



PROJECT MANUAL

Building R Toilet Rooms Renovation

Pasadena City College
Pasadena, California

NTD Architecture Project Number #2007-SH29-01

June 22, 2010

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PROJECT

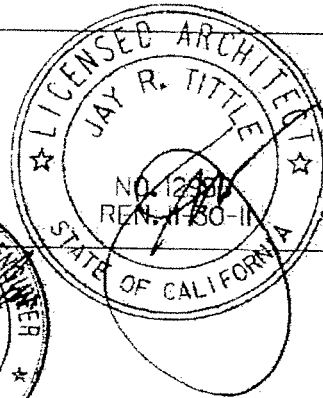
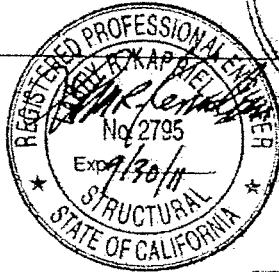
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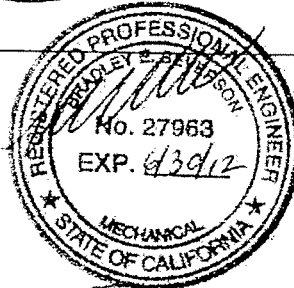
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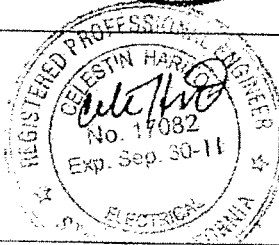


CONSULTANTS

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IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT

APPROVALS:

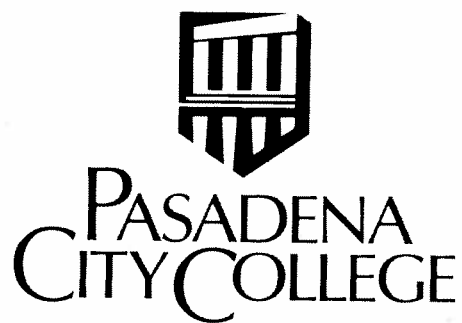
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AC *W* FLS *SW* SS *L. CH*
DATE *3-29-2011*

Building R Toilet Renovation
Pasadena City College
NTD #2007-SH29-01

DIRECTORY/SIGNATURES
D-1



DOCUMENTS AND SPECIFICATIONS

for

BID NUMBER: 874

MEASURE P,

RESTROOM UPGRADE – R BUILDING



Voter-Approved Bond

**PASADENA AREA COMMUNITY COLLEGE DISTRICT
1570 East Colorado Boulevard
Pasadena, California 91106
(626) 585-7367**

**Vice President of Administrative Services
Dr. Richard van Pelt**

PASADENA AREA COMMUNITY COLLEGE DISTRICT
BID NUMBER: 874

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NOTICE TO CONTRACTORS CALLING FOR BIDS

DISTRICT: PASADENA AREA COMMUNITY COLLEGE DISTRICT

BID NUMBER/NAME: BID NO: 874 – **RESTROOM UPGRADE – R BUILDING**

DEADLINE FOR SUBMITTAL OF BID PROPOSAL: WEDNESDAY,
December 7, 2011
2:00 P.M.

PLACE FOR SUBMITTAL OF BID PROPOSAL: PASADENA CITY COLLEGE, PURCHASING SERVICES
C-202, 1570 E. COLORADO BLVD., PASADENA, CA
91106-2003

BID AND CONTRACT DOCUMENTS AVAILABLE AT: PASADENA CITY COLLEGE, PURCHASING SERVICES
C-202, 1570 E. COLORADO BLVD., PASADENA, CA
91106-2003

Mandatory Job Walk will be Tuesday, November 15, 2011 at 10:00 A.M., Facilities Conference Room.

Last day to submit written questions is Tuesday, November 29, 2011 at 4:00 P.M.
Email meglanzman@pasadena.edu or FAX written questions to (626) 585-7900.

NOTICE IS HEREBY GIVEN that the PASADENA AREA COMMUNITY COLLEGE DISTRICT of Los Angeles County, California, acting by and through its Board of Trustees, hereinafter referred to as the District, will receive up to, but not later than, the above-stated date and time, sealed bids for the award of a single contract for RESTROOM UPGRADE – R Building as described above.

Submittal of Bids. All bids shall be submitted on forms furnished by the District. Bids must conform with, and be responsive to, the Bid Documents, copies of which may be obtained from the District as set forth above. Only bids submitted to the District prior to the date and time set forth above shall be considered. Bids must be submitted to the location as set forth above.

Bid Documents. One set will be provided by District per Contractor. Additional sets may be obtained at the cost of reproduction (non-refundable) from the office of the Director of Purchasing. All checks shall be made payable to Pasadena Area Community College District.

Job Walk. A mandatory pre-bid conference and job walk for prospective bidders is scheduled for 10:00 A.M. on Tuesday, November 15, 2011 in the FS Conference Room of the Pasadena City College campus.

Job walk reservations must be made by calling (626) 585-7369 no later than
November 10, 2011, at 4:00 P.M.

Documents Accompanying Bid. Each bid shall be accompanied by (1) the required bid security in an amount not less than five percent (5%) of the maximum amount of bid (inclusive of any additive alternates); (2) a list of proposed Subcontractors; (3) the Non-Collusion Affidavit; (4) verification of Contractor's License; and, (5) Bidder's Qualifications and Information. All information or responses of a bidder in its bid or other documents accompanying the bid shall be complete, accurate, and true; incomplete, inaccurate, or untrue information or responses provided therein by a bidder shall be grounds for the District to reject such bid for non-responsiveness; (6) documentation verifying previous DSA approved projects; (7) Insurance Qualification Form; and (8) Insurance Cost Worksheet.

Bonds. The successful bidder will be required to furnish a Performance Bond and a Payment Bond, each in the amount of 100% of the Contract Price. The costs associated with providing these Bonds should be included in the total amount of the bid as submitted by the Contractor.

Prevailing Wage Rates. Pursuant to California Labor Code Section 1773, the Director of the Department of Industrial Relations of the State of California has determined the generally prevailing rates of wages in the locality in which the Work is to be performed. Copies of these determinations, entitled "Prevailing Wage Scale", are maintained at the District's Purchasing office and are available to any interested party upon request. The Contractor to whom the contract for the Work is awarded shall post a copy of all applicable prevailing wage rates for the Work at conspicuous locations at the site of the Work. The Contractor and all Subcontractors performing any portion of the Work shall pay not less than the applicable prevailing wage rate for the classification of labor provided by their respective Workers in the execution of the Work.

The schedule of per diem wages is based upon a Working day of eight (8) hours. The rate for holiday and overtime Work shall be at time and one-half.

Substitute Securities. In accordance with the provisions of California Public Contract Code Section 22300, substitution of eligible and equivalent securities for any monies withheld by the District to ensure the Contractor's performance under the contract will be permitted at the request and expense of the Contractor and in conformity with California Public Contract Code Section 22300. The foregoing notwithstanding, the Contractor to whom the contract is awarded shall have ten (10) days, following action by the District's Board of Trustees to award the contract to such bidder, to submit its written request to the District to permit the substitution of securities for retention under California Public Contract Code Section 22300. The failure of such Contractor to make such written request to the District within said ten (10) day period shall be deemed a waiver of the bidder's rights under California Public Contract Code Section 22300.

No Withdrawals of Bids. Any bidder shall not withdraw bids for a period of sixty (60) days after the opening of the bids. During this time, all bidders shall guarantee prices quoted in their respective bids.

Waiver of Irregularities. The District reserves the right to reject any or all bids and/or to waive any irregularities or informalities in any bid or in the bidding procedure.

Award of Contract. The contract for the Work, if awarded, will be by action of the District's Board of Trustees to the responsible bidder submitting the lowest responsive bid. If the bid requires bidders to propose prices for alternate bid items, the District's selection of alternate bid items, if any, for determination of the lowest priced bid and for inclusion in the scope of the contract to be awarded, shall be in accordance with the Instructions for Bidders.

Contractor's License Classification. In accordance with the provisions of California Public Contract Code Section 3300, the District requires that bidders possess the following classification(s) of California Contractor's License at the time the contract for Work is awarded: A or B. Any bidder not so duly and properly licensed for the duration of the contract shall be subject to all penalties imposed by law. No payment shall be made for Work, labor, materials, or services provided under the contract unless and until the Registrar of Contractors verifies to the District that the bidder to whom the contract is awarded is properly and duly licensed to perform the Work.

Board of Trustees
PASADENA AREA COMMUNITY
COLLEGE DISTRICT of Los Angeles
County, California

By: Dr. Richard van Pelt
Vice President of Administrative Services

Published: November 3, 2011
November 10, 2011

INFORMATION FOR BIDDERS

1. Preparation and Submittal of Bid

1.1 Bid Proposal Preparation - The District invites bids on the form attached to be submitted at such time and place as is stated in the Notice to Contractors Calling for Bids. All information required by the bid forms must be completely and accurately provided. Numbers shall be stated in both words and figures where so indicated in the bid forms. Conflicts between a number stated in words and in figures are governed by the words. Bids must be submitted on the bid forms included herein. Bids not conforming to these Instructions for Bidders and the Notice to Contractors Calling for Bids may be deemed non-responsive and rejected.

1.2 Bid Proposal Submittal - Bids shall be submitted at the place designated in the Notice to Contractors Calling for Bids in sealed envelopes bearing on the outside the bidder's name and address along with the bid number. Bidders are solely responsible for timely submission of the bid to the District at the place and time designated in the Notice to Contractors Calling for Bids.

For those bids which contain a mandatory job walk, the District will not consider the Bid of any bidder who has obtained the Contract Documents, pursuant to the Notice to Contractors Calling for Bids, after the date and time set forth for the mandatory job walk, but did not attend or participate in such mandatory job walk. Any bid submitted by any such bidder shall be deemed non-responsive and returned to the bidder unopened.

1.3 Date and Time of Bid Submittal - A bid is deemed to be submitted only if the outer envelope containing the bid is stamped by the District's date/time stamp machine. Bids not so stamped as timely submitted will be rejected and returned to the bidder unopened. The date/time stamp is controlling and determinative as to the date and time of the bidder's submittal of its bid. The foregoing notwithstanding, whether or not bids are opened exactly at the time stated in the Notice to Contractors Calling for Bids, no bids shall be received or considered by the District after the deadline set forth in the Notice to Contractors Calling for Bids. Bids submitted after such time are non-responsive and will be returned to the bidder unopened.

2. Documents Accompanying Bid; Signatures - The bid form must be submitted with the following: bid security, Subcontractors list, Non-Collusion Affidavit, verification of Contractor's License, the Statement of Bidders Qualifications form, documentation verifying previous DSA approved projects of similar type, the Insurance Qualification Form, and the Insurance Cost Worksheet. An individual duly authorized to execute the same on behalf of the bidder shall duly execute the Bid form and the Non-Collusion Affidavit. The District as being non-responsive may reject any bid not conforming to the foregoing.

Pursuant to Corporations Code Section 313, all documents, which require the bidder's signature, shall be signed by either the Chairman of the Board, President, or any Vice President. In such case where the bidder is a sole ownership or partnership, the owner or any partner shall sign all documents, which require the bidder's signature.

3. Bid Security - Each bid shall be accompanied by a bid security in the form of: (a) cash, (b) a certified or cashier's check made payable to the District, or (c) a bid Bond, in the form and content attached hereto, in favor of the District, executed by the bidder as a principal and a surety company as surety, in an amount not less than five percent (5%) of the maximum amount of the bid, inclusive of all additive alternate bid items. The bid security shall be given as a guarantee that the bidder shall execute the contract if it be awarded to him in conformity with the Contract Documents and shall provide the surety Bond or Bonds as specified therein within five (5) days after notification of the award of the contract to the bidder. Any bid submitted without the required bid security is non-responsive and will be rejected. If the bid security is in the form of a bid Bond, the bidder's bid shall be deemed responsive only if the bid Bond is in the form and content included herein and the surety company is an Admitted Surety Insurer under Code of Civil Procedure Section 995.120.

4. Modifications - Changes in or additions to the bid form, recapitulations of the Work bid upon, alternative proposals, or any other modification of the bid form which is not specifically called for in the Contract Documents may result in the District's rejection of the bid as not being responsive to the Bid Documents. No oral or telephonic modification of any bid submitted will be considered, and a telegraphic modification may be

considered only if the postmark evidences that a confirmation of the telegram duly signed by the bidder was placed in the mail prior to the opening of bids.

5. **Erasures** - The bid submitted must not contain any erasures, interlineations, or other corrections unless each such correction is suitably authenticated by affixing the surname(s) of the person(s) signing the bid in the margin immediately opposite the correction. Any bid not conforming to the foregoing may be deemed by the District to be non-responsive. If any bid or portion thereof is determined by the District to illegible, ambiguous, or inconsistent, whether by virtue of any erasures, interlineations, corrections, or otherwise, the District may reject such a bid as being non-responsive.

6. **Examination of Site and Contract Documents** - Each bidder shall, at its sole expense, inspect the site to become fully acquainted with the Bid Documents and conditions relating to the Work so that he may fully understand the facilities, difficulties, and restrictions attending the execution of the Work under the contract. Bidders shall thoroughly examine and be familiar with the drawings and specifications. The failure or omission of any bidder to receive or examine any Contract Documents, form, instrument, addendum, As-built drawings, or other document or to visit the site and acquaint himself with conditions there existing shall in no way relieve such bidder from any obligation with respect to his bid or to the contract. The submission of a bid shall be taken as prima facie evidence of compliance with this section.

7. **Withdrawal of Bids** - Any bidder may withdraw his bid either by written request, or by telegraphic request confirmed in the manner specified above, at any time prior to the scheduled closing time for receipt of bids. A written notice of withdrawal of a submitted bid received after the scheduled closing time for receipt of bids shall not be considered by the District, nor effective to withdraw such bid.

8. **Agreement and Bonds** - The Agreement, which the successful bidder, as Contractor, will be required to execute, and the forms and amounts of surety Bonds, which he will be required to furnish at the time of execution of the Agreement, are included in the Bid Documents and should be carefully examined by the bidder. The required number of executed copies, if any, of the Agreement, the Performance Bond, and the Payment Bond is specified in the Supplementary General Conditions. Payment and Performance Bonds must be executed by an admitted surety insurer as defined in the Code of Civil Procedure, Section 995.120.

9. **Interpretation of Plans and Documents** - If any bidder is in doubt as to the true meaning of any part of the drawings, the specifications or other portions of the Bid Documents; finds discrepancies, errors or omissions therein; or finds variances in any of the Bid Documents with applicable rules, regulations, ordinances and/or laws, a written request for an interpretation or correction thereof may be submitted to the District. It is the sole and exclusive responsibility of the bidder to submit such request in sufficient time for the District's response thereto and delivery of such response to all bidders prior to the scheduled closing for receipt of bids. Any request of any bidder, pursuant to the foregoing sentence, that is made after the date specified in Article 21 of the Information for Bidders shall be deemed untimely. Any interpretation or correction of the Bid Documents will be made only by written addendum duly issued by the District. A copy of any such addendum will be mailed or delivered to each Bidder receiving a set of the Bid Documents. No person is authorized to render an oral interpretation or correction of any portion of the Bid Documents to any bidder, and no bidder is authorized to rely on any such oral interpretation or correction. Failure to request interpretation or clarification of the drawings, the specifications or other portions of the Bid Documents pursuant to the foregoing shall be deemed to be a waiver of any discrepancy, defect or conflict therein.

10. **Bidders Interested in More Than One Bid** - No person, firm, or corporation shall be allowed to make, file, or be interested in more than one bid for the same Work unless alternate bids are specifically called for. A person, firm or corporation that has submitted a sub proposal to a bidder, or that has quoted prices of materials to a bidder, is not thereby disqualified from submitting a sub proposal or quoting prices to other bidders or making a prime proposal.

11. **Award of Contract**

11.1 **Waiver of Irregularities or Informalities** - The District reserves the right to reject any and all bids or to waive any irregularities or informalities in any bid or in the bidding.

11.2 Award of Bid - The award of the contract, if made, shall be made by the District through action of its Board of Trustees, and will be made to the lowest responsible bidder submitting the lowest responsive bid on the basis of the base bid proposal or the base bid proposal and alternate bid items, if any, selected in accordance with these Instructions for Bidders.

11.3 Selection of Alternate Bid Items - Selection by "blind bidder". The selection of alternate bid items for inclusion in the scope of Work of the contract to be awarded and for determination of the lowest bid based upon the base bid and the combination of alternate bid items selected for inclusion in the contract to be awarded will be by a "blind bidder" process. After opening timely submitted bids and before the public reading of bids, District clerical staff ("clerical staff") who will not be engaged in the selection of alternate bid items for inclusion in the contract to be awarded will assign each bidder an alphabetical letter for identification purposes. The clerical staff will mask all portions of the bid and other documents submitted with the bid so that the identity of each bidder is not revealed. After completing the bidders list, the clerical staff will publicly read the bid amounts of each bidder for the base bid as well as each alternate item. In this public reading of bids, bidders will not be identified by name; only alphabetical letter assigned to each bidder by the clerical staff will identify bidders. After the public reading of bids, the clerical staff will provide the District's staff responsible for selection of alternate bid items for inclusion in the contract to be awarded ("District Staff") copies of bids with the identities of bidders masked; bids reviewed by the District staff will identify bidders only by alphabetical letters. At such time as the District staff have completed review of bids and made a determination of which bidder (by the alphabetical letter assigned by clerical staff) has submitted the lowest bid on the basis of the base bid and any combination of alternate bid items as determined by the District staff, the clerical staff will make available to the District staff the bidders list so that they identity of the bidder to be awarded the contract can be identified. Until such time as the District staff have completed review of bids and determination of which bidder has submitted the lowest bid, there will be no communication between the clerical staff and the District staff regarding the identities of bidders or disclosure of any portion of the bidders list.

Selection by "Priority" of alternate bid items. After the public opening and reading of bids, the District will in its sole and exclusive discretion select all, some, or none of the alternate bid items for inclusion in the contract awarded hereunder. The forgoing notwithstanding, if the District elects to include some, but not all of the alternate bid items in the contract to be awarded hereunder, the selection of such alternate bid item will be by priority from alternate bid number A to alternate bid number Z.

11.4 Alternate Bid Items Not Included in Award of Contract - Bidders are referred to the provisions of the Bid Documents permitting the District, during performance of the Work, to add or delete from the scope of the Work alternate bid items with the cost or credit of the same being the amount(s) set forth by the alternate bid item(s) in the bid.

11.5 Responsive Bid - A responsive bid shall mean a bid which conforms, in all material respects, with the bid and Contract Documents.

11.6 Responsible Bidder - A responsible bidder shall mean a bidder who has the capability, in all respects, to fully perform the requirements of the Bid Documents, and the moral and business integrity and reliability which will assure good faith performance. In determining responsibility, the following criteria will be considered: (i) the ability, capacity and skill of the bidder to perform the Work of the Bid Documents; (ii) whether the bidder can perform the Work of the Bid Documents promptly and within the time specified, without delay or interference; (iii) the character, integrity, reputation, judgment, experience and efficiency of the bidder; (iv) the quality of performance of the bidder on previous contracts, by way of example only, the following information will be considered: (a) the administrative, consultant or other cost overruns incurred by the District on previous contracts with the bidder; (b) the bidder's compliance record with contract General Conditions on other projects; (c) the submittal by the bidder of excessive and/or unsubstantiated extra cost proposals and claims on other projects; (d) the bidder's record for completion of Work within the contract time and the bidder's compliance with the scheduling and coordination requirements on other projects; (e) the bidder's demonstrated cooperation with the District and other Contractors on previous contracts; (f) whether the Work performed and materials furnished on previous contracts was in accordance with the Bid Documents; (v) the previous and existing compliance by the bidder with laws and ordinances relating to contract; (vi) the sufficiency of the financial resources and ability of the bidder to perform the Work of the bid document; (vii) the quality, availability and adaptability of the goods or services to the particular use required; (viii) the

ability of the bidder to provide future maintenance and service for the warranty period of the contract; (ix) whether the bidder is in arrears to any District on debt or contract or is a defaulter on any surety Bond; (x) such other information as may be secured by the District having a bearing on the decision to award the contract, to include without limitation the ability, experience and commitment of the bidder to properly and reasonably plan, schedule, coordinate and execute the Work of the Bid Documents and whether the bidder has even been debarred from bidding or found ineligible for bidding on any other projects. The ability of a bidder to provide the required Bonds will not of itself demonstrate responsibility of the bidder.

12. **Evidence of Responsibility** - Upon the request of the District, a bidder whose bid is under consideration for the award of the contract shall submit promptly to the District further satisfactory evidence showing the bidder's financial resources, his experience, and his organization and plant facilities available for the performance of the contract, in addition to any information provided previously.

13. **Subcontractors**

13.1 **Designation of Subcontractors; Subcontractor's List** - Each bidder shall submit a list of the proposed Subcontractors on this project as required by the Subletting and Subcontracting Fair Practices Act (Public Contract Code Section 4100, et. seq.). Forms for this purpose are furnished with the Contract Documents.

13.2 **Work of Subcontractors** - All bidders are referred to the Bid Documents and the notation therein that all Bid Documents are intended to be complimentary and that the organization or arrangements of the specifications and drawings shall not limit the extent of the Work of the Bid Documents. Accordingly, all bidders are encouraged to disseminate all of the specifications, drawings and other Bid Documents to all persons or entities submitting sub-bids to the bidder. The omission of any portion or item of the Work for the bidder's bid or from the bidder's sub-bidders' sub-bids which is/are necessary to produce the intended result and/or which are reasonably inferable from the Bid Documents shall not be a basis for adjustment of the Contract Price or the contract time.

13.3 **Subcontractor Bonds** - In accordance with California Public Contract Code Section 4108, if a bidder requires a Bond or Bonds of its Subcontractor(s), whether the expense of procuring such Bond or Bonds are to be borne by the bidder or the Subcontractor(s), such requirements shall be specified in the bidder's written or published request for sub-bids. Failure of the bidder to comply with these requirements shall preclude the bidder from imposing Bonding requirements upon its Subcontractor(s) or rejection of a Subcontractor's bid under California Public Contract Code Section 4108(b).

14. **Workers' Compensation** - In accordance with the provisions of Section 3700 of the California Labor Code, Contractor shall secure Worker's Compensation Insurance for its employees engaged in the Work of the contract. Contractor shall sign and file with the District the following certificate prior to performing the Work under this contract: "I am 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 the code, and I will comply with such provisions before commencing the performance of the Work of this contract." The form of such certificate is included as part of the Contract Documents.

15. **Bid Security Return** - The bid security of three or more low bidders, the number being solely at the discretion of the District, will be held by the District for sixty (60) days after the period for which bids must be held open (which is set forth in the Notice to Contractors Calling for Bids) or until posting by the successful bidder(s) of the Bonds, certificates of insurance required and return of executed copies of the Agreement, whichever first occurs, at which time the bid security of such other bidders will be returned to them.

16. **Forfeiture of Bid Security** - In the event the bidder to whom an award is made fails or refuses to execute the contract within five (5) calendar days from the date of receiving notification that he is the bidder to whom the contract is awarded, the District may declare the bidder's bid deposit or Bond forfeited as damages caused by the failure of the bidder to enter into the contract, and may award the Work to the next lowest bidder, or may call for new bids.

17. **Contractor's License** - No bid will be considered from a bidder who, at the time the bids are opened, is not licensed to perform the Work of the Contract Documents, in accordance with the Contractor's License Law, California Business & Professions Code, Section 7000, et seq. This requirement is not a mere formality and will

not be waived by the District or its Board of Trustees. The required California Contractor's License classification(s) for the Work is set forth in the Notice to Contractors Calling for Bids.

18. **Anti-Discrimination** - It is the policy of the District that in connection with all Work performed under contracts, there be no discrimination against any prospective or active employee engaged in the Work because of race, color, ancestry, national origin, religious creed, sex, age, or marital status. All bidders agree to comply with the District's anti-discrimination policy and all applicable Federal and California laws including but not limited to the California Fair Employment & Housing Act beginning with California Government Code Section 12940 et seq. and California Labor Code Section 1735. In addition, the bidders agree to require like compliance by any Subcontractors employed on the Work of the contract.

19. **Disabled Veteran Business Enterprises** - The Pasadena Area Community College District, in compliance with California Code of Regulations Section 59500 et. seq., has established a disabled veteran business enterprise (DVBE) participation program. The purpose of the program is to encourage participation by these enterprises in the contracting and purchasing process of the District. The definitions set forth in Subsections (d), (e), and (f) of Section 10115.1 of the Public Contract Code and Section 59502 of the California Code of Regulations, as they may be amended from time to time, apply to this policy. DVBE statewide goals do not apply to this contract. However, bidders are encouraged to make a good faith effort to seek out and consider disabled veteran business enterprises as potential Subcontractors, or materials/equipment suppliers or both. The bidder is required to state the status of each Subcontractor/supplier on the bid form. If the vendor or Contractor is certified by another governmental agency or self-certifies that it is a disabled veteran business enterprise, or if the Contractor documents the use of DVBE Subcontractors and/or suppliers to the satisfaction of the District, the District shall utilize the actual dollar amount attributable to disabled veteran business enterprises in reporting DVBE participation goals to the State Chancellor's Office.

20. **Workforce Requirement** - As part of the District's ongoing commitment to "return to the community" for their continued support of the Measure "P" Bond, all General Contractors will be required to provide 20% of their work force from within the Pasadena Area community College District (see attached District map). The 20% can come from any one or combination of disciplines including sub contractors, laborers, apprentices', journeyman, operators, office staff, etc. At the job walk, the District will hold a community outreach program where interested applicants can meet the contractors for possible employment. If at the job walk, the contractors are unable to fill the required percentage of work-force from the attending applicants, it will be incumbent upon the contractors to research and obtain the necessary staffing on their own.

21. **Non-Collusion Affidavit** - Pursuant to Public Contract Code Section 7106, bidders on all Public Works contracts are required to submit an Affidavit of Non-Collusion with their bid. A form for this purpose is included with the Bid Documents and must be signed by the bidder under penalty of perjury and dated.

22. **Addenda** - The last day for bidders to submit written questions for clarification on this project is November 29, 2011 by 4:00 P.M. Bidder's questions or clarifications are to be submitted to Purchasing Services via fax at (626) 585-7900 or Email: meglanzman@pasadena.edu.

23. **Public Records** - Bids and other documents responding to the Notice to Contractors Calling for Bids become the exclusive property of the District upon submittal of the same to the District. All bids and other documents submitted to the District in response to the Notice to Contractors Calling for Bids become a matter of public record and shall thereupon be considered public records, except for information contained in such bids deemed to be Trade Secrets (as defined in California Civil Code 3426. 1) and information provided in response to the District's pre-qualification questionnaire. A bidder that indiscriminately marks all or most of its bid as exempt from disclosure as a public record, whether by the notations of "Trade Secret," "Confidential," "Proprietary," or otherwise, may result in the District deeming such bid to be non-responsive. The District shall in no way be liable or responsible for the disclosure of such records, including those exempt from disclosure if disclosure is deemed required by law, by an order of Court, or which occurs through inadvertence, mistake or negligence on the part of the District or its officers, employees or agents. At such time as bids are deemed a matter of public record, pursuant to the above, any bidder or other party shall be afforded access for inspection and/or copying of such bids, by request made to the District in conformity with the California Access to Public Records Act, California Government Code Section 6250, et. seq. In the event the District is required to defend or otherwise respond to any action or proceeding wherein request is made for the disclosure of the contents of any portion of a bid deemed exempt from disclosure hereunder, the bidder submitting the materials sought by such action or proceeding agrees, upon submission of its bid to the District for consideration, to defend, indemnify and hold harmless the District in any action or proceeding from and against any liability, including

without limitation attorneys' fees arising therefrom. Further, in such event, the party submitting materials sought by any other party shall be solely responsible for the cost and defense in any action or proceeding seeking to compel disclosure of such materials; the District's sole involvement in any such action shall be that of a stakeholder, retaining the requested materials until otherwise ordered by a court of competent jurisdiction.

24. **Drug Free Workplace Certificate** - In accordance with California Government Code Section 8350 et seq., the Drug Free Workplace Act of 1990, the successful bidder will be required to execute a Drug Free Workplace Certificate concurrently with execution of the Agreement. The successful bidder will be required to implement and take the affirmative measures outlined in the Drug Free Workplace Certificate and in California Government Code Section 8350 et seq. Failure of the successful bidder to comply with the measures outlined in the Drug Free Workplace Certificate and in California Government Code Section 8350 et seq. may result in penalties, including without limitation, the termination of the Agreement, the suspension of any payment of the Contract Price otherwise due under the Contract Documents and/or debarment of the successful bidder.

25. **Compliance with Immigration Reform and Control Act of 1986** - The Bidder shall be solely and exclusively responsible for the employment of individuals in connection with any of the Work of the Contract in conformity with the Immigration Reform and Control Act of 1986, 8 USC Section 1101 et seq. ("the IRCA"); the successful Bidder shall also require that any person or entity employing labor in connection with any of the Work of the Contract shall so similarly comply with the IRCA.

26. **Substitutions During Bidding** - During the bidding, any Bidder may request that the Architect consider and approve of alternatives or substitutions to any article, device, equipment, product or material specified in the Contract Documents if such request is: (i) in writing; (ii) actually received by the Architect at least ten (10) days prior to the scheduled closing date for receipt of Bids; and (iii) accompanied by all information and substantiating data set forth in the General Conditions.

Upon receipt of a request in strict conformity with the above, the Architect will review the same based upon the information and data provided; it being understood that the Architect shall not be responsible for obtaining or considering information or data not submitted with such request. If a request to provide an alternative or substitute is approved, the approved alternative or substitution will be identified in an Addenda issued to all Bidders.

Whether or not any requests for substitution are made hereunder, the Contractor awarded the Contract may request(s) for substitution or alternatives to any article, device, equipment, product or material specified in the Contract Documents in accordance with the procedures set forth in the General Conditions.

27. **Job Walk**

27.1 **District Conduct of Job Walk** - The District will conduct a job walk at the time and place designated in the Notice to Contractors Calling for Bids. Regardless of whether or not the job walk is designated as being mandatory, the District may, at its sole and exclusive discretion, elect to conduct one or more job walk(s) in addition to that set forth in the Notice to Contractors Calling for Bids, in which event the District shall notify all bidders who have theretofore obtained the Bid Documents pursuant to the Notice to Contractors Calling for Bids of any such additional job walk. If the District elects to conduct any job walk in addition to that set forth in the Notice to Contractors Calling for Bids, the District shall, in its notice of any such additional job walk(s), indicate whether bidders' attendance at such additional job walk(s) is/are mandatory.

27.2 **Mandatory Job Walk** - The failure of any Bidder to have its authorized representative present at a mandatory Job-Walk will be grounds for the District to Declare the Bid of such Bidder to be non-responsive. A Bidder may have more than one authorized representative and/or representatives of its Subcontractors present at the Job-Walk; provided, however that attendance by representatives of the Bidder's Subcontractors without attendance by a representative of the Bidder shall not be sufficient to meet the Bidder's obligations hereunder and will be grounds for the District to declare the Bid of such Bidder to be non-responsive. Notwithstanding any other provisions of the Call for Bids or these Instructions for Bidders, the District will not consider the Bid of any Bidder who has obtained the Contract Documents, pursuant to Call for Bids, after the date and time set forth in the Special Conditions for such mandatory Job-Walk; any Bid Proposals submitted by any such Bidder shall be deemed non-responsive and returned to the Bidder submitting the same.

28. **Notice of Intent to Award Contract** - Following the public opening and reading of bids, the District will issue a Notice of Intent to Award the Contract, identifying the bidder to whom the District intends to award the contract and the date, time, and place of the District's Board of Trustees meeting at which award of the contract will be considered.

29. **Bid Protest** - Any bidder submitting a bid to the District may file a protest of the District's intent to award the contract provided that each and all of the following are complied with:

- (a) The bid protest is in writing;
- (b) The bid protest is filed and received by the Vice President of Administrative Services of the District not more than five (5) calendar days following the date of issuance of the District's Notice of Intent to Award the Contract;
- (c) The written bid protest sets forth, in detail, all grounds for the bid protest, including without limitation all facts, supporting documentation, legal authorities and arguments in support of the grounds for the bid protest; any matters not set forth in the written bid protest shall be deemed waived. All factual contentions must be supported by competent, admissible and creditable evidence.

Any bid protest not conforming to the foregoing shall be rejected by the District as invalid. Provided that a bid protest is filed in strict conformity with the foregoing, the District's Vice President of Administrative Services, or such individual(s) as may be designated by him/her, shall review and evaluate the basis of the bid protest. Either the District's Vice President of Administrative Services or other individual(s) designated by him/her shall provide the bidder submitting the bid protest with a written statement concurring with or denying the bid protest. The District's Board of Trustees will render a final determination and disposition of a bid protest by taking action to adopt, modify, or reject the disposition of a bid protest as reflected in the written statement of the Vice President of Administrative Services or his/her designee. Action by the District's Board of Trustees relative to a bid protest shall be final and not subject to appeal or reconsideration by the District, any employee or officer of the District, or the District's Board of Trustees. The rendition of a written statement by the Vice President of Administrative Services (or his/her designee) and action by the District's Board of Trustees to adopt, modify, or reject the disposition of the bid protest reflected in such written statement shall be express conditions precedent to the institution of any legal or equitable proceedings relative to the bidding process, the District's intent to award the contract, the District's disposition of any bid protest, or the District's decision to reject all bids. In the event that any such legal or equitable proceedings are instituted and the District is named as a party thereto, the prevailing party(ies) shall recover from the other party(ies), as costs, all attorneys' fees and costs incurred in connection with any such proceedings, including any appeal arising therefrom.



PASADENA AREA COMMUNITY COLLEGE DISTRICT
1570 E. COLORADO BLVD.
PASADENA, CALIFORNIA 91106-2003

BID FORM AND DESIGNATION OF SUBCONTRACTORS

FOR

BID NUMBER: 874



Voter-Approved Bond

RESTROOM UPGRADE – R BUILDING

FIRM NAME: _____

ADDRESS: _____

TELEPHONE: (_____) _____

FAX: (_____) _____

NAME OF CONTACT: _____



BID FORM

Bid: 874 – MEASURE P – RESTROOM UPGRADE – R BUILDING

TO: Pasadena Area Community College District, a California Community College District, acting by and through its Board of Trustees, 1570 E. Colorado Blvd., Pasadena, CA 91106-2003, herein called the "District":

Having visited the site, examined all conditions affecting the Work and reviewed, in detail, all Drawings, Specifications, Existing As-built drawings and conditions, Soils Report from Geotechnologies, Inc., dated October 01, 2008 (see attached), other related Contract Documents and **Addenda number(s)** _____ **through** _____, prepared by **NTD STICHLER ARCHITECTURE** located at 955 Overland Court, Suite 100, San Dimas, CA 91773-1718 titled:

**PASADENA CITY COLLEGE
RESTROOM UPGRADE – R BUILDING
PASADENA, CALIFORNIA
DSA No: 03-113596**

BID No: 874

The undersigned agrees to the following:

1.0 Base Bid

1.1 Bid Proposal Amount - Pursuant to and in compliance with your Notice to Contractors Calling for Bids and other documents relating thereto, the undersigned bidder, having familiarized himself with the terms of the contract, the local conditions affecting the performance of the contract and the cost of the Work at the place where the Work is to be done, and with the drawings and specifications and other Contract Documents, hereby proposes and agrees to perform, within the time stipulated, the contract, including all of its component parts, and everything required to be performed, and to provide and furnish any and all of the labor, materials, tools, expendable equipment, and all utility and transportation services necessary to perform the contract and complete in a Workmanlike manner all of the Work required in connection with **Bid No: 874** in strict conformity with the Contract Documents for the sum of

Dollars (\$_____), including all applicable taxes and the costs associated with providing Bonds, according to the scope of Work outlined in the Specifications.

Asbestos Abatement Bid Form in Appendix B.

The minutes of the mandatory job walk and pre-bid conference will be issued as an Addendum. The information provided at the meeting and included in the minutes will become part of the Bid Documents.

Completion Time: The entire Work shall be completed **NOT LATER THAN August 30, 2012. (225)** calendar days, calculated from the date of the Notice To Proceed.

If the undersigned is issued a Notice to Proceed (after signing of the Contract Agreement), the undersigned agrees to execute, in a form specified herein, the required Payment and Performance Bonds, provide appropriate Insurance Certificates "or should" Pasadena City College elect the OCIP program, provide the documentation required and begin Work within five (5) calendar days following the Notice to Proceed.

The Contractor shall pay or cause to be paid all sales, use, excise and all other taxes applicable to the Work and these taxes shall be part of the dollar amount set forth in the Bid Schedule.

Time being of the essence in the Contract, the undersigned agrees to complete the Work by the date shown in the Bid Form, Contract and Notice To Proceed from Pasadena City College.

The undersigned, prior to signing, agrees to review for accuracy the information added to complete the blanks of the Contract Agreement and to permit review of, by the Architect and Pasadena City College, the Payment and Performance Bonds.

The undersigned hereby declares Pasadena City College shall have the right of Beneficial Occupancy for any portion of the project and to do whatever is reasonable to complete the area.

The undersigned understands and accepts that Pasadena City College may employ other Contractors, under separate contract, which may proceed at such time as necessary to install other Pasadena City College required Work. To that extent the undersigned agrees to cooperate and coordinate their Work with Pasadena City College's Contractors.

The undersigned recognizes and accepts this Work is within an existing College Campus and that it will be necessary to cooperate with the "Ongoing Operations" and to take as much care as possible not to disturb the daily operations. Further, the undersigned acknowledges and accepts there may be, due to the "Ongoing Operations", interruptions to planned construction activities. These interruptions shall have priority and the undersigned further acknowledges and accepts that there will be no time extension or financial compensation for these interruptions.

The Bid shall remain in effect for a period of sixty (60) calendar days after the signing hereof.

1.2 Alternate Bid Items - The bidder's price(s) for alternate bid items, if any, is/are set forth in the form of Alternate Bid Item(s) included herewith. The bidder acknowledges that, in accordance with the Instructions for Bidders, the contract for the Work may be awarded in the District's sole discretion with or without some, all, or none of the alternate items being incorporated into the scope of the contract awarded. The bidder further acknowledges that the District's selection of alternate items, if any, for inclusion in the contract awarded, will be in accordance with the Instructions for Bidders.

Bidder must provide a price, as applicable, for each alternate item, if any, set forth herein; failure to do so may result in rejection of the bid for non-responsiveness.

2.0 Rejection of Bid; Holding Open of Bid - It is understood that the District reserves the right to reject this bid and that this bid shall remain open and not be withdrawn for the period specified in the Notice to Contractors Calling for Bids.

3.0 Documents Accompanying Bid - Each bid shall be accompanied by (1) the required bid security in an amount not less than five percent (5%) of the maximum amount of bid (inclusive of any additive alternates); (2) a list of proposed Subcontractors; (3) the Non-Collusion Affidavit; (4) verification of Contractor's License; and, (5) Bidder's Qualifications and Information. All information or responses of a bidder in its bid or other documents accompanying the bid shall be complete, accurate, and true; incomplete, inaccurate, or untrue information or responses provided therein by a bidder shall be grounds for the District to reject such bid for non-responsiveness; (6) documentation verifying previous DSA approved projects; (7) Insurance Qualification Form; and (8) Insurance Cost Worksheet.

4.0 Award of Contract - It is understood and agreed that if written notice of the acceptance of this bid and award of the contract thereon is mailed, telegraphed, or delivered by the District to the undersigned after the opening of the bid and within the time this bid is required to remain open or at any time thereafter before this bid is withdrawn, the undersigned will execute and deliver to the District the Agreement in the form attached hereto in accordance with the bid as accepted within five (5) Working days after notification of acceptance and award. Concurrently with delivery of the executed Agreement to the District, the bidder awarded the contract shall deliver to the District: (a) Certificates of Insurance evidencing all insurance coverage's required under the Contract Documents; (b) the Performance Bond; (c) the Labor and Material Payment Bond; (d) the Certificate of Worker's Compensation Insurance; and (e) the Drug-Free Workplace Certificate. All of the foregoing shall be in conformity with applicable requirements set forth in the Notice to Contractors Calling for Bids, the Instructions for Bidders, and in each of the foregoing documents. Failure of the bidder awarded the contract to strictly comply with the preceding may result in the District's rescission of the award of the contract and/or forfeiture of the bidder's bid security. In such event, the District may, at its sole and exclusive discretion, elect to award the contract to the responsible bidder submitting the next lowest bid, or to reject all bids. The undersigned bidder, if awarded the contract shall commence the Work under the Contract Documents; on the date stated in the District's Notice to Proceed issued pursuant to the Contract Documents and completion of the Work shall be achieved within the contract time specified in the Contract Documents.

5.0 Notices - All notices or other correspondence should be addressed to the District and the bidder at their respective addresses set forth herein. Notices shall be effective only if in writing and in conformity with the requirements for service of notices set forth in the Contract Documents.

6.0 Principals - The names of all persons interested in the foregoing proposal as principals are as follows:

7.0 Assignment of Rights - Pursuant to Section 4552 of the Government Code, in submitting a bid to the District, the bidder offers and agrees that if the bid is accepted, it will assign to the District all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 USC Sec. 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, materials, or services by the bidder for sale to the District pursuant to the bid. Such assignment shall be made and become effective at the time the District tenders final payment to the bidder.

8.0 Contractor's License - The undersigned bidder is currently and duly licensed in accordance with the California Contractor's License Law, California Business & Professions Code Sections 7700 et. seq., under the following classification(s) _____, bearing License Number(s) _____, with expiration date(s) of _____.

By executing this bid and submitting the same to the District, the bidder acknowledges the provision of California Business & Professions Code Section 7028.15, which provides that it shall be a misdemeanor for any person to submit a proposal to a public agency without having a license to perform the Work of the bid. By executing this bid, the bidder hereby certifies that: (a) it is duly licensed, in the necessary class(es), for performing the Work of the Contract Documents; (b) that such license shall be in full force and effect throughout the duration of the performance of the Work under the Contract Documents; and (c) that all Subcontractors providing or performing any portion of the Work of the Contract Documents shall be so similarly and appropriately licensed to perform or provide such portion of the Work.

9.0 Designation of Subcontractors - In compliance with the Subletting and Subcontracting Fair Practices Act (California Public Contract Code Section 4100, et seq.) and amendments thereof, each bidder shall set forth in the Subcontractors List: (1) the name and location of the place of business of each Subcontractor who will perform Work or labor or render services to the bidder in or about the construction of the Work to be performed under the Bid Documents in an amount in excess of one-half of one percent (0.5%) of the bidder's total bid; and (2) the portion of the Work which will be performed by each listed Subcontractor. The bidder shall list only one Subcontractor for each portion of the Work as is defined by the bidder in its bid. If a bidder fails to list a Subcontractor or if the bidder specifies more than one Subcontractor for the same portion of Work to be performed under the Bid Documents in excess of one-half of one percent (0.5%) of the bidder's total bid amount, the bidder shall be deemed to have agreed that it is fully qualified to perform that portion of the Work itself and that it shall perform that portion of the Work.

No prime Contractor whose bid is accepted shall (1) substitute any Subcontractor, (2) 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 (3) sublet or 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 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 (.50%), 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 public record of the authority awarding this contract, setting forth the facts constituting the emergency or necessity.

If alternate bid item(s) are called for and the bidder intends to use different or additional Subcontractors on the alternate bid items(s), the bidder must provide a separate Subcontractors list for each such alternate bid item(s) with each such separate Subcontractors list clearly marked to show its application to an alternate bid item.

10.0 Confirmation of Figures - By submitting this bid, the bidder confirms that is has checked all of the above figures and understands that neither the District nor any of its agents, employees, or representative shall be responsible for any errors or omissions on the part of the undersigned bidder in preparing and submitting this bid.

11.0 Megan's Law, PC 290 - Confirmation of compliance with PC 290 (Megan's Law) listed in Article 37 as applicable on all aspects of this project.

12.0 Acknowledgment and Confirmation - The undersigned bidder acknowledges its receipt, review, and understanding of the drawings, specifications, and other Contract Documents pertaining to the Work. The undersigned bidder certifies that the Contract Documents are, in its opinion, feasible and complete for providing, performing, and constructing the Work in a sound and suitable manner for the use specified and intended by the Contract Documents. The undersigned bidder certifies that is has, or has available, all necessary equipment, personnel, materials, facilities, and technical and financial ability to complete the Work for the amount bid herein within the contract time and in accordance with the Contract Documents.

FIRM NAME

By: _____
(Chairman of the Board, President, or any Vice President)

(Corporate Seal)

(Typed or Printed Name)

Title: _____

Legal Address:

Telephone: _____

Facsimile: _____

Sole Ownership....Partnership....Corporation....Other specify) _____

SUBCONTRACTORS LIST

TRADE OR PORTION OF THE WORK	NAME OF SUBCONTRACTOR	BUSINESS LOCATION OF SUBCONTRACTOR PHONE & FAX	MBE/WBE/DVBE STATUS (For recording purposes)	LICENSE NUMBER

TRADE OR PORTION OF THE WORK	NAME OF SUBCONTRACTOR	BUSINESS LOCATION OF SUBCONTRACTOR PHONE & FAX	MBE/WBE/DVBE STATUS (For recording purposes)	LICENSE NUMBER

BID BOND

KNOW ALL MEN BY THESE PRESENTS,

That we, _____, as Principal, and

_____, as Surety, are held and firmly bound, along with our respective heirs, executors, administrator, successors, and assigns, jointly and severally, unto PASADENA AREA COMMUNITY COLLEGE DISTRICT, hereinafter "Obligee", for payment of the penal sum hereof in lawful money of the United States, as more particularly set forth herein.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Principal has submitted the accompanying bid for the Work commonly described as **Bid 874 – MEASURE P RESTROOM UPGRADE – R BUILDING** and the bid must be accompanied by bid security.

WHEREAS, subject to the terms of this Bond, the Surety is firmly bound unto the Obligee in the penal sum of _____ PERCENT (____%) of the maximum amount of the bid submitted by the Principal to the Obligee, as set forth above, inclusive of additive alternate items, if any.

NOW THEREFORE, if the Principal shall not withdraw said bid within the period specified therein after the opening of the same, or, if no period be specified, for sixty (60) days after opening of said bid; and if the Principal is awarded the contract, and shall within the period specified therefore, or if no period be specified, within five (5) days after the prescribed forms are presented to him for signature, enter into a written contract with Obligee, in accordance with the bid as accepted, and give such Bond(s) with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such contract and for the payment for labor and materials used for the performance of the contract, or in the event of the withdrawal of said bid within the period specified for the holding open of the bid or the failure of the Principal to enter into such contract and give such Bonds within the time specified, if the Principal shall pay the Obligee the difference between the amount specified in said bid and the amount for which the Obligee may procure the required Work and/or supplies, if the latter amount be in excess of the former, together with all costs incurred by the Obligee in again calling for bids or otherwise procuring said Work or supplies, then the above obligation shall be void and of no effect, otherwise to remain in full force and effect.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the contract or the Notice to Contractors Calling for Bids, the Work to be performed thereunder, the drawings or the specifications accompanying the same, or any other portion of the Contract Documents shall in any way affect its obligations under this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract, the Notice to Contractors Calling for Bids, the Work, the drawings, the specifications, or any other portion of the Contract Documents.

In the event that suit or other proceeding is brought upon this Bond by the Obligee, the Surety shall pay to the Obligee all costs, expenses, and fees incurred by the Obligee in connection herewith, including without limitation, attorney's fees.



IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this

_____ day of _____, 2012, by their duly authorized agents or representatives.

Principal:

(Principal Name)

By: _____
(Chairman of the Board, President,
or any Vice President)

(Typed or Printed Name)

(Title)

(Principal Corporate Seal)

Surety:

(Surety Name)

By: _____
(Signed by Attorney-In-Fact)

(Typed or Printed Name)

() _____
(Telephone Number of Surety)

(Surety Corporate Seal)

(Attach Attorney-in-Fact
Certificate)



NON-COLLUSION AFFIDAVIT

STATE OF CALIFORNIA
COUNTY OF LOS ANGELES

I, _____, being first duly sworn,
(Typed or Printed Name)
deposes and says that I am the _____ of
(Title)
_____, the party submitting the foregoing
(Bidder Name)
bid (the "bidder"). In connection with the foregoing bid, the undersigned declares, states, and certifies that:

1. The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation.

2. The bid is genuine and not collusive or a sham.

3. 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 other bidder or anyone else to put in sham bid, or to refrain from bidding.

4. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price, or that of any other bidder, or to fix any overhead, profit, or cost element of the bid price or that of any other bidder, or to secure any advantage against the public body awarding the contract or anyone interested in the proposed contract.

5. All statements contained in the bid and related documents are true.

6. The bidder has not, directly or indirectly, submitted the 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 person, corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

Executed this _____ day of _____, 2012, at _____.
(City, County, and State)

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

By: _____
(Chairman of the Board, President,
or any vice president)

(Typed or Printed Name)

(Title)



STATEMENT OF BIDDER'S QUALIFICATIONS

I, _____, being first duly sworn, deposes and says
(Name)
that I am the _____ of
(Title)

(Bidder Name)

1. Bidder's Organization

Form of Entity of Bidder, i.e., corporation, partnership, etc.: _____.

If corporation, state the following:

State of incorporation: _____.

Date of incorporation: _____.

President: _____.

Secretary: _____.

Treasurer: _____.

If partnership, state the following:

Date of organization: _____.

Type of partnership: _____.

Names of all general partners; if any of the general partners are not natural persons, provide the information for each such general partner requested by the above and as appropriate:

If proprietorship, state the following:

Names of all proprietors:

If joint venture, state the following:

Date of organization: _____

Names of all joint Ventures; for each joint Venture, identify the form of entity and provide the information requested by the above for each Joint Venture, as appropriate:

If other than listed above, describe type of organization and name all principals:

2. Licensing

List all jurisdictions, other than the State of California, in which your organization is licensed to do business as a Contractor, and for each jurisdiction listed, identify the class of license or description of the Work permitted by the license.

California Contractor's License:

License Number: _____

Expiration Date: _____

Current DOSH License Number (if applicable): _____

Expiration Date: _____

Responsible Managing Employee or Responsible Managing Officer:

License Classification(s): _____

How many years has your organization been in business in California as a Contractor under your present business name and license number? _____

Has any California State License Board held by your firm or its Responsible Managing Employee (RME) or Responsible Managing Officer (RMO) been suspended or revoked within the past five years?

Yes _____ No _____

If yes, please explain: _____

Has a claim or other demand ever been made against your organization's California Contractor's License Bond? Yes _____ No _____ If yes, on a separate attachment state the following: (i) the name, address and telephone number for each such claimant; (ii) the date of each such claim or demand, (iii) the circumstances giving rise to each such claim or demand; and (iv), the disposition of each such claim or demand.

Has a complaint ever been filed against your organization's California Contractor's License with the California Contractor's License Board? Yes _____ No _____ If yes, on a separate attachment state the following for each such complaint: (i) the name of the complainant; (ii) the date of the complaint; and (iii) the disposition thereof, including without limitation, any disciplinary action imposed by the California Contractor's License Board.

In the past five years, has any claim against your firm concerning your firm's Work on a construction project, been **filed in court or arbitration**? Yes _____ No _____

If yes, please provide the project name, date of the claim, name of the claimant, a brief description of the nature of the claim, the court in which the case was filed and a brief description of the status of the claim (pending or, if resolved, a brief description of the resolution):

In the past five years, has any claimant against your firm made any claim against a project owner concerning Work on a project or payment for a contract, and **filed that claim in court or arbitration**? Yes _____ No _____

If yes, please identify the claim by providing the project name, date of the claim, name of the entity (or entities) against whom the claim was filed, a brief description of the nature of the claim, the court in which the case was filed and a brief description of the status of the claim (pending or, if resolved, a brief description of the resolution):

Attach to this statement true and correct copies of the following:

Your organization's California Contractor's License (the copy must clearly and legibly show: (i) the licensee name; (ii) the expiration date; and (iii) the classification(s) of license).

The Contractor's License Bond posted by your organization in connection with your organization's California Contractor's License pursuant to California Business and Professions Code 7071.5 and 7071.6 (the copy must clearly and legibly show: (i) the Bond number or other information sufficient for identification; (ii) the name, address and telephone number of the Surety on the Bond; (iii) the signature of the individual executing the Bond on behalf of the Surety and if such individual's authority is conferred by a power of attorney or by such individual's designation as an attorney in fact on behalf of the Surety, include a clear and legible copy of such power of attorney or attorney in fact designation; (iv) the principal on such Bond; and (v) the expiration date of such Bond).

If your organization's California Contractor's License is issued by virtue of the qualification of a responsible managing employee or responsible managing officer of your organization, the Qualifier's Bond, if required pursuant to California Business & Professions Code 7071.9 (the copy must clearly and legibly show: (i) the Bond number or other information sufficient for identification; (ii) the name, address and telephone number of the Surety on the Bond; (iii) the signature of the individual executing the Bond on behalf of the Surety and if such individual's authority is conferred by a power of attorney or by such individual's designation as an attorney in fact on behalf of the Surety, include a clear and legible copy of such power of attorney or attorney in fact designation; (iv) the principal on such Bond; and (v) the expiration date in such Bond).

3. **Experience**

List the categories of Work your organization typically performs with its own forces.

4. **Claims and Suits** (if you answer yes to any of the following, you must attach details).

Have any lawsuits or other proceedings, including without limitation arbitration proceedings, ever been brought against your organization or any of its principals or officers in connection with any construction contract or construction project? Yes _____ No _____ If yes, describe the circumstances, the amount or relief sought and the disposition of each such lawsuit or other proceeding.

At any time during the last five years, has your firm been assessed and paid liquidated damages after completion of a project, under a construction contract with either a public or private entity?

Yes _____ No _____ If yes, explain: _____

Are there any outstanding liens/stop notices for labor and/or material filed against your firm on any contracts which have been done or are being done by your firm?

Yes _____ No _____ If yes, explain: _____

Has your organization ever filed a lawsuit or initiated other proceedings, including without limitation arbitration proceedings, in connection with any construction contract or construction project?

Yes _____ No _____ If yes, describe the circumstances, the amount or relief sought and the disposition of each such lawsuit or other proceeding.

Are there any judgments, orders, decrees or arbitration awards pending, outstanding or which binds your organization or any of its officers, partners, or principals? Yes _____ No _____ If yes, describe each such judgment, order or arbitration award and the present status of the satisfaction or discharge thereof.

On a separate attachment, list all construction projects your organization has in progress and for each project listed, state: (i) a general description of the Work performed or to be performed by your organization; (ii) the dollar value of the Work performed or to be performed by your organization; (iii) the owner's name, name of the owner's representative, the owner's address and telephone number; (iv) the project architect, address and telephone number; (v) percent presently completed and (vi) the scheduled completion date.

On a separate attachment, list all construction projects completed by your organization in the past five years and for each project, state: (i) a general description of the Work performed by your organization on the project; (ii) the dollar value of the Work performed or to be performed by your organization; (iii) the owner's name, name of the owner's representative, the owner's address and telephone number; (iv) contract amount; (v) date of completion; and (vi) whether the project was completed within contract time and contract budget.

Has your organization ever refused to sign a contract awarded to it? Yes _____ No _____ If yes, on a separate attachment state the following: (i) describe each such contract; (ii) the owner's name, address and telephone number; (iii) a description of the project; and (iv) the circumstances of the refusal to sign the contract.

Has your organization ever failed to complete a construction contract? Yes _____ No _____ If yes, on a separate attachment state the following: (i) describe each such contract; (ii) the owner's name, address and telephone number; (iii) a description of the project; and (iv) the circumstances of the failure to complete.

Has your organization ever been declared in default of a construction contract? Yes _____ No _____ If yes, on a separate attachment state the following: (i) describe each such contract; (ii) the owner's name, address and telephone number; (iii) a description of the project; and (iv) the circumstances of the declaration of default.

Has a claim or other demand ever been asserted against any Bid Bond, Performance Bond or Labor and Material Payment Bond posted by your organization in connection with any construction contract or your submittal of a proposal on a construction contract? Yes _____ No _____ If yes, on a separate attachment state the following: (i) state the name, address and telephone number of each such claimant; (ii) the date of the claim; and (iii) the disposition thereof.

List any citations issued in the last three (3) years by South Coast Air Quality Management District (SCAQMD), California Occupational Safety and Health Administration (CAL/OSHA) or any other regulatory Agency (this includes any pending citations). Attach an explanation for any citations listed.

5. **Safety Program and Workers Compensation**

INDUSTRIAL SAFETY RECORD

Each bidder, and its Subcontractors, must declare any serious or willful violations of Part 1 (commencing with Section 6300) of Division 5 of the California Labor Code received during the last five years. This information must include all construction Work undertaken in the United States by the bidder and any affiliate of the bidder. Separate information shall be submitted for each particular partnership, joint venture, corporation, limited liability company or individual bidder or Subcontractor. The bidder or its Subcontractors may be requested to submit additional information or explanation of data, which District may require for evaluating the safety record. The term "affiliate" shall mean any firm, corporation, partnership, joint venture, limited liability company or association which is a member, joint venture or partner of the bidder, or any such entity which owns a substantial interest in or is owned in common with the bidder, its Subcontractor or any of its members, joint ventures or partners, or any such entity in which the bidder, its Subcontractor, or any of their members, joint ventures or partners own a substantial interest.

Has your firm ever received a serious or willful industrial safety violation during the last five (5) years?

Yes _____ No _____ If yes, explain: _____

Has CAL OSHA cited and assessed penalties against your firm for any "serious", "willful" or "repeat" violations of its safety or health regulations in the past five years? (NOTE: If you have filed an appeal of a citation and the Occupational Safety and Health Appeals Board has not yet ruled on your appeal, you need not include information about it.)

Yes _____ No _____ If yes, explain: _____

Has any one of the following agencies: the federal Occupational Safety and Health Administration, the EPA or any Air Quality Management District cited and assessed penalties against your firm in the past five years? (NOTE: If you have filed an appeal of a citation and the Appeals Board has not yet ruled on your appeal, you need not include information about it.)

Yes _____ No _____ If yes, explain: _____

How often do you require documented safety meetings to be held for construction employees and field supervisors during the course of a project? _____

How often do you conduct documented safety inspections on a construction site?

Daily _____ Weekly _____ Quarterly _____

Have any of the Subcontractors you retained ever received a serious or willful industrial safety violation during the last five (5) years? Yes _____ No _____

If yes, list each Subcontractor and explain below. (Please use additional pages if necessary)

Subcontractor: _____ License No.: _____

Explain: _____

6. **References**

(Include name, contact person, telephone/telecopier number and address of each reference provided).

Trade References (3 minimum)

7. Financial References

Is your firm currently the debtor in a bankruptcy case? Yes _____ No _____

If your firm is not currently in bankruptcy, was your firm in bankruptcy at any time during the last five years? Yes _____ No _____

If yes, please explain: _____

GENERAL LETTER OF CREDIT

The following form may be completed by your bank to augment your Working Capital. If it prefers, the bank may issue a Letter of Credit on its own letterhead, provided the Letter of Credit contains substantially the same provisions, and is addressed to the Pasadena Area Community College District and bears an original signature.

DATE: _____

TO: Pasadena Area Community College District
1570 East Colorado Blvd.
Pasadena, CA 91106

ATTENTION: Jack Schulman, Director Measure "P" Projects

SUBJECT: General Letter of Credit

Reference is made to the qualification of

(Name of Contractor)

Under Board Rules of the Board of Trustees pertaining to the construction, alteration and maintenance of community college District facilities, we certify that the above Contractor has been extended an unqualified line of credit to exceed \$_____ and that such credit will not be withdrawn or reduced without 30 days written notice to the District.

It is understood that this Letter of Credit is to be used by the District solely for determining the financial resources of the said Contractor during the term of his review by the District.

(Name of Financial Institution) Institution No. Code: _____

(Address)

(City) (State) (Zip)

By: _____ Date: _____

(Please Type or Print Name and Title)



FINANCIAL INSTITUTION RELEASE LETTER

(For use only when augmenting financial rating with a Letter of Credit)

By signing the form below, I authorize the Pasadena Area Community College District to contact our financial institution to verify our line of credit information. I understand this information is confidential information and is not open to public inspection.

Name

Title

Company Name

Date

Verified by Pasadena Area Community College District

Name

Date

Owner References (3 minimum)

8. **Accuracy**

I am authorized to execute this Statement of Bidder's Qualifications under penalty of perjury on behalf of the Bidder; I have personal knowledge of each of the responses contained in this Statement of Bidder's Qualifications and/or I have conducted necessary and appropriate inquiry to determine the truth, completeness and accuracy of each of the foregoing responses.

The responses to each and all of the foregoing are complete and accurate; there are no omissions of material fact or information such that would render any of the foregoing false or misleading; there are no misstatements of fact in any of the foregoing.

Executed this _____ day of _____, 2012, at

(City, County, State)

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

(Signature)

Contract Number _____



AGREEMENT

THIS AGREEMENT is made the _____ of _____, 2012, in the City of Pasadena, Los Angeles County, State of California, by and between PASADENA AREA COMMUNITY COLLEGE DISTRICT, a California Community College District hereinafter referred to as "the District" and

_____ with its principal place of business at _____ hereinafter referred to as the "Contractor".

WITNESSETH that the District and the Contractor in consideration of the mutual covenants stated herein agree as follows:

Article 1 - The Scope of Work: Within the contract time and for the Contract Price, subject to adjustments thereto pursuant to the Contract Documents, the Contractor shall perform and provide all necessary labor, materials, tools, equipment, utilities, services and transportation to complete in a Workmanlike manner all of the Work required in connection with the Work of improvement commonly referred to as:

Bid: 874

MEASURE P RESTROOM UPGRADE – R BUILDING

The Contractor shall complete all Work covered by the Contract Documents in strict accordance with the drawings and the specifications prepared by the Architect and other Contract Documents as specified in ARTICLE 5 below, along with all modifications and addenda thereto issued in accordance with the Contract Documents.

Article 2 - Contract Time: The Work shall be commenced on the date stated in the District's Notice to Proceed and shall be completed no later than **August 30, 2012.**

Article 3 - Contract Price: The District shall pay to the Contractor as full consideration for the Contractor's full, complete and faithful performance of the Contractor's obligations under the Contract Documents, subject to any additions or deductions as provided for in the Contract Documents, the Contract Price of _____ Dollars (\$_____). The Contract Price is based upon the Contractor's bid proposal amount and the following alternate bid items, if any, under:



Bid: 874
MEASURE P RESTROOM UPGRADE – R BUILDING

The District's payment of the Contract Price shall be in accordance with the Contract Documents.

Article 4 - Liquidated Damages: In the event of the failure or refusal of the Contractor to complete the Work of the Contract Documents within the contract time, as adjusted, the Contractor shall be subject to liquidated damages in accordance with the Contract Documents.

Article 5 - The Contract Documents: The Contract Documents forming the contract for the Work consists of the following documents, all of which are component parts of the contract:

Notice to Contractors Calling for Bids
Instructions for Bidders
Bid Proposal
Subcontractors List
Certification of Workers' Compensation
Non-Collusion Affidavit
Drug-Free Workplace Certificate
Guarantee
Insurance Qualification Form
Insurance Cost Worksheet
Bid Bond
Statement of Bidder's Qualifications

Megan's Law PC 290
Agreement
Performance Bond
Labor & Material Payment Bond
General Conditions
Special Conditions
Supplemental Conditions, if any
Specifications
Drawings
Addenda Nos. _____
EIR (Environmental Impact Report)
Soils Reports File #19390 dated 10/01/2008

Article 6 - Authority to Execute: The individual(s) executing this Agreement on behalf of the Contractor is/are duly and fully authorized to execute this Agreement on behalf of the Contractor and to bind the Contractor to each and every term, condition and covenant of the Contract Documents.

IN WITNESS WHEREOF, this Agreement has been duly executed by the District and the Contractor, on the day and year first above written.

CONTRACTORS ARE REQUIRED BY LAW TO BE LICENSED AND REGULATED BY THE CONTRACTORS' STATE LICENSE BOARD. ANY QUESTIONS CONCERNING A CONTRACTOR MAY BE REFERRED TO THE REGISTRAR, CONTRACTORS' STATE LICENSE BOARD, P.O. BOX 26009, SACRAMENTO, CALIFORNIA 95826.

"DISTRICT"
PASADENA AREA COMMUNITY
COLLEGE DISTRICT
A California Community College
District

By: _____

Dr. Richard van Pelt

Vice President of Administrative Services

CONTRACTOR

By: _____

(Chairman of the Board, President, or
any vice president)

(Printed name)

Title: _____

Contractor Corporate Seal:



PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS,

That we, _____, as Principal, and
and _____ as Surety, are held and

firmly bound, along with our respective heirs, executors, administrators, successors, and assigns, jointly and severally, unto **PASADENA AREA COMMUNITY COLLEGE DISTRICT** hereinafter "Obligee",

for payment of the penal sum of _____ Dollars

(\$ _____) in lawful money of the United States, as more particularly set forth herein.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Obligee, by resolution of its Board of Trustees passed on _____, 2012,
has awarded to the Principal a Contract for the Work described as

Bid: 874
MEASURE P RESTROOM UPGRADE – R BUILDING

WHEREAS, the Principal, has by a written agreement dated _____, 2012, entered into a Contract with the Obligee for performance of the Work; the Agreement and all other Contract Documents set forth therein are incorporated herein and made a part hereof by this reference.

WHEREAS, by the terms of the Contract Documents, the Principal is required to furnish a Bond ensuring the Principal's prompt, full and faithful performance of the Contract Documents.

NOW THEREFORE, if the Principal shall promptly, fully and faithfully perform each and all of the obligations and things to be done and performed by the Principal in strict accordance with the terms of the Contract Documents as said Contract Documents may be modified or amended from time to time; and if the Principal shall indemnify and save harmless the Obligee and all of its officers, agents and employees from any and all losses, liability and damages, claims, judgments, liens, costs, and fees of every description, whether in contract or in tort, whether imposed by law or equity, which may be incurred by the Obligee by reason of the failure or default on the part of the Principal in the performance of any or all of the terms or the obligations of the Contract, including all modifications, and amendments, thereto, and any warranties or guarantees required there under; then this obligation shall be void; otherwise, it shall be, and remain, in full force and effect.

The Surety, for value received, hereby stipulates and agrees that no Change, adjustment of the Contract Time, adjustment of the Contract Price, alterations, deletions, additions, or any other modifications to the terms of the Contract Documents, the Work to be performed there under, the Specifications or the Drawings shall limit, restrict or otherwise impair Surety's obligations or Obligee's rights hereunder; Surety hereby waives notice from the Obligee of any such Changes, adjustments of Contract Time, adjustments of Contract Price, alterations, deletions, additions or other modifications to the Contract Documents, the Work to be performed under the Contract, the Drawings or the Specifications.

In the event of a failure of performance of the Contract by the Principal, which shall include without limitation, any breach or default of the Contract, then, after written notice from the Obligee to the Surety, as provided for below, the Surety shall either remedy the default or breach of the Principal or shall take charge of the Work of the Contract and complete the Contract at its own expense; provided, however, that the procedure by which the Surety undertakes to discharge its obligations under this Bond shall be subject to the advance written approval of the Obligee.

Within twenty (20) days of the Obligee's written notice to the Surety of the failure of performance or other default under the Contract by the Principal, it shall be the duty of the Surety to give to the Obligee an unequivocal notice

in writing of the Surety's election to remedy the default(s) of the Principal promptly, or to perform the Contract promptly, time being of essence to this Bond. In said Notice of Election, the Surety shall state the date of commencement of its cure or remedy of the Principal's default(s) or its performance of the Contract. The Surety shall give prompt written notice to the Obligor upon completion of the cure or remedy of the Principal's default(s) or its performance of the Contract. The insolvency of the Principal or the Principal's mere denial of a failure of performance or default under the Contract shall not by itself, without the Surety's prompt, diligent inquiry and investigation of such denial, be justification for Surety's failure to give the Notice of Election or for its failure to promptly remedy the failure of performance or default of the Principal or to complete the Contract.

In the event the Surety shall fail to act promptly then the Obligor shall give written notice of such failure to the Principal and the Surety and ten (10) days after the giving of such written notice, the Obligor may cause the cure or remedy of the Principal's failure of performance or default or to complete the Work of the Contract. When the cost of performance by the Obligor is estimated, the Principal and Surety shall pay any and all estimated costs of such performance to the Obligor within thirty (30) days of receipt of the estimate. Subject to the limitation on the Surety's liability to the penal sum hereof, any costs in excess of the estimated price shall be paid by the Principal and the Surety to the Obligor upon demand thereof. Additionally, the Principal and the Surety shall be each jointly and severally liable for all damages and costs sustained by the Obligor as a result of the Principal's failure of performance under the Contract or default in its performance of obligations thereunder; provided that the Surety's liability hereunder for the costs of performance or damages and other costs sustained by the Obligor upon the Principal's failure of performance under the Contract or default under the Contract shall be limited to the penal sum hereof, which shall be deemed to include the costs or value of any Changes to the Work of the Contract which increases the Contract Price.

In the event suit or other proceeding is brought upon this Bond by the Obligor, the Surety shall pay to the Obligor all costs, expenses and fees incurred by the Obligor therewith, including without limitation, attorneys fees.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this _____ day
of _____, 2012, by their duly authorized agent or representative.

Principal:

Surety:

(Principal Name)

(Surety Name)

By: _____
(Chairman of the Board, President,
or any Vice President)

By: _____
(Signed by Attorney-In-Fact)

(Typed or Printed Name)

(Typed or Printed Name)

(Title)

() _____
(Telephone Number of Surety)

(Surety Corporate Seal)

(Principal Corporate Seal)

(Attach Attorney-in-Fact
Certificate)

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS,

That we, _____, as Principal, and
_____, as Surety, are held

and firmly bound, along with our respective heirs, executors, administrators, successors, and assigns, jointly and severally, unto **PASADENA AREA COMMUNITY COLLEGE DISTRICT**, hereinafter "Obligee",

for payment of the penal sum of _____ Dollars

(\$ _____) in lawful money of the United States, as more particularly set forth herein.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the Obligee, by resolution of its Board of Trustees passed on _____, 2012, has awarded to the Principal a contract for the Work commonly described as

Bid: 874
MEASURE P RESTROOM UPGRADE – R BUILDING

WHEREAS, the Principal, has by a written agreement dated _____, 2012, entered into a Contract with the Obligee for performance of the Work; the Agreement and all other Contract Documents set forth therein are incorporated herein and made a part hereof by this reference.

WHEREAS, by the terms of the Contract, the Principal is required to furnish a Bond for the prompt, full and faithful payment to any Claimant, as hereinafter defined, for all labor materials or services used, or reasonably required for use, in the performance of the Contract.

NOW THEREFORE, if the Principal shall promptly, fully and faithfully make payment to any Claimant for all labor, materials or services used or reasonably required for use in the performance of the Contract then this obligation shall be void; otherwise, it shall be, and remain, in full force and effect.

The term "Claimant" shall refer to any person, corporation, partnership, proprietorship or other entity including without limitation, all persons and entities described in California Civil Code SS 3181, providing or furnishing labor, materials or services used or reasonably required for use in the performance of the Contract, without regard for whether such labor, materials or services were sold, leased or rented. This Bond shall insure to the benefit of all Claimants so as to give them, or their assigns and successors, a right of action upon this Bond.

In the event suit is brought on this Bond by any Claimant for amounts due such Claimant for labor, materials or services provided or furnished by such Claimant, the Surety shall pay for the same and reasonable attorneys fees pursuant to California Civil Code Section 3250.

The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, deletion, addition, or any other modification to the terms of the Contract, the Work to be performed thereunder, the Specifications or the Drawings shall in any way limit, restrict or otherwise affect its obligations under this Bond; the Surety hereby waives notice from the Obligee of any such change, extension of time, alteration, deletion, addition or other modification to the Contract, the Work to be performed under the Contract, the Drawings or the Specifications.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument this _____ day
of _____, 2012, by their duly authorized agent or representative.

Principal:

Surety:

(Principal Name)

(Surety Name)

By: _____
(Chairman of the Board, President,
or any Vice President)

By: _____
(Signed by Attorney-In-Fact)

(Typed or Printed Name)

(Typed or Printed Name)

(Title)

() _____
(Telephone Number of Surety)

(Surety Corporate Seal)

(Principal Corporate Seal)

(Attach Attorney-in-Fact
Certificate)

CONTRACTOR'S CERTIFICATE REGARDING WORKERS' COMPENSATION

I, _____, the _____
(Name) (Title)

of _____, declare and certify that:
(Contractor Name)

1. I am aware that California Labor Code SS 3700(a) and (b) provides:

"Every employer except the State shall secure the payment and compensation in one or more of the following ways:

(a) By being insured against liability to pay compensation in one or more insurers duly authorize to write compensation insurance in this state.

(b) By securing from the Director of Industrial Relations a certificate of consent to self-insure either as an individual employer, or one employer in a group of employers, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his or her employees."

2. I am aware that the provisions of California Labor Code SS 3700 require every employer to be insured against liability for Workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of this contract.

By: _____
(Chairman of the Board, President,
or any vice president)

(Typed or Printed Name)

(Title)

(In accordance with Article 5 [commencing at Section 1860], Chapter 1, Part 7, Division 2 of the Labor Code, the above certificate must be signed and filed with the awarding body prior to performing any Work under this contract.)



GUARANTEE

The undersigned _____ ("Contractor")
(Contractor Name)

hereby warrants and guarantees that all Work, materials, equipment and Workmanship provided, furnished or installed by or on behalf of Contractor in connection with the Work of improvement described as:

Bid No: 874 – MEASURE P RESTROOM UPGRADE – R BUILDING for the Pasadena Area Community College District have been provided, furnished and installed in strict conformity with the Contract Documents for the Work, including without limitation, the Drawings and the Specifications. Contractor further warrants and guarantees that all Work, materials, equipment and Workmanship as provided, furnished and/or installed are fit for use as specified and fulfill all applicable requirements of the Contract Documents including without limitation, the Drawings and the Specifications. Contractor shall, at its sole cost and expense, repair, correct and/or replace any or all of the Work, materials, equipment and/or Workmanship of the Work, together with any other items which may be affected by any such repairs, corrections or replacement, that may be unfit for use as specified or defective within a period of one (1) year from the date of the District's Final Acceptance of the Work, ordinary wear and tear and unusual abuse or neglect excepted.

In the event of the Contractor's failure and/or refusal to comply with the provisions of this Guarantee, within the period of time set forth in the Contract Documents after the District's issuance of the Notice to the Contractor of any defect(s) in the Work, materials, equipment or Workmanship, Contractor authorizes the District, without further notice to Contractor, to repair, correct and/or replace any such defective item at the expense of the Contractor. The Contractor shall reimburse the District for all costs, expenses or fees incurred by the District in providing or performing such repairs, corrections or replacements within ten (10) days of the District's presentation of a demand to the Contractor for the same.

The provisions of this Guarantee and the provisions of the Contract Documents for the Work relating to the Contractor's Guarantee(s) and warranty(ies) relating to the Work shall be binding upon the Contractor's Performance Bond Surety and all successors or assigns of Contractor and/or Contractor's Performance Bond Surety.

The provisions of this Guarantee are in addition to, and not in lieu of, any provisions of the Contract Documents for the Work relating to the Contractor's guarantee(s) and warranty(ies) or any guarantee(s) or warranty(ies) provided by any material supplier or manufacturer of any equipment, materials or other items forming a part of, or incorporated into the Work, or any other guarantee or warranty obligation of the Contractor, prescribed, implied or imposed by law.

The undersigned individual executing this Guarantee on behalf of Contractor warrants and represents that he/she is duly authorized to execute this Guarantee on behalf of Contractor and to bind Contractor to each and every provision hereof.

By: _____
(Chairman of the Board, President,
or any vice president)

(Typed or Printed Name)

(Title)



DRUG-FREE WORKPLACE CERTIFICATION

I, _____, am the _____ of
(Name) (Title)

(Contractor Name)

I declare, state and certify to all of the following:

1. I am aware of the provisions and requirements of California Government Code Section 8350 et seq., the Drug Free Workplace Act of 1990.
2. I am authorized to certify, and do certify, on behalf of Contractor that a drug free Workplace will be provided by Contractor by doing all of the following:
 - A. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance is prohibited in Contractor's Workplace and specifying actions, which will be taken against employees for violation of the prohibition;
 - B. Establishing a drug-free awareness program to inform employees about all of the following:
 - (I) The dangers of drug abuse in the Workplace;
 - (ii) Contractor's policy of maintaining a drug-free Workplace;
 - (iii) The availability of drug counseling, rehabilitation and employee-assistance programs; and
 - (iv) The penalties that may be imposed upon employees for drug abuse violations;
 - C. Requiring that each employee engaged in the performance of the Contract be given a copy of the statement required by subdivision (A), above, and that as a condition of employment by Contractor in connection with the Work of the Contract, the employee agrees to abide by the terms of the statement.
3. Contractor agrees to fulfill and discharge all of Contractor's obligations under the terms and requirements of California Government Code Section 8355 by, inter alia, publishing a statement notifying employees concerning: (a) the prohibition of any controlled substance in the Workplace, (b) establishing a drug-free awareness program, and (c) requiring that each employee engaged in the performance of the Work of the Contract be given a copy of the statement required by California Government Code Section 8355(a) and requiring that the employee agree to abide by the terms of that statement.
4. Contractor and I understand that if the District determines that Contractor has either: (a) made a false certification herein, or (b) violated this certification by failing to carry out and to implement the requirements of California Government Code Section 8355, the Contract awarded herein is subject to termination, suspension of payments, or both. Contractor and I further understand that, should Contractor violate the terms of the Drug-Free Workplace Act of 1990, Contractor may be subject to debarment in accordance with the provisions of California Government Code Section 8350, et seq.
5. Contractor and I acknowledge that Contractor and I are aware of the provisions of California Government Code Section 8350, et seq. and hereby certify that Contractor and I will adhere to, fulfill, satisfy and discharge all provisions of and obligations under the Drug-Free Workplace Act of 1990.

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

Executed at _____, _____ this _____ day
(City) (State)

of _____, 2012 .

By: _____
(Chairman of the Board, President,
or any vice president)

(Typed or Printed Name)

(Title)

GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1 GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 Acceptance - means the point at which time the Work, or a portion thereof as designated by the District for separate delivery, is accepted by the District and their Designated Representatives.

1.1.2 Acts of GOD - means earthquake, natural flood, tornado or other unusually severe natural or weather phenomenon.

1.1.3 Addendum - means written or graphic information, provided prior to Bid, which serves to clarify, amend, modify or interpret the Bid Documents.

1.1.4 Agreement - means the executed contract between the District and the Contractor to perform all necessary construction activities required to produce the desired Project as defined within the Contract Documents.

1.1.5 Allowable Costs - means those costs, as stated in these General Conditions, which the Contractor is entitled to for the performance of a Compensable Change. Additionally, it enumerates the credits due the District in connection with deleted Work.

1.1.6 Allowable Mark-Ups - means the mark-ups for the Contractor and its/his Subcontractor(s) that shall be permitted and applied to Allowable Costs as identified in these General Conditions.

1.1.7 Alternate - means another type of material, system, product or method of construction from what is required and/or shown within the Contract Documents. By the proposal of the alternate the Bidder warrants and guarantees the item submitted is equal or superior to the specified item. It is further warranted and guaranteed that the proposed Alternate will Work within space and other appropriate systems provided in the Contract Documents and requires no additional modification of any form to the Contract Documents.

1.1.8 Approve - means the Architect's/District's acceptance of the Contractor's submittals, requests, applications. It shall be acknowledged in accordance with design intent of the Contract Documents. It shall not be interpreted as a release of the Contractor's requirement to fulfill the requirements of the Contract Documents. It shall have the same meaning as; Approved, Approval, Reviewed, Acceptable, Satisfactory, "No Exception Taken", and words of similar importance.

1.1.9 Application for Payment - means the Contractor's certified application for payment, on a form approved by the District, for Work performed and completed, according to the Contract Documents, for a monthly period during the project. A separate application is required for the release of retention and shall be submitted according to the Contract Documents.

1.1.10 Architect - means licensed by the State of California to perform responsible architectural services of the creation and development of a project design, oversees the preparation of architectural drawings and specifications, supervises and coordinates other design disciplines in their development and preparation of the plans and specifications. During construction is the firm which will perform contract administration of the Contract Documents.

1.1.11 As Built Documents - means the **FINAL** set of drawings and specifications modified by the Contractor and/or appropriate Subcontractor accurately showing the actual installation locations of all the Work, which shall include but not be limited to: architectural, irrigation, structural, HVAC, fire sprinklers, plumbing, and electrical, as modified to reflect changes made during construction. The as-built drawings shall be submitted in both electronic form (CAD drawing files compatible with AutoCAD software), and bound hard copy (full-size set printed legibly on heavy-duty Bond paper). Each change entry on the drawings shall be highlighted by drawing a "cloud" around the area or areas affected. The specifications shall be submitted in both electronic form

(Microsoft Word compatible file format), and legible bound hard copy. Each change entry in the specifications shall have the text highlighted by "Clouding".

1.1.12 As Shown, as Indicated, as Detailed - refers to the Contract drawings that are intended to graphically depict the Work, and accompanying the specifications. Each phrase may be used interchangeably and have the same meaning.

1.1.13 Award - means the approval of the Pasadena Area Community College District Board of Trustees for the District to enter into a Construction Contract with the Contractor.

1.1.14 Base Bid (BID) - means the written proposal indicating the sum of money, excluding Alternates, for which the Bidder proposes to perform the Work described in the Bid Documents.

1.1.15 Bidder - is an entity that is properly licensed in the State of California to perform the construction Work for which the bid was submitted.

1.1.16 Bid Documents - means the collection of documents prepared by the Architect and their Design professionals for the District and issued for the purpose of soliciting Bids for the Project. The collection shall consist of, but not be limited to, the following: (1) Notice to Bidders; (2) Instructions to Bidders; (3) Bid Form; (4) General Conditions; (5) Specifications; (6) Plans and Drawings; (7) Addenda and Reference documents issued prior to the bid date; (8) those documents or provisions of documents that, although not listed among the documents above, are expressly cross-referenced therein or attached thereto.

1.1.17 Board of Trustees - means the governing body of the Pasadena Area Community College District and is interchangeable with the words "District" and "Board".

1.1.18 Bulletin - is written or graphic information issued by the District that serves to amend, change or modify the Contract Documents after Contract award.

1.1.19 Certification for Payment - is the appropriately signed statement which certifies an undisputed amount of money due the Contractor for the Work completed on the monthly Application for Payment or the Release of Retention.

1.1.20 Change - means a modification, addition, deletion, substitution, in the contracted Work. Reference to or use of the word "Change" in any context shall not be construed as to create an entitlement to the Contractor for an adjustment to the Contract Sum or an extension of Contract Time. The Change may or may not be compensable.

1.1.21 Change Order - is a written document which, when ratified by the District (and such others as designated by the District), Director, Architect and Contractor, adjusts the Contract Sum and/or Contract Time.

1.1.22 Change Order Request (COR) - is, pursuant to the General Conditions, a required written request that is to be submitted, with appropriate support documents, by the Contractor setting forth the justification for an adjustment to the Contract Sum and/or Contract Time.

1.1.23 Concealed - except as otherwise defined shall mean embedded in masonry, concrete or other construction, installed within a furred space, within a wall/partition or above suspended ceilings.

1.1.24 Construction Schedule - is the detailed Critical Path schedule prepared by the Contractor graphically indicating the planned sequence of the construction Work necessary to complete the project within the Contract Time and according to the Contract Documents.

1.1.25 Contract Documents - is the collection of documents, on which the Bid was based, which depicts and governs the Contractor's performance of the Work. This shall include, but not be limited to, modifications by Addendum, Change Order, RFI, Bulletin, Clarification and Directive. These documents are complementary, and what is called for by one shall be as binding as if called for by all. Materials or trade Work described in words, when so applied, have well-known technical or trade meaning shall be deemed to refer to such recognized standards.

1.1.26 Contract Time - is the total number of calendar days established within the Construction Contract for which the Contractor is obligated to achieve Final Completion of the Work, as may be increased or decreased by District executed Change Order.

1.1.27 Contractor, Bidder, Vendor, or Supplier - is the entity approved by the District, based on being the most qualified bidder, to serve as the Contractor for the construction of the project. Each shall mean the same as the other when used singularly.

1.1.28 Critical Path - is the direct interdependent sequence of construction activities required to achieve Project completion by the contractually required date.

1.1.29 DSA - means the California Division of the State Architect including. References to DSA within the Contract Documents shall mean DSA and all its offices, authorized employees and agents. All which have the authority for plan review, approval over the project plans and field inspection authority.

1.1.30 Day - is, whether capitalized or not, a calendar day and shall include weekends and holidays.

1.1.31 Designation of Subcontractors - is the list of Subcontractors submitted at bid time which the Contractor plans on using to complete the project. Once designated the Contractor may not replace or substitute a Subcontractor without the District's approval. The request for substitution must be done in accordance with the Contract Documents and/or the State of California Public Bid Laws.

1.1.32 Design Consultant - means an appropriately State of California licensed professional, to provide appropriate design services for a specific discipline, specifically but not limited to, mechanical, electrical, structural, fire sprinklers, and plumbing, to fit within the project design. Furthermore, is responsible for preparing appropriate drawings and specifications that would provide adequate information for the bidding and construction of the project as drawn by the Architect. Generally hired and directed by the Architect

1.1.33 Differing Site Conditions - are unforeseen conditions at the Site or in the existing improvements at the Site for which the Contractor may or may not be entitled to a Contract adjustment, as defined in these General Conditions.

1.1.34 Director - means the person or entity designated by the District to act, on their behalf, as the Construction Project Manager. It has the same meaning as Project Manager and/or Project Center and shall be referred to as if each were one.

1.1.35 Directive - is a written document issued, in accordance with the requirements of the General Conditions, by the Director defining a specific scope of Work, extra or deleted, to be completed on a Time and Material (T & M) basis. The T & M tickets are to be signed by the Director on a daily basis. Failure to have the tickets signed daily could be a basis for negating the T & M tickets. This Directive may or may not be disputed by the Contractor but shall be completed prior to an adjustment to the Contract Time and/or Contract Sum.

1.1.36 District, Contractor, Architect - are those named as such in the Contract Documents and are referred to as if each were of the singular number and masculine gender. For those projects where the District has not hired an Architect, substitute the words designated District representative.

1.1.37 District, Board - each shall be deemed to mean the Pasadena Area Community College District or Pasadena City College or its representatives and shall be referred to as if each were one.

1.1.38 District Consultant - refers to a consultant, other than the Architect/Design Consultants, engaged by the District to provide professional advice with respect to the design, construction activities and other services deemed necessary for the completion of the project.

1.1.39 Excusable Delay - is a delay, other than a Compensable Delay, to Contractor's ability to achieve Substantial or Final Completion of the Work within the Contract Time.

1.1.40 Existing Improvements - means improvements located, whether above or below ground level, on the Site at the time of the execution of the Construction Contract and shall include, but not limited to, existing buildings, utilities, infrastructure improvements and other facilities.

1.1.41 Extra Work - refers to Work, other than that shown or could be reasonably determined, necessary to comply with the Contract Document requirements to provide fully functional Project systems, and requires the Contractor to expend additional and unforeseen Allowable Costs. This however should not be construed that the Contractor is automatically entitled to an adjustment of the Contract Time or Contract Sum.

1.1.42 Final Completion - is the point at which the following conditions have been satisfied with respect to the entire Work or a portion of Work as designated by the District for separate delivery; (1) all of the Work is complete including "PUNCHLIST" items, (2) a permanent Certificate of Occupancy or equivalent from DSA has been issued, (3) all Contractor required documents, guarantees and warranties have been received; (4) all spare parts, attic stock materials and/or special tools have been turned over; (5) all training of District staff has been completed; (6) the area of occupancy and site shall be cleared of construction debris and equipment and all Contract required Final Cleaning has been done and accepted. (7) the good faith and reasonable determination for Final Completion shall be made by the Director, Architect/Design Team and IOR. Their decision shall be controlling and final.

1.1.43 Final Punchlist - is the list, prepared by the District and the Architect/Design Team, of all contract Work items that require correction or must be completed by Contractor in order to establish the date of Final Completion.

1.1.44 Float (Float Time) - shall mean the time between the earliest start date and the latest start date or the earliest finish date and the latest finish date for each activity as shown on the Approved Construction Schedule. With respect to this Contract Agreement the District owns the Float Time.

1.1.45 Fragnet - means a portion of the overall scheduling network which graphically displays all the critical and non-critical new activities and/or schedule revisions affected by the request for a Compensable or Excusable delay. It shall show the logic ties to **all the affected activities** of the Approved Construction Schedule and should further isolate and quantify the impact to the Approved Construction Schedule when requesting a time extension. The Fragnet shall be based on the most current updated Construction Schedule which shows any approved Time extensions that have been previously granted.

1.1.46 Gender and Number - whenever the context of the Contract Documents so require, the neuter gender shall include the feminine and masculine, the masculine gender shall include the feminine and neuter, the singular number shall include the plural and the plural number shall include the singular.

1.1.47 Governmental Authority - is any agency that has or exercises jurisdiction over the Project as defined by the Contract Documents. These agencies shall include, but not be limited to, the State of California, DSA, City of Pasadena, County of Los Angeles and any other local, regional, state or federal agencies.

1.1.48 Governmental Authority Review Period - is the period of time to be allowed, within the Construction Schedule, for review and approval of specific Work activities by all agencies having jurisdiction over the project. This shall include, but not be limited to, DSA and Work identified as "Deferred Approval".

1.1.48 Guarantee to Repair Period - is the length of time set forth in the Contract Documents and after Final Acceptance for which the Contractor and/or their Subcontractor(s) are obligated to repair, correct and/or replace all failed Work. The remedial Work does not include Work which is required because of damage and/or lack of required maintenance.

1.1.49 Illness and Injury Prevention Plan (IIPP) - is the program prepared by the Contractor that sets forth the safety policies and procedures employed for the Project.

1.1.50 Inspector of Record (IOR) - is the person registered with the Division of the State Architect in accordance with the requirements of the California Code of Regulations, Title 24, Part 1, and employed by the District, to inspect the Work as defined in section 4-342 of Title 24, Part 1. The IOR is not empowered to take any actions on behalf of the District.

1.1.51 Interpretations - means that there is apparent missing or conflicting information within the Contract Documents which requires further definition. The Architect/Design Team shall clarify the alleged misunderstanding of the Contract Documents. The Architect/Design Team's decision shall be final.

1.1.52 Material Supplier - is a person or entity that only furnishes materials, equipment or supplies for the Work without fabricating, installing or consuming them in the performance of the Contract Work.

1.1.53 Notice of Change - is the Contractor's written notice to the District, as required by and within the time period set forth in the General Conditions, stating that there is an apparent change in circumstances which may give rise to it becoming a Compensable Change. Failure by the Contractor to notify the District within the Contract specified time period shall constitute the Contractor's wavier to seek compensation, time or money, for performing the Work that is alleged to be a Compensable Change. A schedule Fragnet shall accompany any request for extension of Contract Time.

1.1.54 Notice of Delay - is the Contractor's written notice to the District, as required and within the time period set forth in the General Conditions, which states that there is a change in circumstances which may require an adjustment to the Contract Time for an Excusable or Compensable Delay. Failure by the Contractor to properly notify the District within the Contract specified time period shall constitute the Contractor's wavier to seek adjustment to the Contract Time for an Excusable or Compensable Delay. A schedule Fragnet shall accompany any request for extension of Contract Time.

1.1.55 Non-Conformance Notice (NCN) - is a written notice issued to the Contractor, by the IOR, serving notice that performed Work that is not in compliance with the Contract Documents or any applicable building code. All Work related required to rectify the NCN is the cost of the Contractor and will not extend the Approved Construction Schedule. The NCN shall be corrected within thirty (30) days from the date of issuance. Failure to correct the NCN's within the specified time period could impact processing of monthly applications for payment or Substantial and Final Completion.

1.1.56 Notice of Substantial Completion - is the written document issued by the District establishing the date the Project was usable for its intended purpose. It shall be accompanied by a list of Contract Work or incomplete Work that remains to be done in order to establish a Date of Final Completion.

1.1.57 Project - is the total construction of the Work performed by the Contractor in accordance with the Contract Documents. It may be whole or a part of the Contract Documents and may include construction by the District or their Subcontractor(s).

1.1.58 Provide - shall mean the same as "provide complete in place" and/or "furnish and install".

1.1.59 Reasonable Order of Magnitude (ROM) - is a general budget estimate prepared and submitted, within ten (10) days, by the Contractor, without the benefit of Subcontractor(s) pricing of projected Work (extra or deleted) as shown on a Bulletin, Directive or other document believed to cause a change in scope. The Contractor's submission of the ROM does not constitute authorization by the District for an adjustment to the Contract Sum or Time in the amount shown on the ROM.

1.1.60 Record Set of Drawings - are the Contract Drawings retained and marked by the Contractor during the performance of the Work. These drawings shall completely and accurately reflect the actual as-built condition/installation of the Work. The Record Drawings are to be kept daily and may be a condition for the processing of the monthly pay application. Upon Final Completion and as a requirement for final payment, the Record Drawings shall follow the requirements as set forth in Article 1.1.11 As Built Documents.

1.1.61 Request For Time Extension - is, per and within the time limits of the General Conditions, the required written request by the Contractor as to the justification and support for an adjustment to Contract Time due to an Excusable or Compensable Delay.

1.1.62 Site - shall mean the complete area designated within the Contract Documents for the construction of the complete Project and the area assigned for the Contractor's use for office trailers, trash receptacles and material storage.

1.1.63 Soils Engineer/Inspector - is the person or firm employed by the District to inspect and test soil samples for the project.

1.1.64 Subcontractor; Sub-Subcontractor - means an appropriately California State licensed specialty trade Contractor which has a project specific contractual relationship with either the Contractor or the District for the furnishing and installation of materials and/or equipment. Furthermore, the Subcontractor or Sub-

Subcontractor is the company or person that is, in addition to Contractor, responsible for the warranty and guarantee which may be required during the duration specified within the Contract Documents. This does not include any trade that only provides material.

1.1.65 Special and Supplemental Conditions - are, to the extent they are part of the Contract Documents and apply to the Work, special and supplemental provisions which are not otherwise provided in the Agreement or the General Conditions.

1.1.66 Surety - is the person, firm or corporation that executes, as the surety, the Contractor's Performance and Payment Bonds. The Surety must be an admitted Surety insurer pursuant to Code of Civil Procedure Section 995.120 and have a rating of AAA or better.

1.1.67 Swift Water Prevention Plan (SWPP) - refers to the Contractor's written plan to prevent and/or minimize excessive water flow and erosion of the site soil into the campus, public roadways and storm drain system during the construction of the Project.

1.1.68 Testing Laboratories - is the independent entity engaged by the District to perform specific inspections or tests of the Work and report or interpret results of the inspections or tests.

1.1.69 Trade Name or Trade Term - means it is not the intention of said documents to go into detailed descriptions of any materials and/or methods commonly known to the trade under a "trade name" or "trade term". The mere mention or notation of such a "trade name" or "trade term" shall be considered a sufficient notice to Contractor that he is required to complete the Work so named with all its appurtenances according to the best practices of the trade.

1.1.70 Work - means the coordinated installation of all materials and appurtenances required to provide completely functioning systems or produce finishes as detailed and shown on the Contract Documents.

1.1.71 Worker - means the laborer, mechanic, journeyman or tradesman that actually performs the physical fabrication and/or installation of the approved equipment, materials and appurtenances required under the Contract Documents for a complete and functioning system.

1.2 PARTIES TO THE CONSTRUCTION CONTRACT - The Contract is between the District and a selected Contractor to perform different scopes of Work within a Specific Time period as defined within the Contract Documents. The Contract Documents shall not be construed as to create a contractual relationship of any nature between: (1) the District and Subcontractor(s) of any tier. (2) the Director and/or any District designated representative, the Design Team and the Contractor and/or Subcontractor(s) of any tier.

1.3 CONTRACT DOCUMENTS - The Contract Documents are complementary and what is called for by one shall be as binding as if called for by all. It is the intention of these documents to include all labor and materials, equipment, and appurtenances necessary for the execution of the Work. Materials or Work described in words, which so applied, have a well-known technical or trade meaning shall be deemed to refer to such recognized standards. The Contract Documents consist of: (1) the Construction Contract between the District and the Contractor, other terms, conditions and requirements applicable to the execution of the Construction Contract Work. This shall include the Specifications, General Conditions, Special or Supplementary Conditions, drawings, addenda issued prior to the bid; (2) District executed Change Orders to the Contractor and/or such others as may be required; (3) Directives signed by the Director and/or such others as may be required; (4) Clarifications and answered RFI's from the District and/or Design Team. (5) Reference Documents. Those documents, or those portions or provisions of documents that, although not listed among those described in clauses (1) through (5) are cross-referenced therein or attached thereto.

1.3.1 Marginal Headings; Interpretation - The titles of the various Articles of these General Conditions and/or elsewhere in the Contract Documents are for convenience and reference only and not intended to, and shall not in any manner, enhance or diminish the right or obligations of the District or the Contractor and shall have no effect whatsoever upon the construction or the interpretation of the Contract Documents. The Contract Documents shall be construed as whole in accordance with their fair, reasonable meaning and not strictly for or against the District or the Contractor.

1.4 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER DOCUMENTS

1.4.1 Property of the District - All Design Documents, Contract Documents and Submittals (including without limitation, all electronic versions and paper copies thereof), all designs and building designs depicted herein, are and shall remain the sole and exclusive property of the District. Without loss of the District's right under this paragraph, the Contractor and/or Subcontractor(s) are granted limited, revocable by the District at any time, non-exclusive license, use and permission to reproduce, as necessary, portions of the Contract Documents and Submittals for the execution of this Work only.

1.4.2 Copyrights - The Contractor does assign and transfer, and will cause the Subcontractor(s) to transfer and assign to the District all copyrights and all other intellectual property rights relative to any Design Documents prepared by the Contractor and/or Subcontractor(s) including but not limited to; architectural Works and designs depicted therein. The ownership of such rights is irrevocably vested solely to the District and such transfer/assignment will be effective for the entire duration of the copyrights and includes, but not limited to, all rights relative to the plans, specifications, documentation, and derived Works.

1.4.3 Copies Furnished/Reproduction - The District will provide, free of charge, one (1) complete set of Contract Documents to the successful bidder. Additional sets of Contract Documents may be obtained at the cost of reproduction.

1.4.4 Documents on Site - At all times the Contractor shall keep, on the Project Site, for the use of the District, Director, Architect, Inspector of Record and Consultants a complete, updated, set of appropriately approved Contract Documents. These drawings shall be kept current daily with respect to the actual location of the installed materials/systems versus the as drawn locations. Additionally, all code books referenced within the Contract Documents shall be available at the site.

1.4.5 Delivery to the District - All Design Documents, Contract Documents and Submittals (both the electronic version and paper copies) in use by the Contractor or Subcontractor(s), at any tier, shall be returned to the District at the earlier of either Final Completion or termination of the Construction Contract. However, the Contractor and the first tier Subcontractor shall have the right to retain one (1) copy of the documents as a permanent record set.

1.5 CORRELATION, INTERPRETATION AND INTENT OF THE CONTRACT DOCUMENTS

1.5.1 Design Intent - It is the intent of the Contract Documents to provide a defined scope for the Contractor to provide all items necessary to produce improvements that are complete as a whole and that is suitable for use and occupancy for its intended purpose. It is further presumed that the Contract Documents provide adequate information so the Contractor may, when all systems and appurtenances are installed, made operational and tested, provide a fully functional and operational project.

1.5.2 Incidental Items - The naming of any material and/or equipment shall be deemed, unless specified to the contrary, as "furnishing and installing" with all required incidentals in accordance with good Workmanship practices of the trade involved.

1.5.3 Quality - All parts described and depicted on the Documents shall be of the best and highest quality of the respective kind. The Contractor is to use all diligence to be informed completely as to the required methods of installation, construction and finish procedures for fabrication and installation of the approved product.

1.5.4 Divisions of the Work - The specifications and drawings are generally organized into the standard specific trade divisions, sections and articles. This arrangement/organization shall not control and or dictate to the Contractor as to how the Work is to be divided among Subcontractor(s) or as to establishing the extent of the Work to be performed by the Subcontractor(s).

1.5.5 Drawings and Specifications - Generally the Drawings will show the dimensions, positions and type of construction while the Specifications will define materials, quality and standards. All Work called for on the Drawings but not mentioned in the Specifications or vice versa shall be performed as though fully stated or shown on both. Work not particularly shown, detailed or specified shall be the same as similar parts shown, detailed or specified elsewhere within the Contract Documents.

1.5.6 Dimensions - Figured, derived or numerical dimensions shown on the scale Drawings shall take precedent over Drawings without dimensions. No scaling of Drawings shall be permitted. Where Drawings are diagrammatic, the dimensions shall be calculated from numbers shown on the Drawings. Discrepancies between scale and calculated dimensions, not marked "not to scale", shall be brought to the attention of the District prior proceeding with the Work affected by the discrepancy. Proceeding without direction from the District, Architect/Design Team shall be done at the Contractor's own risk.

1.5.7 Cross-Reference - Any cross-references indicated between various paragraphs or other portions of the Specifications, Drawings or any other Contract Documents are provided for convenience and should not be concluded as to be all-inclusive.

1.5.8 Diagrammatic Drawings/Portions - Mechanical, Fire Sprinklers, Plumbing and Electrical drawings shall be considered to be diagrammatic and necessarily not used for physical layout. Contractor is responsible for providing all necessary drawings, materials, attachments, supports required to show and produce a complete fully operational system. Any additional materials and/or labor, from the Contract Documents, necessary to produce a fully operational system shall not be considered a basis for an increase to the Contract Sum or in Time.

1.5.9 Demolition - Any site improvements not specifically described on the Contract Documents but would interfere with the satisfactory completion of the Work shall be brought to the immediate attention of the District. Failure to notify the District prior to commencing any Work shall constitute the Contractor's waiver for cost reimbursement and/or extension of time. All demolished materials shall be removed to an approved disposal site.

1.5.10 Conflict Resolution - Any conflict within the Contract Documents shall be reported, in writing, to the Director prior to proceeding with affected Work. Proceeding with the Work for which there is a conflict, without direction from the Director and/or Architect/Design Team will be done at the Contractor's own risk. The order of precedence as established in this article shall be used in the event of conflict or resolution for directions provided by the Director and/or Architect/Design Team. In the event the directions are deemed, by the Contractor/Subcontractor(s), to be more elaborate or of higher quality than the drawings and specifications the Contractor shall, within five (5) days notify, in writing, the District/Director. Failure to advise the District/Director within the stated time period shall be deemed as the Contractor's waiver of additional financial compensation and/or time for accomplishing the Work shown. The order of precedence is as follows and the first being the higher order of precedence.

- .1 Applicable Laws (however where the Contract Documents or Manufacturer's recommendations/specifications specify a higher standard than the applicable law these shall govern over the laws).
- .2 Change Orders, Directives
- .3 Addenda, Bulletins
- .4 Construction Contract
- .5 Supplemental and Special Conditions
- .6 General Conditions
- .7 General Requirements
- .8 Specifications
- .9 Drawings (Larger scale taking precedent over smaller, RFI's)
- .10 Reference Documents

1.5.11 Manufacturer's Verification - The Contractor shall be, as may be required by the Specifications, responsible for coordinating the presence of a material manufacturer or their designated representative during installation of their material or product. It is further incumbent upon the Contractor to assure the manufacturer and/or designated representative provide a letter of approval to the District and Architect/Design Team.

1.5.12 Provisions Required by Law Deemed Inserted - Each and every provision of law and clause required, by law, to be inserted in this contract shall be deemed inserted and the contract shall be read and enforced as though it were included herein. If through mistake, or otherwise, any such provision is not inserted or is not correctly inserted, then upon application of either party, the contract shall forthwith be physically amended to make such insertion or correction.

1.5.13 Maintaining and Updating Record Drawings - Changes, directions, requirements, and interpretations shall be shown on the Record Set of drawings and the Work, from these directions, requirements, interpretations, shall be performed in the field. The records shall include, without limitations, hourly records, per day, for labor and use of construction equipment and list of materials and equipment for all changes. Notwithstanding the above, should any Subcontractor, of any tier, provide and/or perform any portion of any Change to the Work the Contractor shall require that each Subcontractor(s) maintain records in accordance with Article 4.8.1. Each daily record maintained by the Subcontractor shall be signed and countersigned by the Contractor's Field Superintendent or authorized representative. The Contractor's signature shall be certification and warranty that the information shown is true, accurate, neat, legible, and complete.

1.5.14 Governing Law - This Contract shall be governed by and interpreted in accordance with, but not limited to, the laws of the State of California, County of Los Angeles, City of Pasadena and any other agency having jurisdiction over the Work. The most stringent of them all shall take precedent. Each and every provision of the law and clauses required to be inserted into the Contract Documents by law shall be deemed to be inserted herein and the Contract Documents shall be read and enforced as though such provisions or clauses are included herein. If through mistake, or otherwise, any such provision or clause is not inserted or if not correctly inserted, then upon application of either party, the Contract Documents shall forthwith be physically amended to make such insertion or correction.

1.5.15 Severability - Any provision of the Contract Documents which shall be deemed illegal, invalid, unenforceable and/or void by a court or any other governmental agency of competent jurisdiction shall be deemed to be severed and deleted from the Contract Documents. All remaining provisions hereof, shall in all other respects, continue in full force and effect.

1.6 DISPUTE RESOLUTION: ARBITRATION

1.6.1 Decision of Architect - Disputes between District and Contractor involving money or time, including those alleging an error or omission by the Architect shall be referred initially to the Architect, through the Construction Manager, for action as provided in Article 1.6.2. A decision by the Architect, as provided in Article 1.6.4 shall be required as a condition precedent to proceeding with remedies set forth in Article 1.6.7 as to all such matters arising prior to the date final payment is due, regardless of whether such matters relate to execution and progress of the Work, or the extent to which the Work has been completed. The decision by the Architect in response to a Claim shall not be a condition precedent to the remedies under Articles 1.6.2 through 1.6.4 in the event: (1) the position of Architect is vacant; (2) the Architect has not received evidence or has failed to render a decision within agreed time limit; (3) the Architect has failed to take action required under this Article within thirty (30) days after the Claim is made, forty-five (45) days have passed after the Claim has been referred to the Architect; or (4) the Claim relates to a Stop Notice Claim not arising from any extra change, Change Order or Directive for which approval has not been provided.

1.6.2 Architect's Review - The Architect and/or Construction Manager will review claims and take one or more of the following preliminary actions within ten (10) days of receipt of a claim: (1) request additional supporting data from the claimant; (2) submit a schedule to the parties indicating when the Architect and/or Construction Manager expects to take action; (3) reject the claim in whole or in part, stating reasons for rejection; (4) recommend approval of the claim; or (5) suggest a compromise. The Architect and/or Construction Manager may also, but is not obligated to, notify the surety, if any, of the nature and amount of the claim. If a claim has been resolved, the Architect and/or Construction Manager will prepare or obtain appropriate documentation.

1.6.3 Actions if Not Resolved - If a claim has not been resolved and all documentation requested pursuant to Article 1.6.2 has been provided, the party making the claim shall, within ten (10) days after the Architect's and/or the Construction Manager's preliminary response, take one or more of the following actions: (1) modify the initial claim; (2) notify the Construction Manager that the initial claim stands; or (3) supplement with additional supporting data.

1.6.4 Architect's Written Decision - If a claim has not been resolved after consideration of the foregoing and of other evidence presented by the parties or requested by the Architect and/or Construction Manager, the Architect and/or Construction Manager will notify the parties in writing that the Architect's decision will be made within twenty (20) days. Upon expiration of such time period, the Architect will render to the parties its written decision relative to the claim, including any change in the Contract Sum or Contract Time or both. The Architect and/or Construction Manager may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

1.6.5 Continuing Contract Performance - Pending final resolution of a Claim, including, negotiation, mediation, arbitration, or litigation, the Contractor shall proceed diligently with performance of the Agreement, and the District shall continue to make any undisputed payments in accordance with the Agreement. If the dispute is not resolved, Contractor agrees it will neither rescind the Agreement nor stop the progress of the Work, but Contractor's sole remedy shall be to submit such controversy to determination by a court of competent jurisdiction in the county where the Project is located, after the Project has been completed, and not before. At the District's sole option, the District may submit individual disputes for binding arbitration and Contractor agrees to the resolution determined for each individual dispute by Arbitrator, including resolution of time and delays. If binding arbitration is utilized for individual disputes, such resolution is full and final as to that particular claim.

1.6.6 Claims for Extension of Time - If Contractor and District cannot agree upon an extension of time, whether compensable or not, then Contractor must have first completed the procedures set forth in Article 8.5. Upon completion of the procedures set forth under Article 8.5, Contractor must then comply with the requirements in this Article including those set forth under Article 1.6.7.

1.6.7 Claims Procedures

.1 Definition of Claim: A "Claim" means a separate demand by the Contractor for (1) time extension, (2) payment of money or damages arising from Work done by or on behalf of the Contractor pursuant to the Agreement and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled to, or (3) and amount the payment of which is disputed by the District.

.2 Filing Claim is Not Basis to Discontinue Work: The Contractor shall promptly comply with Work under the Agreement or Work requested by the District even though a written claim has been filed. The Contractor and the District shall make good faith efforts to resolve any and all claims that may arise during the performance of the Work covered by the Agreement.

.3 Claim Notification: The Contractor shall within fourteen (14) calendar days after the claim arises, submit a notification, in writing, with the District stating clearly the basis for the claim. If the notification is not submitted within fourteen (14) days after the claim arises, the Contractor shall be deemed to have waived all right to assert the claim and the claim shall be denied. Claims submitted after the final payment date shall also be considered null and void by the District. All claims shall be reviewed pursuant to this Article 1.6.

.4 Formal Claim Submission: If the Contractor does not concur with the District's decision regarding the Claim Notification, the Contractor will issue a formal Claim Appeal within fourteen (14) days of receipt of the District's decision and all detailed information in support of the Claim Appeal within thirty (30) days. All appeals shall be submitted before final payment. If the Claim Appeal is not submitted within fourteen (14) calendar days and detailed information within thirty (30) days, the Contractor shall be deemed to have waived its right to assert the claim and the claim shall be denied. Contractor's failure to submit any detailed information that is in the possession of Contractor shall render such information inadmissible by Contractor at trial or arbitration.

.5 Appeal Claim Format: The Contractor shall provide all written detailed documentation which supports the claim, including but not limited to: arguments, justifications, cost, estimates, schedule analysis and detailed documentation. The format of the Claim Appeal shall be as follows:

- (1) Cover letter.
- (2) Summary of factual basis of claim and amount of claim.
- (3) Summary of the basis of the claim, including the specific clause and section under the Agreement under which the claim is made.
- (4) Documents relating to the claim, including:
 - a. Specifications
 - b. Drawings

- c. Clarifications (RFI's)
- d. Other relevant information
- e. Analysis of claim merit.
- f. Analysis of claim cost.
- g. For claims relating to time extensions, an analysis and supporting documentation evidencing any effect upon the critical path.
- h. Certification.
- i. Chronology of events and related correspondence.
- j. Daily reports and logs.

.6 Certification: The Contractor (and Subcontractors, if applicable) shall submit with the claim a certification under penalty of perjury:

- (1) That the Contractor has reviewed the claim and that such claim is made in good faith;
- (2) Supporting data are accurate and complete to the best of the Contractor's knowledge and belief;
- (3) The amount requested accurately reflects the amount of compensation for which the Contractor believes the District is liable.
- (4) That the Contractor is familiar with Government Code sections 12650 et seq. and Penal Code section 72 and that any false claim can lead to substantial fines and/or imprisonment.

.7 Signature of Certification: If the Contractor is not an individual, the certification shall be executed by an officer or general partner of the Contractor having overall responsibility for the conduct of the Contractor's affairs.

.8 Mandatory Claim Appeal Procedure: The Contractor's Claim Appeal shall be denied if it fails to provide the written basis of the claim and certification as set forth herein.

.9 District May Request Additional Information: Within thirty (30) days of receipt of the Claim Appeal and the information under this Article, the District may request in writing any additional documentation supporting the claim or documentation relating to defenses to the claim which the District may assert.

.10 Binding Arbitration of Individual Claim Issues: At the District's sole option, the District may submit individual disputes, or claims, to binding arbitration and Contractor agrees to the resolution determined for each individual dispute by Arbitrator, including resolution of time and delays. If binding arbitration is utilized, such resolution is a full and final resolution of the particular claim or dispute. Under no circumstances may the Contractor stop Work, rescind its Agreement or otherwise slow the progress of Work during resolution of individual claims in binding Arbitration.

.11 Resolution of Disputes in Court of Competent Jurisdiction: If claims are not resolved under the procedures set forth in this Article 1.6, such claim or controversy shall be submitted to a court in the county of competent jurisdiction after the Project has been completed, and not before.

1.6.8 Warranties, Guarantees and Obligations: The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon Contractor by the General Conditions and amendments thereto; and all of the rights and remedies available to District and Architect thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by laws or regulations by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

1.6.9 The Contractor and the District acknowledge and agree that the provisions of this Article are reasonable under the circumstances existing at the time of the execution of the Agreement.

1.7 NOTICE AND SERVICE THEREOF

1.7.1 Any notice from one party to the other under the contract shall be in writing and shall be dated and signed by the party, or by a duly authorized representative, giving such notice. Notices, of any form, shall not be effective for any purpose whatsoever unless served in one of the following manners;

.1 If notice is given to the District by personal delivery thereof to the District, or by depositing same in the United States mail in a sealed envelope which is addressed to the District with the envelope marked First Class Certified Return Receipt Requested the postage prepaid.

.2 If notice is given to the Contractor by personal delivery thereof to said Contractor or to their project site personnel or by depositing same in the United States mail in a sealed envelope which is addressed to the Contractor at their regular place of business or such address as may have been established for the conduct of Work under this Contract with it marked First Class Certified Return Receipt Requested the postage prepaid.

.3 If notice is given to the Surety or other person by personal delivery to such Surety or other person or by depositing same in the United States mail in a sealed envelope which is addressed to the Surety or such person which last communicated by him at the address as may have been established for the conduct of Work under this Contract with the envelope labeled First Class Certified Return Receipt Requested and the certified postage prepaid.

.4 Mailed notices shall be deemed effective on the third Working day after deposit in the United States Mail. The hand delivered notices shall be effective immediately provided that such delivery requires a signed receipt by the recipient acknowledging the delivery.

1.8 SUBSURFACE CONDITIONS

1.8.1 Should Work under this contract involve digging trenches or other excavations that extend deeper than four (4) feet below the surface, the Contractor shall, promptly and prior to proceeding with Work, notify the District, in writing, of any of these conditions:

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

.2 Subsurface or latent physical conditions at the site differing from those shown on or could reasonably be inferred from the Contract Documents.

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

1.8.2 The District will investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's costs of, or the time required for, performance of any part of the Work will issue a change order in accordance with these General Conditions.

1.8.3 In accordance with the Public Contracts Code 7104, any dispute arising between the Contractor and the District 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 require for, performance of any part of the Work, the Contractor shall not be excused from any completion date required by the Agreement, but shall proceed with all Work to be performed by the Agreement. The Contractor shall retain any and all rights provided by either contract or by law which pertain to the resolution of disputes and protests between the Contractor and District. The District, however, reserves the right to terminate this Contract should the District determine not to proceed because of any of the conditions described in Article 1.8.1. in accordance with Article 2.6.12.

ARTICLE 2 DISTRICT

2.1 DISTRICT PROVIDED INFORMATION, SERVICES AND RIGHTS

2.1.1 Information on the Physical and Legal Limitations of Site - The District shall furnish information, based on the most reliable information in their custody, possession and control, as it relates to the existing conditions on the Site. This shall include; easements, existing improvements, surface and limited subsurface soil and geotechnical conditions, utilities, surveys and the legal description and limitations. The information about existing conditions, furnished by the District under the Contract Documents, is obtained from sources believed to be reliable, but the District neither guarantees nor warrants such information to be complete and accurate.

2.1.2 Permits - The District shall submit, pay for and the Contractor shall pick up the DSA Approved set of Contract Documents. Contractor shall pay and District will reimburse all required utility connection, use or occupancy fees for the permanent structure or modification to Existing Improvements. Any additionally required Permits shall be submitted, paid for and picked up by the Contractor and/or Subcontractor(s) performing the Work for which the permit is required and the District will reimburse. This shall include but not be limited to the Site Work, off Site Work, Work on public property.

2.1.3 Copies of Documents - The Contractor shall be provided, free of charge, one (1) set of Contract Documents (drawings and specifications). Contractor shall pay for all additional copies of the Contract Documents. At the end of the project the Contractor shall provide the District with an updated set of "As Built" drawings, see Article 1.1.11. The Contractor's "As Built" drawings, see Article 1.1.11, shall include all major trades (ie: structural, fire sprinklers, HVAC, plumbing, landscape irrigation and electrical) and be submitted to the District as part of the final close out documentation.

2.1.4 Communications - All communications shall be forwarded to the District/Project Center for distribution. In turn the District/Project Center shall forward all communications to the appropriate party. In the case of the Contractor, the District's delivery will be made to the Contractor's on site representative. It shall be the Contractor's responsibility to make distribution to their Home Office and Subcontractor(s) as they deem necessary. The District shall not have the responsibility for the distribution of any communications and/or drawings directly to the Contractor's Subcontractor(s), Vendor(s) or Material Supplier(s).

.1 The District reserves the right to, at any time or from time to time and without prior notice or approval of the Contractor, replace the District's representatives or Consultants. Upon written notice from the District the Contractor shall acknowledge and recognize the District's new representative or firm for all purposes under the Contract Documents.

2.1.5 Timely Distribution of Information - The District shall distribute correspondence, submittals, RFI's, Bulletins, Drawings in a timely manner so to avoid and/or not create an unreasonable Delay in the orderly and sequential progress of Work. The District, Architect/Design Consultant shall have fifteen (15) calendar days to respond to questions or requests by the Contractor.

2.1.6 Project Meetings - The Director/Project Center shall conduct weekly, or at a frequency deemed necessary, construction Project update meetings. These meetings shall be attended by the District, the Architect/Design Team (as required), the Contractor's Project Manager and Superintendent and any other personnel deemed necessary by the District. The minutes shall be taken and distributed by the Project Center.

.1 Any person representing the Contractor and/or Subcontractor's, suppliers as it relates to their aspect of the Work shall have the authority to commit, on behalf of their company, as it relates to items concerning; financial issues, manpower scheduling, delivery and installation of materials.

.2 The Contractor and Architect/Design Team shall submit to the Project Center, at least twenty-four (24) hours prior to the meeting, any items desired to be included on the agenda. The meeting minutes shall be taken by the Project Center and distributed to all attendees. Nothing in the minutes shall be interpreted as relieving the Contractor and/or its/his Subcontractor(s) of their contractual obligation under the Contract Documents relative to the on time completion of the Project.

.3 Unless the published minutes are challenged, in writing, prior to the next regularly scheduled progress meeting they will accepted as properly stating the activities and decisions of the meeting. In the event the minutes are challenged the person challenging the published minutes is responsible for reproducing and

distributing copies of the challenge to all indicated recipients of the particular set of minutes. The challenges will be resolved at the next regular meeting as a priority under "Old Business".

.4 The Contractor shall provide an update of the overall construction progress as it relates to the Approved Construction Schedule. In addition the Contractor shall define any problem issues that may be foreseen and specifically how the issues will impede the progress of the Work. This notification shall include any and all proposed steps that the Contractor will take or the Team needs to take to correct and/or minimize the impact to the Project Approved Construction Schedule of the issue.

.5 The Contractor shall provide a three (3) week projection schedule at each meeting. This schedule shall include a narrative explaining why, if any, activities shown on the Approved Construction Schedule did not start or will not complete as planned or start as shown on the previous projection schedule.

2.2 DISTRICT'S RIGHT TO STOP THE WORK - Should the Contractor, as required by the General Conditions, fail to perform the Work in accordance with Contract Documents and/or refuses to correct Defective Work, the District may, without limiting any other rights thereto, direct the Contractor, in writing, to Stop Work. The Contractor shall immediately Stop Work until correction of the problem is made. The Contractor shall not be entitled to any adjustment in the Contract Time or Contract Sum as it relates to this direction to Stop Work. The District is under no duty or obligation to the Contractor and their Subcontractor(s) to exercise this right to Stop Work.

2.2.1 District's Right to Suspend Work - The District may, without cause, and without invalidating or terminating the Contract, order the Contractor, in writing, to suspend, delay or interrupt the Work in whole or in part for such period of time as the District may determine. The Contractor shall resume and complete the Work suspended by the District upon the Contractor's receipt of the District's written Directive, whether issued at the time of the Directive suspending the Work or subsequent thereto.

2.3 DISTRICT'S RIGHT TO CARRY OUT THE WORK - In the event the Contractor should default or neglects to carry out the Work, as defined within the Contract Documents, and further fails, after receiving written notice from the District to commence and continuously Work diligently and promptly, until the default or neglect is corrected the District may, upon ten (10) calendar day written notice and without prejudice to other remedies available to the District, correct the deficiencies noted to the Contractor. An appropriate Change Order shall be issued to the Contractor for the District's cost of correcting the noted deficiencies. The Change Order shall include all costs relative to the correction and shall include compensation for added expenses incurred by the District, the Director and support staff, Architect, Design Consultants, Inspector of Record, Testing Laboratories and all others to which the District is liable for correcting the default and/or neglect. If payments due the Contractor are not adequate to cover the amount of the Change Order(s), the Contractor shall immediately pay the difference to the District. The responsibility for reimbursement of the District's costs shall extend, by this Contract, to the Contractor's Surety.

2.4 DISTRICT'S AUDIT RIGHTS

2.4.1 Maintenance of Records - The Contractor shall keep and insert within their subcontracts a clause requiring the Subcontractor(s) to keep full and detailed records (hard and electronic) of every kind and character that has bearing on or pertaining to the Project. These documents shall include but not be limited to; Contract Documents, subcontracts, purchase orders, schedules, pay requests, vouchers, estimates, diaries, cancelled checks, change orders and other documents relating in any way to the construction of the projects. The Contractor shall implement such accounting and control systems which are typical to similar projects. The records shall be maintained for a period of four (4) years after Final Completion or a period as may be required by all applicable laws which ever is more stringent.

2.4.2 Access for Audit or Inspection - The Contractor shall and cause its Subcontractor(s), by Contract, to allow the District and it's designated representative(s) (auditors, attorneys, Consultants and accountants) complete access, subject to providing twenty-four (24) hour written notice, to inspect Work in place and/or copy all records relating to the Project that the Contractor and Subcontractor(s) are required to maintain. The place of access shall be within a 200 mile or less radius of the campus.

2.5 SEPARATE CONTRACTS

2.5.1 The District reserves the right to let other trade contracts in connection with the completion of the Project. The Contractor does, by execution of this Contract Agreement, acknowledge and agree to afford other Contractor(s) an area, within the Project site, for the safe storage of their materials and equipment and further to coordinate the Work as it relates to interfacing with their systems. The District's Contractor(s) shall be given adequate time and opportunity to make all required installations. The Contractor further agrees and accepts the requirement to properly connect, even though installed by others, any and all Work necessary to have a complete functioning system.

2.5.2 The Contractor shall not hinder, delay or impact in any manner the District's Contractor(s) Working on the project. Should simultaneous contract execution between the Contractor and the District's Contractor(s) possibly create interference or delay, the District shall be so advised. The District will then decide which Contractor shall proceed or if the Work can be coordinated in order for the Work to proceed simultaneously. Nothing herein contained shall be interpreted as granting the Contractor sole and exclusive occupancy or use of the Project site nor the District being responsible for any means and methods of Construction.

2.5.3 In order to ensure proper execution of subsequent Work it is incumbent on the Contractor to inspect, measure and verify, that the Work in place is accurate per the Contract Documents and will accommodate the subsequent Work. If there is a discrepancy, it is the Contractor's responsibility to notify, in writing, the Director what portion of the installed Work is unsuitable for achieving the desired finished results. Failure of the Contractor to inspect and report discrepancies shall constitute the Contractor's acceptance of the existing conditions.

2.5.4 The District shall not be responsible for damages suffered or extra costs incurred by the Contractor as a direct or indirect result from the District's awarding of any other contract Work or contracts on the Project. This shall include any decision or omission of the District respecting the order of precedence in the performance of all contracts.

2.6 DISTRICT'S RIGHT TO TERMINATE CONTRACT

2.6.1 Termination for Cause - The District may terminate, for cause, the Contract upon the occurrence of any one or more of the following events of the Contractor's default:

.1 If the Contractor refuses or fails to prosecute the Work, per the Approved Construction Schedule, with such diligence as will meet established milestones and insure Final Completion within the Contract Time, or if the Contractor fails to complete the Work within the Contract Time.

.2 Should the Contractor become bankrupt, insolvent or makes a general assignment for the creditors, or if the Contractor or a third party files a petition to reorganize or for seeking protection under any bankruptcy or similar laws or if a trustee or receiver is appointed for the Contractor or for any of the Contractor's property on account of the Contractor's insolvency, and the Contractor or its successor in interest does not provide adequate assurance of future performance in accordance with the Contract Documents within ten (10) days of the District's written request for such assurance.

.3 If the Contractor repeatedly fails to supply sufficient skilled Workmen or suitable materials or equipment to the Project as may be required by the Approved Construction Schedule.

.4 If the Contractor repeatedly fails to make prompt payments to any tier Subcontractor, Material Supplier or others which have provided labor, materials and/or equipment to the Project.

.5 If the Contractor disregards laws, ordinances, rules, codes, regulations, orders applicable to the Work or similar requirements of any public entity having jurisdiction over the Work.

.6 If the Contractor disregards written Directives from the District or the District's designated representative(s) which were issued in accordance with the Contract Documents.

.7 If the Contractor knowingly performs Work which deviates from the Contract Documents and neglects or refuses to correct such Work.

.8 If the Contractor knowingly or otherwise violates in any material way any provisions or requirements of the Contract Documents.

2.6.2 Upon the District's determination that sufficient cause exists to warrant such termination, the District may, upon giving the Contractor and the Contractor's Surety five (5) days advance written notice as to the effective date of termination, terminate the Contract without prejudice to any other rights or remedies the District may have within this Contract Agreement and all other applicable laws and/or regulations.

2.6.3 The District shall have the sole discretion to permit the Contractor to remedy the basis for the termination without waiving the District's right to terminate the Contract or otherwise waiving, restricting or limiting any other rights or remedies available under the Contract Documents or the law.

2.6.4 In the event, pursuant to this Article, the Contractor is terminated the District may take over the Work and prosecute it to completion and may, by Contract or otherwise, exclude the Contractor from the Site. The District upon termination may, subject to any rights of the surety:

.1 Take possession of the Work and all of the Contractor's tools, appliances, construction equipment, machinery and appurtenances that remain on the Site and use the same to the fullest extent they could be used by the Contractor without liability to the Contractor. At the conclusion of the Project the Contractor shall be responsible for the removal of all tools, appliances, construction equipment, machinery and appurtenances which were used by the District. The Contractor shall remove the above items within forty-eight (48) hours of receiving written direction from the District. Should the Contractor fail or refuse to remove the items as directed the District may, without forfeiting any other rights, dispose of the items as deemed most expedient.

.2 Take possession of all materials, equipment and appurtenances stored on the Site or for that which the Contractor has been paid for but is stored offsite and complete the Work in a manner which the District deems most expedient.

.3 Accept assignment of subcontracts. Contractor acknowledges and agrees that if the District (in its sole and absolute discretion) decides to take over completion of the Project, the Contractor agrees to immediately assign all subcontracts to the District which the District has chosen to accept.

.4 Complete the Work by any reasonable method the District may deem expedient, including contracting with a replacement Contractor or Contractors.

2.6.5 By the District exercising the right to prosecute the completion of the Work it shall be the District's right and sole discretion to use the means and methods that will complete the Work for the most reasonable cost. The District shall not be required to solicit bids to determine the lowest cost for the completion for any of the Work. In the event the District takes bids for the remedial Work and/or the Project completion, the Contractor or any of their subsidiaries shall not be eligible for award of such completion Contract(s).

2.6.6 Should the Contractor be terminated pursuant to this Article, the District may demand the Surety take over and complete the Work within the time period set forth in the Construction Documents. The District may, as set forth within the Contract Documents, require the Surety not to utilize the Contractor to perform and complete the Work. In the event the Surety fails or refuses to take over and begin completion of the Contract within ten (10) days after the written demand, the District may take over the Work and pursue completion as provided herein without waiving any rights available to the District under the Contract Agreement of ALL applicable laws and regulations.

2.6.7 The District shall, in its sole and exclusive discretion, have the option to require any Subcontractor or Material Supplier to perform in accordance with and for the amount stated in its Subcontract or Purchase Order with the Contractor at the time of termination. The Contractor's Subcontract(s) or Purchase Order(s) shall contain a statement that, in the event of the Contractor's termination, the Contractor's Subcontract(s) or Purchase Order(s) may, at the discretion of the District, be assigned to the District or such other person, firm or entity as may be selected by the District.

2.6.8 In the event of the Contractor's termination, under this Article, the Contractor shall not be entitled, until the Work is complete and Accepted by the District, to receive any additional payments of the Contract Price. Should the unpaid balance of the Contract Price, at the time of termination, exceed the District's direct, indirect costs and expenses which includes, without limitation, attorney's fees, compensation for additional professional and consultant services, the excess shall be used to pay the Contractor for the Work performed prior to the

effective date of termination. It is acknowledged and agreed to, by the execution of this Contract Agreement, that should the District's final costs and expenses for completing the Work exceed the unpaid balance due, the Contractor and/or the Surety shall pay or caused to be paid to the District the difference within thirty-five (35) days after the District's written notification to the Contractor and Surety.

2.6.9 The Contractor and the Surety shall be liable for all damages sustained, in any manner, by the District resulting from the termination of the Contract under this Article 2.6, including without limitation, attorney's fees and all costs including A/E fees necessary to repair and/or complete the Work to the level required by the Contract Documents. These damages shall be the difference between the Contract funds due the Contractor and the actual cost to complete.

2.6.10 In the event the Contract was terminated under this Article, TERMINATION for CAUSE, and it is subsequently determined that the Contractor was not in default, then the District's termination shall be deemed a Termination for Convenience. Thereupon, the rights and obligations of each, the District and the Contractor, shall be determined in accordance with the Article on Termination for Convenience of the District.

2.6.11 Should, pursuant to this Article, the Contract be terminated it shall not affect or limit any rights or remedies of the District against the Contractor or the Surety. The rights and remedies for the District under this Article 2.6, are in addition to and not lieu of any other rights and remedies provided by law or under the Contract Documents. Any retention or payment of monies to the Contractor by the District shall not be deemed as a release of the Contractor or the Surety from any liability hereunder.

2.6.12 Termination for Convenience - District may terminate the Contract upon ten (10) calendar days of written notice to the Contractor and use any reasonable method the District deems expedient to complete the Project, including contracting with replacement Contractor or Contractors, if it is found that reasons beyond the control of either the District or Contractor make it impossible or against the District's interest to complete the Work. In such a case, the Contractor shall have no claims against the District except: (1) the actual cost for labor, materials, and services performed which may be documented through timesheets, invoices, receipts, or otherwise, and (2) ten percent (10%) profit and overhead, and (3) five percent (5%) termination cost of the total of items (1) and (2). Contractor acknowledges and agrees that if the District (in its sole and absolute discretion) decides to take over completion of the Project, the Contractor agrees to immediately assign all subcontracts to the District which the District has chosen to accept.

2.6.13 Remedies Other Than Termination - If a default occurs, the District may, without prejudice to any other right or remedy, including, without limitation, its right to terminate the Contract pursuant to Article 2.6.1, upon ten (10) calendar days of written notice, do any of the following:

.1 Permit the Contractor to continue under this Contract, but make good such deficiencies or complete the Contract by whatever method the District may deem expedient, and the cost and expense thereof shall be deducted from the Contract Price or paid by the Contractor to the District on demand;

.2 If the Workmanship performed by the Contractor is faulty or defective materials are provided, erected or installed, then the District may order the Contractor to remove the faulty Workmanship or defective materials and to replace the same with Work or materials that conform to the Contract Documents, in which event the Contractor, at its sole costs and expense, shall proceed in accordance with the District's order and complete the same within the time period given by the District in its notice to the Contractor; or

.3 Initiate procedures to declare the Contractor a non-responsible bidder for a period of two to five years thereafter.

All amounts expended by the District in connection with the exercise of its rights under Article 2.6.13 shall accrue interest from the date expended until paid to the District at the maximum legal rate. The District may retain or withhold any such amounts from the Contract Price. If the Contractor is ordered to replace any faulty Workmanship or defective materials pursuant to Article 2.6.13.1 above, the Contractor shall replace the same with new Work or materials approved by the Architect and the District, and, at its own cost, shall repair or replace, in a manner and to the extent the Architect and the District shall direct, all Work or material that is damaged, injured or destroyed by the removal of said faulty Workmanship or defective material, or by the replacement of the same with acceptable Work or materials. In no event shall anything in this Article 2.6.13 be deemed to constitute a waiver by the District of any other rights or remedies that it may have at law or in equity, it

being acknowledged and agreed by the Contractor that the remedies set forth in this Article 2.6.13 are in addition to, and not in lieu of, any other rights or remedies that the District may have at law or in equity.

2.7 PARTIAL OCCUPANCY OR USE OF THE SITE

2.7.1 District's Right to Partial Occupancy - The District, without foregoing any rights and remedies afforded the District elsewhere within the Contract Documents, may occupy or use any completed or partially completed portion of the Work provided; (1) the District has obtained the consent and required authorization from all public authorities having jurisdiction over the project and any completed or partially completed portion of the Work; (2) the District and Contractor have mutually accepted, in writing, the responsibilities assigned to each of them as it relates to payments, retainage, security, maintenance, utilities, insurance, commencement of warranties, impacts to the incomplete Work, and the time period for correction of unacceptable Work as required by the Contract Documents.

.1 In the event the District and the Contractor are unable to achieve agreement on the matters set forth in Article 2.7.1, the District may nevertheless use or occupy any completed or partially completed portion of the Work with the responsibility for the noted matters being subject to resolution in accordance with the Contract Documents; (1) immediately prior to partial occupancy or use of the Work the District, Director, Architect/Design Team and IOR shall inspect the portion of the Work to be used by the District in order to make note, list and record, in writing, the condition of the Work prior to occupancy. The written notes, list and records shall be forwarded to the Contractor prior to the occupancy.

.2 Unless expressly agreed otherwise, in writing, between the District and the Contractor, the District's partial occupancy or use of any portion of the Work shall not constitute the District's acceptance of any Work that is in noncompliance with the requirements of the Contract Documents or which has been determined to be otherwise defective. Nor shall it be interpreted by the Contractor that the Project has reached overall Substantial Completion.

2.8 DISTRICT'S INSPECTOR/INSPECTOR OF RECORD (IOR) - Is the California State licensed authority employed by the District to perform observations and inspections that will insure the quality and compliance required by, at minimum, Title 24 of the California Code of Regulations and the Contract Documents. The District's Inspector shall have complete access to all parts of the Work, wherever located and whether partially or fully fabricated, manufactured, furnished or install.

2.8.1 The Contractor shall provide, at no expense to the District or the Inspector, any equipment, ladders and/or lifts, required or necessary for safe and proper facilities for the Inspector's access to perform the required inspections or observations.

2.8.2 The Contractor shall submit a written request to the Inspector of Record at a minimum of twenty-four (24) hours prior to the needed inspection. Failure by the Contractor to notify the Inspector, within the required time period and in the proper format, could have impact to the necessary inspection.

.1 Inspections missed, for whatever cause, shall not be a basis for the granting of an extension to the Contract Time and nor will it be a justification for an increase of the Contract Price due to having to reschedule inspection or expedite construction activities to maintain the Approved Construction Schedule.

.2 Should the Contractor properly schedule the inspector but fails to have the Work ready for the scheduled inspection the Contractor shall become responsible and liable for any and all costs, including without limitation the show-up time and re-scheduling of the inspection, incurred by the District. Rescheduling the inspection shall not warrant the granting, by the District, any additional Contract Time or Contract Compensation.

2.8.3 The Inspector's performance of the duties defined by the Contract Documents shall not relieve or limit the Contractor's and their Subcontractor's performance of their Contract required obligations.

2.8.4 In the event the Inspector was not properly scheduled or the Work for the scheduled Inspection was delayed shall not be construed as authorization, direction or approval by the District for the Contractor to proceed to cover Work for which inspection is required. If Work is covered or concealed, without inspection, it is the Contractor's responsibility to remove covering materials so the Inspector has access to perform the

observation/inspection and then replace the covering to the requirements of the Contract Documents. This shall be done at no cost to the District and without additional time being granted.

2.9 PERMITS, FEES AND NOTICES - The District shall submit plans for DSA review and pay all the necessary DSA fees relevant to the approval of the Project Contract Documents. In addition, unless specified elsewhere within the Contract Documents, the District shall secure, pay for and obtain necessary easements, assessments and changes required for the construction, use, permanent occupancy of structure(s) or permanent changes in existing facilities which relate to the ability to perform the Work shown in the Contract Documents. In accordance with the Contract Documents the Contractor shall secure and pay for any permits, licenses, fees and inspection necessary for the complete execution of the Work as may be required by the Governmental Authorities (city and county) having jurisdiction over the project. The cost of these permits, licenses, fees and inspections will be reimbursed by the District.

2.10 LAWS AND REGULATIONS - Contractor shall hand out, post or otherwise display, in accordance with all laws, ordinances, rules and regulations that have bearing on the conduct of Work as defined within the Contract Documents. In the event the Contract Documents are in conflict with these rules and regulations the Contractor shall immediately notify, in writing, the District and then shall adjust as directed by the District. In the event the Contractor knowingly performs Work that is contrary to the rules and regulations, without notifying the District, all costs for the correction or to become compliant shall be the Contractor's responsibility.

2.11 ASSIGNMENT OF ANTITRUST CLAIMS - Pursuant to Section 4550 et seq. of the Government Code, in entering into a public Works contract or a subcontract to supply goods, services or materials pursuant to a public Works contract, the Contractor or Subcontractor offer and agrees to assign to the District all rights, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act, (15 USC Section 25) 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 awarding body tenders final payment to the Contractor, without further acknowledgement by the parties.

2.11.1 If the District receives, either through judgment or settlement, a monetary recovery for cause of action assigned under Chapter 11 (commencing with Section 4550) of Division 5 of Title 1 of the Government Code, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the District any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the District as part of the Bid price, less the expenses incurred in obtaining that portion of the recovery.

2.11.2 Upon demand, in writing by the assignor, the District shall, within one(1) year from such demand, reassign the cause of action assigned pursuant to this article if the assignor has been or may have been injured by the violation of the law for which the cause of action arose; and (1) the District has not been injured thereby; or (2) the District declines to file a court action for the cause of action.

2.12 SOILS INVESTIGATION REPORT - When a soils investigation report, obtained from test borings on the site is available, it shall be considered as part of this Contract. Any information obtained from such report or any information given on drawings as to subsurface soil condition or to elevations of existing grades or elevations of underlying rock is not guaranteed. The Contractor is required to make a visual examination of the site and must make whatever tests deemed appropriate to determine underground soil conditions. Claims for allowances or claims of damages will not be recognized because of the Contractor's negligence to become completely acquainted with the conditions of the site as described herein.

WARNING: DISTRICT DOES NOT WARRANT THE SOILS AT THE PROJECT SITE. SOILS INVESTIGATION REPORT IS PROVIDED FOR CONTRACTOR'S INFORMATION ONLY. CONTRACTOR HAS CONDUCTED AN INDEPENDENT INVESTIGATION OF THE PROJECT SITE AND THE SOILS CONDITIONS OF THE SITE. DISTRICT DOES NOT WARRANT THE SOILS CONDITIONS OF THE SITE AND CONTRACTOR IS FULLY RESPONSIBLE TO ASCERTAIN SITE CONDITIONS FOR THE PURPOSES OF DETERMINING CONSTRUCTION MEANS AND METHODS PRIOR TO COMMENCING CONSTRUCTION.



ARTICLE 3 ARCHITECT

3.1 ARCHITECT'S ADMINISTRATION OF THE CONTRACT

3.1.1 Contract Administrator - The administration of the Contract shall be done, in accordance with and as described within the Contract Documents, by the Architect in conjunction with the District/Project Center. The Architect shall be one of the District representatives during the course of construction and until the authorization of, per the Contract Documents, the Contractor's Final Payment. The Architect shall have the responsibilities, as defined and required by law, to function as an advisor to the District and their relative consultants and employees for the implementation of the Contract Documents, Title 24 of the California Code of Regulations, and as applicable to the construction Contract for the Project.

3.1.2 Site Observations - The Architect will visit, in order to become familiar with the progress and the quality of the Work, the Site at intervals appropriate to the stages of construction as indicated on the Approved Construction Schedule. The visits defined in this article shall be, as closely as possible, coordinated with the review of the Progress Payment draft. These visits shall not supersede any other site visitations required by the District.

.1 Architect visits shall not be required to make extensive or continuous Site Observations for the purpose of checking the Work as it relates to the quality or quantity of Work. Furthermore the Architect's visits are not to be presumed, by the Contractor, to be for the purpose of determining acts or omissions by the Contractor, Subcontractor(s), Material Suppliers, their agents or employees or any other person(s) performing portions of the Work. Such Site visits and/or observations by the Architect shall not preclude the Contractor from performing the Work in accordance with Contract Documents or requirements of any agency having jurisdiction over the Project. Site visits and/or observations are for the sole purpose to keep the District appraised of the progress in the Work as an endeavor to protect against deviations, defects and deficiencies in the Work and not to replace required inspections.

.2 The Architect will conduct observations for the purpose of determining the date and/or dates which will be used as dates of Substantial and Final Completion and in turn advise the District of those dates. In addition the Architect shall, after submission by the Contractor, review of, verify and approve the As-Built drawings, Operation and Maintenance manuals, warranties and guarantees, spare parts and materials or any other Closeout items required by the Contract Documents and in turn advise the District that the Contractor has or has not complied with the Closeout requirements of the Contract Documents and Final Completion.

3.2 RESPONSIBILITY FOR CONSTRUCTION MEANS, METHODS AND SEQUENCES - The Architect, Design/Team shall have no control, authority to direct or be responsible for defining construction means, methods, techniques, procedures or sequencing in connection with the Work. The Contractor has complete and sole responsibility for construction means, methods, techniques, procedures or sequencing necessary to complete the Project within the allotted time period.

3.3 PAYMENT APPLICATION VERIFICATION - In accordance with the Contract Documents the Architect will, with the District, review the Contractor's Application's for Progress Payments and Final Payment. The Architect will approve and certify the Contractor's Payment Application to the extent the requested compensation for Work performed is actually in place and all other required documents for payment have been provided with the application.

3.4 REJECTION OF WORK - The Architect will review the Work for its conformance to the requirements of the Contract Documents. If determined the Work fails to meet the intent of the Contract Documents the Architect will advise the District on the course of action which should be implemented to correct the non-complying Work. While the Architect has the authority to determine if the Work is or is not in compliance with the Contract Documents they are not empowered to Stop the Work. Furthermore, the Architect shall have the authority, as defined within the Contract Documents, to recommend/require the performance of additional testing or inspection of the Work whether installation is complete or in fabrication, being installed or the testing did not comply with the Contract Document requirements. All costs for retesting or re-inspection shall be the sole and complete responsibility of the Contractor.

3.5 SUBMITTALS

3.5.1 Architectural Review - The Architect shall review, approve or take other appropriate actions on the Contractor's reviewed Submittals. The Architect's review/checking is limited to verifying conformance with the information given and the Contract Documents as it relates solely to the design concept/intent.

.1 An Architect's re-review, if necessary, of the Contractor's Submittal shall not modify or relieve the Contractor of their obligations as defined within the Contract Documents. The cost of the re-review, because of improper submittal or failure by the Contractor to check and/or coordinate with other Submittals, shall be paid for by the Contractor. Additionally, there will not be any time extensions granted for the re-reviewing of the Submittal(s). The cost to maintain or recover time lost because of the additional reviews will be the sole responsibility of the Contractor.

.2 The Architect's Submittal review shall not constitute or waive the Contractor's responsibility for maintaining appropriate safety measures, programs or precautions required by the Contract Documents. None of the comments by the District or Architect/Design Team made during the review shall constitute direction for implementing construction means, methods, techniques, re-sequencing or procedures which are different than those previously outlined by the Contractor in the Approved Construction Schedule.

.3 Review and approval of an assembly component by the Architect shall not constitute the approval of the entire assembly for which the component is required to complete the assembly. It is the Contractor's sole and complete responsibility to provide a complete assembly. In the event special testing or review, by others than the Architect, is required this cost shall be borne by the Contractor. No additional Time will be granted to the Contract for the additional review and/or testing.

3.5.2 Time Period for Architect's Review - The Architect shall review the District's and Contractor's properly prepared and timely submitted Submittals in a timely manner, period as defined within these General Conditions, so as not to impede, hinder or delay the Contractor's or the District's separate Contractor(s) Work activities. The District and/or Contractor shall make the Submittals in an order to allow sufficient time for the initial and, if required, a re-review. Failure by the Contractor to make the Submittal in a proper time frame for the Architect's review, and if required a subsequent review, shall not be construed as justification and approval by the District for added compensation or an extension of time.

.1 The review period, from the date of the Architect's receipt to return to the Contractor, shall be fifteen (15) calendar days. Any submittal received by the Project Center after 10:00 AM shall be date stamped the next Work day.

3.6 CHANGE ORDER(S) AND CHANGE ORDER REQUEST(S) (COR) - The Architect, in conjunction with the District, shall review and render a decision as to the validity of a Change Order Request. Notwithstanding the above the Architect shall, if determined to be a justifiable change, review the request for accuracy in the Contractor's submitted pricing. Upon the final agreement between the District and the Contractor, the Architect shall sign the District's prepared Change Order.

3.7 INTERPRETATION OF CONTRACT DOCUMENTS

3.7.1 Authority of the Architect - Upon written request from either the District or the Contractor the Architect will interpret and render a decision on matters concerning requirements of the Contract Documents. The Architect's decision shall be rendered within a reasonable period of time. Responses/interpretations shall be written or in the format of drawings, sketches and when rendered by the Architect, shall be final with regards to aesthetic effects and consistent with the intent of and reasonably inferable from the Contract Documents. The Architect, making the decisions, will endeavor to secure faithful performance by the District and the Contractor and will not show any partiality to either party with regards to the decision(s). The Architect furthermore is not nor will be liable for the results of the interpretations or decisions which were rendered in good faith.

3.7.2 Request(s) for Information (RFI) - Should the Contractor, Subcontractor(s) and Material suppliers encounter any conditions which are believed, in good faith and within reasonable basis, to be a result of an ambiguity, conflict, error or omission in the Contract Documents, the Contractor shall have an affirmative obligation to submit, timely, a written request for clarification or additional direction based on the conditions encountered prior to proceeding with any portion of the Work affected or may be affected predicated on the perceived ambiguity, conflict, error or omission encountered. Should the Contractor fail to timely notify, in

writing, the District of the conditions encountered and the Contractor proceeds with the performance of any portion of the Work containing or affected by such conditions the Contractor shall bear all costs associated with or required to correct, remove or otherwise remedy any portion of the Work affected without any additional compensation or extension of Time.

.1 In requesting information from the District, Architect/Design Team to resolve any conditions the Contractor shall act with promptness in submitting such written requests so as to allow the Architect a reasonable period of time, as set forth in Article 3.5.2.1 of these General Conditions, to review, evaluate and respond to any such written request, taking into account the then current status of the progress and completion of the Work and the actual or potential impact of any such Conditions upon the completion of the Work within the Contract Amount and Time. The Contract Time shall not be subject to any adjustment in the event that the Contractor fails to timely request information from the Architect.

3.7.3 The foregoing provisions notwithstanding, in the event the District and/or the Architect/Design Team reasonably determine that any of the Contractor's Request(s) for Information; (1) does not show adequate or competent supervision or coordination by the Contractor or any Subcontractor(s); (2) is not reflective as to the Contractor's adequate or competent knowledge of the requirements of the Work or the Contract Documents; (3) is not justified for any other reason, the Contractor is then liable to the District for all costs incurred by the District related to the processing, reviewing, evaluating and responding to any such Request for Information, including without limitation, Architect/Design Team fees.

.1 In responding to any of the Contractor's Request(s) for Information, the Architect shall, in the response, indicate a determination, pursuant to Article 3.7.1, that the information requested could have reasonably been inferred from review of the Contract Documents. If so, compensation for which the Contractor is liable, as it relates to the processing, review, evaluation and response to the Request for Information could be requested by the Architect. The District may, thereafter, be authorized to deduct such amount from any portion of the Contract Price then or thereafter due the Contractor.

3.8 ARCHITECT'S COMMUNICATION ROLE - All communications between the Contractor and the Architect/Design Team, Separate Contractor(s) and Architect/Design Team to the Contractor or Subcontractor(s) shall be processed through the District's Project Center. At no time, unless prior authorization is given by the Director, shall there be direct communications between the Contractor, Separate Contractor(s), Subcontractor(s) and the Architect/Design Team. Communications regarding the Work, the performance thereof or the Contract Documents shall be in writing; any and all verbal communications shall be confirmed in writing.

3.9 TERMINATION OF ARCHITECT; SUBSTITUTE ARCHITECT - In the event of the termination of the Architect by the District, the District shall appoint a substitute Architect whose status, under the Contract and the Contract Documents, shall be that of the Architect.

ARTICLE 4 CONTRACTOR

4.1 RESPONSIBILITIES

4.1.1 Independent Contractor - The Contractor warrants to the District to be and shall, at all times during construction remain, an Independent Contractor and is completely responsible for the methods necessary and used to perform the obligations required under this Contract. Furthermore, the Contractor, wholly and without reservation, assumes complete responsibility for the acts of its agents, employees and the actions of their Subcontractor(s) as it relates to the performance of the Work and behavior on the Project. No course of interaction shall be construed as creating a relationship of employer and employee between the District and the Contractor or its Subcontractor(s). The Contractor and/or Subcontractor(s) shall not be entitled to any of the rights and privileges afforded to the District employees or agents.

4.1.2 Name Change or Nature of Contractor's Legal Entity - Should a change in name or the nature of the Contractor's legal entity be contemplated the Contractor shall first notify the District to insure that proper steps may be taken to have the name and/or legal entity reflected on the Contract. The Contractor shall, prior to the change in name or legal entity, provide the District with approval from the Contractor's Surety that the coverage will be maintained/continued for the Contractor's new name.

4.1.3 Fiduciary Responsibility - The Contractor accepts the obligation of trust and confidence that is established by the Contract Documents and the execution of the Contract Agreement with the District. The Contractor shall continually act in the best interest of the District when completing the tasks as defined in the Contract Documents. This shall include but not be limited to; when requested a full disclosure of pricing and estimating, providing effective and efficient business administration, sufficient senior level management and other qualified support personnel to apply the highest skill and attention to the Work to complete it in the most expeditious and economical manner that would be in the best interest of the District.

4.1.4 Licenses - The Contractor shall at the time of bid, through the construction of the project and the duration of any warranty period required by the Contract Documents, maintain the appropriate license to perform the Work required by the applicable laws governing the project. The Contractor is further charged with the responsibility to require and monitor that the Subcontractor(s), at any tier, have and maintain the appropriate licenses for their Work. The required licenses shall include but not be limited to; contracting, professional and business.

4.1.5 Contractor's Obligation for Design Services - The Contractor shall, in accordance with and as required by the Contract Documents, provide professional design services for portions of the Work or as required by the Contractor's implementation of their responsibility for means and methods of construction. These design services shall be provided with any necessary drawings which will be signed by an appropriately California Stated licensed professional. The District, Director, Architect, Design Consultants shall have the right and entitlement to depend completely on the accuracy and completeness of the information provided by the Contractor's Design Consultant.

4.1.6 Compliance with Title 24 - The Contractor and their Subcontractor(s), as applicable, shall comply with all the requirements of the California Code of Regulations as they apply to construction on Community College Campuses within the State of California. This shall include, without limitation, Title 24, Part 1.

4.1.7 Communications - All communications between the Contractor and the Architect/Design Team, Separate Contractor(s) and Architect/Design Team to the Contractor or Separate Contractor(s) shall be done through the District's Project Center. At no time, without prior authorization by the Director, shall there be direct communications between the Contractor, Separate Contractor(s) and the Architect/Design Team. Communications regarding the Work, the performance thereof or the Contract Documents shall be in writing; any and all verbal communications shall in turn be put into writing.

.1 All written communications between the Contractor and any Subcontractor(s), Material Supplier(s) or others directly or indirectly engaged by the Contractor to perform or provide any portion of the Work shall be available to the District and the Architect for periodic review, inspection and reproduction as may be deemed necessary. Failure or refusal of the Contractor to permit the District or the Architect to review, inspect or reproduce such written communications may be deemed a default of Contractor hereunder.

4.1.8 Phrasing for all Subcontract(s) - Contractor shall include in all subcontracts, at any tier, a clause which establishes, protects and preserves the District's right to contract with, in the event of the Contractor's termination, the Contractor's Subcontractors in order to complete the Project for their original contract amount plus any District approved adjustments.

4.1.9 Sex Offender Notification Requirement (MEGAN'S LAW REQUIREMENTS) - The Contractor shall follow and ensure the implementation of the requirements set forth in Assembly Bill 4 covering the Penal Code 290 – Registrants on Campus (Megan's Law) for all Workers, employees, agents, Subcontractor's and their agents, or sub-agents, that are offenders and sentenced under Penal Code 290. Furthermore, the Contractor agrees, to the best of their abilities, to enforce or cause to be enforced the legal mandate for the Registration Requirements for California of such employees, agents, Subcontractor or others to register with the Police and Safety Services Department of the Pasadena Area Community College District.

4.1.10 Verification of Conditions - Prior to installation of any product, the Contractor is responsible for the inspection of the existing and new substrate as to the accuracy and ability to receive materials to be installed. In the event the existing substrate is not proper, the Contractor shall, with due diligence, provide written notification to the District requesting directions on how to proceed. Should the substrate be new the Contractor shall immediately correct the improper condition. The District shall not be liable financially or for lost time incurred to bring the new substrate into contractually required condition.

.1 The installation of materials over any substrate shall constitute acceptance of the conditions as being proper condition to receive the materials to be applied. In addition, the installation shall constitute the Contractor's waiver of any claims that the substrate, existing or new, is defective as it pertains to the warranty requirements of the Contract Documents.

4.2 CONSTRUCTION DOCUMENTS

4.2.1 Contract Documents, plans and specifications, are intended to complement each other and show full and completely operational systems. In the event of ambiguity, conflict or apparent lack of information the Contractor shall, within five (5) days of becoming aware of the above mentioned issues, request clarification or interpretation from the District/Architect.

.1 The District/Architect shall, within ten (10) calendar days of being advised of the ambiguity, conflict or apparent lack of information, provide all additional information necessary to more fully explain the Work. The response may be in the form of written word, product data, sketches, complete scale drawings but in all cases the response shall be consistent with and reasonably inferable from the Contract Documents. Furthermore, the response shall be a true development of the Contract Documents.

.2 Should, in the opinion of the Contractor, any additionally provided details be more elaborate than the Contract Documents originally warranted, the Contractor shall, within five (5) days of receiving the additional clarification, provide the District/Architect with written notice to that effect. In the event the Contractor fails to provide written notice within the time period set forth in these General Conditions, it shall be deemed as the Contractor's waiver for compensation, time or money, to implement the District's/Architect's provided information into the project.

.1 Should the Contractor's written notice be provided as a formal COR, the request shall be reviewed and considered by the District, and the Architect. If the Work and Credit/Cost is found to be justified an appropriate Change Order shall be issued for execution.

.3 The Work shall be executed in complete conformity with the original or amended Contract Documents. In the event it is discovered that the Contractor and/or its Subcontractor(s) has varied from the Contract Documents with respect to materials, quality, form, finish, in the quantity or value of the materials and labor expended, the District and the Architect/Design Team, through the District, shall be empowered to at any time, before or after the completion of the Work, to order the removal and replacement of the improper Work. The correction of the improper Work and all adjacent or otherwise related Work disturbed or damaged during the correction of the improper Work shall be corrected and made equal to the original installation at the sole and complete expense of the Contractor. The District will not be liable for granting additional time caused by the need to perform corrective Work.

.1 In the event Contractor fails to make the necessary corrections the District may, without forfeiting any other rights and remedies available under this contract, deduct from the amount due and owed the Contractor one hundred-fifty percent (150%) of the amount the District has determined would be necessary to make the correction. The District may also elect to receive from the Contractor or Surety an amount of money which is the equivalent to the difference in value between the Work in place and that required by the Contract Documents.

4.2.2 In addition to and without limitation the Contractor's obligations as set forth elsewhere within these General Conditions the Contractor shall maintain, on the Site, one (1) legible complete current version of the Contract Documents. These documents shall be and remain in good order and be marked to record changes and selections made during construction. This shall include and not be limited to one (1) each a copy of the approved Shop Drawings, Product Data, Samples and any other required submittals. These shall remain on Site, in good order, for use by the District, Director, Architect, Design Team, Inspector of Record and any other person or agency having jurisdiction over the project until Project Acceptance by the District as defined within the Contract Documents.

.1 In addition to the aforementioned requirements related to the Contract Documents the Contractor shall have on site the most current editions of Title 24 of the California Code of regulations and the Uniform Building Code. The Contractor, by executing the Agreement, warrants to be familiar and will comply with Title 21 as it relates to this Project. The Contractor further acknowledges and understands the duties of the

Contractor as noted in Title 24 in the California Code of Regulations. In the event of conflict between Titles 21 and 24 of the California Code of Regulations and the Contract Documents the more stringent shall apply.

4.2.3 As-Built Documents - The Architect will furnish to the Contractor, a complete set of electronic drawings that include revisions to date for use to create part of the required As-Built documents. During the performance of the Work, the Contractor and/or Subcontractor(s) shall maintain, by daily posting, a Record Set of plans. This shall include but not be limited to the specific locations of items shown diagrammatically. The As-Built documents shall remain sole property of the District.

.1 The daily updated As-Built drawings and Specifications, signed by the Contractor's superintendent certifying that to the best of his/her knowledge the markings on the drawings are true and accurate, shall be reviewed by the District, Architect/Design Team and IOR monthly as a basis for approving the monthly Pay Application.

.2 At acceptance of the Project, as part of the closeout requirements, the Contractor shall have all required As-Built documentation, marked plans and revised Specifications, converted to electronic form in compliance with CADD Drafting Manual, see Article 1.1.11. As one of the conditions for the release of Final Payment, the As-Built documents of all trades shall be in electronic format, see Article 1.1.11, and turned over to the District at the earlier of Final Completion of the Project or termination of the Construction Contract.

.3 Changes, directions, requirements, interpretations shall be shown on the Record Set of drawings and the Work, from these directions, requirements, interpretations, shall be performed in the field. The records shall include, without limitations, hourly records, per day, for labor and use of construction equipment and list of materials and equipment for all changes. Notwithstanding the above, should any Subcontractor, of any tier, provide and/or perform any portion of any Change to the Work the Contractor shall require that each Subcontractor(s) maintain records in accordance with Article 4.8.1. Each daily record maintained by the Subcontractor shall be signed and countersigned by the Contractor's Field Superintendent or authorized representative. The Contractor's signature shall be certification and warranty the information shown is true, accurate and complete.

4.3 REVIEW OF CONTRACT DOCUMENTS

4.3.1 Contractor's Responsibility - By submission of its Bid and execution of the Construction Contract, the Contractor acknowledges, represents and warrants that it has had the opportunity to and furthermore has thoroughly reviewed and compared the Contract Documents to the existing site conditions. Predicated on this review the Contractor further agrees and accepts that it shall not be entitled to, and conclusively waives, any right to an adjustment to the Contract Sum or Contract Time because of additional or unforeseen losses or delays due to, errors, conflicts, ambiguities, lack of coordination if prior to the submission of the bid the information was: (1) discovered by the Contractor or any tier Subcontractor(s) but failed to request clarification prior to the submission of the Bid or (2) reasonably discoverable by exercising due diligence in the review of the Contract Documents and actual Site conditions.

4.3.2 Clarifications, Additional Detailing - The Contract Documents, Drawings and Specifications, provide the general concept of the Work to be performed. However, added details and clarifications may be required to more fully define the Work shown, provided these details are a logical progression in the development of the Contract Documents and are necessary to satisfy the design intent of providing a completed fully functional Project, the details are to be considered as part of the original Contract scope of the Work for which there shall be no increase in the Contract Sum or Contract Time. These added details shall be provided in the form of sketches and/or RFI responses and are necessary to complete the Work. In the event the Contractor believes the District, Architect and/or Design Consultants have provided information, clarification or additional Work by the new detailing, which the Contractor believes is a Compensable Change, the Contractor shall provide per Article 9 of these General Conditions, written notice to the Director. The Contractor's failure to provide written notification to the Director, within the Time period established in these General Conditions, shall constitute the Contractor's waiver to seek additional Compensation and/or Time for completing the Work detailed.

4.3.3 Adjustments to the Contract Sum - In accordance with the Change Order provisions within these General Conditions, the Contractor may be granted an adjustment to the Contract Sum and/or Contract Time if the information provided by the District could not have been reasonably discovered by a complete composite review of all the Contract Documents and is not a logical progression in the further development of the

documents. The Contractor's sole right for remedy and adjustment to the Contract Sum and/or Contract Time, as defined within the General Conditions, is the exclusive right and remedy for the recovery for Losses or Delays.

.1 Contractor's Remedy - The Contractor agrees, by execution of the Agreement, the right for an adjustment to the Contract Sum and/or Contract Time, as it relates to or in part of the variances between the conditions shown on the Contract Documents and the actual conditions encountered in the field, shall be governed by these General Conditions.

4.4 CONTRACTOR'S REVIEW OF SITE AND EXISTING CONDITIONS

4.4.1 Contractor's Responsibility - The Contractor shall verify ALL information provided by the District to the extent that the Contract Documents depict existing conditions on or about the Site, or the Work involves the renovation, removal or remodeling of existing improvements, the conditions and/or existing improvements depicted in the Contract Documents are as they are believed to exist. Contractor shall bear the risk of any variations between conditions or existing improvements depicted in the Contract Documents and those conditions or existing improvements actually encountered in the performance of the Work when reasonable ability of discovery was afforded the Contractor. The existence of any variations between existing conditions or improvements depicted in the Contract Documents and those actually encountered in the performance of the Work shall not result in any District liability thereof, nor shall any such variations result in an adjustment of the Contract Price or Contract Time if the Contractor, while performing his due diligence, could have discovered the variation.

.1 By the execution of the Construction Contract Agreement the Contractor represents, warrants and certifies that they have exercised due diligence by carefully and completely researching and inspecting; (1) the Site and its immediate surroundings, Existing improvements and their uses as it may relate to the use by the District and students as routes of ingress and egress, (2) all local conditions in the vicinity of the Site as it relates to the availability of labor, supply of materials and equipment; (3) the status and interface of any other concurrent, on campus construction; and (4) the accuracy of all surveys, reports, any As-Built drawings of Existing improvements and any other information provided by the District or disclosed by the public records.

4.4.2 Pre-Bid Conference - The Pre-Bid Conference (meeting) as described in the Bid solicitation is mandatory. The Contractor shall be deemed charged with the knowledge of all facts and other information provided or made available at the meeting. This shall include without limitation any and all of the physical conditions of the land, existing improvements of the site which are visible, and those known to be subsurface. The Contractor is responsible for providing this information to any and all Subcontractors which may Bid to them. Plans will not be provided to Subcontractors. Subcontractors desiring plans must obtain them from the Contractor's holding plans or purchase them directly from the printer. All information provided in the Pre-Bid Conference (meeting) shall be deemed included within the Bid Documents as if it were shown on the Drawings or included within the Specifications. The District, at its sole discretion, may elect to conduct additional job walks. In that event, the District will notify all Contractor's in possession of Bid Documents.

.1 The Bid Documents, plans and specifications, will be distributed at the Pre-Bid job walk. The information provided at the job walk will be put into minutes and be considered as part of the Bid Documents.

4.4.3 Requests for Information (RFI)

.1 The RFI's shall be prepared by the Contractor and submitted to the District/Project Center. Each RFI is to be consecutively numbered and include at a minimum: the specific plan and/or detail number, the applicable specification section, statement of the alleged problem and any suggestions to resolve the conflict and/or problem. Should the Contractor feel the RFI response does not resolve the conflict and/or problem the RFI may be resubmitted. The resubmitted RFI shall maintain the original number followed by an "R" plus the resubmitted number (R1, R2, R3, etc) behind the original number.

.2 In the event the Contractor encounters, what is perceived to be a discrepancy and/or lack of specific direction within the Contract Documents or a variance between the District provided information and the actual field conditions, the Contractor shall, prior to proceeding with the Work, provide the Director written notice, in the form of an RFI, that shall state the perceived discrepancy, lack of specific direction or conflict. The RFI shall be submitted in a time frame that will permit a review and response within the time period defined within these General Conditions. There will be no increase granted in the Contract Sum and/or Contract Time in the event the responses are not made within the stated time period.

.3 The information which shall be included in the RFI is at a minimum; (1) detailed description of the conflict, variance and/or discrepancy; (2) reference to the specific drawings and specifications; (3) statement by the Contractor as to whether there could be entitlement to an increase to the Contract Sum and/or Time. Failure to advise the District of the potential cost or time increase shall constitute the Contractor's waiver of the right to such increases.

.4 The Contractor shall exercise due diligence in reviewing the RFI's to determine that the requested information is not contained within the Contract Documents and/or has been responded to previously and is not a duplication. The District shall have the right to deduct from the Contractor's pay request any costs incurred because of additional Architect, Design Consultants, Inspector of Record and District Consultant costs for having to review RFI's for which the information was available within the Contract Documents or had been responded to in a previously answered RFI.

.5 The Architect/Design team shall have fifteen (15) days to review and provide a response to the RFI. The Contractor's failure to make allowance for the Architect/Design team's review period shall not be a basis for requesting additional Contract Time or monetary compensation.

4.5 RESPONSIBILITIES, SUPERVISION AND CONSTRUCTION PROCEDURES

4.5.1 Contractor's Staff and Responsibilities

.1 **Staffing and Responsibilities** - The Contractor shall provide fully competent and qualified personnel to administer and/or manage, coordinate, supervise and effectively direct, the Work as set forth within the Contract Documents. Each shall, at all times, devote their best skills and effort necessary to perform and complete the Work in accordance with the Contract Documents.

.2 **Project Key Personnel (Site Staff)** - The Contractor shall provide a jobsite staff that is experienced in the type project defined within the Contract Documents. The project staff shall, at a minimum, consist of a project manager, superintendent, project engineer and necessary assistants as may be required to perform the Work at the quality and within the time period set forth in the Contract Documents. Unless permitted to the contrary by the District, the staff defined above shall be located at the site. The entire staff shall be capable of reading, writing and communicating effectively in English. The superintendent shall be considered a management position and shall not perform any Work other than to supervise and coordinate the Work activities of the field trades.

.1 Additionally, the superintendent or another Contractor designated person, must be capable of responding to site emergencies. Therefore, the superintendent or a designated person shall be available twenty-four (24) hours a Day, seven (7) Days a week, including holidays.

.2 The Contractor's originally assigned Project Staff shall not be, unless they do not continue employment with the Contractor, replaced without the written permission of the District. To that end, should the District feel, at its sole discretion, that any member of the Project Staff is not fulfilling their responsibilities competently or is unfit for the position assigned, the Contractor shall, after receiving the District's written direction, shall provide, subject to the District's approval, a competent replacement.

.3 **Quality Control Coordinator** - To be provided by the District.

.4 **Safety Coordinator** - The Contractor shall designate a responsible member of the Contractor's on site staff whose primary duties shall be the prevention of accidents, implementation and maintenance of required safety precautions and programs. The superintendent shall be this person unless otherwise designated in writing to the District. This person shall retain copies of the minutes for all safety meetings (Contractor and Subcontractor(s)) conducted on the jobsite as well as any accident reports. Furthermore the Safety Coordinator shall provide, to the District, copies of reports on all accidents on the Site and minutes of safety meetings.

4.5.2 General Service(s) Responsibilities

.1 **Jobsite Temporary Office(s)** - The District shall provide the appropriate temporary office facilities within the designated construction Site.

.2 Temporary Utilities and Usage - All temporary offices, including set-up and removal, utilities, including but not limited to electricity, gas, telephone and potable water which are required for the performance of the Work shall be the Contractor's responsibility. The Contractor is further responsible for, as it relates to temporary services, all required deposits, the meters, installation, maintenance and removal of the necessary temporary distribution systems from the District designated points of service. The temporary services shall remain functional until the Project is accepted by the District, unless other written arrangements have been made. The Contractor shall be responsible for the costs with regards to the temporary utilities usage charges.

.1 The District may, after a method of payment for usage as been agreed, allow the Contractor to use points of service located on campus. In the event permission is granted by the District, all requirements for installation, maintenance and removal of the temporary services shall remain the responsibility of the Contractor.

.2 When it is necessary to interrupt any existing utility service to make any connections (temporary or permanent) the Contractor shall notify the District a minimum of seventy-two (72) hours in advance of the shut down (the date and time of the shut-down must first be approved by the District). All Work required prior to the actual connection shall be complete so the shut down will as short as possible duration. Should the Contractor cause an interruption without notifying the District as required by the Contract Documents, the Contractor shall bear any and all cost for damages the District may have incurred.

.3 Sanitary Facilities - The Contractor shall furnish, maintain and remove adequate clean temporary sanitary facilities on site. The number of units shall be no fewer than required by Applicable Laws for the number of Workers on site. The District reserves the right to request additional units be put into service. The sanitary facilities shall remain and be maintained on Site. There shall be **NO** usage of the District's facilities.

.4 Protection of Work and Construction Site - The Contractor shall be responsible to provide and bear the sole cost and risk for the protection, from intrusion, vandalism, destruction, all site hazards such as erecting, of the Site by the faculty, students and general public by furnishing, maintaining and removing:

.1 An eight (8) foot high fence and with necessary access gates around the designated construction site shown in the Contract Documents. If the fencing is wood it shall be painted in a color selected by the District and/or Architect. If chain link fencing is used then it shall have a fabric installed as a "Block out Curtain".

.2 Any necessary barricades/fencing to protect and/or direct; vegetation designated to remain, delivery and storage of materials to the site. At any time the District believes the temporary fencing is not adequate or in need of repair and the Contractor, after written notice, declines or refuses to make the corrections the District may have the Work done at the Contractors expense.

.3 Any required temporary lighting, warning lights and signage or watchmen as may be necessary.

.4 Any temporary shoring, bracing, elevated walkways required to protect pedestrians, existing sidewalks, curbs and gutters, landscaping, pavement, utilities, structures all that may adjoin the construction site. In the event there is damage the Contractor, at its/his sole cost, shall repair and/or replace the damaged area(s).

.5 Dust generated by construction activities or wind during the course of construction. The dust may be mitigated by the use of water or other methods approved by the District. In the event soil or debris is stockpiled within the Construction Site or other areas approved by the District it shall be covered completely as a method of control. All dust control measures shall be such that will permit dust control whenever the Contractor or Subcontractor(s) are not on site. Contractor is responsible for all costs for the stockpiling, relocation and/or removal from the Site.

.6 Any refuse containers or debris removal. There shall be **NO** usage of the District's containers. Any employee or Worker found to be using or discarding construction debris within the District's facilities will be asked to be removed from the Project and shall not return without written approval from the District.

.5 Survey - The Contractor shall be responsible for all surveying necessary for the construction of the Project defined within the Contract Documents. The survey markers, monuments, or any other survey

markings or devices shall be protected. However, in the event they are damaged, the Contractor shall, at no cost to the District, have these survey markers replaced promptly. All surveying shall be done by a registered civil engineering company licensed, within the State of California, for this type of Work. At the conclusion of the Project or sooner, if requested by the District, the Contractor shall provide a Certified CAD "As Built" Survey (per Article 4.2.3), of the site which shall, at a minimum, include; (1) building location with respect to the property lines; (2) the location (including the depths) of all services brought to the structure using the finished outside wall of structure as the fixed point of reference.

.6 Removal of Trash and Construction Debris - The Contractor shall provide adequate trash bins (dumpsters) for the removal, from the site, of the construction debris. These dumpsters shall be located within the construction site. The dumpsters shall be emptied as required to prevent debris from accumulating on the ground. The District recycles and therefore, with the monthly payment application, the Contractor shall include summary totals, supported by dump tickets, as to the amount of construction debris removed for that billing period. The Contractor shall place, empty and remove trash cans around the Project for the collection of small items and food stuff. In the event food stuff is found in the structure, in lieu of the trash cans, the District reserves the right to direct the Contractor to prohibit eating within the project structure. The District, at its sole discretion, may direct the Contractor to provide an eating area within the Work site but outside the structure.

.1 Upon Final Completion and Acceptance of the Work by the District the Contractor shall clean the site, the interior and exterior of the structure. This shall include but not be limited to the fixtures, equipment, walls, floors, ceilings, roofs, window sills, ledges, horizontal projections and anywhere debris has collected so surfaces are free from foreign material or discoloration; clean and polish all glass, plumbing fixtures, finish hardware and similar finish surfaces and equipment; and remove, all construction debris within flower beds, temporary fencing, barricades, planking, sanitary facilities and similar temporary facilities.

.2 In the event the Contractor fails or refuses to perform the clean up in accordance with the Contract Documents the District reserves the right to arrange to have the clean up done at the Contractor's expense. The cost for the District's clean up shall be forwarded to the Contractor for payment or the District may withhold the value of the clean up from any funds due the Contractor.

.7 Dimension Verification and Field Conditions - The Contractor shall, prior to submission of Submittals, verify that the item turned in corresponds and will be accommodated by the dimensions shown on the Contract Documents and/or interface with any other previous submittals. Further to that end, the Contractor shall, whenever possible and prior to releasing an item for fabrication, verify all field dimensions. The Contractor's submission of shop drawings and/or product data shall warrant that they have actually verified the dimensions.

.8 Safety Programs - The Contractor shall be solely responsible for initiating, maintaining and supervising all safety programs required by applicable law, ordinance, regulation or governmental orders in connection with the performance of the Contract or otherwise required by the type or nature of the Work. The Contractor's program shall include all actions and programs necessary for compliance with California or federally mandated Workplace safety programs, including but not limited to, compliance with the California Drug Free Workplace Act. (California Government Code Section 8350 et seq.). Without limiting or relieving the Contractor of its obligations hereunder, the Contractor shall require that all Subcontractors Working on Project Site shall similarly initiate and maintain all appropriate or required safety programs.

.1 The Contractor shall be solely responsible for initiating and maintaining reasonable precautions for the safety of and provide reasonable protection to damage, injury or loss to:

.1 employees on the Project site and other persons who may be affected thereby;

.2 the Work and materials and equipment to be incorporated therein, whether stored on or off Site, under care, custody or control of the Contractor or Subcontractor(s), of any tier;

.3 other property or items at or adjacent to the jobsite, such as trees, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

.9 Safety Signs, Barricades and Safety Notices - The Contractor shall erect and maintain, as required by existing conditions or conditions resulting from the performance of the Contract, reasonable safeguards for safety and protection of property and persons. This shall include but be limited to the posting of danger signs, other warnings against hazards, promulgating safety regulations and notifying the District and

users of adjacent sites and utilities. In addition the Contractor shall give and/or post all notices required by applicable law and comply with said law, ordinances, rules, regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

.10 Emergencies - In the case where damage, injury or loss threatens the safety of persons or property, the Contractor shall, at its/his discretion, take appropriate action to prevent such threats.

4.5.3 Contractor Daily Reports - At the conclusion of each Day the Contractor's Superintendent shall prepare a daily report stating the Work on site the Contractor and/or Subcontractor(s) performed that day. This report is to be submitted, either electronically or in hard copy, to the Project Center not later than Noon the next day. The submission of the reports shall be a contingent of the release of the monthly Pay Request. Nothing contained within the Contractor's Daily and Monthly reports shall relieve the Contractor of their obligations to comply with or shall constitute a waiver by the District of the Contractor's requirement to comply with the provisions of the Contract Documents, as modified by written District approved changes. This report shall include, at a minimum, the following:

.1 Labor - This shall include, but not be limited to, both the Contractor and Subcontractor(s) labor. Each trade shall be shown separately for the labor on site for the day of the report and include the classification of each tradesman and the hours Worked.

.2 Materials and Equipment - These items shall be shown in the report as it relates to the delivery and removal in the case of equipment. In the event these are being used for Change Order Work it shall be expanded to include the quantities and hours used.

.3 Inspection and Testing Activities - This shall include any inspection or testing required other than that done by the Inspector of Record. This shall include the name of the inspector, what specifically was inspected and a copy of the report shall be attached to the daily report.

.4 Visitors, Guests - Include a list of visitors and/or guests by name, position, company name and the purpose of the visit.

.5 Areas of Work - Provide the area(s) on the Project where Work took place. State the stage of completion, which Subcontractor(s) Worked in which area(s) and specifically what was completed.

.6 Accidents, Delays and Defective Work - Provide a detailed description of any accidents, injuries or defective Work encountered. Additionally, the report shall document any delays and the cause of the delay.

4.5.4 Subcontractor (Tailgate) Meetings - The Subcontractor(s) shall conduct bi-monthly meetings. The topics may include, but not limited to, project safety, project cleanliness, general project progress and any additional topics deemed to be pertinent by the Contractor. A copy of the Subcontractor(s) sign in sheet shall be available for District inspection. Subcontractor(s) attendance at the Contractor's meetings shall constitute compliance with this article.

4.5.5 Progress Meetings - shall be held weekly, at the jobsite or location authorized by the District, and attended by the District and/or their designated representative, Architect and the Contractor. The current progress of the Work, as it relates to the then current updated Approved Construction Schedule, will be reported by the Contractor. In addition the Contractor shall provide a three week look ahead schedule which shall indicate the status of on going activities, the starting and completing of other activities. The Contractor will also present logs indicating the status of RFI's and Submittals. The minutes will be taken by the District and distributed to all attendees. It shall be the Contractor's responsibility to distribute all pertinent information to its/his staff and Subcontractor(s). Nothing contained within the minutes shall relieve or constitute a waiver by the District of the Contractor's requirement to comply with the obligations of the Contract Document provisions, as modified by written District approved Change Order.

4.5.6 Trade Organizations - The Contractor acknowledges that on this project all tradesmen must be paid, at a minimum, the Prevailing Wage as set forth by the Department of Labor Relations for the State of California. The Contractor further warrants that all necessary precautions and/or arrangements have been made so that in the event of a Union Strike there will be no impact to the construction schedule.

4.5.7 Means and Methods - Unless the Contract Documents provide specific directions as to how to proceed, the Contractor shall have and be solely responsible for the Means and Methods of constructing the Project as defined in the Contract Documents. Should the documents provide specific directions as to how to proceed the Contractor remains completely and solely responsible for the jobsite safety for the implementation of these directions. If the Contractor feels and believes the means and methods of such a direction to be unsafe or not adequate for its intended purpose the Contractor shall immediately notify the District in writing and not continue with Work until further written direction is received from the District, Architect and/or the Design Consultants.

4.5.8 State of California Reporting - By the execution of the Contract Agreement the Contractor warrants, without limitation of other obligations contained in the Contract Documents, they are familiar and will comply with all the requirements of the California Code of Regulations, including and without limitation Titles 8, 17, and Part 1 of Title 24, as related to this Project. The Contractor agrees to prepare and submit, in accordance with Part 1 of Title 24, periodic reports verifying the Work has been performed and the materials used were installed in complete accordance with the DSA approved Drawings and Specifications.

4.6 CONSTRUCTION SCHEDULE

4.6.1 The Contract Documents require the Contractor, during the period of construction, to prepare, monitor, maintain, revise and submit construction schedules. Any and all costs, expenses required or incurred to prepare, maintain, revise and submit construction schedules shall remain the sole responsibility of the Contractor. The Contract Price shall not be subject to adjustment on account of any and all costs incurred relative to the Contractor's preparation, monitoring, and maintenance or updating of the construction schedules.

4.6.2 Preparation of Preliminary Construction Schedule - Within five (5) days, following the Notice To Proceed, the Contractor shall prepare and submit to the Project Center, for distribution to and review by the District's Consultants, Architect and Inspector of Record, a Preliminary Construction Schedule, in hard copy and electronic format, indicating in graphic form the logical sequence and rate of progress to complete the Project within the Contract Time period. The purpose of the Preliminary Construction Schedule is to provide evidence that there has been adequate planning and logical execution of the Work in order to complete the Project within the allowable time frame. It is further understood and agreed that the District's review, comments, shall not in this regard be considered as control over or the assumption of the construction means and methods. The Contractor shall remain completely responsible for the means and methods of construction. The District will not acknowledge increases in the Contract Sum or Contract Time because of delayed deliveries of required materials or equipment caused by the review of the Contract required submittals.

.1 The Preliminary Construction Schedule shall further indicate the date of commencement and completion of various portions of the Work. These dates shall include, but not be limited to, the scheduling and completion of Mock-ups, utility shut-downs, the fabrication lead time, after the submittal approval, for the construction start, finish dates and the sequence relationship of various activities of Work. There shall be no Time Extensions or added compensation granted.

.2 A Submittal Schedule, showing delivery dates to the Project Center for Architectural review, shall be part of the schedule. These dates should allow, at a minimum, adequate review time as defined in these General Conditions and make consideration for additional time incase a resubmission is required.

.3 At the Contractor's option, a Preliminary Construction Schedule that depicts a completion date that is earlier than that shown within the Notice to Proceed may be submitted. However, this Preliminary Construction Schedule shall not be a basis for adjustment to the Contract Price in the event the Completion of the Work occurs after the time depicted herein. Nor shall this schedule be the basis for any Contract Time extensions; the entitlement for an extension of Contract Time shall be based upon the Contract Time stated in the Notice to Proceed.

.4 The type of scheduling format to be used is at the discretion of the Contractor. In the event the selected format (computer software) is not used by the District the Contractor shall provide the District with a usable copy of their program with any and all required licenses that are required for the scheduling program that is used by the Contractor.

.5 The Construction Schedule required under this article references the Critical Path method of project scheduling or a similar method which will incorporate therein "Float" time, such float shall be deemed to belong to and owned by the District. "Float" time is defined as the time between the earliest and latest start dates or between the earliest finish and latest finish dates as shown on the Construction Schedule.

.6 The Contractor does, by the submission of the schedule, warrant that the Subcontractors have been consulted and participated in the development of the submitted Schedule. Furthermore, the activities required to provide a completed Project, within the allowable time period, have been planned and coordinated so not to impact the daily operation by the District's faculty, staff and students.

.7 The schedule shall specifically indicate when any District provided items and/or separate Contractors will be required so not to create conflict, delay or otherwise interrupt the progress of the planned construction operations.

4.6.3 Review of the Preliminary Construction Schedule

.1 The Project Center and its Consultants shall review the submitted Preliminary Construction Schedule in accordance with the requirements of these General Conditions.

.2 The Preliminary Construction Schedule shall be reviewed and returned by the Project Center and its Consultants, with comments as to form or content, within fifteen (15) days of receipt. The District and its Consultants comments shall not be considered as to be an assumption of construction means, methods or sequences by the District. All construction means, methods, sequencing shall remain the responsibility of the Contractor's as defined within these Contract Documents.

4.6.4 Preparation and Submission of Baseline Construction Schedule

.1 The Contractor shall, within ten (10) days of receiving the District and its Consultants comments to the Preliminary Schedule, prepare and submit to the Project Center for further distribution, the revised Construction Schedule reflecting previous District and Architect's comments. Upon receipt of the Contractor's revised schedule the Project Center and its Consultants shall review the schedule for conformance with previous comments and the Contract Documents.

.2 Within fifteen (15) days of receipt of the Construction Schedule, the District, the Project Center and its Consultants shall approve the revised schedule and acknowledge it as the Approved Construction Schedule. Should there be comments as to the form and/or content the schedule shall be returned to the Contractor within seven days (7) for further correction according to the additional comments.

.3 At such time the District, Project Center and its Consultants approve the form and content of the Construction Schedule it shall become the "Approved Construction Schedule". The approval of the schedule shall be for the sole and limited purpose of determining its conformity to the requirements of the Contract Documents. The approval shall not be construed as the District or Architect exercising control over the construction means and methods. The control of the construction shall remain the sole responsibility and obligation of Contractor. Further, the Approved Construction Schedule shall not operate to limit, restrict nor relieve the Contractor's obligations to fully, faithfully and timely perform their obligations under the terms and conditions of the Contract Documents.

.4 There shall be no changes, as it relates to the commencement, completion, sequencing, to the Approved Construction Schedule without written approval from the District and/or the Project Center. The Approved Construction Schedule or the Construction Schedule as updated with written approval from the District and/or Project Center shall remain the only schedule to be relied upon for planning, performing Work and in connection with any request for an adjustment in Contract Time. Any adjustment of the Contract Time or the Contract Price shall be based upon the Contract Time set forth in the Contract Documents and not shorter durations than depicted in the Approved Construction Schedule.

4.6.5 Revisions/Updates to the Approved Construction Schedule

.1 Should Work progress or sequencing of activities, as determined by the District and/or Project Center, materially differ from what is shown on the Approved Construction Schedule the Contractor may be directed to revise the Approved Construction Schedule. Within fifteen (15) days of the District's direction to

revise the Approved Construction Schedule the Contractor shall submit, for review, the revised schedule with a detailed narrative of the basis for the changes.

.2 Prior to making any revisions to the Approved Construction Schedule the Contractor must request, in writing, the District's consent to revise the Approved Construction Schedule. The written request shall state specifically which and why the activities are to be revised. The District may consent or deny any such request for the revision to the Approved Construction Schedule.

.3 The Contractor shall, on a monthly basis, monitor and update according to the actual progress for that period, the Approved Construction Schedule. This update shall include the actual start and finish dates of activities for that period. The monthly schedule update shall include a written narrative statement detailing the current and anticipated problem areas and their impact to the Approved Construction Schedule. If the progress is or will become behind, because of the noted problem areas, the Contractor shall provide a "Fragnet" schedule indicating how the lost or potential lost time will be recovered or prevented.

.4 In addition to the Contract requirements for the overall approved Construction Schedule, the Contractor shall prepare and submit, weekly, to the Project Center a schedule which shall represent the Work that; is ongoing, will start and/or will complete within the next three (3) weeks. In the event the Work, as defined within the schedules, fails to meet the Contractor's provided projections, a written explanation as to the cause and its remedy must be submitted to the Project Center within five (5) days after receipt of the District's written request.

.5 In the event the actual Construction activities are deemed to be behind those shown on the Approved Construction Schedule the Contractor shall immediately prepare and submit to the District, for their review, a Construction Schedule indicating what measures shall be taken to recover the lost time.

.6 The District reserves the right to, at their sole and exclusive discretion, periodically submit the most current updated Construction Schedule to the Contractor's Performance Bond Surety. This submission in no manner alters the Contractor's responsibilities and obligations under these Contract Documents.

4.6.6 Schedules as a Condition for Payment - The Contractor's compliance with the requirements of the Contract Documents as they pertain to the submission of a monthly updated Construction Schedule is a condition precedent to the District's obligation to fund the Contractor's monthly or final invoice. Failure by the District to assert its right to withhold payment due to noncompliance relative to the submission of schedules shall not constitute the District's waiver of its right to withhold future payments for the Contractor's subsequent noncompliance.

4.7 LABOR, MATERIALS, EQUIPMENT

4.7.1 Conduct of Jobsite Personnel - The Contractor acknowledges that the construction will be done on a fully operational College Campus and that there shall be strict discipline among the Contractor's employees and their Subcontractor(s), at any tier, for the duration of the project. This requirement shall extend to all delivery drivers and/or offsite Contractors. There shall be **NO** interaction or harassment (verbal, visual, sexual or physical) between the construction team and the students, faculty and/or any other District employee. Harassment shall include but not be limited to whistling, "Cat calling" or gesturing. Any person employed by the Contractor and their Subcontractor(s), at any tier, shall consistently maintain a high sense of decorum while Working on the Project site or in the neighborhoods surrounding the campus.

.1 The Contractor shall adopt and implement all necessary policies prohibiting any form of discrimination in the Workplace, including but limited to: harassment on the basis of any classification protected under local, state or federal law, regulation or policy. All reasonable steps to prevent harassment from occurring including without limitation affirmatively raising the subject of harassment among employees, developing appropriate sanctions, informing employees of their right to raise and how to raise the issue of harassment and informing complainants of the outcome of an investigation into a harassment claim. Contractor shall require any and all Subcontractor(s), regardless of tier, that is performing any portion of the Work to adopt and implement policies in conformity with this Article.

.2 In addition to and pursuant to the above Articles the Contractor shall not permit any person, whether employed by; Contractor, Subcontractor, Sub-Subcontractor or any other person or entity, performing any portion of the Work at or about the Site to engage in any form of prohibited harassment. Any such person or

persons engaging in a prohibited form of harassment directed to any individual performing or providing any portion of the Work at or about the Site shall be subject to appropriate sanctions in accordance with the anti-harassment policy adopted and implemented pursuant to Article 4.7.1.1 above. Any person or persons performing or providing Work on or about the Site engaging in a prohibited form of harassment directed to any student, faculty member or District staff or consultant or directed to any other person or persons on and about the Site shall be subject to immediate removal and shall be prohibited thereafter from providing or performing any portion of the Work.

.3 Upon the District's receipt of any notice or complaint that any person or persons employed directly or indirectly by the Contractor in performing or providing the Work has engaged in a prohibited form of harassment, the District will promptly undertake an investigation of such notice or complaint. Should the District, after the investigation, reasonably determine that a prohibited form of harassment has occurred, the District shall promptly notify the Contractor and direct that the person or persons engaged in such conduct of harassment be immediately removed from the site. Unless the District's determination is that a prohibited form of harassment has occurred is grossly negligent or without reasonable cause, the District shall have no liability for directing the removal of any person or persons determined to have engaged in a prohibited form of harassment. Furthermore, the Contract Sum or Contract Time shall not be adjusted on account of such direction by the District.

.4 The Contractor and their Surety shall defend, indemnify and hold harmless the District and its employees, officers, Board of Trustees, agents and representatives from any and all claims, liabilities, awards, actions or causes of actions, including without limitation, attorneys' fees, which arise out of or pertain in any manner to; (1) assertion by any person dismissed from performing or providing Work at the direction of the District pursuant to this Article; (2) the assertion by any person or persons that any person or persons directly or indirectly under the employment or direction of the Contractor has engaged in a prohibited form of harassment directed to or affecting such person. The obligations of the Contractor and their Surety, under the preceding sentence shall be in addition to, and not in lieu of, any other obligation of defense, indemnity and hold harmless requirements whether arising under the Contract Documents, at law or otherwise. These obligations shall survive the completion of the Work or the termination of the Contract.

4.7.2 Wage Rates - Pursuant to the provisions of Article 2 (commencing at section 1720), Chapter 1, Part 7, Division 2, of the Labor Code, the District has obtained the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime Work in the locality in which this project is to be performed for each craft, classification, or type of Worker needed for this Project from the Director of the Department of Industrial Relations ("Director"). These rates are on file at the administrative office of the District and are also available from the Director of the Department of Industrial Relations. Copies will be made available to any interested party on request. The Contractor shall post a copy of such wage rates at appropriate, conspicuous, weatherproof points at the Project site. Any Worker employed to perform Work on the Project, but such Work is not covered by any classification listed in the published general prevailing wage rate determinations or per diem wages determined by the Director of the Department of Industrial Relations, shall be paid not less than the minimum rate of wages specified therein for the classification which most nearly corresponds to the employment of such person in such classification.

4.7.3 Holiday and Overtime Pay - Holiday and overtime Work, when permitted by law, shall be paid for at the rate set forth in the prevailing wage rate determinations issued by the Director of the Department of Industrial Relations or at least one and one-half (1½) times the specified basic rate of per diem wages, plus employer payments, unless otherwise specified in the Contract Documents or authorized by law.

4.7.4 Wage Rates Not Affected by Subcontracts - The Contractor shall pay and shall cause to be paid each Worker engaged in the execution of the Work on the Project not less than the general prevailing rate of per diem wages determined by the Director, regardless of any contractual relationship which may be alleged to exist between the Contractor or any Subcontractor and such Workers.

4.7.5 Per Diem Wages - The Contractor shall pay and shall cause to be paid to each Worker needed to execute the Work on the Project per diem wages including, but not limited to, employer payments for health and welfare, pensions, vacation, travel time and subsistence pay as provided for in Labor Code section 1773.1.

4.7.6 Forfeiture and Payments - Pursuant to Labor Code section 1775 and the District's Labor Compliance Program, the Contractor shall forfeit to the District, not more than Fifty Dollars (\$50.00) for each calendar day, or portion thereof, for each Worker paid less than the prevailing wages rates as determined by the Director of the Department of Industrial Relations, for the Work or craft in which the Worker is employed for any

Work done under the Agreement by the Contractor or by any Subcontractor under it. The amount of the penalty shall be determined by the Labor Commissioner and shall be based on consideration of: (1) whether the Contractor or Subcontractor's failure to pay the correct rate of per diem wages was a good faith mistake and, if so, the error was promptly and voluntarily correct upon being brought to the attention of the Contractor or Subcontractor; and (2) whether the Contractor or Subcontractor has a prior record of failing to meet its prevailing wage obligations. Further details regarding the enforcement of paying prevailing wage rates, reporting violations, withholding contract payments, forfeitures and hearing to review withholding of contract payments are set forth in the District's Labor Compliance Program.

4.7.7 Inspection of Records of Wages Paid - Pursuant to section 1776 of the Labor Code:

.1 Each Contractor and Subcontractor shall keep an accurate payroll record showing the name, address, social security number, Work classification and 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 Project.

.2 All payroll records shall be certified and submitted upon request to the District. All payroll records shall be available for inspection at all reasonable hours at the principal office of the Contractor on the following basis:

a. 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.

b. A certified copy of all payroll records shall be made available for inspection or furnished upon request to a representative of District, the Division of Labor Standards Enforcement or the Division of Apprenticeship Standards of the Department of Industrial Relations.

c. A certified copy of all payroll records 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 the District, the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided pursuant to Paragraph b above, the requesting party shall, prior to being provided the records, reimburse the costs, according to law for the preparation by the Contractor, Subcontractor(s), and the entity through which the request was made. The public shall not be given access to such records at the principal office of the Contractor.

.3 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 of Labor Standards Enforcement.

.4 The Contractor or Subcontractor(s) shall file a certified copy of all payroll records with the entity that requested such records within 10 calendar days after receipt of a written request.

.5 Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the District, 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(s) 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 (Section 175a of Title 29 of the United States Code) shall be marked or obliterated only to prevent disclosure of an individual's name and social security number.

.6 The Contractor shall inform the District of the location of all payroll records, including the street address, city and county, and shall, within five Working days, provide a notice of a change of location and address.

.7 The Contractor or Subcontractor(s) shall have 10 calendar days in which to comply subsequent to receipt of a written notice requesting payroll records. In the event that the Contractor or Subcontractor(s) fails to comply within the 10-day period, the Contractor or Subcontractor(s) shall, as a penalty to the District, forfeit Twenty-Five Dollars (\$25.00) 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.

The responsibility for compliance with this Article and the District's Labor Compliance Program shall rest upon the Contractor.

4.7.8 Withholding of Contract Payments & Penalties - The District may withhold or delay contract payments to the Contractor and/or any Subcontractor if:

.1 The required prevailing rate of per diem wages determined by the Director of the Department of Industrial Relations is not paid to all Workers employed on the Project; or

.2 The Contractor or Subcontractor(s) fail to submit all required certified payroll records with each application for payment, but not less than once per month; or

.3 The Contractor or Subcontractor(s) submit incomplete or inadequate payroll records; or

.4 The Contractor or Subcontractor(s) fail to comply with the Labor Code requirements concerning apprentices; or

.5 The Contractor or Subcontractor(s) fail to comply with the District's Labor Compliance Program; or

.6 The Contractor or Subcontractor(s) fail to comply with any applicable state laws governing Workers on public Works projects.

Any withholding of contract payments and penalties are set forth in the District's Labor Compliance Program.

4.7.9 Apprentice Wages and Definitions - All apprentices employed by the Contractor to perform services under the Contract shall be paid the standard wage paid to apprentices under the regulations of the craft or trade for which he or she is employed, and as determined by the Director of the Department of Industrial Relations, and shall be employed only at the craft or trade to which he or she is registered. Only apprentices, as defined in section 3077 of the Labor Code, 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 apprenticeship agreements under Chapter 4 (commencing with section 3070) of Division 3, are eligible to be employed under this Contract. The employment and training of each apprentice shall be in accordance with the apprenticeship standards and apprentice agreements under which he or she is training, or in accordance with the rules and regulations of the California Apprenticeship Council.

4.7.10 Employment of Apprentices - Contractor agrees to comply with the requirements of Labor Code section 1777.5. The Contractor awarded the Project, or any Subcontractor under him or her, when performing any of the Work under the Contract or Subcontract, employs Workers in any apprenticeable craft or trade, the Contractor and Subcontractor shall employ apprentices in the ratio set forth in Labor Code section 1777.5. The Contractor or any Subcontractor must apply to any apprenticeship program in the craft or trade that can provide apprentices to the Project site for a certificate approving the Contractor or Subcontractor 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 or Subcontractor, shall arrange for the dispatch of apprentices to the Contractor or Subcontractor upon the Contractor's or Subcontractor's request. "Apprenticeable craft or trade" as used in this Article means a craft or trade determined as an apprenticeable occupation in accordance with the rules and regulations prescribed by the California Apprenticeship Council. The ratio of Work performed by apprentices to journeyman employed in a particular craft or trade on the Project shall be in accordance with Labor Code section 1777.5.

4.7.11 Submission of Contract Information - Prior to commencing Work on the Project, the Contractor and Subcontractors shall submit contract award information to the applicable apprenticeship program(s) that can supply apprentices to the Project and make the request for the dispatch of apprentices in accordance with the Labor Code. 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 District if requested. Within 60 days after concluding Work on the Project, the Contractor and Subcontractors shall submit to the District, if requested, and to the apprenticeship program a verified statement of the journeyman and apprentice hours performed on the Project.

4.7.12 Apprentice Fund - The Contractor or any Subcontractor under him or her, 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 Project. The Contractor and Subcontractors may take as a credit for payments to the California Apprenticeship Council any amounts paid by the Contractor or Subcontractor to an approved apprenticeship program that can supply apprentices to the Project. The Contractor and Subcontractors may add the amount of the contributions in computing his or her bid for the Contract.

4.7.13 Contractor Compliance - The responsibility of compliance with Article 13 and section 1777.5 of the Labor Code for all apprenticeable occupations is with the Prime Contractor. Any Contractor or Subcontractor that knowingly violates the provisions of this Article or Labor Code section 1777.5 shall be subject to the penalties set forth in Labor Code section 1777.7 and the District's Labor Compliance Program.

4.7.14 Costs - Unless provided elsewhere within the Contract Documents, the Contractor is responsible to provide and pay for, until Final Acceptance by the District, all labor, materials, equipment, appurtenances, construction equipment, utilities (whether temporary or permanent) and any other services necessary to properly execute the Work as shown in the Construction Documents. This being a "Fixed Cost" Contract, the Contractor further warrants that through the execution of Subcontract(s), purchase order(s), and Change Orders, all labor and material costs are fixed for the duration of the project.

.1 Contractor shall pay or cause to be paid all transportation and utility services not later than the 20th day of the calendar month following that for which the services were rendered.

.2 Contractor shall pay for all materials, tools, and other expendable equipment, up to the maximum of ninety percent (90%) of the cost thereof, not later than the 20th of the calendar month following that in which the materials, tools, and other expendable equipment were delivered to the Site and not later than the 30th day of the month which the items were incorporated or used.

4.7.15 Layout - The Contractor shall be solely responsible for the layout of all portions of the Work. This shall include the accuracy of the lines and levels as it relates to the Contract Documents. It shall be further assured that the Work is erected square, plumb, level and true to line and grade. The Contractor further warrants that all elevations are true, correct and within the dimensions shown. Additionally, all grades are slopping to the drains and/or away from the Project.

4.7.16 Cutting and Patching - The Contractor shall do all cutting, fitting and/or patching as required to make its several parts come together properly and fit to receive or to be received by other Contractor's Work showing upon, or could be reasonably implied by, the Contract Documents for the completed Project. The Contractor shall make good after them as deemed necessary by the District, Architect, and I.O.R.. All costs caused by defective or ill-timed Work shall be borne by the responsible party thereto. Furthermore the Contractor shall not endanger any Work by cutting, excavating, or otherwise altering Work and shall not cut or alter Work of any other Contractor without the consent of the District, Architect/Design Team, and I.O.R.

4.7.17 Materials, Equipment

.1 **Delivery, Storage** - The Contractor shall properly coordinate the necessary Submittals to ensure the material and/or equipment deliveries are provided as required by the Approved Construction Schedule. Furthermore the deliveries shall be in sufficient quantities to maintain continual construction of the Project. The District shall not be held responsible for any delays in deliveries resulting from improper or late Submittals. The deliveries shall be made within the time periods designated on the Approved Construction Schedule. All deliveries shall be unloaded and stored within the area designated as the Construction Site. The Contractor shall remain fully responsible for all materials and equipment until acceptance by the District. Delivery and storage of equipment and material on site shall not constitute an obligation for the District to make payment for delivered items.

.2 Purchases - The Contractor and/or Subcontractor(s) do warrant and guarantee to place all orders for materials and equipment in sufficient time so not to create a Delay to the Approved Construction Schedule. At the request of the District, the Contractor shall provide written proof that all orders were placed in a timely manner so not to delay the construction sequences shown in the Approved Construction Schedule. The District's request for proof of purchase by the Contractor shall not be construed as directing Means and Methods or an agreement to make payment for purchased materials and equipment prior to installation and District acceptance. The District further reserves all rights and remedies available to use outside Contractors for specific Work.

.3 Start Up and District Staff Instruction - The Contractor is responsible for any and all costs, including costs relative to having a manufacturer's representative present, relative to the start up and commissioning of the systems or to perform training for the District employees on all equipment or installed systems purchased and installed by the Contractor. This shall include any District hired Contractor(s) that will have interface with the Contractor's installation in order have a completely functional system.

4.8 PROJECT GUARANTEES AND WARRANTIES

4.8.1 General Warranty and Guarantees - The Contractor warrants and guarantees that all Work performed for the completion of the Project is new, free of defects, liens and/or any other encumbrances. Additionally, it is further guaranteed that the Work is in full compliance with the Contract Documents, Manufacturer's requirements and Applicable Laws. The General Warranty/Guarantee shall be, unless specified elsewhere within the Contract Documents, for a period of one (1) year after the District Final Acceptance and separate from other warranties required by the Contract Documents. The Warranty/Guarantee shall be on the form provided by the District and the Contractor and Subcontractor(s) each shall provide a Warranty/Guarantee. The Contractor shall countersign all Subcontractor(s) Warranty/Guarantees.

4.8.2 Repair and/or Replacement - All Work found, prior to Final payment or within the applicable warranty period, not to be in conformance with the Contract Documents and/or applicable Laws, shall be repaired by the Contractor. This shall include removal and replacement of all Work necessary to access the item requiring correction. If after receiving written notice from the District the Contractor fails to, within ten (10) calendar days, commence and diligently pursue the replacement and repair this action will be considered the Contractor's authorization for the District to begin with the repairs at the Contractor's expense. The District's efforts to make the necessary corrections and/or repairs shall not be considered a waiver of any of the District's other rights and remedies under this contract or applicable laws. Upon completion of the remedial Work the Contractor shall notify the District, in writing, that the remedial Work has been completed and is ready for Final Inspection.

4.8.3 Submission of Guarantees, Warranties, Manuals or Spare Parts - The Contractor shall, as part of the conditions for Final Completion and the release of the Final Payment, and at the time of the scheduled demonstrations, submit all guarantees or warranties required under the terms and conditions of the Contract and Contract Documents. These guarantees and warranties are to be in a format approved by the District. In addition to the guarantees and warranties the following items shall be included with guarantee and warranty submission: any additional certifications, all permits and receipts for fees paid, copies of licenses, copies of signed inspection cards, and any specific manufacturer's warranties. The Contractor also shall, in addition to submitting Warranties and Guarantees, submit to the District all operation and maintenance manuals, spare parts and attic stock required for close-out by the Contract Documents.

4.9 SUBMITTALS – SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

4.9.1 Not Contract Documents - Shop drawings, Product Data, Samples and Mockups are not Contract Documents. Their purpose is to show and demonstrate in more detail, either graphically or physically, the specified item's interface with other areas of the project and/or color or finish. Review by the District, Architect/Design Team or District Consultants does not waive the Contractor's responsibility or obligations under the Contract.

4.9.2 Contractor Approval - In accordance with the most current District Approved Submittal Schedule, but prior to forwarding the Submittal(s) for District's review, the Contractor shall review and affix an "approved" stamp. By affixing said stamp and forwarding the Submittal(s) for District's and Architect/Design Team review, the Contractor certifies, warrants and represents that they have determined everything is in full compliance with the Contract Documents. The Contractor's stamp further indicates that the Contractor has verified field dimensions and related conditions, materials and has coordinated and checked information in all related Submittals against the Contract Documents and any approved Submittals. The Contractor shall perform

no Work or portion of the Work, requiring Submittal Approval, until Approval has been received. Proceeding without required approvals shall be at the Contractor's risk and the Contractor shall remain entirely responsible for, cost and time, any corrections that may be required.

.1 Each sample, shop drawing and/or product data shall have a Contractor's stamp affixed to each copy stating/attesting that the Contractor has reviewed submitted information against the Contract Documents, previously approved pertinent submittals, and where possible has taken field dimensions and further contains:

- .1 The Project name and District's assigned number.
- .2 Contractor's and Subcontractor's name with the Contractor's reviewer's signature.
- .3 Applicable specification section by CSI numbering system and drawing reference(s).
- .4 Brand and color (when applicable) names or brush-outs.
- .5 A 2 x 4 space for the Architect's signature and comments.

.2 The District reserves the right to request physical samples of any specified materials typically requiring only product data; i.e.: hardware. If the physical samples have value, after review or testing, they will be returned to the Contractor at Project closeout.

.3 The Contractor shall be, notwithstanding any review or approvals by the District, Director, Architect/Design Team, completely and solely responsible for the accuracy and content of all Shop Drawings, Product Data, Samples and Mockups. Failure to inform, in writing, prior to the approval by, the District, Director, Architect/Design Team and any of the District's consultants, correction of any deviations in the Submittals shall remain the sole responsibility of the Contractor.

- .1 The submittal shall clearly delineate any deviation from the Contract Documents.

.4 Submittals without the appropriate stamp and/or evidence of coordination shall be returned without further consideration and will require re-submission. In the event the re-submission impacts the delivery of materials, the District will not acknowledge or accept any requests for Time Extension related to the need for re-submission of the Documents for review by the District and the Design Team.

.5 The Contractor shall, in writing or on the Shop Drawings, Product Data or Samples, direct specific attention to any and all revisions, other than those which may have been requested by the District. The Contractor's deviation from the Contract Documents on the Submittal shall not constitute acceptance by the District and/or Architect/Design Team. Should the Architect/Design Team be required to review revisions which were not highlighted or requested by the District the Contractor shall be responsible for all costs incurred by such a review. In the event the District and/or Architect/Design Team does not accept the Contractor's deviation, the Contractor shall provide the specified item without any increase to the Contract Sum or Contract Time.

.6 The Contractor shall review, prepare and submit to the Project Center six (6) sets, plus any additional copies the Contractor may require, of the submittals required by the Contract Documents. The submittal may be comprised of Shop Drawings, Product Data or Samples or any combination. If the required item is comprised of separate components which each requires submittals the submission shall not be made until all the necessary drawings, product data and/or samples have been assembled to represent the entire component. The Contractor warrants and certifies, by turning in the submittal that everything is; complete and compatible for which no special Work or deviation from the Contract Documents will be required.

.7 In the event the specifications require special testing (ie: curtainwall and/or windows) the Contractor shall include ALL necessary costs to perform the required testing. The Contractor is responsible to make all submittals in a timely manner in order the testing may occur without impacting the Approved Construction Schedule. The District shall not be responsible for any increased costs or time impacts relative to poor scheduling of the necessary tests.

4.9.3 Composite Layout and Shop Drawings - When required the Contractor and/or pertinent Subcontractor(s) shall be responsible for preparing detailed composite shop drawings to show the specified item

and the necessary appurtenances will be installed within the designated space. These Composite drawings shall have been reviewed by ALL Subcontractors prior to submission for Architect review.

4.9.4 Professional Certification - Should the Contract Documents require performance design criteria (calculations, certifications and engineering) for materials and/or specific systems the District, Project Center and Architect/Design Team shall, based on the Contractor's formal submission of the required information, have the right, without any further research, to rely upon the accuracy and completeness of all calculations and certifications provided in the submittal. The Contractor designed systems, if required by their need for completion of their Work, Contract Documents or agencies having jurisdiction over the Project, shall have original engineer stamps affixed to the drawings or data submitted.

4.9.5 DSA Deferred Approval - The Contractor, having Worked previously with DSA, shall submit to the Project Center, for review, all necessary documents (with original signature by a professional engineer registered in the State of California) that require DSA approval. The Project Center shall review and forward the reviewed documentation to the Architect/Design Team for final approval. In the event resubmission is not necessary the Architect will forward the submittal to DSA for approval. If the resubmission is required, the Project Center will return the documentation to the Contractor for correction and resubmission. The District will not acknowledge or accept any requests for Contract Time extension or Cost increases which are related with the resubmission of the Documents.

4.9.6 Adjustment in the Contract Sum - With respect to and subject to the Contractor's rights, responsibilities and obligations under this Contract Agreement, any revisions made on or to Shop Drawings, Product Data, Samples or any other Submittals shall not be construed as a basis for adjustment to the Contract Time or Sum.

4.10 USE OF SITE

4.10.1 Operations at Work Area - All Contractor operations, construction, storage and parking shall be confined to the Work area as defined in the Contract Documents and as permitted by Applicable Laws. The Contractor, by executing the Contract, warrants that it is experienced in performing construction within a limited access and confined Work area such as those anticipated in the construction of this Project and agrees to assume responsibility for the completion of the Contract requirements under such conditions, without adjustment to the Contract Sum or Time. Furthermore, Contractor agrees to be solely responsible for all measures (including without limitation those related to dust control, perimeter site protection, material and equipment storage, staging, traffic control, SWPP and deliveries), as may be necessary to adapt its performance to the limitations and confines of the designated Site and that these actions will be done in a manner so as not to impact the daily College Operations.

.1 The Contractor shall be solely responsible for the installation, maintenance and removal of the Site perimeter security fence with vision screening and all locking gates for Site access. The Contractor shall install one (1) four (4) foot wide man gate at a location designated by the District for their access to the Site. The man gate shall have a single padlock which will be furnished by the District.

.2 Should the fence and/or "Block Out Barrier" become damaged or marked with Graffiti it shall be repaired, painted over, removed and replaced immediately. The Contractor's inability or refusal to take the required remedial action shall constitute the Contractor's authorization for the District to make the repairs at the Contractor's expense.

.3 There shall not be, without prior District approval, any posting of signage of any type on the exterior of the fence or the structure other than those permitted by the Contract Documents, Applicable Laws or any Agency having jurisdiction over the project.

4.10.2 Items Prohibited - The Contractor shall not permit the possession or use, by any of their staff and Subcontractor(s) employees, of alcohol or any controlled substances. Any person or persons believed or found to, at the sole discretion of the District, violate this mandate shall be removed from the project. The violator may not return without written approval by the District. Additionally, the use of radio's, other than those necessary for on site communication, are not allowed.

4.10.3 The College Operations - By execution of the Contract Agreement the Contractor agrees and warrants that it agrees to take all reasonable measures to minimize any impact, interference and to insure the

safety at all times for the staff, students, visitors and outside vendors, as it relates to their use and enjoyment of the Campus facilities, which may arise during the performance of construction activities on site. The Contractor further agrees it has familiarized itself with (available on the District's web site (www.pasadena.edu), and made allowances within the Construction Schedule for, all College functions, including but not limited to the Rose Parade and its related activities, daily classes, examination periods, graduation, beginning of a new semester and other special functions or ceremonies, so to avoid interferences or disruption to the Construction Schedule. The Contractor understands and agrees that the District will not authorize or accept any additional compensation for, Contract Time or Contract Cost, arising from the daily or special campus operations.

4.10.4 Use/Protection of Existing Improvements and Facilities - As necessary, during construction, the Contractor shall protect, modify as needed to maintain in operation, relocate, render safe and remove or reconnect all Existing Utilities within the construction site. Upon Final Completion of the Project the Contractor shall be responsible to permanently restore, in accordance with the District's requirements, all codes and requirements of all agencies having jurisdiction over the project, the existing improvements and/or utilities that were removed or temporarily relocated to facilitate the construction.

4.11 HAZARDOUS MATERIALS

4.11.1 Use of Hazardous Materials - In the event the Contractor, any Subcontractor or anyone employed directly or indirectly by them shall, use on the Site or incorporate into the Work, any materials or substances deemed to be hazardous or toxic under any law, rule, ordinance, regulation or interpretation thereof (collectively "Hazardous Materials"), the Contractor shall comply with all laws, rules ordinances or regulations applicable thereto and shall exercise all necessary safety precautions relating to the use, storage or disposal thereof.

4.11.2 Prohibition on Use of Asbestos Construction Building Materials ("ACBM'S") - Notwithstanding any provision of the Drawings or Specifications to the contrary, it is the intent of the District that ACBM's not be used or incorporated into any portion of the Work. In the event any portion of the Work depicted in the Drawings or Specifications shall require materials or products which the Contractor knows, or should have known by reasonable diligent investigation, to contain ACBM's, Contractor shall promptly notify the District and Architect of the same so an appropriate alternative can be made in a timely manner so as not to delay the progress of the Work. By execution of the Agreement the Contractor warrants to the District there are no materials or products used or incorporated into the Work which contain ACBM's. Whether before or after completion of the Work it is discovered that any product or material forming a part of the Work which was incorporated into the Project contains ACBM's, the Contractor shall at its sole cost and expense remove such product or material in accordance with any laws, rules, procedure and regulations applicable to the handling, removal and proper disposal of ACBM's. The removed products or materials shall be, at no cost to the District, replaced with non-ACBM products or materials and the affected portion(s) of the Work returned to the finish condition as depicted in the Drawings and Specifications prior to the removal of the ACBM's.

.1 The Contractor's obligations under the preceding shall survive the termination of the Contract, the warranty period required under the Contract Documents, the Contractor's completion of the Work or the District's acceptance of the Work. In the event that the Contractor shall fail or refuse, for any reason, to commence the removal and replacement of any material or product containing ACBM's that forms a part of, or incorporated into the Work, within ten (10) days of the date of the District's written notice to the Contractor of the existence of ACBM materials or products in the Work, the District may thereafter proceed to cause the removal and replacement of such materials or products in any manner which the District determines to be reasonably necessary and appropriate. The costs incurred by the District, including without limitation, fees and costs of consultants and attorneys, in connection with such removal and replacement shall be the responsibility of the Contractor and the Contractor's Performance Bond Surety.

4.11.3 Disposal of Hazardous Materials - The Contractor shall be solely and exclusively responsible for the disposal of any Hazardous Materials on or about the Work. Contractor's obligations hereunder shall include without limitation, the transportation and disposal of any Hazardous Materials in strict conformity with any and all applicable laws, regulations, orders, procedures or ordinances.

ARTICLE 5 SUBCONTRACTS AND SUBCONTRACTORS

5.1 SUBCONTRACTS - Any portion of the Work performed for the Contractor by a Subcontractor shall be pursuant to a written agreement between the Contractor and Subcontractor specifically incorporating, by reference, the Contract Documents and will further specifically bind the Subcontractor to the applicable terms and conditions of the Contract Documents, including without limitation, the policies of insurance as required under Article 6 of these General Conditions. It shall further obligate the Subcontractor(s) to assume toward the Contractor all the obligations and responsibilities of the Contractor for which the Contract Documents the Contractor assumes towards the District and Architect. The foregoing notwithstanding, no contractual relationship shall exist or be considered to exist between any Subcontractor(s) and the District unless the Contract is terminated and the District elects, in writing, to assume the Subcontract(s). Each Subcontract for a specific portion of the Work shall contain an article stating that if the District should terminate the Contractor's Contract the Subcontract may be, subject to the prior rights of the Surety obligation under the issued Bonds, assigned to the District.

5.1.1 The Contractor shall, within thirty (30) days from the Contractor's execution of the Contract Agreement, provide the District copies of all executed Subcontracts and/or Purchase Orders to which the Contractor is obligated for the execution of the Work. During the performance of the Work the Contractor shall, upon written request, provide the District with copies of any and all newly executed Subcontracts, Purchase Orders and/or any modifications thereto. The Contractor's failure or refusal, for any reason, to provide the requested copies of the Subcontract(s), Purchase Order(s) and/or modifications in accordance with the preceding shall be deemed Contractor's default in the performance of a material term of the Contract Documents.

5.2 SUBSTITUTION OF LISTED SUBCONTRACTOR - There shall be no substitution of or addition to the Subcontractor(s) list which accompanied the sealed bid except as permitted by Chapter 4 (commencing at section 4100), Division 2, Part 1 of the California Public Contract Code. Any increase in the Contract Price or Contract Time of the performance of the Work resulting from the reviewing and evaluation of the Contractor's request for substitution, replacement or addition of a Subcontractor shall be borne solely by the Contractor without any further adjustment to the Contract Sum or Contract Time. These costs shall include but not be limited to; Project Center, Architect/Design Team, DSA, attorney's fees, and any addition field inspections by the Deputy Inspector (IOR) or required testing. Any and all costs incurred by the District due to the substitution of a Subcontractor shall be deducted from the Contract Price then or from funds due the Contractor.

5.3 CONTRACTOR'S RESPONSIBILITY FOR AN APPROVED SUBSTITUTION - The District's approval of the Contractor's request to replace a listed Subcontractor shall not relieve the Contractor from any of its contractual obligations for the completion of the Work within the Contract Price and Contract Time. Under no circumstances shall the approval to substitute a listed Subcontractor result in or give raise to any increase in the Contract Price, Contract Time due to delayed approval of submittals or be cause for a modification to the Project Design. In the event the Architect requires additional submittals the Contractor's submission shall be made in accordance with these General Conditions. The submission of submittals by an Approved Substituted Subcontractor shall be made in a timely manner so as to permit adequate time for review as set forth in these General Conditions. All costs, particularly those for expediting the review process, shall be the responsibility of the Contractor.

5.4 SUBCONTRACTOR ALLOWED MARK-UP'S ON CHANGE CONDITIONS - The Contractor allowed items for mark-up shall, as specifically detailed in Article 9.5 of these General Conditions, apply to the Subcontractor(s) changes in scope. As an example; the Subcontractor shall be entitled to a maximum of fifteen percent (15%) mark-up, for overhead and fee, on Work completed by their own forces. In the event Work is subcontracted to another the mark-up is limited to five percent (5%) mark-up, for overhead and fee, on the Sub Subcontractor's Work. In the event there are adds and deducts in the same change the totals shall be brought forward prior to the application of mark-up's.

ARTICLE 6 INSURANCE, INDEMNITY AND BONDS

6.1 WORKERS' COMPENSATION INSURANCE - The Contractor shall purchase and maintain Workers' Compensation Insurance as will protect the Contractor from claims under Worker's or Workmen's compensation,

disability benefit and other similar employee benefit acts which are applicable to the Work performed, whether such operations be by the Contractor or by a Subcontractor of any tier or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.

6.2 EMPLOYER'S LIABILITY INSURANCE - Contractor shall purchase and maintain Employer's Liability Insurance covering bodily injury (including death) by accident or disease to any employee which arises out of the employee's employment by the Contractor. The Liability insurance policy required of the Contractor may be obtained as a separate policy or insurance or as an additional coverage under the required Workers' Compensation policy as defined in Article 6.1 above. The limits of liability for the required hereunder Employer's Liability Insurance shall be set forth in the Supplemental General Conditions.

6.3 COMMERCIAL GENERAL LIABILITY AND PROPERTY INSURANCE - The Contractor shall purchase and maintain, for the time period set forth in these General Conditions, Commercial General Liability and Property Insurance as will protect the Contractor from the types of claims, set forth below, which may arise out of or result from the Contractor's operations under the Contract Agreement and Contract Documents for which the Contractor may be legally responsible: (1) claims for damages due to bodily injury, occupational sickness, disease or death of the Contractor's employees; (2) claims for damages because of bodily injury, sickness, disease or death of any person other than the Contractor's employees; (3) claims for damages insured by usual personal injury liability coverage which were sustained (a) by a person as a result of an offense directly or indirectly related to employment of such person by the Contractor or (b) another person; (4) claims for damages other than to the Work itself because of injury to or destruction of tangible property, including loss of use resulting therefrom; (5) claims for damages because of bodily injury, death of a person or property damages arising out of ownership, maintenance or use of a motor vehicle or equipment; and (6) contractual liability insurance applicable to the Contractor's obligations under Contract Documents.

6.4 BUILDER'S RISK "ALL-RISK" INSURANCE - The Contractor, during the progress of the Work through Final Acceptance of the Work by the District, and upon the completion of the entire Contract as set forth in these General Conditions, shall obtain and maintain Builder's Risk "All-Risk" Completed Value Insurance Coverage on all insurable Work included under the Contract Documents. The insurance and coverage is extended against vandalism, malicious mischief, perils of fire, sprinkler leakage, civil authority, sonic boom, collapse and flood upon the entire Work, whether the Work is completed or in progress. The insurance policy shall include the District and any other person with an insurable interest as designated by the District to be named as additionally insured. It is furthermore incumbent upon the Contractor to obtain the District's written approval for all items deemed to be uninsurable by notifying the District in writing prior to the issuance of the contractually required insurance policy.

6.4.1 The risk of damage to the Work due to the perils covered by the Builder's Risk "All Risk" Insurance, as well as any other hazard which might result in damage to the Work, is that of the Contractor and Contractor's Surety. No claims for such loss or damage will be acknowledged or accepted by the District. Nor will such loss or damage excuse the Contractor from satisfactorily performing and completing the Contract Work.

6.5 COVERAGE AMOUNTS - The insurance required of the Contractor shall be written for amounts not less than the limits of liability specified within the Contract Documents, specifically the Supplemental General Conditions, or the amounts required by Law, whichever is greater. In the event of any loss or damage, which is covered by the required insurance policy, the Contractor shall be solely and exclusively responsible for the payment of the deductible, if any, under such policy of insurance, without adjustment to the Contract Price on account thereof.

6.6 EVIDENCE OF INSURANCE - Prior to commencement of the Work by the Contractor or any Subcontractor(s), the Contractor shall furnish the District an appropriate Certificate of Insurance evidencing the contractually required insurance amounts are in place. The Contractor's failure or refusal to so deliver, as required by the Contract Documents, Certificates of Insurance may be deemed by the District as a default of a material obligation and thereupon the District may proceed to exercise any right or remedy provided within the Contract Documents or under the Law.

6.6.1 The Certificates shall state in particular those insured, extent of insurance, location and operation to which insurance applies, expiration date and cancelation and/ or reduction notice time frame.

6.6.2 The Certificates of Insurance and the policies required by the Contract Documents **SHALL** contain a provision which states:

"This policy shall not be canceled or reduced in required limits of liability or the amounts of insurance until notice has been mailed to the District. The date of cancellation or reduction may not be less than thirty (30) days after date of mailing notice." Notice of service shall be in accordance with Article 1.6 of these General Conditions.

6.6.3 All Certificates of Insurance required of the Contractor shall name the District as an additionally insured as its interests may appear. This insurance policy shall be primary to any insurance or self-insurance maintained by the District.

6.6.4 Should any insurance policy be canceled prior to the District's Final Acceptance of the Work and the Contractor fails to immediately procure replacement insurance, as required by the Contract Documents, the District reserves the right to obtain replacement insurance and the policy premium cost and any other costs incurred by the District to secure the replacement policy shall be deducted thereafter from any funds due the Contractor under the Contract Documents. In the event there are not adequate funds due the Contractor to offset the District's cost then the Contractor's Surety shall be obligated to fund the reimbursement to the District.

6.6.5 The Contractor shall periodically, at the District's request, furnish satisfactory proof of coverage of each type of policy required by the Contract Documents. The Contractor's refusal or failure to comply with the District's request may be considered, by the District, to be a default of a material obligation by the Contractor under the Contract Documents.

6.6.6 The Contractor shall require every Subcontractor, of any tier, performing or providing any portion of the Work on the site to obtain and maintain the insurance policies set forth in Articles 6.1, 6.2 and 6.3 of these General Conditions. The coverage and liability limits of said insurance policies to be acquired and maintained by the Subcontractor(s) shall be set forth in the Supplemental General Conditions. The Subcontractor(s) insurance policies to be obtained and maintained shall be in addition to, not in lieu of, the Contractor's required policies. Each of the Subcontractor(s) insurance policies shall conform to the requirements of this Article.

.1 The Contractor shall periodically, at the District's request, provide satisfactory proof that the Subcontractor(s) have obtained and/or continue to maintain policies of coverage for each type of policy required by the Contract Documents and this Article. The Contractor's refusal or failure to comply with the District's request for evidence of the Subcontractor(s) required insurance coverage may be considered, by the District, to be a default of a material obligation by the Contractor under the Contract Documents.

6.7 CONTRACTOR'S INSURANCE PRIMARY - All insurance and coverage limits required, by the Contract Documents, to be obtained and maintained by the Contractor hereunder shall be, if overlapping with any insurance policies maintained by the District, deemed to be primary and noncontributing with any of the District's policies. Furthermore, any insurance policy obtained and maintained by the District shall be deemed excess insurance. All costs for obtaining and maintaining the insurance limits, required by the Contract Documents, shall be included within the Contract Price.

6.7.1 To the extent the District obtains and maintains an insurance policy covering property damage arising from the perils of fire or other casualty covered by the Contractor's Builder's Risk or Commercial General Liability Insurance policy issued to the Contractor or any Subcontractor, the District, Contractor and all Subcontractors waive rights of subrogation against the others.

6.8 INDEMNITY - Contractor shall defend, indemnify and hold harmless District, Architect, Construction Manager, Inspector, the State of California and their officers, employees, agents and independent contractors from all liabilities, claims, actions, liens, judgments, demands, damages, losses, costs or expenses of any kind arising from death, personal injury, property damage or other cause based or asserted upon any act, omission, or breach connected with or arising from the progress of Work or performance of service under this Agreement or the Contract Documents. As part of this indemnity, Contractor shall protect and defend, at its own expense, District, Architect, Construction Manager, Inspector, the State of California and their officers, employees, agents and independent contractors from any legal action including attorneys fees or other proceeding based upon such act, omission, or breach. Furthermore, Contractor agrees to and does hereby defend, indemnify and hold harmless District, Architect, Construction Manager, Inspector, the State of California and their officers, employees, agents and independent contractors from every claim or demand made, and every liability, loss, damage, expense or attorneys fees of any nature whatsoever, which may be incurred by reason of:

(a) Liability for (1) death or bodily injury to persons; (2) damage or injury to, loss (including theft), or loss of use of, any property; (3) any failure or alleged failure to comply with any provision of law or the Contract Documents; or (4) any other loss, damage or expense, sustained by any person, firm or corporation or in connection with the Work called for in this Agreement or the Contract Documents, except for liability resulting from the sole or active negligence, or the willful misconduct of the District.

(b) Any bodily injury to or death of persons or damage to property caused by any act, omission or breach of Contractor or any person, firm or corporation employed by Contractor, either directly or by independent contract, including all damages or injury to, loss (including theft), or loss of use of, any property, sustained by any person, firm or corporation, including District, arising out of or in any way connected with Work covered by this Agreement or the Contract Documents, whether said injury or damage occurs either on or off District property, but not for any loss, injury, death or damages caused by the sole or active negligence or willful misconduct of the District.

(c) Any dispute between Contractor and Contractor's Subcontractors/suppliers/sureties, including, but not limited to, any failure or alleged failure of the Contractor (or any person hired or employed directly or indirectly by the Contractor) to pay any Subcontractor or Materialman of any tier or any other person employed in connection with the Work and/or filing of any stop notice or mechanic's lien claims.

6.8.1 Contractor, at its own expense, cost, and risk, shall defend any and all claims, actions, suits, or other proceedings that may be brought or instituted against the District, its officers, agents or employees, on any such claim or liability, and shall pay or satisfy any judgment that may be rendered against the District, its officers, agents or employees in any action, suit or other proceedings as a result thereof.

6.8.2 Contractor shall ensure that its contract with each of its Subcontractors contains provisions requiring the Subcontractors to defend, indemnify and hold harmless the District, Architect, Construction Manager, Inspector, the State of California to a minimum level as set forth in this Article and consistent with the language of Article 6.8.

6.8.3 The Contractor's and Subcontractors' obligation to defend, indemnify and hold harmless the District, Architect, Construction Manager, Inspector, the State of California and their officers, employees, agents and independent contractors hereunder shall include, without limitation, any and all claims, damages, and costs for the following: (1) any damages or injury to or death of any person, and damage or injury to, loss (including theft), or loss of use of, any property; (2) breach of any warranty, express or implied; (3) failure of the Contractor or Subcontractors to comply with any applicable governmental law, rule, regulation, or other requirement; and (4) products installed in or used in connection with the Work.

6.9 MAINTENANCE OF INSURANCE - Any insurance bearing on the adequacy of performance of the Work shall be maintained after the District's Final Acceptance of all the Work for a period of one (1) full year or after the correction of defective or noncompliant Work and/or any specific guarantee or warranty periods that are required by the Contract Documents to be longer than one (1) year. In the event the Contract required Insurance is canceled prior to the end of any such periods and the Contractor fails to immediately obtain replacement insurance as specified, the District reserves the right to procure, at the Contractor's expense, such replacement insurance. Nothing contained in these Contract Documents shall be construed as limiting the extent of the Contractor's responsibility for payment of damages resulting from its operations or performance of the Work under Contract Documents, including without limitation the Contractor's obligation to pay Liquidated Damages.

6.9.1 The District's exercising of its option to occupy and use completed portions of the Work prior to Final Acceptance shall not relieve the Contractor of the obligation to maintain the required insurance of this Article until the date Final Acceptance of the Work by the District or for such time thereafter as required by the Contract Documents. The insurer providing the required coverage's shall be reasonably satisfactory to the District.

6.10 FIRE INSURANCE - The Contractor shall obtain and cause to be maintained Fire Insurance on all Work which is subject to loss or damage by fire. Amount of Fire Insurance shall be sufficient to protect against loss or damage in full until the Work is accepted by the District.

6.11 BONDS: PAYMENT AND PERFORMANCE - The Contractor shall, prior to the commencement of any mobilization or Work, provide the District with a Performance Bond as security for the Contractor's faithful performance of the Contract and a Labor and Material Payment Bond as security for the payment to persons or

entities performing Work, labor or furnishing materials required for the Contractor's performance of the Work in accordance with the Contract Documents. Unless stated to the contrary within these General Conditions or the Supplemental General Conditions the amounts of each required bonds, Payment Bond and Performance Bond, shall be for one hundred percent (100%) of the Contract Price. The Labor and Material Payment Bond and Performance Bond shall be in the form and content set forth within the Contract Documents.

6.11.1 The Contractor's failure or refusal to furnish either the Performance Bond or the Labor and Material Payment Bond, in strict compliance with this Article 6.11, may be deemed, by the District, as a default by the Contractor of a material obligation hereunder. Upon request of the Contractor, the District may consider and accept, but is under no obligation to do so, multiple sureties on such bonds. The Surety providing any bond required by the Contract Documents shall be on a list of sureties approved by the United States Department of Treasury, as set forth in the Federal Register and/or an Admitted Surety Insurer as the term is defined within the California Code of Civil Procedure, Section 995.120.

ARTICLE 7 CONTRACT PRICE

7.1 CONTRACT PRICE - The Contract Price is the original amount Bid for the construction of the Project as defined by the Contract Documents and is the amount shown in the Contract Agreement as authorized by the District. Without approved and authorized changes it is the amount payable by the District to the Contractor for the performance of the Work depicted in the Contract Documents. The District's payments shall be in accordance with the Contract Documents.

7.1.1 No Assignment by Contractor - The Contractor shall not, without express prior written consent of the District or in accordance with all applicable laws, sublet or assign the Contract or any portion thereof or any monies due thereunder. Any assignment of money due or to become due under this Contract shall be subject to a prior lien for services rendered or material supplied for performance of Work called for under said contract in favor of all persons, firms, or corporations rendering such services to the extent these claims are filed pursuant to statute and shall also be subject of deductions for Liquidated Damages, if Liquidated Damages have been assessed. The District's approval may be withheld at the sole and exclusive discretion of the District.

7.1.2 Excise Taxes - If, under Federal Excise Tax law, any transaction hereunder constitutes a sale on which a Federal Excise Tax is imposed, and the sale is exempt from such Excise Tax because it is a sale to a state or local government for its exclusive use. NO Excise Tax for materials, as set forth below, shall be included in any Bid Price. The District, upon request, will execute a certificate of exemption which will certify;

- .1 That the District is a political subdivision of the state for the purpose of such exemption.
- .2 That the sale is for the exclusive use of the District.

7.2 COST BREAKDOWN - Within fifteen (15) days of the execution of the Agreement the Contractor shall, on forms approved by the District, provide the District with a detailed estimate and complete cost breakdown of the Contract Price. The Cost Breakdown is subject to the District's review and approval as to form and content. Should the District reasonably object to any portion of the presented Cost Breakdown, within ten (10) days of the District receipt, the District shall notify, in writing, the Contractor of the objections. Within five (5) days of receipt of the District's written objections the Contractor shall submit a revised Cost Breakdown for the District's review. This procedure shall continue until such time as the District has approved the format.

7.2.1 The breakdown shall follow each of the divisions in the Contract Documents, specifically Specifications. However, this shall not be construed as the District's direction to provide a separate Subcontractor for each division within the Specifications. The Contractor may have Subcontractor's perform many divisions but the cost of each division will itemized on the cost breakdown. The values shall not be considered as fixing a basis for adjustments, additive or deductive, to the Contract Price or for determining the extent of Work actually completed.

.1 Once the Cost Breakdown is approved by the District it shall not be modified or amended without prior approval and written consent from the District. The only modification or amendment which will not require prior approval by the District is the addition of District approved Change Orders. Once the Change Orders have been approved by the District and sent to the Contractor, they may be added to the Cost Breakdown. These

will be shown below the approved original Contract breakdown. The Change Order number, a brief description of the scope and the approved amount shall be shown on the Cost Breakdown.

.2 The Contractor's General Conditions, overhead, supervision and cumulative costs shall be shown as a separate single line item. Notwithstanding any other provision within the Contract Documents to the contrary payment will be made in equal monthly installments, the aggregate amount is divided by the number of months allotted for the original Contract Time, with each disbursements of the Progress and Final payments.

.3 The Contractor's profit/fee shall be shown as a separate line item within the Cost Breakdown for the Contract Price. The Fee shall be dispersed in amounts equal to the monthly percentage of the Work completed and installed during the month.

.4 Contract Change Orders shall not be shown on the application for payment until it has been executed by the District's Board of Trustees and all other required signatures. Upon execution the Change Order shall be entered, as a lump sum, on the Application for Payment continuation sheet below the initial contract billing breakdown. Notwithstanding the above the executed Change Order amount complete shall not be included in the percentage complete for calculating the amount of Fee for the monthly billing.

7.3 APPLICATIONS FOR PROGRESS PAYMENTS - The Contractor's overall performance and progress of the Work shall be invoiced monthly by the Contractor on District approved forms.

7.3.1 On or about the 25th of each month the Contractor shall prepare and submit to the Director, for review and approval, a draft indicating the Contractor's planned itemized billing for that month. The percentages of completion for the month shall be projected through the last day of the month. The values utilized for the Progress Payment shall be those approved by the District pursuant to Article 7.2.1 above.

7.3.2 Within four (4) days, after receipt of the draft, in accordance with Public Contract Code 20124.50, the District will return to the Contractor the District, Director, Architect/Design Team and IOR approved percentages for that period. Contractor then shall prepare and submit a complete and "proper" invoice for submission to the District on the first (1st) of the month. For the purposes of this Article the Progress Payment shall be considered "proper" only if submitted on the District approved forms reflecting the District approved percentages and accompanied by; (i) duly completed and executed forms of Conditional Waiver and Release of Rights Upon Progress Payment in accordance with California Civil Code 3262. The waivers shall be from the Contractor, all Subcontractors of any tier, Material Suppliers and/or any entity which has submitted a Preliminary Lien Notice covering the Progress Payment amount requested for the period billed. In the event the Subcontractors of any tier and Material Suppliers Worked a previous month but did not complete the Work and did not Work this billing period then a zero (-0-) dollar release will be submitted; (ii) duly completed and properly executed forms of Unconditional Waiver and Release of Rights Upon Progress Payment in accordance with California Civil Code 3262. The waivers shall be from the Contractor, all Subcontractors of any tier and Material Suppliers covering the Progress Payment cumulative amount requested for prior periods billed; (iii) if required by the District Certified Payrolls of the Contractor and all Subcontractors, of any tier, for laborers performing any portion of the Work for period payment is requested; (iv) Contractor's certification that the Record Drawings reflecting the actual as-built conditions of the Work are current through the requested Pay period. It is understood that this certification is subject to verification by the District, Director and Architect/Design Team, and IOR; and (v) if applicable, a current union statement that the Contractor and/or Subcontractor of any tier, are current in the payment of any supplemental fringe benefits required pursuant to any collective bargaining agreement to which the Contractor/Subcontractor(s) is signatory or otherwise bound.

.1 Pursuant to Public Contract Code 20124.5, an Application for Progress Payment determined by the District not to be a proper Application for Progress Payment shall be returned to the Contractor as soon as practical after receipt of same from the Contractor, but in no event more than seven (7) days after the District's receipt thereof. The District's return of any Application for Progress Payment pursuant to the preceding sentence shall be accompanied by a written document setting forth the reason(s) why the Application for Progress Payment is not proper.

7.3.3 Separate applications are required for full or a partial release of retention. Additionally, these applications shall be accompanied by the appropriate lien releases and submitted in full accordance of the Contract Documents.

7.4 TIMELY DISBURSEMENT OF PROGRESS PAYMENTS - Pursuant to the Public Contract Code 20124.50, within thirty (30) days after the District's receipt of a proper Application for Progress Payment, there shall be paid, by the District, to the Contractor a sum equal to ninety percent (90%) of the value of the Work which is actually in place as verified and approved by the District's representatives and the Architect. This shall include a pro rata portion of the Contractor's General Conditions and the appropriate percentage allocated for the Contractor's FEE for that monthly invoicing. The District's obligation to disburse any Progress Payment shall be predicated on the District's receipt of all documents specified in Article 7.3.2 above, each and all of which are conditions precedent to the District's obligation to disburse Progress Payments.

.1 In the event the submitted Application for Progress Payment is determined to be incomplete due to failure or refusal of the Contractor to submit required documents as required by Article 7.3.2 or if the submitted required documentation is incomplete or inaccurate or if it is determined that the Record Drawings have not been continuously maintained to reflect the actual As-Built conditions of the Work in place for the period of the Progress Payment is requested, after written notice to the Contractor of the deficiencies, the District's thirty (30) day period for disbursement of a Progress Payment shall be deemed to commence on the date the District actually is in receipt of the documents not submitted with the Application for Progress Payment or corrections are made to the documents submitted with the Application for Progress Payment so as to render them complete and accurate, or the date the Contractor accurately and fully completes the preparation of the Record Drawings.

7.5 PROGRESS PAYMENTS FOR CHANGED WORK - The Contractor's Applications for Progress Payment may include pay requests, on account, for executed Change Orders in accordance with the Contract Documents and these General Conditions. Except as provided for Article 7.2.1.4 herein, no other payment shall be made by the District with regards to Changes in the Work.

7.6 PAYMENT IS NOT A WAIVER OF DEFECTIVE OR NON-CONFORMING WORK - The approval and payment disbursement for any Application for Progress Payment to the Contractor shall not constitute the District's acceptance of any defective Work or Work that does not conform to the requirements of the Contract Documents. Nor does it negate the Contractor's responsibility to make the required corrections to insure the Work conforms to the requirements of the Contract Documents. Furthermore, the District shall not be responsible of any increased costs or time extension necessary to produce compliance with the Contract Documents.

7.7 OWNER'S RIGHT TO DISBURSE PROGRESS PAYMENTS BY JOINT CHECK - If the District is in receipt of the applicable Subcontract(s) or Purchase Order(s), the District may, at its sole discretion, issue joint checks to the Contractor and such Subcontractor(s) or Material Supplier(s) in satisfaction of its obligation to make Progress or Final Payments due hereunder. The District's payment to Subcontractor(s) or Purchase Order(s) by joint check shall not constitute the District's Waiver for Defective or Non-Conforming Work as outlined in Article 7.6 of these General Conditions.

7.8 [RESERVED]

7.9 MATERIALS OR EQUIPMENT NOT INCORPORATED INTO THE WORK

7.9.1 Limitations Upon Payment - No payments, except as expressly provided for herein, shall be made by the District, on account, for any item of the Work including without limitation, materials or equipment which, at the time of the Contractor's submittal of an Application for Progress Payment, has/have not been incorporated into and made part of the Work.

7.9.2 Materials or Equipment Delivered and Stored on Site - In its sole and exclusive direction the District may make payment on the Contractor's Application for Progress Payment for materials and equipment stored on site but not yet incorporated into the Work. Payment may be made if, in addition to being stored on site, ALL the following are in compliance: (1) materials and/or equipment have been delivered to the site, (2) adequate arrangements, satisfactory to the District, have been made by the Contractor to store and protect the items at the Site including without limitation, insurance reasonably satisfactory to the District covering and protecting against the risk of loss, destruction, theft or other damage to such materials and equipment while in storage; (3) the establishment of satisfactory procedures by which title, ownership, to the materials or equipment will be transferred to and vested in the District upon payment therefore.

1. The Contractor acknowledges and completely agrees that the discretion to make or not make payment for materials and equipment delivered or stored at the Site but not incorporated into the Work is

exercised exclusively by the District. The District's exercise of discretion not to make payment for materials and equipment stored on site but not incorporated in the Work shall not be deemed as the District being in default.

2. Should the District exercise their discretion to make payment for material/equipment delivered and stored at the Site but not incorporated into the project, the costs and expenses necessary to satisfy the requirements in Article 7.4.2 (i, ii) shall be the sole responsibility and paid for by the Contractor. The District will not make any payments on account of such costs and expenses.

3. The District's decision to make payment for material and/or equipment stored on site shall not be considered as setting a precedent for the payment on future materials and/or equipment. This decision is on a case by case basis and not to be construed as revising the requirements for funding the Application for Payment.

7.9.3 Materials or Equipment not Delivered or Stored at the Site - No payments shall be made by the District for materials or equipment not incorporated into the Work or where such materials and equipment are not delivered on site. However, the District, in its sole and exclusive discretion, may elect to make payments for materials or equipment not incorporated into the Work or where such materials and equipment are not delivered on site predicated on the following: (1) adequate arrangements, satisfactory to the District, have been made by the Contractor to store and protect such materials or equipment in a Bonded warehouse; (2) adequate insurance, satisfactory to the District, that covers and protects against loss, destruction, theft or any other damage while in storage; (3) established and District approved procedures by which the title to such stored materials or equipment will be vested to the District upon payment thereof; (4) arrangements, satisfactory to the District, for the transporting and delivery of the materials and equipment for incorporation into the Project.

1. The Contractor acknowledges and accepts that it is the District's discretion to make or not make payment for such materials or equipment not delivered or stored at a Bonded warehouse shall be, based on Article 7.4.3, exclusively the District's. The District's discretionary decision not to make payment for materials and/or equipment not delivered or stored in a Bonded warehouse, shall not be deemed as the District's default hereunder.

2. Should the District exercise their discretion to make payment for material/equipment delivered and stored at a Bonded warehouse the costs and expenses necessary to satisfy the requirements in Article 7.6.3 (1,2,3,4) shall be the sole responsibility and paid for by the Contractor. The District will not make any payments on account of such costs and expenses.

7.9.4 Materials or Equipment in Fabrication or Transit - The articles 7.6.1 to 7.6.3 notwithstanding the District shall not make any payment on account or in full for any materials or equipment which are in the process of being fabricated or that are in transit to the Site or other storage location.

7.9.5 Exclusions from Progress Payments - In addition to the District's right to withhold disbursement of any Progress Payment provided for within the Contract Documents, neither the Contractor's Application for Progress Payment is to include, nor shall the District be obligated to fund any portion of the Contract Price amounts for which the Contractor does not intend to pay any Subcontractor, of any tier, or Material Supplier because of a dispute or any other known reason.

7.9.6 Title to Work - The title to new materials and/or equipment for the Work of the Contract and attendant liability for its protection and safety, shall remain with the Contractor until incorporated in the Work of this Contract and accepted by the District. No part of said materials and/or equipment shall be removed from its place of storage except for immediate installation into the Work of this Contract; and the Contractor shall keep an accurate inventory of all said materials and/or equipment in a manner satisfactory to the District or its authorized representative.

.1 No materials, supplies or equipment for Work under this contract shall be purchased subject to any chattel mortgage, or under a conditional sale or other agreement by which an interest therein, or in any part thereof, is retained by the seller or supplier. The Contractor warrants good title upon payment and further agrees that neither he nor any person, firm or corporation furnishing any materials or labor for any Work covered by this contract shall have any right to lien upon the premises or any improvements and appurtenances constructed or place thereon, except that Contractor may install metering devices or other equipment of utility companies or of political subdivision, title to which is commonly retained by the utility company or political subdivision. The Contractor shall advise the District of any such metering devices or equipment. Nothing in this article, however, shall defeat or impair the right of persons furnishing material or labor under any Bond given by

the Contractor for their protection or any right under any law permitting such persons to look to funds due to the Contractor from the District.

.2 The Contractor certifies and warrants that title to all Work covered by a funded Application for Progress Payment will pass to the District no later than the time of payment. The Contractor further warrants that based on the submittal of an Application for Progress Payment all Work, for which previous payment Progress Payments was received from the District, to the best of the Contractor's knowledge and belief, was free and clear of all liens, claims, stop notices, security interests or encumbrances in favor of the Contractor, Subcontractor(s), Material Supplier(s) or any other person or entity making a claim for having provided labor, materials and equipment relating to the Work.

7.9.7 Substitute Security for Retention - As stated in the provisions of California Public Contract Code 22300, eligible and equivalent securities may be substituted, in conformity of the provisions of California Public Contract Code 22300, for all monies to be withheld by the District to ensure the Contractor's performance under the Contract Documents at the request and expense of the Contractor, securities equivalent to the amount to be withheld shall be deposited with the District or a state or federally chartered bank as the escrow agent. Upon the District's acceptance of the Project the securities shall be released to the Contractor.

.1 Securities eligible for investment under this section shall include those listed in the Government Code Section 16430, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit or any other security mutually agreed to by the Contractor and the District.

.2 The Contractor shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon.

.3 The escrow agreement used for the purposes of this section shall be substantially similar to the form set forth in the Public Contract Code Section 22300.

.4 The foregoing and the provisions of the California Public Contract Code 22300 notwithstanding, the failure of the Contractor to request the substitution of eligible and equivalent securities for monies to be withheld by the District within ten (10) days following the award of the Agreement shall be deemed as the Contractor's waiver of the right to substitute eligible and equivalent securities for the monies retained by the District.

7.10 FINAL PAYMENT

7.10.1 Application for Final Payment - Upon achieving Final Completion of the Work and have otherwise fully performed its/his obligations under the Contract Documents the Contractor shall submit, on forms approved by the District, an Application for Final Payment. Thereupon the Director and Architect/Design Team shall promptly make a final inspection of the Work. At such time the Director and Architect/Design Team has determined, to the best of their knowledge, information and belief, the Contract has been fully performed by the Contractor under the terms of the Contract Documents, the Application for Final Payment shall be approved and submitted for payment.

.1 The Final Payment shall include any and all remaining balances of the Contract Price withheld by the District from Contractor's previous Progress Payments.

7.10.2 Conditions Precedent to Disbursement of Final Payment - The Final Payment for the balance of the Contract Price nor the release of retention shall not come due until the District has accepted the Project and receives from the Contractor each and all of the following:

.1 An affidavit or certification by the Contractor that payrolls, bills for materials and any other indebtedness incurred in the connection with the Work for which the District and/or the District's property may or might be responsible or encumbered have been paid or otherwise satisfied.

.2 A certificate evidencing that insurance is and will remain in force, after the Contractor's receipt of Final Payment, for the duration required by the Contract Documents.

.3 Consent, if required, of the Surety on the Labor and Material Payment Bond and Performance Bond to the release of Final Payment.

.4 Properly completed and executed Unconditional Waivers and Releases of lien rights upon Final Payment to the Contractor, Subcontractor(s) of any tier and Material Suppliers in accordance with California Civil Code 3262, with each of the same stating there are, nor will there be, any claims for additional compensation after disbursement of the Final Payment.

.5 Submission, in accordance with the Contract Documents, of Record Drawings, As-Built drawings, Operations and Maintenance manuals, spare parts or special tools, additional materials and separate warranties provided by any manufacturer or distributor for any materials or equipment incorporated into the Work.

.6 The Contractor's and Subcontractor's Guarantee, on the form included within the Contract Documents, executed by an authorized representative of the Contractor.

.7 Any and all other items or documents required by the Contract Documents to be delivered to the District upon the completion of the Work.

.8 If required by the District, other data (receipts, releases, waivers of liens, stop notices, claims, security interest or encumbrances) which establishes the satisfaction of all obligations by the receipt of payment by the District.

7.10.3 Disbursement of Final Payment - Provided the District is in receipt of all documents and other items set forth in these General Conditions, as conditions precedent to the District's obligation to release and disburse the Final Payment, not later than thirty-five (35) days after the County's recording of the Notice of Completion, the District shall release to the Contractor the Final Payment. Pursuant to California Public Contract Code 7107, in the event there is a dispute between the District and Contractor at the time Final Payment is due, the District may withhold, prior to the disbursement of the Final Payment, an amount not to exceed one hundred fifty percent (150%) of the disputed amount.

.1 Final Payment of the ten percent (10%) of the value of the Work retained by the District shall be invoiced separately in accordance with the Articles of these General Conditions. If unencumbered, payment shall be made thirty-five (35) days after the County's recording of the Notice of Completion and the District's Final Acceptance and Board of Trustees approval of the Project.

7.11 WAIVER OF CLAIMS - The Contractor's acceptance of the Final Payment shall constitute a waiver and full release by the Contractor of any and all claims against the District for further compensation or otherwise in connection with the Contractor's performance of the Work shown within the Contract Documents and Final Completion of the Project.

7.11.1 Claims Asserted After Final Payment - Any lien, stop notice or other claim asserted or filed by a Subcontractor, of any tier, laborer, Material Supplier or others in connection with or for Work performed according to the Contract Documents, after the Contractor's acceptance of the Final Payment, shall be the sole and exclusive responsibility of the Contractor. Furthermore, the Contractor agrees to indemnify, defend and hold harmless the District and its officers, agents, consultants, representatives and employees from and against any claims, demands or judgments arising or associated therewith, including without limitation attorneys fees incurred by the District in connection with any asserted claims.

.1 Should any lien, stop notice or other claim be asserted or filed by a Subcontractor, of any tier, laborer, Material Supplier or others in connection with or for Work performed according to the Contract Documents remain unsatisfied after disbursement of the Final Payment the Contractor shall refund to the District any monies paid or needed to pay in discharging any lien, stop notice or other claim including without limitation all costs and reasonable attorneys fees incurred by the District in connection with the discharging therewith.

7.12 WITHHOLDING OF PAYMENTS - The District may withhold, in part or in whole, an amount from any Progress or Final Payment due the Contractor to the extent that is considered sufficient and advisable to protect the District as noted below. The District may apply such withheld amounts to make payments for the items noted below. In so doing, the District shall be deemed the agent of the Contractor and any payment so made shall be considered as a payment made under the Contract by the District to the Contractor. The District shall not be held liable to the Contractor for payments made in good faith and the payments may be made without prior judicial determination of claim or obligation. The District shall render unto the Contractor a complete and proper

accounting of the funds disbursed on behalf of the Contractor. At such time the basis for withholding the funds is corrected the District shall release the amounts for payment with the payment of the next monthly billing.

7.12.1 Work that is defective or noncompliant and requires remedial Work to be compliant with Contract Documents.

7.12.2 The failure by the Contractor to make timely payments due Subcontractors, Material Suppliers or labor.

7.12.3 Claims which have been filed or there is reasonable knowledge of the probable filing by Subcontractors, laborers, Material Suppliers or any others which may have performed a portion of the Work per the Contract Documents for which the District may be liable, including without limitation, Stop Notices filed pursuant to California Civil Code 3179 et seq.;

7.12.4 A reasonable doubt the Contract may not be completed for the unpaid balance of the Contract Price;

7.12.5 Tax demands filed in accordance with California Government Code 12419.4;

7.12.6 Other claims, penalties and/or forfeitures which the District is required or authorized to retain funds otherwise due the Contractor;

7.12.7 Any funds due from the Contractor to the District under the terms of the Contract Documents;

7.12.8 The Contractor's failure to perform its obligations under the Contract Documents or the Contractor's default under the Contract Documents or the failure to maintain progress of the Work in accordance with the Approved Construction Schedule;

7.12.9 The District shall not be obligated to process any Application for Progress or Final Payment so long as any lawful or proper direction concerning the Work or the performance thereof given by the District shall not be fulfilled;

7.12.10 Cover damages to: another Contractor, on and offsite property;

7.12.11 Deductions for Uncorrected Work - If the District deems it inexpedient to correct Work, damaged, incomplete or not done in accordance with the Contract Documents, an equitable deduction from the Contract Price shall be made by Change Order.

7.13 PAYMENTS TO SUBCONTRACTORS - The Contractor shall pay all Subcontractors on account of Work on the Contract performed by such Subcontractors in accordance with their subcontract as provided for pursuant to California Public Contract Code 10262, the provisions of which are hereby incorporated by this reference. In the event the Contractor fails to make payment to Subcontractors in accordance with the referenced Contract Code, the provisions of California Public Contract Code 10253 shall apply; by this reference the provisions of California Public Contract Code 10253 are incorporated herein in its entirety, except that the references in said Section 10253 to "the director" shall be deemed to refer to the District.

ARTICLE 8 CONTRACT DURATION AND LIQUIDATED DAMAGES

8.1 WORK WITHIN CONTRACT TIME AND SUBSTANTIAL COMPLETION - Unless expressed differently elsewhere within the Contract Documents, The Contract Time is the period, including District authorized adjustments thereto, allotted in the Contract Documents for completion of the Work.

8.1.1 Cumulative Rights and Remedies; No Waiver - Duties and obligations imposed by the Contract Documents and the rights and remedies available there under shall be in addition to and not in lieu of or otherwise limited or restrictive to the duties, obligations, rights and remedies otherwise imposed or available by law. No action or lack thereof by the District shall constitute a waiver of a right or remedy afforded under the Contract Documents or at law. Nor shall such an action or failure to act constitute approval or acquiescence in a breach hereunder, except as may be specifically granted and agreed to in writing.

8.1.2 The date for starting the Work is the date established within the Notice to Proceed issued by the District pursuant to this Agreement. The commencement of Work shall not be postponed by the failure to act by the Contractor or any person or entities for which the Contractor is responsible.

8.1.3 The date of Substantial Completion is the date when the Work is complete and certified by the District, the Architect/Design team and the IOR that in accordance with the Contract Documents the Project is functionally complete and usable for its intended purpose. Substantial Completion and Final Completion SHALL NOT have the same meaning.

.1 Upon mutually agreeing that Substantial Completion of the Work is possible, the District, Director, the Architect/Design Team, the IOR and the Contractor shall jointly inspect the Work and prepare a comprehensive list of Work items that require correction or completion. The exclusion of, or failure to include any item on the list shall not alter or limit the Contractor's obligation to complete and/or correct any portion of the Work required by the Contract Documents. The good faith and reasonable determination of Substantial Completion by the District, Director, the Architect/Design Team, and the IOR shall be controlling and final.

8.1.4 Liquidated Damages - If the Work is not completed in accordance with the foregoing, it is understood that the District will suffer damage. It is impractical, nor feasible, to determine the amount of actual damage and therefore the Contractor shall pay the District, as fixed liquidated damages and not as a penalty, the sum stipulated in the Supplemental General Conditions for each calendar day of delay until the Work is completed to the point of acceptance by the District and the Architect/Design Team.

.1 The Contractor and the Contractor's Surety shall be liable for the accumulated amount thereof. The Liquidated Damage amount may be deducted from the Contract Price then or thereafter due the Contractor. The Contractor and the Surety shall be liable to the District for any Liquidated Damages exceeding any amount of the Contract Price then held or retained by the District. By the execution of this Agreement the Contractor confirms and warrants that the statement in Article 8.1.3 is a fair and reasonable and is in addition to any other recovery of costs incurred by the District to complete the Work.

8.2 PROGRESS AND COMPLETION OF THE WORK

8.2.1 Time is of the Essence - Time limits and modifications, as stated in the Contract Documents, are the essence of this Contract. By the execution of this Agreement the Contractor confirms and warrants that the stated Contract Time is a fair and reasonable period for performing and achieving Substantial Completion of the Work.

.1 The Contractor further agrees to employ, coordinate and purchase, in a timely manner, an adequate Workforce, a continual supply of materials and equipment that will permit the diligent prosecution of the Work to achieve Substantial Completion, as stated by these Contract Documents, of all the Work within the Approved Contract Time as may be adjusted by Change Order.

8.2.2 Time for Completing Correction or Completion of Items of the Work - In addition to establishing a list of items for correction and/or completion as set forth in Article 8.1.2 the District, Director, the Architect/Design Team, and the IOR shall develop a reasonable schedule for the Contractor's completion of All items shown on the Correction and Completion list. This schedule shall also include any other items, though unlisted, which require correction and/or completion.

.1 Should the District, Director, the Architect/Design Team, the IOR and the Contractor not be able to mutually agree upon the time allotted for the completion of such items, the Architect shall determine the amount of time to be allocated for completion of the items. The Architect's decision regarding the time shall be final and binding on the Contractor so long as the Architect's determination is made in good faith. The Contractor shall promptly and with due diligence proceed to complete and/or correct all necessary items within the time established.

.2 In the event the Contractor shall refuse or fail, for any reason, to complete the necessary items the Contractor shall be subject to the assessment of Liquidated Damages in accordance with Supplemental General Conditions.

.3 The foregoing notwithstanding, in the event of the Contractor's failure or refusal to complete all the items of the Work within the time so established, the District may, in its sole and exclusive discretion and

without further notice to the Contractor, cause the completion of such items of the Work requiring correction or completion within the Time established by the Architect. Such election to complete shall be in addition to and not in lieu of any other rights or remedy of the District under the Contract Documents or the law.

.4 Should the District elect, pursuant to the above, to complete items of Work requiring correction or completion the Contractor shall be responsible, for reimbursement to the District, of all costs incurred to perform such Work. The Contractor and Surety do approve and authorize the District's right to deduct these costs from any funds due the Contractor. If the costs incurred by the District, to perform the corrective and completion Work, exceeds the remaining Contract Price owed the Contractor, the Contractor and the Contractor's Performance Bond Surety acknowledge their liability and will reimburse the District prior to the Final Contract Invoice.

.5 Should the Contractor require or request inspection for Substantial or Final Completion by the District's Director, IOR and Architect/Design team and it is determined that the Work does not then meet the contractual requirements for Substantial or Final Completion and an additional inspection will be required, the Contractor shall be responsible for all costs for such re-inspections, including without limitation attorney's fees, District costs for the Director and Project Center, testing agencies and IOR.

8.3 SUBSTANTIAL COMPLETION - is the stage in the progress of the Work when the Work is complete in accordance with the Contract Documents so the District can occupy or use the Work for its intended purpose, all Contract required items are installed and all fire/life safety systems are functioning and have been approved. Substantial Completion shall be determined by the District, Architect/Design Team and IOR upon the request by the Contractor. The determination shall be made, per the Contract Documents, in good faith and reasonable determination. The determination by the District and the Architect/Design Team shall be controlling and final.

8.3.1 Contractor Responsibility for Multiple Inspections - In the event the Contractor shall request the determination of Substantial Completion by the District, Architect/Design Team and IOR and it is determined by them that the Work does not then justify certification of Substantial Completion and re-inspection is required at a subsequent time, the Contractor shall be responsible for all costs of such re-inspection. These cost shall include, without limitation, the fees for the Architect/Design Team, IOR and an appropriate portion of the District employees salary. The District is authorized, by the Contractor's execution of the Agreement, to deduct all such costs from the balance of the Contract Price then or thereafter due to the Contractor.

8.4 FINAL COMPLETION - is based upon the acceptance of the Work and the complete sign-off, on the "punchlist" and/or List of Open Items developed at the time of Substantial Completion, by the Director, Architect/Design Team and IOR and approved by the Board of Trustees. The Board of Trustees approval (adoption) of the project shall occur at the next regularly scheduled meeting of the District's Board of Trustees after the determination that Project has reached Final Completion as defined within the Contract Documents. All Warranty and Guarantee periods required under the Contract Documents shall commence on the date of approval (adoption) by the Board of Trustees.

8.4.1 Final Acceptance - Final Acceptance of the Work shall occur upon approval of the Work by the District's Board of Trustees; such approval shall be submitted for adoption at the next regularly scheduled meeting of the District's Board of Trustees after the determination of Final Completion. The commencement of any warranty or guarantee period under the Contract Documents shall be deemed to be the date upon which the District's Board of Trustees approves of the Final Acceptance of the Work.

.1 Nothing in the above mentioned procedures shall be construed as a waiver of the District's right to receive the completion of the Project by the Contractor within the stipulated time requirement, failing which, the District shall have the right to institute liquidated damages.

8.5 ADJUSTMENTS OF CONTRACT TIME - The initial date of Substantial Completion may be modified for reasons by which an adjustment may be necessary subject to the following:

8.5.1 The Contract Time shall be subject to adjustment only in strict conformity with applicable provisions of the Contract Documents. Failure of the Contractor to request adjustment(s) of the Contract Time, in strict conformity with the applicable provisions of the Contract Documents, shall be deemed the Contractor's waiver of same.

8.5.2 Any adjustment of the Contract Time on account of a Compensable or Excusable Delay shall be limited as set forth herein. The reasonable time period granted shall be determined by the District whose decision is final.

.1 A Compensable and Excusable delay occurring concurrently, the maximum extension of the Contract Time shall be the number of days from the commencement of the first delay to the cession of the delay which ends last.

.2 An Inexcusable Delay which is concurrent with either an Excusable Delay or Compensable Delay, the maximum extension of the Contract Time shall be limited to the number of days allotted for the start and finish of the Excusable and/or Compensable Delay.

.3 The Contract Time shall not be extended unless substantiated by a Fragnet Schedule for the requested extension and approved by the District and Architect. However, the approved Time Extension shall not be made to the contract until such time that the Project float equals zero (0).

.1 Should the time impact requested be for activities which are not on the critical path of the Approved Construction Schedule the Contractor MAY only be allowed a reduction of the existing float at no cost to the District.

8.5.3 Excusable Delays - Are unforeseeable and unavoidable conditions or other unforeseen causes which all are beyond the control, and without fault or neglect, of the Contractor and/or any others directly or indirectly engaged by the Contractor in the performance of any portion of the Work.

.1 These shall include unanticipated and unavoidable labor disputes, unusual and unanticipated delays in transportation of equipment, materials or construction equipment reasonably necessary for execution and completion of the Work and unusually severe weather days which exceeds those normal for the Contract duration as set forth in the Supplemental General Conditions. The financial resources of the Contractor or any entity directly or indirectly engaged by the Contractor in the performance of any portion of the Work shall be deemed conditions beyond the control of the Contractor.

.2 An event of Excusable Delay shall be cause for adjustment to the Contract Time only if the Contractor establishes: (1) full compliance with all applicable provisions of the Contract Documents relative to the method, manner and time for Contractor's notice and request for adjustment of Contract Time; (2) that the basis for the Contractor's request to adjust the Contract Time are outside the reasonable control and without any fault or neglect of the Contractor or any entity directly or indirectly engaged by the Contractor in performance of any portion of the Work; (3) that the events forming the basis of Contractor's request to adjust the Contract Time directly or adversely impacted the progress of the Work as indicated in the Approved Construction Schedule or the most recent updated Approved Construction relative to the date(s) of the claimed Excusable delay.

.3 The foregoing provisions notwithstanding, the number of "Rain" days set forth in the Supplemental General Conditions, the Contract Time shall not be adjusted for "Rain and or other inclement weather" until and unless the actual number of "Rain Days" noted in the Supplemental General Conditions have been exceeded and that these days have directly and/or indirectly adversely impacted the progress of the Work through the Critical Path activities of the most recent updated Approved Construction Schedule.

8.5.4 Compensable Delays - Are delays, acts and/or omissions by the District, the Architect and/or the District's separate Contractors, over which the Contractor had no control shall be granted additional time.

.1 The granted amount of additional Contract Time shall be predicated on the Contractor providing written notice and request in accordance with the Contract Documents. The Contract Time shall be adjusted by Change Order for such a reasonable period of time as determined by the District and the Architect.

.2 In accordance with the California Public Contract Code Section 7102, if the Contractor's progress is delayed by any of the events described in the preceding sentence, Contractor shall not be precluded from the recovery of damages directly and approximately resulting there from, provided the District is liable for the delay, the delay is unreasonable under the circumstances involved and the delay was not within the reasonable contemplation of the District and Contractor at the time of the execution of the Contract Agreement.

.3 In such event the Contractor's cost, if any, shall be limited to direct, actual and unavoidable additional costs of labor, materials or equipment directly resulting from such delay and shall **exclude** indirect or other consequential damages. Except as expressly provided for herein, the Contractor shall not have any other claim, demand or right of adjustment of the Contract Price arising out of the delay, interruption, hindrance or disruption to the Critical Path progress of the Work.

.4 Adjustments to the Contract Price, if any, on account of Changes to the Work or suspension of the Work shall be governed by the applicable provisions of the Contract Documents.

8.5.5 Inexcusable Delays - These are any delays to the progress of the Work caused by events or factors other than those specifically identified in this article, Excusable and Compensable Delays. Neither the Contract Price and/or Contract Time shall be adjusted on account of Inexcusable Delays.

8.6 The aforementioned notwithstanding the District shall not be deemed in breach of, or otherwise in default of any obligation hereunder, if the District shall deny any Contractor's request for an adjustment of the Contract Time for any delay which does not actually and directly impact Work or Work activities on the then current and updated Approved Construction Schedule.

ARTICLE 9 CONTRACT ADMINISTRATION

9.1 ADJUSTMENT OF THE CONTRACT - Any and all adjustments to the Construction Contract, as it relates to changes in the Contract Price and/or Construction Time, shall be made in strict conformity with the applicable provisions of the Contract Documents and a properly District Board of Trustees approved and ratified Contract Change Order. The Contractor's failure to request adjustments of the Contract Time and/or Contract Price, in strict conformity with the provisions of the Contract Documents, shall be deemed the Contractor's waiver of these rights and claims for Contract adjustment.

9.2 CHANGE TO THE CONTRACT - The District's right to make Changes shall not invalidate the Contract nor does it relieve the Contractor of any liability or other obligations shown or stated in the Contract Documents.

9.2.1 Requirement of notice to the Surety of Changes in the scope of Work shall be the sole and complete responsibility of the Contractor.

9.2.2 The District's Changes to the Work as shown on the drawings or depicted in the Specifications shall be subject to the approval by DSA. This approval shall be the responsibility of the District and/or the Architect/Design Team unless the Changes were to a deferred approval scope of Work.

9.3 CHANGES IN THE WORK - The District may, at anytime and without invalidating the Contract, provide written notice to make Changes within the general scope of the Work under the Contract Documents or may issue additional written instructions requiring additional Work or may direct the deletion of originally planned Work under the Contract Documents. The Contractor shall not proceed with any change (additive or deductive) without prior written authorization from the District, unless there is an emergency that endangers life or property. Proceeding with changes without written authorization from the District is done at the Contractor's expense. Upon receipt of written authorization from the District, the Contractor shall promptly commence and diligently Work until complete with the Change in the Work and coordination with other scheduled activities.

9.3.1 The Contractor shall not be relieved or excused from its prompt commencement and diligent completion of any Change subject to the District's written authorization by virtue of the absence or inability of the Contractor and the District to agree upon the extent of any adjustment to the Contract Price and/or Contract Time as a result of such Change. The issuance of a Change Order pursuant to this article in connection with any Change authorized by the District shall not be deemed a condition precedent to the Contractor's obligation to promptly commence and diligently Work until any such Change authorized by the District hereunder.

9.3.2 Changes in plans or specifications prior to Bid shall be made by Addenda and after Bid it shall be done by Bulletin. Both the Addenda, Bulletin and executed Change Orders shall be approved by the Division of State Architect as provided in Title 24 of the California Code of Regulations.

9.3.3 When, the District, Architect or governing authority requests the Contractor to make a change based on a revised industry code or code standard, which came into effect after the date of the Contract

Documents, any impacts, Contract Sum or Contract Time, must be resolved prior to the performance of the affected Work. The Contractor is obligated to submit the Change Order Request in accordance with the Contract Documents. The District shall not be obligated for any impacts, costs or time extensions, which results from the Contractor's failure to submit the Change Order Requests in accordance with the Contract Documents.

9.4 ORAL ORDER OF CHANGE IN THE WORK - Any oral direction, instruction, interpretation, or determination from the District, Director and/or the Architect/Design Team, which in the opinion of the Contractor, may cause any Change in the scope of the Work or may otherwise require an adjustment to the Contract Price or the Contract Time will be treated as a Change.

9.4.1 It shall be treated as a Change only in the event the Contractor gives, within ten (10) days, written notification to the District and prior to acting on the aforementioned oral direction, instruction, interpretation, or determination that there is cause for Change in Contract Time and/or Contract Price. Time is of the essence in the Contractor's written notice regarding the previous sentence so the District may investigate and consider alternative measures as it relates to the oral direction, instruction, interpretation, or determination. Accordingly, the Contractor acknowledges and concedes that its failure, regardless of the cause, to submit written notice within the ten (10) day requirement for such order as described herein shall constitute the Contractor's waiver of any right to assert and/or claim entitlement to any adjustment of the Contract Price and/or Contract Time.

.1 The Contractor's timely written notice shall include and formally state the date, circumstances and extent of adjustment to the Contract Time and/or Contract Price, the origin of the order, direction, instruction, interpretation or determination the Contractor affirms is a Change in scope. Should the Contractor's request be for a Time Extension, addition to the aforementioned items which must be included, a Fragnet schedule shall accompany the request.

.2 The Contractor's failure to act in strict conformance with this procedure for any such order, direction, instruction, interpretation or determination shall not be treated as a Change and the Contractor formally acknowledges to waive any claim for adjustment to the Contractor Price or Contract Time.

9.5 SUBMITTAL OF THE CHANGE ORDER SUPPORT DATA - Within twenty (20) days after the District's receipt of the Contractor's required written notice advising of a potential change in the Work, due to the District's written or oral order, the Contractor shall submit to the District a **DETAILED** written document setting forth:

9.5.1 The cause of the Change

9.5.2 A detailed properly itemized amount for any adjustment (deductions and/or adds) to the Contract Price. The itemized amounts shall include but not be limited to as follows:

.1 Contractor's Field Supervisory Staff - The District will acknowledge and accept charges for the Contractor's field supervisory staff only as it relates to their direct involvement to the preparation or supervision of the changed condition.

.2 Field Labor - onsite labor costs, actual hours and wage rate(s), directly used in the execution of the Change. The labor cost shall be limited to and not exceed the prevailing wage rate classification applicable for Site. The rate employed to calculate costs shall be the classification rate associated with completing the Work. Use of a higher classification which inflates the labor costs is not permitted. With regard to the aforementioned the costs for preparing estimate(s), maintenance of all required records, coordination, assembly and delivery of materials, supervision are considered overhead and General Conditions costs and are covered by the District approved mark-ups for the Contractor. The District WILL NOT acknowledge or approve a crew that is comprised completely of General Foremen or Foremen. The crew acknowledgement shall be in accordance with the General Conditions. The acknowledgement of the proper crew members shall not be construed as the District's approval of the requested Change.

.3 Materials and Equipment - reasonable costs for transportation from a source closest to the site is the criteria for determining transportation costs. In the event the source for materials and/or equipment, required for the execution of the Change, is owned in whole or in part by the Contractor compensation shall not exceed the current wholesale price for the materials and/or equipment. Should, in the reasonable opinion of the District, the costs claimed by the Contractor for the Change are excessive or the Contractor fails to provide adequate evidence to justify the actual costs charged, the Contractor agrees, acknowledges and authorizes that the District's only obligation is to pay would be limited to the then lowest wholesale price for similar materials

and/or equipment in quantities adequate to perform the Change. The District reserves the right to furnish materials and/or equipment for the performance of the Change in Work for which the Contractor shall not be compensated. The mark-up on materials and/or equipment is limited to the District approved mark-ups for the Contractor.

.4 Construction Equipment - The compensation is limited to the actual cost for the direct usage of the equipment and the charges for use in the performance of the change will be compensated in fifteen (15) minute increments. A reasonable charge will be permitted for the delivery and removal of the construction equipment. Notwithstanding, neither delivery, removal and necessary loading or unloading activities shall be accepted or approved if the construction equipment is used in the performance of any other Work which may be set forth and required within the Contract Documents. Unless prior written authorization is received from the District no costs or compensation shall be approved for any the time the Construction Equipment is inoperative, idle or standing by. The rental rates shall not exceed rates established by the Rental Blue Book or construction equipment rental agencies in the locality of the Site; costs claimed above those rates will not be approved or paid.

.1 No lump sum quotes, allowances for construction equipment rental will be accepted, approved or paid.

.2 Charges for Construction Equipment or tools must have a replacement value of \$ 500.00 or more to be included in the change request.

.3 Without prior written authorization from the District the rental rates charged shall constitute full reimbursement and compensation for the cost of the equipment rental, fuel, power, oil, lubrication, supplies, required attachments, repairs and maintenance, depreciation, storage, insurance and labor other than the operator incurred by the Contractor for the use of the Construction Equipment.

.4 The rental rate shall not limit usage of the equipment to five (5) days per week or one hundred sixty (160) hrs during a month. The District will not accept any premium charges for the usage of rental construction equipment. The foregoing notwithstanding and without prior written approval from the District, the rental daily rate shall be developed from the monthly rate divided by thirty (30) days.

.5 The District shall not be responsible for any charges as they relate to the repair and/or replacement of equipment damaged or lost in the performance of the change in scope.

9.5.3 Attach all substantiating data from Subcontractors, Suppliers in such detailed breakdown (quantity takeoffs, unit prices, etc.), that will permit accurate evaluation.

9.5.4 Miscellaneous Costs:

.1 Cost of demolition and/or rubbish removal from the site as it is directly related to this change in scope.

.2 Insurance and Bond premiums not to exceed 1.5%, permits, special licenses and inspections.

9.5.5 A schedule Fragnet for any requested Contract Time adjustment.

9.5.6 The Contractor's mark-up on the NET cost of Work done by their own forces for the change in scope shall be fifteen percent (15%). This mark-up shall constitute full and complete compensation for all temporary facilities and services.

.1 The Contractor's mark-up on subcontracted Work or purchase orders is limited to five percent (5%).

9.5.7 The Contractor's failure to submit the request in accordance of this article or if asserted after Final Payment is made under the Contract Documents and within the required time period shall be the Contractor's acknowledgement there is no charge or added time required to implement the scope change, written or oral, provided by the District.

9.5.8 That if the District's direction, oral or written, constitutes a credit to the Contract Price and the Contractor fails to provide the appropriate deduction, the Contractor's failure to submit the credit shall constitute their acknowledgement, approval and authorization for the District to develop a fair and reasonable deductive Change Order for the deleted Work. The aforementioned authorized, preparation and approval shall not be revocable by the Contractor once the deductive Change Order has been issued.

9.6 PROCEDURE FOR EVALUATING ADJUSTMENTS TO CONTRACT PRICE AND CONTRACT TIME

9.6.1 Adjustments to the Contract Price by District Directed Changes in scope shall be evaluated and determined by application of one of the following methods:

.1 Mutual Agreement/Lump Sum - The detailed estimate of the actual increase and/or decrease of Work, that is presented in a District approved format, may be used to negotiate, to mutual agreement, an amount of compensation for the Change in scope. The Contractor shall be completely responsible for any additional costs or time delay that arises from the Contractor's delay in providing estimated costs within the period prescribed by the Contract Documents. This responsibility extends to include the time required to reach a mutually agreeable lump sum amount.

.2 Unit Prices - The unit prices contained within the Contractor's original bid and are incorporated into the Contract Documents or fixed by subsequent agreement between the Contractor and the District. The unit prices shall remain in effect for the duration of the Contract or Final Completion whichever is the later. The unit prices shall be applicable for additions and deducts to the contract.

.3 Use of the Means Construction Cost Data - Should the District and the Contractor be unable to reach a mutually agreeable amount for the directed Change, the District shall then proceed with applying unit costs from Means Construction Cost Data to the quantities prepared by the Contractor. Additionally, the District will verify the quantities submitted by the Contractor. If Means Construction Cost Data ceases publication then, by mutual agreement, the District and Contractor shall select an alternative estimating manual to be utilized. Failure by the District and Contractor to reach a mutual agreement for adjustment to the Contract Price due to the Changes in the Work the Change Request will be resolved by either Articles 9.6.1.1 or 9.6.1.3 of these Contract Documents.

.4 Time and Material - The District may direct Work to be done on a Time and Material basis. The Contractor's Work tickets **SHALL** be signed by the Director or District **DAILY**. The ticket shall show the specific Work that was done, the materials, equipment and labor used. The allowable charges and costs are per the Articles contained within these General Conditions. The District signed tickets shall accompany the Contractor's request for a Change Order.

.5 Determination by the District - Based upon the Contractor's records of actual and necessary costs incurred by the Contractor, the District may determine the extent of adjustment to the Contract Price on account of Changes in the Work. The District shall promptly, after determining the amount of adjustment to the Contract Price which will be authorized, notify, in writing, the Contractor. Failure by the Contractor to respond, within ten (10) days of receiving the District's written determination, shall be constitute the Contractor's acceptance of the District's evaluation and determination. Additionally, the Contractor further waives any right or basis thereafter to protest or otherwise object to the District's decision. Notwithstanding any objection of the Contractor to the District's determination of the extent of adjustment to the Contract Price the Contractor shall diligently proceed to perform and complete any Change.

9.6.2 Failure to Provide Required Documentation - should the Contractor, pursuant to above Articles 9.6.1.1, 9.6.1.2, 9.6.1.3, fail to provide the required detailed breakdown and/or proper support documentation the request for adjustment to the Contract Price shall be returned to the Contractor without further review. The review will resume only upon receipt from the Contractor that the request for adjustment to the Contract Price is now in the required format. The District shall not be held responsible for any impacts to the Approved Construction Schedule or additional costs to implement the Approved Change in scope caused by the Contractor's failure to provide the required information.

9.6.3 Items Not Approved to be Included and/or Charged in Change Orders - The District reserves the right to amend the following list as it deems necessary:

- .1** Charges for field supervisory staff, main office staff, legal charges and related office expenses.

.2 Hourly rates for trade Workers which exceed those shown on the California Department of Labor prevailing wage listing.

.3 FEEs for Company Vehicles and/or charges for a "Foreman's" truck / vehicle.

.4 Warehouse Costs and/or Contractor special delivery costs unless previously approved, in writing, by the District.

.5 Small tools normally required to perform this type of Work or tools with a replacement value of \$500.00 or less.

.6 Tools and/or equipment already in use on site.

.7 Costs to expedite the delivery or installation unless approved previously in writing by the District.

.8 Mark-up's by rental companies on their published rates.

.9 Contractor charges to maintain Records as required by the Contract Documents.

.10 Contractor's capital expenses, including interest on the Contractor's capital employed for the Work.

.11 Loss of efficiency or productivity.

9.6.4 Mark-up Percentages Allowed on Changes to the Work - To determine the final cost/credit of Change(s) in the Work directed by the District and to the extent of change in the Contract Price, the mark-up percentages for overhead (including home office and field administrative staff overhead), General Conditions costs and profit are set forth below:

.1 Mark-up's for Additive Change Orders

.1 Subcontractors, at any tier, shall be limited to a fixed 15% charge for their Work. In the event they subcontract or rent equipment that mark-up shall be limited to 5%.

.2 Material/Equipment Suppliers shall be limited to a fixed 15%, for overhead and fee, charge for their Work. In the event they subcontract or rent equipment, the mark-up for that item shall be limited to 5%.

.3 On Professional engineering or Consultant charges the mark-up shall be 5% for Overhead and Fee.

.4 Contractor's mark-up for Work performed by their forces is limited to a fixed 15% for Overhead and Fee.

.5 Contractor's mark-up on Subcontracted Work or the rental of materials or equipment is limited to a fixed 5% for Overhead and Fee.

.6 Contractor's Bond charges shall not exceed 1 % of the total cost.

.2 Mark-up's for Deductive Change Orders to Contract Price

.1 Subcontractors, at any tier, shall return costs plus 10% of the value for deductive Work.

.2 Material/Equipment Suppliers shall return costs plus 10% of the value for deductive Work.

.3 Professional engineering or Consultant charges plus the 5% mark-up shall be returned.

.4 Contractor's mark-up for deleted Work performed by their forces is 10%.

.5 Contractor's mark-up for deleted Subcontracted Work and/or the rental of materials or equipment related to deleted Work shall be returned at value plus 5% for the deductive Work.

.6 Contractor's Bond charges for deleted Work shall be credited at the actual rate or 1% whichever is most applicable.

9.6.5 Changes in Work Which Includes Additional and Deductive Work - The detailed breakdown of deductive Work shall be made first. The detailed breakdown of additional Work scope is then combined with the deductive Work. The appropriate Mark-up adjustments, as defined above in Articles 9.5.4.1 and 9.5.4.2, shall be applied to the balance.

9.6.6 Adjustments to Contract Time - Should the Change(s) to the Work require, in the opinion of the Contractor and pursuant to this Article 9, the Contract Time to be extended by Change Order for a period of time commensurate with the reasonable time necessary to execute the Change the Contractor shall provide a "Fragnet" schedule which will substantiate the impact that the Change in scope has on schedule activities, critical and non critical.

.1 In the event the Change in scope requires an adjustment of the Contract Time it will be made by Change Order. The revised Contract completion date shall be the basis for the assessment of Liquidated Damages.

.2 Should the completion of the Work be delayed by causes beyond the control of the Contractor and for which the District is responsible and it was unreasonable to assume, under the circumstances involved, these causes were within the contemplation of the Contractor at the time the Agreement was executed. It shall not preclude the Contractor from recovering only the amount of time arising from the delay.

9.7 CHANGE ORDERS - With the District's approval of the Contractor's Change Request (COR), a written Change Order will be prepared, which sets forth the scope, the District's approved amount for the Change and any Contract Time adjustment which may be granted and forwarded to the Contractor for signature. Issued Change Orders shall be considered as a full and the final settlement of all claims for direct, indirect and consequential costs, (see Article 4.7.14), which include but not be limited to, costs for Work, delays or time impacts related to or arising from items covered and affected by the change in Contract Price and/or Contract Time.

9.7.1 Waiver of Claim - Any claims, costs or time impacts relating to any Change but not presented, by the Contractor, for inclusion into the original Change Order Request (COR) prior to the issuance of the Change Order, shall be deemed waived. Predicated on the above the Contractor shall execute the Change Order.

9.7.2 Modification to the Change Order - Once the Change Order has been prepared by the District, based on a mutually acceptable cost and/or time adjustment, and submitted to Contractor for signature the Change Order shall not, without prior District written approval, which may or may not be given at the sole discretion of the District, be modified or amended in any manner. The Contractor's modification, without prior written approval from the District shall, render the Change Order null, void, unenforceable or binding on the District. Unless specified elsewhere within the Contract Documents a Change Order does not becoming binding on the District until approval and ratification by the District's Board of Trustees.

9.8 DISPUTED CHANGES - Should there be a dispute or disagreement between the District and the Contractor regarding the description of any item as a Change in the Work or as it relates to what is considered a fair and reasonable adjustment to the Contract Price or Contract Time, the Contractor shall promptly and with due diligence proceed with the performance of the disputed item of Work until its completion. The resolution of the disputed Change shall be made in accordance with the terms of the Contract Documents. This dispute or disagreement over the cost or related time shall not be construed by the Contractor as the District's authorization to proceed with the Work on a Time and Material basis. The Contractor's failure or refusal to proceed with the Work may be deemed by the District as the Contractor's default of a material obligation of the Contractor under the Contract Documents.

9.9 EMERGENCIES - In the event of an emergency which affects, the safety of life, property or the Work, the Contractor shall, without direction or prior authorization from the District proceed, at the Contractor's discretion, to perform the Work necessary to prevent such threatened loss or injury. The compensation, claimed by the Contractor on account for the Work performed, shall be submitted and determined in accordance with Article 9.

9.10 MINOR CHANGES IN THE WORK - The Architect may order, by the District's issuance of a Directive, minor Changes in the Work which are not inconsistent with the intent of the Contract Documents without involving an adjustment of the Contract Price or Contract Time. The Contractor shall promptly commence Work on the Directive from the District. Should the Contractor believe the Directive is a change and increase in scope the Contractor may, without stopping Work, seek compensation in accordance with the Contract Documents, specifically Article 9.

9.11 UNAUTHORIZED CHANGES - Any and all Work beyond the lines and grades shown on the Contract Documents or additional Work performed and/or provided by the Contractor without required written notice to the District shall be deemed as done at the sole expense of the Contractor and not a justification for an extension of the Contract Time. Notwithstanding the aforementioned the District reserves the right to have the unauthorized Work removed at the sole cost and expense of the Contractor. The District's failure to Direct or order the removal of the unauthorized Work shall not constitute the District's acceptance, approval or acknowledgement that payment will be made for the Work performed.

ARTICLE 10 SEPARATE CONTRACTS/CONTRACTORS

10.1 DISTRICT'S RIGHT TO AWARD SEPARATE CONTRACTS - By executing the Contract Agreement the Contractor acknowledges and accepts the District's right to perform construction or installation, related to the Project, with District personnel or to award separate contracts in connection with other portions or interfacing with the Project, other construction or operations on or about the Site. The Contractor agrees and accepts that there will be no additional compensation or time extension granted for the District's performance of specific items of Work which will interface for the Project completion.

10.1.1 In the event the Contractor claims delay or additional costs were incurred because of the above action by the District, the Contractor shall seek remuneration and/or time adjustment as provided for within the Contract Documents. Failure of the Contractor to request such remuneration and/or time adjustment within strict conformity with the applicable Contract Documents shall be considered the Contractor's waiver of the same.

10.2 DISTRICT'S COORDINATION OF SEPARATE CONTRACTS - The District shall be responsible for providing adequate coordination of Work activities performed by the District's own forces or separate Contractor(s) with those of the Contractor. The Contractor shall cooperate and Work in conjunction with the District's Contractor(s).

10.2.1 The Contractor shall, in conjunction with the District and the District's Separate Contractor(s), review the District's separate Contractor(s) construction schedule for interface with the Approved Construction Schedule. The Contractor shall make any revisions to the Approved Construction Schedule for the Work deemed necessary by the District. This shall not constitute the District's authorization to the Contractor to unilaterally alter or change the original specified date of completion on the Approved Construction Schedule.

10.3 MUTUAL RESPONSIBILITY - The Contractor shall, provide onsite, for the District's personnel and/or separate Contractors a reasonable area for storage of their materials, equipment and space for the performance of their Work. Furthermore, the Contractor shall be responsible for the final connection(s) of the Work installed by the District's personnel and/or Contractors as required by the Contract Documents for a completely functional system or to complete an activity.

10.4 DISCREPANCIES OR DEFECTS - In the event the Contractor's Work is dependent upon proper and timely execution of Work by the District or the District's Contractor(s), the Contractor shall, prior to proceeding with that portion of the Work, review the required Work. In the event the Contractor determines the installation is incorrect or not adequate to receive the Contractor's interfacing Work, the District shall be notified immediately, in writing and within the time limits set forth in the Contract Documents, of the discrepancies and/or defects. The Contractor's failure to notify the District, within the prescribed time frame, shall constitute the Contractor's waiver of the their claim for correction of the discrepancies or defects and further agree to perform whatever is necessary, at no cost to the District, to make a proper, operational, code complying installation.

ARTICLE 11 TESTS AND INSPECTIONS

11.1 COST OF TESTS AND INSPECTIONS - Costs for testing and materials inspection required the Contract Document shall be the responsibility of and paid for by the District. Within fifteen (15) days of the establishment of the Approved Contract Schedule, pursuant to the General Conditions hereof, the Contractor shall submit to the District and Architect/Design Team, for approval, a written list of the portions of the Work which the Contractor believes are subject to special tests or inspections. In this list, the Contractor shall include the schedule dates on which the subject item will require special tests or inspections.

11.1.1 The District shall be financially responsible for initial special tests or inspections that are required for code compliance. In the event the special tests or inspection fail to meet necessary requirements. All additional inspection, materials testing, product samples that may be required are the financial responsibility and shall be borne by the Contractor. The District further reserves the right, under the terms of this Agreement, to deduct, from the funds due the Contractor, the cost for the re-inspection and/or material or sample retesting.

11.1.2 The Contractor shall be financially responsible to the District for Testing and Inspection costs which, in the District's sole discretion, are considered added costs. These costs shall include but not be limited to:

.1 Retesting because materials failed to meet the specified standards of the Contract Documents.

.2 The District's financial responsibility to pay for Testing and Inspection is limited to the Normal Work hours of the Project as set forth in the Supplemental General Conditions. Any Testing or Inspection required to be done on overtime shall be paid for by the Contractor.

.3 All travel, lodging and per diem expenses incurred by the Inspector to make material and/or fabrication inspection outside a fifty (50) mile radius from the Project site.

.4 Retesting costs caused by changes in suppliers.

.5 Ineffective use of the Inspector's time by the Contractor.

11.2 CONTRACTOR'S NOTICE - The Contractor shall provide the District and the Architect/Design Team written twenty-four (24) hour notice of any testing or inspections required by the Contract Documents, laws, ordinances or by any public authority having jurisdiction over the Project requires any portion of the Work be specially tested is ready for the conducting of the inspection and/or testing. The Contractor shall not cover any portion of the Work subject to required tests, inspections or observations until such tests, inspections or observations are completed and approved by the appropriate party. In the event the Contractor proceeds to cover the Work requiring tests, inspections or observations, the Contractor shall be responsible for the uncovering of the portion of the Work as necessary to perform the tests, inspections or observations without adjustment of the Contract Price or Contract Time.

11.2.1 All tests, inspections and observations conducted, pursuant to the Contract Documents, shall be made or arranged by the Contractor to avoid delay in the progress of Work as shown on the Approved Construction Schedule.

11.3 TESTING/INSPECTION AGENCY - The required material and/or sample testing shall be conducted by an independent laboratory or testing agency under the employ of the District. These requirements for testing and inspections shall, at a minimum, be in the quantity and conformity with Title 24 of the California Code of Regulations and the Contract Documents. The materials and/or samples required to be tested shall be designated, selected and collected by the District, Deputy Inspector or a Testing Agency representative. The Testing Laboratory, Soil Engineer and Inspectors are not authorized to accept or reject any requirements of the Contract Documents, or to advise the Contractor as to the prosecution of the Work or to perform any duty or service for the Contractor. Inspection will not relieve the Contractor of the obligation to fulfill all requirements of the Contract Documents.

11.3.1 Deputy Inspector - The District shall employ and bear the financial responsibility for a duly qualified independent person(s) or agency to conduct the inspections and verifications as required by the

Contract Documents. These requirements for testing and inspections shall be, at a minimum, in the quantity and conformity with Title 24 of the California Code of Regulations and the Contract Documents.

.1 During the course of construction, for the Work requiring inspection, the Inspector shall submit detailed reports relative to the progress and condition of the Work, including variances from the Contract Documents, date, hours and location of the inspection.

.2 Work requiring inspection but performed or constructed in the absence of the Inspector will be considered defective and subject to rejection and removal. In the event the Contractor proceeds to cover the Work requiring tests, inspections or observations, the Contractor shall be responsible for the uncovering of the portion of the Work as necessary to perform the tests, inspections or observations without adjustment of the Contract Price or Contract Time.

11.3.2 Additional Tests, Inspection and Approvals - Should the District, Director, the Deputy Inspector or any public agency having jurisdiction over the Work determine and require portions of the Work that have been performed in compliance with Article eleven, to be re-inspected, tested or approved that requires removal of installed materials, the District shall instruct the Contractor, in writing, to promptly take necessary arrangements for such re-inspection, testing or approval. The District shall be responsible for all related costs and time lost for such additional testing, re-inspections or approval except to the extent that such additional testing, re-inspections or approvals reveals the installed Work fails to comply with the requirements of the Contract Documents. In such case the Contractor acknowledges and accepts responsibility for the costs of corrections, repeat tests, inspector's, Architect/Design Team time and related consultants, in connection therewith. Additionally, the Contractor shall be solely responsible for any cost required to recover any time impact to the Approved Construction Schedule.

11.3.3 Continuous and Special Inspections - The Work of construction in all stages of progress shall be subject to the continuous and special inspections of the Inspectors employed by the District as required by the Contract Documents and the applicable building code. Inspector shall have free access to any or all parts of the Work at any time. The Contractor shall furnish the Inspector reasonable facilities and access for obtaining such information as may be necessary to keep him fully informed with respect to the progress and manner of the Work. Failure by the Contractor to provide facilities and access shall not relieve the Contractor from any obligation to fulfill the Contract in accordance with the Contract Documents.

11.4 CERTIFICATES AND/OR TEST REPORTS - One (1) copy of all test reports shall be forwarded to DSA by the testing agency. Reports shall include all tests made, regardless of whether such tests indicate that the material is satisfactory or unsatisfactory. Samples taken but not tested shall also be reported. Records of special sampling operations as required shall also be reported. The reports shall show that the material or materials were sampled and tested in accordance with the requirements of Title 21, 22 or 24 and with approved specifications. Test reports shall show the specified design strength and state definitely whether or not the materials tested comply with the referenced requirements.

11.4.1 Copies of each test result, signed and certified by the Testing Laboratory supervising engineer, shall be distributed as follows:

District	1
Architect	1
Structural Engineer (structural tests only)	1
Contractor	1 (Contractor responsible for their distribution)
Division of the State Architect (DSA)	1
Contract Manager	1

11.4.2 The reports shall at a minimum include, in addition to the Distribution List, the following:

- Date Report Issued and date of the test
- The DSA application number
- Project title, location and test number
- Testing laboratory name and address
- Date of inspection and sampling
- Record of temperature and weather

Identification of product and Specification Section where test is specified, type of inspection or test

Observations as related to Compliance with the Contract Documents

11.4.3 Verification of Test Reports - Each testing agency shall submit, in duplicate, to the District Project Center and the Division of the State Architect a verified report covering all the tests which are required by that agency during the progress of the Project. Such reports shall be furnished, for the test to date, each time Work on the Project is suspended and covering all tests upon Completion of the Project.

11.5 MATERIALS WITHOUT TESTING CERTIFICATES - Any material, which requires Testing or Inspection, which is shipped to the Project site, without required certificates, shall not be incorporated into the Project until the required testing and inspection is performed. The District shall not be liable for any cost or time impact to the Project due to the delayed inspection.

11.6 ADDITIONAL TESTS REQUIRED - The Contractor shall, if there are laws, ordinances, orders or regulations of any and/or all other agencies having jurisdiction over the Project requiring additional or special inspections, testing, approval over those mandated by the Contract Documents, coordinate these requirements so not to impact the contract completion date shown on the Approved Construction Schedule.

ARTICLE 12 INSPECTION, CORRECTION OF DEFECTIVE WORK ACCESS

12.1 INSPECTION OF THE WORK

12.1.1 Access to the Work - All materials, equipment, assemblies incorporated into the Work or required to provide a fully functioning Project, as shown and defined within the Contract Documents, are subject to inspection by the District, the Architect and the District's IOR to determine conformity with the Contract Documents. Contract or shall provide, at no cost to the District, all necessary facilities for sufficient and safe access of the Work for the purpose of inspection by the District, Architect, District's IOR, DSA and any other agency having jurisdiction over the project.

12.1.2 Limitations Upon Inspections - Inspections, tests, measurements or other such acts performed by the Architect and the District's IOR hereunder are for the sole purpose of assisting them in determining that the Work, materials, equipment, quantities and progress of the Work are in general conformance and comply with the requirements of the Contract Documents. These acts shall not relieve the Contractor from performing the Work in full compliance with the Contract Documents. No inspection by the District, Architect, District's IOR shall be construed as implied or actual acceptance of the Work inspected. Inspection of the Work hereunder shall be supplemental, and are not in lieu of, any other testing, inspections or approvals of the Work required under the Contract Documents.

12.2 UNCOVERING FOR ACCESS TO THE WORK - In the event any portion of the Work is covered prior to required Inspection or contrary to the request by the Architect, District's IOR or the requirements of the Contract Documents, it must, if required by the District, Architect, District's IOR, be uncovered for the observation by the requesting party or any others which may deem inspection as necessary. The cost and time incurred to remove and replace the covering materials shall not be construed as compensable and shall be done at the Contractor's expense. Furthermore in the event this material, equipment removal and replacement impacts the schedule the Contract shall, at their sole expense, exercise all due diligence to recover the time lost.

12.3 CORRECTION OF REJECTED WORK - The District's Final Acceptance of the Work is contingent upon the Contractor having corrected all materials, equipment or any combination thereof that may form a portion of the Work which was previously designated, whether observed during construction, before or after Substantial Completion, as not conforming to the Contract Documents. Payment for the Work, materials, equipment shall not be construed as acceptance. The Contractor and/or their Surety shall remain liable for all costs relative to the correction of non-conforming Work. These costs shall include but not be limited to; correction of Work destroyed or damaged during the corrective Work whether it is Contractor's or Separate Contractor's, any additional testing and/or inspection, compensation for additional Architectural services, removal, from the site, all non-conforming

materials and Liquidated Damages as are applicable. The corrections shall be done by the Contractor without any adjustment to the Contract Price or Contract Time.

12.4 ACCEPTANCE OF DEFECTIVE OR NON-CONFORMING WORK - The District may, in its sole and exclusive discretion and without waiving any other rights or remedies afforded under the Contract, elect to, in lieu of requiring its removal and/or correction, accept Work which is defective or not in compliance with the requirements of the Contract Documents. For the acceptance of Work which is defective or not in compliance with the requirements of the Contract Documents the Contractor acknowledges, approves and authorizes the District to reduce the Contract Price by an appropriate and equitable amount.

12.5 FAILURE OF CONTRACTOR TO CORRECT WORK - Should the Contractor, after receiving written notice from the District, fail to commence within ten (10) days, to correct defective or non-conforming Work and Work continually until complete within a reasonable time period, the District may correct the defective or non-conforming Work on behalf of the Contractor in accordance with the Contract Documents. The District may remove such defective or non-conforming Work and store the salvageable materials or equipment at the Contractor's expense. If after written notice the Contractor fails to pay all costs relative to the removal and storage, the District may sell such materials or equipment at auction or private sale and then provide the Contractor with an accounting of the proceeds thereof. The amount due the Contractor shall be a net amount after deducting costs and damages which should have been borne by the Contractor, including without limitation compensation for the Architect's services, attorneys fees and all other expense necessary thereby.

12.5.1 Should the proceeds of the sale not be adequate to cover the expenses, which should have been borne by the Contractor, the Contractor acknowledges, agrees and authorizes the District to reduce the Contract Price by the amount of the deficiency. If the payments of the Contract Price then or thereafter due the Contractor are not adequate to cover such an amount, the Contractor and the Contractor's Surety agree to pay the difference to the District within a reasonable time which shall not exceed thirty (30) days.

ARTICLE 13 WARRANTIES AND GUARANTEES

13.1 WORKMANSHIP AND MATERIALS - The Contractor, Subcontractor(s) of any tier, material supplier do hereby warrant to the District and its Board of Trustees that all materials and equipment furnished, under the Contract Documents, are consistent with Article 4.8.1 and the most suitable grade and quantity for the purpose intended, unless specified otherwise in the Contract Documents. Furthermore, all Work shall be of the best Workmanship, free from faults, defects and in the highest conformity with the Contract Documents. If required by the District and/or Architect Design Team the Contractor shall promptly furnish, the satisfaction of the District, Architect/Design Team and/or Deputy Inspector, evidence as to the type and quality of the materials/equipment that was incorporated into the Work.

13.1.1 Any Work or portion thereof which does not conform to the requirements, including substitutions or alternates not approved in accordance with the Contract Documents shall be considered to be deemed defective. The defective Work, material and/or equipment shall be removed and replaced with Work, material and/or equipment that meets or exceeds the requirements of the Contract Documents. The removal and replacement shall be done at no cost to the District and without impact to the Approved Construction Schedule. Should the replacement, whether partially or fully complete, of defective Work impact the completion date shown on the Approved Construction Schedule the Contractor shall be liable for Liquidated Damages as stated in Article 8.1.4 of the Contract Documents.

13.1.2 Where there is an approved substitution of, or an alternative to, material or equipment specified in the Contract Documents, the Contractor warrants to the District that such installation, construction, material, or equipment will fully perform the function and the necessary quality of the originally specified material or equipment. The Contractor further expressly warrants the fitness for use and the quality of all substitutes or alternatives in addition to any warranty provided by the manufacturer or supplier of such items.

13.2 WARRANTY WORK - If, within one (1) year or longer if required by the Contract Documents, after the date of Final Acceptance any of the Work is determined to be defective or not in accordance with the Contract Documents, the Contractor shall, within no more than five (5) days after Contractors receipt of the District's written notice, commence and diligently pursue until the completion of all necessary corrective items.

13.2.1 In the event the Contractor shall fail or refuses to commence and diligently pursue the correction of any such repair within the five (5) day period, the District may, without further notice to the Contractor cause repairs to be made to such defective Work and continue with due diligence until the Work is completed. In such event, the Contractor and the Contractor's Performance Bond shall be responsible for all costs in connection with the correction of the defective Work, including without limitation; all general administrative overhead costs by the District necessary to secure and monitor the correction of the defective Work. Nothing herein contained shall be construed to establish a period of limitation regarding any obligation of the Contractor under these Contract Documents.

.1 The obligations of the Contractor hereunder shall be in addition to, not in lieu of, any other obligations imposed by any special guarantee or warranty required by the Contract Documents or guarantees/warranties provided by any manufacturer of any item or equipment forming a part of or incorporated in the Work or otherwise recognized, prescribed or imposed by law. Neither the District's Final Acceptance, Final Payment, any provisions within the Contract Documents, nor the use or occupancy, in part or whole, of the Project shall constitute acceptance of the Work which is not in accordance with the Contract Documents. Nor shall these actions by the District relieve the Contractor or the Contractor's Performance Bond Surety from the liability with respect to any warranties or responsibility for faulty or defective Work, materials, equipment and Workmanship incorporated within the Work.

13.3 GUARANTEE - Upon completion, and Final Acceptance, of the Work the Contractor and the Contractor Subcontractor(s), at any tier, shall execute and deliver to the District the form of Guarantee included within the Contract Documents. Pursuant to the Articles of these General Conditions, the Contractor's execution and delivery of the form of Guarantee is an expressed condition precedent to any obligation of the District to disburse the Final Payment to the Contractor.

13.4 SURVIVAL OF WARRANTIES - The provisions of this Article 13 shall survive the Contractor's and Subcontractor(s), at any tier, completion of Work under the Contract Documents, the District Final Acceptance or the termination of the Contract.

ARTICLE 14 SPECIAL CONDITIONS

14.1 GOVERNING LAW - The District reserves the right to award Bid predicated on any one or combination of parts or items based on cost, life cycle analysis, quality, serviceability, maintenance, availability and cost of supplies, suitability for intended use, trade in value, experience and qualifications of Contractor or Subcontractor responsible for guarantee and warranty, value as deemed in the best interest of the District and compatibility with existing materials and equipment.

14.2 MARGINAL HEADINGS; INTERPRETATION - Prior to commencing Work, the Contractor and their major Subcontractors/Suppliers, shall attend a Pre-construction meeting with the District, the Architect, interested utility companies and all other agencies having jurisdiction over the Project.

14.3 SUCCESSORS AND ASSIGNS - Unless indicated elsewhere within the Contract Documents the California sales tax of 9.75% shall be included within the Bid price.

14.4 CUMULATIVE RIGHTS AND REMEDIES; NO WAIVER - Bid prices shall be guaranteed for a period of sixty (60) days following the original opening of the Bids. The offer shall, under the terms and conditions of the Bid Documents, automatically extend until canceled by the Contractor.

14.5 SEVERABILITY - Brand names, where specified, are included to indicate type and quality desired. Unless specified "No Substitutes", equal items or alternates will be considered. These alternate types submitted shall be guaranteed by the Contractor not to give cause to increasing the cost of the Project or increasing the Project Time, as may have been adjusted. The Contractor's inclusion of an item on the Bid form, and the Contractor being selected to be low Bidder, shall not constitute an offer to buy by the District. The District shall have sole discretion as to determining if the submitted item is equal.

.1 Where both a standard and a brand name are specified for a product in the Contract Documents, the product shall conform to or exceed the requirements of the specified reference standard. The listing of a trade

name in a Project Manual shall not be construed as warranting such product conforms to the respective reference standard.

14.6 NO ASSIGNMENT BY CONTRACTOR - All utility shut-downs SHALL be shown on the Approved Construction Schedule and coordinated through the Project Center. The Contractor shall, despite being shown on the Approved Construction Schedule, notify the Project Center, City of Pasadena and/or any other agency having jurisdiction over the Project at a minimum of seventy-two (72) hours prior to the shut-down. The Contractor's failure to provide such notification shall constitute its/his acceptance and responsibility to pay for any and all costs which are incurred to take appropriate actions to make the shut-down and/or further acknowledge the shut-down may not occur and the Contractor is then responsible to recover any Time lost on the Approved Construction Schedule.

14.7 MAINTENANCE OF RECORDS - It is the sole responsibility of the Contractor to inspect potential trade-ins or buy backs prior to the Bid opening. All trade-ins or buy backs are offered in "as is" condition. The Contractor is entitled to keep, salvage or dispose of any materials, pipes, fixtures or connectors which are dismantled during demolition. None of these items are, unless specifically indicated by the District, to be used in the new construction.

14.8 ALTERNATE MAINTENANCE AND SERVICE AGREEMENTS - The District may, subject to approval, acceptance, or modification by the District's Board of Trustees, approve an alternate, Subcontractor's or vendor's standard agreement for maintenance and service. For consideration to substitute, the Subcontractor's or vendor's standard agreement must be submitted with the Bid. Failure to submit the sample agreements with the Bid shall constitute the Contractor's and their Subcontractor's or vendor's desire to use the required maintenance and service agreement as outlined in the Contract Documents.

14.9 SUBCONTRACTOR LISTING - Within ten (10) days from the issuance of the Notice to Proceed the Contractor shall submit a list of All first-tier Subcontractor's complete with; mailing address, phone number, fax number and the name of the person, other than the project manager, that is directly responsible for the Project.

14.10 DEADLINE FOR DSA SUBMITTALS - The Contractor shall endeavor to submit, within thirty-five (35) days of the Notice to Proceed, all items indicated or known to require review by DSA. The Contractor shall bear the sole and complete costs and responsibility for any subsequent delays and all costs associated to expedite the plan check review. These costs will be deducted from the Contract Sum and no extensions to the Contract Time shall be made.

14.11 RESPONSIBILITY TO EIR FINDINGS - It is incumbent upon the Contractor to review and implement the findings of the Final Environmental Impact Report for the Project, even if not shown on the Contract Drawings.

14.12 RAIN DELAY - The Construction Schedule SHALL include, as a separate activity, 18 days per year for inclement weather days. Inclement weather days shall include, but not be limited to: abnormal rain or wind for this period. All time designated for this purpose, but not used, shall be considered float time and is for the District's exclusive use.

**SUPPLEMENTARY GENERAL CONDITIONS
TIME IS OF THE ESSENCE**

- A. The Work shall be commenced on the date stated in the District's Notice to Proceed (which date will not be less than seven (7) consecutive calendar days from and after the date of execution of the contract) and shall be completed no later than **August 30, 2012**.
- B. The agreed liquidated damages provisions established in Article 4 of the General Conditions is Seven Thousand Five Hundred Dollars (\$750.00) per day.
- C. It will be the District's responsibility to supply an Asbestos Abatement Contractor to satisfy all of the requirements for the Asbestos Abatement Specifications.
- D. Insurance is as provided in the General Conditions.

**Fire/All Risk/Course of Construction
Automobile
Broad Form Property
Material Hoist, where used
Premises and Operations
Products Liability/Completed Operations
Underground, Explosion, Collapse**

- E. The number of executed copies of the Agreement is six (6), and the number of Performance and Payment Bonds required is one (1).
- F. Failures to comply with the District's Environmental Impact Report Mitigation Measures (see attached), dated May 2003, regarding early job start (before 7:00 AM) and offsite staging will result in a Seven Hundred and Fifty Dollar (\$750) deduction from the Contract amount per offense.

APPENDIX A.

ENVIRONMENTAL IMPACT REPORT, MITIGATION MEASURES



Table S-2: Summary of Impacts and Mitigation Measures

Issue	Type of Impact and Level of Significance	Proposed Mitigation Measure	Impact After Mitigation
Air Quality	Significant impacts during construction	AQ-1: Moisten soil not more than 15 minutes prior to moving soil and three times a day or four times a day under windy conditions in order to maintain soil moisture of 12 percent.	Significant (exceedance of NOX standard only)
		AQ-2: On the last day of active operations prior to a weekend or holiday, apply water or a chemical stabilizer to maintain a stabilized surface.	
		AQ-3: Water excavated soil piles hourly or cover piles with temporary coverings.	
		AQ-4: Cease grading during periods when winds exceed 25 miles per hour.	
		AQ-5: Moisten excavated soil prior to loading on trucks.	
		AQ-6: Apply cover to all loads of dirt leaving the site or leave sufficient freeboard capacity in truck to prevent fugitive dust emissions en route to disposal site.	
		AQ-7: Sweep streets to remove dirt carried out by truck wheels.	
		AQ-8: Turn off equipment when not in use for longer than 5 minutes.	
		AQ-9: Use bio-diesel fuel in all onsite diesel-powered equipment, if available.	
		AQ-10: Use alternatively fueled (compressed natural gas (CNG), liquefied natural gas (LNG), dual-fuel or electric) construction equipment, if available.	
Air Quality	Potentially significant impact to regional traffic	(REVISED) AQ-11: To the extent feasible, minimize truck idling on site and locate staging areas away from locations where students are congregated and away from residential areas. This Measure is to be implemented in coordination with Traffic-1, which requires the development of a traffic management program during construction activities and approval of that plan by the City of Pasadena.	Less than significant
		AQ-12: PCC shall provide carpool and transit information to students, faculty and staff.	
		BR-1: In order to avoid violations of the Migratory Bird Treaty Act or Fish and Game Code 3503, PACCD shall attempt to limit grubbing and removal of trees and buildings during the bird breeding season (approximately March 1 to September 1, and as early as February 1 for raptors). If the bird breeding season cannot be avoided, PACCD shall retain a qualified	

Table S-2: Summary of Impacts and Mitigation Measures

Issue	Type of Impact and Level of Significance	Proposed Mitigation Measure	Impact After Mitigation
	construction activities	breeding season cannot be avoided, PACCD shall retain a qualified ornithologist to initiate surveys of the construction zone 30 days prior to the initiation of construction and weekly thereafter, with the last survey not more than three days prior to the initiation of construction, to minimize the potential for nesting following the survey and prior to construction. If the ornithologist detects any occupied nest or nests of native birds within the construction zone, PACCD will conspicuously flag off the area(s) supporting bird nests, providing a minimum buffer of 300 feet between the nests and limits of construction (500 feet for raptors). The construction crew will be instructed to avoid any activities in this zone until the bird nests are no longer occupied, per a subsequent survey by the ornithologist.	
Cultural Resources	Potentially significant impact to historic Building FB (Boiler House) if exterior work is required.	HR-1: If renovation of the Boiler House affects the exterior of the building, all such exterior changes will be accomplished in accordance with the Secretary of the Interior's Standards.	
	Potentially significant impacts if archeological resources or human remains are encountered during construction	AR-1: If buried cultural resources are uncovered during construction, all work shall be halted in the vicinity of the archaeological discovery until a qualified archaeologist can visit the site of discovery and assess the significance of the archaeological resource. AR-2: In the event of an accidental discovery of any human remains in a location other than a dedicated cemetery, the steps and procedures specified in Health and Safety Code 7050.5, CEQA 15064.5(e), and the Public Resources Code 5097.98 shall be implemented. AR-3: Provisions for the disposition of recovered prehistoric artifacts shall be made in consultation with culturally affiliated Native Americans. (NEW) AR-4: PACCD shall retain an on-call qualified archeologist to assist PACCD in implementing the above measures.	Less than significant
Cultural Resources	Potentially significant impacts if paleontological artifacts are encountered during construction	(REVISED) PR-1: PACCD will monitor all subsurface excavations. If paleontological materials are encountered, PACCD shall cause a qualified paleontologist to monitor all remaining excavation work that would extend 10 feet in depth, or more into the ground. The monitor shall be empowered to temporarily halt or divert excavation equipment to allow removal of abundant or large specimens. Monitoring may be reduced if the potentially	Less than significant

Table S-2: Summary of Impacts and Mitigation Measures

Issue	Type of Impact and Level of Significance	Proposed Mitigation Measure	Impact After Mitigation
Geologic/ Soils/Seismic	Potentially significant impacts during construction from unstable temporary slopes	fossiliferous units, previously described, are not found to be present or, if present, are determined by qualified paleontologic personnel to have a low potential to contain fossil resources. PR-2: Recovered specimens shall be prepared to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. PR-3: Recovered specimens shall be curated into a professional, accredited scientific institution with permanent retrievable storage. PR-4: A report of findings, with an appended itemized inventory of specimens, shall be prepared. The report and inventory, when submitted to PACCD, would signify completion of the program to mitigate impacts to paleontologic resources. (NEW) PR-5: PACCD shall retain an on-call qualified paleontologist to assist PACCD in implementing the above measures.	
		GE-1: All earthwork and grading shall meet the requirements of State of California codes and shall be performed in accordance with the recommendations in the Geotechnical Investigation conducted for each proposed project at the Pierce College campus. GE-2: All excavation and shoring systems shall meet the minimum requirements of the Occupational Safety and Health Administration (OSHA) standards. GE-3: The project will comply with the requirements of Sections 401, 402, and 404 of the Clean Water Act and NPDES program. Compliance will include all necessary permits and a Storm Water Pollution Prevention Plan.	Less than significant
Geologic/Soils/ Seismic	Potentially significant impacts from strong seismic ground shaking, unsuitable soils, and soil liquefaction	GS-1: Geotechnical investigations shall be performed by qualified licensed professionals before final design of any structures and recommendations provided in these reports should be implemented, as appropriate. GS-2: Ground Shaking. Design and construction of structures for the proposed project shall conform to all applicable provisions of the California State Architect, which follows guidelines set forth in the 1998 California Building Code (CBC). The CBC is based on the 1997 Uniform Building Code (UBC) and sets forth regulations concerning proper earthquake design and engineering. In addition, design and construction shall conform	Less than significant

Table S-2: Summary of Impacts and Mitigation Measures

Issue	Type of Impact and Level of Significance	Proposed Mitigation Measure	Impact After Mitigation
Hazards and Hazardous Materials	Potentially significant impacts from the removal, handling, transport or disposal of hazardous materials during construction	to the 1997 UBC's earthquake design criteria for Seismic Zone 4. GS-3: Liquefaction. If liquefiable soils are identified by geotechnical investigations for project structures, then mitigation should be implemented. Appropriate mitigation, which could include the use of piles, deep foundations, dynamic densification, ground improvement, grouting, or removal of suspect soils, is dependent on site-specific conditions, which should be identified by the geotechnical investigation. GS-4: Unsuitable Soil Conditions. The geotechnical investigation of proposed facilities should fully characterize the presence and extent of corrosive, expansive, or loose compactable soil. Based on the collected data, appropriate mitigation can be designed. Mitigation options could include the following: removal of unsuitable subgrade soils and replacement with engineered fill, installation of cathodic protection systems to protect buried metal utilities, use of coated or nonmetallic (i.e., concrete or PVC) pipes not susceptible to corrosion, construction of foundations using sulfate resistant concrete, support of structures on deep pile foundation systems, densification of compactable subgrade soils with in-situ techniques, and placement of moisture barriers above and around expansive subgrade soils to help prevent variations in soil moisture content. HM-1: PACCD will cause all contracts for construction to include the following provisions. (1) All work will be accomplished in accordance with the most current and applicable federal and state regulations for the identification, handling, transport, disposal and remediation of hazardous materials. All work will be overseen by qualified professionals. (2) A thorough review of available environmental records and a site-specific inspection shall be completed to identify the presence or absence of hazardous materials. Record review shall identify data confirming remediation of on-site and off-site contamination of former LUST sites, or agency certified closure of the site. A detailed site inspection of hazardous material storage areas in or near proposed project areas shall be performed to determine if leaks or spills may have caused potential environmental contamination. Results of the record review and inspections will be presented in a report to PACCD. (3) For all hazardous materials that are identified, the contractor will prepare a plan for removal, handling and	Less than significant

Table S-2: Summary of Impacts and Mitigation Measures

Issue	Type of Impact and Level of Significance	Proposed Mitigation Measure	Impact After Mitigation
		disposal that meets applicable federal and state regulations. Such plans will be submitted to PACCD for review before activities by the contractor are initiated. (4) For those hazardous materials that cannot be identified prior to beginning construction (e.g., contaminated soils or groundwater that would be exposed during excavation), the contractor will prepare a plan for the procedures that will be applied at such sites. This plan will address identification, testing, monitoring, handling, treatment, disposal and other all applicable procedures as specified in federal and state regulations and procedures. The plan will also include provisions for modification to respond to unforeseen circumstances, such that all work by the contractor will remain in conformity with federal and state requirements. This plan will be presented to PACCD for review and approval before activities by the contractor are initiated. (5) For all new construction activities, the contractor will prepare a plan for the procedures that will be applied at such sites. This plan will address identification, testing, monitoring, handling, treatment, disposal and other all applicable procedures as specified in federal and state regulations and procedures. The plan will also include provisions for modification to respond to unforeseen circumstances, such that all work by the contractor will remain in conformity with federal and state requirements. This plan will be presented to PACCD for review and approval before activities by the contractor are initiated. (6) Upon direction from PACCD, the contractor will submit copies of all plans to local, state and federal regulatory agencies for review and approval. HM-2: If the review performed under HM-1 indicates contamination may have spread to a proposed project area on campus, an investigation shall be designed and performed to verify the presence and extent of contamination at the site. A qualified and approved environmental consultant shall perform the review and investigation. The investigation shall include collecting samples for laboratory analysis and quantification of contaminant levels within the proposed excavation and surface disturbance areas. Subsurface investigation for high potential sites shall determine the appropriate plan for worker protection and hazardous material handling and disposal procedures appropriate for the subject site. Upon direction from PACCD, the contractor will submit copies of the investigation and plan for review and approval by the Los Angeles County Fire Department, Health	

Table S-2: Summary of Impacts and Mitigation Measures

Issue	Type of Impact and Level of Significance	Proposed Mitigation Measure	Impact After Mitigation
		Hazardous Materials Division or Department of Toxic Substances Control prior to construction. HM-3: Construction activities that require dewatering may require treatment of contaminated groundwater prior to discharge. Where dewatering is required, the contractor will develop a plan for the gathering, testing, monitoring, disposal and all other applicable procedures as specified in federal and state regulations and procedures. The plan will also identify all necessary permits, including but not limited identifying discharge points, quantities, and groundwater treatment. This plan will be presented to PACCD for review and approval before activities by the contractor are initiated. Upon direction from PACCD, the contractor will submit copies of plans to local, state and federal regulatory agencies for review and approval. The contractor will also be responsible for obtaining all necessary permits on behalf of PACCD and notifying regulatory agencies, such as California EPA, the Regional Water Quality Control Board (RWQCB), and the Los Angeles County Fire Department, Health Hazardous Materials Division in advance of construction. HM-4: For areas with contaminated soil determined to be a hazardous waste, the contractor will provide documentation that such soil shall be excavated by personnel who have been trained through the OSHA-recommended 40-hour safety program (29CFR1910.120) with an approved plan for excavation, control of contaminant releases to the air, and offsite transport or onsite treatment. The contractor shall prepare and submit health and safety plans prepared by a qualified and approved industrial hygienist to protect the public and all workers in the construction area. Upon direction from PACCD, the contractor will submit copies of plans for review and approval by the appropriate agencies, such as the Los Angeles County Fire Department, Health Hazardous Materials Division or California Department of Toxic Substances Control prior to construction. HM-5: The contractor will use standard dust suppression procedures in all construction areas (including areas of demolition, remodeling, and new construction) to reduce airborne emissions of contaminants and reduce the risk of exposure to workers and the public.	
Hydrology/	Potentially significant	WQ-1: PACCD will cause all contracts for construction to include the	Less than significant

Table S-2: Summary of Impacts and Mitigation Measures

Issue	Type of Impact and Level of Significance	Proposed Mitigation Measure	Impact After Mitigation
Water Quality	impacts to water quality during construction	following provisions. (1) All work shall be accomplished in accordance with the most current and applicable federal and state regulations for water quality protection. (2) All necessary permits and approvals, including but not limited to a National Pollution Discharge Elimination System permit, shall be obtained from the appropriate federal, state and local agencies with jurisdiction over hydrology and water quality; (3) Best Management Practices to assure water quality protection shall be developed and implemented; and (4) All regulatory procedures, including but not limited to development of a Storm Water Pollution Prevention Plan, shall be met.	
Land Use/ Planning Noise	Less than significant	None required	NA
	Potentially significant impacts during construction	CN-1: Limit construction activities the hours between 7 a.m. and 6 p.m. No nighttime activities will be conducted. CN-2: Use the least noisy equipment that can accomplish the activity. CN-3: Keep all equipment in good working condition with high quality mufflers. CN-4: Advise operators to use only the necessary power to accomplish the activity and to keep all equipment powered down or turned off when not in use. CN-5: Use adjustable back-up alarms at the lowest setting that safety requirements will permit. (REVISED) CN-6: Limit the need for equipment to back up by planning on-site truck routes and loading points. (REVISED) NC-1: The volume of PCC amplification equipment to be used on the field will be set to allow a maximum amplification increase of 20 decibels. NC-2: Portable speakers used at the field will be oriented in a north-south direction. NC-3: Permits issued for the use of the athletic field will require the use of PCC amplification equipment and the operation of that equipment by PCC personnel.	Less than significant
Noise	Significant impacts during operation of the athletic field		Significant (when bands use the field)

Table S-2: Summary of Impacts and Mitigation Measures

Issue	Type of Impact and Level of Significance	Proposed Mitigation Measure	Impact After Mitigation
Population/ Housing	Less than significant	None required	NA
Public Services	Less than significant	None required	NA
Public Utilities	Less than significant	None required	NA
Traffic/Parking	Potentially significant impacts during construction activities	(REVISED) TRC-1: During the construction period, PACCD will periodically develop and implement traffic management plans. The plans will address the length and timing of any street or driveway closures, detours, changes in access to campus facilities, and any necessary coordination with police and fire departments. The plans will address construction staging and access, both on the PCC campus and in areas adjoining the campus. The plans will also include means for notifying the public about the plan, which may include newspaper notices, signs, mailings, and/or postings on the websites of PCC and other organizations. <u>The plans will include identification of a contact person and means for contacting that person at PCC. The traffic management plans will be submitted to the City of Pasadena (Transportation and Public Works Departments) for approval or concurrence on those elements of the plan which affect City streets or activities outside of the PCC boundary.</u>	Less than significant
Traffic/Parking	Significant impact to area intersections and streets from increased traffic and new traffic patterns	The following Transportation Demand Management measures will be implemented: TDM-1: Rideshare Program. PCC has implemented a rideshare program for employees. The rideshare matching service provided by MTA will be extended to students in the near future. TDM-2: Free Shuttle Service. A free shuttle is available for students wishing to travel between the Community Education Center (CEC) at 3035 E. Foothill Blvd and the PCC main campus, including PCC students parking at CEC. The shuttle runs along Foothill Blvd, Bonnie Street and Colorado Blvd and departs approximately every 30 minutes from each campus, between 7 a.m. and 10:30 p.m. weekdays. The shuttle will also stop at the Allen Avenue Gold Line light rail station after it opens in 2003. TDM-3: Staff Shuttle PCC non-teaching staff do not park on the main campus or at the Holliston Street lots. Free shuttle service is provided between remote parking at the CEC on Foothill Boulevard and the main	Less than significant

Table S-2: Summary of Impacts and Mitigation Measures

Issue	Type of Impact and Level of Significance	Proposed Mitigation Measure	Impact After Mitigation
		campus. Additional remote parking, covered by shuttle service, is planned for a site on Kinneola Street. TDM-4: Public Transit To encourage students to take public transit, PCC is cooperating with MTA to develop more programs for students, including discount monthly passes and custom bus routes. TDM-5: Parking Access Management. To increase traffic safety and to reduce project traffic impacts on Bonnie Street due to the new parking structure, the installation of a 3-way stop sign is proposed at the intersection of the new parking structure exit driveway and Bonnie Street. The following changes to intersections would be made, subject to the concurrence of the City of Pasadena as owners of the streets: IIM-1: Hill Avenue & Del Mar Boulevard – Widen northbound and southbound legs of the intersection to provide dual left-turn lanes at the southbound approach on Hill Avenue. IIM-2: Bonnie Street & Colorado Boulevard – Restripe the northbound approach lane to provide dual left-turn lanes to improve the intersection level of service from D to C during the PM peak hour. After this change, this intersection is still impacted, but it will operate at an acceptable level (LOS A for AM peak and LOS C for PM peak hour). (REVISED) IIM-3: Bonnie Street & Del Mar Boulevard – Restripe westbound approach lane on Del Mar Boulevard to provide a right-turn lane and change the existing right-through lane to through-only at the westbound approach. This requires curb parking prohibition along the north side of Del Mar Boulevard. Add a left turn arrow to control the eastbound the northbound left turn movement. Work with the City to monitor the need to lengthen the eastbound to northbound left turn lane. The lane can be lengthened from its existing 60 -foot length to 140 feet by eliminating two on- street parking spaces along the south curb. The elimination of the remaining on-street space on the south curb would allow Del Mar to be striped with a two-way-left-turn lane between Bonnie and Sierra Bonita Avenue. The need for the left turn lane extension would be monitored by	

Table S-2: Summary of Impacts and Mitigation Measures

Issue	Type of Impact and Level of Significance	Proposed Mitigation Measure	Impact After Mitigation
Visual	Less than significant	the City after the opening of the Bonnie parking structure. If required by the City, PCC would restripe the street to provide the longer left turn lane or the continuous two-way-left-turn lane." IIM-4: Allen Avenue & Colorado Boulevard – Use campus TDM program described above to reduce total net trips by an estimated 3 percent during the AM and PM peak hour. IIM-5: Allen Avenue & Del Mar Boulevard: Widen southbound approach on Allen Avenue to provide one right-turn lane and change the existing right-through lane to through-only at the southbound approach. A 3% reduction of total net trips by TDM program also applies to this intersection (NEW) IIM 6: "Hill Avenue & Colorado Boulevard – Although not specifically impacted by the new traffic added by the Master Plan implementation, the traffic signal at this intersection should be modified to add left turn arrows on all four approaches. Protective/permissive left turn phases would improve the overall operation and safety of the intersection. None required	NA

APPENDIX B.

ASBESTOS ABATEMENT SPECIFICATIONS



**HAZARDOUS MATERIALS ABATEMENT
SPECIFICATIONS**

**BUILDING "R" RESTROOM
RENOVATION PROJECT**

for

**PASADENA CITY COLLEGE
1570 EAST COLORADO BOULEVARD
PASADENA, CA 91106**

May 23, 2011



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ABATEMENT SPECIFICATIONS
HAZARDOUS AND NON-HAZARDOUS MATERIAL REMOVAL

BUILDING "R" RESTROOM RENOVATION

PART 1 - GENERAL CONDITIONS

1.01 REQUIREMENTS

- A. Contractor is to supply labor, materials, equipment, notifications, insurance, disposal and related work to encapsulate and/or remove hazardous and non-hazardous materials as described.
- B. Contract is bid on a 'Lump Sum' for Base Bid and Alternates as described below for materials identified and as listed in Part 5 - Scope of Work Listing, attached reports, and appendixes.

BASE BID - Men's Restroom, Custodian Room and Coffered Ceiling in Hallway

Complete removal of all hazardous and non-hazardous materials above and below the ceiling, inside wall cavities and interstitial spaces within the Building R Restroom Renovation Project as identified below and as outlined in the Construction Specifications and Drawings. These materials shall include fireproofing, ceiling tile, pipe and fitting insulation, floor tile, tile mastic, surfaces coated with lead based paint, PCB Ballasts, Fluorescent Tubes, and contaminated demolition materials.

Work area is inclusive of the existing Men's Restroom and Custodian Room on the East side of the 1st Floor Lobby and Coffered Hallway Ceiling between existing Restrooms.

ALTERNATE BID 1 - Men's/Women's Restroom, Custodian Rooms, Coffered Ceiling, R117 Classroom (Partial), and R118 Offices (Partial)

Complete removal of all hazardous and non-hazardous materials above and below the ceiling, inside wall cavities and interstitial spaces within the proposed Building R Restroom Renovation Project as outlined in the Construction Specifications and Drawings. These materials shall include fireproofing, ceiling tile, pipe and fitting insulation, floor tile, tile mastic, surfaces coated with lead based paint, PCB Ballasts, Fluorescent Tubes, and contaminated demolition materials.

Work areas are inclusive of the Men's and Women's Restrooms, Custodian Rooms, Coffered Hallway Ceiling between Restrooms, R117 Classroom (Partial), and R118 Offices (Partial).

ALTERNATE BID 2 - Men's/Women's Restroom, Custodian Rooms, Coffered Ceiling, Elevator Lobby, South Foyer, R117 Classroom (Partial) and R118 Offices (Partial)

Complete removal of all hazardous and non-hazardous materials above and below the ceiling, inside wall cavities and interstitial spaces within the proposed Building R Restroom Renovation Project as outlined in the Construction Specifications and Drawings. These materials shall include fireproofing, ceiling tile, pipe and fitting insulation, floor tile, tile mastic, surfaces coated with lead based paint, PCB Ballasts, Fluorescent Tubes, and contaminated demolition materials.

Work areas include Men's and Women's Restrooms, Custodian Rooms, Coffered Hallway Ceiling between Restrooms, North Elevator Lobby, South Foyer, R117 Classroom (Partial), and R118 Offices (Partial).

ALTERNATE BID 3 (Encasement of Fireproofing) - Men's/Women's Restroom, Custodian Rooms, Coffered Ceiling, Elevator Lobby, South Foyer, R117 Classroom (Partial) and R118 Offices (Partial)

Limited Abatement of hazardous and non-hazardous materials above and below the ceiling, inside wall cavities and interstitial spaces within the proposed Building R Restroom Renovation Project as identified in the Construction Documents. These materials shall be limited to ceiling tile, pipe and fitting

insulation, floor tile, tile mastic, surfaces coated with lead based paint, PCB Ballasts, Fluorescent Tubes, and contaminated demolition materials.

Fireproofing overspray shall be cleaned from all horizontal and vertical surfaces within the work area with the exception of the structural steel beams and columns. The fireproofing on these components shall be sealed with penetrating encapsulant and encased with *heavy bodied* bridging (encasement material) in accordance with these specifications.

Work areas include Men's and Women's Restrooms, Custodian Rooms, Coffered Hallway Ceiling between Restrooms, North Elevator Lobby, South Foyer, R117 Classroom (Partial), and R118 Offices (Partial).

- C. No replacement of removed materials is required of the asbestos abatement contractor.
- D. Contractor has the responsibility to verify the type, size, location, and difficulty of work prior to submitting a bid.
- E. Prior to commencing work, the Contractor shall supply to the Owner documentation of all permits and/or notifications to regulatory agencies relating to this project.
- F. Prior to commencing work, the Contractor shall supply proof that Contractor is:
 - 1. Certified for Asbestos Work by the State Contractors Licensing Board;
 - 2. Registered for Asbestos Work with the California Division of Safety and Health;
 - 3. Accredited to perform response actions under the Asbestos Hazard Emergency Response Act;
 - 4. Workers assigned to this project must be:
 - a. Accredited as an Asbestos Worker under the Asbestos Hazard Emergency Response Act. At least one employee on each shift shall be currently accredited as a Supervisor and shall have successfully completed in the last 12 months a course of instruction meeting the requirement for "Competent Person"(29 CFR 1926.1101).
 - b. All workers who perform the demolition/renovation work for lead abatement and / or site preparation (including clean up) described herein shall be State Certified Workers with current State issued "certificates" and have prior training in lead abatement as required by Title 17, CCR, Division 1 Chapter 8, §35009 & §35001 as well as other required training including safe and proper use of equipment. Contractor is to have a State Certified Lead Supervisor with a current State issued "certificate" referenced above by Title 17 CCR, as part of his staff during the lead paint abatement and site preparation. The State Certified Lead Supervisor will be designated the "competent person". A "competent person" is a DHS "certified supervisor" who is capable of identifying existing and predictable lead hazards in the surroundings or working conditions who has authorization to take prompt corrective measures to eliminate them.
- G. All work shall be done in accordance with applicable regulations, including but not limited to 29 CFR 1926.1101, 40 CFR 763 (AHERA), 40 CFR Part 61 (NESHAPS), SCAQMD Rule 1403, and 8 CCR 1529 (CAL/OSHA Asbestos), Cal/OSHA Construction and Safety Orders, Lead Section 1532.1, including mandatory and non-mandatory appendices as Applicable.
- H. Contractor has the responsibility to verify the type, size, location, and difficulty of access to the identified materials by attending a mandatory job walk, as scheduled by PCC, prior to submitting bid. Quantities listed in this Specification are estimated.
 - 1. By submitting a bid, the contractor acknowledges that he has investigated the site and satisfied as to:
 - a. the conditions affecting the work, including, but not limited to, physical conditions of the site that might bear upon access to identified hazardous and non-hazardous materials identified in Part 5 Scope of Work Listing, handling and storage of tools and materials, access to water, electric or other utilities, or other conditions that otherwise could affect performance of required activities;
 - b. the character and quantity of all surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including exploratory work done by the PCC or designated consultants, as well as information within this specification and other construction documents. Any failure by the contractor to acquaint himself/herself with available information will not relieve him/her for the

responsibility of estimating properly the difficulty or cost of successfully performing the work, PCC is not responsible for any conclusions or interpretations made by the Contractor on the basis of the information made available by PCC or designated consultants.

2. Discrepancies:

- a. Should a bidder find discrepancies in the specification, or should he/she be in doubt as the meaning of intent of any part thereof, he must request, in writing, clarification from PCC no later than 5 days prior to the bid opening. Discrepancies with regard to conflicts between the contract documents and applicable federal, state or local regulations or requirement shall be included herein. Failure to request such clarification is a waiver to any claim by the bidder for expense made necessary by reason of later interpretation of the documents by PCC.
- I. Contractor shall indemnify and hold Pasadena City College (PCC), CF Environmental, Inc. (CFE), AAA Consultants and Inspections, Inc. harmless for claims, damages, losses, and expenses against including attorney's fees arising out of or resulting from any patent infringement concerning methods, procedures or uses of equipment in relation to the abatement work for this project.
- J. Questions concerning this project should be directed in writing to:
Ms. Lori Holzem
Project Manager
Pasadena City College
1570 East Colorado Boulevard
Pasadena, CA 91106

1.02 DESCRIPTION OF WORK

This project requires the removal of hazardous and non-hazardous materials including asbestos containing sprayed fireproofing, ceiling tile, pipe and fitting insulation, floor tile, tile mastic, surfaces coated with lead based paint, PCB Ballasts, Fluorescent Tubes, and contaminated demolition materials associated with the Pasadena City College Building "R" Restroom Renovation Project. Refer to Section 5 - Scope of Work Listing and attached appendixes.

1.03 REFERENCES

- A. General - Codes, regulations and references applicable to asbestos abatement work include but are not limited to the following:
 1. American National Standards Institute (ANSI) publications;
Z9.2-79 Fundamentals Governing the Design and Operation of Local Exhaust Systems.
Z87.1-79 Occupational and Educational Eye and Face Protection.
Z88.2-80 Practices for Respiratory Protection.
Z89.1-81 Requirements for Protective Headgear for Industrial Workers.
Z41-83 Personal Protection - Protective Footwear.
Z88.6-84 Respiratory Protection - Respiratory Use Physical Qualifications for Personnel.
 2. American Society for Testing and Materials (ASTM) publications;
D1331-56 Surface and Interfacial Tensions of Solutions of Surface Active Agents.
 3. Code of Federal Regulations (CFR);
29 CFR 1910, et al. Occupational Exposure to Asbestos; Final Rule
29 CFR 1910.20 General Safety and Health Provisions Access to Employee Exposure and Medical Records.
29 CFR 1910 Subpart I, Personal Protective Equipment.
29 CFR 1910.145 Specifications for Accident Prevention Signs and Tags.
29 CFR 1926.1101 Asbestos.
34 CFR 231 Appendix C, Procedures for Containing and Removing Building Materials Containing Asbestos.

40 CFR 61 Subpart A and Subpart M, USEPA, National Emission Standards for Hazardous Air (NESHAPS).

4. Compressed Gas Association, Inc.:
G-7.1 Commodity Specification for Air (1973).
5. National Fire Protection Association (NFPA):
No. 70.1984 National Electrical Code.
6. UL 586-77 (R1982) Test Performance of High Efficiency Particulate Air Filter Units (June 10, 1977, 5th Ed.; Rev. March 12, 1982).
7. National Institute for Occupation Safety and Health (NIOSH):
N31, 3rd. Ed., Vol. 1, Manual of Analytical Methods, Method 7400 Fibers.
8. U. S. Environmental Protection Agency (USEPA) Documents:
EPA 530-SW-85-007 Asbestos Waste Management Guidance, May 1985.
EPA 560/5-85-024 Guidance for Controlling Asbestos-Containing Material in Buildings, June 1985.
EPA 600/4-85-049 Measuring Airborne Asbestos Following an Abatement Action, November 1985.
EPA 560 OPTS-86.001 A Guide to Respiratory Protection for the Asbestos Abatement Industry, April 1986.
9. California Code of Regulations (CCR):
Title 8, Article 2.5 Registration Asbestos-Related Work Section 341.6 through 341.14.
Title 8, Section 1529 General Industry Safety Orders, Asbestos Regulations.
Title 22, Division 4, Minimum Standards for Management of Hazardous and Extremely Hazardous Waste.
10. Local Air Pollution Control District Regulations:
South Coast Air Quality Management District, Rule 1403

1.04 DEFINITIONS

- A. The following definitions are specific to Work in this Specification; terms not defined herein shall have the meaning as given in applicable publications and regulations.
1. Abatement: a term of art referring to procedures that can be utilized to control release of hazardous and non-hazardous materials including asbestos, lead, PCBs, and Fluorescent tubes. Includes repair, encapsulation, enclosure, enclosure and/or maintenance and operation.
 2. Air Filtration Equipment: A portable air recirculating system equipped with HEPA filtration and used to cleanse air of particulate matter within an abatement area. Air filtration equipment is essentially the same as differential pressure equipment except it recirculates air instead of exhausting it.
 3. Airlock: A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area.
 4. Air Monitoring: The process of measuring the fiber content of a specific volume of air in a stated period of time.
 5. Ambient Air Monitoring: Shall mean measurement or determination of airborne asbestos fiber concentrations outside but in the vicinity of the work site.
 6. Amended Water: Water to which a surfactant has been added at a concentration of one (1) ounce surfactant to five (5) gallons water.
 7. Area Monitoring: Sampling of asbestos fiber concentrations within the asbestos Work Area and outside the asbestos Work Area which is representative of the airborne concentrations of asbestos fibers which may reach the breathing zone.
 8. Asbestos: The term asbestos includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.
 9. Asbestos-Contaminated Objects: any objects which may be contaminated by asbestos or asbestos-containing material as determined by the Consultant.

10. Asbestos Fibers: This expression refers to asbestos fibers having an aspect ratio of 3:1 and longer than 5 micrometers.
11. Authorized Visitor: The Owner's Representative, and any Representative of a regulatory or other agency having jurisdiction over the project.
12. Barriers or Containment Barriers: shall mean walls, tunnels, or enclosures erected to separate any section of an abatement area from the adjoining non abatement spaces. When required by site conditions barriers shall be constructed of 2' x 4's, 16 " O.C. with minimum 1/2" plywood walls, all seams in plywood shall be sealed airtight with caulking. The inside (work) side of all such barriers shall be covered with two layers of 6-mil poly sheeting. Tunnels and/or separation walls to maintain public access through a work area shall also be considered as part the of these barriers.
13. Baseline or Background Air Monitoring: shall mean a measurement or determination of airborne asbestos fiber concentrations inside the work place and outside the building prior to the start of abatement activities.
14. Ceiling Concentration: An exposure of airborne concentrations of asbestos fibers at any time in excess of 10 fibers per cubic centimeters of air.
15. Certified Clean: shall mean that a work area has no visible signs of fibrous materials or other debris of any kind and does not have levels of airborne fiber above the defined air clearance criteria
16. Clean or Decontaminate: shall mean to make a surface free of all visible and optically-detectable fibers by thoroughly HEPA-vacuuming and wet washing with lint free rags, sponges and/or mops.
17. Clean Room: An uncontaminated area or room which is a part of the Worker decontamination enclosure with provisions for storage of Workers' street clothes and protective equipment.
18. Decontamination Enclosure System: A series of connected chambers, with airtight doorways or a series of off-setting flaps, between any two adjacent chambers, for the decontamination of Workers and of materials and equipment. If off-setting poly flaps are used they shall be a minimum of 6 mil poly sheeting weighted at the bottom to re-establish a seal after entry or exit.
19. Differential Pressure Equipment: A portable local exhaust system equipped with HEPA filtration and capable of maintaining a constant, low velocity air flow into contaminated areas from adjacent uncontaminated areas.
20. Encapsulant (sealant): A liquid material which can be applied to asbestos containing material and which controls the possible release of asbestos fiber from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant).
21. Encapsulation: Procedures necessary to apply an encapsulant to asbestos-containing building materials to control the possible release of asbestos fibers into the ambient air.
22. Enclosure: Procedures necessary to enclose completely asbestos containing material behind airtight, impermeable, permanent barriers.
23. Equipment Room: A contaminated area or room which is part of the Worker decontamination unit with provisions for storage of contaminated clothing and equipment.
24. Equipment Decontamination Enclosure: That portion of a decontamination enclosure system designed for controlled transfer of materials and equipment, typically consisting of a wet sponge area, a washroom and a holding area.
25. Excursion Limit: A limit of 1.0 f/cc over a 30-minute sampling period to which employees may not be exposed without appropriate respiratory protection.
26. Final Clean: shall mean that no three dimensional material is visible to the naked eye, there is no visible dust inside the containment, and all residue on the substrate from which the asbestos materials were abated is removed.
27. Friable Asbestos Material: Material that contains more than one tenth percent asbestos by weight and that can be crumbled, pulverized, or reduced to powder by hand pressure when dry.
28. Fixed Louver: A non-operable type louver equipped with a HEPA filter and mounted in the rigid doors or walls of a decontamination enclosure system.

29. Fixed Object: A unit of equipment or furniture in the Work Area which cannot be removed from the Work Area.
30. Glovebag Technique: A method with limited applications for removing small amounts of friable asbestos-containing material from HVAC ducts, short piping runs, valves, joints, elbows, and other non-planar surfaces in a non-contained Work Area. The glovebag typically constructed of 6 mil transparent regulite plastic, two inward projecting longsleeve rubber gloves, one inward projecting waterwand sleeve, an internal tool pouch, and an attached, labeled receptacle for asbestos waste. The glovebag is constructed and installed in such a manner that it surrounds the object or area to be decontaminated and contains asbestos fibers released during the removal process. Workers who are permitted to use the glovebag technique shall be highly trained, experienced, and skilled in this method.
31. HEPA Filter: A high efficiency particulate absolute (HEPA) filter capable of trapping and retaining 99.97 percent of particles (asbestos fibers) greater than 0.3 micrometers in mass median aerodynamic equivalent diameter.
32. HEPA Vacuum Equipment: Vacuuming equipment with a HEPA filter system.
33. Holding Area: A chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area. The holding area comprises an airlock.
34. Hygienist: For the purposes of this contract the Site Surveillance Technician (CF Environmental, Inc.) will provide on site monitoring services.
35. Isolation Barriers: shall mean the construction of partitions, the placement of solid materials, and the plasticizing of apertures to seal off the work place from surrounding areas and to contain asbestos fibers in the work area.
36. Lockout: shall mean the safe, approved means for shutting down HVAC equipment, electrical panels or breakers, and water so that they cannot be inadvertently turned back on.
37. Log: an official record of all activities that occurred during the project and it shall identify the building owner, agent, contractor, worker, floor number, date, work area, and other relevant information to the project.
38. Mini Enclosure - an enclosed work area of one layer of six mil poly sheeting built inside a larger room. Each mini enclosure shall be constructed in such a manner as to allow for unrestricted access to all asbestos containing materials and capable of maintaining its integrity when placed under negative pressure. All mini enclosures will have a decontamination facilities attached. To be used in glove bag operations or for accessing contaminated areas above ceilings, in attics, or in crawlspaces.
39. Movable Object: A unit of equipment or furniture in the Work Area which can be removed from the Work Area.
40. Non-Friable Asbestos Material: Material that contains asbestos in which the fibers have been locked in by a bonding agent, coating, binder, or other material so that the asbestos is well bound and will not release fibers in excess of the asbestos control limit during any appropriate use, handling, demolition, storage, transportation, processing or disposal.
41. Personnel Monitoring: Sampling of asbestos fiber concentrations within the breathing zone of an asbestos worker. The abatement contractor is responsible for providing the collection and analysis of all personal air samples in accord with the most recent regulations.
42. Plasticize: To cover floor and wall surfaces with plastic sheeting as herein specified.
43. Removal: Procedures necessary to remove asbestos-containing materials from designated areas and to dispose of these materials at an acceptable site.
44. Rigid Doorway: A device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms. Doorway typically consists of a solid panel door, gasketed to prevent air leakage, attached by hinges to a rigid door frame. A lockset is required to secure door in the closed position.
45. Shower Room: A room between the clean room and the equipment room in the Worker decontamination enclosure with hot and cold or warm running water and suitably arranged for

- complete showering during decontamination. The shower room comprises an airlock between contaminated and clean areas. Shower room and/or decon units shall not be visible to the public.
46. Site Surveillance Technician: a CAL/OSHA certified professional contracted or employed to supervise air monitoring and analysis schemes. This individual is also responsible for recognition of technical deficiencies in Worker protection equipment and procedures during both planning and on-site phases of an abatement project. This individual shall have specialized experience in air sampling for asbestos.
 47. Surfactant: A chemical wetting agent added to water to improve penetration.
 48. Washroom: A room between the Work Area and the holding area in the equipment decontamination enclosure system. The washroom comprises an airlock.
 49. Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with water, and by afterwards disposing of these cleaning tools as asbestos-contaminated waste.
 50. Work Area: Designated rooms, spaces, or areas of the project in which asbestos abatement actions are to be undertaken or which may become contaminated as a result of such abatement actions. A contained Work Area is a Work Area which has been sealed and equipped with a decontamination enclosure system. A non-contained Work Area is an isolated or controlled-access Work Area which has not been sealed nor equipped with a decontamination enclosure system.
 51. Worker Decontamination Enclosure System: That portion of a decontamination enclosure system designed for controlled passage of Workers, and other personnel and authorized visitors, typically consisting of a clean room, a shower room, and an equipment room.

1.05 SUBMITTALS

- A. Six copies (5 to PCC, 1 to Consultant) shall be submitted at least 14 days prior to the first Pre-construction Meeting; Abatement will not begin until the requested submittals are received by CFE and approved.
 1. Copies of California Contractors License with Asbestos Certification issued by the State Contractors License Board and Department of Safety and Health Certificate of Registration for asbestos related work.
 2. Copy of General Liability Insurance Certificates naming Pasadena City College, CF Environmental, Inc., AAA Consultants and Inspections, Inc. as additionally insured.
 3. Notifications to public agencies as in 1.06(B).
 4. Copies of notifications to local Police, Fire, and Emergency Medical personnel. Notifications will be limited to those required by law.
 5. Copies of Worker Certifications to include training, medical monitoring, respirator fit tests, and Blood Lead Levels for Lead Abatement Projects, as required.
 6. Copy of the Contractor's formal written OSHA Respiratory Program including a description of each respirator type, fit testing procedures for passive air filtering type respirators. The respiratory protection program must conform to 29 CFR 1910.134(b),(d),(e) and (f).
 7. Name, address, and telephone number of the environmental laboratory which will analyze Contractor's Personal Air Samples.
 8. List proposed Waste Hauler on project and copies of applicable licenses, including State of California registration number.
 9. List proposed landfill for disposal of hazardous and non hazardous asbestos waste, and copies of applicable licenses including State and Federal registration numbers.
 10. List of proposed sub-contractors, if any, to be used on project.
 11. A detailed list of all materials, tools and equipment and miscellaneous supplies that will be used during the project. Required information shall include manufacturer's product data, specifications, samples and application instructions, Material Safety Data Sheets (MSDS), and other pertinent information as necessary.

12. A copy of permits issued for HEPA Filtration System(s) per South Coast Air Quality Management District (SCAQMD) permits.
13. Submit copies of any other permits, licenses, manifests, or patents which are required or will be used.
15. A written overview of the entire asbestos abatement plan to be used at the site. Highlights to include workmen, visitors, and employees will be protected from exposure, how spaces outside the work area will be protected from contamination until completion of work, and procedures implemented in case of emergency. Include a Site Security Plan for securing buildings while under abatement.
16. Schedules - Detailed work schedules which list the work area, dates of proposed work, work time shifts, projected work accomplishments during each shift, and number of workers and Supervisors/Foremen.
14. List product substitutions, if any, for consideration by PCC; all decisions are final.

1.06 QUALITY ASSURANCE

- A. Qualification: The contractor is to maintain the following documents on site and update them as needed for life of the project:
 1. Registration: One copy of the registration for Asbestos-Related Work from the Division of Occupational Safety and Health in accordance with Title 8, Article 2.5 of the California Code of Regulations.
 2. Personnel Training--Superintendent and Foreman: Submit copy of certificates signed by the superintendent and foreman that he or she has successfully completed a training course in asbestos abatement project supervision offered by an EPA endorsed educational institution.
 3. Personnel Training-Workers: Submit copy of the asbestos abatement employee training program, and a certificate signed by each employee that he or she has had instructions on the hazards of asbestos exposure, has had training in asbestos removal, and understands this instruction.
 4. Respirators: One copy of a written standard operating procedure governing selection, fit-testing, and use of respirators in accordance with 29 CFR 1910, Subpart I, 29 CFR 1926.1101, CGAI Standard G7.1, ANSI Z88.2, and Z88.6. Also submit manufacturer's certification that the respirators to be used in this project comply with these regulatory requirements.
 5. Medical Examination: Proof that personnel who will be entering contaminated areas have had medical examinations, and furnish the results of said exam to the Owner. Comply with 29 CFR 1910.20 for access to employee exposure and medical records.
 - a. Before exposure to airborne asbestos, provide each employee with a comprehensive medical exam meeting the general definition outlined in California Code of Regulations Title 8, CCR Section 5208 (j). No employee shall be allowed to enter the Work Area without having first provided a copy of his Medical History to the Owner.
 - b. Submit an employee roster to the Owner for each Work shift prior to commencement of shift.
- B. Notifications, Communications and Postings-as listed or local offices as permitted:
 1. Submit copies of notifications to all appropriate Government agencies, including:
 - a. Cal/OSHA
 Division of Occupational Safety and Health
 320 West 4th Street, Room 350
 Los Angeles, CA 90013 (213) 576-7451 FAX (213) 576-7461
 Notification shall be in accordance with the Section 341.9 of Title 8 of California Code of Regulations.
 - b. U.S. Environmental Protection Agency
 75 Hawthorne St.
 San Francisco, CA 94105
 Attn: Asb. NESHAPS Coordinator

- c. South Coast Air Quality Management District
21865 East Copely Drive
Diamond Bar, Ca. 91765 (909)-396-2336
- d. Copies of Government agency correspondence shall be included in the submittals.
- 2. Safety Compliance: In addition to detailed requirements of this Specification, comply with laws, ordinances, rules, and regulations of federal, state, regional, and local authorities regarding handling, storing, transporting, and disposing of asbestos waste materials. Comply with applicable requirements of the current issue of 29 CFR 1926.1101, and 40 CFR 61, Subparts A, & M, 40 CFR 61.152, and CCR Section 5208. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting Work. Where requirements of this Specification and reference documents vary, the most stringent requirement shall apply.
- 3. Contractor shall have at least one copy each of 29 CFR 1926.1101; 40 CFR Part 61, Subparts A & M; and CCR, Title 8, Section 5208, at his office and also at the job site.
- 4. Before the commencement of any Work at the site, post bilingual (English and Spanish) EPA and CAL/OSHA caution signs in and around the Work Area to comply with EPA and OSHA regulations.
- C. Employee Exposure Monitoring:
 - 1. Personnel monitoring and other monitoring which is required by law or considered necessary by the Contractor for Worker protection shall be the responsibility of the Contractor and performed by Contractor's Air Sampling Professional.
- D. Certifications:
 - 1. Equipment Certification: Submit manufacturer's certification that vacuums, differential pressure equipment filters, and other local exhaust ventilation equipment conform to ANSI Z9.2.
 - 2. Rental Equipment: When rental equipment is to be used in removal areas or to transport waste materials, a copy of the written notification provided to the rental company informing them of the nature of use of the rented equipment shall be submitted to the Owner Construction Supervisor and signed by the rental company.
- E. Post Job Submittals:
 - 1. Prior to receipt of final payment the Abatement Contractor will submit six copies (5 copies to PCC and 1 copy to the Consultant) of a final Close-Out Package for review by the Consultant. The Close-Out Package shall include as a minimum:
 - a. Required Governmental Notifications
 - b. Daily Status Reports/Daily Logs
 - c. Entry/Exit Logs
 - d. OSHA Air Monitoring
 - e. Workers Submittals
 - f. Waste Manifests

PART 2 - PRODUCTS

2.01 GENERAL

- A. Submit manufacturer's product data for all the items listed under Part 2 - Products.

2.02 ISOLATION MEDIA (PLASTIC)

- A. Polyethylene sheets 6 mil and 4 mil in sizes to minimize frequency of joints.

2.03 TAPE

- A. Duct tape 2" or wider, or equal, capable of sealing joints of adjacent sheets of plastic sheets and for attachment of plastic sheet to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions, including use of amended water.

2.04 DISPOSAL PACKAGING

- A. Appropriately labeled 6 mil (doubled) sealable polyethylene bags as a minimum.

- B. Appropriately labeled 6 mil sealable polyethylene bag placed inside a closed, impermeable drum containers.
- C. Bilingual labels (English and Spanish) on containment glove bags, waste packages, contaminated material packages and other containers shall be in accordance with EPA or OSHA standards.

2.05 WARNING LABELS AND SIGNS

- A. As required by 29 CFR 1910.145.

2.06 SURFACTANT

- A. Surfactant, or wetting agent, for amending water will be 50 percent polyoxyethylene ether and 50 percent polyoxyethylene ester, or equivalent, at a concentration of one ounce per 5 gallons of water.

2.07 ENCAPSULANTS

- A. After removal use 'lockdown' encapsulant as follows tinted for ease of identification:
 1. American Coatings Corporation "22 P";
 2. Better Working Environments "BWE 3000";
 3. Fosters 32-60/32-61, or Approved Equal.

2.08 LAGGING ADHESIVE - Not Applicable To This Contract

2.09 AIR FILTRATION EQUIPMENT -

- A. Provide differential pressure equipment - High-efficiency particulate absolute (HEPA) filtration systems shall be equipped with filtration equipment in compliance with ANSI Z9.2, local exhaust ventilation. No air movement system or air filtering equipment shall discharge unfiltered air outside the Work Area. Differential pressure within the work area shall be maintained at negative .02 inches of water during abatement as demonstrated by use of a manometer.
- B. Provide air filtration equipment with HEPA filtration system to cleanse air of particulate matter during abatement. Replace HEPA filters when filters become clogged with particulate matter. Provide enough air filtration devices within the work area to maintain fiber levels within the protection factors of workers' respirators.

2.10 PERSONAL PROTECTION

- A. Personal Protective Equipment shall comply with the requirements of 29 CFR 1910, Subpart I.
- B. Work clothes shall consist of fire retardant (should conditions demand), disposable, full-body coveralls, head covers, boots, rubber gloves, and sneakers or equivalent in accordance with ANSI Z41. Secure sleeves at wrists and cuffs at ankles.
- C. Eye protection and hard hats shall be available as required by applicable safety regulations and shall conform to ANSI 87.1 and 89.1.
- D. Provide authorized visitors with suitable protective clothing, headgear, eye protection, and footwear whenever they are required to enter Work area.

2.11 RESPIRATORS

- A. Provide all workers, foremen, superintendents, authorized visitors, and inspectors personally issued and marked respiratory equipment jointly approved by NIOSH/MSHA. When respirators with disposable filters are employed, provide sufficient filters for replacement as recommended by manufacturers or this specification. Selection of respirators shall be made according to the guidance of 29 CFR 1910 Subpart I; ANSI Z88.2; CGAI G7.1; EPA 560 OPTS-86.001; and Table I of this section.
- B. When positive pressure supplied air Type "C" equipped with full face piece respirators are employed, the Air Supply System shall provide Grade "D" breathing air in accordance with OSHA 29 CFR 1910 Subpart I and ANSI Z88.2 and CGAI G7.1.
- C. The Compressed Air system for Type "C" Respirators shall be high pressure (nominal 100 psi), with a compressor capacity to satisfy the respirator manufacturer's recommendations. The receiver shall have sufficient capacity to allow a 15 minute escape time for the respirator wearers in the event of compressor failure or malfunction. Type C supplied air respirators with HEPA filter disconnect may be used as an alternate to the 15 minute escape time required in the event of compressor failure for Type C respirators. The Compressed Air System shall have compressor failure alarm, high temperature

alarm, carbon monoxide alarm, and suitable in-line air purifying sorbent beds and filters to assure Grade "D" breathing air.

- D. The minimum respiratory protection required for this project is as follows (See also Table I of this section):
1. Use high efficiency air-purifying respirators for the following provided maximum airborne fiber concentration outside the respirator is at or below 0.1 fibers/cc:
 - a. Preconstruction sealing of openings and penetrations to the work areas with plastic sheeting.
 - b. Decontamination of removable furnishings and equipment.
 - c. Loading asbestos waste on truck for transportation.
 - d. During use of glovebag technique.
 - e. During limited use of glovebag technique and removal of piping with asbestos insulation intact.
 - f. During final wipe down of work space
 2. Use Type "C" respirators are not required for this project (follow guidelines set forth in Table I):
 - a. Alternate respiratory protection systems proposed by the Contractor will be considered by the Owner's industrial hygiene consultant. Documentation must be provided by the Contractor that asbestos levels during previous, comparable jobs were within the protection factors of the respirators to be used as outlined in Table I.
 - b. When Type "C" respirators are not required according to the OSHA standard (or this specification, whichever is more stringent), provide workers with approved, permanent, personally-issued and marked respirators with replaceable filters. Provide sufficient quantity of filters jointly approved by NIOSH/MSHA for use in asbestos environments so that workers can change filters as required by manufacturer during the work day. Filters shall not be used any longer than one work day.

TABLE I

Max. Conc. Outside Respirator	Protection Factor	Minimum Acceptable Respirator
0.1 fiber/cc*	10	Half or full face mask dual cartridge air purifying respirator with high efficiency cartridges approved for asbestos filters (P-100).*
0.25 fibers/cc	25	Powered air purifying respirator (half or full-face piece) with high efficiency filters.*
0.5 fibers/cc	50	Type "C" supplied air respirators, full face piece, continuous flow.
2.0 fibers/cc**	100	Type "C" supplied air respirators, full facepiece, pressure demand mode.
Over 2.0 fibers/cc**		Type "C" supplied air respirators, full face piece, pressure demand mode, equipped with an auxiliary positive pressure self-contained breathing apparatus.

Disposable (single use) respirators are not to be worn for protection against asbestos.

* Greater respiratory protection is always acceptable regardless of asbestos concentrations.

** Must demonstrate that the fiber levels will not exceed 0.01 f/cc inside the respirator based on quantitative mask fit testing for each individual using the respirator protection factor formula.

PART 3 - EXECUTION

3.01 PROJECT PROCEDURES:

- A. Abatement Procedure Plans: Submit a plan of the work procedures for abatement of asbestos materials. Include the following:
1. Personnel monitoring procedures in accordance with current Cal/OSHA Regulations.
 2. Phasing of abatement work indicating daily roster of workers for each phase.
 3. Security system warning signs locations in accordance with Cal/OSHA Regulations

4. Plans for decontamination of workers and other hygiene facilities.
 5. Standard procedures for protecting workers, visitors, and employees and protection of spaces outside work area from contamination.
- B. Emergency Precautions and Procedures
1. Establish emergency and fire exits from the Work Area. Emergency exits shall be equipped with 2 full sets of protective clothing and respirators.
 2. Local medical emergency personnel, both ambulance crews and hospital emergency room staff, shall be notified prior to commencement of abatement operations as to the possibility of having to handle contaminated or injured Workers, and shall be advised on safe decontamination.
 3. Contractor shall be prepared to administer first aid to injured personnel after decontamination. Seriously injured personnel shall be treated immediately or evacuated without delay for decontamination. When an injury occurs, the Contractor shall stop Work and implement fiber reduction techniques (e.g., water spraying) until the injured person has been removed from the Work Area.
 4. Before starting actual removal of asbestos material local police and fire departments shall be notified as to the danger of entering the Work Area.
- C. Bilingual Workers Protection Procedures (English and Spanish) -- To Be Posted in Clean Room.
1. Each Worker and authorized visitor shall, upon entering the Regulated Area: Don a respirator and clean protective clothing before entering.
 2. Workers shall, each time they leave the Work Area: Remove gross contamination from clothing before leaving the Work Area; proceed to the Equipment Room and remove clothing except respirators; still wearing the respirator, proceed naked to the showers; clean the outside of the respirator with soap and water while showering; remove the respirator; thoroughly shampoo and wash themselves.
 3. Following showering and drying off, each Worker shall proceed directly to the clean change room and dress in clean clothes at the end of each day's Work, or before eating, smoking, or drinking. Before re-entering the Work Area from the clean-change room, each Worker and authorized visitor shall put on a clean respirator and shall dress in clean protective clothing.
 4. Contaminated Work footwear shall be stored in the Equipment Room when not in use in the Work Area. Upon completion of asbestos abatement, dispose of footwear as contaminated waste.
 5. Workers removing waste containers from the Equipment Decontamination Enclosure shall enter the holding Area from outside wearing a respirator and dressed in clean disposable coveralls. No Worker shall use this system as a means to leave or enter the washroom or the Work Area.
 6. Color of disposable clothing worn outside Work Area shall be different in color or markings from disposable clothing work inside Work Area.
 7. Workers shall not eat, drink, smoke, or chew gum or tobacco while in the Work Area.
 8. Workers and Authorized visitors with beards shall not enter the Work Area unless equipped with respirators approved for use with beards.

3.02 PREPARATION

- A. Work Areas:
1. Shut down electric power within the containment area as needed to protect workers from electrical hazards. The abatement contractor shall have the responsibility to provide temporary power and lighting within the containment area. The contractor shall either request permission from PCC to use site power or provide a generator on site. All electrical connections and maintenance of the generator and temporary power shall be the responsibility of the contractor.
 2. The contractor shall ensure safe installation of temporary power sources and equipment per applicable electrical code requirements and provide ground-fault interrupter circuits as power source for electrical equipment.
 3. Shut down and isolate heating, cooling, ventilation air systems to prevent contamination and fiber dispersal to other areas of the structure. Vents and ductwork within the Work Area that are to remain shall be pre-cleaned and sealed with tape and plastic sheeting.

3. Do not begin Work until area is free of loose equipment.
 4. Pre-clean fixed objects within the proposed Work Areas, using HEPA filtered vacuum equipment and/or wet cleaning methods as appropriate, and enclose with protective barriers of plywood covered with minimum 6 mil plastic sheeting sealed with tape.
 5. Clean proposed work areas using HEPA filtered vacuums or wet cleaning methods as necessary to maintain fiber levels at or below 0.01 f/cc. Methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters is prohibited.
 6. Seal off openings, including but not limited to corridors, doorways, ducts, grills, diffusers, and any other penetrations of the Work Areas, with plastic sheeting sealed with tape. Doorways and corridors which will not be used for passage during Work must be sealed with barriers.
 7. Cover wall surfaces with a minimum of two layers of 6 mil plastic sheeting extending from the ceiling to floor level. All seams are to be sealed with duct tape. Each layer of poly sheeting shall be hung on the walls independent of each other.
 8. Cover floors with a minimum of two layers of 6 mil poly sheeting. Offset seams to reduce potential for leaking. Fully seal seams with spray adhesive and duct tape.
 - A. Contractor is responsible for complying with South Coast Air Quality Management District (SCAQMD) requirements for containment of friable materials. All non work surfaces are to be covered with poly sheeting.
 9. Install Decontamination Enclosure System (decon units) or equivalent prefabricated portable decontamination units as approved. When possible decon units will be inside the building. If this is not possible decon units to be constructed to maintain building security (i.e. decon unit large enough to allow the exterior doors to be locked. All Decon Units (worker entry/exit and/or equipment/waste bagout shall be kept from public view, where possible).
 10. Maintain emergency and fire exits from Work Areas.
- B. Decontamination Enclosure System (General):
1. Construct decontamination enclosure system of suitable framing; walls, ceiling, and floors of decontamination enclosure system shall be lined with 6 mil polyethylene sheeting sealed with duct tape.
 2. Access between contaminated and uncontaminated rooms or areas shall be through an airlock. Access between any two rooms within the decontamination enclosure systems shall be through a rigid doorway or overlapping 6 mil poly flaps.
- C. Worker Decontamination Enclosure System: Construct a worker decontamination enclosure systems contiguous to the Work Area consisting of three totally enclosed chambers as follows:
1. An equipment room with two rigid doorways or overlapping 6 mil poly flaps one to the Work Area and one to the shower room.
 2. A shower room with two rigid doorways or overlapping 6 mil poly flaps, one to the equipment room and one to the clean room. Shower room shall contain at least one shower with hot and cold or warm water. Careful attention shall be paid to the shower enclosure to ensure against leaking of any kind. Ensure a supply of soap at all times in the shower room. Shower water shall be filtered to remove asbestos prior to being discharged to drain or barrel.
 3. A clean room with one rigid doorway or overlapping 6 mil poly flaps into the shower and one entrance or exit to non-contaminated areas of the building. Clean room shall have sufficient space for storage of Worker's street clothes, towels, and other non-contaminated items. Clean room shall also store fresh, non-contaminated protective clothing, respirators, and any other accessory to be used by workers in the work area.
- D. Equipment Decontamination/Waste Removal Enclosure System:
1. Provide or construct an equipment decontamination and waste removal enclosure system consisting of areas as follows:
 - a. A washroom, constituting an airlock, with a rigid doorway or overlapping 6 mil poly flaps to a designated wet sponge area, a rigid doorway or overlapping 6 mil poly flaps to the holding area, and a rigid doorway or overlapping 6 mil poly flaps to the shower area.

- b. A wet sponge area, with a rigid doorway or overlapping 6 mil poly flaps to the equipment room and wash room.
 - c. A holding area, constituting an airlock, with a rigid doorway or overlapping 6 mil poly flaps to an uncontaminated clean room and rigid doorway each to wash room and loading ramp.
- E. Separation of Work Areas from Occupied Areas.
 - 1. Separate parts of the building required to remain in use from parts of the building that will undergo asbestos abatement by means of airtight barriers, constructed as follows:
 - a. Passageway from Elevator Lobby to South Foyer must be maintained throughout the project. Install scaffolding or build suitable framing and apply isolation on work side (refer to Section 1.04 Item 12).
 - b. Isolation medium shall be a minimum of 2 layers of 6 mil plastic sheet, sealed with duct tape as specified on Work Area side.
 - c. Seal all penetration points to the work area by using minimum of 2 layers of 6 mil plastic sealed with duct tape.
- F. Maintenance of Enclosure Systems:
 - 1. Ensure that barriers and plastic linings are effectively sealed and taped. Repair damaged barriers and remedy defects immediately upon discovery.
 - 2. Visually inspect enclosures at the beginning of each work period.
 - 3. Use smoke methods to test effectiveness of barriers prior to implementing asbestos removal and when directed by the Owner.
 - 4. Maintain emergency and fire exits from Work Areas.
- G. Asbestos abatement work shall not commence until:
 - 1. Arrangements have been made for disposal of waste at an acceptable site.
 - 2. Arrangements have been made for containing and disposal of waste water resulting from wet stripping.
 - 3. Work areas and decontamination enclosure systems and parts of the building required to remain in use are effectively segregated.
 - 4. Tools, equipment and material waste receptors are on hand.
 - 5. Arrangements have been made for building security.
 - 6. Preparatory steps have been taken and applicable notices posted and permits obtained.
 - 7. Differential pressure systems are installed and operating. All exhaust to be outside the building.
 - 8. Contractor submittal for isolating non-asbestos work areas have been reviewed and approved by the Owner.

3.03 ENCAPSULATION OF ASBESTOS

- A. Following full abatement, encapsulate (lockdown) all surfaces within the work area after the Site surveillance Technician has performed his/her final visual inspection verifying that all identified hazardous and non-hazardous materials, including demolition debris and other contaminated items within the work areas as identified in these specifications have been removed.
- B. Encasement of the fireproofing material (Alternate Bid 3) shall be in accordance with Part 4: Special Conditions 'Encasement of Fireproofing' following abatement of all identified hazardous and non-hazardous materials, including demolition debris and other contaminated items within the work areas identified in these specifications have been removed.

3.04 ASBESTOS REMOVAL: GROSS REMOVAL

- A. Install containment as outlined in Section 3.02.
- B. Spray asbestos material and demolition items with amended water, using spray equipment capable of providing a "mist" application to reduce the release of fibers. Saturate material sufficiently to wet it to substrate without causing excess dripping or delamination of the material. Spray asbestos

containing materials and contaminated items repeatedly during work process to maintain wet condition and to minimize asbestos fiber dispersion.

- C. Remove saturated asbestos material in small sections. As it is removed, pack material in sealable plastic bags (6 mil minimum thickness) or other container lined with 6 mil poly in preparation for removal from containment. As the bags or containers are removed from the work area through the bag out chamber, the packaged material shall be placed in a clean 6 mil bag or container lined with 6 mil poly sheeting. Material shall not be allowed to dry out prior to packaging.
 - 1. Where asbestos material is applied to a non-asbestos gypsum or other substrate, both the asbestos and substrate may be removed (Refer to Part 4 - Special Conditions). Replacement of substrate, if removed, shall be performed hereunder in accordance with applicable portions of other sections of these specifications.
- D. After completion of stripping work, surfaces from which asbestos has been removed shall be final cleaned to remove remaining asbestos residue and/or debris. To verify removal of the asbestos containing material the consultant may elect to collect bulk samples of the remaining substrate. The surface will be considered to be clean if there is no asbestos detected. If the surfaces are not clean, the contractor will be directed to re-clean all areas as needed to meet the above criteria. Subsequent cleaning and cost of bulk sampling costs will be at the contractor's expense at no added cost to PCC.
- E. Notify the Owner and Owner's Representative in writing that Work Area is ready for review.

3.05 ASBESTOS REMOVAL: GLOVEBAG TECHNIQUE -

- A. All work involving removal of pipe or fitting insulation using the glove bag procedure as described below shall be in accordance with current CAL/OSHA Regulations and manufacturers recommendations.
 - 1. Install critical barriers over openings into the work area.
 - 2. Pre-Clean visible asbestos debris.
 - 3. Cover vertical and horizontal surfaces prevent contamination of non-asbestos surfaces. All abatement areas will have a fully operational decontamination chamber at work area entry. When glove bag work is taking place in a large room a "mini enclosure" can be constructed and used as a negative pressure enclosure.
 - 4. Place glove bag under negative pressure for .
- B. Contractor will wait for containment and glove bag installation inspection prior to removal of any asbestos materials.
- C. After installation of glovebag, thoroughly wet material to be removed with amended water. Allow to soak in, then remove insulating material from piping. Remove all visible debris from piping. Thoroughly wash the inside of the bag, the piping surfaces and the tools. Without removing the wand from the bag, change the spray bottle to an encapsulant material, then re-spray inside of bag, piping and ends of exposed insulation material. Evacuate bag with HEPA vacuum; tie off trash area; remove tools from bag; remove bag from pipe, folding inward the sides of the bag; then twist and tape the open end, the wand opening, and the vacuum opening. Place glovebag directly into another labeled bag, twist and seal, then place into container.
- D. Seal filled containers. Place danger labels on containers in accordance with OSHA regulation 29 CFR 1926.1101. Ensure that containers are removed from the holding area by workers who have entered from uncontaminated areas dressed in clean overalls and equipped with respirators. Ensure that workers do not enter from the equipment decontamination enclosure system into the washroom or the Work Area; ensure that contaminated workers do not exit Work Area through equipment decontamination enclosure system.

3.06 DISPOSAL

- A. Waste Transportation: Submit the method of transport of hazardous waste including name, address, EPA I.D. number and telephone number of transporter.
- B. Hazardous Waste Site: Submit for approval the name, class, address, EPA I.D. number and telephone number of hazardous waste site(s) to be utilized for disposal.

- C. The sealed asbestos containers shall be delivered to Contractor's predesignated approved Hazardous Waste Site for burial; in accordance with Title 22, CCR, EPA guidelines and 40 CFR 61.156 and local Air Pollution Control District Regulations.
- D. Notify the Owner in advance of the time when contaminated materials are to be removed from the site.
- E. Contractor shall be responsible for safe handling, pick-up, and transportation of hazardous waste generated by this Contract to the designated Hazardous Waste Site.
- F. Contractor shall hold the PCC, CF Environmental, Inc., and AAA Consultants and Inspections, Inc. harmless for claims, damages, losses, and expenses, including attorney's fees arising out of or resulting from asbestos spills on the site or spills en route to the disposal site.

3.07 DECONTAMINATION OF WORK AREA -

- A. After written notification to proceed from Owner's Representative, encapsulate surfaces where asbestos material has been removed.
 - 1. Surfaces from which asbestos have been removed shall be sealed with a clear encapsulant after the surface is clean and dry. Apply encapsulant as needed using airless spray equipment.
 - 2. Prepare and apply encapsulant according to the manufacturer's specifications. Because application by spraying could cause dissemination of residual fibers, encapsulant must be applied with caution and at as low a nozzle pressure as possible.
- B. Upon written notification, Owner and Owner's Representative will review encapsulated surfaces for conformance with Specifications. Non-conformance of Work shall be remedied until Work is in compliance.

3.08 AIR MONITORING

- A. Area Air Monitoring:
 - 1. Throughout the abatement process area air monitoring shall be conducted by CF Environmental, Inc. to ensure Work is done in conformance with fiber concentration limits of these Specifications.
 - 2. If area air monitoring outside the Work Area or personnel air monitoring results are in excess of 0.01 f/cc; the Contractor shall make changes in work procedures to assure compliance with minimum standards. Unsatisfactory results are fiber counts in excess of 0.01 fibers/cc by PCM or 0.005 asbestos fibers/cc by TEM, determined as a TWA outside the work area for Area Air Monitoring.
- B. Contractor shall submit written report to Owner's Representative of Contractor's personnel monitoring as soon as practicable. Personnel air monitoring shall not exceed the levels recommended for the type of respiratory gear in use.
- C. The Consultant (CF Environmental, Inc.) shall have the authority to stop work at any time it becomes apparent that abatement work is not proceeding as required in these specifications. If at any time the Consultant determines that conditions are not within specifications and applicable regulations, abatement can be stopped. The stoppage of work shall continue until conditions have been corrected to the satisfaction of the Consultant. Standby time required to resolve the problem shall be at the Abatement Contractor's expense.

Those individuals who have been designated as "Competent Persons" by the Abatement Contractor may be removed at PCC's and/or the Consultant's discretion for non performance. The replacement individuals must meet the previous standards and be approved by PCC and/or the Consultant.

Failure of the Contractor to comply with the requirements of the Specification shall be grounds for termination of the Abatement Contractor's contract with PCC.

3.09 RE-ESTABLISHMENT OF WORK AREA - NOT APPLICABLE TO THIS CONTRACT

3.10 REPAIR AND PAINTING

The asbestos abatement contractor will remove all duct tape, tape residue, adhesive residue, staples, furring strips and/or other materials installed or applied to the buildings or there contents in order to remove the identified materials.

3.11 CLEAN UP

- A. Maintain a clean project site during and upon completion of Work of this Section. Cleaning shall be in accordance with PCC's General Conditions.

PART 4 - SPECIAL CONDITIONS

General

Pasadena City College is requesting proposals to provide abatement and disposal services to remove materials identified in Part 5 - Scope of Work Listing including appendixes.

The materials listed on the following pages have been identified as requiring removal prior to demolition of the restrooms, lobby and adjoining classrooms and offices in order to renovate the existing Men's and Women's Restrooms located on the first floor of R Building. The cost of abatement shall be included in the overall cost of the renovation project.

The estimated quantities listed in Part 5: Scope of Work Listing are to be removed within the identified rooms whether or not they are directly affected by renovation project.

4.01 SCHEDULING

- A. The Abatement Contractor will coordinate all abatement work with PCC, its Project Managers and Consultants. The contractor will have sufficient employees to accomplish the abatement task during the time allotted. Failure of the Abatement Contractor to complete a particular task may result in the termination of the contract agreement.
- PCC will contract the services of a Certified Asbestos Consultant (CAC)/Site Surveillance Technician (SST) for on-site monitoring and visual inspection.
- B. The CAC/SST will be available for on site monitoring and visual inspection.
1. Overtime work shall be requested in advance and in writing to allow for the scheduling of the appropriate PCC Personnel and the on site Hygienist.
 2. If the CAC/SST is required to work overtime *at the request of, or because of, the Abatement Contractor*, PCC has the *option* of charging the responsible contractor for the overtime hours worked at the Hygienist's overtime rate.
- C. The General Contractor and/or his Abatement Contractor shall be responsible for scheduling abatement work through PCC's Project Manager. The following time lines shall dictate abatement activities:
1. 48 hour notice prior to start of shift - No delay in abatement schedule.
 2. 24 hour notice prior to start of shift - Consultants will provide oversight if possible.
 3. Should abatement contractor arrive on site without prior notification, work cannot proceed until PCC's consultants make arrangements for project oversight.

4.02 SITE SECURITY

- A. The abatement contractor is responsible for maintaining site security for the duration of his/her abatement activities. The existing security system shall remain in operation or the abatement contractor will provide on-site security.

4.03 SITE UTILITIES

- A. PCC has the option of providing the Abatement Contractor with water and power. However, it is the responsibility of the Abatement Contractor to provide his/her own connections.
- B. The abatement contractor employees are not allowed to use PCC's phones.

4.04 ABATEMENT CONTRACTORS SUPPLIES AND EQUIPMENT

- A. All HEPA vacuums, negative air machines, airless sprayers, Hudson sprayers, spray bottles, ladders, scaffolding, extension cords, showers, water filtration units, and hand tools will be clean and in good working order. The Consultant, Site Surveillance Technician, or PCC Representative will periodically inspect the abatement contractor's supplies and equipment. Defective or contaminated equipment will be removed from the PCC site.

4.05 WORK PROCEDURES

- A. Work procedures outlined below are designed based on conditions present at this site. The Abatement Contractor shall comply with all laws, ordinances, rules, and regulations of federal, state, regional, and local authorities regarding removal, encapsulation, handling, storing, transporting, and disposing of

hazardous and non-hazardous asbestos, lead, PCBs, and light tubes. Where requirements of this Specification, reference documents or regulations vary, the most stringent requirement shall apply.

1. This project requires the removal of hazardous and non-hazardous materials including asbestos containing sprayed fireproofing, ceiling tile, pipe and fitting insulation, floor tile, tile mastic, surfaces coated with lead based paint, PCB Ballasts, Fluorescent Tubes containing mercury, and contaminated demolition materials associated with the Pasadena City College 'R' Building Restroom Renovation Project. Refer to Section 5 - Scope of Work Listing identifying the Base Bid, 3 Alternate Bids, and attached appendixes.

Base Bid, Alternate 1, and Alternate 2 - Abatement of All Identified Materials

The abatement contractor is to remove ALL hazardous and non-hazardous materials from locations as identified in the Base Bid, Alternate Bid 1 and Alternate Bid 2.

- A. Asbestos abatement contractor isolates work area as outlined in Section 3.02 PREPARATION including the following:
 1. Isolate the work area with 2 layers of 6 mil poly sheeting covering walls below the ceiling and hung independent of each other. Containment to be large enough to allow for reconstruction work to take place without further disturbance of remaining materials.
 2. Attach a Decontamination Unit at work area entry. Attach an Equipment/Waste Removal Unit for load-out of equipment and waste.
- B. Place work area under *negative pressure*, exhaust air to exterior of building. Contractor to install plywood barriers entry, exits, and exhaust locations as needed to maintain building security.
- C. After the containment has been approved by the CAC/SST, the abatement contractor shall remove ceiling tiles around perimeter of work area, below strategic sections of the HVAC system, and/ or otherwise access areas above 'hard lid' to install "pony walls" and "critical barriers" as needed to isolate the work area and HVAC system from adjacent non-work areas.
 1. The contractor shall, at point of disconnect, remove duct work slated for demo, clean around opening and install "critical barriers", isolating all openings into the supply and return HVAC system that is not to be demolished during this renovation.
 2. Any and all building surfaces, components or materials identified to remain in the building shall be pre-cleaned, covered with poly sheeting sealed with duct tape, and protected throughout the abatement process.
- D. Contractor shall demolish any remaining ceiling and wall systems including plaster and drywall, light fixtures, hanger wires, structural components, and all building components and associated items above and below the ceiling including but not limited to fiberglass batting, insulation on hard metal duct (if present), flexible ducting, electrical conduit, light fixtures, data and various low-voltage wiring, and all other items and components as indicated in the Construction Specifications and/or Construction Drawings. All materials shall be disposed of as hazardous asbestos waste.
- E. The abatement contractor shall remove all fireproofing (including overspray) from steel beams, columns, concrete, plaster, and all other exposed surfaces in addition to ceiling tile, pipe and fitting insulation, floor tile, tile mastic, surfaces coated with lead based paint, PCB Ballasts, Fluorescent Tubes containing mercury, and contaminated demolition materials using 'adequately wet methods'.
- F. After visual inspection to verify all material has been removed, the contractor shall seal all abated surfaces with lockdown encapsulant, tinted for ease of identification, within the contained area including poly sheeting and covered items in preparation for clearance sampling.
- G. Containment shall remain in place until final clearance samples are collected and analyzed. Clearance samples must be below the mandated AHERA Clearance Level following an abatement project of 70 structures per millimeter squared (s/mm^2) and these specifications.
- H. 'Pony walls' separating the renovation area from adjoining non-work areas containing hazardous and non-hazardous materials to remain in place until renovation project is complete. Abatement contractor shall return to remove 'pony walls' at completion of renovation work.

Alternate Bid 3 - Encasement of Fireproofing, Complete Removal of Remaining Identified Materials

The abatement contractor shall encase fireproofing on structural steel after removing ALL hazardous and non-hazardous materials identified.

Fireproofing shall be sealed with penetrating encapsulant and covered with 'bridging' material essentially encasing the fireproofing in a thick vinyl membrane as outlined below.

- A. Asbestos abatement contractor isolates work area as outlined in Section 3.02 PREPARATION including the following:
 1. Isolate the work area with 2 layers of 6 mil poly sheeting covering walls below the ceiling and hung independent of each other. Containment to be large enough to allow for reconstruction work to take place without further disturbance of remaining materials.
 2. Attach a Decontamination Unit at work area entry. Attach an Equipment/Waste Removal Unit for load-out of equipment and waste.
- B. Place work area under *negative pressure*, exhaust air to exterior of building. Contractor to install plywood barriers entry, exits, and exhaust locations as needed to maintain building security.
- C. After the containment has been approval by the CAC/SST, the abatement contractor shall remove ceiling tiles around perimeter of work area, below strategic sections of the HVAC system, and/ or otherwise access areas above 'hard lid' to install "pony walls" and "critical barriers" as needed to isolate the work area and HVAC system from adjacent non-work areas.
 1. The contractor shall, at point of disconnect, remove duct work slated for demo, clean around opening and install "critical barriers", isolating all openings into the supply and return HVAC system that is not to be demolished during this renovation.
 3. Any and all building surfaces, components or materials identified to remain in the building shall be pre-cleaned, covered with poly sheeting sealed with duct tape, and protected throughout the abatement process.
- D. Contractor shall demolish any remaining ceiling and wall systems including plaster and drywall, light fixtures, hanger wires, structural components, and all building components and associated items above and below the ceiling including but not limited to fiberglass batting, insulation on hard metal duct (if present), flexible ducting, electrical conduit, light fixtures, data and various low-voltage wiring, and all other items and components as indicated in the Construction Specifications and/or Construction Drawings. All materials shall be disposed of as hazardous asbestos waste.
- E. The abatement contractor shall remove all ceiling tile, pipe and fitting insulation, floor tile, tile mastic, surfaces coated with lead based paint, PCB Ballasts, Fluorescent Tubes containing mercury, and contaminated demolition materials using 'adequately wet methods'.
- F. The abatement contractor shall remove fireproofing overspray from non-asbestos substrates including concrete, plaster, and all other surfaces within the containment up to the edge of the existing steel.
 1. After visual inspection the contractor shall seal all surfaces within the contained area including the cement deck and fireproofing on the structural steel with penetrating encapsulant, tinted for ease of identification.
 2. Following visual verification of conditions, the contractor shall as needed re-encapsulate the fireproofing with penetrating material establishing a uniform seal.
 3. Once penetrating encapsulant has been allowed to dry per manufacturer's directions, successive coats of 'bridging encapsulant' shall be applied forming a protective coating capable of preventing damage that could be caused by incidental contact during renovation of areas as detailed in the construction drawings.
- G. After visual inspection to verify all material has been removed, the contractor shall seal all abated surfaces with lockdown encapsulant, tinted for ease of identification, within the contained area including poly sheeting and covered items in preparation for clearance sampling.
- H. Containment shall remain in place until final clearance samples are collected and analyzed. Clearance samples must be below the mandated AHERA Clearance Level following an abatement project of 70 structures per millimeter squared (s/mm^2) and these specifications.

- J. 'Pony walls' separating the renovation area from adjoining non-work areas containing hazardous and non-hazardous materials to remain in place until renovation project is complete. Abatement contractor shall return to remove 'pony walls' at completion of renovation work.

CLEARANCE SAMPLES

PCC will pay for the first set of Clearance Samples in any one work area. If the area fails to meet the clearance criteria of less than or equal to 0.01 fibers per cubic centimeter (f/cc) when analyzed by Phase Contrast Microscopy (PCM) the Abatement Contractor will be responsible for any and all additional sample analysis and related costs until the work area meets the above criteria.

By Submitting A Bid The Abatement Contractor Agrees To All Terms And Conditions Of This Specification.

BUILDING "R" RESTROOM RENOVATION

The Construction Drawings indicate the extent of renovation work to take place in the Men's and Women's Restrooms, Custodian Rooms, Hallways, Offices, Classrooms, Ceiling Spaces, Pipe Chases, Wall Cavities, and Interstitial Spaces that will be affected work under this contract. To assist in identification of areas requiring abatement, the main reference document is the Construction Specifications and Drawings, cross referenced with PCC Site Maps, and Site Maps as developed by the Hazardous Materials Inspection Team. Work areas are inclusive of all spaces as indicated on the Construction Drawings whether or not they are specifically mentioned. Hazardous and non-hazardous materials identified that require abatement include asbestos, lead, PCB Ballasts, and fluorescent tubes containing mercury.

1) ASBESTOS CONTAINING MATERIALS

3) PCB BALLASTS AND FLUORESCENT TUBES

--- Component Removal/Demolition/Surface Preparation of Materials $\geq 1.0 \text{ mg/cm}^2$

Building Components Coated with Paint Containing Detectable Levels of Lead: <1.0 mg/cm²

- Components and painted surfaces that contain or are coated with lead less than ($\leq$) 1.0 mg/cm². All work on materials or surfaces coated with lead that is less than (<) 1.0 mg/cm² that require removal, selective demolition, or surface preparation to receive new hardware or new paint shall be performed by workers trained in compliance with current Cal/OSHA regulations. The General Contractor and/or his sub-contractors must have workers available to perform a negative exposure assessment (NEA) in areas and with materials that contain detectable levels of lead. These workers, as a minimum, must have Lead Awareness Training, Medical Clearance for use of respiratory protection, respiratory fit tests, and blood work in compliance with current Cal/OSHA regulations.

NOTE: These work sheets are provided for the convenience of the Abatement Contractor for use in reviewing the project site during the Pre-Bid Job Walk. All locations and quantities of materials listed are estimated; the Bidding Contractor and/or his/her representative is required to verify location and quantities prior to submitting a bid.

PASADENA CITY COLLEGE
BUILDING "R" RESTROOM RENOVATION
CFE PROJECT 6351

<u>LOCATION</u>	<u>MATERIAL</u>	<u>QUANTITY</u>	<u>ABATEMENT COST</u>

BASE BID - Full Abatement: Men's Restroom, Custodian Room and Coffered Ceiling in Hallway between Restrooms

1) ASBESTOS CONTAINING MATERIALS

- All Areas	Sprayed Fireproofing (Nominal Floor Area)	460 SF	_____
	Pipe Insulation	100 LF	_____
	Fitting Insulation	30 EA	_____
- Coffered Ceiling in Hallway	Ceiling Tile and Grid	224 SF	_____

2) LEAD CONTAINING MATERIALS

- There were no components or surfaces testing above the HUD Action Level of 1.0 mg/cm² or LA County Action Level of 0.7 mg/cm².

3) PCB'S, FLUORESCENT TUBES CONTAINING MERCURY

- Men's Room and Coffered Ceiling	Ballasts	12 EA	_____
	Tubes	24 EA	_____

Base Bid Total

ALTERNATE BID 1 - Full Abatement: Men's/Women's Restroom, Custodian Rooms, Coffered Ceiling, R117 Classroom (Partial) and R118 Offices (Partial)

1) ASBESTOS CONTAINING MATERIALS

- All Areas	Sprayed Fireproofing (Nominal Floor Area)	1,800 SF	_____
	Pipe Insulation	200 LF	_____
	Fitting Insulation	60 EA	_____
- Coffered Ceiling, R117 and R118	Ceiling Tile and Grid	1,400 SF	_____
- R117 Classroom and R118 Offices	Floor Tile and Tile Mastics	1,152 SF	_____

2) LEAD CONTAINING MATERIALS

- R118 Offices	Demising Wall Demolition	800 SF	_____
	East Wall at Restroom (Paint Prep)	240 SF	_____

3) PCB'S, FLUORESCENT TUBES CONTAINING MERCURY

- Men's Room and Coffered Ceiling	Ballasts	24 EA	_____
	Tubes	48 EA	_____

Alternate Bid 1 Total

ALTERNATE BID 2 - Full Abatement: Men's/Women's Restroom, Custodian Rooms, Coffered Ceiling, Elevator Lobby, South Foyer, R117 Classroom (Partial) and R118 Offices (Partial)

1) ASBESTOS CONTAINING MATERIALS

- All Areas	Sprayed Fireproofing (Nominal Floor Area)	2,300 SF	_____
	Pipe Insulation	200 LF	_____
	Fitting Insulation	60 EA	_____
- Coffered Ceiling, R117 and R118	Ceiling Tile and Grid	1,400 SF	_____
- R117 Classroom and R118 Offices	Floor Tile and Tile Mastics	1,152 SF	_____

2) LEAD CONTAINING MATERIALS

R118 Offices	Demising Wall Demolition	800 SF	_____
	East Wall at Restroom (Paint Prep)	240 SF	_____

3) PCB'S, FLUORESCENT TUBES CONTAINING MERCURY

Men's Room and Coffered Ceiling	Ballasts	42 EA	_____
	Tubes	84 EA	_____

Alternate Bid 2 Total

ALTERNATE BID 3 - Encasement/Removal: Men's/Women's Restroom, Custodian Rooms, Coffered Ceiling, Elevator Lobby, South Foyer, R117 Classroom (Partial), R118 Offices (Partial)

1) ASBESTOS CONTAINING MATERIALS

- All Areas	Sprayed Fireproofing (Nominal Floor Area)	2,300 SF	_____
	[Fireproofing to be Encased this Alternate Bid]		
	Pipe Insulation	200 LF	_____
	Fitting Insulation	60 EA	_____
- Coffered Ceiling, R117 and R118	Ceiling Tile and Grid	1,400 SF	_____
- R117 Classroom and R118 Offices	Floor Tile and Tile Mastics	1,152 SF	_____

2) LEAD CONTAINING MATERIALS

R118 Offices	Demising Wall Demolition	800 SF	_____
	East Wall at Restroom (Paint Prep)	240 SF	_____

3) PCB'S, FLUORESCENT TUBES CONTAINING MERCURY

Men's Room and Coffered Ceiling	Ballasts	24 EA	_____
	Tubes	48 EA	_____

Alternate Bid 3 Total



APPENDIX C.

GENERAL CONSTRUCTION SPECIFICATIONS



General Construction Specifications

(Supersedes Division 00 General Conditions)

- For use in this specification sheet and on all correspondence, the term “District” shall mean Pasadena City College.
- Unless specified otherwise, the contractor is responsible for ALL clean-up including but not limited to any adjacent hallways, rooms, walls, counters, furniture, carpets, windows, doors, and equipment.
- Vehicles found leaking ANY substance require immediate cleanup. Surfaces not deemed “Clean” by the District are subject to cleaning by the District with the cost of the cleaning charged back to the contractor.
- Unless specified otherwise, the contractor is responsible for the protection of ALL items to remain in place. This includes but is not limited to carpets, walls, counters, furniture, windows, doors, and equipment.
- Unless specified otherwise, contractor shall arrive at the District prior to the commencement of work and obtain the necessary keys for access to areas of work. These keys shall be obtained from the Campus Police. The keys will be picked up each morning and returned each night to the District’s Facilities Services (FS) building. The keys will be kept in a kept box accessible only to the contractor.
- Unless specified otherwise, the contractor is responsible for ALL trash removal and haul-off from site. The contractor is not to use the District’s trash containers.
- Unless specified otherwise, the contractor is responsible for procurement and installation of new cove base for new walls as required. Unless informed otherwise, the District will select product and color.
- Unless specified otherwise, the hours of construction shall be Monday thru Saturday, 7:00 am until 10:00 pm. Sunday as authorized. Any overtime will be on a case-by-case bases as authorized by the District.
- Parking while on campus will be strictly enforced. Park only where authorized by the District. Illegal parking, blocking of any “Fire lane”, blocking of any pedestrian walkway, or entrance to a building may result in ticketing, towing, denial to the site access, or all three.
- Only Construction vehicles aloud on campus. Personal vehicles will be subject to ticking or towing, denial to site, or all three. No overnight parking will be aloud unless authorized by Campus Police.
- The playing of any radio or tape player is prohibited.
- Possession of an alcoholic beverage on campus is a violation of State law.

- Smoking in a campus building is a violation of State law.
- The District will not supply tools, materials or equipment.
- Any contractor, subcontractor, supplier, trash Removal Company, or anyone associated with the contractor who speeds while driving on campus will either be cited or lose the privilege of site access. The speed limit while driving on this campus is 5 miles per hour.
- Any power tool found modified from its original configuration (i.e. skill saws with their blade guards propped open) will be confiscated. Any electrical extension cord found frayed or missing grounds would be confiscated. Confiscated items will be returned to the general contractor. Repeated offenses will result in the loss of item.
- It is the responsibility of each and every contractor and sub-contractor to enforce safety. Specifically, but not limited to proper attire, hard hats, safety glasses and sound protection.
- Final retention will not be paid until all punch list items are corrected.
- All comments of sexual, racial, sexual preference or religion to a student or staff member are a violation of State law.
- When given drawings by the District, the Contractor is responsible for all related as-built drawings. The District, prior to release of retention must approve these drawings.
- Division of the State Architect (DSA) information: All District projects fall under the guidelines and conditions of DSA and may be subject to inspections. If in doubt as to what these requirements may entail, contact the District's Facilities Services Office for guidelines and details. Proceeding with work prior to knowledge of these details and guidelines may result in work being removed or rejected at contractor's cost.
- Any changes, additions, or modifications made without the written consent of the District will be done at the contractor's expense.
- District personnel shall have access to construction areas at all times.
- The District reserves the right to do work within the construction area itself or have work done by others as necessary. This work shall be coordinated between the contractor and District prior to commencement of work.
- Unless specified otherwise, all flexible conduit used on District projects shall be steel flex. All fittings on flexible, EMT conduit and rigid conduit shall be watertight type, no crimp or setscrew fittings allowed.
- Unless specified otherwise, all flexible, EMT or rigid conduit used for data/communications/telephone runs shall be 1". These runs shall be to a 4" deep electrical box. These boxes shall have a plaster ring reduced to a single gang opening.
- Unless specified otherwise, all electrical wiring is to be copper.

- Any electrical conduits run underground, 480 volts or higher, will be fully encased in “RED” concrete. This is concrete that is red throughout, not just sprinkled on top. The concrete shall be a 3000lb hard-rock mix.
- Any data or phone conduits run underground will be fully encased in “GREEN” concrete. This is concrete that is green throughout, not just sprinkled on top. The concrete shall be a 3000lb hard-rock mix.
- Unless specified otherwise, the use of “power activated devices” will be prohibited.
- Unless specified otherwise, all 2” x 4” steel stud bottom wall track will be secured to concrete by means of a ¼” drilled-in wedge anchor bolt. All 2” x 6” steel stud bottom track will be secured to concrete by means of a 3/8” drilled-in wedge anchor bolt.
- Any penetration through a fire rated wall shall be fire caulked using the appropriate, approved fire caulking material.
- When demolishing any T-bar ceiling system or hard-lid ceiling system, remove ALL “abandoned objects”. This includes but is not limited to T-bar grid, panels, hat channel, support wires, studs, plaster, wire mesh, HVAC duct work, registers, support wires or brackets, light fixtures and associated electrical, plumbing fixtures and associated piping. If any object is deemed necessary to leave in place, first contact the District Project Manager for written approval. The contractor is responsible for ALL safety issues regarding this matter.
- Unless specified otherwise, all door locks will be “Schlage, with Interchangeable Core, Classic “C” Keyway”. Lever style is 03 and trim is type “A” (Rose). Finish and function will be provided for each project.
- Unless specified otherwise, all door closer devices to be “LCN”, finish selected by District.
- Unless specified otherwise, all panic hardware to be “Von Duprin”, type and finish selected by District.
- Unless specified otherwise, the contractor is responsible for painting ALL walls and trim within a project, not just the new walls. Unless informed otherwise, the District will select all paint and finish colors.
- All metal surfaces to receive paint shall follow the requirements as provided by the District.
- When applying District specified “Multispec” paint, prior to the actual application, provide a “mock-up”. This mock-up shall be on a separate 4’ x 8’ sheet of drywall not included in the construction. The mock-up shall be approved by the District prior to any application of this product. The District will maintain possession of the mock-up to ensure uniformity throughout the painting procedure. Any dissimilarity between the mock-up and the finished walls will result in the contractor redoing the process at his own cost. This includes the cost of all associated materials.



SECTION 02 41 19

SELECTIVE BUILDING DEMOLITION AND RENOVATION

1. PART 1 - GENERAL

1.1. WORK INCLUDED

- 1.1.1. Remove designated building equipment and fixtures.
- 1.1.2. Remove designated doors and frames.
- 1.1.3. Remove ceiling systems and components.
- 1.1.4. Remove partitions and components.
- 1.1.5. Remove floor coverings.
- 1.1.6. Remove electrical systems and components.
- 1.1.7. Remove mechanical and plumbing systems and components.
- 1.1.8. Repair and renovate existing surfaces in preparation for final finish, and as necessary to restore to original functional condition.
- 1.1.9. Salvage of existing finishes, equipment and components where shown, and relocation of existing building equipment and fixtures to permit demolition and renovation operation.
- 1.1.10. Disposal of debris and rubbish.

1.2. SUBMITTALS

- 1.2.1. Demolition Schedule: Provide schedule, in Architect approved format, illustrating demolition schedule, utility disconnect/connection schedule and coordination of all other aspects of the work.
 - 1.2.1.1. Coordinate schedule with District.
 - 1.2.1.2. Illustrate number of shifts, staff per shift, and total duration of removal.
- 1.2.2. Certification:
 - 1.2.2.1. Provide certification that all required permits, disposal site location and arrangements for transportation and disposal have been obtained.

1.3. QUALIFICATIONS

- 1.3.1. Demolition Firm:
 - 1.3.1.1. Company specializing in performing work of this Section with minimum 5 years documented experience.

1.4. PRE-INSTALLATION CONFERENCE

- 1.4.1.** Convene a pre-installation conference one week prior to commencing work of this Section and under provisions of Section 01 31 13. Attendance by installers of adjacent work affected by work of this section is mandatory.
- 1.4.2.** Review adjacent work installation procedures and coordination required with work of this Section.

1.5. ENVIRONMENTAL REQUIREMENTS

- 1.5.1.** Do not remove existing exterior envelope systems when weather conditions threaten the integrity of the building, contents, or intended continued occupancy.
- 1.5.2.** Maintain continuous temporary protection during, and prior to, installation of new exterior envelope systems.
- 1.5.3.** Do not perform any demolition activities when building is occupied.

1.6. COORDINATION AND SCHEDULING

- 1.6.1.** Coordinate work under provisions of Section 01 11 00.
- 1.6.2.** Schedule work to coincide with commencement of installation of new exterior envelope systems.
- 1.6.3.** Unless otherwise scheduled, remove only that amount of existing exterior envelope systems that can be protected or replaced prior to completion of each day's work.
- 1.6.4.** Superintendent shall be present on job at all times.
- 1.6.5.** Schedule equipment and storage areas on Project site, approved by Construction Manager.

1.7. EXISTING CONDITIONS

- 1.7.1.** Conduct demolition to minimize interference with adjacent buildings. Maintain protected egress and access at all times.
- 1.7.2.** Provide, erect, and maintain temporary barriers and security devices as necessary to provide safe pathways, maintaining continuous separation of construction activity from areas occupied by visitors, students and faculty.
- 1.7.3.** Contractor shall comply with all applicable laws and ordinances regarding hazardous materials, including lead based coatings.

2. PART 2 - PRODUCTS

2.1. PRODUCTS FOR PATCHING AND EXTENDING WORK

- 2.1.1.** General:
 - 2.1.1.1.** Unless noted otherwise, provide products matching existing finish, color, dimension, and assembly.
 - 2.1.1.2.** All products shall be new, unless specifically noted otherwise.

- 2.1.1.3. Provide asbestos free materials.
 - 2.1.1.4. Maintain all fire resistance ratings of existing assemblies and materials.
 - 2.1.1.5. Maintain water and weather tight characteristics of assemblies and materials.
- 2.1.2. Comply with requirements as specified in applicable specification sections for materials used in repairing and extending existing work.
- 2.2. MINOR DRYWALL AND PLASTER REPAIR MATERIALS
 - 2.2.1. In areas where work requires minor access to or penetration of existing surfaces, provide all materials, including lath and accessories, for repairing and filling voids in existing drywall and plaster interior surfaces.
 - 2.2.1.1. Material shall contain no asbestos.
 - 2.2.1.2. Provide assembly thickness, construction and finish equal to existing finish.
 - 2.2.1.3. Comply with Sections 09 20 00 and 09 21 16 of this Project Manual.
 - 2.2.1.4. Provide gypsum veneer plaster and gypsum board systems in accordance with applicable portions of Section 09260 of this Project Manual.
- 2.3. PLASTER REPAIR MATERIALS
 - 2.3.1. Manufacturer: La Habra Stucco, phone (714)-774-1186, or approved equal.
 - 2.3.2. Type: Proprietary portland cement based plaster repair mix.
 - 2.3.3. Series: MaxiCoat Veneer Plaster.
 - 2.3.4. Approvals: ICBO Evaluation Service Report Number 3485.
 - 2.3.5. Accessory Products:
 - 2.3.5.1. Bond Coat: La Habra Acrylic Bonder or equal.
 - 2.3.5.2. Base coat plaster fill: Where crack or void exceeds capability of veneer material, provide portland cement basecoat plaster complying with Chapter 25A, Part 2, Title 24, CCR.
- 2.4. WALL FRAMING AND SHEATHING MATERIALS
 - 2.4.1. Provide framing and sheathing materials complying with Section 09 22 16.
- 2.5. CONCRETE SLAB REPAIR MATERIALS
 - 2.5.1. Provide concrete patching materials in accordance with Section 03 99 20.
- 2.6. TEMPORARY PROTECTION PRODUCTS
 - 2.6.1. Provide fire retardant reinforced polyethylene sheeting, 6 mil minimum thickness.

2.7. OTHER MATERIALS

- 2.7.1.** Provide all other materials, not specifically described but required for complete and proper installation of this work, as selected by the contractor and subject to the approval of the Architect.

3. PART 3 - EXECUTION

3.1. SURFACE CONDITIONS

3.1.1. Inspection

- 3.1.1.1.** Prior to work of this Section, carefully inspect previously installed work. Verify all such work is complete to the point where this installation may properly commence.
- 3.1.1.2.** Verify that work of this Section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.
- 3.1.1.3.** In the event of discrepancy, immediately notify the Architect.
- 3.1.1.4.** Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2. PREPARATION

- 3.2.1.** Erect and maintain temporary partitions to prevent spread of dust, fumes, noise, and smoke under the provisions of Section 01 50 00 and to provide for occupancy as specified in Section 01 11 00.
- 3.2.2.** Protect existing items not designated for removal.
- 3.2.2.1.** Protect existing surfaces of adjacent buildings with barriers, protective panels, tarps and other devices as necessary to avoid damage.
- 3.2.3.** Where Owners Representative has given approval to take fire detection system off-line, deactivate system prior to beginning work. Return system to active status at completion of work or at completion of each work period.
- 3.2.3.1.** Coordinate with Owners Representative and integrate into all schedules.
- 3.2.3.2.** Maintain continuous fire watch in accordance with regulatory agency direction during fire detection system deactivation.
- 3.2.4.** Repair all utilities and services damaged during construction, including utilities and services documented by Contractor at no additional cost to Owners Representative.

3.3. UTILITY AND BUILDING SERVICES REMOVAL AND RE-INSTALLATION

- 3.3.1.** Where encountered, remove conduit and conductors, piping, drains, and other associated system components within the limits of the work and not covered by other requirements of the contract documents. Include all utilities and services documented by Contractor.
- 3.3.2.** Utility and Service Termination

- 3.3.2.1. Locate and identify existing utility, service system components affected by work of this contract. Review existing record drawings, conduct site investigations.
- 3.3.2.2. Prior to beginning any demolition, properly disconnect all water, gas and electrical power supply at appropriate disconnect locations. Obtain all necessary releases and approvals from serving utility companies.
- 1.1.1.1. Work under this contract requires renovation or removal and replacement of existing flooring and wall systems. Prior to beginning work, provide Owners Representative with plan to maintain existing utility systems in operation without disruption during such work. Provide temporary support, relocation or shunt/parallel service for all existing utility systems required to remain in operation.
- 3.3.2.3. Prior to demolition or disconnect, obtain Owners Representatives approval that such system does not impact facilities or systems beyond the extent of this contract.
- 3.3.2.4. Mark location of disconnected systems. Identify and indicate stub-out locations on Project Record Documents.
- 3.3.3. Coordinate the time and duration of all system disconnects with Owners Representative.
- 3.3.4. Erect and maintain temporary partitions to prevent spread of dust, fumes, noise, and smoke under the provisions of Section 01 50 00.
- 3.3.5. Remove all conductors from conduit at all abandoned electrical circuits.
- 3.3.6. Seal off ends of all piping, drains and other components as directed by Architect and serving utility.
- 3.3.7. Where necessary to maintain service to existing utility and building systems, relocate or redirect all conduit and conductors, piping, drains, and associated system components.
- 3.3.7.1. Re-circuit all electrical as required.

3.4. DEMOLITION

- 3.4.1. Demolish components in an orderly and careful manner.
 - 3.4.1.1. Limit heavy equipment used to perform demolition and to transport debris as specified in other contract documents.
 - 3.4.1.2. Use enclosures to minimize airborne dust and debris.
- 3.4.2. Coordinate with Owners Representative the time of day and route to remove demolished materials from premises.
- 3.4.3. Unless designated as salvage on drawings, all remaining items to be demolished or removed are designated as scrap and become the property of the Contractor.
- 3.4.4. Remove demolished materials from site as work progresses. Upon completion of work, leave areas of work in clean condition.
- 3.4.5. Fixture and Equipment Removal:

- 3.4.5.1. All existing building system equipment shall be removed as identified and shown on drawings and required by Architect.
- 3.4.5.2. Prior to beginning any system removal, properly disconnect all water, gas and electrical power supply at appropriate disconnect locations. Obtain all necessary releases and approvals from serving utility companies.
- 3.4.5.3. Where designated as demolished, remove all accessible conduit and conductors, piping, drains, and other associated building system components located above grade. Remove all conductors from conduit at all abandoned circuits, including those in concealed spaces above grade.
- 3.4.6. Remove concrete slab by saw-cutting. At areas where existing curb or wall line prevents saw use, carefully jack-hammer concrete slab as required to provide new concrete. Saw cut all reinforcing bars - Do not torch.

3.5. EXTERIOR ENVELOPE SYSTEM DEMOLITION

- 3.5.1. Demolition of exterior wall window assemblies
 - 3.5.1.1. Remove exterior windows, including screens, flashing, sill covers and hardware. Remove to supporting substrate/structure, including all underlayment, accessory trim, clips, battens and closures.
 - 3.5.1.2. Remove all fasteners, screws and attachment hardware.
- 3.5.2. Demolition of exterior wall door frames and doors.
 - 3.5.2.1. Remove exterior door frames. Remove to supporting substrate/structure, including all flashing, accessory trim, clips, and closures.
 - 3.5.2.2. Remove exterior doors, including all door hardware and thresholds. Salvage for Owners use.
- 3.5.3. Upon completion of work, leave areas of work in clean condition per Section 01 50 00.
- 3.5.4. Termination of isolated pipe or conduit penetrations:
 - 3.5.4.1. Terminate all penetrations below slab surface. Remove concrete slab as close as possible to penetration by saw-cutting. Saw cut all reinforcing bars - Do not torch.
 - 3.5.4.2. Seal or cap all penetrations in Architect approved manner.
 - 3.5.4.3. Provide non-shrink portland cement grout fill complying with Section 03 30 10 to slab level, troweled smooth.

3.6. WALL AND FRAMING DEMOLITION:

- 3.6.1. Remove existing framed walls and ceiling structural members as designated on drawings. Remove concrete curbs as specified in paragraph 3.4.8 of this Section.
- 3.6.2. Remove all fasteners, anchor clips, saddles and hangers originally required for demolished framing.
- 3.6.3. Remove all hanger wires at point of attachment to structure.

3.7. FLOOR FINISH DEMOLITION

- 3.7.1. Demolish in an orderly and careful manner. Protect existing adjacent surfaces and finishes.
- 3.7.2. Remove all adhesive, residue, fasteners, tack strips and related floor finish components.
- 3.7.3. Remove adjacent wall base where designated on drawings. Do not delaminate wall facing or finish.

3.8. WALL AND CEILING FINISH DEMOLITION

3.8.1. Miscellaneous Materials/Gypsum Board/Plaster

- 3.8.1.1. Remove finishes to supporting substrate/structure, including all accessory trim, clips, battens and closures.
- 3.8.1.2. Remove all fasteners, screws and attachment hardware.
- 3.8.1.3. Prepare substrate as required to provide suitable surface for designated finish.
- 3.8.1.4. Provide backing or reinforcing as required to properly support cut edges of surface materials.

3.8.2. Terrazzo

- 3.8.2.1. Remove terrazzo as indicated on drawings.

3.9. ACOUSTICAL CEILING DEMOLITION

- 3.9.1. Remove existing acoustical ceiling panels.
- 3.9.2. Maintain existing acoustical grid system.

3.10. INTERIOR FURNISHINGS AND COMPONENTS

3.10.1. Modifications and renovation at existing acoustical tile conditions

- 3.10.1.1. Remove existing tile in area of work and store as required to maintain in original condition. Store by room or area to avoid mismatched color and texture when re-installed.
- 3.10.1.2. Cut existing tile as required to accommodate new penetrations. Cut accurately with sharp tools. Replace all tile with raveled or broken edges resulting from cutting or trimming. Touch up all cut edges to match surface color.
- 3.10.1.3. Re-install all tile. Clean all soiled tile and replace all damaged tile.

3.10.2. Relocation of existing markerboards and related furnishings.

- 3.10.2.1. Remove all accessories, such as map racks and flag holders. Store for future reinstallation.
- 3.10.2.2. Remove markerboards from wall without warping or damaging panel.

- 3.10.2.3. Repair wall surface behind original location. Fill all fastener holes. Where removal damages wall surface, replace all wall surface gouges, holes and tears as required to provide a suitable substrate for subsequent finish.
- 3.10.2.4. Where required to re-install markerboards at new locations, provide new backing or blocking in wall framing. After blocking installation, repair wall surface to provide a smooth substrate for installation of markerboard.
- 3.10.2.5. Reinstall markerboard in level and flush condition. Re-install all accessories.
- 3.10.3. Alteration or Relocation of existing casework.
 - 3.10.3.1. Remove all accessories, such as pencil sharpeners. Store for future reinstallation.
 - 3.10.3.2. Disconnect all unitized casework from adjacent units before removing from wall for relocation. Move only in unit case dimensions as constructed.
 - 3.10.3.3. Where casework and/or counters are shown as cut, remove casework prior to modification. Cut with appropriate tools to avoid damage to laminated plastic surface. After cutting, finish cut edge with matching laminated plastic splash or edging.
 - 3.10.3.4. Where casework removal exposes unfinished subfloor, provide flooring matching adjacent finish floor type, color and finish to maximum extent possible.
 - 3.10.3.5. Repair wall surface behind original casework location. Fill all fastener holes. Where removal damages wall surface, replace all wall surface gouges, holes and tears as required to provide a suitable substrate for subsequent finish.
 - 3.10.3.6. Where required to re-install casework at new locations, provide new backing or blocking in wall framing. After blocking installation, repair wall surface to provide a smooth substrate for installation of markerboard.
- 3.11. BUILDING SYSTEM COMPONENTS
 - 3.11.1. HVAC registers, lighting fixtures, and similar components.
- 3.12. PAINTING
 - 3.12.1. Paint repaired surfaces at locations shown on drawings.
 - 3.12.2. Prepare existing surface as recommended by manufacturer for substrate. Clean of all dirt, dust, and oily films.
 - 3.12.3. Paint existing surface with specified coatings. Unless noted otherwise on drawings, paint entire surface where crack repair occurs. Painting crack repair only is not acceptable.
 - 3.12.4. Provide one coat of specified primer, and two coats of specified finish paint.

3.13. DISPOSAL

- 3.13.1. Dispose of all demolished material, trash, debris, and other materials not used in the work in accordance with the regulations of jurisdictional authority. Remove demolished materials and debris from site on a daily basis.

3.14. ADJACENT CONSTRUCTION

- 3.14.1. Take particular care at connection between structures designated to remain. Use hand tools only to remove all portions designated as demolished.
- 3.14.2. Provide appropriate wall repair detailing to maintain long term water and weather-proof assembly at structures designated to remain.
 - 3.14.2.1. Maintain fire resistance of original assembly. Maintain materials and finishes of original assembly.
 - 3.14.2.2. Provide multiple materials, lapped and counterflashed as required to properly shed water without creating traps.

END OF SECTION



SECTION 03 01 30

CONCRETE PATCHING AND RESURFACING

1. PART 1 - GENERAL

1.1. SECTION INCLUDES

- 1.1.1. Removal of loose and deteriorated concrete at all indicated areas:
 - 1.1.1.1. Concrete floor deck and slabs.
 - 1.1.1.2. Concrete walls and columns.
- 1.1.2. Cleaning of exposed metal reinforcing and application of anti-corrosion protective coating for rebar.
- 1.1.3. Application of structural bonding agent.
- 1.1.4. Application, finishing and curing of concrete patching materials.

1.2. SUBMITTALS

- 1.2.1. Submit under provisions of Section 01 33 00.
- 1.2.2. Product Data: Indicate product standards, physical and chemical characteristics, technical specifications, limitations, maintenance instructions, and general recommendations regarding each material.
- 1.2.3. Manufacturer's Certificate: Certify that specified products meet or exceed specified requirements.

1.3. PROJECT RECORD DOCUMENTS

- 1.3.1. Submit under provisions of Section 01 77 19.
- 1.3.2. Accurately record actual locations of structural repairs and types of repair.

1.4. QUALITY ASSURANCE

- 1.4.1. Applicator Qualifications: Licensed Contractor with minimum five years experience in applying cementitious patching materials, epoxy resin systems.
- 1.4.2. Arrange for manufacturer's technical representative to be on project site to advise installer of proper procedures and precautions for the use of materials and to check installation.
- 1.4.3. Allowable Tolerances: Maximum deviation from plane shall be 1/8" in 10 feet as measured by straight edge placed at any location on surface.

1.5. DELIVERY, STORAGE, AND HANDLING

- 1.5.1. Deliver, store, protect and handle products to site under provisions of Section 01 60 00.

- 1.5.2. Deliver materials in original, tightly sealed containers or unopened packages with manufacturer's name, labels, product identification, and lot numbers where appropriate.
- 1.5.3. Store materials out of weather in original containers or unopened packages as recommended by manufacturer.
- 1.5.4. Comply with instructions for storage, shelf life limitations, and handling.

1.6. JOB CONDITIONS

- 1.6.1. Environmental Conditions: Do not apply material if it is raining unless otherwise advised by manufacturer's technical representative.
- 1.6.2. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to spillage.
- 1.6.3. Workmanship: Assume responsibility for concrete repair work which does not conform to the specified requirements, including strength, tolerances and finishes. Correct deficient concrete as directed.
- 1.6.4. Protect all finished work against damage from whatever causes during the work and until final acceptance.
- 1.6.5. Guaranty all work in writing for a period of two years from date of acceptance.

2. PART 2 – PRODUCTS

2.1. REINFORCEMENT

- 2.1.1. Reinforcing Bars: ASTM A615, clean and free from loose rust, scale and other coatings that may reduce bond.
- 2.1.2. Metal Accessories: Include all spacers, chairs, ties and other devices necessary for properly placing, spacing, supporting and fastening reinforcement in place.

2.2. CONCRETE MATERIAL

- 2.2.1. Portland Cement: Comply with ASTM C150, Type I.
- 2.2.2. Concrete Aggregates: Use for large patch areas only. Comply with ASTM C33 and the following:
 - 2.2.2.1. Fine Aggregate: Clean, sharp, natural sand free from loam, clay, lumps or other deleterious substances.
 - 2.2.2.2. Coarse Aggregate: Clean, uncoated, processed aggregate containing no clay, mud, loam or foreign matter.
 - 2.2.2.3. Store fine and coarse aggregate separately.
- 2.2.3. Mixing Water: Clean, free from oil, acid, and injurious amounts of vegetable matter, alkalies and other impurities; potable.
- 2.2.4. Structural Bonding Adhesive: Two component, epoxy resin system conforming with ASTM C881 Type II, Grade 2, Class C, such as:
 - 2.2.4.1. "Sikadur Hi-Mod" by Sika Corporation.

2.2.4.2. "TSI-122 High Mod MV" by Tremcrete Systems.

2.2.5. Patching and Topping Material for Horizontal Surfaces: Factory blended polymer modified cementitious patching materials such as:

2.2.5.1. "Sikatop 122 Repair Mortar" by Sika Corporation.

2.2.5.2. "Thoropatch" by Thoro System Products.

2.2.6. Patching Material for Horizontal, Vertical and Overhead Surfaces:

2.2.6.1. "Sikatop 123 Repair Mortar" by Sika Corporation.

2.2.6.2. "Thorite" by Thoro Systems Products.

2.2.6.3. "Tremcrete 20 Minute Set" by Tremcrete Systems.

2.2.7. Non-shrink Grout: Cementitious, factory blended, non-metallic grout such as:

2.2.7.1. "Sika Grout 212" by Sika Corporation.

2.2.7.2. "Tremgrout 747" by Tremcrete Systems.

2.3. OTHER MATERIALS

2.3.1. Joint Sealants: As directed by Architect see Section 07 90 00.

2.3.2. Curing Materials: Non-staining reinforced waterproof curing paper conforming to ASTM C171, Fortifiber "Orange Label Sisalkraft" or "Sisalkraft SK-10" or approved equal.

2.3.3. Cleaning Materials:

2.3.3.1. Detergent Cleaner: A commercially produced concrete cleaning detergent as approved by the Architect.

2.3.4. Anti-Corrosion Protective Coating for Steel Reinforcing:

2.3.4.1. "Sikatop 108 Armatec" by Sika Corporation.

2.3.4.2. "Nitoprime Zinc Rich Epoxy Primer" by FOSROC, Inc.

3. PART 3 EXECUTION

3.1. PREPARATION

3.1.1. Cleaning: Concrete to be patched must be structurally sound, clean, and free of dirt, loose mortar particles, paint, films, protective coatings, efflorescence, laitance, and other matter detrimental to proper adhesion.

3.1.1.1. Check suspect areas around cracks, blisters, spalls, honeycomb, rock pockets, and rust spots by tapping surface with a hammer or other blunt instrument. Mark loose or hollow areas for removal of unsound material in indicated areas and as directed by Architect.

3.1.1.2. Mechanical surface preparation is best. Remove unsound materials and films by means of water jetting, sandblasting, bush hammering, needle gunning, or power wire brushing, leaving a fractured aggregate surface.

- 3.1.1.3. Clean away loose material from around rusted reinforcing steel to expose sound metal. Remove rust from steel by water jetting, sandblasting, needle gunning, or power wire brushing to a clean metal finish. Replace destroyed steel reinforcement as directed by Architect.
- 3.1.1.4. Wash debris from work surfaces with potable water. Clean exposed surface of concrete using detergent cleaner, scrubbed well with a scrub brush, and thoroughly rinsed with clean water.
- 3.1.2. Spalled and Deteriorated Concrete: Cut edges of region to be repaired at right angle to surrounding surface or undercut, if possible. Clean and prepare surface as indicated in 3.1.1 above.
- 3.1.3. Steel Reinforcement: Remove rust from exposed steel reinforcement as described in 3.1.1.3 above.
 - 3.1.3.1. Where concrete cover over exposed reinforcing steel will be more than 1/2 inch, coat exposed rebar with an anti-corrosion protective coating prior to patching spall.
 - 3.1.3.2. Where more than 50% of the outermost rebar's perimeter is exposed, due to removal of corrosion and/or loose concrete, Contractor to clean full circumference of bar and provide 3/4" clearance behind outermost bar to enable patching materials to be worked around the rebar.
- 3.1.4. Anti-corrosion Protective Coating for Rebar: Coat exposed reinforcing bars with an anti-corrosion protective coating and cure according to the manufacturer's instructions prior to priming and placing patching materials.
- 3.1.5. Priming: Thoroughly coat the work surfaces to be patched, including steel reinforcement with structural bonding agent applied in strict accordance with the manufacturer's written instructions.

3.2. FORMWORK CONSTRUCTION

- 3.2.1. It is the Contractor's option to incorporate formwork in the "patch" work. Design, construct, and erect forms in accordance with the referenced ACI-347 standards. Design, erect, support, brace, and maintain formwork to safely support all loads until such loads can be supported by concrete structure. Construct so that members and structures are of the correct size, shape, alignment, elevation and position. Formwork must be readily removable without impact, shock, or damage to concrete surfaces and adjacent materials.
 - 3.2.1.1. Make formwork sufficiently tight to prevent leakage of cement paste during concrete placement. Solidly butt all joints and provide back-up material at joints as may be required to prevent leakage and fins.
 - 3.2.1.2. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove sawdust, dirt, or other debris just before concrete is placed. Retighten forms immediately after placement as required to eliminate leaks.
- 3.2.2. Preparation of Form Surfaces: Coat wood and plywood forms before reinforcement is placed, using commercial compounds that will not bond with, stain, nor adversely affect concrete and will not impair subsequent treatment of surfaces requiring bond or adhesion, nor impede the wetting of surfaces to be cured with water or curing compounds. Thin compounds only in compliance with the manufacturer's instructions.

- 3.2.3. Removal of Forms: Formwork may be removed 48 hours after placing concrete patches, provided the concrete is sufficiently hard not to be damaged by removal operations, and provided that curing and protection operations are maintained.

3.3. MIXING, CONVEYING AND PLACING

- 3.3.1. Mixing: Mixing of all materials shall be in strict accordance with the manufacturer's mixing instructions.
- 3.3.2. Pre-Placement Inspection: Before placing grout, inspect and complete formwork, reinforcing steel and items to be embedded or cast in.
- 3.3.3. Placing Concrete Grout Patches: Place grout in compliance with ACI 614, and as herein specified. Deposit and consolidate patches in a continuous operation until each panel or section placement is completed.
 - 3.3.3.1. Deposit grout continuously or in layers of such thickness that no grout will be placed on hardened grout so as to cause seams or places of weakness. Deposit grout as nearly practicable to its final location to avoid segregation due to rehandling or flowing.
 - 3.3.3.2. Consolidate during placing so that concrete is thoroughly worked around reinforcement and other embedded items and into corner.
 - 3.3.3.3. Maintain reinforcing steel in proper position continuously during concrete placement operations.

3.4. FINISHING OF CONCRETE PATCH

- 3.4.1. Finish the concrete patches to match the adjacent concrete finish surfaces. Concrete patches shall be flush with adjacent surfaces such that, after application of finishes specified by the Owner, or in other sections of these specifications, the patch blends with the adjacent surfaces and does not show lines at the edges of the patch.

3.5. CURING AND PROTECTION

- 3.5.1. Commence initial curing of concrete patches immediately after final troweling is completed. Protect from excessive exposure to hot, direct sunlight and windy conditions which may accelerate moisture evaporation.
- 3.5.2. Curing shall be in strict accordance with the patching material manufacturer's recommendations, including curing materials used, method of application, and period of cure.
- 3.5.3. Prevent rapid drying at the end of the curing period.
- 3.5.4. Follow procedures recommended in ACI Standards 605 for protecting and curing concrete.

3.6. FIELD QUALITY CONTROL

- 3.6.1. Monitor Spread Rate of Materials by Means of:
 - 3.6.1.1. Visual inspection of uniformity during application.
 - 3.6.1.2. Exact recording of the amounts of product used in a prescribed area.

- 3.6.1.3. Make records of the amounts of product used in each area available to Architect upon request.

3.7. CLEANING

- 3.7.1. Remove all debris, dust, materials, cartons, and waste resulting from this work daily, and as directed by Architect, from the premises.
- 3.7.2. Keep premises in a neat and clean condition.
- 3.7.3. Leave finished work in neat, clean condition with no evidence of spillovers onto adjacent areas.

END OF SECTION

SECTION 05 50 00
METAL FABRICATIONS

1. PART 1 - GENERAL

1.1. SECTION INCLUDE

- 1.1.1. Miscellaneous fabricated ferrous metal items, galvanized, plated, and prime painted.
- 1.1.2. Access ladders.
- 1.1.3. Miscellaneous fabricated structural connectors and clips
- 1.1.4. Stairs and landings
- 1.1.5. Handrails and Guardrails
- 1.1.6. Fabricated fences and gates
- 1.1.7. Bird Repellant Devices .
- 1.1.8. Pre-fabricated Metal Screen Guardrail
- 1.1.9. Bollards: Galvanized steel pipe; concrete filled, crowned cap.

1.2. PRODUCTS FURNISHED BUT NOT INSTALLED UNDER THIS SECTION

- 1.2.1. Section 03 30 10 - Cast-In-Place Concrete.

1.3. SUBMITTALS

- 1.3.1. Submit under provisions of Section 01 33 00.
- 1.3.2. Shop Drawings: Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
 - 1.3.2.1. Provide shop drawings and calculations for steel stair assemblies. See structural drawings for additional information and criteria.
- 1.3.3. Indicate welded connections using standard AWS A2.0 welding symbols. Indicate net weld lengths.

1.4. QUALIFICATIONS

- 1.4.1. Welders' Certificates: Submit under provisions of Section 01 33 00, certifying welders employed on the Work, verifying AWS qualification within the previous 12 months.

1.5. FIELD MEASUREMENTS

- 1.5.1. Verify that field measurements are as indicated on shop drawings.

2. PART 2 – PRODUCTS

2.1. MANUFACTURERS

- 2.1.1.** Basis of Design: Characteristics of specific products, where named in this Section, are indicated to establish required level of quality, appearance, and performance. Architect will consider requests for substitutions, under the provisions of Section 01 25 00.

2.2. MATERIALS

- 2.2.1.** Plates and Bars: ASTM A283, Grade D or approved equal.
- 2.2.2.** Fencing and Gate Pickets: Steel, shape as shown on drawings, solid stock, per ASTM A 322, finished in accordance with ASTM A 108 or approved equal.
- 2.2.3.** Pipe: ASTM A53, Grade B Schedule 40, (pressure test not required), unless noted otherwise.
- 2.2.4.** Tube: ASTM A 500, Grade B.
- 2.2.5.** Sheet Steel: ASTM A 653, gage and profile indicated, galvanized to G90 finish in accordance with ASTM A 653.
- 2.2.6.** Bolts, Nuts, and Washers: ASTM A307 galvanized to ASTM A153 for galvanized components.
- 2.2.7.** Welding Materials: AWS D1.1; type required for materials being welded.
- 2.2.8.** Shop and Touch-Up Primer: VOC approved primer.
- 2.2.9.** Touch-Up Primer for Galvanized Surfaces: Zinc rich Type.
- 2.2.10.** Copper: ASTM B370, temper H00 (cold rolled) or 060 (soft), 16 ounce unless noted otherwise.
- 2.2.11.** Solder: 50% pig lead and 50% block tin.
- 2.2.12.** Flux: Rosin, muriatic acid neutralized with zinc or an approved soldering paste.
- 2.2.13.** Fastening Devices for Copper: Hard copper, brass or bronze. Screws shall be round headed with lead washers.

2.3. STRUCTURAL SHAPES

- 2.3.1.** Provide structural shapes in accordance with Section 05 12 00.

2.4. STEEL PAN STAIR ASSEMBLY

2.4.1. General

- 2.4.1.1.** Comply with fabrication requirements specified below.

2.4.2. Material Characteristics

- 2.4.2.1.** Treads and risers: Hot rolled steel, 14 gauge, per ASTM A 1011.
- 2.4.2.2.** Landing Plates: Hot rolled steel, 12 gauge minimum , per ASTM A 1011.

2.4.2.3. Stair Stringer: Steel channel, ASTM A 36, size as required for span and load.

2.4.2.4. Flight Header/Landing Channel: Steel channel, ASTM A 36, size as required for span and load.

2.4.3. Construction

2.4.3.1. Treads and risers: Concrete filled treads, 2 inch minimum depth.

2.4.3.2. Landing Plates: Concrete filled treads, 2 inch minimum depth.

2.4.4. Finish: VOC Compliant primer.

2.4.5. Material Characteristics

2.4.5.1. Treads and Landings: Diamond-Grip walkway channels as manufactured by Amico, 800-665-4474, one-piece cold formed steel planks, 14 gauge, per ASTM A 1011.

2.4.5.2. All stair components shall be hot-dipped galvanized as specified below.

2.4.5.3. Stair Stringer: Steel channel, ASTM A 36, size as required for span and load.

2.4.5.4. Flight Header/Landing Channel: Steel channel, ASTM A 36, size as required for span and load.

2.5. STEEL RAILING SYSTEM

2.5.1. Steel Pipe: ASTM A53, Grade B.

2.5.2. Rails and Posts: Size, shape and spacing as shown on the Drawings, welded joints.

2.5.2.1. Handrail: 1 inch NPS (1.33 inch OD), Schedule 80, welded joints.

2.5.3. Fittings: Elbows, T-shapes, wall brackets; bent or mitered tube steel.

2.5.4. Metal Pipe Support Mounting: Provide solid steel rod, bent as shown on drawings. Fabricate as required to provide 1-1/2 inch clear dimension from face of wall surface to railing inside surface.

2.5.4.1. Mounting: Provide backing plate for mounting in framed wall construction.

2.5.5. *Mounting: Adjustable brackets and flanges, with steel inserts for casting in concrete. Prepare backing plate for mounting in framed wall construction. Modify bracket as required to provide 1-1/2 inch clear dimension from face of wall surface to railing inside surface.*

2.5.6. Splice Connectors: Steel welding inserts.

2.5.7. Grout: Non-shrink, non-metallic as specified in Section 03 30 10.

2.6. PIPE BOLLARDS

- 2.6.1. Provide [] inch [galvanized] [prime coated] [extra strong] weight steel pipe as specified in ASTM A 53. Anchor posts in concrete [as indicated] and fill solidly with concrete with minimum compressive strength of 2500 psi.
- 2.6.2. Fixed Pipe Bollard: 6 inch diameter galvanized steel pipe, concrete filled as indicated on drawings.
- 2.6.3. Removable Pipe Bollard: Assembly consisting of a removable 6 inch diameter galvanized steel pipe set in pipe sleeve as indicated on drawings.

2.7. FABRICATION

- 2.7.1. Fit and shop assemble in each item in largest practical sections, for delivery to site.
- 2.7.2. Fabricate items with joints tightly fitted and secured.
- 2.7.3. Continuously seal joined members by continuous welds.
- 2.7.4. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- 2.7.5. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- 2.7.6. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.
- 2.7.7. Fabricate radiused components by cold-rolled process, using equipment and techniques resulting in crimp free surfaces. Verify component wall thickness is suitable for rolling without flattening or crimping.
- 2.7.8. In addition to above criteria, fabricate railing, trellis and fencing components for exposed architectural appearance conditions.
 - 2.7.8.1. Remove all weld splatter, grind and sand all weld joints uniformly smooth, without visible scratches, gouges, or patch marks. Conform to Finish #2 of National Ornamental and Miscellaneous Metals Association "Joint Finish Guidelines."
 - 2.7.8.2. All visible welds shall be continuous; bead or spot welding not acceptable.
 - 2.7.8.3. Provide tube closures at all tube and pipe components.
 - 2.7.8.4. Grind edges of all bent and fabricated components smooth to a 1/4 inch radius.
- 2.7.9. Fabricated Steel Ladder
 - 2.7.9.1. Fabricate steel ladders, including elevator pit ladders, using steel products as specified in this Section.

2.7.9.2. Fabricate rails and rungs from 1-1/2 inch tube material, galvanized and painted as specified.

2.7.9.3. Provide non-slip coating at rung surface.

2.7.10. Stair fabrication criteria:

2.7.10.1. Comply with all previously specified criteria and the following criteria.

2.7.10.2. Comply with all applicable stair design criteria as established in Title 24, Part 2, Chapter 16A, CCR.

2.7.10.3. Prepare complete engineering analysis of all loads. Provide stair shop drawings and signed calculations indicating compliance with engineering analysis.

2.8. FINISHES

2.8.1. Galvanize all exterior components, after fabrication, in accordance with ASTM A123 or A386. Provide minimum 2.00 oz/sq ft galvanized coating. Fill vent holes after galvanizing.

2.8.2. Prime paint interior items with one coat rust inhibitive VOC approved primer compatible with finish specified in Section 09 91 00.

2.8.2.1. Prepare surfaces to be primed in accordance with SSPC SP 2.

2.8.2.2. Do not prime surfaces in direct contact with concrete or where field welding is required.

2.9. MISCELLANEOUS FABRICATED ITEMS AND ACCESSORIES

2.9.1. Unistrut: Provide Unistrut assemblies as shown on drawings.

2.9.2. Pre-Fabricated Ladders

2.9.2.1. High Parapet Access Ladder: O'Keefe or equal aluminum ladder, Series 503, certified compliant with OSHA 1401, with standard mill finish, platform, and all required extensions, closures, fasteners and anchors.

2.9.2.2. Cage Ladder: O'Keefe or equal aluminum ladder, Series 530, with standard mill finish, security door, and all required extensions, closures, fasteners and anchors.

2.9.2.3. Exterior Application: O'Keefe or equal aluminum ladder, Series 502, with standard mill finish, security door, and all required closures, fasteners and anchors.

2.9.2.4. Interior Application: O'Keefe or equal aluminum ladder, Series 500, with standard mill finish and all required closures, fasteners and anchors.

2.9.3. Fabricated Gate Hardware and Components:

2.9.3.1. Swing gate hinges:

2.9.3.1.1. At gates up to 4 feet in width, provide Guardian 2011, phone 520-320-1810, galvanized finish..

2.9.3.1.2. At gates greater than 4 feet but less than 8 feet in width, provide Guardian 2010, phone 520-320-1810, galvanized finish.

2.9.3.1.3. At gates greater than 8 feet in width, provide Guardian 2010, phone 520-320-1810, galvanized finish.

2.9.3.2. Guide Wheels: Builders Fence Company or equal, steel construction with galvanized finish, 6 inch diameter with V-groove wheel runner, 5/8 inch stainless steel axle, roller bearings in sealed race with grease nipple.

2.9.3.3. Guide Rollers: Builders Fence Company, 2 inch diameter by 4 inch long roller, 1/4 inch neoprene jacket covering, stainless steel axle and roller bearings.

2.9.3.4. Cane Bolt: steel, 1/2 inch diameter, with locking tab and guide angles for welded attachment.

2.9.3.5. Pull: Provide 1-1/2 inch diameter steel pull, design as shown on drawings, with weld attachment.

2.9.3.6. Knox Box: Provide Knox Box Model 3200 at each gate as directed by Architect. Provide steel backing plate for attachment, 1/4 inch thick, welded to gate frame.

2.9.3.7. Kick Panel: Provide steel plate full width of gate on each side, 10 inches high x 1/4 inch thick, welded to gate pickets. Ease all edges.

2.9.4. Prefabricated Railing Panel.

2.9.4.1. Provide California Wire Products, phone (909) 371-7730 woven wire panel at gate and railing conditions as shown on drawings.

2.9.4.2. Wire: 6 gauge, hot dip galvanized, 1-1/2 inch diamond mesh.

2.9.4.3. Frame: 1 inch x 1/2 inch channel, hot dip galvanized.

2.10. PRE-FABRICATED METAL SCREEN GUARDRAIL

2.10.1. Manufacturer: Ametco Manufacturing Corp., www.ametco.com, or equal.

2.10.2. Series/Type: Metro.

2.10.3. Screen Mesh: 2-7/16" x 5-3/16" with 31/32" main bars and 3/16" diameter cross rods.

2.10.4. Factory Finish: Hot-dip galvanized to ASTM A-123, and powder coated, color as selected by Architect.

2.10.5. Electro-forged welded steel screen guardrail, post mounted panels, ground set in concrete, minimum 42 inches high above finish grade.

2.11. VENT AND AREAWAY GRATING

2.11.1. Provide McNichols Co., www.mcnichols.com, Type GCM-1-100, 1 x 3/16 inch bars spaced at 7/16 inches, complete with frames, clips, and fasteners. Provide aluminum/mill finish or stainless steel.

2.12. BIRD REPELLANT DEVICE

- 2.12.1.** Provide Bird Barrier or equal, www.birdbarrier.com, Bird-Flite sizes as required for condition, adhesively attached bird protection stainless steel spikes, with all required accessories and adhesive.

2.13. OTHER MATERIALS

- 2.13.1.** Provide all other materials, not specifically described but required for complete and proper installation of this work, as selected by the Contractor and subject to the approval of the Architect.

3. PART 3 - EXECUTION

3.1. SURFACE CONDITIONS

3.1.1. Inspection

- 3.1.1.1.** Prior to work of this Section, carefully inspect previously installed work. Verify all such work is complete to the point where this installation may properly commence.
- 3.1.1.2.** Verify that work of this Section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.
- 3.1.1.3.** In the event of discrepancy, immediately notify the Architect.
- 3.1.1.4.** Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2. PREPARATION

- 3.2.1.** Clean and strip primed steel items to bare metal where site welding is required.
- 3.2.2.** Supply items required to be cast into concrete or embedded in masonry with setting templates, to appropriate sections.

3.3. INSTALLATION

- 3.3.1.** Install items plumb and level, accurately fitted, free from distortion or defects.
- 3.3.2.** Allow for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- 3.3.3.** Perform field welding in accordance with AWS D1.1.
- 3.3.4.** After erection, prime welds, abrasions, and surfaces not shop primed or galvanized, except surfaces to be in contact with concrete.
- 3.3.4.1.** Use primer as specified in above for interior steel fabrications.
- 3.3.4.2.** Use Galvalloy galvanizing coating in accordance with manufacturer's instructions for exterior steel fabrications.
- 3.3.5.** Install all railing and guardrail in accordance with applicable codes and regulations. Maintain all required clearances and dimensions, including the following:

- 3.3.5.1. Maintain continuous 1-1/2 inch clear dimension between handrail and adjacent wall.
- 3.3.5.2. Maintain railing, guardrail, and adjacent surface configuration so that a sphere 4 inches in diameter cannot pass through any opening or gap created.
- 3.3.5.3. Do not permit railing fabrication and installation to extend into required exit dimension at stairway.

3.4. INSTALLATION OF PIPE BOLLARDS

- 3.4.1. Pipe guards shall be set vertically in concrete piers. Piers shall be constructed of, and the hollow cores of the pipe filled with, concrete [specified in Section 03310 Cast-In-Place Concrete.] [having a compressive strength of 3000 psi.

3.5. ERECTION TOLERANCES

- 3.5.1. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.
- 3.5.2. Maximum Offset From True Alignment: 1/4 inch.

3.6. SCHEDULE

- 3.6.1. The Schedule is a list of principal items only. Refer to Drawing details for items not specifically scheduled.
- 3.6.2. Ladder: Fabricate steel ladder as shown on drawings, with steel mounting brackets and attachments; prime paint at interior locations; galvanized finish for exterior locations.
- 3.6.3. Miscellaneous Anchorages: Anchor bolts, machine bolts, eye bolts, dowels, threaded rods, plates, inters, and other fastenings to be installed in concrete or masonry; provide as detailed or indicated.

END OF SECTION

SECTION 07 21 00
THERMAL AND ACOUSTICAL INSULATION

1. PART 1 - GENERAL

1.1. SECTION INCLUDES

- 1.1.1. Batt acoustical insulation for interior wall and ceiling construction.
- 1.1.2. Batt thermal insulation for exterior wall, floor and ceiling construction.

1.2. SUBMITTALS

1.2.1. Materials List:

- 1.2.1.1. Submit materials list in accordance with Section 01 33 00.
- 1.2.1.2. Prepare complete materials list identifying specific insulation types and applications.
- 1.2.1.3. Provide agency approval documentation, including ICBO ES reports, State Fire Marshal Listing, or other approvals.

1.3. REGULATORY REQUIREMENTS

- 1.3.1. Comply with Title 24, Part 2, Chapter 7, fire resistivity ratings.

1.4. DELIVERY, STORAGE, AND HANDLING

1.4.1. Protection:

- 1.4.1.1. Deliver, store and handle all products in a manner to prevent damage and deterioration.
- 1.4.1.2. Use all means necessary to protect the installed work and materials of all other trades.
- 1.4.1.3. Deliver all materials in unopened bundles, labeled with date of manufacturer and testing agency approval.

2. PART 2 - PRODUCTS

2.1. MANUFACTURERS

- 2.1.1. Basis of Design: Characteristics of specific products, where named in this Section, are indicated to establish required level of quality, appearance, and performance. The Architect will consider requests for substitutions, under the provisions of Section 01 25 00.

2.2. ACOUSTICAL INSULATION: BATT

- 2.2.1. Manufacturer: Manville, www.jm.com, or equal.
- 2.2.2. Type: Glass fiber batt, friction fit, unfaced.

2.2.3. Construction:

2.2.3.1. Blanket: Glass Fiber, Type 1 per ASTM C 665

2.2.3.1.1. Provide formaldehyde free insulation with acrylic binder.

2.2.3.1.2. Provide minimum 25 percent total recycled content, with minimum 18 percent post-consumer recycled content.

2.2.3.2. Facing: None.

2.2.3.3. Thickness: 6 inch.

2.2.4. 2.1.4 Fire/Habitability Criteria:

2.2.4.1. Flame Spread Classification: Maximum 25 per ASTM E 84

2.2.4.2. Smoke Developed Classification: Maximum of 50 per ASTM E 84

2.2.4.3. Thermal Resistance: R-11 per ASTM C 177 or C 518.

2.3. THERMAL INSULATION: EXTERIOR WALL – DOOR INFILL

2.3.1. Manufacturer: Manville, www.jm.com, or equal.

2.3.2. Type: Glass fiber batt, staple flange, faced.

2.3.3. Construction:

2.3.3.1. Blanket: Glass Fiber per ASTM C 665.

2.3.3.2. Exposed Facer: Provide reinforced foil facing, with stapling flange, with maximum 25 flame spread classification and maximum 450 smoke contributed classification where facer is not in substantial contact with the unexposed surface of the ceiling finish.

2.3.3.3. Concealed Facer: Provide kraft paper faced insulation without fire and smoke rating where facer is in substantial direct contact with unexposed surface of wall finish.

2.3.4. Fire/Habitability Criteria

2.3.4.1. Flame Spread Classification: Maximum 25 per ASTM E 84

2.3.4.2. Smoke Developed Classification: Maximum of 50 per ASTM E 84

2.3.4.3. Thermal Resistance: R-19 value, per ASTM C 177 or C 518.

2.3.4.4. Perm Rating (Foil facer): Maximum 0.02 grains/hr/sf/in Hg per ASTM C 665.

2.4. OTHER MATERIALS

2.4.1. Provide all other materials, not specifically described but required for complete and proper installation of this work, as selected by the contractor and subject to the approval of the Architect.

3. PART 3 - EXECUTION

3.1. SURFACE CONDITIONS

3.1.1. Inspection:

- 3.1.1.1.** Prior to work of this section, carefully inspect previously installed work. Verify all such work is complete to the point where this installation may properly commence.
- 3.1.1.2.** Verify that work of this section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.
- 3.1.1.3.** In the event of discrepancy, immediately notify the Architect.
- 3.1.1.4.** Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2. INSTALLATION

- 3.2.1.** Install insulation in accordance with insulation manufacturer's instructions and as specified.
- 3.2.2.** Install faced insulation with facing to occupied room side. Install non-rated facing in contact with unexposed surface of finish materials.
- 3.2.3.** Do not install insulation over recessed light fixtures.
- 3.2.4.** Trim insulation neatly to fit spaces. Fit insulation into crevices, spaces at outlet boxes and similar penetrations.
- 3.2.5.** Maintain continuous foil faced vapor barrier. Provide fire resistive tape at all edges or penetrations of foil faced insulation, including batt ends.
- 3.2.6.** Where wall insulation cavity exceeds 8 feet high, provide blocking or other approved support at 8 feet on center.

END OF SECTION



SECTION 08 11 00
STEEL DOORS AND FRAMES

1. PART 1 - GENERAL

1.1. SECTION INCLUDES

- 1.1.1. Hollow metal rolled steel doors, non-rated and rated for fire resistance.
- 1.1.2. Hollow metal rolled steel door frames, non-rated and rated for fire resistance.

1.2. SUBMITTALS

- 1.2.1. Submit shop drawings and product data under provisions of Section 01 33 00.
 - 1.2.1.1. Provide shop drawings illustrating system and component dimensions, components within assembly, framed opening requirements and tolerances, anchorage and fasteners; glass and infills; and affected related work.
 - 1.2.1.2. Provide, where required, shown or specified, custom modifications to manufacturers or referenced standard, including material gage, anchorage, dimension and fabrication criteria.
 - 1.2.1.3. Provide manufacturer's installation instructions and listing requirements.
- 1.2.2. Samples: Provide one 12 inch square sample of each type of door, cut at corner, showing edge treatment and core material.

1.3. QUALITY ASSURANCE

- 1.3.1. Certification of Labeled Construction: After notifying Architect of oversize requirements, furnish inspection certificate certifying component construction conforms to UL rating requirements.
- 1.3.2. Hollow metal supplier shall be a qualified direct distributor of specified products.
 - 1.3.2.1. Distributor shall employ a an A.H.C./C.D.C. or person of equivalent experience who will be available at reasonable times to consult with the architect and owner regarding all matters affecting work of this Section.
- 1.3.3. Hollow metal supplier shall be a member of the Steel Door Institute or Hollow Metal Manufacturers Association Division of NAAMM.
- 1.3.4. Perform work in accordance with standards of the Steel Door Institute and as required by this Section.
 - 1.3.4.1. Where more restrictive than referenced standards, comply with requirements of this Section.
- 1.3.5. Provide written certification all doors conform to Level 'A' criteria of ANSI-A-250.4 , including testing to 2,000,000 operating cycles.
- 1.3.6. Provide written certification all door frames conform to Level 'A' criteria of ANSI-A-250.5 , including testing to 1,000,000 operating cycles.

1.4. REGULATORY REQUIREMENTS

- 1.4.1.** Conform to Chapters 7 and 10, Part 2, Title 24, CCR for fire rated frames and doors.
- 1.4.2.** Construct fire rated door panel and frame construction in conformance with NFPA 252.
- 1.4.3.** Install fire rated frame and door assemblies in conformance with NFPA 80, UL/WH approval listing and manufacturers instructions.

1.5. DELIVERY, STORAGE AND PROTECTION

- 1.5.1.** Deliver doors and frames cardboard wrapped, crated, palletized or otherwise protected during transit and site storage.
- 1.5.2.** Inspect doors and frames upon delivery for damage. Minor damage may be repaired provided refinished items are equal in all respects to new work and accepted by the Architect; otherwise remove and replace damaged items.
- 1.5.3.** Store doors and frames at the building site in a dry secure place.
 - 1.5.3.1.** Place units on minimum 4 inch high wood blocking.
 - 1.5.3.2.** Store in vented shelters.
 - 1.5.3.3.** If cardboard wrapper on door becomes wet, remove carton immediately.
 - 1.5.3.4.** Provide 1/4 inch spaces between stacked doors to promote air circulation.

1.6. SEQUENCING AND SCHEDULING

- 1.6.1.** Order and deliver all doors and frames so as not to delay progress of work of other Sections.

2. PART 2 - PRODUCTS

2.1. STEEL DOORS

- 2.1.1.** Manufacturer: Characteristics of specific products manufactured by Security Metal Products Corporation (SMPC), www.secmet.com, are indicated to establish required level of quality, appearance, and performance. The Architect will consider requests for substitutions, under the provisions of Section 01 25 00.
- 2.1.2.** Type/Series:
 - 2.1.2.1.** Type: Flush, Hollow metal, with core material as specified.
 - 2.1.2.2.** Style: As shown on drawings.
- 2.1.3.** Construction:
 - 2.1.3.1.** Grade:
 - 2.1.3.1.1.** Interior Doors: Grade II per SDI 100.
 - 2.1.3.2.** Material: Cold Rolled Steel per ASTM A 653, CS grade, A 60 galvanized, extra smooth.

2.1.3.3. Thickness: 1-3/4 inch.

2.1.3.4. Face Sheet Gauge:

2.1.3.4.1. Interior Doors: 18 gage.

2.1.3.5. Edge Seams: Continuously welded and ground smooth. Filler not acceptable.

2.1.3.6. Core:

2.1.3.6.1. Interior Doors: Provide foamed in place polyurethane core, minimum 1.0 pcf density, R value of 12.5.

2.1.3.6.2. Fire Rated Doors: Provide core as required to comply with rating shown on drawings.

2.1.4. Finish:

2.1.4.1. Provide spray applied primer at all interior doors per ANSI A250.10 – See Painting Section 09 91 00.

2.1.5. Fire Criteria:

2.1.5.1. Provide rated doors per referenced standards and as scheduled on drawings.

2.2. STEEL DOOR AND WINDOW FRAMES

2.2.1. Manufacturer: Characteristics of specific products manufactured by Security Metal Products Corporation (SMPC), www.secmet.com, are indicated to establish required level of quality, appearance, and performance. The Architect will consider comparable products by alternate manufacturers listed in this Section, and requests for substitutions, under the provisions of Section 01 25 00.

2.2.2. Type: Unless noted otherwise, wrap around, double rabbet, flush frames, welded as specified.

2.2.3. Construction:

2.2.3.1. Material: Cold Rolled Steel per ASTM A 653, CS Grade, A 60 galvanized, extra smooth.

2.2.3.2. Face Dimension: 2 inches, unless otherwise shown on drawings.

2.2.3.3. Gage:

2.2.3.3.1. Interior: 16 gage.

2.2.3.4. Gasketing/Weatherseal: As specified in this Section.

2.2.4. Finish:

2.2.4.1. Provide spray applied primer at all interior frames per ANSI A224.1.

2.2.4.2. Provide bituminous paint coating at interior surface of grout filled frames.

2.2.5. Anchors:

- 2.2.5.1. Provide minimum 18 gage head and jamb anchors suitable for wall condition and in configuration for welded in place installation.

2.2.6. Fire Criteria:

- 2.2.6.1. Provide rated frames per referenced standards and as scheduled on drawings.

2.3. FABRICATION

2.3.1. General:

- 2.3.1.1. Fabricate all doors and frames in accordance with SDI 100 except where more stringent requirements are specified.
- 2.3.1.2. Supply only doors and frames manufactured by a single manufacturer.

2.3.2. Door Construction:

- 2.3.2.1. Unless otherwise required by hardware specified in other Sections, bevel vertical lock edges 1/8 inch in 2 inches.
- 2.3.2.2. Door lock edge reinforcing: one-piece, full height 14 gage channel.
- 2.3.2.3. Closer Reinforcing: one-piece, minimum 12 gage plate.
- 2.3.2.4. Door Hinge Edge Reinforcing: one-piece, full height 14 gage channel, formed and tapped for hinges, with additional 7 gage reinforcement at each hinge.
- 2.3.2.5. Weld both hinge and lock channels to each door face sheet.
- 2.3.2.6. Provide minimum 16 gage top and bottom channels, flush or inverted, and welded to face sheets.
- 2.3.2.6.1. Close tops of outswinging exterior doors flush by the addition of steel top channel filler.

2.3.3. Frame Construction:

- 2.3.3.1. Unless specified otherwise, provide SMPC Type 1A weld joints. Weld all frame intersections with face welds. Weld face trim, tabs and frame soffit with continuous fillet weld. Grind all welds smooth. Repair specified finish.
- 2.3.3.1.1. Grind all welds smooth. Repair specified finish
- 2.3.3.2. Provide temporary shipping bars for protection from damage during transit and handling.
- 2.3.3.3. Remove temporary spreaders before setting frames.
- 2.3.3.4. Prepare door frame for silencers. Provide three single rubber silencers for single doors on strike side, and two single silencers on frame head at double doors without mullions.

2.3.3.5. Where required by listing, attach fire rated label to each frame unit requiring such rating.

2.3.3.6. Terminate interior frame door stops 6 inches above finished floor. Cut stop at 45 degree angle and close.

2.3.4. Frame Anchors:

2.3.4.1. Wall Anchors for Drywall/Plaster/Frame Partitions:

2.3.4.1.1. Provide steel or wood stud anchors sized to accommodate frame jamb depth and face dimension on all welded frames.

2.3.4.2. Provide frame jamb anchors at 30 inches on center (or fractional portion) on each jamb.

2.3.4.3. Floor Anchors:

2.3.4.3.1. Where access to back of frame is possible, provide angle clip type, 16 gage minimum, welded to the bottom of each jamb.

2.3.4.3.2. Where stud framed wall occurs at concrete curb, provide additional jamb anchor at each jamb, installed at approximately 7 inches above finish floor.

2.3.5. Hardware Preparation:

2.3.5.1. Reinforcement: Reinforce components for hardware installation in accord with ANSI A 250.8 and A250.6 and the following criteria.

2.3.5.1.1. Provide 'box' type lock reinforcing, minimum 16 gage.

2.3.5.1.2. Provide minimum 7 gage hinge reinforcing, welded to frame.

2.3.5.1.3. Provide minimum 12 gage closer reinforcement.

2.3.5.1.4. Provide minimum 12 gage reinforcement at other hardware locations.

2.3.5.2. Locate factory prepared hardware locations in compliance with "Recommended Locations for Builders' Hardware for Standard Steel Doors and Frames", as adopted by The Steel Door Institute.

2.4. OTHER MATERIALS

2.4.1. Provide all other materials, not specifically described but required for complete and proper installation of this work, as selected by the Contractor and subject to the approval of the Architect.

3. PART 3 - EXECUTION

3.1. SURFACE CONDITIONS

3.1.1. Inspection:

- 3.1.1.1. Prior to work of this Section, carefully inspect previously installed work. Verify all such work is complete to the point where this installation may properly commence.
- 3.1.1.2. Verify that work of this Section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.
- 3.1.1.3. In the event of discrepancy, immediately notify the Architect.
- 3.1.1.4. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2. INSTALLATION

- 3.2.1. Set all frames in accord with SDI 105 and as specified.
 - 3.2.1.1. Use of wire tie method is not acceptable.
- 3.2.2. Set welded frames in position prior to beginning partition work. Brace frames until permanent anchors are set.
 - 3.2.2.1. Use of KD frames not permitted.
- 3.2.3. Set anchors for frames as work progresses. Install anchors at hinge and strike levels.
 - 3.2.3.1. Where frame is accessible from back, install sill/floor anchors to slab or floor assembly.
 - 3.2.3.2. Where wall framing is installed on concrete curb, install jamb anchor at approximately 7 inches above floor level.
 - 3.2.3.3. Install two head anchors per frame with width exceeding 3 feet and less than 6 feet wide. Install three anchors, equally spaced, at wider frames.
- 3.2.4. Use temporary setting spreaders at all locations. Use intermediate spreaders to assure proper door clearances and header braces for grouted frames.
- 3.2.5. Install all fire rated frames in accord with NFPA-80 requirements, UL listing and manufacturers installation requirements.

3.3. DOOR INSTALLATION

- 3.3.1. Install hollow metal doors in frames using specified hardware.
- 3.3.2. Clearance at edge of doors:
 - 3.3.2.1. Between door and frame at head and jambs: 1/8 inch.
 - 3.3.2.2. Sills without thresholds: 5/8 inch maximum above finish floors.
 - 3.3.2.3. Sills with thresholds: 1/8 inch above threshold.

3.4. ADJUSTMENT AND CLEANING

- 3.4.1. Remove dirt and excess sealants, mortar, or glazing compounds from exposed surfaces.

- 3.4.2. Adjust moving parts for smooth operation. Use shims if necessary to allow for proper closing.
- 3.4.3. Where approved by Architect, fill all dents, holes, and similar defects with epoxy metal filler. Where required by Architect, fill all dents, holes and similar defects with weld material. After filling, grind smooth and flush with adjacent surface. Provide approved zinc rich primer at all galvanized products.
- 3.4.4. Touch up abrasions with primer.

END OF SECTION



SECTION 08 31 13
ACCESS DOORS AND FRAMES

1. PART 1 - GENERAL

1.1. SECTION INCLUDES

- 1.1.1. Access doors and frames.

1.2. REGULATORY REQUIREMENTS

- 1.2.1. Manufacture fire rated access doors and frames to conform to UL 10B, and Title 24, CCR, Part 2, and UBC Standard 7-2.
- 1.2.2. Provide labels indicating rating.

1.3. SUBMITTALS

- 1.3.1. Submit product data under provisions of Section 01 33 00.
- 1.3.2. Submit schedule indicating location of access panels per Article 2.1 below. Provide shop drawings defining clearances and alignment with other finish materials and components, including light fixtures, mechanical air registers, and related items.

2. PART 2 - PRODUCTS

2.1. ACCESS DOOR UNITS

- 2.1.1. Manufacturer: Characteristics of specific products manufactured by Karp, Inc. are indicated to establish required level of quality, appearance, and performance. The Architect will consider requests for substitutions, under the provisions of Section 01 25 00. Milcor is an acceptable manufacturer.
- 2.1.2. Applications and Series:
- 2.1.3. Size and Location:
- 2.1.3.1. Provide at all locations necessary to access all electrical components, valves, controls, damper resetting mechanisms, and other components requiring maintenance, inspection, adjustment, or reset.
- 2.1.3.2. Provide panels of such size as necessary to remove largest single component requiring maintenance or replacement. Unless noted otherwise on drawings, provide minimum 18 x 18 inches square panel size.
- 2.1.4. Hinge and Locking Mechanism:
- 2.1.4.1. Provide continuous piano hinge with stainless steel pin.
- 2.1.4.2. At areas accessible to public, provide cylinder lock with latch.
- 2.1.4.3. Provide flush latch release ring at all fire rated access doors in non-public areas.

2.1.4.4. Provide flush cam lock configured for screwdriver operation at all non-rated access doors in non-public areas.

2.1.4.5. Provide three keys for each lock configuration. Coordinate with keying criteria defined by Owner.

2.1.4.6. Provide release latch accessible from push side of access panel.

2.1.5. Fire Resistivity:

2.1.5.1. Fire Rating: UL Labeled 1-1/2 hour B fire rating at panels installed in rated assemblies.

2.1.5.2. Temperature Rating: Temperature rise limited to 250 degrees F maximum at 30 minutes.

2.1.6. Finish:

2.1.6.1. Provide stainless steel, Type 304, Number 4 finish at the following areas:

2.1.6.1.1. All janitor areas.

2.1.6.1.2. All shower/toilet rooms.

2.1.6.2. Provide prime coat paint finish at all other applications.

2.2. OTHER MATERIALS

2.2.1. Provide all other materials, not specifically described but required for complete and proper installation of this work, as selected by the contractor and subject to the approval of the Architect.

3. PART 3 - EXECUTION

3.1. SURFACE CONDITIONS

3.1.1. Inspection:

3.1.1.1. Prior to work of this section, carefully inspect previously installed work. Verify all such work is complete to the point where this installation may properly commence.

3.1.1.2. Verify that work of this section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.

3.1.1.3. In the event of discrepancy, immediately notify the Architect.

3.1.1.4. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2. ACCESS PANEL LOCATIONS

3.2.1. Review all portions of the work, including electrical, mechanical, plumbing, and fire protection systems.

- 3.2.2. Based on such review, provide all access panels necessary, whether shown on drawings or not, required to comply with product characteristics defined in Article 2.1.
- 3.2.3. Coordinate location and alignment of access panels with finish materials and other construction. Verify all alignment issues with Architect.

3.3. INSTALLATION

- 3.3.1. Install frame plumb and level in wall and ceiling openings. Locate in proper position and alignment, providing convenient access to concealed components.
- 3.3.2. Secure rigidly in place in accordance with manufacturer's instructions.
- 3.3.3. Prior to closing of work, obtain Districts inspector approval of panel size and location selection by an actual reach and removal test. Relocate or replace panels not providing acceptable access or service capability.
- 3.3.4. Paint all exposed fasteners, frames and hardware to match adjacent construction.

END OF SECTION



SECTION 08 71 00
BUILDING R TOILET ROOMS

1. PART 1 - GENERAL

1.1. WORK INCLUDED

- 1.1.1. Door hardware.
- 1.1.2. Thresholds, weather seals and smoke seals.
- 1.1.3. Electrified door hardware.
- 1.1.4. Scope of Work in this Section: Provide door hardware necessary to complete work. Hardware items not specifically specified or identified are to be provided of type and quality suitable to the service required and comparable to other hardware, and at no additional cost to Owner.

1.2. REFERENCES

- 1.2.1. Steel Door Institute (SDI) standards as specified.
- 1.2.2. Architectural Woodwork Institute (AWI) as specified.
- 1.2.3. California Building Code.
- 1.2.4. Americans with Disabilities Act (ADA) of 1990 criteria as specified.
- 1.2.5. Underwriters Laboratories Inc. standards as specified.
- 1.2.6. National Fire Protection (NFPA) standards as specified.

1.3. QUALITY ASSURANCE

- 1.3.1. Hardware Supplier: Provide hardware from company specializing in supplying institutional door hardware with five years experience and approved by hardware manufacturers as a factory direct supplier.
- 1.3.2. Hardware supplier Personnel: Employ an Architectural Hardware Consultant (AHC) or equivalent to prepare submittal required by this section.

1.4. REGULATORY REQUIREMENTS

- 1.4.1. Conform to UBC "Means of Egress" requirements.
- 1.4.2. Conform to UBC Standard 7-2 / UL10C requirements applicable to positive pressure fire rated doors and frames. Provide all necessary hardware for complete fire labeled opening including ball-bearing hinges, latching hardware, non-flaming fluid closers, smoke seals and intumescent hot seals.
- 1.4.3. Conform to SFM Standard 43.7 requirements applicable to fire rated doors and frames.
- 1.4.4. Conform to applicable requirements of the American with Disabilities Act of 1990 regarding accessibility requirements for door and entrance hardware.

- 1.6.5 Conform to applicable requirements of California Building Code regarding existing and accessibility requirements for door and entrance hardware.
- 1.6.6 All hardware shall meet the requirements of CBC Sections 1133B.2.1, 1133B.2.5.1 and 1003.3.1.8.

1.5. SUBMITTALS

- 1.5.1. Submit schedule and product data under provisions of Section 01330.
- 1.5.2. Provide five (5) copies of vertical format hardware schedule showing each application including door index, headings, hardware sets, door number and location, door and frame size and material, door and hardware handing, degrees of opening, quantity required, part numbers and finish of each item.
 - 1.5.2.1. Projects with multiple buildings and/or multiple floor levels must be submitted so and/or floor level is not mixed with another starting with Building A, 1st floor etc.
 - 1.5.2.2. Architect's review of such schedule does not relieve the Contractor of providing hardware required for the work, whether or not such hardware was inadvertently omitted from this section.
- 1.5.3. Accompanying the schedules, provide two (2) manufacturer's brochures of each item scheduled, indicating function, finish, dimensions, and related features. No hardware schedule will be accepted for review without submission of such brochure package.
- 1.5.4. Submit manufacturer's certificate of warranty with submittal; otherwise material will be rejected.
- 1.5.5. When alternate manufacturers are proposed by contractor, provide two (2) brochures of proposed items two weeks prior of bid date.
- 1.5.6. Submit only manufacturers specified as approved or alternate.
- 1.5.7. Provide samples indicating hardware design and finish when required by Architect.

1.6. COORDINATION

- 1.6.1. Coordinate work of this Section with other directly affected Sections involving manufacturer of any internal reinforcement for door hardware. In particular, coordinate door preparation in accordance with applicable regulatory and trade standards specified. Review details and conditions prior to ordering hardware. When a door hand is changed during construction, coordinate and change hardware as necessary at no cost to Owner.

1.7. OPERATION AND MAINTENANCE DATA

- 1.7.1. Submit operation and maintenance data under provisions of Section 01 77 00.
- 1.7.2. Include data on operating hardware. Lubrication requirements and inspection procedures related to preventative maintenance.

1.8. DELIVERY, STORAGE, AND HANDLING

- 1.8.1. Deliver products to site under provisions of Section 01 60 00.
- 1.8.2. Store and protect products under provisions of Section 01 60 00.

- 1.8.3. Package hardware items individually; label and identify package with door opening code to match hardware schedule.

1.9. MAINTENANCE MATERIALS

- 1.9.1. Provide special wrenches and tools applicable to each different or special hardware component.
- 1.9.2. Provide maintenance tools and accessories supplied by hardware component manufacturer.

1.10. WARRANTY AND GUARANTY

- 1.10.1. Provide two year guarantee against defects on hardware, including electrical components, five years warranty for cylindrical locks, mortise locks and exit devices and ten year warranty for surface, floor concealed closers and continuous hinges.

1.10.2. CONTRACTORS GUARANTEE

- 1.10.2.1. Submit guarantee on form provided in Document 00 63 00.

- 1.10.2.2. Submit manufacturer's certificate of warranty with submittal, otherwise material will be rejected.

1.11. LOCKSETS AND KEY CYLINDERS REMOVED FROM EXISTING DOORS

- 1.13.1. During the Demolition Phase, retain and preserve all door locks and key cylinders from existing doors to be removed or replaced. Deliver preserved door locks and key cylinders to the campus locksmith for his use.

2. PART 2 - PRODUCTS

2.1. MANUFACTURERS

- 2.1.1. Basis of Design: Characteristics of specific products, where named in this Section and Hardware Schedule, are indicated to establish required level of quality, appearance, and performance. The Architect will consider comparable products by alternate manufacturers where listed, and requests for substitutions, under the provisions of Section 01 61 00.

- 2.1.2. Obtain each kind of hardware (latch and locksets, exit devices, hinges, and closers) from one manufacturer.

2.2. DOOR HARDWARE CRITERIA

2.2.1. Manufacturers:

- 2.2.1.1. Hinges: McKinney (MCK). Approved Alternate: Bommer (BOM), Hager (HAG), Stanley (STA).

- 2.2.1.2. Locks and Latchsets: Schlage (SCH). Approved Alternate: Corbin Russwin (COR)

- 2.2.1.3. Cylinders: Schlage(SCH). Approved Alternate: None (Owner's Standard).

- 2.2.1.4. Exit Devices: Von Durpin(VON). Approved Alternate: None (Owner's Standard).

- 2.2.1.5. Closer: LCN (LCN). Approved Alternate: None (Owner's Standard).
- 2.2.1.6. Miscellaneous hardware, including pulls, security pull and kick plates: Trimco (TRM) Approved Alternate: Ives (IVE), Rockwood (ROC), McKinney (MCK).
- 2.2.1.7. Anti-Vandal Pulls: Ives (IVE) Approved Alternate: Trimco (TRM), Rockwood (ROC), McKinney (MCK).
- 2.2.1.8. Stop, Anchors and Door Bumpers: Trimco (TRM). Approved Alternate: Rockwood (ROC).
- 2.2.1.9. Seals, Door Bottoms: Pemko (PEM). Approved Alternated: Reese, NGP.
- 2.2.1.10. Continuous Hinge: Markar (MAR). Approved Equal: McKinney (MCK), Stanley (STA).
- 2.2.1.11. Astragals: Pemko (PEM). Approved Alternate: McKinney (MCK)
- 2.2.1.12. Thresholds: Pemko (PEM). Approved Alternate: NGP, Zero (ZER), McKinney (MCK)
- 2.2.1.17. Silencers: Trimco (TRM). Approved Alternate: Ives, Rockwood (ROC)
- 2.2.1.18. Alarm Contacts: GE Security (GES). Approved Alternate: None
- 2.2.2. Finishes
 - 2.2.2.1. Finishes are identified in Schedule at end of this Section.
 - 2.2.2.2. Where finish not shown, match finish of lockset.
 - 2.2.2.3. Provide black colored seals unless specified otherwise.
 - 2.2.2.4. Provide fasteners matching in finish, base material and color.
- 2.2.3. Door Closers:
 - 2.2.3.1. Surface mounted closers to be full rack and pinion type with cast shell.
 - 2.2.3.1.1. Provide drop brackets, mortise shoes, and long arms as required. At doors with surface closers and separate overhead stops, coordinate required templating and drop plates with the closer manufacturer.
 - 2.2.3.1.2. Provide non-handed door closers with multi-sized springs, with separate adjustable valves for latch, sweep speed, and backcheck.
 - 2.2.3.1.3. Template and adjust closers per manufacturer's recommendations and to meet accessibility requirements. When used in conjunction with an overhead stop, provide special templates and brackets as required.
 - 2.2.3.1.4. Where the specified LCN 4041 regular arm closer must swing 180°, provide a 4041-T (Top Jamb) closer in lieu of the regular arm closer.

- 2.2.3.1.5. Where the specified LCN 4041 parallel arm closer is specified at doors with adjustable sound seals, provide with special arm, bracket and templating to allow parallel arm back to be installed onto frame rabbet instead of to stop, therefore, protecting the integrity of the sound seal.
- 2.2.3.1.6. Provide all closers with delayed action (-DEL) option, except at doors with card readers or hold-open mechanisms
- 2.2.3.1.7. Door closer when provided then the sweep period of the closer shall be adjusted to so that from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3" from the latch, measured to the landing side of the door. 1133B.2.5.1.

2.2.4. Hinges and Pivots:

- 2.2.4.1. Unless noted otherwise, provide steel hinges, sheradized, with finish as shown in schedule. Provide non-ferrous hinges at exterior doors.
- 2.2.4.2. Provide hinges or pivots in accordance with following schedule. At doors hung in offset pivot configurations, the closer arm is also considered a pivot.
 - 2.2.4.2.1. Doors up to 4 feet 0 inches high: 2 hinges.
 - 2.2.4.2.2. Doors 4 feet 0 inches to 7 feet 5 inches high: 3 hinges or pivots minimum.
 - 2.2.4.2.3. Doors greater than 7 feet 5 inches high: 4 hinges or pivots.
 - 2.2.4.2.4. Doors up to 3 feet wide, standard weight: 4-1/2" x 4 hinges.
Doors 3'6" wide, standard weight: 5" x 4-1/2".
Doors 4'0" wide, heavy weight: 5" x 4-1/2".
 - 2.2.4.2.5. Provide heavy-weight hinges where specified.
 - 2.2.4.2.6. At doors weighing 150 lbs. or more, furnish 5" high hinges.
- 2.2.4.3. Unless otherwise noted or required, provide full mortise hinges, with non-rising loose pins, and concealed ball bearings.
- 2.2.4.4. Provide set screw (NRP) type at outswing doors to prevent pin removal when door is in closed position.
- 2.2.4.5. Where necessary to maintain door clearance at jamb trim, frame conditions, door reveals and similar conditions, furnish wide throw hinges as approved by the Architect.
- 2.2.4.6. Continuous Hinges
 - 2.2.4.6.1. To be barrel-type of 14 gauge 304 stainless steel, 14 gauge 1012 cold-rolled steel or 6063-T5 aluminum material with 0.25" diameter stainless steel Teflon-coated pin. Gear types are prohibited.

- 2.2.4.6.2 Hinge guard models to be furnished with Adjusta-screw fasteners.
- 2.2.4.6.3 Provide with hospital tips (-HT) at outswing doors.
- 2.2.4.6.4 Where necessary to maintain door clearance at jamb trim, frame conditions, door reveals and similar conditions, provide wide throw hinges as approved by the Architect.
- 2.2.4.6.5 Provide with factory cut-outs for automatic door bottoms and concealed power transfers, where they occur.
- 2.2.4.6.6 Provide all continuous hinges with Markar CHS-2 shims as required to compensate for door and frame misalignment.

2.2.5. Locksets, Latchsets and Strikes

- 2.2.5.1. Unless noted otherwise in schedule, locksets, latchsets, cylinders and component parts shall be the products of single manufacturer.
- 2.2.5.2. Provide strikes at locks with curved lip strike of sufficient length to protect trim and jamb. Each strike will include wrought strike box (similar to Tice Industries No. 1502).
- 2.2.5.3. Mortise Locks shall be Schlage L9000-Series or Corbin Russwin ML2000-Series.
 - 2.2.5.3.1. Lock Body shall include quick reversibility mechanism without removing lock body cover.
 - 2.2.5.3.2. Provide Schlage "03" or Corbin Russwin "Lustra" lever design to return within 1/2" of door face. Provide forged or cast full escutcheon for each lever, with no screws exposed on the outside escutcheon.
- 2.2.5.4. Unless noted otherwise, provide 2-3/4 inch backset.
- 2.2.5.5. Lock Throw: Comply with UL requirements for throw of bolts and latch bolts on rated fire openings.
- 2.2.5.6. Accurate H7804 Holdback Deadlatches: Provide with special faceplate laser-etched with holdback instructions.
- 2.2.5.7. Auto Flush Bolts: Minimum 1/2" throw latch bolts, fully automatic extending into top strike and dust proof strike at sill. Provide longer rods as necessary for doors exceeding 7'0" in height.
- 2.2.5.8. Mounting height of latching hardware shall be 30" to 44" A.F.F. per CBC Section 1008.1.8.2.1. Pressure to operate the door shall not exceed: 5lbs. (22.2N) for exterior doors, 5lbs. (22.2N) for interior doors and when fire doors are required 5lbs. (22.2N) max or the maximum effort to operate the door may be increased to the maximum allowable by the appropriate administrative authority, not to exceed 15lbs. (66.72N). CBC Sections 1008.1.2. and 1133B.2.5 / ADAAG 4.13.11

2.2.6. Fasteners

- 2.2.6.1. Fasteners: Provide hardware manufacture to conform to publish templates, generally prepared for machine screws installation.
- 2.2.6.2. Install hardware with manufacturer supplied screws for each item.
- 2.2.6.3. Provide screws for installation, with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of such other work as closely as possible, including "prepared for paint" in surfaces to receive painted finish.
- 2.2.6.4. Provide sex nuts and bolts (1/4-20 minimum) for all surface closers and exit devices.
- 2.2.6.5. Provide 1/4-20 stainless steel machine screws and anchors for all thresholds to be installed over concrete floor material.
- 2.2.7. Thresholds
 - 2.2.7.1. General: Except as otherwise indicated furnish standard metal threshold unit of type, size and profile as shown or scheduled. Where required by the fire code, furnish appropriate model thresholds at openings where combustible floor material extends through the door opening. Provide threshold as indicated in details. Provide stainless steel fasteners with anchors.
 - 2.2.7.2. Thresholds must comply with the requirements of ADA and ANSI-117.1 and CBC Section 1133B.2.4.1.
 - 2.2.7.3. Thresholds shall comply with CBC Sections 1008.1.6 and 1133B.2.4.1.
- 2.2.8. Kick Plates
 - 2.2.8.1. Provide stainless steel kick or armor plates as scheduled, 18 gauges, 10 inches high, 2 inches less than door width on single doors, 1 inch less than door width on pair, 36 inches high on armor.
 - 2.2.8.2. Provide stainless steel mop plates as scheduled, 18 gauges, 4 inches high, 1 inch less than door width, with all edges beveled.
- 2.2.9. Seals
 - 2.2.9.1. Provide seals complete with retainers, fasteners and trim.
 - 2.2.9.2. Provide UL Listed seals at all rated openings.
 - 2.2.9.3. Provide UL listed intumescent hot seal at fire rated wood doors when doors are not being furnish with intumescent hot seal.
 - 2.2.9.4. Unless noted otherwise, furnish fastener-applied silicone or neoprene seals at door jamb and head conditions. Use of vinyl seal or adhesive-applied seals is prohibited.
 - 2.2.9.5. Where specified, furnish solid neoprene seals complying with MilSpec R6855, Class II, Grade 40.

2.2.10. Panic Exit Devices

- 2.2.10.1 Where specified, provide panic exit device with required UL labels. Where panic device is required on fire rated doors, provide UL label with supplementary marking on door and hardware indicating compliant fire exit hardware.
- 2.2.10.2 Provide modern push-pad type, reversible exit devices. Provide exit manufacturer's shims as required to clear glass lite frames.
- 2.2.10.3 Push-pad shall be mounted at a height of not less than 36 inches (762mm) no more than 44 inches (1118mm) above floor. The unlatching force shall not exceed 15 pounds (66.72N) when applied in the direction of travel per CBC 1133B.2.5.
- 2.2.10.4 Exit Devices shall comply with UBC standard 10-4 and CBC 1003.3.1.9.
- 2.2.10.5 Provide devices manufactured for 4-foot wide doors for all doors 3-foot wide or wider.
- 2.2.10.6 Where devices are specified with lever trim, provide with cast stainless steel levers.
- 2.2.10.7 Provide non-rated devices with hex key dogging. Do not provide cylinder dogging.
- 2.2.10.8 Removable mullions to be demountable by means of building key (key-removable mullions).
- 2.2.10.9 At non-rated electric latch retraction panics (EL), provide with "SD" cylinder dogging option and provide appropriate key cylinder. At non-rated mechanical-only panics, provide with "CD" cylinder dogging option and provide appropriate key cylinder.
- 2.2.10.10 Where devices are specified in 630 (satin stainless steel) finish, provide specified levers in 630 (cast stainless steel) only.
- 2.2.10.11 Panic hardware shall comply with IBC Section 1008.1.9, (considered that if the device is mounted lower than 36" AFF the clear opening may be restricted to less than the 32" clear opening required). Clear opening shall be mounted above 36" to 44" above finished floor surface.
- 2.2.11. Push/Pull Plates
 - 2.2.11.1 Concealed Fasteners: Provide manufacturer's special concealed fastener system for installation; through-bolted for matched pairs, but not for single units.
- 2.2.12. Stops
 - 2.2.12.1 Provide a floor or wall stop at every door.
 - 2.2.12.2 Provide carpet risers for floor stops where required.
 - 2.2.12.3 Where specified floor or wall stop would present a pedestrian hazard or cannot be used, furnish Rixson model overhead stop (concealed except at fire-rated wood doors) or provide closer with integral spring-cushion stop.

2.2.12.4 Floor stops shall not be located in the path of travel and 4" maximum from walls. Policy 99-08.

2.2.13. Silencers

2.2.13.1 Provide silencers at hollow metal or wood door frames that are without seals in quantities as follows:

2.2.13.1.1. Single Doors: 3 silencers

2.2.13.1.2. 4 Silencers

2.3. KEYING

2.3.1. Provide cylinders in Schlage Everest Primus C125 keyway to match keyway of record for the school. Provide interchangeable core cylinders in the large format configuration.

2.3.2. Do not stamp or mark the permanent cores. Factory-stamp the keys with the key symbol.

2.3.3. Locksets and cylinders to be construction keyed with temporary construction cores. Provide 20 construction keys and 2 construction control keys. At the project's completion and when the campus locksmith is ready to install the permanent cores, remove the construction cores in the presence of the Owner and install the permanent cores. Demonstrate that the permanent core operates the locking device. Return the construction cores and keys to the cylinder manufacturer for credit.

2.3.4. Contractor will meet with the Owner's Representative and Architect to establish the keying schedule and to provide the correct master, pass and change key groups to properly operate locking devices.

2.3.5. Provide bitting list record (both paper copy and electronic Sitemaster version) and registration of system.

2.3.6. Locksets and cylinders to be masterkeyed. Supply four change keys per cylinder and six master keys for each master. Provide 200 key blanks per building.

2.3.7. Contractor will be responsible for completion of keying schedule and ordering construction and permanent keys.

2.3.8. Cylinder collars shall be solid and recessed to allow the cylinder face to be flush and be free spinning.

2.3.9. Key Control Software: Provide one (1) copy of Schlage Sitemaster 200 software (full version). Provide 2 days of on-campus training by Schlage personnel on the use of this software program.

2.3.10. Provide key control system including envelopes, labels, tags with self-locking key clips, receipt form, 3 way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of the number of locks required for the project.

2.3.10.1. Provide complete cross index system set up by the key control manufacturer and place keys on markers and hooks in the cabinet as determined by the final key schedule.

2.3.10.2. Provide hinge-panel type cabinet, for wall mounting.

2.3.10.3 Provide with pushbutton security lock on cabinet door.

3. PART 3 - EXECUTION

3.1. INSPECTION

3.1.1. Verify that doors and frames are ready to receive work and dimensions are as indicated on shop drawings, instructed by the manufacturer.

3.1.2. Beginning of installation means acceptance of existing conditions.

3.2. INSTALLATION

3.2.1. A Qualified Mechanic skilled in the application of institutional grade builder's hardware shall install hardware.

3.2.2. Install hardware in accordance with manufacturer's instructions and requirements of SKI, ANSI/NFPA 80, AWI, and BHMA. Select applicable standard based on door function, type and regulatory criteria.

3.2.3. Install hardware in accordance with NFPA 80 in fire labeled doors.

3.2.4. Where door is designated as receiving new hardware, package and label hardware by type and function, and deliver to Owner.

3.2.5. Predrill pilot holes in wood for screws. Drill and tap for surface mounted hardware on metal. Set hinge leaf snug and flat in mortises, turn screws to flat seat (do not drive).

3.2.6. Mount surface closers on side of door away from corridor, inside rooms or in stairs. Install regular or parallel arm closers as required.

3.2.7. Provide ADEQUATE BACKING in stud partitions for the attachment of all respective finish hardware.

3.2.8. Floor mounted door stops are to be installed at maximum of four inches from the face of the wall or partition.

3.2.9. Install thresholds in full bed of sealant at front and side edges.

3.3. INSTALL HARDWARE USING TEMPLATES PROVIDED BY HARDWARE ITEM MANUFACTURER

3.3.1. Prior to finishing door, fit hardware to door, utilizing fasteners and templates as specified.

3.3.2. Remove hardware, carefully label and store. Where door is existing and designated to receive new finish, remove existing hardware.

3.3.3. Re-install after door finish is complete.

3.4. UNLESS NOTED OTHERWISE OR SHOWN ON DRAWINGS, MOUNT HARDWARE IN ACCORDANCE WITH THE FOLLOWING CRITERIA:

3.4.1. Latchset and Lockset handle: 38 inches above finish floor. Verify manufacturer's template with door design.

- 3.4.2. Glass Locks: 40 inches above finish floor to center line. Verify manufacturer's template with door design.
- 3.4.3. Auxiliary Locks: 40 inches to center line.
- 3.4.4. Panic Devices: 40 inches above floor; at storefront doors, aligned with center muntin on adjacent window wall. Verify manufacturer's template with door design.
- 3.4.5. Push and Pull Plates: 44 inches to center line.
- 3.4.6. Door Pulls: 40 inches above finish floor to center line.
- 3.5. ADJUST CLOSER OPERATING EFFORT CONFORM TO CALIFORNIA BUILDING CODE SECTION 1133B.2.5.
 - 3.5.1. Exterior and Interior Doors: 5.0 pounds force.
 - 3.5.2. Fire Rated Doors: Verify with AHJ (Authority Having Jurisdiction) not to exceed 15.0 pounds force.
- 3.6. ADJUST CLOSER DELAY AND OPERATING SPEEDS TO COMPLY WITH REQUIREMENTS OF CALIFORNIA BUILDING CODE AND THE AMERICANS WITH DISABILITIES ACT ARCHITECTURAL GUIDELINES, ARTICLE 4.13.10
 - 3.6.1. The sweep period of the door closers shall be adjusted so that from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches from the latch, measured to the leading edge of the door.
 - 3.6.2. Closer Certification: provide written certification, signed by door closer representative, stating closers were inspected and installed in accordance with specified opening force and delay requirements.
- 3.7. CLEAN AND ADJUST
 - 3.7.1. At completion, all hardware shall be left clean and free from disfigurement. Contractor shall make a final adjustment to all door closers and other items and hardware. Where hardware is found defective, repair, replace, or otherwise correct as directed.
 - 3.7.2. Adjust and check each operating item of hardware and each door, to ensure proper operation or function of every unit. Adjust hardware so that moving parts operate freely, without bind, or excessive play. Hardware shall be free of paint, corrosion, or damage of any kind.

3.8. DOOR HARDWARE GUIDELINES

HW-1

Each Door to Have:

3	Hinges	TA386
1	Public Toilet Lock	L9060T-03L
2	Permanent Core	20-740
1	Closer	P4041
1	Kick Plate	K0050 10 x 2 LDW
1	Mop Plate	KM050 4 x 1 LDW
1	Floor Stop	1214
1	Set Seals	S88D @ Head & Jamb
1	Threshold	Marble or Stone By Others

Labeled

630	MCK
630	SCH
626	SCH
689	LCN
630	TRM
630	TRM
626	TRM
DKB	PEM

HW-2

Each Door to Have:

3	Hinges	TA386
1	Storeroom Lock	L9080T-03L
1	Permanent Core	20-740
1	Closer	4041-SCUSH
1	Kick Plate	K0050 10 x 2 LDW B4E
1	Set Seals	S88D@ Head & Jamb

Labeled

630	MCK
630	SCH
626	SCH
689	LCN
630	TRM
DKB	PEM

HW-3

Each Door to Have:

3	Hinges	TA314
1	Storeroom Lock	L9080T-03L
1	Permanent Core	20-740
1	Closer	4041-EDA
1	Kick Plate	K0050 10 x 2 LDW B4E
1	Floor Stop	1214
1	Set Seals	S88D@ Head & Jamb

Labeled

630	MCK
630	SCH
626	SCH
689	LCN
630	TRM
626	TRM
DKB	PEM

HW-4

Each Door to Have:

3	Hinges	TA386 x NRP
1	Classroom Lock	L9060T-03L
1	Permanent Core	20-740
1	Closer	4041EDA
1	Kick Plate	K0050 10 x 2 LDW
1	Floor Stop	1214CK x 1268CK
1	Set Seals	S88D @ Head & Jamb
1	Threshold	2727A x MS/A x Mitred

Labeled

630	MCK
630	SCH
626	SCH
689	LCN
630	TRM
626	TRM
DKB	PEM
628	PEM

DOOR INDEX

HW-1 Doors 102, 103

HW-2 Doors 104, 105

HW-3 Doors 106

HW-4 Doors 107, 108, 109, 110, 111

END OF SECTION



SECTION 09 20 00
PORTLAND CEMENT PLASTER

1. PART 1 - GENERAL

1.1. SECTION INCLUDES

- 1.1.1. Metal lath.
- 1.1.2. Portland cement plaster system, exterior.
- 1.1.3. Portland cement plaster system, interior
- 1.1.4. Metal suspension system for plaster ceilings.
- 1.1.5. Plaster accessories.
- 1.2. Special inspection criteria. **QUALITY ASSURANCE**

- 1.2.1. Applicator: Company specializing in cement plaster work with 10 years documented experience in non-residential projects of similar scope, and capable of applying cement plaster in accordance with referenced Plaster and Drywall Systems Manual.
- 1.2.2. Supervision: Plaster assembly shall be installed under the full time supervision of a foreman with 10 years documented experience in non-residential projects of similar scope, and capable of applying cement plaster in accordance with referenced Plaster and Drywall Systems Manual.
- 1.2.3. Integrated Installation: Plaster assembly shall be installed under a single contract, responsible for all underlayment, lathing and plastering operations.

1.3. SUBMITTALS

- 1.3.1. Provide submittals under provisions of Section 01 33 00.
- 1.3.2. Provide product data on plaster, lathing, and furring materials, characteristics and limitations of products specified.
- 1.3.3. Provide complete mix design for each application.

1.4. ENVIRONMENTAL REQUIREMENTS

- 1.4.1. Do not apply plaster when substrate or ambient air temperature is less than 50 degrees F nor more than 80 degrees F.
- 1.4.2. Maintain minimum ambient temperature of 50 degrees F during and after installation of plaster.
- 1.4.3. Take all precautions required to protect plaster from drying winds and other environmental impact.

2. PART 2 - PRODUCTS

2.1. MANUFACTURERS

- 2.1.1. Basis of Design: Characteristics of specific products, where named in this Section, are indicated to establish required level of quality, appearance, and performance. Architect will consider requests for substitutions, under the provisions of Section 01 25 00.

2.2. PLASTER MATERIALS

- 2.2.1. Cement: ASTM C150, Type II Portland Cement, low alkali. Use of plastic cement is not permitted.
- 2.2.2. Lime: ANSI/ASTM C206, Type S.
- 2.2.3. Aggregate: Clean sharp plastering sand, complying with ASTM C144 and ASTM C897.
- 2.2.4. Water: Clean, fresh, potable and free of mineral or organic matter which can affect plaster.
- 2.2.5. Premixed Finishing Coat: La Habra or equal, California Mission Finish, 30-60 mesh silica sand, premixed integral color finish coat, color as selected by Architect.
- 2.2.5.1. Provide premixed integral color to match existing building color at exterior.
- 2.2.6. Provide premixed integral color to match as closely as possible paint color for designated interior locker area
- Glass Fiber Reinforcing: Provide Fibermesh Harbourite AR type glass fiber, length, proportion and density per manufacturer's recommendations.
- 2.2.7. Admixture: Thoroseal Acryl 60 exterior bonding agent at masonry/concrete applications.
- 2.2.8. Plaster Bonding Agent: Thoro, Thorobond or equal.

2.3. LATHING

- 2.3.1. Diamond Mesh Metal Lath: 3.4 lb/sq. yd, galvanized finish, with Grade D paper backing.
- 2.3.1.1. Use of lath without integral paper backing is acceptable for DSA/OSHPD Project application
- 2.3.2. Lath at plaster soffit: Amico "Cal lath", 3.4 psy expanded metal lath, non-furring style, galvanized finish, with Grade D paper backing.
- 2.3.3. Use of dimpled, 3.4 lb/sq. yd, self-furring galvanized finish lath, with Grade D paper backing is acceptable.
- 2.2.3. Use of rib lath is not permitted.
- 2.3.4. Provide DSAOSHPD approved fasteners, including use of paper "wads" to furr out lath.

2.4. ACCESSORIES

- 2.4.1. Underlayment: FS-UU-B-790, type I, grade D.
- 2.4.2. Water-Resistant Underlayment: FS-UU-B-790, Type I, grade B.

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2.4.3. Expansion and edge accessories:

2.4.3.1. Manufacturer: Provide manufacturer as indicated or approved equal.

2.4.3.1.1. Aluminum Accessories: Provide products manufactured by Fry Reglet Corporation, Phone (818)-289-4744, or equal.

2.4.3.1.2. Brake Metal Accessories: Unless noted otherwise, provide products manufactured by Superior Metal Trim., <http://www.superiormetaltrim.com/>, Amico www.amico-lath.com, or equal.

2.4.3.2. Outside Corner Bead: K-Lath Kwik-Corner series, with EPKote finish.

2.4.3.3. Interior corners (where shown): Superior SIC series, galvanized, ground as required for plaster thickness.

2.4.3.4. Casing Bead/Edge Termination - Type #:

2.4.3.4.1. Amico X-66, galvanized, at lath application, 7/8 inch ground.

2.4.3.5. Soffit/Fascia Transition and Soffit Vent Screed - Type # X: Superior SST Series, 3-1/2 inch reveal, Vented, galvanized, ground as required for plaster thickness.

2.4.3.6. Weep Screeds at door infill:

2.4.3.6.1. Amico AMFWS-425-780, unpunched PVC, with 3-1/2 inch leg, plastic FHA type

2.4.3.7. At door infill - Fry "F" Reveal #FDM-650-50, prime paint finish, See paint section 09 91 00..

2.4.4. Wire Ties: Soft annealed steel, galvanized; 18 gage.

2.4.5. Corner Reinforcing Lath: 2.7 psy expanded metal lath, galvanized, or approved equivalent at all openings.

2.5. CEMENT PLASTER MIXES

2.5.1. Mix and proportion cement plaster in accordance with referenced Plaster Manual for regular portland cement plaster. Do not add plasticizers of any kind. Incorporate specified fiber reinforcing in mix design.

2.5.1.1. Use of Gibco PRF admixture is an approved admixture for use in mix design. Prepare mix design in accordance with admixture manufacturer's directions. If selected, do not use lime in mix design.

2.5.2. Mix only as much plaster as can be used in one hour.

2.5.3. Protect mixtures from frost, contamination, and evaporation.

2.5.4. Do not retemper mixes after initial set has occurred.

2.6. METAL SUSPENSION SYSTEM

2.6.1. Manufacturer: United States Gypsum (USG) or equal.

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- 2.6.2. Type: Runner and furring channel grid system.
- 2.6.3. Components
 - 2.6.3.1. Main Runner: Provide hot rolled channels, 1-1/2 inch deep, 1.12 pounds per linear foot minimum, galvanized.
 - 2.6.3.2. Cross-Furring: Provide hot rolled channels, 1 inch deep, .410 pounds per linear foot.
 - 2.6.3.3. Vertical Hanger Wire: Prestretched steel wire, Number 8, galvanized.
 - 2.6.3.4. Saddle Tie Wire: Prestretched steel wire, Number 16, galvanized.

3. PART 3 - EXECUTION

3.1. SURFACE CONDITIONS

- 3.1.1. Inspection
 - 3.1.1.1. Prior to all work of this section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.
 - 3.1.1.2. Verify that work of this Section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.
 - 3.1.1.2.1. Grounds and Blocking: Verify items within walls for other Sections of work have been installed.
 - 3.1.1.2.2. Mechanical and Electrical: Verify services within walls have been tested and approved.
 - 3.1.1.3. In the event of discrepancy, immediately notify the Architect.
 - 3.1.1.4. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2. PREPARATION

- 3.2.1. Protect surfaces near the work of this Section from damage or disfiguration.
 - 3.2.1.1. Comply with special inspection criteria specified in Article 1.64.
 - 3.2.1.2. Install line wire backing at framing without sheathing.
- 3.2.2. Underlayment at framed wall applications:
 - 3.2.2.1. Unless specified otherwise, install Grade D underlayment.
 - 3.2.2.1.1. Install water resistant underlayment at all ceramic tile/mortar bed/cementitious backer unit applications. Coordinate underlayment placement with Section 09 30 13.
 - 3.2.2.1.2. Install water resistant underlayment at all interior wall plaster at kitchen/locker/shower areas.

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- 3.2.2.2. Install first course of underlayment shingle fashion, perpendicular to studs, attaching to studs with approved fasteners. Lap edges and ends 6 inches. Do not tear.
- 3.2.2.3. Install second course of underlayment per 3.2.2.2, shingle fashion, with joints offset from first course.
- 3.2.2.4. Install approved sealant over tears, holes and all fasteners not located at framing members.
- 3.2.2.5. Coordinate underlayment placement with installation of waterproof membrane specified in Section 0713007 13 00/0714007 14 00.

3.3. LATH INSTALLATION AT VERTICAL AND SLOPED FRAMING

- 3.3.1. Apply specified metal lath over underlayment.
 - 3.3.1.1. Install with metal lath in contact with metal lath. Ensure paper selvage edges are properly lapped. Do not permit lath to be sandwiched or covered by underlayment.
- 3.3.2. Apply metal lath taut, with long dimension perpendicular to supports. Furr lath a minimum of 1/4 inch from backing with approved fasteners, anchored into framing or blocking only. Do not fasten lath to sheathing.
- 3.3.3. Lap metal lath edges minimum 1-1/2 inches, lapped as recommended by manufacturer and secure with tie wire at 6 inches on center.
- 3.3.4. Attach metal lath to supports in conformance with CBC Section 2506A.
 - 3.3.4.1. Install approved sealant over tears, holes and all fasteners not located at framing members.
 - 3.3.4.2. Install lath using approved drilled in mechanical fasteners where lath is shown extending over masonry or concrete, including wall curbs.
- 3.3.5. Continuously reinforce internal angles with specified corner expansion screeds. Fasten at perimeter edges only.
- 3.3.6. Install specified outside corner reinforcing. Fasten only at flange or outer edges.
- 3.3.7. Place 4 x 12 inch strip of corner reinforcing lath diagonally at corners of openings. Secure rigidly in place.
- 3.3.8. Place 4 inch wide strips of corner reinforcing lath centered over junctions of dissimilar backing materials. Secure rigidly in place.

3.4. LATH INSTALLATION AT HORIZONTAL SOFFITS

- 3.4.1. Apply paper backed metal lath taut, with long dimension perpendicular to supports in accordance with CBC Section 2506A.
 - 3.4.1.1. Ensure paper selvage edges are properly lapped. Do not permit lath to be sandwiched or covered by underlayment.
- 3.4.2. Lap ends and sides of metal lath minimum 1-1/2 inches. Secure laps with tie wire where they occur between supports.

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3.4.3. In addition to fastening methods required by Table 25-C, provide 9 gage ring shank hook staple over 10d nail, at 27 inches on-center along joist support, and located not more than 3 inches from edge of lath.

3.4.4. Place 4 x 12 inch strip of corner reinforcement lath diagonally at corners of openings and recessed light fixture frames. Secure rigidly in place.

3.5. PLASTER ACCESSORIES AND CONTROL JOINTS

3.5.1. Place specified plaster accessories at terminations of plaster finish.

3.5.1.1. Secure in place by wire tying to lath. Do not anchor to plywood sheathing or supports without Architects prior approval.

3.5.1.2. Provide manufacturer's recommended connector clip and sealant bedding at all accessory intersections and joints.

3.5.1.3. Provide manufacturer's end cap at locations where accessories terminate against door frames, wall surfaces and similar conditions.

3.5.2. Install specified weep screed at bottom edge of plaster. Fasten to backing or sill with fully seated screws at 16 inches on center.

3.5.3. Install accessories to proper lines and levels. Tightly join and align intersections.

3.5.4. Establish control and expansion joints with specified joint devices. Do NOT allow lath to continue behind or through joint.

3.5.5. Coordinate joint placement with naturally occurring joints of other related work. Do not extend lath across expansion or control joints in substrate.

3.5.6. Lath and Underlayment Installation at Accessories

3.5.6.1. Provide additional layer of water-resistant underlayment behind all accessories, 12 inches wide, centered on accessory. Apply over lower layer of wall underlayment.

3.5.6.2. In horizontal applications at wall conditions, install lath and underlayment over upper flange of accessory. Install lath over lower flange of accessory. Extend wall underlayment a minimum of 6 inches above upper flange.

3.5.6.3. In vertical applications at wall conditions and soffit conditions, install lath over flange of accessory. Maintain wall underlayment behind accessory.

3.5.7. Provide joints as shown on drawings. Where joints not shown, provide as directed by Architect in compliance with the following criteria:

3.5.7.1. Provide wall control joint at edge of door and window frames, extended from drip screed to continuous horizontal control joint.

3.5.7.2. Provide vertical wall control joints as necessary to limit plaster area to approximately 150 square feet, with maximum 2:1 aspect ratio. Coordinate area limit with horizontal joint location. Final location as directed by Architect.

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- 3.5.7.3. Provide horizontal wall control joint in coordination with vertical joint spacing as necessary to limit plaster area to approximately 150 square feet. Final location as directed by Architect.
- 3.5.7.4. In plastered ceilings and soffits, provide control joints as necessary to limit plaster area to approximately 75 square feet. Final location as directed by Architect.
- 3.5.8. Coordinate joint placement with coursing and layout for thin brick tile specified in Section 09 31 34. Place joints at brick module. Joints placed in such a location as to require cutting of thin brick tile at non-module locations will result in plaster substrate rejection.
- 3.6. PLASTERING
 - 3.6.1. Apply plaster in accordance with referenced Plaster Manual.
 - 3.6.2. Framed wall application:
 - 3.6.2.1. Apply three-coat plaster assembly, resulting in minimum 7/8 inch nominal thickness.
 - 3.6.2.2. Apply scratch coat to a nominal thickness of 3/8 inch.
 - 3.6.2.3. Apply brown coat to a nominal thickness of 3/8 inch. Texture as required to comply with specified texture.
 - 3.6.2.4. Apply finish coat to a nominal thickness of 1/8 inch.
 - 3.6.3. At soffits and ceilings, provide a combined thickness of 7/8 inch thickness at scratch and brown coats prior to application of finish coat.
 - 3.6.4. Moist cure scratch coat a minimum of 5 days prior to application of brown coat.
 - 3.6.5. Dampen surface of scratch coat prior to application of brown coat.
 - 3.6.6. Rod surface of brown coat with a 10 foot straight edge to produce a true plane.
 - 3.6.7. Moist cure brown coat a minimum of 5 days, and cure for a total of 10 days prior to application of finish coat.
 - 3.6.8. Finish Coat:
 - 3.6.8.1. After curing time has elapsed, apply finish coat. Dampen base coat prior to applying finish coat.
 - 3.6.8.2. Exterior Surfaces: Apply finish coat in medium dash finish as illustrated in "Plaster Textures" published by Plaster Information Bureau and matching approved sample.
 - 3.6.8.3. Exterior Surfaces: Apply finish coat in texture matching existing plaster finish, and matching approved sample.
 - 3.6.8.4. Interior Surfaces: Apply finish coat in two-coat process. Use wood float to a smooth and consistent fine sand float finish, as illustrated in "Plaster Textures" published by Plaster Information Bureau and matching approved sample.

3.6.8.5. Moist cure finish coat for minimum period of 72 hours.

3.6.9. Fog Coat Application:

After finish coat has completely cured, and no sooner than 28 days after installation of finish coat, apply fog coat finish to all plaster surfaces as recommended by manufacturer.

3.7. TOLERANCES

3.7.1. Exposed finish plaster: Maximum variation from true plane limited to 1/4 inch plus or minus, in 10 feet, non-cumulative.

3.7.2. Interior Plaster/Thin brick tile substrate: Maximum variation from true plane limited to 1/8 inch plus or minus, in 10 feet, non-cumulative.

3.8. CLEANING AND PROTECTION

3.8.1. Protect all aluminum frames, accessories, glass and thresholds from plaster application with complete waterproof protective sheeting or tape.

3.8.1.1. Verify tape compatibility with all prefinished coatings.

3.8.1.2. Do not allow tape or protection sheeting to contact glass.

3.8.1.3. Remove all covering and tape within two weeks of plaster completion in any one area.

3.8.2. During plaster operations, provide plywood or other approved protection at all roofing, walkways, and concrete paving.

3.8.2.1. Lap and tape edges as necessary to prevent water infiltration to unprotected plywood sheathing below.

3.8.3. Remove all traces of spilled or splashed plaster from surfaces and landscaping. Do not discharge plaster wash-off into planter areas.

3.9. FIELD QUALITY CONTROL

3.9.1. The Owner reserves the right, prior to applying finish coat, to direct Contractor to remove 2 plaster assembly samples taken from in-place plaster at random locations as selected by Architect.

3.9.1.1. Remove plaster by saw-cutting through underlayment. Do not cut sheathing.

3.9.1.2. Samples shall be 24 inches square, and selected at locations to include lath and underlayment joint.

3.9.1.3. Repair plaster at sample area to match adjacent plaster, including providing additional underlayment shingle lapped with remaining underlayment.

3.9.2. Take all samples in the presence of the Architect.

3.9.3. The Architect will take possession of samples for inspection and testing, including plaster mix content and lath placement.

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- 3.9.4. Cost of sample removal and repair will be paid by Owner if plaster complies with specification. Contractor shall pay for sample removal, repair, and all remedial work made necessary by non-compliance with the specification.

END OF SECTION



SECTION 09 22 16

NON-STRUCTURAL METAL STUD FRAMING

1. PART 1 - GENERAL

1.1. SECTION INCLUDES

- 1.1.1. Formed non-structural metal wall and horizontal framing.
- 1.1.2. Formed metal furring systems.
- 1.1.3. Framing accessories.

1.2. SUBMITTALS

- 1.2.1. Submit product data under provisions of Section 01 33 00.
- 1.2.2. Product Data:
 - 1.2.2.1. Submit a complete list of all materials proposed to be furnished and installed under this portion of the work.
 - 1.2.2.2. Provide current ICBO ES report.
 - 1.2.2.3. Provide framing member materials, dimensions, structural properties and finishes.

1.3. FIELD MEASUREMENTS

- 1.3.1. Verify field measurements are as shown on shop drawings.

1.4. QUALITY ASSURANCE

- 1.4.1. Fabricate formed steel framing members in accordance with AISC-Specification for the Design, Fabrication and Erection of Structural Steel for Buildings.

1.5. QUALIFICATIONS

- 1.5.1. Manufacturer: Use manufacturers with a demonstrated history of producing the specified products for a period of five (5) years prior to beginning work of this section, and with the capability to produce the specified products to the delivery and quantity criteria of the project.
- 1.5.2. Fabricator/Installer: Use only thoroughly trained and experienced personnel, who have installed similar applications of the specified products within one year prior to beginning work of this section on DSA regulated projects, and who are completely familiar with the manufacturers' recommended methods of installation as well as the requirements of this work.

1.6. DELIVERY, STORAGE AND HANDLING

- 1.6.1. Deliver and store on site under the provisions of Section 01 60 00.
- 1.6.2. Store materials above ground, protected from dirt, grease, corrosion and other damage.

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- 1.6.3. Store all other materials in a waterproof manner.
- 1.6.4. Provide original packaged welding electrodes, clearly marked as to type and rating.
- 1.6.5. Do not store materials on structure in a manner causing potential distortion or damage to members, surfaces, or supporting structures.

2. PART 2 - PRODUCTS

2.1. MANUFACTURERS

- 2.1.1. Basis of Design: Characteristics of specific products manufactured by Dietrich Industries Inc. are indicated to establish required level of quality and performance. The Architect will consider comparable products by alternate manufacturers listed in this Section, and requests for substitutions, under the provisions of Section 01 25 00.

- 2.1.1.1. Acceptable Alternate Manufacturers: American Studco, Cemco, Unimast, Western Metal Lath & Steel Framing, or equal.

2.2. MATERIALS/DESIGN CRITERIA

- 2.2.1. Base Metal Thickness Criteria: All metal framing materials provided as work of this Section shall comply with the following minimum thickness criteria for uncoated sheet steel. Thicknesses indicated are the minimum acceptable thickness for materials delivered to jobsite.

- 2.2.1.1. Members designated as 20 gage: 0.0329-inch

- 2.2.1.2. Members designated as 16 gage: 0.0566-inch

2.3. WALL/VERTICAL SURFACE FRAMING MATERIALS

- 2.3.1. Type: Punched "C" studs, screwable, ASTM C645.

- 2.3.2. Series:

- 2.3.2.1. Members designated as 20 gage: Dietrich Series STE 20, unless noted otherwise.

- 2.3.2.2. Members designated as 16 gage: Dietrich Series CSJ 16, unless noted otherwise.

- 2.3.3. Characteristics:

- 2.3.3.1. Size: Depth as shown on drawings, 1-5/8 inch flange with 1/2 inch return, unless noted otherwise.

- 2.3.3.2. Base Metal:

- 2.3.3.2.1. 20 or 18 gage members: ASTM A 570 Grade 33 sheet steel, $F_y = 33,000$ psi, galvanized to G60 coating class per ASTM A 653.

- 2.3.3.2.2. 16 gage members: ASTM A 1011 Grade 50 sheet steel, $F_y = 50,000$ psi, galvanized to G60 coating class per ASTM A 653.

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2.3.3.3. Top/bottom Track: Same gage and material as wall framing or 20 gage, whichever is more restrictive, 1 inch leg unless noted otherwise, width to suit stud width.

2.3.3.4. Bracing: 20 gage, unless otherwise indicated.

2.4. ACCESSORIES

2.4.1. Self drilling Screws, Bolts, Nuts and Washers: ASTM A90, hot dip galvanized.

2.4.2. Head of Wall Joint System: Provide Fire Trak, phone 800-394-9875, or equal head of wall connection system complying with CBC Section 706A. Select configuration complying with project wall/floor or wall/roof assembly as shown on drawings.

2.4.2.1. System selected shall be listed with UL or approved alternate testing agency approved by DSA as complying with test standards as required by referenced section of Title 24.

2.4.3. Metal Backing: 16 gage galvanized steel, as indicated on drawings, for attachment of wall mounted fixtures, equipment, cabinets, shelving, grab bars and handrails and other items not considered finish materials.

2.4.4. Anchorage Devices:

2.4.4.1. Expansion bolts: Galvanized steel; size as indicated on drawings.

2.4.4.2. Powder Actuated Fasteners: Size and type as indicated on drawings.

2.4.5. Acoustic Sealant: As specified in Section 09 21 16.

2.4.6. Fire-Resistive Sealant: As specified in Section 09 21 16.

2.4.7. Fire Safing Insulation (where required): As specified in Section 09 21 16.

2.4.8. Primer: FS TT-P-645, for touch-up of galvanized surfaces.

2.5. FABRICATION

2.5.1. Fabricate assemblies of framed sections to sizes and profiles required; with framing members fitted, reinforced, and braced to suit design requirements.

2.5.2. Fit and assemble in largest practical sections for delivery to site, ready for installation.

2.6. SOURCE QUALITY CONTROL AND TESTS

2.6.1. Sample and test under the provision of Section 01 45 29.

2.6.2. Studs and track: CBC Chapter 22A.

2.7. OTHER MATERIALS

2.7.1. Provide all other materials, not specifically described but required for complete and proper installation of this work, as selected by the contractor and subject to the approval of the Architect.

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3. PART 3 - EXECUTION

3.1. SURFACE CONDITIONS

3.1.1. Inspection

- 3.1.1.1.** Prior to work of this section, carefully inspect previously installed work. Verify all such work is complete to the point where this installation may properly commence.
- 3.1.1.2.** Verify that work of this section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.
- 3.1.1.3.** In the event of discrepancy, immediately notify the Architect.
- 3.1.1.4.** Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2. ERECTION

- 3.2.1.** Align and secure top and bottom wall tracks.
- 3.2.2.** Fit tracks under and above openings; secure intermediate studs at spacing of wall studs.
- 3.2.3.** Connect studs to tracks using method called for on the drawings.
- 3.2.4.** Stud splicing NOT permissible.
- 3.2.5.** Construct corners using minimum three studs.
- 3.2.6.** Provide multiple studs at wall openings as indicated.
- 3.2.7.** Brace stud framing system and make rigid.
- 3.2.8.** Coordinate erection of studs with requirements of door and window frame supports and attachments.
- 3.2.9.** Align stud web openings.
- 3.2.10.** Coordinate installation of bucks, anchors, and blocking and backing plates with architectural, electrical, and mechanical work to be placed in or behind stud framing.
- 3.2.11.** Blocking and backing: Install blocking and backing plates for support of plumbing fixtures, toilet partitions, wall cabinets, toilet accessories, hardware, and equipment.
- 3.2.12.** Maintain clearance under structural building members to avoid deflection transfer to studs.
- 3.2.13.** Coordinate placement of insulation in multiple stud spaces made inaccessible after stud framing erection.
- 3.2.14.** Mechanically Fastened Connections: Connect members with mechanical fasteners as shown on drawings, with screws penetrating joined members by not less than three exposed screw threads. Wire tying of framing members is not permitted.

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3.3. TOLERANCES

3.3.1. Maximum Variation From True Position: 1/4 inch.

3.3.2. Maximum Variation of any Member from Plane: 1/8 inch.

3.4. FIELD QUALITY CONTROL

3.4.1. Perform field inspection and testing under the provisions of Section 01 45 00.

3.4.1.1. Expansion Anchors: Pullout testing; IR 19-1, 9/99, issued by the Division of the State Architect. Refer to testing schedule on Drawings.

END OF SECTION



SECTION 09 30 13

CERAMIC TILING

1. PART 1 - GENERAL

1.1. SECTION INCLUDES

- 1.1.1. Ceramic tile.
- 1.1.2. Grout, mortar bed and setting materials.
- 1.1.3. Waterproof underlayment and membranes.
- 1.1.4. Crack isolation/Sound isolation/Cleavage membranes.
- 1.1.5. Sealers.

1.2. SUBMITTALS

- 1.2.1. Samples
 - 1.2.1.1. Submit four samples of specified colors and patterns of each tile, grout, and accessory units of the specified items.
 - 1.2.1.2. Submit as an assembly in 24 inch square sample.
- 1.2.2. Materials List/Details: Accompanying samples, submit complete list of all proposed materials, including details of all joints between tile and adjoining materials.
- 1.2.3. Mock-up: Prior to beginning tile on typical toilet wall and floor surface, prepare in-place mock-up of portion of installation and obtain Architect's approval.
- 1.2.4. Certification
 - 1.2.4.1. Prior to installation of tile in any one area, submit written certification to Architect certifying that surfaces are properly prepared for specified installation, and that all depressions and abutting edges are properly spaced and aligned to permit installation in pattern shown on drawings. See 3.1 below.
 - 1.2.4.2. Submit certification that selected detectable warning tile complies with requirements of the Americans with Disabilities Act of 1990.
 - 1.2.4.3. Submit certification that selected sealant specified in Section 07 90 00 will achieve manufacturer's published adhesion values on specified tile.
- 1.2.5. Slip Resistance Testing: Test six representative tile from each tile specified, selected at random from project stock per ASTM C1028 to verify compliance with slip resistance criteria.

1.3. QUALITY ASSURANCE

- 1.3.1. Conform to ANSI A137.1.

- 1.3.2. Conform to Tile Council of North America (TCNA) Handbook for Ceramic Tile Installation methods as defined in this Section.

1.4. QUALIFICATIONS

1.4.1. Manufacturer:

- 1.4.1.1. Manufacturer shall have produced tile products of similar type for a period of five (5) years prior to beginning work of this section, and shall have the capability to produce the specified products to the delivery and quantity criteria of the project.

1.4.2. Staff

- 1.4.2.1. Use only personnel thoroughly trained and experienced in the skills required, have installed similar applications of the specified products within one year prior to beginning work of this section, and are completely familiar with the manufacturers' recommended methods of installation as well as the requirements of this work.
- 1.4.2.2. Staff installing specified grout shall have attended manufacturer's training sessions and have installed specified grout within the past 12 months prior to beginning work.

1.5. DELIVERY, STORAGE, AND HANDLING

- 1.5.1. Deliver products to site under provisions of Section 01 60 00.
- 1.5.2. Store and protect products under provisions of Section 01 60 00.

1.6. ENVIRONMENTAL REQUIREMENTS

- 1.6.1. Do not install adhesives in a closed, unventilated environment.
- 1.6.2. Maintain 50 degrees F during installation of mortar materials.

1.7. EXTRA STOCK

- 1.7.1. Provide sufficient field tile of each type and color to cover ten square feet. In addition, provide ten cove base tile of each type and color.
- 1.7.2. Package in clearly labeled containers, store as necessary until delivered to Owner.

2. PART 2 - PRODUCTS

2.1. CERAMIC TILE

- 2.1.1. Basis of Design: Characteristics of specific products, where named in this Section, are indicated to establish required level of quality, appearance, and performance. Architect will consider comparable products by alternate manufacturers where listed, and requests for substitutions, under the provisions of Section 01 25 00.
 - 2.1.1.1. Acceptable Alternate Manufacturers: Interceramic www.interceramic.com.
 - 2.1.1.2. All tile for like applications shall be the product of a single manufacturer as indicated below.

2.1.2. Product Characteristics: Interior Wall Tile

2.1.2.1. Manufacturer: Dal-Tile

2.1.2.2. Series: Porcelato Porcelain tile.

2.1.2.3. Color: One color as selected by Architect from full range of all Group 2 colors in Graniti or Solid Series.

2.1.2.4. Finish: Unpolished .

2.1.2.5. Size: 4 x 4.

2.1.2.6. Grout Joint: Nominal 1/4 inch, all joints equal, except at expansion joint conditions. Provide minimum 1/4 inch wide joint at all expansion joint conditions.

2.1.3. Product Characteristics: Floor Tile CT-X

2.1.3.1. Manufacturer: Dal - Tile

2.1.3.2. Series: French Quarter.

2.1.3.3. Color: Mardi-Gras.

2.1.3.4. Mix/Pattern Criteria: As shown on drawings.

2.1.3.5. Finish: Unglazed Slate

2.1.3.6. Size: 12 x 12.

2.1.3.7. Grout Joint: Nominal 1/4 inch, all joints equal.

2.1.3.8. Coefficient of Friction: Minimum 0.60 per ASTM C1028 wet and dry.

2.2. PORTLAND CEMENT MORTAR

2.2.1. Mortar Bed: Portland Cement and sand mixture, complying with specified method and ANSI A108.1B.

2.3. PORTLAND CEMENT BOND COAT

2.3.1. Mapei Ultra/Flex II www.mapei.com or equal, polymer-modified one-step mortar per ANSI A108.5 and A118.4. Provide white cement at all limestone/marble applications.

2.4. GROUT

2.4.1. All grouts shall be produced by same manufacturer.

2.4.2. Sanded Grouts: Mapei Keracolor Floor or equal, with Mapei Plastijoints acrylic grout additive, complying with ANSI A118.6. Two separate colors as selected by Architect from Classic or Designer Series color line.

2.4.3. UnSanded Grouts: Mapei Keracolor Wall or equal, with Mapei Plastijoints acrylic grout additive per ANSI A118.6. Two separate colors as selected by Architect from Classic or Designer Series color line.

2.4.4. Epoxy Grouts:

- 2.4.4.1.** Manufacturer: Mapei or equal.
- 2.4.4.2.** Series: Kerapoxy, 100 percent solids, two-component, non-sag grout, complying with ANSI A118.3, formulated for required joint widths.
- 2.4.4.3.** Service Temperature Resistance: 350 degrees F.
- 2.4.4.4.** Color: Three separate colors as selected by Architect from stock 10 color line.

2.5. SEALERS AND FINISHES

- 2.5.1.** Grout Sealer: Miracle Sealants 511 Impregnator, phone (800)-350-1901.
- 2.5.2.** Slip Resistant Coating: Miracle Sealants 511 Impregnator, phone (800)-350-1901.

2.6. ACCESSORIES

2.6.1. Sealants:

- 2.6.1.1.** Interior sealants: Unless noted otherwise, provide sealants as manufactured by grout manufacturer.
 - 2.6.1.1.1.** Where exposed to pedestrian traffic, provide sealants rated for pedestrian traffic, with minimum Shore A value of 35, as manufactured by grout manufacturer.
 - 2.6.1.1.2.** Match adjacent grout color.
- 2.6.1.2.** Exterior Ceramic Tile Paving Sealants: As specified in Section 07 90 00.
- 2.6.1.3.** Exterior Ceramic Wall Tile Sealants: As specified in Section 07 90 00.
- 2.6.1.4.** Stone Sealants: Non-staining sealants complying with certification criteria.

2.6.2. Reinforcing Mesh: 2 x 2 inch square x 16 gauge welded wire mesh.

2.6.3. Metal Lath: Diamond mesh lath complying with ASTM C847, galvanized, self-furring, 2.5 lb/square yard minimum weight.

2.6.4. Organic Adhesive: Type 1 organic adhesive, complying with ANSI A136.1 and approved by CTI for application.

2.6.5. Cleavage Membrane: Provide asphalt felt, ASTM D226, Type I (No. 15), or polyethylene sheet, ASTM D4397, 4.0 mils thick.

2.7. WATERPROOFING AND CRACK ISOLATION MEMBRANES

2.7.1. Thin-set Waterproofing Applications (Interior): NobleSeal TS, Dal-Seal TS, or equal preformed sheet CPE membrane, 30 mil thickness, with facing. Provide preformed corners and all manufacturers recommended accessories.

2.7.2. Thin-set Joint Isolation Membrane: NobleSeal CIS, Dal-Seal CIS, or equal preformed sheet CPE membrane, 30 mil thickness, with facing. Provide all manufacturers recommended accessories.

2.7.3. Mortar Bed Waterproofing Applications: NobleSeal Chloraloy 240, preformed sheet CPE membrane, 40 mil thickness. Provide preformed corners and all manufacturers recommended accessories.

2.7.4. Thin-set Waterproofing/Crack Isolation Membrane (Exterior) : NobleDeck CPE sheet membrane, 40 mil thickness, with facing, formulated for exterior use and rated for "Extra Heavy" service per ASTM C627.

2.7.5. Fluid Applied Membrane System: Mer-Krete BFP cold-applied membrane system, complying with ANSI A118.10..

2.8. MORTAR AND GROUT MIXES

2.8.1. Mix and proportion cementitious materials for mortar and grout mixes in accordance with manufacturers requirements.

2.8.1.1. Do not mix more bond coat than can be used within one hour.

2.8.1.2. If bond coat mixture begins to skin, discard and make new batch.

2.9. ACCESSORY TILE

2.9.1. General

2.9.1.1. All accessory tile shall be in matching size, color, and finish.

2.9.1.2. Stretcher tile can be the standard size of the manufacturer.

2.9.1.3. Provide surface bullnose trim at all open edges or ends. Unglazed or cut tile edges unacceptable.

2.9.1.4. Provide surface bullnose trim at all tile abutting jamb conditions and extending beyond frame.

2.9.1.5. Provide full curved stretcher tile for all outside corners.

2.10. OTHER MATERIALS

2.10.1. Provide all other materials, not specifically described but required for complete and proper installation of this work, as selected by the contractor and subject to the approval of the Architect.

3. PART 3 - EXECUTION

3.1. SURFACE CONDITIONS

3.1.1. Inspection:

3.1.1.1. Prior to all work of this section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.

3.1.1.2. Verify that work of this Section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.

- 3.1.1.2.1. Verify joints in concrete substrate occur only at sealant expansion joint locations as specified for ceramic tile.
- 3.1.1.2.2. Where non-documented substrate cracks occur, obtain direction from Architect.
- 3.1.1.3. In the event of discrepancy, immediately notify the Architect.
- 3.1.1.4. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2. MEMBRANE INSTALLATION

- 3.2.1. Verify slab preparation complies with criteria specified in Section 03 30 00 / 03 30 10.
 - 3.2.1.1. Remove all sealers, curing compounds and other materials affecting proper bond of membranes with bead blast abrasive equipment.
- 3.2.2. Cleavage Membrane: Unless otherwise shown on drawings, where mortar bed is installed over concrete slab on grade at interior applications, provide specified cleavage membrane.
- 3.2.3. Waterproofing Membrane Installation:
 - 3.2.3.1. Apply waterproofing membrane per manufacturers recommendations.
 - 3.2.3.1.1. Apply thinset waterproofing membrane using approved latex modified mortar system.
 - 3.2.3.2. Provide preformed corners. Seal all penetrations with specified sealant.
 - 3.2.3.3. Detail all joints as required by manufacturer and approved submittal.
 - 3.2.3.4. Extend membrane up wall surface as shown on drawings. Coordinate with wall underlayment.
 - 3.2.3.5. At expansion joints, continue sheet material in looped fashion through joint to accommodate anticipated joint movement.
 - 3.2.3.6. Allow sufficient time for all seams, transitions and setting beds to cure before installing subsequent materials. Do not install tile over waterproofing until waterproofing has been tested to determine that it is watertight.
- 3.2.4. Joint isolation membrane installation:
 - 3.2.4.1. Install at all cracks in concrete slab substrates, control and expansion joints, and at all transitions between dissimilar materials.
 - 3.2.4.2. Extend each side of crack or joint a minimum of 4 times diagonal tile dimension.
 - 3.2.4.3. Apply using approved latex modified mortar system.
 - 3.2.4.4. At expansion joints, continue sheet material in looped fashion through joint to accommodate anticipated joint movement.

3.3. MORTAR BED INSTALLATION

- 3.3.1. Unless noted otherwise, prepare floor substrate as required for complete bond. Remove all sealers, curing compounds and other materials affecting proper bond of membranes with bead blast abrasive equipment.
- 3.3.2. Coordinate lath and mortar bed installation with concrete slab substrate joints. Align expansion joints in mortar bed and tile with substrate joints.
- 3.3.3. Install mortar bed in accordance with specified method and referenced ANSI standard.
- 3.3.4. Where waterproof membrane is provided, do not penetrate membrane. Provide accessory supports.

3.4. TILE INSTALLATION

- 3.4.1. Install tile and grout in accordance with manufacturer's instructions and TCNA Handbook methods as specified.
- 3.4.2. Spread bond coat over area of installation using a notched trowel. Do NOT spread more bond coat than can be covered with tile within manufacturer's recommended time periods.
- 3.4.3. Cut and fit tile tight to penetrations through tile. Form corners and bases neatly. Utilize bullnose trim shapes where tile terminates at dissimilar material in the same wall plane.
 - 3.4.3.1. Use saw to cut tile fitting against curved surfaces or edges. Do not use nippers.
 - 3.4.3.2. Use drill for all pipe or conduit penetrations. Do not split tile.
- 3.4.4. Place tile joints in uniform width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout.
- 3.4.5. Sound tile after setting. Replace hollow sounding units.
 - 3.4.5.1. Back-butter all exterior tile installations.
- 3.4.6. Allow tile to set for a minimum of 48 hours prior to grouting, or as recommended by mortar manufacturer.
- 3.4.7. Grout tile joints. Do not allow grout to harden on face of tile.
 - 3.4.7.1. Install grout at abrasive grit tile using grout bag or grouting machines. Conventional sponge spread technique not acceptable.
- 3.4.8. Install sealant under the provisions of Section 07 90 00 and as specified.
- 3.4.9. Toilet Wall Tile Installation:
 - 3.4.9.1. Install wall tile at cementitious backer board per TCNA Method W244, and per ANSI A108.5.
 - 3.4.9.1.1. Provide portland cement leveling coat as required to provide surface complying with 1/8 inch in 8 feet tolerance.

- 3.4.9.2. Install wall tile at water resistant gypsum board per TCNA Method W223, and per ANSI A108.4.
- 3.4.9.3. Install wall tile at concrete/masonry wall per TCNA Method W211/222, and per ANSI A108.1B.
- 3.4.9.4. Grout all wall joints with specified epoxy/sanded/unsanded grout per ANSI A108.10.
- 3.4.10. Toilet Floor Tile Installation:
 - 3.4.10.1. Install floor tile at waterproofed mortar bed areas per TCNA Method F121 and ANSI A108.1B.
 - 3.4.10.2. Install floor tile at cleavage membrane mortar bed areas per TCNA Method F111 and ANSI A108.1B.
 - 3.4.10.3. Install floor tile at thinset waterproof membrane per TCNA Method F122, and per ANSI A108.5.
 - 3.4.10.4. Grout all floor joints with specified epoxy/sanded grout per ANSI A108.10.
- 3.4.11. Kitchen Quarry Tile Installation:
 - 3.4.11.1. Install floor tile at cleavage membrane mortar bed areas per TCNA Method F111 and ANSI A108.1B.
 - 3.4.11.2. Install floor tile at thinset areas per TCNA Method F113 and ANSI A108.5.
 - 3.4.11.3. Grout all floor joints with specified epoxy/sanded/unsanded grout per ANSI A108.10.
- 3.4.12. Installation of expansion and control joint assemblies.
 - 3.4.12.1. Provide expansion joints complying with TCNA Detail EJ171 at the following specified locations and as located and shown on drawings:
 - 3.4.12.1.1. At wall tile to paver/floor tile joints.
 - 3.4.12.1.2. At all expansion and control joints in substrate. Where tile joint does not occur directly over substrate joint, provide sealant joint on each side of joint.
 - 3.4.12.1.3. At tile joint at inside vertical corners.
 - 3.4.12.1.4. At interior applications, at approximately 24 feet on center each way in floor and wall tile surfaces. Adjust to 12 feet at toilet tile conditions, and 8 feet for dark tile in sunlight areas.
 - 3.4.12.1.5. Where material transitions occur, comply with expansion/control joint criteria.
 - 3.4.12.1.6. At conditions where tile extends through doorways, extend wall cove/floor tile sealant joint across doorway.
 - 3.4.12.1.7. At floor drain/tile edge, column penetrations, tile terminations against frames and other restraining elements.

- 3.4.12.1.8. At tile terminations against curbs, paving or other restraining elements.

3.5. CLEANING

- 3.5.1. Clean work under provisions of Section 01 77 19.
- 3.5.2. Clean tile surfaces in accordance with the tile and grout manufacturer's instructions; remove all traces of grout scum.
- 3.5.3. Do not use muriatic acid compounds.
- 3.5.4. Do not allow traffic on tile for a minimum of 72 hours after installation.
- 3.5.5. Provide damp cure of all installations per manufacturer's recommendations and per ANSI A108.
 - 3.5.5.1. Do not damp cure latex modified grout systems unless recommended by manufacturer.
- 3.5.6. Sealing
 - 3.5.6.1. Seal all interior toilet floor, base, and wall ceramic tile applications.
 - 3.5.6.1.1. Do not seal epoxy grout applications.
 - 3.5.6.2. Seal per manufacturer's recommendations.

3.6. PROTECTION

- 3.6.1. Protect finished installation under provisions of Section 01 50 00.
- 3.6.2. Provide non-staining protective coverings for all tile in traffic area.
- 3.6.3. Remove and replace any products that are cracked, scraped, or otherwise damaged after installation and before acceptance by Owner.

3.7. FIELD QUALITY CONTROL

- 3.7.1. Tolerances
 - 3.7.1.1. Grout joint alignment with adjacent edge: 1/8" in 10 feet.
 - 3.7.1.2. Row and column alignment: 1/8" in 10 feet deviation.
 - 3.7.1.3. Alignment with adjacent tile: 1/16" +/-.
 - 3.7.1.4. Level, plane and/or vertical: 1/8" in 10 feet deviation.

END OF SECTION



SECTION 09 51 00
ACOUSTICAL CEILINGS

1. PART 1 - GENERAL

1.1. SECTION INCLUDES (FOR REPAIRING EXISTING INSTALLATIONS)

- 1.1.1.** Suspended metal grid ceiling system.
- 1.1.2.** Acoustical panels.
- 1.1.3.** Perimeter trim.

1.2. SYSTEM DESCRIPTION

- 1.2.1.** Installed System: Conform to ASTM C635 and C636 and CBC Section 2501A.5.

1.3. QUALITY ASSURANCE

- 1.3.1.** Installer: Company with three years minimum documented experience with projects under the jurisdiction of DSA OSHPD.

1.4. SUBMITTALS

- 1.4.1.** Submit shop drawings and product data under provisions of Section 01 33 00.
- 1.4.2.** Indicate on shop drawings, grid layout and related dimensioning, junctions with other work or ceiling finishes, interrelation of mechanical and electrical items related to system, and complete suspension system details.
- 1.4.3.** Submit samples under provisions of Section 01 33 00.

1.5. ENVIRONMENTAL REQUIREMENTS

- 1.5.1.** Maintain uniform temperature of minimum 60 degrees F and humidity of 20 to 40 percent prior to, during, and after installation.

1.6. SEQUENCING/SCHEDULING

- 1.6.1.** Do not install acoustical ceilings until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.
- 1.6.2.** Schedule installation of acoustic units after interior wet work is dry.

1.7. EXTRA STOCK

- 1.7.1.** Provide extra quantity of acoustic units under provisions of Section 01 77 19.
- 1.7.2.** Acoustical Panel: Provide five (5) unopened boxes of each type of acoustical panel.
- 1.7.3.** Acoustically Reflective Panel: Provide five (5) of each type of panel.

2. PART 2 - PRODUCTS

2.1. MANUFACTURERS

- 2.1.1. Basis of Design: Characteristics of specific products, where named in this Section, are indicated to establish required level of quality, appearance, and performance. Architect will consider requests for substitutions, under the provisions of Section 01 25 00.

2.2. CEILING SUSPENSION SYSTEM

- 2.2.1. Manufacturer: Chicago Metallic, <http://www.chicago-metallic.com/>, USG Donn Brand Suspension System www.usg.com, Armstrong World Industries, Inc., www.ceilings.com, or equal.
- 2.2.2. Series: 1200
- 2.2.2.1. Main Runner: 200-01
- 2.2.2.2. Cross Runners: 1214-01 at 48 inch length, and 1226-01 at 24 inch length.
- 2.2.2.3. Edge moldings: "L" shaped, 1420-01.
- 2.2.2.4. Edge moldings: "Shadowline" custom 1/2-inch wide reveal molding as shown on drawings, with prefabricated inside and outside corner caps.
- 2.2.2.5. Face Dimension: 15/16 inches.
- 2.2.3. Duty Rating: Heavy Duty per ASTM C635.
- 2.2.4. Fire Resistance Rating: Non-rated assembly.
- 2.2.5. Color: Painted finish, as selected from standard line.
- 2.2.6. Support/Fastening System: Components of size and type as shown in the drawings or identified in DSA IR M-3, as required to rigidly secure acoustic ceiling system with maximum deflection of 1/360. Use USG perimeter attachment clips AC M7, or equal to allow 3/4 inch movement and retain the panel in place. No perimeter pop rivets.
- 2.2.7. Compression Strut: Provide vertical compression strut at grid in accordance with DSA IR M-3 and as shown on drawings.

2.3. CEILING SUSPENSION SYSTEM

- 2.3.1. Manufacturer: Armstrong World Industries, Inc., www.ceilings.com, Chicago Metallic, <http://www.chicago-metallic.com>, USG Donn Brand Suspension System www.usg.com, or equal.
- 2.3.2. Series
- 2.3.2.1. Narrow Face Series - Type 1: Silhouette 7600.
- 2.3.2.2. Standard Face Series - Type 2: Prelude 7300.
- 2.3.3. Duty Rating: Heavy Duty per ASTM C635.
- 2.3.4. Fire Resistance Rating: Non-rated assembly.

- 2.3.5. Color: Painted finish, as selected from standard line.
- 2.3.6. Support/Fastening System: Components of size and type as shown in the drawings or identified in DSA IR M-3, as required to rigidly secure acoustic ceiling system with maximum deflection of 1/360. Use USG perimeter attachment clips AC M7, or equal to allow 3/4 inch movement and retain the panel in place. No perimeter pop rivets.
- 2.3.7. Compression Strut: Provide vertical compression strut at grid in accordance with DSA IR M-3 and as shown on drawings.

2.4. CEILING SUSPENSION SYSTEM

- 2.4.1. Manufacturer: USG Donn Brand Suspension System, www.usg.com, Armstrong World Industries, Inc., www.ceilings.com, Chicago Metallic, <http://www.chicago-metallic.com>, or equal.
- 2.4.2. Series
 - 2.4.2.1. Narrow Face Series - Type 1: Fineline.
 - 2.4.2.2. Standard Face Series - Type 2: DX/DXL.
- 2.4.3. Duty Rating: Heavy Duty per ASTM C635.
- 2.4.4. Fire Resistance Rating: Non-rated assembly.
- 2.4.5. Color: Painted finish, as selected from standard line.
- 2.4.6. Support/Fastening System: Components of size and type as shown in the drawings or identified in DSA IR M-3, as required to rigidly secure acoustic ceiling system with maximum deflection of 1/360. Use USG perimeter attachment clips AC M7, or equal to allow 3/4 inch movement and retain the panel in place. No perimeter pop rivets.
- 2.4.7. Compression Strut: Provide vertical compression strut at grid in accordance with DSA IR M-3 and as shown on drawings.

2.5. ACOUSTIC PANELS: ACP-1

- 2.5.1. Manufacturer: Armstrong World Industries, Inc., www.ceilings.com, USG www.usg.com or equal.
- 2.5.2. Series: Minaboard
 - 2.5.2.1. Style: Cortega, 769. USG Radar 2310
 - 2.5.2.2. Edge: Square.
 - 2.5.2.3. Size: 24 x 48 x 5/8 inch.
- 2.5.3. Fire/Habitability Criteria:
 - 2.5.3.1. Fire Resistance Rating: Class A per ASTM E1264, maximum Flame Spread of 25, maximum smoke contributed of 450, UL Labeled.
 - 2.5.3.2. Noise Reduction: NRC range of .50 - .60.
 - 2.5.3.3. Light Reflectance: LR-1 (Minimum 0.80).

2.5.4. Finish: Factory applied paint

2.5.5. Color: White

3. PART 3 - EXECUTION

3.1. SURFACE CONDITIONS

3.1.1. Inspection

3.1.1.1. Prior to work of this Section, carefully inspect previously installed work. Verify all such work is complete to the point where this installation may properly commence.

3.1.1.2. Verify that work of this Section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.

3.1.1.2.1. Verify hanger layout will not interfere with other work.

3.1.1.3. In the event of discrepancy, immediately notify the Architect.

3.1.1.4. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2. CEILING GRID INSTALLATION

3.2.1. Install system in accordance with ASTM C635 and C636 as modified by CBC Section 2501A.5, including required vertical compression struts.

3.2.2. Install system capable of supporting imposed loads to a deflection of 1/360 maximum.

3.2.3. Install after major above ceiling work is complete. Coordinate the location of hangers with other work.

3.2.4. Crimp or tightly twist wire ends around wire support. Do not leave ends angled away from line of wire support.

3.2.5. Install after major above ceiling work is complete. Coordinate the location of hangers with other work.

3.2.6. Where ducts or other equipment prevent the regular spacing of hangers, install independent framing below ductwork or equipment from which hangers may be attached. Hangers are prohibited from being attached to any non structural building element.

3.2.7. Locate system on room axis leaving equal border units according to reflected ceiling plan.

3.2.8. Install edge molding at intersection of ceiling and vertical surfaces, using longest practical lengths. Miter corners. Provide edge moldings at junctions with other interruptions. Where round obstructions occur, provide preformed closers to match edge molding.

3.3. ACOUSTIC UNIT INSTALLATION

3.3.1. Install acoustic units level, in uniform plane, and free from twist, warp and dents.

3.4. TOLERANCES

3.4.1. Variation from Flat and Level Surface: 1/8 inch in 10 feet.

END OF SECTION



SECTION 09 65 00
RESILIENT FLOORING

1. PART 1 - GENERAL

1.1. SECTION INCLUDES

1.1.1. Resilient tile flooring.

1.1.2. Resilient base.

1.2. SUBMITTALS

1.2.1. Provide submittals under provisions of Section 01 33 00.

1.2.1.1. Submit four samples 12x12 inches in size, illustrating color and pattern for each floor material specified.

1.2.1.2. Submit four 12 inch long samples of base material for each color specified.

1.2.2. Submit manufacturer's installation instructions.

1.2.3. Submit moisture test results on concrete substrate.

1.2.4. Submit shop drawings.

1.2.4.1. Provide seaming plan.

1.3. OPERATION AND MAINTENANCE DATA

1.3.1. Submit cleaning and maintenance data under provisions of Section 01 77 19.

1.4. ENVIRONMENTAL REQUIREMENTS

1.4.1. Store materials for three days prior to installation in area of installation to achieve temperature stability.

1.4.2. Maintain ambient temperature required by adhesive manufacturer three days prior to, during, and 24 hours after installation of materials.

1.5. EXTRA STOCK

1.5.1. Flooring: Provide one box of each color and style of selected flooring in unopened box, from same run as installation.

1.5.2. Base: Provide 100 linear feet of base, in each color and style selected, with 10 each matching outside and inside corners, from same run as installation.

2. PART 2 - PRODUCTS

2.1. MANUFACTURERS

- 2.1.1. Basis of Design: Characteristics of specific products, where named in this Section, are indicated to establish required level of quality, appearance, and performance. Architect will consider requests for substitutions, under the provisions of Section 01 25 00.

2.2. RESILIENT TILE

- 2.2.1. Manufacturer: Armstrong World Industries, Inc., <http://www.commercial-floors.com/>.

- 2.2.2. Series: Standard Excelon, Imperial series.

- 2.2.3. Size/Gage: 12 inch square, 1/8 inch gage.

- 2.2.4. Fire Resistivity/Habitability Criteria:

- 2.2.4.1. Critical Radiant Flux: Minimum 0.45 watts/cm² per ASTM E648.

- 2.2.4.2. NBS Smoke Rating: maximum 450 per ASTM E662.

- 2.2.4.3. Slip Resistance: Greater than 0.60 per ASTM D2047.

- 2.2.5. Color: Two separate colors, as selected by Architect.

2.3. RESILIENT BASE MATERIALS: TYPE RB-1

- 2.3.1. Manufacturer: Burke Mercer, <http://www.burkemercer.com/>.

- 2.3.2. Type: Vulcanized rubber, with no recycled products.

- 2.3.3. Series: BurkeBase Coved Toe.

- 2.3.4. Size: 4 inch high x 48 inch stock.

- 2.3.5. Fire Resistivity/Habitability Criteria:

- 2.3.5.1. Fire Resistivity Rating: Class II per ASTM E84.

- 2.3.5.2. Smoke Density Rating: maximum 360 per ASTM E662.

- 2.3.5.3. Material Standard: Comply with ASTM F1861, Type TS, Group 1 (Solid).

- 2.3.5.4. Color: Provide 2 separate colors, distributed approximately equally throughout project, as selected by Architect from Decorator and Commercial color line

2.4. ACCESSORY MATERIALS

- 2.4.1. Subfloor Filler: Portland cement based, Ardex, <http://www.ardex.com/>, or equal, type recommended by flooring material manufacturer. Use of gypsum based filler is prohibited.

- 2.4.2. Adhesives shall be approved by the flooring manufacturer prior to Product DATA submittal

2.4.3. Adhesive: Provide W.F. Taylor [<http://www.wftaylor.com/>] or equal, Envirotec, (800)986-3888, low VOC adhesive, Series as recommended by manufacturer. Adhesive VOC emissions shall not exceed maximum 0.60 mg/square meter/hour after 24 hours per EPA D.E.C. Testing method. Confirm adhesive compatibility with resilient flooring manufacturer prior to installation.

2.4.4. System Performance:

2.4.4.1. Moisture Vapor Emission Limit: System capable of successfully installing flooring products at slabs with water vapor emission levels up to and including 8.0 pounds per 1,000 square feet of floor area.

2.4.4.2. Alkalinity Level: System suitable for installation on slabs exhibiting pH values up to and including 12.5.

2.4.5. Fire/Life Safety/Habitability Criteria

2.4.5.1. Flammability: Provide water based materials.

2.4.5.2. Hazard rating: Materials used shall be rated non-hazardous under OSHA regulations.

2.4.5.3. Air Quality Compliance: All products used shall comply with local and federal VOC criteria.

2.5. OTHER MATERIALS

2.5.1. Provide all other materials, not specifically described but required for complete and proper installation of this work, as selected by the Contractor and subject to the approval of the Architect.

3. PART 3 - EXECUTION

3.1. SURFACE CONDITIONS

3.1.1. Inspection

3.1.1.1. Prior to work of this Section, carefully inspect previously installed work. Verify all such work is complete to the point where this installation may properly commence.

3.1.1.2. Verify that work of this Section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.

3.1.1.2.1. Verify that surfaces comply with specified tolerances.

3.1.1.2.2. Verify concrete floors comply with specified moisture content criteria acceptable to the flooring manufacturer, and do not exhibit negative alkalinity, carbonization, or dusting.

3.1.1.3. In the event of discrepancy, immediately notify the Architect.

3.1.1.4. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2. PREPARATION

3.2.1. Moisture testing

- 3.2.1.1. Conduct anhydrous calcium chloride testing using prepackaged kit systems approved by flooring manufacturer. Contractor shall employ an independent testing service or lab for moisture testing procedure, including placement and removal. Testing service shall be acceptable to Architect.
- 3.2.1.2. Provide test at coverage rate required by flooring manufacturer, with minimum of 3 tests/first 1,000 square feet and 1 test per each 1,000 square feet after. Distribute uniformly throughout building. Prepare map or diagram of test locations in each building.
- 3.2.1.3. Conduct one set of tests 60 days prior to scheduled flooring installation. Submit test results to Architect within 48 hours of test receipt.
- 3.2.1.4. Conduct second set of tests 14 days prior to scheduled flooring installation. Submit test results to Architect within 48 hours of test receipt.
- 3.2.1.5. Submit testing to Architect prior to beginning slab preparation or flooring work.

3.2.2. Evaluate existing floor surface. Prepare surface and apply underlayment to all floor surfaces exhibiting the following characteristics:

- 3.2.2.1. Cracks, gouges or holes exceeding 1/16 inch in any dimension.
- 3.2.2.2. Cracks with adjacent surfaces exceeding 1/16 inch in height.
- 3.2.2.3. All expansion, weakened plane or construction joints.
- 3.2.2.4. All surfaces exhibiting rough or abraded texture exceeding 1/16 inch amplitude.
- 3.2.2.5. All surfaces with gap exceeding 3/16 inch under 10 foot metal straight edge.

3.2.3. Prepare existing concrete substrate as recommended by manufacturer, including mechanical shot-blasting or equivalent.

3.2.4. Acid etching is not acceptable.

3.2.5. Prepare existing cracks in substrate as recommended by manufacturer.

3.2.6. Apply filler and trowel to leave a smooth, flat, hard surface.

3.2.7. Prohibit traffic from area until filler is cured. Vacuum clean substrate.

3.3. INSTALLATION – RESILIENT TILE FLOORING MATERIALS

3.3.1. Install in accordance with manufacturers' instructions and recommendations.

3.3.2. Spread only enough adhesive to permit installation of materials before initial set.

3.3.3. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

- 3.3.4. Install reducer strips at exposed edges or where flooring material changes to another type. Trim reducer width as required to achieve proper thickness at edges of abutting flooring.
- 3.3.5. Install tile to square grid pattern with all joints aligned.
- 3.3.6. Unless otherwise directed by manufacturer, lay in step or fan pattern from center grid. Do not allow tile "run-off".
- 3.3.7. Provide minimum 1/2 full size tile width at room or area perimeter.
- 3.4. INSTALLATION - BASE MATERIAL
 - 3.4.1. Install in complete lengths, fit joints tight and vertical. Do not piece. Maintain minimum measurement of 18 inches between joints.
 - 3.4.2. Use premolded units at all outside and inside corners.
 - 3.4.3. Install base on solid backing. Bond tight to wall and floor surfaces.
 - 3.4.4. Scribe and fit to door frames and other interruptions.
 - 3.4.5. Install using a constant level line at top of base.
- 3.5. PROTECTION AND CLEANING
 - 3.5.1. Prohibit traffic on floor finish for 48 hours after installation.
 - 3.5.2. Remove excess adhesive from floor, base, and wall surfaces without damage.
 - 3.5.3. Clean floor and base surfaces and buff floor without use of waxes or sealers in accordance with manufacturer's instructions.

END OF SECTION



SECTION 09 91 00

PAINTING

1. PART 1 - GENERAL

1.1. SECTION INCLUDES

- 1.1.1. Surface preparation.
- 1.1.2. Surface paint and stain finishes as scheduled.
- 1.1.3. Renovation and re-painting of existing finishes.

1.2. REGULATORY REQUIREMENTS

- 1.2.1. Submit manufacturer's certification of compliance with local criteria regarding VOC limits for all applied paints and coatings.

1.3. QUALITY ASSURANCE

- 1.3.1. Applicator: Company specializing in commercial painting and finishing with 5 years documented experience.
 - 1.3.1.1. Installing Foreman: Individual specializing in applying specified systems with minimum 10 years documented experience.
- 1.3.2. Special inspection Procedures: See Article 1.7 of this Section.

1.4. SUBMITTALS

- 1.4.1. Provide submittals under provisions of Section 01 33 00.
- 1.4.2. Product Data: Submit product data of all proposed products, identifying product series, material composition, performance characteristics and sheen.
 - 1.4.2.1. Submit manufacturer's certificate that products comply with current safety and environmental regulations, including hazardous materials labeling and air quality/VOC regulations
 - 1.4.2.2. Submit manufacturer's certificate that products are physically and chemically compatible with each other and meet listed ASTM or Federal Specifications.
 - 1.4.2.3. Where applicable, provide manufacturer's written evaluation of existing paint/coating systems, including directions as to surface preparation and primers compatible with existing systems.
- 1.4.3. Submit manufacturer's application instructions for each painting system, including surface preparation.
- 1.4.4. Color Selection procedure:
 - 1.4.4.1. Provide Architect with samples of complete color and sheen range available for submitted products.

- 1.4.4.2. Based on submitted samples and specified color criteria, Architect will prepare preliminary color schedule for all field applied coatings.
- 1.4.4.3. Based on preliminary color schedule, submit samples of all coatings, applied on specified substrate. Submit three samples, approximately 8 x 10 inch in size, illustrating each color and sheen scheduled.
- 1.4.4.4. After review of preliminary color schedule samples, Architect will prepare final color schedule. Where different from preliminary schedule, submit three samples, approximately 8 x 10 inch in size, illustrating revised color and sheen.

1.5. DELIVERY, STORAGE, AND HANDLING

- 1.5.1. Deliver products to site under provisions of Section 01 60 00.
- 1.5.2. Store and protect products under provisions of Section 01 60 00.
- 1.5.3. Deliver products to site in sealed and labeled containers; inspect to verify acceptance.
- 1.5.4. Container labeling to include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing and reducing.
- 1.5.5. Store paint materials at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in an enclosed metal storage container located outside of building, unless required otherwise by manufacturer's instructions.
- 1.5.6. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.6. ENVIRONMENTAL REQUIREMENTS

- 1.6.1. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 65 degrees F for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
- 1.6.2. Prior to beginning preparation and coating application, provide lighting level of 80 foot candles measured on substrate surface. Where natural lighting does not provide such levels, provide temporary lighting.

1.7. SPECIAL QUALITY ASSURANCE AND INSPECTION PROCEDURES

- 1.7.1. Pre-installation conference: Convene a pre-installation conference two weeks prior to commencing work of this Section. Provide minimum 2 weeks advance notice to Owner and Architect of scheduled date. Comply with provisions of Section 01 31 13. Attendance by paint and coating material manufacturer's representative is mandatory. At pre-installation conference, review installation procedures, inspection/testing procedures and coordination required with related work.
- 1.7.2. Reports and Certifications
 - 1.7.2.1. Manufacturers Certification: After field inspection, submit written certification from manufacturer that substrates comply with manufacturers recommendations and are suitable for application, environmental exposure and regulations.

1.7.2.2. Manufacturers representative shall incorporate daily reports into a weekly certification to Architect, countersigned by IOR and applicator, certifying all work specified in this Section was completed in compliance with contract documents and manufacturers recommendations.

1.7.2.3. Manufacturers Certification: After completion, submit written certification from coating manufacturer that installation complied with manufacturers recommendations, number of coats and recommended coverage rates.

1.7.3. Manufacturers Inspection Services

1.7.3.1. Manufacturer's representative or manufacturers selected inspection service shall inspect and monitor the installation procedure as specified. The inspection service is subject to Architect's approval.

1.7.3.2. Manufacturer's representative shall inspect substrates prior to installation.

1.7.3.3. Manufacturer's representative shall provide a minimum of 4 hours inspection and direction to Contractor for each phase of installation on each building, including preparation, installation, and touch up.

1.7.3.4. Manufacturer's representative shall conduct tests of completed coatings to determine number of coats applied and dry film thickness. Tests shall be taken at each building of each primary building element (such as coping, door frames, wall surfaces, ceiling surfaces) painted under work of this Section. Tests shall be taken at four random locations as determined by Architect.

1.7.3.5. Provide reports as specified in Paragraph 1.7.2.

1.7.4. Independent Inspection

1.7.4.1. Owner may elect to have an independent service inspect coating thickness and other characteristics to determine compliance with specified criteria.

1.7.4.2. Provide complete access to inspection service, and coordinate with all testing required by inspection service.

1.8. EXTRA STOCK:

1.8.1.1. Provide an unopened five gallon container of each color and sheen to Owner.

1.8.1.2. Label each container with color, sheen, and room locations, in addition to the manufacturer's label.

2. PART 2 - PRODUCTS

2.1. ACCEPTABLE MANUFACTURERS

2.1.1. Basis of Design: Specific products listed on Schedule in Part 3 of this Section, are indicated to establish required level of quality, appearance, and performance. Architect will consider requests for substitutions under the provisions of Section 01 25 00.

2.1.2. High performance coatings are based on products manufactured by Tnemec, www.tnemec.com. Substitution limited to products with published test results equal to Tnemec in performance and test methodology.

- 2.1.3. Provide finishing system for wood stage flooring equal in finish and color to existing, currently VOC approved, and as approved by Maple Floor Manufacturers Association.

2.2. MATERIALS

- 2.2.1. Coatings: Ready mixed, except field catalyzed coatings.
- 2.2.2. Coatings: Good flow and brushing properties; capable of drying or curing free of streaks or sags.
- 2.2.3. Accessory Materials: Provide all admixtures, thinners, flow agents and other materials not specifically indicated but required to achieve the finishes specified.

2.3. FINISHES/COLOR

- 2.3.1. Refer to schedule at end of Section for type of surface finish.
- 2.3.2. Colors shall be selected by Architect as specified.
- 2.3.3. Each coat shall be a perceptibly different tint.
- 2.3.4. Color Range:
 - 2.3.4.1. Provide 3 separate colors, in custom, fully saturated deep hues for interior/exterior door frames and doors. Colors as selected by Architect.
 - 2.3.4.2. Provide 3 separate colors, in custom, fully saturated deep hues for approximately 25 percent of interior wall surfaces, in each gloss level specified. Balance of wall and ceiling surfaces in one light color. Colors as selected by Architect.
 - 2.3.4.3. Provide 2 separate colors, in custom, fully saturated deep hues, at all exterior wall and soffit plaster surfaces. Colors as selected by Architect.
- 2.3.5. Where no color range is specified, provide single color for each item or component.
- 2.3.6. Unless noted otherwise, where exterior painting occurs, match existing school color scheme.

2.4. OTHER MATERIALS

- 2.4.1. Provide all other materials, not specifically described but required for complete and proper installation of this work, as selected by the Contractor and subject to the approval of the Architect.

3. PART 3 - EXECUTION

3.1. SURFACE CONDITIONS

- 3.1.1. Inspection
 - 3.1.1.1. Prior to all work of this Section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence.

3.1.1.2. Verify that work of this Section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.

3.1.1.2.1. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.

3.1.1.2.2. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the maximum levels recommended by the manufacturer.

3.1.1.3. In the event of discrepancy, immediately notify the Architect.

3.1.1.4. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2. PREPARATION

3.2.1. Remove electrical plates, hardware, light fixture trim, and fittings prior to preparing surfaces or finishing.

3.2.2. Correct minor defects and clean surfaces which affect work of this Section.

3.2.3. Shellac and seal marks which may bleed through surface finishes.

3.2.4. Steel Surfaces:

3.2.4.1. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous.

3.2.4.2. Bare Steel: Sand and scrape to remove loose primer and rust. Clean surfaces with solvent.

3.2.5. Gypsum Board Surfaces: Latex fill minor defects. Spot prime defects after repair.

3.2.6. Plaster Surfaces: Repair minor defects, including cracks, in an approved manner. Remove plaster nibs and other protrusions.

3.2.7. Steel Doors and Door Frames:

3.2.7.1. Provide specified primer at all frames, including frames with fabricators primer system. Comply with criteria specified in this Section.

3.2.7.2. Prepare frame steel surfaces as required for proper adhesion and appearance of specified finish coat system.

3.2.7.3. Paint all surfaces of window frames, including surfaces not visible when operable vent portions are in closed position.

3.3. PROTECTION

3.3.1. Protect elements surrounding the work of this Section from damage or disfiguration.

3.3.2. Repair damage to other surfaces caused by work of this Section.

3.3.3. Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.

3.3.4. Remove empty paint containers from site.

3.4. APPLICATION

3.4.1. Apply products in accordance with manufacturer's instructions.

3.4.2. Do not apply finishes to surfaces that are not dry.

3.4.3. Apply each coat to uniform finish.

3.4.4. The number of coats specified are minimum. Additional coats shall be applied until finish is uniform in color and sheen.

3.4.5. Sand lightly between coats to achieve required finish.

3.4.6. Each coat to be approved by the Architect prior to applying succeeding coat.

3.4.7. Allow applied coat to dry before next coat is applied.

3.4.8. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

3.4.9. Paint all exterior plaster, stucco, and trim surfaces.

3.4.10. Finish all surfaces of doors, including tops and bottoms.

3.4.10.1. Apply two coats of approved sealer to all surfaces milled for hardware preparation, including hinge mortise, latching mechanism cutout and related door penetrations.

3.4.10.2. Apply paint to non-factory prefinished doors and frames by spray method only.

3.4.10.3. Before finishing, remove handling marks and exposure markings from all surfaces and edges with a complete block sanding using at least 150 grit sandpaper. Ease all edges. Steam out all scratches before sanding. Comply with WI Manual Section 1, including use of sanding sealers and fillers.

3.4.11. Do not paint over labels at fire rated doors, door or window frames or other fire rated assemblies.

3.4.12. Paint all structural components and surfaces visible through louvers and vents in wall and soffit surfaces.

3.4.13. Exterior metal fabrications, structural components and metal flashings: Unless noted otherwise, apply paints and coatings as specified below:

3.4.13.1. Apply exterior paint P-5 to all plaster trim, reveals and accessories.

3.4.13.2. Apply paint to all other exterior components as specified or shown on drawings.

3.5. FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

- 3.5.1. Paint shop primed equipment. Paint shop prefinished items exposed to view in non - utility areas.
- 3.5.2. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- 3.5.3. At interior and exterior applications, prime and paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, mechanical equipment units, hangers, brackets, collars and supports, except where items are prefinished.
- 3.5.4. Replace identification markings on mechanical or electrical equipment when painted accidentally.
- 3.5.5. Paint interior surfaces of air ducts, and convactor and baseboard heating cabinets that are visible through grilles and louvers with flat black paint, to limit of sight line. Paint dampers, except fire dampers, exposed behind louvers, grilles, and convactor and baseboard cabinets to match face panels.
- 3.5.6. Paint exposed panels, pedestals, boxes, conduit and related electrical equipment occurring in exterior and interior finished areas.
- 3.5.7. Replace electrical plates, hardware, light fixture trim, and fittings removed prior to finishing.

3.6. CLEANING

- 3.6.1. As Work proceeds, promptly remove paint where spilled, splashed, or spattered.
- 3.6.2. During progress of Work maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.
- 3.6.3. At end of workday remove from building flammable paint, solvents, and reducing agents.
- 3.6.4. Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

3.7. SCHEDULE

- 3.7.1. For ease of specifying, unless otherwise noted, product numbers of Frazee have been used. Equivalent products of Sherwin Williams, ICI, Dunn Edwards, and other manufacturers may be used subject to the substitution provisions listed under Section 01 25 00.

3.7.2. INTERIOR SURFACES

- 3.7.2.1. Steel Doors/Door Frames - primed - Semi-Gloss (P-2)
 - 3.7.2.1.1. One coat primer # 661F Metal Prime
 - 3.7.2.1.2. Two Coats Finish #124 Mirroglide
- 3.7.2.2. Gypsum Board
 - 3.7.2.2.1. Low Sheen/Eggshell Paint Finish (P-1) Custodial

- 3.7.2.2.1.1. One coat Frazee Aqua Seal #061 Vinyl Acrylic Wall Sealer
 - 3.7.2.2.1.2. Two coats Frazee Envirokote #029.
 - 3.7.2.2.2. Semi-Gloss Enamel finish (P-2) Trim & Doors
 - 3.7.2.2.2.1. One coat Frazee Aqua Seal #061 Vinyl Acrylic Wall Sealer
 - 3.7.2.2.2.2. Two coats Frazee Envirokote #032.
 - 3.7.2.2.3. Flat Paint Finish (P-3) Classrooms & Offices
 - 3.7.2.2.3.1. One coat Frazee Aqua Seal #061 Vinyl Acrylic Wall Sealer,
 - 3.7.2.2.3.2. Two coats Frazee Envirokote #018.
- 3.7.2.3. Plaster Ceiling Surfaces (P-4) Toilets
 - 3.7.2.3.1. One coat Frazee Aqua Seal #061 Vinyl Acrylic Wall Sealer
 - 3.7.2.3.2. Two coats Frazee Envirokote #032 Semi-gloss finish
- 3.7.3. EXTERIOR SURFACES
 - 3.7.3.1. Plaster Wall Surfaces, designated as painted at door infill.
 - 3.7.3.1.1. One coat acrylic primer #266 Epotilt
 - 3.7.3.1.2. Two coats #203 Duratec flat finish

END OF SECTION

PSECTION 10 14 00

SIGNAGE

1. PART 1 - GENERAL

1.1. SECTION INCLUDES

- 1.1.1.** Permanent room or space identification signage
- 1.1.2.** Directional and Informational Signage, site, exterior and interior.

1.2. REGULATORY REQUIREMENTS

- 1.2.1.** Comply with signage requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG), as currently amended.
- 1.2.2.** Where different or more restrictive than ADAAG, comply with signage requirements of Title 24, Part 2, CCR, including amendments.

1.3. SUBMITTALS

- 1.3.1.** Submit under provisions of Section 01 33 00.
- 1.3.2.** Shop Drawings:
 - 1.3.2.1.** Indicate sign size, message, and mounting.
 - 1.3.2.2.** Identify mounting location and alignment with adjacent construction and features.
 - 1.3.2.3.** Provide Professional Engineer seal and signature, currently licensed in California, as required for DSA approval of marquee sign.
- 1.3.3.** Product Data: Provide data on material construction, hardware, and accessories.
- 1.3.4.** Samples:
 - 1.3.4.1.** Color range: Submit two brochures or other approved submittal of full color range available for each signage application.
 - 1.3.4.2.** Submit two samples of representative signage illustrating dimensional characteristics, finish and sheen for Architect selection.
 - 1.3.4.2.1.** Submit samples of representative tactile/braille signage illustrating letter stroke proportions and braille dot size, spacing and characteristics.
- 1.3.5.** Certification:
 - 1.3.5.1.** Certification: Accompanying submittal, provide sign fabricator/manufacturers written certification stating signs as designed comply with applicable criteria of ADAAG and Title 24, including letter style, spacing and size.

- 1.3.5.2. Prior to installation, provide sign fabricator/manufacturers written certification stating tactile and braille signs comply with specified criteria, including proof-reading requirements.

1.4. DELIVERY, STORAGE, AND HANDLING

- 1.4.1. Deliver products to site. Store and protect under provisions of Section 01 60 00.

2. PART 2 – PRODUCTS

2.1. MANUFACTURERS

- 2.1.1. Basis of Design: Characteristics of specific products, where named in this Section, are indicated to establish required level of quality, appearance, and performance. The Architect will consider requests for substitutions, under the provisions of Section 01 25 00.

2.2. PERMANENT ROOM IDENTIFICATION SIGNAGE

- 2.2.1. Manufacturer: RB Industries <http://www.rbindustries.com/> (specified as basis of design), Vomar, or equal.
- 2.2.2. Type: Etched metal signage system.
- 2.2.3. Series: 300 Photomag.
- 2.2.4. Material Characteristics: 0.125 inch thick magnesium alloy.
- 2.2.5. Graphic Image Process: Acid etched process providing raised and braille relief image. Applied message not acceptable.
- 2.2.6. Sign Size, Design, Style Criteria:
 - 2.2.6.1. Character size: 5/8 inch minimum, maximum 2 inch height, raised 1/32 inch above surface.
 - 2.2.6.2. Character proportion: Provide width to height ratio between 3:5 and 1:1.
 - 2.2.6.3. Character stroke proportion: Provide stroke width to height ratio between 1:5 and 1:10.
 - 2.2.6.4. Letter Style: Upper case Helvetica Regular.
 - 2.2.6.5. Braille criteria: Provide contracted Grade 2 braille, with dots spaced 1/10 inch on center in each cell, and cells spaced 2/10 inch apart, measured from the second row of dots in the first cell to the first row of dots in the second cell. Provide dots raised 1/40 inch above surface, with slightly rounded or eased profile.
 - 2.2.6.6. Design sign with room number on first line, room name on second, braille message on third line. Center all copy. Provide minimum 1/2 inch clear space all around braille image.
 - 2.2.6.7. Pictogram Criteria: Where pictograms are specified as room identification signage, provide pictogram centered in minimum 6 inch high space with no text or braille within this space. Provide tactile and braille message centered below pictogram.

- 2.2.6.8. Toilet Rooms: In addition to room identification signs, comply with 12 inch triangle/circle size requirements per UBC Chapter 11 CBC Section 1115B.5, Part 2, Title 24, CCR. Do not provide tactile and braille message.
- 2.2.7. Sign Message:
 - 2.2.7.1. RS-1 Toilet room door symbols: Provide door mounted signs, separate from room identification signage, complying with UBC Chapter 11 CBC Section 1115B.5, Part 2, Title 24, CCR. Provide appropriate international gender symbol on each sign. Do not put tactile and braille message on sign.
 - 2.2.7.2. RS-2 - Room Signs: Provide signs at locations shown on drawings. At all exterior entrance doors, provide symbol of accessibility per details.
 - 2.2.7.3. RS-3 - Toilet Room Signs: Provide signs at locations shown on drawings. At toilets, provide symbol of accessibility per details.
- 2.2.8. Finish/Contrast/Color:
 - 2.2.8.1. Finish: Provide signs with matte, non-reflective finish, with a maximum 11-19 degree gloss on 60 degree dosimeter.
 - 2.2.8.2. Contrast: Provide signs with minimum light to dark contrast between background and message of 70 percent.
 - 2.2.8.3. Color: Provide signs with two colors as selected by Architect from manufacturers standard color line.
 - 2.2.8.3.1. Background: Color 1, selected from very dark color range.
 - 2.2.8.3.2. Message: Color 2 selected from white or very light color range.
 - 2.2.8.3.3. International Symbol of Accessibility: White symbol on Federal Blue background.
 - 2.2.8.3.4. Finish System: Mathews acrylic polyurethane coating system, VOC approved, complying with glare finish criteria.
- 2.2.9. Mounting:
 - 2.2.9.1. Exterior: Provide stainless steel spanner head tamper resistant screw in expansion shields suitable for substrate. Countersink screw flush with surface.
 - 2.2.9.2. Interior: Unless noted otherwise, provide double stick foam tape mounting, 1/32 inch thick.
 - 2.2.9.3. Where signs are mounted on glass panels, install using structural silicone sealant method specified in this Section.
 - 2.2.9.4. Verify surfaces with irregular or rough finish have been properly finished to establish flush and lip free installation.
- 2.2.10. Fabrication Certification: Prior to installation, provide written certification stating permanent signage has been proofread by Library of Congress certified readers or approved alternate.

2.3. DIRECTIONAL AND INFORMATIONAL SIGNAGE

- 2.3.1. Manufacturer: RB Industries <http://www.rbindustries.com/> (specified as basis of design), Vomar, or equal. Signage manufacturer under this article shall match signage provided in Article 2.2
- 2.3.2. Type: Etched metal signage system.
- 2.3.3. Series: 300 Photomag.
- 2.3.4. Material Characteristics: 0.125 inch thick magnesium alloy.
- 2.3.5. Graphic Image Process: Acid etched process providing raised and braille relief image. Applied message not acceptable.
- 2.3.6. Sign Size, Design, Style Criteria:
 - 2.3.6.1. Character size: As required to comply with viewing distance criteria. Provide minimum 3 inch height at signs located 80 inches or greater above finish floor. Provide image raised 1/32 inch above surface.
 - 2.3.6.2. Character proportion: Provide width to height ratio between 3:5 and 1:1.
 - 2.3.6.3. Character stroke proportion: Provide stroke width to height ratio between 1:5 and 1:10.
 - 2.3.6.4. Letter Style: Upper case Helvetica Regular.
 - 2.3.6.5. Center all copy in field.
- 2.3.7. Finish/Contrast/Color:
 - 2.3.7.1. Finish: Provide signs with matte, non-reflective finish, with a maximum 11-19 degree gloss on 60 degree dosimeter.
 - 2.3.7.2. Contrast: Provide signs with minimum light to dark contrast between background and message of 70 percent.
 - 2.3.7.3. Color: Provide signs with two colors as selected by Architect from manufacturers standard color line.
 - 2.3.7.3.1. Background: Color 1, selected from very dark color range.
 - 2.3.7.3.2. Message: Color 2 selected from white or very light color range.
 - 2.3.7.3.3. International Symbol of Accessibility: White symbol on Federal Blue background.
 - 2.3.7.3.4. Finish System: Mathews acrylic polyurethane coating system, VOC approved, complying with glare finish criteria.
- 2.3.8. Mounting:
 - 2.3.8.1. Exterior: Provide stainless steel spanner head tamper resistant screw in expansion shields suitable for substrate. Countersink screw flush with surface.

- 2.3.8.2. Interior: Unless noted otherwise, provide double stick foam tape mounting, 1/32 inch thick.
- 2.3.8.3. Where signs are mounted on glass panels, install using structural silicone sealant method specified in this Section.
- 2.3.8.4. Verify surfaces with irregular or rough finish have been properly finished to establish flush and lip free installation.
- 2.3.9. Graphic Process: Silkscreen, surface printing, urethane paint system suitable for exterior application, with clear urethane overcoat.
- 2.3.10. Finish/Contrast/Color:
 - 2.3.10.1. Finish: Provide signs with matte, non-reflective finish, with a maximum 19 degree gloss on 60 degree dosimeter.
 - 2.3.10.2. Contrast: Provide signs with minimum light to dark contrast between background and message of 70 percent.
 - 2.3.10.3. Color: Provide signs with two colors as selected by Architect from manufacturers standard color line.
 - 2.3.10.3.1. Background: Color 1, selected from very dark color range.
 - 2.3.10.3.2. Message: Color 2 selected from white or very light color range.
 - 2.3.10.3.3. International Symbol of Accessibility: White symbol on Federal Blue background.
 - 2.3.10.3.4. Frame: Color as selected by Architect.
- 2.3.11. Mounting:
 - 2.3.11.1. Ground Set: Concrete footing.
 - 2.3.11.2. Exterior Wall: Provide spanner head tamper resistant screw in expansion shields suitable for substrate.
 - 2.3.11.3. Verify surfaces with irregular or rough finish have been properly finished to establish flush and lip free installation.

3. PART 3 - EXECUTION

3.1. SURFACE CONDITIONS

- 3.1.1. Inspection
 - 3.1.1.1. Prior to work of this Section, carefully inspect previously installed work. Verify all such work is complete to the point where this installation may properly commence.
 - 3.1.1.2. Verify that work of this Section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.

- 3.1.1.3. In the event of discrepancy, immediately notify the Architect.
- 3.1.1.4. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2. INSTALLATION

3.2.1. General criteria:

- 3.2.1.1. Install in accordance with manufacturer's instructions and approved submittals.
- 3.2.1.2. Coordinate location of all signage with Architect.
- 3.2.1.3. Install on clean and properly prepared surfaces.

3.2.2. Permanent room, directional and informational signage:

- 3.2.2.1. Install signs after substrate surfaces receive final finish.
- 3.2.2.2. Center room identification signage at 60 inches above floor, located on strike side of door or as directed by Architect.
- 3.2.2.3. Where signs are installed in sealant method on glass panels, provide back plate matching sign at opposite side of glass
- 3.2.3. When sign is installed on window surface or other similar recessed conditions, provide spacer as required to maintain sign face within 3 inches

END OF SECTION

SECTION 10 21 14

STAINLESS STEEL TOILET COMPARTMENTS

1. PART 1 - GENERAL

1.1. SECTION INCLUDES

1.1.1. Prefinished stainless steel toilet compartments, ceiling hung.

1.1.2. Urinal screens; wall mounted.

1.2. SUBMITTALS

1.2.1. Provide submittals under provisions of Section 01 33 00.

1.2.2. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall and ceiling supports and door swings.

1.2.3. Product Data: Provide data on panel construction, hardware, and accessories.

1.2.4. Samples: Submit one complete set of samples of partition panels, 2x3 inches in size illustrating panel finish, color, and sheen for Architect selection.

1.2.5. Submit four samples of each finish selected.

1.2.6. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

1.3. FIELD MEASUREMENTS

1.3.1. Verify that field measurements are as indicated on shop drawings.

1.4. COORDINATION

1.4.1. Coordinate work under provisions of Section 01 31 13.

1.4.2. Coordinate the work with placement of support framing and anchors in wall and ceiling.

2. PART 2 - PRODUCTS

2.1. TOILET COMPARTMENTS

2.1.1. Basis of Design: Characteristics of specific products manufactured by Bradley Corporation, Mills brand <http://www.bradleycorp.com/> are indicated to establish required level of quality, appearance, and performance. The Architect will consider requests for substitutions, under the provisions of Section 01 25 00.

2.1.2. Type: Factory finished embossed stainless steel floor & ceiling braced toilet compartments.

2.1.3. Series 700 Series 600 -- Stainless Steel Construction:

2.1.3.1. Panel:

- 2.1.3.1.1. Panels and Doors: 1 inch thick, 22 gauge, 304, 18-8 stainless steel on sound deadening core panel. All edges shall be welded and sealed with a surrounding oval-crown locking strip, mitered, welded and finished at all corners and edges.
- 2.1.3.1.2. Reinforcement: Provide reinforcement and backing as required for specified hardware.
- 2.1.3.2. Panel Attachments, Screws, and Bolts: Type 304 Stainless steel with tamper proof type fasteners.
- 2.1.3.3. Hardware and Fittings:
 - 2.1.3.3.1. All hardware shall be ADA compliant, Type 304 stainless steel. Similar to Bradley, Outswing Door Kit with Surface Latch & Flat Strike/Keeper - HDWT-ZD2-SLFS. Plastic or ZAMAC alloy not acceptable.
 - 2.1.3.3.2. Where manufacturers standard available line does not comply with specified characteristics, provide hardware supplied from alternate sources. Model numbers given for hardware items indicate acceptable design only, not necessarily acceptable material.
 - 2.1.3.3.3. Door latch: Concealed latch, No. HDWT-ZD2-SLFS, with stainless steel bolt with exterior emergency access.
 - 2.1.3.3.4. Door Pulls at both sides of door of accessible stall below latch: No. HDWT-ZD2-SLFS.
 - 2.1.3.3.5. Coat Hook and Bumper: No. HDWT-ZD2-SLFS.
 - 2.1.3.3.6. Hinges: Top hinge pin secured at 3 places, fully flush with door faceplates, self-closing. No. HDWT-ZD2-SLFS concealed controlled power gravity hinge, with reinforcing as required.
- 2.1.4. Fabrication:
 - 2.1.4.1. Fabricate partitions with solid panel with finished faces and edges.
 - 2.1.4.2. Doors and Panels:
 - 2.1.4.2.1. Thickness: 1 inch.
 - 2.1.4.2.2. Door Width: 24 inches, unless noted otherwise.
 - 2.1.4.2.3. Door Width at Semi-ambulatory Compartment: 32 inch minimum clear opening.
 - 2.1.4.2.4. Door Width at Accessible compartment: 32 inch minimum clear opening door located at end of compartment, 34 inch at door located on side of compartment, door swing as shown on plans.
 - 2.1.4.2.5. Toilet compartment door and panel height: 58 inches.

2.1.4.3. Toilet Compartment Pilasters: 1-1/4 inch thick, secured with 7/16" bolts to overhead framing.

2.1.5. Finish:

2.1.5.1. Finish: stainless steel, LTHG Leather Grain.

2.2. OTHER MATERIALS

2.2.1. Provide all other materials, not specifically described but required for complete and proper installation of this work, as selected by the contractor and subject to the approval of the Architect.

3. PART 3 - EXECUTION

3.1. SURFACE CONDITIONS

3.1.1. Inspection

3.1.1.1. Prior to work of this section, carefully inspect previously installed work. Verify all such work is complete to the point where this installation may properly commence.

3.1.1.2. Verify that work of this section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.

3.1.1.2.1. Verify correct spacing of and between plumbing fixtures.

3.1.1.2.2. Verify correct location of built-in framing, anchorage and bracing.

3.1.1.3. In the event of discrepancy, immediately notify the Architect.

3.1.1.4. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2. INSTALLATION

3.2.1. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.

3.2.2. Maintain 3/8 to 1/2 inch space between wall and panels and between wall and end pilasters.

3.2.3. Attached panel brackets securely to backing in walls using anchor devices.

3.2.4. Attach panels and pilasters to brackets with tamper proof through bolts and nuts.

3.2.5. Anchor urinal screen panels to backing in walls with panel brackets.

3.2.6. Equip each door with specified hinge system, one door latch, two door pulls, one coat hook and bumper.

3.2.6.1. Provide accessible compartment doors with pull on both sides, mounted at 34 inches above finish floor to bottom of pull.

3.2.6.2. Provide slide latch mounted at 39 inches above finish floor.

3.2.6.3. Mount coat hook at 48 inches above finish floor in accessible compartments. Locate as directed by Architect. Do not mount on door panel.

3.2.7. Unless noted otherwise, install door strike and keeper with door bumper on each pilaster in alignment with door latch.

3.2.8. Replace damaged or scratched materials with new materials. Field touch - up of scratches or damaged finish will NOT be permitted.

3.3. ERECTION TOLERANCES

3.3.1. Maximum Variation from True Position: 1/4 inch.

3.3.2. Maximum Variation from Plumb: 1/8 inch.

3.4. ADJUSTING

3.4.1. Adjust work under provisions of Section 01 77 19.

3.4.2. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch.

3.4.3. Adjust adjacent components for consistency of line or plane.

END OF SECTION

SECTION 10 28 00

TOILET, BATH AND LAUNDRY ACCESSORIES

1. PART 1 - GENERAL

1.1. SECTION INCLUDES

- 1.1.1. Toilet and washroom accessories.
- 1.1.2. Lavatory and sink trap and piping prefabricated wrap kit.
- 1.1.3. Electric hand dryer.
- 1.1.4. Attachment hardware.

1.2. REGULATORY REQUIREMENTS

- 1.2.1. Comply with requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG), as currently amended.
- 1.2.2. Where different or more restrictive than ADAAG, comply with requirements of Title 24, Part 2, CCR, as currently amended.

1.3. SUBMITTALS

- 1.3.1. Submit product data and installation instructions under provisions of Section 01 33 00.
- 1.3.2. Include physical dimensions, operational features, color and finish, wall mounting brackets with mounted measurements, anchorage details, rough-in measurements, location, and details.
 - 1.3.2.1. Review installation and placement of accessories with regard to such components as counters and door swings. Identify all potential conflicts with proposed placement of accessories, including compliance with disabled access regulations.
 - 1.3.2.2. Provide certification written on manufacturer's letterhead, that all components, such as levers and push buttons, comply with ADA limit of 5 pounds force to operate component when filled and installed. Such devices will be field tested for compliance.

2. PART 2 – PRODUCTS

2.1. MANUFACTURERS

- 2.1.1. Basis of Design: Characteristics of specific products, where named in this Section, are indicated to establish required level of quality, appearance, and performance. Architect will consider requests for substitutions, under the provisions of Section 01 25 00.

2.2. WASHROOM AND MISCELLANEOUS ACCESSORIES

- 2.2.1. Manufacturer: Bobrick, <http://www.bobrick.com/>, or equal.
- 2.2.2. Toilet Area Accessories:

- 2.2.2.1. Toilet Paper Dispenser.
 - 2.2.2.1.1. Type TPD -1: B-2888, Classic Series, surface mount, with lock.
 - 2.2.2.1.2. Type TPD-2: B-3888, Classic Series, with lock, semi-recessed at accessible compartments as required to extend maximum 3 inches from face of wall and a minimum of 1-1/2 inches from grab bar tangent point.
 - 2.2.2.1.3. Type TPD-3: B-667, semi-recessed, satin finish.
- 2.2.2.2. Seat Cover Dispenser SCD-1: B-221, Classic Series, surface mount.
- 2.2.2.3. Seat Cover Dispenser: Protecto, as distributed by Mission Janitorial, (619)-271-4860.
 - 2.2.2.3.1. SCD-1: Protecto #9272, roll dispenser type.
- 2.2.2.4. Sanitary Napkin Disposal SPW-1: B-254, Classic Series, surface mount.
- 2.2.3. Washroom Area Accessories:
 - 2.2.3.1. Paper Towel Dispenser.
 - 2.2.3.1.1. Type PTD-1: B-262, Classic Series, Surface mount.
 - 2.2.3.1.2. Type PTD-2: B-26212, Classic Series, Surface mount.
 - 2.2.3.2. Soap Dispenser:
 - 2.2.3.2.1. Wall Mount SD-1: B-2112, Classic Series, liquid type, with maximum 5 lbf operating force.
- 2.2.4. Miscellaneous Accessories
 - 2.2.4.1. Mop Rack: B-223-36.
- 2.2.5. Accessories:
 - 2.2.5.1. Fasteners, Screws, and Bolts: Stainless steel or equivalent corrosion resistant, size and type as required for application. Provide tamper and vandal resistant heads at exposed fasteners.
 - 2.2.5.2. Shop assemble components and package complete with anchors and fittings.
 - 2.2.5.3. Provide anchor plates, adapters, and clips and all other components required for installation.
 - 2.2.5.4. Keying: Where accessories are keyed, key all accessories alike and as directed by Architect. Supply 5 keys to Owner.
- 2.2.6. Finish: No. 4 satin luster, unless noted otherwise.

2.3. GRAB BARS

- 2.3.1. Manufacturer: ASI, <http://www.americanspecialties.com> No substitution.
- 2.3.2. Toilet Compartment Grab Bar GB-1: ASI 3100 Series, 36 inches long, concealed mounting, set screw flange cover, satin finish.
- 2.3.3. Toilet Compartment Grab Bar GB-2: ASI 3100 Series, 48 inches long, concealed mounting, set screw flange cover, satin finish.
- 2.3.4. Shower Compartment Grab Bar SGB-1: ASI 3100 Series, Type 17, modified to provide full length grab bar at shower side and back walls, concealed mounting, set screw flange cover, satin finish. Do not extend grab bar past edge of fold down seat.

2.4. TRAP AND PIPING WRAP

- 2.4.1. Provide Truebro, (<http://www.truebro.com/>) prefabricated trap and piping insulation kit, Lav-Guard series, with all required accessory fittings, color white. Provide at all lavatory and sink trap and supply fittings, including cold water supply.

2.5. ELECTRIC HAND DRYER

- 2.5.1. Manufacturer: ASI, <http://www.americanspecialties.com> No Substitution.
- 2.5.2. Series: Series 0195, Profile Dryer, auto operation (Hands free) surface mounting, maximum 4 inch projection.
- 2.5.3. Power Criteria: ¼ hP, 7500 RPM motor, operating at input voltage range of 100-240 VAC, single phase.
- 2.5.4. Air Delivery Criteria: 183 CF warm air.
- 2.5.5. Finish: Prefinished porcelain enamel, color as selected by Architect, with permanent fused operating graphics.

2.6. OTHER MATERIALS

- 2.6.1. Provide all other materials, not specifically described but required for complete and proper installation of this work, as selected by the contractor and subject to the approval of the Architect.

3. PART 3 - EXECUTION

3.1. SURFACE CONDITIONS

- 3.1.1. Inspection
 - 3.1.1.1. Prior to work of this section, carefully inspect previously installed work. Verify all such work is complete to the point where this installation may properly commence.
 - 3.1.1.2. Verify that work of this section may be installed in strict accordance with the original design, all pertinent codes and regulations, and all pertinent portions of the referenced standards.
 - 3.1.1.3. In the event of discrepancy, immediately notify the Architect.

- 3.1.1.4. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.

3.2. PREPARATION

- 3.2.1. Deliver inserts and rough-in frames to site at appropriate time for building-in.
- 3.2.2. Provide templates and rough-in measurements as required.
- 3.2.3. Verify exact location of accessories for installation.
- 3.2.4. Where installing Owner furnished items (OFCI), schedule meeting with Owner as necessary to obtain all required installation criteria from Owner, including accessory size, fastener locations and other requirements for a complete and secure installation. Schedule meeting so as to not delay installation of required rough-in services, blocking, backing and embeds.
- 3.2.5. Where Owner will provide and install accessories (OFOI), schedule meeting with Owner as necessary to obtain all required installation criteria from Owner, including accessory size, fastener locations and other requirements in order to install all required backing, blocking, and support framing for a complete and secure installation. Schedule meeting so as to not delay installation of required rough-in services, blocking, backing and embeds.

3.3. INSTALLATION

- 3.3.1. Install fixtures, accessories and items in accordance with manufacturers' instructions.
- 3.3.2. Install plumb and level, securely and rigidly anchored to substrate.
- 3.3.3. Mount in accordance with referenced accessibility regulations and as shown on drawings.
 - 3.3.3.1. Mount shower coat hooks at 48 inches above finish floor, located as directed by Architect.
- 3.3.4. Clean and polish all accessories after installation.

END OF SECTION

GENERAL PLUMBING REQUIREMENTS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- 1.1.1 Division 1 - General Requirements, insofar as it is applicable to Division 22 Sections, and unless otherwise hereinafter specified.
- 1.1.2 All material, equipment and labor required to furnish and install the Plumbing shown on the Drawings and/or hereinafter specified, and otherwise hereinafter specified, shall be complete, tested and ready for use.
- 1.1.3 All material, equipment and labor required to remove existing material and equipment designated for removal; unless otherwise hereinafter specified, removed existing material and equipment shall become property of the Contractor and shall be removed from the premises.
- 1.1.4 All material, equipment and labor required to reuse and/or modify the existing material and equipment; prior to start of work, the Contractor accompanied by the Owner shall take inventory of the existing material and equipment as to the general condition, damaged and/or missing parts, functional deficiencies and other pertinent information.
- 1.1.5 Maintenance of continuity to all existing utilities, except for short designated intervals during which connections are to be made. Shut-down time of the existing utilities shall be at a time convenient and agreeable to the Owner. The Contractor shall be responsible for any utility service interruptions and shall repair any damages caused by his operation.
- 1.1.6 Work under Division 23 specified in the following Sections:
 - 1.1.6.1 Section 23 05 00, General Plumbing Requirements.
 - 1.1.6.2 Section 23 05 10, General Plumbing Materials.
 - 1.1.6.3 Section 22 40 00, Plumbing Fixtures and Equipment.
 - 1.1.6.4 Section 22 70 00, Plumbing Systems.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- 1.2.1 Soap Dispensers.
- 1.2.2 Equipment Platforms.
- 1.2.3 Concrete Work.
- 1.2.4 Patching.
- 1.2.6 Painting except as hereinafter specified.
- 1.2.7 Electrical Work except as hereinafter specified.

- 1.2.8 Equipment furnished by the Owner or under other Sections, except that plumbing roughing-in and connections for the equipment shall be made under Division 22 Sections.

1.3 PERMITS AND FEES

- 1.3.1 Unless otherwise hereinafter specified, the Contractor shall apply and pay for all necessary permits, fees, charges and inspections required by any public authority having jurisdiction; any expense incurred is part of this Contract.
- 1.3.2 All excavation, backfilling and repaving in connection with work under Division 22 Sections in public property is part of this Contract and shall be done as directed by the authority having jurisdiction.

1.4 LOCATION AND ACCESSIBILITY

- 1.4.1 The Contractor shall fully inform himself regarding any and all peculiarities and limitations of the spaces available for the installation of all work under Division 22 Sections. The Drawings indicate the desired location and arrangement of piping and equipment and are to be followed as closely as possible. The Contractor shall not fabricate any piping and until he has verified in the field that the shown and/or specified piping and equipment can be installed in the allocated space without causing any restrictions in the required access or clearance to the piping and equipment and/or any other equipment furnished and installed under other Divisions.
- 1.4.2 The Contractor shall install the piping and equipment with adequate clearance around, above and below the piping and equipment as defined by the governing codes and as required for proper maintenance and servicing.

1.5 CODES AND REGULATIONS

- 1.5.1 All work provided under Division 22 Sections shall comply with the following Titles of the California Code of Regulations (CCR).
- 1.5.1.1 Title 19, Public Safety.
- 1.5.1.2 Title 8, Industrial Relations.
- 1.5.1.3 Title 24, Building Standards, including Administrative Regulations.
- 1.5.1.4 State Building Code (2006 Uniform Building Code with 2007 California State Amendments). 2001 CBC.
- 1.5.1.5 State Electrical Code (National Electrical Code with California State Amendments).
- 1.5.1.6 State Mechanical Code (2006 Uniform Mechanical Code with 2007 California State Amendments). 2001 CMC.
- 1.5.1.7 State Plumbing Code (2006 Uniform Plumbing Code with 2007 CPC California State Amendments). 2001 CPC.
- 1.5.2 In addition, all work provided under Division 22 Sections, shall comply with other applicable codes and regulations.

1.5.3 When the Drawings or Specifications call for sizes or grades different than required by the governing codes and regulations, the Contractor shall provide and install the larger size or higher grade. Nothing on the Drawings or in these Specifications is to be construed to permit work in violation of the governing codes and regulations.

1.5.4 All applicable site work shall comply with City of Pasadena standard drawings, latest edition. (Contractor to verify).

1.6 SUBSTITUTIONS

1.6.1 Unless otherwise directed in Division 1, specific reference to materials and equipment by name and catalog number shall be interpreted as establishing a standard of quality and shall be deemed to be followed by the words "or equal". The Contractor may offer any material and equipment which he believes to be equal to that so specified.

1.6.2 Should the Contractor desire to substitute any material, equipment or other items for those specified, he shall submit a complete list, including detailed equipment layouts within thirty-five (35) calendar days after the scheduled Start of Construction. Said data shall be submitted in seven (7) copies, assembled in individual brochures.

1.6.3 Any changes required by the furnishing and installation of substituted material, equipment and other items shall be arranged for and paid for by the Contractor; any expense incurred is part of this Contract.

1.6.4 Should the Contractor neglect to submit the data within the specified time limit, or should the Architect reject the submitted items and the Contractor fail to resubmit other data complying in the Architect's opinion with the Contract Documents within fifteen (15) calendar days, items then shall be furnished in strict accordance with the detailed Specifications and drawings.

1.7 EQUIVALENT EQUIPMENT

1.7.1 In addition to detailed specifications of materials and equipment, the Specifications make reference to "equivalent equipment", which is not to be construed as a substitution.

1.7.2 Should the Contractor desire to use any "equivalent equipment", he shall submit complete data, including detailed layouts within thirty-five (35) calendar days after the scheduled Start of Construction. Said data shall be submitted in seven (7) copies, assembled in individual brochures.

1.7.3 "Equivalent equipment" will be considered as complying with the Contract documents if the quality, features, performance, physical shape and appearance of the "equivalent equipment" are in the Architect's opinion the same or similar to those of the material and equipment described in detailed Specifications.

1.7.4 Any changes required by the furnishing and installation of "equivalent equipment" shall be arranged for and paid for by the Contractor; any expense incurred is part of the Contract.

1.7.5 Should the Contractor neglect to submit said data within the specified time limit, items shall be furnished in strict accordance with the detailed Specifications and drawings.

1.8 SUBMITTALS

- 1.8.1** Unless otherwise indicated in Division 1, within thirty-five (35) calendar days after the scheduled Start of Construction, the Contractor shall submit complete data as hereinafter specified. Said data, assembled in individual brochures, shall be submitted in seven (7) copies. Each item shall be identified by the paragraph number and page number as shown in the Specifications. Should corrections be necessary, the Contractor shall resubmit within fifteen (15) calendar days after the submittals are returned by the Architect.
- 1.8.2** Review of submitted items by the Architect for compliance with the Contract Documents shall not relieve the Contractor of the responsibility for any deviations from the Drawings or Specifications, unless he has in writing specifically called attention to such deviations at the time of submission, not shall it relieve him of responsibility for errors of any sort in such submittals.

1.9 MATERIALS, EQUIPMENT, WORKMANSHIP AND JUDGMENT

- 1.9.1** Unless otherwise hereinafter specified, all materials and equipment furnished and installed under Division 22 Sections shall be new, of best grade and the latest products as listed in the latest printed catalog.
- 1.9.2** All material and equipment of the same type and/or class shall be standard product of the same manufacturer.
- 1.9.3** Workmanship shall be of the best quality and only competent mechanics skilled in their trades shall be employed. The Contractor shall furnish the services of an experienced superintendent, who will be constantly in charge of the installation of the work until formal completion of work.
- 1.9.4** Whenever the words "or equal", "equivalent equipment", "suitable", "as directed" or other words of similar intent or meaning are used, implying that judgment is to be exercised, it is understood that it is the judgment of the Architect that is referred to.
- 1.9.5** The Architect shall have the right to interpret compliance of material, equipment and/or workmanship with the Contract documents.

1.10 DRAWINGS AND SPECIFICATIONS

- 1.10.1** Drawings and specifications are deemed to be complementary.
- 1.10.2** In case of discrepancy between the Drawings and the Specifications, the Contractor shall provide the more expensive alternate unless he has obtained a written clarification prior to bid opening.
- 1.10.3** Anything shown on the Drawings and not mentioned in the Specifications, or mentioned in the Specifications and not shown on the Drawings, shall be deemed to have been mentioned in both.
- 1.10.4** Should the material and equipment shown on the Drawings not be specified by name, model number and description, the Contractor shall provide such material and equipment in accordance with the Architect's selection unless he has obtained a written clarification prior to bid opening.

1.11 MANUFACTURER'S DIRECTIONS

- 1.11.1** If the manufacturers of equipment furnished and installed under Division 22 Sections furnish directions covering points not shown on the Drawings or herein specified, such directions shall be followed.

1.12 COOPERATION WITH OTHER TRADES

- 1.12.1** The work under Division 22 Sections shall be coordinated with the work of the other trades toward the general purpose of having the construction progress as rapidly and as smoothly as possible with a minimum of interference between one trade and another.

1.13 OPENINGS, SUPPORTS, CUTTING AND CORING

- 1.13.1** The Contractor shall provide all openings, supports, cutting and coring which may be required for the installation of the work under Division 22 Sections. Where pipes are to pass through or interfere with any structural member, or where notching, boring or cutting of the structure is necessary, the work shall be done as directed by the Architect. Top plates in bearing partitions shall not be cut or notched.

- 1.13.2** Patching is not part of Division 22 Sections.

1.14 CLOSING-IN OF UNINSPECTED WORK

- 1.14.1** The Contractor shall not allow or cause any of the work to be covered up or enclosed until it has been tested by the Contractor, and reviewed and found by the Architect to comply with the Contract documents. Should any work be enclosed or covered up before such test and review, the Contractor shall, at his own expense, uncover the work for such test and review, make all repairs as may be necessary to restore all his work and that of other trades to its original and proper condition.

1.15 SAFETY

- 1.15.1** The Contractor shall be solely and completely responsible for the condition of the premises on which the work is performed and for safety of all persons and property on the site during the construction. This requirement shall not be limited to normal working hours but shall apply continuously.

- 1.15.2** The Contractor shall comply with all governing safety regulations.

1.16 DAMAGE BY LEAKS

- 1.16.1** The Contractor shall be responsible for all damages to any part of the premises caused by leaks or breaks in pipes, fixtures or equipment furnished and installed under Division 22 Sections for a period of one year from the date of formal acceptance of work by the Owner.

1.17 RECORD DRAWINGS

- 1.17.1** At the beginning of the project, the Architect will furnish the Contractor one blue-line print and one reproducible transparency of each applicable drawing. Contractor shall keep an accurate dimensioned record of the as-built locations and elevations of all buried lines, manholes, cleanouts, valves, plugged tees, capped ends and of all work which is installed differently from

that shown on the Drawings. This record shall be kept-to-date on the blue-line print as the job progresses and shall be available for review at the construction site at all times.

- 1.17.2 Before formal acceptance of the work, this information shall be transferred by the Contractor in a neat, legible, reproducible manner to the transparency, shall be stamped, dated and signed by the installing Contractor, shall be signed by the Inspector and shall be delivered to the Architect unfolded. If, in the opinion of the Architect, the record is not legible, the Contractor shall employ a satisfactory draftsman to properly perform this work.

1.18 CLEANING OF MATERIAL AND EQUIPMENT

- 1.18.1 All installed material and equipment shall be thoroughly cleaned. Material and equipment which is to be painted shall be cleaned of cement, plaster, grease, oil and other foreign substances. All pasted paper labels shall be removed.

1.19 CLEAN-UP

- 1.19.1 Upon completion of the work, the Contractor shall remove from the premises all surplus material, rubbish and debris resulting from his operation. The premises shall be left in a clean and neat condition.

1.20 GUARANTEE

- 1.20.1 In addition to the guarantees required in the General Conditions, all materials and equipment furnished and/or installed under Division 22 Sections shall be guaranteed for a period of one year from the date of formal acceptance of the work by the Owner. Should any trouble develop during this period due to defective materials or faulty workmanship, the Contractor shall furnish all necessary labor and materials to correct the trouble without any additional cost to the Owner. Any defective materials or inferior workmanship noticed at the time of installation and/or during the guarantee period shall be corrected immediately to the satisfaction of the Owner and the Architect. Plumbing contractors shall respond to a service call request during guarantee period, within forty eight (48) hours during a regular working week.

1.21 SUMMARY OF SUBMITTALS

- 1.21.1 The following items shall be submitted to the Architect per timeline outlined in Division 1 after the scheduled Start of Construction for review for compliance with the Contract Documents.

- 1.21.1.1 Complete data of proposed substitutions.

- 1.21.1.2 Plumbing fixture brochures (with trim).

- 1.21.1.3 Shop drawings of insulated pipe conduit.

- 1.21.2 The following items shall be submitted to the Architect prior to formal acceptance of the work by the Owner:

- 1.21.2.1 Plumbing guarantee.

2. PART 2 PRODUCTS

\\NOT USED

3. PART 3 EXECUTION

\\NOT USED

END OF SECTION



GENERAL PLUMBING MATERIALS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- 1.1.1 Section 22 05 00, General Plumbing Requirements, insofar as it is applicable to this Section and unless otherwise herein specified.

2. PART 2 PRODUCTS

2.1 PIPING

- 2.1.1 Piping shall be of materials and grades hereinafter specified in the following Sections:

- 2.1.1.1 Section 22 40 00, Plumbing Fixtures and Equipment.

- 2.1.1.2 Section 22 70 00, Plumbing Systems.

2.2 PIPE JOINTS

2.2.1 Screwed Steel Pipe Joints

- 2.2.1.1 Pipe Joint Compound: Hercules "Pro-Dope", lead-free.

- 2.2.1.2 Cleanout Plug Compound: Hercules "Pro-Dope", lead-free.

2.2.2 Flanged Steel Pipe Joints: Garlock 7797, 1/16" thick, 250 °F neoprene gasket.

2.2.3 Soldered Copper Pipe Joints

- 2.2.3.1 Piping Buried Under Buildings: Harris "Stay-Silv 5" brazing alloy with 5% silver, 89% copper and 6% phosphorous.

- 2.2.3.2 All Other Piping: Engelhard "Silvabrite 100" lead-free solder with 95.5% tin, 4% copper and .5% silver.

2.3 UNIONS

- 2.3.1 Steel Piping, 2" and Smaller: Stockham 794, 250# screwed malleable iron union with bronze to iron ground joint, galvanized or black to match the piping specifications.

- 2.3.2 Steel piping, 2-1/2" and Larger: 125# screwed cast iron companion flanges, galvanized or black to match the piping specifications.

- 2.3.3 Copper Piping, 2" and Smaller: Mueller C-107, 150# soldered cast brass union with ground joint.

- 2.3.4 Copper Piping, 2-1/2" and Larger: 125# soldered cast brass companion flanges.

2.4 DIELECTRIC UNIONS

- 2.4.1 1-1/2" and Smaller: EPCO Type PXS, 250#, 200 °F brass screwed to copper solder joint with No. 2 gasket.
- 2.4.2 2" and Larger: PSI Standard "Gask-O-Seal", Type E, 150#, 180 °F insulation flange set with polyethylene one-piece sleeve and washer; set installed between 125# soldered cast brass flange and 125# screwed cast brass flange.
- 2.4.3 Dielectric unions shall be provided at all connections of copper piping and ferrous (steel, iron piping).

2.5 PIPE HANGERS, SUPPORTS AND ATTACHMENTS

- 2.5.1 Rod Pipe Hangers: Tolco Fig. 1 adjustable steel clevis hanger with Fig. 100 threaded rod and lock nuts, suspended from pipe hanger attachment. At Contractor's option, hanger may be Tolco Fig. 3 J-hanger with Fig. 100 threaded rod and lock nuts, suspended from pipe hanger attachment.
- 2.5.2 Trapeze Pipe Hangers: Tolco Tolstrut Fig. RIGD galvanized pipe clamps inserted in Fig. A-12P 12 gauge 1-5/8" x 1-5/8" galvanized channel with 9/16" bolt holes, two Fig. 100 1/2" threaded rods with lock nuts; channel suspended from pipe hanger attachment.
- 2.5.3 Pipe Hanger Attachment, Steel Construction: Tolco Fig. 64 beam C-clamp with lock nut and Fig. 69 retaining strap with lock nut installed under strap.
- 2.5.4 Wall Pipe Support: Tolco Tolstrut Fig. RIGD galvanized pipe clamps inserted in Fig. A-12P 12 gauge 1-5/8" x 1-5/8" galvanized channel with 9/16" bolt holes. In wood construction, channel shall be fastened with two 1/2" bolts and nuts with washers at both ends. In masonry and concrete construction, channel shall be fastened with two Phillips "Red Head" JS-12C 1/2" steel stud anchors with nuts and washers; concrete fill shall be used in hollow block walls at stud anchors.
- 2.5.5 Vertical Pipe Risers at Floor Levels: Tolco Fig. 6 riser clamp.
- 2.5.6 Equivalent: Secur Strut, Superstrut.

2.6 STRAINERS

- 2.6.1 Strainers shall be Y type with semi-steel body and stainless steel screen with perforations to suit service requirements. Strainers shall be pipe size.
- 2.6.2 2" and Smaller: Metraflex SM Series, 250# screwed body with screwed cap.
- 2.6.3 2-1/2" and Larger: Metraflex TF Series, 125# flanged body with flanged gasketed cap.
- 2.6.4 Strainers shall be provided with Chicago 293-LF 1/2" brass body blow-off hose bibb with 3/4" hose end.
- 2.6.5 Equivalent: Mueller, Watts.

2.7 PIPE SLEEVES

- 2.7.1 Sleeves shall be provided for all piping passing through foundations, walls and floors; however, sleeves are not required for sewer piping passing through concrete floors on grade.

2.7.2 Sleeves shall be provided also under walks, covered passages and elsewhere as indicated or required by local codes.

2.7.3 Floor Sleeves Above Ground

2.7.3.1 Sleeves shall be R.K. Industries 24 gauge galvanized sheet metal assemblies with telescopic sleeves and square base plates.

2.7.3.2 Sleeves shall have the inside diameter 1 in. larger than the outside diameter of the passing pipe or insulated pipe.

2.7.3.3 For fire rated floors the annular sleeve space shall be filled at each end with 1" thick 3M Model CP-25 U.L. Listed caulking (SFM listing 4060-941:101). Caulking shall be protected at the underside with cast brass split flange escutcheon with set screw.

2.7.3.4 For fire rated floors and polypropylene piping, the floor penetration shall be as hereinafter specified in Section 22 70 00.

2.7.5 Wall Sleeves

2.7.5.1 Sleeves shall be R. K. Industries 24 gauge galvanized sheet metal assemblies with telescopic sleeves and square base plates.

2.7.5.2 Sleeves shall have the inside diameter 1 in. larger than the outside diameter of the passing pipe or insulated pipe.

2.7.5.3 For soundproof walls, the annular sleeve space shall be packed with 3/4 lb./cft. density fiberglass insulation concealed at both sides of the wall with cast brass split flange escutcheons with set screw.

2.7.5.4 For fire rated walls, the annular sleeve space shall be filled at each end with 1" thick 3M Model CP-25 U.L. listed caulking (SFM listing 4485-941:100). Caulking shall be protected at both sides of the wall with cast brass split flange escutcheons with set screw.

2.7.5.5 For fire rated walls and laboratory polypropylene piping, the wall penetration shall be as hereinafter specified in Section 22 70 00.

2.8 ACCESS BOXES

2.8.1 Brooks 3-RT open bottom concrete box with cast iron frame and cover with the name of the service cast in cover.

2.8.2 Equivalent: Christy.

2.9 ACCESS PANELS

2.9.1 Fire Rated Panels: Elmdor FR-CL Series U.L. Listed 1-1/2 hr. prime coat finished steel access panel with 16 gauge frame with wall flange and 16 gauge hinged door with positive spring closer and cylinder lock.

2.9.2 Non-Rated Panels

2.9.2.1 Tile and Terrazzo Walls: Elmdor DW-SS-AKL Series stainless steel access panel with 16 gauge frame with wall flange and 16 gauge hinged door with Allen key lock.

- 2.9.2.2 Walls without Tile and Terrazzo: Elmdor DW-AKL Series prime coat finished steel access panel with 16 gauge frame with wall flange and 16 gauge hinged door with Allen key lock.
- 2.9.2.3 Ceilings: Elmdor DW-AKL Series prime coat finished steel access panel with 16 gauge frame with wall flange and 16 gauge hinged door with Allen key lock.
- 2.9.3 Equivalent: Milcor, Karp.
- 2.9.4 Access panels shall be of adequate size for the intended purpose, but in any case not less than 12" x 12" size.

3. PART 3 EXECUTION

3.1 PIPING INSTALLATION

- 3.1.1 A union shall be installed on one side of each screwed valve, at all connections to automatic valves, at equipment connections and elsewhere as indicated or required.
- 3.1.2 Dielectric unions shall be provided at all connections of copper piping and ferrous (steel, iron) piping.
- 3.1.3 Piping shall be seismically braced in accordance with the Guidelines for Seismic Restraints of Mechanical Systems and Plumbing Piping Systems published by S.M.A.C.N.A. and P.P.I.C., and approved by the District of the State Architect, Structural Safety Section. Prior to Start of Construction, the Contractor shall provide a new copy of the Seismic Guidelines to the Inspector for use during the construction.
- 3.1.4 Unless otherwise indicated, piping shall be firmly held in place by specified hangers and supports.
- 3.1.5 Unless otherwise hereinafter specified, piping 1-1/4" and larger shall be supported every 10 ft. and piping 1" and smaller shall be supported every 8 ft.
- 3.1.6 Branches with lengths in excess of 6 ft. shall have separate hangers and supports.
- 3.1.7 Powder actuated tools shall not be used.
- 3.1.8 Steel construction fireproofing damaged by the pipe hanger attachment installation shall be repaired to the satisfaction of the Architect.
- 3.1.9 Pipe lines shall be constructed of full length sections of specified pipe except where length of run is less than full pipe length.
- 3.1.10 Pipe runs shall be straight and true and piping shall be installed in such a manner as to prevent any undue strain on piping or the equipment and as to prevent any unusual noise at normal flow.
- 3.1.11 Cut pipe ends shall be thoroughly reamed to remove all burrs.
- 3.1.12 Pipe runs and connections shall be made so as to insure unrestricted flow and prevention of air pockets.

- 3.1.13 Unless otherwise indicated or required, piping shall be concealed in finished portions of the buildings.
- 3.1.14 Unless otherwise hereinafter specified, polished chrome plated cast brass hinged split flanged escutcheons with set screw shall be provided at all points where pipes pierce finished surfaces.
- 3.1.15 Unless specifically permitted by the Structural Engineer, piping shall clear beams, columns and other structural members.
- 3.1.16 Plated, polished or enameled connections to equipment shall not show tool marks or threads and shall be supported by neat plated hangers and supports.
- 3.1.17 Piping shall be capped or plugged to exclude dirt until final connections are made.
- 3.1.18 Pipe size reductions shall be made with reducing fittings. Welding saddles and welding nipples may be used for branch lines at least two pipe sizes smaller than the pipe run; for a cross configuration, the branch lines must be at least three pipe sizes smaller than the pipe run.
- 3.1.19 Close nipples, bushings, street elbows and bullheaded tees shall not be used.
- 3.1.20 Except where valve location makes their use obvious, all valves shall be labeled with securely attached 2 in. diameter metal or plastic tags.
- 3.1.21 Pipe welding shall be performed by a certified welder; certificate shall be issued by a laboratory acceptable to the Architect.
- 3.1.22 Concrete floors, concrete walls and masonry walls shall be cored.

3.2 GENERAL INSTALLATION

- 3.2.1 Unless otherwise indicated, access boxes shall be provided for all valves located below grade. Where necessary, access boxes shall be provided with metal or concrete extensions for added depth.
- 3.2.2 Access boxes shall be set flush with finished grade.
- 3.2.3 Access panels shall be provided for all concealed mechanical material and equipment which requires periodic maintenance, adjustment or inspection, such as valves, control boxes and controls; in addition, access panels shall be provided for all concealed water hammer arresters and trap primers. All access doors must provide easy access to equipment, capable of unobstructed opening to 180-swing. Access for passage must be a minimum of 30"x30".

3.3 EQUIPMENT ANCHORING

- 3.3.1 All mechanical equipment shall be anchored.
- 3.3.2 Anchorage shall comply with California Code of Regulations (CCR), Title 24, 1998 California Building Code.

3.4 FREEZE PROTECTION

- 3.4.1** Install insulation and freeze protection on all water pipes and traps in unheated un-insulated spaces subject to freezing. Heat trace shall be Raychem XL-Trace or approved equal with glass cloth tape, model 5XLI/CR heating cable (120V), 1" insulation, model Rayclic-PC power connection kit, and caution labels as required.
- 3.4.2** Connect heat tracing cable to emergency power circuits where available.

3.5 TESTS

- 3.5.1** Tests shall be performed by the Contractor to the satisfaction of the Architect. Tests shall be made in the presence of, and at a time suitable to, the Architect. The tests shall be as hereinafter specified.
- 3.5.2** The Contractor shall furnish all necessary material, equipment and labor required for the tests. Cost of tests, replacement of faulty parts and/or expenses involved in damages resulting from the tests are part of this Contract.
- 3.5.3** Hydrostatic tests shall be made by completely filling the piping system with water and eliminating all accumulations of air so that leakage, no matter how small, will be apparent on the test gauge. Pressure shall be maintained until all piping has been examined, but in any case not less than one hour.

END OF SECTION

PLUMBING FIXTURES

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- 1.1.1 Section 22 05 00, General Plumbing Requirements, and Section 22 05 10, General Plumbing Materials, insofar as they are applicable to this Section, and unless otherwise herein specified.
- 1.1.2 Materials, fixtures, equipment and labor as herein specified which shall take precedence over those elsewhere specified.
- 1.1.3 Plumbing fixtures and equipment consisting of fixtures, equipment, trim and accessories.

1.2 PLUMBING FIXTURE BROCHURES

- 1.2.1 Within thirty-five (35) calendar days after the Scheduled Start of Construction, the Contractor shall submit to the Architect seven (7) copies of plumbing fixture brochures with full description, cuts and catalog numbers of fixtures, equipment, trim and accessories the Contractor proposes to use.
- 1.2.2 Plumbing fixture brochures shall be arranged in the order of the Specifications and shall include the Architect's plumbing fixture identification code for each fixture and equipment.
- 1.2.3 No plumbing fixtures or equipment shall be installed until the brochures have been reviewed by the Architect for compliance with the Contract Documents.

2. PART 2 PRODUCTS

2.1 FIXTURES, GENERAL

- 2.1.1 Plumbing fixtures shall be furnished in white color unless otherwise herein specified.
- 2.1.2 Plumbing fixture trim and exposed supplies and wastes shall be polished chrome plated brass unless otherwise herein specified.
- 2.1.3 Exposed wastes between trap and wall may be galvanized steel nipples with polished chrome plated casings.
- 2.1.4 Concealed wastes above ground may be galvanized steel pipe, and concealed supplies and traps above ground may be rough brass.
- 2.1.5 Individual loose key stops or, if so specified, screwdriver stops shall be provided for all supplies and, unless integral with faucets, shall be mounted under the fixtures.
- 2.1.6 Exposed supplies and wastes to wall shall be provided with polished chrome plated brass wall escutcheons.
- 2.1.7 Waste material options do not apply to laboratory wastes.

- 2.1.8 Provide drop ear elbows and brass nipples at all fixture water stubouts.
- 2.1.9 Accessible plumbing fixtures shall comply with all of the requirements of CBC Section 1115B.
- 2.1.10 Heights and location of all fixtures shall be according to CBC Table 1115B-1.
- 2.1.11 Fixture controls shall comply with CBC Section 1118B.

2.2 WALL HUNG FIXTURES

- 2.2.1 Wall type closet bowls shall be supported completely free of the finished wall by adjustable closet carrier assemblies consisting of closet fitting, face plate and foot support. Bowls shall be held in place with bearing nuts with washers and brass acorn nuts with washers.
- 2.2.2 Fixtures specified with hangers or supporting arms shall have hangers or arms fastened to 5/16" thick x 8" high steel anchor plates extending at least one stud beyond the first and last fixture mounting point.
- 2.2.3 Hangers and exposed arms shall be attached to anchor plates with 5/16" full thread steel stud bolts, jam nuts and metal spacers with thickness equal to wall finish thickness.
- 2.2.4 Concealed arm assemblies shall be attached to anchor plates with four 3/8" x 1-1/4" steel bolts and nuts.
- 2.2.5 Anchor plates shall be drilled and tapped at the time of installation.
- 2.2.6 In wood stud wall construction, the anchor plates shall be recessed flush with stud and shall be fastened to each stud with two 3/8" steel carriage bolts extending through the center of the stud and secured with steel washers and nuts.
- 2.2.7 In steel stud wall construction, the anchor plates shall be recessed flush with studs, 1-1/2" x 18" long furring channel shall be fastened to each stud with 1" long fillet welds spaced on 6" center front and back, and anchor plates shall be continuous fillet welded to each furring channel.
- 2.2.8 In masonry and concrete wall construction, anchor plates shall not be used and fixtures shall be fastened with Phillips "Red Head" JS-38 3/8" stud anchors with nuts and washers.
- 2.2.9 All wall hung lavatories shall be provided with Smith model 723 wall mounted concealed lavatory arm assemblies, and shall be factory drilled for concealed arm assembly.
- 2.2.10 Insulate offset drain pipe, tailpiece, trap arm, p-trap and hot water lines and angle stops serving all ADA lavatories and sinks; Truebro "Lav Guard" white undersink protective cover model #103 or approved equal.

2.3 FLOOR MOUNTED FIXTURES

- 2.3.1 Floor type closet bowls shall be set on slotted cast bronze closet ring assemblies with the bottom of the ring installed at the finished floor elevation. Joints shall be made gastight and watertight with preformed wax gasket. Closet bowls shall be held in place with 5/16" solid brass bolts and nuts concealed with china bolt caps.

2.4 DRAINS WITH FLASHING DEVICE

- 2.4.1 For drains specified with flashing device, the waterproofing membrane or roofing shall be carefully cut to fit the drain and shall be anchored between the drain and the flashing ring with rust proof bolts.

2.5 WATER CLOSETS

- 2.5.1 Fixture WC/1 - Wall Type Water Closet: American Standard "Afwall E1 1.6" 2257.103 1.6 gpf vitreous china elongated bowl with siphon jet action and 1-1/2" top spud; Smith 200-Y Series adjustable hubless closet carrier assembly; Olsonite 95 white open front elongated seat; Sloan "Royal" 111-YBYO-B73A 1.6 gpf hand flush valve with vacuum breaker and screwdriver angle stop with bumper.

- 2.5.2 Fixture WC/2 - Wall Type Water Closet: American Standard "Afwall E1 1.6" 2257.103 1.6 gpf vitreous china elongated bowl with siphon jet action and 1-1/2" top spud; Smith 200-Y Series adjustable hubless closet carrier assembly; Olsonite 95 white open front elongated seat; Sloan "Royal" 111-YBYO-B73A 1.6 gpf hand flush valve with vacuum breaker and screwdriver angle top with bumper. Assembly shall comply with the A.D.A./D.S.A requirements for fixtures serving persons with disabilities

- 2.5.3 Equivalent

2.5.3.1 Closet Bowls: Kohler.

2.5.3.2 Toilet Seats: Church, Beneke.

2.6 URINALS

- 2.6.1 Fixture UR-1 - Wall Type Urinal: Sloan Water Free WES-5000, Vitreous china receptor with wall hangers. Urinals to be provided with cartridge filter and strainer.

- 2.6.2 Fixture UR-2 - Wall Type Urinal: Sloan Water Free WES-5000. Urinals to be provided with cartridge filter and strainer. Assembly shall comply with the A.D.A./C.B.C. requirements for fixtures serving persons with disabilities.

- 2.6.3 Equivalent

2.6.3.1 Urinal Receptors: Kohler.

2.7 LAVATORIES

- 2.7.1 Fixture L-1 - 20" x 18" Wall Type Lavatory: American-Standard "Lucerne" 0355.012 acid resisting vitreous china bowl drilled for concealed arm assembly; McGuire 128 faucet hole cover; Chicago 337 strainer with 1-1/4" offset tailpiece, 802-VE2805-665 push button self-closing double faucet with vandalproof 1/2 g.p.m. flow control, 1006 1/2" loose key angle stops with 1/2" O.D. brass flexible supplies and brass wall escutcheons; Fluidmaster No-Burst B1F12 I.A.P.M.O. listed 3/8" x 12" braided stainless steel flexible risers with non-toxic polymer liner, 3/8" compression female inlets, 1/2" I.P.S. female outlets and hexagon non-ferrous nuts; 1-1/4" x 1-1/2" cast brass L.A. "P" trap. Assembly shall comply with the A.D.A./C.B.C. requirements for fixtures serving persons with disabilities.

- 2.7.2 Equivalent

2.7.2.1 Vitreous China Lavatory Bowls: Kohler.

2.7.2.2 Arm Assemblies: Wade.

2.8 SERVICE BASINS

2.8.1 Fixture MS-1 - 28" x 28" Service Sink: Kohler "Whitby" K-6710 painted outside acid-resisting enameled cast iron rolled rim receptor with coated wire rim guard K-8940, 3" outlet; Kohler K-8928 lever handle wall double faucet with integral loose key stops, vacuum breaker, hose end spout and wall brace

2.8.2 Equivalent

2.8.2.1 Service Basin Receptors: Williams.

2.9 DRINKING FOUNTAIN

2.9.1 Fixture DF-1 - Wall Type Dual Height Drinking Fountain: Haws 1119.14 assembly with heavy gauge stainless steel with No. 4 satin finish receptor, vandalproof bottom plate, strainer with 1-1/2" tailpiece, vandalproof anti-squirt bubblers, automatic stream control, self-closing valves, 1/2" screwdriver stop, copper tubing with brass compression fittings, wall hangers with vandalproof receptor mounting; 1-1/2" cast brass L.A."P" trap; Waste and water rough-in dimensions below top of bubbler in accordance with the manufacturer's recommendations. Provide with model 6700.4 mounting plate and 6800 support carrier. Assembly shall comply with the A.D.A./D.S.A. requirements for fixtures serving persons with disabilities and CBC table 1115B-1. All associated water lines shall be copper.

2.9.2 Equivalent: Elkay.

2.10 FLOOR DRAINS

2.10.1 Fixture FD-1 - Floor Drain: Smith 2005-A-PU assembly with hubless cast iron body, trap primer connection, integral flashing device, 5" round adjustable nickel bronze top and nickel bronze grate with vandalproof mounting; cast iron "P" trap.

2.10.2 Equivalent: Wade.

3. PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Mounting heights of plumbing fixtures shall be as shown in schedules on the Drawings; no changes shall be made without written permission of the Mechanical Engineer.

3.1.2 Fixture caulking shall be made with white non-hardening water proof Wilhold Latex Caulk applied in accordance with the manufacturer's recommendations.

3.1.3 Adequate distance between vacuum breaker and fixture (6" to critical level line) shall be provided.

3.2 OPERATING AND MAINTENANCE INSTRUCTIONS

3.2.1 The Contractor shall instruct the Owner's Representative who will operate the system, about the operation and maintenance of the fixtures and equipment.

- 3.2.2 The Contractor shall deliver to the Owner two (2) copies of Operating and Maintenance Manuals for Plumbing Fixtures and Equipment furnished and installed under Section 22 40 00.

END OF SECTION



PLUMBING SYSTEMS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- 1.1.1 Section 22 05 00, General Plumbing Requirements, and Section 22 05 10, General Plumbing Materials, insofar as they are applicable to this Section, and unless otherwise herein specified.
- 1.1.2 Materials, equipment and labor as herein specified which shall take precedence over those elsewhere specified.
- 1.1.3 Sanitary sewer system consisting of building piping, connections to plumbing fixtures and equipment.
- 1.1.4 Water system consisting of building water piping, connections to water using plumbing fixtures and equipment.
- 1.1.5 Section 22 40 00, Plumbing Fixtures and Equipment.

1.2 WORK NOT INCLUDED

- 1.2.1 Sewer, water and gas connection fees pertaining to work under this Section. Fees will be paid for by the Owner; however, the Contractor shall assist the Owner in coordinating and expediting this matter, including obtaining all permits, submitting applications and obtaining approvals from the applicable agencies.

2. PART 2 PRODUCTS

2.1 SEWER, WASTE AND VENT PIPING

2.1.1 Piping in Buildings

- 2.1.1.1 Coated hubless cast iron soil pipe and fittings with stainless steel clamp couplings. Pipe and fittings shall conform to the requirements of CISPI Standard 301, ASTM A 888.

- 2.1.1.2 At Contractor's option, waste and vent piping, if kept 6 in. or more above ground, may be Schedule 40 galvanized steel pipe with coated cast iron screwed drainage fittings.

- 2.1.2 Piping Under Buildings: Coated hubless cast iron soil pipe and fittings with MG cast iron couplings with stainless steel bolts. Piping under buildings shall be wrapped as indicated in specification Section 22 05 10. Provide lubricant between MG coupling and rubber seal per manufacturer recommendations where required to avoid leaking joints prior to testing.

2.2 SEWER PIPING CLEANOUTS

- 2.2.1 Cleanouts shall have cast iron body with countersunk slotted tapered thread bronze plug.

2.2.2 Exterior Cleanouts

2.2.2.1 Cast Iron Pipe: Smith 4283 assembly in access box; access box as hereinbefore specified in Section 22 05 10.

2.2.3 Interior Wall Cleanouts

2.2.3.1 Smith 4472 assembly with stainless steel shallow cover.

2.2.3.2 Where job conditions do not permit use of shallow covers, Smith 4715 chrome plated bronze deep covers shall be used.

2.2.4 Interior Floor Cleanouts: Smith 4023 assembly with scoriated adjustable screw secured polished round nickel bronze tops.

2.2.5 Equivalent: Wade.

2.3 SEWER VENT FLASHING ASSEMBLIES

2.3.1 Vent pipes passing through roof shall be provided with flashing assemblies.

2.3.2 Composition Roof: Elmdor / Stoneman 1100 Series flashing assembly complete with 4# seamless lead flashing with 8" round skirt, cast iron counterflashing sleeve and vandalproof vent cap.

2.3.2.1 Steel Pipe: 1100-3 assembly

2.3.2.2 Cast Iron Pipe: 1100-5 assembly

2.3.3 Steel Deck Roof: Buildex "Decktite" resilient rubber cone flashing fastened with Buildex SB190 sealant and secured with Buildex "Teks" self-drilling fasteners.

2.3.3.1 Steel Pipe: Semco "Stormtite" 1530 vandalproof vent cap.

2.3.3.2 Cast Iron Pipe: Semco "Stormtite" 1550 vandalproof vent cap.

2.3.4 Vents shall terminate 7 in. above finished roof line, except as otherwise indicated or except where specifically required to exceed this dimension by the Code or structure requirements. Vents shall terminate at minimum the local code required distance from all outside air intakes.

2.3.5 The joint between pipe, flashing and counterflashing sleeve shall be sealed with non-hardening waterproof compound.

2.4 WATER PIPING

2.4.1 Piping In Buildings: Type L hard drawn copper pipe with wrought copper solder fittings and couplings.

2.4.2 Plumbing Fixture Wall Supplies: Cast brass drop ear elbows with screwed brass nipple.

2.4.3 Piping Under Buildings

2.4.3.1 Type K hard drawn copper pipe with wrought copper solder fittings and couplings.

2.4.3.2 Piping shall be wrapped as specified in Section 22 05 10.

2.5 WATER PIPE FLASHING ASSEMBLIES

2.5.1 Water pipes passing through roof shall be provided with flashing assemblies.

2.5.2 Semco "Stormtite" 1100-9 flashing assembly with 4# seamless lead flashing with 8" round skirt and cast iron counterflashing sleeve.

2.5.3 The joint between pipe, flashing and counterflashing sleeve shall be sealed with non-hardening waterproof compound.

2.5.4 Top of counterflashing sleeve shall be filled with epoxy compound.

2.6 WATER SHUT-OFF VALVES

2.6.1 2" and Smaller

2.6.1.1 Below Ground: Stockham Nibco T-585-70, 600# W.O.G., 225 °F screwed bronze ball valve with two piece body, conventional port, chrome plated ball, teflon seat and extended round handle.

2.6.1.2 Above Ground: Stockham Nibco S-595-70, 600# W.O.G., 225 °F soldered bronze ball valve with two piece body, conventional port, chrome plated ball, teflon seat and extended round handle.

2.6.1.3 Equivalent: Stockham, Apollo.

2.6.2 2-1/2" and Larger

2.6.2.1 Below Ground: Waterous 500 Series 200# A.W.W.A. flanged cast iron gate valve with resilient seat, bronze N.R.S., O-ring seal, square wrench nut and operating wrench.

2.6.2.2 Above Ground: Nibco LD-2000-3, 200# W.O.G., 250 °F full lug type butterfly valve with cast iron body, tapped lugs, replaceable EPDM seat, aluminum bronze disc, Type 416 stainless steel stem and multi-position lock lever handle.

2.6.2.3 Butterfly Valve Equivalent: Stockham.

2.7 WATER STRAINERS

2.7.1 2" and Smaller

2.7.1.1 Watts Model 77F-D-FDA with #40 wire mesh liners, 1/64" openings.

2.7.2 2-1/2" and Larger

2.7.2.1 Watts Model 77F-D-FDA with #20 wire mesh

2.8 WATER CHECK VALVES

2.8.1 2" and Smaller

2.8.1.1 Below Ground: Nibco T-413-Y, Class 125, 200# W.O.G., 225°F screwed check valve with screwed bonnet and teflon disc.

2.8.1.2 Above Ground: Nibco S-413-Y, Class 125, 200# W.O.G., 225°F soldered check valve with screwed bonnet and teflon disc.

2.8.1.3 Equivalent: Stockham.

2.8.2 2-1/2" and Larger

2.8.2.1 Metraflex 900 Series 125#, 200 °F flanged check valve with semi-steel globe type body, bronze trim and stainless steel spring.

2.8.2.2 Equivalent: Mueller.

2.9 SOUND ISOLATORS

2.9.1 Semco "Trisolator" units with cadmium plated steel shell and felt lining.

2.9.2 Sound isolators shall be provided for water piping at all pipe hangers and supports.

2.9.3 Equivalent: Tolco.

2.9.4 At Contractor's option, the following Tolco factory felt lined pipe hangers may be used in lieu of the specified pipe hangers and sound isolators:

2.9.4.1 2" and Smaller: No. 2-F adjustable ring hanger.

2.9.4.2 2-1/2" and Larger: No. 1-F adjustable clevis hanger.

2.10 WATER HAMMER ARRESTERS

2.10.1 Smith "Hydrotrol" 5000 Series P.D.I. certified bellows type units of all stainless steel construction.

2.10.2 Equivalent: Wade.

2.10.3 Piston Type water hammer arresters shall not be used.

2.10.4 Water hammer arresters shall be provided at each isolated flush valve, before the last plumbing fixture for each water header serving multiple plumbing fixtures, and elsewhere as indicated on the Drawings.

2.10.5 Water hammer arresters shall be provided where required to eliminate water hammer at plumbing fixtures and elsewhere as indicated on the Drawings.

2.10.6 For rooms with T-bar ceiling, water hammer arresters shall be located above ceiling.

2.10.7 For rooms with rigid ceiling, water hammer arresters shall be installed in wall behind access panels; access panels shall be as specified in Section 22 05 10.

2.11 TRAP PRIMERS

2.11.1 Precision Plumbing Products "Prime-Rite" units with brass body and "O" ring seal provided for all floor drains and floor sinks.

- 2.11.2 Trap primers shall be provided with access panels and shut-off valves; panels shall be as specified in Section 22 05 10.

2.12 WATER PIPING INSULATION

- 2.12.1 Hot water piping and hot water return piping shall be insulated with 1" thick Manville "Micro-Lok" 850 (R = 4.0) fiberglass pipe insulation with a flame spread rating of not more than 25 without evidence of continuous progressive combustion and with a smoke developed rating not higher than 50. Insulation shall be applied after piping has been installed, tested and is in a dry and clean condition.
- 2.12.2 Pipe insulation shall be provided with Type AP-T Plus composite rated all purpose jacket with integral pressure sensitive adhesive. Transverse butted joints shall be covered with 2" wide Manville polyvinyl chloride "Z-Tape" strips with pressure sensitive adhesive.
- 2.12.3 At hangers and supports, piping shall be provided with 9" long 1" thick Manville "Thermo 12" calcium silicate inserts resting in 6" long 20 gauge galvanized sheet steel sleeves. All insulated joints shall be covered with 2" wide "Z-Tape" strips.
- 2.12.4 Fittings and valve bodies shall be covered with Manville factory precut fiberglass "Hi-Lo Temp" inserts protected with Manville "Zeston 2000" premolded polyvinyl chloride fitting covers sealed with "Z-Tape" strips. Unions and strainers shall not be covered. Insulation shall be neatly terminated on each end at unions and strainers with Ryder 1-GP insulating cement.
- 2.12.5 Lavatories and sinks offset drain pipe, tailpiece, P-trap, trap arm and water supply pipe and angle stop shall be insulated w/ "Truebro" Lav-Guard #103.
- 2.12.6 Equivalent: Certain-Teed.

3. PART 3 EXECUTION

3.1 SEWER PIPING INSTALLATION

- 3.1.1 Cleanouts shall be provided where indicated or required by the Code. a minimum of 60 feet apart.
- 3.1.2 Unless otherwise indicated, cleanouts shall be extended to grade or to the outside of the building.
- 3.1.3 Cleanout access boxes, covers and tops shall be installed flush with finished grade, wall and floor, and shall be secured with integral lugs and bolts or screws. Where covering material such as tile is specified for the floor, the thickness of the floor covering shall be ascertained in order to obtain flush installation of the cleanout top at the finished floor elevation. Where carpet is specified, cleanout markers shall be used.
- 3.1.4 Unless otherwise indicated or directed, horizontal piping shall be installed to a uniform grade of not less than 1/4 in. per ft.
- 3.1.5 Where invert elevations are indicated on the Drawings piping shall be laid accurately to grade.

- 3.1.6 Connection between cast iron soil pipe and polyvinyl chloride sewer pipe shall be made with Calder rubber couplings with stainless steel clamps; after test, clamps shall be wrapped with two layers of 2" wide 35 mils thick Polyken 931 black butyl rubber molding tape with 1" lap.
- 3.1.7 Cast iron soil piping shall be supported at every joint in straight pipe and at every fitting; at Contractor's option, horizontal piping may be supported by R. K. Industries "No-Hub Support" continuous channel made of 14 gauge galvanized steel with hangers provided under channel at 8 ft. on centers.
- 3.1.8 Vent piping shall be graded for proper ventilation and to allow piping to free itself quickly of condensation or water.
- 3.1.9 Vents shall be ganged wherever possible.
- 3.1.10 Wall cleanouts above urinals shall be installed 48 in. above the finished floor. All other wall cleanouts shall be installed 18 in. above the finished floor.

3.2 WATER PIPING INSTALLATION

- 3.2.1 Screwed valves for polyvinyl chloride plastic piping shall be provided with Schedule 80 PVC Type I, N.S.F. listed socket to thread adapter.
- 3.2.2 Screwed valves for copper piping shall be provided with brass solder to thread adapters.
- 3.2.3 Discharge piping from relief valves shall be of the same size as the relief valve outlet and shall be extended down to floor sink or service basin as indicated on the Drawings.
- 3.2.4 Plastic piping below ground shall be provided in its entire length with 2" below ground wide Terra Tape, Type D metalized continuous blue identification tape with the words "CAUTION, WATER LINE BELOW" printed on tape; tape shall be laid on top of sand backfill envelope. Tape shall terminate with a 18 in. slack in all building water shut-off valve boxes. Thrust blocks shall be provided at each turn. In addition to the identification tape, plastic piping below ground shall be provided in its entire length with Type UF, 600 volt insulated 18 ga. solid copper tracing wire.
- 3.2.5 Backfilling of plastic piping shall not be done when piping is in expanded position.
- 3.2.6 Flanged connections below ground shall be installed with stainless steel bolts, nuts and washers.
- 3.2.7 Transition between polyvinyl chloride plastic pipe and copper pipe shall be made with Schedule 80 N.S.F. and U.L. listed polyvinyl chloride socket to thread adapter for 2" and smaller pipe and 150# polyvinyl chloride plastic socket end flange and 125# cast brass solder end flange for 2-1/2" and larger pipe.
- 3.2.8 A 3/4" ball valve in access box for introduction of sterilization material shall be provided near the point of connection in the underground water piping.
- 3.2.9 Copper water piping shall be supported every 10 ft.; however, copper water piping 1-1/2" and smaller shall be supported every 6 ft.
- 3.2.10 Hot water and cold water piping shall be installed not closer than 6 in. from each other.
- 3.2.11 Piping insulation shall be omitted on hot water piping at the penetration of fire rated walls.

- 3.2.12 Ball type shut-off valves shall be provided at each restroom, at each isolated fixture, or as indicated on drawings.
- 3.2.13 Water piping shall be thoroughly flushed by letting water run out of all faucets and hose bibbs for 15 minutes.
- 3.2.14 Any water line serving two or more fixtures shall be provided with dedicated shut-off valve (ball type).

3.3 GENERAL INSTALLATION

- 3.3.1 Hot water temperature shall be 120°F.
- 3.3.2 Trap primers shall be provided for all floor drains and floor sinks. A ball type shut-off valve shall be provided and installed at each trap primer, immediately upstream of the trap primer.

3.4 WATER PIPING STERILIZATION

- 3.4.1 The entire domestic water system shall be sterilized after the piping has been tested, but before acceptance of work for operation.
- 3.4.2 Sterilization shall be performed by one of the following sterilization laboratories:
 - 3.4.2.1 E. W. Smith Chemical Co., La Puente, California
 - 3.4.2.2 Water Chemists, Cerritos, California
 - 3.4.2.3 Name of any other sterilization laboratory shall be submitted for Architect's review prior to the start of water sterilization.
 - 3.4.2.4 No water sterilization shall be done prior to the review of the laboratory by the Architect.
- 3.4.3 Prior to sterilization, screens in all faucets and strainers shall be removed and the entire system shall be thoroughly flushed with water.
- 3.4.4 Sterilization material shall be chlorine, calcium hyperchlorite or sodium hypochlorite, complying with the A.W.W.A. C-601-68 Specifications.
- 3.4.5 Chlorinating materials shall be introduced into the system through a chlorination valve in a slow and continuous manner at an even flow rate and shall provide a dosage of not less than 50 parts per million.
- 3.4.6 After a retention period of not less than 24 hours, the chlorine residual must not drop below 25 parts per million concentration; should the chlorine content drop below the above level, the entire chlorination process shall be repeated. All valves installed in lines being sterilized shall be opened and closed several times during the chlorine retention period.
- 3.4.7 After chlorination, the entire system shall be flushed out with clean water at all outlets, including faucets, hose bibbs and dead ends, until the residual chlorine content is not more than 0.2 parts per million; after that, all removed screens shall be reinstalled.

- 3.4.8 A certificate of sterilization, bearing the signature of an official of the water sterilization laboratory performing the sterilization shall be submitted to the Architect.

3.5 FREEZE PROTECTION

- 3.5.1 Install insulation and freeze protection on all water pipes and traps in unheated or un-insulated spaces subject to freezing. Heat trace shall be Raychem XL-Trace or approved equal with glass cloth tape, model 5XLI/CR heating cable (120V), 1" insulation, model Rayclic-PC power connection kit, and caution labels as required.
- 3.5.2 Connect heat tracing cable to emergency power circuits where available.

3.6 TESTS

- 3.6.1 General: As per Section 22 05 10.
- 3.6.2 Sewer, waste and vent piping shall be tested hydrostatically under 5 p.s.i. pressure for not less than one hour.
- 3.6.4 Water piping shall be tested hydrostatically under 125 p.s.i. pressure for not less than one hour.

3.7 OPERATING AND MAINTENANCE INSTRUCTIONS

- 3.7.1 The Contractor shall instruct the Owner's Representative who will operate the systems, about the operation and maintenance of the equipment.
- 3.7.2 The Contractor shall deliver to the Owner two (2) copies of Operating and Maintenance Manuals for Plumbing Systems furnished and installed under Section 22 70 00.

3.8 GUARANTEE SERVICE CALLS

- 3.8.1 General: As per Section 22 05 00.
- 3.8.2 During the guarantee period, the Contractor shall provide repair service within 24 hours after receiving a request for service from the Owner.

END OF SECTION

GENERAL MECHANICAL REQUIREMENTS

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- 1.1.1 Division 1 - General Requirements, insofar as it is applicable to Division 23 Sections, and unless otherwise hereinafter specified.
- 1.1.2 All material, equipment and labor required to furnish and install the Heating, Ventilating and Air Conditioning (HVAC) shown on the Drawings and/or hereinafter specified, and otherwise hereinafter specified, shall be complete, tested and ready for use.
- 1.1.3 All material, equipment and labor required to remove existing material and equipment designated for removal; unless otherwise hereinafter specified, removed existing material and equipment shall become property of the Contractor and shall be removed from the premises.
- 1.1.4 All material, equipment and labor required to reuse and/or modify the existing material and equipment; prior to start of work, the Contractor accompanied by the Owner shall take inventory of the existing material and equipment as to the general condition, damaged and/or missing parts, functional deficiencies and other pertinent information.
- 1.1.5 Work under Division 23 specified in the following Sections:
 - 1.1.5.1 Section 23 05 00, General Mechanical Requirements.
 - 1.1.5.2 Section 23 05 93, HVAC Air Balancing.
 - 1.1.5.3 Section 23 31 00, Air Distribution.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- 1.2.1 Air Louvers.
- 1.2.2 Equipment Platforms.
- 1.2.3 Concrete Work.
- 1.2.4 Patching.
- 1.2.5 Painting except as hereinafter specified.
- 1.2.6 Electrical Work except as hereinafter specified.
- 1.2.7 Equipment furnished by the Owner or under other Sections.

1.3 PERMITS AND FEES

- 1.3.1 Unless otherwise hereinafter specified, the Contractor shall apply and pay for all necessary permits, fees, charges and inspections required by any public authority having jurisdiction; any expense incurred is part of this Contract.

1.4 LOCATION AND ACCESSIBILITY

- 1.4.1 The Contractor shall fully inform himself regarding any and all peculiarities and limitations of the spaces available for the installation of all work under Division 23 Sections. The Drawings indicate the desired location and arrangement of piping, duct work and equipment and are to be followed as closely as possible. The Contractor shall not fabricate any piping and duct work until he has verified in the field that the shown and/or specified piping, duct work and equipment can be installed in the allocated space without causing any restrictions in the required access or clearance to the piping, duct work and equipment and/or any other equipment furnished and installed under other Divisions.

- 1.4.2 The Contractor shall install the existing duct work with adequate clearance around, above and below existing piping, duct work and equipment as defined by the governing codes and as required for proper maintenance and servicing.

1.5 CODES AND REGULATIONS

- 1.5.1 All work provided under Division 23 Sections shall comply with the following Titles of the California Code of Regulations (CCR).

1.5.1.1 Title 19, Public Safety.

1.5.1.2 Title 8, Industrial Relations.

1.5.1.3 Title 24, Building Standards, including Administrative Regulations.

1.5.1.4 State Building Code (2006 Uniform Building Code with 2007 California State Amendments). 2001 CBC.

1.5.1.5 State Electrical Code (National Electrical Code with California State Amendments).

1.5.1.6 State Mechanical Code (2006 Uniform Mechanical Code with 2007 California State Amendments). 2001 CMC.

1.5.1.7 State Plumbing Code (2006 Uniform Plumbing Code with 2007 CPC California State Amendments). 2001 CPC.

- 1.5.2 In addition, all work provided under Division 23 Sections, shall comply with other applicable codes and regulations.

- 1.5.3 When the Drawings or Specifications call for sizes or grades different than required by the governing codes and regulations, the Contractor shall provide and install the larger size or higher grade. Nothing on the Drawings or in these Specifications is to be construed to permit work in violation of the governing codes and regulations.

1.6 SUBSTITUTIONS

- 1.6.1 Unless otherwise directed in Division 1, specific reference to materials and equipment by name and catalog number shall be interpreted as establishing a standard of quality and shall be deemed to be followed by the words "or equal". The Contractor may offer any material and equipment which he believes to be equal to that so specified.
- 1.6.2 Should the Contractor desire to substitute any material, equipment or other items for those specified, he shall submit a complete list, including detailed equipment layouts within thirty-five (35) calendar days after the scheduled Start of Construction. Said data shall be submitted in seven (7) copies, assembled in individual brochures.
- 1.6.3 Any changes required by the furnishing and installation of substituted material, equipment and other items shall be arranged for and paid for by the Contractor; any expense incurred is part of this Contract.
- 1.6.4 Should the Contractor neglect to submit the data within the specified time limit, or should the Architect reject the submitted items and the Contractor fail to resubmit other data complying in the Architect's opinion with the Contract Documents within fifteen (15) calendar days, items then shall be furnished in strict accordance with the detailed Specifications and drawings.

1.7 EQUIVALENT EQUIPMENT

- 1.7.1 In addition to detailed specifications of materials and equipment, the Specifications make reference to "equivalent equipment", which is not to be construed as a substitution.
- 1.7.2 Should the Contractor desire to use any "equivalent equipment", he shall submit complete data, including detailed layouts within thirty-five (35) calendar days after the scheduled Start of Construction. Said data shall be submitted in seven (7) copies, assembled in individual brochures.
- 1.7.3 "Equivalent equipment" will be considered as complying with the Contract documents if the quality, features, performance, physical shape and appearance of the "equivalent equipment" are in the Architect's opinion the same or similar to those of the material and equipment described in detailed Specifications.
- 1.7.4 Any changes required by the furnishing and installation of "equivalent equipment" shall be arranged for and paid for by the Contractor; any expense incurred is part of the Contract.
- 1.7.5 Should the Contractor neglect to submit said data within the specified time limit, items shall be furnished in strict accordance with the detailed Specifications and drawings.

1.8 SUBMITTALS

- 1.8.1 Unless otherwise indicated in Division 1, within thirty-five (35) calendar days after the scheduled Start of Construction, the Contractor shall submit complete data as hereinafter specified. Said data, assembled in individual brochures, shall be submitted in seven (7) copies. Each item shall be identified by the paragraph number and page number as shown in the Specifications. Should corrections be necessary, the Contractor shall resubmit within fifteen (15) calendar days after the

submittals are returned by the Architect.

- 1.8.2 Review of submitted items by the Architect for compliance with the Contract Documents shall not relieve the Contractor of the responsibility for any deviations from the Drawings or Specifications, unless he has in writing specifically called attention to such deviations at the time of submission, not shall it relieve him of responsibility for errors of any sort in such submittals.

1.9 MATERIALS, EQUIPMENT, WORKMANSHIP AND JUDGMENT

- 1.9.1 Unless otherwise hereinafter specified, all materials and equipment furnished and installed under Division 23 Sections shall be new, of best grade and the latest products as listed in the latest printed catalog.
- 1.9.2 All material and equipment of the same type and/or class shall be standard product of the same manufacturer.
- 1.9.3 Workmanship shall be of the best quality and only competent mechanics skilled in their trades shall be employed. The Contractor shall furnish the services of an experienced superintendent, who will be constantly in charge of the installation of the work until formal completion of work.
- 1.9.4 Whenever the words "or equal", "equivalent equipment", "suitable", "as directed" or other words of similar intent or meaning are used, implying that judgment is to be exercised, it is understood that it is the judgment of the Architect that is referred to.
- 1.9.5 The Architect shall have the right to interpret compliance of material, equipment and/or workmanship with the Contract documents.

1.10 DRAWINGS AND SPECIFICATIONS

- 1.10.1 Drawings and specifications are deemed to be complementary.
- 1.10.2 In case of discrepancy between the Drawings and the Specifications, the Contractor shall provide the more expensive alternate unless he has obtained a written clarification prior to bid opening.
- 1.10.3 Anything shown on the Drawings and not mentioned in the Specifications, or mentioned in the Specifications and not shown on the Drawings, shall be deemed to have been mentioned in both.
- 1.10.4 Should the material and equipment shown on the Drawings not be specified by name, model number and description, the Contractor shall provide such material and equipment in accordance with the Architect's selection unless he has obtained a written clarification prior to bid opening.

1.11 MANUFACTURER'S DIRECTIONS

- 1.11.1 If the manufacturers of equipment furnished and installed under Division 23 Sections furnish directions covering points not shown on the Drawings or herein specified, such directions shall be followed.

1.12 COOPERATION WITH OTHER TRADES

1.12.1 The work under Division 23 Sections shall be coordinated with the work of the other trades toward the general purpose of having the construction progress as rapidly and as smoothly as possible with a minimum of interference between one trade and another.

1.13 OPENINGS, SUPPORTS, CUTTING AND CORING

1.13.1 The Contractor shall provide all openings, supports, cutting and coring which may be required for the installation of the work under Division 23 Sections. Where pipes are to pass through or interfere with any structural member, or where notching, boring or cutting of the structure is necessary, the work shall be done as directed by the Architect. Top plates in bearing partitions shall not be cut or notched.

1.13.2 Patching is not part of Division 23 Sections.

1.14 CLOSING-IN OF UNINSPECTED WORK

1.14.1 The Contractor shall not allow or cause any of the work to be covered up or enclosed until it has been tested by the Contractor, and reviewed and found by the Architect to comply with the Contract documents. Should any work be enclosed or covered up before such test and review, the Contractor shall, at his own expense, uncover the work for such test and review, make all repairs as may be necessary to restore all his work and that of other trades to its original and proper condition.

1.15 SAFETY

1.15.1 The Contractor shall be solely and completely responsible for the condition of the premises on which the work is performed and for safety of all persons and property on the site during the construction. This requirement shall not be limited to normal working hours but shall apply continuously.

1.15.2 The Contractor shall comply with all governing safety regulations.

1.16 DAMAGE BY LEAKS

1.16.1 The Contractor shall be responsible for all damages to any part of the premises caused by leaks or breaks in pipes, fixtures or equipment furnished and installed under Division 23 Sections for a period of one year from the date of formal acceptance of work by the Owner.

1.17 RECORD DRAWINGS

1.17.1 At the beginning of the project, the Architect will furnish the Contractor one blue-line print and one reproducible transparency of each applicable drawing. Contractor shall keep an accurate dimensioned record of the as-built locations and elevations of all buried lines, manholes, cleanouts, valves, plugged tees, capped ends and of all work which is installed differently from that shown on the Drawings. This record shall be kept-to-date on the blue-line print as the job progresses and shall be available for review at the construction site at all times.

1.17.2 Before formal acceptance of the work, this information shall be transferred by the Contractor in a neat, legible, reproducible manner to the transparency, shall be stamped, dated and signed by the installing Contractor, shall be signed by the Inspector and shall be delivered to the Architect unfolded. If, in the opinion of the

Architect, the record is not legible, the Contractor shall employ a satisfactory draftsman to properly perform this work.

1.18 CLEANING OF MATERIAL AND EQUIPMENT

1.18.1 All installed material and equipment shall be thoroughly cleaned. Material and equipment which is to be painted shall be cleaned of cement, plaster, grease, oil and other foreign substances. All pasted paper labels shall be removed.

1.19 CLEAN-UP

1.19.1 Upon completion of the work, the Contractor shall remove from the premises all surplus material, rubbish and debris resulting from his operation. The premises shall be left in a clean and neat condition.

1.20 GUARANTEE

1.20.1 In addition to the guarantees required in the General Conditions, all materials and equipment furnished and/or installed under Division 23 Sections shall be guaranteed for a period of one year from the date of formal acceptance of the work by the Owner. Should any trouble develop during this period due to defective materials or faulty workmanship, the Contractor shall furnish all necessary labor and materials to correct the trouble without any additional cost to the Owner. Any defective materials or inferior workmanship noticed at the time of installation and/or during the guarantee period shall be corrected immediately to the satisfaction of the Owner and the Architect. HVAC contractors shall respond to a service call request during guarantee period, within forty eight (48) hours during a regular working week.

1.21 SUMMARY OF SUBMITTALS

1.21.1 The following items shall be submitted to the Architect per timeline outlined in Division 1 after the scheduled Start of Construction for review for compliance with the Contract Documents.

1.21.1.1 Complete data of proposed substitutions.

1.21.1.2 Complete data of "equivalent equipment".

1.21.1.3 Ductwork and registers.

1.21.2 The following items shall be submitted to the Architect prior to formal acceptance of the work by the Owner:

1.21.2.1 HVAC test and balance report.

1.21.2.2 HVAC guarantee.

2. PART 2 PRODUCTS

\\NOT USED

3. PART 3 EXECUTION

\\NOT USED

END OF SECTION



23 05 93

HVAC AIR BALANCING

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- 1.1.1 Section 23 05 00, General Mechanical Requirements, insofar as they are applicable to this Section, and unless otherwise hereinafter specified.
- 1.1.2 Combined efforts of the HVAC Contractor and the Air Balance Contractor resulting in HVAC Systems which are complete, tested and ready for use.

1.2 AIR BALANCE CONTRACTOR

- 1.2.1 The HVAC air balancing shall be performed by an Air Balance Contractor who:
 - 1.2.1.1 is independent from any HVAC Contractor, Equipment Manufacturer or Equipment Service Organization.
 - 1.2.1.2 has been in independent air balance business in the State of California for a period of at least five (5) years.
 - 1.2.1.3 is a member of the Associated Air Balance Council (AABC).
- 1.2.2 Air Balance Contractors meeting the specified requirements are:
 - 1.2.2.1 Winaire, Inc., Huntington Beach,
phone (714) 901-2747
 - 1.2.2.2 Penn Air Control, Cypress,
phone (714) 220-9091
 - 1.2.2.3 San Diego Air Balance Co., Econdido,
phone (760) 741-5401
 - 1.2.2.4 Los Angeles Air Balance Co., Upland,
phone (909) 931-1114
 - 1.2.2.5 American Air Balance Co., Anaheim,
phone (714) 693-3700
- 1.2.3 Within thirty-five (35) calendar days after the Scheduled Start of Construction, the HVAC Contractor shall submit to the Architect the name of one of the above Air Balance Contractors he proposes to use for this project. Should the HVAC Contractor neglect to submit the Air Balance Contractor's name within the specified time limit, the Air Balance Contractor will be selected by the Architect with the cost of the Air Balance Contractor's services remaining the responsibility of the HVAC Contractor.

2. **PART 2 PRODUCTS**
// NOT USED

3. **PART 3 EXECUTION**

3.1 **HVAC CONTRACTOR'S RESPONSIBILITIES**

- 3.1.1 Prior to the start of the HVAC system construction, the HVAC Contractor shall review the HVAC system layout with the Air Balance Contractor for the purpose of discussing the procedures of HVAC system balancing.
- 3.1.2 The HVAC Contractor shall complete the HVAC system installation, including all belt drive alignment, furnishing and installation of system and general HVAC equipment clean-up.
- 3.1.3 Upon completion of HVAC system installation, the HVAC Contractor shall notify the Air Balance Contractor that the HVAC system is ready for air balancing.
- 3.1.4 During and after the air balancing, the HVAC Contractor shall assist the Air Balancing Contractor and shall do all remedial work requested by the Air Balance Contractor. Cost of remedial work is part of HVAC Contractor's responsibilities.
- 3.1.5 Remedial work also includes furnishing and installation of new drives (adjustable motor pulleys and belts), if the required air deliveries cannot be achieved with the factory furnished drives.

3.2 **AIR BALANCE CONTRACTOR'S RESPONSIBILITIES**

- 3.2.1 Prior to the start of the HVAC system construction, the Air Balance Contractor shall review the HVAC system layout with the HVAC Contractor for the purpose of discussing the procedures of duct pressure testing and HVAC system balancing.
- 3.2.2 During the HVAC system installation, the Air Balance Contractor shall make two (2) visits to the construction site to observe the duct construction and the location and accessibility to volume dampers; upon completion of each visit, the Air Balancing Contractor shall send the Architect a written report.
- 3.2.3 Upon completion of the HVAC system installation, the Air Balance Contractor shall make a third visit for the purpose of air balancing of the HVAC systems.
- 3.2.4 The air balancing shall be performed by the Air Balance Contractor in accordance with the National Standards for Field Measurements and Instrumentation published by the Associated Air Balance Council (AABC).
- 3.2.5 Final air deliveries shall be within 10 percent above and 5 percent below the specified values.
- 3.2.6 Any irregularities encountered by the Air Balance Contractor shall be reported to the HVAC Contractor for rectification; items requiring engineering assistance shall be reviewed with the Mechanical Engineer prior to the presentation of the final Test and Balance Report.

3.2.7 The Air Balance Contractor shall test and balance the HVAC systems in the presence of the HVAC Contractor in order to assure proper performance of all system components.

3.2.8 After the air balancing completion, the Architect will have the right to request the Air Balance Contractor to make one (1) additional visit to the job site, should the corrective measures to the HVAC system result in substantial changes of the system performance; the Architect will determine whether such conditions prevail.

3.3 TEST AND BALANCE REPORT

3.3.1 The Air Balance Contractor shall submit to the Architect four (4) copies of the Test and Balance Report including the Air Balance Contractor's prepared key plan with proper identification and location of all HVAC components. Direct reproduction of the Contract Drawings shall not be used.

3.3.2 Test and Balance Report shall include both specified and actual values for all equipment.

3.3.3 For three phase motors, power consumption shall be reported for all three legs.

3.3.4 Test and Balance Report shall include air temperatures where applicable.

3.3.5 Upon completion of the Test and Balance Report, but BEFORE final review of the HVAC work by the Mechanical Engineer, one (1) copy of the Test and Balance Report shall be delivered by the Air Balance Contractor DIRECTLY to the Mechanical Engineer.

END OF SECTION



23 31 00

AIR DISTRIBUTION

1. PART 1 GENERAL

1.1 SECTION INCLUDES

- 1.1.1 Section 23 05 00, General Mechanical Requirements, and Section 23 05 10, General Mechanical Materials, insofar as they are applicable to this Section, and unless otherwise hereinafter specified.
- 1.1.2 Materials, equipment and labor as herein specified which shall take precedence over those elsewhere specified.
- 1.1.3 Duct work, duct work attachments, dampers air distribution equipment and installation.

2. PART 2 PRODUCTS

2.1 RECTANGULAR DUCT WORK

- 2.1.1 Definition: This paragraph applies to ductwork for the HVAC systems and exhaust systems.

- 2.1.2 Duct work construction shall be in accordance with the Code, using galvanized sheet metal of the following gauges:

<u>Maximum Duct Size in Inches</u>	<u>Minimum U.S. Gauge</u>
Up to 12	26
13 to 30	24
31 to 54	22

- 2.1.3 Duct gauges shown in the schedule are governed by the long side of the duct.
- 2.1.4 Flat duct surfaces shall be crimped diagonally for sizes above 18 in.; at Contractor's option, beading at 12 in. on centers may be used in lieu of crimping (cross breaking).
- 2.1.5 Longitudinal duct seams in all duct sizes may be Pittsburgh lock or button punch snap lock with buttons spaced at 2 in. on centers.

- 2.1.6 Transverse duct joints and intermediate bracing shall be constructed of galvanized sheet steel and galvanized structural angles as follows:

<u>Max. Duct Side in In.</u>	<u>Transverse Duct Joint</u>	<u>Max. O.C.</u>	<u>Intermediate Bracing @ All Sides</u>
Up to 18	S and Drive Slip or 1" Pocket Lock	10 ft.	None
19 to 42	1" Pocket Lock	10 ft. from joint	1" x 1" x 1/8" angles, 5 ft.
43 to 60	1-1/2" Pocket Lock	10 ft.	1" x 1" x 1/8" angles, 5 ft. from joint

- 2.1.7 Transverse duct joints shown in the schedule may be used on the short sides of the duct to the limit of the indicated joint.

- 2.1.8 Pocket locks (government locks) and standing seams shall be hammered airtight. Pocket locks shall be riveted at each corner. Standing seams shall be riveted at 10 in. on centers with not less than three rivets per side.

- 2.1.9 Duct transitions shall be made with a slope of not more than 1 ft. in 5 ft. wherever possible, but in any event not more than 1 ft. in 3 ft.

- 2.1.10 Duct turns shall be made with a throat radius of not less than the duct width; if the job conditions do not permit such turns, sharp right angle duct turns with turning vanes shall be used.

- 2.1.11 Turning vanes shall be Duro-Dyne Duro Vane Rail assemblies with 24 gauge galvanized 90 deg. double vanes held firmly by two 24 gauge 2-1/4" wide galvanized crimped rails. Vanes shall have 2 in. inner radius and 1 in. outer radius. Vanes shall be spaced at 1-1/2" in. on centers measured on rails. Top and bottom rails shall be fastened to the duct with sheet metal screws spaced at 12 in. on centers with a minimum of two screws per rail.

- 2.1.12 Access doors shall be made of galvanized sheet steel 2 gauges heavier than plenum or duct of the same size. Doors shall have 1" thick Celotex core with galvanized sheet steel on both sides and shall be provided with neoprene gasket. Doors shall be provided with hinges and catches as follows:

- 2.1.12.1 Door Heights 12 in. and Smaller: Two Duro-Dyne HH-2 hinges spaced at quarter points; one Duro-Dyne SL-1 sash latch in center of door.

- 2.1.12.2 Door Heights 13 in. and Larger: Two Duro-Dyne HH-3 hinges spaced at quarter points; one Duro-Dyne SP-20 latch with handles on both sides located in center of door.

- 2.1.13 Transverse duct joints shall be sealed with Foster 32-14 U.L. Listed fire retardant high velocity duct sealer applied to the joints before they are made; an exterior surface application of the duct sealer shall be made to the joints after they are closed. In addition, transverse duct joints exposed to the weather shall be covered with 6" wide 6 oz. canvas completely saturated with Foster 30-36 U.L. Listed fire retardant coating. At Contractor's option, duct sealer in concealed transverse duct joints may be omitted and joints may be covered with 4" wide 6 oz. canvas completely saturated with Foster 30-36 U.L. Listed fire retardant coating.
- 2.1.14 Flexible duct connections shall be Duro-Dyne Durolon or Excelon State Fire Marshal listed non-combustible fabric with weatherproof, airtight, chemical resisting and fire retardant coating. Flexible duct connections attached to the duct work with lock seam shall be not more than 6" long.
- 2.1.15 Horizontal duct work shall be suspended or supported as follows:
- 2.1.15.1 Duct Sizes Up to 30 Inches: 1" wide 18 gauge galvanized straps shall be bent to extend 1 in. on the underside of the duct on both sides. Each strap will be fastened to the bottom and side of the duct with three sheet metal screws.
- 2.1.15.2 Duct Sizes Over 30 Inches: 1" wide 1/8" thick galvanized straps shall extend full height of standing seams or angles on both sides of the duct with each strap fastened to the angle or standing seams with two 1/4" bolts and nuts with washers on both ends and spaced 1 in. from top and bottom of the duct. At Contractor's option, ducts may be suspended with 1" wide 1/8" thick U-straps fastened to the bottom and side of the duct with four sheet metal screws.
- 2.1.15.3 Duct Suspension Spacing: 8 ft. on centers.
- 2.1.16 Vertical duct work shall be supported every 8 ft. as follows:
- 2.1.16.1 Duct Sizes Up to 24 Inches: 1" wide 1/8" thick horizontal straps fastened to the duct with four sheet metal screws.
- 2.1.16.2 Duct Sizes Over 24 Inches
- | <u>Maximum Duct
Size in Inches</u> | <u>Galvanized
Horiz. Angle</u> |
|--|------------------------------------|
| 25 to 36 | 1" x 1" x 1/8" |
| 37 to 48 | 1-1/4" x 1-1/4" x 1/8" |
| 49 to 54 | 1-1/2" x 1-1/2" x 1/8" |
- 2.1.16.3 Straps and angles shall be installed under and adjacent to the joints.
- 2.1.17 Duct work construction not defined by the Code and not herein specified shall be in accordance with the 1995 edition of the S.M.A.C.N.A. Duct Construction Standards.

2.2 DUCT WORK ATTACHMENTS

2.2.1 Steel Construction

2.2.1.1 Strap Hangers: Duct suspension fastened to Caddy Fig. 7 flange clamp with 1/4" machine bolt and nut with washers at both ends; flange clamp hammered to flange of the structural member.

2.2.1.2 Rod Hangers: Superstrut M-775-L beam C-clamp with lock nut and M-775-C retaining clip.

2.3 RECTANGULAR DAMPERS

2.3.1 Rectangular Volume Dampers: Greenheck Model VCD-1100 galvanized steel assembly with 16 ga. frame, 16 ga. interlocked opposed blades, 1/2" pins with nylon bushings, 1/2" extended shaft and Duro-Dyne K-5 locking quadrant.

2.3.2 Equivalent: Air Balance.

2.4 AIR DISTRIBUTION EQUIPMENT

2.4.1 Exhaust Ceiling Grilles: Model 3P units with clip-in perforated face.

2.4.2 Ceiling Diffusers: Model PRS units with removable adjustable curved blades and clip-in perforated face; where indicated on the Drawings, diffusers shall be Model PRSO units with key operated opposed blade volume dampers.

2.4.3 Transfer Ceiling Grilles: Model 3P units with clip-in perforated face.

3. PART 3 EXECUTION

3.1 DUCT WORK INSTALLATION

3.1.1 Unless otherwise indicated, duct hangers and supports shall not pierce the duct work.

3.1.2 Duct work shall clear beams, columns and other structural members.

3.1.3 Powder actuated tools shall not be used.

3.1.4 Steel construction fireproofing damaged by the duct suspension attachments shall be repaired to the satisfaction of the Architect.

3.1.5 For soundproof walls, the ducts shall be provided with sheet metal sleeves 1 in. larger in both directions than the duct size; the annular space shall be packed with 3/4 lb./cft density fiberglass insulation.

3.1.6 Air distribution equipment shall be supported independently from the suspended ceiling system.

- 3.1.7 For soundproof walls, the ducts shall be provided with sheet metal sleeves 1 in. larger in both directions than the duct size; the annular space shall be packed with 3/4 lb./cft density fiberglass insulation.
- 3.1.8 The use of fiberglass for round and/or rectangular ductwork is prohibited.
- 3.1.9 Volume dampers shall be provided and installed in every branch duct serving every diffuser and/or register, and as shown on plans.
- 3.1.10 Turning vanes shall be installed in all right angle sharp turns in rectangular ducts.
- 3.1.11 Where sound insulation or internal lining is indicated, specified duct dimensions are net dimensions, i.e., dimensions after sound insulation has been installed.
- 3.1.12 Ductwork shall be sealed after installation until final connection to diffuser/register is made.
- 3.1.13 Ductwork installed in outdoor locations shall be provided with a baked epoxy coating.
- 3.2 SEISMIC BRACING
 - 3.2.1 Duct work shall be seismically braced in accordance with the Guidelines for Seismic Restraints of Mechanical Systems and Plumbing Piping Systems published by S.M.A.C.N.A. and P.P.I.C., and approved by the Office of the State Architect, Structural Safety Section.
 - 3.2.2 Prior to Start of Construction, the Contractor shall provide a new copy of the Guidelines to the Inspector for use during the construction.
- 3.3 TESTS
 - 3.3.1 General: As per Section 23 05 10.

END OF SECTION

