

CITY OF ALAMEDA
MAINTENANCE SPECIFICATIONS
AND PLANS
FOR

ALAMEDA POLICE DEPARTMENT
RESTROOM UPGRADES
P.W. 03-15-04

NO PREBID MEETING

BID DUE DATE:
BID OPENING TIME:
LOCATION:

Monday, April 2, 2015 by 2 p.m.
2:01 p.m.
Public Works Department
950 W. Mall Square, Room 110
Alameda, CA 94501


Jesse Barajas
Public Works Superintendent

TABLE OF CONTENTS

Section I.	Proposal and Contract Requirements
Section II.	Legal Relations and Responsibility
Section III.	Scope of Work
Section IV.	Control
Section V.	Measurements and Payments
Section VI.	Quantities
Section VII.	Construction Details

Exhibit A	Bidder's Proposal
Exhibit B	Contractor's Certified Payroll Forms
Exhibit C	Contractor Agreement
Exhibit D	Emergency Form
Exhibit E	Performance Bond Form
Exhibit F	Payment Bond Form
Exhibit G	Bidder's Bond
Exhibit H	Construction Specifications Institute

PLANS for City of Alameda Police Department, Toilet Room Modification, Second Floor, 1555 Oak Street, Alameda, CA 94501

<u>TITLE</u>	<u>SHEET NO.</u>	<u>PROJECT NO. #</u>
Cover Sheet	A-0	201409
Existing & Proposed Plans – Door Schedule	A-1	201409
Interior Elevations & Notes	A-2	201409

CITY OF ALAMEDA, CALIFORNIA

SPECIFICATIONS, SPECIAL PROVISIONS AND PLANS
FOR
MAINTENANCE

SECTION I. PROPOSAL AND CONTRACT REQUIREMENTS

A. GENERAL INFORMATION. The City of Alameda will receive sealed bid at the time and place specified in the advertisement calling for bids for:

ALAMEDA POLICE DEPARTMENT RESTROOM UPGRADES, P.W. 03-15-04

Electronic specifications and bidders forms for bidding this project can only be obtained at the City of Alameda website, www.cityofalameda.gov/Business/Bids-RFPs. There is no cost for the specifications.

B. EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS AND SITE OF WORK. The bidder is required to examine carefully the site and the proposal, plans, specifications and contract forms for the work contemplated, and it will be assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality and quantities of work to be performed and materials to be furnished, and as to the requirements of the specifications, the special provisions and the contract.

C. DESIGNATIONS. As used herein "City" shall mean the City of Alameda; "Council" or "City Council" shall mean the Council of the City; "City Manager" shall mean the City Manager of the City; "Engineer" or "PW Supervisor" shall mean the Public Works Supervisor or Public Works Supervisor's designee of the City; "Director" shall mean the Public Works Director of the City; and "Contractor" shall mean the bidder who is awarded the contract for the work.

D. PROPOSAL FORM. All bids must be made upon blank forms which are included in these specifications (Exhibit A).

All bids must give the prices proposed, **both in writing and in figures.** Bids must be signed by the Bidder. If the proposal is signed by an individual, that individual's name and business address must be shown. If made by a firm or partnership, the name and the post office address of each member of the firm or partnership must be shown. If made by a corporation, the proposal must show the name of the state under the laws of which the corporation was chartered and the names, titles, and business addresses of the president, secretary and treasurer.

E. PRESENTING AND MARKING OF BIDS. Bids must be presented to the Public Works Department, 950 W. Mall Square, Room 110, Alameda, California, under sealed cover, plainly marked on the outside, "**ALAMEDA POLICE DEPARTMENT RESTROOM UPGRADES, P.W. 03-15-04**", not later than **2:00 p.m.** on the date set forth in the following paragraph.

Bids will be opened in the Public Works Department, 950 W. Mall Square, Room 110, Alameda, California, **at 2:01 p.m. on April 2, 2015.**

F. BIDDER'S GUARANTY. All bids shall be accompanied by one of the following forms of bidder's guaranty: cash, a cashier's check, a certified check, or a bidder's bond executed by an admitted surety insurer, made payable to the City of Alameda. The security shall be in an amount equal to at least ten percent (10%) of the amount bid. A bid shall not be considered unless one of the forms of bidder's security is enclosed with it. If, in lieu of depositing cash, a cashier's check, or a certified check, the bidder submits a bidder's bond, the said bond shall, in form, be satisfactory to the City Attorney of the City of Alameda. A Bid Bond form is provided in Exhibit G.

Said bidder's guaranty which is submitted according to the above paragraph shall, in the event of the failure, for any reason, of the successful bidder or bidders to execute the contract as awarded, be deemed to be liquidated damages to be retained in full by the City of Alameda, but shall not be construed as a penalty for failure to execute said contract. The full amount of the said bidder's guaranty shall also be retained in full by the City of Alameda as consideration payable to the City of Alameda for engineering, accounting and clerical services in formulating specifications for such bid or bids, for advertising costs to the City of Alameda in connection with such bid or bids, and further, as consideration for the award of such contract to such bidder or bidders.

Any bid bond submitted under this Section shall incorporate therein by reference, or otherwise, all of the provisions of Section I, Item F, of these specifications.

G. RETURN OF BIDDER'S GUARANTIES. Within ten (10) days after the award of the contract, the Public Works staff will return the proposal guaranties accompanying the bids which are not to be considered in making the award. All other proposal guaranties will be held until the contract has been finally executed, after which they will be returned to the respective bidders whose bids they accompanied.

H. TAXES. Bids must include all state and federal taxes applicable to the transaction.

I. SUBCONTRACTORS. All contractors shall comply with the State Subletting and Subcontracting Fair Practices Act, located in Sections 4100 through 4112 of the California Public Contract Code. A copy of said Act is available in the office of the PW Supervisor. Said Act is hereby made a part of the specifications on the above-mentioned job and all contractors submitting bids shall accompany the bid with information regarding subcontractors as therein provided. All Subcontractors shall have a current City of Alameda business license.

J. REJECTION OR RETURN OF BIDS. Bids may be rejected if they show any alterations of form, additions not called for, conditional or alternative bids, incomplete bids, erasures or irregularities of any kind. The right is reserved to reject any and all bids. The City reserves the right to return bids unopened.

K. BID PROTEST. Any bid protest must be submitted in writing to the Public Works Director, City of Alameda Public Works Department, City Hall West, 950 West Mall Square, Room 110, Alameda, CA 94501 before 5:00 p.m. of the 10th business day following bid opening.

1. The initial protest document shall contain a complete statement of the basis for the protest.
2. The protest shall refer to the specific portion of the document which forms the basis for the protest.
3. The protest shall include the name, address, and telephone number of the person representing the protesting party.
4. The party filing the protest shall concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest which may be adversely affected by the outcome of the protest. Such parties shall include all other Bidders or proposers who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
5. The Public Works Director will issue a decision on the protest. If the Public Works Director determines that a protest is frivolous, the party originating the protest may be determined to be irresponsible and that party may be determined to be ineligible for future contract awards.
6. The procedure and time limits set forth in this paragraph are mandatory and are the Bidder's sole and exclusive remedy in the event of Bid protest and failure to comply with these procedures shall constitute a waiver of any right to further pursue the bid protest, including filing a Government Code Claim or legal proceedings.

L. AWARD OF CONTRACT. The award of contract, if it be awarded, will be to the responsible bidder who submits the lowest and best bid and whose proposal complies with all requirements described herein. The award, if made, will be made within ninety (90) days after the opening of the bids. All bids will be compared on the basis of the Engineer's estimate of quantities of work to be done. In the event of a delay the City reserves the right to hold the Bidder to its bid for 90 days from the date the contract is awarded.

Bid protests, contracts, bonds, insurance, and other documents identified in these specifications and these special provisions are to be delivered to the following City address: City of Alameda, City Hall West, Public Works Department, 950 West Mall Square, Room 110, Alameda, CA 94501.

M. EXECUTION OF CONTRACT. The contract, in form and content satisfactory to the City, will be awarded at a regular City Council meeting (first and third Tuesdays of each month, except August). At least five (5) business days prior to the anticipated award date, the Contractor will be notified of apparent award status and requested to provide the documents necessary to complete the contract process. Required documentation shall include two (2) copies of the contract executed by the Contractor, proof of insurance and Payment and Performance bonds. The Contractor will be given five (5) business days from the date the City Council awards the contract to obtain the relevant bonds and insurance along with any other documents required for submission.

No proposal shall be considered binding upon the City until the execution of the contract. Failure to execute a contract and file acceptable bonds and insurance as provided herein within the time frame outlined above shall be just cause for the annulment of the award and the forfeiture of the bidder's guaranty.

N. CONTRACT BONDS. The Contractor shall furnish two good and sufficient bonds. One of the bonds shall be executed in a sum equal to at least one hundred percent (100%) of the contract price, which shall be furnished as required by the Terms of Section 3247 to 3252 of the Civil Code of the State of California (see Exhibit F). The other bond shall guaranty faithful performance of the said contract by the Contractor and shall be executed in a sum equal to at least one hundred percent (100%) of the contract price (see Exhibit E). Bonds shall be furnished by a surety company satisfactory to the City of Alameda.

Whenever any surety or sureties on any such bonds, or any bonds required by law for the protection of the claims of laborers and materials, become insufficient or the City PW Supervisor has cause to believe that such surety or sureties have become insufficient, a demand in writing may be made of the Contractor for further bond or bonds or additional surety not exceeding that originally required, as is considered necessary, taking into account the extent of the work remaining to be done. Thereafter no payment shall be made upon such contract to the Contractor, or any assignee of the Contractor, until such further bond or bonds or additional surety has been furnished. Faithful performance bonds, whether by individual or corporate surety, shall in addition to other terms and conditions, contain the conditions that (1) death of the named principal shall not operate as a release of the obligation hereunder of the surety, and (2) extensions of time, if any, granted by the City to Contractor for performance of the work covered by said bond shall extend for a like time the period of limitations during which surety shall remain bound by the said undertaking.

SECTION II. LEGAL RELATIONS AND RESPONSIBILITIES

A. LAWS TO BE OBSERVED. The Contractor shall keep himself fully informed of all existing and future state and federal laws and all municipal ordinances and regulations of the City of Alameda which in any manner affect those engaged or employed in the work, or the materials used in the work, or which in any way affect the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same.

B. DEPARTMENT OF INDUSTRIAL RELATIONS COMPLIANCE AND PREVAILING WAGE REQUIREMENTS ON PUBLIC WORKS PROJECTS.

1. Effective January 1, 2015, No Contractor or Subcontractor may be listed on a bid proposal for a public works project (submitted after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5 (with the limited exceptions from this requirement for bid purposed only under Labor code Section 1771.1(a)). Register at <https://efiling.dir.ca.gov/PWCR>

2. No Contractor or Subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5.

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

4. The Prime Contractor is required to post job site notices prescribed by regulation See 8 Calif. Code Regulation §16451(d).

5. Effective April 1, 2015, All Contractors and Subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner. <https://apps.dir.ca.gov/ecpr/das/altlogin>

C. PREVAILING WAGES:

1. The Contractor is aware of the requirements of California Labor Code sections 1720 et seq. and 1770 et seq., as well as California Code of Regulations, Title 8, section 16000 et seq. ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" projects. Since this Project involves a "public work" project, as defined by the Prevailing Wage Laws, Contractor shall fully comply with such Prevailing Wage Laws. Contractor's failure to comply with the Prevailing Wage Law may constitute a default under the contract for performance of the Work which would entitle the City to rescind the contract or exercise other remedies as provided by law or the contract.

2. The Contractor shall obtain a copy of the prevailing rates of per diem wages at the commencement of this Contract from the website of the Division of Labor Statistics and Research of the Department of Industrial Relations located at www.dir.ca.gov/dlsr/. In the alternative, the Contractor may view a copy of the prevailing rates of per diem wages at the

City's Public Works Department, Building 1, 950 W. Mall Square, Room 110, Alameda. The Contractor shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to perform work on the Project available to interested parties upon request, and shall post copies at the Contractor's principal place of business and at the Project site. The Contractor shall defend, indemnify and hold the City, its elected officials, officers, employees and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Prevailing Wage Laws and/or the City's Labor Compliance Program (hereinafter referred to as "LCP"), if any.

3. If this project is funded in whole or in part with Federal monies and subject to the provisions of the Davis-Bacon Act, the successful bidder shall pay not less than the wage rates determined by the Secretary of Labor. The Federal wage rates shall apply unless the State wage rates are higher. The Federal Wage Rates applicable to the contract are those current within ten (10) days of the bid due date.

4. The Contractor and all subcontractors shall pay and shall cause to be paid each worker engaged in 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.

5. The Contractor and all subcontractors shall pay and shall cause to be paid to each worker needed to execute the work on the Project travel and subsistence payments, as such travel and subsistence payments are defined in the applicable collective bargaining Contracts filed with the Department of Industrial Relations in accordance with Labor Code § 1773.8.

6. If during the period any bid for work on this Project remains open, the Director of Industrial Relations determines that there has been a change in any prevailing rate of *per diem* wages in the locality in which this public work is to be performed, such change shall not alter the wage rates in the Notice calling for Bids or the contract subsequently awarded.

7. Pursuant to Labor Code § 1775, the Contractor shall as a penalty to the City, forfeit Fifty Dollars (\$50.00) for each calendar day, or portion thereof, for each worker paid less than the prevailing rate of *per diem* wages, determined by the Director, for such craft or classification in which such worker is employed for any public work done under the Contract by the Contractor or by any Subcontractor under it. The amount of the penalty shall be determined by the Labor Commission. In addition, the difference between such prevailing rate of *per diem* wage and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing rate of *per diem* wage shall be paid to each work by the Contractor.

8. Any worker employed to perform work on the Project, which work is not covered by any craft or classification listed in the general prevailing rate of *per diem* wages determined by the Director, shall be paid not less than the minimum rate of wages specified therein for the craft or classification which most nearly corresponds to the work on the Project to be performed by them, and such minimum wage rate shall be retroactive to time of initial employment of such person in such craft or classification.

9. For those crafts or job classifications requiring special prevailing wage determinations, please contact the Division of Labor Statistics and Research, Prevailing Wage Unit, P.O. Box 420603, San Francisco, CA 94142-0603, (415) 703-4774 or check out the web site at www.dir.ca.gov.

D. HOURS OF LABOR.

1. As provided in Article 3 (commencing at § 1810), Chapter 1, Part 7, Division 2 of the Labor Code, eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by the Contractor or by any Subcontractor on any subcontract under this Contract, upon the work or upon any part of the work contemplated by this Contract, is limited and restricted to eight (8) hours during any one calendar day and forty (40) hours during any one calendar week, except as hereinafter provided. Notwithstanding the provision hereinabove set forth, work performed by employees of Contractor in excess of eight (8) hours per day and forty (40) hours during any one week shall be permitted upon this public work provided that the employees' compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1-1/2) times the basic rate of pay.

2. The Contractor shall pay to the City a penalty of Twenty-five Dollars (\$25.00) for each worker employed in the execution of this Contract by the Contractor, or by any Subcontractor, for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day and forty (40) hours in any one (1) calendar week, in violation of the provisions of Article 3 (commencing at § 1810), Chapter 1, Part 7, Division 2 of the Labor Code, unless compensation for the workers so employed by Contractor is not less than one and one-half (1-1/2) times the basic rate of pay for all hours worked in excess of eight (8) hours per day.

3. Holiday and overtime work, when permitted by law, shall be paid for at a rate of at least one and one-half (1½) times the above specified rate of *per diem* wages, unless otherwise specified. Holidays shall be defined in the Collective Bargaining Contract applicable to each particular craft, classification, or type of worker employed.

E. CERTIFIED PAYROLL.

1. Contractor's attention is directed to California Labor Code Section 1776, which requires Contractor and any subcontractors to keep an accurate payroll record and which imposes inspection requirements and penalties for non-compliance. Certified payrolls shall be prepared and submitted weekly to the Labor Compliance Officer, Gail Carlson, Public Works Department, 950 W. Mall Square, Room 110, Alameda, CA 94501 by the Contractor and each subcontractor. Contractor is responsible for the submission of copies of payrolls by all subcontractors. Each payroll submitted shall be accompanied by a "Statement of Compliance", signed by the Contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract, and shall certify the following:

a. That the payroll for each payroll period contains the name, social security number, and address of each employee, his or her correct classification, including applicable area and group code, hourly rates of wages paid, daily and weekly number of hours worked, deductions made and actual wages paid, and that such information is correct and complete;

b. That such laborer or mechanic (including each helper, apprentice and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions; and

c. That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

2. If the Contractor or a subcontractor does not work during the payroll period, a Statement of Non-Working Days must be submitted for each day not worked.

3. In the event of noncompliance with the requirements of such section after 10 Days written notice specifying in what respects compliance is required, the CONTRACTOR shall forfeit as a penalty to the CITY, \$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, such penalties shall be withheld from progress payments then due.

F. APPRENTICES.

1. Attention is directed to the provisions in sections 1777.5 and 1777.6 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor under him on contracts greater than \$30,000 or 20 working days. The Contractor and any subcontractor under him shall comply with the requirements of Sections 1777.5 and 1777.6 in the employment of apprentices.

2. Section 1777.5 requires the Contractor or subcontractor employing workers in any apprenticeable occupation to apply to the joint apprenticeship committee nearest the site of the public works project, and which administers the apprenticeship program in that trade, for a certificate of approval, if they have not previously applied and are covered by the local apprenticeship standards.

3. The Contractor is required to make contributions to funds established for the administration of apprenticeship programs if: (1) the Contractor employs registered apprentices or journeymen in any apprenticeable trade on such contracts and if other contractors on the public works site are making such contributions; or (2) if the Contractor is not a signatory to an apprenticeship fund and if the funds administrator is unable to accept Contractor' required contribution. The Contractor or subcontractor shall pay a like amount to the California Apprenticeship Council.

4. Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex-officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

G. LABOR DISCRIMINATION. No discrimination shall be made in the employment of persons upon public works because of the race, color, sex, religion, age, national origin, sexual orientation, or physical disability of such persons and every Contractor for public works violating this section is subject to all the penalties imposed for a violation of the provisions of the Labor Code, and, in particular, Section 1735.

H. REGISTRATION OF CONTRACTORS. Before submitting bids, contractors shall be licensed in accordance with the provisions of Chapter 9, Division 3, of the Business and Professional Code of the State of California.

I. PERMITS AND LICENSES. The Contractor shall procure all permits and licenses, including City of Alameda business licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work. However, the contractor will be reimbursed for construction permit fees. The estimated cost shown as an allowance in

the bid proposal is only for bidding purposes. Payment shall be made for the actual cost of the permit. The cost for a City of Alameda business license is not reimbursable. Each Subcontractor shall have a current City of Alameda business license.

The following permit(s) and/or license(s) are required for this project:

1. **A City of Alameda Business License from the City of Alameda, 2263 Santa Clara Avenue, Finance Department, Room 220, Alameda.**

J. PATENTS. The Contractor shall assume all costs arising from the use of patented materials, equipment, devices or processes used on or incorporated in the work, and agrees to indemnify and hold harmless the City of Alameda, its officers, employees and agents from all suits at law or actions of any nature, damages, royalties and costs on account of the use of any patented materials, equipment, devices or processes.

K. RESPONSIBILITY FOR DAMAGES. The City of Alameda, its officers, employees and agents shall not be answerable or accountable in any manner for any loss or damage to the work or any part thereof, nor to any material or equipment used in performing the work, nor for injury or damage to any person or persons, either workers or the public, nor for damage to adjoining property from any cause whatsoever during the progress of the work nor at any time before final acceptance.

L. CONTRACTOR'S RESPONSIBILITY FOR THE WORK. Except as provided above, until formal acceptance of the work by the City, the Contractor shall have the charge and care thereof and shall bear the risk of injury or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the work. The Contractor shall rebuild, repair, restore and make good all injuries or damages to any portion of the work occasioned by any of the above causes before final acceptance and shall bear the expense thereof, except such injuries or damages occasioned by acts of the Federal Government or the public enemy. The Contractor will not be responsible for the cost of repairing or restoring damage to the work, which damage is determined to have been proximately caused by an act of God, in excess of 5% of the contracted amount.

M. SAFETY PROVISIONS. The Contractor shall conform to the rules and regulations pertaining to safety established by the California Division of Occupational Safety and Health of the Industrial Relations Department (CAL-OSHA).

N. NO PERSONAL LIABILITY. Neither the City Council, City Manager, the City PW Supervisor, nor any other City officer, authorized assistant or agent shall be personally responsible for any liability arising under this contract.

O. RESPONSIBILITY OF CITY. The City of Alameda shall not be held responsible for the care or protection of any material or parts of the work prior to final acceptance, except as expressly provided in these specifications.

P. PUBLIC CONVENIENCE AND SAFETY. The Contractor shall so conduct operations as to cause the least possible obstruction and inconvenience to public traffic. The Contractor shall furnish, erect and maintain such fences, barriers, lights and signs as are necessary or as required by the PW Supervisor to give adequate warning to the public at all times that the work is in progress and of any dangerous conditions to be encountered as a result of the work or of the presence of the Contractor's equipment or machinery.

Q. NOTICES TO CONTRACTOR. Any notice required to be given to the Contractor by the City of Alameda or by the City PW Supervisor or by any officer of said City may be given to said Contractor at the address shown in the Contractor's proposal. Such notice may be given by mailing a copy of said notice to the Contractor to such address by United States certified mail. Evidence of such mailing shall be deemed the equivalent of personal services of said notice.

R. UTILITIES. The location of railroad tracks, utility facilities and other structures shall be the responsibility of the Contractor. The Contractor shall contact the owners of those tracks, facilities and structures for any information that may be required. The Contractor shall contact Underground Services Alert (USA) at 800-642-2444 forty-eight (48) hours prior to commencement of work.

Where existing sewers and storm drains cross or interfere in any way with construction under this contract, they shall be left in place and the Contractor shall work around them, or where feasible and practical, the Contractor may, with the permission of the City PW Supervisor, remove and replace them at his/her own expense. Precautions shall be exercised to provide bearing under existing sewer lines so encountered to preclude settlement during or after the term of the contract. In the event that some of these sewers are abandoned, they may, with the permission of the City PW Supervisor, be removed and not replaced. The Contractor shall provide submittals for the PW Supervisor's review and approval for supporting utilities.

The owners of pipes, wires, conduits, vaults and other utilities (other than sewers) located in the City streets which could conflict with the proposed work will be notified by the City PW Supervisor to remove or adjust the same, without cost to the Contractor, to such extent as will allow the prosecution of the work described herein according to the necessities thereof and in accordance with these specifications. Wherever and whenever the Contractor anticipates working in an area from which utilities must be removed at the expense of others, he/she shall notify the City PW Supervisor sufficiently in advance (a minimum of ten (10) working days) to permit the owners thereof to rearrange or abandon such utilities, and he/she shall cooperate with the owners thereof in the performance of the work under this contract.

The work will be so prosecuted that a minimum of damage will result to utility services. In the event that utility services are damaged or interrupted, the Contractor shall immediately, at his/her own expense, restore such services in a manner satisfactory to the PW Supervisor. In the event that an interruption of utility services is sustained for a period of longer than one-half hour, it shall be the responsibility of the Contractor to notify the occupants of the premises to which said services are connected, so that no damage will accrue on or to said premises.

The Contractor shall perform all work in such manner as to prevent damage to utilities lying outside of or below a required excavation of trench area.

S. SOUND CONTROL REQUIREMENTS. Sound control shall conform to Section 4-10 of the Alameda Municipal Code, which prohibits weekday construction activities between 7:00 pm and 7:00 am.

T. CONSTRUCTION SITE CONTROLS. Within five (5) business days of the date the work is to commence pursuant to the NTP the Contractor shall submit an Erosion/Stormwater Pollution Prevention Plan (SWPPP) to the PW Supervisor for review. The SWPPP shall include appropriate erosion and sediment control measures to effectively prevent the entry of soil, dirt, debris and other pollutants to storm water runoff, the storm drain system, lagoons and the bay/estuary during construction. No work in the field under this Contract may begin until the PW Supervisor has approved the Contractor's SWPPP.

Erosion and sediment control plans/sheets shall indicate the specifications and maintenance schedules for the installation and upkeep of the erosion control mechanisms. Specifications shall be provided for the erosion control practices, perimeter protection(s), any silt fencing and fiber rolls to be used, storm drain inlet protections, stabilized construction entrance(s) and exits, site and excavation dewatering activities, vehicle tire wash area(s), vehicle and equipment servicing area(s), and the materials handling and storage area(s). These specifications should meet the same level of erosion and sediment control effectiveness established by practices identified in the San Francisco Bay Regional Water Quality Control Board's Erosion and Sediment Control Field Manual (510-622-2465), the Association of Bay Area Government's Manual of Standards for Erosion and Sediment Control (510-464-7900) and/or the California Stormwater Quality Association's Stormwater Best Management Practice Handbook – Construction (2003) (www.cabmphandbooks.com). Contact City Public Works Department Clean Water Program Specialist Jim Barse (510-747-7930) for additional assistance in obtaining copies of these reference documents.

The Contractor is responsible for ensuring that all of his/her workers and subcontractors are aware of and implement the specific stormwater quality control measures under the approved SWPPP. The Contractor(s) shall avoid creating excess dust when breaking asphalt/concrete and during excavation and grading. If water is to be used as a measure for dust control, use as little as possible. All wash water shall be kept out of streets, gutters and storm drains. Controls shall be implemented before construction begins and maintained until the end of construction at which time they shall be removed.

Failure to comply with the following approved construction Best Management Practices ("BMPs") shall result in the issuance of correction notices, citations and/or a project stop order:

1. Gather all construction debris on a regular basis and place it in a dumpster or other container which is emptied or removed on a weekly basis. When appropriate, use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution. After breaking old pavement, remove all pieces to avoid contact with rainfall or runoff.
2. Remove on-site piles from the site on a regular basis. Only temporary storage is

allowed. All temporary soil or other stockpiles on site shall be securely covered with a tarp, plastic sheeting or similar material.

3. Remove all dirt/mud, gravel, rubbish, refuse and green waste from the sidewalk, street pavement, and storm drain system adjoining the project site daily and prior to rain. Clean up leaks, drips and spills immediately. Avoid unnecessary driving on unpaved areas during wet weather.

4. Install and maintain stabilized construction entrances to minimize the tracking of dirt, mud, dust and debris onto the public right-of-way.

5. Broom-sweep the sidewalk and public street pavement adjoining the project site daily and prior to rain. Caked-on mud or dirt shall be scraped from these areas before sweeping. At the completion of work the street shall be washed and the wash water collected and disposed offsite.

6. Install filter materials (such as block and gravel bags, sandbags, filter fabric) at the storm drain inlets surrounding the project site. Such inlet protections shall be installed before: the start of the rainy season (October 1st), site de-watering activities, saw-cutting activities, or any other activity that may result in the discharge of material to the storm drain. Filter materials shall be maintained and/or replaced as necessary to minimize short-cutting and to remove sediment deposits and buildup. Accumulated sediment/debris shall be disposed of properly.

7. Vacuum saw-cutting slurry and remove from site. Do not allow saw-cut slurry to enter the storm water conveyance system.

8. Create a contained and covered area on the site for the storage of cement bags, paints, flammables, oils, fertilizers, pesticides, or any other materials used on the project site that have the potential for being discharged to the storm drain system by wind, exposure to rainfall or in the event of a material spill.

9. Never clean machinery, tools, brushes, etc. or rinse containers into a street, gutter, storm drain or stream. See the *Building Maintenance and Remodeling* BMP flyer and ACCWP BMP brochures for more information. Contact the Public Works Department at 747-7930 for assistance with obtaining these documents.

10. Ensure that concrete/gunite supply trucks or concrete/plaster finishing operations do not discharge wash water into street gutters or drains. Concrete trucks shall have a self-contained washout system or discharge to a dedicated, secure site washout in order to avoid the possibility of debris on city streets or discharge of wash water to the storm water conveyance system.

11. Minimize removal of natural vegetation or ground cover from the site in order to minimize the potential for erosion and sedimentation problems. Re-plant the area, and stabilize all cut and fill slopes as soon as possible after grading is completed. At a minimum, 4,000 pounds/acre of straw with tackifier should be placed on all exposed soils including those within active work areas and flat lots. **No site grading shall occur between October 1 and May 31 unless approved erosion and sedimentation control measures are in place.**

12. Provide erosion “prevention” and perimeter protection measures (soil stabilization) such as fiber rolls, silt fence, and/or sediment traps or basins. Ensure control measures are adequately maintained and in operable condition. Sediment controls, including inlet protection, are necessary but should be a secondary defense behind good erosion control and site perimeter measures.

13. Design site de-watering operations to prevent the discharge of any sediment, debris or other pollutants to the municipal storm water conveyance system.

14. Maintain and if necessary, repair, all erosion prevention and sediment control measures throughout the contract term. Replacement supplies should be kept on site. Site inspections shall be conducted before and after each storm event, and every 24 hours for extended storm events, to identify areas that contribute to erosion and sediment problems or any other pollutant discharges. If additional measures are needed, inform the PW Supervisor immediately and document all inspection findings and actions taken.

15. Conduct visual observations before, during, and after storm events. Any breach, malfunction, leakage, or spill observed that could result in the discharge of pollutants to surface waters that might not be visually detectable in stormwater shall trigger the collection of a sample of discharge. The following procedures shall be followed during sampling:

Sampling Procedures:

- For all construction activity, identify a sampling and analysis strategy and sampling schedule for potential discharges discovered through visual monitoring.
- Any breach, malfunction, leakage, or spill observed during visual monitoring which could result in the discharge of pollutants to surface waters that would not be visually detectable in stormwater shall trigger the collection of a sample of discharge.
- Samples shall be collected at all discharge locations which drain the areas identified by the visual observations and which can be safely accessed.
- Personnel trained in water quality sampling procedures shall collect stormwater samples.
- An uncontaminated sample shall be collected for comparison with the discharge sample.
- Sampling shall be conducted during the first two hours of discharge from rain events that occur during daylight hours and which generate runoff.
- The uncontaminated sample shall be compared to the samples of discharge using field analysis or through laboratory analysis. Analyses may include, but are not limited to indicator parameters such as: pH, specific conductance, dissolved oxygen, conductivity, salinity, and TDS
- All field and/or analytical data shall be kept in the SWPPP document, which is to remain at the construction site at all times.

16. Contact the City of Alameda Public Works Department at 510-747-7930 in the event of any slope failure, sediment pond overflow, or any other malfunction resulting in sediment-laden runoff. The City shall, in turn, report such incidents to the Regional Water Quality Control Board.

17. Clearly mark with the words, “No Dumping! Drains to Bay” or the equivalent, using methods approved by the City of Alameda, onto the on-site storm drain inlets. All on-site storm drains must be inspected and, if necessary, cleaned, at least once a year immediately prior to the rainy season. Additional cleaning may be required by the City of Alameda.

18. Require all concrete trucks used in the performance of the work to have a self-contained washout system, rather than do washout on the site. The idea is to avoid:

- a. An undesirable pile of concrete on the jobsite, and
- b. The possibility of debris on city streets.

The objective of these Standard Conditions is to ensure that the City's municipal storm water Permit, the National Pollutant Discharge Elimination System (NPDES) Permit provisions and additional Regional Water Quality Control Board requirements are adequately enforced.

These recommendations are intended to be used in conjunction with the State's Best Management Practices Municipal and Construction Handbooks, local program guidance materials from municipalities, Section 7.1.01, of the Standard Specifications and any other appropriate documents on storm water quality controls for construction. If you need assistance in checking these documents, contact Clean Water Program Specialist at 510-747-7930.

Failure to comply with the above program will result in issuance of noncompliance notices, citations, project stop orders or fines. The fine for noncompliance of the above program is two hundred and fifty dollars (\$250.00) per occurrence per day. The State under the Federal Clean Water Act can also impose a fine on the Contractor.

U. ASBESTOS AND LEAD BASED PAINTS. Reports of a survey of possible asbestos and lead based paints, in the path of construction, was prepared by ACC Environmental.

V. CLEAN AIR ACT OF 1970, ET SEQ. AND FEDERAL WATER POLLUTION CONTROL ACT AS AMENDED BY THE CLEAN WATER ACT OF 1977. The Contractor agrees to comply with federal clean air and water standards during the performance of this contract and specifically agrees to the following:

- The term "facility" means any building, plant, installation, structure, mine, vessel or other floating craft, location or site of operations owned, leased, or supervised by the Contractor and the subcontractors for the construction, supply and service contracts entered into by the Contractor;
- Any facility to be utilized in the accomplishment of this contract is not listed on the Environmental Protection Agency's List of Violating Facilities pursuant to 40 CFR, Part 15.20;
- In the event a facility utilized in the accomplishment of this contract becomes listed on the EPA list, this contract may be canceled, terminated, or suspended in whole or in part;
- It will comply with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Water Pollution Control Act relating to inspection, monitoring, entry, reports, and information, as well as all other requirements specified in Section 114 and Section 308, respectively, and all regulations and guidelines issued thereunder;
- It will promptly notify the Government of the receipt of any notice from the Director, Office of Federal Activities, Environmental Protection Agency, indicating that any facility utilized or to be utilized in the accomplishment of this contract is under consideration for listing on the EPA List of Violating Facilities;
- It will include the provisions of Paragraph a. through g. in every subcontract or purchase order entered into for the purpose of accomplishing this contract, unless otherwise exempted pursuant to the EPA regulations implementing the Air or Water Acts above (40 CFR, Part 15.5), so that such provisions will be binding on each subcontractor or vendor;

In the event that the Contractor or the subcontractor for the construction, supply and service contracts entered into for the purpose of accomplishing this contract were exempted from complying with the above requirements under the provisions of 40 CFR, Part 15.5 (a), the exemption shall be nullified should the facility give rise to a criminal conviction (see 40 CFR 15.20) during the accomplishment of this contract. Furthermore, with the nullification of the exemption, the above requirements shall be effective. The Contractor shall notify the Government, as soon as the Contractor's or the subcontractors' facility is listed for having given rise to a criminal conviction noted in 40 CFR, Part 15.20.

W. SUBMITTALS AND REQUEST FOR INFORMATION (RFI'S). The Contractor shall submit an RFI within five (5) business days of an event or question of fact arising under the Contract. The PW Supervisor in charge of the project shall have ten (10) business days to respond to an RFI or any Submittal required to be made under the Contract.

X. COMPLIANCE WITH THE CITY'S INTEGRATED PEST MANAGEMENT POLICY: The Contractor shall follow the requirements of the City's Integrated Pest Management (IPM) Policy to ensure the City is in compliance with its Municipal Regional Stormwater NPDES Permit, Order No. R2-2009-0074, issued by the California Regional Water Quality Control Board. Contractor shall follow the City's IPM Policy and utilize generally accepted IPM Best Management Practices (BMPs) to the maximum extent practicable for the control or management of pests in and around City buildings and facilities, parks and golf courses, urban landscape areas, rights-of-way, and other City properties.

Contractor will ensure that applicators will use the most current IPM technologies available to ensure the long-term prevention or suppression of pest problems and to minimize negative impacts on the environment, non-target organisms, and human health. Contractor will consider the options or alternatives listed below in the following order, before recommending the use of or applying any pesticide on City property:

1. No controls (e.g., tolerating the pest infestation, use of resistant plant varieties or allowing normal life cycle of weeds)
2. Physical or mechanical controls (e.g., hand labor, mowing, exclusion)
3. Cultural controls (e.g., mulching, disking, alternative vegetation), good housekeeping (e.g. cleaning desk area)
4. Biological controls (e.g., natural enemies or predators)
5. Reduced-risk chemical controls (e.g., soaps or oils)
6. Other chemical controls

Contractor shall ensure that only appropriate licensed applicators who are authorized and trained in pesticide application and who shall implement the City department's IPM standard operating procedures may apply pesticides to or within City property.

Restricted Chemicals

The term pesticide applies to herbicides, insecticides, fungicides, rodenticides and other substances used to control pests. Antimicrobial agents are not included in this definition of pesticides.

Contractor shall avoid the use of pesticides that threaten water quality, human health and the environment. Thus, the Contractor shall not use or promote the use of the following chemicals:

1. Acute Toxicity Category I chemicals as identified by the Environmental Protection Agency (EPA),
2. Organophosphate pesticides (e.g., those containing Diazinon, chlorpyrifos or malathion)
3. Pyrethroids (bifenthrin, cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, lambda-cyhalothrin, permethrin, and tralomethrin),
4. Carbamates (e.g., carbaryl),
5. Fipronil,
6. Copper-based pesticides unless:
 - a) Their use is judicious,
 - b) Other approaches and techniques have been considered, and;
 - c) Threat of impact to water-quality is prevented.

General Pesticide Usage Practices

Contractor shall ensure implementation of the following practices:

1. All pesticide applications shall be performed according to the manufacturer's instructions as detailed on the product label, and in accordance with all applicable state and local laws and regulations set forth to protect the environment, the public, and the applicator; and properly dispose of unused pesticides and their containers.
2. Pesticides that are not approved for aquatic use will not be applied to areas immediately adjacent to water bodies where through drift, drainage, or erosion, there is a reasonable possibility of a pesticide being transported into surface water.
3. Applicators will always avoid applications of pesticides that directly contact water, unless the pesticide is registered under Federal and California law for aquatic use.
4. Obtain coverage under the Statewide General NPDES Permit prior to discharging pollutants from the use of aquatic pesticides directly to the waters of the United States, or onto aquatic plants growing in waters of the United States (as required by the State Water Quality Resources Control Board).

Posting of Warning Notices Prior to Pesticide Application

1. If a pesticide with a "Warning" or "Danger" label indicator must be applied, the Contractor shall post sufficient copies of warning notices (Notice of Scheduled Chemical Application for Pest Management) and MSDS to effectively alert the public (i.e., at all entrances to a building) no less than 48 hours in advance of the pesticide application. The warning notice must be completely filled out, including name of the pesticide (both chemical and brand name), time and date of application, and with a fully legible re-entry time.

Annual Pesticide Use Summary Report

Contractor shall track pesticide use on City properties and provide an annual pesticide use summary report of pesticide application on City properties. The annual pesticide use summary report shall be submitted to the City's Public Works Department Clean Water Program staff by a date to be determined in the scope of work and shall include the following information:

1. Product name and manufacturer
2. Active ingredient
3. The total quantity of each pesticide used during the prior fiscal year (from July 1 to June 30)
4. Target pest(s) for pesticide application(s).
5. Reasons for increases in use of pesticides that threaten water quality, specifically organophosphorous pesticides, pyrethroids, carbamates, fipronil, and copper-based pesticides.

Best Management Practices (BMPs)

To protect water quality, the Contractor shall implement the BMPs and control measures described below:

1. Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of pesticides and training of pest control advisors and applicators.
2. Use the most effective, least toxic pesticides that will do the job, provided there is a choice. The agency will take into consideration the LD50, overall risk to the applicator, and impact to the environment (chronic and acute effects).
3. Apply pesticides at the appropriate time to maximize their effectiveness and minimize the likelihood of discharging pesticides in stormwater runoff. Avoid application of pesticides if rain is expected (this does not apply to the use of pre-emergent herbicide applications when required by the label for optimal results.)
4. Employ techniques to minimize off-target application (i.e. spray drift) of pesticides, including consideration of alternative application techniques. For example, when spraying is required, increase drop size, lower application pressure, use surfactants and adjuvants, use wick application, etc.
5. Apply pesticides only when wind speeds are low.
6. Mix and apply only as much material as is necessary for treatment. Calibrate application equipment prior to and during use to ensure desired application rate.
7. Do not mix or load pesticides in application equipment adjacent to a storm drain inlet, culvert, or watercourse.
8. Properly inspect applicator equipment to prevent accidental pesticide leaks, spills and hazards to applicators and the environment.
9. Meet local fire department and Alameda County Agricultural Commissioner storage requirements for pesticide products. Provide secondary containment for liquids if required.
10. Prepare spill kits, store the kits near pesticides, and train employees to use them.
11. Store pesticides and other chemicals indoors in a locked and posted storage unit, as per California Code of Regulations.
12. Store pesticides in labeled containers, as per California Code of Regulations.
13. Rinse empty pesticide/herbicide containers, and empty in the spray, as per California Code of Regulations.

14. Dispose of triple-rinsed empty pesticide containers according to recommendations of the Alameda County Agricultural Commissioner and the manufacturer.
15. Try to find a qualified user for any unwanted pesticides, or return to the manufacturer if unopened. If disposal is required, contact Alameda County's Household Hazard Waste Collection Program at (510) 670-6460 between 8:30 AM and 5:00 PM., Monday through Friday, to make appropriate disposal arrangements, or to recycle the material.
16. If changing pesticides or cleaning spray tanks, use tank rinse water as the product, over a targeted area within the application site.
17. Irrigate slowly to prevent runoff, and do not over-water.

SECTION III. SCOPE OF WORK

A. **WORK TO BE DONE.** The work to be done consists of furnishing all labor, tools, equipment, materials, implementing BMP's, except as herein specified, and doing all work associated with the remodeling of the Alameda Police Department, second floor restroom as per the specification and plans.

The Notice to Proceed (NTP) for this project is tentatively scheduled to be issued in April 2015.

The Contractor shall provide a SWPPP and project schedule for review at the time of the preconstruction meeting. Contractor shall not commence work in the field until the PW Supervisor has approved the SWPPP and project schedule.

The Contractor shall have 60 consecutive working days from the date the work is to commence pursuant to the Notice to Proceed to complete the work.

The work involves the partial second floor renovation of the existing Police Station facilities by providing lockers, and shower upgrades in serving the female commander, office and support staff access in meeting ADA conforming facilities with life safety code compliance, barrier-free accessibility and complete new finishes, toilet accessories and building system upgrades to be located at the designated existing second floor premises. Work consisting of upgrading the existing floor plan to an ADA compliant fully functional locker space with shared use of the adjoining restroom. Demolition of existing floor plan involves the removal of existing toilets and associated partitions, non-load bearing secondary walls, all existing tile, lavatory and drywall ceiling along with light fixtures and plumbing. Remedial installation involves relocating the existing plumbing; doorway; lighting; preparation for new lockers; minor electrical; adding a new doorway; insulating and sheet rock all demolished surfaces; and retiling flooring and new shower area with appropriate pitch and drain. Plumb in new shower and waterproof along with installing retractable bench, and all associated finish work as per the architectural plans, permits, and professional trade standards. Schedule work so as not to interfere or minimize the police department's daily operations. Under no circumstances shall the design, scheduling, coordination, programming, training and warranty requirements for the project be delegated to a subcontractor. Contractor shall properly dispose of spoils and re-establish the conditions as it was prior to work. Contractor shall implement BMPs during the entire period of the project.

Contractor will provide license, labor, materials, services, skills, supervision, and necessary tools and equipment to insure that all work is executed in a professional workmanship manner. Contractor shall have the capability to perform and complete the services in all respects in accordance with the solicitation documents. Contractor hereby warrants that all services shall be performed in a timely and first-class workmanship manner. Contractor shall keep the property and equipment free and clear at all times of litter and interferences. All materials, preparation and workmanship shall conform to the requirements of Standards of the Construction Specifications Institute and California Code of Regulations latest version and the plans and specifications. Contractor is required to contact and coordinate with the City of Alameda Planning and Building inspector for approval of phased work.

Contractor shall provide the following services within the boundaries of the facility. The work will be done at the Alameda Police Department located at 1555 Oak Street, Alameda, CA 94501.

Remedial Description

Contractor shall verify all field measurements prior to ordering supplies or equipment and verify measurements, as all structural measurements are factored-sized to fit as detailed in the plans. Procure all material prior to commencement of work.

All electrical and plumbing fixtures/outlets shall meet the ADA accessible requirements for barrier-free access.

New floor, ceilings, and wall finishes utilizing new materials, non-toxic/low VOC paints, coatings, adhesives and sealants shall be provided to refurbish both adjoining rooms.

Demolition/Removal

Procure all material prior to commencement of work.

Notification to the police department coordinator and the Public Works project manager is required 72 hours prior to disabling or shut-down of any utility. Prior to removing any utility lines, the replacement line, crossover, or capping is ready to be performed to reduce the downtime and continuous services is achieved, as per plans.

Demolition of the existing toilets and partitions along with associated plumbing that consists of sewers lines, vents, and domestic services within the non-load bearing wall.

Removing the lavatory and associated plumbing, domestic water, sewer lines and relocate to be used for the new shower.

Relocate existing electrical outlet and overhead lighting while protecting fixtures to be re-used.

Remove all tile and drywall within the designated new shower space, including the ceiling and associated tile including the flooring and subgrade.

The entire tile and sheet rock shall be removed to the studs and subfloors within the proposed locker room.

Shifting of hall way entry requires removal of a portion of the non-load bearing wall and the associated door assembly down to the subfloor. Adjoining wall with the single existing restroom will require partial demolition of non-load bearing wall and relocating existing plumbing and soffit compartment on the opposite side. The contractor will use temporary walls to assure the security/privacy use of the adjoining restroom prior to removal of existing adjoining wall. This includes removing insulation where partial walls are removed along with relocating existing

electrical, plumbing and framing of the adjoining restroom. All non-included work areas will be protected from damages, dust, sounds, wear and construction pollutants during the entire demolition phase.

Scheduling

1. Coordinate with the Public Works project manager and police department staff in scheduling noisy, dirty, and hauling work.
2. Schedule work so that it is performed at the occupant's convenience to cause minimal interference with the occupant's normal operations.
3. Obtain occupants approval of times scheduled for heavy ponding or jackhammering.
4. Coordinate with City Building Department.
5. Daily site clean-up and responsible offsite disposal of debris, except that specifically requested to be salvage by the owner.

Remedial Installation

Utilizing the plans and specifications the contractor will comply with the approved plans and provide a sequential installation schedule and steps needed to reach the completion of the work within the prescribed contract duration. All installations shall be in accordance with manufacturer's published recommendations and specific written directions of manufacturer's representative.

Involves relocating existing plumbing, doorway, lighting, preparation for new lockers, minor electrical, adding a new doorway, insulating and sheet rock all demolished surfaces, retile flooring and new shower area with appropriate pitch and drain as per plans and manufacturer's specifications.

Plumb in new shower and waterproof along with installing retractable bench, and all associated finish work as per architectural plans, permits, and professional trade standards.

Scheduling work so as not to interfere or minimize with the APD daily operations under no circumstances shall the design, scheduling, coordination, programming, training and warranty requirements for the project be delegated to a subcontractor.

Contractor shall properly dispose of spoils and re-establish the conditions as it was prior to work. Contractor shall implement BMPs during the entire period of the project.

All damage to existing structure and facilities, including utilities, which are to remain in place, shall be repaired to a condition equal to that existing prior to the beginning of the project and removal operations. The cost of repairing existing structures and facilities damaged by the contractor's operations shall be at the contractor's expense.

Scheduling:

1. Coordinate with Public Works and occupant regarding storage and staging requirements.

2. Obtain permission to utilize building services, access and commissioning.
3. Provide temporary barriers to protect non-project amenities.
4. Obtain occupant's permission for scheduled heavy ponding or drilling.
5. Layout heavy gage barriers along pathways to protect flooring.
6. Coordinate rough framing with the Building Department.
7. Notify the Public Works project manager and occupants 72 hours in advance of shutting down any utilities.
8. Continuous use of adjoining water closet is required and proper securing of the site shall happen.
9. Obtain prior approval of wall finish and tile work.

Completeness and Clean Up

New site will receive additional cleaning and polishing, touch up painting, dusting all surfaces and presented fully functional of all elements, accessories, utilities as per the manufacturer and approved plans.

B. **MEASUREMENTS AND PAYMENT.** The work to be done shall be included in the service, repairs and updates in the Lump Sum price and all related services and consist of furnishing all labor, licensing, permits, vehicles, tools, equipment, materials, parts, components, except as herein specified, and doing all the work associated with the second floor restroom upgrades at the Alameda Police Department, 1555 Oak Street, Alameda, CA in accordance with all specifications and plans.

1. Payment shall be at the Lump Sum price for Demolition/Removal, Procurement of supplies for installation and applying BMPs during the course of the project. Such payment shall include full compensation for furnishing all labor, tools, equipment, mobilization, materials, meetings, and doing all the work necessary for the second floor restroom upgrades at the police department, complete and in place.
2. Payment shall be at the Lump Sum price for Remedial/Installation, including, but not limited to installation of doors, electrical, plumbing, tile, flooring, shower amenities, etc. Such payment shall include full compensation for furnishing all labor, tools, equipment, mobilization, materials, meetings and doing all the work necessary for the second floor restroom upgrades at the police department, complete and in place.
3. Payment shall be at the Lump Sum price for Completeness Clean Up, including, but not limited to cleaning and polishing, touch up painting, dusting all surfaces, making sure all is in working order, etc. Such payment shall include full compensation for furnishing all labor, tools, equipment, mobilization, materials, meetings, and doing all the work necessary for the second floor restroom upgrades at the police department, complete and in place.

C. PLANS The following drawings are incorporated into these Specifications:

Name of Plans: City of Alameda Police Department, Toilet Room Modification, Second Floor, 1555 Oak Street, Alameda, CA 94501

<u>TITLE</u>	<u>SHEET NO.</u>	<u>PROJECT NO. #</u>
Cover Sheet	A-0	201409
Existing & Proposed Plans – Door Schedule	A-1	201409
Interior Elevations & Notes	A-2	201409

Contractor shall not work during City holidays. Remaining City holidays for 2015 include:

Memorial Day	Monday, May 25, 2015
Independence Day	Friday, July 3, 2015
Labor Day	Monday, September 7, 2015
Veteran’s Day	Wednesday, November 11, 2015
Thanksgiving Day	Thursday, November 26, 2015
Day after Thanksgiving Day	Friday, November 27, 2015
Christmas Day	Friday, December 25, 2015

D. CLEAN UP. Contractor shall leave the work site in an acceptable clean manner at the end of each work day. Upon completion and before making application for acceptance of the work, the Contractor shall clean the street or road, borrow pits, and all ground occupied by the Contractor in connection with the work, of all rubbish, excess materials, temporary structures, and equipment; and all parts of the work shall be left in a neat and presentable condition.

SECTION IV. CONTROL

A. AUTHORITY OF THE PW SUPERVISOR. The PW Supervisor shall decide all questions which may arise as to the quality or acceptability of materials furnished and work performed; the manner of performance and rate of progress of the work; the interpretation of the plans and specifications; the acceptable fulfillment of the contract on the part of Contractor; and all questions as to claims and compensation.

The PW Supervisor's decision shall be final and he/she shall have executive authority to enforce and make effective such decisions and orders that the Contractor fails to carry out promptly.

B. PLANS. All authorized alterations affecting the requirements and information given on the approved plans shall be in writing. No changes shall be made to any plans or drawings after the same have been approved by the PW Supervisor, except by direction of the PW Supervisor.

C. SUPERINTENDENCE. Whenever the Contractor is not present on any part of the work where it may be desired to give directions, orders will be given by the PW Supervisor in writing and shall be received and obeyed by the superintendent or foreman in charge of the particular work in reference to which orders are given.

D. INSPECTION. The PW Supervisor shall at all times have access to the work during construction and shall be furnished with every reasonable facility for ascertaining full knowledge respecting the progress, workmanship, and character of materials used and employed in the work.

The Contractor shall give at least 48 hours notice in writing when he will require inspection on subgrade, formwork, concrete paving, etc. Inspection will routinely be carried out at pre-scheduled time established at the pre-construction meeting. Inspection will only be carried out for substantial quantities of work ready for inspection.

Whenever the Contractor varies the period during which work is carried on each day, he shall give due notice to the PW Supervisor, so that proper inspection may be provided. Any work done in the absence of the PW Supervisor is subject to rejection.

The inspection of the work shall not relieve the Contractor of any of his/her obligations to fulfill the contract as prescribed. Defective work shall be made good and unsuitable materials may be rejected, notwithstanding the fact that such defective work and unsuitable materials have been previously overlooked by the PW Supervisor and accepted or estimated for payment.

Working hours in the field are restricted to 8 AM through 5 PM, Monday through Thursday, excluding City Holidays, and shall constitute “normal working hours.” The Public Works Department Inspectors work on Friday’s and can be reached at 510-747-7900. In some locations, as noted on the Plans, normal working hours may be further restricted to avoid traffic and/or school-related conflicts. Any work in the field performed outside of these hours, including but not limited to construction, clean up, placement of traffic control devices, and mobilization/demobilization, shall be subject to removal and the Contractor fined \$5,000 per incident, unless such work has been previously authorized by the PW Supervisor in writing.

Inspection hours for construction shall be from 8 AM through 4 PM, Monday through Thursday, excluding City Holidays, and shall constitute “normal inspection hours.” The Public Works Department Inspectors work on Friday’s and can be reached at 510-747-7900. Unless prior written authorization has been received from the PW Supervisor, the Contractor shall not perform any work outside of these hours except for general clean up, demobilization, and placement of no-parking signs. The Contractor shall pay the salary and benefits, including overtime, of the City employee(s) for inspection of any work performed outside of the normal inspection hours. Projects financed in whole or in part with state funds shall be subject to inspection at all times by the Director of Public Works of the State of California, or his agents.

E. REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK. All work which is defective in its construction or deficient in any of the requirements of these specifications shall be remedied, or removed and replaced by the Contractor in an acceptable manner and no compensation will be allowed for such correction.

Any work done beyond the lines and grades shown on the plans or established by the PW Supervisor, or any extra work done without written authority, shall be considered as unauthorized and will not be paid for.

Upon failure on the part of the Contractor to comply forthwith with any order of the PW Supervisor made under the provisions of this article, the PW Supervisor shall have the authority to cause defective work to be remedied, or removed and replaced, and unauthorized work to be removed, and to deduct the cost thereof from any monies due or to become due the Contractor.

The fact that the work and materials have been inspected from time to time, and payments on account have been made, does not relieve the Contractor from the responsibility of replacing and making good any defective work or materials that may be discovered within one year from the date of the completion of the work by the Contractor and its acceptance by the City.

F. FINAL INSPECTION. Whenever the work provided and contemplated by the contract shall have been satisfactorily completed, the PW Supervisor will make the final inspection.

G. FINAL GUARANTEE. It is understood that the Contractor is skilled in the trade or calling necessary to perform the work set forth within the plans and specifications, and that the City of Alameda, not being skilled in such matters, relies upon the Contractor to do and perform all work, acts, and things necessary to carry out the contract in the most skilled and desirable manner, and the Contractor guarantees the workmanship and materials to be the best of their kind. The acceptance of any part or of the whole of the work by the City does not operate to release the Contractor or the Contractor's surety from said guarantee.

The Contractor shall be held responsible for and must make good any defects through faulty, improper or inferior workmanship or materials arising from or discovered in any part of the contract work within one year of the completion and acceptance of the same. The bond for faithful performance, furnished by the Contractor, shall cover such defects and protect the City of Alameda against any and all such defects.

Nothing in this section supersedes contractor obligations for repair and replacement of work pursuant to the Public Contract Code.

SECTION V. MEASUREMENTS AND PAYMENT

A. MEASUREMENTS AND PAYMENT. Payment for work done under the contract shall be made on the basis of the sums as calculated from the finally measured quantities of work done and the agreed unit and lump sum prices. Payment shall be full compensation for furnishing all labor, materials, tools and equipment and doing all the work necessary to construct the items for which payment is being made, complete in place as shown on the plans and described in the specifications.

Payment of all, or any part, of an estimate in writing may be withheld on account of any of the following:

1. Defective work not remedied;
2. Third-party claims against Contractor or City arising from the acts or omissions of Contractor or subcontractors;
3. Stop Notices;
4. Failure of Contractor to make timely payments due to subcontractors for material or labor;
5. Damage to the City or others for which Contractor is responsible;
6. Failure of Contractor to maintain, update, and submit record documents;
7. Failure of Contractor to submit schedules or their updates as required by the Contract Documents;
8. Performance of the work by Contractor without properly processed shop drawings;
9. Liquidated damages assessed;
10. Any other failure of Contractor to perform its obligations under the Contract Documents.

SECTION VI. QUANTITIES

The following preliminary estimate of the quantities of work to be done and materials to be furnished is approximate only, and the City of Alameda does not expressly or by implication agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work or to omit portions of the work that may be deemed necessary or expedient to the PW Supervisor.

Quantities shall be determined by the Contractor from plans and specifications, and /or pre-construction meeting and walk - through. The basis of award of contract shall be by the City of Alameda for the lowest and best bid that will best serve the City's need. The contract may be awarded at the discretion of the City or depending on available funding.

The City reserves the right to reject any, any portion, or all bids.

TABULATION OF PRELIMINARY ESTIMATE OF QUANTITIES

Item No.	Description	Quantity	Unit
1.	Demolition/Removal, Procurement of Supplies	1	Lump Sum
2.	Remedial Installation	1	Lump Sum
3.	Completeness and Clean Up	1	Lump Sum

SECTION VII. CONSTRUCTION DETAILS

The construction details covered under this Section VII shall be Special Provisions.

A. MAINTAINING TRAFFIC. Attention is directed to Section 7-1.08, "Public Convenience", 7-1.09, "Public Safety", of the State of California Standard Specifications, and to Section II, Article O of these specifications.

B. EXTENT OF CONTRACT. The Contractor shall furnish all labor, material has herein specified, tools and equipment necessary and shall do all the work necessary to construct and put in complete order for use the construction project contemplated by these specifications, the various items, and in the approximate quantities tabulated in Exhibit A.

Exhibit 'A'

BIDDER'S PROPOSAL FORM

Bidder's Proposal

Subcontractors to be used in the Performance of this Contract (Form)

Security For Compensation Certificate

Important Instructions

BIDDER'S PROPOSAL**SCOPE OF WORK:**

The work involves the partial second floor renovation of the existing Police Station facilities by providing lockers, and shower upgrades in serving the female commander, office and support staff access in meeting ADA conforming facilities with life safety code compliance, barrier-free accessibility and complete new finishes, toilet accessories and building system upgrades to be located at the designated existing second floor premises. Work consisting of upgrading the existing floor plan to an ADA compliant fully functional locker space with shared use of the adjoining restroom. Demolition of existing floor plan involves the removal of existing toilets and associated partitions, non-load bearing secondary walls, all existing tile, lavatory and drywall ceiling along with light fixtures and plumbing. Remedial installation involves relocating the existing plumbing; doorway; lighting; preparation for new lockers; minor electrical; adding a new doorway; insulating and sheet rock all demolished surfaces; and retiling flooring and new shower area with appropriate pitch and drain. Plumb in new shower and waterproof along with installing retractable bench, and all associated finish work as per the architectural plans, permits, and professional trade standards. Schedule work so as not to interfere or minimize the police department's daily operations. Under no circumstances shall the design, scheduling, coordination, programming, training and warranty requirements for the project be delegated to a subcontractor. Contractor shall properly dispose of spoils and re-establish the conditions as it was prior to work. Contractor shall implement BMPs during the entire period of the project.

Contractor will provide license, labor, materials, services, skills, supervision, and necessary tools and equipment to insure that all work is executed in a professional workmanship manner. Contractor shall have the capability to perform and complete the services in all respects in accordance with the solicitation documents. Contractor hereby warrants that all services shall be performed in a timely and first-class workmanship manner. Contractor shall keep the property and equipment free and clear at all times of litter and interferences. All materials, preparation and workmanship shall conform to the requirements of Standards of the Construction Specifications Institute and California Code of Regulations latest version and the plans and specifications. Contractor is required to contact and coordinate with the City of Alameda Planning and Building inspector for approval of phased work.

Contractor shall provide the following services within the boundaries of the facility. The work will be done at the Alameda Police Department located at 1555 Oak Street, Alameda, CA 94501.

Remedial Description

Contractor shall verify all field measurements prior to ordering supplies or equipment and verify measurements, as all structural measurements are factored-sized to fit as detailed in the plans. Procure all material prior to commencement of work.

All electrical and plumbing fixtures/outlets shall meet the ADA accessible requirements for barrier-free access.

New floor, ceilings, and wall finishes utilizing new materials, non-toxic/low VOC paints, coatings, adhesives and sealants shall be provided to refurbish both adjoining rooms.

Demolition/Removal

Procure all material prior to commencement of work.

Notification to the police department coordinator and the Public Works project manager is required 72 hours prior to disabling or shut-down of any utility. Prior to removing any utility lines, the replacement line, crossover, or capping is ready to be performed to reduce the downtime and continuous services is achieved, as per plans.

Demolition of the existing toilets and partitions along with associated plumbing that consists of sewers lines, vents, and domestic services within the non-load bearing wall.

Removing the lavatory and associated plumbing, domestic water, sewer lines and relocate to be used for the new shower.

Relocate existing electrical outlet and overhead lighting while protecting fixtures to be re-used.

Remove all tile and drywall within the designated new shower space, including the ceiling and associated tile including the flooring and subgrade.

The entire tile and sheet rock shall be removed to the studs and subfloors within the proposed locker room.

Shifting of hall way entry requires removal of a portion of the non-load bearing wall and the associated door assembly down to the subfloor. Adjoining wall with the single existing restroom will require partial demolition of non-load bearing wall and relocating existing plumbing and soffit compartment on the opposite side. The contractor will use temporary walls to assure the security/privacy use of the adjoining restroom prior to removal of existing adjoining wall. This includes removing insulation where partial walls are removed along with relocating existing electrical, plumbing and framing of the adjoining restroom. All non-included work areas will be protected from damages, dust, sounds, wear and construction pollutants during the entire demolition phase.

Scheduling

1. Coordinate with the Public Works project manager and police department staff in scheduling noisy, dirty, and hauling work.
2. Schedule work so that it is performed at the occupant's convenience to cause minimal interference with the occupant's normal operations.
3. Obtain occupants approval of times scheduled for heavy ponding or jackhammering.

4. Coordinate with City Building Department.
5. Daily site clean-up and responsible offsite disposal of debris, except that specifically requested to be salvage by the owner.

Remedial Installation

Utilizing the plans and specifications the contractor will comply with the approved plans and provide a sequential installation schedule and steps needed to reach the completion of the work within the prescribed contract duration. All installations shall be in accordance with manufacturer's published recommendations and specific written directions of manufacturer's representative.

Involves relocating existing plumbing, doorway, lighting, preparation for new lockers, minor electrical, adding a new doorway, insulating and sheet rock all demolished surfaces, retile flooring and new shower area with appropriate pitch and drain as per plans and manufacturer's specifications.

Plumb in new shower and waterproof along with installing retractable bench, and all associated finish work as per architectural plans, permits, and professional trade standards.

Scheduling work so as not to interfere or minimize with the APD daily operations under no circumstances shall the design, scheduling, coordination, programming, training and warranty requirements for the project be delegated to a subcontractor.

Contractor shall properly dispose of spoils and re-establish the conditions as it was prior to work. Contractor shall implement BMPs during the entire period of the project.

All damage to existing structure and facilities, including utilities, which are to remain in place, shall be repaired to a condition equal to that existing prior to the beginning of the project and removal operations. The cost of repairing existing structures and facilities damaged by the contractor's operations shall be at the contractor's expense.

Scheduling:

1. Coordinate with Public Works and occupant regarding storage and staging requirements.
2. Obtain permission to utilize building services, access and commissioning.
3. Provide temporary barriers to protect non-project amenities.
4. Obtain occupant's permission for scheduled heavy ponding or drilling.
5. Layout heavy gage barriers along pathways to protect flooring.
6. Coordinate rough framing with the Building Department.
7. Notify the Public Works project manager and occupants 72 hours in advance of shutting down any utilities.
8. Continuous use of adjoining water closet is required and proper securing of the site shall happen.
9. Obtain prior approval of wall finish and tile work.

Completeness and Clean Up

New site will receive additional cleaning and polishing, touch up painting, dusting all surfaces and presented fully functional of all elements, accessories, utilities as per the manufacturer and approved plans.

B. MEASUREMENTS AND PAYMENT. The work to be done shall be included in the service, repairs and updates in the Lump Sum price and all related services and consist of furnishing all labor, licensing, permits, vehicles, tools, equipment, materials, parts, components, except as herein specified, and doing all the work associated with the second floor restroom upgrades at the Alameda Police Department, 1555 Oak Street, Alameda, CA in accordance with all specifications and plans.

BIDDER'S PROPOSAL
FOR
ALAMEDA POLICE DEPARTMENT, RESTROOM UPGRADES
P.W. 03-15-04

Item No.	Approximate Quantity	Items with Unit/Lump Sum Prices Written in Words	Lump Sum Cost
1.	1 LS	Demolition/ Removal Procure Supplies for Installation per Plans, Applying Bmp's and Demo. As per plans and specifications @ _____ _____	\$ _____
Per Lump Sum			

2.	1 LS	Remedial/Installation. Install New Doors, Electrical, Plumbing, Tile, Flooring and Shower amenities as per plans and per manufacturer @ _____ _____	\$ _____
Per Lump Sum			

3.	1 LS	Completeness/Clean Up. Present all elements in new and clean condition units per plans and manufacturer @ _____ _____	\$ _____
Per Lump Sum			

TOTAL BID: \$ _____

TOTAL BID WRITTEN IN WORDS: _____

The undersigned agrees to execute the contract required in said Specifications, to the satisfaction of the Council of the City of Alameda, with the necessary bonds, if any be required, within ten days, not including Sundays or legal holidays, after receiving notice that the contract has been awarded and is ready for signature; and further agrees that, in case of his default in any of the foregoing provisions, the proceeds of any check which may accompany his bid in lieu of a bid bond shall become the property of the City of Alameda as agreed and liquidated damages.

Firm Name (Please Print) _____

Signature of Person on Behalf of Firm _____

Business Address _____

City, State, Zip _____

Dated: _____

Phone No _____

Name	Title	Address
(Of Officers or Partners)		

Incorporated under the laws of the State of _____

Contractor's License No. _____ Expiration Date: _____

Department of Industrial Relations (DIR) No.: _____

The signature above certifies that the foregoing information given on this document is true and correct under penalty of perjury. (Section 7028.15 California Business and Professionals Code.

PROPOSED SUBCONTRACTOR FORM

The Bidder shall list the name, address, license number and Department of Industrial Relations number of each subcontractor to whom the Bidder proposes to subcontract portions of the work, as required by the provisions in Section 2-1.054, "Required Listing of Proposed Subcontractors," of the Standard Specifications and Section 2-1.01, "General," for the special provisions.

COMPANY NAME	CA LICENSE NO.	BUSINESS ADDRESS	DESCRIPTION OF WORK	DIR NO.

(This form may be duplicated if necessary to list additional subcontractors)

The bidder's execution on the signature portion of this proposal shall also constitute an endorsement and execution of those certifications which are a part of this proposal)

EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

The bidder _____, proposed subcontractor _____, hereby certified that he has ____, has not ____, participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all report due under the applicable filing requirements.

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

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

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

SECURITY FOR COMPENSATION CERTIFICATE

(Required by Paragraph 1861, California Labor Code)

To:

I am aware of the provisions of Section 3700 of the Labor Code of the State of California which requires every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this contract.

(Signature of Bidder)

Business Address

Exhibit 'B'

CERTIFIED PAYROLL AND PREVAILING WAGES FORMS

Contractor's Certification Concerning Labor Standards and Prevailing Wage Requirements
Subcontractor's Certification Concerning Labor Standards and Prevailing Wage Requirements
Certification of Bidder Regarding Section 3 and Segregated Facilities
Certification of Proposed Subcontractor Regarding Section 3 and Segregated Facilities
Certification of Understanding and Authorization
Certification For Applicable Fringe Benefit Payments
Authorization for Deductions

EXHIBIT B: Certified Payroll Forms

CITY OF ALAMEDA PUBLIC WORKS DEPARTMENT CONTRACTOR'S CERTIFICATION CONCERNING LABOR STANDARDS AND PREVAILING WAGE REQUIREMENTS		
(Appropriate Recipient):	DATE	
c/o	PROJECT NUMBER (if any)	
	PROJECT NAME	
1. The undersigned, having executed a contract with _____ for the construction of the above-identified project acknowledges that: (a) The Labor Standards provisions are included in the aforesaid contract; (b) Correction of any infractions of the aforesaid conditions, including infractions any of his subcontractors and Any lower tier subcontractor, is his responsibility.		
2. He certifies that: (a) Neither he nor any firm, partnership or association in which he has substantial interest is designated as an ineligible contractor by the Comptroller General of the United States pursuant to Section 5.6(b) of the Regulations of the Secretary Labor, part 5 (29 CFR, Part 5) or pursuant to Section 3(a) of the Davis-Bacon Act as amended (40 U.S.C. 276u-2(a)). (b) No part of the aforementioned contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation, partnership or association in which such subcontractor has a substantial interest is designated an ineligible contractor pursuant to any of the aforementioned regulatory or statutory provisions.		
He agrees to obtain and forward to the aforementioned recipient within ten days after the execution of any subcontract, including those executed by his subcontractors and any lower tier subcontractors, a Subcontractor's Certification Concerning Labor Standards at Prevailing Wage Requirements executed by the subcontractors.		
He certified that: (a) The legal name and the business address of the undersigned are:		
(b) The undersigned is:		
(1) A SINGLE PROPRIETORSHIP		(3) A CORPORATION ORGANIZED IN THE STATE OF
(2) A PARTNERSHIP		(4) OTHER ORGANIZATION (Describe)
(c) The name, title and address of the owner, partners or officers of the undersigned are:		
NAME	TITLE	ADDRESS

EXHIBIT B: Certified Payroll Forms

(d) The names and address of all other persons, both natural and corporate, having a substantial interest in the undersigned, and the nature of the interest are (if none, so state):		
NAME	TITLE	ADDRESS
(e) The names, address and trade classification of all other building construction contractors in which the undersigned, has a substantial interest are (if none, so state):		
NAME	TITLE	ADDRESS

3. He certifies:
(a) The company's Federal Tax Identification Number is:
(b) The ethnicity of the company's owner(s) is/are:
(c) Is the company a female owned business: _____ Yes _____ No

Date _____

(Contractor)

By _____
(Signature)

WARNING

U.S. Criminal Code, Section 1010, Title 18, U.S. C. Provides in part "Whoever ..makes, passes, utters, or publishes any statement, knowing the same to be false .shall be fined not more than \$5,000 or imprisoned not more than two years or both."

EXHIBIT B: Certified Payroll Forms

(d) The names and address of all other persons, both natural and corporate, having a substantial interest in the undersigned, and the nature of the interest are (if none, so state):		
NAME	TITLE	ADDRESS
(e) The names, address and trade classification of all other building construction contractors in which the undersigned, has a substantial interest are (if none, so state):		
NAME	TITLE	ADDRESS

3. He certifies:
(a) The company's Federal Tax Identification Number is:
(b) The ethnicity of the company's owner(s) is/are:
(c) Is the company a female owned business: _____ Yes _____ No

Date: _____ (Contractor)

By _____ (Signature)

WARNING

U.S. Criminal Code, Section 1010, Title 18, U.S. C. Provides in part "Whoevermakes, passes, utters, or publishes any statement, knowing the same to be falseshall be fined not more than \$5,000 or imprisoned not more than two years or both."

EXHIBIT B: Certified Payroll Forms

**CERTIFICATION OF BIDDER REGARDING SECTION 3
AND SEGREGATED FACILITIES**

Name of Prime Contractor

Project Name and Number

The undersigned hereby certified that:

- (a) Section 3 provisions are included in the Contract.
- (b) A written Section 3 plan was prepared and submitted as part of the bid proceedings (if bid equals or exceeds \$10,000).
- (c) No segregated facilities will be maintained.

Name

Name and Title of Signer (Print or Type)

Signature

Date

EXHIBIT B: Certified Payroll Forms

CERTIFICATION OF PROPOSED SUBCONTRACTOR REGARDING
SECTION 3 AND SEGREGATED FACILITIES

Name of Subcontractor

Project Name and Number

The undersigned hereby certified that:

- (a) Section 3 provisions are included in the Contract.
- (b) A written Section 3 plan was prepared and submitted as part of the bid proceedings (if bid equals or exceeds \$10,000).
- (c) No segregated facilities will be maintained, as required by Title VI of the Civil Right Act of 1964.

Name _____
Name and Title of Signer (Print or Type)

Signature

Date

EXHIBIT B: Certified Payroll Forms

**CERTIFICATION OF UNDERSTANDING
AND AUTHORIZATION**

Project Name: _____

This is to certify that the principals, and the authorized payroll officer, below, have read and understand the Minutes of the Preconstruction Conference and the labor standards clauses pertaining to the subject project.

The following person(s) is designated as the payroll officer for the undersigned and is authorized to sign the Statement of Compliance which will accompany our weekly certified payroll reports for this project:

Designated Payroll Officer (Name)

Designated Payroll Officer (Signature)

Authorized by (Contractor/Subcontractor)

(Signature)

(Title)

(IRS) Employer Identification Number

(Date)

EXHIBIT B: Certified Payroll Forms
CERTIFICATION FOR APPLICABLE FRINGE BENEFIT PAYMENTS

Project Name: _____

Classification/ Fringe Benefits Provided	Name, Address and Telephone Number of Plan/Fund/Program
1. _____ Health and Welfare	_____
_____	_____
_____	_____
_____	_____
_____	_____
2. _____ Health and Welfare	_____
_____	_____
_____	_____
_____	_____
_____	_____
3. _____ Health and Welfare	_____
_____	_____
_____	_____
_____	_____
_____	_____

OR: (Check if applicable)

_____ I certify that I do not make payments to approved fringe benefit plans, funds or programs.

_____	By _____
Contractor/Subcontractor	Signature
_____	_____
Date	Title

EXHIBIT B: Certified Payroll Forms

AUTHORIZATION FOR DEDUCTIONS

The undersigned authorized deductions, as noted, to be made from their wages. It is understood that these deductions: (a) are in the interest of the employee; (b) is not a condition of employment; (c) there is no direct or indirect financial benefit accruing to the employee; and; (d) it is not otherwise forbidden by law.

Employee's Name	Employee's Signature	Date	Deduction
--------------------	-------------------------	------	-----------

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Signature of Authorized Representative of Employee

Authorized Representative's Name and Title

Date

Exhibit 'C'

**SAMPLE CONTRACT AGREEMENT/
ADDITIONAL INSURED CERTIFICATE**

Sample of Contract Agreement

Additional Insured Certificates

CONTRACTOR AGREEMENT

THIS AGREEMENT, entered into this ____ day of _____, 2015, by and between CITY OF ALAMEDA, a municipal corporation (hereinafter referred to as "City"), and COMPANY NAME, a (California corporation, partnership, sole proprietor, individual) whose address is ADDRESS, hereinafter called the Contractor, in reference to the following:

RECITALS:

A. City is a municipal corporation duly organized and validly existing under the laws of the State of California with the power to carry on its business as it is now being conducted under the statutes of the State of California and the Charter of the City.

B. The Alameda Police Department's second floor restroom is in need of remodeling. On March 13, 2015, plans and specifications were posted on the City's website, and the City reached out to the Builder's Exchanges, and Contractors on the City's contractor's bidder list. After a bidding period of 21 days, ____ (number) of bids were submitted. The bids were opened on April 2, 2015. We received ____ bids and choose the lowest responsive, responsible bidder per Administrative Order No. 5.

C. Contractor possesses the skill, experience, ability, background, certification and knowledge to provide the services described in this Agreement on the terms and conditions described herein.

D. City and Contractor desire to enter into an agreement for the Alameda Police Department restroom upgrades project, No. P.W. 03-15-04.

NOW, THEREFORE, it is mutually agreed by and between the undersigned parties as follows:

1. **TERM:**

The Contractor shall have sixty (60) consecutive working days from the date the work is to commence pursuant to the Notice to Proceed to diligently prosecute the work to completion.

2. **SERVICES TO BE PERFORMED:**

Contractor agrees to do all necessary work at its own cost and expense, to furnish all labor, tools, equipment, materials, except as otherwise specified, and to do all necessary work included in Exhibit A as requested. The Contractor acknowledges that the work plan included in Exhibit A is tentative and does not commit the City to request Contractor perform all tasks included therein.

3. **COMPENSATION TO CONTRACTOR:**

Contractor shall be compensated for services performed pursuant to this Agreement in the amount and manner set forth in Contractor's bid, which is attached hereto as Exhibit "A" and incorporated herein by this reference. Payment will be made in the same manner that claims of a like character are paid by the City, with checks drawn on the treasury of said City, to be taken from the CIP _____

Payment will be made by the City in the following manner: On the first day of each month, Contractor shall submit a written estimate of the total amount of work done the previous month. However, the City reserves the right to adjust budget within and between tasks. Pricing and accounting of charges are to be according to the bid packet pricing, unless mutually agreed to in writing.

Payment shall be made for 95% of the value of the work completed as determined by the City. The City shall retain 5% of the value of the work as partial security for the completion of the work by Contractor. Retained amounts shall be paid to Contractor within 60 days of acceptance by the City of the project. Payment shall not be construed as acceptance of defective work. No interest will be paid to Contractor on retained funds.

Compensation for bid is \$_____.

Prompt Payment Of Withheld Funds To Subcontractors: The City shall hold retainage from the prime contractor and shall make prompt and regular incremental acceptances of portions, as determined by the City of the contract work and pay retainage to the prime contractor based on these acceptances. The prime contractor or subcontractor shall return all monies withheld in retention from all subcontractors within 30 days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the City. Any delay or postponement of payment may take place only for good cause and with the City's prior written approval. Any violation of these provisions shall subject the violating prime contractor to the penalties, sanctions, and other remedies specified in Section 7108.5 of the California Business Professions Code. This requirement shall not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise, available to the prime contractor or subcontractor in the event of a dispute involving late payment, or nonpayment by the contractor, or deficient subcontractor's performance, or noncompliance by a subcontractor. This clause applies to both Disadvantaged Business Enterprise and non-Disadvantaged Business Enterprise subcontractors.

4. **TIME IS OF THE ESSENCE:**

Contractor and City agree that time is of the essence regarding the performance of this Agreement.

5. **STANDARD OF CARE:**

Contractor agrees to perform all services hereunder in a manner commensurate with the prevailing standards of like professionals in the San Francisco Bay Area and agrees that all services shall be performed by qualified and experienced personnel who are not employed by the City nor have any contractual relationship with City.

6. **INDEPENDENT PARTIES:**

Contractor hereby declares that it is engaged as an independent business and it agrees to perform its services as an independent contractor. The manner and means of conducting the work are under the control of Contractor, except to the extent they are limited by statute, rule or regulation and the express terms of this Agreement. No civil service status or other right of employment will be acquired by virtue of Contractor's services. None of the benefits provided by City to its employees, including but not limited to unemployment insurance, workers' compensation plans, vacation and sick leave are available from City to Contractor, its employees or agents. Deductions shall not be made for any state or federal taxes, FICA payments, PERS payments, or other purposes normally associated with an employer-employee relationship from any fees due Contractor. Payments of the above items, if required, are the responsibility of Contractor.

7. **IMMIGRATION REFORM AND CONTROL ACT (IRCA):**

Contractor assumes any and all responsibility for verifying the identity and employment authorization of all of its employees performing work hereunder, pursuant to all applicable IRCA or other federal, or state rules and regulations. Contractor shall indemnify and hold City harmless from and against any loss, damage, liability, costs or expenses arising from any noncompliance of this provision by Contractor.

8. **NON-DISCRIMINATION:**

Consistent with City's policy that harassment and discrimination are unacceptable employer/employee conduct, Contractor agrees that harassment or discrimination directed toward a job applicant, a City employee, or a citizen by Contractor or Contractor's employee on the basis of race, religious creed, color, national origin, ancestry, handicap, disability, marital status, pregnancy, sex, age, or sexual orientation will not be tolerated. Contractor agrees that any and all violations of this provision shall constitute a material breach of this Agreement.

9. **HOLD HARMLESS:**

Contractor shall indemnify, defend, and hold harmless City, its City Council, boards, commissions, officials, employees, and volunteers ("Indemnitees") from and against any and all loss, damages, liability, claims, suits, costs and expenses whatsoever, including reasonable attorneys' fees ("Claims"), arising from or in any manner connected to Contractor's negligent act or omission, whether alleged or actual, regarding performance of services or work conducted or performed pursuant to this Agreement. If Claims are filed against Indemnitees which allege negligence on behalf of the Contractor, Contractor shall have no right of reimbursement against Indemnitees for the costs of defense even if negligence is not found on the part of Contractor. However, Contractor shall not be obligated to indemnify Indemnitees from Claims arising from the sole or active negligence or willful misconduct of Indemnitees.

10. **INSURANCE:**

On or before the commencement of the terms of this Agreement, Contractor shall furnish City with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of insurance coverage in compliance with paragraphs 10A, B, C and D. Such certificates, which do not limit Contractor's indemnification, shall also contain substantially the following statement: "Should any of the above insurance covered by this certificate be canceled or coverage reduced before the expiration date thereof, the insurer affording coverage shall provide thirty (30) days' advance written notice to the City of Alameda by certified mail, "Attention: Risk Manager." It is agreed that Contractor shall maintain in force at all times during the performance of this Agreement all appropriate coverage of insurance required by this Agreement with an insurance company that is acceptable to City and licensed to do insurance business in the State of California. Endorsements naming the City, its City Council, boards, commissions, officials, employees, and volunteers as additional insured shall be submitted with the insurance certificates.

A. **COVERAGE:**

Contractor shall maintain the following insurance coverage:

(1) **Workers' Compensation:**

Statutory coverage as required by the State of California.

(2) **Liability:**

Commercial general liability coverage in the following minimum limits:

Bodily Injury:	\$1,000,000 each occurrence \$2,000,000 aggregate - all other
Property Damage:	\$1,000,000 each occurrence \$2,000,000 aggregate

If submitted, combined single limit policy with aggregate limits in the amounts of \$2,000,000 will be considered equivalent to the required minimum limits shown above.

(3) **Automotive:**

Comprehensive automobile liability coverage (any auto) in the following minimum limits:

Bodily injury:	\$1,000,000 each occurrence
Property Damage:	\$1,000,000 each occurrence
or	
Combined Single Limit:	\$1,000,000 each occurrence

B. **SUBROGATION WAIVER:**

Contractor agrees that in the event of loss due to any of the perils for which it has agreed to provide comprehensive general and automotive liability insurance, Contractor shall look solely to its insurance for recovery. Contractor hereby grants to City, on behalf of any insurer providing comprehensive general and automotive liability insurance to either Contractor or City with respect to the services of Contractor herein, a waiver of any right to subrogation which any such insurer of said Contractor may acquire against City by virtue of the payment of any loss under such insurance.

C. **FAILURE TO SECURE:**

If Contractor at any time during the term hereof should fail to secure or maintain the foregoing insurance, City shall be permitted to obtain such insurance in the Contractor's name or as an agent of the Contractor and shall be compensated by the Contractor for the costs of the insurance premiums at the maximum rate permitted by law and computed from the date written notice is received that the premiums have not been paid.

D. **ADDITIONAL INSURED:**

City, its City Council, boards, commissions, officials, employees, and volunteers shall be named as an additional insured under all insurance coverages, except worker's compensation insurance. The naming of an additional insured shall not affect any recovery to which such additional insured would be entitled under this policy if not named as such additional insured. An additional insured named herein shall not be held liable for any premium, deductible portion of any loss, or expense of any nature on this policy or any extension thereof. Any other insurance held by an additional insured shall not be required to contribute anything toward any loss or expense covered by the insurance provided by this policy.

E. **SUFFICIENCY OF INSURANCE:**

The insurance limits required by City are not represented as being sufficient to protect Contractor. Contractor is advised to consult Contractor's insurance broker to determine adequate coverage for Contractor.

Contractor shall furnish the following bonds from a bonding company acceptable to the City Attorney. Faithful Performance Bond and Labor and Material Bond are only required for work over \$25,000. Therefore, those estimates that are under \$25,000 will not need to budget for the bond premiums and those estimates over \$25,000 will need to be sure to budget for the bond premiums.

The insurance limits required by City are not represented as being sufficient to protect Contractor. Contractor is advised to consult Contractor's insurance broker to determine adequate coverage for Contractor.

11. **BONDS:**

Contractor shall furnish the following bonds from a bonding company acceptable to the City Attorney:

A. **Faithful Performance:**

A bond in the amount of 100% of the total contract price guaranteeing the faithful performance of this contract, and

B. **Labor and Materials:**

A bond for labor and materials in the amount of 100% of the total contract price.

12. **PROHIBITION AGAINST TRANSFERS:**

Contractor shall not assign, sublease, hypothecate, or transfer this Agreement, or any interest therein, directly or indirectly, by operation of law or otherwise, without prior written consent of City. Any attempt to do so without said consent shall be null and void, and any assignee, sublessee, hypothecate or transferee shall acquire no right or interest by reason of such attempted assignment, hypothecation or transfer. However, claims for money by Contractor

from City under this Agreement may be assigned to a bank, trust company or other financial institution without prior written consent. Written notice of such assignment shall be promptly furnished to City by Contractor.

The sale, assignment, transfer or other disposition of any of the issued and outstanding capital stock of Contractor, or of the interest of any general partner or joint venturer or syndicate member or cotenant, if Contractor is a partnership or joint venture or syndicate or cotenancy, which shall result in changing the control of Contractor, shall be construed as an assignment of this Agreement. Control means fifty percent (50%) or more of the voting power of the corporation.

13. **SUBCONTRACTOR APPROVAL:**

Unless prior written consent from City is obtained, only those people and subcontractors whose names are listed in Contractor's bid shall be used in the performance of this Agreement.

Requests for additional subcontracting shall be submitted in writing, describing the scope of work to be subcontracted and the name of the proposed subcontractor. Such request shall set forth the total price or hourly rates used in preparing estimated costs for the subcontractor's services. Approval of the subcontractor may, at the option of City, be issued in the form of a Work Order.

In the event that Contractor employs subcontractors, such subcontractors shall be required to furnish proof of workers' compensation insurance and shall also be required to carry general and automobile liability insurance in reasonable conformity to the insurance carried by Contractor. In addition, any work or services subcontracted hereunder shall be subject to each provision of this Agreement.

14. **PERMITS AND LICENSES:**

Contractor, at its sole expense, shall obtain and maintain during the term of this Agreement, all appropriate permits, certificates and licenses, including a City Business License, that may be required in connection with the performance of services hereunder.

15. **REPORTS:**

Each and every report, draft, work product, map, record and other document reproduced, prepared or caused to be prepared by Contractor pursuant to or in connection with this Agreement shall be the exclusive property of City.

No report, information nor other data given to or prepared or assembled by Contractor pursuant to this Agreement shall be made available to any individual or organization by Contractor without prior approval by City.

Contractor shall, at such time and in such form as City may require, furnish reports concerning the status of services required under this Agreement.

16. **RECORDS:**

Contractor shall maintain complete and accurate records with respect to sales, costs, expenses, receipts and other such information required by City that relate to the performance of services under this Agreement.

Contractor shall maintain adequate records of services provided in sufficient detail to permit an evaluation of services. All such records shall be maintained in accordance with generally accepted accounting principles and shall be clearly identified and readily accessible. Contractor shall provide free access to such books and records to the representatives of City or its designees at all proper times, and gives City the right to examine and audit same, and to make transcripts therefrom as necessary, and to allow inspection of all work, data, documents, proceedings and activities related to this Agreement. Such records, together with supporting documents, shall be kept separate from other documents and records and shall be maintained for a period of three (3) years after receipt of final payment.

If supplemental examination or audit of the records is necessary due to concerns raised by City's preliminary examination or audit of records, and the City's supplemental examination or audit of the records discloses a failure to adhere to appropriate internal financial controls, or other breach of contract or failure to act in good faith, then Contractor shall reimburse City for all reasonable costs and expenses associated with the supplemental examination or audit.

17. **NOTICES:**

All notices, demands, requests or approvals to be given under this Agreement shall be given in writing and conclusively shall be deemed served when delivered personally or on the second business day after the deposit thereof in the United States Mail, postage prepaid, registered or certified, addressed as hereinafter provided.

All notices, demands, requests, or approvals from Contractor to City shall be addressed to City at:

City of Alameda
Maintenance Service Center
1616 Fortmann Way
Alameda, CA 94501
Attention: Jesse Barajas, Superintendent
Ph: (510) 747-7900 / Fax: (510) 521-8762

All notices, demands, requests, or approvals from City to Contractor shall be addressed to Contractor at:

Ph: () / Fax: ()
Email:

18. **LAWS TO BE OBSERVED.**

The Contractor shall keep himself fully informed of all existing and future state and federal laws and all municipal ordinances and regulations of the City of Alameda which in any manner affect those engaged or employed in the work, or the materials used in the work, or which in any way affect the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same.

19. **PREVAILING WAGES:**

a. The Contractor is aware of the requirements of California Labor Code sections 1720 et seq. and 1770 et seq., as well as California Code of Regulations, Title 8, section 16000 et seq. ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" projects. Since this Project involves a "public work" project, as defined by the Prevailing Wage Laws, Contractor shall fully comply with such Prevailing Wage Laws. Contractor's failure to comply with the Prevailing Wage Law may constitute a default under the contract for performance of the Work which would entitle the City to rescind the contract or exercise other remedies as provided by law or the contract.

b. The Contractor shall obtain a copy of the prevailing rates of per diem wages at the commencement of this Contract from the website of the Division of Labor Statistics and Research of the Department of Industrial Relations located at www.dir.ca.gov/dlsr/. In the alternative, the Contractor may view a copy of the prevailing rates of per diem wages at the City's Public Works Department, Building 1, 950 W. Mall Square, Room 110, Alameda. The Contractor shall make copies of the prevailing rates of per diem wages for each craft, classification or type of worker needed to perform work on the Project available to interested parties upon request, and shall post copies at the Contractor's principal place of business and at the Project site. The Contractor shall defend, indemnify and hold the City, its elected officials, officers, employees and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or allege failure to comply with the Prevailing Wage Laws and/or the City's Labor Compliance Program (hereinafter referred to as "LCP"), if any.

c. If this project is funded in whole or in part with Federal monies and subject to the provisions of the Davis-Bacon Act, the successful bidder shall pay not less than the wage rates determined by the Secretary of Labor. The Federal wage rates shall apply unless the State wage rates are higher. The Federal Wage Rates applicable to the contract are those current within ten (10) days of the bid due date.

d. The Contractor and all subcontractors shall pay and shall cause to be paid each worker engaged in 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.

e. The Contractor and all subcontractors shall pay and shall cause to be paid to each worker needed to execute the work on the Project travel and subsistence payments, as such travel and subsistence payments are defined in the applicable collective bargaining Contracts filed with the Department of Industrial Relations in accordance with Labor Code § 1773.8.

f. If during the period any bid for work on this Project remains open, the Director of Industrial Relations determines that there has been a change in any prevailing rate of *per diem* wages in the locality in which this public work is to be performed, such change shall not alter the wage rates in the Notice calling for Bids or the contract subsequently awarded.

g. Pursuant to Labor Code § 1775, the Contractor shall as a penalty to the City, forfeit Fifty Dollars (\$50.00) for each calendar day, or portion thereof, for each worker paid less than the prevailing rate of *per diem* wages, determined by the Director, for such craft or classification in which such worker is employed for any public work done under the Contract by the Contractor or by any Subcontractor under it. The amount of the penalty shall be determined by the Labor Commission. In addition, the difference between such prevailing rate of *per diem* wage and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing rate of *per diem* wage shall be paid to each work by the Contractor.

h. Any worker employed to perform work on the Project, which work is not covered by any craft or classification listed in the general prevailing rate of *per diem* wages determined by the Director, shall be paid not less than the minimum rate of wages specified therein for the craft or classification which most nearly corresponds to the work on the Project to be performed by them, and such minimum wage rate shall be retroactive to time of initial employment of such person in such craft or classification.

i. For those crafts or job classifications requiring special prevailing wage determinations, please contact the Division of Labor Statistics and Research, Prevailing Wage Unit, P.O. Box 420603, San Francisco, CA 94142-0603, (415) 703-4774 or check out the web site at www.dir.ca.gov.

20. **HOURS OF LABOR.**

a. As provided in Article 3 (commencing at § 1810), Chapter 1, Part 7, Division 2 of the Labor Code, eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by the Contractor or by any Subcontractor on any subcontract under this Contract, upon the work or upon any part of the work contemplated by this Contract, is limited and restricted to eight (8) hours during any one calendar day and forty (40) hours during any one calendar week, except as hereinafter provided. Notwithstanding the provision hereinabove set forth, work performed by employees of Contractor in excess of eight (8) hours per day and forty (40) hours during any one week shall be permitted upon this public work provided that the employees' compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1-1/2) times the basic rate of pay.

b. The Contractor shall pay to the City a penalty of Twenty-five Dollars (\$25.00) for each worker employed in the execution of this Contract by the Contractor, or by any Subcontractor, for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day and forty (40) hours in any one (1) calendar week, in violation of the provisions of Article 3 (commencing at § 1810), Chapter 1, Part 7, Division 2 of the Labor Code, unless compensation for the workers so employed by Contractor is not less than one and one-half (1-1/2) times the basic rate of pay for all hours worked in excess of eight (8) hours per day.

c. Holiday and overtime work, when permitted by law, shall be paid for at a rate of at least one and one-half (1½) times the above specified rate of *per diem* wages, unless otherwise specified. Holidays shall be defined in the Collective Bargaining Contract applicable to each particular craft, classification, or type of worker employed.

21. **CERTIFIED PAYROLL.**

a. Contractor's attention is directed to California Labor Code Section 1776, which requires Contractor and any subcontractors to keep an accurate payroll record and which imposes

inspection requirements and penalties for non-compliance. Certified payrolls shall be prepared weekly, and at a minimum, submitted monthly to the Labor Compliance Officer, Gail Carlson, Public Works Department, 950 W. Mall Square, Room 110, Alameda, CA 94501 by the Contractor and each subcontractor. Contractor is responsible for the submission of copies of payrolls by all subcontractors. Each payroll submitted shall be accompanied by a "Statement of Compliance", signed by the Contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract, and shall certify the following:

b. That the payroll for each payroll period contains the name, social security number, and address of each employee, his or her correct classification, including applicable area and group code, hourly rates of wages paid, daily and weekly number of hours worked, deductions made and actual wages paid, and that such information is correct and complete;

c. That such laborer or mechanic (including each helper, apprentice and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions; and

d. That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

e. If the Contractor or a subcontractor does not work during the payroll period, a Statement of Non-Working Days must be submitted for each day not worked.

f. In the event of noncompliance with the requirements of such section after 10 Days written notice specifying in what respects compliance is required, the CONTRACTOR shall forfeit as a penalty to the CITY, \$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, such penalties shall be withheld from progress payments then due.

22. APPRENTICES.

a. Attention is directed to the provisions in sections 1777.5 and 1777.6 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor under him on contracts greater than \$30,000 or 20 working days. The Contractor and any subcontractor under him shall comply with the requirements of Sections 1777.5 and 1777.6 in the employment of apprentices.

b. Section 1777.5 requires the Contractor or subcontractor employing workers in any apprenticeable occupation to apply to the joint apprenticeship committee nearest the site of the public works project, and which administers the apprenticeship program in that trade, for a certificate of approval, if they have not previously applied and are covered by the local apprenticeship standards.

c. The Contractor is required to make contributions to funds established for the administration of apprenticeship programs if: (1) the Contractor employs registered apprentices or journeymen in any apprenticeable trade on such contracts and if other contractors on the public works site are making such contributions; or (2) if the Contractor is not a signatory to an apprenticeship fund and if the funds administrator is unable to accept Contractor' required contribution. The Contractor or subcontractor shall pay a like amount to the California Apprenticeship Council.

d. Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex-officio the

Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

23. **LABOR DISCRIMINATION.**

No discrimination shall be made in the employment of persons upon public works because of the race, color, sex, religion, age, national origin, sexual orientation, or physical disability of such persons and every Contractor for public works violating this section is subject to all the penalties imposed for a violation of the provisions of the Labor Code, and, in particular, Section 1735.

24. **REGISTRATION OF CONTRACTORS.**

Before submitting bids, contractors shall be licensed in accordance with the provisions of Chapter 9, Division 3, of the Business and Professional Code of the State of California.

25. **URBAN RUNOFF MANAGEMENT:**

The Contractor shall avoid creating excess dust when breaking asphalt or concrete and during excavation and grading. If water is used for dust control, contractor shall use as little as necessary. Contractor shall take all steps necessary to keep wash water out of the streets, gutters and storm drains.

The Contractor shall develop and implement erosion and sediment control to prevent pollution of storm drains. Such control includes but is not limited to:

A. Use storm drain inlet protection devices such as sand bag barriers, filter fabric fences, block and gravel filters. (Block storm drain inlets prior to the start of the rainy season (October 15), in site de-watering activities and saw-cutting activities; shovel or vacuum saw-cut slurry and remove from the site).

B. Cover exposed piles of soil or construction material with plastic sheeting. All construction materials must be stored in containers.

C. Sweep and remove all materials from paved surfaces that drain to streets, gutters and storm drains prior to rain as well as at the end of the each work day. At the completion of the project, the street shall be washed and the wash water shall be collected and disposed of offsite in an appropriate location.

D. After breaking old pavement, Contractor shall remove all debris to avoid contact with rainfall or runoff.

E. Contractor shall maintain a clean work area by removing trash, litter, and debris at the end of each workday. Contractor shall also clean up any leaks, drips, and other spills as they occur.

The objective is to ensure that the City and County of Alameda County-Wide Clean Water Program is adequately enforced. These controls should be implemented prior to the start of construction, up-graded as required, maintained during construction phases to provide adequate protection, and removed at the end of construction.

These recommendations are intended to be used in conjunction with the State's Best Management Practices Municipal and Construction Handbooks, local program guidance materials from municipalities, Section 7.1.01 of the Standard Specifications and any other appropriate documents on storm water quality controls for construction.

Failure to comply with this program will result in the issuance of noncompliance notices, citations, project stop orders or fines. The fine for noncompliance of the above program is two hundred and fifty dollars (\$250.00) per occurrence per day. The State under the Federal Clean Water Act can also impose a fine on the contractor, pursuant to Cal. Water Code §13385.

26. **COMPLIANCE WITH MARSH CRUST ORDINANCE:**

Contractor shall perform all excavation work in compliance with the City's Marsh Crust Ordinance as set forth at Section 13-56 of the Municipal Code. Prior to performing any excavation work, Contractor shall verify with the Building Official whether the excavation work is subject to the Marsh Crust Ordinance. Contractor shall apply for and obtain permits from Building Services on projects deemed to be subject to the Marsh Crust Ordinance.

27. **COMPLIANCE WITH THE CITY'S INTEGRATED PEST MANAGEMENT POLICY:**

The Contractor shall follow the requirements of the City's Integrated Pest Management (IPM) Policy to ensure the City is in compliance with its Municipal Regional Stormwater NPDES Permit, Order No. R2-2009-0074, issued by the San Francisco Bay Regional Water Quality Control Board.

The Contractor shall follow the requirements of the City's Integrated Pest Management (IPM) Policy to ensure the City is in compliance with its Municipal Regional Stormwater NPDES Permit, Order No. R2-2009-0074, issued by the San Francisco Bay Regional Water Quality Control Board.

- Contractor shall use the most current IPM technologies available to ensure the long-term prevention or suppression of pest problems and to minimize negative impacts on the environment, non-target organisms, and human health for the control or management of pests in and around City buildings and facilities, parks and golf courses, urban landscape areas, rights-of-way, and other City properties.
- Contractor will consider the City IPM Policy's hierarchy of options or alternatives listed below, in the following order before recommending the use of or applying any pesticide on City property: (1)
 1. No controls (e.g. tolerating the pest infestation, use of resistant plant varieties or allowing normal life cycle of weeds);
 2. Physical or mechanical controls (e.g. hand labor, mowing, exclusion);
 3. Cultural controls (e.g. mulching, disking, alternative vegetation) and good housekeeping (e.g. cleaning desk area);
 4. Biological controls (e.g., natural enemies or predators); (5)
 5. Reduced-risk chemical controls (e.g., soaps or oils);
 6. Other chemical controls.
- Prior to applying chemical controls the contractor shall complete a checklist for the City's pre-approval that explains why a chemical control is necessary. For annual

contracts that require regular application of chemical controls the contractor shall submit one checklist prior to the initiation of the project demonstrating that the hierarchy has been reviewed and no other options exist. (Attached as Exhibit ____). Additionally, the contractor shall provide documentation to the City's project manager of the implementation of the IPM techniques hierarchy described in the City's IPM Policy.

- Contractor shall avoid the use of the following pesticides that threaten water quality, human health and the environment:
 1. Acute Toxicity Category I chemicals as identified by the Environmental Protection Agency (EPA)
 2. Organophosphate pesticides (e.g., those containing Diazinon, chlorpyrifos or malathion)
 3. Pyrethroids (bifenthrin, cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, lambda-cyhalothrin, permethrin, and tralomethrin), carbamates (e.g., carbaryl), and fipronil
 4. Copper-based pesticides unless their use is judicious, other approaches and techniques have been considered, and the threat of impact to water quality is prevented.
- Contractor shall sign the Contractor Verification Form (attached as Exhibit __) indicating the intent to implement the City's IPM Policy, and return a signed copy to the City's project manager.
- Contractor shall provide to the City's project manager an annual Report of all pesticide usage in support of City operations including pesticide name, active ingredient(s), target pest(s), the total amounts used and the reasons for any increase in use of any pesticide.
- Contractor shall provide a copy of any current IPM certifications(s) to the City's project manager prior to initiation of the service work.

A copy of the City's IPM Policy may be obtained from the City's project manager and is also on file with the City Clerk. If this agreement pertains to the use of any items listed above, the Contractor will need to fill out and send in the Contractor Verification Form and Contractor Check List.

28. **PURCHASES OF MINED MATERIALS REQUIREMENT:**

Contractor shall ensure that all purchases of mined materials such as construction aggregate, sand and gravel, crushed stone, road base, fill materials, and any other mineral materials must originate from a surface mining operation identified on the AB3098 List per the Surface Mining and Reclamation Act of 1975 (SMARA).

Within five days of award of contract, Contractor shall submit a report to City which lists the intended suppliers for the above materials and demonstrates that the suppliers are in compliance with the SMARA requirements. The AB3098 List is maintained by the Department of Conservation's Office of Mine Reclamation (OMR) and can be viewed at: www.conservation.ca.gov/OMR/ab_3098_list/index.htm. Note that the list changes periodically and should be reviewed accordingly.

29. **TERMINATION:**

In the event Contractor fails or refuses to perform any of the provisions hereof at the time and in the manner required hereunder, Contractor shall be deemed in default in the performance of this Agreement. If such default is not cured within a period of two (2) business days after receipt by Contractor from City of written notice of default, specifying the nature of such default and the steps necessary to cure such default, City may terminate the Agreement forthwith by giving to the Contractor written notice thereof.

City shall have the option, at its sole discretion and without cause, of terminating this Agreement by giving seven (7) days' prior written notice to Contractor as provided herein. Upon termination of this Agreement, each party shall pay to the other party that portion of compensation specified in this Agreement that is earned and unpaid prior to the effective date of termination.

30. **COMPLIANCES:**

Contractor shall comply with all applicable laws, state, federal, and all ordinances, rules and regulations enacted or issued by City.

31. **CONFLICT OF LAW:**

This Agreement shall be interpreted under, and enforced by the laws of the State of California excepting any choice of law rules which may direct the application of laws of another jurisdiction. The Agreement and obligations of the parties are subject to all valid laws, orders, rules, and regulations of the authorities having jurisdiction over this Agreement (or the successors of those authorities.) Any suits brought pursuant to this Agreement shall be filed with the courts of the County of Alameda, State of California.

32. **ADVERTISEMENT:**

Contractor shall not post, exhibit, display or allow to be posted, exhibited, displayed any signs, advertising, show bills, lithographs, posters or cards of any kind pertaining to the services performed under this Agreement unless prior written approval has been secured from City to do otherwise.

33. **WAIVER:**

A waiver by City of any breach of any term, covenant, or condition contained herein, shall not be deemed to be a waiver of any subsequent breach of the same or any other term, covenant, or condition contained herein, whether of the same or a different character.

34. **INTEGRATED CONTRACT:**

This Agreement represents the full and complete understanding of every kind or nature whatsoever between the parties hereto, and all preliminary negotiations and agreements of whatsoever kind or nature are merged herein. No verbal agreement or implied covenant shall be held to vary the provisions hereof. Any modification of this Agreement will be effective only by written execution signed by both City and Contractor.

35. **INSERTED PROVISIONS:**

Each provision and clause required by law to be inserted into the Agreement shall be deemed to be enacted herein, and the Agreement shall be read and enforced as though each were

included herein. If through mistake or otherwise, any such provision is not inserted or is not correctly inserted, the Agreement shall be amended to make such insertion on application by either party.

36. **CAPTIONS:**

The captions in this Agreement are for convenience only, are not a part of the Agreement and in no way affect, limit or amplify the terms or provisions of this Agreement.

IN WITNESS WHEREOF, the parties have caused the Agreement to be executed on the day and year first above written.

CONTRACTOR
(Corporation)

CITY OF ALAMEDA
A Municipal Corporation

Name
Title

John Russo
City Manager

RECOMMENDED FOR APPROVAL

Name
Title

Robert G. Haun
Public Works Director

APPROVED AS TO FORM:
City Attorney

Andrico Penick
Assistant City Attorney

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY
CG 20 10 10 93

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED - OWNERS, LESSEES or CONTRACTORS FORM B

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization:

City of Alameda
Public Works Department
Alameda Point, Building 1
950 West Mall Square, Room 110
Alameda, CA 94501-7558

SAMPLE

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of your ongoing operations performed for that insured.

REF:

The City of Alameda, its City Council, boards and commissions, officers & employees are additional insured for work done on their behalf by the named insured.

PRIMARY INSURANCE:

IT IS UNDERSTOOD AND AGREED THAT THIS INSURANCE IS PRIMARY AND ANY OTHER INSURANCE MAINTAINED BY THE ADDITIONAL INSURED SHALL BE EXCESS ONLY AND NOT CONTRIBUTING WITH THIS INSURANCE.

SEVERABILITY OF INTEREST:

IT IS AGREED THAT EXCEPT WITH RESPECT TO THE LIMIT OF INSURANCE, THIS COVERAGE SHALL APPLY AS IF EACH ADDITIONAL INSURED WERE THE ONLY INSURED AND SEPARATELY TO EACH INSURED AGAINST WHOM CLAIM IS MADE OR SUIT IS BROUGHT.

WAIVER OF SUBROGATION:

IT IS UNDERSTOOD AND AGREED THAT THE COMPANY WAIVES THE RIGHT OF SUBROGATION AGAINST THE ABOVE ADDITIONAL INSURED (S), BUT ONLY AS RESPECTS THE JOB OR PREMISES DESCRIBED IN THE CERTIFICATE ATTACHED HERETO.

NOTICE OF CANCELLATION:

IT IS UNDERSTOOD AND AGREED THAT IN THE EVENT OF CANCELLATION OF THE POLICY FOR ANY REASON OTHER THAN NON-PAYMENT OF PREMIUM, 30 DAYS WRITTEN NOTICE WILL BE SENT TO THE CERTIFICATE HOLDER BY MAIL. IN THE EVENT THE POLICY IS CANCELED FOR NON-PAYMENT OF PREMIUM, 10 DAYS WRITTEN NOTICE WILL BE SENT TO THE ABOVE.

POLICY NUMBER:

COMMERCIAL AUTO

CG 20 48 02 99

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED INSURED

This endorsement modifies insurance provided under the following:

- BUSINESS AUTO COVERAGE FORM
- GARAGE COVERAGE FORM
- MOTOR CARRIER COVERAGE FORM
- TRUCKERS COVERAGE FORM



With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement.

This endorsement identifies person(s) or organization(s) who are “insureds” under the Who Is An Insured Provisions of the Coverage Form. This endorsement does not alter coverage provided in the Coverage Form.

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Endorsement Effective:	Countersigned By: <div style="text-align: right;">(Authorized Representative)</div>
Named Insured:	

SCHEDULE

Name of Person or Organization:

City of Alameda
 Public Works Department
 950 West Mall Square, Room 110
 Alameda, CA 94501-7558

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of your ongoing operations performed for that insured.

REF: _____
The City of Alameda, its City Council, boards and commissions, officers & employees are additional insured for work done on their behalf by the named insured.

NOTICE OF CANCELLATION:

IT IS UNDERSTOOD AND AGREED THAT IN THE EVENT OF CANCELLATION OF THE POLICY FOR ANY REASON OTHER THAN NON-PAYMENT OF PREMIUM, 30 DAYS WRITTEN NOTICE WILL BE SENT TO THE CERTIFICATE HOLDER BY MAIL. IN THE EVENT THE POLICY IS CANCELED FOR NON-PAYMENT OF PREMIUM, 10 DAYS WRITTEN NOTICE WILL BE SENT TO THE ABOVE.

Exhibit 'D
EMERGENCY FORM

Emergency Form

During the course of the work and/or while the contractor has responsibility for the project, emergencies may arise where it is necessary to repair or replace safety devices, or install additional safety devices, or take preventative measures necessary for public safety. Such corrections as may be necessary are the contractor's responsibility and he, or his representative, will be called upon in such emergencies.

Please fill in the following information and submit it to the City Engineer/PW Supervisor.

CONTRACTOR'S NAME _____

CONTRACTOR'S PHONE NUMBER _____

PROJECT SUPERINTENDENT _____

CONTACT IN THE EVENT OF EMERGENCY: _____

Name: _____

Phone Number: _____

In cases where the contractor, or his representative, cannot be contacted or will not take the necessary actions, the City Public Works Department will be notified and the necessary repairs, corrections, or changes will be made. The contractor will be billed for such remedial action. Charges will include the cost of labor at applicable rates, the City's normal overhead factor, the rental of any equipment or safety devices placed during the emergency that are damaged or stolen, or otherwise not returned to the City, will be billed to the contractor.

Scheduled starting date _____

Scheduled completion date _____

Job Name : _____

EXHIBIT “E”

PERFORMANCE BOND FORM

Performance Bond Form

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal, and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

(Name of Owner)

(Address of Owner)

hereinafter called OWNER, in the penal sum of _____ Dollars. (\$ _____)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____, 2015, a copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PERFORMANCE BOND FORM

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed on _____ counterparts, each one

of which shall be deemed an original, this the _____ day of _____, 2015.

ATTEST:

Principal
By: _____
Principal Secretary

(SEAL)

(Witness as to Principal) (Address)

(Address)

(Surety)

ATTEST:

Surety Secretary

(SEAL)

By: _____

(Witness as to Surety) Attorney-in-fact

(Address) (Address)

NOTE: Date of BOND must not be prior to date of Contract.
If the CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

Exhibit 'F'

PAYMENT BOND FORM

PAYMENT BOND FORM

KNOW ALL MEN BY THESE PRESENTS: that

a _____, hereinafter called Principal, and

hereinafter called Surety, are held and firmly bound unto _____

hereinafter called OWNER, in the penal sum of _____ Dollars. (\$ _____)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____, 2015, a copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PAYMENT BOND FORM

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed on _____ counterparts, each one
(Number)
of which shall be deemed an original, this the _____ day of _____, 2015.

ATTEST: _____
Principal

By: _____
Principal Secretary
(SEAL)

(Witness as to Principal) (Address)

(Address)

(Surety)

ATTEST: _____
Surety Secretary
(SEAL)

By: _____
(Witness as to Surety) Attorney-in-fact

(Address) (Address)

NOTE: Date of BOND must not be prior to date of Contract.
If the CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

Exhibit 'G'

BIDDER'S BOND FORM

Bidder's Proposal Form

Contractor Name _____

BIDDER'S BOND

We, _____
as Principal, and as Surety are bound unto the _____,
hereafter referred to as "obligee", in the penal sum of ten percent (10%) of the total amount of the
bid of the Principal submitted to the Obligee for the work described below, for the payment of
which sum we bind ourselves, jointly, and severally,

THE CONDITION OF THIS OBLIGATION IS SUCH, THAT:

WHEREAS, the Principal is submitted to the Obligee, for _____
(Copy here the exact description of

work, including locations as it appears on the proposal)

for which bids are to be opened per Section 1 Proposal and Contract Requirements, Paragraph E,
Presenting and Marking of Bid.

NOW, THEREFORE, if the Principal is awarded the contract and, within the time and
manner required under the specifications, after the prescribed forms are presented to Contractor
for signature, enters into a written contract, in the prescribed form, in accordance with the bid,
and files two bonds with Obligee, one to guarantee faithful performance of the contract an the
other to guarantee payment for labor and materials as provided by law, then this obligation shall
be null and void; otherwise, it shall remain in full force.

In the event suit is brought upon this bond by the Obligee and judgement is recovered,
the Surety shall pay all cost incurred by the Obligee in such suite, including a reasonable
attorney's fee to be fixed by the court.

The surety; for value received, hereby stipulates and agrees that the obligations of said
Surety and its Bond shall be in no way impaired or affected by any extension of the time within
which the OWNER may accept such BID; and said Surety does hereby waive notice of any such
extension.

Dated: _____, 2015.

Principal

Surety

By:

EXHIBIT "G"

CERTIFICATE OF ACKNOWLEDGMENT

State of California
County of Alameda

On this _____ day of _____ in the year 2015 before me
_____, a Notary Public, personally appeared _____

Attorney-in-fact

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

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

WITNESS my hand and official seal.

Signature _____ (Seal)
Notary Public

Exhibit 'H'

CONSTRUCTION SPECIFICATIONS INSTITUTE

ABBREVIATIONS AND ACRONYMS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions including without limitation, Definitions
- B. Special Conditions

1.2 DOCUMENT INCLUDES:

- A. Abbreviations used throughout the Contract Documents.
- B. Reference to a technical society, organization, or body is by abbreviation, as follows:
 - 1. AA Aluminum Association
 - 2. AAMA Architectural Aluminum Manufacturers Association
 - 3. AASHTO American Association of State Highway and Transportation Officials
 - 4. ABPA Acoustical and Board Products Association
 - 5. ACI American Concrete Institute
 - 6. AGA American Gas Association
 - 7. AGC Associated General Contractors
 - 8. AHC Architectural Hardware Consultant
 - 9. AI Asphalt Institute
 - 10. AIA American Institute of Architects
 - 11. AIEE American Institute of Electrical Engineers
 - 12. AISC American Institute of Steel Construction
 - 13. AISI American Iron and Steel Institute
 - 14. AMCA Air Moving and Conditioning Association
 - 15. ANSI American National Standards Institute
 - 16. APA American Plywood Association
 - 17. ARI Air Conditioning and Refrigeration Institute
 - 18. ASHRAE American Society of Heating, Refrigeration and Air Conditioning Engineers
 - 19. ASME American Society of Mechanical Engineers
 - 20. ASSE American Society of Structural Engineers
 - 21. ASTM American Society of Testing and Materials
 - 22. AWPB American Wood Preservers Bureau
 - 23. AWPI American Wood preservers Institute
 - 24. AWS American Welding Society
 - 25. AWSC American Welding Society Code
 - 26. AWI Architectural Woodwork Institute
 - 27. AWWA American Water Works Association
 - 28. BIA Brick Institute of America
 - 29. CCR California Code of Regulations
 - 30. CLFMI Chain Link Fence Manufacturers Institute
 - 31. CMG California Masonry Guild
 - 32. CRA California Redwood Association
 - 33. CRSI Concrete Reinforcing Steel Institute

34.	CS	Commercial Standards
35.	CSI	Construction Specifications Institute
36.	CTI	Cooling Tower Institute
37.	FGMA	Flat Glass Manufacturer's Association
38.	FIA	Factory Insurance Association
39.	FM	Factory Mutual
40.	FS	Federal Specification
41.	FTI	Facing Title Institute
42.	GA	Gypsum Association
43.	ICC	International Code Council
44.	IEEE	Institute of Electrical and Electronic Engineers
45.	IES	Illumination Engineering Society
46.	LIA	Lead Industries Association
47.	MIA	Marble Institute of America
48.	MLMA	Metal Lath Manufacturers Association
49.	MS	Military Specifications
50.	NAAMM	National Association of Architectural Metal Manufacturers
51.	NBHA	National Builders Hardware Association
52.	NBFU	National Board of Fire Underwriters
53.	NBS	National Bureau of Standards
54.	NCMA	National Concrete Masonry Association
55.	NEC	National Electrical Code
56.	NEMA	National Electrical Manufacturers Association
57.	NFPA	National Fire Protection Association/National Forest Products Association
58.	NMWIA	National Mineral Wool Insulation Association
59.	NTMA	National Terrazzo and Mosaic Association
60.	NWMA	National Woodwork Manufacturer's Association
61.	DSA	Division of State Architect
62.	OSHA	Occupational Safety and Health Act
63.	PCI	Precast Concrete Institute
64.	PCA	Portland Cement Association
65.	PDCA	Painting and Decorating Contractors of America
66.	PDI	Plumbing Drainage Institute
67.	PEI	Porcelain Enamel Institute
68.	PG&E	Pacific Gas & Electric Company
69.	PS	Product Standards
70.	SDI	Steel Door Institute; Steel Deck Institute
71.	SJI	Steel Joist Institute
72.	SSPC	Steel Structures Painting Council
73.	TCA	Tile Council of America
74.	TPI	Truss Plate Institute
75.	CBC	California Building Code
76.	UL	Underwriters Laboratories Code
77.	UMC	Uniform Mechanical Code
78.	USDA	United States Department of Agriculture
79.	VI	Vermiculite Institute
80.	WCLA	West Coast Lumberman's Association
81.	WCLB	West Coast Lumber Bureau
82.	WEUSER	Western Electric Utilities Service Engineering Requirements
83.	WI	Woodwork Institute
84.	WPOA	Western Plumbing Officials Association

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF DOCUMENT

DEFINITIONS AND REFERENCE STANDARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS AND PROVISION

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions including without limitation, Definitions;
- B. Special Conditions;

1.2 QUALITY ASSURANCE

- A. For products or workmanship specified by association, trade, or Federal Standards, Contractor shall comply with requirements of the standard, except when more rigid requirements are specified in the Contract Documents, or are required by applicable codes.
- B. Contractor shall conform to current reference standard publication date in effect on the date of bid opening.
- C. Contractor shall obtain copies of standards unless specifically required not to by the Contract Documents.
- D. Contractor shall maintain a copy of all standards at jobsite during submittals, planning, and progress of the specific Work, until final completion, unless specifically required not to by the Contract Documents.
- E. Should specified reference standards conflict with Contract Documents, Contractor shall request clarification from the Owner and./or the Architect before proceeding.
- F. The contractual relationship of the parties to the Contract shall not be altered from the contractual relationship as indicated in the Contract Documents by mention or inference otherwise in any referenced document.
- G. Governing Codes shall be as shown in the Contract Documents including, without limitation, the Specifications.

1.3 SCHEDULE OF REFERENCES

AA	Aluminum Association 900 19 th Street NW, Suite 300, Washington, DC 20006 www.aluminum.org	202-862-5100
AABC	Associated Air Balance Council 1518 K Street, NW, Suite 503, Washington, DC 20005 www.aabchq.com	202-737-0202
AAMA	American Architectural Manufacturers Association 1827 Walden Office Sq., Suite 104, Schaumburg, IL 60173-4268 www.aamanet.org	847-303-5664

AASHTO	American Association of State Highway and Transportation Officials, 444 North Capitol Street, Suite 249 Washington, DC 20001 www.aashto.org	202-624-5800
AATCC	American Association of Textile Chemists and Colorists, P.O. Box 12215, One Davis Drive Research Triangle Park, NC 27709-2215 www.aatcc.org	919-549-8141
ACI	American Concrete Institute P.O. Box 9094, Farmington Hills, MI 48333-9094 www.aci-int.org	248-848-3700
ACPA	American Concrete Pipe Association 222 West Las Colinas Blvd., Suite 641, Irving, TX 75039-5423 www.concrete-pipe.org	972-506-7216
ADC	Air Diffusion Council 11 South LaSalle St., Suite 1400, Chicago, IL 60603 www.flexibleduct.org	312-201-0101
AFPA	American Forest and Paper Association 1111 19th St., NW, Suite 800, Washington, DC 20036 www.afandpa.org	202-463-2700
AGA	American Gas Association 1515 Wilson Blvd., Arlington VA 22209 www.aga.com	703-841-8400
AHA	American Hardboard Association 1210 W. Northwest Hwy, Palatine, IL 60067-1897 www.pbmdf.com	847-934-8800
AI	Asphalt Institute Research Park Drive, P.O. Box 14052, Lexington, KY 40512-4052 www.asphaltinstitute.org	606-288-4960
AIA	The American Institute of Architects 1735 New York Avenue, NW, Washington, DC 20006-5292 www.aia.org	202-626-7300
AISC	American Institute of Steel Construction One East Wacker Drive, Suite 3100, Chicago, IL 60601-2001 www.aisc.org	800-644-2400
AITC	American Institute of Timber Construction 7012 S. Revere Pkwy., Suite 140, Englewood, CO 80112 www.aitc-glulam.org	303-792-9559
ALCA	Associated Landscape Contractors of America 12200 Sunrise Valley Drive, Suite 150, Reston, VA 20191 www.alca.org	703-620-6363

ALI	Associated Laboratories, Inc. P.O. Box 152837, 1323 Wall St., Dallas, TX 75315 www.associatedlabs.org	214-565-0593
ALSC	American Lumber Standards Committee P.O. Box 210 Germantown, MD 20875 www.alsc.org	301-972-1700
AMCA	Air Movement and Control Association International, Inc. 30 W. University Drive Arlington Heights, IL 60004-1893 www.amca.org	847-394-0150
ANLA	American Nursery and Landscape Association 1250 Eye Street, NW, Suite 500 Washington, DC 20005 www.anla.org	202-789-2900
ANSI	American National Standards Institute 11 West 42nd Street, 13th Floor New York, NY 10036-8002 www.ansi.org	212-642-4900
APA	APA-The Engineered Wood Association P.O. Box 11700, Tacoma, WA 98411-0700 www.apawood.org	206-565-6600
APA	Architectural Precast Association P.O. Box 08669, Fort Myers, FL 33908-0669 www.archprecast.org	941-454-6989
ARI	Air Conditioning and Refrigeration Institute 4301 Fairfax Drive, Suite 425, Arlington, VA 22203 www.ari.org	703-524-8800
ARMA	Asphalt Roofing Manufacturers Association Center Park, 4041 Powder Mill Road, Suite 404 Calverton, MD 20705 www.asphaltroofing.org	301-231-9050
ASA	Acoustical Society of America 500 Sunnyside Blvd., Woodbury, NY 11797 www.asa.aip.org	516-576-2360
ASCE	American Society of Civil Engineers- World Headquarters 1801 Alexander Bell Drive, Reston, VA 20190-4400 www.asce.org	800-548-2723 703-295-6000
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers 1791 Tullie Circle, NE, Atlanta, GA 30329-2305	800-527-4723 404-636-8400

www.ashrae.org

ASLA	American Society of Landscape Architects 4401 Connecticut Ave., NW, 5th Floor Washington, DC 20008-2369 www.asla.org	202-686-2752
ASME	American Society of Mechanical Engineers 345 East 47 th Street, New York, NY 10017-2392 www.asme.org	800-434-2763
ASPE	American Society of Plumbing Engineers 3617 Thousand Oaks Blvd., Suite 210, Westlake, CA 91362-3649 www.aspe.org	805-495-7120
ASQC	American Society for Quality Control 611 E. Wisconsin Avenue Milwaukee, WI 53201-3005 www.asqc.org	800-248-1946 414-272-8575
ASSE	American Society of Sanitary Engineering 28901 Clemens Road, Westlake, OH 44145 www.asse-plumbing.org	216-835-3040
ASTM	American Society for Testing and Materials 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959 www.astm.org	610-832-9500
AWCI	Association of the Wall and Ceiling Industries--International 307 E. Annandale Road, Suite 200, Falls Church, VA 22042-2433 www.awci.org	703-534-8300
AWPA	American Wood-Preservers' Association 3246 Fall Creek Highway, Suite 1900, Granbury, TX 76049-7979 www.awpa.com	817-326-6300
AWS	American Welding Society 550 NW LeJeune Road Miami, FL 33126 www.amweld.org	800-443-9373 305-443-9353
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235 www.awwa.org	800-926-7337 303-794-7711
BHMA	Builders' Hardware Manufacturers Association 355 Lexington Avenue, 17th Floor, New York, NY 10017-6603 www.buildershardware.com	212-661-4261
CBM	Certified Ballast Manufacturers Association 1422 Euclid Avenue, Suite 402, Cleveland, OH 44115-2094 www.nema.org	216-241-0711

CGA	Compressed Gas Association 1725 Jefferson Davis Hwy, Suite 1004 Arlington, VA 22202-4102 www.cganet.com	703-412-0900
CISCA	Ceilings & Interior Systems Construction Association 1500 Lincoln Hwy, Suite 202 St. Charles, IL 60174 www.cisca.org	630-584-1919
CISPI	Cast Iron Soil Pipe Institute 5959 Shallowford Road, Suite 419 Chattanooga, TN 37421 www.cispi.org	423-892-0137
CPSC	Consumer Product Safety Commission East West Towers 4330 East-West Hwy. Bethesda, MD 20814 www.cpsc.gov	800-638-2772
CPPA	Corrugated Polyethylene Pipe Association 432 N. Superior Street Toledo, OH 43604 www.plasticx.com	800-510-2772 419-241-2221
CRA	California Redwood Association 405 Enfrente Drive, Suite 200, Novato, CA 94949 www.calredwood.org	41-/382-0662
CRI	Carpet and Rug Institute 310 S. Holiday Avenue Dalton, GA 30722-2048 www.carpet-rug.com	800-882-8846 706-278-3176
CRSI	Concrete Reinforcing Steel Institute 933 N. Plum Grove Road, Schaumburg, IL 60173-4758 www.crsi.org	847-517-1200
CTI	Ceramic Tile Institute of America 12061 W. Jefferson Blvd. Culver City, CA 90230-6219 www.ctioa.org	310-574-7800
DHI	Door and Hardware Institute 14170 Newbrook Drive, Chantilly, VA 20151-2223 www.dhi.org	703-222-2010
DIPRA	Ductile Iron Pipe Research Association 245 Riverchase Pkwy East, Suite O Birmingham, AL 35244 www.dipra.org	205-988-9870

DOC	Department of Commerce 14 th Street and Constitution Avenue, NW Washington, DC 20230 www.commerce.gov	202-482-2000
DOT	Department of Transportation 400 Seventh Street, SW Washington, DC 20590 www.dot.gov	202-366-4000
EJMA	Expansion Joint Manufacturers Association 25 N. Broadway Tarrytown, NY 10591-3201 www.ejma.org	914-332-0040
EPA	Environmental Protection Agency 401 M Street, SW, Washington, DC 20460 www.epa.gov	202-260-2090
FCICA	Floor Covering Installation Contractors Association P.O. Box 948, Dalton, GA 30722-0948 www.fcica.com	706-226-5488
FM	Factory Mutual 1151 Boston-Providence Turnpike P.O. Box 9102; Norwood, MA 02062-9102 www.factorymutual.com	781-255-4300
FS	Federal Specifications Unit (Available from GSA), 470 East L'Enfant Plaza, SW, Suite 8100 Washington, DC 20407 www.gsa.gov	202-619-8925
GA	Gypsum Association 810 First Street NE, Suite 510, Washington, DC 20002 www.usg.com	202-289-5440
GANA	Glass Association of North America 3310 SW Harrison Street, Topeka, KS 66611-2279 www.glasswebsite.com/gana	913-266-7013
HMA	Hardwood Manufacturers Association 400 Penn Center Blvd., Suite 530, Pittsburgh, PA 15235-5605 www.hardwood.org	412-828-0770
HPVA	Hardwood Plywood and Veneer Association 1825 Michael Farraday Drive P.O. Box 2789 Reston, VA 22195-0789 www.hpva.org	703-435-2900

IEEE	Institute of Electrical and Electronic Engineers 345 E. 47 th Street 212/705-7900 New York, NY 10017-2394 www.ieee.org	800-678-4333
IESNA	Illuminating Engineering Society of North America 120 Wall Street, 17th Floor New York, NY 10005-4001 www.iesna.org	212-248-5000
ITS	Intertek Testing Services P.O. Box 2040 3933 US Route 11 Cortland, NY 13045-7902 www.itsglobal.com	800-345-3851 607-753-6711
LMA	Laminating Materials Association 116 Lawrence Street Hillsdale, NJ 07642-2730 www.lma.org	201/664-2700
MCAA	Mechanical Contractors Association of America 1385 Piccard Drive Rockville, MD 20850-4329 www.mcaa.org	301-869-5800
ML/SFA	Metal Lath/Steel Framing Association (A Division of the NAAMM), 8 South Michigan Avenue, Suite 1000 Chicago, IL 60603 www.naamm.org	312-456-5590
MSS	Manufacturers Standardization Society for the Valve and Fittings Industry 127 Park Street, NE Vienna, VA 22180-4602 www.mss-hq.com	703-281-6613
NAA	National Arborist Association P.O. Box 1094 Amherst, NH 03031-1094 www.natlarb.com	800-733-2622 603-673-3311
NAAMM	National Association of Architectural Metal Manufacturers 8 South Michigan Avenue, Suite 1000, Chicago, IL 60603 www.gss.net/naamm	312-782-5590
NAIMA	North American Insulation Manufacturers Association 44 Canal Center Plaza, Suite 310, Alexandria, VA 22314 www.naima.org	703-684-0084

NAPA	National Asphalt Pavement Association NAPA Building 5100 Forbes Blvd. Lanham, MD 20706-4413 www.hotmix.org	301-731-4748
NCSPA	National Corrugated Steel Pipe Association 1255 23rd Street, NW, Suite 850 Washington, DC 20037 www.ncspa.org	202-452-1700
NEBB	National Environmental Balancing Bureau 8575 Grovemont Circle Gaithersburg, MD 20877-4121 www.nebb.org	301-977-3698
NECA	National Electrical Contractors Association 3 Bethesda Metro Center, Suite 1100 Bethesda, MD 20814-5372 www.necanet.org	301/657-3110
NEI	National Elevator Industry 185 Bridge Plaza North, Suite 310 Fort Lee, NJ 07024 www.neii.org	201-944-3211
NEMA	National Electrical Manufacturers' Association 1300 N. 17 th Street, Suite 1847 Rosslyn, VA 22209 www.nema.org	703-841-3200
NFPA	National Fire Protection Association One Batterymarch Park P.O. Box 9101, Quincy, MA 02269-9101 www.nfpa.org	800-344-3555 617-770-3000
NHLA	National Hardwood Lumber Association P.O. Box 34518 Memphis, TN 38184-0518 www.natlhardwood.org	901-377-1818
NIA	National Insulation Association 99 Canal Center Plaza, Suite 222, Alexandria, VA 22314 www.insulation.org	703-683-6422
NPA	National Particleboard Association 18928 Premiere Court, Gaithersburg, MD 20879-1569 www.pbmdf.com	301-670-0604
NPCA	National Paint and Coatings Association 1500 Rhode Island Avenue, NW, Washington, DC 20005-5597 www.paint.org	202-462-6272

NRCA	National Roofing Contractors Association O'Hare International Center, 10255 W. Higgins Road, Suite 600 Rosemont, IL 60018-5607 www.roofonline.org	800-323-9545
NRMCA	National Ready Mixed Concrete Association 900 Spring Street Silver Spring, MD 20910 www.nrmca.org	301-587-1400
NSF	NSF International P.O. Box 130140, Ann Arbor, MI 48113-0140 www.nsf.org	313-769-8010
NUSIG	National Uniform Seismic Installation Guidelines 12 Lahoma Court Alamo, CA 94526 www.badgerindustries.com	510-946-0135
NWWDA	National Wood Window and Door Association 1400 E. Touhy Avenue, G-54 Des laines, IL 60018 www.nwwda.org	800-223-2301 847-299-5200
SHA	Occupational Safety and Health Administration (U.S. Department of Labor) 200 Constitution Ave., NW, Washington, DC 20210 www.osha.gov	202/219-8148
PCA	Portland Cement Association 5420 Old Orchard Road Skokie, IL 60077-1083 www.portcement.org	847/966-6200
PDCA	Painting and Decorating Contractors of America 3913 Old Lee Hwy, Suite 33-B Fairfax, VA 22030 www.pdca.com	800-332-7322 703-359-0826
PDI	Plumbing and Drainage Institute 45 Bristol Drive, Suite 101 South Easton, MA 02375 www.pdionline.org	800-589-8956 508-230-3516
RFCI	Resilient Floor Covering Institute 966 Hungerford Drive, Suite 12-B Rockville, MD 20805-1714 www.rfci.com	301-340-8580

RIS	Redwood Inspection Service c/o California Redwood Association 405 Enfrente Drive, Suite 200 Novato, CA 94949-7206 www.redwoodinspection.com	415-382-0662
SDI	Steel Door Institute 30200 Detroit Road Cleveland, OH 44145-1967 www.steeldoor.org	216-889-0010
SMA	Stucco Manufacturers Association 14006 Ventura Blvd. Sherman Oaks, CA 91403 www.stucomfgassoc.com	213-789-8733
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association, Inc. P.O. Box 221230 Chantilly, VA 20151-1209 www.smacna.org	703-803-2980
SPI	Society of the Plastics Industry, Inc. Spray Polyurethane Division 1801 K Street, NW, Suite 600K, Washington, DC 20006 www.socplas.org	800-951-2001 202-974-5200
SSPC	Steel Structures Painting Council 40 24th Street, 6th Floor Pittsburgh, PA 15222-4643 www.sspc.org	412-281-2331
TCA	Tile Council of America 100 Clemson Research Blvd. Anderson, SC 29625 www.tileusa.com	864-646-8453
TPI	Turfgrass Producers International 1855-A Hicks Road 847/705-9898 Rolling Meadows, IL 60008 www.turfgrassod.org	800-405-8873
UL	Underwriters Laboratories, Inc. 333 Pfingston Road Northbrook, IL 60062 www.ul.com	800-704-4050 847-272-8800
UNI	Uni-Bell PVC Pipe Association 2655 Villa Creek Drive, Suite 155 Dallas, TX 75234 www.members.aol.com/unibell1	972-243-3902

USDA	U.S. Department of Agriculture 14th St. and Independence Ave., SW Washington, DC 20250 www.usda.gov	202-720-8732
WA	Wallcoverings Association 401 N. Michigan Avenue Chicago, IL 60611-4267 www.wallcoverings.org	312-644-6610
WCLIB	West Coast Lumber Inspection Bureau P.O. Box 23145 Portland, OR 97281-3145 www.wclib.org	503/639-0651
WCMA	Window Covering Manufacturers Association 355 Lexington Ave., 17th Floor New York, NY 10017-6603 www.wcmanet.org	212-661-4261
WIC	Woodwork Institute of California P.O. Box 980247 West Sacramento, CA 95798-0247 www.wicnet.org	916-372-9943
WLPDIA	Western Lath/Plaster/Drywall Industries Association 8635 Navajo Road San Diego, CA 92119 www.tsib.org	619-466-9070
WMMPA	Wood Moulding & Millwork Producers Association 507 First Street Woodland, CA 95695 www.wmmpa.com	800-550-7889 916/661-9591
WRI	Wire Reinforcement Institute 203 Loudoun Street, SW Leesburg, VA 20175-2718 www.wirereinforcementinstitute.org	703-779-2339
WWPA	Western Wood Products Association Yeon Building 522 S.W. 5th Avenue, Portland, OR 97204-2122 www.wwpa.org	503-224-3930

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF DOCUMENT

QUALITY ASSURANCE – MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Purchase of Materials and Equipment;
- B. Special Conditions;
- C. Manufacturer Specifications
- D. Plans and Specification

1.2 MATERIAL AND EQUIPMENT

- A. Only items approved by the Owner and/or Architect shall be used.
- B. Contractor shall submit lists of products and other product information in accordance with the Contract Documents, including, without limitation, the provisions regarding the submittals.

1.3 MATERIAL AND EQUIPMENT COLORS

- A. The Owner and/or Architect will provide a schedule of colors.
- B. No individual color selections will be made until after approval of all pertinent materials and equipment and after receipt of appropriate samples in accordance with the Contract Documents, including, without limitation, the provisions regarding the submittals.
- C. Contractor shall request priority in writing for any item requiring advance ordering to maintain the approved Construction Schedule.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Contractor shall deliver manufactured materials in original packages, containers, or bundles (with seals unbroken), bearing name or identification mark of manufacturer.
- B. Contractor shall deliver fabrications in as large assemblies as practicable; where specified as shop-primed or shop-finished, package or crate as required to preserve such priming or finish intact and free from abrasion.
- C. Contractor shall store materials in such a manner as necessary to properly protect them from damage. Materials or equipment damaged by handling, weather, dirt, or from any other cause will not be accepted.
- D. Materials that have been warehoused for long periods of time, stored or transported in improper environment, improperly packaged, inadequately labeled, poorly protected, excessively shipped, deviated from normal distribution pattern, or reassembled are not acceptable.

- E. Contractor shall protect material and equipment furnished under Contract.
- F. Contractor may store materials on Site with prior written approval by the Owner, all material shall remain under Contractor's control and Contractor shall remain liable for any damage to the materials. Should the Project Site not have storage area available, the Contractor shall provide for off-site storage at no cost to Owner.
- G. When any room in Project is used as a shop or storeroom, the Contractor shall be responsible for any repairs, patching, or cleaning necessary due to that use. Location of storage space shall be subject to prior written approval by Owner.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers listed in various sections of Contract Documents are names of those manufacturers that are believed to be capable of supplying one or more of items specified therein.
- B. The listing of a manufacturer does not imply that every product of that manufacturer is acceptable as meeting the requirements of the Contract Documents.

2.2 FACILITIES AND EQUIPMENT

- A. Contractor shall provide, install, maintain, and operate a complete and adequate facility for handling, the execution, disposal, and distribution of material and equipment as required for proper and timely performance of Work connected with Contract.

2.3 MATERIAL REFERENCE STANDARDS

- A. Where material is specified solely by reference to "standard specifications" and if requested by Owner, Contractor shall submit for review data on actual material proposed to be incorporated into Work of Contract listing name and address of vendor, manufacturer, or producer, and trade or brand names of those materials, and data substantiating compliance with standard specifications.

PART 3 - EXECUTION

3.1 WORKMANSHIP

- A. Where not more specifically described in any other Contract Documents, workmanship shall conform to methods and operations of best standards and accepted practices of trade or trades involved and shall include items of fabrication, construction, or installation regularly furnished or required for completion (including finish and for successful operation, as intended).
- B. Work shall be executed by trade persons skilled in their respective lines of Work. When completed, parts shall have been durably and substantially built and present a neat appearance.

3.2 COORDINATION

- A. Contractor shall coordinate installation of Work so as to not interfere with facility operations.. Adjustment or rework because of Contractor's failure to coordinate will be at no additional cost to Owner.
- B. Contractor shall examine in-place work for readiness, completeness, fitness to be concealed or to receive other work, and in compliance with Contract Documents. Concealing or covering Work constitutes acceptance of additional cost which will result should in-place Work be found unsuitable for receiving other Work or otherwise deviating from the requirements of the Contract Documents.

3.3 COMPLETENESS

- A. Contractor shall provide all portions of the Work, unless clearly stated otherwise, installed complete and operational with all elements, accessories, anchorages, utility connections, etc., in manner to assure well-balanced performance, in accordance with manufacturer's recommendations and by Contract Documents. For example, electric water coolers require water, electricity, and drain services; roof drains require drain system; sinks fit within countertop; HVAC equipment requires controls, electricity, water, air, condensate drains, etc. Terms such as "installed complete," "operable condition," "for use intended," "connected to all utilities," "terminate with proper cap," "adequately anchored," "patch and refinish," "to match similar", "commissioned" should be assumed to apply in all cases, except where completeness of functional or operable condition is specifically stated as not required. If necessary Subcontractor or General Contractor shall hire outside contractors to complete the requirements.

3.4 APPROVED INSTALLER OR APPLICATOR

- A. Installation by a manufacturer's approved installer or applicator is an understood part of Specifications and only approved installer or applicator is to provide on-site Work where specified manufacturer has on-going program of approving (i.e. certifying, bonding, re-warranting) installers or applicators. Newly established relationships between a manufacturer and an installer or applicator who does not have other approved applicator work in progress or completed is not approved for this Project.

3.5 MANUFACTURER'S RECOMMENDATIONS

- A. All installations shall be in accordance with manufacturer's published recommendations and specific written directions of manufacturer's representative. Should Contract Documents differ from recommendations of manufacturer or directions of his representative, Contractor shall analyze differences, make recommendations to the Owner and the Architect in writing, and shall not proceed until interpretation or clarification has been issued by the Owner and/or the Architect.

END OF DOCUMENT

QUALITY REQUIREMENTS

Part 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

This Section includes administrative and procedural requirements for quality assurance and quality control. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Services performed before and during Work execution to guard against defects and ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Services performed during and after Work execution to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by Architect.
- A. Mockups: Full-size, physical example assemblies to illustrate finishes and materials; to verify selections made under Sample submittals; to review construction, coordination or testing; and to establish the standard by which the Work will be judged. They are not Samples.
- B. Testing Agency: An entity engaged to perform specific tests, inspections, or both.

1.4 SUBMITTALS

- A. Qualification Data for testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications by a recognized authority.
- B. Submit certified written reports that include: (1) Date of issue; (2) Project title and number; (3) Name, address, and telephone number of testing agency; (4) Dates and locations of tests or inspections; (5) Environmental conditions during test; (6) Description of the test and inspection method; (7) Identification of product and Specification Section; (8) Test and inspection results and state whether the Work complies with Contract Documents; (9) Name and signature of laboratory inspector.
- C. Submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.5 QUALITY ASSURANCE

- A. Fabricator: A firm experienced in producing products and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- B. Manufacturer's Representative: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products.
- C. Installer: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- D. Manufacturer: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.
- E. Professional Engineer: A professional engineer who is legally qualified to practice in jurisdiction at Project's location and who is experienced in providing engineering services of the kind indicated.
- F. Testing Agency: An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.
- G. Preconstruction Testing: Performed by testing agency, compliance with specified requirements for performance and test methods. Testing agency submit a certified written report of each test to Architect with copy to Contractor. Contractor responsibilities include:
 - 1. Provide test specimens representative of proposed construction. Provide sizes and configurations of assemblies to adequately demonstrate capability of product.
 - 2. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - 3. Fabricate and install test assemblies using installers perform the same tasks for Project.
 - 4. When testing is completed, remove assemblies; do not reuse materials on Project.
- H. Mockups: Install mockups at the site as required by individual specifications Sections. Before installing portions of the Work requiring mockups, build mockups and comply with the following requirements:
 - 1. Build mockups in location and of size indicated or as directed by Architect.
 - 2. Notify Architect seven (7) days in advance of date when mockups will be constructed.
 - 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 4. Obtain Architect's approval of mockups before starting work, fabrication, or construction.
 - 5. Remove and reapply / reinstall mockups until they are approved by Architect.
 - 6. Maintain mockups undisturbed as a standard for judging the completed Work.
 - 7. Approved mockup may become part of the completed Work if undisturbed at time of Substantial Completion.
 - 8. Demolish and remove mockups when directed, unless otherwise indicated.
 - 9. Coordinate with other related work.

1.7 QUALITY CONTROL

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions and workmanship, to produce Work of specified quality. Comply fully with manufacturer's instructions, including handling, storage, application, and other steps in sequence. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.
- B. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

Comply with current local, state, and federal regulations and requirements. Perform Work with Lead Safe Practices.

- C. Perform Work by persons qualified to produce workmanship of specified quality and to assure finished work of first class quality and durability. All materials shall be applied evenly with proper film thickness and free of runs, rags, skips and other defects. All Work shall be done under favorable weather conditions and suitably protected from the weather recommended by the manufacturer.
- D. Contractor Responsibilities: Provide quality-control services specified and required by authorities having jurisdiction.
 - 1. If indicated as Contractor's responsibility, engage a qualified testing agency to perform services. Contractor shall not employ the same entity engaged by Owner.
 - 2. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 - 3. Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.
 - 4. Provide retesting and reinspecting, for construction that revised or replaced Work that failed to comply with requirements established by the Contract Documents.
 - 5. Notify Owner, Architect, testing agencies, and each involved party where and when the tests and inspections will be performed.
- E. Owner may engage a testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner.

1.8 REFERENCES

Conform to reference standard by date of issue current on date of Construction Documents, unless specified otherwise in relevant specification section.

2.1 PRODUCTS – (NOT USED)

3.1 EXECUTION

3.2 REPAIR AND PROTECTION

On completion of testing and inspecting, repair damaged construction and restore substrates and finishes. Provide materials and comply with installation requirements specified in other Sections of these Specifications. Restore patched areas and extend restoration into adjoining areas in a manner that eliminates evidence of patching. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services. Comply with the Contract Document requirements for Section 017329 "Cutting and Patching."

END OF DOCUMENT

DELIVERY, STORAGE AND HANDLING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Site Access, Conditions and Requirements;
- B. Special Conditions.

1.2 PRODUCTS

- A. Products are as defined in the General Conditions.
- B. Contractor shall not use and/or reuse materials and/or equipment removed from existing Premises, except as specifically permitted by the Contract Documents.
- C. Contractor shall provide interchangeable components of the same manufacturer, for similar components.

1.3 TRANSPORTATION AND HANDLING

- A. Contractor shall transport and handle Products in accordance with manufacturer's instructions.
- B. Contractor shall promptly inspect shipments to confirm that Products comply with requirements, quantities are correct, and products are undamaged.
- C. Contractor shall provide equipment and personnel to handle Products by methods to prevent soiling, disfigurement, or damage.

1.4 STORAGE AND PROTECTION

- A. Contractor shall store and protect Products in accordance with manufacturer's instructions, with seals and labels intact and legible. Contractor shall store sensitive products in weather-tight, climate controlled enclosures.
- B. For exterior storage of fabricated Products, Contractor shall place on sloped supports, above ground.
- C. Contractor shall provide off-site storage and protection when Site does not permit on-site storage or protection.
- D. Contractor shall cover products subject to deterioration with impervious sheet covering and provide ventilation to avoid condensation.
- E. Contractor shall store loose granular materials on solid flat surfaces in a well-drained area and prevent mixing with foreign matter.

- F. Contractor shall provide equipment and personnel to store Products by methods to prevent soiling, disfigurement, or damage.
- G. Contractor shall arrange storage of Products to permit access for inspection and periodically inspect to assure Products are undamaged and are maintained under specified conditions.

PART 2 – PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF DOCUMENT

CUTTING AND PATCHING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Inspector, Inspections, and Tests, Integration of Work, Nonconforming Work, and Correction of Work, and Uncovering Work;
- B. Special Conditions;
- C. Hazardous Materials Procedures and Requirements;
- D. Hazardous Materials Certification;
- E. Lead-Based Paint Certification;
- F. Imported Materials Certification.

1.2 CUTTING AND PATCHING

- A. Contractor shall be responsible for all cutting, fitting, and patching, including associated excavation and backfill, required to complete the Work or to:
 - 1. Make several parts fit together properly.
 - 2. Uncover portions of Work to provide for installation of ill-timed Work.
 - 3. Remove and replace defective Work.
 - 4. Remove and replace Work not conforming to requirements of Contract Documents.
 - 5. Remove Samples of installed Work as specified for testing.
 - 6. Provide routine penetrations of non-structural surfaces for installation of piping and electrical conduit.
 - 7. Provide penetrations through hazardous materials containing non-structural surfaces or required disturbance of hazardous materials provided the hazardous material is identified in the contract documents.
 - 8. Attaching new materials to existing remodeling areas - - including painting (or other finishes) to match existing conditions.
- B. In addition to Contract requirements, upon written instructions from the Owner, Contractor shall uncover Work to provide for observations of covered Work in accordance with the Contract Documents; remove samples of installed materials for testing as directed by Owner; and remove Work to provide for alteration of existing Work.
- C. Contractor shall not cut or alter Work, or any part of it, in such a way that endangers or compromises the integrity of the Work, the Project, or work of others.

1.3 SUBMITTALS

- A. Prior to any cutting or alterations that may affect the structural safety of Project, or work of others, and well in advance of executing such cutting or alterations, Contractor shall submit written notice to Owner pursuant to the applicable notice provisions of the Contract Documents, requesting consent to proceed with the cutting or alteration, including the following:
 - 1. The Work of the Owner or other trades.
 - (1) Structural value or integrity of any element of Project.
 - (2) Integrity or effectiveness of weather-exposed or weather-resistant elements or systems.
 - (3) Efficiency, operational life, maintenance or safety of operational elements.
 - (4) Visual qualities of sight-exposed elements.
- B. Contractor's Request shall also include:
 - (1) Identification of Project.
 - (2) Description of affected Work.
 - (3) Necessity for cutting, alteration, or excavations.
 - (4) Affects of Work on Owner, other trades, or structural or weatherproof integrity of Project.
 - (5) Description of proposed Work:
 - (a) Scope of cutting, patching, alteration, or excavation.
 - (b) Trades that will execute Work.
 - (c) Products proposed to be used.
 - (d) Extent of refinishing to be done.
 - (6) Alternates to cutting and patching.
 - (7) Cost proposal, when applicable.
 - (8) The scheduled date the Contractor intends to perform the Work and the duration of time to complete the Work.
 - (9) Written permission of other trades whose Work will be affected.

1.4 QUALITY ASSURANCE

- A. Contractor shall ensure that cutting, fitting, and patching shall achieve security, strength, weather protection, appearance for aesthetic match, efficiency, operational life, maintenance, safety of operational elements, and the continuity of existing fire ratings.
- B. Contractor shall ensure that cutting, fitting, and patching shall successfully duplicate undisturbed adjacent profiles, materials, textures, finishes, colors, and that materials shall match existing

construction. Where there is dispute as to whether duplication is successful or has been achieved to a reasonable degree, the Owner's decision shall be final.

1.5 PAYMENT FOR COSTS

- A. Cost caused by ill-timed or defective Work or Work not conforming to Contract Documents, including costs for additional services of the Owner, its consultants, including but not limited to the Construction Manager, the Architect, the Project Inspector(s), Engineers, and Agents, will be paid by Contractor and/or deducted from the Contract by the Owner.
- B. Owner shall only pay for cost of Work if it is part of the original Contract Price or if a change has been made to the contract in compliance with the provisions of the General Conditions. Cost of Work performed upon instructions from the Owner, other than defective or nonconforming Work, will be paid by Owner on approval of written Change Order. Contractor shall provide written cost proposals prior to proceeding with cutting and patching.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Contractor shall provide for replacement and restoration of Work removed. Contractor shall comply with the Contract Documents and with the Industry Standard(s), for the type of Work, and the Specification requirements for each specific product involved. If not specified, Contractor shall first recommend a product of a manufacturer or appropriate trade association for approval by the Owner.
- B. Materials to be cut and patched include those damaged by the performance of the Work.

PART 3 – EXECUTION

3.1 INSPECTION

- A. Contractor shall inspect existing conditions of the Site and the Work, including elements subject to movement or damage during cutting and patching, excavating and backfilling. After uncovering Work, Contractor shall inspect conditions affecting installation of new products.
- B. Contractor shall report unsatisfactory or questionable conditions in writing to Owner as indicated in the General Conditions and shall proceed with Work as indicated in the General Conditions by Owner.

3.2 PREPARATION

- A. Contractor shall provide shoring, bracing and supports as required to maintain structural integrity for all portions of the Project, including all requirements of the Project.
- B. Contractor shall provide devices and methods to protect other portions of Project from damage.
- C. Contractor shall, provide all necessary protection from weather and extremes of temperature and humidity for the Project, including without limitation, any work that may be exposed by cutting and patching Work. Contractor shall keep excavations free from water.

3.3 ERECTION, INSTALLATION AND APPLICATION

- A. With respect to performance, Contractor shall:
 - (1) Execute fitting and adjustment of products to provide finished installation to comply with and match specified tolerances and finishes.
 - (2) Execute cutting and demolition by methods that will prevent damage to other Work, and provide proper surfaces to receive installation of repairs and new Work.
 - (3) Execute cutting, demolition excavating, and backfilling by methods that will prevent damage to other Work and damage to settlement.
- B. Contractor shall employ original installer or fabricator to perform cutting and patching for:
 - (1) Weather-exposed surfaces and moisture-resistant elements such as roofing, sheet metal, sealants, waterproofing, and other trades.
 - (2) Sight-exposed finished surfaces.
- C. Contractor shall execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances, and finishes as shown or specified in the Contract Documents including, without limitation, the Drawings and Specifications.
- D. Contractor shall fit Work airtight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces. Contractor shall conform to all Code requirements for penetrations or the Drawings and Specifications, whichever calls for a higher quality or more thorough requirement. Contractor shall maintain integrity of both rated and non-rated fire walls, ceilings, floors, etc.
- E. Contractor shall restore Work which has been cut or removed. Contractor shall install new products to provide completed Work in accordance with requirements of the Contract Documents and as required to match surrounding areas and surfaces.
- F. Contractor shall refinish all continuous surfaces to nearest intersection as necessary to match the existing finish to any new finish.

END OF DOCUMENT

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS AND PROVISIONS

All Contract Documents should be reviewed for applicable provisions related to the provisions in this document, including without limitation:

- A. General Conditions, including, without limitation, Completion of Work;
- B. Special Conditions;
- C. Construction Facilities and Temporary Controls.
- D. Commissioning

1.2 CLOSEOUT PROCEDURES

- A. Contractor shall comply with all closeout provisions as indicated in the General Conditions.
- B. Contractor shall comply with all Commissioning requirements identified elsewhere.

1.3 FINAL CLEANING

- A. Contractor shall execute final cleaning prior to final inspection.
- B. Contractor shall clean interior and exterior glass and surfaces exposed to view; remove temporary labels, tape, stains, and foreign substances, polish transparent and glossy surfaces, wax and polish new vinyl floor surfaces, vacuum carpeted and soft surfaces.
- C. Contractor shall clean equipment and fixtures to a sanitary condition.
- D. Contractor shall replace filters of operating equipment.
- E. Contractor shall clean debris from roofs, gutters, down spouts, and drainage systems.
- F. Contractor shall clean Site, sweep paved areas, and rake clean landscaped surfaces.
- G. Contractor shall remove waste and surplus materials, rubbish, and construction facilities from the Site.

1.4 ADJUSTING

- A. Contractor shall adjust operating products and equipment to ensure smooth and unhindered operation.
- B. Record Documents and Shop Drawings: Contractor shall legibly mark each item to record actual construction, including:
 - 1. Measured depths of foundations in relation to finish floor datum.
 - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - (1) Field changes of dimension and detail.
 - (2) Details not on original Contract Drawings.
 - (3) Changes made by modification(s).
 - (4) References to related Shop Drawings and modifications.
- C. Owner will provide one set of reproducible drawings to Contractor.
- D. Contractor shall submit all required documents to Owner and/or Architect prior to or with its final Application for Payment.

1.5 INSTRUCTION OF OWNER PERSONNEL

- A. Before final inspection, at agreed upon times, Contractor shall instruct Owner's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. For equipment requiring seasonal operation, Contractor shall perform instructions for other seasons within six months.
- C. Contractor shall use operation and maintenance manuals as basis for instruction. Contractor shall review contents of manual with personnel in detail to explain all aspects of operation and maintenance.
- D. Contractor shall prepare and insert additional data in Operation and Maintenance Manual when need for such data becomes apparent during instruction.

1.6 SPARE PARTS AND MAINTENANCE MATERIALS

- A. Contractor shall provide products, spare parts, maintenance, and extra materials in quantities specified in the Specifications and in Manufacturer's recommendations.
- B. Contractor shall provide Owner all required Operation and Maintenance Data.

1.7 PUNCHLIST

- A. Prior to informing the Owner that the work is substantially complete the Contractor shall obtain from the IOR the written acknowledgment that all the IOR concerns have been addressed and prepare a list of incomplete items with indication when each item will be completed.
- B. Contractor shall submit to the Owner the list of incomplete items with the request for substantial completion inspection by the Owner and Architect. Owner and Contractor will coordinate the development of the Punchlist format of the incomplete items can be managed.
- C. Upon receipt of the Architect's Punchlist the contractor shall diligently pursue completion of each item. Disputed items shall be identified and handled separately in special meetings with the proper representation. The Owner has the right to identify overlooked items at any time, but will relinquish the right for 'finishes' upon occupancy of facilities by Owner personnel, if the item was not on the Punchlist.
- D. Periodically the Project Team shall meet and review the progress until all issues and items identified have been corrected.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF DOCUMENT

DEMOLITION, CUTTING & REMOVALS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Provision of demolition, cutting, and removal of existing construction where shown on the Drawings, as specified, and as needed to provide for new work. Work includes partial or complete demolition of designated existing improvements and removal of debris from site.
- B. Extent of demolition work shall be as follows:
 - 1. Wall, floor and framing members, finishes, fixtures, doors/frames/hardware, partial concrete/flooring slabs shall be completely removed. Designated relocation of light fixtures at existing ceilings intended to remain shall be protected. Provide abatement and/or encapsulation of friable materials at floors and ceilings around to meet all applicable environmental and safety codes and standards.
 - 2. Utility services to be removed or demolished shall be disconnected, cut, and capped according to engineering drawings.
- C. Restoration of damaged existing structures and finishes which were designated to remain in place, due to demolition and removal operations.

1.2 RELATED SECTIONS

- A. Related Work Specified Elsewhere:
 - 1. Section 01 04 50: Patching and Matching
 - 2. Division 23: Mechanical
 - 3. Division 26: Electrical

1.3 REFERENCES

- A. The work of this Section shall comply with the requirements of the following published specifications, standards, tests, and recommended methods of trade or industry, except where more stringent requirements are included in the Contract Documents:
 - 1. American National Standards Institute (ANSI):
 - a. ANSI A10.6 Safety Requirements for Demolition Operations
 - 2. California Code of Regulations (CCR):
 - a. CCR Title 8, Chapter 4, Subchapter 4 – Construction Safety Orders
 - b. CCR Title 24, Part 2, California Building Code, Chapter 33, Section 3303, Protection of Pedestrians during Construction or Demolition

1.4 PERMITS

- A. Obtain all special permits and licenses and give all notices required for performance and completion of the demolition and removal work, hauling, and disposal of debris.

1.5 SUBMITTALS

- A. Demolition Plan - Submit a comprehensive demolition plan, describing the proposed sequence, methods, and equipment for demolition, removal, and disposal of structure(s); include salvage if required. Do not proceed with demolition until the designated approval authority has approved the demolition plan.

- B. Shop Drawings - Include drawings in plan of all structures to be demolished. Indicate stages or phases of the demolition work.
- C. Permits - Submit copies of demolition, hauling, and debris disposal permits and notices for record purposes. Include description of proposed haul routes.

1.6 QUALITY ASSURANCE

- A. Requirements of Regulatory Agencies: All work shall comply with rules and regulations of FED/OSHA 29 CFR 1926, and other governmental agencies having jurisdiction.
- B. Legally dispose of all demolished materials off the site.

1.7 PROJECT CONDITIONS

- A. Disposition of Existing Improvements:
 - 1. Materials forming portions of permanent structure designated for demolition shall become the Contractor's property, and the Contractor shall be responsible for their removal unless specifically noted otherwise.
 - 2. Personal property and movable furniture remain the Owner's property to be removed by the Owner. Consider items not claimed by the Owner as debris.
 - 3. Disconnect, carefully remove, and store at the Owner-designated locations within the Limits of Work the following items which the Owner will dispose of either off or on site in such manner as to not interfere with the Contractor's operations.
 - a. All equipment items unless otherwise noted.
- B. Protection:
 - 1. Erect and maintain temporary bracing, shoring, lights, barricades (except construction barricades for subsequent new construction), warning signs, and guards necessary to protect the public, workers, finishes and improvements to remain, and adjoining property from damage, all in accordance with applicable regulations.
 - 2. Operate lights during hours from dusk to dawn each day and as otherwise required.
 - 3. Protect utilities facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by demolition operations.
 - 4. Protection of Utilities: Protect active sewer, water, gas, electric, and other utilities; and venting and communication lines indicated or, when not indicated, found or otherwise made known to the Contractor before or during demolition work.
 - 5. Maintain existing utilities and protect from damage as necessary to satisfy the requirements of jurisdictional utility companies and related codes and regulations.
 - 6. Make arrangements with affected utility companies and Owners to provide the information and services necessary to coordinate and complete the Work.
 - 7. Do not disconnect or shut down any part of the existing utilities and services, except by permission of authorities having jurisdiction. Submit schedule of estimated shut-down time in order to obtain such permission, and notify all interested parties, neighbors, utilities, and municipal and county authorities, as required.

8. Utilities to be removed shall not be removed until shut-down time can be kept to a minimum. Do not remove an existing utility line or service until the replacement line, crossover, or capping is ready to be performed.
 9. Notify the Engineer and utility owners 72 hours before performing any excavation work. Notify affected utilities by calling Underground Service Alert (USA) at 1-800-227-2600. Contact utility owners not covered by USA, by calling the affected utility owners directly.
 10. Protect active underground utilities from damage. If underground utilities are damaged in any way, notify the Engineer and affected utilities immediately for corrective action.
 11. Existing utilities and sewer or exhaust systems below grade are located from existing documents and from surface facilities such as soffits, valve boxes, area drains, and other such surface fixtures.
 12. If existing active services encountered are not indicated or otherwise made known to the Contractor and interfere with the permanent facilities under construction, notify the PW coordinator in writing, requesting instructions on their disposition. Take immediate steps to ensure that the service provided is not interrupted, and do not proceed with the work until written instructions are received from the Engineer.
- C. Noise and Dust Abatement: Provide continuous noise and dust abatement as required to prevent disturbance and nuisance to the public and workers and to the occupants of adjacent premises and surrounding areas. Dampen or cover areas affected by demolition operations as necessary to prevent dust nuisance.
- D. Scheduling:
1. Coordinate with the Owner in scheduling noisy, dirty, or wet work.
 2. Schedule work so that it is performed at the Owner's convenience to cause minimal interference with the Owner's normal operations.
 3. Obtain the Owner's approval of times scheduled for jackhammering.

PART 2 - PRODUCTS

2.1 MATERIALS, EQUIPMENT, AND FACILITIES

- A. MATERIALS, EQUIPMENT AND FACILITIES: Furnish all materials, tools, equipment, devices, appurtenances, facilities, and services as required for performing the demolition and removal work.

PART 3 - EXECUTION

3.1 GENERAL

- A. The use of explosives is not permitted.
- B. The Contract Drawings and related documents may not represent all surface conditions at the site and adjoining areas. The known surface conditions are as indicated, and shall be compared with actual conditions before commencement of work.
- C. Conduct demolition operations and the removal of debris to insure minimum interference with adjacent roads, streets, walks, and other adjacent occupied or used facilities.
- D. Conduct operations to prevent damage by falling debris or other cause to adjacent buildings, structures, and other facilities as well as persons.

- E. Promptly repair damages caused to adjacent facilities by demolition operations as directed by the Project Representative, and at no cost to the Owner.

3.2 EXAMINATION

- A. Examine the areas affected by the work of this Section and verify the following:
 - 1. Disconnection of utilities as required.
 - 2. Utilities serving occupied portions of buildings will not be disturbed.
 - 3. Removal by the Owner of the Owner's personal property, movable furniture, and equipment items not designated for relocation.
- B. Where existing conditions conflict with representations of the Contract Documents, notify the Architect and obtain clarification. See also inspection requirements under article 3.05 Field Quality Control.
- C. Do not start work until unsatisfactory conditions have been corrected.

3.3 PREPARATION

- A. Lay out cutting work at the jobsite and coordinate with the related work for which cutting is required.
- B. Review the proposed layout with the Architect prior to performing cutting operations.

3.4 CUTTING

- A. Make new openings neat; approximate the profiles shown.
- B. Do not cut or alter structural members without the authority of the Contract Documents or the Architect's direction.
- C. Take care not to damage reinforcing or structural steel to remain.
- D. Concrete and Masonry: Cut new openings in concrete and masonry by coring, saw-cutting, and torch. Run-bys of saw will not be permitted.

3.5 REMOVALS

- A. Remove salvage and debris from the site as they accumulate. Do not permit presence of debris to delay the progress of related work.
- B. Nothing to be removed from site shall be stored, sold, or burned on site.

3.6 SITE DEMOLITION

- A. Disconnect and/or remove sections of underground utilities. Remove material not intended to remain as part of new facilities.
- B. Remove demolished items, trash and debris from the site.
- C. Remove all existing flooring required for sub-grade.
- D. Protect existing features which are to remain.
- E. Protect above and below grade utilities which are to remain.
- F. Control dust, dirt, noise, vibration, security, utility shutdowns, and emergency egress during all construction operations.

- H. Re-grade existing profiles to conform to indicated contours and to provide surface drainage.
- I. All planting areas shall be protected from contamination and construction debris during construction. This includes but is not necessarily limited to protection from construction debris, concrete residue, paint and construction solvents, etc. at no additional expense to the City.

3.7 INTERIOR DEMOLITION

- A. Operational procedures shall be in accordance with the approved Demolition Plan.
- B. Demolish wall in small sections. Perform demolition with small tools as much as possible. C.

Cap or plug sanitary sewer in accordance with the utility owner's standard details and instructions. Cap and plug pipe and other conduits abandoned due to demolition, with approved type caps and plugs as required by the utility owners.
- D. Demolition, and removals as required to protect damage to adjoining properties.

3.8 RESTORATION OF EXISTING STRUCTURES AND FACILITIES

- A. All damage to existing structures and facilities, including utilities, which are to remain in place, shall be repaired to a condition equal to that existing prior to the beginning of demolition and removal operations. The cost of repairing existing structures and facilities damaged by the Contractor's operations shall be at the Contractor's expense.

3.9 FIELD QUALITY CONTROL

- A. The Contractor shall:
 - 1. Before performing work, make inspection and report defects and structural weakness of structures to be partially demolished, cut, or removed, of adjacent structures, and of improvements remaining.
 - 2. After performing work, make inspection and report defects and structural weakness of the structures partially demolished, cut, or removed, of adjacent structures, and of improvements remaining.
- B. The Owner will accompany the Contractor before and after performance of work to confirm the physical condition of the structures and improvements involved.

3.10 CLEAN-UP

- A. The Contractor shall be responsible for disposing of debris from demolition and salvage operations. Disposal of debris shall be done legally off the property, except that specifically requested to salvage by the owner.
- B. During demolition operations, the area shall be wet/vented/vacuum down to keep dust in the air to a minimum.
- C. During demolition operations, aisle/walks shall be maintained broom-clean.
- D. The site shall be left in a clean condition, daily.

END OF SECTION

OLD FORMED METAL

FRAMING

- A. Load bearing formed steel stud wall framing.
- B. Non-load bearing formed steel stud flat strap braced wall framing.
- C. Formed steel joist framing and bridging.
- D. Water-resistive barrier over sheathing.

1.2 RELATED SECTIONS

- A. Section 05 12 00 - Structural building framing.
- B. Section 06 10 00 - Rough Carpentry: Wood blocking and miscellaneous framing.
- C. Section 07 21 00 - Thermal Insulation: Insulation within framing members & Exterior wall insulation.
- D. Section 07 41 00 - Metal Wall Panels
- E. Section 07 25 00 - Weather Barriers: Weather barrier over sheathing
- F. Section 07 90 05 - Joint Sealers.
- G. Section 09 26 00 - Gypsum Board Assemblies: Lightweight, non-load bearing metal stud framing.
- H. Section 09 51 10 - Suspended Acoustical Ceilings: Ceiling suspension system.

1.3 REFERENCES

- A. AISI SG02-1 - North American Specification for the Design of Cold-Formed Steel Structural Members; American Iron and Steel Institute; 2001 with 2004 supplement. (Replaced SG-971)
- B. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2004.
- C. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip process; 2004a.
- D. ASTM A1011/A 1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability and Ultra-High Strength; 2007.
- E. ASTM C 955 - Standard Specification for Load-Bearing (Transverse and Axial) Steel Studs, Runners (Tracks), and Bracing or Bridging for Screw Application of Gypsum Panel Products and Metal Plaster Bases; 2003.
- F. ASTM C 1007 - Standard Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories; 2004.
- G. ASTM C 1177/C 1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2006.
- H. AWS D1.1/D1.1M - Structural Welding Code - Steel; American Welding Society; 2006.
- I. PS -1 - Structural Plywood; 2007.
- J. SSPC-Paint 15 - Steel Joist Shop Primer; Society for Protective Coatings; 1999 (Ed. 2004).

- K. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); Society for Protective Coatings; 2002 (Ed. 2004).
- L. SSMA - Steel Stud Manufacturers Association

1.4 SYSTEM DESCRIPTION

- A. Design wall system to provide for movement of components without damage, failure of joint seals, undue stress on fasteners, or other detrimental effects when subject to seasonal or cyclic day/night temperature ranges.
- B. Design system to accommodate construction tolerances, deflection of building structural members, and clearances of intended openings.

1.5 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on standard framing members; describe materials and finish, product criteria, limitations.
- C. Product Data: Provide manufacturer's data on factory-made framing connectors, showing compliance with requirements.
- D. Shop Drawings: Indicate component details, framed openings, bearing, anchorage, loading, welds, and type and location of fasteners, and accessories or items required of related work.
 - 1. Indicate exterior stud layout.
 - 2. Describe method for securing studs to tracks and for welded framing connections.
- E. Manufacturer's Installation Instructions: Indicate special procedures, conditions requiring special attention.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, and with minimum three years of documented experience.
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum three years of experience.

1.7 MOCK-UP

- A. Provide mock-up of exterior framed wall, including components specified elsewhere, such as insulation, sheathing, window frame, door frame, exterior wall finish, and interior wall finish.
- B. Mock-Up Size:
- C. Location: As directed.
- D. Mock-up may remain as part of the Work.

1.8 PROJECT CONDITIONS

- A. Verify that field measurements are as indicated on shop drawings.
- B. Coordinate work of this section with the placement of components within the stud framing system as specified in Section 01 28 00.

1.9 REGULATORY REQUIREMENTS

- A. Conform to the California Building Code, latest adopted edition with Amendments.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Metal Framing, Connectors, and Accessories:
 - 1. Dietrich Metal Framing: www.dietrichindustries.com.
 - 2. MarinoWare; www.marinoware.com.
 - 3. The Steel Network Inc: www.SteelNetwork.com.
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Accessories and Connectors:
 - 1. Dietrich Metal Framing: None – N/A: www.dietrichindustries.com
 - 2. The Steel Network, Inc. None – N/A: www.steelNetwork.com
 - 3. Clark Western Building Systems
 - 4. Substitutions: See Section 01 60 00 – Product Requirements
- C. Exterior Sheathing:
 - 1. Temple Inland "GreenGlass"
 - 2. Substitutions; See Section 01 60 00 – Product Requirements
 - 3. See 06 10 00 Rough Carpentry for sheathing materials where in contact with roofing membrane.

2.2 FRAMING SYSTEM

- A. Provide primary and secondary framing members, bridging, bracing, plates, gussets, clips, fittings, reinforcements and fastenings as required to provide a complete framing system.
- B. Provide material with highest recycled content available, a minimum of 25%.

2.3 FRAMING MATERIALS

- A. Studs and Tracks: ASTM C 955; studs formed to channel, "C", or "Sigma" shape with punched web; U-shaped track in matching nominal width and compatible height.
 - 1. Gauge and depth: As indicated on the drawings.
 - a. For those sizes and spacings shown only schematically on drawings, contractor shall selected stud gauge based on standardized tables for that application.
 - b. An metal framing at the fenestrations shall be minimum 16 gauge if not specified otherwise.
 - 2. Galvanized in accordance with ASTM A 653/A 653M G60/Z180 coating.
 - 3. Provide components fabricated from ASTM 1003/A 1003M steel.
- B. Z-Furring: ASTM C 955; studs formed to zee "Z" shape, non-punched web, non-standard depth of 3"
 - 1. Gauge and depth: As indicated on the drawings. Any metal framing at the fenestrations shall be minimum 16 gauge if not specified otherwise.
 - 2. Galvanized in accordance with ASTM A 653/A 653M G90/Z275 coating.
- C. Framing Connectors: Factory-made formed steel sheet, ASTM A 653/A 653M SS Grade 50, with G60/Z180 hot dipped galvanized coating and factory punched holes.
 - 1. Structural Performance: Maintain load and movement capacity required by applicable code, when evaluated in accordance with AISI North American Specification for the Design of Cold Formed Steel Structural Members; minimum 16 gauge, 0,06 inch (1.5mm) thickness.
 - 2. Movement Connections: Provide mechanical anchorage devices that accommodate movement using slotted holes, screws and anti-friction bushings, while maintaining structural performance of framing. Provide movement connections where indicated on drawings.
 - a. Where continuous studs bypass elevated floor slab, connect stud to slab in manner allowing vertical and horizontal movement of slab without affecting studs, allow for minimum movement of 1/2 inch (13 mm).
 - b. Provide top track preassembled with connection devices spaced to fit stud spacing indicated on drawings; minimum track length of 12 feet (3660 mm).
 - 3. Provide non-movement connections for tie-down to foundation, floor-to-floor tie-down, roof-to-wall tie-down, joist hangers, gusset plates, and stiffeners.

2.4 WALL & SOFFIT SHEATHING

- A. Sheathing: Glass mat-faced, fire-rated Gypsum.
 - 1. Properties: Enhanced mold resistance per ASTM D3273. Glass facers on both sides. Water absorption less than 10 percent per ASTM C473.
 - 2. Thickness: 1/2 inch.
 - 3. Configuration: 48 inches wide by length required with square edges for horizontal applications.
 - 4. SCS Certified with minimum of 90% recycled content.
 - 5. Source from closest manufacturing facility to site.
- B. See 06 10 00 Rough Carpentry for sheathing materials to be used at locations in contract with roofing membrane.

2.5 ACCESSORIES

- A. Bracing, Furring, Bridging: Formed sheet steel, thickness determined for conditions encountered; finish to match framing components.
- B. Plates, Gussets, Clips: Formed Sheet Steel, thickness determined for conditions encountered; finish to match framing components.
- C. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.
- D. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic, complying with VOC limitations of authorities having jurisdiction.
- E. Water-Resistive Barrier As specified in Section 07 25 00.

2.6 FASTENERS

- A. Self-Drilling, Self-Tapping Screws, Bolts, Nuts and Washers: Hot dip galvanized per ASTM A 153/A 153M.
- B. Anchorage Devices: Power actuated.
- C. Welding: In conformance with AWS D1.1.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that substrate surfaces and building framing components are ready to receive work.
- B. Verify field measurements and adjust installation as required.

3.2 INSTALLATION OF EXTERIOR STUDS

- A. Install components in accordance with manufacturers' instructions and ASTM C 1007 requirements.
- B. Align floor and ceiling tracks; locate to wall layout. Secure in place with fasteners at maximum 24 inches (600 mm) on center. Coordinate installation of sealant with floor and ceiling tracks.
- C. Place studs at spacing indicated on drawings; not more than 2 inches (50 mm) from abutting walls and at each side of openings. Connect studs to tracks using clip, tie and fastener methods.
- D. Construct corners using minimum of three studs. Install double studs at wall openings, door and window jambs.
- E. Install load bearing studs full length in one piece. Splicing of studs is not permitted.
- F. Install load bearing studs, brace, and reinforce to develop full strength and achieve design requirements.
- G. Coordinate placement of insulation in multiple stud spaces made inaccessible after erection.

- H. Install intermediate studs above and below openings to align with wall stud spacing.
- I. Provide deflection allowance in stud track, directly below horizontal building framing at non-load bearing framing.
- J. Attach furring channels to studs for attachment of fixtures anchored to walls.
- K. Install framing between studs for attachment of mechanical and electrical items, and to prevent stud rotation.
- L. Touch-up field welds and damaged galvanized surfaces with primer.

3.3 INSTALLATION OF EXTERIOR Z-FURRING

- A. Install components in accordance with manufacturers' instructions, and ASTM C 1007 requirements.
- B. Align and locate to wall layout. Install plumb, shim with approved method. Secure in place with fasteners at maximum 24 inches (600 mm) on center.
- C. Install studs full length in one piece. Splicing of studs is not permitted.
- D. Install intermediate studs above and below openings to align with wall stud spacing.
- E. Attach cross furring channels for attachment of fixtures anchored to walls and attachment of mechanical and electrical items.
- F. Touch-up field welds and damaged galvanized surfaces with primer.

3.4 WALL SHEATHING

- A. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using self-tapping screws.
 - 1. Place water-resistive barrier horizontally over wall sheathing, weather lapping edges and ends.

3.5 ERECTION TOLERANCES

- A. Maximum Variation from True Position: 1/4 inch.
- B. Maximum Variation of any Member from Plane: 1/4 inch.

END OF SECTION

ROUGH CARPENTRY

- 1.1 SECTION INCLUDES: Provision of rough carpentry items where shown on the Drawings, as specified, and as needed to provide a complete and proper installation including, but not limited to the following:
- A. Engineered wood products including plywood sheathing, gusset plates and/or oriented strand board.
 - B. Wood furring, grounds, nailers, shims, and blocking.
 - C. Framing connectors and hardware.
 - D. Telephone and electrical panel boards.
 - E. Concealed wood blocking for support of toilet and bath accessories, wall cabinets, and other wall-mounted equipment.
 - F. Miscellaneous wood nailers, framing, sheathing and furring strips.
 - G. Preservative treatment of wood.
 - H. Fire retardant treatment of wood.
- 1.2 RELATED SECTIONS
- A. Section 05 10 00 - Structural Metal Framing
 - B. Section 05 50 00 - Metal Fabrications
 - C. Section 06 20 00 - Architectural Woodwork
 - D. Section 06 41 13 - Wood Veneer Faced Architectural Cabinets
 - E. Section 07 21 20 - Board and Batt Insulation: Anchorage of mineral wool insulation.
 - F. Section 07 62 00 – Sheet Metal Flashing and Trim
 - G. Section 08 51 13 - Aluminum Window
 - H. Section 08 91 19 - Fixed Louvers
- 1.3 REFERENCES
- A. The American Plywood Association (APA) U.S. Product Standard PS 1-95: "For Construction & Industrial Plywood with Typical APA Trademarks."
 - B. American Wood Preservers Association (AWPA):
 - 1. AWPA C2 - Lumber, Timber, Bridge Ties and Mine Ties -- Preservative Treatment by Pressure Processes; American Wood-Preservers' Association; 2002.
 - 2. AWPA C9 - Plywood -- Preservative Treatment by Pressure Processes; American Wood-Preservers' Association; 2003.
 - 3. AWPA C20 - Structural Lumber -- Fire Retardant Treatment by Pressure Processes; American Wood-Preservers' Association; 2002.
 - 4. AWPA C27 - Plywood - Fire-Retardant Treatment by Pressure Processes; American

5. AWPA U1 - Wood - Preservers' Association; 2002.
Use Category System: User Specification for Treated Wood; American Wood-Preservers' Association; 2005.
- C. Lumber: Comply with American Softwood PS-20-70 lumber standard provide lumber species complying with grading rules of the Douglas Fir Western Lumber Grading Rules, published by Western Wood Products or standard Grading Rules for West Coast Lumber, No. 16.
- D. American Society for Testing and Materials (ASTM):
1. ASTM C 1177/C 1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2004.
 2. ASTM C 1396/C 1396M - Standard Specification for Gypsum Board; 2004.
 3. ASTM D 2898 - Standard Test Methods for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing; 1994 (Re-approved 2004).
 4. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2005.
- E. American Forest & Paper Association (AF & PA) and National Design Specifications for Wood Construction.
- F. AF & PA's Wood Frame Construction Manual for One- and Two- Family Dwellings.
- G. PS 1 - Construction and Industrial Plywood; National Institute of Standards and Technology (Department of Commerce); 1995.
- K. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology (Department of Commerce); 2005.
- L. WWPA G-5 - Western Lumber Grading

1.4 SUBMITTALS

- A. Product data. Unless otherwise indicated, submit the following for each type of product provided under work of this Section:
1. Recycled Content:
 - a. Engineered Wood Products:
 - 1) Indicate recycled content: indicate percentage of pre-consumer and post consumer recycled content per unit of product.
 - 2) Indicate relative dollar value of recycled content product to total dollar value of product included in project.
 - 3) If recycled content product is part of an assembly, indicate the percentage of recycled content product in the assembly by weight.
 - 4) If recycled content product is part of an assembly, indicate relative dollar value of recycled content product to total dollar value of assembly.
 - b. Salvaged Lumber:
 - 1) Provide documentation certifying products are from recovered lumber sources.
 2. Local/Regional Materials:
 - a. Sourcing location(s): Indicate location of extraction, harvesting, and recovery; indicate distance between extraction, harvesting, and recovery and the project site.
 - b. Manufacturing location(s): Indicate location of manufacturing facility; indicate distance between manufacturing facility and the project site.
 - c. Product Value: Indicate dollar value of product containing local/regional materials; include materials cost only.
 - d. Product Component(s) Value: Where product components are sourced or manufactured in separate locations, provide location information for each component. Indicate the percentage by weight of each component per unit of product.

3. VOC data:
 - a. Adhesives:
 - 1) Submit manufacturer's product data for adhesives. Indicate VOC limits of the product. Submit MSDS highlighting VOC limits.
 - 2) Submit Green Seal Certification to GS-36 and description of the basis for certification.
 - b. Engineered Wood Products: Provide documentation that composite wood contains no added ureaformaldehyde resins.
 - 1) ANSI A208.1 – 1999, Particleboard
 - 2) ANSI A208.2 – 2002, Medium Density Fiberboard (MDF) for Interior Applications

B. Letter of Certification(s) for Sustainable Forestry:

1. Forest Stewardship Council (FSC): Provide letter of certification signed by lumber supplier. Indicate compliance with FSC "Principles for Natural Forest Management" and identify certifying organization.
 - a. Submit FSC certification numbers; identify each certified product on a line-item basis.
 - b. Submit copies of invoices bearing the FSC certification numbers.

1.5 QUALITY ASSURANCE

A. Comply with Title 24, Part 1 and 2, California Administrative Code.

B. Grading and Inspection:

1. Grade marking: All lumber shall be graded in accordance with the latest grading rules of the Lumber Manufacturer's Inspection bureau under whose jurisdiction the lumber is manufactured and sold. Each piece of lumber shall bear the grade and trademarks of a competent and reliable organization whose regular business is to establish lumber grades. West Coast Lumber Inspection Bureau Rules #17 Latest Edition shall govern grading of Douglas Fir, Hem Fir, Western Red Cedar, Spruce-Pine-Fir South. California Redwood Inspection Service Grading Rules, Latest Edition shall govern grading of redwood lumber and grading shall be done by the Redwood Inspection Service.
2. Certificate of Inspection: In lieu of the grade marking called for above, it will be acceptable if each shipment of lumber is accompanied by a certificate of inspection issued by a competent and reliable organization whose regular business it is to establish lumber grades.

C. Except when lower moisture content is required by grade specified at time of use, maximum moisture content of lumber shall not exceed 19 percent by weight.

1. Boards and dimension lumber 4 inches and thinner which include the designation "S-DRY" in grade stamp, will be considered to meet said moisture content requirements, if such lumber has been stored, transported or handled after grading to minimize exposure to conditions that could increase its moisture content.
2. Lumber certified as air dried to a moisture content not exceeding that specified will be considered to meet moisture content requirement, provided such lumber after being certified, has been stored, transported or handled in a manner to minimize exposure to conditions that could increase its moisture content and provided further, that each load delivered to job site is accompanied by such certification.

D. Lumber specified by grade to have moisture content below 19 percent shall be stored, transported and handled in a manner as to minimize exposure to conditions that could increase its moisture content. Moisture content at time of use shall not exceed limit established by grade specified.

E. Lumber not designated "S-DRY" or certified air dried to specified moisture content, and all lumber delivered to job site in wet condition, shall be stick-piled and stored for proper ventilation and drying, and shall only be used as released by the Architect.

F. Sustainable Harvested Wood: Certification Organizations shall be accredited by the Forest Steward-

- ship Council.
- G. Recycled Content Materials: Where recycled lumber materials are used for structural applications, include lumber certification and quality grading.
 - H. Engineered Wood Products:
 - 1. Determine formaldehyde concentrations in air from wood products under test conditions of temperature and relative humidity in accordance with ASTM D6007 or E1333.
 - 2. Determine Volatile Organic Compounds VOC, excluding formaldehyde, emitted from manufactured wood-based panels in accordance with ASTM D6330.
 - I. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
 - J. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver undamaged products to site in manufacturer's sealed containers or wrappings with legends intact. Store on site secure from weather, soil and physical damage.
- B. Store lumber and timber framing off the ground, on sills, located in a well-drained area, and stacked to insure proper ventilation. Protect from moisture and the elements.
- C. Store rough hardware, carpenters iron and miscellaneous items off the ground, in weatherproof sheds; protect metal items from rust.
- D. Protect fire retardant materials against high humidity and moisture during storage and erection.

1.7 JOB CONDITIONS

- A. Maintain easily identifiable lines, elevations and grades for accurately laying out work.
- B. Maintain a clean working area, free of debris.
- C. Products shall be available at project when required for installation so as not to delay job progress. Installer for these products shall cooperate with installers performing work under other Sections involved to effect proper installation.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Framing lumber shall be Douglas Fir Larch [Grade to be specified by designer]
- B. Structural plywood shall be U.S. Product Standard PS1- 95 Structural 1, grade stamped by American Plywood Association. All plies shall be Douglas Fir and thickness as noted on the drawings.
- C. Provide pressure preservative treated lumber when in contact with soil or permanently exposed to weather and where indicated on drawings. Pressure treated wood using CCA (chromated copper arsenic) or ACA (ammoniacal copper arsenate) is prohibited. Preferred treatments include ACQ (ammonium/copper/quarternary ammonia).
- D. DIMENSION LUMBER
 - 1. Grading Agency: American Lumber Standards Committee (ALSC)
 - 2. Sizes: Nominal sizes as indicated on drawings, S4S.
 - 3. Moisture Content: S-dry or MC19.

- E. Miscellaneous Blocking, Furring, and Nailers:
 1. Lumber: S4S, No. 2 or Standard Grade.
 2. Boards: Standard or No. 3.

- F. Lumber Resource Management:
 1. Virgin Lumber: Lumber fabricated from old growth timber is not permitted. Provide sustainably harvested; certified or labeled in accordance with FSC.
 2. Salvaged Lumber: Lumber from deconstruction or demolition of existing buildings or structures. Unless otherwise noted, salvaged lumber shall be delivered clean, dewatered, and free of paint and finish materials, and other contamination.
 3. Recovered Lumber: Previously harvested lumber pulled from riverbeds or otherwise abandoned. Unless otherwise noted, recovered lumber shall be delivered clean and free of contamination.

- G. Engineered Wood Products:
 1. Toxicity/Indoor Environmental Quality (IEQ):
 - a. Products shall contain no added urea-formaldehyde.

- H. Miscellaneous:
 1. Nailing Inserts: Redwood all-heart or Pressure Treated Douglas Fir, 1" thickness unless otherwise noted.
 2. Flashing Paper: Vaporseal "Brownskin," by W. J. Burke Co., San Francisco or Sisalkraft "Orange Label." www.bsk-laminating.com
 3. Plywood Floor Adhesive: Henry #217 adhesive, by W. W. Henry Company; www.wwhenry.com. Tel: 800-232-4832, or equal. Comply with ASTM C-557 and ASTM 3498.
 4. Coordinate rough hardware and metal accessories supplies with Section 05 50 00 Metal Fabrications.
 - a. Provide manufactured items of shapes, sizes and dimensions required.
 - b. Bolts: ASTM A307
 - c. Steel: ASTM A36
 - d. Fasteners and anchorage: Provide size, type, material and finish required for nails, screws, bolts, nuts, washers, and anchoring devices. Provide stainless steel or hot-dip galvanized finish fasteners and anchorages at conditions permanently exposed to weather or in contact with concrete.
 5. Adhesive: Toxicity/IEQ: Comply with applicable regulations regarding toxic and hazardous materials, GS-36 for Commercial Adhesive.

2.2 CONSTRUCTION PANELS

- A. Wood Sheathing: APA Rated Sheathing, Exterior Exposure Class, and as follows:
 1. Thickness: 3/4 inch, nominal, unless otherwise noted.
- B. Rated Gypsum Sheathing: Gypsum, complying with requirements of ASTM C 1396/C 1396M for gypsum sheathing, Type X fire-resistant, V-shaped long edges, 1/2 inch (12.5 mm) thick.
- C. Glass Mat Gypsum Sheathing: Glass Mat Gypsum, ASTM C 1177/C 1177M, Type X fire resistant, square long edges, 3/4 inch, nominal, unless otherwise noted.
- D. Other Applications:
 1. Concealed Plywood: PS 1, C-C Plugged, exterior grade.
 2. Exposed Plywood: PS 1, A-D, interior grade.
 3. Electrical Component Mounting: 3/4" AC Fire-Rated Plywood.

2.3 ACCESSORIES

- A. Fasteners and Anchors:
 1. Metal and Finish: Stainless steel for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
 2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of

- sheathing.
- 3. Anchors: Toggle bolt type for anchorage to hollow masonry.
- B. Building Paper: Spunbonded olefin, non-woven, non-perforated air barrier.
- C. Galvanic-action resisting Protective Layer: No. 15 Building Felt
- D. Termite Shield: Galvanized sheet steel, 0.125 inch thick.

2.4 FIRE RETARDANT TREATMENT

- A. General: Where fire-retardant-treated wood (FRTW) is indicated, comply with the applicable requirements of AWPA C20 (lumber) and AWPA C27 (plywood). Identify fire-retardant-treated wood with the appropriate classification marking of UL; U.S. Testing; Timber Products Inspection, Inc.; or another testing and inspecting agency acceptable to authorities having jurisdiction.
 - 1. Research or Evaluation Reports: Provide fire-retardant-treated wood acceptable to authorities having jurisdiction and for which a current model code research or evaluation report exists that evidences compliance of fire-retardant-treated wood for the indicated application.
- B. Manufacturers:
 - 1. Arch Wood Protection, Inc: www.wolmanizedwood.com.
 - 2. Hoover Treated Wood Products, Inc: www.frtw.com.
- C. Interior Type: For interior locations, use the chemical formulation that produces treated lumber and plywood with the following properties under conditions present after installation. AWPA Use Category UCFA, Commodity Specification H (Treatment C20 for lumber and C27 for plywood), low temperature (low hygroscopic) type, chemically treated and pressure impregnated; capable of providing a maximum flame spread rating of 25 when tested in accordance with ASTM E 84, with no evidence of significant combustion when test is extended for an additional 20 minutes.
 - 1. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
 - 2. Treat rough carpentry items as indicated .
 - 3. Do not use treated wood in applications exposed to weather or where the wood may become wet. :
 - 4. Bending strength, stiffness, and fastener-holding capacities are not reduced below values published by the manufacturer of the chemical formulation under elevated temperature and humidity conditions simulating installed conditions when tested by a qualified independent testing agency.
 - 5. No form of degradation occurs because of acid hydrolysis or other causes related to the treatment.
 - 6. Contact with treated wood does not promote corrosion of metal fasteners.
- D. Exterior Type: Use for exterior locations and where indicated. AWPA Use Category UCFB, Commodity Specification H (Treatment C20 for lumber and C27 for plywood), chemically treated and pressure impregnated; capable of providing a maximum flame spread rating of 25 when tested in accordance with ASTM E 84, with no evidence of significant combustion when test is extended for an additional 20 minutes both before and after accelerated weathering test performed in accordance with ASTM D 2898.
 - 1. Kiln dry wood after treatment to a maximum moisture content of 18 percent for lumber and 15 percent for plywood.
 - 2. Treat exposed exterior rough carpentry items, including covered walkways.
 - 3. Do not use treated wood in direct contact with the ground.
- E. Preservative Treatment:
 - 1. Manufacturers:
 - a. Arch Wood Protection, Inc: www.wolmanizedwood.com.
 - b. Chemical Specialties, Inc: www.treatedwood.com.
 - c. Osmose, Inc: www.osmose.com.
 - d. Substitutions: See Section 01600 - Product Requirements.

- F. Preservative Pressure Treatment of Lumber Above Grade: AWWA Use Category UC3B, Commodity Specification A (Treatment C2) using waterborne preservative to 0.25 lb/cu ft (4.0 kg/cu m) retention.
 - 1. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
 - 2. Treat lumber in contact with roofing, flashing, or waterproofing.
 - 3. Treat lumber in contact with masonry or concrete.
 - 4. Treat lumber less than 18 inches (450 mm) above grade.
 - 5. Treat lumber used as blocking in concealed locations
 - 6. Treat lumber in other locations as indicated.

- G. Preservative Pressure Treatment of Plywood Above Grade: AWWA Use Category UC2 and UC3B, Commodity Specification F (Treatment C9) using waterborne preservative to 0.25 lb/cu ft (4.0 kg/cu m) retention.
 - 1. Kiln dry plywood after treatment to maximum moisture content of 15 percent.
 - 2. Treat plywood in contact with roofing, flashing, or waterproofing.
 - 3. Treat plywood in contact with masonry or concrete.
 - 4. Treat plywood less than 18 inches (450 mm) above grade.
 - 5. Treat plywood in other locations as indicated.

- H. Preservative Pressure Treatment of Lumber in Contact with Soil: AWWA Use Category UC4A, Commodity Specification A (Treatment C2) using waterborne preservative to 0.4 lb/cu ft (6.4 kg/cu m) retention.
 - 1. Preservative for Field Application to Cut Surfaces: As recommended by manufacturer of factory treatment chemicals for brush-application in the field.
 - 2. Restrictions: Do not use lumber or plywood treated with chromated copper arsenate (CCA) in exposed exterior applications subject to leaching.

- I. Inspect each piece of treated lumber or plywood after drying and discard damaged or defective pieces.

PART 3 - EXECUTION

3.1 WORKMANSHIP AND INSTALLATION

- A. Discard units of material with defects which might impair quality of work, and units which are too small to fabricate work with minimum joints or optimum joint arrangement.

- B. Select framing lumber for appropriateness of use. Exposed structural members will be rejected if, in the Architect's judgment, they exhibit excessive bow, twist, or cup. Studs and joists may be rejected if imperfections result in finished surfaces substantially out of line or plane. Select individual pieces of lumber so that knots or minor defects will not interfere with placing of bolts, proper nailing or making proper connections.

- C. Frame and closely fit rough carpentry in a substantial manner, and install accurately to details on drawings. Framing methods not specifically covered or shown shall be installed in accordance with the requirements of the CCR Title 24.

- D. Install all necessary bracing and backing rigidly and accurately for work of other trades and for all cabinets, cases and hardware.

- E. Set beams, joists and purlins with crown edge up, and with bottom edges free from pronounced defects. Size all members to give true surfaces for wood, drywall, plaster and other finishes.

- F. Notching of joists: Notches or holes shall not be placed in joists unless fully detailed in approved plans.

- G. Plates in contact with masonry or concrete shall be completely bedded to obtain a continuous bearing,

well anchored and bolted down as shown.

- H. Securely attach carpentry work to substrates by anchoring and fastening as required by recognized standards.
- I. Roof Framing: See drawings for framing, and construction details. Install cant strips at intersection of roof with vertical surfaces and at roof edges. Install crickets and watersheds as shown and/or as required for proper water drainage.
- J. Install fasteners at spacings recommended by AF & PA "National Design Specifications for Stress Grade Lumber and Its Fastening" for lumber and APA Form Y300 "Commercial/Industrial Construction Guide" for plywood.
- K. Nailing: Nailing for framing wall is with common wire nails. Number and size as called for on the drawings. Nails for trim work will be such as to hold material permanently with no buckling, twisting, cupping or splitting of the wood.
- L. Lagbolts and screws shall be installed in sub-drilled holes, and shall be screwed, not driven, into place. Any driven screws or lagbolts shall be rejected and mutilated wood members involved shall be replaced. Bore holes for shank the same diameter and depth as shank, with hole for threaded portion not larger than diameter of thread base.
- M. Nailer, inserts, sleeves, stripping, etc.: Each trade will be responsible for providing or checking the installation of all inserts, nailers, sleeves, stripping, etc., as they may be specified and/or required for their work.
- N. Structural plywood sheathing: See drawings for nailing requirements. Nail heads shall be driven flush with plywood faces. All joints of plywood shall be on solid bearing. Surfaces shall be free from warp, twist, buckles, holes and other defects. Sheathing shall be applied vertically with joints in locations shown on drawings.
- O. Cutting, patching and blocking of all wood members where required for wood of the various trades shall be done by carpenters. Includes frames for all recessed equipment.
- P. Rough Hardware:
 - 1. General: Consists of nails, screws, bolts, washers, lag screws, joist hangers, tie straps, etc., and such items mentioned below and as shown on drawings. For exterior installations and when penetrating pressure treated or fire-retarded lumber, use hot-dipped zinc coated galvanized nails and hot-dipped galvanized or stainless steel bolts, nuts, washers, lag screws and other hardware.
 - 2. Bolts: In tension or shear shall have malleable iron or plate washers in accordance with UBC Standard.
 - 3. Joist hanger, framing anchors and post caps: See structural drawing for location and type: Manufacturer: Simpson Strong-Tie Company, KC Silver or approved equal.
- Q. Wood Grounds, Nailers, Blocking and Cants:
 - 1. Provide where required for screeding or attachment of other work.
 - 2. Form to shapes cut as necessary for true line and level for work to be attached.
 - 3. Coordinate location with other work involved.
 - 4. Attach to substrates to support applied loading.
 - 5. Where possible, anchor to formwork before concrete placement.
 - 6. Provide permanent grounds of dressed, preservative treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material involved.

3.2 INSPECTION

- A. Prior to installation of the work of this Section, carefully inspect and verify that the installed work of all other trades is complete to the point where this installation may properly commence.
- B. Verify that specified items may be installed in accordance with the approved design.
- C. In the event of discrepancy, immediately notify the Architect. Do not proceed until discrepancies have been fully resolved.

3.3 LAYOUT OF WORK

- A. Frame accurately to required lengths, lines and levels, and carefully space to provide for all finishes and conditions.
- B. Provide special framing, recesses, chases, and wood blocking and backing for proper reception and installation of mechanical and electrical work under direction of such respective trades who shall assume responsibility for correct and proper location of such items. Frame members for passage of pipes and ducts to avoid cutting structural members.
- C. Provide solid backing, minimum 2x4 nominal, behind all door stops, wall hung fixtures, casework, and other wall mounted items to provide secure anchorage and solid backing.
- D. Provide all necessary work to properly receive installation of finish carpentry. Provide special framing, furring or construction, not indicated or specified, but required to complete work.

3.4 SITE ENVIRONMENTAL PROCEDURES

- A. Indoor Air Quality:
 - 1. Temporary ventilation: Provide temporary ventilation during work of this Section.
 - a. During and immediately after installation of treated wood, engineered wood products, and laminated wood products at interior spaces, provide temporary ventilation.
- B. Waste Management: As specified in Section 01 95 10 – Waste Management and Recycling:
 - 1. Select lumber sizes to minimize waste; reuse scrap lumber to the greatest extent possible. Clearly separate scrap lumber for use on site as accessory components, including: shims, bracing, and blocking.
 - 2. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill. Prevent saw dust and wood shavings from entering the storm drainage system.
 - 3. Do not burn scrap lumber that has been pressure treated.
 - a. Do not send lumber treated with pentachlorophenol, CCA, or ACA to cogeneration facilities or “waste-to-energy” facilities.

3.5 INSTALLATION OF ACCESSORIES AND MISCELLANEOUS WOOD

- A. Separate all wood preservative treated products from galvanized metal studs and flashings with protective layer.
- B. Curb roof openings except where prefabricated curbs are provided. Form corners by alternating lapping side members.
- C. Coordinate curb installation with installation of decking and support of deck openings.

3.6 INSTALLATION OF CONSTRUCTION PANELS

- A. Wall Sheathing: Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using screws.

1. Where indicated on drawings, place building paper horizontally over wall sheathing, weather lapping edges and ends.

3.7 TOLERANCES

- A. Framing Members: 1/4 inch (6 mm) from true position, maximum.
- B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet (2 mm/m) maximum, and 1/4 inch in 30 feet (7 mm in 10 m) maximum.

3.8 WOOD TREATMENT

- A. Preservative pressure treatment of wood shall be performed in accordance with the preservative treatment manufacturer's recommended procedures.
 1. Provide pressure-treated wood for framing, fence posts, blocking, furring, or nailing strips built into or in contact with concrete or roofing and at sills.
 2. Apply two coats of same preservative used in original treatment to cut surfaces of treated wood.
 3. After sawing dip ends of joists, studs, posts, sheathing, plywood and blocking within two feet of finished grade in specified wood preservative for a distance of at least 6 inches from ends a minimum of 15 minutes. Nailers, grounds, sleepers and similar members embedded in, or in contact with, concrete or masonry shall be dipped, after sawing, for a minimum of 15 minutes in specified preservative for entire length of piece or in accordance with the preservative manufacturer's recommendations.

3.9 CLEANUP

- A. Keep premises free from accumulated waste materials, rubbish and debris resulting from this work. Upon completion, remove tools, appliances, surplus materials, waste materials, rubbish, debris and accessory item used in or resulting from this work, and legally dispose of off the site.
- B. Waste Disposal: Comply with the requirements of Section 01700.
 1. Comply with applicable regulations.
 2. Do not burn scrap on project site.
 3. Do not burn scraps that have been pressure treated.
 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.
- C. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.
- D. Prevent sawdust and wood shavings from entering the storm drainage system.

3.10 PROTECTION

- A. Protect work and materials of this Section prior to and during installation, and protect the installed work and materials of other trades.
- B. In the event of damage, make all repairs and replacements necessary to the approval of the Architect at no additional cost to the Owner.

3.11 SCHEDULES

- A. Exterior Wall Sheathing: 3/4" APA Rated Plywood and 3/4" Glass Mat Gypsum Sheathing, locations as indicated on drawings.
- B. Interior Wall Sheathing:
 1. Concealed: 1/2" PS 1, C-C Plugged, exterior grade.

- 2. Exposed: ½" PS 1, A-D, interior grade.
- C. Sheathing for exterior soffits: ½" Glass Mat Gypsum Sheathing
- D. Electrical and Telecom Rooms: ¾" AC Fire-Rated Plywood, no paint, smooth side to room.

END OF SECTION

BLANKET THERMAL INSULATION

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Batt insulation in exterior wall and roof construction, and formaldehyde-free.
- B. Batt insulation for filling perimeter window and door shim spaces, crevices in exterior wall and roof assembly, and formaldehyde-free.

1.2 RELATED SECTIONS

- A. Section 06 20 00 – Rough Carpentry
- B. Section 07 21 20 – Board and Batt Insulation
- C. Section 07 31 13 - Existing Asphalt Shingle Roofing
- D. Section 07 84 00 - Firestopping: Safing insulation
- E. Section 09 22 16 – Non-Structural Metal Framing
- F. Section 09 29 00 – Gypsum Board Assemblies
- G. Division 23 - Mechanical: Piping and ductwork insulation.

1.3 REFERENCES

- A. ASTM C665 - Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
- B. ASTM E84 - Surface Burning Characteristics of Building Material.

1.4 SYSTEM DESCRIPTION

- A. Materials of this section shall provide a thermal barrier at building enclosure elements.

1.5 SUBMITTALS

- A. Product Data: Provide data on product characteristics, performance criteria and limitations.
- B. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Manufacturers: Fiber Batt Insulation
 1. CertainTeed Corporation: www.certainteed.com.
 2. Johns Manville Corporation: www.jm.com.
 3. Owens Corning Corp: www.owenscorning.com.

4. Knauf Insulation.

- B. Manufacturers: Cotton Batt Insulation (Natural Cotton Fiber Insulation)
 - 1. UltraTouch Natural Cotton Fiber Insulation, unfaced. Manufactured by Bonded Logic, Inc. 411 East Ray Road, Chandler, AZ, 85225, (480) 812-9114, www.BondedLogic.com, email: Sales@BondedLogic.com.
 - 2. InsulCot Cotton Fiber Insulation, foil faced. Manufactured by InsulCot, 411 S. Fox St., Post, TX 79356. (806) 777-2811, www.insulcot.com.

- B. Fiber Batt Insulation: Preformed glass fiber batt.
 - 1. Type 1: ASTM C665, Type I, unfaced; flame spread of 25 or less per ASTM E84; smoke developed of 50 or less per ASTM E84.
 - 2. Type 2: ASTM C665, Type II, Class C; Kraft paper vapor barrier.
 - a. Insulation: Same as Type I; flame spread of 25 or less per ASTM E84; smoke developed of 50 or less per ASTM E84.
 - b. Vapor Barrier: Flammable.
 - 3. Type 3: ASTM C665, Type III, Class A; foil faced reinforced Kraft paper vapor barrier.
 - a. Insulation: Same as Type I; flame spread of 25 or less per ASTM E84; smoke developed of 50 or less per ASTM E84.
 - b. Vapor Barrier: Flame spread of 25 or less per ASTM E84; smoke developed of 50 or less per ASTM E84

- C. Cotton Batt Insulation:
 - 1. Type 1: Unfaced for interior applications
 - a. Unfaced batts made from post-industrial natural cotton fibers that have been thermally bonded.
 - b. R-Value: 5.5 inch = R-19, 3.5 inch = R-13
 - c. Fire Rating: 1- Hour
 - d. Flame Spread Rating: Flame Spread – 5 (Class A), Smoke Developed -35 (Class A).
 - e. Mold/Mildew/Fungi Resistance: Pass-No Growth per ASTM C 739.
 - f. Corrosion Resistance: Pass per ASTM C 739.
 - g. Odor Emission: Pass per ASTM C 739.
 - h. Moisture Absorption: Pass, less than 15%, per ASTM C 739>
 - i. Environmentally safe, sustainable, non-allergenic, non-hazardous, non-formaldehyde, and non-itch.
 - 2. Type 2: Faced for exterior perimeter wall and underside of roof applications.
 - a. Kraft-faced batts made from post industrial cotton fibers that have been thermally bonded.
 - b. R-Value: 5.5 inch = R-19, 3.5 inch = R-13
 - c. Flame Spread Rating: Class A
 - d. Environmentally safe, sustainable, non-allergenic, non-hazardous, non-formaldehyde, and non-itch.

2.2 ACCESSORIES

- A. Nails and Staples: Steel wire; electroplated or galvanized; type and size to suit application.
- B. Support Netting: Perforated polyethylene sheet face.
- C. Tape: Polyethylene or polyester; self-adhering type; mesh reinforced; minimum 2 inches wide.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Verify adjacent materials are dry and ready to receive installation.
- B. Verify mechanical and electrical services within walls have been installed and tested.
- C. Do not begin installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install batt insulation in accordance with manufacturer's instructions.
- B. Install batt insulation in roof and walls without gaps or voids.
- C. Trim insulation neatly to fit spaces. Use batts free of damage. Insulate miscellaneous gaps and voids.
- D. Fit insulation tight in spaces and tight to exterior side of mechanical and electrical services within the plane of insulation. Leave no gaps or voids.
- E. Install insulation with factory applied membrane facing warm side of building spaces.
 - 1. Lap ends and side flanges of membrane between framing members.
 - 2. Fasten side flanges to framing at maximum 6 inches on center or retain in place with support netting fastened to framing at maximum 6 inches oc.
 - 3. Tape seal tears and cuts in membrane.
- F. Where vapor barrier is not in contact with unexposed face of ceiling or wall, install insulation with flame spread rated vapor barrier. Install insulation with Kraft paper vapor barrier elsewhere.
- G. Fill perimeter shim spaces and crevices with unfaced batts.

3.3 SCHEDULE

- A. Roofs Between Joists: R-30, minimum.
- B. Exterior Walls Between Studs: R-19, minimum.

END OF SECTION

BOARD AND BATT INSULATION

- A. Board insulation at perimeter foundation wall, underside of floor slabs, and exterior wall upper level.
- B. Batt insulation in exterior wall construction.
- C. Sound insulation in interior wall construction.
- D. Batt insulation for filling perimeter window and door shim spaces and crevices in exterior wall and roof.
- E. Blanket insulation (mineral wool) in exterior wall construction behind cladding systems.

1.2 RELATED SECTIONS

- A. Section 05 40 00 - Cold Formed Metal Framing: Supporting Construction for batt insulation.
- B. Section 06 10 00 - Rough Carpentry: Supporting construction for batt insulation.
- C. Section 07 26 00 - Vapor Retarders: Separate air barrier and vapor retarder materials.
- D. Section 07 84 00 - Firestopping.
- E. Section 09 26 00 - Gypsum Board Assemblies: Acoustic insulation.

1.3 REFERENCE STANDARDS

- A. ASTM C 578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2005a.
- B. ASTM C 665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2001.
- C. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials, 2005.
- D. ASTM E 136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C; 2004.

1.4 SUBMITTALS

- A. Product Data: Provide data on product characteristics, performance criteria, and product limitations.
- B. Manufacturer's Installation Instructions: Include information on special environmental conditions required for installation and installation techniques.

1.5 ENVIRONMENTAL REQUIREMENTS

- A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

1.6 SEQUENCING

- A. Sequence work to ensure fireproofing and firestop materials are in place before beginning work of this section.

1.7 COORDINATION

- A. Coordinate the work with Section 07 26 00 for installation of vapor retarder.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Batt Insulation:
 - 1. Owens-Corning
 - 2. Schuller International
 - 3. Knauf Fiber Glass

2.2 APPLICATIONS

- A. Insulation Under Concrete Slabs: Extruded polystyrene board.
- B. Insulation at Perimeter of Foundation: Extruded polystyrene board.
- C. Insulation in Metal Framed Walls: Batt insulation with separate vapor retarder.
- D. Insulation in Exterior Rainscreen Assemblies: Blanket insulation, sometimes with separate vapor retarder

2.3 BOARD INSULATION MATERIALS

- A. Extruded Polystyrene Board Insulation: ASTM C 578, Type X; Extruded polystyrene board with either natural skin or cut cell surfaces; with the following characteristics:
 - 1. Flame Spread Index: 75 or less, when tested in accordance with ASTM E 84.
 - 2. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E 84.
 - 3. Board Size: 48 x 96 inch (1220 x 2440 mm).
 - 4. Board Thickness: 2 inches (50 mm).
 - 5. Board Edges: Square.
 - 6. Thermal Conductivity (k factor) at 25 degrees F (-3.9 degrees C): 0.18 (0.31).
 - 7. Compressive Resistance: 15 psi (104 kPa).
 - 8. Board Density: 1.3 lb/cu ft (21 kg/cu m).
 - 9. Water Absorption, maximum: 0.3 percent, volume.
 - 10. Manufacturers:
 - a. Dow Chemical Co: www.dow.com.
 - b. Owens Corning Corp: www.owenscorning.com.
 - 11. Substitutions: See Section 01600 - Product Requirements.

2.4 BATT INSULATION MATERIALS

- A. Batt Insulation: ASTM C 665; preformed mineral fiber batt; friction fit, conforming to the following:
 - 1. Surface Burning Characteristics: Flame spread index of 25 or less; smoke developed index of 450 or less, when tested in accordance with ASTM E 84.
 - 2. Combustibility: Non-combustible, when tested in accordance with ASTM E 136, except for facing, if any.
 - 3. Formaldehyde Content: Zero.
 - 4. Thermal Resistance: R of 3 (per inch).
 - 5. Thickness: as indicated on drawings.
 - 6. Facing: Unfaced.
 - 7. Manufacturers:
 - a. CertainTeed Corporation: www.certainteed.com.
 - b. Johns Manville Corporation: www.jm.com.
 - c. Owens Corning Corp: www.owenscorning.com.
 - d. Schuller International.
 - e. Knauf Fiber Glass

2.5 BLANKET INSULATION - MINERAL WOOL

- A. Blanket Insulation: ASTM C 665; preformed mineral wool blanket, pinned mounting, conforming to the following:

1. Surface Burning Characteristics: Flame spread index of 25 or less; smoke developed index of 450 or less, when tested in accordance with ASTM E 84.
2. Combustibility: Non-combustible, when tested in accordance with ASTM E 136, except for facing, if any.
3. Formaldehyde Content: Zero.
4. Thermal Resistance: R of 3 (per inch).
5. Thickness: as indicated on drawings.
6. Facing: Unfaced.
7. Manufacturers:
 - a. CertainTeed Corporation: www.certainteed.com.
 - b. Johns Manville Corporation: www.jm.com.

2.6 ACCESSORIES

- A. Sheet Vapor Retarder: Specified in Section 07 26 00.
- B. Tape: Bright aluminum self-adhering type, mesh reinforced, 2 inch (50 mm) wide.
- C. Insulation Fasteners: Impaling clip of unfinished steel with washer retainer and clips, to be adhered to surface to receive insulation, length to suit insulation thickness and substrate, capable of securely and rigidly fastening insulation in place.
- D. Adhesive: Type recommended by insulation manufacturer for application.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation and adhesive.
- B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.2 BOARD INSTALLATION AT FOUNDATION PERIMETER

- A. Adhere a 6 inch (150 mm) wide strip of polyethylene sheet over construction, control, and expansion joints with double beads of adhesive each side of joint.
 1. Tape seal joints.
 2. Extend sheet full height of joint.
- B. Apply adhesive to back of boards:
 1. Three continuous beads per board length.
 2. Full bed 1/8 inch (3 mm) thick.
- C. Install boards horizontally on foundation perimeter.
 1. Place boards to maximize adhesive contact.
 2. Install in running bond pattern.
 3. Butt edges and ends tightly to adjacent boards and to protrusions.
- D. Extend boards over expansion joints, unbonded to foundation on one side of joint.
- E. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.

3.3 BOARD INSTALLATION AT EXTERIOR WALLS

- A. Adhere a 6 inch (150 mm) wide strip of polyethylene sheet over expansion joints with double beads of adhesive each side of joint.
 1. Tape seal joints between sheets.
 2. Extend sheet full height of joint.
- B. Apply adhesive to back of boards:

1. Three continuous beads per board length.
 2. Full bed 1/8 inch (3 mm) thick.
- C. Install boards horizontally on walls.
1. Place boards to maximize adhesive contact.
 2. Butt edges and ends tightly to adjacent boards and to protrusions.
- D. Extend boards over expansion joints, un-bonded to wall on one side of joint.
- E. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
- F. Tape insulation board joints.
- 3.4 BOARD INSTALLATION UNDER CONCRETE SLABS
- A. Place insulation under slabs on grade after base for slab has been compacted.
- B. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.
- C. Prevent insulation from being displaced or damaged while placing vapor retarder and placing slab.
- 3.5 BATT INSTALLATION
- A. Install insulation and vapor retarder in accordance with manufacturer's instructions.
- B. Install in exterior wall and roof spaces without gaps or voids. Do not compress insulation.
- C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- D. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.
- E. Tape insulation batts in place.
- F. Tape seal butt ends, lapped flanges, and tears or cuts in membrane.
- G. At metal framing, place vapor retarder on warm side of insulation; lap and seal sheet retarder joints over member face.
- H. Tape seal tears or cuts in vapor retarder.
- I. Extend vapor retarder tightly to full perimeter of adjacent window and door frames and other items interrupting the plane of the membrane. Tape seal in place.
- J. Coordinate work of this section with requirements for vapor retarder specified in Section 07 26 00.
- K. Coordinate work of this section with construction of air barrier seal specified in Section 07 26 00.
- 3.6 BLANKET INSTALLATION
- A. Install insulation and vapor retarder in accordance with manufacturer's instructions.
- B. Install in exterior wall and roof spaces without gaps or voids. Do not compress insulation.
- C. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.
- D. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.
- E. Coordinate work of this section with requirements for vapor retarder and air barrier specified in Section 07 26 00.
- F. Coordinate work of this section with construction of exterior cladding systems as specified in Sections 07 41 00 and 07 46 10.

3.7 PROTECTION OF FINISHED WORK

- A. Do not permit installed insulation to be damaged prior to its concealment.

3.8 SCHEDULES

- A. Perimeter Insulation: Extruded polystyrene, bead adhesive application.
- B. Roof Insulation: Extruded polystyrene, bead adhesive application.
- C. Metal/Wood Framed Wall Insulation: Batt insulation

END OF SECTION

INSPECTION AND ACCEPTANCE TESTING OF DOOR SYSTEMS

PART 1- GENERAL

1.1 QUALITY ASSURANCE

- A. This section details procedures for inspection and simple performance testing of completed doors. It is provided as a separate section because inspection and testing involves entire entry system composed of work from all Division 8 Sections relating to doors.

1.2 RELATED SECTIONS

- A. Division 8 Sections - All sections relating to doors

1.3 ACCEPTABLE PERFORMANCE

- A. Conduct inspections and testing until each door has successfully passed. Make adjustments or replace components are required until entry system performs as specified in this section.

1.4 SUBMITTALS

- A. Submit written certification that inspections and tests detailed in 3.02, have been conducted and that all tested door and gate systems have satisfactorily met performance criteria.

1.5 COORDINATION

- A. Coordinate with Electronic Access Control System Contractor to ensure system alarms, connections to hardware appropriately match portrayed alarm conditions.

PART 2 - PRODUCTS – (NOT USED)

PART 3 - EXECUTION

3.1 INSPECTION AND INSTALLATION

- A. New Frame Inspection and Correction:
 - 1. Inspect new door and gate frames and post stanchions as soon after installation as possible, for not more than 1/16" out of square, plumb, planar alignment of member twist. Inspect anchoring for rigid attachment. If any parameter does not meet this specification, contact installer to rectify and re-inspect, after corrections are made.
- B. Existing Doors, Gates, Stanchions & Frame Inspection and Correction
 - 1. Inspect existing relocated doors and frames upon which work is performed for loose or poor-fitting hardware or components.
 - 2. Adjust, tighten or replace hardware and components as required for proper operation.
- C. Final Inspection and Correction:
 - 1. At completion of project, verify frames, doors, gates and hardware are installed as required by Contract Documents and by approved changes during construction. If noncompliant, correct and re-inspect.
 - 2. Using key to operate lock cylinder, verify all lockset functions operate properly. If any function does not perform properly, correct and re-inspect.
 - 3. Inspect meeting stiles, head jambs and thresholds for evidence of binding or poor fitting doors, gates, stanchions and frames.

3.2 TESTING FOR ALL DOORS

- A. When building environmental systems are operating as specified, conduct simple tests to ensure each completed door system will close and latch or otherwise secure properly, without assistance.
- B. Closer tests (for doors so equipped):
 1. Full open test: Open door to full width. Release door. Door to completely close and latch fully. If door is equipped with magnetic locks, magnetic lock armature to completely bond to lock with bonding sensor indicating secure.
 2. Mid-point close to latch test: Open door half way. Release door. Door to completely close and latch fully. If door is equipped with magnetic locks, magnetic lock armature to completely bond to lock with bonding sensor indicating secure.
 3. Close to latch test: Open door to full width, then permit door to re-close until lock's latch bolt touches strike lip and hold. When magnetic locks are used, permit door to return so that strike armature is within one inch of magnetic lock. Release door. Door to completely close and latch fully. If door is equipped with magnetic locks, magnetic lock armature to completely bond to lock with bonding sensor indicating secure.
 4. Power assisted or automatic doors: Energize door operator and permit door to open and re-close. Door to completely close and latch fully. If door is equipped with magnetic locks, magnetic lock armature to completely bond to lock with bonding sensor indicating secure.
 5. Latch bolt test: With door closed and properly latched, pull sharply on door, in direction of swing. Door to remain secure.
 6. Door pairs only: With both doors closed and properly latched, pull sharply on active leaf in direction of swing while simultaneously pushing on inactive door. Door to remain secure.
- B. Dead latch test:
 1. With door closed and latched, insert dead latch test tool and engage latch bolt. Pull sharply. Latch bolt should not retract.
 2. With door open, and latch bolt and dead latch in view, hold dead latch in with your finger and rapidly and intermittently push (rattle) latch bolt. Latch bolt should not retract.
- C. Lock function test: With proper key to operate lock cylinder, perform all functions lockset is capable of, and insure they operate properly.

END OF SECTION

HOLLOW METAL DOORS AND FRAMES

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes: Provision of custom hollow metal doors and frames in place with finish hardware installed, complete as shown and as specified. Work includes hollow metal glazed partition frames.
- B. Related Sections:
1. Section 07 62 00 - Sheet Metal Flashing and Trim
 2. Section 07 92 00 - Joint Sealants
 3. Section 08 14 16 - Flush Wood Doors
 4. Section 08 71 00 - Door Hardware
 5. Section 08 81 00 - Glass Glazing
 6. Section 09 22 16 - Non-Structural Metal Framing
 7. Section 09 26 00 - Gypsum Board Assemblies
 8. Section 09 31 00 - Thin-set Tiling
 9. Section 09 90 00 - Paints & Coatings

forcings, and Exit Device Reinforcings

- a. ASTM A568 - Standard Specification for Steel, Sheet, Carbon, and High-Strength, Low-Alloy, Hot-Rolled, and Cold-Rolled, General Requirements for-
 - b. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
 - c. ASTM A1008 - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability
 - d. ASTM A1011 - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
 - e. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences
 - f. ASTM E2074 - Standard Test Method for Fire Tests of Door Assemblies, Including Positive Pressure Testing of Side-Hinged and Pivoted Swinging Door Assemblies
3. Door and Hardware Institute (DHI): Hardware Reinforcements on Steel Doors and Frames
 4. Hollow Metal Manufacturers Division (HMMA) of National Association of Architectural Metal Manufacturers (NAAMM): *Hollow Metal Manual*
 5. National Fire Protection Association (NFPA): NFPA 80 *Standard for Fire Doors and Windows*
 6. Underwriters Laboratories, Inc. (UL)
 7. Intertek Testing Services-Warnock Hersey (ITS-WH)

1.3 SUBMITTALS

- A. Product Data: Manufacturer's literature describing products.
- B. Shop Drawings: Submit shop drawings for the fabrication and erection of metal doors and frames. Include large scale details, installation requirements of finish hardware and reinforcement, and details of joints and connections. Show anchorage and accessory items. No work shall be fabricated until shop drawings have been favorably reviewed by the Architect.
- C. Schedule: Provide a schedule of doors and frames using same reference numbers for details and openings as those shown on the Drawings.

1.4 QUALITY ASSURANCE

- A. Wherever a fire-resistance classification is indicated or required, provide fire-rated metal doors and frames investigated and tested as a fire door assembly. Identify each fire door and frame with UL or ITS-WH Labels indicating applicable fire rating of both door and frame.
- B. Construct and install assemblies to comply with NFPA 80 and as specified.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver metal doors and frames cartoned or crated to provide protection during transit and jobsite storage.
- B. Store metal doors and frames on raised platforms in vertical positions with blocking between units to allow air circulation. Keep stored material covered and protected from damage.

PART 2 – PRODUCTS

2.1 CUSTOM HOLLOW METAL MANUFACTURERS

- A. Forderer Cornice Works, Curt Forderer, President, 3364 Ardan Road, Hayward, CA 94545; (510) 783-4200 P; forderercurt@yahoo.com.
- B. Republic Door and Frame; Ken Manrubia, Local Rep., 3485 Edward Avenue, Santa Clara, CA 95054; (408) 857-6274 P; www:DLR Sales, Inc.
- C. Stiles Custom Metal, Inc., Jim Ludlow, Local Rep., 1885 Kinser Road, Ceres, CA 95307, (209) 538-3667.
- D. Security Metal Products Corp., 5700 Hannum Avenue, Suite 250, Culver City, CA 90230; (310) 641-6690 P; 310-641-6601 F; www:secmet.com; e-mail - sales@secmet.com

2.2 MATERIALS

- A. Sheet Steel: ASTM A1008: Commercial grade cold rolled steel sheets.
- B. Galvanized Sheet Steel: Zinc-coated steel sheet of commercial quality meeting the requirements of ASTM A653, Coating Designation G60 minimized spangle, extra smooth, with a coating weight of not less than 0.60 ounce per square foot (0.30 ounce per square foot per side), mill phosphatized; or ASTM A653, galvanized, Coating Designation A60.
- C. Inserts, Bolts, and Fasteners: Manufacturer's standard units for the required application. Items shall be hot-dip galvanized.

- D. Supports and Anchors: Fabricate from 14, 16, and 18 gauge galvanized sheet steel.
- E. Primer: Rust-inhibitive primers compatible with finish painting system.
- F. Glass and Glazing: In accordance with requirements of Section 08800.

2.3 FABRICATION, GENERAL REQUIREMENTS

- A. Fabricate units to be rigid, neat in appearance, square, true, and free of defects, warp, buckle, or surface imperfections. Accurately form metal to required sizes and profiles. Weld exposed joints continuously; grind, dress and make smooth, flush, and invisible.
- B. Unless otherwise indicated, provide countersunk flat Philips heads for exposed screws and bolts.
- C. Prepare units to receive finish hardware including cutouts, reinforcing, drilling, and tapping, in accordance with the Drawings, final hardware schedule, and templates provided. Meet the applicable requirements of ANSI A115.
- D. Clean steel surfaces of mill scale, rust, oil, grease, dirt, and other foreign materials before the application of the shop coat of paint.
- E. Apply a smooth coat of primer in even consistency to provide a uniform dry-film thickness of not less than 2.0 mil, baked on.

2.4 FABRICATION OF CUSTOM HOLLOW METAL FRAMES

- A. Fabricate frames to profiles as shown, and of full-welded unit construction with corners mitered, reinforced, continuously welded full depth and width of frame.
- B. Material Usage:
 - 1. Fabricate interior frames from sheet steel.
 - 2. Fabricate exterior frames from galvanized sheet steel.
- C. Gauge: 14 gauge
- D. Minimum gauges for hardware reinforcing plates shall be as follows:
 - 1. Hinges: 7 gauge
 - 2. Strike: 12 gauge
 - 3. Flush Bolts: 12 gauge
 - 4. Closers: 12 gauge
 - 5. Other Surface Mounted Items: 12 gauge
- E. Wall Anchors: Frames for installation in stud partitions shall be provided with steel anchors of suitable design not less than 16 gauge thickness, securely welded inside each jamb as follows:
 - 1. Frames less than 7'-6" high: 4 anchors
 - 2. Frames 7'-6" to 8'-0" high: 5 anchors
 - 3. Frames over 8'-0" high: 5 anchors plus one additional for each 2'-0" or fraction thereof over 8'-0"
- F. Floor Anchors: Provide floor anchors for each jamb and mullion which extends to floor, formed of not less than 14 gauge galvanized steel sheet.
- G. Spreader Bars: Provide removable spreader bars across bottom of frames.
- H. Dust cover boxes of not less than 24 gauge steel shall be provided at all hardware mortises on frames. Provide plaster guards at grout-filled frames.

- I. Silencers: Drill three mute holes in lock jamb stops of single-leaf openings and two in the head stops of double-leaf openings. Do not drill fire rated (labeled) and exterior door frames.
- 2.5 FABRICATION OF CUSTOM HOLLOW METAL DOORS
- A. Provide 1-3/4" thick flush-design doors fabricated of 2 outer stretcher-leveled steel sheets of not less than 14 gauge. Provide galvanized sheet steel for exterior doors.
 - B. Fill the voids between face sheets and inner core reinforcing members with chemically inert, incombustible, moisture-resistant, sound-deadening material.
 - C. Construct doors with smooth, flush surfaces without visible joints or seams on exposed faces or stile edges. Corner bends shall be true and straight and of minimum radius for the gauge of metal used.
 - D. Reinforce stiles of doors with continuous 14 gauge minimum channels, continuously welded to outer sheets.
 - E. Reinforce top and bottom rails of doors with a continuous 16 gauge minimum horizontal steel channel welded continuously to the outer sheets. Close top edge of exterior doors with filler channel flush with faces and seal watertight; plastic inserts are not acceptable. Provide inverted channel at bottom edge.
 - F. Reinforce inside of doors with continuous vertical 20 gauge minimum steel channel-shaped sections or interlocking z-shaped steel sections spanning the full thickness of the interior space between door faces. Space vertical reinforcing 6" on center and extend full door height. Weld securely to both outer sheets.
 - 1. Continuous truss-form inner core of 28 gauge sheet metal reinforcing may be provided as inner reinforcement in lieu of above. Weld truss form reinforcement securely to both outer sheets.
 - G. Edge profiles shall be provided as follows:
 - 1. Single-acting Swing Doors: Bevel both stile edges 1/8" in 2".
 - H. Doors shall be mortised, reinforced, drilled, and tapped at the factory for fully templated hardware in accordance with the templates provided by the Contractor. Where surface-mounted hardware is to be applied, doors shall have reinforcing plates only; drilling and tapping shall be done on site.
 - I. Minimum gauges for hardware reinforcing plates shall be as follows:
 - 1. Hinges: 7 gauge
 - 2. Locksets and Bolts: 12 gauge
 - 3. Surface-Mounted Closers: 12 gauge
 - 4. Surface Panic Devices: 12 gauge (except when through bolts are shown or specified)
 - J. Astragals: Provide on pairs of exterior doors unless astragal is specified with hardware in Section 08710. Provide as required for fire-rated pairs.
 - K. Fabricate and fit metal doors accurately in their respective frames within the following clearances:
 - 1. Jamb and Head: 1/8"
 - 2. Meeting Edges, Pair of Doors: 1/8"
 - 3. Undercut doors 1/8" at thresholds, 3/8" where there is no threshold.
 - L. Glass Frame and Stops:
 - 1. Where specified or scheduled, doors shall be provided with metal frame/stops to secure glazing. Glass opening sizes shall be as shown on the Drawings.
 - 2. Fixed frame stops shall be securely welded to the door on the exterior and secured sides and made watertight.

3. Removable stops shall be not less than 20 gauge steel with mitered corner joints secured to the framed opening with cadmium or zinc-coated countersunk screws.

2.6 LABELED DOORS AND FRAMES

- A. Labeled doors and frames shall be provided for those openings requiring the protection ratings as determined and scheduled by the Architect. Such doors and frames shall be constructed as tested and approved by Underwriters Laboratories, Intertek Testing Services-Warnock Hersey, or other nationally recognized testing agency having a factory inspection service.
- B. If any door or frame specified by the Architect to be fire-rated cannot qualify for appropriate labeling because of its design, hardware, or any other reason, the Architect shall be so advised in order that corrective measures may be taken before fabricating work on that item is started.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine the subframes and conditions where the metal doors and frames are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install metal doors and frames and accessories in accordance with the final shop drawings, manufacturer's data, and as specified. Furnish all required clips, fastenings, and anchorages.
- B. Set frames accurately in position, plumb, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces and spreaders, leaving surfaces smooth and undamaged.
- C. Place fire-rated frames in accordance with NFPA 80 and in accordance with the manufacturer's fire test report installation data.
- D. Hang doors and adjust them to swing freely without binding, sticking, sagging, or excessive clearances.
- E. Install finish hardware for hollow metal doors in accordance with the installation requirements of Section 08 71 00.

3.3 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating finish hardware items just prior to final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including doors and frames which are warped, bowed, or damaged.
- B. When door installation is completed, clean doors to remove dirt, stains, and fingerprints.
- C. Prime Coat Touch-Up: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer

END OF SECTION

DOOR HARDWARE

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Hardware for doors and gates.
- B. Thresholds.
- C. Gasketing.
- D. Locks for custom cabinets.
- E. Padlocks for roof access hatches.

1.2 PRODUCTS SUPPLIED BUT NOT INSTALLED UNDER THIS SECTION

- A. Supply templates to Division for door and frame preparation.
- B. Supply hardware for FRP entrance doors and frames for installation.
- C. Supply cabinet locks for cabinet doors and drawers to Sections 06 41 16 for installation.

1.3 RELATED SECTIONS

- A. Section 06 41 00 - Modular Wood-Veneer-Faced Casework.
- B. Section 08 11 13 - Hollow Metal Doors and Frames.
- C. Section 08 14 16 - Flush Wood Doors.
- D. Section 08 22 50 - FRP Doors and Frames
- E. Section 08 52 00 - Aluminum Window

1.4 REFERENCES

- A. ANSI A115.1 through A115.4 - Door and frame preparation standards.
- B. ANSI A156.1 through A156.20 - Standards for various hardware items.
- C. BHMA - Builders' Hardware Manufacturers Association.
- D. California Referenced Standard 12-7-4 - Fire Door Assembly Tests.
- E. CBC - California Building Code, latest edition.
- F. DHI - Door and Hardware Institute.
- G. NFPA 101 - Life Safety Code.

1.5 SUBMITTALS

- A. Coordinate hardware submittals with submittals of related work. Include product data, samples, and shop drawings of other work affected by door hardware and other information necessary to coordinated review of hardware submittals with hardware submittals.
- B. Submit following at earliest possible date to ensure that fabrication of other work dependent upon acceptance of hardware submittals and critical to project construction schedule is not delayed.
- C. Hardware Schedule: Indicate complete designation of every item required for each door or opening organized into hardware sets and coordinated with doors, frames, and related work to ensure proper size, thickness, hand, and function of door hardware. Include following information:
 - 1. Type, style, function, size and finish of each hardware item.
 - 2. Name and manufacturer of each hardware item.
 - 3. Fastenings and other pertinent information.
 - 4. Location of each hardware set cross referenced to indications on Drawings on floor plans and in door schedule.
 - 5. Explanation of abbreviations, symbols, and codes contained in schedule.
 - 6. Mounting locations for hardware.
 - 7. Door and frame sizes and materials.
 - 8. Keying information.
- D. Product Data: Provide manufacturer's technical product data on each item of hardware. Include parts lists, templates, finishes, maintenance of operating parts and other information necessary to show compliance with Contract Documents.
- E. Samples: Provide, as requested, samples of hardware items in finish indicated and tagged with full description coordinated with hardware schedule. Samples will be returned to Contractor.

1.6 OPERATION AND MAINTENANCE DATA

- A. Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
- B. Provide instructions for continued adjustment, maintenance, and removal and replacement of door hardware by Owner personnel.

1.7 QUALITY ASSURANCE

- A. Obtain each type of hardware, such as hinges or closers, from single manufacturer except as otherwise specified.

1.8 QUALIFICATIONS

- A. Manufacturers: Companies specializing in manufacturing door hardware with minimum 5 years documented experience.
- B. Hardware Supplier: Company specializing in supplying institutional door hardware with minimum 5 years documented experience and:
 - 1. Record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this project.
 - 2. Warehousing facilities in vicinity of project.
 - 3. Experienced architectural hardware consultant on staff available to Owner, Architect, and Contractor, at reasonable times during course of Work for consultation.

- C. Hardware Installer: Company specializing in installation of institutional hardware with minimum 5 years documented experience.
- D. Locksmith: Bonded company specializing in keying institutional door hardware with 5 years documented experienced, approved by manufacturer.

1.9 REGULATORY REQUIREMENTS

- A. Conform to applicable sections of Chapter 5 of NFPA 101.
- B. Conform to applicable sections of CBC.
 - 1. Thresholds: Comply with requirements of CBC Section 1133B.2.4.1.
 - 2. Hand Activated Door Opening Hardware: Comply with requirements of CBC Section 1133B.2.5.2.
 - 3. Closers:
 - a. Effort to Operate Doors: Comply with requirements of CBC Section 1133B.2.5.
 - b. Closer Delay Time: Comply with requirements of CBC Section 1133B.2.5.1.
- C. Builders Hardware on Fire Rated Doors: Complying with applicable requirements of NFPA 80 and listed by UL, Warnock Hersey or other independent testing agency acceptable to California State Fire Marshal for given type/size opening and degree of label.
 - 1. Provide proper latching hardware, door closers, approved-bearing hinges and seals whether listed in Hardware Schedule or not.
 - 2. Where emergency exit devices are required on fire-rated doors, (with supplementary marking on doors' UL labels indicating "Fire Door to be Equipped with Fire Exit Hardware") provide UL label on exit devices indicating "Fire Exit Hardware".

1.10 PREINSTALLATION CONFERENCE

- A. Convene preinstallation conference minimum 1 week prior to beginning work of this section.
- B. Attendance: Contractor, hardware supplier, hardware installer, locksmith, Project Inspector and Architect.
- C. Agenda: Review hardware schedule, products, installation procedures and coordination with related work. Review Owner's keying instructions.

1.11 DELIVERY, STORAGE AND HANDLING

- A. Deliver products, store, handle and protect in accordance with manufacturer's instructions and recommendations.
- B. Package hardware items individually in manufacturer's original containers with proper fasteners. Clearly label to indicate contents and identify installation location with door opening code matching that on hardware schedule.
- C. Coordinate delivery of packaged hardware items to site or shops as appropriate for installation.
- D. Store door hardware in secure locked area protected from moisture, sunlight, paint and chemicals.
- E. Inventory door hardware jointly with supplier and installer until each is satisfied quantities are correct.
- F. Ship permanent keys, cylinders and cores directly to Owner from lock manufacturer.

1.12 COORDINATION

- A. Coordinate work of this section with other directly affected sections involving manufacture of internal re-

inforcement for door hardware.

- B. Coordinate hardware for fire rated assemblies with doors and frames for fire rated assemblies. Ensure fire rated hardware in combination with doors and frames meet positive pressure testing requirements for rated assemblies in accordance with California Referenced Standard 12-7-4.

1.13 WARRANTY

- A. Manufacturer's Warranty: Provide warranties of respective manufacturers' regular terms of sale from day of final acceptance as follows:
 1. Closers: 10 years, except electronic closers which shall be 2 years.
 2. Exit devices: 3 years.
 3. Locksets: 7 years.
 4. Other Hardware: 2 years.

1.14 MAINTENANCE MATERIALS

- A. Provide 2 extra key lock cylinders for each master keyed group.
- B. Furnish complete set of specialized tools for continued adjustment, maintenance, and removal and replacement of door hardware. Include instructions for use of tools.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Hinges: Ives: professional.iveshardware.com, 2720 Tobey Dr. Indianapolis, IN 46219 Tel: 877-671-7011; Hager Companies : www.hagerco.com ; sale/rep : Larry Baldwin 165 Worthham Court
- B. Latchsets, Locksets and Cylinders: Schlage Lock Company.www.professionalschlage.com ; Tel : 877-671-7011
- C. Cabinet Locks and Padlocks: Schlage Lock Company. www.professional.schlage.com
- D. Panic/Fire Exit Devices and Removable Mullions: Von Duprin.www.vonduprin.com
- E. Closers and Automatic Operators: LCN. www.lcnclosers.com
- F. Push, Pull and Protections Plates: Ives.
- G. Flush Bolts: Ives.www.professional.iveshardware.com Tel:887-671-7071
- H. Dust Proof Strikes: Ives.
- I. Coordinators: Ives.
- J. Stops and Holders: Ives.
- K. Overhead Stops and Holders: Glynn Johnson Corporation.www.glynnjohnson.ingersollrand.com
- L. Magnetic Holders: LCN.
- M. Thresholds:
 1. National Guard Products, Inc.
 2. Manufacturer Offering Equal Product: Pemko Manufacturing Co.

- N. Astragals, Seals and Bottoms:
 - 1. National Guard Products, Inc.
 - 2. Manufacturer Offering Equal Product: Pemko Manufacturing Co.

O. Silencers: Ives.

2.2 KEYING

- A. Furnish Grand Master, Master, keyed alike or keyed different system as directed by Owner.
 - 1. Provide Schlage Primus "EFP" Level 3 keying system at locations indicated in Hardware Schedule; provide Schlage "EF" keyway on balance of openings
 - 2. Conduct keying meeting with Owner to establish keying requirements. Verify Primus "EFP" Level 3 and existing EF" Keyway locations with Owner.
- B. Provide construction keying for doors requiring locking during construction; remove temporary cores immediately prior to Owner occupancy. Permanent cores and keys are to be shipped directly from factory to the Owner.
- C. Supply keys and key blanks as follows:
 - 1. Keys per by City.

2.3 HINGES

- A. Butt hinges shall conform to applicable requirements of ANSI A156.1 and ANSI A156.7 except where specified otherwise.
- B. Butt hinges for exterior outswinging doors shall have non-removable pins and security studs.
- C. Butt hinges for exterior inswing doors and interior doors shall have non-rising pins.
- D. Loose pin butt hinges for reverse beveled doors with locks shall be constructed in manner that eliminates removal of pins when door is in closed position.
- E. Butt hinges shall be sized in accordance with following:
 - 1. Height:
 - a. Doors up to 36 inches wide: 4-1/2 inches.
 - b. Doors 36 to 48 inches wide: 5 inches.
 - c. Doors over 48 inches wide: 6 inches.
 - 2. Width: Sufficient to clear frame and trim when door swings 180 degrees.

2.4 LATCHSETS, LOCKSETS AND CYLINDERS

- A. Provide latchsets, locksets, cylinders and cabinet locks of types specified from same manufacturer.
- B. Conform to requirements of ANSI A156.
- C. Latchsets and locksets shall be equipped with lever handles per CBC Section 1133B.2.5.2.
- D. Cylinders:
 - 1. Minimum six-pin type with steel cylindrical cases, and interior non-corrosive parts. Do not supply plastic, die-cast or aluminum mechanisms.
 - 2. Provide cylinders capable of receiving cores specified in article titled "Keying" in this section.
 - 3. Furnish with plugs of extruded brass bar material fully round without flattened areas.

- E. Cylindrical Locksets:
 - 1. Heavy duty meeting or exceeding ANSI A156.2, Series 4000, Grade 1 requirements.
 - 2. Trim Design Materials:
 - a. Face Plates: Wrought Bronze.
 - b. Levers: Pressure cast zinc.
 - c. Roses: Wrought bronze.
- F. Backset:
 - 1. Acoustically Gasketed Doors: 3-3/4 inches.
 - 2. Other Doors: 2-3/4 inches.
- G. Strikes:
 - 1. Type: Standard type with extended lips where required to protect trim from marring by latch bolt. Verify cutout types provided in metal frames.
 - 2. Material: Same as lock trim.

2.5 EXIT DEVICES

- A. Conform to applicable requirements of ANSI A156.3 except where specified otherwise.
- B. Lever handles on exit devices shall match lever handles on locksets.
- C. Exit devices shall be prepared to accept interchangeable lock cylinders specified.
- D. Wide stile exit devices shall have deadlatching latch bolts.
- E. Outside trim shall be of wrought construction.
- F. Lever handle trims shall be forged brass with solid cast brass lever handles.
- G. Lever handle trims shall have shear pin design that will give way when 500 pounds of pressure is applied to lever handle.
- H. Exit devices shall incorporate hydraulic sound dampeners to reduce noise.
- I. Provide through bolt internally threaded fasteners for exit devices mounted on wood doors.
- J. Provide cover plates recommended by exit device manufacturer to suit fastening and application.
- K. Provide roller type strikes.

2.6 THRESHOLDS

- A. Thresholds required to be handicapped accessible shall be 1/2 inch high maximum, with a beveled surface of 1:2 maximum slope.
- B. Notch threshold to meet door frames.
- C. Provide flat head expansion sleeve anchors.

2.7 CLOSERS

- A. Closers shall conform to applicable requirements of ANSI A156.4 except where specified otherwise.
- B. Closers shall be full rack and pinion type with steel spring and non-freezing hydraulic fluid.
- C. Arm type shall suit individual conditions; supply parallel arm closers at reverse bevel doors and where doors swing full 180 degrees.
- D. Closers shall have metal covers.

- E. Provide through bolt, internally threaded fasteners for closers in wood doors.
- F. Provide installation accessories such as plates, shoe supports, spacers and adapters as required to secure closers to doors and frames.
- G. Provide templates and adapters as required to install closers on doors with overhead stops.

2.8 KICK PLATES

- A. Kick plates shall be minimum 0.050 inch thick stainless steel.
- B. Kick plates shall be minimum 10 inches high at flush doors and 1 inch less than height of bottom rail at stile and rail doors.
- C. Kick plates shall be 2 inches less than width of door for single doors and 1 inch less than width of each door for pairs of doors.

2.9 SILENCERS

- A. Provide silencers on frames without weatherstripping or gasketing.
- B. Provide type designated by manufacturer for specific frame material.

2.10 FASTENERS

- A. Supply fasteners of proper type, quality, size and finish with hardware.
- B. Exposed fasteners shall be of non-ferrous metal and shall match finish of item being fastened, as close as possible.
- C. Screws for strikes, face plates and similar items shall be flat head, countersunk type; provide machine screws for metal and standard wood screws for wood.
- D. Screws for butt hinges shall be flathead, countersunk, full-thread type.
- E. Fasten closer bases or closer shoes to doors with sex bolts; spray paint bolts to match closer finish.
- F. Fasten exit devices and lock protectors to door with sex bolts or through bolts.
- G. Provide expansion anchors for attaching hardware items to concrete or masonry.
- H. Exposed fasteners shall have Phillips heads.

2.11 FINISHES

- A. Finishes are identified in schedule at end of this section.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that doors and frames are ready to receive work and dimensions are as instructed by manufacturer.
- B. Verify that doors, frames and hardware are free from damage and defects.

- C. Verify that doors, frames and hardware are suitable for intended use.
- D. Verify that power supply of correct characteristics is available to power operated devices.
- E. Do not begin installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and requirements of BHMA. Install hardware on fire rated doors in accordance with hardware listing.
- B. Use templates provided by hardware item manufacturer.
- C. Accurately and properly fit hardware.
 - 1. Securely fasten fixed parts for smooth trouble-free non-binding operation; fit faces of mortised parts snug and flush.
 - 2. Operating parts shall move freely without binding, sticking or excessive clearance.
- D. Protect hardware from damage or marring of finish during construction; use strippable coatings; removable tapes or other acceptable means.
- E. Ensure hardware displays no evidence of finish paint after final building cleanup with exception of prime coated hardware installed for finish painting. Achieve by sequencing installation, removing after fitting and reinstalling after painting is completed, providing protection, cleaning to original hardware finish, or other acceptable means available.
- F. Conform to CBC Section 1133B.2.5.2 for positioning requirements for persons with disabilities. Ensure door operating hardware is mounted between 30 and 44 inches from finished floor.
- G. Mounting heights for hardware from finished floor to centerline of hardware item:
 - 1. Locksets: 40-5/16 inches.
 - 2. Exit Devices (Touchbar): 39 inches.
 - 3. Push Plates/Pull Plates: 44 inches.
- H. Install latches and bolts to automatically engage in keeper whether activated by closer or by manual operation.
- I. Mount closers on room side or pull side unless otherwise indicated.
- J. Adjust door closers to operate noiselessly and smoothly.
 - 1. Set closer to minimum force needed to latch door. Ensure that opening effort does not exceed 5 pounds for interior doors and 5 pounds for exterior doors. Authority having jurisdiction may increase maximum effort to operate fire doors to achieve positive latching but not to exceed 15 pounds maximum.
 - 2. Adjust sweep period of closers so that doors take minimum 3 seconds to move from open position of 70 degrees to point 3 inches from latches measured to leading edges of doors.
- K. Do not install projecting hardware within lower 10 inches of door.
- L. Set exterior thresholds in full bed of sealant. Secure thresholds to concrete slabs with flat head machine screws and expansion anchors.
- M. Set interior thresholds of acoustically gasketed doors in full bed of sealant. Secure with mechanical fasteners.

- N. Set aluminum/vinyl fire and sound seals at acoustically gasketed doors in acoustical sealant.
- O. Set floor mounted door stops within 4 inches of wall. Secure with mechanical fasteners.
- P. Completely remove protective materials and devices. Thoroughly clean exposed surfaces of hardware; check for surface damage prior to final cleaning.

3.3 REPAIR

- A. Replace, rework or otherwise make good hardware found defective as follows:
 1. Unauthorized substitutions.
 2. Items delivered with missing, broken, damaged or defaced parts.
 3. Items of incorrect hand or functions.

3.4 FIELD QUALITY CONTROL

- A. Provide services of AHC or DAHC member of American Society of Architectural Hardware Consultants to inspect installation of hardware.
- B. Make adjustments required and report to Architect upon completion of project.
- C. Field inspection will be performed by Project Inspector.
- D. Schedule inspection with hardware installer, locksmith and Project Inspector upon completion of work of this section. Demonstrate that locksets and exit devices are properly keyed and completely functional.

3.5 ADJUSTING AND CLEANING

- A. Adjust and check each operation item of hardware to ensure proper operation and function.
 1. Lubricate moving parts in conformance with manufacturer's instructions. Use graphite type lubricant if no other type is recommended.
 2. Remove hardware items which cannot be adjusted to operate smoothly and freely and replace with properly functioning hardware.
- B. Final Adjustment:
 1. Recheck, relubricate and readjust hardware installed more than one month prior to acceptance or occupancy of building immediately prior to final inspection.
 2. Adjust door closers after building heating and cooling systems have been balanced.

3.6 DEMONSTRATION

- A. Provide instruction for Owner's personnel in proper adjustment and maintenance of hardware and hardware finishes prior to final inspection.

3.7 SCHEDULE

- A. Items listed in following schedule shall conform to requirements of foregoing specifications.
- B. Door Schedule on Drawings indicates which hardware set is used with each door.
- C. Manufacturer's Abbreviations:

GLY = Glynn-Johnson Corporation
 HAG = Hager
 IVE = Ives

Overhead Stops
 Hinges
 Push, Pulls, Protection Plates, Stops

LCN = LCN
NGP = National Guard Products
SCH = Schlage Lock Company
SEL = Select
VON = Von Duprin

Door Closers, Auto Operators
Thresholds, Gaskets, Weatherstrip
Locks, Latches, Cylinders
Continuous Hinges
Exit Devices, Mullions

D. Hardware Sets:

1.As per Specs.

END OF SECTION

SECTION 09 10 00

METAL SUPPORT SYSTEMS

- A. Section Includes:
1. Provision of metal studs, furring, and suspension systems for support of gypsum board and lath and plaster walls, ceilings, and soffits.
 2. Provision of backing plates for items adjoining or fastening to these systems, unless otherwise noted.
 3. Provision of miscellaneous metal items for attaching stud framing to structure.
 4. Provision of exterior wall framing.
- B. Related Sections:
1. Section 03 30 00 - Cast-In-Place Concrete
 2. Section 05 50 00 - Metal Fabrications
 3. Section 07 21 00 - Building Insulation
 4. Section 08 10 13 - Hollow Metal Doors and Frames
 5. Section 08 30 50 - Access Doors
 6. Section 08 41 00 - Aluminum Entrances and Storefronts
 7. Section 08 52 00 - Aluminum Windows
 8. Section 09 20 00 - Lath and Plaster
 9. Section 09 26 00 - Gypsum Board Assemblies
 10. Division 10 - Specialties
 11. Division 23 - Mechanical
 12. Division 26 - Electrical

1.2 REFERENCES

- A. Current published specifications, standards, tests or recommended methods of trade or industry apply to work of this Section where cited by abbreviations noted below.
1. American Society for Testing and Materials (ASTM)
 - a. ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength
 - b. ASTM A641 - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire
 - c. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
 - d. ASTM A924 - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process
 - e. ASTM A1008 - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability
 - f. ASTM A1011 - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability
 - g. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members
 - h. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products
 - i. ASTM C955 - Standard Specification for Load-Bearing (Transverse and Axial) Steel Studs, Runners (Tracks), and Bracing or Bridging for Screw Application of Gypsum Panel Products and Metal Plaster Bases
 - j. ASTM C1007 - Standard Specification for Installation of Load-Bearing (Transverse and Axial) Steel Studs and Related Accessories
 - k. ASTM C1513 - Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections

2. American Welding Society (AWS)
 - a. AWS D1.1 - Structural Welding Code - Steel
 - b. AWS D1.3 - Structural Welding Code - Sheet Steel
3. Steel Stud Manufacturers Association (SSMA)

1.3 QUALITY ASSURANCE

- A. Design Criteria: Metal studs and furring shall provide plumb, true, straight, and rigid framing for support of collateral materials and shall meet requirements of Chapter 16 of the 2001 California Building Code.

1.4 SUBMITTALS

- A. Documentation for submittals shall be in accordance with the requirements of Section 01330.
- B. Materials List: List items proposed to be provided under this Section.
- C. Product Data: Manufacturer's literature describing products.
- D. Shop Drawings:
 1. Show provisions for heavy fixture anchorage to stud systems and for backing systems which differ from typical details.
 2. Shop Drawings for Exterior Wall Framing: Show component details, framed openings, bearing, anchorage, loading, methods for securing studs to tracks and for welding framing connections, connecting and welding to structure, type and location of fasteners and accessories, and items of other required related work. Include supporting calculations.
 3. Include welding procedure specifications for all welds.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver and store materials in original packages, containers, or bundles bearing brand name and name of manufacturer or supplier for whom product is manufactured. Keep seals unbroken and labels intact until time for use.

PART 2 - PRODUCTS

2.1 PRODUCTS

- A. Metal Stud Manufacturers:
 1. Western Metal Lath, Inc., (800) 365-5284
 2. California Expanded Metal Products Co., (800) 775-2362
 3. Scafco Corp., (800) 263-6347
 4. Knorr Steel Framing Systems, (800) 624-3588
- B. Metal Studs: Types and sizes shall be as shown on the Drawings.
 1. Type A Studs: Typical interior partition stud. C-stud with punched web and minimum 1-1/4" faces; fabricated from 20 gauge hot-dip galvanized carbon steel meeting the requirements of ASTM A653 Grade 33 (steel) and ASTM A924 (G40 coating). Provide Type A studs with the minimum properties for each size stud as follows:

<u>SSMA Section</u>	<u>Size Inches</u>	<u>Net Weight (Pounds Per Foot)</u>	<u>Moment of Inertia (inch to 4th power)</u>	<u>Section Modulus (inch to 3rd power)</u>	<u>Residence Moment X-X (In-k)</u>
162S125-30	1-5/8	0.45	0.060	0.059	1.16
250S125-30	2-1/2	0.54	0.159	0.104	2.06
362S125-30	3-5/8	0.66	0.375	0.175	3.46
400S125-30	4	0.70	0.473	0.202	3.99
600S125-30	6	0.91	1.259	0.331	6.54

2. Type B Studs: C-stud with punched web and minimum 1-3/8" faces with minimum 3/8" returns; fabricated from 20 gauge hot-dip galvanized carbon steel meeting the requirements of ASTM A653 Grade 33 (steel) and ASTM A924 (G60 coating). Provide Type B studs with the minimum properties for each size stud as follows:

<u>SSMA Section</u>	<u>Size Inches</u>	<u>Net Weight (Pounds Per Foot)</u>	<u>Moment of Inertia (inch to 4th power)</u>	<u>Section Modulus (inch to 3rd power)</u>	<u>Residence Moment X-X (In-k)</u>
250S137-33	2-1/2	0.67	0.203	0.156	3.09
362S137-33	3-5/8	0.80	0.479	0.254	5.02
400S137-33	4	0.85	0.603	0.290	5.74
600S137-33	6	1.08	1.582	0.510	10.07

3. Type C Studs: Typical cold-formed metal stud for exterior and interior wall framing. C-stud with punched web and minimum 1-5/8" faces with minimum 3/8" returns; fabricated from 16 gauge hot-dip galvanized carbon steel meeting the requirements of ASTM A653 Grade 50 (steel) and ASTM A924 (G60 coating). Provide Type C studs with the minimum properties for each size stud as follows:

<u>SSMA Section</u>	<u>Size Inches</u>	<u>Net Weight (Pounds Per Foot)</u>	<u>Moment of Inertia (inch to 4th power)</u>	<u>Section Modulus (inch to 3rd power)</u>	<u>Residence Moment X-X (In-k)</u>
362S162-54	3-5/8	1.44	0.873	0.481	10.59
400S162-54	4	1.51	1.098	0.549	12.18
600S162-54	6	1.89	2.860	0.953	21.14
800S162-54	8	2.28	5.736	1.434	31.83

4. Unpunched Type C Studs: Provide Type C studs with unpunched webs where indicated on the Drawings. Provide hot-dip galvanized carbon steel meeting the requirements of ASTM A653 Grade 50 (steel) and ASTM A924 (G60 coating).
- B. Runner Tracks: Typically, the gauge of the runner track shall match the gauge of the studs it accommodates, and unless specifically indicated, the flange dimension shall be a minimum of 1-1/4".
- C. Channels:

1. Typical for Framing, Furring, and Carrying Channels: Cold-rolled steel coated with rust-inhibitive material, with following minimum weights per 1000 lineal feet, subject to standard mill weight tolerances:

<u>Size/Inches</u>	<u>Gauge</u>	<u>Pounds</u>
3/4	16	300
1-1/2	16	475
2	16	590

2. Main Carrying Channels at Gypsum Board Suspended Ceilings Only: In accordance with Chapter 25 of the 2001 California Building Code, provide 1-1/2" cold-rolled steel carrying channels. If hanger wire spacing exceeds 36" on center, provide 1-1/2" hot-rolled steel carrying channels coated with rust-inhibitive material and weighing 1.12

pound per lineal foot.

3. Furring (Hat) Channels, Screw-on Type: 7/8", formed from 20 gauge galvanized steel with either plain or perforated face to receive screws.
- D. Partition Stiffeners or Bridging: Cold-rolled channel or stud manufacturer's standard bridging for approved stud.
- E. Typical Backing Plates: 16 and 14 gauge unpunched studs, flat and bent plates, profiles and gauges as shown.
- F. Backing Plates for Equipment: Flat and formed plates, profiles and thicknesses as shown.
- G. Steel Reinforcement at Glazed Partition Frames: Provide angles in the sizes shown and formed metal in the thicknesses and profiles shown; weld where shown, and coat with rust-inhibitive material.
- H. Miscellaneous Metal Items: Meet requirements of Section 05 50 00.
- I. Fasteners:
 1. Metal Screws: Self-drilling and self-tapping, No. 10 pan head, unless otherwise shown.
 2. Concrete Screws: Specially heat treated screws with a unique Hi-Lo thread design that cuts threads in pre-drilled holes in concrete. Buildex Tapcon Concrete Anchors, or equal.
 3. Expansion Bolts: FS FF-S-325, Group II, Type 4, size as noted. Same as USM Corp., Molly Fastener Division, Parabolt Concrete Anchor; Ramset Fastening Systems Trubolt Wedge Anchor and Ram Drill Self-Drilling Anchor, or equal meeting minimum allowable capacities noted below; or as noted in accordance with the requirements given in ICBO Research Committee Recommendations for the specific anchor if differs from chart below:

Stone Aggregate Concrete (3000 psi and Higher):

BOLT DIA. (INCHES)	MIN. EMBEDMENT (INCHES)	SHEAR* (LBS.)	TENSION* (LBS.)
1/4	3	449	714
3/8	3-1/2	977	1200
1/2	4-3/4	1485	1510
5/8	5-1/2	3114	2120
3/4	6-1/2	4377	3130

* = with special inspection
 4. Machine Bolts, Nuts, and Washers: Low carbon steel standard fasteners, externally and internally threaded, ASTM A307; malleable washers.
- J. Floor Runner Track Fasteners: Tempered steel pins with special corrosion-resistant plating or coating. Pins shall have guide washers to accurately control penetration, minimum 1-1/8". Fastening shall be accomplished by low-velocity piston-driven powder-actuated tool. Pins and tool shall be products of Hilti Fastening Systems; Impex Tool Corporation; or equal.
- K. Hanger, Bracing and Tie Wires: ASTM A641, Class 1 coating, soft temper. Minimum gauges: Hangers, 9; diagonal bracing wire, 12; single-strand tie wire, 16; double-strand tie wire, 18.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Coordinate details and requirements of other work which adjoins or fastens to metal studs or furring and requires backing or special support framing included in this Section.

1. Items requiring backing or support include, but are not limited to, casework, wall-mounted finish hardware, wall-mounted equipment, handrail brackets, and similar items.
2. Obtain the Architect's acceptance of backing method proposed to satisfy requirements of this Section which differs from methods noted or shown.

3.2 INSTALLATION

A. General Requirements:

1. Securely fasten framing members together and to walls, floors, and other structural supports.
2. Wire-Tying:
 - a. For splices, use double-wrap tie.
 - b. For tying horizontal channels placed at intersecting legs of channel brackets, use figure eight tie.
 - c. For tying members perpendicular to each other, use saddle tie.
 - d. Wrap vertical hanger wire minimum three turns within one inch at all main runners.
3. Welding:
 - a. Perform all welding by welders previously qualified for horizontal, vertical, and overhead positions, in accordance with AWS D1.1.
 - b. Use 1" seam welds, unless specifically noted otherwise.
4. Cut Studs: If stud web is cut more than 50% or stud flange is cut to any degree, restore stud to original strength by welding, screwing, or wire-tying on steel reinforcement.
5. Deflection Allowance:
 - a. At structure-high partitions where partitions abut underside of rigid construction, cut studs short, and provide for deflection at head as detailed so as to permit vertical movement of building's structural frame without damage to partition.
 - b. Where partitions abut concrete vertical surfaces, set end stud free of abutting surface and secure ends of horizontal stiffeners in partition to abutting surface.

B. Stud Partition, Typical:

1. Install studs in accordance with ASTM C754, unless otherwise noted.
2. Runner Track:
 - a. Use same runner track type and stud type for partitions, unless otherwise noted.
 - b. Accurately align floor and ceiling runner track and securely attach at maximum 24" on center and at each end.
 - c. Do not miter runner track at corners.
3. Studs:
 - a. Space studs maximum 16" on center, unless otherwise noted.
 - b. Securely attach studs to runner track. Weld studs to track where specifically noted.
 - c. Locate studs maximum 2" from opening jambs, abutting partitions, and other construction.
 - d. At partition corners, position stud to form outside corner and locate another stud within 2" from inside corner along each partition.
4. Stiffen partition with 3/4" horizontally-placed channels not more than 60" apart vertically. Use 1-1/2" channels for unsupported height of 20 feet. Wire-tie stiffeners to inside of studs or secure as recommended by stud manufacturer.
5. Completely frame openings.
6. Where partitions are unsupported laterally for 20 feet or more, secure by stiffening and bracing to structure above, unless otherwise shown.
7. Vertical Framing at Openings Less Than 48" Wide:
 - a. Secure two Type C studs together, nest or form box, and install at each jamb of metal frames continuous from floor to partition top runner-track.
 - b. Weld, bolt, or screw jamb anchors to the Type C studs.
8. Vertical Framing at Openings From 48" to 12 Feet.
 - a. Secure two Type C studs together, nest or form box and seam weld one inch at 24" on center, and install at each jamb continuous from floor to structure above, or as shown. Where ductwork or other obstruction interferes with straight studs,

- head the studs and either offset frame or brace to structure above.
 - b. Weld, bolt, or screw jamb frame anchors to the Type C studs.
 - c. Secure Type C studs to floor and structure above.
 - d. Continue typical partition framing each side of opening.
 - 9. Framing Over Openings:
 - a. Provide horizontal track within head of frame and securely attach to adjacent studs.
 - b. Install cut-to-length jack studs between horizontal track within head of frame and ceiling channel.
 - c. At doors wider than 36" reinforce jack studs with 3/4" furring channel installed maximum 6" above opening. Extend channel a minimum of two stud spaces on each side of opening. Wire-tie channel to inside of all studs and supports.
 - 10. Install studs at glazed partitions as shown.
- C. Furring:
 - 1. Install intermediate bracing at spaces sufficient to provide substantial foundation for collateral materials or other supported items.
 - 2. Secure furring channels vertically at 16" on center.
 - 3. Completely frame openings with channel.
- D. Suspended Gypsum Board Ceilings:
 - 1. Secure suspended ceiling to structural framing using hangers, 1-1/2" carrying channels, and furring channels.
 - a. Space hangers maximum 36" on center along carrying channels spaced maximum 48" on center.
 - b. Attach furring channels to carrying channels at maximum 16" on center.
 - 2. Do not penetrate duct work with hangers.
 - 3. Provide additional carrying channels to clear interfering elements in furred areas.
 - 4. Space ceiling wires at least 6" from unbraced ducts, pipes, and similar items.
 - 5. Provide hanger wires at intersections of grid members at corners of light fixtures.
 - 6. Completely frame openings with channels.
- E. Backing in Stud Partitions and Furring:
 - 1. Typical: Securely weld or screw cut sections of un-punched studs to at least three stud or furring supports, leaving flat surface of backing stud web to receive attachment of object to be secured.
 - 2. Backing for Grab Bars and Equipment: Provide as shown on the Drawings.
 - 3. Verify that any pre-drilling of backing and attachment of spacers to prevent crushing of collateral material is done prior to application of collateral material.
 - 4. If backing has not been provided for an item as required, remove the finish material and install the backing. Patch and refinish the surface to match adjacent areas and surfaces.

3.3 INSTALLATION OF EXTERIOR WALL FRAMING

- A. Install exterior wall framing in accordance with the Drawings and the accepted shop drawings.

END OF SECTION

GYPSUM BOARD ASSEMBLIES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Metal stud and/or wood stud framed partitions, ceilings and soffits and related accessories.
- B. Cementitious backer board.
- C. Gypsum wallboard.
- D. Taped and sanded joint treatment, trims and accessories.
- F. Fire rated occupancy separation walls
- G. Acoustic insulation
- H. Shaft wall system.

1.2 RELATED SECTIONS

- A. Section 05 40 00 - Cold Formed Metal Framing: Bearing metal framing.
- B. Section 06 10 00 - Rough Carpentry: Rough wood blocking within stud framing and interior plywood sheathing.
- C. Section 07 90 00 - Joint Sealers: Acoustic sealant.
- D. Section 08 11 13 - Hollow Metal Doors and Frames
- E. Section 08 31 00 - Access Doors and Panels.
- F. Section 09 29 25 - Gypsum Sheathing.
- G. Section 09 32 00 - Mortar Bed Tiling: Cementitious backer board.
- H. Section 09 81 00 - Acoustic Insulation
- I. Section 09 90 00 - Paints and Coatings: Gypsum board pretreatment for GA-214 Level 5 finish; finish painting.

1.3 REFERENCES

- A. ANSI A108.11 - American National Standard for Interior Installation of Cementitious Backer Units; 1999.
- B. ANSI A118.9 - American National Standard Specifications for Cementitious Backer Units; 1999.
- C. ASTM C36 - Specification for Gypsum Wallboard.
- D. ASTM C442 - Specification for Gypsum Backing Board.
- E. ASTM C 475/ - Standard Specification for Joint Compound and Joint C 475M Tape for Finishing Gypsum Board; 2002.
- F. ASTM C630 - Specification for Water-Resistant Gypsum Backing Board.
- G. ASTM C 645 - Standard Specification for Nonstructural Steel Framing Members; 2004a.
- H. ASTM C 665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2001.
- I. ASTM C 754 - Standard Specification for Installation of Steel Framing Members to Receive

- Screw-Attached Gypsum Panel Products; 2004.
- G. ASTM C 840 - Standard Specification for Application and Finishing of Gypsum Board; 2005.
- H. ASTM C 954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2004.
- I. ASTM C 1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2004.
- J. ASTM C 1178/ - Standard Specification for Glass Mat Water-Resistant C 1178M Gypsum Backing Panel; 2004.
- K. ASTM C1278 - Specification for Fiber-Reinforced Gypsum Panel.
- L. ASTM C 1396/ - Standard Specification for Gypsum Board; 2004.
C 1396M
- M. ASTM D 3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2000 (Re-approved 2005).
- N. ASTM E 90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2004.
- O. ASTM E 413 - Classification for Rating Sound Insulation; 2004.
- P. CBC - California Building Code, 2007.
- Q GA-214 - Recommended Levels of Gypsum Board Finish; Gypsum Association; 1996.
- R. GA 214 - Recommended Specifications for Levels of Gypsum Board Finish.
- S. GA-226 - Application of Gypsum Board to Form Curved Surfaces; Gypsum Association; 1996.
- T. GA-253 - Recommended Specifications for the Application of Gypsum Sheathing; Gypsum Association; 1999.
- U. GA-600 - Fire Resistance Design Manual; Gypsum Association; 2003.
- V. SSPC-Paint 20- Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); Society for Protective Coatings; 2002 (Ed. 2004).
- W. UL (FRD) - Fire Resistance Directory; Underwriters Laboratories Inc.; current edition.

1.4 SYSTEM DESCRIPTION

- A. Acoustic Attenuation for Interior Partitions Indicated as Acoustic: STC of 52 calculated in accordance with ASTM E 413, based on tests conducted in accordance with ASTM E 90.
- B. Shaft Wall: Configure and install components as required to achieve the required fire-rating where designated.

1.5 SUBMITTALS

- A. Product Data: Provide data on gypsum board, glass mat faced gypsum board, cementitious backer board, accessories, and joint finishing system.
- B. Product Data: Provide data describing framing member materials and finish, product criteria, load charts, and limitations. Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements. Describe method for securing studs to tracks, splicing, and for blocking and reinforcement of framing connections.

- C. Manufacturer's Installation Instructions: Indicate membrane seaming precautions, special procedures, and perimeter conditions requiring special attention.
- 1.6 QUALITY ASSURANCE
- A. Perform in accordance with ASTM C 840. Comply with requirements of GA-600 for fire-rated assemblies.
 - B. Perform gypsum board systems work in accordance with recommendations of GA-214 and GA-216 unless otherwise specified in this section.
 - C. Keep copy of GA-214 and GA-216 in field office for duration of project
 - D. Applicator Qualifications: Company specializing in performing metal framing installation, gypsum board application and finishing, with minimum three years of documented experience.
- 1.7 PRE-INSTALLATION MEETING
- A. Convene one week before starting work of this section.
 - B. Review preparation and installation procedures and coordinating and scheduling required with related work.
 - C. Manufacturer's Technical Representative to be present at meeting.
- 1.8 REGULATORY REQUIREMENTS
- A. Fire Rated Partitions and Ceilings:
 - 1. Walls and Partitions: Comply with CBC Section 709.
 - 2. Floor/Ceiling and Roof/Ceiling Assemblies: Comply with CBC Section 710.
- 1.9 MOCK-UP
- A. Provide mock-up of stud wall, ceiling, and soffit framing including door frame and finish specified in other sections. Coordinate with installation of associated work specified in other sections.
 - 1. Mock-up Size: Full height, minimum six feet long, including corner.
 - 2. Mock-up may remain as part of the Work.
- 1.10 PROJECT CONDITIONS
- A. Coordinate the placement of components to be installed within stud framing system.
- 1.11 DELIVERY, STORAGE AND HANDLING
- A. Deliver products to site, store, handle and protect in accordance with manufacturer's instruction and recommendations.
 - B. Deliver materials to site in original unopened containers or bundles clearly marked with manufacturer's name, brand name, size, grade, testing agency listing if applicable and other pertinent data.
 - C. Store materials in original packaging with seal unbroken and labels intact until time of use.
 - D. Protect materials from damage, dirt and moisture.
 - E. Stack gypsum board neatly, flat, with care to avoid damage to edges, ends and surfaces.
- 1.12 ENVIRONMENTAL REQUIREMENTS
- A. Maintain room temperature at not less than 40 degrees F during application of gypsum board except when adhesive is used for attachment of gypsum board.
 - B. For bonding of adhesive and joint treatment, maintain room temperature at not less than 50 degrees for 48 hours prior to application and continuously thereafter until adhesive and joint treatment are completely dry.
 - C. When temporary heat source is used, ensure temperature does not exceed 95 degrees F during

application of gypsum board and joint finishing.

- D. Provide adequate ventilation to eliminate excessive moisture minimum 24 hours before, during and after gypsum board application and joint finishing.
 - 1. Under slow drying conditions, allow additional drying time between coats of joint treatment.
 - 2. During hot, dry weather, protect installed materials from drafts.

1.13 COORDINATION

- A. Coordinate installation of gypsum board with installation of framing and with installation of electrical and mechanical work.
- B. Coordinate installation of gypsum board with application of gypsum board pretreatment specified under Section 09 90 00. Ensure joint treatment specified under this section combined with gypsum board pretreatment results in GA- 214 Level 5 finish on painted gypsum board surfaces.

PART 2 - PRODUCTS

2.1 GYPSUM BOARD MATERIALS

- A. Manufacturers:
 - 1. G-P Gypsum Corporation: www.gp.com/gypsum.
 - 2. National Gypsum Company: www.nationalgypsum.com.
 - 3. USG: www.usg.com.
- B. Gypsum Wallboard: ASTM C 1396/C 1396M. Sizes to minimize joints in place; ends square cut.
 - 1. Regular Type:
 - a. Application: Use for vertical surfaces, unless otherwise indicated.
 - b. Thickness: 5/8 inch (16 mm).
 - c. Edges: Tapered.
 - 2. Fire Resistant Type: Complying with Type X requirements; UL or WH rated.
 - a. At Assemblies Indicated with Fire-Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X.
 - b. Application: Where required for fire-rated assemblies, unless otherwise indicated.
 - c. Thickness: 1/2 inch (13 mm), and 5/8 inch (16 mm), as indicated.
 - d. Edges: Tapered.
 - 3. Ceiling Board: Special sag-resistant type.
 - a. Application: Bulkheads only, unless otherwise indicated.
 - b. Thickness: 1/2 inch (13 mm).
 - c. Edges: Tapered.
 - 4. Abuse-Resistant Type: Gypsum wallboard especially formulated for increased impact resistance, with enhanced gypsum core and heavy duty face and back paper.
 - a. Application: High-traffic areas indicated.
 - b. Core Type: Regular and Type X, as indicated.
 - c. Thickness: 5/8 inch (16 mm), as indicated.
 - d. Edges: Tapered.
- C. Water-Resistant Gypsum Backing Board: ASTM C 1396/C 1396M; ends square cut
 - 1. Application: Interior faces of exterior walls.
 - 2. Core Type: Regular, and Type X, as indicated
 - 3. Thickness: 1/2 inch (13 mm), 5/8 inch (16 mm), as indicated
 - 4. Edges: Tapered.
- D. Gypsum Shaftwall or Coreboard: ASTM C 1396/C 1396M; Type X core; sizes to minimize joints in place; 1 inch (25 mm) thick; square, edges, ends square cut.

2.2 FIBERGLASS REINFORCED BOARD MATERIALS

- A. Cementitious Backer Board: ANSI A118.9, aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces, square cut ends and formed, smooth reinforced edges.

1. Product: Hardibacker by James Hardie Building Products. www.jameshardie.com.
 2. Application: Ceilings and walls.
 3. Standard Type: Thickness 1/2 inch at ceilings and 5/8" at walls.
 4. Fire-Resistant Type: Type X core, thickness 5/8 inch (16 mm).
- B. Glass Mat Gypsum Board: Gypsum panels with moisture-resistant core and coated inorganic fiberglass mat back surface designed to resist growth of mold and mildew, per ASTM D 3273.
1. Coated Glass Mat Backer Board: ASTM C 1178/C 1178M, with coated inorganic fiberglass mat on both surfaces and integral acrylic coating vapor retarder.
 - a. Product: DensGlass Gold manufactured by Georgia-Pacific Corporation
 - b. Application: Ceilings where cement board is not indicated.
 - c. Standard Type: Thickness 1/2 inch at ceilings
 - d. Fire-Resistant Type: Type X core, thickness 5/8 inch (16 mm).

2.3 BOARD ACCESSORIES

- A. Joint Materials: ASTM C 475 and as recommended by gypsum board manufacturer for project conditions.
1. Tape: 4 inch (50 mm) wide, coated glass fiber tape for joints and corners, except as otherwise indicated. Use regular tape at cement board walls not receiving tile.
 2. Powder-type or ready-mixed vinyl-based joint compound.
 3. Chemical hardening type compound.
- B. Fasteners: GA 201; ASTM C1002.
1. To Metal:
 - a. For Cold Formed Light Gauge Steel Framing up to 20 Gauge: ASTM C1002, Type S bugle head drywall screws; 1-1/4 inch or length sufficient to penetrate through framing minimum 1/4 inch, whichever is greater.
 - b. For Cold Formed Light Gauge Steel Framing Over 20 Gauge: ASTM C954; length sufficient to penetrate through second surface minimum 1/4 inch.
 2. To Wood: Bugle head drywall screws; 1-1/4 inch or length sufficient to penetrate framing minimum 5/8 inch, whichever is greater.
 - a. Single Ply Gypsum Board Applications: Type W.
 - b. Multiple Ply Gypsum Board Applications: Type W or Type S.
 3. To Gypsum Backing Board or Base Ply: Type G; 1-1/2 inches long.
- C. Trim: J-Trim, L-Trim, Corner Beads; zinc with all-metal; flanges perforated for face attachment.
1. Corner Beads: Galvanized sheet steel; 1-1/4 perforated flanges; 1/8 inch nose; United States Gypsum's Dur-A-Bead Corner Bead #103, Western's Drywall Corner Bead, or Gold Bond's Wallboard Corner Bead.
 2. Edge Trim: Galvanized sheet steel; minimum 7/8 inch perforated flanges; 1/8 inch bead.
 - a. Locations with Exposed Gypsum Board Edges: "LC" bead; United States Gypsum's #200-A, Western's #108 U-Metal, or Gold Bond's #100 Wallboard Casing.
 - b. Other Locations: "L" bead; United States Gypsum's #200-B, Western's "L" Metal #202, or Gold Bond's #200 Wallboard Casing.
 3. Control Joints: Roll formed zinc; 3/32 inch grounds; 1/4 inch wide x 7/16 inch deep "V" reveal; removable strip protection; United States Gypsum's Control Joint #093.
- D. Skim Coat: Ready-mixed, thin-set acrylic polymer-fortified Portland cement.
- E. Laminating Adhesive: GA 216; setting type powder gypsum board joint compound; rapid chemical hardening; low shrinkage; high bond strength; recommended by manufacturer for laminating multiple layer fire-rated assemblies.
- F. Reinforcing Tape, Joint Compound, Adhesive and Water: GA 216.

2.4 FRAMING MATERIALS

- A. Metal Framing, Connectors, and Accessories Manufacturers:

1. Clark Steel Framing Systems; www.clarksteel.com.
 2. Dietrich Metal Framing; www.dietrichindustries.com.
 3. The Steel Network Inc; www.SteelNetwork.com
 4. Substitutions: See Section 01600 - Product Requirements.
- B. Fire Rated Assemblies: Comply with applicable code and as indicated on drawings.
- C. Non-Load bearing Framing System Components: ASTM C 645; galvanized G60/Z180 sheet steel, of size and properties necessary to comply with ASTM C 754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf (240 Pa).
1. Studs: C shaped with flat or formed webs with knurled faces. Sizes include 1.5/8, 2.1/2, 3.5/8, and 6, and 12 inch.
 2. Runners: U shaped, sized to match studs.
 3. Ceiling Channels: C shaped.
- D. Ceiling Hangers: Type and size as specified in ASTM C 754 for spacing required.
- E. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
 2. Material: ASTM A 653/A 653M steel sheet, SS Grade 50, with G60/Z180 hot dipped galvanized coating.
 3. Provide components UL-listed for use in UL-listed fire-rated head of partition joint systems indicated on drawings.
 4. Provide top track preassembled with connection devices spaced to fit stud spacing indicated on drawings; minimum track length of 12 feet (3660 mm).
- F. Tracks and Runners: Same material and thickness as studs, bent leg retainer notched to receive studs with provision for crimp locking to stud.
- G. Furring and Bracing Members: Of same material as studs; thickness to suit purpose; complying with applicable requirements of ASTM C 754.
- H. Fasteners: ASTM C 1002 self-piercing tapping screws.
- I. Sheet Metal Backing: 0.036 inch (0.9 mm) thick, galvanized.
- J. Anchorage Devices: Power actuated.
- K. Acoustic Insulation: As specified in Section 07 21 20.
- L. Acoustic Sealant: As specified in Section 09 26 00.
- M. Touch-Up Primer for Galvanized Surfaces: SSPC-Paint 20, Type I - Inorganic.

2.5 FRAMING FABRICATION

- A. Fabricate assemblies of framed sections to sizes and profiles required.
- B. Fit, reinforce, and brace framing members to suit design requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.
- B. Coordinate with other trades for their provision of blocking, backing, rough-ins and special anchors; ensure that such items are properly installed and located prior to installing wall board.
- C. Coordinate with other trades for exact location and requirements for access doors, subject to review

by the Architect/Engineer.

- A. Verify that site conditions are ready to receive work and opening dimensions are as instructed by manufacturer.
- B. Verify that metal furring is installed and is properly secured, spaced and aligned so that specified tolerances can be achieved.
- C. Verify that blocking, backing and bracing for fixtures, equipment, accessories, hardware and other items secured to walls are installed and are properly secured and aligned so that specified tolerances can be achieved.
- D. Verify that steel door frames have been properly set for thickness of board to be used and opening dimensions are as instructed by manufacturer.
- E. Verify that mechanical, plumbing, electrical and other items to be enclosed in walls and partitions are installed, inspected and approved.
- F. Do not begin installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF STUD FRAMING

- A. Comply with requirements of ASTM C 754.
- B. Extend partition framing to structure where indicated and to ceiling in other locations.
- C. Partitions Terminating at Ceiling: Attach ceiling runner securely to ceiling framing in accordance with details.
- D. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.
- E. Align and secure top and bottom runners at 24 inches (600 mm) on center.
- F. At partitions indicated with an acoustic rating:
 - 1. Provide components and install as required to produce STC rating of 52, based on published tests by manufacturer conducted in accordance with ASTM E 90 with STC rating calculated in accordance with ASTM E 413.
 - 2. Place one bead of acoustic sealant between runners and substrate, studs and adjacent construction.
 - 3. Place one bead of acoustic sealant between studs and adjacent vertical surfaces.
- G. Fit runners under and above openings; secure intermediate studs to same spacing as wall studs.
- H. Install studs vertically at spacing indicated on drawings.
- I. Align stud web openings horizontally.
- J. Secure studs to tracks using crimping method. Do not weld.
- K. Stud splicing is not permissible.
- L. Fabricate corners using a minimum of three studs.
- M. Double stud at wall openings, door and window jambs, not more than 2 inches (50 mm) from each side of openings.
- N. Brace stud framing system rigid.
- O. Coordinate erection of studs with requirements of door and window frames; install supports and attachments.
- P. Coordinate installation of bucks, anchors, and blocking with electrical and mechanical work to be

placed within or behind stud framing.

- Q. Blocking: Use wood blocking secured to studs. Provide blocking for support of plumbing fixtures.
- R. Use sheet metal backing for reinforcement of equipment over 20 lbs.

3.3 CEILING AND SOFFIT FRAMING

- A. Comply with requirements of ASTM C 754.
- B. Install furring after work above ceiling or soffit is complete. Coordinate the location of hangers with other work.
- C. Install furring independent of walls, columns, and above-ceiling work.
- D. Securely anchor hangers to structural members or embed in structural slab. Space hangers as required to limit deflection to criteria indicated. Use rigid hangers at exterior soffits.
- E. Space main carrying channels at maximum 48 inches on center, and not more than 6 inches (150 mm) from wall surfaces. Lap splice securely.
- F. Securely fix carrying channels to hangers to prevent turning or twisting and to transmit full load to hangers.
- G. Place furring channels perpendicular to carrying channels, not more than 2 inches (50 mm) from perimeter walls, and rigidly secure. Lap splices securely.
- H. Reinforce openings in suspension system which interrupt main carrying channels or furring channels with lateral channel bracing. Extend bracing minimum 24 inches (600 mm) past each opening.
- I. Laterally brace suspension system.

3.4 SHAFT WALL INSTALLATION

- A. Shaft Wall Framing: Comply with manufacturer's installation instructions.
 - 1. Fasten runners to structure with short leg to finished side, using appropriate power-driven fasteners at not more than 24 inches (600 mm) on center.
 - 2. Install studs at spacing required to meet performance requirements.
- B. Shaft Wall Liner: Cut panels to accurate dimension and install sequentially between special friction studs.
 - 1. On walls over sixteen feet high, screw-attach studs to runners top and bottom.
 - 2. Seal perimeter of shaft wall and penetrations with acoustical sealant.

3.5 GYPSUM BOARD AND GLASS MAT FACED BOARD INSTALLATION

- A. Comply with ASTM C 840 and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
 - 1. Exception: Tapered edges to receive joint treatment at right angles to framing.
- C. Double-Layer Non-Rated: Use gypsum board for first layer, placed parallel to framing or furring members, with ends and edges occurring over firm bearing. Use glass mat faced gypsum board at exterior walls and at other locations as indicated. Place second layer perpendicular to framing or furring members. Offset joints of second layer from joints of first layer.
- D. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of listing authority.
- E. Cementitious Backing Board: Install over steel framing members where indicated, in accordance with ANSI A108.11 and manufacturer's instructions.

1. Apply boards with the rough face of the board facing outward and the long dimension horizontal across supports.
 - a. Cement Board Substrate for Resinous Coating: Cement board which is serving as the substrate for the resinous coating specified in Section 09805, Resinous Coating, shall be installed with the smooth face of the board facing outward.
 2. Stagger boards so corners of any four boards will not meet at the same point. Arrange joints on opposite sides of partition to occur on different studs. At external corners, butt and fit boards to provide solid edge.
 3. No horizontal or vertical joints shall be within 12" of corners of openings.
 4. Make joints on solid backing for proper fastening of boards.
 5. Neatly fit abutting ends and edges of boards, but do not force into place.
- F. Glass Mat Faced Gypsum Board: Install in strict accordance with manufacturer's instructions.
- G. Installation on Metal Framing: Use screws for attachment of all gypsum board.
- H. Curved Surfaces: Apply gypsum board to curved substrates in accordance with GA-226.
- I. Moisture Protection: Treat cut edges and holes in glass mat faced board with sealant.
- J. Hold all gypsum board and glass mat faced board panels 1/2" off concrete slabs.
- K. Fastening:
1. Stagger screws at adjoining edges or ends.
 2. Spacing:
 - a. Space screws not less than 3/8" from edges and ends.
 - b. Space screws 8" maximum on center along the perimeter and 8" maximum on center in the field.
 - c. Ceilings and Soffits: Space screws 6" maximum on center along the perimeter and 6" maximum on center in the field.
 - d. Fire-Rated Walls: Fasten in accordance with requirements of UL tested assembly.

3.6 INSTALLATION - GENERAL

- A. Install gypsum board in accordance with recommendations of GA-216.
- B. Install gypsum board in sound rated and fire rated partitions, walls and roof/ceiling assemblies in accordance with listed designs indicated on Drawings.
- C. Where listed designs are proprietary, use products of the listed manufacturer throughout the system. Do not mix components of alternate proprietary design.
- D. For non-rated partitions, install single layer standard gypsum board in most economical direction with ends and edges occurring over firm bearing.
- E. For double layer applications, use gypsum backing board or gypsum board for first layer. Use fire rated board for fire rated partitions and ceilings.
- F. Install five sided rated gypsum board enclosures at recessed light fixtures in fire rated ceilings.
- G. Use screws when fastening gypsum board to furring and framing. Use screws in combination with laminating adhesive at double layer applications in accordance with listed design.
- H. In rated assemblies, space fasteners in accordance with listed designs. In non-rated partitions, space fasteners in accordance with CBC Table 25A-G.
- I. Install moisture resistant gypsum board where indicated on Drawings. Treat cut edges and holes in moisture resistant gypsum board with sealant.
- J. Install abuse-resistant gypsum board where indicated on Drawings.
- K. Make cut-outs in gypsum board regular; do not fracture core or tear covering of gypsum board.

- L. Minimize penetrations of sound rated and acoustically insulated construction. Penetrate only where necessary; coordinate application of acoustical sealant to fully seal annular space.
 - 1. Where ducts, conduit and piping greater than 3-inches in diameter penetrate acoustically insulated partitions and ceilings, provide clearance of 1 inch \pm 1/4 inch at perimeter of penetration.
 - 2. Where conduit and piping less than 3-inches in diameter penetrate acoustically insulated partitions and ceilings, provide clearance of 1/4 inch \pm 1/8 inch at perimeter of penetration.
- M. Place corner beads at external corners. Place edge trim where gypsum board terminates, abuts dissimilar materials and as details.
 - 1. Use longest practical lengths.
 - 2. Secure to framing with screws through face of flanges.
- N. Place control joints consistent with lines of building spaces as indicated. Space control joints as indicated and:
 - 1. Where partition, wall or ceiling traverses a construction joint in base building structure.
 - 2. Where partition or wall runs in uninterrupted straight plane exceeding 30 linear feet.
 - 3. In ceilings with perimeter relief so that distance between control joints does not exceed 50 feet and total area between joints does not exceed 2500 sq ft.
 - 4. In ceilings with perimeter relief where ceiling members change direction and intermediate blocking is not installed.
 - 5. In ceilings without perimeter relief so that distance between control joints does not exceed 30 feet and total area between joints does not exceed 900 sq ft.
 - 6. In ceilings without perimeter relief where ceiling members change direction.

3.7 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
- B. Corner Beads: Install at external corners, using longest practical lengths.
- C. Edge Trim: Install at locations where wall board abuts dissimilar materials and as indicated.

3.8 GYPSUM BOARD JOINT TREATMENT

- A. Tape, fill and sand joints, fastener heads, edges and corners to the following levels in accordance with GA 214:
 - 1. Gypsum Board Concealed Above Ceilings: Level 1 except as required otherwise by listed designs for fire and sound construction.
 - a. Embed tape in joint compound at joints and interior angles.
 - b. Remove excessive joint compound; tool marks and ridges are acceptable.
 - 2. Gypsum Board Concealed Behind Wall Mirrors, Paneling and Tile: Level 2.
 - a. Embed tape in joint compound at joints and interior angles.
 - b. Apply separate coat of joint compound over joints, angles, fastener heads and accessories.
 - c. Remove excessive joint compound; tool marks and ridges are acceptable.
 - 3. Gypsum Board to Receive Paint Finish: Level 4.
 - a. Embed tape in joint compound at joints and interior angles.
 - b. Apply 3 separate coats of joint compound over joints, angles, fastener heads, and accessories.
 - c. Finish joint compound smooth and free of tool marks and ridges.
 - d. Coordination of pretreatment emulsion specified under Section 09 90 00; ensure that application of emulsion in combination with Level 4 joint treatment provides a Level 5 finish.
- B. Feather each successive coat beyond edge of previous coat so that maximum camber is 1/32 inch.
 - 1. At tapered edges of gypsum board, feather each successive coat 2 inches beyond edge of previous coat.

previous coat.

3. At fastener heads, feather each successive coat 2 inches beyond edge of previous coat.

4. At corner beads and edge trim, feather each successive coat 2 inches beyond edge of previous coat.

C. Allow joint compound to thoroughly dry between coats.

D. Sand joint compound between coats. Lightly sand last coat to eliminate laps and to smooth surface while taking care not to roughen face paper of gypsum board.

E. Backfill cutouts with joint compound so that annular space does not exceed 1/8 inch.

3.9 TOLERANCES

A. Maximum Variation from True Position: 1/8 inch in 10 feet (3 mm in 3 m). B. Maximum Variation from Plumb: 1/8 inch in 10 feet (3 mm in 3 m).

3.10 ADJUSTING

A. Repair evidence of popping or ridging fasteners.

3.11 FINISH LEVEL SCHEDULE

A. Walls above finished ceilings concealed from view: Level 1

B. Utility and maintenance areas: Level 3

C. Walls and ceilings scheduled to receive flat or eggshell paint finish: Level 4

D. Cement board ceilings: Level 5 (for coverage of surface texture)

END OF SECTION

THIN-SET TILING

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes: Provision of ceramic tiles complete with trim, grout, sealants, and accessories for floor and wall applications, where shown on the Drawings, as specified, and as needed for a complete and proper installation for new work or new work to match existing adjacent tile work.
- B. Related Sections:
 - 1. Section 07 92 00 – Joint Sealants
 - 2. Section 08 11 13 – Hollow Metal Doors and Frames
 - 3. Section 08 31 00 - Access Doors
 - 4. Section 09 29 00 – Gypsum Board
 - 5. Section 10 21 13 - Toilet Compartments
 - 6. Section 10 28 13 - Toilet Accessories

1.2 REFERENCES

- A. Reference Standards:
 - 1. American National Standards Institute (ANSI)
 - a. A108.1A-1999 Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar
 - b. A108.1B-1999 Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar
 - c. A108.1C-1999 Contractors Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar
 - d. A108.4-1999 Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile-Setting Epoxy Adhesive
 - e. A108.5-1999 Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar
 - f. A108.6-1999 Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy
 - g. A108.10-1999 Installation of Grout in Tile work
 - h. A108.11-1999 Interior Installation of Cementitious Backer Units
 - i. A118.1-1999 Dry-Set Portland Cement Mortar
 - j. A118.3-1999 Chemical Resistant, Water Cleanable Tile-Setting and Grouting Epoxy and Water Cleanable Tile-Setting Epoxy Adhesive
 - k. A118.4-1999 Latex-Portland Cement Mortar
 - l. A118.6-1999 Standard Cement Grouts for Tile Installation
 - m. A118.9-1999 Cementitious Backer Units
 - n. A136.1-1999 Organic Adhesives for Installation of Ceramic Tile
 - o. A137.1-1988 Ceramic Tile
 - 2. Tile Council of America, Inc. (TCA) TCA 2003-2004 Handbook for Ceramic Tile Installation (41st Edition)
 - 3. American Society for Testing and Materials (ASTM)
 - a. ASTM C150 - Standard Specification for Portland Cement
 - b. ASTM C373 - Standard Test Method for Water Absorption, Bulk Density, Apparent Porosity, and Apparent Specific Gravity of Fired Whiteware Products
 - c. ASTM C920 - Standard Specification for Elastomeric Joint Sealants

- d. ASTM C1028 - Standard Test Method for Determining the Static Coefficient of Friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method
- 4. Federal Specifications (FS)
 - a. FS TT-S-00227e Sealing Compound. Rubber Base, Two components
 - b. FS TT-A-00230c Sealing Compound, Synthetic-Rubber Base, Single Component, Chemically Curing
 - c. FS TT-S-001543a Sealing Compound, Silicone Rubber Base
 - d. FS TT-S-001657 Sealing Compound-Single Component, Butyl Rubber Based, Solvent Release Type

1.3 SUBMITTALS

- A. Documentation for submittals shall be in accordance with the requirements of Section 01330.
- B. Materials List: List items proposed to be provided under this Section.
- C. Product Data: Submit manufacturer's product data on tiles, bonding material, grouting, adhesive, and mortar.
- D. Samples: Submit full size samples of each type of tile and trim piece selected. Submit samples of tinted grout.
- E. Manufacturer's Maintenance Guides: Furnish maintenance guides for the Owner's use in maintaining all tile work specified.
- F. Compliance for required recycled content, locally harvested / manufactured materials, and VOC requirements for adhesives, sealants, paints, and coatings as indicated in Section 01 95 05.

1.4 QUALITY ASSURANCE

- A. The installer shall be a firm with a minimum of five years of successful experience in the industry with comparable projects.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to jobsite in manufacturer's unopened containers with grade seals unbroken and labels intact.
- B. Store products off ground on level flat forms, fully protected from weather.

1.6 PROJECT CONDITIONS

- A. Maintain temperature at 50 °F minimum during tile work and for 7 days after completion.
- B. Vent temporary heaters to outside to avoid carbon dioxide damage to new tile work.
- C. Provide adequate lighting for good grouting and clean-up.
- D. Protection: Protect adjoining work surfaces before tile work begins.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. Ceramic Wall Tile:
 - 1. Type: Dust-pressed, natural or white clay, non-vitreous

2. Face Size: 4-1/4" x 4-1/4" and 6" x 6" or as shown on drawings
 3. Thickness: 0.32"
 4. Finish: Bright glazed, smooth
 5. Patterns and Colors: As selected by the Architect.
 6. Product: American Olean Bright and Matte; Dal-Tile, Dal-Semi-Gloss, or equal.
- B. Ceramic Mosaic Floor Tile:
1. Type: Dust-pressed, porcelain body, impervious
 2. Face Size: 2" x 2"
 3. Thickness: 1/4"
 4. Finish: Unglazed. Minimum coefficient of friction (C.O.F.) when tested in accordance with ASTM C1028 shall be as follows.
 - a. Dry C.O.F.: 0.7 - 0.8
 - b. Wet C.O.F.: 0.6 - 0.7
 - c. Wet C.O.F. when used on ramps: 0.8
 5. Patterns and Colors: As selected by the Architect.
 6. Manufacturer: American Olean Unglazed Procelain Ceramic Mosaics; Dal-Tile Dal-Keystone, or equal.
- C. Tile Trim Shapes and Bases:
1. Trim units and shapes shall be of same type as the tile with which they are used and shall comply with ANSI A137.1. Trim shapes shall match tile in size, color, and finish, unless otherwise shown. Use surface type trim for thin-set installations.
 2. Observe the following requirements:
 - a. Base: Coved, unless otherwise shown.
 - b. Inside Corners: Square.
 - c. Outside Corners: Bullnose.
 - d. Jamb: Bullnose where tilework projects from face of jamb.
 - e. Miscellaneous: Provide stops, angles, trimmers, returns, and other shapes shown or required to produce a completely finished installation.
- D. Water: Clean and potable; suitable for use with tile materials.
- E. Latex Portland Cement Mortar: Commercially formulated, latex modified, thin-set portland cement mortar meeting the requirements of ANSI A118.4.
- F. Tile Adhesive: Waterproof organic adhesive meeting the requirements of ANSI A136.1 Type 1.
1. Primer and sealer shall be of type and consistency as recommended by the adhesive manufacturer.
 2. VOC content of Tile Adhesive must be less than 65 g/L.
- G. Prepared Grouts: ANSI A118.6.
1. Latex-Portland Cement Grout (Sanded): Commercially prepared and formulated, factory mixed and colored. Grout shall be waterproof sand/cement type. Grout shall be prepared with the manufacturer's recommended acrylic latex grout additive. Grout color shall be as selected from samples.
 2. Dry Tile Grout (Unsanded): Commercially prepared and formulated blend of selected grades of ground quartz, white Portland cement, and colorfast pigments, to be used for small joints not to exceed 1/8", unsanded, nonstaining. Grout shall be prepared with the manufacturer's recommended acrylic latex grout additive.
 3. Epoxy Grout: ANSI A118.3. Water-cleanable; chemical, stain, and shock resistant; multicomponent; 100% solids; colored epoxy grout. Grout color shall be as selected from samples.

- H. Sealant (Concealed): FS TT-S-001657. Butyl rubber, non-skinning, non-bleeding, non-drying, gun grade; Pecora BC-158; Tremco Butyl Sealant; OSI SBR-100; or equal. Oil base compounds will not be permitted.
- I. Sealant (Exposed, Non-trafficked Areas): ASTM C920, Type S, NS, Class 25; FDA (21 CFR 175.105 Adhesives); NSF Std. No. F-51. One component, non-sag, mildew resistant silicone sealant. Dow Corning Corp., 786 Mildew-Resistant Silicone Sealant; General Electric Co., SCS 1700 Sanitary Sealant; or equal.
- J. Sealant (Horizontal Joints Subject to Traffic Abrasion): As specified in Section 07900.
- K. Protective Materials:
 - 1. Neutral cleaner such as Hillyard Super Shine-All; Custom Building Products; American Olean; Aqua Mix; or equal.
 - 2. Protective Cover: Heavy duty, non-staining construction paper with compatible masking tape.
 - 3. Sealer such as Hillyard Onex-Seal It; Custom Building Products, American Olean; Aqua Mix; or equal.
- L. Metal Divider: 3/16" width heavy top, L-angle. Height of vertical leg to suit tile thickness. PTE Dividers by Klein Co. Inc., (800) 241-0681; Schluter Systems; or equal.
- M. Cleavage Membrane: Fabric-reinforced liquid rubber polymer waterproof membrane system such as Laticrete International, Inc. Laticrete 9235 Anti-Fracture Membrane; or fabric-reinforced chlorinated polyethylene sheet membrane system such as The Noble Company Noble Seal CIS Crack Isolation Sheet; or equal.
- N. Waterproof Membrane: Fabric-reinforced liquid rubber polymer waterproof membrane system such as Laticrete International, Inc. Laticrete 9235 Waterproof Membrane; or fabric-reinforced chlorinated polyethylene sheet membrane system such as The Noble Company Chloraloy; or equal.
- O. Cement Backer Board: Cementitious tile backerboard system with fiberglass tape joint reinforcement. USG Industries, Inc. Durock Tile Backer Board; Modulars, Inc. Wonder-Board; or equal.
- P. Other Materials: Provide other materials which are not specifically described but are required for a complete and proper installation.

2.2 SOURCE QUALITY CONTROL

- A. Grade Marking and Certification:
 - 1. Ceramic tile shall meet or exceed Standard Grade requirements of ANSI A137.1.
 - 2. Provide Master Grade Certificate and grade labels in accordance with requirements of ANSI A137.1.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine the substrate on which the work is to be installed. Before tiling, be sure variations of surface to be tiled fall within maximum variations shown below:

	<u>Walls</u>	<u>Floors</u>
Dry-Set Mortar	1/8" in 8'	1/8" in 10'
Latex Portland		

Cement Mortar

1/8" in 8'

1/8" in 10'

- B. Report unacceptable surfaces to the Architect, and do not tile such surfaces until they are leveled enough to meet above requirements. Do not proceed with the work until unsatisfactory conditions have been corrected.
- C. Verify that substrates are dry, firm, level, clean, and free of curing membranes, oil, grease, wax, dust, and loose particles. Substrates shall be of proper thickness to provide finished surfaces as indicated. Ensure that plumbing work and other items concealed behind or to be mounted on tiles are set up in place or provided for. Starting work implies acceptance of surfaces.

3.2 PREPARATION

- A. Prior to setting tiles, caulk around pipes and conduits penetrating tile surface using the specified sealant. Such caulking shall be concealed.
- B. Prepare slab to promote positive bond with mortar. Where slab has been steel trowelled to a smooth, glass-like finish, etch slabs with muriatic acid solution, rinse, and allow surface to dry completely prior to application of topping. Protect adjacent finished surfaces from acid damage.

3.3 INSTALLATION

- A. Setting Methods: Install tile in accordance with recommendations of the TCA 2003-2004 Handbook for Ceramic Tile Installation.
 - 1. Walls:
 - a. Interior, Applied on Gypsum Board: TCA W243, Latex-Portland cement mortar bond coat.
 - b. Interior, Applied on Cured Mortar Bed: TCA W241, Latex-Portland cement mortar bond coat.
 - c. Interior, Applied on Cement Backer Board: TCA 244, Latex-Portland cement mortar bond coat.
 - 2. Floors:
 - a. Interior, Applied on Slab-on-Grade: TCA F113, Latex-Portland cement mortar bond coat.
 - b. Interior, Applied on Mortar Bed on Slab-on-Grade: TCA F112, Latex-Portland cement mortar bond coat on a cured bed, or Portland cement paste on a mortar bed that is still workable.
 - c. Interior, Applied on Above-Grade Concrete Floor: TCA F122, Thin-set with latex-Portland cement mortar bond coat over latex membrane.
 - d. Interior, Applied on Mortar Bed on Above-Grade Concrete Floor: TCA F121, cement mortar bed over latex membrane. Bond coat shall be a latex-Portland cement mortar bond coat on a cured bed, or Portland cement paste on a mortar bed that is still workable.
 - 3. Shower Walls/Floors: TCA B414 and B415.
- B. Expansion Joints: TCA EJ171.
- C. Layout:
 - 1. Lay out tile with fields centered; avoid use of tile less than 1/2 size. Unless otherwise noted, align tile square, parallel, and straight with uniform joints.
 - 2. Determine locations of movement joints before starting tile work.
 - 3. Determine locations of accessories before starting tile work. Locate cuts in both walls and floors so as to be the least conspicuous.
 - 5. Lay out tile wainscots to the next full tile beyond dimensions shown by adjusting wainscot height slightly as required to utilize full tile.
 - 6. Make joints between tile sheets the same width as the joints within the sheets so that the extent of each sheet is not apparent in the finished work.
 - 7. Metal Divider: Install metal divider at tile and resilient flooring junction. Fasten securely to concrete.

8. Maximum slope of floors shall be 1/2 inch per foot in any direction.

D. Setting:

1. Use all products in accordance with the written recommendations and directions of the manufacturer.
2. Proportion mixes in accordance with the latest ANSI Standard Specifications.
3. When cutting is required, grind edges smooth. Smooth all exposed cut edges. Ensure cut edges are clean before installing tiles.
4. Firmly imbed tile in setting material with finished surfaces brought to true planes, sloped uniformly, where required, to drain.
5. Fit tile carefully against trim and porcelain accessories, around pipes, electric boxes, and other built-in fixtures so that escutcheons, plates, and collars will completely overlap cut edges.
6. When using glazed tile sheets, drill pipe holes to minimize tearing of sheets.
7. Be sure tile work is free of grout film upon completion.

E. Grouting: Grout all interior tile with epoxy grout.

1. Follow grout manufacturer's written recommendations for grouting procedures and precautions.
2. Allow at least 24 hours to elapse before grouting to permit solvents of adhesive material to escape.
3. Thoroughly brush and wash out joints; where required, saturate with clean water before grouting.
4. Fill entire depth of joints with grout.
5. Grout square edge tile joints flush with face of tile making neatly finished smooth surface.
6. Grout joints of other than square edge tiles to full depth, and then removes grout to expose modified edges.
7. Take precautions to prevent staining grouted joints.
8. At outlets, pipes, and fittings, caulk with butyl rubber caulking; do not grout.
9. Remove grout haze, observing both tile and grout manufacturers' recommendations as to the use of acid and chemical cleaners.
10. Rinse tile work thoroughly with clean water before and after chemical cleaners.
11. Polish surface of tile work with soft cloth.

3.4 PROTECTION

- A. Apply to all clean, completed tile walls and floors a protective coat of neutral cleaner solution, 1 part cleaner to 1 part water.
- B. Cover tile floors with heavy-duty, non-staining construction paper, taped in place.
- C. Prohibit foot and wheel traffic on newly tiled floors for at least 3 days, preferably 7 days.
- D. Just before final acceptance of the work, remove paper and rinse protective coat of neutral cleaner from tile surfaces.

END OF SECTION

PAINTS AND COATINGS

- A. Field application of paints and coatings to newly installed surfaces.
 - B. Backpriming.
- 1.2 RELATED SECTIONS
- A. Shop primed products specified in other sections.
- 1.3 REFERENCES
- A. ASTM D16 - Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.
 - B. ASTM D2016 - Test Method for Moisture Content of Wood.
 - C. CBC - California Building Code, latest edition.
- 1.4 DEFINITIONS
- A. Conform to ASTM D16 for interpretation of terms used in this section.
- 1.5 SUBMITTALS
- A. Product Data: Submit complete list of materials in form of paint systems scheduled listing specific product intended for each coat. In addition, submit manufacturer's data for each product to be used identified by manufacturer's name and product label or stock number.
 - B. Samples: Submit samples, minimum 8-1/2 x 11 inches in size, illustrating finishes and colors to be used. Identify each sample with color name, color number, finish name, and formula. For transparent or stained finishes, apply finish to material identical to that which it will be applied on job.
 - C. Manufacturer's Application Instructions: Indicate preparation and application requirements and procedures.
- 1.6 QUALIFICATIONS
- A. Product Manufacturer: Company specializing in manufacturing quality paint and finish products with minimum 5 years documented experience.
 - B. Applicator: Company specializing in commercial painting and finishing with minimum 5 years documented experience and approved by product manufacturer.
- 1.7 REGULATORY REQUIREMENTS
- A. Conform to regulations of Bay Area Air Quality Management District and California Air Resources Board regarding use of architectural coatings (paint).
- 1.8 QUALITY ASSURANCE
- A. VOC emissions from paints and coatings must not exceed the VOC and chemical component limits of Green Seal's Standard GS-11 requirements.
- 1.9 FIELD SAMPLES
- A. Provide field-test panels testing adhesion of specified finish costs to shop primers. Provide 1 sample, minimum 24 x 24 inches in size for each type of existing surface to be painted or finished.
 - 1. Apply finish coat to shop primed substrate and allow to dry in accordance with manufacturer's

- application instructions.
2. Cut "X" minimum 12 x 12 inches through finish coat; cover with 2 inch wide thoroughly adhered masking tape.
 3. After minimum 48 hours, remove tape.
 4. If finish coat remains totally adhered, proceed with specified system. If primer fails, notify Architect.

1.10 COLOR MOCK-UP

- A. Provide full exterior paint color mock-ups based on final reviewed color samples.
- B. Paint front elevation of 1 set of end units extending from end wall to party wall and from ground floor slab to eave per systems specified in colors selected to illustrate color and color relationships at full scale.
- C. Locate mock-up as directed by Architect. Mock-up to incorporate balconies and garden wall.
- D. Architect may modify paint colors to achieve desired appearance; repaint mock-up with modified colors as directed by Architect until accepted by Architect.
- E. Retain accepted mock-ups in undisturbed condition until work of this section is complete.
- F. Accepted mock-ups may remain as part of the work.

1.11 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site, store, handle and protect in accordance with manufacturer's instructions and recommendations.
- B. Deliver products to site in sealed and labeled containers; inspect to verify acceptance.
- C. 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.
- D. Store paint materials at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F in well ventilated area, unless required otherwise by manufacturer's instructions.
- E. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.12 ENVIRONMENTAL REQUIREMENTS

- A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 45 degrees F for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is above 50 percent, unless required otherwise by manufacturer's instructions.
- C. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
- D. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

1.13 SEQUENCING AND SCHEDULING

- A. Coordinate backpriming with installation of millwork, trim, and plywood.

1.14 EXTRA MATERIALS

- A. Deliver 1-gallon container of each color and surface finish to District; obtain receipt.
- B. Label each container with color, finish, and room locations, in addition to manufacturer's label.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Opaque Coatings:

1. Kelly-Moore Paint Co., 565 S. Van Ness Avenue, SF, CA 94110; (415) 558-8925 P; [www:kellymoore.com](http://www.kellymoore.com).
2. Other Manufacturers Offering Acceptable Equal Products:
 - a. Dunn-Edwards Corporation, 759 Bryant Street, SF, CA 94107; (415) 227-0359 P; [www:dunnedwards.com](http://www.dunnedwards.com).
 - b. ICI Dulux Paints; 548 7th Street, SF, CA 94103; (415) 863-7235 P; -1008 F; (800) 984-5444 Toll Free.
 - c. The Sherwin Williams Company; 320 4th Street, SF, CA 94107; (415) 495-5720 P; [www:Sherwin-williams.com](http://www.Sherwin-williams.com)
 - d. Transparent Coatings: Samuel Cabot Incorporated; 1620 Castilleja Avenue; Palo Alto, CA 94306; (650) 322-1311 P; Minwax Company; 10 Mountainview Road ,Upper Sadle River, NJ 07458; Phone: (800)523-9299; www.minwax.com, or equal.

B. Gypsum Board Pretreatment:

1. United States Gypsum Company, Davis Bates, 650 Horse Shoe Loop, Tracy, CA 95376; (925)765-4161 Cell; (925)941-6230 Office; Sheetrock Primer-Surfacers.
2. Other Manufacturers Offering Equal Products:
 - a. Hamilton Drywall Products, 295 North Pekin Road, Woodland, WA 98674; 800-871-4998 P; 800-871-5007 F; info@hamiltondrywallproducts.com
 - b. The Sherwin Williams Company, 320 4th Street, SF, CA 94107; (415) 495-5720 P; [www:Sherwin-williams.com](http://www.Sherwin-williams.com)

2.2 MATERIALS

A. Paints:

1. Ready mixed.
2. Process pigments to soft paste consistency, capable of being readily and uniformly dispersed to homogeneous coating.
3. Good flow and brushing properties; capable of drying or curing free of streaks or sags.

B. Gypsum Board Pretreatment: Flat latex basecoat paint formulated to equalize differences in porosity and texture variations of gypsum board face paper and joint compound to provide level 5 finish per GA 214 when applied over a Level 4 finish.

C. Accessory Materials: Linseed oil, turpentine, paint thinners, shellacs and other materials not specifically indicated but required to achieve the finishes specified, of commercial quality.

2.3 FINISHES

A. Refer to schedule at end of section for surface finish schedule.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- C. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 1. Gypsum Wallboard: 12 percent.
 2. Portland Cement Plaster (Stucco): 12 percent.

- 3. Concrete: 12 percent.
- 4. Interior Located Wood: 15 percent, measured in accordance with ASTM D2016.
- 5. Exterior Located Wood: 15 percent, measured in accordance with ASTM D2016.
- D. Verify that specified touch-up primers and finish coats are compatible with shop applied primers.
- E. Do not begin installation until unsatisfactory conditions have been corrected. Application of prime coat will be considered acceptance of receiving surface.

3.2 PREPARATION OF NEWLY INSTALLED SURFACES FOR PAINTING

- A. Prepare newly installed surfaces in accordance with paint manufacturer's instructions and recommendations.
- B. Remove electrical raceways and plates, hardware, light fixture trim, and fittings prior to preparing surfaces or finishing.
- C. Correct minor defects and clean surfaces which affect work of this section.
- D. Seal marks which may bleed through surface finishes.
- E. Impervious Surfaces: Remove mildew by scrubbing with solution of trisodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- F. Insulated Coverings: Remove dirt, grease, and oil from canvas and cotton.
- G. Gypsum Board Surfaces: Latex fill minor defects; texture or sand to match adjacent surface. Sweep surface clean with broom and wipe with damp rag; remove excess powder from sanding. Apply gypsum board pretreatment in accordance with manufacturer's instructions and recommendations to gypsum board surfaces scheduled to receive coating system. Ensure gypsum board is finished to Level 5 per GA 214 with a surface that is smooth, even and true to plane.
- H. Galvanized Surfaces: Remove surface contamination and oils and wash with solvent. Etch, rinse and allow to dry.
- I. Uncoated Steel and Iron Surfaces: Remove grease, scale, dirt and rust. Where heavy coatings of scale are evident, remove by wire brushing or with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Spot prime paint after repairs.
- J. Shop Primed Steel Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Prime metal items including shop primed items.
- K. Prefinished Steel Surfaces: Remove oil, grease, dirt and other contaminants. Etch, rinse and allow to dry.
- L. Aluminum Surfaces Scheduled for Paint Finish: Remove surface contamination by steam or high pressure water. Remove oxidation with acid etch and solvent washing. Apply etching primer immediately following cleaning.
- M. Shop Primed Aluminum Surfaces: Sand and scrape to remove loose primer and oxidation. Feather edges to make touch up patches inconspicuous. Prime bare steel surfaces. Prime metal items including shop primed items.
- N. Prefinished Aluminum Surfaces Scheduled to Receive Paint Finish: Remove surface contamination by washing with mild solution of solvent-free detergent or household ammonia. Thoroughly flush with water to remove residual detergent or ammonia; allow to dry. Remove factory applied wax coatings by wiping surface with clean cloth saturated with industrial solvent. If, after testing, intercoat adhesion is not acceptable, lightly sand or power wash to roughen factory finished surface taking care not to remove factory finish; ensure surface is painted within 24 hours.
- O. Exterior Wood Items Scheduled to Receive Paint Finish: Remove dust, grit and foreign matter. Seal knots, pitch streaks and sappy sections. Fill nail holes with tinted exterior caulking compound after prime coat has been applied.

P. Interior Wood Items Scheduled to Receive Paint Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats.

Q. Wood and Metal Doors Scheduled for Painting: Seal top and bottom edges with primer.

3.3 PROTECTION

A. Protect elements surrounding the work of this section from damage or disfiguration.

B. Repair damage to other surfaces caused by work of this section.

C. Furnish drop cloths, shields, and protective methods to prevent spray or droppings from disfiguring other surfaces.

D. Remove empty paint containers from site.

3.4 APPLICATION

A. Apply products in accordance with manufacturer's instructions.

B. Spray apply paint to metal doors, access doors, access panels, louvers, grilles and registers.

C. Apply material evenly, free from sags, runs, crawls, holidays, brush marks, lap marks, defects and blemishes. Cut sharply to lines.

D. Do not apply finishes to surfaces that are not dry.

E. Apply each coat to uniform finish and to thickness recommended by manufacturer.

F. Apply each coat of paint slightly darker than preceding coat unless otherwise approved.

G. Sand lightly between coats to achieve required finish.

H. Allow applied coat to dry before next coat is applied.

I. Where clear finishes are required, tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

J. Prime back surfaces, edges, and ends of woodwork and plywood with primer paint.

K. Finish top, bottoms and edges of doors same as door surfaces with same number of coats.

L. Paint edges and adjacent sides of wood framing in contact with soffit vents with one coat of flat black paint.

M. Paint every newly installed and existing exposed interior and exterior surface, except as specified or noted otherwise, whether or not paint is scheduled and colors are designated.

1. Do not paint plated or prefinished surfaces unless painting is specified, scheduled or noted.

2. Paint hot dipped galvanized and electrolytic zinc coated surfaces. Include metal counterflashings exposed to weather, vent flashings and risers on roof.

3. Paint factory primed surfaces.

4. Do not paint concrete masonry units.
5. Do not paint glass fiber reinforced concrete units.
6. Do not paint integrally colored concrete.

3.5 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Remove unfinished and designated prefinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- B. Prime and paint interior and exterior insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, and collars and supports. Do not paint prefinished surfaces unless painting is specified, scheduled, or noted.
 1. Paint prefinished roof top mechanical units.
 2. Paint galvanized and electrolytic zinc coated items.
 3. Paint shop primed equipment.
 4. Paint prefinished equipment occurring within finished areas.
- C. Paint interior surfaces of air ducts that are visible through grilles and louvers with one coat black paint. Paint dampers exposed behind grilles and louvers to match face panels.
- D. Replace identification markings on mechanical or electrical equipment when painted accidentally.
- E. Paint exposed conduit and electrical equipment occurring in finished areas.
- F. Paint both sides and edges of plywood backboards for electrical and telephone equipment before installing equipment. Prime and paint with 1 coat flat enamel in color to match adjacent wall.
- G. Reinstall electrical plates and raceways, hardware, light fixture trim, and fittings removed prior to finishing.

3.6 CLEANING

- A. As work proceeds, promptly remove paint where spilled, splashed, spattered or oversprayed.
- B. Repair surfaces damaged by spilled, splashed, spattered or oversprayed paint. Replace surfaces which cannot be repaired to satisfaction of Architect.
- C. During progress of work maintain premises free of unnecessary accumulation of tools, equipment, surplus materials, and debris.
- D. Collect cotton waste, cloths, and material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

3.7 PAINTING AND FINISHING SCHEDULE - EXTERIOR NEWLY INSTALLED SURFACES

- A. As per Plans

I. Pre-Finished Metals: Acrylic Enamel - Semi-Gloss Finish

Pretreatment	Detergent Wash
Rinse	Clean Water
1st coat	295 Uni-Prime All Purpose Primer/Sealer
2nd coat	1520 Enviro-Cote Acrylic Semi-Gloss
3rd coat	1520 Enviro-Cote Acrylic Semi-Gloss

J. Aluminum: Acrylic Enamel - Semi-Gloss Finish

1st coat	5725 DTM Acrylic Metal Primer
2nd coat	1520 Enviro-Cote Acrylic Semi-Gloss
3rd coat	1520 Enviro-Cote Acrylic Semi-Gloss

K. Wood and Plywood - Painted: Acrylic Enamel - Semi-Gloss Finish

1st coat	975 Acry-Plex Acrylic Enamel Undercoat
2nd coat	1520 Enviro-Cote Acrylic Semi-Gloss
3rd coat	1520 Enviro-Cote Acrylic Semi-Gloss

L. Factory Primed Wood and Plywood: Acrylic Enamel - Semi-Gloss Finish

1st coat	1520 Enviro-Cote Acrylic Semi-Gloss
2nd coat	1520 Enviro-Cote Acrylic Semi-Gloss

M. Hardwood Trim:

Transparent Finish, water based oil-modified urethane finish.
Magee, Waterthane 701, or equal.

3.9 SAFETY STRIPPING AT EXTERIOR – INTERIOR STAIRS

- A. Safe-Stride Acrylic Anti-Slip Safety Coating as manufactured by Wooster Products, Inc.; or equal.

3.10 SCHEDULE OF COLORS/SHEENS

- A. Color number designations on Drawings identify colors, indicate number of paint colors on project and location of those colors.
- B. Colors:
1. Exterior Surfaces:
 2. Interior Surfaces:
- C. Sheens:
1. Metals:
 - a. Interior Ducts Behind Registers: Flat finish.
 - b. Other Metals: Semi-gloss finish.
 2. Gypsum Board:
 3. Other Materials: As listed in Painting and Finishing Schedules above.

END OF SECTION

POLICE DEPARTMENT TOILET ROOM MODIFICATION

1555 OAK STREET ALAMEDA CA 94501

ITALO A. CALPESTRI III
& ASSOCIATES AIA

220 COLUMBIA AVENUE
KENSINGTON, CA 94708
CELL: (510) 851-2387
FAX: (510) 525-3140



PLANS & SPECIFICATIONS ARE PREPARED AS INSTRUMENTS OF SERVICE FOR THE CLIENT AND ARE THE PROPERTY OF THE ARCHITECT AND SHALL NOT BE USED FOR OTHER WORK WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT.

OWNER:

CITY OF ALAMEDA
POLICE DEPARTMENT
1555 OAK STREET
ALAMEDA, CA 94501

STAMP:

JOB SITE COPY

REVISIONS:
No. DESCRIPTION DATE

PROJECT

CITY OF ALAMEDA
POLICE DEPARTMENT
TOILET ROOM MODIFICATION, SECOND FLOOR
1555 OAK STREET
ALAMEDA, CA 94501

DRAWING TITLE
COVER SHEET

PROJECT No. : 201409
DRAWN BY: DH
CHECKED BY: IAC
DATE:
SCALE: AS NOTED

SHEET NO.: A-0

ABBREVIATIONS

A/C	AIR CONDITIONING	ID	Inside Dimension/Diameter
ACOUS.	ACOUSTICAL	INSUL.	Insulation
ADJ.	Adjacent	INT.	Interior
A.F.F.	Above Finish Floor	KITCH.	Kitchen
AL.	Aluminum	LAM.	Laminate
APPROX.	Approximate	LAV.	Lavatory
ARCH.	Architectural	LT	Light
BD.	Board	MAX.	Maximum
BLDG.	Building	MECH.	Mechanical
BLK.	Block	MFR.	Manufacturer
BLKG.	Blocking	MIN.	Minimum
BTM.	Bottom	MISC.	Miscellaneous
CAULK	Caulking	MTD.	Mounted
CBC	Calif. Building Code	MTL.	Metal
CEM.	Cement	N.I.C.	Not In Contract
CER.	Ceramic	N.T.S.	Not To Scale
CLG.	Ceiling	NO. or #	Number
CLR.	Clear	O/	Over
COL.	Column	O.A.	Overall
CONC.	Concrete	O.C.	On Center
CONSTR.	Construction	O.D.	Outside Dimension/Diameter
CONT.	Continuous	PL.	Plate
CORR.	Corridor	P-LAM.	Plastic Laminate
CTR.	Center	PLAS.	Plaster
DBL.	Double	PLYWD.	Plywood
DEPT.	Department	POT.	Path of travel
DET.	Detail	REF.	Reference
DIA.	Diameter	REQ.	Required
DIM.	Dimension	RL	Rain Leader
DN.	Down	R.O.	Rough Opening
DR	Door	SHT.	Sheet
D.S.	Downspout	SIM.	Similar
DWG.	Drawing	SS	Stainless Steel
E.A.	Each	SPEC.	Specification
E.J.	Expansion Joint	STD.	Standard
EL.	Elevation	STL.	Steel
ELEC.	Electrical	STOR.	Storage
ELEV.	Elevator, Elevation	TOC	Top of Concrete/Curb
EMER.	Emergency	T & G	Tongue and Groove
EQPT.	Equipment	TEL	Telephone
EWB.	Electrical Wall Heater	TEM	Tempered
EXIST.	Existing	TOP	Top of Plate
EXT.	Exterior	TPR	Temperature Pressure Relief
F.A.	Fire Alarm	TYP.	Typical
F.E.	Fire Extinguisher	UON	Unless Otherwise Noted
F.E.C.	Fire Extinguisher Cabinet	W.C.	Water Closet
FIN.	Finish	W/	With
FL., FLR.	Floor	W/O	Without
FLUOR.	Fluorescent	WD.	Wood
FRP	Fiber Reinforced Plastic	WH	Water Heater
FT.	Foot or Feet		
FURR.	Furring		
GA	Gauge		
GC	General Contractor		
GL	Glass		
GYP.	Gypsum		

GENERAL NOTES

- ALL WORK, MATERIALS AND INSTALLATIONS SHALL BE IN STRICT ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL BUILDING CODES AND ORDINANCES INCLUDING THE MOST RECENT REVISIONS, ADDITIONS, AMENDMENTS AND INTERPRETATIONS.
- THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE SHOWN ON THE DRAWINGS AND OBTAIN A CLARIFICATION FROM THE ARCHITECT BEFORE PROCEEDING WITH RELATED WORK.
- THE GENERAL CONTRACTOR SHALL NOTIFY THE OWNER FOR IMMEDIATE RESOLUTION OF ANY DISCOVERED DISCREPANCIES. EXAMPLES INCLUDE:
 - DISCOVERY OF CODE VIOLATIONS, NON-COMFORMING CONSTRUCTION, HAZARDOUS MATERIALS OR OTHER ISSUES REGARDING EXISTING FIELD CONDITIONS.
 - DISCOVERY OF CONFLICTS BETWEEN EXISTING FIELD CONDITIONS AND PROPOSED CONSTRUCTION.
 - DISCOVERY OF CONFLICTS BETWEEN ASPECTS OF PROPOSED CONSTRUCTION.
 - AREAS OF THE CONTRACT DOCUMENTS WHERE THE INTENT IS UNCLEAR.
 - DISCOVERY OF ERRORS OR OMISSIONS IN THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL USE WRITTEN DIMENSIONS ONLY. DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHOWN ARE TO FACE OF STUD, UNLESS OTHERWISE NOTED. DIMENSIONS DESIGNATED AS "CLEAR" SHALL BE MAINTAINED. CONTRACTOR SHALL OBTAIN ARCHITECT'S APPROVAL FOR ANY DIMENSIONAL ADJUSTMENTS AND COORDINATE ADJUSTMENTS WITH RELATED AREAS OF WORK.
- THE CONTRACTOR SHALL COORDINATE THE FOLLOWING ISSUES WITH THE BUILDING OWNER PRIOR TO COMMENCEMENT OF DEMOLITION WORK:
 - USE OF PUBLIC AREA FOR THE DELIVERY AND REMOVAL OF MATERIALS.
 - SALVAGE OF EXISTING MATERIALS AND EQUIPMENT TO BE REMOVED.
 - SECURITY ISSUES DURING THE PROCESS OF THE WORK.
- THE COMPLETE SCOPE OF WORK FOR THIS PROJECT MAY NOT BE LIMITED TO THE INFORMATION INDICATED IN THE CONSTRUCTION DOCUMENTS. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE WORK OF OTHERS WITH EXISTING CONDITIONS AND THE REQUIREMENTS OF THESE DOCUMENTS. IF APPLICABLE, THE CONTRACTOR SHALL SUBMIT ALL DESIGN-BUILD DRAWINGS TO THE OWNER AND THE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO COMMENCING WORK.
- ALL WORK SHALL BE PERFORMED IN A SAFE AND ORDERLY MANNER TO ENSURE THE SAFETY AND PROTECTION OF ALL PERSONNEL AND ADJACENT SPACES. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY.
- THE CONTRACTOR SHALL FURNISH AND MAINTAIN ANY TEMPORARY FACILITIES, BARRICADES AND CONTROLS, ETC., AS DURING THE COURSE OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING ADEQUATE PROTECTION OF AREAS ADJACENT TO NEW CONSTRUCTION AND ALL WORK IN PLACE THAT IS SUBJECT TO DAMAGE AS A RESULT OF THE WORK. ALL FORMS OF PROTECTION SHALL BE CONSTRUCTED IN A MANNER SUCH THAT, UPON COMPLETION, THE ENTIRE WORK AND ADJACENT AREAS SHALL BE DELIVERED IN UNDAMAGED CONDITION.
- HOURS OF CONSTRUCTION SHALL BE SCHEDULED IN ACCORDANCE WITH OWNER'S REQUIREMENTS.

SCOPE OF WORK

- MODIFY EXISTING NON-BEARING PARTITIONS.
- REMOVE AND REPLACE EXISTING FLOOR, WALL AND EXISTING CEILING FINISHES, LT FIXTURES, SHOWER, & TOILET ROOM FIXTURES.
- NO CHANGE IN BUILDING FOOTPRINT OR AREA INCREASE.
- NO REDUCTION IN PARKING SPACES.
- NO STRUCTURAL CHANGES.

CODE DATA

APPLICABLE CODES & REGULATIONS:
ALL WORK SHALL BE PERFORMED TO THE FOLLOWING CODES:

CALIFORNIA BUILDING CODE	2013 EDITION
CALIFORNIA FIRE CODE	2013 EDITION
CALIFORNIA ADMINISTRATIVE CODE (T-24)	2013 EDITION
CALIFORNIA MECHANICAL CODE	2013 EDITION
CALIFORNIA PLUMBING CODE	2013 EDITION
CALIFORNIA ELECTRICAL CODE	2013 EDITION
CALIFORNIA ENERGY CODE	2013 EDITION
CALIFORNIA RESIDENTIAL BUILDING CODE	2013 EDITION
CALIFORNIA GREEN BUILDING STANDARDS CODE	2013 EDITION

APN: 73-390-40-1

CONSTRUCTION TYPE: TYPE IIIA

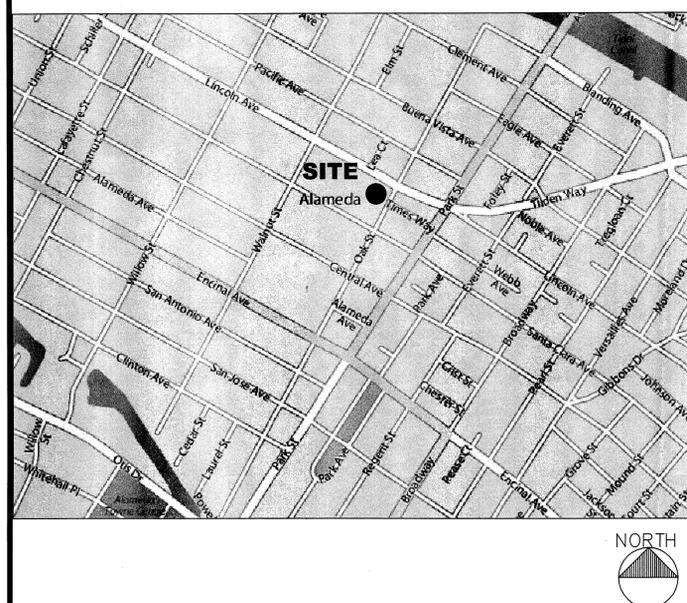
OCCUPANCY CLASSIFICATION: B

NUMBER OF STORIES: 2 STORIES WITH BASEMENT

SYMBOLS

	ELEVATION DRAWING NUMBER		WEATHER PROOF LIGHT FIXTURE
	SHEET WHERE DRAWN		WALL MOUNTED LIGHT FIXTURE
	DETAIL DRAWING NUMBER		WALL SWITCH
	SHEET WHERE DRAWN		110V RECEPTACLE
	DOOR TAG		GFCI GROUND FAULT INTERRUPT RECEPTACLE
	WINDOW TAG		WP WATER PROOF RECEPTACLE
	KEY NOTE NUMBER		+42" RECEPTACLE MOUNTED AT HEIGHT NOTED
	PAINT COLOR NUMBER		SMOKE & CARBON MONOXIDE DETECTOR/ALARM
	ALIGN SURFACES		J BOX
	REVISION		CEILING MOUNTED LIGHT FIXTURE
	GRID LINE REFERENCE		RECESSED LIGHT FIXTURE
			FAN, VENT TO DAYLIGHT, PANASONIC CONTINUOUS OPERATION BATHROOM FAN W/MOTION SENSOR & LIGHTS FV-13VKML3. EXTERIOR VENT TO BE MIN. 3' FROM ANY WALL OPENING. FAN TO BE ENERGY STAR RATED W/HUMIDITY CONTROL.
			EMERGENCY LT WALL MTD FIXTURE. McPHILBEN CTX 54W HALOGEN OR APPD EQ. PROVIDE EMERGENCY BACK UP POWER.
			EXIT SIGN. ARROW DENOTES DIRECTION, WHERE APPLICABLE

LOCATION MAP



PLAN CHECK APPROVAL
This plan has been reviewed to conform with the 2012 CA Building Code and City Ordinance. Although this plan appears to meet minimum requirements of said Code and City Ordinance, the approval does not constitute a guarantee of accuracy, nor is any responsibility made for the construction of other structural elements not shown. Any permit issued pursuant to this plan shall not constitute a submittal or endorsement of the work shown.

Date: 2/17/14
Signature: [Signature]



PLANS & SPECIFICATIONS ARE PREPARED AS INSTRUMENTS OF SERVICE FOR THE CLIENT AND ARE THE PROPERTY OF THE ARCHITECT AND SHALL NOT BE USED FOR OTHER WORK WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT.

OWNER:

CITY OF ALAMEDA
POLICE DEPARTMENT
1555 OAK STREET
ALAMEDA, CA 94501

STAMP:

REVISIONS:
No. DESCRIPTION DATE

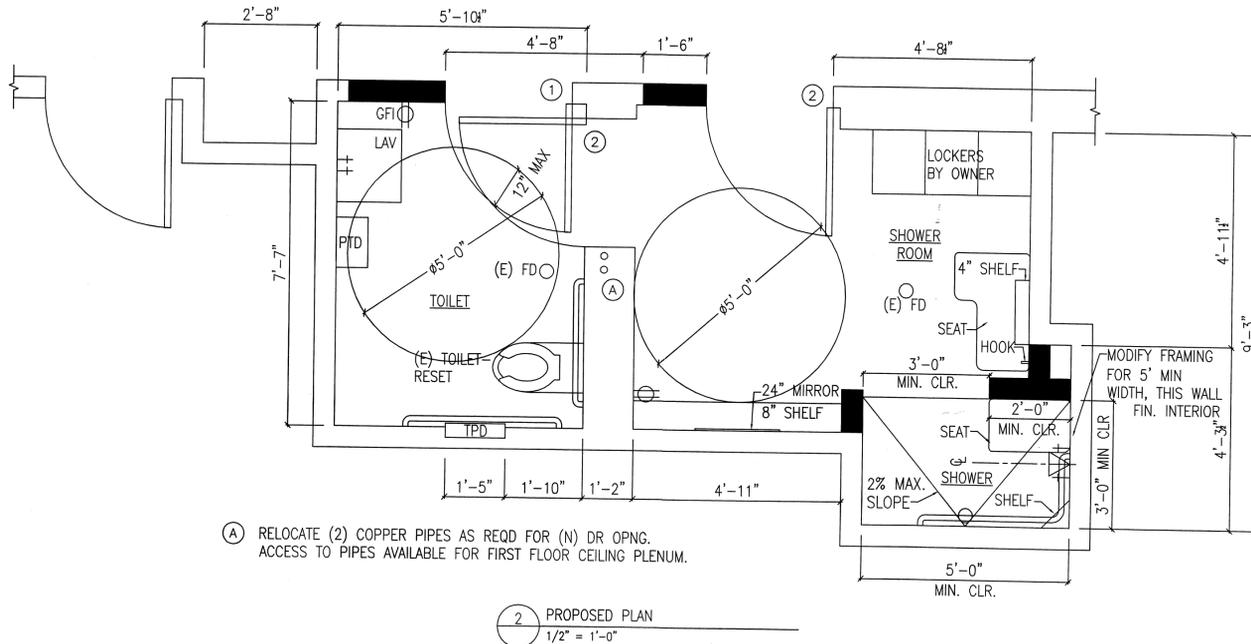
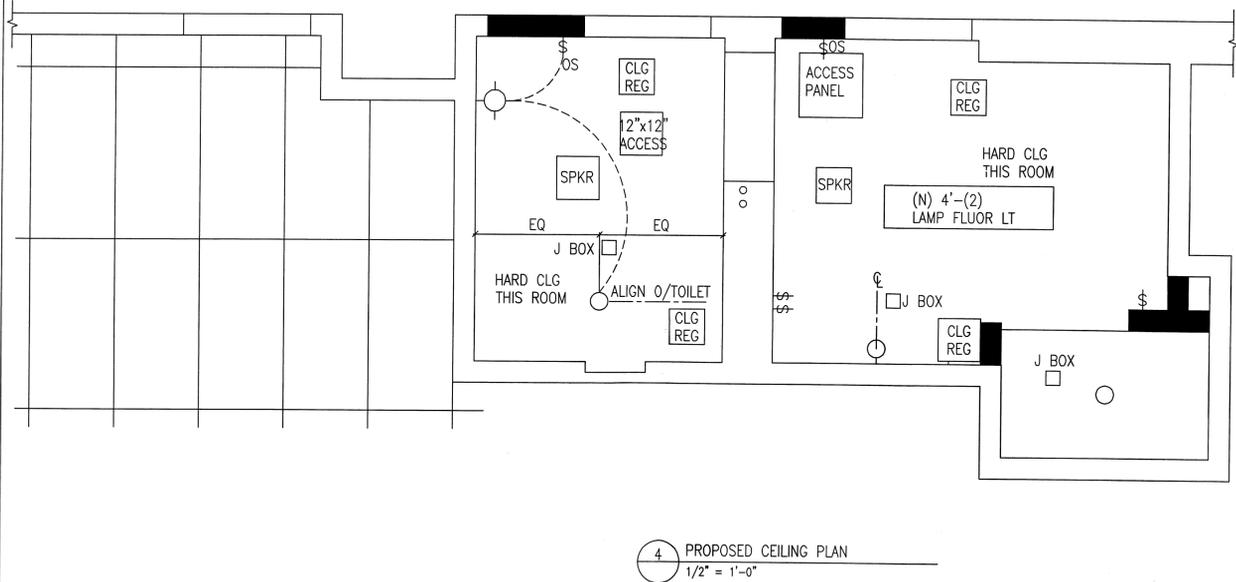
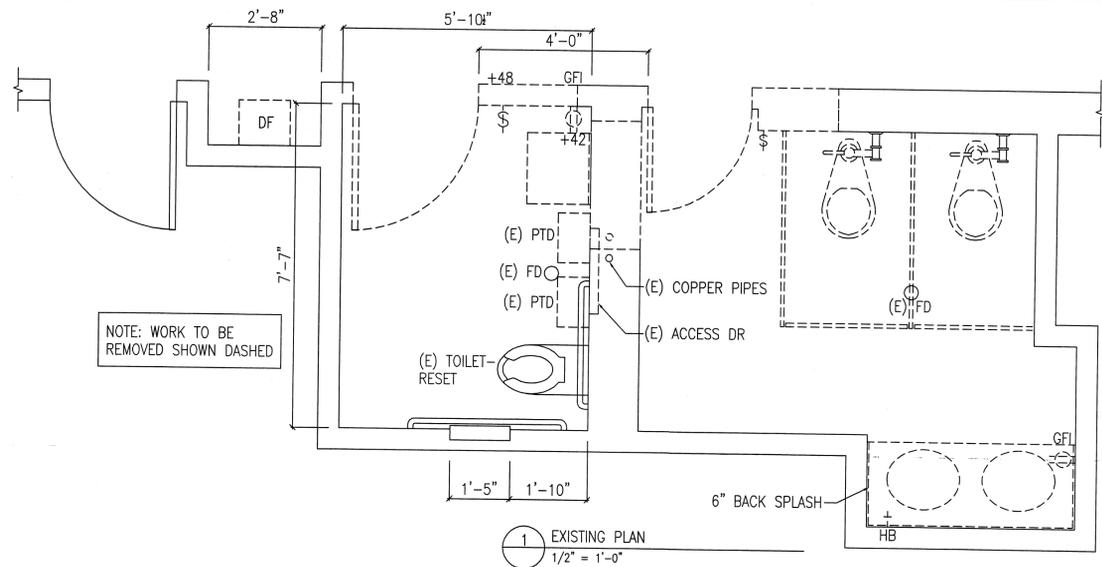
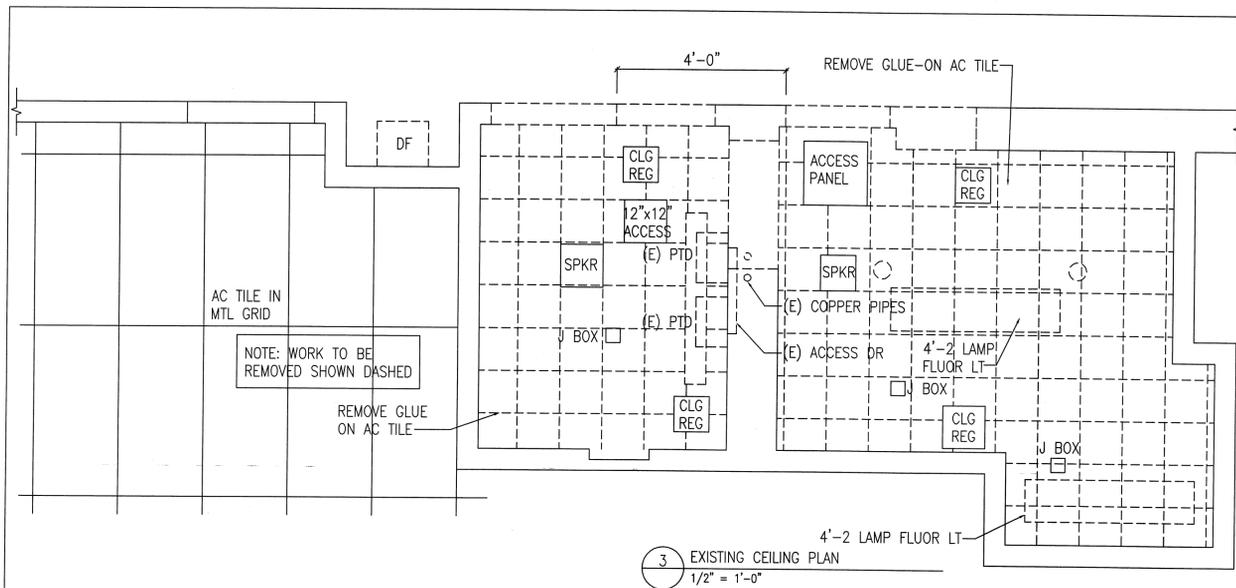
PROJECT
CITY OF ALAMEDA
POLICE DEPARTMENT
TOILET ROOM MODIFICATION, SECOND FLOOR
1555 OAK STREET
ALAMEDA, CA 94501

DRAWING TITLE
EXISTING & PROPOSED
PLANS
DOOR SCHEDULE
RECEIVED
FEB 11 2015

PROJECT No. ALAMEDA, CA 94501
DRAWN BY: DH
CHECKED BY: IAC
DATE:
SCALE: AS NOTED

SHEET NO.:

A-1



(A) RELOCATE (2) COPPER PIPES AS REQD FOR (N) DR OPNG. ACCESS TO PIPES AVAILABLE FOR FIRST FLOOR CEILING PLENUM.

DOOR SCHEDULE

NUMBER	LOCATION	TYPE	SIZE	THICKNESS	FIRE	MATERIAL	FINISH	FRAME	FINISH	HARDWARE	REMARKS
1	TOILET	A	3/0 X 7/0	1 3/4"	STL 20 MIN	MATCH (E)	MATCH (E)	STL 20 MIN	FACTORY	1	
2	SHOWER	A	3/0 X 7/0	1 3/4"	STL 20 MIN	MATCH (E)	MATCH (E)	STL 20 MIN	FACTORY	1	

DOOR HARDWARE SCHEDULE

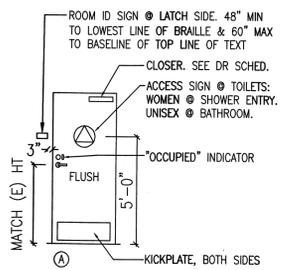
HARDWARE GROUP	DESCRIPTION	REMARKS
1	LOCKSET: REUSE (E) LEVER HARDWARE CLOSER: DORMA TS93 630 FINISH STOP: WALL BUMPER TRIMCO 1275RP HINGES: MCKINNEY TA 2714, 2 PAIR BB OCCUPANCY INDICATOR ARROW E50 OCCUPANCY DEADBOLT (0). KICKPLATE: 10" HIGH, 1/2" LDW, BOTH SIDES, MATCH DOOR HARDWARE FINISH.	

NOTE: INSULATE ALL CAVITIES W/FIBERGLASS SOUND INSULATION BATTS.

PAINT COLORS:
CEILING: KELLY MOORE, SWISS COFFEE
WALLS: KELLY MOORE, GRAYSTONE

DOOR SCHEDULE NOTES

- ALL DOORS SHALL BE EQUIPPED WITH SINGLE-EFFORT, NON-GRASP HARDWARE (I.E. LEVER) MOUNTED AT SAME HT. ABOVE FLR. AS (E).
- DOORS SHALL SWING TO THE FULLY OPEN POSITION WHEN AN OPENING FORCE NOT EXCEEDING 5 POUNDS IS APPLIED TO THE LATCH SIDE.
- DR. HARDWARE @ ALL CORRIDOR DRS. SHALL ALLOW DRS. TO BE OPENED FROM THE INSIDE W/O KEY, SPECIAL KNOWLEDGE, OR EFFORT.
- DRS SHALL MEET THE REQUIREMENTS OF CBC.
- DR. LIGHTS IN RATED DRS. SHALL BE STL FRAME W/SAFETY GLASS.
- VERIFY ALL DIMS. & CONDITIONS PRIOR TO ORDERING OR FABRICATION OF DOORS & FRAMES.
- MANUALLY OPERATED EDGE OR SURFACE MOUNTED FLUSH BOLTS OR ANY OTHER TYPE OF DEVICE THAT MAY BE USED TO CLOSE OR RESTRAIN A DR. OTHER THAN BY OPERATION OF THE LOCKING DEVICE IS NOT PERMITTED.
- THRESHOLDS AT DOORWAY SHALL NOT EXCEED 1/2" IN HT. RAISED THRESHOLDS & FLR LEVEL CHANGES GREATER THAN 1/4" AT DOORWAYS SHALL BE BEVELED W/SLOPE NOT GREATER THAN 1 IN 2.



WALL LEGEND:

- (E) WALL TO REMAIN
- (E) NON-BEARING WALL TO BE REMOVED
- (N) WALLS, 25GA MTL STUDS @ 16" OC

TOILET /SHOWER FIXTURE AND FINISH SCHEDULE

- LAVATORY
LAVATORY: White, wall hung 20x18 equal to American Standard, 'Lucerne' White color
FAUCET: Grohe 'Concetto', Chrome finish.
UNDERSINK PROTECTION: ADA compliant waste and supply piping covers equal to 'Lav Guard 2'
 - WATER CLOSET: Reuse existing wall mounted toilet and flush valve
 - SHOWER CONTROL AND FIXTURES: all chrome finish
Hansgrohe-S Thermostatic trim with volume control 4231000
Hansgrohe -1BOX rough valve
Hansgrohe-Unica S wallbar, 24" with hose
Hansgrohe- Raindance S 120 AIR 5" handshower
Hansgrohe - Wall outlet supply
GROHE - metal twist free hose
DRAIN - 4" square, polished chrome equal to Mountain MT506C
SHAMPOO SHELF - Recessed shampoo shelf, Swanstone RS 2215SC,
GRAB BAR - ASI 3100 series, 1-1/4" satin finish, 18 GA stainless steel tubing with concealed mounting
 - ELECTRICAL ITEMS
SWITCHES AND OUTLETS: Lutron Designer series, White color
SHOWER ROOM LIGHT FIXTURES: RECESSED: ACUTE, I5 R R6 housing with 5H20 TOR R6 3000k lamp
WALL MOUNTED: LITHONIA 11890RE, 2-lamp, 2' warm white lamps
CEILING MOUNTED: LITHONIA 10640RE, 2-lamp, 4' warm white lamps
TOILET ROOM LIGHT FIXTURES: WALL MOUNTED: LITHONIA 11890RE, 2-lamp, 2' warm white lamps
CEILING MOUNTED: LITHONIA 10640RE, 2-lamp, 4' warm white lamps
 - MISCELLANEOUS:
CLEAN AND PAINT EXISTING TO MATCH CEILING COLOR AND REINSTALL:
HVAC REGISTERS (SUPPLY & RETURN)
ACCESS PANEL
SPEAKER
- ACCESSORIES/SPECIALTIES
- TOILET ROOM
GRAB BARS (2): REUSE EXISTING
TOILET PAPER HOLDER: REUSE EXISTING
MIRROR: REUSE EXISTING
NEW ACCESS PANEL AT TOILET ROOM
ROBE HOOK, ASI 7340. MOUNT ON DOOR
SHOWER ROOM
TOWEL SHELF WITH TOWEL BAR: ASI 7311, 20" wide
ROBE HOOK: ASI 7340
MIRROR(S): Stainless Steel, channel frame mirror equal to ASI 0620
FOLDING SEAT AT SHOWER: ASI 8203
FOLDING SEAT AT LOCKER ROOM: ASI 8206
 - OWNER WILL PROVIDE AND INSTALL THE FOLLOWING:
PAPER TOWEL DISPENSER
LIQUID SOAP DISPENSER
SANITARY NAPKIN DISPENSER
PAPER CUP DISPENSER
LOCKERS
- CONTRACTOR TO PROVIDE BACKING FOR MOUNTING ALL ACCESSORIES
- FINISHES: SHOWER STALL
SHOWER FLOOR: CERAMIC TILE. DAL TILE 2x2 MARBLE D325

SHOWER BASE: CERAMIC TILE. DAL TILE 2x2 MARBLE MB5B
SHOWER WALLS: CERAMIC TILE. DAL TILE RITTENHOUSE SQUARE 3x6 MATTE ALMOND FIELD TILE
SHOWER CEILING: GYPSUM BOARD. SEMI-GLOSS ENAMEL PAINT
 - FINISHES: SHOWER ROOM
SHOWER ROOM FLOOR: CERAMIC TILE. DAL TILE 2x2 MARBLE D325
SHOWER ROOM BASE: CERAMIC TILE. DAL TILE 6x8 MARBLE U3619 SANITARY BASE
SHOWER ROOM WALLS: GYPSUM BOARD. SEMI-GLOSS ENAMEL PAINT
SHOWER R400M CEILING: GYPSUM BOARD. SEMI-GLOSS ENAMEL PAINT
 - FINISHES: TOILET ROOM
FLOOR: CERAMIC TILE DAL TILE 2x2 MARBLE D325
BASE: CERAMIC TILE DAL TILE 2x2 MARBLE MB5A
WAINSCOT: CERAMIC TILE DAL TILE RITTENHOUSE SQUARE 3x6 MATTE ALMOND FIELD TILE
WALLS ABOVE WAINSCOT: GYPSUM BOARD. SEMI-GLOSS ENAMEL PAINT
CEILING: GYPSUM BOARD. SEMI-GLOSS ENAMEL PAINT
 - GYPSUM BOARD: 5/8" TYPE X, MOISTURE RESISTANT. TAPE, TOP, SAND, SEAL, PRIME. TWO COATS SEMI-GLOSS ENAMEL PAINT.
 - TILE:
USE BULLNOSE AT PERIMETER EDGES AND COVE BASE AT CORNERS.
LARGE CORNER CADDY BA780 TO MATCH WALL TILE COLOR.
GROUT TO MATCH TILE COLOR
SUBMIT TILE AND GROUT SAMPLES TO OWNER PRIOR TO ORDER.
 - PAINT: WALLS AND CEILING TO BE KELLY MOORE. COLOR(S) TO BE SELECTED

PLUMBING NOTES

- VERIFY LOCATION OF EXISTING PLUMBING AND WATER DISTRIBUTION, DRAIN, WASTE AND VENT LINES, ETC. PRIOR TO INSTALLING NEW PLUMBING SYSTEM. REMOVE ALL ABANDONED WORK AND RELOCATE AND CONCEAL ITEMS TO REMAIN.
- CONTRACTOR SHALL VERIFY PLUMBING REQUIREMENTS OF EQUIPMENT AND FIXTURES AND SHALL MAKE ALL NECESSARY CONNECTIONS FOR PROPER OPERATION. PLUMBING WORK SHALL BE COORDINATED WITH FIXTURE, APPLIANCE AND EQUIPMENT INSTALLED BY OTHER TRADES. PROVIDE WATER SUPPLY SYSTEM WITH DEVICES TO ABSORB HAMMER CAUSED BY QUICK-ACTING VALVES.
- CONNECT NEW WASTE LINES TO EXISTING SEWER SYSTEM. ABOVE-GROUND WASTE PIPING, 3" AND LARGER, TO BE SERVICE-WEIGHT CAST IRON, NO-HUB, ABOVE GROUND WASTE AND VENT PIPING, 2-1/2" AND SMALLER, TO BE COPPER TYPE DMV OR NON-HUB CAST IRON WITH MATCHING DRAINAGE FITTINGS.
- ALL DOMESTIC WATER PIPING SHALL BE COPPER TUBING, TYPE M, HARD DRAWN WITH WROUGHT COPPER FITTINGS. USE 95-5 SOLDER IN ACCORDANCE WITH ASA 43.3.
- PLUMBING FIXTURES SHALL CONFORM TO CALIFORNIA ENERGY COMMISSION REQUIREMENTS:
A. WATER CLOSETS SHALL HAVE AN EFFECTIVE FLUSH VOLUME NOT TO EXCEED 1.28 GALLONS FOR EITHER SINGLE OR DUAL FLUSH TOILETS. THE EFFECTIVE FLUSH VOLUME FOR DUAL FLUSH TOILETS IS DEFINED AS THE COMPOSITE, AVERAGE FLUSH VOLUME OF TWO REDUCED FLUSHES AND ONE FULL FLUSH.
B. THE MAXIMUM FLOW RATE OF LAVATORY FAUCETS SHALL NOT EXCEED 1.5 GALLONS PER MINUTE AT 60 PSI AND SHALL NOT BE LESS THAN 0.8 GALLONS PER MINUTE AT 20 PSI.
C. SHOWER HEADS SHALL BE DESIGNED AND INSTALLED SO THAT THEY WILL NOT EXCEED A WATER SUPPLY FLOW RATE OF 2.0 GALLONS PER MINUTE MEASURED AT 80 PSI.
- SHOWER AND TUB/SHOWER COMBINATIONS SHALL BE PROVIDED WITH INDIVIDUAL PRESSURE-BALANCE CONTROL VALVES OR THERMOSTATIC MIXING VALVES.
- WATER RESISTANT WALL COVERING AT SHOWER AND TUBS-WITH-SHOWER AREAS SHALL EXTEND A MINIMUM OF 72" ABOVE THE DRAIN

COUNTERTOP NOTES

- SEE DRAWINGS FOR LAYOUT AND DETAILS.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO MATERIAL ORDER.
- COUNTERTOPS SHALL BE SET PLUMB, LEVEL AND SQUARE AND SHALL BE SECURELY FASTENED AT WALL.

BATHROOM AND SHOWER WALL NOTES

- SHOWER WALLS SHALL HAVE CERAMIC TILE TO A HEIGHT OF NOT LESS THAN 72" ABOVE THE DRAIN INLET.
- SUBSTRATE FOR SURFACE MATERIAL AT SHOWER SHALL BE 1/2" HARDBACKER BOARD SECURELY FASTENED TO FRAMING AND WITH TAPED JOINTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. SHOWER AND TOILET ROOM WALLS AND CEILINGS SHALL BE MOISTURE RESISTANT GYPSUM BOARD.

INTERIOR WOOD DOOR AND HARDWARE NOTES:

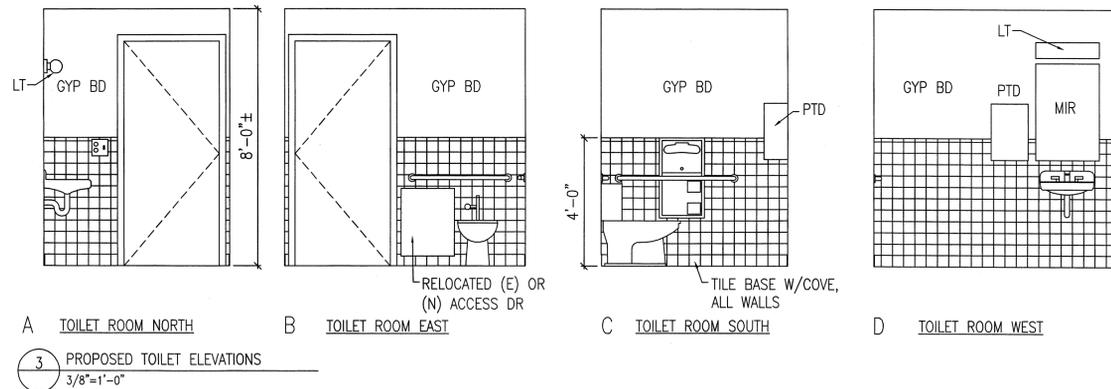
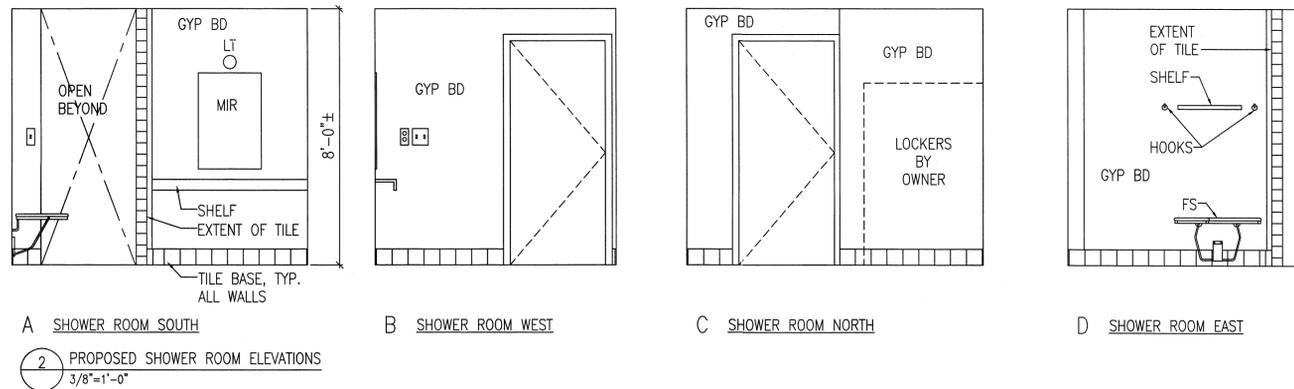
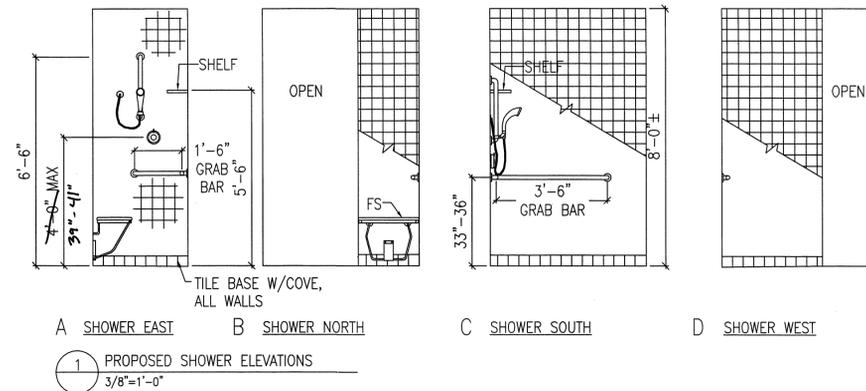
- SEE DRAWINGS FOR DOOR SIZES AND OPERATION.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO MATERIAL ORDER.
- INTERIOR DOORS SHALL MATCH EXISTING DOORS.
- FRAMES AND TRIM SHALL BE PAINT GRADE.
- HARDWARE SHALL BE BRUSHED NICKEL FINISH.
- PROVIDE ALL HARDWARE NOT NOTED (PULLS, STOPS, HINGES, PIVOTS, ETC.) AS REQUIRED PER CODE AND FOR A COMPLETE AND OPERATING SYSTEM. FINISH TO MATCH DOOR HARDWARE.
- COORDINATE KEYING AND FUNCTION WITH OWNER.

CERAMIC TILE NOTES

- ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH STANDARDS DESCRIBED IN THE LATEST EDITION OF THE 'HANDBOOK FOR CERAMIC TILE INSTALLATION' PUBLISHED BY THE TILE COUNCIL OF AMERICA AND ANSI A108 AND ANSI A118.
- SUBMIT TILE SAMPLES TO OWNER FOR REVIEW AND APPROVAL PRIOR TO ORDER. PROVIDE ADDITIONAL 2% OF TILE FOR OWNER AT COMPLETION OF WORK.
- SEE FINISH SCHEDULE FOR TILE DESCRIPTION.
- USE MATCHING BULLNOSE, COVED BASE, INSIDE CORNERS WHERE APPLICABLE.
- INSTALL FLOOR IN PORTLAND CEMENT MORTAR BED. INSTALL WALL TILE IN DRYSET MORTAR BED.
- GROUT ALL JOINTS WITH SANDED GROUT. COLOR TO BE SELECTED.
- APPLY SILICONE, MOISTURE AND MILDW RESISTANT TYPE, WHITE COLOT.
- INSTALL WATERPROOF MEMBRANE IN SHOWER ROOM AND TOILET ROOM FLOOR.
- VERIFY ALL SURFACES TO RECEIVE TILE ARE FREE OF SUBSTANCES WHICH WOULD IMPAIR BONDING. VERIFY ALL SURFACES TO RECEIVE TILE ARE SMOOTH AND FLAT AND WITHIN REQUIRED TOLERANCES.
- ARRANGE TILE PATTERN SO THAT FULL TILE OR JOINT IS CENTERED ON EACH WALL.
- TILE JOINTS TO BE UNIFORM WIDTH.
- TILED SHOWER RECEPTORS IN ACCORDANCE WITH TXA B415 AND W244.
- CLEAN ALL TILE AND GROUT SURFACES.
- NO TRAFFIC FOR 72 HOURS AFTER TILE INSTALLATION.

NOTES:

- INSULATE ALL WALL CAVITIES W 3 1/2" SOUND BATTS.
- INSULATE CLG W/R-30 INSUL BATTS.



ELECTRICAL NOTES - COMPLY WITH 2013 CEC

- ALL SWITCHES SHALL BE LOCATED 42" ABOVE FINISHED FLOOR MEASURED TO CENTER OF SWITCH UNLESS OTHERWISE NOTED. MULTIPLE SWITCHES AND OUTLETS AT ONE LOCATION SHALL BE GANGED TOGETHER AND FINISHED WITH ONE COVERPLATE UNLESS OTHERWISE NOTED. OUTLETS SHALL BE MOUNTED AT 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. ALL CONTROL DEVICES SHALL BE MOUNTED AT 42" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.
- PROVIDE GFCI PROTECTION FOR ALL 125V, SINGLE PHASE, 15 & 20 AMP OUTLET RECEPTACLES IN BATHROOMS. PROVIDE AT LEAST ONE RECEPTACLE OUTLET WITHIN 3' OF THE OUTSIDE EDGE OF EACH BASIN.
- BATHROOM OUTLETS SHALL BE ON A DEDICATED 20 AMP CIRCUIT. THIS CIRCUIT SHALL NOT SUPPLY ANY OTHER RECEPTACLES/ LIGHTS/ FAN EXCEPT WHERE THE 20 AMP CIRCUIT SUPPLIES POWER FOR OTHER EQUIPMENT WITHIN THE SAME BATHROOM EXHAUST FANS SHALL BE SWITCHED SEPARATELY FROM LIGHTING SYSTEM.
- HABITABLE ROOMS SHALL HAVE RECEPTACLE OUTLETS AS FOLLOWS: ALL WALLS 2' OR WIDER, NOT MORE THAN 6' FROM OPENINGS, NO MORE THAN 12' ON CENTER. OUTLETS SHALL BE SPACED PER REQUIREMENTS OF CEC 2013.
- PROVIDE DIMMER SWITCHES AT LIGHT FIXTURES IN BEDROOMS, HALLWAYS, AND DINING ROOM
- ALL 120-V, SINGLE PHASE, 15- AND 20 AMP BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR SPACES SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER AND LISTED TAMPER-PROOF RECEPTACLES PER CEC 406.11.. EXTERIOR OUTLETS SHALL BE WATERPROOF AND HAVE GFI PROTECTIONS.
- SMOKE AND CARBON MONOXIDE ALARMS SHALL BE INSTALLED OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOM AND ON EACH LEVEL OF A DWELLING UNIT INCLUDING BASEMENTS AND IN EACH SLEEPING ROOM (SMOKE ALARMS ONLY). SMOKE AND CARBON MONOXIDE ALARMS CAN BE COMBINED INTO A SINGLE MULTIPURPOSE ALARM AND SHALL RECEIVE PRIMARY POWER SOURCE FROM THE BUILDING WIRING AND SHALL BE EQUIPPED WITH BATTERY BACK-UP AND LOW BATTERY SIGNAL.
- ALL EQUIPMENT SHALL BE NEW AND LISTED BY AND BE APPROVED BY AN ACCREDITED TESTING LABORATORY AND SHALL BE INSTALLED PER ANY INSTRUCTIONS INCLUDING THE LISTING AND LABELING. DESCRIPTIONS PREVAIL OVER CATALOG NUMBERS. SUBMIT A MATERIAL LIST ON ALL MATERIALS PROPOSED FOR ACCEPTANCE BY OWNER.
- SURFACE-MOUNTED FIXTURES OR TRACK SHALL BE SECURED TO BUILDING STRUCTURE. NO TOGGLE BOLTS, ETC. PERMITTED. ALL FIXTURES SHALL BE ADEQUATELY SUPPORTED, SET LEVEL AND TRUE.
- CONTRACTOR SHALL VERIFY ELECTRICAL REQUIREMENTS OF APPLIANCES, EQUIPMENT AND FIXTURES AND SHALL PROVIDE NECESSARY WIRING, BOXES OR OTHER WORK REQUIRED FOR PROPER CONNECTION.
- ONE PERMANENTLY INSTALLED LUMINAIRE IN BATHROOMS SHALL BE HIGH EFFICIENCY TYPE. ADDITIONAL FIXTURES SHALL BE CONTROLLED BY OCCUPANCY SENSOR. LIGHT FIXTURES IN TUB OR SHOWER ENCLOSURES ARE TO BE LABELED SUITABLE FOR DAMP LOCATIONS.
- ALL EXHAUST FANS SHALL BE SWITCHED SEPARATELY FROM LIGHTING SYSTEMS.

ITALO A. CALPESTRI III
& ASSOCIATES AIA

220 COLUMBIA AVENUE
KENSINGTON, CA 94708
CELL: (510) 851-2387
FAX: (510) 525-3140



PLANS & SPECIFICATIONS ARE PREPARED AS INSTRUMENTS OF SERVICE FOR THE CLIENT AND ARE THE PROPERTY OF THE ARCHITECT AND SHALL NOT BE USED FOR OTHER WORK WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT.

OWNER:

CITY OF ALAMEDA
POLICE DEPARTMENT
1555 OAK STREET
ALAMEDA, CA 94501

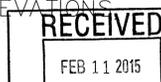
STAMP:

REVISIONS:	DESCRIPTION	DATE
No.		

PROJECT

CITY OF ALAMEDA
POLICE DEPARTMENT
TOILET ROOM MODIFICATION, SECOND FLOOR
1555 OAK STREET
ALAMEDA, CA 94501

DRAWING TITLE
INTERIOR ELEVATIONS
& NOTES



PROJECT No. : ALAMEDA, CA 24391

DRAWN BY: DH

CHECKED BY: IAC

DATE:

SCALE: AS NOTED

SHEET NO.: A-2