 3. Secure backsplashes to tops with concealed metal brackets at 16 inches O.C. and to walls with adhesive.
 4. Caulk space between backsplash and wall with sealant specified in Division 07 Section "Joint Sealants."

3.3 CAULKING

All horizontal and vertical joints up 6" under sink cabinets shall be caulked with a silicone based caulking compound to provide protection in case of plumbing failure.

3.4 ANDJUSTING AND CLEANING

- A. Repair damaged and defective woodwork, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
- B. Clean, lubricate, and adjust hardware.
- C. Clean woodwork on exposed and semi exposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

END OF SECTION

**SECTION 07 1000
DAMPPROOFING**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. The General Provisions of the Contract, including General and Supplementary Conditions and General Requirements (if any), apply to the work specified in this section.

1.2 SCOPE OF WORK

- A. Provide all labor, materials, services and equipment required to complete the laminated sheet vapor barriers complete ready to receive concrete.
- B. Vapor barriers are to be placed under all new interior on grade concrete slabs.

1.3 QUALITY ASSURANCE

- A. The installer shall be experienced in placement of vapor barrier and shall be associated with waterproofing or roofing work.

1.4 SUBMITTALS

- A. Manufacturer's Data, Laminated Vapor Barriers: For information only, submit two copies of specifications, installation instructions and general recommendations from the vapor barrier materials manufacturer's certification or other data substantiating that the materials comply with requirements. Indicate by copy of transmittal form that Installer has received copy of manufacturer's specifications, instructions and recommendations.

1.5 JOB CONDITIONS

- A. Examination of Substrate: The Installer must examine the substrate and the conditions under which the vapor barrier work is to be performed and notify the Contractor in writing of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected projections through the vapor barriers have been installed.
- B. Proceed with vapor barrier work only after substrate construction and framing of openings has been completed, and wood blocking, nailers, curbs, vents, drains and other projections through the vapor barrier have been installed.
- C. Weather Conditions: Proceed with installation only when existing and forecasted weather conditions will permit the work to be performed in accordance with manufacturer's instructions and will permit the immediate installation of other work to be placed over the vapor barrier.

PART 2 - PRODUCTS

2.1 LAMINATED PLASTIC VAPOR BARRIER

- A. Heavy Kraft papers laminated between sheets of inert polyethylene, reinforced with glass fibers, with vapor transmission of .10 perms or less (ASTM E-96).
- B. Products offered by manufacturers to comply with the requirements include the following: Moistop; as manufactured by Fortifiber Corp. or approved equal.

**SECTION 07 1000
DAMPPROOFING**

2.2 VAPOR BARRIER ACCESSORY MATERIALS

- A. Adhesives: Provide the types of adhesives recommended by the vapor barrier manufacturer for the application shown and condition of installation in each case.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with manufacturer's instructions for the particular conditions of installation in each case. If printed instructions are not available or do not apply to the project conditions, consult the manufacturer's technical representative for specific recommendations before proceeding with the work.
- B. Under Floor Slabs on Grade: Install the type indicated by the method indicated. Exercise care to avoid punctures. Extend coverage to extremity of areas to receive barrier. Attach wherever necessary with adhesive.
- C. Seal joints in vapor barriers, and seal to other surfaces at extremities of coverage, by lapping and bonding with adhesives. Where adhesively sealed joints are not effective, and where nails or staples have been installed, seal with vapor barrier tape. Use vapor barrier tape or strips of vapor barrier material with adhesive to seal punctures, tears and penetrations through the barrier.

3.2 PROTECTION OF VAPOR BARRIERS

- A. Do not allow foot traffic on vapor barriers. Proceed with vapor barrier installation ahead of the installation of insulation or other covering material only to the extent required for proper sequencing of the work.
- B. The vapor-barrier installer shall advise the Contractor of required procedures for surveillance and protection of installed vapor barriers, so that continuing construction activities and the work of other trades will not result in punctures or other forms of damage or deterioration of the vapor barriers.

END OF SECTION

**SECTION 07 2100
BUILDING INSULATION**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Batt Insulation at walls.
 - 2. Vapor retardant.
 - 3. Air infiltration seal.
- B. Related Documents: The Contract Documents, as defined in Division 1 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
 - 2. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
 - 3. ASTM D226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
 - 4. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. Federal Specifications (FS):
 - 1. FS HH-I-1972/GEN - Insulation Board, Thermal, Faced, Polyurethane or Polyisocyanurate.

1.3 SUBMITTALS

- A. Division 1 - Submittals: Procedures for submittals.
 - a. Product Data: Indicate product characteristics, performance criteria, and limitations.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Conform to insulation flame spread and smoke developed requirements of local authority having jurisdiction.
- B. Certification: For projects California provide Products certified by manufacturer that meet California Quality Standards for Insulating Materials.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 6000 - Product Requirements: Transport, handle, store, and protect Products.
- B. Protect insulation from moisture, soiling and other damaging items.
- C. Store in dry location protected from sunlight.

**SECTION 07 2100
BUILDING INSULATION**

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Resource Management:
 - 1. Recycled Content: Provide fiberglass insulation manufactured from minimum 30 percent recycled glass.
- B. Environmental Impact:
 - 1. Only Greenguard indoor air quality certified products will be permitted.
 - 2. Chlorofluorocarbons (CFCs): Products and equipment requiring or using CFCs during the manufacturing process will not be permitted.

PART 2 - PRODUCTS

2.1 BATT INSULATION

- A. Manufacturers:
 - 1. Johns Manville Corporation, Denver, Co (800) 654-3103.
 - 2. Knauf Fiberglass, Shelbyville, IN (317) 398-4434, (800) 825-4434.
 - 3. Owens-Corning Fiberglass Corporation, Toledo, OH (419) 248-8000, (800) 438-7465.
 - 4. Section 01 6000 - Product Requirements: Product options and substitutions. Substitutions: Permitted.
- B. Materials: Fiberglass insulation manufactured from minimum 30 percent recycled glass.
 - 1. Unfaced Glass Fiber: ASTM C 665, Type I, unfaced. Thermal resistance R-value as indicated on Drawings.
 - 2. Faced Glass Fiber: ASTM C 665, Type III, Class A, with reflective covering one side. Thermal resistance R-value as indicated on Drawings.

2.2 VAPOR RETARDANT

- A. ASTM D 4397, 6 mils thick, maximum permeance rating of 0.13 perm.
- B. Vapor Retardant Tape: Pressure-sensitive of type recommended by vapor retardant manufacturer for sealing joints and penetrations in vapor retardant.

2.3 AIR INFILTRATION SEAL

- A. Manufacturer:
 - 1. Tenneco Building Products, Smyrna, GA (800) 241-4402.
 - 2. DuPont, Wilmington, DE (800) 448-9835.
 - 3. Section 01 60 00 - Product Requirements: Product options and substitutions. Substitutions: Permitted.
- B. Materials: One of the following two types of materials:
 - 1. 15-pound, type 1, grade D, 10-minute unperforated asphalt saturated organic felt in accordance with ASTM D22.
 - 2. Coated, cross-woven polyethylene or polypropylene fabric:
 - a. Tenneco: Amowrap Housewrap.
 - b. DuPont: Tyvek Housewrap.
 - c. Air Infiltration Seal Tape: Pressure sensitive of type recommended by vapor retardant manufacturer for sealing joints and penetrations in air infiltration seal.

**SECTION 07 2100
BUILDING INSULATION**

2.4 ACCESSORIES

- A. Tape: Polyethylene or polyester self-adhering type; 2 inches (5.08 cm) wide.
- B. Adhesive: Waterproof type, acceptable to manufacturer of insulation board.
- C. Wire Mesh: Galvanized steel, hexagonal wire mesh.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 7000 - Execution and Closeout Requirements: Verification of existing conditions before starting work.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
 - 1. Batt Insulation:
 - a. Verify adjacent materials are dry and ready to receive installation.
 - b. Verify mechanical and electrical services within walls have been installed and tested.
- C. Report in writing to Project Manager prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the City.

3.2 INSTALLATION - BATT INSULATION

- A. Install batt insulation in accordance with manufacturer's instructions, without gaps or voids.
- B. Trim insulation neatly to fit spaces. Use batts free of damage. Fit insulation tight in spaces and tight to exterior side of mechanical and electrical services within the plane of insulation.
- C. Install insulation with factory applied membrane facing warm side of building spaces. Lap ends and side flanges of membrane. Attach insulation in place to framing; tape seal butt ends and lapped side flanges. Tape seal tears or cuts in membrane.

3.3 INSTALLATION - VAPOR RETARDANT AIR INFILTRATION SEAL

- A. Install vapor retardant air infiltration seal over entire building exterior walls and adjacent surfaces
- B. Seal vertical joints over framing by lapping minimum 2 stud spaces. Fasten to framing at top, end, and bottom edges; at perimeter of wall openings; and at lap joints.
- C. Seal joints caused by pipes, conduits, electrical boxes, and similar items with manufacturer's sealing tape. Seal penetrations air-tight.

END OF SECTION

**SECTION 07 9200
JOINT SEALANTS**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Joint sealants.
 - 2. Preparation for application of sealants.
- B. Related Requirements:
 - 1. Division 01 - General Requirements.
 - 2. Section 06 4000 – Architectural Woodwork.
 - 3. Division 08 - Openings.
 - 6. Division 09 - Finishes.
 - 7. Section 10 2813 - Toilet Accessories.

1.2 SUBMITTALS

- A. Shop Drawings: Submit Shop Drawings indicating sealant joint locations, with full-size sealant joint details.
- B. Product Data: Submit manufacturer's literature for each sealant material.
- C. Material Samples: Submit Samples indicating color range available for each sealant material intended for installation in exposed locations.
- D. Certifications: Submit manufacturer's certification materials comply with requirements specified.
- E. Site Samples: At locations required, provide a Sample of sealant for each typical installation, approximately 24 inches long, including joint preparation, backing, sealant and tooling. Allow backing to extend 6 inches beyond end of sealant for inspection of substrate.
- F. Test Reports: Submit manufacturer's adhesion compatibility test reports according to ASTM C794 for each substrate.

1.3 QUALITY ASSURANCE

- A. Qualifications of Installer: The Work of this section shall be installed by a firm which has been in the business of installing similar materials for at least five consecutive years; and can show evidence of satisfactory completion of five projects of similar size

SECTION 07 9200
JOINT SEALANTS

and scope. Installer shall have applicators trained and approved by manufacturer for performing this Work.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Store in accordance with manufacturer's recommendations. Provide a uniform ambient temperature between 60- and 80-degrees F.

1.5 WARRANTY

- A. Manufacturer: five-year material warranty.
- B. Installer: two-year installation/application warranty.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Furnish sealants meeting following in-service requirements:
 - 1. Normal curing schedules are permitted.
 - 2. Non-staining, color fastness (resistance to color change), and durability when subjected to intense actinic (ultraviolet) radiation are required.
- B. Furnish the products of only one manufacturer unless otherwise required, sealant colors as selected to match the adjoining surfaces.

2.2 MANUFACTURERS

- A. Subject to compliance with project requirements, manufacturers offering specified items which may be incorporated into the work include the following:
 - 1. Bostik, Inc.
 - 2. Dow Corning.
 - 3. GE Silicones.
 - 4. Mameco International.
 - 5. W.R. Meadows, Inc.
 - 6. Nomaco, Inc.
 - 7. Pecora Corporation.
 - 8. Sika Corporation.
 - 9. Sonneborn Building Products Div. ChemRex, Inc.
 - 10. Tremco.
 - 11. USG Corp.
 - 12. Or approved equal.

**SECTION 07 9200
JOINT SEALANTS**

2.3 MATERIALS

A. Sealants:

1. Sealant 1: Acrylic latex, one-part, non-sag, mildew resistant acrylic emulsion compound complying with ASTM C834, Type S, Grade NS, formulated to be paintable.
 - a. Tremco Inc., Acrylic Latex Caulk.
 - b. Pecora Corporation, AC-20.
 - c. Equal.
2. Sealant 2: Butyl sealant, one-part, non-sag, solvent-release-curing sealant complying with ASTM C1311, gun grade and formulated with a minimum of 75 percent solids.
 - a. Tremco Inc., Tremco Butyl Sealant.
 - b. Pecora Corp., BC-158.
 - c. Equal.
3. Sealant 3: Silicone sealant, one-part non-acid-curing silicone sealant complying with ASTM C920, Type S, Grade NS, Class 25.
 - a. Dow Corning Corp., Dow Corning 790, 791, 795.
 - b. General Electric Co., Silpruf.
 - c. Tremco, Inc., Spectrem 1.
 - d. Pecora Corp., 864.
 - e. Equal.
4. Sealant 4: One-part mildew-resistant silicone sealant, complying with ASTM C920, Type S, Grade NS, Class 25.
 - a. Dow Corning Corp., Dow Corning 786.
 - b. General Electric Co., Sanitary 1700.
 - c. Tremco, Inc., Proglaze White.
 - d. Equal.
5. Sealant 5: One-part non-sag urethane sealant, complying with ASTM C920, Type S, Grade NS, Class 25.
 - a. Sika Corporation, Sikaflex -221e.
 - b. Equal.
6. Sealant 6: Multi-part pouring urethane sealant, complying with ASTM C920, Type M, Grade P, Class 25.
 - a. Sika Corporation, Sikaflex 2C NS/SL.
 - b. Equal.

**SECTION 07 9200
JOINT SEALANTS**

- 7. Sealant 7: Acoustical sealant, non-drying, non-hardening permanently flexible conforming to ASTM D217.
 - a. Pecora Corp., BA-98 Acoustical Sealant.
 - b. Equal.
- B. See 07 8413 - Penetration Firestopping for rated sealants.
- C. Joint Backing: ASTM D1056; round, closed cell Polyethylene Foam Rod; oversized 30 to 50 percent larger than joint width, reticulated polyolefin foam.
- D. Primer: Non-Staining Type. Provide primer as required and shall be product of manufacturer of installed sealant.
- E. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer.
- F. Sealants shall have normal curing schedules, shall be nonstaining, color fast and shall resist deterioration due to ultraviolet radiation.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that joint openings are ready to receive Work and field tolerances are within the guidelines recommended by sealant manufacturer.

3.2 SURFACE PREPARATION

- A. Joints and spaces to be sealed shall be completely cleaned of all dirt, dust, mortar, oil, and other foreign materials which might adversely affect sealing Work. Where necessary, degrease with a solvent or commercial degreasing agent. Surfaces shall be thoroughly dry before application of sealants.
- B. If recommended by manufacturer, remove paint and other protective coatings from surfaces to be sealed before priming and installation of sealants.
- C. Preparation of surfaces to receive sealant shall conform to the sealant manufacturer's specifications. Provide air pressure or other methods to achieve required results. Provide masking tape to keep sealants off surfaces that will be exposed in finished Work.
- D. Etch concrete or masonry surfaces to remove excess alkalinity, unless sealant manufacturer's printed instructions indicate that alkalinity does not interfere with sealant bond and performance. Etch with 5 percent solution of muriatic acid; neutralize with dilute ammonia solution, rinse thoroughly with water and allow to dry before sealant installation.
- E. Perform preparation in accordance with ASTM C804 for solvent release sealants, and ASTM C962 for elastomeric sealants.
- F. Protect elements surrounding Work of this section from damage or disfiguration.

**SECTION 07 9200
JOINT SEALANTS**

3.3 SEALANT APPLICATION SCHEDULE

	<u>Location</u>	<u>Type</u>	<u>Color</u>
A.	Exterior and Interior joints in horizontal surfaces of concrete; between metal and concrete masonry and mortar.	Sealant 6	To match adjacent material
B.	Exterior door, entrance and window frames. Exterior and interior vertical joints in concrete and masonry metal flashing.	Sealant 3 or 5	To match adjacent material
C.	Joints within glazed curtain wall system. Skylight framing system. Aluminum entrance system glass and glazing.	Sealant 3	Translucent or Black
D.	Interior joints in ceramic tile and at plumbing fixtures.	Sealant 4	Translucent or White
E.	Under thresholds.	Sealant 2	Black
F.	All interior joints not otherwise, scheduled	Sealant 1	To Match Adjacent Surfaces
G.	Heads and sills, perimeters of frames and other openings in insulated partitions	Sealant 7	Match Adjacent Surfaces

3.4 APPLICATION

- A. Provide sealant around all openings in exterior walls, and any other locations indicated or required for structure weatherproofing and/or waterproofing.
- B. Sealants shall be installed by experienced mechanics using specified materials and proper tools. Preparatory Work (cleaning, etc.) and installation of sealant shall be as specified and in accordance with manufacturer's printed instructions and recommendations.
- C. Concrete, masonry, and other porous surfaces, and any other surfaces if recommended by manufacturer, shall be primed before installing sealants. Primer shall be installed with a brush that will reach all parts of joints to be filled with sealant.
- D. Sealants shall be stored and installed at temperatures as recommended by manufacturer. Sealants shall not be installed when they become too jelled to be discharged in a continuous flow from gun. Modification of sealants by addition of liquids, solvents, or powders is not permitted.

**SECTION 07 9200
JOINT SEALANTS**

- E. Sealants shall be installed with guns furnished with proper size nozzles. Sufficient pressure shall be furnished to fill all voids and joints solid. In sealing around openings, include entire perimeter of each opening, unless indicated or specified otherwise. Where gun installation is impracticable, suitable hand tools shall be provided.
- F. Sealed joints shall be neatly pointed on flush surfaces with beading tool, and internal corners with a special tool. Excess material shall be cleanly removed. Sealant, where exposed, shall be free of wrinkles and uniformly smooth. Sealing shall be complete before final coats of paint are installed.
- G. Comply with sealant manufacturer's printed instructions except where more stringent requirements are indicated on Drawings or specified.
- H. Partially fill joints with joint backing material, furnishing only compatible materials, until joint depth does not exceed 1/2-inch joint width. Minimum joint width for metal-to-metal joints shall be 1/4 inch. Joint depth, shall be not less than 1/4 inch and not greater than 1/2 inch.
- I. Install sealant under sufficient pressure to completely fill voids. Finish exposed joints smooth, flush with surfaces or recessed as indicated. Install non-tracking sealant to concrete expansion joints subject to foot or vehicular traffic.
- J. Where joint depth prevents installation of standard bond breaker backing rod, furnish non-adhering tape covering to prevent bonding of sealant to back of joint. Under no circumstances shall sealant depth exceed 1/2 inch maximum, unless specifically indicated on Drawings.
- K. Prime porous surfaces after cleaning. Pack joints deeper than 3/4 inch with joint backing to within 3/4 inch of surface. Completely fill joints and spaces with gun applied compound, forming a neat, smooth bead.

3.5 MISCELLANEOUS WORK

- A. Sealing shall be provided wherever required to prevent light leakage as well as moisture leakage. Refer to Drawings for condition and related parts of Work.
- B. Install sealants to depths as indicated or, if not indicated, as recommended by sealant manufacturer but within following general limitations:
 - 1. For joints in concrete walks, slab and paving subject to traffic, fill joints to a depth equal to 75 percent of joint width, but not more than 3/4 inch deep or less than 3/8 inch deep, depending on joint width.
 - 2. For building joints, fill joints to a depth equal to 50 percent of joint width, but not more than 1/2 inch deep or less than 1/4 inch deep.

3.6 CLEANING

- A. Remove rubbish, debris, and waste materials and legally dispose of off the Project site.

**SECTION 07 9200
JOINT SEALANTS**

3.7 CURING

- A. Sealants shall cure in accordance with manufacturer's printed recommendations. Do not disturb seal until completely cured.

3.8 PROTECTION

- A. Protect the Work of this section until Substantial Completion.

END OF SECTION

**SECTION 08 1113
HOLLOW METAL FRAMES**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Hollow Metal frames.
- B. Related Documents: The Contract Documents, as defined in Section 011000 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents.
- C. Related Sections:
 - 1. Section 08 1110 – Wood Door Frames
 - 2. Section 08 7100 - Door Hardware: Hardware coordination.
 - 3. Section 09 9100 - Painting: Field painting and finishing of doors and frames.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM A 152 - Methods for Fire Tests of Door Assemblies.
 - 2. ASTM A 653/A 653M - Standard Specification for Steel Sheets, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 1996.
- B. Door Hardware Institute (DHI):
 - 1. DHI - The Installation of Commercial Steel Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builder's Hardware.
 - 2. DHI A115 Series - Specifications for Steel Doors and Frame Preparation for Hardware.
- C. Steel Door Institute (SDI):
 - 1. SDI-100 - Recommended Specifications Standard Steel Doors and Frames.
 - 2. SDI-105 - Recommended Erection Instructions for Steel Frames.

1.3 SUBMITTALS

- A. Section 01 3300 - Submittal Procedures: Procedures for submittals.
 - 1. Product Data: Indicate door materials, gauges, configurations, and location of cut-outs hardware reinforcement, and finish.
 - a. Shop Drawings: Indicate door elevations, internal reinforcement, closure method, and cut-outs for louvers.

1.4 DELIVERY, STORAGE AND PROTECTION

- A. Section 01 6000 - Product Requirements: Transport, handle, store, and protect products.
- B. Protect doors and frames with resilient packaging.
- C. Break seal on-site to permit ventilation.

**SECTION 08 1113
HOLLOW METAL FRAMES**

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Doors and frames shall be products of a single manufacturer.
- B. Subject to compliance with project requirements, manufacturers offering items which may be incorporated in the Work include the following:
 - 1. Amweld Building Products, Incorporated,
 - 2. Ceco Door Products,
 - 3. Curries Company,
 - 4. Security Metal Products
 - 5. Steelcraft,
 - 6. Timely Industries
 - 7. Or approved equal

2.2 MATERIALS

- A. Steel Frame:
 - 1. Interior Door Frames at new walls: 16-gauge, cold-rolled steel, mitered and welded frames with integral stops and trims, 2-inch profile, for installation in a metal OR wood stud and gypsum board partition. Use concealed fastenings, unless otherwise indicated.
 - 2. Interior Door Frames at existing walls: 16-gauge, steel knock down S-series Frames with Trim for installation in existing metal OR wood stud gypsum board partitions. Commercial quality Carbon Steel ASTM A1008.
- B. Steel thicknesses expressed in steel gages (MSG) is for reference only. Actual steel thicknesses must meet minimum requirements of ASTM standards and as described in ANSI/SDI A250.8.
- C. Supports and Anchors: Fabricate from at least 16-gage, galvanized steel sheet. Frame anchors shall comply with fire rated label requirements of opening.
 - 1. Floor Anchors:
 - a. Minimum thickness: 12 gage galvanized steel sheet or bent steel plate, securely fastened inside each jamb, with two holes in anchor at each jamb for 3/8-inch floor anchorage fasteners. For pre-framed wood stud walls provide an additional wood stud anchor located as close to the bottom of the jamb as is practical.
 - b. Where required at sloping and uneven floor conditions, or to coordinate adjustments for trim alignments, provide adjustable floor anchors, providing at least 2-inch height adjustments.
 - 2. Jamb Anchors:
 - a. Locate anchors near top and bottom and at intermediate points not to exceed 24 inches on center. Provide two anchors per head for openings up to 48 inches wide; over 48 inches wide provide anchors at 24 inches on center maximum.

**SECTION 08 1113
HOLLOW METAL FRAMES**

- b. Anchors in Stud Partitions: Provide steel anchors, 16 gage minimum sheet steel, of design to suit partition construction, securely welded inside each jamb.
 - c. Through-Frame Anchors: At frames indicated to be anchored with bolts through frame, provide countersunk holes for bolts with 16-gauge minimum sheet steel stiffeners full thickness of frame, and securely welded inside each frame at each hole.
- D. Inserts, Bolts, and Fasteners: Provide manufacturer's standard units. Where zinc-coated items are to be built into exterior walls, comply with ASTM A153 Class C or D as required.
- E. Head Reinforcing: Refer to Detail #2 of this section. Reinforcing shall not act as lintel or load-carrying member and shall comply with fire rating requirements. Provide at frames regardless of whether a closer is called for.
- F. Hardware Reinforcement and Accessories:
 - 1. Butt Hinge: 7 gage minimum.
 - 2. Head assemblies: Reinforced internally with, full length, 10 gage angles on each side of frame and bar at bottom of stop for closer reinforcement in frames as shown in Detail #2 of this section.
 - 3. Reinforcing for other items of finish hardware shall be accomplished according to ANSI A250.6.
 - 4. Door Silencers: Except for exterior doors, drill and punch frames for three silencers at lock jamb of single swing doors or in double doors with astragal and one silencer per leaf in heads of doubled door frames.

2.3 ACCESSORIES

- A. Rubber Silencers: Resilient rubber.

2.4 PROTECTIVE COATINGS

- A. Bituminous Coating: Fibered asphalt emulsion.
- B. Primer: Exposed surfaces shall be cleaned, treated with Bonderite chemical and given one baked-on shop coat of grey rust inhibiting primer.

2.5 FABRICATION

- A. Fabricate unit's rigid, neat, and free from warp or buckle. Fabricate KD. Weld exposed joints continuously; grind, dress, and make smooth, flush and invisible.
- B. Reinforce units to receive surface applied finish hardware.
- C. Prepare frame for silencers. Provide three single rubber silencers for single doors and two single silencers on frame head at double doors without mullions.

**SECTION 08 1113
HOLLOW METAL FRAMES**

- D. Primer: Air dried.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 7300 - Execution: Verification of existing conditions before starting work.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
- C. Report in writing to the Engineer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the City.

3.2 INSTALLATION

- A. Install frames in accordance with SDI-105.
- B. Install doors in accordance with DHI.
- C. Install doors in accordance with manufacturer's published instructions, of size, and at locations indicated.
- D. Coordinate with adjacent wall construction for anchor placement.
- E. Field paint doors and frames as specified in Section 099100.
- F. The frame is to be mounted to the studding in such a manner to prevent a spreading of the frame from the studs of less than 1/2 inch.

3.3 CONSTRUCTION

- A. Interface with Other Work:
 - 1. Coordinate frame installation with size, location, and installation.
 - 2. Coordinate with door opening construction, door frame, and door hardware installation.
- B. Site Tolerances:
 - 1. Maximum Diagonal Distortion: 1/16 inch measured with straight edge, corner to corner.

3.4 FIELD QUALITY CONTROL

- A. Section 01 4000 - Quality Requirements: Field inspection.
- B. Inspect metal door and frame installation, alignment, attachment to structure, and operation.

**SECTION 08 1113
HOLLOW METAL FRAMES**

3.5 ADJUSTING AND CLEANING

- A. Adjust hardware for smooth and balanced door movement.
- B. Section 01 7300 - Execution: Cleaning installed Work.

Payment for items of work covered under Division 8 of the plans and these specifications shall be based on the lump sum bid pricing identified in the Bid Schedule. No additional compensation will be allowed.

END OF SECTION

**SECTION 08 1400
FLUSH WOOD DOORS**

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wood doors.

B. Related Requirements:

1. Division 01 - General Requirements.
2. Section 06 1000 - Rough Carpentry.
3. Section 08 1113 - Hollow Metal Doors and Frames
4. Section 08 7100 - Door Hardware.
5. Section 08 8000 - Glazing.
6. Section 09 9000 - Painting and Coating.

1.2 DESIGN REQUIREMENTS

A. Drawings indicate sizes, locations and general details of wood door construction and installation.

B. Regulatory Requirements:

1. Fire rated doors shall be listed by a nationally recognized testing and certification agency in accordance with local building codes and acceptable to the authorities having jurisdiction. The listed doors shall meet or exceed the requirements of UL10B, NFPA 252 and NFPA 80. All door requiring fire-rating shall carry either a UL or ITS (Intertek Testing Services-Warnock Hersey) label.
2. ASTM E2074 – Standard Test Method for Fire Tests of Door Assemblies, Including Positive Pressure on Side-Hinged and Pivoted Swinging Door Assemblies.

1.3 SUBMITTALS

- A. Shop Drawings:** Submit schedules, plans, elevations and details indicating door construction details, opening identification symbols, sizes, door type and grade, fire classification, swing, light and louver cutout size and locations, and undercuts.
- B. Product Data:** Submit manufacturers technical data for each specified door type, including details of wood species, design and construction, factory finishing specifications and installation instructions.
- C. Construction Samples:** Submit samples of not less than 6-inch by 6-inch for each type of door to be furnished, showing face, edge and core construction.
- D. Color/finish Samples:** Submit samples of not less than 4-inch by 6-inch on representative door finish and samples of 3-inch by 8-inch for the exposed edges. Each sample shall bear a label identifying the job name, Architect, Contractor and the Woodwork Institute finish system number.

**SECTION 08 1400
FLUSH WOOD DOORS**

E. Certificates:

1. Submit Certificate that solid core doors comply with all requirements of ANSI/WDMA I.S. 1-A.
2. Submit certification that fire rated doors comply with CBC Section 715 or UL 10B.

1.4 QUALITY ASSURANCE

- A. Wood doors construction, manufacture, and fabrication shall conform to ANSI/WDMA I.S. 1-A, custom grade, extra heavy duty grade including the latest revisions, and special requirements specified.
- B. Doors shall be fabricated, hardware factory fitted and machined, and factory finished, unless noted otherwise.
- C. Wood Door Finishes shall comply with the North American Architectural Woodwork Standards (NAAWS) latest edition.
- D. Doors shall be products of one manufacturer.
- E. Door modifications are not permitted, unless reviewed by the OAR.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in manufacturers original, unopened, undamaged containers with identification labels intact.
- B. Deliver doors to the Project site only after building has been provided with design temperature and humidity.
- C. Store and handle in accordance with ANSI/WDMA I.S.1-A. Store doors protected from exposure to harmful conditions and at temperature and humidity conditions recommended by the manufacturer.

1.6 PROJECT CONDITIONS

- A. Do not install doors until building is enclosed and ambient conditions are within the temperature and humidity range to be expected during occupancy.

1.7 WARRANTY

- A. Manufacturer shall provide a two year material warranty for exterior doors.
- B. Manufacturer shall provide a life time material warranty for interior doors.
- C. Installer shall provide a two year fabrication and installation warranty for all doors.

**SECTION 08 1400
FLUSH WOOD DOORS**

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Provide products manufactured by one of the following:

1. Algoma Hardwood Inc.
2. Brentwood Manufacturing.
3. Eggers Industries.
4. Mohawk Flush Door, Inc
5. VT Industries, Inc.
6. Western Oregon Door.
7. Equal.

2.2 DOOR CONSTRUCTION

A. Interior Flush Doors:

1. Interior doors shall be furnished as follows:
 - a. Opaque Finished (Painted): Custom grade. Solid wood core, 5 ply, MDO hardboard face, fully bonded to core.
2. Edge strips: Kiln-dried birch, maple or other material as indicated.
 - a. Opaque Finished Doors: Close grain hardwood.
3. Full stile edge strip shall be not less than 1 3/4 inches wide, two ply stile. Stiles shall be fully bonded to the core. The outer face stile shall be full length 3/4 inch birch or maple. The inner back stile shall be 3/4 inch of similar species which may have two finger joints fully bonded to core.
4. Top and bottom edge rails shall be full length and may be of glued up stock of similar species as edge strip, white fir or douglas fir, minimum density 24.33 pounds or higher per cubic foot. Top rail shall be minimum of 2 inches. Bottom rail shall be minimum of 5 inches fully bonded to core.
5. Crossbanding: Doors shall be furnished with full width crossbanding of properly dried hardwood or engineered fiber composite material, 1/16 inch thick, with a density of 52 pounds or higher per cubic foot.
6. Opaque Finished Doors: Custom grade medium density overlay hardboard.
7. Adhesive and Bonding: Bonding between veneer plies of wood face panel, and between door faces, frame and core unit shall be fabricated with type I or II waterproof adhesives for interior doors.
8. Openings: Openings for vision panels, louvers and grilles shall be performed by the manufacturer, or in a certified door service mill in accordance with manufacturer's details, and in compliance with testing agency requirements.

**SECTION 08 1400
FLUSH WOOD DOORS**

9. Vision Panels: Vision panels in fire labeled doors shall be framed with FGS-75 Fire Glass Stop by Anemostat, Air Louvers Inc. Model VLF, or equal and shall be State Fire Marshall listed. Frame shall be supplied with manufacturer's standard baked-on enamel finish. Install with tamperproof-head through bolts.

B. Fire Rated Doors:

1. Fire doors must meet the requirements of recognized fire door tests and bear certifying labels of an approved independent testing agency.
2. With exception to the requirements that would adversely affect the fire rating, rated doors shall meet the specifications listed in this section.
3. Door shall be constructed that when installed as an assembly and tested it will pass ASTM E2074 "Standard Test Method for Fire Test of Door Assemblies Including Positive Pressure Testing of Side-Hinged and Pivoted Swinging Door Assemblies," and can be rated as required.
4. Reinforcement Blocking: Provide hardware reinforcement blocking of size as required to secure specified hardware. Reinforcement blocking shall be in compliance with the manufacturer's labeling requirements and shall not be of mineral material.

2.3 FINISHING:

A. FACTORY FINISHING:

1. Factory finishing shall be NAAWSI Custom Grade and include all necessary preparation, materials and labor to provide an Opaque finish.
2. Finish faces, all four edges, edges of cutouts, and mortises. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.
3. Finish: Resists UV and water damage, 100% acrylic formula, solid color wood stain, unless otherwise stated on section 09 9100.
4. Effect: Semifilled finish, produced by applying an additional finish coat to partially fill the wood pores.
5. Sheen: Semigloss.

B. JOB SITE FINISHING:

1. Doors indicated to be job site finished shall be factory back primed.
 - a. Doors Scheduled for Opaque Paint finish: Prime with one coat of wood primer indicated on Section 09 9000 - Painting and Coating.
2. Door Finish: Per Section 09 9000 - Painting and Coating.

**SECTION 08 1400
FLUSH WOOD DOORS**

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
- B. Report in writing to City Representative prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- C. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the City.

3.2 INSTALLATION

- A. Install non fire-rated doors in accordance with AWI Quality Standards requirements.
- B. Machine cut floor hardware. Install door hardware specified in Section 08 7100.
- C. Install door louvers plumb and level.
- D. Coordinate frame installation with size, location, and installation
- E. Coordinate with door opening construction, door frame, and door hardware installation.
- F. Provide each door accurately cut, trimmed, and fitted to its frame and hardware. Clearance at lock and hanging stile and at top shall not exceed 1/8 inch, and bottom shall not exceed 1/4 inch except where otherwise indicated. Arises shall be rounded to a 1/16 inch radius, and lock rail edges shall be slightly beveled. Screws for hardware shall not be driven but screwed into pre-drilled holes.
- G. Doors shall operate freely, but not loosely, without sticking or binding, without hinge-bind conditions and with hardware properly adjusted and functioning.

3.3 CLEAN UP

- A. Remove rubbish, waste and debris and legally dispose of off the Project site.

3.4 PROTECTION

- A. Protect the Work of this section until Substantial Completion.

END OF SECTION

**SECTION 08 3100
ACCESS DOORS AND PANELS**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Non-fire-resistive rated access door and frame units.
 - 2. Wall and ceiling locations.
- B. Related Documents: The Contract Documents, as defined in Division 1 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.
- C. Related Sections:
 - 1. Section 22 4000 Plumbing Fixtures and Equipment.

1.2 SUBMITTALS

- A. Division 1 - Submittal Procedures: Procedures for submittals.
 - 1. Product Data: Sizes, types, finishes, hardware, scheduled locations, and details of adjoining work.
 - 2. Shop Drawings: Indicate exact position of all access door units.
- B. Section 01 7704 - Closeout Procedures and Training: Procedures for closeout submittals.
 - 1. Project Record Documents: Accurately record the following:
 - a. Actual locations of all access units.

1.3 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Manufacturer: Company specializing in manufacturing Products specified with minimum 5 years documented experience.
 - 2. Installer: Company specializing in performing the Work of this Section with minimum 5 years documented experience.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 6000 - Product Requirements: Transport, handle, store, and protect Products.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with project requirements, manufacturer's offering Products which may be incorporated in the Work include the following:
 - 1. J.L. Industries, Bloomington, MN (612) 835-6850. (800) 554-6077.
 - 2. Karp, Maspeth, NY (800) 888-4212.

SECTION 08 3100
ACCESS DOORS AND PANELS

3. Larsen's Manufacturing Company, Minneapolis, MN (800) 527-7367.
4. Milcor, Holland, OH (800) 861-6452.

- B. Section 01 6000 - Product Requirements: Product options and substitutions. Substitutions: Permitted.

2.2 ACCESS DOORS

- A. Non-Fire-Rated: 20 gage recessed steel panel doors to accept field finish of drywall OR porcelain tile.

2.3 FABRICATION

- A. Fabricate frames and flanges of 0.058-inch steel.
- B. Fabricate door panels of 0.070-inch single thickness steel sheet.
- C. Weld, fill, and grind joints to ensure flush and square unit.
- D. Hardware:
1. Hinge: 175-degree stainless steel piano hinge heavy duty type concealed constant force closure spring type.
 2. Lock: Screw driver slot for quarter turn cam lock unit.

2.4 FINISHES

- A. Base Metal Protection: Prime coat units with alkyd primer. Color as noted on drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 7300 - Execution: Verification of existing conditions before starting work.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
1. Verify that rough openings for door and frame are correctly sized and located.
- C. Report in writing to Project Manager prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the City.

3.2 INSTALLATION

- A. Install units in accordance with manufacturer's published instructions where indicated on Drawings and required for access.

SECTION 08 3100
ACCESS DOORS AND PANELS

- B. Install frames plumb and level in opening. Secure rigidly in place.
- C. Position unit to provide convenient access to concealed work requiring access.

3.3 CONSTRUCTION

- A. Interface with Other Work: Coordinate with mechanical, electrical, and other Work requiring access units.

END OF SECTION

SECTION 08 7100 DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Door hardware, including electric hardware.
 - 2. Power supplies for electric hardware.
 - 3. Door position switches.
- B. Related Divisions:
 - 1. Division 08 1416 – Wood Doors
 - 2. Division 08 4113 – Aluminum Entrances and Storefronts
- C. Specific Omissions: Hardware for the following is specified or indicated elsewhere.
 - 1. Windows.
 - 2. Cabinets, including open wall shelving and locks.
 - 3. Signs.
 - 4. Toilet accessories, including grab bars.
 - 5. Installation.
 - 6. Rough hardware.
 - 7. Conduit, junction boxes & wiring.

1.2 REFERENCES:

- A. Use date of standard in effect as of Bid date.
 - 1. American National Standards Institute
 - a) ANSI 156.18 – Materials and Finishes.
 - 2. BHMA – Builders Hardware Manufacturers Association
 - 3. 2014 California Building Code
 - a) Chapter 11B – Accessibility to Public Buildings, Public Accommodations, Commercial Buildings and Public Housing
 - 4. DHI – Door and Hardware Institute
 - 5. NFPA – National Fire Protection Association
 - a) NFPA 80 2013 Edition – Standard for Fire Doors and Other Opening Protectives.
 - b) NFPA 105 – Smoke and Draft Control Door Assemblies
 - c) NFPA 252 – Fire Tests of Door Assemblies
 - 6. UL – Underwriters Laboratories
 - a) UL10C – Positive Pressure Fire Tests of Door Assemblies.
 - b) UL 305 – Panic Hardware

SECTION 08 7100 DOOR HARDWARE

7. WHI – Warnock Hersey Incorporated State of California Building Code
8. Local applicable codes
9. SDI – Steel Door Institute
10. WI – Woodwork Institute
11. AWI – Architectural Woodwork Institute
12. NAAMM – National Association of Architectural Metal Manufacturers

B. Abbreviations

1. Manufacturers: see table at 2.1.A of this section
2. Finishes: see 2.8 of this section.

1.3 SUBMITTALS & SUBSTITUTIONS

- A. **SUBMITTALS:** Submit six copies of schedule per D. Only submittals printed one sided will be accepted and reviewed. Organize vertically formatted schedule into “Hardware Sets” with index of doors and headings, indicating complete designations of every item required for each door or opening. Minimum 10pt font size. Include following information:
 1. Type, style, function, size, quantity, and finish of hardware items.
 2. Use BHMA Finish codes per ANSI A156.18.
 3. Name, part number and manufacturer of each item.
 4. Fastenings and other pertinent information.
 5. Location of hardware set coordinated with floor plans and door schedule.
 6. Explanation of abbreviations, symbols, and codes contained in schedule.
 7. Mounting locations for hardware.
 8. Door and frame sizes, materials, and degrees of swing.
 9. List of manufacturers used and their nearest representative with address and phone number.
 10. Catalog cuts.
 11. Point-to-point wiring diagrams.
 12. Manufacturer’s technical data and installation instructions for electronic hardware.
 13. Date of jobsite visit.
- B. Bid and submit manufacturer’s updated/improved item if scheduled item is discontinued.
- C. **Deviations:** Highlight, encircle or otherwise identify deviations from “Schedule of Finish Hardware” on submittal with notations clearly designating those portions as deviating from this section.

**SECTION 08 7100
DOOR HARDWARE**

- D. If discrepancy between drawings and scheduled material in this section, bid the more expensive of the two choices, note the discrepancy in the submittal and request direction from Architect for resolution.
- E. Substitutions per Division 1. Include product data and indicate benefit to the Project. Furnish operating samples on request.
- F. Furnish as-built/as-installed schedule with closeout documents, including keying schedule, riser and point-to-point wiring diagrams, manufacturers' installation, adjustment and maintenance information, and supplier's final inspection report.

1.4 QUALITY ASSURANCE:

- A. Qualifications:
 - 1. Hardware supplier: direct factory contract supplier who employs a certified architectural hardware consultant (AHC), available at reasonable times during course of work for project hardware consultation to Owner, Architect and Contractor.
 - a) Responsible for detailing, scheduling, and ordering of finished hardware. Detailing implies that the submitted schedule of hardware is correct and complete for the intended function and performance of the openings.
- B. Hardware: Free of defects, blemishes, and excessive play. Obtain each kind of hardware (latch and locksets, exit devices, hinges, and closers) from one manufacturer.
- C. Exit Doors: Operable from inside with single motion without the use of a key or special knowledge or effort.
- D. Fire-Rated Openings: NFPA 80 compliant. Hardware UL10C (positive pressure) compliant for given type/size opening and degree of label. Provide proper latching hardware, non-flaming door closers, approved-bearing hinges, and resilient seals. Coordinate with wood door section for required intumescent seals. Furnish openings complete.
- E. Furnish hardware items required to complete the work in accordance with specified performance level and design intent, complying with manufacturers' instructions and code requirements.
- F. Pre-Installation Meetings: Initiate and conduct with supplier, installer and related trades, coordinate materials and techniques, and sequence complex hardware items and systems installation. Include manufacturers' representatives of locks, panic hardware and door closers in the meetings. Convene prior to commencement of related work.

SECTION 08 7100 DOOR HARDWARE

1.5 DELIVERY, STORAGE AND HANDLING:

- A. Delivery: coordinate delivery to appropriate locations (shop or field).
 - 1. Permanent keys and cores: secured delivery direct to Owner's representative.
- B. Acceptance at Site: Items individually packaged in manufacturers' original containers, complete with proper fasteners and related pieces. Clearly mark packages to indicate contents, locations in hardware schedule and door numbers.
- C. Storage: Provide securely locked storage area for hardware, protect from moisture, sunlight, paint, chemicals, dust, excessive heat and cold, etc.

1.6 PROJECT CONDITIONS AND COORDINATION:

- A. Where exact types of hardware specified are not adaptable to finished shape or size of members requiring hardware, provide suitable types having as practical the same operation and quality as type specified, subject to Architect's approval.
- B. Coordination: Coordinate hardware with other work. Furnish hardware items of proper design for use on doors and frames of the thickness, profile, swing, security, and similar requirements indicated, as necessary for proper installation and function, regardless of omissions or conflicts in the information on the Contract Documents. Furnish related trades with the following information:
 - 1. Location of embedded and attached items to concrete.
 - 2. Location of wall-mounted hardware, including wall stops.
 - 3. Location of finished floor materials and floor-mounted hardware.
 - 4. At masonry construction, coordinate with the anchoring and hollow metal supplier prior to frame installation by placing a strip of insulation, wood, or foam, on the back of the hollow metal frame behind the rabbet section for continuous hinges, as well as at rim panic hardware strike locations, silencers, coordinators, and door closer arm locations. When the frame is grouted in place, the backing will allow drilling and tapping without dulling or breaking the installer's bits.
 - 5. Locations for conduit and raceways as needed for electrical, electronic, and electro-pneumatic hardware items. Fire/life-safety system interfacing. Point-to-point wiring diagrams plus riser diagrams to related trades.
 - 6. Coordinate: low-voltage power supply locations.
 - 7. Coordinate: back-up power for doors with automatic operators.
 - 8. Coordinate: flush top rails of doors at out swinging exteriors, and throughout where adhesive-mounted seals occur.
 - 9. Manufacturers' templates to door and frame fabricators.

**SECTION 08 7100
DOOR HARDWARE**

- C. Check Shop Drawings for doors and entrances to confirm that adequate provisions will be made for proper hardware installation.
- D. Environmental considerations: segregate unused recyclable paper and paper product packaging, uninstalled metals, and plastics, and have these sent to a recycling center.
- E. Prior to submittal, carefully inspect existing conditions to verify finished hardware required to complete Work, including sizes, quantities, existing hardware scheduled for re-use, and sill condition material. If conflict between the specified/scheduled hardware and existing conditions, submit a request for direction from Architect. Include date of jobsite visit in the submittal.
 - 1. Submittals prepared without a thorough jobsite visit by a qualified hardware expert will be rejected as non-compliant.

1.7 WARRANTY:

- A. Part of respective manufacturers' regular terms of sale. Provide manufacturers' written warranties.
- B. Include factory order numbers with close-out documents to validate warranty information, required for Owner in making future warranty claims:
 - 1. Minimum warranties:
 - a) Locksets: Three years
 - b) Extra Heavy-Duty Cylindrical Lock: Seven Years
 - c) Exit Devices: Three years mechanical
One year electrical
 - d) Closers: Thirty years mechanical
Two years electrical
 - e) Hinges: One year
 - f) Other Hardware Two years

1.8 COMMISSIONING:

- A. Conduct these tests prior to request for certificate of substantial completion:
 - 1. With the installer present, test door hardware operation with climate control system and stairwell pressurization system both at rest and while in full operation.
 - 2. With the installer, access control contractor and electrical contractor present, test electrical, electronic, and electro-pneumatic hardware systems for satisfactory operation.

**SECTION 08 7100
DOOR HARDWARE**

3. With installer and electrical contractor present, test hardware interfaced with fire/life-safety system for proper operation and release.

PART 2 PRODUCTS

2.1 MANUFACTURERS:

- A. Manufacturers and their abbreviations used in this schedule:

GLY	Glynn-Johnson Hardware
IVE	H. B. Ives
LCN	LCN Closers
SCE	Schlage Electronics
SCH	Schlage Lock Company
VON	Von Duprin
ZER	Zero International

2.2 HINGING METHODS:

- A. Drawings typically depict doors at 90 degrees. Doors will swing to maximum allowable. Use wide-throw conventional or continuous hinges as needed up to 8 inches in width to allow door to stand parallel to wall for true 180-degree opening. Advise architect if 8-inch width is insufficient.
- B. Conform to manufacturer's published hinge selection standard for door dimensions, weight, and frequency, and to hinge selection as scheduled. Where manufacturer's standard exceeds the scheduled product, furnish the heavier of the two choices, notify Architect of deviation from scheduled hardware.
- C. Conventional Hinges: Steel or stainless-steel pins and approved bearings. The hinge opens widths minimum, but of sufficient throw to permit maximum door swing.
 1. Out swinging exterior doors: non-ferrous with non-removable (NRP) pins and security studs.
 2. Non-ferrous material exteriors and at doors subject to corrosive atmospheric conditions.

2.3 LOCKSETS, LATCHSETS, DEADBOLTS:

- D. Extra Heavy-Duty Cylindrical Locks and Latches: as scheduled.
 1. Chassis: cylindrical design, corrosion-resistant plated cold-rolled steel, through-bolted.

**SECTION 08 7100
DOOR HARDWARE**

2. Locking Spindle: stainless steel, integrated spring, and spindle design.
 3. Latch Retractors: forged steel. Balance of inner parts: corrosion-resistant plated steel, or stainless steel.
 4. Latchbolt: solid steel.
 5. Backset: 2.75 inches typically, as needed to accommodate frame, door, or other hardware.
 6. Lever Trim: accessible design, independent operation, spring-cage supported, minimum 2.00 inches clearance from lever mid-point to door face.
 7. Electric operation: Manufacturer-installed continuous duty solenoid.
 8. Strikes: 16 gage curved steel, bronze or brass with 1.00-inch-deep box construction, lips of sufficient length to clear trim and protect clothing.
 9. Lock Series and Design: Schlage D series, "Rhodes" design.
 10. Certifications:
 - a) ANSI A156.2, 1994, Series 4000, Grade 1.
 - b) UL listed for A label and lesser class single doors up to 4 feet x 8 feet.
 11. Accessibility: Require not more than 5 lb. to retract the latch bolt or deadbolt, or both, per CBC 2013 11B-404.2.7 and 11B-309.4.
- E. Standard Duty Cylindrical Locks and Latches: as scheduled.
1. Chassis: cylindrical design, corrosion-resistant plated cold-rolled steel, through-bolted.
 2. Locking Spindle: stainless steel, interlocking design.
 3. Latch Retractors: forged steel. Balance of inner parts: corrosion-resistant plated steel or stainless steel.
 4. Backset: 2.75 inches typically, as needed to accommodate frame, door, or other hardware.
 5. Lever Trim: accessible design, independent operation, spring-cage supported, minimum 2.00 inches clearance from lever mid-point to face of door.
 6. Lock Series and Design: Schlage AL series, "Saturn" design.
 7. Certifications:
 - a) ANSI A156.2, 1994, Series 4000, Grade 2.
 - b) UL listed for A label and lesser class single doors up to 4 feet x 8 feet.
 8. Accessibility: Require not more than 5 lb. to retract the latch bolt or deadbolt, or both, per CBC 2013 11B-404.2.7 and 11B-309.4.

SECTION 08 7100 DOOR HARDWARE

2.4 EXIT DEVICES / PANIC HARDWARE

A. General features:

1. Independent lab-tested 1,000,000 cycles.
2. Push-through push-pad design. No exposed push-pad fasteners, no exposed cavities when operated. Return stroke fluid dampeners and rubber bottoming dampeners, plus anti-rattle devices.
3. Deadlocking latch bolts, 0.75-inch projection.
4. End caps: impact-resistant, flush-mounted. No raised edges or lips to catch carts or other equipment.
5. No exposed screws to show through glass doors.
6. Non-handed basic device design with center case interchangeable with all functions, no extra parts required to effect change of function.
7. Releasable in normal operation with 15-pound maximum operating force per UBC Standard 10-4, and with 32-pound maximum pressure under 250-pound load to the door.
8. Exterior doors scheduled with XP-series devices: Static load force resistance of at least 2000 pounds.
9. Accessibility: Require not more than 5 lb. to retract the latch bolt, per CBC 2013 11B-404.2.7 and 11B-309.4.
 - a) Mechanical method: Von Duprin "AX- "feature, where touchpad directly retracts the latch bolt with 5 lb. or less of force.
 - b) Electrical method: Von Duprin's "RX-QEL- "where lightly pressing the touchpad with 5 lb. or less of force closes an electric switch, activating quiet electric latch retraction.

B. Specific features:

1. Non-Fire Rated Devices: cylinder dogging.
2. Lever Trim: breakaway type, forged brass, or bronze escutcheon min. 0.130-inch thickness, compression spring drive, match lockset lever design.
3. Rod and latch guards with sloped full width kickplates for doors fitted with surface vertical rod devices with bottom latches.
4. Fire-Labeled Devices: UL label indicating "Fire Exit Hardware." Vertical rod devices less bottom rod (LBR) unless otherwise scheduled.
5. Impact recessed devices: 1.25-inch projection when push-pad is depressed. Sloped metal end caps to deflect carts, etc. No pinch points to catch skin between touch bar and door.

SECTION 08 7100 DOOR HARDWARE

6. Delayed Egress Devices: Function achieved within single exit device component, including latch, delayed locking device, request-to-exit switch, nuisance alarm, remote alarm, key switch, indicator lamp, relay, internal horn, door position input, external inhibit input plus fire alarm input. NFPA 101 "Special Locking Arrangement" complaint.
7. Electrically Operated Devices: Single manufacturer source for electric latch retraction devices, electrically controlled trim, power transfers, power supplies, monitoring switches and controls.
8. Removable Mullions: Removable with single turn of building key. Securely reinstalled without need for key. Furnish storage brackets for securely stowing the mullion away from the door when removed.

C. Surface Closers: [1461]

1. Full rack-and-pinion type cylinder with removable non-ferrous cover and cast-iron body. Double heat-treated pinion shaft, single piece forged piston, chrome-silicon steel spring.
2. ISO 2000 certified. Units stamped with date-of-manufacture code.
3. Independent lab-tested 5,000,000 cycles.
4. Non-sized, non-handed and adjustable. Place closer inside the building, stairs, and rooms.
5. Plates, brackets, and special templating when needed for interface with a particular header, door and wall conditions and neighboring hardware.
6. Adjust doors to open with not more than 5.0-pounds pressure to open at exterior doors and 5.0-pounds at interior doors. As allowed per 2013 California Building Code Section 11B-404.2.9, local authority may increase the allowable pressure for fire doors to achieve positive latching, but not to exceed 15-pounds.
7. Separate adjusting valves for closing speed, latching speed and backcheck, fourth valve for delayed action where scheduled.
8. Extra-duty arms (EDA) at exterior doors scheduled with parallel arm units.
9. Exterior door closers: tested to 100 hours of ASTM B117 salt spray test, furnish data on request.
10. Exterior doors: seasonal adjustments not required for temperatures from 120 degrees F to 0 degrees F, furnish checking fluid data on request.
11. Non-flaming fluid will not fuel door or floor covering fires.
12. Pressure Relief Valves (PRV) not permitted.

2.7 OTHER HARDWARE

- A. Automatic Flush Bolts: Low operating force design.

SECTION 08 7100 DOOR HARDWARE

- B. Overhead Stops: Non-plastic mechanisms and finished metal end caps. Field-changeable hold-open, friction and stop-only functions.
- C. Kick Plates: Four beveled edges, .050 inches minimum thickness, height, and width as scheduled. Sheet-metal screws of bronze or stainless steel to match other hardware.
- D. Doorstops: Provide stops to protect walls, casework, or other hardware.
 - 1. Unless otherwise noted in Hardware Sets, provide floor type with appropriate fasteners. Where floor type cannot be used, provide wall type. If neither can be used, provide overhead type.
 - 2. Locate overhead stops for maximum opening. Consult with Owner for furniture locations. Minimum: 90deg stop / 95deg dead stop. Note degree of opening in submittal.
- E. Sound-reducing adjustable seals: coordinate lockset backsets, rim exit device strikes, and parallel arm closers. Fabricate 7ga "Z"-brackets as bridging pieces to facilitate installation. Brackets: mild carbon steel, or stainless steel.
- F. Automatic door bottoms: low operating force units. Doors with automatic door bottoms plus head and jamb seals cannot require more than two pounds operating force to open when the closer is disconnected.
 - 1. Include automatic type door bottoms, as opposed to fixed sweeps, at stairs and elevator lobbies to allow fine-tuning of pressurization systems.
- G. Thresholds: As scheduled and per details. Comply with CBC 2013 11B-404.2.5. Substitute products: certify that the products equal or exceed specified material's thickness. Proposed substitutions: submit for approval.
 - 2. Saddle thresholds: 0.125 inches minimum thickness.
 - 3. Exteriors: Seal perimeter to exclude water and vermin. Use sealant complying with requirements in Division 7 "Thermal and Moisture Protection". Minimum 0.25-inch diameter fasteners and lead expansion shield anchors, or Red-Head #SFS-1420 (or approved equivalent) Flat Head Sleeve Anchors. National Guard Products' "COMBO" or Pemko Manufacturing's "FHSL."
 - 4. Fire-rated openings, 90-minutes or less duration: use thresholds to interrupt floor covering material under the door where that material has a critical radiant flux value less than 0.22 watts per square centimeter, per NFPA 253. Use threshold unit as scheduled. If none scheduled, include a 0.25in high 5in wide saddle in the bid, and request direction from Architect.
 - 5. Fire-rated openings, 3-hour duration: Thresholds, where scheduled, to extend full jamb depth.

SECTION 08 7100 DOOR HARDWARE

6. Acoustic openings: Set units in full bed of Division-7-compliant, leave no air space between threshold and substrate.
 7. Plastic plugs with wood or sheet metal screws are not an acceptable substitute for specified fastening methods.
 8. Fasteners: Exposed screws to be Phillips or Robertson drive. Pinned TORX drive at high security areas. Flat head sleeve anchors (FHSL) may be slotted drive. Sheet metal and wood screws: full thread. Sleeve nuts: full length to prevent door compression.
- H. Through-bolts: Do not use. Coordinate with wood doors; ensure provision of proper blocking to support wood screws for mounting panic hardware and door closers. Coordinate with metal doors and frames; ensure provision of proper reinforcement to support machine screws for mounting panic hardware and door closers.
1. Exception: surface-mounted overhead stops, holders, and friction stays.
- I. Silencers: Interior hollow metal frames, 3 for single doors, 4 for pairs of doors. Leave no unfilled/uncovered pre-punched silencer holes. Intent: door bears against silencers, seals make minimal contact with minimal compression – only enough to affect a seal.

2.8 FINISH:

- A. Generally: BHMA 626 Satin Chromium.
1. Areas using BHMA 626: furnish push-plates, pulls and protection plates of BHMA 630, Satin Stainless Steel, unless otherwise scheduled.
- B. Door closers: factory powder coated to match other hardware, unless otherwise noted.
1. Provide satin-chrome plated arms, tracks and covers where scheduled bright metallic powder coat (MTLPC) not available.

2.9 KEYING REQUIREMENTS:

- A. Key System: existing Keying system. Initiate and conduct meeting(s) with Owner to determine system structure, furnish Owner's written approval of the system; do not order keys or cylinders without written confirmation of actual requirements from the Owner. Furnish temporary construction-keyed and permanent cylinders. Contractor to demonstrate to the Owner that temporary keys no longer operate the locking cylinders at the end of the project.

SECTION 08 7100 DOOR HARDWARE

PART 3 - EXECUTION

3.1 ACCEPTABLE INSTALLERS:

- A. Can read and understand manufacturers' templates, suppliers' hardware schedule and printed installation instructions. Can readily distinguish drywall screws from manufacturers' furnished fasteners. Available to meet with manufacturers' representatives and related trades to discuss installation of hardware.

3.2 PREPARATION:

- A. Ensure that walls and frames are square and plumb before hardware installation. Make corrections before commencing hardware installation. Installation denotes acceptance of wall/frame condition.
- B. Locate hardware per SDI-100 and applicable building, fire, life-safety, accessibility, and security codes.
 - 1. Notify Architect of code conflicts before ordering material.
 - 2. Locate latching hardware between 34 inches to 44 inches above the finished floor, per California Building Code, Section 1008.1.9.2 and 11B-404.2.7.
 - 3. Locate panic hardware between 36 inches to 44 inches above the finished floor.
 - 4. Where new hardware is to be installed near existing doors/hardware scheduled to remain, match locations of existing hardware.
- C. Overhead stops before installing, determine proposed locations of furniture items, fixtures, and other items to be protected by the overhead stop's action.
- D. Existing frames and doors to be retrofitted with new hardware:
 - 1. Field-verify conditions and dimensions prior to ordering hardware. Fill existing hardware cut outs not being reused by the new hardware. Remove existing hardware not being reused, return to Owner unless directed otherwise.
 - 2. Remove existing floor closers not scheduled for reuse, fill cavities with non-shrinking concrete and finish smoothly.
 - 3. Cut and weld existing steel frames currently prepared with 2.25-inch height strikes. Cut an approximate 8-inch section from the strike jamb and weld in a reinforced section to accommodate specified hardware's strike.
 - 4. Patch and weld flush filler pieces into existing door hardware preparations in steel doors and frames, leave surfaces smooth.

SECTION 08 7100 DOOR HARDWARE

5. Glue in solid wood block fillers to fill cut outs in existing wood doors, sand surfaces smooth. Alternatively, use an approved epoxy-based wood filler product, submit product data for approval.

3.3 INSTALLATION

- A. Install hardware per manufacturer's instructions and recommendations. Do not install surface-mounted items until finishes have been completed on substrate. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate for proper installation and operation. Remove and reinstall or replace work deemed defective by Architect.
 1. Gaskets: install jamb-applied gaskets before closers, overhead stops, rim strikes, etc.; fasten hardware over and through these seals. Install sweeps across bottoms of doors before astragals, cope sweeps around bottom pivots, trim astragals to tops of sweeps.
 2. When hardware is to be attached to existing metal surface and insufficient reinforcement exists, use RivNuts, NutSerts or similar anchoring device for screws.
 3. Use manufacturers' fasteners furnished with hardware items or submit Request for Substitution with Architect.
 4. Replace fasteners damaged by power-driven tools.
- B. Locate floor stops no more than 4 inches from walls and not within paths of travel. See paragraph 2.2 regarding hinge widths, door should be well clear of point of wall reveal. Point of door contact no closer to the hinge edge than half the door width. Where a situation is questionable or difficult, contact Architect for direction.
- C. Core concrete for exterior door stop anchors. Set anchors in approved non-shrink grout.
- D. Locate overhead stops for minimum 90 degrees at rest and for maximum allowable degree of swing.
- E. Drill pilot holes for fasteners in wood doors and/or frames.
- F. Lubricate and adjust existing hardware scheduled to remain. Carefully remove and give to Owner items not scheduled for reuse.
- G. Field-verify existing conditions and measurements prior to ordering hardware. Fill existing hardware cut outs not being used by the new hardware.
- H. Remove existing hardware not being reused. Tag and bag removed hardware, turn over to Owner.

SECTION 08 7100 DOOR HARDWARE

- I. Where existing wall conditions will not allow door to swing using the scheduled hinges, provide wide-throw hinges and if needed, extended arms on closers.
- J Provide manufacturer's recommended brackets to accommodate the mounting of closers on doors with flush transoms.

3.4. ADJUSTING

- A. Adjust and check for proper operation and function. Replace units, which cannot be adjusted to operate freely and smoothly.
 - 1. Hardware damaged by improper installation or adjustment methods: repair or replace to Owner's satisfaction.
 - 2. Adjust doors to fully latch with no more than 1 pound of pressure.
 - a) Door closer valves: turn valves clockwise until at bottom – do not force. Turn valves back out one and one-half turns and begin adjustment process from that point. Do not force valves beyond three full turns counterclockwise.
 - 3. Adjust delayed-action closers on fire-rated doors to fully close from fully opened position in no more than 10 seconds.
 - 4. Adjust door closers per 1.9 this section.
- A. Inspection of fire door assemblies and means-of-egress panic-hardware doors: Per 2013 NFPA-80 5.2.1: hire an independent third-party inspection service to prepare a report listing these doors and include a statement that there are zero deficiencies with the fire-rated assemblies and the openings with panic hardware.
- B. Fire-rated doors:
 - 1. Wood doors: adjust to 0.125 inches clearance at heads, jambs, and meeting stiles.
 - 2. Steel doors: adjust to 0.063 inches minimum to 0.188 inches maximum clearance at heads, jambs, and meeting stiles.
 - 3. Adjust wood and steel doors to 0.75 inches maximum clearance (undercut) above threshold or finish floor material under door.
- C. Final inspection: Installer to provide letter to Owner that upon completion installer has visited the Project and has accomplished the following:
 - 1. Has re-adjusted hardware.
 - 2. Has evaluated maintenance procedures and recommended changes or additions and instructed Owner's personnel.
 - 3. Has identified items that have deteriorated or failed.
 - 4. Has submitted a written report identifying problems.

SECTION 08 7100 DOOR HARDWARE

3.5 DEMONSTRATION:

- A. Demonstrate mechanical hardware and electrical, electronic, and pneumatic hardware systems, including adjustment and maintenance procedures.

3.6 PROTECTION/CLEANING:

- A. Cover installed hardware, protect from paint, cleaning agents, weathering, carts/barrows, etc. Remove covering materials and clean hardware just prior to substantial completion.
- B. Clean adjacent wall, frame and door surfaces soiled from installation / reinstallation process.

3.7 SCHEDULE OF FINISH HARDWARE

- A. See door schedule in drawings for hardware set assignments.
- B. Do not order material until submittal has been reviewed, stamped, and signed by Architect's door hardware consultant.

HARDWARE SET

Hardware Group No. 001

For use on Door #(s):

110-3

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	3CB1 4.5 X 4.5 NRP		630	IVE
1	EA	CLASSROOM LOCK	L9070L 17A		626	SCH
1	EA	MORTISE CYLINDER	TO MATCH BLDG STANDARD		626	TBD
1	EA	SURFACE CLOSER	1461 SCUSH FC		689	LCN
1	EA	GASKETING	188SBK PSA		BK	ZER
1	EA	DOOR SWEEP	39A		A	ZER
1	EA	THRESHOLD	546A-223		A	ZER

NEW LOCK LEVER DESIGN TO MATCH EXISTING FIRE STATION STANDARD - FIELD VERIFY
EXISTING CONDITION

WEATHER SEAL BY A LUMINUM STOREFRONT DOOR AND FRAME MANUFACTURER

SECTION 08 7100 DOOR HARDWARE

Hardware Group No. 002

For use on Door #(s):

137-1 139-1 140-1

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	3CB1 4.5 X 4.5		630	IVE
1	EA	PRIVACY LOCK	ND40S SPA		626	SCH
1	EA	OH STOP	100S		630	GLY
1	EA	SURFACE CLOSER	1461 REG OR PA AS REQ		689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW		630	IVE
1	EA	WALL STOP	WS406/407CCV		630	IVE
1	EA	GASKETING	188SBK PSA		BK	ZER

GRANITE THRESHOLD BY FLOORING SECTION
NEW CYLINDRICAL LOCK LEVER DESIGN TO MATCH EXISTING FIRE STATION BUILDING
STANDARD - FIELD VERIFY EXISTING CONDITION
OVERHEAD STOP

END OF SECTION

SECTION 09 0565
MOISTURE TESTING FOR FLOORING INSTALLATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Moisture, alkali and bond testing of existing and new concrete slabs on grade and elevated slabs scheduled to receive adhered flooring.

B. Related Requirements:

1. Division 01 - General Requirements.
2. Section 03 3000: Cast-in-Place Concrete; concrete slab curing.
3. Division 09 Finishes: Flooring Sections.

1.2 REFERENCES

A. ASTM International (ASTM):

1. ASTM D7234 – Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers.
2. ASTM F710 – Practice for Preparing Concrete Floors to Receive Resilient Flooring.
3. ASTM F1869 – Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
4. ASTM F2170 – Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.

1.3 TESTING REQUIREMENTS

A. Perform the following tests:

1. At new and existing concrete slabs on grade and below grade:
 - a. Moisture Vapor Emission Rate testing per ASTM F1869.
 - b. Relative Humidity testing per ASTM F2170.
 - c. pH testing per ASTM F710.
 - d. Bond testing per D7234 or manufacturer recommendations.

1.4 SUBMITTALS

- A. Floor Covering and Adhesive Manufacturers' Product Literature:** For each specific combination of substrate, floor covering, and adhesive to be used; indicating:

SECTION 09 0565
MOISTURE TESTING FOR FLOORING INSTALLATION

1. Moisture, humidity and pH limits.
 2. Manufacturer's bond/compatibility test procedure.
- B. Test Report: Submit on chart form with small scale floor plans showing the location of each test performed.
1. Submit report for relative humidity test in accordance to ASTM F2170. Include pH, moisture vapor emission, and adhesion test results.
 2. Indicate areas where the test results exceed the floor covering manufacturer's limits and indicate proposed remediation procedures.

1.5 **QUALITY ASSURANCE**

- A. Tests indicated in this Section shall be performed by CONTRACTOR or a qualified independent testing agency retained and paid by CONTRACTOR. OWNER may perform testing at its own expense to compare to CONTRACTOR's test results.
- B. Testing kits:
1. Moisture-Vapor Emission: Prepackaged anhydrous calcium chloride test kits conforming to requirements of ASTM F-1869.
 2. Alkalinity: Calibrated digital pH meter in accordance with ASTM F-710.
 3. Relative Humidity: Relative humidity concrete moisture testing equipment conforming to ASTM F-2170.
- C. Chemically based products such as sealers, primers, fillers and adhesives, shall be approved by the OWNER's Office of Environmental Health and Safety (OEHS).

1.6 **ENVIRONMENTAL CONDITIONS**

- A. Project areas to be tested shall be at the same temperature and humidity expected during normal use. These temperature and humidity levels shall be maintained for 48 hours prior to, and during the testing. If this is not possible, temperature and relative humidity ranges shall be within ranges indicated in the applicable ASTM test method.

PART 2 – PRODUCTS – NOT USED

PART 3 - EXECUTION

3.1 **PREPARATION**

- A. Testing shall take place after allowing concrete to dry for a minimum of 90 days.
- B. Prior to test placement, CONTRACTOR shall clean concrete slabs and have them free of foreign substances, such as residual adhesives, curing or hardening compounds, adhesive removers, sealers, paints and other foreign materials that might prevent adhesive bond. These materials shall be removed not less than 24 hours prior to the

SECTION 09 0565
MOISTURE TESTING FOR FLOORING INSTALLATION

placement of the test kits. Testing when floor coverings have never been installed may waive the 24 hour wait period.

- C. The test site temperature and humidity shall be in conformance to Article "Environmental Conditions".
- D. Minimum number of tests: For Moisture Vapor Emission Rate, Relative Humidity and pH testing, provide three for the first 1,000 square feet of floor area, and at least one for each additional 1,000 square feet or fraction thereof.

3.2 MOISTURE VAPOR EMISSION TESTING (MVEP)

- A. MVEP testing shall be performed in accordance to ASTM F1869.
- B. Unless more stringent requirements are recommended by flooring manufacturer, the maximum allowable moisture release at time of flooring installation shall be three pounds per 24 hours per 1,000 square feet.
- C. Weigh test dish on site prior to start of test. Scale must report weight to 0.1 grams. Record weight and start time. Expose Calcium Chloride and set dish on concrete surface. Install test containment dome and allow test to proceed for 60 – 72 hours.
- D. Retrieve the test dish by carefully cutting through containment dome. Close and reseal test dish. Weigh test dish on site recording weight and stop time. Calculate and report results as "pounds of emission per 1,000 sq. ft. per 24 hours".
- E. In the event the MVEP value exceeds the value specified in this Article and the flooring manufacturer recommended limits, CONTRACTOR shall propose remediation to OWNER. In new concrete slab construction, remediation shall be at no cost to OWNER.

3.3 RELATIVE HUMMIDITY TESTING

- A. Relative humidity testing shall be performed in conformance to ASTM F2170.
- B. Choose test areas where high moisture levels are suspected. Holes in new concrete slabs may be cast or drilled. Depth of holes shall be 40% of slab thickness for slabs drying only from the top, and 20% when drying from top and bottom, as indicated on ASTM F2170. Determine the concrete thickness of each type of slab to be tested and calculate depth of holes.
 - 1. Hole shall be drilled dry; do not use water for cooling or lubrication. Drill holes in the concrete and insert test liners. Hole shall not be more than 0.04 inches, or one millimeter, larger than the test liner.
 - 2. Before placing concrete, secure liner tube to formwork or steel reinforcing to avoid displacement during concrete placement, consolidation and finishing. Secure a solid rod into the liner and protruding slightly above the top of the liner to exclude fresh concrete from entering the liner.
- C. Clean the area around the hole with a vacuum cleaner and vacuum the dust out of the hole. Immediately, set the sleeve by tapping the sleeve into the hole with a hammer or mallet.

SECTION 09 0565
MOISTURE TESTING FOR FLOORING INSTALLATION

- D. Remove the sleeve plug and place probe into the sleeve assuring that it reaches the bottom of the test hole. Connect the probe lead wire to the meter, and turn meter on. Allow time for the probe to sit in the test sleeve to achieve moisture equilibrium before taking relative humidity readings. Probe shall be at the same temperature as the concrete before the reading. Check for drift and follow meter manufacturer recommendations.
- E. Record the relative humidity to the nearest percent and temperature to the nearest degree. Record location of hole within the structure and depth of probe. Use the relative humidity probe to measure the ambient air temperature and relative humidity above the slab in the vicinity of the test location. Remove the liner and fill the hole with a cementitious patching compound.
- F. In the event the relative humidity exceeds 75% and the flooring manufacturer recommended limits, CONTRACTOR shall propose remediation to OWNER. In new concrete slab construction, remediation shall be at no cost to OWNER.

3.4 PH LEVEL TESTING

- A. Perform testing in accordance to ASTM F710, and at the same time as the vapor emission and relative humidity tests.
- B. Place several drops of water onto the concrete surface to form a puddle approximately 1" in diameter. Allow the water to set for 60 +/- 5 seconds. Dip the pH paper into the water and remove immediately, compare color to chart provided by paper supplier to determine pH reading. Record and report results.
- C. When using pH Pencil and pH Meters, follow the instrument manufacturer's instructions.
- D. The surface of the concrete should have a pH of 9 or less. In the event the pH exceeds this value and the flooring manufacturer recommended pH limits, CONTRACTOR shall propose remediation to OWNER. In new concrete slab construction, remediation shall be at no cost to OWNER.

3.5 BOND TEST

- A. Perform bond testing in accordance to ASTM D4541 or per manufacturer's recommendations.
- B. Select appropriate locations for the bond tests such as near walls or in light traffic areas. Spaced test samples approximately 50 feet apart throughout the designated installation area. Number of tests will be as determined by the recommended spacing of 50 feet.
- C. Use the flooring material and recommended adhesives. Install 3' x 3' panels using the exact techniques that will be used for the flooring installation. It is recommended that tests be spaced approximately 50 feet apart throughout the designated installation area. Tape edges of panels to prevent edge drying of adhesive. Protect test panel from traffic.
- D. After 72 hours of placing the flooring, remove tape and observe whether it is bonded tightly to the floor, by trying to lift the edges with a scraper or other means, or pull flooring from the subfloor by hand. Determine if bonding is suitable for flooring installation.

SECTION 09 0565
MOISTURE TESTING FOR FLOORING INSTALLATION

- E. At locations where membrane, primer, leveler or patch are applied, perform applicable bond testing recommended by flooring manufacturer to assure adequate bondage of flooring to substrate.
- F. Success or failure shall be determined by visual interpretation and the amount of physical effort required to remove the floor covering. If the flooring material can be removed it will indicate failure of the bond test. If the flooring requires a great deal of effort to pull it up, the bond test can be considered successful, providing no sign of moisture is found. In the event that bond failure occurs in new concrete slab construction, remediation shall be at no cost to OWNER.

3.6 CLEAN UP

- A. Remove rubbish, debris and waste materials and legally dispose of off the Project site.

3.7 PROTECTION

- A. Protect the Work of this section until installation of finish flooring.

END OF SECTION

**SECTION 09 2800
CEMENT BOARD**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Cement board and accessories.
- B. Related Sections
 - 1. Section 06 1000 – Rough Carpentry.
 - 2. Section 07 1000 – Dampproofing.
 - 3. Section 07 9200 – Joint Sealants.
 - 4. Section 09 2900 – Gypsum Board.
 - 5. Section 09 3000 – Tile.

1.2 REFERENCES

- A. American National Standards Institute (ANSI):
 - 1. A108.11, American National Standard for Interior Installation of Cementitious Backer Units.
 - 2. A118.1, American National Standard Specifications for Dry-Set Portland Cement Mortar.
 - 3. A118.4, American National Standard Specifications for Latex-Portland Cement Mortar.
 - 4. A118.9, Test Methods and Specifications for Cementitious Backer Units.
 - 5. A136.1, American National Standard Specifications for Organic Adhesives for Installation of Ceramic Tile.
- B. American Society for Testing and Materials (ASTM):
 - 1. C 473, Test Methods for Physical Testing of Gypsum Panel Products.
 - 2. C 1325, Specification for Fiber-Mat Reinforced Non-Asbestos Cement Interior Substrate Sheets.
 - 3. C 1002, Specification for Steel Drill screws for the Application of Gypsum Panel Products or Metal Plaster Bases.
 - 4. D 2394, Methods for Simulated Service Testing of Wood and Wood-Based Finish Flooring.

1.3 SUBMITTALS

- A. Product Data: Manufacturers' specifications and installation instructions for each product specified.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Packaging and Shipping: Have materials shipped in manufacturer's original packages showing manufacturer's name and product brand name.
- B. Storage and Protection: Store materials inside and protected from damage by the elements. Protect ends, edges, and faces of cement boards from damage.

**SECTION 09 2800
CEMENT BOARD**

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. National Gypsum Company.
 - 1. Cement Board:
 - a. Tile Backer: PermaBase® BRAND Cement Board OR Equal.
 - b. Underlayment: PermaBase BRAND Underlayment OR Equal.

2.2 MATERIALS

- A. Cement Board:
 - 1. Backer Board: Cementitious, water durable, board; surfaced with fiberglass reinforcing mesh on front and back; long edges wrapped; and complying with ANSI A118.9 and ASTM C 1325 (PermaBase BRAND Cement Board).
 - a. Thickness: 5/8 in.
 - b. Width: 4 ft.
 - c. Length: 8 ft.
 - d. Edges: Tapered.
 - e. Compressive Strength: Not less than 2250 lbs. per sq. in. when tested in accordance with ASTM D 2394.
 - f. Water Absorption: Not greater than 8 percent when tested for 24 hours in accordance with ASTM C 473.
 - 2. Underlayment: Cementitious, water durable, board; surfaced with fiberglass reinforcing mesh on front and back; long edges wrapped; and complying with ANSI A118.9 and ASTM C.
 - a. Thickness: 1/4 in.
 - b. Width: 3 ft. or 4 ft.
 - c. Length: 4 ft. or 5 ft.
 - d. Edges: Tapered.
 - e. Compressive Strength: Not less than 2250 lbs. per sq. in. when tested in accordance with ASTM D 2394.
 - f. Water Absorption: Not greater than 8 percent when tested for 24 hours in accordance with ASTM C 473.
 - 4. Fasteners:
 - a. Nails: 1-1/2-in. long, hot dipped galvanized, and in accordance with FS FF-N-105B, Type 2, Style 20.
 - b. Screws: Hi-Lo thread screws (No. 8) wafer head, corrosion-resistant, 1-1/4 in. or 1-5/8 in. long, and complying with ASTM C 1002.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: In accordance with the following reference standards and manufacturer's recommendations: ANSI A108.11.

SECTION 09 2800
CEMENT BOARD

Payment for items of work covered under Division 9 of the plans and these specifications shall be based on the lump sum bid pricing identified in the Bid Schedule. No additional compensation will be allowed.

END OF SECTION

**SECTION 09 2900
GYPSUM BOARD**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Walls and Ceilings.
 - 2. Cementitious backer board.
 - 3. Accessories.

1.2 RELATED SECTIONS

- A. Related Sections:
 - 1. Section 06 1000 – Rough Carpentry.
 - 2. Section 07 1000 – Dampproofing.
 - 3. Section 07 9200 – Joint Sealants.
 - 4. Section 09 9100 – Painting.

1.3 REFERENCES

- A. ASTM C1396 – 11 Standard Specifications for Gypsum Board.
- B. ASTM C473 – 12 Standard Test Methods for Physical Testing of Gypsum Panel Products.
- C. ASTM C1629 – Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels.

1.4 PERFORMANCE REQUIREMENTS

- A. Level 3 (highest) for hard- and soft-body impact when tested in accordance with ASTM C1629.
- B. Average water absorption for panels is not greater than (5) percent by weight after a two-hour immersion when tested in accordance with ASTM C473.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 3000 – Submittal Procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.

1.6 QUALITY ASSURANCE

- A. Quality Standards: GA-216 – Recommended Specifications for the Application and Finishing of Gypsum Board.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.

**SECTION 09 2900
GYPSUM BOARD**

1.8 PROJECT CONDITIONS

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

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with project requirements, manufacturers offering items which may be incorporated in the Work include the following:
 - 1. United States Gypsum Company.
 - 2. National Gypsum Properties, LLC.
 - 3. American Gypsum.
 - 3. Or approved equal.
- B. Requests for substitutions will be considered in accordance with provisions of Section 01 6000 – Product Requirements.

2.2 GYPSUM BOARD

- A. Water-Resistant Gypsum Backing Board: ASTM C630; 5/8-inch-thick high impact resistant, ends cut square and finished smooth. 48-inch width, maximum permissible length; ends and edges straight and solid, edges tapered. Board consisting of a noncombustible water-resistant gypsum core, surfaced on face and back with water-repellent paper bonded to the core & face paper folded around long edges to reinforce and protect core, to be used at wet locations, see plans.
- B. Impact Resistant Gypsum Board Type X (fire-resistant): 5/8" thick moisture and mold resistant with tapered edges; paper faced gypsum board with superior impact resistance & face paper folded around long edges to reinforce and protect core, ends cut square and finished smooth, typical at all locations. See plans for more info. Typical provide moisture resistant at wet locations.

2.3 ACCESSORIES

- A. Corner Beads and Edge Trim: GA 201 and GA 216.
- B. Joint Materials: Reinforcing tape and joint compound.
- C. Fasteners: Type S12 screws.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Section 01 7300 – Execution: Verification of existing conditions before starting work.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.

**SECTION 09 2900
GYPSUM BOARD**

- C. Report in writing to the Engineer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected and approved by Engineer.
- D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the City.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions and as indicated on the Drawings.
- B. Fasten gypsum board to furring or framing with screws.
- C. Tape, fill, and sand joints.

3.3 JOINT TREATMENT AND FINISHING

*At completion of specified taping and finishing, install one coat of drywall primer as specified hereafter.

- A. Levels: Install tape bedding compound, tape, and finishing cement on joints in wallboard as required for specified levels of finish.
- B. Levels 2 through 5:
 - 1. Install joint cement and finishing cement over screw heads. Treat all inside corners with joint cement, tape, and finishing cement. Treat outside corners with corner beads and finishing cement.
 - 2. Provide metal casing beads at all edges of gypsum wallboard, which abut ceiling, wall, or column finish, and elsewhere as required, such as openings, offsets, etc. Install all exposed joints, trims, and attachments non-apparent following installation of paint or other finishes. If joints and fasteners are visibly apparent, correct defects as required.
 - 3. Seal raw edges of plumbing openings and boards that have been cut to fit with sealing compound brushed on.
 - 4. When entire installation is completed, correct and repair broken, dented, scratched or damaged wallboard before installation of finish materials by other trades.
- C. Levels 3 and 4: Install one coat of drywall primer over entire surface prior to painting.
- D. Level 5: Install one coat of skim coat over entire surface, followed by one coat of drywall primer over entire surface prior to painting.

3.4 REQUIRED LEVEL OF FINISH SCHEDULE

- A. Level 4: Exposed painted wallboards in utility rooms, and similar spaces not requiring Level 5 finish.
 - 1. Level 1, plus three (3) separate coats of compound at joints, angles, fasteners, and accessories. Compound shall be smooth and free of tool marks and ridges.

SECTION 09 2900
GYP SUM BOARD

- B. Level 5: Exposed, painted wallboard in offices and corridors.

3.5 PROTECTION

- A. Protect installed products until Substantial Completion.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

Payment for items of work covered under Division 9 of the plans and these specifications shall be based on the lump sum bid pricing identified in the Bid Schedule. No additional compensation will be allowed.

END OF SECTION

SECTION 09 3000
TILE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Tile and Accessories: Floor and Wall Glazed.
- B. Related Sections:
 - 1. Section 07 9200 - Joint Sealant.

1.2 REFERENCES

- A. American National Standards Institute (ANSI):
 - 1. ANSI A108.5, 1999 - Specifications for Ceramic Tile Installed with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar.
 - 2. ANSI A108.10, 1999 - Specifications for Installation of Grout in Tilework.
 - 3. ANSI A118.1, 1999 - Standard Specification for Dry-Set Portland Cement Mortar.
 - 4. ANSI A118.4, 1999 - Latex-Portland Cement Mortar.
 - 5. ANSI A118.9, 1999 - Test Methods and Specifications for Cementitious Backer Units
 - 6. ANSI A137.1, 1988 - Specifications for Ceramic Tile.
- B. ASTM International (ASTM):
 - 1. ASTM C 50 - Standard Specification for Portland Cement.
 - 2. ASTM C 207 - Standard Specification for Hydrated Lime for Masonry Purposes.
 - 3. ASTM C 847 - Standard Specification for Metal Lath.
- C. Tile Council of North America (TCNA): TCA Handbook for Ceramic Tile Installation, 2007.

1.3 SUBMITTALS

- A. Section 01 3300 – Submittal Procedures: Procedures for submittals.
 - 1. Manufacturer's data sheets on each product to be used, including:
 - a. Preparation instructions and recommendations.
 - b. Storage and handling requirements and recommendations.
 - c. Installation methods.
 - 2. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details.
 - 3. Manufacturer's Certificate:
 - a. Certify that products meet or exceed specified requirements.
 - b. For each shipment, type and composition of tile provide a Master Grade Certificate signed by the manufacturer and the installer certifying that products meet or exceed the specified requirements of ANSI A137.1.
 - 4. Maintenance Data: Include recommended cleaning methods, cleaning materials, stain removal methods, and polishes and waxes.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Company experienced in performing the Work of this Section.
- B. Single Source Responsibility: Obtain each type and color of tile from a single source. Obtain each type and color of mortar, adhesive and grout from the same source.

SECTION 09 3000
TILE

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging until ready for installation.
- B. Protect adhesives and liquid additives from freezing or overheating in accordance with manufacturer's instructions.
- C. Store tile and setting materials on elevated platforms, under cover and in a dry location and protect from contamination, dampness, freezing or overheating.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Do not install adhesives in an unventilated environment.
- B. Maintain ambient and substrate temperature of 50 degrees F during tiling and for a minimum of 7 days after completion.

1.7 EXTRA MATERIALS

- A. Provide for Owner's use a minimum of 2 percent of the primary sizes and colors of tile specified, boxed and clearly labeled.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with project requirements, manufacturers offering items which may be incorporated in the Work include the following:
 - 1. Dal-Tile Corporation.
 - 2. American Marazzi Tile, Inc.
 - 3. Roca Tile Group.
 - 4. Terrain
 - 5. Or approved equal as provided in Section 01 6000 – Product Requirements.

2.2 TILE

- A. General: Provide tile that complies with ANSI A137.1 for types, compositions and other characteristics indicated. Provide tile in the locations and of the types colors and pattern indicated on the Drawings and identified in the Schedule and the end of this Section. Tile shall also be provided in accordance with the following:
 - 1. Factory Blending: For tile exhibiting color variations within the ranges selected under Submittal of samples, blend tile in the factory and package so tile taken from one package shows the same range of colors as those taken from other packages.
 - 2. Mounting: For factory mounted tile, provide back or edge mounted tile assemblies as standard with the manufacturer, unless otherwise specified.
 - 3. Factory Applied Temporary Protective Coatings: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by precoating with a continuous film of petroleum paraffin wax applied hot. Do not coat unexposed tile surfaces.
- B. Floor unpolish Porcelain Tile or approved non-skid materials shall be used for restroom floor.:
 - 1. Colors and size: As scheduled.
 - 2. Trim Units: Matching cove base, cove base corner, bullnose, cove/inside finger cove, radius cap, sink rail in-corner/out-corner, outside cove corner shapes in sizes coordinated

SECTION 09 3000
TILE

- with field tile.
- 3. Tile grout color as specified in drawings.
- 4. Material samples shall be provided for approval by appropriate City Staff.
- C. Wall light polish Porcelain Tile shall be used for the wall surface.:
 - 1. Colors and size: As scheduled.
 - 2. Trim Units: Matching cove base, cove base corner, bullnose, cove/inside finger cove, radius cap, sink rail in-corner/out-corner, outside cove corner shapes in sizes coordinated with field tile.
 - 3. Tile grout color as specified in drawings.
 - 4. Material samples shall be provided for approval by appropriate City Staff.
- D. See Color / Material Schedule on Drawings for size and color.

2.3 SETTING MATERIALS

- A. Mortar Bed Materials:
 - 1. Portland cement: ASTM C150, type 1, gray or white.
 - 2. Hydrated Lime: ASTM C207, Type S.
 - 3. Sand: ASTM C144, fine.
 - 4. Latex additive: As approved.
 - 5. Water: Clean and potable.
- B. Grout:
 - 1. Standard Grout: Cement grout, sanded or unsanded, as specified in ANSI A118.6; color as selected by Architect.
 - 2. Polymer modified cement grout, sanded or unsanded, as specified in ANSI A118.7; color as selected by Architect.
- C. Membrane at Walls:
 - 1. 4 mil (0.1 mm) thick polyethylene film, ASTM D4397, ANSI A 118.10.
 - 2. Reinforced asphalt paper.
- D. Reinforcing Mesh: 2 by 2 inch (50 by 50 mm) size weave of 16/16 wire size; welded fabric, galvanized.
- E. Cementitious Backing Units
 - 1. ANSI A 118.9 or ASTM C 1325 (Type B).
 - 2. 2" alkali – resistant glass fiber mesh type.

PART 2 EXECUTION

3.1 EXAMINATION

- A. Section 01 7300 – Execution: Verification of existing conditions before starting work.
 - 1. Verify that wall surfaces are free of substances which would impair bonding of setting materials, smooth and flat within tolerances specified in ANSI A137.1, and are ready to receive tile.

3.2 PREPARATION

- A. Protect surrounding work from damage.
- B. Remove any curing compounds or other contaminants.

SECTION 09 3000
TILE

- C. Vacuum clean surfaces and damp clean.
- D. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.
- E. Install cementitious backer board in accordance with ANSI A108.11 and board manufacturer's instructions. Tape joints and corners, cover with skim coat of dry-set mortar to a feather edge.
- F. Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.

3.3 INSTALLATION - GENERAL

- A. Install tile and grout in accordance with applicable requirements of ANSI A108.1 through A108.13, manufacturer's instructions, and TCA Handbook recommendations.
- B. Lay tile to pattern indicated. Arrange pattern so that a full tile or joint is centered on each wall and that no tile less than 1/2 width is used. Do not interrupt tile pattern through openings.
- C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
- D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout.
- E. Form internal angles square and external angles bullnosed.

3.4 INSTALLATION - WALL & FLOOR TILE

- A. Wall Tile: Over cementitious backer units on studs, install in accordance with TCA Handbook Method W244C-07, using membrane at toilet rooms.
- B. Floor Tile: on cement mortar bed, install in accordance with TCA Handbook method F121-07 OR if existing slab is not depressed for a mortar bed install tile floor using the dry-set mortar, Later-Portland Cement Mortar, Epoxy of Furan Grout TSA method F115-07.

3.5 CLEANING

- A. Clean tile and grout surfaces.

3.6 PROTECTION OF FINISHED WORK

- A. Do not permit traffic over finished floor surface for 72 hours after installation.
- B. Cover floors with kraft paper and protect from dirt and residue from other trades.
- C. Where floor will be exposed for prolonged periods cover with plywood or other similar type walkways

Payment for items of work covered under Division 9 of the plans and these specifications shall be based on the lump sum bid pricing identified in the Bid Schedule. No additional compensation will be allowed.

END OF SECTION

SECTION 09 5113
ACOUSTICAL PANEL CEILING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The Contract Documents, as defined in Section 011000 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents.

1.2 SUMMARY

- A. Section Includes:
 - 1. Acoustical Ceiling Panels.
 - 2. Exposed grid suspension system.
 - 3. Suspended metal grid ceiling system (wire hangers, fasteners, main runners, cross tees, and wall angle moldings.
 - 4. Perimeter trim.
- B. Related Sections:
 - 1. Section 02 4149 – Selective Structure Demolition
 - 2. Section 09 2900 - Gypsum Board
 - 3. Division 23 – Heating, Ventilation, and Air Conditioning
 - 4. Division 26 - Electrical

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM C 635 - Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.
 - 2. ASTM C 636 - Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.
 - 3. ASTM E 84 Test Method for Surface Burning Characteristics of Building Materials.
 - 4. ASTM E 580 - Specification for Application of Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels in Areas Requiring Seismic Restraint.

1.4 SYSTEM DESCRIPTION

- A. Design Requirements: Rigidly secure acoustical ceiling system including integral mechanical and electrical components with maximum deflection of 1/360.
- B. Continuous/Wall-to-Wall

1.5 SUBMITTALS

- A. Section 01 3300 - Submittal Procedures: Procedures for Submittals.
 - 1. Product Data: Metal grid suspension system components and acoustical panel units.
 - 2. Shop Drawings: Indicate grid layout and related dimensioning, junctions with other work or ceiling finishes, interrelation of mechanical and electrical items related to system.

SECTION 09 5113
ACOUSTICAL PANEL CEILING

1.6 QUALITY ASSURANCE

- A. Regulatory Requirements: Surface Burning Characteristics in Accordance with ASTM E 84 for Class III or C finish:
 - 1. Flame Spread: Less than 200.
 - 2. Smoke Density: Less than 450.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver acoustical units in manufacturer's original unopened containers with brand name and type clearly marked.
- B. Store under cover in dry, watertight conditions.
- C. Prior to installation, store acoustical units for 24 hours minimum at same temperature and relative humidity as space where Work will be installed.

1.8 PROJECT CONDITIONS

- A. Jobsite Requirements: Maintain uniform temperature range of 60-85 degrees F, and humidity of no more than 70 percent relative humidity prior to, during, and after installation.

1.9 ENVIRONMENTAL REQUIREMENTS

- A. Resource Management:
 - 1. Recycled Content:
 - a. Acoustical panels type ACT-1: Manufactured from minimum 20 percent recycled newsprint.
 - b. Suspension system: Manufactured from minimum 20 percent recycled steel.

1.10 MAINTENANCE

- A. Extra Materials: Provide 1 box of extra acoustical panels for each panel type, pattern, and color to State Representative.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Suspension System: Subject to compliance with project requirements, manufacturers offering specified items which may be incorporated in the Work include the following:
 - 1. Armstrong World Industries, Incorporated, Lancaster, PA (800) 448-1405.
 - 2. Chicago Metallic Corporation, Chicago, IL (800) 323-7164.
 - 3. USG Interiors, Chicago, IL (800) 950-3839.
 - 4. Certainteed Ceilings (800) 346-7978
 - 5. Or equal.

SECTION 09 5113
ACOUSTICAL PANEL CEILING

2.2 SUSPENSION SYSTEM

- A. Components: All main beams and cross tees shall be commercial quality hot-dipped galvanized steel as per ASTM A 653. Main beams and cross tees are double-web steel construction with (9/16 inch) (15/16 inch) type exposed flange design. Exposed surfaces chemically cleansed, capping pre-finished galvanized steel in baked polyester paint. Main beams and cross tees shall have rotary stitching.
 - 1. Structural Classification: ASTM C 635, Intermediate Duty.
 - 2. Color: White and match the actual color of the selected ceiling tile, unless noted otherwise.
 - 3. Acceptable Product: (Prelude XL 15/16" Exposed Tee) (Suprafine XL 9/16" Exposed Tee) (Interlude XL Dimensional Tee) as manufactured by Armstrong World Industries, Inc.
- B. Attachment Devices: Size for five times design load indicated in ASTM C 635, Table 1, Direct Hung unless otherwise indicated.
- C. Wire for Hangers and Ties: ASTM A 641, Class 1 zinc coating, soft temper, pre-stretched, with a yield stress load of at least three times design load, but not less than 12-gauge.
- D. Edge Moldings and Trim: Metal or extruded aluminum of types and profiles indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations, including light fixtures, that fit type of edge detail and suspension system indicated. Provide moldings with exposed flange of the same width as exposed runner.
- E. Accessories

2.3 ACOUSTICAL PANELS

- A. ACT-1:
 - 1. Acoustical Ceiling Panels Type ACP:
 - a. Panel Name: Armstrong Calla & Ultima 1912, USG Mars ClimaPlus 88785, CertainTeed Symphony M #1220BB-75-1, or equal.
 - b. Panel Size: 24 in x 48 in.
 - c. Panel Thickness: 3/4 inch.
 - d. Edge Detail: Angled Tegular.
 - e. Light Reflectance: 0.85 minimum, in accordance with ASTM E1477.
 - f. CAC: Minimum 45, UL Classified, complying with ASTM E1414.
 - g. NRC: Minimum 0.70, UL Classified, complying with ASTM C423.
 - h. Color: White.
 - i. Recycled Content: up to 56% total recycled content.

SECTION 09 5113
ACOUSTICAL PANEL CEILING

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
 - 1. Verify that layout of hangers will not interfere with other Work.
- B. Report in writing to State Representative prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- C. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the United States Postal Service.

3.2 INSTALLATION - SUSPENSION SYSTEM

- A. Install system in accordance with ASTM C 636 and manufacturer's published instructions.
- B. Provide metal hanger tabs and clips attached to metal deck where required for attachment of suspension wires.
- C. Hang system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members. Where ducts or other equipment prevent regular spacing of hangers, reinforce nearest affected hangers and related carrying channels to span extra distance.
- D. Locate system to match the demoed existing to Reflected Ceiling Plan.
- E. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability. Do not eccentrically load system, or produce rotation of runners.
- F. Install edge molding at intersection of ceiling and vertical surfaces using longest practical lengths. Miter corners. Provide edge moldings at junctions with other interruptions. Secure at 16 inches (41 cm) on center.
- G. Install hold-down clips within five feet of doors.
- H. Rivet cross tee's at 4 feet on center to edge mold.
- I. Install compression struts and secure system with tie wires as required to tie into existing.
 - 1. Provide hanger wires, splayed 45 degrees, within 3 inches of intersection between main runner and cross runner as required to tie into existing system.
 - 2. Provide compression strut and splayed hanger wires as follows:
 - a. One assembly for each light fixture.
 - b. Located within 6 feet of wall.
 - c. Located at maximum 12 feet on center or as indicated on Drawings.

3.3 INSTALLATION - ACOUSTICAL PANELS

- A. Fit acoustic units in place free from damaged edges or other defects. Install acoustic units level, in uniform plane, and free from twist, warp, and dents.

SECTION 09 5113
ACOUSTICAL PANEL CEILING

3.4 CONSTRUCTION

- A. Interface with Other Work:
 - 1. Schedule installation of acoustic units after interior wet work is completed.
 - 2. Install after major above ceiling work is complete.
 - 3. Coordinate location of hangers with other Work.
- B. Site Tolerances:
 - 1. Variation from Flat and Level Surface: 1/8 inch in 12 feet.

3.5 FIELD QUALITY CONTROL

- A. Inspect acoustical panel placement, ceiling grid suspension system installation and connection to structure.

3.6 CLEANING

- A. Clean exposed surfaces of acoustical ceilings including trim, edge moldings, and suspension system members.

END OF SECTION

SECTION 09 6513
RUBBER BASE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Topset coved rubber base for installation with surface flooring.
- B. Related Requirements:
 - 1. Division 01 - General Requirements.
 - 2. Section 03 3543 - Concrete Polish.
 - 3. Section 09 3000 - Ceramic Tile.
 - 4. Section 09 6518 - Rubber Flooring.
 - 2. Section 09 6519 - Vinyl Composition Tile.

1.2 SUBMITTALS

- A. Product Data: Submit manufacturer's published technical data describing materials, construction and recommended installation instructions. Submit technical data and installation instructions for each adhesive material.
- B. Maintenance Instructions: Submit manufacturer's recommendations for maintenance, care and cleaning of base.
- C. Samples: Submit Samples of top set base in each available color. Following color selections, submit Samples, not less than 12 inches long of each selected color and type. Submit pint cans of each type adhesive.
- D. Maintenance Materials: Before Substantial Completion, deliver at least 50 lineal feet and five outside corner units of each color of rubber base installed. Deliver the materials in unopened factory containers or in sealed cartons with labels identifying the contents, matching installed materials. Include unopened cans of adhesives adequate to install the maintenance materials.

1.3 QUALITY ASSURANCE

- A. Qualifications of Installer: Minimum five years of experience in successfully installing the same or similar flooring materials.
- B. Comply with the following as a minimum requirement:
 - 1. ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 2. ASTM F1861: Standard Specification for Resilient Wall Base.
 - 3. Comply with current CHPS requirements, www.chps.net.
 - 4. Chemically based products such as sealers, primers, fillers, adhesives, etc. must be approved by Owner's Office of Environmental Health and Safety (OEHS).
 - 5. Each selected color and configuration shall be from same dye lot and color.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Materials shall be delivered to the Project site in original unopened manufacturer's packaging clearly labeled with manufacturer's name. Store materials at room temperature, but not less than 70 degrees F, for a minimum of 48 hours before installation, unless otherwise indicated in manufacturer's printed instructions.

**SECTION 09 6513
RUBBER BASE**

1.5 PROJECT CONDITIONS

- A. Ventilation and Temperature: Verify areas that are to receive rubber base are ventilated to remove fumes from installation materials, and areas are within temperature range recommended by the various material manufactures for site installation conditions.

1.6 WARRANTY

- A. Manufacturer shall provide a five-year material warranty.
- B. Installer shall provide a two-year fabrication and installation warranty.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Burke/Mercer Wall Base.
- B. Roppe, Pinnacle Rubber Base.
- C. Flexco Company, Wallflower Premium Rubber Wall Base.
- D. Johnsonite.
- E. Equal.

2.2 MATERIALS

- A. Rubber base: Conform to ASTM F 861; Group 2, solid (homogeneous); Type 1, TS, (thermoset) vulcanized rubber, Style A, Size 4-inch high unless otherwise indicated & roll type, integral colors as selected, non-shrinking, 1/8 inch thick, with matching molded outside corners.
- B. Rubber Corner Blocks & Micro Corners; same manufacture.
- B. Base Adhesive: Water based, low odor type, as recommended by manufacturer of rubber base.

PART 3 – EXECUTION

3.1 COORDINATION

- A. Coordinate the Work of this section with other sections to provide a level, smooth and clean finish surfaces to receive rubber base.

3.2 EXAMINATION

- A. Field verify dimensions and other conditions affecting the Work of this section before commencing the Work of this section.
- B. Before Work is started, examine surfaces that are to receive rubber base. Deficiencies shall be corrected before starting the Work of this section.

**SECTION 09 6513
RUBBER BASE**

3.3 PREPARATION

- A. Do not start preparation until adjacent concrete floor slabs are at least 90 days old and finish flooring is installed.
- B. Install rubber base when ambient temperature is 70 degrees F. or higher.

3.4 INSTALLATION

- A. Install top set base at hard floors, including resilient flooring, concrete and wood, carpet and other soft floors.
- B. Securely fasten cement base to backing in long lengths in accordance with manufacturer's recommendations. Lay out lengths so that not less than 18 inches long filler pieces are provided. Assure that top and toe continuously contact the wall and floor, and that all joints are tight. Install matching factory formed external corners at all offsets. Inside corners shall be coped; wrapped corners are not acceptable.
- C. Use of adhesive gun is prohibited. Apply adhesive directly to substrate using the appropriate notched trowel or spreader according to manufacturer's instructions. Maintain 1/8-inch gap from top of base to prevent adhesive oozing onto adjacent surfaces.
- D. Base and outside corners shall be rolled with a seam roller before adhesive sets.

3.5 CLEANING

- A. Maintain surfaces of base clean as installation progresses. Clean rubber base when sufficiently seated and remove foreign substances.
- B. Clean adjacent surfaces of adhesive or other defacement. Replace damaged and/or defective Work to the specified condition.

3.6 CLEAN UP

- A. Remove rubbish, debris and waste materials and legally dispose of off the Project site.

3.7 PROTECTION

- A. Protect the Work of this section until Substantial Completion.

END OF SECTION

**SECTION 09 9123
INTERIOR PAINTING**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on the following interior substrates listed in 3.6 Interior Painting Schedule.
- B. Related Requirements:
 - 1. Section 051200 "Structural Steel Framing" for shop priming of metal substrates with primers specified in this Section.
 - 2. Section 099300 "Staining and Transparent Finishing" for surface preparation and the application of wood stains and transparent finishes on interior wood substrates.
 - 3. Section 099600 "High-Performance Coatings" for high-performance and special-use coatings.

1.3 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 1 to 2 units at 85 degrees.
- B. Gloss Level 2: 5 to 9 units at 60 degrees and 10 to 15 units at 85 degrees.
- C. Gloss Level 3: 10 to 15 units at 60 degrees and 15 to 30 units at 85 degrees.
- D. Gloss Level 4: 20 to 35 units at 60 degrees and 35 to 50 units at 85 degrees.
- E. Gloss Level 5: 40 to 50 units at 60 degrees.
- F. Gloss Level 6: 70 to 80 units at 60 degrees.
- G. Gloss Level 7: More than 80 units at 60 degrees.
- H. Blocking: Two painted surfaces sticking together such as a painted door sticking to a painted jamb.
- I. Mildew Resistant: Certified products are specially formulated with microbicidal additives that resist mold, mildew, and algae growth on the paint film and inhibit growth of bacterial odors.
- J. CHPS: Collaborative for High Performance Schools. A national movement to improve student performance and the entire educational experience by building the best possible schools. www.chps.net.
- K. EG: Ethylene Glycol. Ethylene glycol is listed as a hazardous air pollutant (HAP) by the U.S. EPA.

**SECTION 09 9123
INTERIOR PAINTING**

- L. PDCA: Painting & Decorating Contractors of America www.pdca.org .
- M. RAVOC: Reactivity adjusted VOC. "Reactivity" means the ability of a VOC to promote ozone formation
- N. SSPC: The Society for Protective Coatings publishes Scopes of SSPC Surface Preparation Standards and Specifications www.sspc.org .
- O. Dunn-Edwards Conformance Chart: [D-E CONFORMANCE TABLE](#)

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. LEED v.4 Requirements: Interior paints and coatings must pass CDPH Standard Method V1.1 (also called section 01350) emissions testing; and they must comply with the VOC content limits of the California ARB 2007 Suggested Control Measure for Architectural Coatings.
- C. Samples for Initial Selection: For each type of topcoat product.
- D. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, no smaller than 7 inches X 10 inches (177 mm X 254 mm) or larger than 8.5 inches X 11 inches (216 mm X 280 mm).
 - 2. Label each Sample for project, architect, general contractor, painting contractor, paint color name and number, paint brand name, "P" number if applicable, and application area.
- E. Product List: For each product indicated, include the following:
 - 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
 - 2. VOC content.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Paint: Provide not less than 1 gal. (3.8L) of each material and color applied.

1.6 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Architect will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
 - a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).
 - b. Other Items: Architect will designate items or areas required.

**SECTION 09 9123
INTERIOR PAINTING**

2. Final approval of color selections will be based on mockups.
 - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).
 1. Maintain containers in clean condition, free of foreign materials and residue.
 2. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 90 degrees F (10 and 32 degrees C).
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 degrees F (3 degrees C) above the dew point; or to damp or wet surfaces.
- C. Painting contractor should follow proper painting practices and exercise judgment based on his or her experience and project specific conditions as to when to proceed.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

Basis-of-Design Product: Section herein are based on products manufactured or distributed by the Dunn-Edwards Corporation www.dunnedwards.com and are the basis of design against which the Architect will judge equivalency. The quantity of titanium dioxide, the use of clays, aluminum silicate, talc and the purity of acrylic materials are a few of the criteria which will be used by the Architect in determining equivalency of materials.

- A. See lists of products currently approved by MPI in its "MPI Approved Products List," www.paintinfo.com.

2.2 PAINT, GENERAL

- A. Material Compatibility:
 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.

**SECTION 09 9123
INTERIOR PAINTING**

2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- B. VOC Content: Provide material that comply with VOC limits of authorities having jurisdiction.
- C. Colorants: The use of colorants containing hazardous chemicals, such as ethylene glycol, is prohibited and zero VOC colorants should be used whenever possible.
- D. Colors: As selected by the Architect.
 1. Indicate a percentage of surface area which will be painted with deep tones.

2.3 SOURCE QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:
 1. Owner may engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
 2. Testing agency will perform tests for compliance with product requirements.
 3. Owner may direct Contractor to stop applying coatings if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will comply with requirements to use compatible products and systems as described in Article 2.2. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 1. Concrete: 12 percent.
 2. Masonry (Clay and CMU): 12 percent.
 3. Wood: 15 percent.
 4. Gypsum Board: 12 percent.
 5. Plaster: 12 percent.
- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Plaster Substrates: Verify that plaster is fully cured, including pH testing to determine that alkalinity is within limits established by the manufacturer.
- E. Spray-Textured Ceiling Substrates: Verify that surfaces are dry.

**SECTION 09 9123
INTERIOR PAINTING**

- F. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- G. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and re-prime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions, including pH testing to determine that alkalinity is within limits established by the manufacturer.
- E. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceed that permitted in manufacturer's written instructions.
- F. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer.
- G. Shop Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop primed surfaces.
- H. Galvanized Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.
- I. Aluminum Substrates: Remove loose surface oxidation.
- J. Wood Substrates:
 - 1. Scrape and clean knots and apply coat of knot sealer before applying primer.
 - 2. Sand surfaces that will be exposed to view and dust off.
 - 3. Prime edges, ends, faces, undersides, and backsides of wood.
 - 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

**SECTION 09 9123
INTERIOR PAINTING**

- K. Cotton or Canvas Insulation Covering Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions.
1. Use applicators and techniques suited for paint and substrate indicated.
 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint each undercoat to a lighter shade of the finish coat (not to exceed 2 ounces of colorant) to facilitate identification of each coat if multiple coats of same material are to be applied.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Block Fillers: Provide block fill as scheduled to conform to the following PDCA Standard P12-05:
1. Level 3 - Premium Fill: One or multiple coats of high-performance block filler manufactured to be applied at a high dry film build. Block filler shall be back-rolled to eliminate voids and reduce the majority of the masonry profile depth.
- F. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
1. Paint the following work where exposed in equipment rooms:
 - a. Equipment, including panelboards and switch gear.
 - b. Uninsulated metal piping.
 - c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Tanks that do not have factory-applied final finishes.
 - h. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - i. Other items as directed by the architect.
 2. Paint the following work where exposed in occupied spaces:
 - a. Equipment, including panelboards.
 - b. Uninsulated metal piping.

**SECTION 09 9123
INTERIOR PAINTING**

- c. Uninsulated plastic piping.
 - d. Pipe hangers and supports.
 - e. Metal conduit.
 - f. Plastic conduit.
 - g. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
 - h. Other items as directed by the Architect.
3. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
- 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

- A. Gypsum Board Substrates:
- 1. Premium Low Odor / Zero VOC Latex System:
 - a. Prime Coat: Primer sealer, latex, interior, Dunn-Edwards, Vinylastic Select [VNSL00](#).
 - b. Intermediate Coat: Latex, interior, matching topcoat
 - c. Topcoat: Latex, interior, semi-gloss, Dunn-Edwards, Spartawall [SWLL50](#), (Gloss Level 5).

**SECTION 09 9123
INTERIOR PAINTING**

B. Ferrous Metal Substrates:

1. Premium Low Odor / Zero VOC Latex over a Waterborne Alkyd Primer System:

- a. Prime Coat: Primer, alkyd, anti-corrosive, for metal, Dunn-Edwards, Bloc-Rust Premium [BRPR00](#) Series or Enduraprime rust preventative primer [ENPR00](#).
- b. Intermediate Coat: Latex, interior, matching topcoat.
- c. Topcoat: Latex, interior, semi-gloss, Dunn-Edwards, Spartawall [SWLL50](#), (Gloss Level 5).

C. Non-Ferrous Metal Substrates:

1. Premium Low Odor / Zero VOC Latex System:

- a. Pre-Treatment: Waterbased, Krud Kutter, Metal Clean & Etch [SCME-01](#)
- b. Prime Coat: Primer, waterbased, Dunn-Edwards, Ultrashield Galvanized Metal Primer [ULGM00](#).
- c. Intermediate Coat: Latex, interior, matching topcoat.
- d. Topcoat: Latex, interior, semi-gloss, Dunn-Edwards, Spartawall [SWLL50](#), (Gloss Level 5).“

D. Wood Substrates:

1. Waterborne Urethane Alkyd Enamel over a Latex Primer System:

- a. Prime Coat: Primer, acrylic, for interior wood, Dunn-Edwards, Ultra-Grip [UGPR00](#).
- b. Intermediate Coat: Waterborne urethane alkyd matching topcoat.
- c. Topcoat: Waterborne urethane alkyd, interior/exterior, high gloss, Dunn-Edwards, Aristoshield [ASHL70](#), (Gloss Level 7).

END OF SECTION

SECTION 10 1414 SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Supply and installation of Interior Room Signs, and Geometric Signs.
- B. Related Sections:
 - 1. Project Signs, see Construction Facilities and Temporary Controls: Section 01 5000.
 - 2. Division 09: Finishes

1.2 SUBMITTALS

- A. Make submittals in accordance with Division 1.
- B. Shop Drawings: Submit shop drawings showing sizes of signs and lettering, construction details of signs and anchoring details.
- C. Submittals: Submit color and texture samples of all materials to be used for signs.
- D. Samples: Submit 1 full size sample of each toilet room signs.

1.3 QUALITY ASSURANCE

- A. Manufacturers shall have been regularly engaged in manufacturing identifying devices for minimum of 5 years.
- B. Provide signs from one manufacturer.

1.4 PRODUCT HANDLING

- A. Use all means necessary to protect signs before, during and after installation. In event of damage, immediately make necessary repairs and replacements.

PART 2 - PRODUCTS

2.1 MANUFACTURE

- A. Products of following manufacturers are acceptable and are the basis for intended design and quality.
 - 1. Vomar Products Inc.
 - 2. ASI-Modulex, Inc.
 - 3. Mohawk Sign Systems, Inc.
 - 4. Accent Signage Systems.
 - 5. The Gruenke Company.
 - 6. Ada Sign Products.
 - 7. AccuBraille.
 - 8. Equal.

2.2 MATERIALS AND FABRICATION

**SECTION 10 1400
SIGNAGE**

- A. Interior Sign Materials:
1. Substrate Panel: 1/8 inch minimum thick, integrally colored or clear acrylic plastic, or laminated acrylic. Conforming to ASTM D4802; non-glare (matte), UV stable, suitable for interior and exterior use.
 - a. Corners shall be radius.
 - b. Edges shall be square and eased.
 - c. Colors as selected by ARCHITECT from manufacturer's custom color range.
 1. Fasteners:
 - a. Stainless steel tamper-proof screws and plastic anchors.
 - b. Signs mounted on fire-rated doors shall be secured with adhesive.
 - c. Adhesives and sealants shall comply with the limits for VOC content.
- B. Characters and Symbols: Shall be fabricated by one of the processes described below:
1. Computer cut raised characters and graphics shall be cut from 1/16 inch integrally colored acrylic. Raised characters and graphics shall be inlaid 1/32 inch minimum into first surface of sign background, secured with adhesive so it cannot be removed without the use of tools. Raised characters and graphics shall have beveled, eased or rounded edges. Non-tactile text and graphics shall be applied to the second surface, and background color shall be applied to the second surface and protected with film or an additional backplate. Pictograms and other symbols including the International Symbol of Accessibility, which are included on signs with raised characters and Braille, are not required to be raised.
 2. Raised characters and graphics including braille shall be integral to sign face and shall be formed into sign face by high pressure thermoforming using a negative mold. No applied, glued, welded tactile elements are acceptable. Raised characters and graphics shall have beveled, eased or rounded edges. No sharp, square edges are acceptable. Non-tactile text and graphics shall be applied to the second surface, and background color shall be applied to the second surface and protected with vinyl film. Pictograms and other symbols including the International Symbol of Accessibility, which are included on signs with raised characters and Braille, or other signs are not required to be raised.

2.3 COMMUNICATION ELEMENTS AND FEATURES

- A. Raised Characters shall comply with CBC 11B-703.2 and shall be duplicated in Braille complying with Section 11B-703.3.
1. Character Type: Characters on signs shall be raised 1/32 inch minimum above their background and shall be sans serif uppercase characters duplicated in Braille. Characters and Braille shall be in a horizontal format.
 2. Character Height: Character height measured vertically from the baseline of the character shall be 5/8 inch minimum and 2-inch maximum based on the height of the uppercase letter "I".
 3. Character Proportions: Characters shall be selected from fonts where the width of the uppercase letter "O" is 60 percent minimum and 110 percent maximum of the height of the letter "I".

SECTION 10 1400
SIGNAGE

4. Stroke Thickness: Stroke thickness of the uppercase letter "I" shall be 15 percent maximum of the height of the character.
 5. Character and Line Spacing shall be in conformance to CBC 11B-703.2.7 and 11B-703.2.8.
 6. Character Placement: Shall be placed in accordance to Section 2.3, F (2) below.
- B. Braille: Contracted Grade 2 Braille, conforming to CBC 11B-703.3. Braille characters shall be inlaid optically correct acrylic Raster beads into computer drilled holes in the panel surface.
1. Dimensions and Capitalization: Braille dots shall have a domed or rounded shape and shall comply with CBC Table 11B-703.3.1. The indication of an uppercase letter or letters shall only be used before the first word of sentences, proper nouns and names, individual letters of the alphabet, initials, and acronyms.
 2. Position: Braille shall be positioned below the corresponding text in a horizontal format, flush left or centered. If text is multi-lined, Braille shall be placed below the entire line of text. Braille shall be separated 3/8 inch minimum and 1/2 maximum from any other tactile characters and 3/8 inch minimum from raised borders and decorative elements.
- C. Pictograms: In conformance to CBC 11B-703.6. Pictograms shall have a field height of 6 inches minimum. Characters and Braille shall not be located in the pictogram field.
1. Pictogram field: Pictogram shall provide a field height of 6-inches minimum. Characters and Braille shall not be located in the pictogram field.
 2. Finish and Contrast: Pictograms and their field shall have a non-glare finish. Pictograms shall contrast with their field with either a light pictogram on a dark field or a dark pictogram on a light field.
 3. Text Descriptors: Pictograms shall have text descriptors located directly below the pictogram field, and shall comply with CBC 11B-703.2, 11B-703.3 and 11B-703.4.
- D. International Symbol of Accessibility (ISA): Shall comply with CBC 11B-703.7 and CBC Figure 11B-703.7.2.1. The ISA shall consist of a white figure on a blue background. The blue color shall be approximate to FS. 15090 in Federal Standard 595C.
- E. Mounting Locations and Height: Signs with tactile characters shall be as indicated on the drawings and in conformance to CBC 11B-703.4.
1. Mounting Locations:
 - a. Identification signs for rooms and spaces shall be located on the wall adjacent to the latch side of the door, as one enters the room or space.
 - b. Signs containing tactile characters shall be located so that a clear floor space 18-inches minimum by 18-inches minimum, centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45-degree open position.
 - c. Where a tactile sign is provided at a door, the sign shall be located alongside the door at the latch side.
 - d. Where there is no wall space at the latch side of a single door, signs shall be located on the nearest adjacent wall.
 2. Mounting height above finish floor or ground: Tactile characters on signs shall be located 48 inches minimum above the finish floor or ground surface, measured from

SECTION 10 1400 SIGNAGE

the baseline of the lowest Braille cells and 60 inches maximum above the finish floor or ground surface, measured from the baseline of the highest line of raised characters.

2.4 RESTROOM SIGNAGE

- A. Restrooms shall be provided with wall mounted pictograms with text descriptors.
- B. Room Identification for Restrooms: Provide a 6-inch-wide by 9-inch-tall room identification sign, including a pictogram of the International Symbol of Accessibility on a side. Restroom name shall be "UNISEX". Characters, Braille, pictograms and mounting locations and height shall be in conformance to section 2.3.

2.5 PARKING SIGNS

- A. Tow-Away Sign: 18 inches by 24 inches with rounded corners. Black graphics on white background, with lettering not less than 1 inch high. Provide contact info prior to installing of signage. Sign to read:

"UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR SPECIAL LICENSE PLATES ISSUED FOR PERSONS WITH DISABILITIES WILL BE TOWED AWAY AT THE OWNER'S EXPENSE. TOWED VEHICLES MAY BE RECLAIMED AT **[Provide info]** OR BY TELEPHONING **[Provide info]**."
- B. Parking Space Identification Sign: 12-inch by 18-inch with rounded corners. White reflectorized graphic on dark blue background, and shall display an 8-inch high International Symbol of Accessibility per paragraph 2.03.E.
 - 1. Additional language or an additional sign below the International Symbol of Accessibility shall state "Minimum Fine \$250".
 - 2. Signs identifying van accessible parking spaces shall contain additional language or an additional sign with the designation "Van Accessible".
- C. Signs shall be mounted on posts at head of each accessible parking with lower edge 80 inches minimum above ground surface, or mounted on walls at a minimum height of 60 inches from ground surface.
- D. Headroom Signs: On parking structures provide signs indicating headroom clearance height at entries and at any point of a vehicular path where entry clearance height is reduced. Minimum character height shall be 3 inches.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces are ready to receive work.
- B. Beginning of installation means installer accepts condition of existing surfaces.

3.2 INSTALLATION

- A. Interior Identification Signs:
 - 1. Anchor signs to wall using 4 tamperproof, round head screws, one at each corner of sign. Furnish plastic anchors.

**SECTION 10 1400
SIGNAGE**

2. In addition to screws, signs shall be secured to wall with high-bond two-faced tape.
 3. For installation on glass, fasten sign to glass with very high bond double faced tape. On opposite side of glass, anchor matching backplate to glass with very high-bond double-faced tape.
- B. Geometric Signs: Toilet room signs shall be anchored to doors with 3 tamperproof countersunk screws, designed for anchoring to material of wall.
- 3.3 CLEANUP
- A. Remove rubbish, debris, and waste materials and legally dispose of off Project site.
- 3.4 PROTECTION
- A. Protect Work of this section until Substantial Completion.

Payment for items of work covered under Division 10 of the plans and these specifications shall be based on the lump sum bid pricing identified in the Bid Schedule. No additional compensation will be allowed.

END OF SECTION

**SECTION 10 2813
TOILET ACCESSORIES**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Toilet Accessories.
 - 2. Attachment hardware.
- B. Related Documents: The Contract Documents, as defined in Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents.
- C. Related Sections:
 - 1. Section 06 1000 - Rough Carpentry: Placement of backing and blocking for attachment of accessories.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM A 123 - Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - 2. ASTM A 167 - Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
 - 3. ASTM A 366 - Specification for Steel, Carbon, Cold-Rolled Sheet, Commercial Quality.

1.3 SUBMITTALS

- A. Division 1 - Submittal Procedures: Procedures for submittals.
 - 1. Product Data: Data for each accessory describing size, finish, details of function, and attachment methods.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Conform to California Building Code, 2010 Edition and Federal ADA for mounting heights and locations of accessories.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 6000 - Product Requirements: Transport, handle, store, and protect products.
- B. Deliver accessories in original labeled packaging, bearing manufacturer's name and type of accessory.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

**SECTION 10 2813
TOILET ACCESSORIES**

- A. Subject to compliance with project requirements, manufacturers offering specified items which may be incorporated in the Work include the following:
 - 1. Bobrick Washroom Equipment,
 - 2. Or approval equal as permitted in Section 01 6000 - Product Requirements: Product options and substitutions.
- B. Product numbers listed on the drawings are those of Bobrick. If one of another manufacturers is to be supplied the quality and design shall equal or exceed that of Bobrick.

2.2 MATERIALS

- A. Sheet Steel: ASTM A 366.
- B. Galvanized Sheet Steel: ASTM A 366, ASTM A 123 to 1.25 ounces per square yard.
- C. Stainless Steel Sheet: ASTM A167, Type 304.
- D. Fasteners, Screws, and Bolts: Hot dip galvanized, tamper-proof.
- E. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

2.3 MANUFACTURED UNITS – See Drawings

2.4 FABRICATION

- A. Weld and grind smooth joints of fabricated components.
- B. Form exposed surfaces from single sheet of stock, free of joints. Form surfaces flat without distortion. Maintain surfaces without scratches or dents.
- C. Fabricate grab bars of tubing, free of visible joints, return to wall with end attachment flanges.
- D. Shop assemble components and package complete with anchors and fittings.
- E. Provide steel anchor plates, adapters, and anchor components for installation.
- F. Back paint components where contact is made with building finishes to prevent electrolysis.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 7000 – Execution and Closeout Requirements: Verification of existing conditions before starting work.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
 - 1. Verify correct location of opening in wall for recessed accessories.
 - 2. Verify that attachment blocking and backing plates are in place in the correct location for accessory connections.

**SECTION 10 2813
TOILET ACCESSORIES**

- C. Report in writing to the Engineer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected and approved by the Engineer.
- D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the City.

3.2 PREPARATION

- A. Deliver inserts and rough-in frames to site for scheduled installation.
- B. Provide and use templates and rough-in measurements as required.

3.3 INSTALLATION

- A. Install fixtures, accessories, and items in accordance with manufacturer's instructions, and as indicated on Drawings. Use tamper-proof fasteners.
- B. Install plumb and level, securely and rigidly anchored to substrate.

3.4 ADJUSTING AND CLEANING

- A. Adjust accessories for proper operation and verify mechanisms function smoothly.
- B. Remove temporary labels and protective coatings. Clean and polish exposed surfaces.

END OF SECTION

**SECTION 22 0500
PLUMBING**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Waterproofing.
 - 2. Electrical Connections and Protection.
 - 3. Supports and anchors.
 - 4. Cleaning, Protection and Adjustment.
 - 5. Dielectric Fittings.
 - 6. Piping connections.
 - 7. Mechanical Identification.
 - 8. Sleeves and Seals.
- B. Related Documents: The Contract Documents, as defined in Section 01 10 00 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.
- C. Related Sections:
 - 1. 07 9200 - Joint Sealants: Sealants.
 - 2. 09 9123 – Interior Painting: Field painting.

1.2 WATERPROOFING

- A. Where work penetrates waterproofing, including waterproof concrete, the method of installation shall be approved by the Engineer prior to performing the work. Furnish necessary sleeves, caulking and flashing required to make openings absolutely watertight.

1.3 ELECTRICAL CONNECTIONS AND PROTECTION

- A. Regardless of voltage, provide control wiring, interlock wiring, and equipment control wiring for the equipment provided under this division of the specifications.
- B. Furnish electrical disconnect switches, starters and combination starter disconnects required for equipment provided under this division of the specifications. Circuit breakers furnished shall be rated for motor protection.
- C. Power wiring not used for control functions, complete from power source to motor or equipment junction box, including power wiring through starters, shall be provided under Division 26.
- D. Coordinate to ensure that electrical devices furnished or provided are compatible with the electrical systems used.
- E. Confirm final location of electrical equipment to be installed in the vicinity of piping.

1.4 PAINTING

- A. Painting requirements of this section shall conform to Division 9 – Finishes: Painting.
- B. Provide surface preparation, priming, and final coat application in strict accordance with manufacturer's recommendations.

**SECTION 22 0500
PLUMBING**

- C. Provide field painting of systems, equipment and miscellaneous metals located outdoors. Application shall be in strict accordance with manufacturer's recommendations.
- D. Provide painting of plumbing piping and equipment exposed in mechanical equipment room and in occupied spaces. Plumbing items to be painted are as follows:
 - 1. Piping, pipe hangers, pipe insulation, and supports
 - 2. Equipment and supports.
 - 3. Accessory items.

1.5 CLEANING, PROTECTION AND ADJUSTMENT

- A. Cleaning
 - 1. General cleaning requirements are specified in Division 1 – General Requirements.
 - 2. Upon completion of the work, clean the exterior surface of equipment, accessories, and trim installed. Clean, polish, and leave equipment, accessories, and trim in first-class condition.
- B. Protection of Surfaces
 - 1. Protect surfaces from damage during the construction period.
 - 2. Provide plywood or similar material under equipment or materials stored on floors or roofs. Provide protection in areas where construction may damage surfaces.
 - 3. Surfaces damaged during the construction shall be repaired or replaced at no additional cost to the City. The method of repairing or replacing the surface shall be approved by the Engineer.
- C. Protection of Services
 - 1. Protect services from damage during the construction period.
 - 2. Repair, replace and maintain utilities, facilities or services (underground, above ground, interior or exterior) damaged, broken or otherwise rendered inoperative during the course of construction.
 - 3. Services damaged during the construction shall be replaced at the cost of the Contractor at fault. The method used in repairing, replacing or maintaining the services shall be approved by the Engineer.
- D. Protection of Equipment and Materials
 - 1. Equipment and materials shall be stored in a manner that shall maintain an orderly, clean appearance. If stored on-site in open or unprotected areas, equipment and material shall be kept off the ground and out of standing water by means of pallets or racks, and covered with tarpaulins.
 - 2. Equipment and material, if left unprotected and damaged, shall be repainted or otherwise refurbished at the discretion of the Owner. Equipment and material is subject to rejection and replacement if, in the opinion of the Engineer or manufacturer the equipment has deteriorated or been damaged to the extent that its immediate use or performance is questionable, or that its normal life expectancy has been curtailed.
 - 3. During the construction period, protect piping, fittings, valves, equipment, and associated appurtenances from damage and dirt. Each system of piping shall be flushed to remove grit, dirt, sand, and other foreign matter for as long a time as required to thoroughly clean the systems.
- E. Adjustment
 - 1. After the entire installation has been completed, make required adjustments to balancing valves, circulating systems, pressure reducing valves and similar devices until performance requirements are met.

**SECTION 22 0500
PLUMBING**

2. Provide factory-lubricated bearings for equipment. Before initial startup of equipment, inspect and verify bearings for proper amounts of lubricant. If required, provide proper amounts of lubricant in accordance with manufacturer's recommendations.

1.6 DIELECTRIC FITTINGS

- A. Ferrous to non-ferrous pipe connections shall be made with threaded, soldered, plain, or welded end connections that match piping system material. Dielectric fittings shall prevent any electrolytic action between dissimilar materials.

1.7 PIPING CONNECTIONS

- A. Make pipe connections according to the following
 1. Provide unions in supply piping systems 4 inches and smaller:
 - a. Adjacent to each side of valve
 - b. At final connection to equipment
 2. Provide flanged connections for supply piping systems 4 ½ inches and larger:
 - a. Adjacent to each side of valve
 - b. At final connection to equipment
 3. Provide sewer lateral cleanout:
 - a. As indicated on Plans.

1.8 SLEEVES AND SEALS

- A. Sleeves for Pipes through Non-fire Rated Floors: 18 gage (1.2 mm thick) galvanized steel.
- B. Sleeves for Pipes through Non-fire Rated Beams, Walls, Footings, and Potentially Wet Floors: Steel pipe or 18 gage (1.2 mm thick) galvanized steel.
- C. Sleeves for Round Ductwork: Galvanized steel.
- D. Sleeves for Rectangular Ductwork: Galvanized steel or wood.
- E. Sealant: refer to Section 07 92 00 – Joint Sealants.

PART 2 - PRODUCTS

2.1 PIPE HANGERS AND SUPPORTS

- A. Manufacturers: Subject to compliance with project requirements, manufacturers offering Products which may be incorporated in the Work include the following:
 1. Grinnell.
 2. Elcen.
 3. Fee and Mason.
 4. Kin-Line.
 5. Michigan.
 6. Unistrut.
 7. Or approved equal.
- B. Plumbing Piping - DWV:
 1. Conform to ASTM F708.
 2. Hangers for Pipe Sizes 1/2 to 1-1/2 Inch (13 to 38 mm): Malleable iron, adjustable swivel, split ring.
 3. Hangers for Pipe Sizes 2 Inches (50 mm) and Over: Carbon steel, adjustable, clevis.

**SECTION 22 0500
PLUMBING**

4. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
5. Wall Support for Pipe Sizes to 3 Inches (75 mm): Cast iron hook.
6. Wall Support for Pipe Sizes 4 Inches (100 mm) and Over: Welded steel bracket and wrought steel clamp.
7. Vertical Support: Steel riser clamp.
8. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
9. Copper Pipe Support: Carbon steel ring, adjustable, copper plated.

C. Plumbing Piping - Water:

1. Conform to ASTM F708.
2. Hangers for Pipe Sizes 1/2 to 1-1/2 Inch (13 to 38 mm): Malleable iron adjustable swivel, split ring.
3. Hangers for Cold Pipe Sizes 2 Inches (50 mm) and Over: Carbon steel, adjustable, clevis.
4. Hangers for Hot Pipe Sizes 2 to 4 Inches (50 to 100 mm): Carbon steel, adjustable, clevis.
5. Hangers for Hot Pipe Sizes 6 Inches (150 mm) and Over: Adjustable steel yoke, cast iron roll, double hanger.
6. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
7. Multiple or Trapeze Hangers for Hot Pipe Sizes 6 Inches (150 mm) and Over: Steel channels with welded spacers and hanger rods, cast iron roll.
8. Wall Support for Pipe Sizes to 3 Inches (76 mm): Cast iron hook.
9. Wall Support for Pipe Sizes 4 Inches (100 mm) and Over: Welded steel bracket and wrought steel clamp.
10. Wall Support for Hot Pipe Sizes 6 Inches (150 mm) and Over: Welded steel bracket and wrought steel clamp with adjustable steel yoke and cast-iron roll.
11. Vertical Support: Steel riser clamp.
12. Floor Support for Cold Pipe: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
13. Floor Support for Hot Pipe Sizes to 4 Inches (100 mm): Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
14. Floor Support for Hot Pipe Sizes 6 Inches (150 mm) and Over: Adjustable cast iron roll and stand, steel screws, and concrete pier or steel support.
15. Copper Pipe Support: Carbon steel ring, adjustable, copper plated.

2.2 PIPE HANGER AND SUPPORT SCHEDULE

PIPE SIZE Inches (mm)	MAX. HANGER SPACING Feet (m)	HANGER ROD DIAMETER Inches (mm)
1/2 to 1-1/4 (12 to 32)	6.5 (2)	3/8 (9)
1-1/2 to 2 (38 to 50)	10 (3)	3/8 (9)
2-1/2 to 3 (62 to 75)	10 (3)	1/2 (13)
4 to 6 (100 to 150)	10 (3)	5/8 (15)
8 to 12 (200 to 300)	14 (4.25)	7/8 (22)

**SECTION 22 0500
PLUMBING**

PVC (All Sizes)	6 (1.8)	3/8 (9)
C.I. Bell and Spigot (or No-Hub) and at Joints	5 (1.5)	1/2 (13)

2.3 PROTECTION OF ELECTRICAL EQUIPMENT

- A. Plan and arrange overhead piping to avoid dedicated electrical space that may include motors, controllers, switchboards, panel boards, or similar equipment.
 - 1. Dedicated electrical space is equal to the width and depth of the electrical components and extends from the floor to a height of 6 feet above the electrical components or to the structural ceiling, whichever is lower. No piping, leak detection apparatus, equipment, components or associated appurtenances foreign to the electrical installation shall be located in the dedicated electrical space.
 - 2. Dropped, suspended, or any other type of ceiling that does not add strength to the building structure cannot be provided as a separation between dedicated electrical spaces for the installation of foreign components within the dedicated electrical space.
- B. Where the installation of foreign components occurs above the dedicated electrical space (6 feet above the electrical systems), contractor shall provide a means of secondary containment to prevent damage to the electrical systems.
- C. Secondary Containment Piping System
 - 1. Piping system shall consist of clear unpigmented Polyvinyl Chloride pipe and fittings. The containment piping system shall be longitudinally split. The pipe shall align via a tongue and groove and the fittings shall be manufactured in two halves.
 - 2. The pipe and fitting shall be temporarily held together by clips affixed over top of integral fitting clip locators. Final system joining shall be provided by welding components together via an injection bonding process.
 - 3. Final containment inspection shall be provided via a low-pressure air test per manufacturer's requirements.

2.4 DIELECTRIC FITTINGS

- A. Dielectric unions shall be factory – fabricated assemblies with a minimum working pressure as required to suit system pressures.
- B. Dielectric flanges shall be factory – fabricated, companion flange assemblies with a minimum working pressure as required to suit system pressures.
- C. Dielectric flange kits shall be field – fabricated with a minimum working pressure as required to suit system pressures. Kit shall include flanges, full face type phenolic gasket, phenolic bolt sleeves, phenolic washers, and steel backing washers.
- D. Dielectric couplings shall be galvanized steel with inert and noncorrosive, thermoplastic lining, threaded ends and a minimum working pressure as required to suit system pressures.
- E. Dielectric nipples shall be electroplated steel nipple with unert and noncorrosive, thermoplastic lining, plain, threaded, or grooved ends and a minimum working pressure as required to suit system pressures.
- F. Acceptable Manufacturers:
 - 1. Watts Industries
 - 2. Zurn Industries

**SECTION 22 0500
PLUMBING**

- 3. Sioux Chief Industries
- 4. Or approved equal.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 70 00 - Execution and Closeout Requirements: Verification of existing conditions before starting work.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
- C. Report in writing to the Engineer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected and approved by the Engineer.
- D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the City.

3.2 PREPARATION - MECHANICAL IDENTIFICATION

- A. Degrease and clean surfaces to receive adhesive for identification materials.

3.3 INSTALLATION - GENERAL

- A. Install in accordance with manufacturer's instructions.
- B. The use of lead-containing solder for plumbing and plumbing fixtures is prohibited in the construction of this project.

3.4 INSTALLATION - PIPE HANGER AND SUPPORTS

- A. Support horizontal piping as scheduled.
- B. Install hangers to provide minimum 1/2-inch (13 mm) space between finished covering and adjacent work.
- C. Place hangers within 12 inches (300 mm) of each horizontal elbow.
- D. Use hangers with 1-1/2 inch (38 mm) minimum vertical adjustment.
- E. Support horizontal cast iron pipe adjacent to each hub, with 5 feet (1.5 m) maximum spacing between hangers.
- F. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.
- G. Support riser piping independently of connected horizontal piping.
- H. Provide copper plated hangers and supports for copper piping.
- I. Design hangers for pipe movement without disengagement of supported pipe.

**SECTION 22 0500
PLUMBING**

- J. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.

3.5 INSTALLATION - MECHANICAL IDENTIFICATION

- A. Install identifying devices after completion of coverings and painting.
- B. Install plastic nameplates with corrosive-resistant mechanical fasteners, or adhesive.
- C. Install tags using corrosion resistant chain. Number tags consecutively by location.
- D. Install underground plastic pipe markers 6 to 8 inches (150 to 200 mm) below finished grade, directly above buried pipe.
- E. Identify control panels and major control components outside panels with plastic nameplates.
- F. Identify valves in main and branch piping with tags.
- G. Identify piping, concealed or exposed, with plastic pipe markers and plastic tape pipe markers. Use tags on piping 3/4-inch (20 mm) diameter and smaller. Identify service, flow direction, and pressure. Install in clear view and align with axis of piping. Locate identification not to exceed 20 feet (6 m) on straight runs including risers and drops, adjacent to each valve and tee, at each side of penetration of structure or enclosure, and at each obstruction.

Payment for all items of work identified in Division 22 in the plans and these specifications will be based on the lump sum pricing for items identified as Plumbing in the Bid Schedule. No additional Compensation will be allowed.

END OF SECTION

SECTION 22 0522
COMMON WORK RESULTS FOR PLUMBING

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes the following:
 - A. Piping materials and installation instructions common to most piping systems.
 - B. Dielectric fittings.
 - C. Mechanical sleeve seals.
 - D. Sleeves.
 - E. Escutcheons.
 - F. Plumbing demolition.
 - G. Equipment installation requirements common to equipment sections.
 - H. Supports and anchorages.

1.2 DEFINITIONS

- A. Finished Spaces: Spaces other than plumbing and electrical equipment rooms, furred spaces, pipe chases, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.
- B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and plumbing equipment rooms.
- C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.
- D. Concealed, Interior Installations: Concealed from view and protected from physical contact by building occupants. Examples include above ceilings and in chases.
- E. Concealed, Exterior Installations: Concealed from view and protected from weather conditions and physical contact by building occupants but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.

1.3 SUBMITTALS

- A. Welding Certificates

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Steel Support Welding: Qualify processes and operators according to AWS D1.1, "Structural Welding Code--Steel."
- B. Steel Pipe Welding: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."
 - 1. Comply with provisions in ASME B31 Series, "Code for Pressure Piping."
 - 2. Certify that each welder has passed AWS qualification tests for welding processes involved and that certification is current.
- C. Electrical Characteristics for Plumbing Equipment: Equipment of higher electrical characteristics may be furnished provided such proposed equipment is approved in writing and connecting electrical services, circuit breakers, and conduit sizes are appropriately modified. If minimum energy ratings or efficiencies are specified, equipment shall comply with requirement

**SECTION 22 0522
COMMON WORK RESULTS FOR PLUMBING**

PART 2 - PRODUCTS

2.1 PIPE, TUBE, AND FITTINGS

- A. ASME B1.20.1 for factory-threaded pipe and pipe fittings.

2.2 JOINING MATERIALS

- A. Refer to individual Division 22 piping Sections for special joining materials not listed below.
- B. Pipe-Flange Gasket Materials: ASME B16.21, nonmetallic, flat, asbestos-free, 1/8-inch (3.2-mm) maximum thickness unless thickness or specific material is indicated.
- C. Plastic, Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer, unless otherwise indicated.
- D. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.
- E. Brazing Filler Metals: AWS A5.8, BCuP Series or BAg1, unless otherwise indicated.
- F. Welding Filler Metals: Comply with AWS D10.12.
- G. Solvent Cements for Joining Plastic Piping:
 - 1. ABS Piping: ASTM D 2235.
 - 2. CPVC Piping: ASTM F 493.
 - 3. PVC Piping: ASTM D 2564. Include primer according to ASTM F 656.
 - 4. PVC to ABS Piping Transition: ASTM D 3138.

2.3 DIELECTRIC FITTINGS

- A. Description: Combination fitting of copper alloy and ferrous materials with threaded, solder-joint, plain, or weld-neck end connections that match piping system materials.
- B. Insulating Material: Suitable for system fluid, pressure, and temperature.
- C. Dielectric Unions: Factory-fabricated, union assembly, for 250-psig (1725-kPa) minimum working pressure at 180 deg F (82 deg C).
- D. Dielectric Flanges: Factory-fabricated, companion-flange assembly, for 150- or 300-psig (1035- or 2070-kPa) minimum working pressure as required to suit system pressures.
- E. Dielectric Couplings: Galvanized-steel coupling with inert and noncorrosive, thermoplastic lining; threaded ends; and 300-psig (2070-kPa) minimum working pressure at 225 deg F (107 deg C).
- F. Dielectric Nipples: Electroplated steel nipple with inert and noncorrosive, thermoplastic lining; plain, threaded, or grooved ends; and 300-psig (2070-kPa) minimum working pressure at 225 deg F (107 deg C).

2.4 MECHANICAL SLEEVE SEALS

- A. Description: Modular sealing element unit, designed for field assembly, to fill annular space between pipe and sleeve.
- B. Sealing Elements: EPDM NBR interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.

**SECTION 22 0522
COMMON WORK RESULTS FOR PLUMBING**

- C. Pressure Plates: Carbon steel Include two for each sealing element.
- D. Connecting Bolts and Nuts: Carbon steel with corrosion-resistant coating of length required to secure pressure plates to sealing elements. Include one for each sealing element.

2.5 SLEEVES

- A. Galvanized-Steel Sheet: 0.0239-inch (0.6-mm) minimum thickness; round tube closed with welded longitudinal joint.
- B. Steel Pipe: ASTM A 53, Type E, Grade B, Schedule 40, galvanized, plain ends.
- C. Cast Iron: Cast or fabricated "wall pipe" equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
- D. Stack Sleeve Fittings: Manufactured, cast-iron sleeve with integral clamping flange. Include clamping ring and bolts and nuts for membrane flashing.
 - 1. Underdeck Clamp: Clamping ring with set screws.
- E. Molded PVC: Permanent, with nailing flange for attaching to wooden forms.
- F. PVC Pipe: ASTM D 1785, Schedule 40.
- G. Molded PE: Reusable, PE, tapered-cup shaped, and smooth-outer surface with nailing flange for attaching to wooden forms.

2.6 ESCUTCHEONS

- A. Description: Manufactured wall and ceiling escutcheons and floor plates, with an ID to closely fit around pipe, tube, and insulation of insulated piping and an OD that completely covers opening.
- B. One-Piece, Deep-Pattern Type: Deep-drawn, box-shaped brass with polished chrome-plated finish.
- C. Split-Casting, Cast-Brass Type: With concealed hinge and set screw.
 - 1. Finish: Polished chrome-plated.

PART 3 - EXECUTION

3.1 PLUMBING DEMOLITION

- A. Refer to Division 01 Section "Cutting and Patching" and Division 02 Section "Selective Structure Demolition" for general demolition requirements and procedures.
- B. Disconnect, demolish, and remove plumbing systems, equipment, and components indicated to be removed.
 - 1. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - 2. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
 - 3. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - 4. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - 5. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.

SECTION 22 0522
COMMON WORK RESULTS FOR PLUMBING

- C. If pipe, insulation, or equipment to remain is damaged in appearance or is unserviceable, remove damaged or unserviceable portions and replace with new products of equal capacity and quality.

3.2 PIPING SYSTEMS – COMMON REQUIREMENTS

- A. Install piping according to the following requirements and Division 22 Sections specifying piping systems.
- B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.
- C. Install piping in concealed locations, unless otherwise indicated and except in equipment rooms and service areas.
- D. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- E. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
- F. Install piping to permit valve servicing.
- G. Install piping at indicated slopes.
- H. Install piping free of sags and bends.
- I. Install fittings for changes in direction and branch connections.
- J. Install piping to allow application of insulation.
- K. Select system components with pressure rating equal to or greater than system operating pressure.
- L. Install escutcheons for penetrations of walls, ceilings, and floors.
- M. Install sleeves for pipes passing through concrete and masonry walls, gypsum-board partitions, and concrete floor and roof slabs.
- N. Aboveground, Exterior-Wall Pipe Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.
 - 1. Install steel pipe for sleeves smaller than 6 inches (150 mm) in diameter.
 - 2. Install cast-iron "wall pipes" for sleeves 6 inches (150 mm) and larger in diameter.
 - 3. Mechanical Sleeve Seal Installation: Select type and number of sealing elements required for pipe material and size. Position pipe in center of sleeve. Assemble mechanical sleeve seals and install in annular space between pipe and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.
- O. Underground, Exterior-Wall Pipe Penetrations: Install cast-iron "wall pipes" for sleeves. Seal pipe penetrations using mechanical sleeve seals. Select sleeve size to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.
 - 1. Mechanical Sleeve Seal Installation: Select type and number of sealing elements required for pipe material and size. Position pipe in center of sleeve. Assemble mechanical sleeve seals and install in annular space between pipe and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.
- P. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestop materials. Refer to Division 07 Section "Penetration Firestopping" for materials.
- Q. Verify final equipment locations for roughing-in.
- R. Refer to equipment specifications in other Sections of these Specifications for roughing-in requirements.

**SECTION 22 0522
COMMON WORK RESULTS FOR PLUMBING**

3.3 PIPING JOINT CONSTRUCTION

- A. Join pipe and fittings according to the following requirements and Division 22 Sections specifying piping systems.
- B. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- C. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- D. Soldered Joints: Apply ASTM B 813, water-flushable flux, unless otherwise indicated, to tube end. Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook," using lead-free solder alloy complying with ASTM B 32.
- E. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," "Pipe and Tube" Chapter, using copper-phosphorus brazing filler metal complying with AWS A5.8.
- F. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 - 1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
 - 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- G. Welded Joints: Construct joints according to AWS D10.12, using qualified processes and welding operators according to Part 1 "Quality Assurance" Article.
- H. Flanged Joints: Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.
- I. Plastic Piping Solvent-Cement Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:
 - 1. Comply with ASTM F 402, for safe-handling practice of cleaners, primers, and solvent cements.
 - 2. ABS Piping: Join according to ASTM D 2235 and ASTM D 2661 Appendixes.
 - 3. CPVC Piping: Join according to ASTM D 2846/D 2846M Appendix.
 - 4. PVC Pressure Piping: Join schedule number ASTM D 1785, PVC pipe and PVC socket fittings according to ASTM D 2672. Join other-than-schedule-number PVC pipe and socket fittings according to ASTM D 2855.
 - 5. PVC Nonpressure Piping: Join according to ASTM D 2855.
 - 6. PVC to ABS Nonpressure Transition Fittings: Join according to ASTM D 3138 Appendix.
- J. Plastic Pressure Piping Gasketed Joints: Join according to ASTM D 3139.
- K. Plastic Nonpressure Piping Gasketed Joints: Join according to ASTM D 3212.
- L. PE Piping Heat-Fusion Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join according to ASTM D 2657.
 - 1. Plain-End Pipe and Fittings: Use butt fusion.
 - 2. Plain-End Pipe and Socket Fittings: Use socket fusion.
- M. Fiberglass Bonded Joints: Prepare pipe ends and fittings, apply adhesive, and join according to pipe manufacturer's written instructions.

3.4 PIPING CONNECTIONS

- A. Make connections according to the following, unless otherwise indicated:
 - 1. Install unions, in piping NPS 2 (DN 50) and smaller, adjacent to each valve and at final connection to each piece of equipment.
 - 2. Install flanges, in piping NPS 2-1/2 (DN 65) and larger, adjacent to flanged valves and at final connection to each piece of equipment.
 - 3. Dry Piping Systems: Install dielectric unions and flanges to connect piping materials of dissimilar metals.
 - 4. Wet Piping Systems: Install dielectric coupling and nipple fittings to connect piping materials of dissimilar metals.

**SECTION 22 0522
COMMON WORK RESULTS FOR PLUMBING**

3.5 EQUIPMENT INSTALLATION – COMMON REQUIREMENTS

- A. Install equipment to allow maximum possible headroom unless specific mounting heights are not indicated.
- B. Install equipment level and plumb, parallel and perpendicular to other building systems and components in exposed interior spaces, unless otherwise indicated.
- C. Install plumbing equipment to facilitate service, maintenance, and repair or replacement of components. Connect equipment for ease of disconnecting, with minimum interference to other installations. Extend grease fittings to accessible locations.
- D. Install equipment to allow right of way for piping installed at required slope.

3.6 ERECTION OF METAL SUPPORTS AND ANCHORAGES:

- A. Refer to Division 05 Section "Metal Fabrications" for structural steel.
- B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor plumbing materials and equipment.
- C. Field Welding: Comply with AWS D1.1.

3.7 ERECTION OF WOOD SUPPORTS AND ANCHORAGES

- A. Cut, fit, and place wood grounds, nailers, blocking, and anchorages to support, and anchor plumbing materials and equipment.
- B. Select fastener sizes that will not penetrate members if opposite side will be exposed to view or will receive finish materials. Tighten connections between members. Install fasteners without splitting wood members.
- C. Attach to substrates as required to support applied loads.

END OF SECTION

**SECTION 22 1116
DOMESTIC WATER PIPING**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Aboveground domestic water pipes, tubes, fittings, and valve above grade and inside the building.
 - 2. Valves.
 - 3. Dielectric Fittings.
 - 4. Escutcheons.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Field quality-control reports.

1.3 QUALITY ASSURANCE

- A. Piping materials shall bear label, stamp, or other markings of specified testing agency.
- B. Comply with NSF 61 for potable domestic water piping and components.

PART 2 - PRODUCTS

2.1 COPPER TUBE AND FITTINGS

- A. Hard Copper Tube: ASTM B 88, Type L water tube, drawn temper.
 - 1. Wrought-Copper Solder-Joint Fittings: ASME B16.22, wrought-copper pressure fittings.
 - 2. Bronze Flanges: ASME B16.24, Class 150, with solder-joint ends.
 - 3. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces, and solder-joint ends.

2.2 PIPING JOINING MATERIALS

- A. Metal, Pipe-Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.
- B. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.

2.3 BALL VALVES

- A. Manufacturers:
 - 1. Grinnell Corporation.
 - 2. Other acceptable manufacturers offering equivalent products.
 - a. Hammond Valve.
 - b. Milwaukee Valve Company.

**SECTION 22 1116
DOMESTIC WATER PIPING**

- c. Red-White Valve Corporation.
 - d. Nibco.
 - e. Apollo.
 - f. Or equal.
- B. Up to 2 Inches: Bronze two-piece body, stainless or chrome plated steel ball, Teflon seats and stuffing box ring, lever handle solder or threaded ends. Note: Three-piece full port ball valves are recommended up to 3". Also recommended to add option for extended handle stem for insulated pipes.
- C. Over 2 Inches: Cast steel body, chrome plated steel ball, Teflon seat and stuffing box seals, lever handle, flanged.

2.4 DIELECTRIC FITTINGS

- A. General Requirements: Assembly of copper alloy and ferrous materials or ferrous material body with separating nonconductive insulating material suitable for system fluid, pressure, and temperature.
- B. Dielectric Unions:
 - 1. Description:
 - a. Pressure Rating: 150 psig at 180 deg F.
 - b. End Connections: Solder-joint copper alloy and threaded ferrous.

2.5 ESCUTCHEONS

- A. General: Manufactured ceiling, floor, and wall escutcheons and floor plates.
- B. One Piece, Cast Brass: Polished, chrome-plated finish with setscrews.

PART 3 - EXECUTION

3.1 PIPING INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of domestic water piping. Indicated locations and arrangements are used to size pipe and calculate friction loss, expansion, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.
- B. Install copper tubing under building slab according to CDA's "Copper Tube Handbook."
- C. Install domestic water piping level and plumb.
- D. Install piping concealed from view and protected from physical contact by building occupants unless otherwise indicated.
- E. Install nipples, unions, special fittings, and valves with pressure ratings the same as or higher than system pressure rating used in applications below unless otherwise indicated.
- F. Install piping free of sags and bends.
- G. Install fittings for changes in direction and branch connections.

**SECTION 22 1116
DOMESTIC WATER PIPING**

3.2 JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.
- C. Soldered Joints: Apply ASTM B 813, water-flushable flux to end of tube. Join copper tube and fittings according to ASTM B 828 or CDA's "Copper Tube Handbook."
- D. Dissimilar-Material Piping Joints: Make joints using adapters compatible with materials of both piping systems.

3.3 DIELECTRIC FITTING INSTALLATION

- A. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.
- B. Dielectric Fittings for NPS 2 and Smaller: Use dielectric unions.
- C. Dielectric Fittings for NPS 2-1/2 to NPS 64: Use dielectric flanges or flange kits.

3.4 ESCUTCHEON INSTALLATION

- A. Install escutcheons for penetrations of walls, ceilings, and floors.
- B. Escutcheons for New Piping:
 - 1. Piping with Fitting or Sleeve Protruding from Wall: One-piece, deep pattern.
 - 2. Bare Piping at Wall and Floor Penetrations in Finished Spaces: One piece, cast brass with polished chrome-plated finish.

3.5 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Piping Inspections:
 - 1. Do not enclose, cover, or put piping into operation until it has been inspected and approved by authorities having jurisdiction.
 - 2. During installation, notify authorities having jurisdiction at least one day before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction:
 - a. Roughing-in Inspection: Arrange for inspection of piping before concealing or closing-in after roughing-in and before setting fixtures.
 - b. Final Inspection: Arrange final inspection for authorities having jurisdiction to observe tests specified below and to ensure compliance with requirements.
 - 3. Reinspection: If authorities having jurisdiction find that piping will not pass tests or inspections, make required corrections and arrange for reinspection.
 - 4. Reports: Prepare inspection reports and have them signed by authorities having jurisdiction.
- C. Piping Tests:
 - 1. Fill domestic water piping. Check components to determine that they are not air bound and that piping is full of water.

**SECTION 22 1116
DOMESTIC WATER PIPING**

2. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit a separate report for each test, complete with diagram of portion of piping tested.
 3. Leave new, altered, extended, or replaced domestic water piping uncovered and unconcealed until it has been tested and approved. Expose work that was covered or concealed before it was tested.
 4. Cap and subject piping to static water pressure of 50 psig above operating pressure, without exceeding pressure rating of piping system materials. Isolate test source and allow to stand for four hours. Leaks and loss in test pressure constitute defects that must be repaired.
 5. Repair leaks and defects with new materials and retest piping or portion thereof until satisfactory results are obtained.
 6. Prepare reports for tests and for corrective action required.
- D. Domestic water piping will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

3.6 CLEANING

- A. Clean and disinfect potable domestic water piping as follows:
1. Purge new piping and parts of existing piping that have been altered, extended, or repaired before using.
 2. Use purging and disinfecting procedures prescribed by authorities having jurisdiction; if methods are not prescribed, use procedures described in either AWWA C651 or AWWA C652 or follow procedures described below:
 - a. Flush piping system with clean, potable water until dirty water does not appear at outlets.
 - b. Fill and isolate system according to either of the following:
 - 1) Fill system or part thereof with water/chlorine solution with at least 50 ppm of chlorine. Isolate with valves and allow to stand for 24 hours.
 - 2) Fill system or part thereof with water/chlorine solution with at least 200 ppm of chlorine. Isolate and allow to stand for three hours.
 - c. Flush system with clean, potable water until no chlorine is in water coming from system after the standing time.
 - d. Submit water samples in sterile bottles to authorities having jurisdiction. Repeat procedures if biological examination shows contamination.
- B. Prepare and submit reports of purging and disinfecting activities.
- C. Clean interior of domestic water piping system. Remove dirt and debris as work progresses.

END OF SECTION

**SECTION 22 1319
SANITARY WASTE PIPING SPECIALTIES**

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following sanitary drainage piping specialties:
1. Cleanouts.
 2. Floor drains.
 3. Roof flashing assemblies.
 4. Miscellaneous sanitary drainage piping specialties.
 5. Flashing materials.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.3 QUALITY ASSURANCE

- A. Drainage piping specialties shall bear label, stamp, or other markings of specified testing agency.

PART 2 - PRODUCTS

2.1 CLEANOUTS

- A. Cast-Iron Floor Cleanouts:
1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Josam Company; Josam Div.
 - b. Oatey.
 - c. Sioux Chief Manufacturing Company, Inc.
 - d. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
 - e. Tyler Pipe; Wade Div.
 - f. Watts Drainage Products Inc.
 - g. Zurn Plumbing Products Group; Light Commercial Operation.
 - h. Zurn Plumbing Products Group; Specification Drainage Operation.
 2. Standard: ASME A112.36.2M for adjustable housing cleanout.
 3. Size: Same as connected branch.
 4. Closure: Brass plug with straight threads and gasket OR cast-iron plug.
 5. Top Loading Classification: Light Duty.
 6. Riser: ASTM A 74, Service class, cast-iron drainage pipe fitting and riser to clean out.
- B. Cast-Iron Wall Cleanouts:
1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Josam Company; Josam Div.

SECTION 22 1319
SANITARY WASTE PIPING SPECIALTIES

- b. MIFAB, Inc.
 - c. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
 - d. Tyler Pipe; Wade Div.
 - e. Watts Drainage Products Inc.
 - f. Zurn Plumbing Products Group; Specification Drainage Operation.
- 2. Standard: ASME A112.36.2M. Include wall access.
 - 3. Size: Same as connected drainage piping.
 - 4. Closure Plug Size: Same as or not more than one size smaller than cleanout size.
 - 5. Wall Access: Round, flat, chrome-plated brass or stainless-steel cover plate with screw.

2.2 FLOOR DRAINS

A. Cast-Iron Floor Drains:

- 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Commercial Enameling Co.
 - b. Josam Company; Josam Div.
 - c. MIFAB, Inc.
 - d. Prier Products, Inc.
 - e. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
 - f. Tyler Pipe; Wade Div.
 - g. Watts Drainage Products Inc.
 - h. Zurn Plumbing Products Group; Light Commercial Operation.
 - i. Zurn Plumbing Products Group; Specification Drainage Operation.
- 2. Standard: ASME A112.6.3 with backwater valve, if required.
- 3. Body Material: Gray iron.
- 4. Backwater Valve: Integral, ASME A112.14.1, swing-check type, if required.
- 5. Coating on Interior and Exposed Exterior Surfaces: Acid-resistant enamel, where required.
- 6. Sediment Bucket:
- 7. Top or Strainer Material: Nickel bronze.
- 8. Top of Body and Strainer Finish: [Nickel bronze] [Polished bronze] [Rough bronze] <Insert finish>.
- 9. Top Shape: Square.
- 10. Top Loading Classification: Light Duty.

2.3 ROOF FLASHING ASSEMBLIES

A. Roof Flashing Assemblies:

- 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Acorn Engineering Company; Elmdor/Stoneman Div.
 - b. Thaler Metal Industries Ltd.

- B. Description:** Manufactured assembly made of 6.0-lb/sq. ft., 0.0938-inch-thick, lead flashing collar and skirt extending at least 10 inches from pipe, with galvanized-steel boot reinforcement and counterflashing fitting.

- 1. Open-Top Vent Cap: Without cap.

**SECTION 22 1319
SANITARY WASTE PIPING SPECIALTIES**

2. Low-Silhouette Vent Cap: With vandal-proof vent cap.
3. Extended Vent Cap: With field-installed, vandal-proof vent cap.

2.4 MISCELLANEOUS SANITARY DRAINAGE PIPING SPECIALTIES

- A. Air-Gap Fittings:
1. Standard: ASME A112.1.2, for fitting designed to ensure fixed, positive air gap between installed inlet and outlet piping.
 2. Body: Bronze or cast iron.
 3. Inlet: Opening in top of body.
 4. Outlet: Larger than inlet.
 5. Size: Same as connected waste piping and with inlet large enough for associated indirect waste piping.
- B. Vent Caps:
1. Description: Cast-iron body with threaded or hub inlet and vandal-proof design. Include vented hood and setscrews to secure to vent pipe.
 2. Size: Same as connected stack vent or vent stack.

2.5 FLASHING MATERIALS

- A. Lead Sheet: ASTM B 749, Type L51121, copper bearing, with the following minimum weights and thicknesses, unless otherwise indicated:
1. General Use: 6-lb/sq. ft., 0.0938-inch thickness.
- B. Fasteners: Metal compatible with material and substrate being fastened.
- C. Metal Accessories: Sheet metal strips, clamps, anchoring devices, and similar accessory units required for installation; matching or compatible with material being installed.
- D. Solder: ASTM B 32, lead-free alloy.
- E. Bituminous Coating: SSPC-Paint 12, solvent-type, bituminous mastic.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Refer to Division 22 Section 22 05 22 "Common Work Results for Plumbing" for piping joining materials, joint construction, and basic installation requirements.
- B. Install cleanouts in aboveground piping according to the following, unless otherwise indicated:
1. Size same as drainage piping up to **NPS 4**. Use **NPS 4** for larger drainage piping unless larger cleanout is indicated.
 2. Locate at each change in direction of piping greater than 45 degrees.
 3. Locate at minimum intervals of **50 feet** for piping **NPS 4** and smaller and **100 feet** for larger piping.
- C. For floor cleanouts for piping below floors, install cleanout deck plates with top flush with finished floor.

**SECTION 22 1319
SANITARY WASTE PIPING SPECIALTIES**

- D. For cleanouts located in concealed piping, install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall.
- E. Install floor drains at low points of surface areas to be drained. Set grates of drains flush with finished floor, unless otherwise indicated.
 - 1. Position floor drains for easy access and maintenance.
 - 2. Set floor drains below elevation of surrounding finished floor to allow floor drainage. Set with grates depressed according to the following drainage area radii:
 - a. Radius, 30 Inches or Less: Equivalent to 1 percent slope, but not less than 1/4-inch total depression.
 - b. Radius, 30 to 60 Inches: Equivalent to 1 percent slope.
 - c. Radius, 60 Inches or Larger: Equivalent to 1 percent slope, but not greater than 1-inch total depression.
 - 3. Install floor-drain flashing collar or flange so no leakage occurs between drain and adjoining flooring. Maintain integrity of waterproof membranes where penetrated.
 - 4. Install individual traps for floor drains connected to sanitary building drain, unless otherwise indicated.
- F. Install roof flashing assemblies on sanitary stack vents and vent stacks that extend through roof.
- G. Install flashing fittings on sanitary stack vents and vent stacks that extend through roof.
- H. Install floor-drain, trap-seal primer fittings on inlet to floor drains that require trap-seal primer connection.
 - 1. Exception: Fitting may be omitted if trap has trap-seal primer connection.
 - 2. Size: Same as floor drain inlet.
- I. Install air-gap fittings on draining indirect-waste piping discharge into sanitary drainage system.
- J. Install vent caps on each vent pipe passing through roof.
- K. Install escutcheons at wall, floor, and ceiling penetrations in exposed finished locations and within cabinets and millwork. Use deep-pattern escutcheons if required to conceal protruding pipe fittings.

3.2 CONNECTIONS

- A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to equipment to allow service and maintenance.

3.3 FLASHING INSTALLATION

- A. Install sheet flashing on pipes, sleeves, and specialties passing through or embedded in floors and roofs with waterproof membrane.
 - 1. Pipe Flashing: Sleeve type, matching pipe size, with minimum length of 10 inches, and skirt or flange extending at least 8 inches around pipe.
 - 2. Sleeve Flashing: Flat sheet, with skirt or flange extending at least 8 inches around sleeve.
- B. Set flashing on floors and roofs in solid coating of bituminous cement.
- C. Secure flashing into sleeve and specialty clamping ring or device.

SECTION 22 1319
SANITARY WASTE PIPING SPECIALTIES

- D. Install flashing for piping passing through roofs with counterflashing or commercially made flashing fittings, according to Division 07 Section "Sheet Metal Flashing and Trim."
- E. Extend flashing up vent pipe passing through roofs and turn down into pipe, or secure flashing into cast-iron sleeve having calking recess.

3.4 PROTECTION

- A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.
- B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

END OF SECTION

SECTION 22 4000
PLUMBING FIXTURES AND EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Water closets.
 - 2. Lavatories.
 - 3. Urinals.
 - 4. Protective shielding guards.
- B. Related Documents: The Contract Documents, as defined in Section 01 10 00 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.
- C. Related Sections:
 - 1. Section 07 9200 - Joint Sealants: Seal fixtures to walls and floors.
 - 2. Section 22 0500 - Plumbing

1.2 REFERENCES

- A. American Society of Mechanical Engineers (ASME):
 - 1. ASME A112.18.1 - Finished and Rough Brass Plumbing Fixture Fittings.

1.3 SUBMITTALS

- A. Section 01 6000 – Product Requirements, Product Data, and Samples: Procedures for submittals.
 - 1. Product Data:
 - a. Product Data: Provide catalogue illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.
 - b. Provide submittals for all fixtures and equipment, and all associated trim and hardware.
- B. Section 01 7704 – Closeout Procedures and Training: Procedures for closeout submittals.
 - 1. Project Record Documents: Accurately record the following:
 - a. Operation and Maintenance Data: Include fixture trim exploded view and replacement parts lists.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 6000 – Product Requirements: Transport, handle, store, and protect Products.
- B. Only accept fixtures on site in factory packaging. Inspect for damage.
- C. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

SECTION 22 4000
PLUMBING FIXTURES AND EQUIPMENT

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with project requirements, manufacturers offering Products which may be incorporated in the Work include the following:
1. Drinking Fountain with bottle filler:
 - a. Elkay.
 - b. Hawley.
 - c. Or approved equal.
 2. Floor Drain:
 - a. J. R. Smith.
 - b. Zurn.
 - c. Or approved equal.
 3. Lavatory:
 - a. American Standard.
 - b. Kohler.
 - c. Or approved equal.
 4. Stainless Steel Sink:
 - a. Elkay.
 - b. Just.
 - c. American Standard
 - d. Or approved equal.
 5. Shower Drain:
 - a. J. R. Smith.
 - b. Zurn.
 - c. Or approved equal.
 6. Shower Valve, Shower Trim, and Shower Head:
 - a. Chicago Faucet.
 - b. American Standard.
 - c. Or approved equal.
 7. Water closets:
 - a. American Standard.
 - b. Kohler.
 - c. Or approved equal.
 8. Faucet (for Lavatory, Kitchen Sink, Mop Sink):
 - a. Chicago Faucet.
 - b. American Standard.
 - c. Or approved equal.
 9. Flush Valve:
 - a. American Standard.
 - b. Kohler.
 - c. Or approved equal.
 10. Water Heater:
 - a. American Standard.
 - b. Bradford White
 - c. Or approved equal.
- B. Furnish and install Products as indicated in Drawings.

SECTION 22 4000
PLUMBING FIXTURES AND EQUIPMENT

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 7300 - Execution: Verification of existing conditions before starting work.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
 - 1. Verify that walls and floor finishes are prepared and ready for installation of fixtures.
 - 2. Verify that electric power is available and of the correct characteristics.
- C. Report in writing to the Engineer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected and approved by the Engineer.
- D. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the City.

3.2 PREPARATION

- A. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.3 INSTALLATION

- A. Plumbing Fixtures:
 - 1. Install in accordance with manufacturer's instructions.
 - 2. Install each fixture with trap, easily removable for servicing and cleaning.
 - 3. Provide chrome plated rigid or flexible supplies to fixtures with screwdriver stops, reducers, and escutcheons.
 - 4. Install components level and plumb.
 - 5. Install and secure fixtures in place with wall carriers and bolts.
 - 6. Seal fixtures to wall and floor surfaces with sealant.
 - 7. Water Closets, Urinals and Lavatories: Provide adjustable cast iron fixture supports for all wall hung water closets, except where single vertical carriers in shallow walls occur.
 - 8. The use of lead-containing solder for plumbing and plumbing fixtures is prohibited in the construction of this project.
- B. Trap Primers
 - 1. Install primers under sinks and/or lavatories, and behind access panels out of line of sight. Provide access panels
 - 2. Trap primers to have approval of plumbing and drainage institute.
 - 3. Install trap primers in accordance with manufacturer's recommendations.
- C. Backflow Preventers
 - 1. Install in accordance with manufacturer's recommendations.
 - 2. Pipe relief through fixed air gap and discharge to sewer.
 - 3. Install adjacent to wall and/or floor utilizing stand-off brackets, angle frame, and/or concrete piers.
 - 4. Test unit for leaks and pressure drop. Clean and/or replace soiled strainer media.
- D. Protective Shielding Guards

SECTION 22 4000
PLUMBING FIXTURES AND EQUIPMENT

1. Manufactured, plastic enclosure for covering hot- and cold-water supplies, trap and drain piping, and complying with ADA requirements and meeting ANSI code for barrier-free design. Provide at all accessible sinks and lavatories.

3.4 ADJUSTING

- A. Refer to Specification Section 01 7300 – Execution.
- B. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

3.5 CLEANING

- A. At completion clean plumbing fixtures and equipment.

3.6 FIELD QUALITY CONTROL

- A. Section 01 4000 - Quality Requirements: Field testing and inspection.

Payment for items of work covered under Division 22 of the plans and these specifications shall be based on the lump sum bid pricing identified in the Bid Schedule. No additional compensation will be allowed.

END OF SECTION

SECTION 22 4223
COMMERCIAL SHOWERS AND VALVES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Shower valves.
- B. Related Documents: The Contract Documents, as defined in Section 01 1000 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.
- C. Related Section:
 - 1. Section 22 0500 – Plumbing

1.2 REFERENCES

- A. American Society of Mechanical Engineers (ASME):
 - 1. ASME A112.18.1/CSA B125.1 - Plumbing Supply Fittings.
- B. American Society of Sanitary Engineering (ASSE):
 - 1. ASSE 1017-2005 - Performance Requirements for Temperature Actuated Mixing Valves for Hot Water Distribution Systems.
- C. International Association of Plumbing and Mechanical Officials (IAPMO):
 - 1. Uniform Plumbing Code US (UPC).

1.3 SUBMITTALS

- A. Section 01 3300 - Submittal Procedures: Procedures for submittals.
 - 1. Product Data: Manufacturer's data sheets.
- B. Section 01 7800 - Closeout Submittals: Procedures for closeout submittals.
 - 1. Maintenance Data: For shower faucets to include in maintenance parts manuals.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of plumbing fixture and compatible accessories through one source from a single approved manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 6000 - Product Requirements: Transport, handle, store, and protect Products.
- B. Only accept fixtures on site in factory packaging. Inspect for damage.
- C. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

PART 2- PRODUCTS

2.1 MANUFACTURERS

**SECTION 22 4223
COMMERCIAL SHOWERS AND VALVES**

- A. Subject to compliance with project requirements, manufacturers offering Products which may be incorporated in the Work include the following:
 - 1. American Standard.
 - 2. Acorn Engineering Company.
 - 3. Bradley Corporation.
 - 4. Or approved equal.

2.2 COMMERCIAL SHOWERS, GENERAL

- A. Commercial Shower Materials and Fabrication
 - 1. Exposed Parts finish: Type 304 stainless steel.
 - 2. Nominal stainless-steel thickness: 14 gauge.
 - 3. Valve Bodies: Bronze.
 - 4. Supply Inlets, Group Showers: 3/4-inch Type L rigid copper.
- B. Flow Control: 2.5 gpm unless noted otherwise.

2.3 SHOWER VALVES

- A. Shower Valves, General:
 - 1. Valve Bodies: Solid brass coatings.
 - 2. Exposed Parts finish: Type 304 Stainless steel.
 - 3. Nominal stainless-steel thickness: 14 gauge minimum.
 - 4. Control type: Single Lever handle type for compliance with ADA.
- B. Thermostatic Mixing Valve.
 - 1. Description: Thermostatic Mixing Valve with inlet check stops, wax-filled thermostat, stainless steel cartridge and stainless-steel piston, adjustable hot temperature limit stop.
 - 2. Faucet:
 - a. Body Material: Solid Brass.
 - b. Finish: Polished stainless steel.
 - c. Operation: Lever handle.
 - d. Supply Connections: 1/2-inch NPT.
 - 3. Accessible shower control to be located above grab bar but not to exceed 48 inches maximum above finished surface .
- C. WALL MOUNT SHOWER HEAD & HOSE
 - 1. 2.5 gpm multifunction hand shower, 60" metal hose, 30-inch slide bar and transitional slide bar trim.
 - 2. 2.5 gpm (gallons per minute) flow rate.
 - 3. Material finish: Polish Chrome, resist corrosion and tarnishing.

- EXECUTION

3.1 EXAMINATION

- A. Section 01 7000 – Execution and Closeout Requirements: Verification of existing conditions before starting work.
- B. Examine water supply, sanitary piping, and vent piping rough in for coordination with shower installation before beginning installation.

**SECTION 22 4223
COMMERCIAL SHOWERS AND VALVES**

- C. Examine architectural installation for compliance with codes and requirements of the manufacturer.
- D. Report in writing to the Engineer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected and approved by the Engineer.
- E. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the City.

3.2 INSTALLATION

- A. Assemble and install shower components in accordance with manufacturer's instructions. Verify requirements for accessibility dimensions prior to installing.
- B. Install stops on each water supply piping.
 - 1. Install stops in locations where they can be easily reached for operation.
- C. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings.

3.3 CONNECTIONS

- A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping.
- B. Comply with water piping, soil waste and vent piping requirements specified in Section 22 05 00 - Plumbing.

3.4 ADJUSTING

- A. Operate and adjust showers and controls and adjust water pressure as needed. Replace damaged and malfunctioning showers, fittings, and controls.

3.5 CLEANING AND PROTECTION

- A. Repair any damaged finishes after installation is complete.
- B. Clean shower equipment and basins with manufacturer's recommended cleaning products.
- C. Add protective covering after installation.

END OF SECTION

SECTION 23 0593
TESTING, ADJUSTING AND BALANCING FOR HVAC

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Testing, adjustment, and balancing of air systems.
 - 2. Measurement of final operating condition of HVAC systems.
- B. Related Documents: The Contract Documents, as defined in Section 01 1000 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.

1.2 REFERENCES

- A. Associated Air Balance Council (AABC):
 - 1. AABC - National Standards for Total System Balance.
- B. National Environmental Balancing Bureau.

1.3 SUBMITTALS

- A. Section 01 3300 - Submittal Procedures: Procedures for submittals.
 - 1. Assurance/Control Submittals:
 - a. Test Reports: Submit the following reports directly to Owner's Representative from Testing Laboratory, with copy to Contractor. Prepare reports in conformance with Section 01 4000 - Quality Requirements:
 - 1) Indicate deficiencies in systems that would prevent proper testing, adjusting, and balancing of systems and equipment to achieve specified performance.
 - 2) Submit draft copies of report for review prior to final acceptance of Project. Provide final copies for inclusion in operating and maintenance manuals.
 - 3) Provide reports in binder manuals, complete with index page and indexing tabs, with cover identification at front and side. Include set of reduced drawings with air outlets and equipment identified to correspond with data sheets and indicating thermostat locations.
 - 4) Indicate data on AABC National Standards for Total System Balance forms.
 - b. Certificates: Manufacturer's certificate that Products meet or exceed specified requirements.
 - c. Qualification Documentation: Submit documentation of experience indicating compliance with specified qualification requirements.

1.4 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Company specializing in testing, adjusting, and balancing of specified with minimum 5 years documented experience. Company to be certified by one of the following.
 - a. AABC Certified Independent Testing and Balancing Agency.
 - b. National Environmental Balancing Bureau Certified Independent Agency. (NEBB).
- B. Certification: Certify the testing, adjusting, and balancing field data reports.

SECTION 23 0593
TESTING, ADJUSTING AND BALANCING FOR HVAC

- C. Testing, Adjusting, and Balancing Reports: Use testing, adjusting, and balancing Agent's standard forms.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that systems are complete and operable before commencing work. Ensure the following conditions:
1. Systems are started and operating in a safe and normal condition.
 2. Temperature control systems are installed complete and operable.
 3. Proper thermal overload protection is in place for electrical equipment.
 4. Final filters are clean and in place. If required, install temporary media in addition to final filters.
 5. Duct systems are clean of debris.
 6. Fans are rotating correctly.
 7. Fire and volume dampers are in place and open.
 8. Air coil fins are cleaned and combed.
 9. Access doors are closed, and duct end caps are in place.
 10. Air outlets are installed and connected.
 11. Duct system leakage is minimized.

3.2 PREPARATION

- A. Provide instruments required for testing, adjusting, and balancing operations. Make instruments available to Owner's Representative to facilitate spot checks during testing.
- B. Provide additional balancing instruments as required.

3.3 INSTALLATION TOLERANCES

- A. Air Handling Systems: Adjust to within plus or minus 5 percent of design for supply systems and plus or minus 10 percent of design for return and exhaust systems.
- B. Air Outlets and Inlets: Adjust total to within plus 10 percent and minus 5 percent of design to space. Adjust outlets and inlets in space to within plus or minus 10 percent of design.

3.4 ADJUSTING

- A. Ensure recorded data represents actual measured or observed conditions.
- B. Permanently mark settings of valves, dampers, and other adjustment devices allowing settings to be restored. Set and lock memory stops.
- C. After adjustment, take measurements to verify balance has not been disrupted or that such disruption has been rectified.

SECTION 23 0593
TESTING, ADJUSTING AND BALANCING FOR HVAC

- D. Leave systems in proper working order, replacing belt guards, closing access doors, closing doors to electrical switch boxes, and restoring thermostats to specified settings.
- E. At final inspection, recheck random selections of data recorded in report. Recheck points or areas as selected and witnessed by Owner's Representative.
- F. At said time, demonstrate operation of each piece of equipment and / or each system to Owner's Representative. Provide written statement of operation at end of inspection.
- G. Check and adjust systems approximately six months after final acceptance and submit report.

3.5 AIR SYSTEM PROCEDURE

- A. Adjust air handling and distribution systems to provide required or design supply, return, and exhaust air quantities. Perform this work with cooling system energized where applicable to obtain the extra resistance of wet coils.
- B. Make air quantity measurements in ducts by Pitot tube traverse of entire cross-sectional area of duct.
- C. Measure air quantities at air inlets and outlets.
- D. Adjust distribution system to obtain uniform space temperatures free from objectionable drafts and noise.
- E. Use volume control devices to regulate air quantities only to extend that adjustments do not create objectionable air motion or sound levels. Effect volume control by duct internal devices.
- F. Vary total system air quantities by adjustment of fan speeds. Provide drive changes required. Vary branch air quantities by damper regulation.
- G. Provide system schematic with required and actual air quantities recorded at each outlet or inlet.
- H. Measure static air pressure conditions on air supply units, including filter and coil pressure drops, and total pressure across the fan. Make allowances for 50 percent loading of filters.
- I. Adjust outside air automatic dampers, outside air, return air, and exhaust dampers for design conditions.
- J. Measure temperature conditions across outside air, return air, and exhaust dampers to check leakage.
- K. Measure building static pressure and adjust supply, return, and exhaust air systems to provide required relationship between each to maintain approximately 0.05 inches (12.5 Pa) positive static pressure near the building entries.
- L. Indoor Air Quality:
 - 1. Pre-occupancy ventilation: Provide pre-occupancy ventilation prior to final testing, adjusting, and balancing of HVAC system.

END OF SECTION

**SECTION 23 0713
DUCT INSULATION**

1.1 SUMMARY

- A. Section Includes:
 - 1. Ductwork insulation.
 - 2. Duct liner.
 - 3. Insulation jackets.
- B. Related Documents: The Contract Documents, as defined in Section 01 1000 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM B209 - Aluminum and Aluminum-Alloy Sheet and Plate.
 - 2. ASTM C177 - Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
 - 3. ASTM C335 - Steady-State Heat Transfer Properties of Horizontal Pipe Insulation.
 - 4. ASTM C518 - Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
 - 5. ASTM C534 - Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.
 - 6. ASTM C547 - Mineral Fiber Pipe Insulation.
 - 7. ASTM C553 - Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications.
 - 8. ASTM C921 - Properties of Jacketing Materials for Thermal Insulation.
 - 9. ASTM D1056 - Flexible Cellular Materials - Sponge or Expanded Rubber.
 - 10. ASTM E84 2007 Edition - Surface Burning Characteristics of Building Materials.
 - 11. ASTM E96 - Water Vapor Transmission of Materials.
- B. National Fire Protection Association (NFPA):
 - 1. NFPA 255 - Standard Method of Test of Surface Burning Characteristics of Building Materials.
- C. Sheet Metal and Air Conditioning Contractors National Association (SMACNA):
 - 1. SMACNA - HVAC Duct Construction Standards - Metal and Flexible.
- D. Underwriters Laboratories, Inc. (UL):
 - 1. UL 723 - Tests for Surface Burning Characteristics of Building Materials.

1.3 SUBMITTALS

- A. Section 01 3300 - Submittal Procedures: Procedures for submittals.
 - 1. Product Data:
 - a. Product Data: Provide product description, thermal characteristics, list of materials and thickness for each service, and locations.

1.4 QUALITY ASSURANCE

- A. Qualifications:

**SECTION 23 0713
DUCT INSULATION**

1. Manufacturer: Company specializing in manufacturing Products specified with minimum 3 years documented experience.
2. Installer: Company specializing in performing the Work of this Section with minimum 3 years documented experience.

B. Materials:

1. Flame spread/smoke developed rating of 25/50 or less in accordance with ASTM E84, NFPA 255 and UL 723.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 6000 - Product Requirements: Transport, handle, store, and protect Products.
- B. Deliver materials to site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.
- C. Store insulation in original wrapping and protect from weather and construction traffic.
- D. Protect insulation against dirt, water, chemical, and mechanical damage.

1.6 PROJECT CONDITIONS OR SITE CONDITIONS

- A. Jobsite Requirements
 1. Maintain ambient temperatures and conditions required by manufacturers of adhesives, mastics, and insulation cements.
 2. Maintain temperature during and after installation for minimum period of 24 hours.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Energy efficiency:
 1. Insulation: Minimum thickness in accordance with ASHRAE 90.1. Provide additional thickness to ensure surface temperatures are below 100 degrees and to prevent condensation on cold surfaces.

PART 2 - PRODUCTS

2.1 DUCTWORK INSULATION

- A. Glass Fiber, Flexible Duct Wrap
 1. Manufacturers:
 - a. Owens/Corning, Toledo, OH (800) 438-7465.
 - b. Other acceptable manufacturers offering equivalent products.
 - 1) CertainTeed.
 - 2) Schuller (Manville).
 - 3) Knauf.
 - 4) Or equal.
 2. Insulation: ASTM C553 flexible, noncombustible blanket.
 - a. 'K' ('Ksi') value: ASTM C518, 0.30 at 75 degrees F.
 - b. Maximum service temperature: 250 degrees F.
 - c. Maximum moisture absorption: 0.20 percent by volume.

**SECTION 23 0713
DUCT INSULATION**

- d. Density: 0.75 lb./cu ft.
 - 3. Vapor Barrier Jacket
 - a. Kraft paper reinforced with glass fiber yarn and bonded to aluminized film.
 - b. Moisture vapor transmission: ASTM E96; 0.02 perm.
 - c. Secure with pressure sensitive tape.
 - 4. Vapor Barrier Tape
 - a. Manufacturers:
 - 1) Owens/Corning.
 - 2) CertainTeed.
 - 3) Schuller (Manville).
 - 4) Or equal.
 - b. Kraft paper reinforced with glass fiber yarn and bonded to aluminized film, with pressure sensitive rubber-based adhesive.
 - 5. Tie Wire: Annealed steel, 16 gage.
- B. Glass Fiber Duct Liner, Flexible
- 1. Manufacturers:
 - a. CertainTeed.
 - b. Other acceptable manufacturers offering equivalent products.
 - 1) Knauf.
 - 2) Schuller (Manville).
 - 3) Owens Corning.
 - 4) Or equal.
 - 2. Insulation: ASTM C553; flexible, noncombustible blanket.
 - a. 'K' ('Ksi') value: ASTM C518, 0.28 at 75 degrees F.
 - b. Maximum service temperature: 250 degrees F.
 - c. Density: 1.5 lb./cu ft.
 - d. Maximum Velocity on Coated Air Side: 4,000 ft./min.
 - 3. Adhesive
 - a. Waterproof fire-retardant type.
 - 4. Liner Fasteners: Galvanized steel, impact applied with integral head.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Verify that field measurements, surfaces, substrates, and conditions are as required, and ready to receive Work.
 - 1. Verify that piping has been tested before applying insulation materials.
 - 2. Verify that ductwork has been tested before applying insulation materials.
 - 3. Verify that surfaces are clean, foreign material removed, and dry.
- B. Report in writing to Owner's Representative prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- C. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the State.

3.2 INSTALLATION - DUCTWORK INSULATION

- A. Install materials in accordance with manufacturer's instructions and ASHRAE 90.1.

**SECTION 23 0713
DUCT INSULATION**

- B. Insulated ductwork conveying air below ambient temperature:
1. Provide insulation with vapor barrier jackets.
 2. Finish with tape and vapor barrier jacket.
 3. Continue insulation through walls, sleeves, hangers, and other duct penetrations.
 4. Insulate entire system including fittings, joints, flanges, fire dampers, flexible connections, and expansion joints.
- C. Insulated ductwork conveying air above ambient temperature:
1. Provide with or without standard vapor barrier jacket.
 2. Insulate fittings and joints. Where service access is required, bevel and seal ends of insulation.
- D. For ductwork exposed in finished spaces below 10 feet above finished floor, finish with aluminum jacket.
- E. Duct and Plenum Liner Application:
1. Adhere insulation with adhesive for 100 percent coverage.
 2. Secure insulation with mechanical liner fasteners. Refer to SMACNA Standards for spacing.
 3. Seal and smooth joints.
 4. Seal liner surface penetrations with adhesive.
 5. Duct dimensions indicated are net inside dimensions required for air flow. Increase duct size to allow for insulation thickness.

3.3 CONSTRUCTION

- A. Substituted insulation materials shall provide thermal resistance within 10 percent at normal conditions, as materials indicated.

3.4 DUCTWORK INSULATION SCHEDULE

- A. Flexible Glass Fiber Duct Wrap Insulation Schedule:

DUCTWORK	THICKNESS INCH	FINISH
Supply Ducts	1-1/2"	Aluminized Film
Return Ducts	1-1/2"	Aluminized Film
Outdoor Air Intake Ducts	1-1/2"	Aluminized Film

- B. Flexible Glass Fiber Duct Liner Insulation Schedule:

DUCTWORK	THICKNESS INCH	FINISH
Plenums (Cooling System)	1"	Black Pigmented, UL
Supply Ducts	1"	Black Pigmented, UL
Return Ducts	1"	Black Pigmented, UL
Outdoor Air Intake Ducts	1"	Black Pigmented, UL
Ducts Exposed to Outdoors	2"	Black Pigmented, UL

END OF SECTION

**SECTION 23 3100
HVAC DUCTS AND CASINGS**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Metal ductwork.
 - 2. Air turning devices.
 - 3. Flexible duct connections.
 - 4. Volume control dampers.
 - 5. Duct cleaning.
- B. Related Documents: The Contract Documents, as defined in Section 011000 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.
- C. Related Sections:
 - 1. Section 23 0593 - Testing, Adjusting and Balancing for HVAC
 - 2. Section 23 0713 - Duct Insulation or HVAC Insulation
 - 3. Section 23 3713 - Diffusers Registers and Grilles

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM A 36 - Structural Steel.
 - 2. ASTM A 90 - Weight of Coating on Zinc-Coated (Galvanized) Iron or Steel Articles.
 - 3. ASTM A 167 - Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip.
 - 4. ASTM A 480 - General Requirements for Flat-Rolled Stainless and Heat-Resisting Steel Plate, Sheet and Strip.
 - 5. ASTM A 653 - Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
 - 6. ASTM A 568 Steel, Sheet, Carbon, and High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled.
- B. American Welding Society (AWS):
 - 1. AWS D9.1 - Welding of Sheet Metal.
- C. National Fire Protection Association (NFPA):
 - 1. NFPA 90A - Installation of Air Conditioning and Ventilating Systems.
 - 2. NFPA 90B - Installation of Warm Air Heating and Air Conditioning Systems.
 - 3. NFPA 91 - Installation of Blower and Exhaust Systems for Dust, Stock and Vapor Removal or Conveying.
 - 4. NFPA 96 - Installing of Equipment for the Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment.
- D. Sheet Metal and Air Conditioning Contractors National Association (SMACNA):
 - 1. SMACNA - HVAC Air Duct Leakage Test Manual.
 - 2. SMACNA - HVAC Duct Construction Standards - Metal and Flexible.
- E. Underwriters Laboratories, Inc. (UL):
 - 1. UL 181 - Factory-Made Air Ducts and Connectors.

**SECTION 23 3100
HVAC DUCTS AND CASINGS**

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements: No variation of duct configuration or sizes permitted except by written permission. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts.

1.4 SUBMITTALS

- A. Division 1 - Submittal Procedures: Procedures for submittals.
 - 1. Product Data:
 - a. Duct materials, duct liner, duct connectors, and flexible duct.
 - b. Factory or shop manufactured assemblies including volume control dampers. Include electrical characteristics and connection requirements.
 - 2. Project Record Documents: Accurately record the following:
 - a. Actual locations of ducts and duct fittings.
 - b. Record changes in fitting location and type.
 - c. Show additional fittings used.
 - d. Actual locations of access doors, test holes, and fire dampers.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with SMACNA - HVAC Duct Construction Standards - Metal and Flexible.
- B. Qualifications:
 - 1. Manufacturer: Company specializing in manufacturing Products specified with minimum 5 years documented experience.
 - 2. Installer: Company specializing in performing the Work of this Section with minimum 5 years documented experience.
- C. Regulatory Requirements: Construct ductwork to NFPA 90A, NFPA 90B, and NFPA 96 standards.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 6000 - Product Requirements: Transport, handle, store, and protect Products.
- B. Protect dampers from damage to operating linkages and blades.

1.7 PROJECT CONDITIONS OR SITE CONDITIONS

- A. Jobsite Requirements:
 - 1. Do not install duct sealants when temperatures are less than those recommended by sealant manufacturers.
 - 2. Maintain temperatures during and after installation of duct sealants.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Environmental Impact:

**SECTION 23 3100
HVAC DUCTS AND CASINGS**

1. Indoor Air Quality: Install insulation so that unfaced fiberglass and mineral fiber insulation are not in the interior of the ductwork.

PART 2 - PRODUCTS

2.1 DUCTS

- A. Galvanized Steel Ducts: ASTM A653 having zinc coating in conformance with ASTM A90.
- B. Steel Ducts: ASTM A569 and A568.
- C. Flexible Ducts:
 1. Manufacturers:
 - a. Anco Products Inc.
 - b. Hart & Cooley.
 - c. Tuttle & Bailey.
 - d. Or equal.
 2. UL Labeled, black polymer film supported by helically wound spring steel wire.
 3. Pressure Rating: 4 inches WG positive and 0.5 inches WG negative.
 4. Maximum Velocity: 4000 fpm.
 5. Temperature Range: -20 degrees F to 175 degrees.
- D. Insulated Flexible Ducts:
 1. Manufacturers:
 - a. Anco Products Inc.
 - b. Hart & Cooley.
 - c. Tuttle & Bailey
 - d. Or equal.
 2. Black polymer film supported by helically wound spring steel wire; fiberglass insulation; aluminized vapor barrier film.
 3. Pressure Rating: 4 inches WG positive and 0.5 inches WG negative.
 4. Maximum Velocity: 4000 fpm.
 5. Temperature Range: -20 degrees F to 175 degrees F.
- E. Stainless Steel Ducts: ASTM A 167, Type 304.
- F. Fasteners: Rivets, bolts, or sheet metal screws.
- G. Sealant:
 1. Manufacturers:
 - a. Duro Dyne Corporation, Farmingdale, NY (800) 899-3876.
 - b. H.B. Fuller Co, St. Paul, MN (888) 423-8553.
 - c. Hardcast, Inc, Wylie, TX (800) 527-7092.
 - d. Or equal.
 2. Non-hardening, water resistant, fire resistive, compatible with mating materials; liquid used alone or with tape, or heavy mastic.
- H. Hanger Rod: ASTM A36; steel threaded both ends, threaded one end, or continuously threaded.

2.2 AIR TURNING DEVICES/EXTRACTORS

- A. Manufacturers:

SECTION 23 3100
HVAC DUCTS AND CASINGS

1. Semco, Inc, Columbia, MO (888) 473-6264.
2. Metal-Fab, Inc, Wichita, KS (800) 835-2830.
3. United McGill Corp, Groveport, OH (614) 836-9981.
4. Or equal.

- B. Multi-blade device with blades aligned in short dimension; steel or aluminum construction; with individually adjustable blades, mounting straps.

2.3 VOLUME CONTROL DAMPERS.

- A. Manufacturers:
1. Louvers and Dampers, Inc, Florence, KY (606) 647-2299.
 2. Prefco Products, Inc, Buckingham, PA (800) 437-6653.
 3. Ruskin Manufacturing, Kansas City, MO (816) 761-7476.
 4. Or equal.
- B. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated.
- C. Single Blade Dampers: Fabricate for duct sizes up to 6 x 30 inch.
- D. Multi-Blade Damper: Fabricate of opposed blade pattern with maximum blade sizes 8 x 72 inch. Assemble center and edge crimped blades in prime coated or galvanized channel frame with suitable hardware.
- E. End Bearings: Except in round ductwork 12 inches and smaller, provide end bearings. On multiple blade dampers, provide oil-impregnated nylon or sintered bronze bearings.
- F. Quadrants:
1. Provide locking, indicating quadrant regulators on single and multi-blade dampers.
 2. On insulated ducts mount quadrant regulators on stand-off mounting brackets, bases, or adapters.
 3. Where rod lengths exceed 30 inches provide regulator at both ends.

2.4 DUCTWORK FABRICATION

- A. Fabricate and support in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.
- B. Construct T's, bends, and elbows with radius of not less than 1-1/2 times width of duct on centerline. Where not possible and where rectangular elbows are used, provide turning vanes.
- C. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.

PART 3 - EXECUTION

3.1 EXAMINATION

**SECTION 23 3100
HVAC DUCTS AND CASINGS**

- A. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
 - 1. Verify that electric power is available and of the correct characteristics.
- B. Report in writing to State Representative prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected.
- C. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the State.

3.2 INSTALLATION - DUCTWORK

- A. Install in accordance with manufacturer's instructions.
- B. Install and seal ducts in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.
- C. Duct Sizes are inside clear dimensions. For lined ducts, maintain sizes inside lining.
- D. Provide openings in ductwork where required to accommodate thermometers and controllers. Provide pilot tube openings where required for testing of systems, complete with metal can with spring device or screw to ensure against air leakage. Where openings are provided in insulated ductwork, install insulation material inside a metal ring.
- E. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.
- F. Use crimp joints with or without bead for joining round duct sizes 8 inch and smaller with crimp in direction of air flow.
- G. Use double nuts and lock washers on threaded rod supports.
- H. Connect diffusers or light troffer boots to low pressure ducts directly or with 5 feet maximum length of flexible duct held in place with strap or clamp and tape.
- I. Connect flexible ducts to metal ducts with draw bands plus tape.
- J. During construction provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.
- K. Install so that unfaced fiberglass and mineral fiber insulation are not in the interior of the ductwork.

3.3 INSTALLATION - DUCTWORK ACCESSORIES

- A. Install accessories in accordance with manufacturer's instructions, NFPA 90A, and follow SMACNA HVAC Duct Construction Standards - Metal and Flexible.
- B. Provide balancing dampers at points on supply, return, and exhaust systems where branches are taken from larger ducts as required for air balancing. Install minimum 2 duct widths from duct take-off.
- C. Use splitter dampers only where indicated.

SECTION 23 3100
HVAC DUCTS AND CASINGS

- D. Provide balancing dampers on duct take-off to diffusers, grilles, and registers, regardless of whether dampers are specified as part of the diffuser, grille, or register assembly.

3.4 CLEANING

- A. Clean duct system and force air at high velocity through duct to remove accumulated dust. To obtain sufficient air, clean half the system at a time. Protect equipment which may be harmed by excessive dirt with temporary filters, or bypass during cleaning.

END OF SECTION

**SECTION 23 3200
AIR DUCT CLEANING**

PART 1 - GENERAL

1.1 QUALIFICATION OF THE HVAC SYSTEM CLEANING CONTRACTOR

- A. Membership: The HVAC system cleaning contractor shall be a certified member of the National Air Duct Cleaners Association (NADCA) or shall maintain membership in a nationally recognized non-profit industry organization dedicated to the cleaning of HVAC systems.
- B. Certification: The HVAC system cleaning contractor shall have a minimum of one (1) Air System Cleaning Specialist (ASCS) certified by NADCA on a full-time basis, or shall have staff certified by a nationally recognized certification program and organization dedicated to the cleaning of HVAC systems.
- C. Supervisor Qualifications: A person certified as an ASCS by NADCA or maintaining an equivalent certification by a nationally recognized program and organization, shall be responsible for the total work herein specified.
- D. Experience: The HVAC system cleaning contractor shall submit records of experience in the field of HVAC system cleaning as requested by the Owner.
- E. Equipment, Materials and Labor: The HVAC system cleaning contractor shall possess and furnish all necessary equipment, materials and labor to adequately perform the specified services.
 - 1. The contractor shall assure that its employees have received safety equipment training, medical surveillance programs, individual health protection measures, and manufacturer=s product and material safety data sheets (MSDS) as required for the work by the U.S. Occupational Safety and Health Administration, and as described by this specification. For work performed in countries outside of the USA, contractors should comply with applicable national safety codes and standards.
 - 2. The contractor shall always maintain a copy of all current MSDS documentation and safety certifications at the site, as well as comply with all other site documentation requirements of applicable OSHA programs and this specification.
 - 3. Contractor shall submit to the Owner all Material Safety Data Sheets (MSDS) for all chemical products proposed to be used in the cleaning process.
- F. Licensing: The HVAC system cleaning contractor shall provide proof of maintaining the proper license(s), if any, as required to do work in this state. Contractor shall comply with all Federal, state and local rules, regulations, and licensing requirements.

1.2 STANDARDS

- A. NADCA Standards: The HVAC system cleaning contractor shall perform the services specified here in accordance with the current published standards of the National Air Duct Cleaners Association (NADCA).
 - 1. All terms in this specification shall have their meaning defined as stated in the NADCA Standards.
 - 2. NADCA Standards must be followed with no modifications or deviations being allowed.
- B. Applicable Standards and Publications: The following current standards and publications of the issues currently in effect form a part of this specification to the extent indicated by any reference thereto:

**SECTION 23 3200
AIR DUCT CLEANING**

1. National Air Duct Cleaners Association (NADCA): Assessment, Cleaning & Restoration of HVAC Systems (ACR 2021)
2. National Air Duct Cleaners Association (NADCA): Understanding Microbial Contamination in HVAC Systems, © 1996.
3. National Air Duct Cleaners Association (NADCA): Introduction to HVAC System Cleaning Services, © 2004.
4. National Air Duct Cleaners Association (NADCA): Standard 05 Requirements for the Installation of Service Openings in HVAC Systems, © 2004.
5. Underwriters= Laboratories (UL): UL Standard 181.
6. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE): Standard 62-89, Ventilation for Acceptable Indoor Air Quality ©.
7. Environmental Protection Agency (EPA): Building Air Quality, © December 1991.
8. Sheet Metal and Air Conditioning Contractors= National Association (SMACNA): HVAC Duct Construction Standards - Metal and Flexible, © 2004.
9. North American Insulation Manufacturers Association (NAIMA): Cleaning Fibrous Glass Insulated Air Duct Systems, © 2007.

PART 2 - HVAC SYSTEM CLEANING SPECIFICATIONS AND REQUIREMENTS

2.1 SCOPE OF WORK

- A. Scope: This section defines the minimum requirements necessary to render HVAC components clean, and to verify the cleanliness through inspection and/or testing in accordance with items specified herein and applicable NADCA Standards.
- B. The Contractor shall be responsible for the removal of visible surface contaminants and deposits from within the HVAC system in strict accordance with these specifications.
- C. The HVAC system includes any interior surface of the facility's air distribution system for conditioned spaces and/or occupied zones. This includes the entire heating, air-conditioning and ventilation system from the points where the air enters the system to the points where the air is discharged from the system. The return air grilles, return air ducts to the air handling unit (AHU), the interior surfaces of the AHU, mixing box, coil compartment, condensate drain pans, humidifiers and dehumidifiers, supply air ducts, fans, fan housing, fan blades, air wash systems, spray eliminators, turning vanes, filters, filter housings, reheat coils, and supply diffusers are all considered part of the HVAC system. The HVAC system may also include other components such as dedicated exhaust and ventilation components and make-up air systems.

2.2 HVAC SYSTEM COMPONENT INSPECTIONS AND SITE PREPARATIONS

- A. HVAC System Component Inspections: Prior to the commencement of any cleaning work, the HVAC system cleaning contractor shall perform a visual inspection of the HVAC system to determine appropriate methods, tools, and equipment required to satisfactorily complete this project. The cleanliness inspection should include air handling units and representative areas of the HVAC system components and ductwork. In HVAC systems that include multiple air handling units, a representative sample of the units should be inspected. The cleanliness inspection shall be conducted without negatively impacting the indoor environment through excessive disruption of settled dust, microbial amplification or other debris. In cases where contamination is suspected, and/or in sensitive environments where even small amounts of contaminant may be of concern, environmental engineering control measures should be implemented.
 1. Damaged system components found during the inspection shall be documented and brought to the attention of the Owner.

SECTION 23 3200
AIR DUCT CLEANING

- B. Site Evaluation and Preparations: Contractor shall conduct a site evaluation, and establish a specific, coordinated plan which details how each area of the building will be protected during the various phases of the project.
- C. Inspector Qualifications: Qualified personnel should perform the HVAC cleanliness inspection to determine the need for cleaning, at minimum, such personnel should have an understanding of HVAC system design, and experience in utilizing accepted indoor environmental sampling practices, current industry HVAC cleaning procedures, and applicable industry standards.

2.3 GENERAL HVAC SYSTEM CLEANING REQUIREMENTS

- A. Containment: Debris removed during cleaning shall be collected and precautions must be taken to ensure that Debris is not otherwise dispersed outside the HVAC system during the cleaning process.
- B. Particulate Collection: Where the Particulate Collection Equipment is exhausting inside the building, HEPA filtration with 99.97% collection efficiency for 0.3-micron size (or greater) particles shall be used. When the Particulate Collection Equipment is exhausting outside the building, Mechanical Cleaning operations shall be undertaken only with Particulate Collection Equipment in place, including adequate filtration to contain Debris removed from the HVAC system. When the Particulate Collection Equipment is exhausting outside the building, precautions shall be taken to locate the equipment down wind and away from all air intakes and other points of entry into the building.
- C. Controlling Odors: Measures shall be employed to control odors and/or mist vapors during the cleaning process.
- D. Component Cleaning: Cleaning methods shall be employed such that all HVAC system components must be Visibly Clean as defined in applicable standards (see NADCA Standards). Upon completion, all components must be returned to those settings recorded just prior to cleaning operations.
- E. Air-Volume Control Devices: Dampers and any air-directional mechanical devices inside the HVAC system must have their position marked prior to cleaning and, upon completion, must be restored to their marked position.
- F. Service Openings: The contractor shall utilize service openings, as required for proper cleaning, at various points of the HVAC system for physical and mechanical entry, and inspection.
 - 1. Contractor shall utilize the existing service openings already installed in the HVAC system where possible.
 - 2. Other openings shall be created where needed and they must be created so they can be sealed in accordance with industry codes and standards.
 - 3. Closures must not significantly hinder, restrict, or alter the airflow within the system.
 - 4. Closures must be properly insulated to prevent heat loss/gain or condensation on surfaces within the system.
 - 5. Openings must not compromise the structural integrity of the system.
 - 6. Construction techniques used in the creation of openings should conform to requirements of applicable building and fire codes, and applicable NFPA, SMACNA and NADCA Standards.
 - 7. Cutting service openings into flexible duct is not permitted. Flexible duct shall be disconnected at the ends as needed for proper cleaning and inspection.
 - 8. Rigid fiber glass duct systems shall be resealed in accordance with NAIMA recommended practices. Only closure techniques that comply with UL Standard 181 or UL Standard 181a are suitable for fiber glass duct system closures.

**SECTION 23 3200
AIR DUCT CLEANING**

- 9. All service openings capable of being re-opened for future inspection or remediation shall be clearly marked and shall have their location reported to the Owner in project report documents.
- G. Ceiling sections (tile): The contractor may remove and reinstall ceiling sections to gain access to HVAC systems during the cleaning process.
- H. Air distribution devices (registers, grilles & diffusers): The contractor shall clean all air distribution devices.
- I. Air handling units, terminal units (VAV, Dual duct boxes, etc.), blowers and exhaust fans: The contractor shall insure that supply, return, and exhaust fans and blowers are thoroughly cleaned. Areas to be cleaned include blowers, fan housings, plenums (except ceiling supply and return plenums), scrolls, blades, or vanes, shafts, baffles, dampers and drive assemblies. All visible surface contamination deposits shall be removed in accordance with NADCA Standards. Contractor shall:
 - 1. Clean all air handling units (AHU) internal surfaces, components and condensate collectors and drains.
 - 2. Assure that a suitable operative drainage system is in place prior to beginning wash down procedures.
 - 3. Clean all coils and related components, including evaporator fins.
- J. Duct Systems. Contractor shall:
 - 1. Create service openings in the system as necessary in order to accommodate cleaning of otherwise inaccessible areas.
 - 2. Mechanically clean all duct systems to remove all visible contaminants, such that the systems can pass Cleaning Verification Tests (see NADCA Standards).

2.4 HEALTH AND SAFETY

- A. Safety Standards: Cleaning contractors shall comply with applicable federal, state, and local requirements for protecting the safety of the contractor=s employees, building occupants, and the environment. All applicable standards of the Occupational Safety and Health Administration (OSHA) shall be followed when working in accordance with this specification.
- B. Occupant Safety: No processes or materials shall be employed in such a manner that they will introduce additional hazards into occupied spaces.
- C. Disposal of Debris: All Debris removed from the HVAC System shall be disposed of in accordance with applicable federal, state, and local requirements.

2.5 MECHANICAL CLEANING METHODOLOGY

- A. Source Removal Cleaning Methods: The HVAC system shall be cleaned using Source Removal mechanical cleaning methods designed to extract contaminants from within the HVAC system and safely remove contaminants from the facility. It is the contractor=s responsibility to select Source Removal methods that will render the HVAC system Visible Clean and capable of passing cleaning verification methods (See applicable NADCA Standards) and other specified test, in accordance with all general requirements. No cleaning method, or combination of methods, shall be used which could potentially damage components of the HVAC system or negatively alter the integrity of the system.
 - 1. All methods used shall incorporate the use of vacuum collection devices that are operated continuously during cleaning. A vacuum device shall be connected to the downstream end of the section being cleaned through a predetermined opening. The vacuum collection

SECTION 23 3200
AIR DUCT CLEANING

device must be of enough power to render all areas being cleaned under negative pressure, such that containment of debris and the protection of the indoor environment are assured.

2. All vacuum devices exhausting air inside the building shall be equipped with HEPA filters (minimum efficiency), including hand-held vacuums and wet vacuums.
 3. All vacuum devices exhausting air outside the facility shall be equipped with Particulate Collection including adequate filtration to contain Debris removed from the HVAC system. Such devices shall exhaust in a manner that will not allow contaminants to re-enter the facility. Release of debris outdoors must not violate any outdoor environmental standards, codes or regulations.
 4. All methods require mechanical agitation devices to dislodge debris adhered to interior HVAC system surfaces, such that debris may be safely conveyed to vacuum collection devices. Acceptable methods will include those, which will not potentially damage the integrity of the ductwork, nor damage porous surface materials such as liners inside the ductwork or system components.
- B. Methods of Cleaning Fibrous Glass Insulated Components
1. Fibrous glass thermal or acoustical insulation elements present in any equipment or ductwork shall be thoroughly cleaned with HEPA vacuuming equipment, while the HVAC system is under constant negative pressure, and not permitted to get wet in accordance with applicable NADCA and NAIMA standards and recommendations.
 2. Cleaning methods used shall not cause damage to fibrous glass components and will render the system capable of passing Cleaning Verification Tests (see NADCA Standards).
- C. Damaged Fibrous Glass Material
1. Evidence of damage: If there is any evidence of damage, deterioration, delaminating, friable material, mold or fungus growth, or moisture such that fibrous glass materials cannot be restored by cleaning or resurfacing with an acceptable insulation repair coating, they shall be identified for replacement.
 2. Replacement: When requested or specified, Contractor must be capable of remediating exposed damaged insulation in air handlers and/or ductwork requiring replacement.
 3. Replacement material: In the event fiber glass materials must be replaced, all materials shall conform to applicable industry codes and standards, including those of UL and SMACNA. Replacement of damaged insulation is not covered by this specification.
- D. Cleaning of coils
1. Any cleaning method may be used which will render the Coil Visibly Clean and capable of passing Coil Cleaning Verification (see applicable NADCA Standards). Coil drain pans shall be subject to Non-Porous Surfaces Cleaning Verification. The drain for the condensate drains pan shall be operational. Cleaning methods shall not cause any appreciable damage to, displacement of, inhibit heat transfer, or erosion of the coil surface or fins, and shall conform to coil manufacturer recommendations when available. Coils shall be thoroughly rinsed with clean water to remove any latent residues.
- E. Antimicrobial Agents and Coatings
1. Antimicrobial agents shall only be applied if active fungal growth is reasonably suspected, or where unacceptable levels of fungal contamination have been verified through testing.
 2. Application of any antimicrobial agents used to control the growth of fungal or bacteriological contaminants shall be performed after the removal of surface deposits and debris.
 3. When used, antimicrobial treatments and coatings shall be applied in strict accordance with the manufacturer=s written recommendations and EPA registration listing.
 4. Antimicrobial coatings shall be applied according to the manufacturer=s written instructions. Coatings shall be sprayed directly onto interior ductwork surfaces, rather than Afogged@ downstream onto surfaces.

**SECTION 23 3200
AIR DUCT CLEANING**

PART 3 - EXECUTION

3.1 CLEANLINESS VERIFICATION

- A. General: Verification of HVAC System cleanliness will be determined after mechanical cleaning and before the application of any treatment or introduction of any treatment-related substance to the HVAC system, including biocidal agents and coatings.
- B. Visual Inspection: The HVAC system shall be inspected visually to ensure that no visible contaminants are present.
 - 1. If no contaminants are evident through visual inspection, the HVAC system shall be considered clean; however, the Owner reserves the right to further verify system cleanliness through Surface Comparison Testing or the NADCA vacuum test specified in the NADCA standards.
 - 2. If visible contaminants are evident through visual inspection, those portions of the system where contaminants are visible shall be re-cleaned and subjected to re-inspection for cleanliness.
 - 3. NADCA vacuum test analysis should be performed by a qualified third party experienced in testing of this nature.
- C. Verification of Coil Cleaning
 - 1. Cleaning must restore the coil pressure drop to within 10 percent of the pressure drop measured when the coil was first installed. If the original pressure drop is not known, the coil will be considered clean only if the coil is free of foreign matter and chemical residue, based on a thorough visual inspection (see NADCA Standards).

3.2 PRE-EXISTING SYSTEM DAMAGE

- A. Contractor is not responsible for problems resulting from prior inappropriate or careless cleaning techniques of others.

3.3 POST-PROJECT REPORT

- A. At the conclusion of the project, the Contractor shall provide a report to the Owner indicating the following:
 - 1. Success of the cleaning project, as verified through visual inspection and/or gravimetric analysis.
 - 2. Areas of the system found to be damaged and/or in need of repair.

END OF SECTION

SECTION 23 3713
DIFFUSERS, REGISTERS AND GRILLES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Diffusers.
 - 2. Registers/grilles.
- B. Related Sections:
 - 1. Section 09 9123 – Interior Painting: Painting of ductwork visible behind outlets and inlets.

1.2 REFERENCES

- A. Air Diffusion Council (ADC):
 - 1. ADC 1062 - Certification, Rating and Test Manual.
- B. Air Movement and Control Association (AMCA):
 - 1. AMCA 500 - Test Method for Louvers, Dampers and Shutters.
- C. Air Conditioning and Refrigeration Institute (ARI):
 - 1. ARI 650 - Air Outlets and Inlets.
- D. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE):
 - 1. ASHRAE 70 - Method of Testing for Rating the Air Flow Performance of Outlets and Inlets.
- E. Sheet Metal and Air Conditioning Contractors National Association (SMACNA):
 - 1. SMACNA - HVAC Duct Construction Standard - Metal and Flexible.
- F. National Fire Protection Association (NFPA):
 - 1. NFPA 70 - National Electrical Code.
 - 2. NFPA 90A - Installation of Air Conditioning and Ventilating Systems.

1.3 SUBMITTALS

- A. Procedures for submittals.
 - 1. Product Data: Provide data for equipment required for this project. Review outlets and inlets as to size, finish, and type of mounting prior to submission. Submit schedule of outlets and inlets showing type, size, location, application, and noise level.

1.4 QUALITY ASSURANCE

- A. Test and rate air outlet and inlet performance in accordance with ADC Equipment Test Code 1062 and ASHRAE 70.
- B. Test and rate louver performance in accordance with AMCA 500.
- C. Qualifications

SECTION 23 3713
DIFFUSERS, REGISTERS AND GRILLES

1. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with project requirements, manufacturers offering Products which may be incorporated in the Work include the following:
 1. Titus.
 2. Ruskin.
 3. Tuttle & Bailey
 4. Or equal.

2.2 SQUARE CEILING DIFFUSERS (TITUS MCD)

- A. Type: Square, fabricated assemblies, modular core diffuser to discharge air in adjustable patterns.
- B. Frame: Surface mount, Snap-in Spline type as scheduled on plans.
- C. Fabrication: Steel or Aluminum with baked enamel, "off-white" finish.
- D. Accessories: Opposed blade damper adjustable for removal of Core. Only if specifically shown on drawings.
- E. Insulation: Back plate covered with glass fiber insulation with an aluminum foil vapor barrier to prevent harmful effects of condensation.

2.3 RETURN GRILLE (350RL)

- A. Type: Streamlined blades, 3/4-inch minimum depth, 3/4-inch maximum spacing, 35-degree deflection blades, with long blades front.
- B. Frame: 1-1/4-inch margin with concealed mounting.
- C. Fabrication: Steel with 20 gage minimum frames and 22 gage minimum blades, steel, and aluminum with 20 gage minimum frame, or aluminum extrusions, with factory baked enamel, "off-white" finish.
- D. Damper: Integral, gang-operated, opposed blade type with protruding tab operator, operable from face.
- E. Insulation: Back plate covered with glass fiber insulation with an aluminum foil vapor barrier to prevent harmful effects of condensation.

2.4 EXHAUST REGISTERS (TITUS 350RL)

- A. Type: Streamlined blades, 3/4-inch minimum depth, 3/4-inch maximum spacing, 35-degree deflection blades, with long blades front.

SECTION 23 3713
DIFFUSERS, REGISTERS AND GRILLES

- B. Frame: 1-1/4-inch margin with concealed mounting.
- C. Fabrication: Steel with 20 gage minimum frames and 22 gage minimum blades, steel, and aluminum with 20 gage minimum frame, or aluminum extrusions, with factory baked enamel, "off-white" finish.
- D. Damper: Integral, gang-operated, opposed blade type with removable key operator, operable from face where not individually connected to exhaust fans.
- E. Insulation: Back plate covered with glass fiber insulation with an aluminum foil vapor barrier to prevent harmful effects of condensation.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Coordinate location of outlets and inlets with Architectural reflected ceiling plan and make necessary adjustments in position to conform with architectural features, symmetry, and electrical lighting arrangement.
- C. Install diffusers to ductwork with airtight connection.
- D. Provide balancing dampers on duct take-off to diffusers, and grilles and registers, despite whether dampers are specified as part of the diffuser, or grille and register assembly.
- E. Paint ductwork visible behind air outlets and inlets matte black. Refer to Section 09 9123.

END OF SECTION

**SECTION 26 0500
ELECTRICAL**

PART 1 - GENERAL

1.1 SCOPE

- A. Provide all electrical work for a complete and operable system as shown on the drawings and as specified in this section including, but not limited to the following:
 - 1. Branch circuit-wiring system including wiring devices, wiring, conduit, pull boxes and equipment connections.
 - 2. Lighting system including light fixtures, lamps, ballasts, required mounting hardware, and occupancy sensors.
 - 3. Adjustment and test of the electrical work.
 - 4. Guarantee.

1.2 QUALITY ASSURANCE

- A. All products and equipment herein specified or indicated on the drawings shall be new with UL label and in compliance with the California Electrical Code, state and local codes. Materials for similar use shall be of the same type and manufacture.
- B. All work and materials shall be installed per the governing authorities. Nothing in the plans or specifications shall be deemed as permission to violate these codes or authorities and the Contractor shall be held responsible for any work, which is not accepted. Violations shown on the plans are to be brought to the attention of the Electrical Engineer before work is done.

1.3 SITE VISITATIONS: Prior to the submission of the bid, the Contractor shall visit the site and make a thorough examination of the existing conditions and thereby include allowances for this work in this bid.

1.4 PERMITS AND LICENSES: Contractor shall pay for and obtain all necessary permits, inspections, insurance and licenses required for the Electrical work. Deliver certificates for all permits and inspections to the Architect.

1.5 COORDINATION: Contractor to coordinate the Electrical work with other trades. Review drawings and specifications of all equipment requiring electrical connections prior to installation of the electrical system. Verify space, ventilation and clearances required to install electrical equipment. Exact locations of lights and wiring devices are shown on architectural drawings.

1.6 SUBMITTALS: Within thirty (30) days after award of contract, submit to the Architect six (6) sets of shop drawings consisting of product data sheets for light fixtures, receptacles, switches, plates, wiring devices, and material list. Submittals not to include substitutions or deviations from the materials or methods specified unless prior approval has been given in writing. Make all submittals at one time in booklet form.

1.7 SUBSTITUTIONS: Where manufacturer's name and catalog number are called out, the phrase "or approved equal" can be assumed except the burden of proving equality is on the bidder.

1.8 DRAWINGS: During progress of work maintain a record of changes made on plans and "as-built" locations of buried conduits and ducts. On completion, present a professionally done reproducible drawing to the Architect.

1.9 VERIFICATION OF DIMENSIONS: All scaled and figured dimensions are approximate and are given for estimating purposes only. Where apparatus and equipment have been taken from typical equipment of the class indicated and before proceeding with the work, the Contractor shall

**SECTION 26 0500
ELECTRICAL**

carefully check and verify all dimensions and sizes and shall assume all responsibility for the fitting of his materials and equipment to other parts of the equipment and to the structure.

- 1.10 LOCATION: Prior to rough-in, minor adjustments to outlet locations may be made without additional compensation.
- 1.11 PROTECTION OF FINISH: Fully protect all finished parts during the progress of the work and until final completion.
- 1.12 GUARANTEE: All electrical work and equipment (except lamps) shall be guaranteed for one year from the date of acceptance on Contractor's letterhead and turned over to the Owner at the completion and final acceptance of the job.

PART 2 - PRODUCTS

- 2.1 CIRCUIT BREAKERS: Circuit breakers shall be bolt-on molded-case type with thermal magnetic trips. Provide with rated voltage, frame size, number of poles and trip setting as shown. NEMA interrupting capacity shall be 10,000 AIC at 120/208 volts or series rated 65,000 AIC at 277/480 volts, unless otherwise noted. Match existing.
- 2.2 CONDUIT: Conduit shall be rigid steel galvanized IMC for underground, exposed up to +5'-0" or in damp locations. No running threads will be permitted. Galvanized EMT shall be used in dry concealed locations and exposed above +5'-0". EMT connectors shall be watertight compression type. Galvanized flexible conduit shall be used only for motor and fixture connections in lengths not to exceed 6'. Conduits penetrating the roof are to be flashed and counter flashed. PVC schedule 40 may be used under floor slabs or underground with ground wire. PVC underground to have 24-inch cover. Install fittings, special devices and material, which may be required for the proper installation of the conduit system.
- 2.3 CONDUCTORS: Conductors shall be 600-volt insulation type THHN/THWN copper. Conductors AWG #10 and smaller shall be solid, AWG #8 and larger to be stranded.
- 2.4 SPLICES: Splices on conductors #8 or smaller shall be Scotchlock spring connectors and for larger size cables use solderless connectors.
- 2.5 RECEPTACLES: Receptacles, 120-volt duplex grounding type, shall be specification grade 15-amp Leviton #5261-I. Where indicated WP install weatherproof gasket cover, mounted on FS box. Provide ground fault circuit interrupters where required by code. Dedicated receptacles shall be 20 amp, Leviton #5362-I.
- 2.6 LIGHT SWITCHES: Switches shall be toggle type specification grade 120/277 volts AC Leviton #1201-2I and #1203-2I for 3-way.
- 2.7 PLATES: Shall be stainless steel.
- 2.8 CHANNELS: Structural channels shall be by Kindorf, Kin-Line or Unistrut complete with all fittings, accessories, swivels, rods, etc. and installed to structural members as directed by the Structural Engineer.
- 2.9 LIGHTING FIXTURES: Furnish and install complete with lamps, ballasts and required mounting hardware. Prior to ordering fixtures, verify mounting methods and finishes. All fluorescent fixtures mounted in "T" bar ceilings to be independently suspended diagonally with 2 #10 steel wires. Installations in fire-rated areas to be done according to code requirements. Recessed portions of fixture enclosures, other than at points of support, shall be spaced at least 1/2 inch from combustible material. Thermal insulation shall not be installed within 3 inches from the recessed fixture enclosure, wiring compartment, or ballast and shall not be so installed above the fixture as

**SECTION 26 0500
ELECTRICAL**

to entrap heat and prevent the free circulation of air unless the fixture is otherwise identified for installation within thermal insulation. For pendant mounted fixtures, align stems to ceiling with laser beams.

- 2.10 LAMPS: Lamps shall be as shown on the fixture schedule. Provide lamps suitable for the use intended. Fluorescent lamps shall be 32-watt energy saver G.E. F32T8 RS SPX35 or approved equal by Sylvania or Philips. Metal halide lamps to be coated. Provide minimum 100 hours of "burn-in" of all fluorescent lamps.
- 2.11 BALLASTS: Fluorescent ballasts shall be rapid start, in-rush current limiting, electronic premium type CBM certified and ETL approved, high power factor and of voltage required. Ballasts shall be Advance, Universal, Magnetek or Motorola. Ballasts shall be compatible with occupancy sensors. HID ballasts shall be UL listed for the source, wattage and position of the lamp provided.
- 2.12 GROUND FAULT CIRCUIT INTERRUPTER (GFCI): Provide GFCI circuit breakers or outlets according to the National Electrical Code Section 210 (2) and (3), 210-8, and such ground fault circuit interrupter protection may be provided for other circuits, locations and occupancies, and where used, will provide additional protection against line-to-ground shock hazards.

PART 3 - EXECUTION

3.1 GENERAL:

- A. The Electrical Drawings, which constitute an integral part of this contract, serve as the working drawings and indicate the general layout of the electrical systems. Field verifications of locations on plans are directed by field conditions. Check the Architectural, Structural and Mechanical Plans to avert possible installation conflicts and include all resulting cost in the bid.
- B. Discrepancies between different plans, between plans and actual field conditions, or between plans and specifications shall be promptly brought to the attention of the Electrical Engineer for clarification or decision. Appurtenances and wiring not specifically indicated or referred to, but which are common to complete and operable electrical systems, shall be included in the bid.
- C. Each empty conduit shall include a pull cord. All pull cords shall have a minimum diameter of 1/4" and a minimum average tensile strength of 1100 pounds. It shall be yellow in color. A contrasting tracer color may be included to identify the manufacturer. Flat braid is not acceptable.

- 3.2 INSTALLATION: Installation of materials and equipment shall be in strict accordance with manufacturer's recommendations, instructions, and industry standards, as indicated on the drawings and as specified herein. Provide all mounting facilities for securing or hanging fixtures, equipment and outlets to the satisfaction of the Engineer. Details shown on the plans are for the purpose of establishing the extent and general methods required. Provide all sleeves, inserts, expansion joints, vibration fitting, etc. Provide storage facilities and protect all work, materials and equipment from damage during process of work. Materials and equipment shall not be stored exposed to weather. Replace all damaged or defective work, materials and equipment without additional cost to the Owner.

- 3.3 CONDUIT AND WIRING: All conduit and wiring shall be installed concealed in walls, above ceilings and below floor slabs or exposed in accordance with applicable regulations and the Electrical Drawings. All penetrations of fire-rated walls or ceilings to be coordinated with Owner. Conduit runs are shown diagrammatically. Exact routing and location of the equipment to be determined in the field.

SECTION 26 0500
ELECTRICAL

- 3.4 MOISTURE PROTECTION: Where required by regulations, all electrical devices in the spray radius of sprinklers shall be installed with weatherproof enclosures in compliance with these regulations.
- 3.5 GROUNDING: All metallic conduits, supports and enclosures shall be grounded in compliance with the National Electrical Code. Grounding bushings shall be used wherever conduits are required to be grounded.
- 3.6 TESTING: All new circuits shall be tested for short and open circuit to ground with a megger. Resistance to ground shall be in compliance with the requirements of the National Electrical Code. Furnish all necessary labor, instruments and equipment required for making tests to demonstrate that the operation of the system is in accordance with the intent of the contract documents. Also perform a complete "in service" operation of the entire electrical system to the full satisfaction of the Owner.

END OF SECTION

SECTION 26 0513
ELECTRICAL BASIC MATERIALS AND METHODS

PART 1 GENERAL

- 1.1 SUMMARY: Furnish materials and perform labor required to execute this work indicated on the drawings, as specified, and as necessary to complete the Contract, including, but not limited to, these major items:
- A. Examine all other sections for work related to those other sections and required to be included as work under this section.
 - B. Make arrangements with the Power and Telephone Companies for services of power and telephone systems, and pay all fees and charges levied by them. Notify utility companies when work under this section commences.
 - C. Telephone service, including conduits, backboards and grounding per Telephone Co.'s requirements.
 - D. Cable Television service, including conduits, cabinets, cabling and grounding as required by Cable Television Company.
 - E. Obtain all permits required from all agencies and make arrangements for all inspections required.
 - F. Complete power and lighting branch circuit wiring including junction boxes, pull boxes, outlet boxes, devices, cable supports, grounding equipment, materials, and equipment for a complete installation.
 - G. Lighting fixtures and lamps in fixtures see lighting fixtures schedule on drawings.
 - H. Complete line and low voltage wiring and connections of HVAC and plumbing equipment. Provide gutters, disconnect switches, fuses, relays, time switches, and all auxiliaries.
 - I. Power panelboards, transfer switches, feeders, conduit, pull boxes and all auxiliaries.
 - J. Wiring and connections to all electrically operated equipment and appliances as shown on the drawings.
 - K. Excavation, backfill, repaving and concrete work to complete the work under this Section.
 - L. Special grounding system complete, including ground rods, ground bars, cables and miscellaneous hardware.
 - M. Bakelite nameplates.
 - N. Temporary electrical service as needed for all trades during construction of project.
 - O. Conduit, with cables, for the Cable TV system as indicated, including boxes, cabinets, and miscellaneous hardware and finish plates.
 - P. Power for Smoke and Fire Detection System complete, including conduit, wiring, outlets, fittings and devices.
 - Q. Fire Alarm system complete with control panel, annunciator and including conduit,

SECTION 26 0513
ELECTRICAL BASIC MATERIALS AND METHODS

detectors, devices as indicated and required, wiring, outlets, fittings.

- R. Construction permits.
- S. Record and "as-built" drawings.
- T. Certificates and warranties.
- U. Owner manuals.
- V. Perform all other work necessary for the complete installation of all electrical work as herein specified. Refer to the approved electrical plan set for details.

PART 2 - MATERIALS

2.1 CONDUIT AND RACEWAYS

- A. All shall be provided with fittings and accessories approved for purpose and equal in all respects to raceway.
- B. Rigid steel conduit shall be hot-dipped galvanized and comply with U.S. Standard UL6 and ANSI Standard C80.1.
- C. Intermediate steel conduit shall be hot-dipped galvanized and comply with U.S. Standard 1242.
- D. Electrical metallic tubing (EMT) shall be galvanized on the outside and coated on the inside with a hard-smooth lacquer finish. EMT fittings shall be steel compression gland. EMT shall comply with U.L. 797 and ANSI C80-3.
- E. Flexible metallic conduit shall be galvanized steel with steel fittings. Liquid and moisture tight conduit shall be American Brass with Appleton "ST" connectors or acceptable equal. Flexible conduit shall be only used in concealed areas in walls for connection to recessed light fixtures, motors and transformers.
- F. Plastic conduit shall be polyvinyl chloride (PVC) Schedule 40 for direct burial or Type I for concrete encased, for use with 90°C. Conduits as manufactured by Carlon, Kraylon, Borg Wagner, Stauffer, Triangle or acceptable equal.
- G. Surface metal raceway shall be Wiremold or Walker-Parkersburg. Raceways and fittings shall be of one manufacturer and designed for use together.
- H. Wireways shall be hinged cover or screw cover complete with all necessary manufactured fittings which shall be of one manufacturer. Wireway shall be Square D square duct or approved equal by G.E., ITE.
 - 1. Plastic-coated conduit shall be rigid galvanized steel conduit having a 0.030" minimum thick factory-bonded PVC jacket, using pre-jacketed couplings as manufactured by Pittsburgh Robroy, Plastic Applicator, Occidental or approved equal.

2.2 WIRE AND CABLES

- A. All shall be new. All conductors #8 AWG and larger, shall be stranded. Color code all conductors as specified and as prescribed by NEC unless specified otherwise.

SECTION 26 0513
ELECTRICAL BASIC MATERIALS AND METHODS

- B. Secondary voltage (600 volt or below) cables and wires shall be copper, unless otherwise indicated on drawings, single conductor rated 600 volts conforming to or exceeding IPCEA Specifications and shall be as follows:
1. In sizes #1/0 AWG to 4/0: Cross-linked polyethylene insulation type XHHW (75 - 90°) or THWN.
 2. In sizes 250 MCM and larger: Type RHW/USE or THWN.
 3. In sizes #1 AWG and smaller: All conductors shall have heat/moisture resistant thermoplastic insulation type THW or THWN (75°C), except as follows:
 - a. Where conduit temperature will exceed 100°F, use type THHN (90°C). Type XHHW (90°C) permissible in dry locations.
 - b. In 120-volt incandescent fixtures, type AF (150°C).
 - c. In wireways of fluorescent lighting fixtures types THW-MTW (90°C).
 - d. Handling cord drops and cord connections: Type "SO" cord.
 4. Grounding Conductors: Copper Type TW with green integrally-colored insulation of bare-medium-hard-drawn copper.
 5. General Electric, Okonite, Rome or General Cable products are acceptable.
 6. Low Voltage Conductors: Jacketed, approved type, with low smoke producing characteristics.

2.3 WIRING DEVICES

- A. Wall (Local) Switches: Totally enclosed, AC rated, silent type ivory finish or other finishes on dark colored walls as selected by the Owner. Switches on emergency circuits shall be red. All switch mounting straps shall be metal and offer self-grounding or be equipped with a green, hex-head ground screw. Numbers used below are those of Hubbell. Equivalent Leviton, Arrow-Hart, Bryant, P & S, Sierra or G.E. are acceptable.
- | | | | |
|-----------------------------|----------|---------|-----------|
| (1) Single-Pole Switches | #RSD115I | 15 amps | 120 volts |
| (2) Single-Pole Combination | #RCD101I | 15amps | 120 volts |
| (3) Single-Pole Combination | #RCD111I | 15amps | 120 volts |
| Three-Way Switches | #RSD315I | 15 amps | 120 volts |
- B. Occupancy sensor switch shall be Hubbell RMS140I passive infrared sensor or equal by Leviton or Arrow Hart.
- C. Receptacles:
1. Duplex receptacles shall be specification grade, Tamper resistance, NEMA 5-20R configuration. They shall be capable of being side or back wired, with clamp type terminals for back wiring and have a metal mounting strap with self-grounding and a green, hex-head grounding termination screw. The grounding

SECTION 26 0513
ELECTRICAL BASIC MATERIALS AND METHODS

blades shall be aligned in such a manner that they are parallel to the longitudinal plane of the receptacle. Numbers used below are those of Hubbell. Equivalent Leviton, Arrow-Hart, Bryant, P&S, Sierra, or GE are acceptable.

Duplex	20A	Ivory color	#BR20ITR
GFI Duplex	20A	Ivory color	#GF20IL
Single Receptacle:			# RR2011

2. All receptacles shall have ivory finish.
3. Receptacles on emergency circuits shall be red, except for isolated ground receptacles on emergency circuits, which shall be orange with red cover plates.
- D. Device Cover Plates: matching device cover plates by Hubbell, Smooth nylon with Ivory finish unless otherwise selected by the Owner. Outlets in mechanical/electrical/utility rooms, and garage shall have stamped steel cover plates. Color of device plates shall be coordinated with the Owner. Red plates for receptacles on emergency circuits. Weatherproof cover: Hubbell # HBL5221
- E. Telephone or Data Jacks: shall be RJ45 jacks with Hubbell frame and multimedia ivory face plate.
- F. Television outlet jacks shall be recessed gold "F" connector Hubbell SFGRFEI with Hubbell frame and multimedia ivory face plate.
- G. Special Purpose Receptacles: Provide where shown on drawings. Specification grade, standard color, and of the appropriate code and NEMA configuration to match the supply circuit and load involved. Provide proper grounding through receptacle for equipment.

2.4 OUTLET BOXES, JUNCTION BOXES AND PULL BOXES

- A. Outlet Boxes: Hot-dipped galvanized or sherardized of required size, 4" sq. minimum or octagonal and of depth required for flush mounted devices and lighting fixtures. Cast-type with gasketed covers for surface-mounted devices. All outlets for exterior application shall be cast, weatherproof type with gasket and cast cover plate.
- B. Junction and Pull Boxes: Use outlet boxes as junction boxes wherever possible. Larger junction and pull boxes over 12" in any dimension shall be fabricated from sheet steel, sized according to code, and have screw-on covers. All junction boxes shall be accessible.

2.5 WIRE CONNECTORS

- A. For wires size #10 AWG and smaller, use Scotchlok or Ideal insulated pressure type (with live spring) rated 105°C, 600 volts, for building wiring and 1000 volt in signs or fixtures.
- B. For wires size #8 AWG and larger, T & B or equivalent compression type with 3M #33 tape insulation.

2.6 CONDUIT HANGERS

- A. Galvanized steel with special accessories for purpose and adequate to support load imposed. Support individual conduit 1-1/2" and larger and all multiple conduit runs with hangers. Clamp conduits individually to each support.

SECTION 26 0513
ELECTRICAL BASIC MATERIALS AND METHODS

2.7 SUPPORTS AND HANGERS

- A. Wall brackets and ceiling trapeze hangers shall be Binkley, Elcen, Kindorf, Multi-Frame, Power Strut, or Unistrut.
- B. All lighting fixtures and conduits shall be fully braced as required by State of California Seismic Regulation. Contractor shall be responsible for bracing design. Provide State of California Registered Structural Engineer's approval as part of this contract for all electrical equipment installation.

2.8 FUSES AND CABINET

- A. Fuses: Shall be Class K-1 and K-5 of rejection type for 600 amperes and below and Class L for over 600 amperes. Fuses shall be Bussman "Limitron" and "Fusetron."
- B. Fuse Cabinet:
 - 1. Surface-mounted steel fuse cabinets shall have a hinged front door and a flush catch with lock (panelboard type). Each cabinet shall contain 3 spare fuses of each size and type used in associated switchgear and safety switches. On front of hinged door, provide an engraved nameplate with black-white phenolic material screwed in place reading: "SPARE FUSES".
 - 2. On inside of door provide the following information typewritten and covered with clear plastic: "Use these spare current-limiting fuses to replace any fuses of the current-limiting type that have blown. Replace fuses with ones of similar rating-- DO NOT INCREASE FUSE RATING.
 - 3. In a separate paragraph state name, address and telephone number of at least 2 distributors located within 80 miles of project who stock current-limiting fuses. Indicate date (month and year) in bottom right-hand corner.

2.9 CONDUIT SEALS

- A. Conduit passing through concrete walls shall be sealed with Chase-Foam CTC PR-855. Match fire rating of walls.

PART 3 - EXECUTION

3.1 GENERAL

- A. Electrical system layouts indicated on drawings are generally diagrammatic, but shall be followed as closely as actual construction and work of other trades will permit. Govern exact routing of raceways and locations of outlets by structure and equipment served. Take all dimensions from architectural drawings.
- B. Consult all other drawings. Verify all scales and report any dimensional discrepancies or other conflicts to the Architect and Engineer before submitting bid.
- C. All home runs to panelboards are indicated as starting from outlet nearest panel and continuing in general direction of that panel. Continue such circuits to panel as though routes were completely indicated.
- D. Avoid cutting and boring holes through or structural members wherever possible. Obtain prior approval of the Architect and Engineer, and conform to all structural

SECTION 26 0513
ELECTRICAL BASIC MATERIALS AND METHODS

requirements when cutting or boring structure is necessary and permitted.

- E. Furnish and install all necessary hardware, hangers, blocking, brackets, bracing, runners, etc. required for equipment specified under this Section.

3.2 SLEEVES

- A. Where raceways pass through concrete construction, install sleeves accurately set in place.
- B. Have a man present during the pouring of concrete to make sure the location of sleeves is not disturbed during the pour.
- C. Cut all openings for which sleeves are omitted with rotary type drill, or other method as approved by the Architect and Engineer. Holes cut with pneumatic hammer will not be accepted.
- D. All sleeves through concrete floors shall be pipe sleeves with the top of sleeves a minimum of 1/2" above finished floor surfaces. Do not utilize more than one sleeve per pipe. Blockouts for multiple pipes or individual pipes will not be allowed.

3.3 RACEWAY INSTALLATION

- A. Above grade - defined as areas above finished grade for a building exterior and above top surface of any slabs (or other concrete work on grade) for a building interior. Provide for waterproofing of all raceways, outlets, fittings, etc. which penetrate the roof to preserve the weatherproof integrity of the building. Installation of and materials for above-grade raceways shall conform with the following:
 - 1. General - Install all raceways concealed except at surface cabinets, for motor and equipment connections, in mechanical equipment rooms, and elsewhere as noted on the drawings. Install a minimum of 6" from flues, steam pipes or other heated pockets for water-flashing and counter-flashing or pitch pockets for waterproofing of all raceways, outlets, fittings, etc. which penetrate roof. Route exposed raceways parallel or perpendicular to building lines with right angle turns and symmetrical bends. Raceways in concrete shall be run in a direct line, and where possible, with long sweep bends and offsets. Provide sleeves in forms for new concrete walls, floor slabs and partitions for passage of raceways. Waterproof all sleeved raceways. Minimum conduit size shall be 1/2".
 - a. Provide 5 empty 3/4-inch conduits for each flush-mounted panelboard into the accessible overhead ceiling space.
 - b. Provide raceway expansion joints with necessary bonding conductor at building expansion joints and where required to compensate for raceway or building thermal expansion and contraction. Terminate raceways 1-1/4" and larger with insulated bushing or rain-tight connections with insulated throats. Expansion/deflection fittings shall be OZ Gedney type AXDX or equal.
 - 2. Rigid conduit or intermediate metallic steel conduit shall be installed in the following above-grade areas:
 - a. Embedded in above-grade concrete walls and floor slabs.
 - b. Where exposed to mechanical injury.
 - c. Where specifically required by the California Electrical Code.
 - 3. Electrical Metallic Tubing (EMT): May be installed in dry areas only in:

SECTION 26 0513
ELECTRICAL BASIC MATERIALS AND METHODS

- a. Concealed locations in furred or masonry walls or ceilings.
 - b. Embedded in poured insulating fills.
 - c. Exposed areas at least 8 feet above floor.
EMT fittings shall be compression type (no die cast fittings allowed), except provide gland-nut type where embedded.
- 4. Flexible sealtite metal conduit shall be only used for the following:
 - a. Makeup of motor, transformer or equipment, and/or raceway connections where isolation of sound and vibration transmission is required. For connections in locations exposed to weather, or in interior locations subject to moisture, watertight flexible conduit shall be used.
 - b. Connections to recessed lighting fixtures shall not exceed 6 feet in length. Lengths of flexible metal conduit shall contain a separate grounding conductor as outlined under "Grounding" Section of this Specification. All conduit and fittings shall be steel.
- 5. Surface raceways, where indicated on drawings, shall be metal and a size approved for number and size of wires to be installed and shall be installed in a neat, workmanlike manner, with runs parallel or perpendicular to walls and partitions. Raceways, elbows, fittings, outlets and devices shall be of same manufacturer, and designed for use together.
- 6. Wireways, where indicated, complete with elbows, tees, connectors, adapters, etc., with all parts factory fabricated and of same manufacturer. Communication cable wireway shall be approved for use in return plenum space.
 - a. Install communication cables in communication cable wireway.
- B. Below-Grade: Defined as area below finished grade for a building exterior and below bottom floor slab for a building interior.
 - 1. General: All service and feeders below-grade shall be concrete encased. Below-grade raceways shall project 2" minimum above floor or equipment foundation. Install exterior underground conduits 36" minimum below finished grade. Do not penetrate waterproof membranes unless proper seals are provided. Conduits below building slab shall be 12" minimum below bottom of concrete. Make all penetrations through concrete with rigid plastic-coated conduit.
 - 2. Non-encased Raceways: Unless specifically noted on drawings for concrete encasement, provide either of the following raceway systems for installation below slabs on grade or in earth or gravel.
 - a. Rigid, heavy-wall, Schedule 40, polyvinyl chloride PVC plastic conduit, suitable for direct burial. All offsets and 90° ells shall be rigid plastic-coated conduit.
 - b. Rigid, galvanized steel conduit having a 0.30" minimum thickness, factory bonded (PVC Jacket), using pre-jacketed couplings to provide substantially watertight jacketing system.

3.4 OUTLETS

- A. Exact location of outlets and equipment shall be governed by structural conditions and obstructions or other equipment items. When necessary, relocate outlets so that when fixtures or equipment are installed, they will be symmetrically located according to room layout and will not interfere with other work or equipment. Verify final location of all panels, equipment, etc. with the Architect. If dimensions are not given, locate outlets within +6" of location as scaled from drawings.

SECTION 26 0513
ELECTRICAL BASIC MATERIALS AND METHODS

- B. Provide zinc-coated or cadmium-plated sheet steel outlet boxes not less than 4" octagonal or square, unless otherwise noted. Equip fixture outlet boxes with 3/8" no-bolt fixture studs. Where fixtures are mounted on or in an accessible type ceiling, provide a junction box and extend flexible conduit to each fixture. Outlet boxes in finished ceilings or walls shall be fitted with appropriate covers, set to come flush with the finished surface. Where more than one switch or device is located at one point, use gang boxes and covers unless otherwise indicated. Sectional switch boxes or utility boxes will not be permitted. Provide tile box or a 4" square box with tile ring in masonry walls which will not be plastered or furred, or where "drywall" type materials are applied.
- C. Back-to-back outlets in the same wall, or thru-wall type boxes not permitted. Provide 8" (minimum) long nipple to offset for all outlets shown on opposite sides of a common wall to minimize sound transmission.
- D. Surface-mounted devices are to be mounted in cast-type boxes with gasketed covers.
- E. Except as otherwise noted, locate outlets and panelboards as follows: Dimensions given are from finished floor to center line of outlets except panels. Adjust heights of outlets in masonry walls to correspond with consistent brick or block course. Outlets in block walls shall be installed in core of block.
- | | | |
|-----|---|-------|
| 1. | Wall switches | 48" |
| 2. | Convenience outlets, long axis vertical with grounding pole on bottom | 15" |
| 3. | Phone outlets | 15" |
| 4. | Panelboards (to top of trim) | 6'-6" |
| 5. | Wall-mounted shelf-type pay phone outlet | 3'-4" |
| 6. | Fire alarm horns | 7'-6" |
| 7. | Fire alarm stations | 3'-8" |
| 8. | Clock outlets | 84" |
| 9. | Data outlets | 15" |
| 10. | Wall phone outlets | 54" |
- F. Over counters, benches, special equipment, baseboards, fin tube radiators, etc. or at wainscoting, outlets shall be at a height (6") to prevent interferences to service equipment, or as noted on drawings.

3.5 JUNCTION AND PULL BOXES AND CABINETS

- A. Construct junction or pull boxes not over 150 cubic inches in size as standard outlet boxes, and those over 150 cubic inches the same as "Cabinets", with screw covers of same gauge metal. Removable covers must be accessible at all times. Mount per "Outlets" Section.
- B. Provide a standard access panel having a hinged metal door neatly fitted into a flush metal trim, where a junction box or equipment is located above non-accessible ceilings or behind finished walls. Coordinate location and type with the Architect and Engineer.
- C. All cabinets shall be set rigidly in place with fronts straight and plumb, center panelboard interiors in door openings.
- D. For ease of identification during maintenance and remodeling, junction box covers shall be color coded according to the following schedule:
- | | |
|----|------------------|
| 1. | Fire Alarm - Red |
|----|------------------|

SECTION 26 0513
ELECTRICAL BASIC MATERIALS AND METHODS

2. Emergency Circuitry - Yellow
3. Telephone - Green
4. Televisions - Violet
5. Computer Data - Blue
6. 277/480V Systems – Orange

3.6 INSTALLATION OF WIRES

- A. All wiring shall be routed through an acceptable raceway regardless of voltage application, unless specified otherwise under other Sections of these Specifications.
- B. Pull no wire into any portion of conduit system until all construction work which might damage the wire has been completed. Conductors for all voltages shall be color coded as follows:
 1. Wire No. 10 and smaller be factory color coded.
 2. Wire No. 8 and larger may be color coded by field color taping of the entire length of exposed end or 12" of exposed end, whichever is less.
 3. 120/240 volts: Phases: a-black, b-red, c-blue, neutral-white, ground-green
 4. Isolated ground: Green with a white stripe.
- C. Change branch circuit wire from #12 AWG to #10 where more than 3 current-carrying conductors are in one conduit.
- D. Sizes of conduits, unless specifically shown otherwise, shall be determined from the National Electrical Code.
- E. Install all wire continuous from outlet to outlet or terminal to terminal. Splices in cables when required shall be made in handholes, pull boxes, or junction boxes and shall be in strict accordance with cable manufacturer's recommendations utilizing solderless connectors UL approved for the use.
- F. Make up splices in outlet boxes with 8" of correctly color-coded tails left in box. Splices in wires size #8 AWG and smaller shall be made with insulated spring type wire connectors, "Scotchlok". Splices in larger wire and cables shall be made with indent connectors approved for the purpose. All insulating tape used on circuits of 600 volts and less shall be 3-M #33 or Plymouth Slipknot Grey.
- G. All cables and wires passing through manholes and handholes shall be full looped inside manhole and handhole and supported on galvanized steel racks with insulators.
- H. Make all ground, neutral and line connections to receptacle and wiring device terminals as recommended by Manufacturer. Provide ground jumper from outlet box to ground terminal of receptacle.
- I. Unless otherwise indicated, all wiring for branch circuits shall be #12 AWG protected by 20 ampere circuit breakers. If distance from panel to first outlet is 75 feet or greater (for 120-volt circuits) or 150 feet or greater (for 277-volt circuits) No. 10 shall be installed.
- J. When two or three fluorescent lighting circuits share a common neutral, the neutral conductor shall be increased to the next larger wire size.

3.7 SUPPORTS AND HANGERS

- A. Support and align all raceways, cabinets, boxes, fixtures, etc. in an accepted manner and as herein specified. Support raceways on accepted types of wall brackets,

SECTION 26 0513
ELECTRICAL BASIC MATERIALS AND METHODS

specialty steel clips or hangers, ceiling trapeze hangers or malleable iron straps. Plumbers perforated straps not permitted. Do not suspend raceways or equipment from steam, water or other piping, or ductwork, except use of common supports such as Unistrut at roof level installed by General Contractor for this purpose. Provide toggle bolts or expansion (spider type) anchors in hollow masonry units, lead expansion shields in solid masonry or concrete (or preferably use pre-set concrete inserts in concrete), machine screws, bolts or welding on metal surfaces, and wood screws on wood construction. Note: Malleable nails of proper type may be used to anchor in wood construction in lieu of screws only where rigid support will be provided by their use. Use of power-driven studs is prohibited without express permission.

- B. Where suspended ceilings are 24" or less below structure (bar joints, concrete, etc.), provide independent support from structure for all raceways. Where a space of over 24" to suspended ceiling occurs, hangers may be utilized to support conduits of one inch or less trade size.
 - 1. Mount all conduits a minimum of 7" above any accessible type ceiling, or with spacing as required to permit relocation of recessed fixtures to any location.
- C. Structural and post tensioned concrete members shall not be drilled or pierced without prior approval.
- D. Where outlets are installed in steel stud type systems, provide additional cross bracing, bridging and/or straps as required to make outlet completely rigid prior to application of wall facing material.
- E. Design hangers and wall brackets so that maximum deflection will be no greater than 1/8".

3.8 EXCAVATION AND BACKFILL

- A. All excavation and backfill required because of this work shall be included. Excavation of trenches shall be sequenced to minimize "open time" and inconvenience.
- B. Trenches shall be cut straight and true and shall be shored and braced where required. See other applicable divisions of the specifications - for specific methods and requirements.

3.9 WIRING DEVICES

- A. Install devices of type indicated on drawings. All connections shall be made up tight and device set plumb. Use care in installing device in order to prevent damage to device and wire in outlet box.
- B. Provide a device plate for each outlet to suit device installed and install blank plates or covers for conjunction boxes and empty outlets.

3.10 OVERCURRENT PROTECTIVE DEVICES

- A. Install fuses where required as a protective device and in conformance with equipment manufacturer's specified requirements.

3.11 CONCRETE AND CONCRETE WORK

- A. Concrete shall conform to requirements of Division 3 Section 03 3000 in these Specifications.

SECTION 26 0513
ELECTRICAL BASIC MATERIALS AND METHODS

3.12 MECHANICAL WIRING AND CONNECTIONS

- A. Work by Mechanical Contractor: Provide all motors and heating equipment included under Divisions 22 and 23. Furnish all control devices which directly handle the full load current of the motor or heating equipment. Provide all control wiring which does not directly control the full load motor or heating equipment current. Furnish identification signs for electrical components of mechanical system.
- B. Work by Electrical Contractor: Provide all power feeders and final connect to all motors and electric heating equipment furnished under Divisions 22 and 23. Install and wire through all control devices which directly handle full load motor or electric heating equipment current, such as magnetic starters, line voltage thermostats, P.E. switches, etc., which are furnished by mechanical contractor. Locate where shown on the mechanical drawings. Install identification signs furnished under Divisions 22 and 23. Provide 120V outlet and dedicated circuit for control voltage; locate in each mechanical equipment room or area. Provide disconnects for all mechanical equipment.

3.13 EQUIPMENT CONNECTIONS

- A. Provide all final connections for items of equipment including power feeders and disconnects or receptacles as required. All equipment items will be furnished and set by others. Confirm with suppliers all rough-in data such as electrical characteristics, dimensions, locations, type of connection, etc., prior to installation.

END OF SECTION

SECTION 26 0519
LOW-VOLTAGE WIRES (600 VOLT AC)

PART 1 - GENERAL

1.1 SUMMARY

- A. Provisions of Division 01 apply to this section.
- B. Section Includes: Low-voltage wire, splices, terminations and installation.
- C. For work related to Telecommunications, "Division 27 shall supersede division 26 where there is a conflict of information."

1.2 SUBMITTALS

- A. Provide in accordance with Division 01.

PART 2 - PRODUCTS

2.1 WIRES

- A. Wires shall be single conductor type THHN or THWN insulated with polyvinyl chloride and covered with a protective sheath of nylon, rated at 600 volts. Wires may be operated at 90 degrees C. maximum continuous conductor temperature in dry locations, and 75 degrees C. in wet locations and shall be listed by UL Standard 83 for thermoplastic insulated wires, listed by Underwriter's Laboratories (UL) for installation in accordance with Article 310 of the California Electrical Code (CEC). Conductors shall be solid copper for 12 AWG and smaller conductors, and stranded copper for 10 AWG and larger conductors. Conductors shall be insulated with PVC and sheathed with nylon. Wires shall be identified by surface markings indicating manufacturer's identification, conductor size and metal, voltage rating, UL symbol, type designations and optional rating. Indentations for lettering are not permitted. Wires shall be tested in accordance with the requirements of UL standard for types THWN, or THHN.
- B. Conductors shall be solid Class B or stranded Class C, annealed uncoated copper in accordance with UL standards, or another Nationally Recognized Testing Laboratory (NRTL).

2.2 STANDARDS

- A. THWN/THHN wires shall comply with the following standards:
 - 1. UL 83 for thermoplastic insulated wires.
 - 2. UL 1063 for machine tool wires and cables.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Wires shall not be installed until debris and moisture is removed from conduits, boxes, and cabinets. Wires stored at site shall be protected from physical damage until they are installed and walls are completed.
- B. Wire-pulling compounds furnished as lubricants for installation of conductors in raceways shall be compounds approved and listed by UL, NRTL, or equal. Oil, grease, graphite, or similar substances are not permitted. Pulling of 2 AWG or larger conductors shall be performed with a cable pull machine. Any runs shorter than 50 feet are exempt. When pulling conductors, do not exceed manufacturer's recommended values

SECTION 26 0519
LOW-VOLTAGE WIRES (600 VOLT AC)

- C. The Project Inspector will observe installation of feeder cables. Notify the Project Inspector not less than two working days in advance of the proposed time of feeder installation.
- D. At outlets for light, power, and signal equipment, pigtail splices with 8-inch circuit conductor leads for connection to fixtures, equipment, and devices.
- E. Pressure cable connectors, pre-insulated 3M Scotchlok, Hubbell Power, O-Z/Gedney or equal, Y, R or B spring-loaded twist-on type, may be furnished in splicing number 8 AWG or smaller wires for wiring systems; except public address and telephone systems.
- F. Joints, splices, taps, and connections to switchboard neutral, bonding or grounding conductors, conductors to ground busses, and transformer connections for wires 6 gage and larger shall be performed with high-pressure cable connectors approved for installation with copper conductors. Connectors shall be insulated with heavy wall heat shrink WCSM, or cold-applied roll-on sleeve RVS. Insulation level shall be a minimum of 600V and joints, splices, and taps shall be qualified to ANSI C 119.1, UL, NRTL, or equal listed mechanical pressure connections.
- G. Connections to any bussing and high-pressure cable connectors shall be securely bolted together with corrosion-resistant plated carbon steel, minimum grade five machine screws secured with constant pressure-type locking devices.
- H. Connection of any bonding or grounding conductors shall be securely bolted together with corrosion-resistant plated carbon steel, minimum grade five machine screws secured with constant pressure-type locking devices.
- I. Wire switchboards, panel cabinets, pull boxes, and other cabinets except public address, shall be neatly grouped and tied in bundles with nylon ties at 10-inch intervals. In switchboards, panels and terminal blocks, wires shall be fanned out to terminals. If bundles are longer than 24 inches, a maximum of nine current carrying conductors may be bundled together.
- J. Install conductor lengths with a minimum length within the wiring space. Conductors must be long enough to reach the terminal location in a manner that avoids strain on the connecting lug.
- K. Maintain the conductor required bending radius.
- L. Neutral conductors larger than 6 gage, which are not color identified throughout their entire length, shall be taped, painted white or natural gray, or taped white where they appear in switchboards, cabinet, gutters or pull boxes. Neutral conductors 6 gage and smaller shall be white color identified throughout their entire length.
- M. Fire alarm and clock wiring shall be continuous from terminal cabinets or from equipment to each device. Splices are not permitted between devices and/or terminal cabinets at junction and pull boxes. Wiring shall be terminated at terminal blocks or devices only.
- N. Wiring systems shall be free from short circuits and grounds, other than required grounds. The contractor shall be responsible for the testing of feeder and branch circuit conductor's insulation resistance. The insulation of the conductors shall be tested prior to connections to any panelboards, switchboards, variable frequency drives, lighting control systems, ballasts, and wiring devices such as but not limited to GFI receptacles, TVSS receptacles, or equipment. Insulation testing of panelboards and switchboards shall be independently performed from the insulation testing of any conductors as specified in other sections of this specification.

SECTION 26 0519
LOW-VOLTAGE WIRES (600 VOLT AC)

1. Utilize the services of an approved independent testing laboratory to perform megger time-resistance insulation testing of feeder conductors. Tests must be conducted with wires disconnected at both ends.
 - a. Provide calibration program records to assure the testing instrument to be within rated accuracy. The test equipment accuracy shall be in accord with the requirements stated by the National Institute of Standards and Technology (NIST).
 - b. Test equipment shall be provided with a label stating the date of last calibration. As a minimum the equipment shall have been calibrated within the past 12 months.
 - c. Test reports shall include the following:
 - 1) Identification of the testing organization.
 - 2) Equipment identification.
 - 3) Ambient conditions.
 - 4) Identification of the testing technician.
 - 5) Summary of project.
 - 6) Description of equipment being tested.
 - 7) Description of tests.
 - 8) Test results.
 - 9) Analysis, interpretation and recommendations.
2. Utilize the services of an approved independent testing laboratory or a qualified contractor's employee (Technician certified in accordance with ANSI/NETA ETT-2000 Standard for Certification of Electrical Testing Personnel) to perform megger time-resistance insulation testing of branch circuit conductors. Tests must be conducted with wires disconnected at both ends.
 - a. Test equipment and report requirements stipulated under paragraph 3.01.N.1 apply to branch circuit testing.
3. Tests shall be performed in the presence of the Project Inspector.
4. Insulation resistance shall not be less than 100 mega-ohms.

3.2

COLOR CODES

A. General Wiring:

1. Color code conductor insulation as follows:

SYSTEM VOLTAGE		
Conductor	208Y/120	480Y/277
Phase A	Black	Brown
Phase B	Red	Orange
Phase C	Blue	Yellow
Neutral	White	Natural Gray

Neutrals shall be colored-distinguished if circuits of two voltage systems are used in the same raceway.

SECTION 26 0519
LOW-VOLTAGE WIRES (600 VOLT AC)

2. For phase and neutral conductors 6 gage or larger, permanent plastic-colored tape may be furnished to mark conductor end instead of coded insulation. Tape shall cover not less than 2 inches of conductor insulation within enclosure.
- B. Signal Systems: Wires for signal systems shall be color-coded and installed under observation of the Project Inspector. Except where otherwise specified, color-coding shall be as follows:

<u>SYSTEM</u>	<u>COLOR CODE</u>
Clocks	Pink, Gray and Orange
Initiating Devices (Non-Addressable)	Red (+) and Black (-)
Fire Alarm Strobes	Orange (+) and Blue (-)
Interruptible 24 Volt Power (4 wire smoke detectors, duct detectors)	Brown (+) and White (-) Note: A single white wire may be common to both

3.3 FEEDER IDENTIFICATION

- A. Feeder wires and cables shall be identified at each point the conduit run is broken by a cabinet, box, gutter, etc. Where terminal ends are available, identification shall be by means of heat shrink wire markers, which provide terminal strain relief. Markers shall be by Tyco Electronics, Panduit, Brady Perma-Sleeve, or equal. Identification in other areas shall be by means of wrap-around tape markers from Tyco Electronics, Panduit, Brady Perma-Code or equal. Markers shall include feeder designation, size, and description.

3.4 TAPE AND SPLICE KITS

- A. Splices, joints, and connectors joining conductors in dry and wet locations shall be covered with insulation equivalent to that provided on conductors. Free ends of conductors connected to energized sources shall be taped. Voids in irregular connectors shall be filled with insulating compound before taping. Thermoplastic insulating tape approved by UL, NRTL, or equal for installation as sole insulation of splices shall be furnished and shall be installed according to manufacturer's printed specifications.

3.5 PROTECTION

- A. Protect the Work of this section until Substantial Completion.

3.6 CLEANUP

- A. Remove rubbish, debris and waste materials and legally dispose of off the Project site.

END OF SECTION

SECTION 26 2726 WIRING DEVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Wall switches.
 - 2. Receptacles.
 - 3. Device plates and box covers.
- B. Related Documents: The Contract Documents, as defined in Section 01 10 00 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other documents.
- C. Related Sections:
 - 1. As specified in Section 26 0500 - Electrical.

1.2 REFERENCES

- A. As specified in Section 26 0500 - Electrical.
- B. National Electrical Manufacturers Association (NEMA):
 - 1. NEMA WD 1 - General Requirements for Wiring Devices.
 - 2. NEMA WD 6 - Wiring Device -- Dimensional Requirements.

1.3 SUBMITTALS

- A. As specified in Section 26 05 00 - Electrical.

1.4 QUALITY ASSURANCE

- A. As specified in Section 26 0500 - Electrical.
- B. Qualifications:
 - 1. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum 5 years documented experience.

PART 2 - PRODUCTS

2.1 WALL SWITCHES

- A. Manufacturers: Subject to compliance with project requirements, manufacturers offering specified items which may be incorporated in the Work include the following:
 - 1. Hubbell, Inc.
 - 2. Leviton Manufacturing, Company, Inc.
 - 3. Pass & Seymour.
 - 4. Division 1 - Product Requirements: Product options and substitutions. Substitutions: Permitted.

**SECTION 26 2726
WIRING DEVICES**

- B. Provide 20 Amp, 120/277V, specification grade, flush, single pole toggle switches with side and back wired screw terminals. All switches shall be equipped with grounding screws.
- C. Single Pole Switch:
 - 1. Leviton Cat. No. 1221-2.
 - 2. P&S Cat. No. PS20AC11.
 - 3. Hubbell Cat. No. HBL1221.
- D. Color: Ivory unless indicated otherwise.

2.2 RECEPTACLES

- A. Manufacturers: Subject to compliance with project requirements, manufacturers offering specified items which may be incorporated in the Work include the following:
 - 1. Leviton Manufacturing, Company, Inc.
 - 2. Pass & Seymour.
 - 3. Hubbell, Inc.
 - 4. Division 1 - Product Requirements: Product options and substitutions. Substitutions: Permitted.
- B. Provide duplex, specification grade, 20 Amp, 120 Volt, 2 pole, 3 wire receptacles with grounding screw.
- C. Duplex Convenience Receptacle:
 - 1. Leviton Cat. No. 5362.
 - 2. P&S Cat. No. 5362.
 - 3. Hubbell Cat. No. HBL5352.
- D. GFCI Receptacle (Side Wired Feed-Thru):
 - 1. Leviton Cat. No. 6599.
 - 2. P&S Cat. No. 2091-SHG.
 - 3. Hubbell Cat. No. HBLGF5362.
- E. Color: Ivory unless indicated otherwise.

2.3 WALL PLATES

- A. Manufacturers: Subject to compliance with project requirements, manufacturers offering specified items which may be incorporated in the Work include the following:
 - 1. P&S Sierra.
 - 2. Hubbell.
 - 3. Leviton.
 - 4. Division 1 - Product Requirements: Product options and substitutions. Substitutions: Permitted.
- B. Cover Plate: White smooth thermoplastic.
 - 1. Sierra TP8-W.
- C. Weatherproof Cover Plate: Gasketed cast metal with hinged gasketed device, listed as weather proof while in use.
 - 1. Red Dot cast aluminum.

**SECTION 26 2726
WIRING DEVICES**

PART 3 - EXECUTION

3.1 EXAMINATION

- A. As specified in Section 26 0500 - Electrical.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
 - 1. Verify that outlet boxes are installed at proper height.
 - 2. Verify that wall openings are neatly cut and will be completely covered by wall plates.
 - 3. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.

3.2 PREPARATION

- A. Provide extension rings to bring outlet boxes flush with finished surface.
- B. Clean debris from outlet boxes.

3.3 INSTALLATION

- A. Install in accordance with NECA "Standard of Installation."
- B. Install devices plumb and level.
- C. Install switches with OFF position down.
- D. Install receptacles with grounding pole on bottom.
- E. Connect wiring device grounding terminal to branch circuit equipment grounding conductor.
- F. Connect wiring devices by wrapping conductor 2/3 of screw diameter in clockwise direction around screw terminal. Tighten screw to 12 pound-inches. Do not use spring pressure devices for wire connections.
- G. Install cover plates on switch, receptacle, and blank outlets.

3.4 CONSTRUCTION

- A. Interface with other work:
 - 1. Coordinate locations of outlet boxes provided under Division 26 to obtain mounting heights indicated on Drawings.

3.5 FIELD QUALITY CONTROL

- A. As specified in Section 26 0500 –Electrical.
- B. Inspect each wiring device for defects.
- C. Operate each wall switch with circuit energized and verify proper operation.

**SECTION 26 2726
WIRING DEVICES**

- D. Verify that each receptacle device is energized.
- E. Test each receptacle device for proper polarity.
- F. Test each GFCI receptacle device for proper operation.

3.6 ADJUSTING

- A. Adjust devices and wall plates to be flush, level and plumb with wall.

3.7 CLEANING

- A. Division 1 - Execution: Cleaning installed work.
- B. Clean exposed surfaces to remove splatters and restore finish.

END OF SECTION

**SECTION 26 5100
INTERIOR LIGHTING**

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Interior luminaires and accessories.
 - 2. Lamps.
 - 3. Ballasts.
- B. Substitutions:
 - 1. Or approved equal if permitted in Division 1 - Product Requirements: Product options and substitutions.
- C. Related Documents: The Contract Documents, as defined in Division 1 - Summary of Work, apply to the work of this section. Additional requirements and information necessary to complete the work of this section may be found in other documents.
- D. Related Sections:
 - 1. Section 26 0500 – Electrical.

1.2 REFERENCES

- A. As specified in Section 26 0500 - Electrical.

1.3 SUBMITTALS

- A. Division 1 - Submittal Procedures: Procedures for submittals.
- B. As specified in Section 26 0500 – Electrical.
 - 1. Product Data: Provide dimensions, ratings, and performance data for each fixture specified.
 - 2. Assurance/Control Submittals:
 - a. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of Product.
- C. Division 1 - Closeout Procedures and Training: Procedures for closeout submittals:
 - 1. Operation and Maintenance Data: Submit manufacturer's operation and maintenance instructions for each type of fixture.

1.4 QUALITY ASSURANCE

- A. As specified in Section 26 0500 - Electrical.

1.5 WARRANTY

- A. Comply with Division 1 requirements.

**SECTION 26 5100
INTERIOR LIGHTING**

- B. General Warranty: Special warranty specified in this Section shall not deprive the University of other Rights the University may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by this Contractor under requirements of the Contract Documents.
- C. Special Warranty for LEDs' and Drivers: Manufacturers standard form in which manufacturer of LED's and drivers agrees to replace components that fails in materials or workmanship within specified warranty period.
 - 1. LED arrays: 10 years from date of Beneficial Occupancy.
 - 2. Drivers: 10 years from date of Beneficial Occupancy.

1.6 MAINTENANCE

- A. Division 1 - Closeout Procedures and Training: Procedures for closeout submittals.

PART 2 - PRODUCTS

- 2.1 LUMINARIES** – See Drawings; all luminaries installed shall be California Title 24 approved and / or listed in the California Appliance Efficiency Database.

2.2 LAMPS

- A. LED Lamp Manufacturers:
 - 1. Deco Digital,
 - 2. LA Lighting,
 - 3. Philips Lighting Company,
 - 4. Lithonia Lighting
 - 5. Or approved equal
- B. Lamp Types: As specified for luminaire. Refer to Section 01 60 00 for substitutions and product options.

2.4 LED LUMINAIRES

- A. General: Except as otherwise indicated, provide LED luminaries, of types and sizes indicated on fixture schedules.
- B. Material and specifications for each luminaire are as follows:
 - 1. Each luminaire shall consist of an assembly that utilizes LEDs as the light source. In addition, a complete luminaire shall consist of a housing, LED array, and electronic driver (power supply).
 - 2. Each luminaire shall be rated for a minimum operational life of 50,000 hours at an average operating time of 12.0 hours per day. This life rating must be conducted 40C ambient temperature.
 - 3. The rated operating temperature range shall be -30°C to +40°C.
 - 4. Each luminaire is capable of operating above 100°F [37°C], but not expected to comply with photometric requirements at elevated temperatures.
 - 5. Photometry must be compliant with IESNA LM-79 and shall be conducted at 25°C ambient temperature.
 - 6. The individual LEDs shall be constructed such that a catastrophic loss or the failure of one LED will not result in the loss of the entire luminaire.
 - 7. Luminare shall be constructed such that LED modules may be replaced or repaired without replacement of whole luminaire.

**SECTION 26 5100
INTERIOR LIGHTING**

8. Each luminaire shall be listed with Underwriters Laboratory, Inc. under UL1598 for luminaires, or an equivalent standard from a nationally recognized testing laboratory.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. As specified in Section 26 0500 - Electrical.

3.2 INSTALLATION

- A. Locate recessed ceiling luminaires as indicated on reflected ceiling plan.
- B. Install surface mounted luminaires and exit luminaire signs plumb and adjust to align with building lines and with each other. Secure to prevent movement. Mount exit signs to outlet box mounted flush in wall or ceilings. Outlet box for ceiling mounted exit signs: Connect to rigid conduit system.
- C. Install recessed luminaires to permit removal from below.
- D. Install recessed luminaires using accessories and firestopping materials to meet regulatory requirements for fire rating. In fire rated ceilings recessed luminaires must carry 1-hour UL fire rating classification.
- E. Install earthquake clips to secure recessed grid-supported luminaires in place.
- F. Install wall mounted luminaires, emergency lighting units and exit luminaire signs at height as scheduled.
- G. Install accessories furnished with each luminaire.
- H. Bond products and metal accessories to branch circuit equipment grounding conductor.
- I. Install specified lamps in each emergency lighting unit, exit luminaire sign, and luminaire.

3.3 FIELD QUALITY CONTROL

- A. As specified in Section 26 0500 - Electrical.
- B. Operate each luminaire after installation and connection. Inspect for proper connection and operation.

3.4 ADJUSTING

- A. Position exit luminaire sign directional arrows as indicated.

**SECTION 26 5100
INTERIOR LIGHTING**

3.5 CLEANING

- A. Conform to Division 1 - Execution: Cleaning installed work.
- B. Clean electrical parts to remove conductive and deleterious materials.
- C. Remove dirt and debris from enclosures.
- D. Clean photometric control surfaces as recommended by manufacturer.
- E. Clean finishes and touch up damage.
- F. Re-lamp any fixtures with defective or burned out lamps, just prior to Final Acceptance.

Payment for items of work identified in Division 26 as identified in the plans and these specifications shall be based on the unit bid pricing for items of work identified as Electrical on the Bid Schedule.

END OF SECTION

APPENDIX “B”

**DEPARTMENT OF INDUSTRIAL RELATIONS (DIR)
CONTRACTOR REGISTRATION NUMBER FORM**

Department of Industrial Relations (DIR)

Contractor Registration Number

Beginning July 1, 2014, contractors must register with the Department of Industrial Relations (DIR) before bidding on public works contracts in California. For more information, please refer to this section of the Department of Industrial Relations Website: <http://www.dir.ca.gov/PublicWorks/PublicWorks.html>.

Per this requirement, provide the following information:

Contractor Name

Contractor Department of Industrial Relations Registration Number:

Expiration Date of Registration Number

*(THIS FORM MUST BE SUBMITTED WITH THE SEALED BID) *

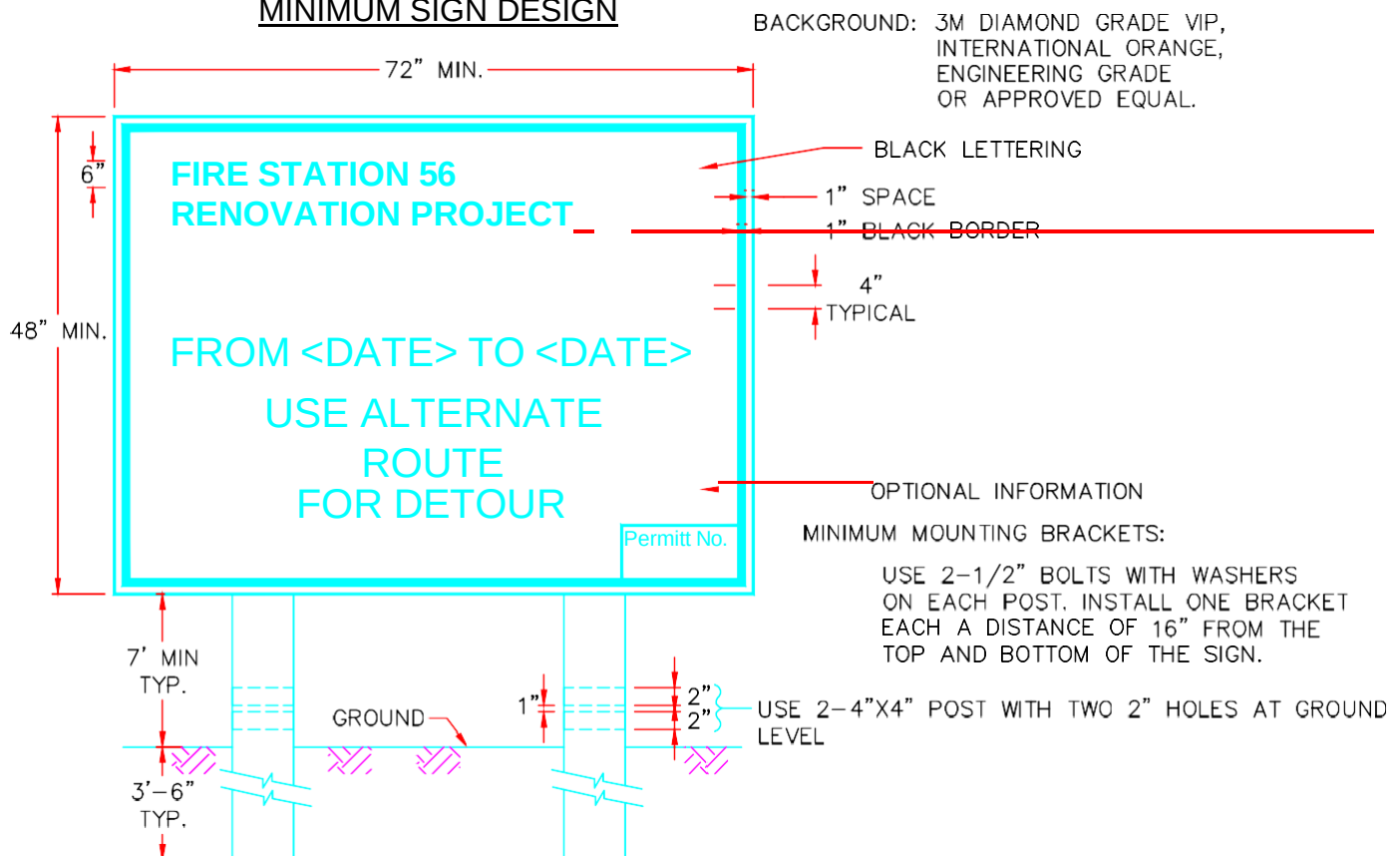
APPENDIX “C”

PROJECT SIGN

**THE FOLLOWING MINIMUM INFORMATION IS REQUIRED
ON EACH SIGN POSTED FOR LANE/ROAD CLOSURE:**

1. STREET NAME : NAME OF EACH STREET AFFECTED DURING THE ROAD CLOSURE.
2. STREET LIMITS : NAME OF EACH STREET AT THE LIMITS OF THE WORK AREA.
3. DATES : THE BEGINNING AND ENDING DATES DURING THE TIME WORK WILL BE IN PROGRESS.
4. OTHER INFORMATION : INFORMATION PERTINENT FOR PUBLIC SAFETY. I.E. ALTERNATIVE ROUTING.
5. SIGN PLACEMENT : A) PER STATE OF CALIFORNIA MANUAL OF TRAFFIC CONTROLS SECTION 5-02.4, EXCEPT AS INDICATED HEREON.
B) FOR A MINIMUM OF 500 FEET.
- B) SIGN SHALL BE VISIBLE
- C) ALL SIGNS SHALL BE PLACED ON THE SIDE OF THE STREET
- D) WHERE A ROAD IS TO BE COMPLETELY CLOSED OR PARTIALLY CLOSED, SIGNS SHOULD BE PLACED AT THE INTERSECTIONS WHICH PRECEDE THE CLOSURE. A SIGN SHALL BE PLACED FACING EACH DIRECTION OF TRAFFIC APPROACHING THE PROPOSED CLOSURE AREA.

MINIMUM SIGN DESIGN



APPENDIX C
SAMPLE PROJECT INFORMATION SIGN

APPENDIX “D”

CDBG

REQUIREMENT

Federal Forms and Other Requirements:

1.	Federal Labor Standards Provisions (HUD - 4010)	Page 2
2.	Equal Employment Opportunity Clause	Page 12
3.	Clean Air and Water Acts	Page 21
4.	Labor Codes Section 1771 – 1815	Page 22
5.	Certification of Understanding and Authorization *	Page 27
6.	Equal Employment Opportunity Commitment *	Page 28
7.	Report of Additional Classification and Rate **	Page 29
8.	Bidders Questionnaire *	Page 30
9.	Non-Segregated Facilities Certification *	Page 32
10.	Past Performance Certification *	Page 33
11.	Federal Lobbyist Certification *	Page 35
12.	Worker’s Compensation Certification *	Page 35
13.	List of Proposed Subcontractors *	Page 36
14.	Declaration of Intent with Section 3 *	Page 37
15.	Notice of Section 3 Commitment *	Page 38
16.	Section 3 Business Concern Certification *	Page 39
17.	Section 3 Self-Certification Form	Page 40
18.	Section 3 Qualitative Efforts for Contractors	Page 42
19.	Federal Wage Decision Number	Page 45

* *Must Submit Form with Bid*

** *Must Submit Form with Bid If Needed*

**HUD-4010
Federal Labor Standards Provisions**

**U.S. Department of Housing and Urban Development
Office of Davis-Bacon and Labor Standards**

A. APPLICABILITY

The Project or Program to which the construction work covered by this Contract pertains is being assisted by the United States of America, and the following Federal Labor Standards Provisions are included in this Contract pursuant to the provisions applicable to such Federal assistance.

1. Minimum wages and fringe benefits

- i. All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in 29 CFR 5.5(d) and (e), the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(v) of these contract clauses; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under 29 CFR 5.5(a)(1)(iii)) and the Davis-Bacon poster (WH-1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

ii. Frequently recurring classifications

- A. In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to 29 CFR 5.5(a)(1)(iii), provided that:
 1. The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;
 2. The classification is used in the area by the construction industry; and
 3. The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.
- B. The Administrator will establish wage rates for such classifications in accordance with 29 CFR 5.5(a)(1)(iii)(A)(3). Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

iii. Conformance

- A. The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be

classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

1. The work to be performed by the classification requested is not performed by a classification in the wage determination; and
2. The classification is used in the area by the construction industry; and
3. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.
- B. The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.
- C. If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- D. In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.
- E. The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under 29 CFR 5.5 (a)(1)(iii)(C) and (D). The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to 29 CFR 5.5 (a)(1)(iii)(C) or (D) must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

iv. Fringe benefits not expressed as an hourly rate

Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

v. Unfunded plans

If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided*, That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in 29 CFR 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

- vi. Interest** In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding

i. Withholding requirements

The U. S. Department of Housing and Urban Development may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in 29 CFR 5.5(a) for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in 29 CFR 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work (or otherwise working in construction or development of the project under a development statute) all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in 29 CFR 5.5(a)(3)(iv), HUD may on its own initiative and after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

ii. Priority to withheld funds

The Department has priority to funds withheld or to be withheld in accordance with 29 CFR 5.5(a)(2)(i) or (b)(3)(i), or both, over claims to those funds by:

- A. A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;
- B. A contracting agency for its procurement costs;
- C. A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;
- D. A contractor's assignee(s);
- E. A contractor's successor(s); or
- F. A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.

3. Records and certified payrolls

i. Basic record requirements

A. Length of record retention. All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

B. Information required Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

C. Additional records relating to fringe benefits. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(v) that the wages of any laborer or mechanic include the amount of any

costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

D. Additional records relating to apprenticeship Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

ii. Certified payroll requirements

A. Frequency and method of submission The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to HUD if the agency is a party to the contract, but if the agency is not such a party, the contractor will submit the certified payrolls to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to HUD. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system

B. Information required The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i)(B), except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.*, the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH-347 or in any other format desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf> or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the sponsoring government agency (or the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records).

C. Statement of Compliance Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

1. That the certified payroll for the payroll period contains the information required to be provided under 29 CFR 5.5(a)(3)(ii), the appropriate information and basic records are being maintained under 29 CFR 5.5 (a)(3)(i), and such information and records are correct and complete;
2. That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly

from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

3. That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.
 - D. **Use of Optional Form WH-347** The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 will satisfy the requirement for submission of the “Statement of Compliance” required by 29 CFR 5.5(a)(3)(ii)(C).
 - E. **Signature** The signature by the contractor, subcontractor, or the contractor’s or subcontractor’s agent must be an original handwritten signature or a legally valid electronic signature.
 - F. **Falsification** The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.
 - G. **Length of certified payroll retention** The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.
- iii. **Contracts, subcontracts, and related documents** The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.
- iv **Required disclosures and access**
- A. **Required record disclosures and access to workers** The contractor or subcontractor must make the records required under 29 CFR 5.5(a)(3)(i)–(iii), and any other documents that HUD or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by 29 CFR 5.1, available for inspection, copying, or transcription by authorized representatives of HUD or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.
 - B. **Sanctions for non-compliance with records and worker access requirements** If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to 29 CFR 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.
 - C. **Required information disclosures** Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to HUD if the agency is a party to

the contract, or to the Wage and Hour Division of the Department of Labor. If the Federal agency is not such a party to the contract, the contractor, subcontractor, or both, must, upon request, provide the full Social Security number and last known address, telephone number, and email address of each covered worker to the applicant, sponsor, owner, or other entity, as the case may be, that maintains such records, for transmission to HUD, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. **Apprentices and equal employment opportunity**

i. **Apprentices**

- A. Rate of pay** Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- B. Fringe benefits** Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.
- C. Apprenticeship ratio** The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to 29 CFR 5.5(a)(4)(i)(D). Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in 29 CFR 5.5(a)(4)(i)(A), must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.
- D. Reciprocity of ratios and wage rates** Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

- ii Equal employment opportunity** The use of apprentices and journeyworkers under this part must be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

5 **Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6 Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (11), along with the applicable wage determination(s) and such other clauses or contract modifications as the U.S. Department of Housing and Urban Development may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate.

7 Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8 Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9 Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

- i. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or 29 CFR 5.12(a).
- ii. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or 29 CFR 5.12(a).
- iii. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11 Anti-retaliation It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

- i. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, or 29 CFR parts 1, 3, or 5;
- ii. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5;
- iii. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5; or
- iv. Informing any other person about their rights under the DBA, Related Acts, or 29 CFR parts 1, 3, or 5.

B. Contract Work Hours and Safety Standards Act (CWHSSA)

The Agency Head must cause or require the contracting officer to insert the following clauses set forth in 29 CFR 5.5(b)(1), (2), (3), (4), and (5) in full, or (for contracts covered by the Federal Acquisition Regulation) by reference, in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses must

be inserted in addition to the clauses required by 29 CFR 5.5(a) or 4.6. As used in this paragraph, the terms “laborers and mechanics” include watchpersons and guards.

1. **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
2. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in 29 CFR 5.5(b)(1) the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchpersons and guards, employed in violation of the clause set forth in 29 CFR 5.5(b)(1), in the sum of \$31 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in 29 CFR 5.5(b)(1).
3. **Withholding for unpaid wages and liquidated damages**
 - i. **Withholding process** The U.S Department of Housing and Urban Development or the recipient of Federal assistance may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in 29 CFR 5.5(b) on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in 29 CFR 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.
 - ii **Priority to withheld funds** The Department has priority to funds withheld or to be withheld in accordance with 29 CFR 5.5(a)(2)(i) or (b)(3)(i), or both, over claims to those funds by:
 - A. A contractor’s surety(ies), including without limitation performance bond sureties and payment bond sureties;
 - B. A contracting agency for its procurement costs;
 - C. A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor’s bankruptcy estate;
 - D. A contractor’s assignee(s);
 - E. A contractor’s successor(s); or
 - F. A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901-3907.
4. **Subcontracts.** The contractor or subcontractor must insert in any subcontracts the clauses set forth in 29 CFR 5.5(b)(1) through (5) and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in 29 CFR 5.5(b)(1) through (5). In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss,

due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

- 5 Anti-retaliation** It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:
- i. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in 29 CFR part 5;
 - ii. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or 29 CFR part 5;
 - iii. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or 29 CFR part 5; or
 - iv. Informing any other person about their rights under CWHSSA or 29 CFR part 5.
- C. CWHSSA required records clause** In addition to the clauses contained in 29 CFR 5.5(b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other laws referenced by 29 CFR 5.1, the Agency Head must cause or require the contracting officer to insert a clause requiring that the contractor or subcontractor must maintain regular payrolls and other basic records during the course of the work and must preserve them for a period of 3 years after all the work on the prime contract is completed for all laborers and mechanics, including guards and watchpersons, working on the contract. Such records must contain the name; last known address, telephone number, and email address; and social security number of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid; daily and weekly number of hours actually worked; deductions made and actual wages paid. Further, the Agency Head must cause or require the contracting officer to insert in any such contract a clause providing that the records to be maintained under this paragraph must be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview workers during working hours on the job.
- D. Incorporation of contract clauses and wage determinations by reference** Although agencies are required to insert the contract clauses set forth in this section, along with appropriate wage determinations, in full into covered contracts, and contractors and subcontractors are required to insert them in any lower-tier subcontracts, the incorporation by reference of the required contract clauses and appropriate wage determinations will be given the same force and effect as if they were inserted in full text.
- E. Incorporation by operation of law** The contract clauses set forth in this section (or their equivalent under the Federal Acquisition Regulation), along with the correct wage determinations, will be considered to be a part of every prime contract required by the applicable statutes referenced by 29 CFR 5.1 to include such clauses, and will be effective by operation of law, whether or not they are included or incorporated by reference into such contract, unless the Administrator grants a variance, tolerance, or exemption from the application of this paragraph. Where the clauses and applicable wage determinations are effective by operation of law under this paragraph, the prime contractor must be compensated for any resulting increase in wages in accordance with applicable law.

F. HEALTH AND SAFETY

The provisions of this paragraph (F) are applicable where the amount of the prime contract exceeds **\$100,000**.

1. No laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his or her health and safety, as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation.
2. The contractor shall comply with all regulations issued by the Secretary of Labor pursuant to 29 CFR Part 1926 and failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act, (Public Law 91-54, 83 Stat 96), 40 U.S.C. § 3701 et seq.
3. The contractor shall include the provisions of this paragraph in every subcontract, so that such provisions will be binding on each subcontractor. The contractor shall take such action with respect to any subcontractor as the Secretary of Housing and Urban Development or the Secretary of Labor shall direct as a means of enforcing such provisions.

EQUAL EMPLOYMENT OPPORTUNITY CLAUSE.

During the performance of this contract, the contractor agrees as follows:

- a.** The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- b.** The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.
- c.** The contractor will send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice to be provided, advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- d.** The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- e.** The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his/her books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- f.** In the event of the contractor's noncompliance with the nondiscrimination clause of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole, or in part, and the contractor may be declared ineligible for further government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- g.** The contractor will include the provisions of Paragraph 1a through 1g in every subcontract or purchase order unless exempted by rule, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

EQUAL EMPLOYMENT SPECIFICATIONS

(Executive Order 11246).

a. As used in these specifications:

- (1) Covered area means the geographical area described in the solicitation from which this contract resulted;
- (2) Director means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
- (3) Employer Identification Number (EIN) means the Federal Social Security Number used on the Employer's Quarterly Federal Tax Return, United States Treasury Department Form 941.
- (4) Minority includes:
 - (a) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin)
 - (b) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race);
 - (c) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (d) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

b. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

c. If the contractor is participating (pursuant to 41 CFR Part 60-4.5) in a Hometown Plan approved by the United States Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and time tables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO Clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

d. The contractor shall implement the specific affirmative action standards provided in paragraphs 3g (1) through 3g (16) of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should

reasonable be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

- e. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the contractor has a collective bargaining agreement, to refer either minority or women shall excuse the contractor's obligations under these specifications, Executive Order 11246 or the regulations promulgated pursuant thereto.
- f. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the contractor during the training period, and the contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the United States Department of Labor.
- g. The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - (1) Ensure and maintain working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - (2) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organization's responses.
 - (3) Maintain a current file of the name, address, and telephone numbers of each minority and female off-the street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the contractor may have taken.
 - (4) Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or woman sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.

- (5) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 3g (2) above.
- (6) Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.
- (7) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- (8) Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.
- (9) Direct its recruitment efforts, both oral and written, to minority, female, and community organizations; to schools with minority and female students; and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment sources, the contractor shall send written notification to organizations such as the above, describing the opening, screening procedures, and tests to be used in the selection process.
- (10) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth, both on the site and in other areas of a contractor's work force.
- (11) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3, Uniform Guidelines on Employee Selection Procedures.
- (12) Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- (13) Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.

- (14) Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
 - (15) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.
 - (16) Conduct a review, at least annually, of all supervisors' adherence to and performance under the contractor's EEO policies and affirmative action obligations.
- h.** Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations 3g(1) through (16). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 3g(1) through (16) of these specifications provided that the contractor actively participates in the group, makes every effort to ensure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's, and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.
 - i.** A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally, the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).
 - j.** The contractor shall not use the goals and timetables of affirmative action standards to discriminate against any person because of race, color, religion, sex or national origin.
 - k.** The contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.
 - l.** The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.
 - m.** The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative actions steps, at least as extensive as those standards prescribed in Paragraph 3g of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these

specifications, the Director shall proceed in accordance with 41 CFR Part 60-1.8 (Show Cause Notice).

- n. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation, if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.
- o. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).
- p. The Director, from time to time, shall issue goals and timetables for minority and female utilization which shall be based on appropriate work force, demographic or other relevant data and which shall cover construction projects or construction contracts performed in specific geographic areas. The goals, which shall be applicable to each construction trade in a covered contractor's or subcontractor's entire work force which is working in the area covered by the goals and timetables, shall be published as notices in the Federal Register, and shall be inserted by the contracting officers and applicants, as applicable, in the Notice required by 41 CFR 60-4.2.

SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS.

For a federally assisted construction contract in excess of \$10,000, the contractor/subcontractor shall:

- a. Forward the following EEO certification forms to the contract awarding authority prior to contract award: Certification of Non-segregated Facilities and Certification with Regard to the Performance of Previous Contracts or Subcontracts Subject to the Equal Opportunity Clause and the Filing of Required Reports.
- b. Submit a notification of subcontracts awarded to the Director, Office of Federal Contract Compliance Programs, United States Department of Labor - ESA, 200 Constitutional Avenue, NW, Room C3325, Washington, D.C., 20210, within 10 working days of award of any subcontract in excess of \$10,000, listing the name, address, and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting date and completion dates of the subcontract; and the geographical area in which the contract is to be performed.
- c. Send a notice of the contractor's commitment to equal employment opportunity to labor unions or representatives of workers prior to commencement of construction work.
- d. Display an equal employment opportunity poster in a conspicuous place available to employees and applicants for employment.

- e. For contracts in excess of \$10,000, bind subcontractors to the Federal Equal Employment Opportunity requirements by including the provisions of Paragraphs 1 through 3, above, in the subcontract.
- f. Upon commencement of construction work and until the work is completed, forward the Monthly Employment Utilization Report (Form CC-257) to the contract awarding authority by the end of each work month. With the initial monthly report, the contractor/subcontractor shall attach the Contractor's List of Federal and Non-Federal Work in Bid Condition Area to the monthly report.

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY

(Executive Order 11246)

- a. The Offeror or Bidder's attention is called to the Equal Opportunity Clause and the Standard Federal Equal Employment Specifications set forth herein.
- b. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregated work force in each trade on all construction work in the covered area, are as follows:

Goals for Minority and Female Participation in Timetables, Each Trade: **28.3%, 6.9%**

These goals are applicable to all the contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmation action obligations required by the specifications set forth in 41 CFR Part 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order, and the regulations of 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

- c. The contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

- d. As used in this notice, and in the contract resulting from this solicitation, the covered area is the Standard Metropolitan Statistical Area of Los Angeles-Long Beach, specifically the County of Los Angeles, State of California.

CONTRACTING WITH SMALL BUSINESS, MINORITY FIRMS, WOMEN'S BUSINESS ENTERPRISE AND LABOR SURPLUS AREA FIRMS.

- a. It is national policy to award a fair share of contracts to Small business and Minority Firms. Accordingly, affirmative steps must be taken to assure that Small Business and Minority Firms are utilized when possible, as sources of supplies, equipment, construction and services. Affirmative steps include the following:
 - 1. Including qualified Small Business and Minority Firms on solicitation lists.
 - 2. Assuring that Small Business and Minority Firms are solicited whenever they are potential sources.
 - 3. When economically feasible, dividing total requirements into smaller tasks or quantities so as to permit maximum Small Business and Minority Firm participation.
 - 4. Where the requirement permits, establishing delivery schedules which will encourage participation by Small Business and Minority Firms.
 - 5. Using the services and assistance of the Small Business Administration and the Minority Business Development Agency of the Department of Commerce, as required.
 - 6. If any subcontracts are to be let, requiring the prime contractor to take the affirmative steps in a1 through a5 above.
- b. Grantees shall take similar appropriate affirmative action in support of Women's Business Enterprises.
- c. Grantees are encouraged to procure goods and services from Labor Surplus Areas.

CIVIL RIGHTS ACT OF 1964. *Under Title VI of the Civil Rights Act of 1964, no person shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.*

SECTION 503 OF THE REHABILITATION ACT OF 1973. *Any contract in excess of \$10,000 entered into by any Federal department or agency for the procurement of personal property and non-personal services (including construction) for the United States shall contain a provision requiring that the party contracting with the United States shall take affirmative action to employ and advance in employment qualified individuals with disabilities. No otherwise qualified individual with handicaps in the United States shall, solely by reason of his or her handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal assistance.*

SECTION 109 OF THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1974. *No person in the United States on the grounds of race, color, national origin, or sex be excluded from*

participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title.

VIETNAM ERA VETERANS' READJUSTMENT ASSISTANCE ACT OF 1974, as amended.

Covered contracts entered into by any department or agency for the procurement of personal property and non- personal services (including construction) for the United States, shall contain a provision requiring that the party contracting with the United States shall take affirmative action to employ and advance in employment qualified special disabled veterans, veterans of the Vietnam era and any other veterans who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized. The provisions of this section shall apply to any subcontract entered into by a prime contractor in carrying out any contract for the procurement of personal property and non-personal services (including construction) for the United States.

AGE DISCRIMINATION ACT OF 1975. *No person in the Unites States shall, on the basis of age, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.*

COMPLIANCE WITH CLEAN AIR AND WATER ACTS

(Applicable to federally assisted construction contracts and related subcontracts exceeding \$150,000)

During the performance of this contract, the contractor and all subcontractors shall comply with the requirements of the Clean Air Act, as amended, 42 USC 1857 et seq., the Federal Water Pollution Control Act, as amended, 33 USC 1251 et seq., and the regulations of the Environmental Protection Agency with respect thereto, at 40 CFR Part 15, as amended.

In addition to the foregoing requirements, all nonexempt contractors and subcontractors shall *furnish* to the owner, the following:

1. A stipulation by the contractor or subcontractors, that any facility to be utilized in the performance of any non exempt contract or subcontract, is not listed on the List of Violating Facilities issued by the Environmental Protection Agency (EPA) pursuant to 40 CFR 15.20.
2. Agreement by the contractor to comply with all the requirements of Section 114 of the **Clean Air Act**, as amended, (42 USC 1857c-8) and Section 308 of the Federal Water Pollution Control **Act, as amended, (33 USC 1318) relating to** inspection, monitoring, entry, reports and information, as well as all other requirements specified in said Section 114 and Section 308, and all regulations and guidelines issued there under.
3. A stipulation that as a condition for the award of the contract, prompt notice will be given of any notification received from the Director, Office of Federal Activities, EPA, indicating that a facility utilized, or to be utilized for the contract, is under consideration to be listed on the EPA List of Violating Facilities.
4. Agreement by the contractor that he will include, or cause to be included, the criteria and requirements in paragraph (1) through (4) of this section in every nonexempt subcontract and requiring that the contractor will take such action as the government may direct as a means of enforcing such provisions.

LABOR CODE SECTIONS

(1771, 1774, 1775, 1776, 1777.5, 1813, AND 1815)

§1771. Except for public works projects of one thousand dollars (\$1,000) or less, not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which the public work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed as provided in this chapter, shall be paid to all workers employed on public works.

This section is applicable only to work performed under contract, and is not applicable to work carried out by a public agency with its own forces. This section is applicable to contracts let for maintenance work.

§1774. The contractor to whom the contract is awarded, and any subcontractor under him, shall pay not less than the specified prevailing rates of wages to all workmen employed in the execution of the contract.

§1775.

(a) (1) The contractor and any subcontractor under the contractor shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit not more than fifty dollars (\$50) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rates as determined by the director for the work or craft in which the worker is employed for any public work done under the contract by the contractor or, except as provided in subdivision (b), by any subcontractor under the contractor.

(2) (A) The amount of the penalty shall be determined by the Labor Commissioner based on consideration of both of the following:

- (i) Whether the failure of the contractor or subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the contractor or subcontractor.
- (ii) Whether the contractor or subcontractor has a prior record of failing to meet its prevailing wage obligations.

(B) The penalty may not be less than ten dollars (\$10) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, unless the failure of the contractor or subcontractor to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily corrected when brought to the attention of the contractor or subcontractor.

- (i) The penalty may not be less than twenty dollars (\$20) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the contractor or subcontractor has been assessed penalties within the previous three years for failing to meet its prevailing wage obligations on a separate contract, unless those penalties were subsequently withdrawn or overturned.
- (ii) The penalty may not be less than thirty dollars (\$30) for each calendar day, or portion thereof, for each worker paid less than the prevailing wage rate, if the Labor Commissioner determines that the violation was willful, as defined in subdivision (c) of Section 1777.1.

(C) When the amount due under this section is collected from the contractor or subcontractor, any outstanding wage claim under Chapter 1 (commencing with Section 1720) of Part 7 of Division 2 against that contractor or subcontractor shall be satisfied before applying that amount to the penalty imposed on that contractor or subcontractor pursuant to this section.

(D) The determination of the Labor Commissioner as to the amount of the penalty shall be reviewable only for abuse of discretion.

(E) The difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate shall be paid to each worker by the contractor or subcontractor, and the body awarding the contract shall cause to be inserted in the contract a stipulation that this section will be complied with.

(b) If a worker employed by a subcontractor on a public works project is not paid the general prevailing rate of per diem wages by the subcontractor, the prime contractor of the project is not liable for any penalties under subdivision (a) unless the prime contractor had knowledge of that failure of the subcontractor to pay the specified

prevailing rate of wages to those workers or unless the prime contractor fails to comply with all of the following requirements:

- (1) The contract executed between the contractor and the subcontractor for the performance of work on the public works project shall include a copy of the provisions of Sections 1771, 1775, 1776, 1777.5, 1813, and 1815.
- (2) The contractor shall monitor the payment of the specified general prevailing rate of per diem wages by the subcontractor to the employees, by periodic review of the certified payroll records of the subcontractor.
- (3) Upon becoming aware of the failure of the subcontractor to pay his or her workers the specified prevailing rate of wages, the contractor shall diligently take corrective action to halt or rectify the failure, including, but not limited to, retaining sufficient funds due the subcontractor for work performed on the public works project.
- (4) Prior to making final payment to the subcontractor for work performed on the public works project, the contractor shall obtain an affidavit signed under penalty of perjury from the subcontractor that the subcontractor has paid the specified general prevailing rate of per diem wages to his or her employees on the public works project and any amounts due pursuant to Section 1813.

(C) The Division of Labor Standards Enforcement shall notify the contractor on a public works project within 15 days of the receipt by the Division of Labor Standards Enforcement of a complaint of the failure of a subcontractor on that public works project to pay workers the general prevailing rate of per diem wages.

§1776.

(a) Each contractor and subcontractor shall keep accurate payroll records, showing the name, address, social security number, work classification, 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 him or her in connection with the public work. Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

- (1) The information contained in the payroll record is true and correct.
 - (2) The employer has complied with the requirements of Sections 1771, 1811, and 1815 for any work performed by his or her employees on the public works project.
- (b) The payroll records enumerated under subdivision (a) shall be certified and shall be available for inspection at all reasonable hours at the principal office of the contractor on the following basis:
- (1) A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request.
 - (2) A certified copy of all payroll records enumerated in subdivision (a) shall be made available for inspection or furnished upon request to a representative of the body awarding the contract, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations.
 - (3) A certified copy of all payroll records enumerated in subdivision (a) shall be made available upon request by the public for inspection or for copies thereof. However, a request by the public shall be made through either the body awarding the contract, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to paragraph (2), the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the contractor, subcontractors, and the entity through which the request was made. The public may not be given access to the records at the principal office of the contractor.
- (c) The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the division. The payroll records may consist of printouts of payroll data that are maintained as computer records, if the printouts contain the same information as the forms provided by the division and the printouts are verified in the manner specified in subdivision (a).
- (d) A contractor or subcontractor shall file a certified copy of the records enumerated in subdivision(a) with the entity that requested the records within 10 days after receipt of a written request.
- (e) Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the awarding body, the Division of Apprenticeship Standards, or the Division of Labor

Standards Enforcement shall be marked or obliterated to prevent disclosure of an individual's name, address, and social security number. The name and address of the contractor awarded the contract or the subcontractor performing the contract shall not be marked or obliterated. Any copy of records made available for inspection by, or furnished to, a joint labor-management committee established pursuant to the federal Labor Management

Cooperation Act of 1978 (29 U.S.C. Sec. 175a) shall be marked or obliterated only to prevent disclosure of an individual's name and social security number. A joint labor management committee may maintain an action in a court of competent jurisdiction against an employer who fails to comply with Section 1774. The court may award restitution to an employee for unpaid wages and may award the joint labor management committee reasonable attorney's fees and costs incurred in maintaining the action. An action under this subdivision may not be based on the employer's misclassification of the craft of a worker on its certified payroll records. Nothing in this subdivision limits any other available remedies for a violation of this chapter.

- (f) The contractor shall inform the body awarding the contract of the location of the records enumerated under subdivision (a), including the street address, city, and county, and shall, within five working days, provide a notice of a change of location and address.
- (g) The contractor or subcontractor has 10 days in which to comply subsequent to receipt of a written notice requesting the records enumerated in subdivision (a). In the event that the contractor or subcontractor fails to comply within the 10- day period, he or she shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit twenty-five dollars (\$25) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. A contractor is not subject to a penalty assessment pursuant to this section due to the failure of a subcontractor to comply with this section.
- (h) The body awarding the contract shall cause to be inserted in the contract stipulations to effectuate this section.
- (i) The director shall adopt rules consistent with the California Public Records Act (Chapter 3.5 (commencing with Section 6250) of Division 7 of Title 1 of the Government Code) and the Information Practices Act of 1977 (Title 1.8 (commencing with Section 1798) of Part 4 of Division 3 of the Civil Code) governing the release of these records, including the establishment of reasonable fees to be charged for reproducing copies of records required by this section.

§1777.5.

- (a) Nothing in this chapter shall prevent the employment of properly registered apprentices upon public works.
- (b) Every apprentice employed upon public works shall be paid the prevailing rate of per diem wages for apprentices in the trade to which he or she is registered and shall be employed only at the work of the craft or trade to which he or she is registered.
- (c) Only apprentices, as defined in Section 3077, who are in training under apprenticeship standards that have been approved by the Chief of the Division of Apprenticeship Standards and who are parties to written apprentice agreements under Chapter 4 (commencing with Section 3070) of Division 3 are eligible to be employed at the apprentice wage rate on public works. The employment and training of each apprentice shall be in accordance with either of the following:
 - (1) The apprenticeship standards and apprentice agreements under which he or she is training.
 - (2) The rules and regulations of the California Apprenticeship Council.
- (d) When the contractor to whom the contract is awarded by the state or any political subdivision, in performing any of the work under the contract, employs workers in any apprenticeable craft or trade, the contractor shall employ apprentices in at least the ratio set forth in this section and may apply to any apprenticeship program in the craft or trade that can provide apprentices to the site of the public work for a certificate approving the contractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected. However, the decision of the apprenticeship program to approve or deny a certificate shall be subject to review by the Administrator of Apprenticeship. The apprenticeship program or programs, upon approving the contractor, shall arrange for the dispatch of apprentices to the contractor. A contractor covered by an apprenticeship program's standards shall not be required to submit any additional application in order

to include additional public works contracts under that program. "Apprenticeable craft or trade," as used in this section, means a craft or trade determined as an apprenticeable occupation in accordance with rules and regulations prescribed by the California Apprenticeship Council. As used in this section, "contractor" includes any subcontractor under a contractor who performs any public works not excluded by subdivision (o).

- (e) Prior to commencing work on a contract for public works, every contractor shall submit contract award information to an applicable apprenticeship program that can supply apprentices to the site of the public work. The information submitted shall include an estimate of journeyman hours to be performed under the contract, the number of apprentices proposed to be employed, and the approximate dates the apprentices would be employed. A copy of this information shall also be submitted to the awarding body if requested by the awarding body. Within 60 days after concluding work on the contract, each contractor and subcontractor shall submit to the awarding body, if requested, and to the apprenticeship program a verified statement of the journeyman and apprentice hours performed on the contract. The information under this subdivision shall be public. The apprenticeship programs shall retain this information for 12 months.
- (f) The apprenticeship program that can supply apprentices to the area of the site of the public work shall ensure equal employment and affirmative action in apprenticeship for women and minorities.
- (g) The ratio of work performed by apprentices to journeymen employed in a particular craft or trade on the public work may be no higher than the ratio stipulated in the apprenticeship standards under which the apprenticeship program operates where the contractor agrees to be bound by those standards, but, except as otherwise provided in this section, in no case shall the ratio be less than one hour of apprentice work for every five hours of journeyman work.
- (h) This ratio of apprentice work to journeyman work shall apply during any day or portion of a day when any journeyman is employed at the jobsite and shall be computed on the basis of the hours worked during the day by journeymen so employed. Any work performed by a journeyman in excess of eight hours per day or 40 hours per week shall not be used to calculate the ratio. The contractor shall employ apprentices for the number of hours computed as above before the end of the contract or, in the case of a subcontractor, before the end of the subcontract. However, the contractor shall endeavor, to the greatest extent possible, to employ apprentices during the same time period that the journeymen in the same craft or trade are employed at the jobsite. Where an hourly apprenticeship ratio is not feasible for a particular craft or trade, the Chief of the Division of Apprenticeship Standards, upon application of an apprenticeship program, may order a minimum ratio of not less than one apprentice for each five journeymen in a craft or trade classification.
- (i) A contractor covered by this section that has agreed to be covered by an apprenticeship program's standards upon the issuance of the approval certificate, or that has been previously approved for an apprenticeship program in the craft or trade, shall employ the number of apprentices or the ratio of apprentices to journeymen stipulated in the applicable apprenticeship standards, but in no event less than the 1-to-5 ratio required by subdivision(g).
- (j) Upon proper showing by a contractor that he or she employs apprentices in a particular craft or trade in the state on all of his or her contracts on an annual average of not less than one hour of apprentice work for every five hours of labor performed by journeymen, the Chief of the Division of Apprenticeship Standards may grant a certificate exempting the contractor from the 1-to-5 hourly ratio, as set forth in this section for that craft or trade.
- (k) An apprenticeship program has the discretion to grant to a participating contractor or contractor association a certificate, which shall be subject to the approval of the Administrator of Apprenticeship, exempting the contractor from the 1-to-5 ratio set forth in this section when it finds that any one of the following conditions is met:
 - (1) Unemployment for the previous three-month period in the area exceeds an average of 15 percent.
 - (2) The number of apprentices in training in the area exceeds a ratio of 1 to 5.
 - (3) There is a showing that the apprenticeable craft or trade is replacing at least one-thirtieth of its journeymen annually through apprenticeship training, either on a statewide basis or on a local basis.
 - (4) Assignment of an apprentice to any work performed under a public works contract would create a condition that would jeopardize his or her life or the life, safety, or property of fellow employees or the public at large, or the specific task to which the apprentice is to be assigned is of a nature that training cannot be provided by a journeyman.
- (l) When an exemption is granted pursuant to subdivision (k) to an organization that represents contractors in a specific trade from the 1-to-5 ratio on a local or statewide basis, the member contractors shall not be

required to submit individual applications for approval to local joint apprenticeship committees, if they are already covered by the local apprenticeship standards.

- (m)(1) A contractor to whom a contract is awarded, who, in performing any of the work under the contract, employs journeymen or apprentices in any apprenticeable craft or trade shall contribute to the California Apprenticeship Council the same amount that the director determines is the prevailing amount of apprenticeship training contributions in the area of the public works site. A contractor may take as a credit for payments to the council any amounts paid by the contractor to an approved apprenticeship program that can supply apprentices to the site of the public works project. The contractor may add the amount of the contributions in computing his or her bid for the contract.
- (2) At the conclusion of the 2002-03 fiscal year and each fiscal year thereafter, the California Apprenticeship Council shall distribute training contributions received by the council under this subdivision, less the expenses of the Division of Apprenticeship Standards for administering this subdivision, by making grants to approved apprenticeship programs for the purpose of training apprentices. The funds shall be distributed as follows:
 - (A) If there is an approved multiemployer apprenticeship program serving the same craft or trade and geographic area for which the training contributions were made to the council, a grant to that program shall be made.
 - (B) If there are two or more approved multiemployer apprenticeship programs serving the same craft or trade and geographic area for which the training contributions were made to the council, the grant shall be divided among those programs based on the number of apprentices registered in each program.
 - (C) All training contributions not distributed under subparagraphs (A) and (B) shall be used to defray the future expenses of the Division of Apprenticeship Standards.
- (3) All training contributions received pursuant to this subdivision shall be deposited in the Apprenticeship Training Contribution Fund, which is hereby created in the State Treasury. Notwithstanding Section 13340 of the Government Code, all money in the Apprenticeship Training Contribution Fund is hereby continuously appropriated for the purpose of carrying out this subdivision and to pay the expenses of the Division of Apprenticeship Standards.
- (n) The body awarding the contract shall cause to be inserted in the contract stipulations to effectuate this section. The stipulations shall fix the responsibility of compliance with this section for all apprenticeable occupations with the prime contractor.
- (o) This section does not apply to contracts of general contractors or to contracts of specialty contractors not bidding for work through a general or prime contractor when the contracts of general contractors or those specialty contractors involve less than thirty thousand dollars (\$30,000).
- (p) All decisions of an apprenticeship program under this section are subject to Section 3081.

§1813. The contractor or subcontractor shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit twenty-five dollars (\$25) for each worker employed in the execution of the contract by the respective contractor or subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of this article. In awarding any contract for public work, the awarding body shall cause to be inserted in the contract a stipulation to this effect. The awarding body shall take cognizance of all violations of this article committed in the course of the execution of the contract and shall report them to the Division of Labor Standards Enforcement.

§ 1815. Notwithstanding the provisions of Sections 1810 to 1814, inclusive, of this code, and notwithstanding any stipulation inserted in any contract pursuant to the requirements of said sections, work performed by employees of contractors in excess of 8 hours per day, and 40 hours during any one week, shall be permitted upon public work 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.

CERTIFICATION OF UNDERSTANDING AND AUTHORIZATION

Project Name _____

Contracting Agency _____ Project Number: _____

This is to certify that the principal and the authorized payroll officer(s), listed below, have received and read and a copy of the ***Federal Labor Standards Provisions (HUD-4010)*** and a copy of the ***Contractor's Guide to prevailing Wage Requirements for Federally-Assisted Construction Projects***, and that they understand the labor standards clauses pertaining to the above listed projects.

The following person(s) is/are designated as payroll officer for the undersigned and is/are authorized to sign the ***Statement of Compliance*** forms which will accompany each weekly payroll report for contractor listed below during the duration of this project.

☐ Contractor ☐ Subcontractor Business Name

License Number

Payroll Officer Name (Print)

Payroll Officer (Signature)

Payroll Officer Name (Print)

Payroll Officer (Signature)

Name of Person Authorized to Sign (Print)

(Authorized Signature)

Title

Date

EQUAL EMPLOYMENT OPPORTUNITY COMMITMENT

(03/31/17)

TO:

(Name of Labor Union, Workers Representative, etc)

(Address)

Contractor Name: _____

Project Name: _____

Project Number: _____

The Undersigned contractor holds a contract with _____, involving funds provided by the U. S. Government, or a subcontract with a prime contractor holding such contract. Under the provisions included in the contract or subcontract for the above referenced project, and in accordance with Executive Order 11246, the undersigned contractor is obligated not to discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. This obligation not to discriminate in employment includes, but is not limited to the follow:

1. Hiring, placement, upgrading, transfer or demotion;
2. Recruitment, advertising or solicitation for employment;
3. Treatment during employment;
4. Rates of pay or other forms of compensation;
5. Selection for training, including apprenticeship; and
6. Layoff or termination.

The undersigned contractor shall abide by the requirements of 41 CFR 60–300.5(a) and 60–741.5(a). These regulations prohibit discrimination against qualified individuals on the basis of protected veteran status or disability; and require affirmative action by prime contractors and subcontractors to employ, and advance in employment, qualified protected veterans and individuals with disabilities.

Copies of this notice will made available to worker representatives and be posted by the undersigned in conspicuous places available to employees or applicants for employment.

(Print Name)

By: _____
(Signature)

(Date)

(Title)

**U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
REPORT OF ADDITIONAL CLASSIFICATION AND RATE**
HUD FORM 4230A

 OMB Approval Number 2501-0011
(Exp. 8/31/2022)

1. FROM (name and address of requesting agency)		2. PROJECT NAME AND NUMBER					
4. BRIEF DESCRIPTION OF PROJECT		3. LOCATION OF PROJECT (City, County and State)					
		5. CHARACTER OF CONSTRUCTION ☐ Building ☐ Residential ☐ Heavy ☐ Other (specify) ☐ Highway					
6. WAGE DECISION NO. (include modification number, if any) ☐ COPY ATTACHED		DATE of WAGE DECISION:					
8. WORK CLASSIFICATION(S)		7. WAGE DECISION EFFECTIVE DATE (LOCK-IN):					
		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center; padding: 5px;">HOURLY WAGE RATES</th> </tr> <tr> <th style="width: 50%; text-align: center; padding: 5px;">BASIC WAGE</th> <th style="width: 50%; text-align: center; padding: 5px;">FRINGE BENEFIT(S) (if any)</th> </tr> </thead> <tbody> <tr> <td style="height: 150px;"></td> <td></td> </tr> </tbody> </table>		HOURLY WAGE RATES		BASIC WAGE	FRINGE BENEFIT(S) (if any)
HOURLY WAGE RATES							
BASIC WAGE	FRINGE BENEFIT(S) (if any)						
9. PRIME CONTRACTOR (name, address)		9a. ☐ Agree ☐ Disagree					
9b. SIGNATURE		10. SUBCONTRACTOR/EMPLOYER, IF APPLICABLE (name, address)					
DATE							

Check All That Apply:

- ☐ The work to be performed by the additional classification(s) is not performed by a classification in the applicable wage decision.
- ☐ The proposed classification is utilized in the area by the construction industry.
- ☐ The proposed wage rate(s), including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage decision.
- ☐ The interested parties, including the employees or their authorized representatives, agree on the classification(s) and wage rate(s).
- ☐ Supporting documentation attached, including applicable wage decision.

Check One:

- ☐ **Approved, meets all criteria. DOL confirmation requested.**
- ☐ **One or more classifications fail to meet all criteria. DOL decision requested.**

_____ Agency Representative (Typed name and signature) _____ <i>Date</i> _____ <i>Phone Number</i>		FOR HUD USE ONLY LR2000: Log in: Log out:

BIDDERS QUESTIONNAIRE FORM

Fill out all the following information and submit with Bid Proposal:

Bidder/Contractor's Name:			
Business Address:			
Telephone Number:		Email:	
California State Contractor's License Number and Class:		#:	
		Class:	
Tax Identification Number:			
DIR Contractor Registration Number:			
UEI Number:			
Business License: Do you currently have an active City Business License?	☐ YES #:		
	☐ NO		
Number of years of experience the company has as a contractor:			
DIR Contractor Worker(s) Classification (s) (e.g. laborer, electrician, cement mason etc.)			
Has the company or any principal having an interest in this Bid ever failed to complete a project?	☐ YES ☐ NO		
	If yes, explain:		
Has the company or any principal having an interest in this Bid ever been terminated for cause, even if was converted to a "termination of convenience"	☐ YES ☐ NO		
	If yes, explain:		
Type of Firm:	☐ Individual ☐ Partnership ☐ Limited Liability Company ☐ Corporation (State) ☐ Other (specify)		

- ☐ Minority Business Enterprise(MBE)
- ☐ Women Business Enterprise (WBE)
- ☐ Small Disadvantaged Business (SDB)
- ☐ Veteran Owned Business
- ☐ Disabled Veteran Owned Business
- ☐ None Apply

List at least three related projects completed in the last five (5) years:

1. Name of Project:

Contact:

Phone:

Location of Project (City/State):

Contact Amount:

Date Completed:

Brief Description of Work:

2. Name of Project:

Contact:

Phone:

Location of Project (City/State):

Contact Amount:

Date Completed:

Brief Description of Work:

3. Name of Project:

Contact:

Phone:

Location of Project (City/State):

Contact Amount:

Date Completed:

Brief Description of Work:

Surety Company that will provide all Insurance Requirements:

Name of Surety:

Address:

Surety Company:

NON-SEGREGATED FACILITIES CERTIFICATION

FEDERALLY-ASSISTED CONSTRUCTION PROJECTS

The federally-assisted construction contractor certifies that he/she DOES NOT and WILL NOT:

1. Maintain or provide, for his/her employees, any segregated facilities at any of his/her establishments.
2. Permit his/her employees to perform their services at any location, under his/her control, where segregated facilities are maintained.

The federally-assisted contractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract. As used in this certification, the term segregated facilities means any waiting room, work areas, restrooms and washrooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise.

The federally-assisted contractor agrees that (except where he/she has obtained identical certifications from proposed subcontractors for specific time periods) he/she will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause, and that he/she will retain such certifications in his/her files.

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

Date: _____

Project Number: _____

Company: _____

Address: _____

By: _____

Title: _____

CERTIFICATION
WITH REGARD TO THE PERFORMANCE OF PREVIOUS CONTRACTS OR
SUBCONTRACTS SUBJECT TO THE EQUAL OPPORTUNITY CLAUSE AND
THE FILING OF REQUIRED REPORTS

The ☐bidder, ☐proposed sub-contractor, hereby certifies that he/she ☐has, ☐has not, participated in a previous contract or subcontract subject to the Equal Opportunity Clause, as required by Executive Orders 10925, 11114, or 11246, and that he/she ☐has, ☐has not, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Date: _____ Project Number: _____ Contract Award: \$_____

Awarding Agency: _____

Contractor Name: _____ Total Number of Employees _____

Affiliate Company: _____

By: _____

Title: _____

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b)(1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5 (Generally only contracts or subcontracts of \$10,000 or under are exempt).

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b)(1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the U.S. Department of the Interior or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

SF-100 (EEO-1) must be filed by:

(A) All private employers who are:

- (1) Subject to Title VII of the Civil Rights Act of 1964 (as amended) with 100 or more employees.
- (2) Subject to Title VII who has fewer than 100 employees, if the company is owned or affiliated with another company, or there is centralized ownership, control or management so that the group legally constitutes a single enterprise, and the entire enterprise employs a total of 100 or more employees.

(B) All federal contractors (private employers), who:

- (1) Are not exempt as provided for by 41 CFR 60-1.5
- (2) Have 50 or more employees, and
 - a. Are prime contractors or first-tier subcontractors, and have a contract, subcontract, or purchase order amounting to \$50,000 or more; or
 - b. Serve as a depository of Government funds in any amount, or
 - c. Is a financial institution, which is an issuing, and paying agent for U.S. Savings Bonds and Notes.

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

*** CONTRACTOR/SUBCONTRACTOR***** PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE**Prefix: * First Name: Middle Name: * Last Name: Suffix: * Title: *** SIGNATURE:** *** DATE:**

WORKER'S COMPENSATION CERTIFICATION

I certify, by signature below, that I am aware of the provisions of Section 3700 of the California Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

Date: _____ Project Number: _____

Project Name: _____

Company Name: _____

Address: _____

Print Name: _____

Title: _____

Signature: _____

CONTRACTOR LIST OF PROPOSED SUBCONTRACTORS

PROJECT NAME

AWARDING AGENCY

Location:

Project Number:

SUBCONTRACTORS: Name, Address, and Telephone Number	Employer Identification Number	Contractor License Number	Contract Amount	Estimated Start Date	Estimated Completion Date	TRADES TO BE USED

Signature

Name and Title

Date

Company Name

DECLARATION OF INTENT TO COMPLY WITH SECTION 3 REQUIREMENTS

As a minimum requirement for consideration of a contract award, the Bidder/Proposer shall declare his/her intent to comply with Section 3 (24 CFR 75) of the Housing and Urban Development Act of 1968, as amended (Section 3). The Bidder/Proposer is obliged, to the greatest extent feasible, to give opportunities for training and employment to low-income and very low-income persons residing in the service area or neighborhood in which the covered Section 3 project/service is located, and/or to award subcontracts to other Section 3 business concerns that provide economic opportunities for Section 3 workers and Targeted Section 3 workers.

Bidder/Proposer agrees that, as a condition of responsiveness to the solicitation and prior to recommendation for contract award by the Local Contracting Agency (LCA), he/she will agree to comply with the Section 3 requirements by including the Section 3 contract language in the contract, to the greatest extent feasible, to meet the Section 3 benchmarks and report all accomplishments with required documentation on a quarterly basis for the duration of the contract.

The Section 3 benchmarks apply to all Section 3 covered contracts as follows:

- Public housing financial assistance benchmarks:
 - Section 3 workers: 25% or more for the total number of labor hours worked by all workers employed, and
 - Targeted Section 3 workers: 5% or more of the total number of labor hours worked by all workers employed of which is included as part of the 25% threshold in the previous bullet.
- Community development financial assistance benchmarks:
 - Section 3 workers: 25% or more for the total number of labor hours worked by all workers employed on a Section 3 project, and
 - Targeted Section 3 workers: 5% or more of the total number of labor hours worked by all workers employed on a Section 3 project of which is included as part of the 25% threshold in the previous bullet.

Failure of the Bidder/Proposer to agree to comply with the Section 3 requirements and reporting obligations shall be grounds for determining the Bidder/Proposer non-responsive, and no further consideration for contract award shall be granted.

I declare under penalty of perjury under the laws of the State of California that we agree to comply with the Section 3 requirements as stated above.

Name of Contractor/Subcontractor

Address

Print Name

Title

Signature

Date

NOTICE OF SECTION 3 COMMITMENT**TO:**_____
(Name of Labor Union, Workers Representative, etc.)_____
(Address)

Name of Business (Contractor): _____

Project Name: _____ Project Number: _____

The Undersigned currently holds a contract with _____ involving Block Grant (CDBG) funds from the U. S. Department of Housing and Urban Development or a subcontract with a prime contractor holding such contract.

You are advised that under the provisions of the above contract or subcontract and in accordance with Section 3 of the Housing and Urban Development Act of 1968, the undersigned is obligated to the greatest extent feasible, to give opportunities for employment and training to lower income residence of the CDBG-assisted project area and to award contracts for work on the project to business concerns which are located in or are owned in substantial part by project area residence.

Regarding employment opportunities for Section 3, the minimum number and job titles are:

Number	Job Classification

Regarding job referrals, request that consideration be given, to the greatest extent feasible, to assignment of persons residing in the service area or neighborhood in which the project is located.

The anticipated date the work will begin is _____. For additional information, you may contact _____, _____ at (_____) _____.

Contact Person's Name

Title

This notice is furnished to you pursuant to the provisions of the above contract or subcontract and Section 3 of the Housing and Urban Development Act of 1968. Copies of this notice will be posted by the undersigned in conspicuous places available to employees or applicants for employment.

(Print Name)By: _____
(Signature)_____
(Date)_____
(Title)

SECTION 3 BUSINESS CONCERN CERTIFICATION

<< Page 38 >>

Business Name: _____

Address: _____

City/State/Zip Code: _____

Telephone Number: _____ Email Address: _____

This business is a Section 3 business concern based on one of the following categories, as documented:

- ☐ **A. Business is 51% or more owned by low- or very low-income persons,**
(Attach a Section 3 Worker Certification(s) for each owner to this certification.)
- ☐ **B. Over 75 percent (75%) of the labor hours performed for the business over the prior three-month period are performed by Section 3 workers,**
Provide the following information for the prior three-month period:
- Indicate total number of labor hours performed by Section 3 workers: _____ Hours
 - Indicate total number of labor hours performed by all workers: _____ Hours
 - Calculate the percentage of labor hours by Section 3 workers: _____ %
- (Attach the Section 3 Worker Certifications and Section 3 Labor Hours Reports.)*
- ☐ **C. Business is 51% or more owned and controlled by current public housing residents or residents who currently live in Section 8-assisted housing.** *(Attach proof of public housing or Section 8-assisted housing residence.)*
- ☐ **D. The above-mentioned business firm is not a Section 3 business concern, but commits to the Section 3 goal:**
Written Commitment (Section 3 Economic Opportunity Plan), outline intentions to comply with the requirements of 24 CFR 75: (

(NOTE: FAILURE OF THE BUSINESS TO PROVIDE THE REQUIRED DOCUMENTATION AS NOTED ABOVE SHALL BE GROUNDS FOR THE LCA TO DETERMINE THE BUSINESS A NON-SECTION 3 BUSINESS CONCERN.)

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

Signature

Title

Date

TO BE COMPLETED BY LOCAL CONTRACTING AGENCY STAFF

This business meets the following category:

- ☐ 51% owned by low- or very low-income persons,
☐ 75% of labor hours performed by Section 3 workers, or
☐ 51% currently owned and controlled by public housing or Section 8-assisted housing residents.
☐ None of the above.

Approved by: (Print Name) _____ Signature: _____ Date: _____

SECTION 3/TARGETED SECTION 3 INCOME CERTIFICATION

Printed on:

Effective Date:

INSTRUCTIONS: All workers shall self-certify and submit this form to the prime contractor or subcontractor, to determine if the individual is a Section 3 worker or Targeted Section 3 worker as defined in 24 CFR Part 75. To determine "Annual (Gross) Income" fill in the blank fields below, then sign this statement to certify that the information is complete and accurate.

BASIC INFORMATION:

First Name:

Last Name:

Address:

ENTER/SELECT THE APPROPRIATE INFORMATION TO CONFIRM YOUR WORKER STATUS.

1. Are you a resident of public housing or a housing choice Voucher Holder (Section 8)?	☐ YES	☐ NO
2. Are you a Youth Build participant?	☐ YES	☐ NO
3. Do you live within one mile of the Project?	☐ YES	☐ NO

DEFINITION OF INCOME:

HUD 24 CFR Part 5

Low-income person means individuals whose incomes do not exceed 80 percent of the median income for the area.

Very low-income person means individuals whose incomes do not exceed 50 percent of the median family income for the area.

To verify Income Limits by Area: <https://www.huduser.gov/portal/datasets/il.html#2021>

*Please note that HUD updates income limits annually

Select the amount of individual income for the **previous or annualized calendar year.**

☐ Less than \$20,000	☐ \$35,001 – \$40,000	☐ \$55,001 – \$60,000
☐ \$20,001 – \$25,000	☐ \$40,001 – \$45,000	☐ \$60,001 – \$65,000
☐ \$25,001 – \$30,000	☐ \$45,001 – \$50,000	☐ \$65,001 – \$70,000
☐ \$30,001 – \$35,000	☐ \$50,001 – \$55,000	☐ More than \$70,000

INCOME INFORMATION:

Annual gross income (**Individual/ One Person**) for the previous or annualized calendar year: \$ _____

IDENTIFY COUNTY:

☐ Los Angeles County ☐ Orange County ☐ Riverside County ☐ San Bernardino County

I certify that this information is complete and accurate. I agree to provide, upon request, documentation on all income sources to the HUD Grantee/Program Administrator.

Printed Full Name

Signature

Date:

WARNING: The information provided on this form is subject to verification by HUD at any time, and Title 18, Section 1001 of the U.S. Code states that a person is guilty of a felony and assistance can be terminated for knowingly and willingly making a false or fraudulent statement to a department of the United States Government.

CERTIFICATION

THIS SECTION MUST BE COMPLETED BY THE AUTHORIZED BUSINESS OWNER/AGENT
(If the employer is certifying on behalf of employee)

The above-named person is: An applicant ☐ A permanent full-time ☐ A new hire/employee ☐

What was the individual's Annual Gross Income
for the previous or annualized calendar year? \$ _____

This person's work Classification is: _____ Date of hire: _____

Business Name

Printed Name of Owner /Agent

Signature of Owner/Agent

Date

*EMPLOYERS MUST RETAIN THIS FORM IN THEIR SECTION 3 COMPLIANCE FILE FOR FIVE YEARS.

THIS SECTION MUST BE COMPLETED BY LABOR COMPLIANCE AGENCY

The above individual is (Check the applicable statement below):

☐ A *Section 3* worker who currently fits or when hired within the past five years fit at least one of the following categories, as documented:

- 1) The worker's income for the previous or annualized calendar year is below the income limit established by HUD.
- 2) The worker is employed by a Section 3 business concern.
- 3) The worker is a YouthBuild participant.

☐ A *Targeted Section 3* worker who currently fits at least one of the following categories, as documented:

- 1) A worker employed by a Section 3 business concern; or
- 2) A worker who currently fits or when hired fit at least one of the following categories, as documented within the past five years:
 - a. Living within the service area or the neighborhood of the project.
 - b. A YouthBuild participant.

☐ Not a Section 3 worker or Targeted Section 3 worker.

Initial: _____

WARNING: The information provided on this form is subject to verification by HUD at any time, and Title 18, Section 1001 of the U.S. Code states that a person is guilty of a felony and assistance can be terminated for knowingly and willingly making a false or fraudulent statement to a department of the United States Government.

QUALITATIVE EFFORTS FOR CONTRACTORS

- ☐ Engaged in outreach efforts to generate job applicants who are Targeted Section 3 workers.

Date of Outreach Effort	Address of Outreach Effort

- ☐ Provided training or apprenticeship opportunities.

Date of Training	Address of Training

- ☐ Provided technical assistance to help Section 3 workers compete for jobs (e.g., resume assistance, coaching).

Date of Technical Assistance	Address of Technical Assistance

- ☐ Provided or connected Section 3 workers with assistance in seeking employment including: drafting resumes, preparing for interviews, and finding job opportunities connecting residents to job placement services.

Date of Workers Assistance	Address of Workers Assistance

- ☐ Held one or more job fairs.

Date of Job Fair	Address of Job Fair

- ☐ Provided or referred Section 3 workers to services supporting work readiness and retention (e.g., work readiness activities, interview clothing, test fees, transportation, childcare).

Date of Referral	Type of Service Provided or Referred

☐

Provided assistance to apply for/or attend community college, a four-year educational institution, or vocational/technical training.

Date of Assistance	Type of Educational Assistance Provided

☐

Assisted Section 3 workers to obtain financial literacy training and/or coaching.

Date of Assistance	Type of Training/Coaching Provided

☐

Engaged in outreach efforts to identify and secure bids from Section 3 business concerns.

Date of Outreach	Description of Outreach

☐

Provided technical assistance to help Section 3 business concerns understand and bid on contracts.

Date of Technical Assistance	Name of Business Concern

☐

Divided contracts into smaller jobs to facilitate participation by Section 3 business concerns.

Name of Business Concern

☐

Provided bonding assistance, guaranties, or other efforts to support viable bids from Section 3 business concerns.

Name of Business Concern	Description of Assistance

☐

Promoted use of business registries designed to create opportunities for disadvantaged and small businesses.

Date of Activity	Name of Business Registry

☐

Outreach, engagement, or referrals with the state one-stop system as defined in Section 121(e)(2) of the Workforce Innovation and Opportunity Act 17.

Date of Activity	Description of Activity

☐

Other: _____

Date of Activity	Description of Activity

(Print Name)

(Date)

(Signature)

(Title)

Contractor/Subcontractor Name

Superseded General Decision Number: CA20230022

State: California

Construction Types: Building, Heavy (Heavy and Dredging) and Highway

County: Los Angeles County in California.

BUILDING CONSTRUCTION PROJECTS; DREDGING PROJECTS (does not include hopper dredge work); HEAVY CONSTRUCTION PROJECTS (does not include water well drilling); HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/05/2024
1	01/12/2024
2	02/02/2024
3	02/09/2024
4	02/23/2024
5	03/08/2024
6	04/12/2024
7	05/24/2024
8	06/28/2024
9	07/05/2024
10	07/12/2024
11	08/09/2024
12	08/16/2024
13	08/23/2024

ASBE0005-002 09/01/2023

	Rates	Fringes
Asbestos Workers/Insulator (Includes the application of all insulating materials, protective coverings, coatings, and finishes to all types of mechanical systems).....	\$ 49.58	25.27
Fire Stop Technician (Application of Firestopping Materials for wall openings and penetrations in walls, floors, ceilings and curtain walls).....	\$ 36.97	20.36

ASBE0005-004 07/04/2022

	Rates	Fringes
Asbestos Removal worker/hazardous material handler (Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not)....	\$ 23.52	13.37

BOIL0092-003 01/01/2024

	Rates	Fringes
BOILERMAKER.....	\$ 51.98	42.11

* BRCA0004-007 05/01/2024

	Rates	Fringes
BRICKLAYER; MARBLE SETTER.....	\$ 45.53	20.29

*The wage scale for prevailing wage projects performed in Blythe, China lake, Death Valley, Fort Irwin, Twenty-Nine Palms, Needles and 1-15 corridor (Barstow to the Nevada State Line) will be Three Dollars (\$3.00) above the standard San Bernardino/Riverside County hourly wage rate

BRCA0018-004 06/01/2023

	Rates	Fringes
MARBLE FINISHER.....	\$ 40.21	15.23
TILE FINISHER.....	\$ 34.78	13.64
TILE LAYER.....	\$ 48.29	19.18

BRCA0018-010 09/01/2023

	Rates	Fringes
TERRAZZO FINISHER.....	\$ 39.95	14.65
TERRAZZO WORKER/SETTER.....	\$ 47.85	15.14

CARP0213-001 07/01/2021

	Rates	Fringes
CARPENTER		
(1) Carpenter, Cabinet Installer, Insulation Installer, Hardwood Floor Worker and acoustical installer.....	\$ 51.60	16.28
(2) Millwright.....	\$ 52.10	16.48
(3) Piledrivermen/Derrick Bargeman, Bridge or Dock Carpenter, Heavy Framer, Rock Bargeman or Scowman, Rockslinger, Shingler (Commercial).....	\$ 51.73	16.28
(4) Pneumatic Nailer, Power Stapler.....	\$ 51.85	16.28
(5) Sawfiler.....	\$ 51.69	16.28
(6) Scaffold Builder.....	\$ 42.80	16.28
(7) Table Power Saw Operator.....	\$ 51.70	16.28

FOOTNOTE: Work of forming in the construction of open cut
sewers or storm drains, on operations in which horizontal
lagging is used in conjunction with steel H-Beams driven or
placed in pre- drilled holes, for that portion of a lagged
trench against which concrete is poured, namely, as a
substitute for back forms (which work is performed by
piledrivers): \$0.13 per hour additional.

CARP0213-002 07/01/2021

	Rates	Fringes
Diver		
(1) Wet.....	\$ 834.40	16.28
(2) Standby.....	\$ 445.84	16.28
(3) Tender.....	\$ 437.84	16.28
(4) Assistant Tender.....	\$ 413.84	16.28

Amounts in "'Rates' column are per day

CARP0213-004 07/01/2021

Rates	Fringes

Drywall

DRYWALL INSTALLER/LATHER.....	\$ 51.60	16.28
STOCKER/SCRAPPER.....	\$ 22.16	8.62

CARP0721-001 07/01/2021

	Rates	Fringes

Modular Furniture Installer.....	\$ 21.85	7.15

ELEC0011-004 06/30/2023

	Rates	Fringes

ELECTRICIAN (INSIDE
ELECTRICAL WORK)

Journeyman Electrician.....	\$ 60.80	3%+29.77

ELECTRICIAN (INTELLIGENT
TRANSPORTATION SYSTEMS Street
Lighting, Traffic Signals,
CCTV, and Underground Systems)

Journeyman Transportation Electrician.....	\$ 60.80	3%+29.77
Technician.....	\$ 45.60	3%+29.77

FOOT NOTE:

CABLE SPLICER & INSTRUMENT PERSON: Recieve 5% additional per
hour above Journeyman Electrician basic hourly rate.

TUNNEL WORK: 10% additional per hour.

SCOPE OF WORK - TRANSPORTATION SYSTEMS

ELECTRICIAN:

Installation of street lights and traffic signals, including
electrical circuitry, programmable controllers,
pedestal-mounted electrical meter enclosures and laying of
pre-assembled multi-conductor cable in ducts, layout of
electrical systems and communication installation,
including proper position of trench depths and radius at
duct banks, location for man

holes, pull boxes, street lights and traffic signals.

Installation of underground ducts for electrical, telephone,
cable television and communication systems.

Pulling, termination and

splicing of traffic signal and street lighting conductors and
electrical systems including interconnect, detector loop,
fiber optic cable and video/cable.

TECHNICIAN:

Distribution of material at job site, manual excavation and
backfill, installation of system conduits and raceways for
electrical, telephone, cable television and communication
systems. Pulling, terminating and splicing of traffic signal
and street lighting conductors and electrical systems
including interconnect, detector loop, fiber optic cable
and video/data.

* ELEC0011-007 01/01/2024

COMMUNICATIONS & SYSTEMS WORK (excludes any work on Intelligent
Transportation Systems or CCTV highway systems)

	Rates	Fringes

Communications System

Installer.....	\$ 46.47	3%+17.08

SCOPE OF WORK The work covered shall include the installation, testing, service and maintenance, of the following systems that utilize the transmission and/or transference of voice, sound, vision and digital for commercial, education, security and entertainment purposes for TV monitoring and surveillance, background foreground music, intercom and telephone interconnect, inventory control systems, microwave transmission, multi-media, multiplex, nurse call system, radio page, school intercom and sound, burglar alarms and low voltage master clock systems.

A. Communication systems that transmit or receive information and/or control systems that are intrinsic to the above listed systems SCADA (Supervisory control/data acquisition PCM (Pulse code modulation) Inventory control systems Digital data systems Broadband & baseband and carriers Point of sale systems VSAT data systems Data communication systems RF and remote control systems Fiber optic data systems

B. Sound and Voice Transmission/Transference Systems Background-Foreground Music Intercom and Telephone Interconnect Systems Sound and Musical Entertainment Systems Nurse Call Systems Radio Page Systems School Intercom and Sound Systems Burglar Alarm Systems Low-Voltage Master Clock Systems Multi-Media/Multiplex Systems Telephone Systems RF Systems and Antennas and Wave Guide

C. *Fire Alarm Systems-installation, wire pulling and testing.

D. Television and Video Systems Television Monitoring and Surveillance Systems Video Security Systems Video Entertainment Systems Video Educational Systems CATV and CCTV

E. Security Systems, Perimeter Security Systems, Vibration Sensor Systems Sonar/Infrared Monitoring Equipment, Access Control Systems, Card Access Systems

*Fire Alarm Systems

1. Fire Alarms-In Raceways: Wire and cable pulling in raceways performed at the current electrician wage rate and fringe benefits.
2. Fire Alarms-Open Wire Systems: installed by the Technician.

ELEC1245-001 06/01/2024

	Rates	Fringes

LINE CONSTRUCTION

(1) Lineman; Cable splicer..	\$ 70.16	24.46
(2) Equipment specialist (operates crawler tractors, commercial motor vehicles, backhoes,		

trenchers, cranes (50 tons and below), overhead & underground distribution line equipment).....	\$ 53.30	22.01
(3) Groundman.....	\$ 40.76	21.51
(4) Powderman.....	\$ 51.87	18.79

HOLIDAYS: New Year's Day, M.L. King Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and day after Thanksgiving, Christmas Day

ELEV0018-001 01/01/2024

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 66.63	37.885+a+b

FOOTNOTE:

a. PAID VACATION: Employer contributes 8% of regular hourly rate as vacation pay credit for employees with more than 5 years of service, and 6% for 6 months to 5 years of service.

b. PAID HOLIDAYS: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

ENGI0012-004 08/01/2024

	Rates	Fringes
OPERATOR: Power Equipment (DREDGING)		
(1) Leverman.....	\$ 64.10	38.75
(2) Dredge dozer.....	\$ 58.13	38.75
(3) Deckmate.....	\$ 58.02	38.75
(4) Winch operator (stern winch on dredge).....	\$ 57.47	38.75
(5) Fireman-Oiler, Deckhand, Bargeman, Leveehand.....	\$ 56.93	38.75
(6) Barge Mate.....	\$ 57.54	38.75

ENGI0012-024 07/01/2023

	Rates	Fringes
OPERATOR: Power Equipment (All Other Work)		
GROUP 1.....	\$ 53.90	32.80
GROUP 2.....	\$ 54.68	32.80
GROUP 3.....	\$ 54.97	32.80
GROUP 4.....	\$ 56.46	32.80
GROUP 6.....	\$ 56.68	32.80
GROUP 8.....	\$ 56.79	32.80
GROUP 10.....	\$ 56.91	32.80
GROUP 12.....	\$ 57.08	32.80
GROUP 13.....	\$ 57.18	32.80
GROUP 14.....	\$ 57.21	32.80
GROUP 15.....	\$ 57.29	32.80
GROUP 16.....	\$ 57.41	32.80
GROUP 17.....	\$ 57.58	32.80
GROUP 18.....	\$ 57.68	32.80
GROUP 19.....	\$ 57.79	32.80

GROUP 20.....	\$ 57.91	32.80
GROUP 21.....	\$ 58.08	32.80
GROUP 22.....	\$ 58.18	32.80
GROUP 23.....	\$ 58.29	32.80
GROUP 24.....	\$ 58.41	32.80
GROUP 25.....	\$ 58.58	32.80

OPERATOR: Power Equipment
(Cranes, Piledriving &
Hoisting)

GROUP 1.....	\$ 55.25	32.80
GROUP 2.....	\$ 56.03	32.80
GROUP 3.....	\$ 56.32	32.80
GROUP 4.....	\$ 56.46	32.80
GROUP 5.....	\$ 56.68	32.80
GROUP 6.....	\$ 56.79	32.80
GROUP 7.....	\$ 56.91	32.80
GROUP 8.....	\$ 57.08	32.80
GROUP 9.....	\$ 57.25	32.80
GROUP 10.....	\$ 58.25	32.80
GROUP 11.....	\$ 59.25	32.80
GROUP 12.....	\$ 60.25	32.80
GROUP 13.....	\$ 61.25	32.80

OPERATOR: Power Equipment
(Tunnel Work)

GROUP 1.....	\$ 55.75	32.80
GROUP 2.....	\$ 56.53	32.80
GROUP 3.....	\$ 56.82	32.80
GROUP 4.....	\$ 56.96	32.80
GROUP 5.....	\$ 57.18	32.80
GROUP 6.....	\$ 57.29	32.80
GROUP 7.....	\$ 57.41	32.80

PREMIUM PAY:

\$10.00 per hour shall be paid on all Power Equipment Operator work on the following Military Bases: China Lake Naval Reserve, Vandenberg AFB, Point Arguello, Seely Naval Base, Fort Irwin, Nebo Annex Marine Base, Marine Corp Logistics Base Yermo, Edwards AFB, 29 Palms Marine Base and Camp Pendleton

Workers required to suit up and work in a hazardous material environment: \$2.00 per hour additional. Combination mixer and compressor operator on gunite work shall be classified as a concrete mobile mixer operator.

SEE ZONE DEFINITIONS AFTER CLASSIFICATIONS

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Bargeman; Brakeman; Compressor operator; Ditch Witch, with seat or similar type equipment; Elevator operator-inside; Engineer Oiler; Forklift operator (includes loed, lull or similar types under 5 tons; Generator operator; Generator, pump or compressor plant operator; Pump operator; Signalman; Switchman

GROUP 2: Asphalt-rubber plant operator (nurse tank operator);Coil Tubing Rig Operator, Concrete mixer operator-skip type; Conveyor operator; Fireman; Forklift operator (includes loed, lull or similar types over 5 tons; Hydrostatic pump operator; oiler crusher (asphalt or concrete plant); Petromat laydown machine; PJU side dum jack; Screening and conveyor machine operator (or similar types); Skiploader (wheel type up to 3/4 yd. without attachment); Tar pot fireman; Temporary heating plant

operator; Trenching machine oiler

GROUP 3: Asphalt-rubber blend operator; Bobcat or similar type (Skid steer); Equipment greaser (rack); Ford Ferguson (with dragtype attachments); Helicopter radioman (ground); Stationary pipe wrapping and cleaning machine operator

GROUP 4: Asphalt plant fireman; Backhoe operator (mini-max or similar type); Boring machine operator; Boxman or mixerman (asphalt or concrete); Chip spreading machine operator; Concrete cleaning decontamination machine operator; Concrete Pump Operator (small portable); Direct Push Operator (Geoprobe or similar types) Drilling machine operator, small auger types (Texoma super economatic or similar types - Hughes 100 or 200 or similar types - drilling depth of 30' maximum); Equipment greaser (grease truck); Guard rail post driver operator; Highline cableway signalman; Hydra-hammer-aero stomper; Micro Tunneling (above ground tunnel); Power concrete curing machine operator; Power concrete saw operator; Power-driven jumbo form setter operator; Power sweeper operator; Rock Wheel Saw/Trencher; Roller operator (compacting); Screed operator (asphalt or concrete); Trenching machine operator (up to 6 ft.); Vacuum or much truck

GROUP 6: Articulating material hauler; Asphalt plant engineer; Batch plant operator; Bit sharpener; Concrete joint machine operator (canal and similar type); Concrete planer operator; Dandy digger; Deck engine operator; Derrickman (oilfield type); Drilling machine operator, bucket or auger types (Calweld 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45' maximum); Drilling machine operator; Hydrographic seeder machine operator (straw, pulp or seed), Jackson track maintainer, or similar type; Kalamazoo Switch tamper, or similar type; Machine tool operator; Maginnis internal full slab vibrator, Mechanical berm, curb or gutter (concrete or asphalt); Mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar); Micro tunnel system (below ground); Pavement breaker operator (truck mounted); Road oil mixing machine operator; Roller operator (asphalt or finish), rubber-tired earth moving equipment (single engine, up to and including 25 yds. struck); Self-propelled tar pipelining machine operator; Skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.); Slip form pump operator (power driven hydraulic lifting device for concrete forms); Tractor operator-bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types); Tugger hoist operator (1 drum); Ultra high pressure waterjet cutting tool system operator; Vacuum blasting machine operator

GROUP 8: Asphalt or concrete spreading operator (tamping or finishing); Asphalt paving machine operator (Barber Greene or similar type); Asphalt-rubber distribution operator; Backhoe operator (up to and including 3/4 yd.), small ford, Case or similar types; Cable Bundling Machine Operator (excluding handheld); Cable Trenching Machine Operator (Spider Plow or similar types) Cast-in-place pipe laying machine operator; Combination mixer and compressor operator (gunite work); Compactor operator (self-propelled); Concrete mixer operator (paving); Crushing plant operator;

Drill Doctor; Drilling machine operator, Bucket or auger types (Calweld 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum); Elevating grader operator; Grade checker; Gradall operator; Grouting machine operator; Heavy-duty repairman; Heavy equipment robotics operator; Kalamazoo balliste regulator or similar type; Kolman belt loader and similar type; Le Tourneau blob compactor or similar type; Loader operator (Athey, Euclid, Sierra and similar types); Mobark Chipper or similar; Ozzie padder or similar types; P.C. slot saw; Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pumpcrete gun operator; RCM Cementing Unit Operator, Rail/Switch Grinder Operator (Harsco or similar types) Rock Drill or similar types; Rotary drill operator (excluding caisson type); Rubber-tired earth-moving equipment operator (single engine, caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck); Rubber-tired scraper operator (self-loading paddle wheel type-John Deere, 1040 and similar single unit); Self-propelled curb and gutter machine operator; Shuttle buggy; Skiploader operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.); Soil remediation plant operator; Surface heaters and planer operator; Tractor compressor drill combination operator; Tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar-bulldozer, tamper, scraper and push tractor single engine); Tractor operator (boom attachments), Traveling pipe wrapping, cleaning and bending machine operator; Trenching machine operator (over 6 ft. depth capacity, manufacturer's rating); trenching Machine with Road Miner attachment (over 6 ft depth capacity); Ultra high pressure waterjet cutting tool system mechanic; Water pull (compaction) operator

GROUP 10: Drilling machine operator, Bucket or auger types (Calweld 200 B bucket or similar types-Watson 3000 or 5000 auger or similar types-Texoma 900 auger or similar types-drilling depth of 105' maximum); Dual drum mixer, dynamic compactor LDC350 (or similar types); Monorail locomotive operator (diesel, gas or electric); Motor patrol-blade operator (single engine); Multiple engine tractor operator (Euclid and similar type-except Quad 9 cat.); Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Pneumatic pipe ramming tool and similar types; Prestressed wrapping machine operator; Rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck); Rubber tired earth moving equipment operator (multiple engine, Euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck), Tower crane repairman; Tractor loader operator (crawler and wheel type over 6-1/2 yds.); Woods mixer operator (and similar Pugmill equipment)

GROUP 12: Auto grader operator; Automatic slip form operator; Drilling machine operator, bucket or auger types (Calweld, auger 200 CA or similar types - Watson, auger 6000 or similar types - Hughes Super Duty, auger 200 or similar types - drilling depth of 175' maximum); Hoe ram or similar with compressor; Mass excavator operator less tha 750 cu. yards; Mechanical finishing machine operator; Mobile form traveler operator; Motor patrol operator (multi-engine);

Pipe mobile machine operator; Rubber-tired earth- moving equipment operator (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Rubber-tired self- loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)

GROUP 13: Rubber-tired earth-moving equipment operator operating equipment with push-pull system (single engine, up to and including 25 yds. struck)

GROUP 14: Canal liner operator; Canal trimmer operator; Remote- control earth-moving equipment operator (operating a second piece of equipment: \$1.00 per hour additional); Wheel excavator operator (over 750 cu. yds.)

GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine-up to and including 25 yds. struck)

GROUP 16: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 17: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 50 cu. yds. struck); Tandem tractor operator (operating crawler type tractors in tandem - Quad 9 and similar type)

GROUP 18: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)

GROUP 19: Rotex concrete belt operator (or similar types); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 cu. yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, up to and including 25 yds. struck)

GROUP 20: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps, and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 21: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units -

multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

GROUP 22: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, up to and including 25 yds. struck)

GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck); Rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

GROUP 24: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, over 50 yds. struck); Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 25: Concrete pump operator-truck mounted; Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck); Spyder Excavator Operator, with all attachments

CRANES, PILEDRIVING AND HOISTING EQUIPMENT CLASSIFICATIONS

GROUP 1: Engineer oiler; Fork lift operator (includes loed, lull or similar types)

GROUP 2: Truck crane oiler

GROUP 3: A-frame or winch truck operator; Ross carrier operator (jobsite)

GROUP 4: Bridge-type unloader and turntable operator; Helicopter hoist operator

GROUP 5: Hydraulic boom truck; Stinger crane (Austin-Western or similar type); Tugger hoist operator (1 drum)

GROUP 6: Bridge crane operator; Cretor crane operator; Hoist operator (Chicago boom and similar type); Lift mobile operator; Lift slab machine operator (Vagtborg and similar types); Material hoist and/or manlift operator; Polar gantry crane operator; Self Climbing scaffold (or similar type); Shovel, backhoe, dragline, clamshell operator (over 3/4 yd. and up to 5 cu. yds. mrc); Tugger hoist operator

GROUP 7: Pedestal crane operator; Shovel, backhoe, dragline, clamshell operator (over 5 cu. yds. mrc); Tower crane repair; Tugger hoist operator (3 drum)

GROUP 8: Crane operator (up to and including 25 ton capacity); Crawler transporter operator; Derrick barge operator (up to and including 25 ton capacity); Hoist operator, stiff legs, Guy derrick or similar type (up to and including 25 ton capacity); Shovel, backhoe, dragline, clamshell operator (over 7 cu. yds., M.R.C.)

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Self erecting tower crane operator maximum lifting capacity ten tons

GROUP 10: Crane operator (over 50 tons and up to and including 100 tons mrc); Derrick barge operator (over 50 tons up to and including 100 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 50 tons up to and including 100 tons mrc), Mobile tower crane operator (over 50 tons, up to and including 100 tons M.R.C.);

GROUP 11: Crane operator (over 100 tons and up to and including 200 tons mrc); Derrick barge operator (over 100 tons up to and including 200 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 100 tons up to and including 200 tons mrc); Mobile tower crane operator (over 100 tons up to and including 200 tons mrc) ; Tower crane operator and tower gantry

GROUP 12: Crane operator (over 200 tons up to and including 300 tons mrc); Derrick barge operator (over 200 tons up to and including 300 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 200 tons, up to and including 300 tons mrc); Mobile tower crane operator (over 200 tons, up to and including 300 tons mrc)

GROUP 13: Crane operator (over 300 tons); Derrick barge operator (over 300 tons); Helicopter pilot; Hoist operator, stiff legs, Guy derrick or similar type (over 300 tons); Mobile tower crane operator (over 300 tons)

TUNNEL CLASSIFICATIONS

GROUP 1: Skiploader (wheel type up to 3/4 yd. without attachment)

GROUP 2: Power-driven jumbo form setter operator

GROUP 3: Dinkey locomotive or motorperson (up to and including 10 tons)

GROUP 4: Bit sharpener; Equipment greaser (grease truck); Slip form pump operator (power-driven hydraulic lifting device for concrete forms); Tugger hoist operator (1 drum); Tunnel locomotive operator (over 10 and up to and including 30 tons)

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy Duty Repairman

GROUP 7: Tunnel mole boring machine operator

ENGINEERS ZONES

\$1.00 additional per hour for all of IMPERIAL County and the portions of KERN, RIVERSIDE & SAN BERNARDINO Counties as defined below:

That area within the following Boundary: Begin in San Bernardino County, approximately 3 miles NE of the intersection of I-15 and the California State line at that point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Continue W in a straight line to that point which is the SW corner of the northwest quarter of Section 6, T27S, R42E, Mt. Diablo Meridian. Continue North to the intersection with the Inyo County Boundary at that point which is the NE corner of the western half of the northern quarter of Section 6, T25S, R42E, MDM. Continue W along the Inyo and San Bernardino County boundary until the intersection with Kern County, as that point which is the SE corner of Section 34, T24S, R40E, MDM. Continue W along the Inyo and Kern County boundary until the intersection with Tulare County, at that point which is the SW corner of the SE quarter of Section 32, T24S, R37E, MDM. Continue W along the Kern and Tulare County boundary, until that point which is the NW corner of T25S, R32E, MDM. Continue S following R32E lines to the NW corner of T31S, R32E, MDM. Continue W to the NW corner of T31S, R31E, MDM. Continue S to the SW corner of T32S, R31E, MDM. Continue W to SW corner of SE quarter of Section 34, T32S, R30E, MDM. Continue S to SW corner of T11N, R17W, SBM. Continue E along south boundary of T11N, SBM to SW corner of T11N, R7W, SBM. Continue S to SW corner of T9N, R7W, SBM. Continue E along south boundary of T9N, SBM to SW corner of T9N, R1E, SBM. Continue S along west boundary of R1E, SBM to Riverside County line at the SW corner of T1S, R1E, SBM. Continue E along south boundary of T1S, SBM (Riverside County Line) to SW corner of T1S, R10E, SBM. Continue S along west boundary of R10E, SBM to Imperial County line at the SW corner of T8S, R10E, SBM. Continue W along Imperial and Riverside county line to NW corner of T9S, R9E, SBM. Continue S along the boundary between Imperial and San Diego Counties, along the west edge of R9E, SBM to the south boundary of Imperial County/California state line. Follow the California state line west to Arizona state line, then north to Nevada state line, then continuing NW back to start at the point which is the NW corner of Section 1, T17N, R14E, SBM

\$1.00 additional per hour for portions of SAN LUIS OBISPO, KERN, SANTA BARBARA & VENTURA as defined below:

That area within the following Boundary: Begin approximately 5 miles north of the community of Cholame, on the Monterey County and San Luis Obispo County boundary at the NW corner of T25S, R16E, Mt. Diablo Meridian. Continue south along the west side of R16E to the SW corner of T30S, R16E, MDM. Continue E to SW corner of T30S, R17E, MDM. Continue S to SW corner of T31S, R17E, MDM. Continue E to SW corner of T31S, R18E, MDM. Continue S along West side of R18E, MDM as it crosses into San Bernardino Meridian numbering area and becomes R30W. Follow the west side of R30W, SBM to the SW corner of T9N, R30W, SBM. Continue E along the south edge of T9N, SBM to the Santa Barbara County and Ventura County boundary at that point which is the SW corner of Section 34. T9N, R24W, SBM, continue S along the Ventura County line to that point which is the SW corner of the SE quarter of Section 32, T7N, R24W, SBM. Continue E along the south edge of T7N, SBM to the SE corner to T7N, R21W,

SBM. Continue N along East side of R21W, SBM to Ventura County and Kern County boundary at the NE corner of T8N, R21W. Continue W along the Ventura County and Kern County boundary to the SE corner of T9N, R21W. Continue North along the East edge of R21W, SBM to the NE corner of T12N, R21W, SBM. Continue West along the north edge of T12N, SBM to the SE corner of T32S, R21E, MDM. [T12N SBM is a think strip between T11N SBM and T32S MDM]. Continue North along the East side of R21E, MDM to the Kings County and Kern County border at the NE corner of T25S, R21E, MDM, continue West along the Kings County and Kern County Boundary until the intersection of San Luis Obispo County. Continue west along the Kings County and San Luis Obispo County boundary until the intersection with Monterey County. Continue West along the Monterey County and San Luis Obispo County boundary to the beginning point at the NW corner of T25S, R16E, MDM.

\$2.00 additional per hour for INYO and MONO Counties and the Northern portion of SAN BERNARDINO County as defined below:

That area within the following Boundary: Begin at the intersection of the northern boundary of Mono County and the California state line at the point which is the center of Section 17, T10N, R22E, Mt. Diablo Meridian. Continue S then SE along the entire western boundary of Mono County, until it reaches Inyo County at the point which is the NE corner of the Western half of the NW quarter of Section 2, T8S, R29E, MDM. Continue SSE along the entire western boundary of Inyo County, until the intersection with Kern County at the point which is the SW corner of the SE 1/4 of Section 32, T24S, R37E, MDM. Continue E along the Inyo and Kern County boundary until the intersection with San Bernardino County at that point which is the SE corner of section 34, T24S, R40E, MDM. Continue E along the Inyo and San Bernardino County boundary until the point which is the NE corner of the Western half of the NW quarter of Section 6, T25S, R42E, MDM. Continue S to that point which is the SW corner of the NW quarter of Section 6, T27S, R42E, MDM. Continue E in a straight line to the California and Nevada state border at the point which is the NW corner of Section 1, T17N, R14E, San Bernardino Meridian. Then continue NW along the state line to the starting point, which is the center of Section 18, T10N, R22E, MDM.

REMAINING AREA NOT DEFINED ABOVE RECIEVES BASE RATE

IRON0433-006 01/01/2024

	Rates	Fringes
IRONWORKER		
Fence Erector.....	\$ 42.53	26.26
Ornamental, Reinforcing and Structural.....	\$ 47.45	34.90

PREMIUM PAY:

\$9.00 additional per hour at the following locations:

China Lake Naval Test Station, Chocolate Mountains Naval Reserve-Niland,
Edwards AFB, Fort Irwin Military Station, Fort Irwin Training Center-Goldstone, San Clemente Island, San Nicholas Island,

Susanville Federal Prison, 29 Palms - Marine Corps, U.S. Marine Base - Barstow, U.S. Naval Air Facility - Seale, Vandenberg AFB Army Defense Language Institute - Monterey, Fallon Air Base, Naval Post Graduate School - Monterey, Yermo Marine Corps Logistics Center
 Port Hueneme, Port Mugu, U.S. Coast Guard Station - Two Rock

 LAB00300-001 07/01/2022

	Rates	Fringes
Brick Tender.....	\$ 37.32	21.45

 LAB00300-003 07/01/2022

	Rates	Fringes
LABORER (TUNNEL)		
GROUP 1.....	\$ 45.68	23.30
GROUP 2.....	\$ 46.00	23.30
GROUP 3.....	\$ 46.46	23.30
GROUP 4.....	\$ 47.15	23.30
LABORER		
GROUP 1.....	\$ 36.39	21.04
GROUP 2.....	\$ 36.94	21.04
GROUP 3.....	\$ 37.49	21.04
GROUP 4.....	\$ 39.04	21.04
GROUP 5.....	\$ 39.39	21.04

LABORER CLASSIFICATIONS

GROUP 1: Cleaning and handling of panel forms; Concrete screeding for rough strike-off; Concrete, water curing; Demolition laborer, the cleaning of brick if performed by a worker performing any other phase of demolition work, and the cleaning of lumber; Fire watcher, limber, brush loader, piler and debris handler; Flag person; Gas, oil and/or water pipeline laborer; Laborer, asphalt-rubber material loader; Laborer, general or construction; Laborer, general clean-up; Laborer, landscaping; Laborer, jetting; Laborer, temporary water and air lines; Material hose operator (walls, slabs, floors and decks); Plugging, filling of shee bolt holes; Dry packing of concrete; Railroad maintenance, repair track person and road beds; Streetcar and railroad construction track laborers; Rigging and signaling; Scaler; Slip form raiser; Tar and mortar; Tool crib or tool house laborer; Traffic control by any method; Window cleaner; Wire mesh pulling - all concrete pouring operations

GROUP 2: Asphalt shoveler; Cement dumper (on 1 yd. or larger mixer and handling bulk cement); Cesspool digger and installer; Chucktender; Chute handler, pouring concrete, the handling of the chute from readymix trucks, such as walls, slabs, decks, floors, foundation, footings, curbs, gutters and sidewalks; Concrete curer, impervious membrane and form oiler; Cutting torch operator (demolition); Fine grader, highways and street paving, airport, runways and similar type heavy construction; Gas, oil and/or water pipeline wrapper - pot tender and form person; Guinea chaser; Headerboard person - asphalt; Laborer, packing rod steel and pans; Membrane vapor barrier installer; Power broom sweeper (small); Riprap stonepaver, placing stone or wet sacked concrete; Roto scraper and tiller; Sandblaster

(pot tender); Septic tank digger and installer(lead); Tank scaler and cleaner; Tree climber, faller, chain saw operator, Pittsburgh chipper and similar type brush shredder; Underground laborer, including caisson bellower

GROUP 3: Buggymobile person; Concrete cutting torch; Concrete pile cutter; Driller, jackhammer, 2-1/2 ft. drill steel or longer; Dri-pak-it machine; Gas, oil and/or water pipeline wrapper, 6-in. pipe and over, by any method, inside and out; High scaler (including drilling of same); Hydro seeder and similar type; Impact wrench multi-plate; Kettle person, pot person and workers applying asphalt, lay-kold, creosote, lime caustic and similar type materials ("applying" means applying, dipping, brushing or handling of such materials for pipe wrapping and waterproofing); Operator of pneumatic, gas, electric tools, vibrating machine, pavement breaker, air blasting, come-alongs, and similar mechanical tools not separately classified herein; Pipelayer's backup person, coating, grouting, making of joints, sealing, caulking, diapering and including rubber gasket joints, pointing and any and all other services; Rock slinger; Rotary scarifier or multiple head concrete chipping scarifier; Steel headerboard and guideline setter; Tamper, Barko, Wacker and similar type; Trenching machine, hand-propelled

GROUP 4: Asphalt raker, lute person, ironer, asphalt dump person, and asphalt spreader boxes (all types); Concrete core cutter (walls, floors or ceilings), grinder or sander; Concrete saw person, cutting walls or flat work, scoring old or new concrete; Cribber, shorer, lagging, sheeting and trench bracing, hand-guided lagging hammer; Head rock slinger; Laborer, asphalt- rubber distributor boot person; Laser beam in connection with laborers' work; Oversize concrete vibrator operator, 70 lbs. and over; Pipelayer performing all services in the laying and installation of pipe from the point of receiving pipe in the ditch until completion of operation, including any and all forms of tubular material, whether pipe, metallic or non-metallic, conduit and any other stationary type of tubular device used for the conveying of any substance or element, whether water, sewage, solid gas, air, or other product whatsoever and without regard to the nature of material from which the tubular material is fabricated; No-joint pipe and stripping of same; Prefabricated manhole installer; Sandblaster (nozzle person), water blasting, Porta Shot-Blast

GROUP 5: Blaster powder, all work of loading holes, placing and blasting of all powder and explosives of whatever type, regardless of method used for such loading and placing; Driller: All power drills, excluding jackhammer, whether core, diamond, wagon, track, multiple unit, and any and all other types of mechanical drills without regard to the form of motive power; Toxic waste removal

TUNNEL LABORER CLASSIFICATIONS

GROUP 1: Batch plant laborer; Changehouse person; Dump person; Dump person (outside); Swamper (brake person and switch person on tunnel work); Tunnel materials handling person; Nipper; Pot tender, using mastic or other materials (for example, but not by way of limitation, shotcrete, etc.)

GROUP 2: Chucktender, cabletender; Loading and unloading agitator cars;; Vibrator person, jack hammer, pneumatic

tools (except driller); Bull gang mucker, track person;
Concrete crew, including rodder and spreader

GROUP 3: Blaster, driller, powder person; Chemical grout jet person; Cherry picker person; Grout gun person; Grout mixer person; Grout pump person; Jackleg miner; Jumbo person; Kemper and other pneumatic concrete placer operator; Miner, tunnel (hand or machine); Nozzle person; Operating of troweling and/or grouting machines; Powder person (primer house); Primer person; Sandblaster; Shotcrete person; Steel form raiser and setter; Timber person, retimber person, wood or steel; Tunnel Concrete finisher

GROUP 4: Diamond driller; Sandblaster; Shaft and raise work

LAB00300-005 07/01/2024

	Rates	Fringes
Asbestos Removal Laborer.....	\$ 43.88	25.13

SCOPE OF WORK: Includes site mobilization, initial site cleanup, site preparation, removal of asbestos-containing material and toxic waste, encapsulation, enclosure and disposal of asbestos- containing materials and toxic waste by hand or with equipment or machinery; scaffolding, fabrication of temporary wooden barriers and assembly of decontamination stations.

LAB00345-001 07/01/2022

	Rates	Fringes
LABORER (GUNITE)		
GROUP 1.....	\$ 48.50	21.37
GROUP 2.....	\$ 47.55	21.37
GROUP 3.....	\$ 44.01	21.37

FOOTNOTE: GUNITE PREMIUM PAY: Workers working from a Bosn'n's Chair or suspended from a rope or cable shall receive 40 cents per hour above the foregoing applicable classification rates. Workers doing gunitite and/or shotcrete work in a tunnel shall receive 35 cents per hour above the foregoing applicable classification rates, paid on a portal-to-portal basis. Any work performed on, in or above any smoke stack, silo, storage elevator or similar type of structure, when such structure is in excess of 75'-0"" above base level and which work must be performed in whole or in part more than 75'-0"" above base level, that work performed above the 75'-0"" level shall be compensated for at 35 cents per hour above the applicable classification wage rate.

GUNITE LABORER CLASSIFICATIONS

GROUP 1: Rodmen, Nozzlemen

GROUP 2: Gunmen

GROUP 3: Reboundmen

LAB01184-001 07/01/2022

	Rates	Fringes
Laborers: (HORIZONTAL DIRECTIONAL DRILLING)		
(1) Drilling Crew Laborer...	\$ 40.69	18.25
(2) Vehicle Operator/Hauler.	\$ 40.86	18.25
(3) Horizontal Directional Drill Operator.....	\$ 42.71	18.25
(4) Electronic Tracking Locator.....	\$ 44.71	18.25
Laborers: (STRIPING/SLURRY SEAL)		
GROUP 1.....	\$ 41.90	21.32
GROUP 2.....	\$ 43.20	21.32
GROUP 3.....	\$ 45.21	21.32
GROUP 4.....	\$ 46.95	21.32

LABORERS - STRIPING CLASSIFICATIONS

GROUP 1: Protective coating, pavement sealing, including repair and filling of cracks by any method on any surface in parking lots, game courts and playgrounds; carstops; operation of all related machinery and equipment; equipment repair technician

GROUP 2: Traffic surface abrasive blaster; pot tender - removal of all traffic lines and markings by any method (sandblasting, waterblasting, grinding, etc.) and preparation of surface for coatings. Traffic control person: controlling and directing traffic through both conventional and moving lane closures; operation of all related machinery and equipment

GROUP 3: Traffic delineating device applicator: Layout and application of pavement markers, delineating signs, rumble and traffic bars, adhesives, guide markers, other traffic delineating devices including traffic control. This category includes all traffic related surface preparation (sandblasting, waterblasting, grinding) as part of the application process. Traffic protective delineating system installer: removes, relocates, installs, permanently affixed roadside and parking delineation barricades, fencing, cable anchor, guard rail, reference signs, monument markers; operation of all related machinery and equipment; power broom sweeper

GROUP 4: Striper: layout and application of traffic stripes and markings; hot thermo plastic; tape traffic stripes and markings, including traffic control; operation of all related machinery and equipment

LAB01414-001 08/03/2022

	Rates	Fringes
LABORER		
PLASTER CLEAN-UP LABORER....	\$ 38.92	23.32
PLASTER TENDER.....	\$ 41.47	23.32

Work on a swing stage scaffold: \$1.00 per hour additional.

PAIN0036-001 07/01/2023

	Rates	Fringes
Painters: (Including Lead Abatement)		
(1) Repaint (excludes San Diego County).....	\$ 29.59	17.12
(2) All Other Work.....	\$ 38.52	18.64

REPAINT of any previously painted structure. Exceptions: work involving the aerospace industry, breweries, commercial recreational facilities, hotels which operate commercial establishments as part of hotel service, and sports facilities.

PAIN0036-006 09/01/2023

	Rates	Fringes
DRYWALL FINISHER/TAPER		
Antelope Valley North of the following Boundary: Kern County Line to Hwy. #5, South on Hwy. #5 to Hwy. N2, East on N2 to Palmdale Blvd., to Hwy. #14, South to Hwy. #18, East to Hwy. #395.....	\$ 43.75	25.07
Remainder of Los Angeles County.....	\$ 47.88	25.07

PAIN0036-015 01/01/2020

	Rates	Fringes
GLAZIER.....	\$ 43.45	23.39

FOOTNOTE: Additional \$1.25 per hour for work in a condor, from the third (3rd) floor and up Additional \$1.25 per hour for work on the outside of the building from a swing stage or any suspended contrivance, from the ground up

PAIN1247-002 01/01/2024

	Rates	Fringes
SOFT FLOOR LAYER.....	\$ 43.20	18.03

PLAS0200-009 08/03/2022

	Rates	Fringes
PLASTERER.....	\$ 47.37	19.64

PLAS0500-002 07/01/2023

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 44.00	27.11

PLUM0016-001 09/01/2023

	Rates	Fringes

PLUMBER/PIPEFITTER

Work ONLY on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space.....	\$ 53.51	25.28
Work ONLY on strip malls, light commercial, tenant improvement and remodel work.....	\$ 42.49	23.86
All other work except work on new additions and remodeling of bars, restaurant, stores and commercial buildings not to exceed 5,000 sq. ft. of floor space and work on strip malls, light commercial, tenant improvement and remodel work.....	\$ 57.18	26.51

PLUM0345-001 09/01/2023

Rates	Fringes

PLUMBER

Landscape/Irrigation Fitter..	\$ 40.20	25.90
Sewer & Storm Drain Work....	\$ 44.29	23.28

* ROOF0036-002 08/01/2024

Rates	Fringes

ROOFER.....	\$ 49.43	20.58

FOOTNOTE: Pitch premium: Work on which employees are exposed
to pitch fumes or required to handle pitch, pitch base or
pitch impregnated products, or any material containing coal
tar pitch, the entire roofing crew shall receive \$1.75 per
hour ""pitch premium"" pay.

SFCA0669-013 01/01/2024

DOES NOT INCLUDE THE CITY OF POMONA, CATALINA ISLAND, AND THAT
PART OF LOS ANGELES COUNTY WITHIN 25 MILES OF THE CITY LIMITS
OF LOS ANGELES:

Rates	Fringes

SPRINKLER FITTER.....	\$ 45.31	27.91

SFCA0709-005 09/01/2023

THE CITY OF POMOMA, CATALINA ISLAND, AND THAT PART OF LOS
ANGELES COUNTY WITHIN 25 MILES OF THE CITY LIMITS OF LOS
ANGELES:

Rates	Fringes

SPRINKLER FITTER (Fire).....	\$ 54.29	32.00

SHEE0105-002 07/01/2024

LOS ANGELES (South of a straight line between Gorman and Big Pines including Catalina Island)

	Rates	Fringes
SHEET METAL WORKER		
(1) Light Commercial: Work on general sheet metal and heating and AC up to 4000 sq ft.....	\$ 35.64	10.56
(2) Modernization : Excluding New Construction - Under 5000 sq. ft. Does not include modification, upgrades, energy management, or conservation improvements of central heating and AC equipment.....	\$ 34.17	10.86

SHEE0105-003 07/01/2024

LOS ANGELES (South of a straight line drawn between Gorman and Big Pines)and Catalina Island, INYO, KERN (Northeast part, East of Hwy 395), MONO ORANGE, RIVERSIDE, AND SAN BERNARDINO COUNTIES

	Rates	Fringes
SHEET METAL WORKER		
(1) Commercial - New Construction and Remodel work.....	\$ 59.40	30.34
(2) Industrial work including air pollution control systems, noise abatement, hand rails, guard rails, excluding aritechtrual sheet metal work, excluding A-C, heating, ventilating systems for human comfort...	\$ 56.95	30.04

SHEE0105-004 07/01/2023

KERN (Excluding portion East of Hwy 395) & LOS ANGELES (North of a straight line drawn between Gorman and Big Pines including Cities of Lancaster and Palmdale) COUNTIES

	Rates	Fringes
SHEET METAL WORKER.....	\$ 45.98	29.24

TEAM0011-002 07/01/2023

	Rates	Fringes
TRUCK DRIVER		
GROUP 1.....	\$ 38.19	33.69
GROUP 2.....	\$ 38.34	33.69

GROUP 3.....	\$ 38.47	33.69
GROUP 4.....	\$ 38.66	33.69
GROUP 5.....	\$ 38.69	33.69
GROUP 6.....	\$ 38.72	33.69
GROUP 7.....	\$ 38.97	33.69
GROUP 8.....	\$ 39.22	33.69
GROUP 9.....	\$ 39.42	33.69
GROUP 10.....	\$ 39.72	33.69
GROUP 11.....	\$ 40.22	33.69
GROUP 12.....	\$ 40.65	33.69

WORK ON ALL MILITARY BASES:

PREMIUM PAY: \$3.00 per hour additional.

[29 palms Marine Base, Camp Roberts, China Lake, Edwards AFB, El Centro Naval Facility, Fort Irwin, Marine Corps Logistics Base at Nebo & Yermo, Mountain Warfare Training Center, Bridgeport, Point Arguello, Point Conception, Vandenberg AFB]

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Truck driver

GROUP 2: Driver of vehicle or combination of vehicles - 2 axles; Traffic control pilot car excluding moving heavy equipment permit load; Truck mounted broom

GROUP 3: Driver of vehicle or combination of vehicles - 3 axles; Boot person; Cement mason distribution truck; Fuel truck driver; Water truck - 2 axle; Dump truck, less than 16 yds. water level; Erosion control driver

GROUP 4: Driver of transit mix truck, under 3 yds.; Dumpcrete truck, less than 6-1/2 yds. water level

GROUP 5: Water truck, 3 or more axles; Truck greaser and tire person (\$0.50 additional for tire person); Pipeline and utility working truck driver, including winch truck and plastic fusion, limited to pipeline and utility work; Slurry truck driver

GROUP 6: Transit mix truck, 3 yds. or more; Dumpcrete truck, 6-1/2 yds. water level and over; Vehicle or combination of vehicles - 4 or more axles; Oil spreader truck; Dump truck, 16 yds. to 25 yds. water level

GROUP 7: A Frame, Swedish crane or similar; Forklift driver; Ross carrier driver

GROUP 8: Dump truck, 25 yds. to 49 yds. water level; Truck repair person; Water pull - single engine; Welder

GROUP 9: Truck repair person/welder; Low bed driver, 9 axles or over

GROUP 10: Dump truck - 50 yds. or more water level; Water pull - single engine with attachment

GROUP 11: Water pull - twin engine; Water pull - twin engine with attachments; Winch truck driver - \$1.25 additional when operating winch or similar special attachments

GROUP 12: Boom Truck 17K and above

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.
=====

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

State Adopted Rate Identifiers

Classifications listed under the ""SA"" identifier indicate that the prevailing wage rate set by a state (or local) government was adopted under 29 C.F.R. 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 01/03/2024 reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests

for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION"

City of Montebello
FY 2024-2025

**Construction Contract Agreement
(CDBG)**

This “Contract” (also referred to as “Agreement”) is made and entered into by and between:

CITY SUBRECIPIENT:

Business Name

Property Address

City, State and Zip Code

CONTRACTOR:

Contractor

Contractor's Address

City, State and Zip Code

1. **General Scope of Work** – Contractor shall furnish all necessary labor, tools, materials, fixtures, and equipment and complete the work concerning the property located at _____, CA _____, in **accordance with the Work Write-Up with bid prices referenced as Attachment 1 of this agreement (“Work Write-Up”).** City Subrecipient agrees to the scope of work identified in Attachment 1 and agrees that all Community Development Block Grant (“CDBG”) funds received from the City shall be used solely for the purpose of completing items identified in Attachment 1. The parties agree to comply with all requirements included in the Construction Contract Agreement (“agreement”) and all CDBG (“Guidelines”), included herein as Attachment 2 and any failure to adhere to these requirements will be considered a default under this Agreement. Contractor hereby promises and agrees to comply with all provisions of all applicable local, state, and federal laws in connection with the performance of its obligations under this Agreement.
2. **Payment** – The Contractor shall be paid, for performance, the total sum of \$_____. Only one (1) progress payment and the final payment will be made that will include any amounts due under the Contract. Payments will be issued in the form of a check payable to the Contractor's company name.. All payments and payment requests shall conform to the requirements of Section IV.E of the Guidelines including Attachment 2 to this Agreement.
3. **Final Payment** - Contractor's final request for payment of 10% retention must include a signed building inspection card if a permit is required and signed labor and material's lien releases. The contractor agrees that the work shall be completed free from any and all liens and claims of artisans, materials, suppliers, subcontractors, laborers and any other party. Payment of the retention shall be made not earlier than forty-five (45) days after all Work has been completed, all lien releases or claims for liens by Contractor have been submitted and verification that a Notice of Completion has been mailed for official recording.
4. **Time of Completion of the Project** – Within 10 days after execution of this Contract, City Subrecipient shall have job site ready for commencement of construction. **Contractor shall commence work within ten (10) days after a receipt of a “Notice to Proceed” and** shall complete the same within **90 days** (excluding weekend and holidays subject to permissible delays as described in Section 16 hereof.

5. **Contractor's License** – Contractor hereby affirms that he/she is ready, willing and able to perform the work required and will maintain in full force and effect, throughout the term of this Agreement hereof, a State Contractor's pursuant to the California Business and Profession Code.
6. **Site Examination** – Contractor hereby affirms that he/she has visited the Project site and examined for himself/herself the nature of all existing conditions. Contractor agrees to furnish all labor and material necessary to prepare the site for execution of this Agreement.
7. **Permits** – Contractor shall obtain and pay for all building permits and licenses required to complete the work. The contractor must include all permit fees in project total. The Building and Safety Division is open Monday – Thursday 7:30am -5:00pm.. For permit questions, please call 323-887-1200 ext. 1497.
8. **Plans and Specifications** - Any drawings or sketches which may be attached to or furnished with Work Write-Up are intended to clarify or further describe the job. Because of the nature of work being done, some details of sketches or drawings may be "typical" and grades, dimensions and exact existing conditions may need to be verified at the job site. Unless specifically noted, all construction methods and materials used shall conform to the requirements of the Uniform Building Code as adopted by the City. Any work done by the Contractor that is not in conformity with Work Write-Up or applicable building codes shall be immediately repaired by Contractor, at no cost to City Subrecipient or City, including the cost of labor, material and supplies prior to final payment.
9. **Workmanship** – Contractor shall perform the Work in a good and workmanlike manner and ensure compliance with the Work Write-Up and all applicable building codes and regulations with regard to materials, methods and assembly will not, in itself, assure acceptance of the construction. Of equal importance is good workmanship, the lack of which shall be sufficient cause to refuse acceptance of the construction. The contractor warrants that all materials, fixtures and equipment furnished by the Contractor shall be new, of good quality, and of good title, and that the work shall be done in a neat and workmanlike manner. All manufacturers and suppliers written guarantees and warranties covering materials and equipment furnished under the Contract shall be delivered to the City Subrecipient(s). The Contractor shall be responsible to City Subrecipient for the acts and omissions of its employees, subcontractors, its subcontractors' agents and employees, and all other persons performing any Work in connection with this Agreement and shall warrant all work and promptly remedy any defect in the work, and shall pay for any damage to other work resulting there from, which may appear within a period of one year from the date of final acceptance of the work. The City Subrecipient(s) shall give notice of observed defects with reasonable promptness.
10. **Lead Based Paint** – The Contractor agrees not to use lead-based paint in the Contractor's performance of this Contract. "Lead-based paint" means any paint containing more than six one-hundredths of one percent (1%) lead by weight (calculated as lead metal) in the total nonvolatile content of the paint, or the equivalent measure of lead in the dried film of paint already applied. Contractors shall comply with the provisions of 29 CFR Part 1926(OHSA), governing the protection of workers disturbing lead painted surfaces.
11. **Liens**. Contractor shall keep the Property and every part thereof free and clear of all mechanics' liens, materialmen's liens, and other liens for any work or labor done, services performed, or materials and appliances used or furnished for or in connection with any work performed under the Agreement. Contractor shall at all times promptly and fully pay and discharge any and all claims on which any such liens may or could be based, and shall indemnify, defend, and hold harmless the City Subrecipient against all such liens, claims of liens, damages, expenses, losses, costs, and suits or other procedures pertaining thereto including, but not limited to, court costs and attorney's fees resulting or arising therefrom. In the event any liens and/or claims of lien are filed for record against

the Property, or the City Subrecipient receives notice of any unpaid bill or charge in connection with the performance of this Agreement, Contractor shall forthwith either pay and discharge the liens and/or claims of lien and cause same to be released of record, or Contractor shall furnish City Subrecipient with proper indemnity, either by satisfactory statutory surety bond or satisfactory title policy.

12. **Labor, Materials and Bonds** – Contractor shall pay all charges for labor and materials incurred by Contractor and used in the construction of the project. Should Contractor fail to make the payments required, payments may be made on the behalf oof Contractor and such amount shall be deducted from the total contractor amount. All pertinent invoices, releases, certifications, list of subcontractors and material men, and copies of applicable permits shall be attached to the payment request.
13. **Clean-up** – Contractor shall Upon completion of each day's work, Contractor will remove debris and surplus material and leave the premises in a neat and clean condition.
14. **Incorporated Documents to be Considered Complementary** – The aforesaid Work Write-Up, Agreement, and Guidelines are incorporated herein by reference thereto and made a part hereof with like force and effect as if all of said documents were set forth in full herein. Said documents, attached hereto, together with this written Agreement, shall constitute the contract between the parties. This contract is intended to require a complete and finished piece of work and anything necessary to complete the work properly and in accordance with the law and lawful governmental regulations shall be performed by Contractor whether set out specifically in the contract or not. Should it be ascertained that any inconsistency exists between the aforesaid documents and this written Agreement, the provisions of this written Agreement shall control.
15. **Protection of Work Equipment** – Contractor shall, at all times, provide protection against weather, rain, wind, storms and heat so as to maintain all work, materials, apparatus and fixtures free from injury and damage. At the end of each day's work, all new work existing improvements exposed and likely to be damaged shall be protected and the premises shall be secured. Any work damaged by failure to provide protection as required above shall be replaced with new work at Contractor's expense. It shall be the responsibility of the City Subrecipient to remove all personal property from the work area and to otherwise make the premises available to Contractor to perform the work described herein. IN THE EVENT THAT THE WORK WILL RENDER CITY SUBRECIPIENT'S BATHROOM FACILITIES, INCLUDING TOILET, BATHTUB/SHOWER OR WASH BASIN OR KITCHEN FACILITIES, INCLUDING SINK, REFRIGERATOR AND RANGE INOPERATIVE OR OTHERWISE UNAVAILABLE FOR A PERIOD EXCEEDING 24 HOURS, CONTRACTOR SHALL PROVIDE TEMPORARY FACILITIES ON THE PREMISES FOR USE BY CITY SUBRECIPIENT.
16. **Work Days** –Monday through Friday, except legal holidays.
17. **Delays** – The City Subrecipient and Contractor agree that the period of the contract may be extended, by mutual agreement, and with the written consent of the City of Montebello for good cause. Extensions shall be in writing, shall reference this Contract, shall be signed and dated by the Parties hereto, with a copy provided to the Planning & Community Development Department. Contractor will not be held responsible for failure to complete said work within the specified time to the extent the delay is due to strikes, conscription of property, government priority regulations, inclement weather conditions, Acts of God, capricious or unreasonable acts or omissions or noncompliance of City Subrecipient, or any other causes beyond his/her control. The final completion date may be extended for delays caused by acts of God, acts of City Subrecipient or for any additional work requiring additional time, but only to the extent such additional time is set forth in writing.

18. **City Subrecipient Responsibilities** – During the time for performance for work under this contract, City Subrecipient shall not have other Contractors or workers on the premises without permission of the Contractor. This restriction shall not apply if Contractor is in default under this Contract. While this contract is in force, City Subrecipient shall permit Contractor to use existing utilities such as light, heat, power and water to carry out and complete the work and shall completely cooperate with Contractor to facilitate the performance of the work, including the removal and replacement of rugs, draperies, coverings, furniture, etc., as necessary. Contractor shall provide additional receptacles for trash and debris removal, based upon expected need at no additional cost to City Subrecipient. City Subrecipient hereby grants City a right of access to the Property to conduct any inspections pursuant to this agreement or verify compliance with the terms of the Agreement or Guidelines or this Agreement.
19. **Whole or Partial Destruction of Property** – If the work provided for should, before completion, be wholly or partially destroyed by fire, defective soil, earthquake, or Acts of God, which Contractor could not have reasonably foreseen and provided against, then the loss so occasioned shall be sustained by City Subrecipient, provided, however, that any damage or destruction to City Subrecipient's real or personal property caused by Contractor or his or her agents during construction shall be repaired and/or paid for by Contractor prior to final payment. In the event of whole or partial destruction of work provided, the City Subrecipient shall have the right to determine whether to complete construction. In the event City Subrecipient elects not to complete construction, the City Subrecipient shall be provided payment for the work performed to the date of notification to Contractor to cease construction.
20. **Contractor Default** – Should the Contractor, at any time during the progress of the work, refuse or neglect, without fault of the City Subrecipient, to supply sufficient materials or workers to complete the work hereunder within the time specified (due allowances being made for the contingencies provided for), City Subrecipient shall have the right to declare the Contractor in default. In such event, the City Subrecipient shall be responsible for providing written notice to the Contractor and a copy to the City by registered mail of such default. If the Contractor fails to remedy such default within fifteen (15) days of mailing such notice, the City Subrecipient shall have the right to select one or more substitute contractors acceptable to the City to finish the work. If the expense of finishing the work exceeds the balance not yet paid to the Contractor on this Contract, the Contractor shall pay the difference to the City within ten (10) days after the City mails by registered mail a written request for payment to the Contractor. The City may use all or any portion of the hold back amount to compensate substitute contractors selected pursuant to this paragraph, and the contractor shall have the right to object to this determination by the City.
21. **City of Montebello Business License - Contractor is required to obtain a Business License to work within the City of Montebello, even if your business is not located in town.** The Business License requires the contractor's license number and a valid California ID. Individuals acting as an agent for the contractor must have a valid California ID and a current notarized letter signed by the City Subrecipient/officer of the business. For additional information, please contact the Business Support Center at 323-248-8614 Monday – Friday from 8:00am to 5:00pm..
22. **Insurance** – Contractor warrants that Contractor has obtained all insurance required. Contractor shall not allow any subcontractor to commence work on any subcontract until all insurance required of the subcontractor has been obtained. Contractor agrees to maintain and provide evidence of the following policies of insurance at all times during the life of this contract:
- a. **Worker's Compensation Insurance** – In accordance with the provisions of Section 3700 of the California Labor Code, every contractor shall secure the payment of compensation to employees and provide certification that the contractor is aware of the provisions of Section 3700 of the Labor

Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code; Contractor to comply with such provisions before commencing the performance of work of this contract.

- b. Comprehensive General Liability** – Every contractor shall secure a comprehensive general liability policy with a minimum of one million dollars (\$1,000,000) per occurrence/\$2,000,000 aggregate combined single limit coverage which includes bodily injury, property damage, and contract liability. Such insurance shall be primary and non-contributing and shall apply separately to each insured against who a claim is made or suit is brought, except with respect to the insurance company's standard limits of liability. Each such policy of insurance provided for shall be issued by an insurance company, which is qualified to do business in the State of California.

c. Automobile Liability

\$1,000,000 per accident \$2,000,000 aggregate for bodily injury and property damage.

Each policy of insurance shall:

- Be issued by a financially responsible insurance company or companies admitted and authorized to do business in the State of California or which is approved in writing by the City.
- Name and list as additional insured the City, its officers and employees.
- Specify that such insurance acts as primary insurance.
- Contain a clause substantially in the following words: "It is hereby understood and agreed that this policy shall not be canceled nor materially changed except upon thirty (30) days prior written notice to the City of Montebello such cancellation or material change."

The Contractor agrees to provide evidence to the City Subrecipient and City of Montebello of such insurance prior to the commencement of work.

- 22. Contractor's Liability** – City Subrecipient and the City of Montebello shall not be answerable or accountable in any manner for any loss or damage that may happen to the work or any part thereof, or for any of the materials or other things used or employed in performing the work; or for injury or damage to any person or persons, either workmen, employees or Contractor or subcontractors or the public, or for work. Contractor shall be responsible for any damage or injury to any person or property resulting from defects or obstructions or from defects or obstructions or from any cause whatsoever, except the sole negligence or willful misconduct of City Subrecipient or independent contractors who are directly responsible for the same and in connection therewith:

- a. Contractor will defend any action or actions filed in connection with any of said claims, damages, penalties, obligations, or liabilities and will pay all costs and expenses, including attorney fees incurred in connection therewith
- b. Contractor will promptly pay any judgment rendered against Contractor covering such claims, damages, penalties, obligations, and liabilities arising out of or in connection with such work, operations, or activities of Contractor hereunder, and Contractor agrees to save and hold City Subrecipient and the City of Montebello harmless therefrom.
- c. In the event the City Subrecipient, without fault, is made a party to any action or proceeding filed or prosecuted against the Contractor for damages or other claims arising out of or in connection with the work, operation, or activities of Contractor hereunder, Contractor agrees

to pay to City Subrecipient all costs and expenses incurred by City Subrecipient in such action or proceeding together with reasonable attorney fees.

23. **Good Faith Resolution of Disputes** – Any disagreement arising out of this Contractor any alleged breach hereof shall be submitted to an arbitration service for resolution. Thereafter an action may be instituted at law or in equity to enforce the terms hereof.
24. **Non-Discrimination** – Contractor and its Subcontractors shall comply with provisions of the Fair Employment and Housing Act and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Section 7258.0, *et seq.*) by not unlawfully discriminating against any employee or applicant for employment because of the following: race, religion, color, national origin, ancestry, disability, medical condition, marital status, age (over 40) or sex. During the performance of this Contract, the Contractor assures that no otherwise qualified person shall be excluded from participation or employment, denied program benefits, or be subjected to discrimination based on race, color, national origin, sex, age or handicap, under any program or activity funded by this Contract, as required by Title VI of the Civil Rights Act of 1964, Title I of the Housing and Community Development Act of 1974, as amended, and the Age Discrimination Act of 1975, all implementing regulations, and including 'Section 504 of the Rehabilitation Act of 1974.
25. **Equal Employment Opportunity** – During the performance of this contract, the contractor agrees to abide by the Equal Opportunity Clause of 41 CFR 60-1.4(a) or 41 CFR 60-1.4(b) for construction contracts incorporated into this Agreement by reference and made part hereof as if set forth in full. Contractor and subcontractors shall also comply with the provisions of the Fair Employment and Housing Act (Government Code section 12990 (a-f) *et seq.*) and the applicable regulations promulgated thereunder (California Code of Regulations, Title 2, Section 7285, *et seq.*). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code Section 12990 (a-f), set forth in Chapter 5 of Division 4 of Title 2 of the California Code of Regulations, are incorporated into this Agreement by reference and made a part hereof as if set forth in full.
26. **Davis-Bacon Act, Copeland “Anti-Kickback” Act and State Labor Standard Provisions** –
- a. The Contractor shall also be required to comply with the prevailing wage requirements of the Davis-Bacon Act (40 U.S.C. 3141-3418) as amended. Contractor also warrants that the Contract was not induced, by any means, from giving up any portion of the compensation due under this Agreement by any City employee in breach of 40 U.S. C. 3145. For breach or violation of this warranty, City shall have the right, in its discretion, to terminate this Agreement without liability, to pay only for the value of the work actually performed, or to deduct from this Agreement price or otherwise recover the full amount of such rebate, kickback or other unlawful consideration.
 - b. **State Labor Standard Provisions**: Contractor and all subcontractors are subject to the following provisions of the California Labor Code: Section 3700 regarding worker's compensation, Sections 1810-1815 regarding maximum work hours, and 1771.1(a) requiring registration with the Department of Industrial Relations.
27. **Contract Work Hours and Safety Standards Act** – All Contractors and Subcontractors who are awarded contracts in excess of \$2,000 shall comply with the requirements of the Contract Work Hours Standards Act (40 U.S.C. 327-330) as supplemented by Department of Labor regulations (20 CFR Part 5) which requires that workers receive “overtime” compensation at a rate of one and one-half times their regular hourly wage after they have worked eight hours in one day or 40 hours in one week.

28. **Debarment and Suspension** –The CONTRACTOR’s execution of this Agreement shall constitute a certification under penalty of perjury under the laws of the State of California, that the Contractor or any person associated therewith in the capacity of City Subrecipient, partner, director, officer or manager:

1. Is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any federal agency;
2. Has not been suspended, debarred, voluntarily excluded, or determined ineligible by any federal agency within the past three (3) years;
3. Does not have a proposed debarment pending; and
4. Has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past three (3) years.

Any exceptions to this certification must be disclosed to City. Exceptions will not necessarily result in denial of recommendation for award, but will be considered in determining responsibility. Disclosures must indicate the party to whom the exceptions apply, the initiating agency, and the dates of agency action.

Exceptions to the Federal Government excluded parties (<https://sam.gov/content/home>) maintained by the U.S. General Services Administration are to be determined by FHWA.

29. **Procurement of Recovered Materials** – Contractor shall comply with the requirements of the t200 Disposal Act, Section 6002, as amended by the Resource Conservation and Recovery Act.

30. **Clean Air Act** – During the performance of this Agreement, Contractor and all subcontractors shall comply with the requirements of the Clean Air Act, as amended, 42 USC 1857, et seq., the Federal Water Pollution Control Act, as amended, 33 USC 1251, et seq., and regulations of the Environmental Protection Agency with respect thereto, at 40 CFR Part 15, as amended.

31. **Build America, Buy America Act** – This agreement is related to a project that is subject to the Build America, Buy America Act (BABAA) requirements under Title IX of the Infrastructure Investment and Jobs Act (“IIJA”), Pub. L. 177-58. Contractor understands that they are responsible for ensuring that such provisions are complied with, absent a waiver by the Department of the Interior. Contractor shall not approve for use in this project, any iron, steel, manufactured products, or construction materials unless such materials have been produced in the United States. Contractor shall obtain all necessary compliance certificates for work that is within provider’s scope of work. Failure to do so shall be a default under this agreement. Guidance on complying with BABAA is outlined by the Office of Management and Budget’s Memorandum M-22-11, Initial Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure, April 18,2022.

32. **Requirements Under Section 3 Final Rule, 24 CFR Part 75** – As a HUD Section 3 construction contract, Contractor and subcontractor must address the Section 3 employment work hours benchmarks for Section 3 Workers and Targeted Section 3 Workers as established by the U.S. Department of Housing and Urban Development at 24 CFR Part 75.

33. **Child Support Compliance Act** – Contractor shall acknowledge and recognize the importance of child and family support obligations and shall fully comply with applicable state and federal laws relating to child and family support enforcement, including but not limited to, disclosure of information and compliance with earnings assignment orders, as provided in Chapter 8 (commencing with section

5200) of Part 5 of Division 9 of the Family Code and required registries maintained by the California Employment Development Department.

34. **Architectural Barriers Act and the American with Disabilities Act** – Contractor and all subcontractors comply with the Architectural Barriers Act of 1968 (42 USC 4151-4157) requiring certain Federal and Federally-funded buildings and facilities to be designed, constructed, or altered in accordance with standards that ensure accessibility to, and use by, people with physical disabilities.
35. **Termination for Cause or Convenience** –
- a. **Termination for Cause:** If either party materially defaults in the performance of any of its duties or obligations under this Agreement, the Party in default either (1) must substantially cure the default within thirty (30) days after written notice is given to the defaulting Party specifying the default; or (2) with respect to those defaults which cannot reasonably be cured within thirty (30) days, must commence curing said default within thirty (30) days, proceed with all due diligence, and substantially cure the default within ninety (90) days. If the defaulting party is unable to do so, the Party not in default may, by giving written notice of termination to the defaulting party, terminate this Agreement as of the date specified in the notice of termination (the “Termination Date”), such Termination Date being subsequent to the date of the notice of termination.
 - b. **Termination for Convenience:** Either party may terminate this Agreement in its entirety for convenience after providing the other party five (5) days’ written notice in advance. Any or all finished or unfinished deliverables prepared by Contractor under this Agreement shall, at the option of the City, become the property of the city subrecipient.
36. **Breach of Contract and Liquidated Damages** – The services outlined in the Scope of Work will be subject to the following penalties and liquidated damages:
- a. **Penalties:** In the event Contractor is determined to have engaged in any proscribed conduct or otherwise is in default as to any applicable term, condition, or requirement of the contract, City Subrecipient may impose sanctions.
 - b. **Liquidated Damages** – In the event Contractor fails to complete the project pursuant to this contract on or before the Final Completion Date (together with permissible delays), Contractor shall pay to City Subrecipient, as liquidated damages and not as a penalty, the sum of \$100.00 per day that Contractor is in default which sum represents a reasonable endeavor by the parties hereto to estimate a fair compensation to City Subrecipient for the foreseeable losses that may result from such delay in completion and due to the difficulty which would otherwise occur in establishing actual damages resulting from such delays in completion. Liquidated damages received are not intended to be, nor shall they be treated as, either a partial or full waiver or discharge of City Subrecipient’s right to indemnification, or the Contractor’s obligation to indemnify City Subrecipient, or to any other remedy provided for as a provision of the contract or law. City Subrecipient may deduct and retain out of any monies due to Contractor the amount of any such liquidated damages; and in case the amount which may become due is less than the number of liquidated damages due to City Subrecipient, Contractor shall be liable to pay the difference.
37. **Record Retention** – The parties hereto shall keep adequate records and supporting documentation, which concern or reflect its services rendered under this Agreement. Records subject to the

provisions of California or local public records must be kept in accordance with those laws, rules, or regulations.

38. Minority Businesses, Women's Business Enterprises, and Labor Surplus Area Firms – Contractors shall take affirmative steps to comply with CFR 200.321 by:

- (a) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
- (b) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;
- (c) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses, and women's business enterprises;
- (d) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority businesses, and women's business enterprises; and
- (e) Using the services and assistance, as appropriate, of such organizations as the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.

39. Notices – Any notices, requests or approvals given under this Contract may be personally delivered or deposited with the United States Postal Services for mailing, postage prepaid, registered or certified mail, return receipt requested to the following address:

City Subrecipient: Name: _____
 Address: _____

City: City of Montebello
 Planning and Community Development Department
 Attn: Housing Division
 Address: 1600 West Beverly Boulevard
 Montebello, CA 90640

To Contractor: City Subrecipient – Business Name: _____ Construction
Inc
 Address: _____
 Address: _____

40. Required Reporting – All parties hereto acknowledge that they may be subject to periodic reporting as required by the Program, including but not limited to Performance Reports, Client Characteristics, Program Income, and other reports in such forms as required.

41. Energy Efficiency – Contractor shall comply with mandatory standards and policies relating to energy efficiency which are contained in the California energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

42. Federal Lobbying Restrictions – United States Code section 1352, Title 31, USC prohibits Federal funds from being expended by the recipient or any lower tier sub recipient of a Federal-aid contract to pay for any person influencing or attempting to influence a federal agency or Congress in connection with the awarding of any Federal-aid contract, the making of any federal funds, or the

entering into any cooperative agreement. Further reporting and certification may be required by where applicable.

43. **Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment** – In the performance of this Agreement, Contractor is prohibited from using covered telecommunications equipment or services as a substantial component of any system or as critical technology thereof, unless otherwise set forth in Public Law 115-232, section 889.
44. **Modifications** – Modifications, rescission, amendments or any provision of this contract may only be made in writing or with a Change Order by either City Subrecipient or Contractor, and approved by the City of Montebello Planning and Community Development Department, or its designee.
45. **Governing Law and Choice of Forum.** This Agreement, and any dispute arising from the relationship between the Parties to this Agreement, shall be governed by and construed in accordance with the laws of the State of California, except that any rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not be applied in interpreting this Agreement. Any dispute that arises under or relates to this Agreement (whether contract, tort or both) shall be resolved in a municipal, superior or federal court with geographic jurisdiction over the Property.
46. **Contractor and City Subrecipient Understanding-** Contractor and City Subrecipient hereby acknowledge that they have read this contract and further acknowledge that time has been allowed for them to consult an attorney of their choosing. City Subrecipient and Contractor acknowledge that this Agreement affects their legal rights and that they have read and understand its provisions. The City Subrecipient and Contractor agree that they are the sole Parties to this Contract and are solely responsible for its performance. The Parties agree that neither the City nor its agents, officers or employees assume any liability or responsibility whatsoever arising out of this Contract.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed in three (3) original copies on the day and year first above written (Copy to City Subrecipient, Copy to Contractor, and Copy to Program Office).

CONTRACTOR

Print Name of Licensed Contractor

State of California Contractor's License Number

Signature of Contractor

Date

PROPERTY CITY SUBRECIPIENT

Print Name of Property City Subrecipient
Date

Signature of Property City Subrecipient

BUSINESS CITY SUBRECIPIENT

Print Name of Business City Subrecipient
Subrecipient Date

Signature of Business City

CITY OF MONTEBELLO

City Manager, _____ or designee,
Community Development Director, _____

Signature

Date

ATTACHMENT 1

WORK WRITE-UP

ATTACHMENT 2
OTHER ADDENDUMS