



ORANGE COUNTY FIRE AUTHORITY FORMAL INVITATION FOR BIDS

BATHROOM REMODEL AT OCFA FIRE STATION 45

FOR PROJECTS EXCEEDING \$220,000

November 20, 2025

Solicitation No. RO2763

The Orange County Fire Authority is requesting bids to establish a construction agreement for a kitchen remodel and upgrade at Fire Station 45 located at 30131 Aventura, Rancho Santa Margarita, CA 92688, as specified herein.

THIS PROJECT IS CONSIDERED A PUBLIC WORK.

Pursuant to SB 854, no contractor or subcontractor may be awarded a contract for a public works project unless registered with the CA Department of Industrial Relations per California Labor Code section 1725.5. This project is a public work and is subject to compliance monitoring and enforcement.

MANDATORY REQUIREMENTS:

- Meet Minimum Qualifications
- Attendance at Job Walk on **12/10/2025**
- Contractors' License: **A or B Contractor's license**
- Registration with the California Department of Industrial Relations
- Bid Bond - 10% of Bid Amount (*All Bidders*)
- Faithful Performance Bond – 100% of Agreement Price (*Awarded Contractor Only*)
- Payment Bond – 100% of Agreement Price (*Awarded Contractor Only*)

BID SUBMITTALS:

- Bids will be received no later than **11:00 A.M. on 12/23/2025**
- **Only paper bids will be accepted for this solicitation**
- Bids may be hand delivered or mailed to Orange County Fire Authority, Purchasing Department, 1 Fire Authority Road, Building C, Irvine, CA 92602 no later than the date and time specified.
- One (1) original hard copy and one (1) duplicate hard copy shall be sent to the attention of the Purchasing Section, within said time limit, in a sealed envelope.
- The envelope should include the Bidder's Business Name, Solicitation Number, and the Due Date.

LATE BIDS WILL NOT BE ACCEPTED.

Any questions concerning this Formal Invitation for Bids or the specifications should be submitted on-line via the Q&A Module available through PlanetBids before **5:00 P.M. on 12/10/2025**. OCFA will publish a response to all inquiries through the e-procurement system and/or may issue an addendum as a result.

Rothchild Ong, Assistant Purchasing Agent
rothchildong@ocfa.org | 714-573-6642

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SECTION 1: NOTICE INVITING BIDS

**1A: ORANGE COUNTY FIRE AUTHORITY NOTICE INVITING SEALED BIDS
FOR THE BATHROOM REMODEL AND UPGRADE AT OCFA FIRE STATION 45**

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ORANGE COUNTY FIRE AUTHORITY INVITATION FOR BIDS: SCOPE: Remodel and upgrade of a bathroom at Fire Station 45, 30131 Aventura Rancho Santa Margarita, CA 92688, as specified herein. For official bid documents visit: <https://www.planetbids.com/portal/portal.cfm?CompanyID=14773>. A MANDATORY job walk will be held December 10, 2025 AT 9:00 A.M. Bid submittals will be accepted until December 23, 2025 AT 11:00 A.M.

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SECOND PUBLICATION DATE: December 5, 2025

1B: SOLICITATION INFORMATION

1. ABBREVIATIONS

IFB: Invitation for Bids

OCFA: Orange County Fire Authority

DIR: California Department of Industrial Relations

CSLB: California Contractors State License Board

PCC: California Public Contract Code

2. OBJECTIVE

The Orange County Fire Authority is requesting bids to establish a construction agreement for the bathroom remodel and upgrade at OCFA Fire Station 45 located at 30131 Aventura, Rancho Santa Margarita, CA 92688, as specified herein., as specified herein. Project work will be coordinated by the OCFA Property Management section.

3. MANDATORY SITE INSPECTION

A mandatory job walk for prime contractors will be held on **WEDNESDAY, DECEMBER 10, 2025, 9:00AM at Fire Station 45 located at 30131 Aventura, Rancho Santa Margarita, CA 92688.**

Contractor's representative must attend the entirety of the job walk. **Late arrivals will not be granted access to the site, nor permitted to attend the job walk.** This informational meeting will be held to allow for site inspection and questions or clarifications concerning OCFA's IFB process and subsequent contract award. Prospective Bidders should be familiar with the IFB prior to attending the job walk.

4. CONTRACTOR MINIMUM QUALIFICATIONS

Bidder must meet the following minimum qualifications in order to have its response considered:

- **Current and valid A or B Contractor's License issued by the California Contractor State License Board for the related work**
- **Current and valid California Department of Industrial Relations registration**
- **Minimum 10 years' experience providing the same or similar services**

5. DUE DATE

Bids will be received no later than **11:00 AM on 12/23/2025**. Late submittals will not be accepted. There will be a public opening of the bids on the specified due date and time in the Purchasing Office at the OCFA's Regional Fire Operations and Training Center located at 1 Fire Authority Road, Irvine, CA 92602. If attending the bid opening, please allow time to check in at the Reception Desk.

6. SUBMITTAL INSTRUCTIONS

The Bid Response Forms are available for download on OCFA's online bidding platform, PlanetBids. Bids must be prepared using the response forms included in this IFB document. Bids shall be executed by an authorized signatory. Contractors are to fill in all blank spaces (insert "N/A" where the answer is not applicable). Contractors are to initial all interlineations, annotations, deletions, alterations, erasures and other modifications on the forms. Deviations in the form may result in the bid being deemed non-responsive. **Only paper bids will be accepted for this solicitation.**

Bids may be hand delivered or mailed to Orange County Fire Authority, Purchasing Department, 1 Fire Authority Road, Building C, Irvine, CA 92602 no later than the date and time specified in Section 5 above. One (1) original hard copy and one (1) duplicate hard copy shall be sent to the attention of the Purchasing Section, within said time limit, in a sealed envelope. The envelope should include the Bidder's Business Name, Solicitation Number, and the Due Date. (Failure to include a duplicate hard copy will not cause an otherwise responsive bid to be deemed non-responsive.)

Any vendor who wishes his or her bid to be considered for award is responsible for ensuring that it is complete and received by the Purchasing Office on or before the due date and time. **Facsimile, electronic or e-mail bids will not be considered.**

7. INQUIRIES

Any questions related to the IFB shall be directed to the Assistant Purchasing Agent, Rothchild Ong. Questions and comments must be submitted via this bid's Q&A module on the PlanetBids website no later than **5:00 P.M. on 12/10/2025**. The inquirer's name, company, address, phone number should be included. Verbal interpretations or clarifications on the part of OCFA will be without legal effect. Only responses submitted in writing via the Q&A module or addendum will be binding.

8. SCHEDULE OF IMPORTANT DATES

Invitation for Bid Issue Date	November 20, 2025
Mandatory Job Walk	December 10, 2025
Final Day to Submit Questions	December 10, 2025
Deadline to Submit Bid Response	December 23, 2025

9. CONTRACTOR RESPONSIBILITIES

9.1 MATERIAL AND LABOR

Contractor shall provide all permits, material, labor, tools and supplies to complete the project as described herein. See Section 5 for detailed information on these requirements and additional components that must be included in Contractor's bid and pricing.

9.2 CSLB LICENSE

Contractor and all subcontractors shall possess a valid California **A or B Contractor's** license, as required by California law, at the time of bid submission, pursuant to California Public Contract Code Section 3300 and Business and Professions Code Section 7028.15. The successful contractor and all subcontractors must maintain the license throughout the duration of the project.

9.3 PREVAILING WAGE AND COMPLIANCE MONITORING

Contractor and all subcontractors shall conform to the State of California Public Works Contract requirements regarding prevailing wages, benefits, on-site audits with 48-hour notice, payroll records, and apprentice and trainee employment requirements, for all Services on the above Project, including, without limitation, the State labor compliance monitoring and enforcement by the Compliance Monitoring Unit of the Department of Industrial Relations. The successful contractor and all subcontractors must maintain DIR registration throughout the duration of the project.

9.4 STANDARD SPECIFICATIONS

OCFA relies on the standard specifications, CSI and Greenbook applicable in the jurisdiction where the project is located, as modified by the local jurisdiction.

9.5 BUSINESS LICENSE REQUIREMENTS

Contractor and all subcontractors shall conform to the requirements of the city in which the project is located (or the requirements of the County if the project is located within an unincorporated area) and shall maintain active business license(s) as required by the jurisdiction(s) in which the project is located. The successful contractor and all subcontractors must remain in compliance with these requirements throughout the duration of the project.

9.6 WARRANTY

In addition to any warranties specified in the drawings and any manufacturer's warranty, Contractor shall warrant the workmanship and manufacturing for a minimum of one year.

10. OCFA RESPONSIBILITIES

OCFA will coordinate with training operations to ensure Contractor has access to necessary areas to perform work. OCFA shall be responsible for the registration of the project with the CA DIR subsequent to contract award.

11. DELIVERABLES

11.1 PROJECT COMPONENTS

11.1.1 MODIFICATIONS TO THE EXISTING BATHROOM SPACE.

Refer to Section 5 of the IFB Document for detailed information about the project requirements including, but not limited to, the scope of services, drawings, specifications, submittals, required permits, inspections, etc.

Refer to Section 5 of the IFB Document for detailed information about the project requirements including, but not limited to, the scope of services, drawings, specifications, submittals, required permits, inspections, etc.

11.2 SPECIFICATIONS

11.2.1 MINIMUM SPECIFICATIONS

The purpose of the information provided herein is to establish the minimum requirements for the supplies, materials, and equipment used for this project. It is not the intention of OCFA to exclude suppliers of similar or equal products of the types specified. Provided specifications, brands, and/or manufacturers describe OCFA expectations for the equipment, supplies and materials to be acquired.

11.2.2 EQUIVALENT ALTERNATE ITEMS

11.2.2.1 EQUIPMENT SUBMITTALS

As noted throughout Section 5, deviations from the specifications provided herein are not preferred but in some instances may be accepted. OCFA retains the sole right to determine whether proposed deviations to the specified items are acceptable. Any bidder offering items or equipment as equivalent alternatives to those items specified must submit documentation in accordance with the requirements outlined in Section 5 to substantiate that the item is equal no less than ten (10) business days prior to the bid deadline. Failure to do so may result in the bid that includes such alternative(s) being deemed non-responsive. As part of the evaluation of proposed alternate items, OCFA may request additional product information or product samples. Such information or samples must be submitted at no expense to OCFA by an agreed-upon due date for inspection and approval prior to contract award. Failure to comply with the request, or failure of the proposed alternate product to meet the required specifications, may be cause for OCFA to deem the bid that includes such alternative(s) to be non-responsive.

11.2.2.1 ADDITIONAL SUBMITTALS

Contractor shall submit for approval all items and documentation prior to beginning work in accordance with the requirements outlined in Section 5. In addition to the requirements specified in Section 5, any equivalent alternate items offered as a submittal during the course of construction must include documentation to substantiate that the item is equal. As part of the evaluation of proposed alternate items, OCFA may request additional product information or product samples. Such information or samples must be submitted at no expense to OCFA by an agreed-upon due date for inspection and approval prior to installation. Failure to comply with the request, or failure of the proposed alternate product to meet the required specifications, may be cause for OCFA to deem the Contractor to have caused a delay in the project, to be remedied by the assessment of liquidated damages, as described in the Contract Documents (see Section 4).

11.2.3 MATERIALS

Materials shall be pure, unadulterated, first quality and shall be delivered to the project in original unbroken packages bearing the maker's name and brand number. Materials shall comply with all requirements described in Section 5. Materials shall be submitted for approval prior to use. Contractor must furnish additional stock of materials, as specified in Section 5.

OCFA intends to purchase and keep as inventory commonly replaced items for the purpose of expediting future repairs. Should Contractor or subcontractors utilize this inventory to perform repairs, use of these items will not void or otherwise negatively affect the warranty. Contractor or subcontractors must replace the stock at no cost to OCFA.

11.3 PROJECT EXECUTION**11.3.1 WORKMANSHIP**

Contractor shall:

- a. Perform work under conditions best suited to produce the specified deliverables.
- b. Correct all work that does not comply with the intent of the specification and/or does not meet the approval of OCFA.
- c. Protect all adjacent areas and surfaces from damage from work performed (i.e. automobiles, sidewalks, asphalt, concrete, plants, etc.).
- d. Coordinate with the OCFA before using noisy, motorized equipment.
- e. Take all necessary steps to protect the public and all property concerned.

11.3.2 CLEAN-UP

Contractor shall, at completion of work each day, remove all debris and rubbish resulting from this project and leave work spaces in a clean condition subject to OCFA approval.

11.3.3 PROTECTION

Contractor shall protect work of other trades, correct damage by cleaning, repairing or replacing, and repainting, as approved by OCFA.

11.3.4 REPAIR

At completion of work, Contractor shall repair and/or restore damaged work of other trades.

11.3.5 ACCEPTANCE DOCUMENTATION

Upon completion of work, Contractor shall provide the documents specified herein for final review and acceptance by OCFA.

11.3.6 HEALTH AND SAFETY

Contractor shall ensure compliance at all times with the Health and Safety requirements in Section 86 of the Contract Agreement.

11.4 SCHEDULES, TIMELINES, AND MEETINGS**11.4.1 COORDINATION OF WORK**

Prior to beginning work, Contractor shall prepare a schedule and submit to OCFA for approval. Contractor shall coordinate the commencement of all work with OCFA so as not to cause inconvenience to the facility. Contractor parking, along with the placement of all trailers, equipment and materials must be coordinated with OCFA in advance.

All work at the location must be coordinated with OCFA in a manner that shall accommodate the requirements of OCFA personnel. Contractor shall post notices in conspicuous places at least three to five days in advance warning occupants what date work will begin. Work, deliveries or

efforts which may impede existing circulation roadways shall be scheduled at least seven (7) days in advance.

11.4.2 HOURS OF WORK

Work shall be performed Monday through Friday between the hours of 7:00 AM and 5:00 PM. Overtime and after-hours work is not permitted, unless otherwise coordinated with and approved by the city in which the project is located.

11.4.3 PROJECT TIMELINE

OCFA anticipates that

- Project work will begin 14 days after the agreement and all other required award documents are received and approved by OCFA
- Project will be complete within 30 working days

12. MEETINGS

Meetings between OCFA and Contractor will include, at a minimum, the following:

12.1 PRE-AWARD MEETING

This meeting will aid OCFA in determining responsibility of Contractor and to finalize the specifications and services to be provided.

12.2 PRE-CONSTRUCTION JOB WALKS

These meetings with OCFA, the staff of the city in which the project is located, and others as necessary and/or required by law will be coordinated by the Contractor.

12.3 PROJECT STATUS MEETINGS

Weekly meetings held in person, unless otherwise determined by OCFA.

12.4 ACCEPTANCE

Meetings regarding project acceptance and warranty punch list items.

12.5 ADDITIONAL

Other meetings deemed necessary by OCFA for contract compliance.

SECTION 2: INSTRUCTIONS TO BIDDERS

13.1 AMENDMENT OF INVITATION FOR BID

Notification via email will be sent to vendors listed as "Prospective Bidders" on PlanetBids in the event that a Q&A set or amendment to the IFB is released. The bidder shall acknowledge receipt of an amendment to this Invitation for Bid on the bid submittal. The OCFA reserves the right to revise the bid documents prior to the bid opening date. Revisions, if any, shall be made by written Addenda.

13.1.1 Pursuant to Public Contract Code Section 4104.5, if OCFA issues an Addendum later than seventy-two (72) hours prior to the deadline for submission of bids, and the Addendum requires material changes, additions or deletions to the description of the work to be performed or the content, form or manner of submission of bids, OCFA will extend the deadline for submission of bids by at least seventy-two (72) hours. Otherwise, OCFA may determine, at its sole discretion, whether an Addendum requires that the date set for opening bids be postponed. Announcement of a new date, if any, will be made by Addenda. All bidders will be notified by e-mail when an addendum is posted to PlanetBids.

All Addenda issued before the time bids are due shall form part of the contract documents. It is the bidder's responsibility to be familiar with Addenda issued. OCFA will deem any bid that fails to acknowledge all Addenda to be non-responsive. Bidders must acknowledge the Addenda in writing on the form provided in the bid documents.

13.2 INTERPRETATION OF BID DOCUMENTS

Discrepancies in, and/or omissions from the Specifications or other bid documents or questions as to their meaning shall be immediately brought to the attention of the Purchasing Manager by submission of a written request for interpretation or correction thereof no later than the deadline specified for questions specified in Section 1 of the Notice Inviting Bids. The person submitting the request will be responsible for its prompt delivery.

Any interpretation of the bid documents will be made only by addendum duly issued electronically to each bidder registered on the prospective bidder's list. The OCFA will not be responsible for any explanations or interpretations provided in any other manner. No person is authorized to make any oral interpretation of any provision in the bid documents to any bidder, and no bidder should rely on any such oral interpretation.

14. DISPUTES RELATING TO THIS INVITATION FOR BID

In the event a dispute arises concerning any aspect of this bid, including specifications and/or process, the party bringing the dispute shall submit a written request for resolution to the Purchasing Department prior to the IFB's due date and time.

In the event a dispute arises regarding this IFB's Recommendation for Award or Denial of Award, the party bringing the dispute must do so in accordance with OCFA's **Purchasing Ordinance, Article IX. Legal and Contractual Remedies**, which can be found online under "Doing Business with OCFA" at <https://www.ocfa.org/Uploads/Purchasing/OCFA%20Purchasing%20Ordinance.pdf>.

15. WITHDRAWAL OF BID

15.1 PRIOR TO BID DUE DATE AND TIME

At any time prior to the specified due date specified in IFB Section 1, an Offeror may formally withdraw the bid by a written letter, facsimile or electronic mail from the Offeror or an authorized representative to the OCFA Purchasing Manager, provided such letter, facsimile or electronic mail is actually and timely received by the OCFA Purchasing Manager. **Telephonic or oral withdrawals shall not be considered.**

15.2 AFTER BID DUE DATE AND TIME

In accordance with California Public Contract Code sections 5100-5110, Bidder shall not be relieved of the obligations of its bid unless by consent of OCFA, nor shall any change be made in the bid because of mistake. Bids may be withdrawn for mistake upon mutual written agreement of Bidder and OCFA, or if all of the following conditions apply:

- A mistake is made in the bid; and
- Written notice is provided to OCFA within five (5) working days from the date of the public opening specifying in the notice in detail how the mistake occurred. Telephonic or oral withdrawals will not be considered; and
- The mistake makes the bid materially different than Bidder intended it to be; and
- The mistake was made in filling out the bid and was not due to error in judgment or to carelessness in inspecting the site of the work, or in reading the plans or specifications.

Any bidder who claims a mistake or who forfeits its bid security (Bidder's Bond) shall be prohibited from participating in further bidding on the project on which the mistake was claimed or bid security was forfeited.

16. INDEMNIFICATION

Bidder agrees to protect, defend, indemnify, save and hold harmless the OCFA and its officers, officials, employees and volunteers from any and all claims, liabilities, expenses, or damages of any nature, including attorney fees, for injury to or death of any person (Bidder's employees included), and for injury to any property, including consequential damages of any nature resulting there from, arising out of or in any way connected with the Bidder's submittal.

17. RESERVATIONS (RIGHTS RESERVED TO OCFA)

OCFA reserves the right to reject any or all bids or any part thereof; to rebid the solicitation; to reject non-responsive or non-responsible bids; to reject unbalanced bids; to reject bids where the terms, prices, and/or awards are conditioned upon another event; to reject individual bids for failure to meet any requirement; to award by item, part or portion of an item, group of items, or total; to make multiple awards; to investigate the qualifications of any bidder under consideration; to modify or amend this IFB in writing; to waive minor irregularities, defects, omissions, technicalities or form errors in any bid. Waiver of one irregularity does not constitute waiver of any other irregularity. OCFA may seek clarification of the bid from the bidder at any time, and failure to respond is cause for rejection. OCFA is required to make an award that is in the best interest of the OCFA. All decisions on compliance, evaluation, terms and conditions shall be made solely at the OCFA's discretion and made to favor the OCFA. OCFA may cancel this solicitation at any time.

The OCFA may reject any bid which, in its sole opinion, does not accurately reflect the cost to perform the work as compared to other bids received and/or to project estimates. In addition, because the OCFA may elect to include or exclude any of the bid items and alternate bid items (if applicable) at its sole and absolute discretion, each bidder must ensure that each bid items contain a proportionate share of profit, overhead and other costs or expenses which will be incurred by the bidder. The OCFA may deem any bid which unevenly weights or allocates costs, including but not limited to overhead and profit to one or more particular bid items as non-responsive. No contract will be executed unless the bidder is licensed in accordance with the provisions of the State law.

18. INSPECTION OF SITE/MANDATORY MEETING AND JOB WALK

Each prospective bidder is responsible for becoming familiar with the conditions of the project site as well as those relating to the construction and labor of the project, to fully understand the facilities, conditions, difficulties and restrictions which may impact the completion of the project. Attendance by a representative of each prospective contractor at the mandatory meeting as stated in the request for

informal bid is required. **Any bid received by a contractor not represented at the mandatory meeting will be rejected and deemed non-responsive.**

19. CONTRACTOR AND SUBCONTRACTOR LICENSING REQUIREMENTS

Bidder and all listed Subcontractors shall possess valid California Contractor's licenses, as required herein and as appropriate for each specialty subcontracted at the time of bid submission, pursuant to California Public Contract Code Section 3300 and Business and Professions Code Section 7028.15. Licenses must be maintained throughout the duration of the contract resulting from this IFB.

Pursuant to Section 7028.15 of the Business and Professions Code, the OCFA shall consider any bid submitted by a contractor not currently licensed in accordance with California law and pursuant to the requirements found in the bid documents to be nonresponsive, and the OCFA shall reject the bid. The OCFA shall have the right to request evidence of all valid license(s) currently held by the bidder and each of the subcontractors listed in the bid before awarding the contract. In such cases, Bidders shall provide evidence of valid licenses satisfactory to the OCFA within five (5) calendar days. Pursuant to Public Contract Code Section 20676, sellers of "mined material" must be on an approved list of sellers published pursuant to Public Resources Code Section 2717(b) in order to supply mined material for this contract.

20. SB 854 DEPARTMENT OF INDUSTRIAL RELATIONS REGISTRATION

No contractor or subcontractor may be listed on an offer for a public works project unless registered with the California Department of Industrial Relations pursuant to California Labor Code Section 1725.5, with limited exceptions from this requirement for bid purposes only under California Labor Code Section 1771.1(a). No contractor or subcontractor may be awarded a contract for public work, or engage in the performance of any public works project unless registered with the California Department of Industrial Relations pursuant to California Labor Code Section 1725.5. Pursuant to SB 854, the DIR registration number of each subcontractor must be identified on the bid; **failure to do so may result in the bid being deemed non-responsive.**

The contract resulting from this solicitation is subject to compliance monitoring and enforcement by the California Department of Industrial Relations. OCFA reports all public works contracts to the DIR subsequent to contract execution.

The OCFA will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the prevailing wage rate set forth in the contract. The possibility of wage increases is one of the elements to be considered by the Contractor in determining bid pricing, and will not under any circumstances be considered as the basis of a claim against the OCFA on the contract resulting from this solicitation.

21. PREVAILING WAGE

This project is a public work in the State of California, funded in whole or in part with public funds. Therefore, the applicable prevailing wage rates will be enforced. The work is subject to the payment of not less than prevailing wages under California Labor Code Section 1770 et seq. Contractor must comply with all related provision of the California Labor Code if awarded the agreement, including but not limited to:

- The provisions of California Labor Code Section 1775 relating to payment of prevailing wages, and
- Section 1777.5 relating to employment of apprentices, and
- Section 1811-1813 relating to the payment of overtime.

Failure to comply with the applicable prevailing wage, overtime, and apprenticeship requirements may result in penalties.

Contractors are hereby notified that the Director of Industrial Relations has ascertained the general prevailing rate of per diem wages and the rates for overtime and holiday work in the locality in which the work is to be performed for each craft, classification or type of worker needed to perform the work under the contract which will be awarded to the successful contractor.

Additional information is available at the Department of Industrial Relations website at:

<http://www.dir.ca.gov/oprl/DPreWageDetermination.htm>.

Contractors are further notified that this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. Additional information on the Compliance Monitoring Unit requirements can be found at:

<https://www.dir.ca.gov/Public-Works/PublicWorksEnforcement.html>.

22. DEBARMENT OF CONTRACTORS

In accordance with the provisions of the Labor Code, contractors or subcontractors may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Section 1777.1 or Section 1777.7 of the Labor Code and Federal "Excluded Parties List System". Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid to a debarred subcontractor by the Contractor for the Project shall be returned to the OCFA. The Contractor shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the Project. In order to prohibit the procurement of any goods or services ultimately funded by Federal awards from debarred, suspended or otherwise excluded parties, each Contractor will be screened at the time of response to ensure the Contractor, its principal and their named subcontractors are not debarred, suspended or otherwise excluded by the United States Government in compliance with the requirements of 2 Code of Federal Regulations (CFR) 200.12 7 Code of Federal Regulations (CFR) 3016.35, 28 CFR 66.35, 29 CFR 97.35, 34 CFR 80.35, 45 CFR 92.35 and Executive Order 12549.

23. CONTRACT

A response to this IFB is an offer to contract with OCFA based upon the terms, conditions, and specifications contained within this document, all Addenda, and the Construction Services Agreement, attached hereto as Section 4. Submission of a bid confers on the bidder no right to an award or to a subsequent contract. No binding contract will exist between the bidder and the OCFA unless and until the OCFA executes a written contract or purchase order.

24. BID DOCUMENTS & FORMS

Bid submittals are to be prepared using the bid forms which are included in this IFB Document. Bids shall be executed by an authorized signatory. As a condition of bidding and in accordance with the provisions of Section 20101 of the California Public Contract Code, prospective bidders are required to submit all the bid forms listed in the Bidder's Checklist. Failure to do so may result in the rejection of the bid.

25. PREPARATION OF BID

All bids shall incorporate the forms provided in this IFB document. It is permissible to copy these forms as required. Facsimiles or electronic mail bids shall not be considered.

The Bid form and any solicitation amendments must be signed and returned with the bid. The forms submitted shall be signed by a person authorized to submit an offer. Authorized signature on the Bid forms shall constitute an irrevocable offer to provide services specified herein. Offeror shall submit any additional requested documentation, signifying intent to be bound by the terms of the agreement.

- The authorized person signing the bid shall initial all interlineations, annotations, deletions, alterations, erasures and other modifications on the bid.
- Periods of time, stated as days, shall be in calendar days.
- It is the responsibility of all Offerors to examine the entire Request for Bid package and seek clarification of any requirement that may not be clear and to check all responses for accuracy before submitting a bid. Negligence in preparing a bid confers no right of withdrawal after the due date and time.
- OCFA shall not reimburse the cost of developing, presenting, submitting or providing any response to this solicitation.
- Offeror must list any subcontractors to be utilized in the performance of the services specified herein. For each subcontractor, details on respective qualifications must be included.
- Each bidder shall submit its bid in strict conformity with the requirements of the bid documents. Unauthorized additions, modifications, revisions, conditions, limitations, exclusions or provisions attached to a bid may render it non-responsive and may cause its rejection. Bidders shall not delete, modify, supplement printed matter on the bid forms.
- **Verbal, telephonic, facsimile, email or other electronic bids or modifications will not be considered.**

26. BID CERTIFICATION

By signature on the Bid Response Forms, Bidder certifies:

- The Bidder has thoroughly examined and become familiar with the requirements of this IFB;
- Clear understanding of the rules as defined in this IFB and compliance with all terms and conditions specified herein;
- The Bidder is an authorized and/or certified retailer and/or installer of the specified items;
- The submission of the bid did not involve collusion or other anti-competitive practices;
- The bid is compliant with all state and federal laws;
- The Bidder will not discriminate against any employee or applicant for employment in violation of Federal or State law;
- The Bidder has not given, offered to give, and does not intend to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, meal or service to any Director, officer, or employee of OCFA in connection with the submitted offer;
- That the individual signing the submittal is an authorized agent for the Bidder and has the actual authority to legally bind the Bidder to the Contract;
- That its principal and named subcontractors are not debarred, suspended or otherwise excluded by the United States Government, in compliance with the requirements of 7 Code of Federal Regulations (CFR) 3016.35, 28 CFR 66.35, 29 CFR 97.35, 34 CFR 80.35, 45 CFR 92.35 and Executive Order 12549.

27. ACCEPTANCE PERIOD

Unless otherwise specified herein, bids are firm and may be accepted by OCFA at any time within 180 days of bid opening.

28. BID OPENING

All the bids opened by the OCFA will be subject to further evaluation with respect to responsiveness of the bid and for purposes of determining that the bidder is responsible.

29. SUBLETTING AND SUBCONTRACTING.

Pursuant to the Subletting and Subcontracting Fair Practices Act (commencing with Section 4100 of the Public Contract Code), bidders are required to list in their proposal the name, business address, California contractor license number, and public works contractor registration number issued pursuant to Section 1725.5 of the Labor Code of each subcontractor who will perform work or labor or render services in or about the construction of the work or improvement, or a subcontractor who specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the Plans and

Specifications in excess of 1/2 of 1% of the prime Contractor's total bid or \$10,000, whichever is greater. If a subcontractor's California contractor license number or public works contractor registration number are submitted incorrectly in the bid, it will not be grounds for filing a bid protest or grounds for considering the bid nonresponsive if the corrected subcontractor's California contractor license number is submitted to OCFA within 24 hours after the bid opening.

If the Bidder fails to list a subcontractor for a portion of work or if the Bidder lists more than one subcontractor of the same portion of work in excess of 1/2 of 1% of the total bid or \$10,000, whichever is greater, the Bidder agrees that it is fully qualified to perform that portion of work itself, and that the Bidder shall perform that portion of work itself. If after award of the contract, the Bidder actually subcontracts that portion of work, except as provided in Public Contract Code Section 4107 or 4109, the Bidder shall be subject to the penalties listed in Section 4111 of the Public Contract Code. It is the OCFA's intent for the Subletting and Subcontracting Fair Practices Act to apply to all phases of the work.

29.1 NO INCREASE IN BID COST DUE TO SUBSTITUTION OF SUBCONTRACTOR.

In the event that a subcontractor is substituted in any manner for any reason, any increased cost related to such substitution shall be the sole responsibility of the Contractor. Such substitution shall not cause or result, directly or indirectly, in any increase in the bid price. This subsection shall not be construed to be prior consent to substitution of subcontractors, nor to authorize any substitution that is prohibited by the Subletting and Subcontracting Fair Practices Act.

30. PRICING

Contractors shall provide itemized pricing. No aggregate bids will be considered. The bid must state the amount for which the contractor offers to supply all labor, materials, equipment, tools, transportation, services and applicable taxes to perform all work specified. Bids shall not contain any conditions, limitations or provisions for the work to be done. Alternative bids will not be considered unless requested. The contractor shall set forth for each item of work, in clearly legible figures, a unit item price and a total for each item in the respective spaces provided. In case of a variation between the unit price and the totals shown by the contractor, the unit price will take precedence. In case of discrepancy between the numerical lump sum price and the written lump sum price, the written lump sum price shall prevail.

31. TAXES

No mention shall be made in the proposal of Sales Tax, Use Tax, or any other tax, as all amounts set forth in the bid will be deemed and held to include any such taxes that may be applicable. Bidder acknowledges and agrees that OCFA shall not be responsible for the payment of any increase in any Sales Tax, Use Tax, or any other tax that takes effect after award.

32. COMPLIANCE WITH LAWS

All bids shall comply with current and applicable federal, state, and local laws relative thereto.

33. CRITERIA FOR EVALUATION AND AWARD

The OCFA will award the contract to the lowest responsive, responsible bidder as required by law. The OCFA evaluates three categories of information: responsiveness, responsibility, and price. Bids must meet the following responsiveness and responsibility criteria in order to be considered for award:

- a) RESPONSIVENESS: OCFA will determine whether the bid complies with the instructions for submitting bids including completeness of bid which encompasses the inclusion of all required attachments and submissions. The OCFA will reject any bids that are submitted late. Failure to meet the specifications, project timeline, product availability, or other requirements may result in rejection.

- b) **RESPONSIBILITY:** OCFA will determine whether the bidder is one with whom it can or should do business. Factors that OCFA may evaluate to determine whether a contractor is a “responsible bidder” for purposes of the Public Contract Code include, but are not limited to: excessively high or low priced bids, past performance, references (including those found outside the bid), compliance with applicable laws - including tax laws, business standing, bidder's record of performance and integrity - e.g. has the bidder been delinquent or unfaithful to any contract with OCFA, whether the bidder is qualified legally to contract with the OCFA, financial stability and the perceived ability to perform completely as specified. A bidder must at all times have financial resources sufficient, in the opinion of the OCFA, to ensure performance of the contract and must provide proof upon request. OCFA staff may also use Dun & Bradstreet and/or any generally available industry information to assist in making such determinations. The OCFA reserves the right to inspect and review bidder's facilities, equipment and personnel and those of any identified subcontractors, and by submitting a bid, bidder consents thereto. The OCFA will determine whether any failure to supply information, or the quality of the information, will result in rejection.
- c) **PRICE:** OCFA will then evaluate bids that have met the requirements above for price, quality of product, life cycle cost, maintenance, warranty, etc.

34. GROUNDS FOR DISQUALIFICATION

OCFA may disqualify a submittal for any of the following reasons:

- Contact regarding this procurement is made with any OCFA Director, officer or employee other than those in the Purchasing Department from the time of issuance until the end of the dispute period;
- Evidence of collusion, directly or indirectly, among bidders regarding the amount, terms, or conditions of this solicitation is found;
- Evidence of submitting incorrect information in the response to this solicitation or misrepresenting or failing to disclose material facts during the award process is found;
- Submittal of added terms, conditions, or agreements with the bid document;
- Offering of gifts or souvenirs, even of minimal value, to OCFA Directors, officers or employees;
- The existence of any lawsuit, unresolved contractual claim or dispute between the Bidder and OCFA;
- Evidence of the Bidder's inability to successfully complete the responsibilities and obligations of the bid is found;
- Bidder's default under any OCFA agreement.
- No bidder shall be allowed to make, submit or be interested in more than one bid. No person, firm, corporation, or other entity may submit a sub-proposal to a bidder, or quote prices of materials to a bidder when also submitting as a prime on the same project.

35. PUBLIC RECORD

All bids submitted in response to this IFB shall become the property of OCFA and shall become a matter of public record available for review when required by law, including but not limited to the California Public Records Act.

36. CLAYTON ACT AND CARTWRIGHT ACT

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

37. INSURANCE

The successful bidder shall procure the insurance in the form and in the amount specified in the Contract Documents, including but not limited to the General Conditions. Failure to do so may result in forfeiture of the bid guarantee. No time extensions or extra payments shall be made to contractor for delays it may encounter in obtaining such coverage.

Contractor shall not commence work under the agreement until he/she has obtained all required insurance, including any and all endorsements, and the insurance has been approved by the OCFA as to form, amount, and carrier, nor shall Contractor allow any subcontractor to commence any work until all insurance required of the subcontractor has been obtained and approved.

38. NOTICE OF INTENT TO AWARD/EXECUTION OF CONTRACT

A notification of OCFA's intent to award contract ("Notice of Intent to Award") will be sent to the successful Offeror(s). Following receipt of the Notice of Intent to Award, and within fourteen (14) calendar days of the notice, the successful Offeror(s) shall complete and/or submit the items listed in Exhibit 4A: Transmittal Page – Bid Award Documents to the Purchasing & Materials Manager or designee.

The successful contractor or any designated subcontractors shall not perform any work on the project prior to attending the pre-construction conference and executing the appropriate certification. In case of failure of the Offeror(s) to execute and return all required documents in a form satisfactory to OCFA and within the time allowed, the OCFA may, at its option, consider that the Offeror(s) has/have abandoned the contract.

39. SUBSTITUTION OF SECURITIES

In conformance with Public Contract Code Section 22300, which is incorporated herein by this reference, the Contractor may substitute securities for any monies retained by the OCFA to ensure performance under the Contract or, in the alternative, may request payment of retention earned directly to an escrow agent.

At the request and expense of the Contractor, the Contractor has the option to deposit securities, which have been approved by the OCFA, with a State or Federally chartered bank as the escrow agent or require the OCFA to deposit 5% of each progress payment with the escrow agent. Said securities will be used as a substitute for retention earnings required to be withheld by the OCFA pursuant to the construction contract. Said securities shall have no obligation to any other construction contract for substitution of securities in lieu of retention. When the Contractor deposits the OCFA approved securities with the escrow agent, the escrow agent shall notify the OCFA within 10 calendar days of the deposit. Said securities shall be evaluated quarterly by the escrow agent to verify the current market value. If the current market value of said securities falls below the required amount, the escrow agent shall notify the Contractor and require additional securities and/or cash to be submitted for OCFA approval, and to be held in the escrow account to meet the Contractor's obligations. The escrow agent shall hold said securities until such time as the escrow agent receives written notification from the OCFA that the Contractor has satisfactorily completed his Contract obligations.

The type of securities deposited and the method of release shall be approved by the OCFA's Office of General Counsel.

If the Contractor chooses not to exercise its rights under Public Contract Code Section 22300, the full five percent (5%) retention will be deducted from all payments. The final retention will be authorized for payment thirty-five (35) days after the date of recordation of the Notice of Completion, if no stop notices have been filed. The OCFA may withhold from release of the final retention amounts authorized under Public Contracts Code Section 7107 and/or 125% of the cumulative amounts identified in all stop notices.

40 AWARD AND EXECUTION OF CONTRACT. If a bid bond is submitted with a 10% of Bid designation for the amount as noted in the OCFA Approved Bid Bond form, a revised Bid Bond with numerical dollar values, both in words and with digits, shall be submitted to the OCFA within three (3) working days of bid opening.

Within seven (7) calendar days after the date of the Notice of Apparent Low Bidder, the Contractor shall execute and return the following documents to the OCFA:

- All required evidence of insurance
- Two (2) Original Signed Contract Agreements

Within fourteen (14) calendar days after the date of the Notice of Award, the Contractor shall execute and return the following documents to the OCFA:

- Faithful Performance Bond
- Material and Labor Bond
- Construction Schedule
- Form W-9
- Construction Materials Submittals

FAILURE TO COMPLY WITH ALL OF THE ABOVE WILL RESULT IN ANNULMENT OF THE AWARD AND FORFEITURE OF THE PROPOSAL GUARANTEE AT THE SOLE DISCRETION OF OCFA.

The Contract Agreement shall not be considered binding upon the OCFA until executed by the authorized OCFA officials.

SECTION 3: PROPOSAL DOCUMENTS**BID SUBMITTAL**

To achieve a uniform review process and obtain the maximum degree of comparability, it is required that the Bidder submit the following documents, organized in the manner specified below. All Bidders are expected to provide detailed answers where requested. Additional information, if provided, should be separately identified in the bid. **Failure to submit these documents may result in the bid being deemed non-responsive.**

- ☐ **Transmittal Page One – IFB Response Forms** (*Exhibit 3A*)
- ☐ **Original Bidder's Bond** (*Exhibit 3B*)
- ☐ **Certification of Bid** (*Exhibit 3C*)
- ☐ **Non-Collusion Affidavit** (*Exhibit 3D*)
- ☐ **Contractor's Licensing Statement** (*Exhibit 3E*)
- ☐ **List of Subcontractors** (*Exhibit 3F*)
- ☐ **Designation of Sureties** (*Exhibit 3G*)
- ☐ **Bidder's Certification of Compliance with Insurance Requirements** (*Exhibit 3H*)
- ☐ **Certification of Site Examination** (*Exhibit 3I*)
- ☐ **Bid Sheets** (*Exhibit 3J*)
- ☐ **Project Approach and Schedule** (*Exhibit 3K*)
- ☐ **List of Project References** (*Exhibit 3L*)
- ☐ **Qualifications Questionnaire** (*Exhibit 3M*)
- ☐ **Party and Participant Disclosure Forms** (*Exhibit 3N*)

3A: TRANSMITTAL PAGE**TO: Orange County Fire Authority****FROM:** _____

(Legal Name of Contractor)

PROJECT: RO2763 – BATHROOM REMODEL AT OCFA FIRE STATION 45

The contractor will accept in full payment for the work specified herein the following total lump sum amount, inclusive of all applicable taxes and markup (transferred from Exhibit 3J: Bid Sheets):

BID LUMP SUM:**NUMERICAL:** \$ _____**WRITTEN:** _____**ACKNOWLEDGMENT OF ADDENDA:**

No.: _____ Dated: _____ No.: _____ Dated: _____
 No.: _____ Dated: _____ No.: _____ Dated: _____

BIDDER'S CHECKLIST:

Bidder certifies that the following documents are included in its Bid:

- | | | |
|--|--|--|
| <input type="checkbox"/> Transmittal Page (<i>Exhibit 3A</i>) | <input type="checkbox"/> List of Subcontractors (<i>Exhibit 3F</i>) | <input type="checkbox"/> Project Approach and Schedule (<i>Exhibit 3K</i>) |
| <input type="checkbox"/> Bidder's Bond (<i>Exhibit 3B</i>) | <input type="checkbox"/> Designation of Sureties (<i>Exhibit 3G</i>) | <input type="checkbox"/> List of Project References (<i>Exhibit 3L</i>) |
| <input type="checkbox"/> Certification of Bid (<i>Exhibit 3C</i>) | <input type="checkbox"/> Bidder's Certification of Compliance with Insurance Requirements (<i>Exhibit 3H</i>) | <input type="checkbox"/> Qualifications Questionnaire (<i>Exhibit 3M</i>) |
| <input type="checkbox"/> Contractor's Licensing Statement (<i>Exhibit 3D</i>) | <input type="checkbox"/> Certification of Site Examination (<i>Exhibit 3I</i>) | <input type="checkbox"/> Party and Participant Disclosure Forms (<i>Exhibit 3N</i>) |
| <input type="checkbox"/> Non-Collusion Affidavit (<i>Exhibit 3E</i>) | <input type="checkbox"/> Bid Sheets (<i>Exhibit 3J</i>) | |

MINIMUM QUALIFICATIONS:

Bidder Meets the Minimum Qualifications as follows:

CSLB License #: _____ **Expiration:** _____**DIR Registration #:** _____ **Expiration:** _____**Number of Years of Experience:** _____**SIGNATURE OF CONTRACTOR:** _____**PRINTED NAME:** _____ **TITLE:** _____

3B: BIDDER'S BOND

(10% of Agreement Price)

Bidders must use this form, NOT a surety company form

KNOW ALL PERSONS BY THESE PRESENTS:

That the undersigned, _____ as Principal ("Principal"), and _____ as Surety ("Surety"), a corporation organized and existing under and by virtue of the laws of the State of _____ and authorized to do business as a surety in the State of California, are held and bound unto the Orange County Fire Authority ("OCFA") of Orange County, State of California as Obligee, in the sum of _____ Dollars (\$ _____) lawful money of the United States of America, for the payment of which sum well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that whereas the Principal has submitted a bid to the OCFA for all work specifically described in the accompanying bid;

NOW, THEREFORE, if the Principal is awarded the Project and, within the time and manner required under the Bid Documents, after the prescribed forms are presented to Principal for signature, enters into a written contract ("Agreement"), in the prescribed form in accordance with the bid, and files two bonds, one guaranteeing faithful performance and the other guaranteeing payment for labor and materials as required by law, and meets all other conditions to the contract between the Principal and the Obligee becoming effective, or if the Principal shall fully reimburse and save harmless the Obligee from any damage sustained by the Obligee through failure of the Principal to enter into the Agreement and to file the required performance and labor and material bonds, and to meet all other conditions to the Agreement between the Principal and the Obligee becoming effective, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect. The full payment of the sum stated above shall be due immediately if Principal fails to submit and execute the Agreement award documents as required in the Invitation for Bid Document within the timeline specified therein.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Agreement or the call for bids, or to the work to be performed thereunder, or the specifications accompanying the same, shall in any way affect its obligation under this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Agreement or the call for bids, or to the work, or to the specifications.

In the event suit is brought upon this bond by the Obligee and judgment is recovered, the Surety shall pay all costs incurred by the Obligee in such suit, including a reasonable attorneys' fee to be fixed by the Court.

If the OCFA awards the bid, the security of unsuccessful bidder(s) shall be returned within sixty (60) days from the time the award is made. Unless otherwise required by law, no bidder may withdraw its bid for ninety (180) days after the date of the bid opening.

[Signature Page Follows]

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____, 20____.accordance with Article 5 - commencing at section 1860, chapter 1, part 7, division 2 of the Labor Code, this certificate must be signed and filed with the awarding body prior to performing any work under this Contract:

CONTRACTOR:

(Affix Corporate Seal)

Principal_____
By_____
Print Name and Title of Signatory**SURETY:**

(Affix Corporate Seal)

Surety_____
By_____
Name of California Agent of Surety_____
Address of California Agent of Surety_____
Telephone Number of California Agent of Surety

Attach Notary acknowledgments for all signatures. Attach Power of Attorney Attach Power of Attorney if executed by Attorney-in-Fact. The California Department of Insurance must authorize the Surety to be an admitted Surety Insurer.

3C: CERTIFICATION OF BID

In responding to IFB RO2763 – BATHROOM REMODEL AT OCFA FIRE STATION 45 the undersigned Bidder(s) certifies the following:

1. Bidder agrees to provide all necessary labor, materials, equipment, and services to OCFA per the specifications contained herein and that all furnished labor is able to work in harmony with all other elements of labor employed or to be employed on the work.
2. Bidder further agrees to the terms and conditions specified herein, the following terms and conditions that are a part of this IFB, and the resulting Construction Services Agreement. **If there are any exceptions to or deviations from the terms of the Contract Documents (Section 4), they must be stated in an attachment included with the bid.** Where Bidder wishes to propose alternatives to the OCFA's contractual requirements, these should be thoroughly explained. While exceptions will be considered, OCFA reserves the right to determine that an offer is non-responsive based upon any exceptions taken. OCFA's governing body reserves the right to deny any material exceptions to the contract. If no contractual exceptions are noted, Bidder will be deemed to have accepted the form of the contract requirements set forth in Section 4.
3. The Bidder hereby certifies that the individual signing the submittal is an authorized agent for the Bidder and has the OCFA to legally bind the Bidder to the Contract.
4. The undersigned has reviewed the work outlined in the documents and fully understands the scope of work required, understands the construction and project management function(s) as described, and that each contractor who is awarded a contract shall be in fact the prime contractor, not a subcontractor, to the OCFA, and agrees that its offer, if accepted by the OCFA, will be the basis for the contractor to enter into a contract with the OCFA.
5. The undersigned had notified the OCFA in writing any discrepancies or omission or of any doubt, questions, or ambiguities about the meaning of any of the IFB documents.
6. By submitting this Offer Form and signing below, the liquidated damages clause of the Agreement is hereby acknowledged.
7. It is understood that the OCFA reserves the right to reject this bid and that the bid shall remain open to acceptance and is irrevocable for a period of one hundred eighty (180) days.
8. Contractor expressly acknowledges that it is aware that if a false claim is knowingly submitted (as the terms "claim" and "knowingly" are defined in the California False Claims Act, Cal. Gov. Code, §12650 et seq.), the OCFA will be entitled to civil remedies set forth in the California False Claim Act. It may also be considered fraud and the contractor may be subject to criminal prosecution.
9. Labor Code Section 1735 requires that no discrimination be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical handicap, medical condition, marital status or sex of such persons, except as provided in Government Code Section 12940. Bidder certifies that it does not discriminate in its employment with regard to the factors set forth in Labor Code Section 1735; that it is in compliance with all federal, state and local directives and executive orders regarding non-discrimination in employment; and that it agrees to demonstrate positively and aggressively the principle of equal employment opportunity in employment.
10. The Bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, manager: (1) is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal agency; (2) has not been suspended, debarred, voluntarily excluded or determined ineligible by

any Federal agency within the past 3 years; (3) does not have a proposed debarment pending; and (4) has not been indicted, convicted, or had a civil judgment rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

To the Orange County Fire Authority:

Contractor hereby certifies to the OCFA that all representations, certifications, and statements made by the contractor, as set forth in this offer form, are true and correct and are made under penalty of perjury. The Undersigned hereby offers and shall furnish the services in compliance with all terms, scope of work, conditions, specifications, and amendments in the Request for Proposal which is incorporated by reference as fully set forth herein. The representations herein are made under penalty of perjury.

LEGAL NAME OF CONTRACTOR: _____**SIGNATURE OF CONTRACTOR:** _____**PRINTED NAME:** _____**TITLE:** _____**CONTRACTOR ADDRESS:** _____**CITY:** _____**STATE:** _____**ZIP CODE:** _____**IF CONTRACTOR IS A CORPORATION, AFFIX CORPORATE SEAL AND COMPLETE THE FOLLOWING:****NAME OF CORPORATION:** _____**DATE OF INCORPORATION:** _____**PRESIDENT:** _____**TREASURER:** _____**SECRETARY:** _____**MANAGER:** _____**SUBSCRIBED AND SWORN TO BEFORE ME****BY****THIS** _____ **DAY OF** _____ **20**_____**(Print Name)****(Signature of Notary Public)****(Signature)****(Attach Jurat)****TITLE** _____**(SEAL)****(SEAL)**

3D: NON-COLLUSION AFFIDAVIT

STATE OF CALIFORNIA)
) SS
 COUNTY OF)

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

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [date], at _____ [city], _____ [state]."

Signed _____

 Title

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

 Signature of Notary Public

(SEAL)

3E: CONTRACTOR'S LICENSING CERTIFICATION

If the contractor is a sole proprietorship or another entity that does business under a fictitious name, the bid shall be in the real name of the respondent with a designation following showing "DBA (the fictitious name)," provided however, that no fictitious name shall be used unless there is a current registration with the Orange County Recorder. If the bid is submitted by a corporation, provide an additional attachment that states the names of the officers who can sign an agreement on behalf of the corporation and whether more than one officer must sign. If the bid is by a partnership or a joint venture, state the names and addresses of all general partners and joint venture parties.

The undersigned certifies that the contractor is licensed in accordance with the laws of the State of California to do the type of work required. Contractor further certifies that it is regularly engaged in the general class and type of work called for in this Request for Informal Bid. The successful contractor and subcontractors are required to hold the State of California Contractor's License(s) and DIR registration as required by SB854. Please complete and/or provide all requested information.

CONTRACTOR'S**LICENSE NO:** _____ **CLASS:** _____ **EXPIRATION:** _____**CA DIR REGISTRATION NUMBER:** _____ **EXPIRATION:** _____**CONTRACTOR TELEPHONE:** _____ **CONTRACTOR FAX:** _____**BUSINESS ADDRESS:** _____**LENGTH OF TIME IN BUSINESS:** _____**LENGTH OF TIME AT CURRENT LOCATION:** _____**NUMBER OF EMPLOYEES:** _____ **NUMBER OF CURRENT CLIENTS:** _____

*If the contractor operates as a sole proprietorship:***NAME OF INDIVIDUAL CONTRACTOR:** _____**SIGNATURE OF OWNER:** _____**BUSINESS ADDRESS:** _____

*If the contractor operates under a partnership:***NAME OF FIRM:** _____**PARTNER NAME:** _____ **PARTNER TITLE:** _____**PARTNER ADDRESS:** _____**SIGNATURE OF PARTNER:** _____**PARTNER NAME:** _____ **PARTNER TITLE:** _____**PARTNER ADDRESS:** _____**SIGNATURE OF PARTNER:** _____

If contractor operates under a corporation:

NAME OF CORPORATION: _____

CORPORATION ORGANIZED UNDER THE LAWS OF THE STATE OF CALIFORNIA:

_____ **SIGNATURE OF CORPORATION PRESIDENT**

_____ **SIGNATURE OF THE CORPORATION SECRETARY**

_____ **DATE**

Management person responsible for direct contact with OCFA:

NAME: _____ **TITLE:** _____

TELEPHONE: _____ **E-MAIL:** _____

Person responsible for the day-to-day servicing of the account/project.

NAME: _____ **TITLE:** _____

TELEPHONE: _____ **E-MAIL:** _____

SUBSCRIBED AND SWORN TO BEFORE ME **BY**
THIS _____ **DAY OF** _____ **20**_____

(Print Name)

(Signature of Notary Public)

(Signature)

(Attach Jurat)

TITLE _____

(SEAL)

(SEAL)

3F: PROPOSED SUBCONTRACTORS

Bidder acknowledges and agrees that under Public Contract Code section 4100, et seq., Bidder must clearly set forth the name and location of each subcontractor who will perform work or labor or render service to the bidder in or about the construction of the work in an amount in excess of one-half of one percent (0.5%) of bidder's total bid and the kind of work that each will perform. This is to include any subcontractor that will specially fabricate and install a portion of work according to detailed drawings contained in the plans and specifications in the amount greater than one half of one percent (.05%) of the Contractor's total bid.

Furthermore, Bidder acknowledges and agrees that under Public Contract Code section 4100, et seq., if bidder fails to list as to any portion of work, or if bidder lists more than one subcontractor to perform the same portion of work (i.e. bidder must indicate what portion of the work each subcontractor will perform), bidder must perform that portion itself or be subjected to penalty under applicable law. If alternate bids are called for and Bidder intends to use subcontractors different from or in addition to those subcontractors listed for work under the base bid, Bidder must list subcontractors that will perform work in an amount in excess of one half of one percent (0.5%) of bidder's total bid, including alternates.

In case more than one subcontractor is named for the same kind of work, the Contractor is to state the portion of work that each subcontractor will perform. Bidders or suppliers of materials only do not need to be listed. If further space is required for the list of proposed subcontractors, additional sheets showing the required information, as indicated below, shall be attached hereto and made a part of this document.

Subcontractor Name					
Address					
DIR Registration No.		CSLB No.		Class	
Phone		Email			
Percent of Total Contract					
Specific Scope of Work					
Subcontractor Name					
Address					
DIR Registration No.		CSLB No.		Class	
Phone		Email			
Percent of Total Contract					
Specific Scope of Work					
Subcontractor Name					
Address					
DIR Registration No.		CSLB No.		Class	
Phone		Email			
Percent of Total Contract					
Specific Scope of Work					
Subcontractor Name					
Address					
DIR Registration No.		CSLB No.		Class	
Phone		Email			
Percent of Total Contract					
Specific Scope of Work					
Subcontractor Name					
Address					
DIR Registration No.		CSLB No.		Class	
Phone		Email			
Percent of Total Contract					
Specific Scope of Work					

3G: DESIGNATION OF SURETIES

The following are the names, addresses and phone numbers for all brokers and sureties from whom Bidder intends to procure insurance and bonds.

Name	
Address	
Phone No.	
Name	
Address	
Phone No.	
Name	
Address	
Phone No.	
Name	
Address	
Phone No.	

**3H: BIDDER'S CERTIFICATION OF COMPLIANCE WITH
INSURANCE REQUIREMENTS FOR PUBLIC WORKS CONSTRUCTION**

BIDDER agrees, acknowledges and is fully aware of the insurance requirements as specified in the INSTRUCTIONS TO BIDDERS FOR IFB RO2763 – BATHROOM REMODEL AT OCFA FIRE STATION 45 AND IN THE SPECIAL PROVISIONS FOR IFB RO2763 – BATHROOM REMODEL AT OCFA FIRE STATION 45 and accepts all conditions and requirements contained therein.

BIDDER acknowledges that ACORD forms will not be accepted when policy forms or endorsements are required.

BIDDER acknowledges that some insurance companies may be unwilling to issue all of the policy coverage and endorsements required in the conditions and requirements. It is BIDDER's responsibility to ensure that it will be able to provide evidence of all required types and amounts of insurance and all policy endorsements required hereunder.

BIDDER represents and warrants that, prior to signing below, BIDDER has confirmed with BIDDER's insurer(s) or insurance broker(s) that all required evidence of the types and amounts of insurance, and all required endorsements of insurance coverage, will be timely provided to OCFA in accordance with the conditions and requirements. Failure to provide all required evidence of insurance and endorsements when required will constitute a material breach of the agreement.

Bidder

By

Date

3I: CERTIFICATION OF SITE EXAMINATION

By signing below, Bidder certifies each of the following:

1. Bidder is fully informed of the conditions relating to the construction of the work and the employment of labor thereon
2. The specifications for the work show conditions as they are believed to exist. The conditions shown do not constitute a representation or warranty express or implied by the OCFA, its officers or agents that such conditions actually exist.
3. Bidder has thoroughly examined the site for the work described herein and attended the mandatory pre-bid inspection of the building(s) and site(s), conducted by the OCFA. Failure to attend the mandatory pre-bid inspection shall be cause for rejection of the bid.
4. Bidder has observed the designated Contractor work areas, material equipment storage areas, access routes, as well as the ability to protect existing surface and subsurface improvements. No claim for allowance of time or money will be allowed for such matters.
5. Bidder is competent, knowledgeable, and has special skills with respect to the nature, extent, and inherent conditions of the work to be performed.
6. Bidder acknowledges that there are certain peculiar and inherent conditions existent in the construction of the work that may create, during the work, unusual or peculiar unsafe conditions hazardous to persons and property and expressly acknowledges that it is aware of such peculiar risks and that it has the skill and experience to foresee and to adopt protective measures to adequately and safely perform the work with respect to such hazards.

To the Orange County Fire Authority:

I certify that I have examined the site and the bid is complete and there will be no requests for additional payment for failure to examine the site thoroughly.

Date of Site Examination:

Company Name:

Signature:

Printed Name / Title of Company Representative:

Date:

3J: BID SHEETS

Cost Analysis: The bid information is relevant to a determination of whether the pricing offered is fair and reasonable in light of the Scope of Services to be provided. **Failure to submit the information in the format requested may result in the bid being deemed non-responsive.**

Instructions: - Input your information in the blank cells as follows:

- Insert a description for each Line
- Insert the lump sum subtotal for each category
- Add all categories to arrive at the Project Grand Total

CATEGORY I: Labor		
Line	Description	
1		
SUBTOTAL LABOR:		
CATEGORY II: Permanent & Non-Permanent Materials/Supplies		
Line	Description	
2		
SUBTOTAL MATERIALS:		
CATEGORY III: EQUIPMENT		
Line	Description	
3		
SUBTOTAL EQUIPMENT:		
CATEGORY IV: OVERHEAD & INDIRECT COSTS		
Line	Description	
4		
SUBTOTAL OVERHEAD:		
PROJECT SUBTOTAL		
CATEGORY V: PROFIT		
Line	Description	% Profit
5	Provide the percentage of the project subtotal (above) that will be assessed as profit:	
SUBTOTAL PROFIT (IN DOLLARS)		
CATEGORY VI: PERMITS/FEES		
Line	Description	Estimated Permits/Fees
6	Provide an estimate of the permits and fees for the project. These fees will be reimbursed at actual cost or may be paid directly to the regulating agency by OCFA.	
SUBTOTAL PERMITS/FEES		
PROJECT GRAND TOTAL		

3K: PROJECT APPROACH AND TIMELINE

Failure to provide the information requested below may result in the bid being deemed non-responsive:

1. Submit a Rough Construction Schedule. This will be the basis for the approved Construction Schedule.
2. Submit a Rough Schedule of Values, including mobilization and field office costs, in a format consistent with AIA Document G703 – 1992. This will be the basis for the approved Schedule of Values.
3. Submit a narrative explanation of the proposed Construction Schedule and Schedule of Values. The narrative should include project phases and major project milestones.

3L: LIST OF PROJECT REFERENCES

The Bidder must demonstrate knowledge of public construction techniques and must possess a working ability to perform a similar scope of construction work for other public agencies. The information provided below may be used to determine whether the bid is submitted by a "responsible bidder" for purposes of the Public Contract Code, as stated in this IFB document. The OCFA expressly reserves the right to reject the bid of any bidder who has failed to complete three (3) similar projects of substantially the same type of work in a timely or satisfactory manner. **Failure to provide the requested information may cause your bid to be rejected as non-responsive.**

1. Submit the following information for three public agencies for which the Bidder has performed similar work within the past three (3) years:

- a) Agency Name
- b) Address
- c) Contact Name and Title
- d) Telephone Number
- e) Email Address
- f) Project Name
- g) Project Value
- h) Description of Scope of Work

2. References will be asked the following information:

- a) Did the Contractor perform the work as agreed?
- b) Did the Contractor perform the work within the allocated time frame?
- c) Were you satisfied with the Contractor's performance?
- d) Would you recommend the Contractor for a future contract?
- e) Did you have easy accessibility to the Contractor?

3M: QUALIFICATIONS QUESTIONNAIRE

The information and documents provided below may be used to determine the responsibility of Bidder's submittal, as stated in Section 33 of this IFB document. **Failure to provide the requested information may cause your bid to be rejected as non-responsive.**

1. Provide the names, titles, addresses, and phone numbers of all individuals, firm members, partners, joint ventures, and/or corporate officers having a principal interest in this proposal:
2. Provide the dates of any voluntary or involuntary bankruptcy judgments against any principal having an interest in this proposal.
3. Provide all current and prior DBA's, aliases, and fictitious business names for any principal having an interest in this proposal.
4. For each violation of labor law determined by any Federal, State or local agency to have been committed by the Bidder or any principal having an interest in this proposal, identify any measures that have been imposed by, or agreed upon with, the Federal, State or local agency as punishment for past violations or to prevent future violations.
5. State the title and date, and attach a copy of, each written threat, bid depository, claim, lawsuit, discipline or other written action by the Contractor State License Board against the Bidder or any principal having an interest in this proposal.
6. Identify the following information about each claim asserted against the Bidder or any principal having an interest in this proposal relating to industrial safety within the past eight (8) years: name of the agency/entity asserting the claim; the date of the claim; the date of the alleged violation giving rise to the claim; the claim number, if any. Attach a copy of the claim.
7. Has the Bidder or any principal having an interest in this proposal been disqualified from bidding on, or from finishing, any other public works project in the past 8 years? If so, for each such disqualification, identify: who was disqualified; which public agency disqualified; the date of the disqualification; the alleged basis for the disqualification;
8. Has the Bidder or any principal having an interest in this proposal: (a) filed (voluntarily or involuntarily) for bankruptcy protection; (b) been sued or arbitrated a dispute; been involved in a contract termination involving a public works project; or (c) failed to complete work required by a construction contract? If so, provide detailed information.
9. Please submit an attachment detailing the following information about all current projects:
 - a) Project Name
 - b) Description of Bidder's Work
 - c) Completion Date
 - d) Project Cost

3N: PARTY AND PARTICIPANT DISCLOSURE FORMS

Campaign Contributions Disclosure: In conformance with the statutory requirements of the State of California Government Code Section 84308, part of the Political Reform Act and Title 2, California Code of Regulations 18438 through 18438.8, regarding campaign contributions to members of appointed Boards of Directors, Offeror is required to complete the attached Party and Participant Disclosure Forms and submit as part of the proposal, **if applicable**.

Offeror is required to submit only one copy of the completed form(s) as part of its proposal. This/these form(s) should be included in the original RFP. The Offeror and subcontractors must complete the form entitled "Party Disclosure Form". Lobbyists or agents representing the Offeror in this procurement must complete the form entitled "Participant Disclosure Form". Reporting of campaign contributions is a requirement from the proposed submittal date up and until the OCFA Board of Directors takes action.

**ORANGE COUNTY FIRE AUTHORITY
BOARD OF DIRECTORS**

Aliso Viejo	Mike Munzing	Rancho Santa Margarita	Bradley J. McGirr
Buena Park	Connor Traut	San Clemente	Victor Cabral
Cypress	David Burke	San Juan Capistrano	Troy Bourne
Dana Point	Mike Frost	Santa Ana	Phil Bacerra
Garden Grove	George Brietigam, III	Seal Beach	Joe Kalmick
Irvine	Vacant	Stanton	Dave Shawver
La Palma	Nitesh Patel	Tustin	Austin Lumbard
Laguna Hills	Joshua Sweeney	Villa Park	Robert Frackelton
Laguna Niguel	Kelly Jennings	Westminster	Chi Charlie Nguyen
Laguna Woods	Shari L. Horne	Yorba Linda	Tara Campbell
Lake Forest	Mark Tettemer	County of Orange	Katrina Foley
Los Alamitos	Shelley Hasselbrink	County of Orange	Donald P. Wagner
Mission Viejo	Bob Ruesh		

PARTY DISCLOSURE

The attached Party Disclosure Form must be completed and submitted by the Offeror and subcontractors with the proposal by all firms subject to the campaign contribution disclosure requirements stated in Section VI this solicitation. It is anticipated that a recommendation for award of this contract will be presented to the Board of Directors of OCFA for approval. (Please see next page for definitions of these terms.)

IMPORTANT NOTICE

Basic Provisions of Government Code Section 84308

- A. If you are an applicant for, or the subject of, any contract award, you are prohibited from making a campaign contribution of more than \$250 to any board member or his or her alternate. This prohibition begins on the date the solicitation is initiated, and the prohibition ends three months after a final decision is rendered by the Board of Directors. In addition, no board member or alternate may solicit or accept a campaign contribution of more than \$250 from you during this period.
- B. These prohibitions also apply to your agents, and, if you are a closely held corporation, to your majority shareholder as well. These prohibitions also apply to your subcontractor(s), joint venturer(s), and partner(s) in this proceeding. Also included are parent companies and subsidiary companies directed and controlled by you, and political action committees directed and controlled by you.
- C. You must file the attached disclosure form and disclose whether you or your agent(s) have in the aggregate contributed more than \$250 to any board member or his or her alternate during the 12-month period preceding the contract award.
- D. If you or your agent have in the aggregate contributed more than \$250 to any individual board member or his/or her alternate during the 12 months preceding the decision on the contract award or proceeding, that board member or alternate must disqualify himself or herself from the decision. However, disqualification is not required if the board member or alternate returns the campaign contribution within 30 days from the time the director knows, or should have known, about both the contribution and the fact that you are a party in the proceeding. The Party Disclosure Form should be completed and filed with your proposal, or with the first written document you file or submit after the proceeding commences.
 - 1. A proceeding involving "a license, permit, or other entitlement for use" includes all business, professional, trade and land use licenses and permits, and all other entitlements¹ for use, including all entitlements for land use, all contracts² (other than competitively bid, labor or personal employment contracts), and all franchises.
 - 2. Your "agent" is someone who represents you in connection with a proceeding involving a license, permit or other entitlement for use. If an individual acting as an agent is also acting in his or her capacity as an employee or member of a law, architectural, engineering, consulting firm, or similar business entity, both the business entity and the individual are "agents."
 - 3. To determine whether a campaign contribution of more than \$250 has been made by you, campaign contributions made by you within the preceding 12 months must be aggregated with those made by your agent within the preceding 12 months or the period of the agency, whichever is shorter. Contributions made by your majority shareholder (if a closely held corporation), your subcontractor(s), your joint venturer(s), and your partner(s) in this proceeding must also be included as part of the aggregation. Campaign contributions made to different directors or their alternates are not aggregated.

This notice summarizes the major requirements of Government Code Section 84308 of the Political Reform Act and 2 Cal. Adm. Code Sections 18438-18438.8 as it relates to contract awards.

¹ Entitlement for the purposes of this form refers to contract award. ² All Contracts for the purposes of this form refer to the contract award of this specific solicitation.

PARTY DISCLOSURE FORM

Party's Name: _____

Party's Address: _____

Party's Telephone: _____

Solicitation Title and Number: _____

Based on the party disclosure information provided, are you or your firm subject to party disclosures?
No ☐ If no, check the box and sign below. Yes ☐ If yes, check the box, sign below and complete the form.

Date: _____

Signature of Party and/or Agent

To be completed only if campaign contributions have been made in the preceding twelve (12) months. Attach additional copies if needed.

Board Member(s) to whom you and/or your agent made campaign contributions and dates of contribution(s) in the preceding 12 months:

Name of Member: _____

Name of Contributor (if other than Party): _____

Date(s): _____

Amount(s): _____

Name of Member: _____

Name of Contributor (if other than Party): _____

Date(s): _____

Amount(s): _____

PARTICIPANT (AGENT) DISCLOSURE

The Participant Disclosure Form must be completed by lobbyists or agents representing the Offeror in this procurement. It is anticipated that a recommendation for award of this contract will be presented to the Board of Directors of OCFA for approval.

IMPORTANT NOTICE

Basic Provisions of Government Code Section 84308

- A. If you are a participant in a proceeding involving any contract award, you are prohibited from making a campaign contribution of more than \$250 to any Board member. This prohibition begins on the date you begin to actively support or oppose an application for contract award pending before OCFA or any of its affiliated agencies, and continues until three months after a final decision is rendered on the application or proceeding by the Board of Directors. No Board member may solicit or accept a campaign contribution of more than \$250 from you and/or your agency during this period if the Board member knows or has reason to know that you are a participant.
- B. The attached disclosure form must be filed if you or your agent has contributed more than \$250 to any Board member for OCFA or any of its affiliated agencies during the 12-month period preceding the beginning of your active support or opposition (The disclosure form will assist the Board members in complying with the law).
- C. If you or your agent have made a contribution of more than \$250 to any Board member during the 12 months preceding the decision in the proceeding, that Board member must disqualify himself or herself from the decision. However, disqualification is not required if the Board member returns the campaign contribution within 30 days from the time the Board member knows, or should have known, about both the contribution and the fact that you are a participant in the proceeding

The Participant Disclosure Form should be completed and filed with the proposal submitted by a party, or should be completed and filed the first time that you lobby in person, testify in person before, or otherwise directly act to influence the vote of the Board members of OCFA or any of its affiliated agencies.

1. An individual or entity is a "participant" in a proceeding involving an application for a license, permit or other entitlement for use if:
 - a. The individual or entity is not an actual party to the proceeding, but does have a significant financial interest in the OCFA's or one of its affiliated agencies' decisions in the proceeding;
AND
 - b. The individual or entity, directly or through an agent, does any of the following:
 - i. Communicates directly, either in person or in writing, with a Board member of OCFA or any of its affiliated agencies for the purpose of influencing the Board member's vote on the proposal;
 - ii. Communicates with an employee of OCFA or any of its affiliated agencies for the purpose of influencing a Board member's vote on the proposal; or
 - iii. Testifies or makes an oral statement before the Board of Directors of OCFA or any of its affiliated agencies.
2. A proceeding involving "a license, permit, or other entitlement for use" includes all business, professional, trade and land use licenses and permits, and all other entitlements for use, including all entitlements for land use; all contracts (other than competitively bid, labor, or personal employment contracts) and all franchises.
3. Your "agent" is someone who represents you in connection with a proceeding for this proposed involving a contract award. If an agent acting as an employee or member of a law, architectural, engineering, or consulting firm, or a similar business entity or corporation, both the business entity or corporation and the individual are agents.
4. To determine whether a campaign contribution of more than \$250 has been made by a participant or his or her agent, contributions made by the participant within the preceding 12 months shall be aggregated with those made by the agent within the preceding 12 months or the period of the agency, whichever is shorter. Campaign contributions made to different Board members are not aggregated.

This notice summarizes the major requirements of Government Code Section 84308 and 2 Cal. Adm. Code Sections 18438-18438.8

PARTICIPANT (AGENT) DISCLOSURE FORM

Prime's Firm Name: _____

Party's Name: _____

Party's Address: _____

Party's Telephone: _____

Solicitation Title and Number:

Based on the participant disclosure information provided, are you or your firm subject to participant disclosures?

No ☐ If no, check the box and sign below. Yes ☐ If yes, check the box, sign below and complete the form.

Date: _____

Signature of Party and/or Agent***To be completed only if campaign contributions have been made in the preceding twelve (12) months. Attach additional copies if needed.***

Board Member(s) to whom you and/or your agent made campaign contributions and dates of contribution(s) in the preceding 12 months:

Name of Board**Member:** _____**Name of Contributor (if other than Party):** _____**Date(s):** _____**Amount(s):** _____**Name of Board****Member:** _____**Name of Contributor (if other than Party):** _____**Date(s):** _____**Amount(s):** _____

SECTION 4: CONTRACT DOCUMENTS**CONTRACT SUBMITTALS (SUCCESSFUL BIDDER ONLY)**

Within fourteen calendar days (14) of the issuance of the Notice to Proceed, the successful Bidder must submit the documents below. Failure to do so may result in the contract being deemed abandoned.

- ☐ **Transmittal Page Two – Bid Award Documents** (Exhibit 4A)
- ☐ **Original Performance Bond** (Exhibit 4B)
- ☐ **Original Payment (Labor and Materials) Bond** (Exhibit 4C)
- ☐ **Award Certifications** (Exhibit 4D)
- ☐ **IRS Form W9** (Exhibit 4E)
- ☐ **All required Insurance Certificates and Endorsements**
- ☐ **Signed Contract Agreement** (Exhibit 4F)
- ☐ **General Conditions** (Exhibit 4G)

4A: TRANSMITTAL PAGE TWO – BID AWARD DOCUMENTS**TO:** Orange County Fire Authority**FROM:**

(Legal Name of Contractor)

PROJECT: RO2763 – BATHROOM REMODEL AT OCFA FIRE STATION 45

AWARDED CONTRACTOR'S CHECKLIST:

The awarded Contractor is required to provide the following documents:

- | | | |
|--|--|--|
| <input type="checkbox"/> Transmittal Page (<i>Exhibit 4A</i>) | <input type="checkbox"/> Award Certifications (<i>Exhibit 4D</i>) | <input type="checkbox"/> Signed Agreement (<i>Exhibit 4F</i>) |
| <input type="checkbox"/> Performance Bond (<i>Exhibit 4B</i>) | <input type="checkbox"/> W9 (<i>Exhibit 4E</i>) | |
| <input type="checkbox"/> Payment Bond (<i>Exhibit 4C</i>) | <input type="checkbox"/> Insurance Certificates | |
-

TO THE OCFA:

Signature below acknowledges that, should the Contractor fail to provide the above documents in a form satisfactory to OCFA within fourteen days of the issuance of the Notice of Award, OCFA may, at its option, consider the Contractor to have abandoned the agreement, upon which the full payment of the sum stated in the Bidder's Bond shall be due immediately.

SIGNATURE OF CONTRACTOR:**PRINTED NAME:****TITLE:**

4B: FAITHFUL PERFORMANCE BOND

(100% of Agreement Price)

Bidders must use this form, NOT a surety company form

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the Orange County Fire Authority, ("OCFA") and _____ ("Principal") have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project:

IFB RO2763 – BATHROOM REMODEL AT OCFA FIRE STATION 45

("Contract") which Contract dated [DATE], and all of the Bid Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

WHEREAS, said Principal is required under the terms of the Contract to furnish a bond for the faithful performance of the Contract.

NOW, THEREFORE, the Principal and _____ ("Surety") are held and firmly bound unto the Board of the OCFA in the penal sum of [ONE HUNDRED EIGHTY-NINE THOUSAND, NINE HUNDRED FORTY-EIGHT DOLLARS (\$[189,948])], lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents, to:

- Perform all the work required to complete the Project; and
- Pay to the OCFA all damages the OCFA incurs as a result of the Principal's failure to perform all the work required to complete the Project.

The condition of the obligation is such that, if the above bounden Principal, his or its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in the Contract and any alteration thereof made as therein provided, on his or its part to be kept and performed at the time and in the intent and meaning, including all contractual guarantees and warranties of materials and workmanship, and shall indemnify and save harmless the OCFA, its trustees, officers and agents, as therein stipulated, then this obligation shall become null and void, otherwise it shall be and remain in full force and virtue.

As a condition precedent to the satisfactory completion of the Contract, the above obligation shall hold good for a period equal to the warranty and/or guarantee period of the Contract, during which time Surety's obligation shall continue if Contractor shall fail to make full, complete, and satisfactory repair and replacements and totally protect the OCFA from loss or damage resulting from or caused by defective materials or faulty workmanship. The obligations of Surety hereunder shall continue so long as any obligation of Contractor remains. Nothing herein shall limit the OCFA's rights or the Contractor or Surety's obligations under the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

The 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 the work to be performed thereunder or the specifications accompanying the same shall in any way 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.

[Signature Page Follows]

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____, 20____ in accordance with Article 5, commencing at section 1860, chapter 1, part 7, division 2 of the Labor Code, this certificate must be signed and filed with the awarding body prior to performing any work under this Contract:

CONTRACTOR:

(Affix Corporate Seal)

Principal_____
By_____
Print Name and Title of Signatory**SURETY:**

(Affix Corporate Seal)

Surety_____
By_____
Name of California Agent of Surety_____
Address of California Agent of Surety_____
Telephone Number of California Agent of Surety

Attach Notary acknowledgments for all signatures. Attach Power of Attorney Attach Power of Attorney if executed by Attorney-in-Fact. The California Department of Insurance must authorize the Surety to be an admitted Surety Insurer.

4C: PAYMENT BOND
Contractor's Labor & Material Bond
(100% of Agreement Price)
Bidders must use this form, NOT a surety company form

KNOW ALL PERSONS BY THESE PRESENTS:

WHEREAS, the governing board ("Board") of the Orange County Fire Authority, ("OCFA") and _____, ("Principal") have entered into a contract for the furnishing of all materials and labor, services and transportation, necessary, convenient, and proper to perform the following project:

IFB RO2763 – BATHROOM REMODEL AT OCFA FIRE STATION 45

("Contract") which Contract dated [DATE], and all of the Bid Documents attached to or forming a part of the Contract, are hereby referred to and made a part hereof; and

WHEREAS, pursuant to law and the Contract, the Principal is required, before entering upon the performance of the work, to file a good and sufficient bond with the body by which the Contract is awarded in an amount equal to one hundred percent (100%) of the Contract price, to secure the claims to which reference is made in sections 9000 through 9510 and 9550 through 9566 of the Civil Code, and division 2, part 7, of the Labor Code.

NOW, THEREFORE, the Principal and, _____ ("Surety") are held and firmly bound unto all laborers, material men, and other persons referred to in said statutes in the sum of [ONE HUNDRED EIGHTY-NINE THOUSAND, NINE HUNDRED FORTY-EIGHT DOLLARS (\$[189,948])], lawful money of the United States, being a sum not less than the total amount payable by the terms of Contract, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, or assigns, jointly and severally, by these presents.

The condition of this obligation is that if the Principal or any of his or its subcontractors, of the heirs, executors, administrators, successors, or assigns of any, all, or either of them shall fail to pay for any labor, materials, provisions, provender, or other supplies, used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Principal or any of his or its subcontractors of any tier under Section 13020 of the Unemployment Insurance Code with respect to such work or labor, that the Surety will pay the same in an amount not exceeding the amount herein above set forth, and also in case suit is brought upon this bond, will pay a reasonable attorney's fee to be awarded and fixed by the Court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies, and corporations entitled to file claims under section 9100 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void; otherwise it shall be and remain in full force and affect.

And the Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of Contract or the specifications accompanying the same shall in any manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration, or addition.

[Signature Page Follows]

IN WITNESS WHEREOF, two (2) identical counterparts of this instrument, each of which shall for all purposes be deemed an original thereof, have been duly executed by the Principal and Surety above named, on the _____ day of _____, 20____.

CONTRACTOR:

(Affix Corporate Seal)

Principal_____
By_____
Print Name and Title of Signatory**SURETY:**

(Affix Corporate Seal)

Surety_____
By_____
Name of California Agent of Surety_____
Address of California Agent of Surety_____
Telephone Number of California Agent of Surety

Attach Notary acknowledgments for all signatures. Attach Power of Attorney Attach Power of Attorney if executed by Attorney-in-Fact. The California Department of Insurance must authorize the Surety to be an admitted Surety Insurer.

4D: AWARD CERTIFICATIONS**Prevailing Wage:**

I hereby certify that I will conform to the State of California Public Works Contract requirements regarding prevailing wages, benefits, on-site audits with 48-hour notice, payroll records, and apprentice and trainee employment requirements, for all Services on the above Project, including, without limitation, the State labor compliance monitoring and enforcement by the Compliance Monitoring Unit of the Department of Industrial Relations, if this Project is subject to a labor compliance.

Workers' Compensation:

In accordance with Article 5 - commencing at section 1860, chapter 1, part 7, division 2 of the Labor Code, this certificate must be signed and filed with the awarding body prior to performing any work under this Contract. CA Labor Code section 3700 in relevant part provides that every employer except the State shall secure the payment of compensation in one or more of the following ways: (1) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this state; (2) By securing from the Director of Industrial Relations, a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees. I am aware of the provisions of Section 3700 of the Labor Code which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of work of this contract.

Date: _____**Legal Name of
Contractor:** _____**Signature:** _____**Printed Name:** _____**Title:** _____

4E: IRS FORM W9

Form W-9 (Rev. October 2018) Department of the Treasury Internal Revenue Service	Request for Taxpayer Identification Number and Certification ▶ Go to www.irs.gov/FormW9 for instructions and the latest information.	Give Form to the requester. Do not send to the IRS.
1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.		
2 Business name/disregarded entity name, if different from above		
Print or type. See Specific Instructions on page 3.	3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.	
	<input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate	
	<input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____ Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.	
	<input type="checkbox"/> Other (see instructions) ▶ _____	
4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <i>(Applies to accounts maintained outside the U.S.)</i>		
5 Address (number, street, and apt. or suite no.) See instructions.		Requester's name and address (optional)
6 City, state, and ZIP code		
7 List account number(s) here (optional)		
Part I Taxpayer Identification Number (TIN) Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see <i>How to get a TIN</i> , later. Note: If the account is in more than one name, see the instructions for line 1. Also see <i>What Name and Number To Give the Requester</i> for guidelines on whose number to enter.		
<div style="border: 1px solid black; padding: 2px;"> Social security number <div style="display: flex; justify-content: space-between;"> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> </div> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="font-size: 1.2em;">-</div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="font-size: 1.2em;">-</div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> </div> </div>		
<div style="border: 1px solid black; padding: 2px;"> Employer identification number <div style="display: flex; justify-content: space-between;"> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> </div> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="font-size: 1.2em;">-</div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> <div style="border-bottom: 1px solid black; width: 30px;"></div> </div> </div>		
Part II Certification Under penalties of perjury, I certify that: 1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and 2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and 3. I am a U.S. citizen or other U.S. person (defined below); and 4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct. Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.		
Sign Here	Signature of U.S. person ▶ _____	Date ▶ _____
General Instructions Section references are to the Internal Revenue Code unless otherwise noted. Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9 . Purpose of Form An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.		
<ul style="list-style-type: none"> • Form 1099-DIV (dividends, including those from stocks or mutual funds) • Form 1099-MISC (various types of income, prizes, awards, or gross proceeds) • Form 1099-B (stock or mutual fund sales and certain other transactions by brokers) • Form 1099-S (proceeds from real estate transactions) • Form 1099-K (merchant card and third party network transactions) • Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition) • Form 1099-C (canceled debt) • Form 1099-A (acquisition or abandonment of secured property) Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN. <i>If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.</i>		

4F: CONTRACT AGREEMENT

THIS CONTRACT AGREEMENT (hereinafter "Agreement" or "Contract" or "Contract Agreement") is made and entered into for the above identified Project this _____ day of _____, 20_____, BY AND BETWEEN THE **ORANGE COUNTY FIRE AUTHORITY** (hereinafter "OCFA"), and Corral Construction and Development, Inc., as CONTRACTOR.

WITNESSETH that OCFA and CONTRACTOR have mutually agreed as follows:

[SECTIONS 1 – 40 are set forth in the Solicitation Information and Instructions to Bidders above.]

41 – PROJECT MANUAL

This Contract consists of the Project Manual. The Project Manual includes the following component parts thereof, each of which is a part of this Contract:

- (1) RO2763 - Notice Inviting Bids
- (2) RO2763 - Instructions to Bidders
- (3) RO2763 - Bid Documents
- (4) RO2763 - Contract Documents
- (5) RO2763 - Technical Specifications
- (6) Any and all addenda and other supplemental notices and agreements issued by OCFA clarifying, amending, or extending the work contemplated as may be required to ensure its completion in an acceptable manner

All of the above component documents of the Project Manual are complementary and Work required by one of the above documents shall be done as if required by all. In the event of conflict among the component documents of the Project Manual, the conflict shall be resolved as set forth in Section 52 of the General Conditions.

42 - CONTRACT PRICE

OCFA shall pay to Contractor as full consideration for the faithful performance of the Contract, the sum of _____ (\$_____). This sum is the total amount stipulated in the Bid. Payment shall be made as set forth in the General Conditions.

43 – CONTRACTOR'S COMMITMENT TO FURNISH MATERIALS AND WORK

For and in consideration of the payments and agreements to be made and performed by OCFA, CONTRACTOR agrees to furnish all materials and perform all work required for the above identified Project, and to fulfill all other obligations as set forth in the aforesaid Contract Documents.

44 – CONTRACTOR'S COMMITMENT TO PRICES

CONTRACTOR agrees to receive and accept the prices set forth in the Proposal as full compensation for furnishing all materials, performing all work, and fulfilling all obligations hereunder. Said compensation shall cover all expenses, losses, damages, and consequences arising out of the nature of work during its progress or prior to its acceptance including those for well and faithfully completing the work and the whole thereof in the manner and time specified in the aforesaid Contract Documents; and also including those arising from actions of the elements, unforeseen difficulties or obstructions encountered in the prosecution of the work, suspension or discontinuance of the work, and all other unknowns or risks of any description connected with the work.

44.1 - NO INCREASE IN BID COST DUE TO SUBSTITUTION OF SUBCONTRACTOR. In the event that a subcontractor is substituted in any manner for any reason, any increased cost related to such substitution shall be the sole responsibility of the Contractor. Such substitution shall not cause or result, directly or indirectly, in any increase in the bid price. This subsection shall not be construed to be prior consent to substitution of subcontractors, nor to authorize any substitution that is prohibited by the Subletting and Subcontracting Fair Practices Act.

45 – PAYMENT TO CONTRACTOR

OCFA hereby promises and agrees to employ, and does hereby employ, CONTRACTOR to provide the materials, do the work, and fulfill the obligations according to the terms and conditions herein contained and referred to, for the prices aforesaid, and hereby contracts to pay the same at the time, in the manner, and upon the conditions set forth in the Contract Documents.

46 - WORKER'S COMPENSATION

CONTRACTOR acknowledges the provisions of the Labor Code requiring every employer to be insured against liability for workers' compensation, or to undertake self-insurance in accordance with the provisions of that Code, and certifies compliance with such provisions.

47 – PRINCIPAL INTERESTS

CONTRACTOR affirms that the signatures, titles, and seals set forth hereinafter in execution of this Agreement represent all individuals, firm members, partners, joint ventures, and/or corporate officers having a principal interest herein.

48 – COMPLIANCE WITH FEDERAL IMMIGRATION AND NATIONALITY ACT

CONTRACTOR hereby represents and warrants that it will comply with all of the provisions of the Federal Immigration and Nationality Act, 8 U.S.C. Section 1101, *et seq.*, as amended, and in connection therewith, shall not employ unauthorized aliens as defined therein. Should CONTRACTOR so employ such unauthorized aliens for the performance of any work and/or services under this Agreement, and should any liability or sanctions be imposed against OCFA for such use of unauthorized aliens, CONTRACTOR hereby agrees to defend and indemnify OCFA against any and all liabilities, actions, suits, claims, demands, losses, costs, judgments, arbitration awards, settlements, damages, demands, orders, or penalties which arise out of or are related to such employment, together with any and all costs, including attorneys' fees, incurred by OCFA.

49 – CERTIFICATION RE DEBARMENT

CONTRACTOR confirms that neither CONTRACTOR nor its principals are suspended, debarred, proposed for debarment, declared ineligible, or voluntarily excluded from the award of contracts from United States (U.S.) federal government procurement or nonprocurement programs, or are listed in the List of Parties Excluded from Federal Procurement or Nonprocurement Programs (<http://www.sam.gov/>) issued by the U.S. General Services Administration. "Principals" means officers, directors, owners, partners, and persons having primary management or supervisory responsibilities within a business entity (e.g. general manager, plant manager, head of a subsidiary, division or business segment, and similar positions). CONTRACTOR will provide immediate written notification to OCFA if, at any time prior to award, CONTRACTOR learns that this certification was erroneous when submitted or has become erroneous by reason of changed circumstances. This certification is a material representation of fact upon which reliance will be placed when OCFA executes this Agreement. If it is later determined that CONTRACTOR knowingly rendered an erroneous certification, in addition to the other remedies available to OCFA, OCFA may terminate this Agreement for default by CONTRACTOR.

50 - INDEMNIFICATION

To the fullest extent permitted by law, CONTRACTOR (at CONTRACTOR's sole cost and expense) shall defend (with legal counsel acceptable to OCFA in OCFA's sole discretion), indemnify, protect, and hold harmless the INDEMNIFIED PARTIES and each of them against all CLAIMS which arise out of, pertain to, or are related to CONTRACTOR's performance under, or failure to perform under, the Agreement. Under no circumstances shall the insurance requirements and limits set forth in this Agreement be construed to limit CONTRACTOR's indemnification obligation or other liability hereunder. Notwithstanding the foregoing, such obligation to defend, indemnify, protect, and hold harmless the INDEMNIFIED PARTIES shall not apply to the extent such CLAIMS arise from the sole negligence or willful misconduct of the OCFA.

As used herein, "INDEMNIFIED PARTIES" refers to OCFA and its appointed officials, officers, employees, agents, representatives, attorneys and volunteers.

As used in this Section 50, "CLAIMS" refers to any and all liabilities, actions, suits, claims, demands, losses, costs, judgments, arbitration awards, settlements, damages, demands, orders, penalties, and expenses including legal costs, expert fees and attorney fees, including but not limited to CLAIMS arising from injuries to or death of persons (CONTRACTOR's employees included), or for damage to property, including property owned by OCFA.

51 – COMPLIANCE WITH WORK RULES

CONTRACTOR shall be familiar with, observe, and comply at all times during the term of this Agreement with any work rules for contractors as may be established and promulgated by the OCFA Fire Chief, which work rules shall be additional terms and conditions for providing the work and services to the OCFA pursuant to this Agreement, as may be updated and/or amended from time to time at the sole discretion of the Fire Chief.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed the day and year first written.

ORANGE COUNTY FIRE AUTHORITY:

CONTRACTOR:

[NAME], CHAIR
OCFA BOARD OF DIRECTORS

(CORPORATION (NAME - TYPE))

BY: _____
(PRINT)

ATTEST:

(SIGNATURE)

MARIA D. HUIZAR,
CLERK OF THE AUTHORITY

(TITLE)

BY: _____
(PRINT)

APPROVED AS TO FORM:

(SIGNATURE)

DAVID E. KENDIG
GENERAL COUNSEL

(TITLE)

NOTE:

SIGNATURES OF CORPORATE OFFICIALS MUST BE NOTARIZED, ATTACH JURAT.

4G: GENERAL CONDITIONS**ORANGE COUNTY FIRE AUTHORITY GENERAL CONDITIONS****51 Definitions**

As used in these General Conditions and in the Project Manual generally, the following terms have the meaning indicated:

Acts of God: An earthquake in excess of a magnitude of 3.5 on the Richter Scale or a tidal wave.

Addendum: A written or graphic instrument issued by Project Manager on behalf of the OCFA prior to the execution of the Contract which sets forth additions, deletions, or other revisions to the Project Manual or clarifications thereof.

Authority: The Orange County Fire Authority, a California Joint Powers Authority.

Board of Directors: The governing body of the Orange County Fire Authority.

Change Order: A written Modification executed by both parties (except in the event of a unilateral Change Order as herein provided) and consisting of additions, deletions or other changes to the Contract. A Change Order may be accompanied by and/or may identify additional or revised Drawings, sketches or other written instructions which become and form a part of the Project Manual by virtue of the executed Change Order. Except as otherwise provided in Subparagraph 1.1.5., a Change in the Work, or a change in the Contract Time or the Contract Sum shall only be approved by written Change Order.

Construction Contract or Contract: The written "Contract Agreement" covering the performance of the Work and the furnishing of labor, materials, tools, and equipment in the construction of the Work. The term "Construction Contract" also includes the Project Manual.

Contract Directive: A written document issued by the Project Manager and consisting of additions, deletions, clarifications, interpretations, or other written instructions issued by the Project Manager with respect to the performance of the Work or the activities of the Contractor on the Job Site or the property of OCFA. A Contract Directive can be a response to a Request for Information; however, all responses to Requests for Information need not be Contract Directives. A Contract Directive may become the subject of a Change Order only if such Directive involves a substantial change in the Work, or a change in the Contract Time or the Contract Amount, approved as a Change Order by the Project Manager.

Contractor's Construction Schedule: The detailed schedules, based on a critical path method ("CPM"), prepared by the Contractor, presenting an orderly and realistic plan for completion of the work required in the Project Manual. The Contractor's Construction Schedule shall also include the completion dates of the Milestones and a final proposal narrative as described in the Project Manual.

Contractor: The person or entity awarded the Contract to perform the work.

Day: All references to days in the Project Manual refer to calendar day unless otherwise specifically indicated.

Design Professional: Officers, employees, and consultants, the architectural and engineering firm, a party to the design-build entity responsible for the overall design of the Project.

Excusable Labor Dispute: Any labor dispute directed against an entire industry, or any labor dispute that is not directed solely against the Project, the Contractor, or any subcontractor or supplier, and which prevents Contractor from obtaining labor or materials necessary for the performance of the Work and that actually delays the performance of the Work; provided, however, that suitable substitute labor or materials are not reasonably obtainable.

Excusable Transportation Delay: Any labor dispute directed at an entire industry, or any labor dispute that is not directed solely against the Project, the Contractor, or any subcontractor or supplier, or other delay not within the reasonable control of the Contractor which prevents the transportation of necessary materials to the Project and actually delays the performance of Work; provided, however, that suitable substitute transportation for such materials is not reasonably available.

Fire Chief: The Fire Chief of the OCFA or the Fire Chief's Designee.

Laws: Each and every Federal, state, and local law, ordinance, code, rule, and regulation, as well as the lawful order or decree of any public or quasi-public authority and each of their respective inspectors or officials, including but not limited to all applicable building codes, bearing on or otherwise applicable to the Project. The term "Laws" also includes any and all conditions of approval of each and every entitlement or permit issued or approved by the Local Jurisdictions.

Local Jurisdictions: Any governmental agency with land use authority over the Project or part of the Project and each regulatory agency or authority with jurisdiction over the project, and their respective inspectors and representatives.

Modification or Contract Modification: (1) a written amendment to this Contract signed by both Parties; (2) a Change Order; or (3) a Contract Directive or other written interpretation or order issued as a response to a Request for Information or otherwise issued by the Project Manager pursuant to the terms of the Project Manual. Contractor acknowledges that the execution on its behalf of any such Modification by any one person with apparent authority shall be binding against the Contractor. A Modification may be made only after execution of the Contract. No Contract Directive or response to a Request for Information shall be construed as a Change Order or other Modification unless it expressly so states.

Non-Conformance Notice: A notice issued by the Project Manager documenting that the work or some portion thereof has not been performed in accordance with the requirements of the Project Manual.

Notice to Proceed: The written notice of the OCFA to the Contractor to commence work under the Contract.

OCFA: The Orange County Fire Authority, a California Joint Powers Authority.

Plans: The drawings, supplemental drawings, or reproductions thereof, the project plans, standard plans, profiles, cross-sections, and all graphic depictions, which show the location, character, dimensions, and details of the work to be performed and contained in the Project Manual.

Project: The Project is the performance, construction, installation, and completion of the entire scope of all work as described in the Contract Documents.

Project Manager: The person or persons designated by the OCFA to serve as the Project Manager of the project.

Project Manual: Defined in Section 41 of the Contract Agreement.

Provide: To furnish, fabricate, complete, deliver, install, and erect including all labor, materials, equipment, apparatus, appurtenances, and expenses, necessary to complete in place, ready for operation or use under the terms of the Project Manual.

Regulatory Agency – A Federal, State or local governmental agency that has regulatory jurisdiction over one or more aspects of the Project. (Examples may include, but are not limited to the Regional Water Quality Control Board, the California Coastal Commission, or the South Coast Air Quality Management Board.)

Related Work: Work performed by the OCFA or by any separate Contractor retained or hired by the OCFA, related to the completion of the Project and which is not required to be performed by the Contractor pursuant to this Contract and the Project Manual.

Requests for Information: A written request from the Contractor or one of the Subcontractors to the Project Manager seeking an interpretation or a clarification of some requirement of the Project Manual. Contractor shall clearly and concisely set forth in writing the issue for which Contractor seeks clarification or interpretation and why a response is needed from the Project Manager. Contractor shall set forth Contractor's interpretation or understanding of the Project Manual's requirements along with reasons why Contractor reached such an understanding. Responses from the Project Manager will not change any requirements of the Project Manual unless so noted in the Request for Information response.

Scheduled Completion Date: The number of days specified in the Construction Schedule for completion of the Project.

Site or Sites: The land on which the Project will be constructed as specifically described in the Project Manual.

Specifications: The directives, provisions, and requirements contained in Project Manual, however such may be labeled or otherwise described.

Subcontractor: A person or organization having a direct contract with the Contractor to perform any of the Work at the Site or to supply any materials, equipment, or supplies to be incorporated in, or utilized in connection with, the Work and as used herein shall include the Subcontractor's authorized representative.

Substantial Completion of the Project: occurs when all of the following are achieved: (1) substantial completion of all Work; and (2) suitable to meet the requirements for the issuance of a certificate of occupancy and receipt of all other required approvals of construction from the Local Jurisdictions; and (3) in strict accordance with the Project Manual; and (4) such that OCFA may fully utilize the Project for the use for which it is intended. Early occupation of the Project by OCFA does not constitute Substantial Completion of the Project if one or more of the four factors above has not yet been achieved. (See Section General Conditions, Section 74.)

Supplemental Agreements: The written agreements covering alterations, amendments, or extensions to the Construction Contract and include contract change orders.

Work: All the work specified, indicated, shown, or contemplated in the Construction Contract to construct the Project, including all alterations, amendments, or extensions thereto made by contract change order or other written orders of the Project Manager, including each activity, labor, task, service, acquisition, purchase, installation, or action of any kind required to be performed under the terms of this Contract and as specified in the Project Manual.

52 The Project Manual

- 52.1 The Project Manual is defined in **Section 41** of the Contract Agreement. The Contractor has examined carefully the site of the work contemplated, the plans and specifications, and the proposal and contract forms therefor. The submission of a bid shall be conclusive evidence that the Contractor has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and scope of work to be performed, the quantities of materials to be furnished and as to the requirements of the proposal, plans, specifications and the Construction Contract. The Contractor warrants and represents that, in executing the Contract and undertaking the Work, it has not relied upon any oral inducement or representation by OCFA, Project Manager, or any of their officers or agents as to the nature of the Work, the Site, the Project conditions or otherwise.
- 52.2 All parts and provisions of the Project Manual are complementary, and what is required by any one shall be as binding as if required by all. If the Project Manual does not specifically allow the Contractor a choice as to quality or cost of items to be furnished, but could be interpreted to permit such choice, subject to confirmation or approval by Project Manager, they shall be construed to require the Contractor to provide the best quality. Words and abbreviations which have well-known technical or trade meanings are used in the Project Manual in accordance with such recognized meanings.
- 52.3 Where conflict exists within or between parts of the Project Manual, or between the Project Manual and either applicable industry standards or applicable codes, ordinances, or other legal requirements, the more stringent requirements shall apply; otherwise, the following order of precedence shall be used: the Construction Contract; the Special Conditions of the Contract for Construction; these General Conditions of the Construction Contract; the balance of the Project Manual, and the Drawings. If the Contractor is required to perform any extra or corrective Work to comply with the preceding sentence, it shall not be entitled to an increase in the Contract Sum or Contract Time, and no claim shall result from such compliance. Subject to confirmation or approval by OCFA, more detailed Drawings take precedence over less detailed scaled Drawings, figured dimensions on the Drawings take precedence over scaled dimensions, and otherwise noted matters on the drawings take highest precedence.
- 52.4 Drawings take precedence over graphic representations. Contractor shall bring or submit to the Project Manager any such conflicts as soon as Contractor or its Subcontractors discover or learn about such apparent conflicts in the form of an RFI.
- 52.5 The organization of the Specifications into divisions, sections, and articles, and the arrangement of Drawings, are not intended to influence the Contractor in its division of the Work among Subcontractors or its establishment of the extent of the Work to be performed by any trade.
- 52.6 The Contractor shall request in writing that Project Manager provide any interpretations or clarifications necessary for the proper execution, coordination or progress of the Work. Such interpretations shall be issued by Project Manager in writing for implementation by the Contractor. The Contractor shall make all such requests for interpretation or clarification in writing.

- 52.7 The Project Manual reflects conditions as they are believed to exist, but it is not intended or to be inferred that the conditions as shown thereon constitute a representation by or on behalf of Authority that such conditions actually exist. The Contractor shall inspect the Site and conduct any tests or surveys it deems necessary or desirable prior to the commencement of the Work and shall accept full responsibility for any loss sustained by it as a result of any variances between the conditions as shown on the Project Manual and the actual conditions revealed during the progress of the Work or otherwise. The Contract Sum shall in no event be increased by reason of any such variance unless otherwise specifically provided herein.
- 52.8 The Contractor shall develop and maintain current "as-built" Plans to be provided to Project Manager in accordance with the Construction Contract and Section 01770 of the Project Manual. Project Manager may inspect and copy such Plans at any time during the course of the Work.
- 52.9 The intent of the plans and specifications is to prescribe the details for the construction and completion of the work which the Contractor undertakes to perform in accordance with the terms of the Construction Contract. Where the plans or specifications describe portions of the work in general terms, but not in complete detail, it is understood that only the best general practice is to prevail and that only materials and workmanship of the first quality are to be used. Unless otherwise specified, the Contractor shall provide all labor, materials, tools, equipment, and incidentals, and do all the work involved in executing the contract in a satisfactory and workmanlike manner.

53 Contract Bonds.

Both the Faithful Performance Bond and the Material and Labor Bond shall each be for not less than one hundred percent (100%) of the total Contract amount. The Material and Labor Bond shall remain in force until thirty-five (35) days after the date of recordation of the Notice of Completion. The Faithful Performance Bond will be held for one year after the date of recordation of the Notice of Completion.

Prior to the acceptance of any bond, the OCFA shall verify that the surety is an admitted surety in the State of California. If requested by the OCFA, the Contractor shall provide other information specified in the Code of Civil Procedure Section 995.660 to enable the OCFA to verify the sufficiency of the bond.

Should any bond become insufficient, the Contractor shall correct the insufficiency within ten (10) calendar days after receiving notice from the OCFA. The Contractor shall provide the OCFA with evidence of the correction within ten (10) calendar days of said correction. Should any surety at any time be unsatisfactory to the OCFA, written notice will be given to the Contractor to that effect. No further payments shall be deemed due or will be payable under the Contract until Contractor submits an acceptable bond from a surety accepted by the OCFA. Changes to the work or extensions of time made pursuant to the Contract Agreement shall in no way release the Contractor or the surety from its obligations. Notice of such changes or extensions shall be waived by the surety.

54 OCFA AND OCFA'S REPRESENTATIVES

- 54.1 The work will be under the general direction of the Fire Chief. The Project Manager is the authorized representative of the Fire Chief and has complete charge of the work, and shall exercise full control of the work, so far as it affects the interest of the OCFA.
- 54.2 The provisions in this General Conditions or elsewhere in the Contract Documents regarding approval or direction by the Fire Chief, the OCFA, the Board of Directors, or the Project Manager, or action taken pursuant thereto, are not intended to and shall not relieve the

Contractor of responsibility for the accomplishment of the work, either as regards sufficiency or the time of performance, except as expressly otherwise provided herein.

- 54.3 The Project Manager is the OCFA's exclusive representative and agent to the Contractor with respect to this Project during construction and until the completion of the Project. The OCFA's communications with the Contractor shall be exclusively through the Project Manager.
- 54.4 Project Manager shall at all times have access to the work whenever it is in preparation or progress. The Contractor shall provide safe facilities for such access.
- 54.5 The OCFA shall not be responsible for or have control or charge of the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the work, and will not be responsible for the Contractor's failure to carry out the work in accordance with the Contract Documents.
- 54.6 The OCFA will not be responsible for the failure of the Contractor to plan, schedule, and execute the work in accordance with the approved schedule or the failure of the Contractor to meet the Contract Documents completion dates or the failure of the Contractor to Schedule and coordinate the work of Contractor's own trades and subcontractors or to coordinate with other Separate Contractors.
- 54.7 The OCFA will not be responsible for the acts or omissions of the Contractor, or any subcontractor, or any Contractor's or subcontractor's agents or employees, or any other persons performing any of the work.
- 54.8 The Project Manager has the authority to disapprove or reject work on behalf of the OCFA when, in the Project Manager's opinion, the work does not conform to the Contract Documents. Whenever, in the Project Manager's reasonable opinion, it is considered necessary or advisable to ensure the proper implementation of the intent of the Contract Documents, the Project Manager has the authority to require special inspection or testing of any work in accordance with the provisions of the Contract Documents whether or not such work shall then be fabricated, installed, or completed.
- 54.9 The Project Manager has the authority to require special inspection or testing of the work. However, neither the Project Manager's authority nor any decision made by the Project Manager in good faith whether to exercise or not to exercise such authority shall give rise to any duty or responsibility of the OCFA to the Contractor, or any subcontractor, or any of their agents, or employees, or any other person performing any portion of the work.
- 54.10 The Project Manager has the authority and discretion, but not the obligation, to call, schedule, and conduct job meetings to be attended by the Contractor and representatives of Contractor's subcontractors, to discuss such matters as safety, procedures, progress, problems, and scheduling.
- 54.11 The Project Manager will establish procedures to be followed for processing all submittals, Change Orders, Progress payments, other project reports, documentation, and test reports.
- 54.12 The Project Manager will review all requests for changes and shall implement the processing of Change Orders including application for extensions of time.
- 54.13 The Project Manager will review and process all Progress Payment Requests by the Contractor including Final Progress Payment Requests.

- 54.14 Nothing contained in the Project Manual shall create any contractual relationship between Project Manager and the Contractor.
- 54.15 Except as otherwise provided in the Project Manual, and until the Contractor is notified in writing to the contrary, all actions to be taken by, all approvals, notices, consent, directions and instructions to be given by, all notices and other matters to be delivered to, all determinations and decisions to be made by and, in general, all other action to be taken by, or given to, OCFA shall be taken, given and made by, or delivered or given to, Project Manager in the name of and on behalf of OCFA. Only those so designated are authorized to grant on behalf of OCFA any approval, consent or waiver with respect to the Project Manual or the Work, or to otherwise act for OCFA in any capacity whatsoever.
- 54.16 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Project Manual either by the activities or duties of the Project Manager in its administration of the Contract, including, without limitation, by any inspections or tests required, or by approvals or other similar action with regard to shop drawings or submittals (of any type), or by the activities of persons other than the Contractor with respect to the Project. Further, notwithstanding the fact that a dispute, controversy or other question may have arisen between the parties hereto relating to the execution or progress of the Work, the interpretation of the Project Manual, the payment of any monies, the delivery of any materials or any other matter whatsoever, the Contractor shall not be relieved of its obligations to pursue the Work diligently under the Project Manual pending the determination of such dispute, controversy, or other question.
- 54.17 OCFA reserves the right, but assumes no duty, to establish and enforce standards, and to change the same from time to time, for the safety and protection of persons and property, with which the Contractor shall comply, and to review the efficiency of all protective measures taken by the Contractor. The exercise of or failure to exercise any or all of these acts by OCFA shall not relieve the Contractor of its duties and responsibilities under the Project Manual, and OCFA shall not thereby assume, nor be deemed to have assumed, such duties or responsibilities of the Contractor.

55 **CONTRACTOR**

- 55.1 Composition: If the Contractor hereunder is comprised of more than one legal entity, each such entity shall be jointly and severally liable hereunder.
- 55.2 Examination of Plans, Specifications, and Site of Project: In addition to the representations and warranties contained in the Contract, the Contractor acknowledges that prior to execution of the Contract it has thoroughly reviewed and inspected the Project Manual, and satisfied itself regarding any error, inconsistency, discrepancy, ambiguity, omission, insufficiency of detail or explanation. OCFA shall not be responsible for any costs, nor liable to the Contractor for any damage, resulting from any such matter that the Contractor reasonably should have discovered. The Contractor shall perform no portion of the Work at any time which is not as provided or specified in the Project Manual or, where required, shop drawings, product data, or samples, for such portions bearing the Design Professional's appropriate action stamp. Work performed in violation of this provision shall be at the Contractor's risk
- 55.3 Contractor Certification: Contractor certifies and agrees that all the terms, conditions, and obligations of the Project Manual, the location and condition of the Site, and the conditions under which the work is to be performed have been thoroughly reviewed and investigated and Contractor enters into this Contract based upon Contractor's review and investigation of all such matters. Contractor certifies and agrees that Contractor is in no way relying upon

- any opinions or representations of OCFA or the OCFA's officers, employees, agents, and consultants, including but not limited to, the Project Manager and the Design Professional.
- 55.4 Preparation of Documents: The Contractor shall carefully review and where appropriate or as may be required in the Scope of Work or at the direction of the Project Manager prepare drawings, specifications, and other instructions and shall at once report to Project Manager any error, inconsistency, or omission which Contractor may discover. Except as otherwise specifically provided hereinafter under warranties, the Contractor shall not be an agent for the OCFA.
- 55.5 Superintendence: The Contractor shall maintain on the site, during all construction activity, a competent superintendent and any necessary assistants, all satisfactory to the Project Manager. The superintendent shall not be changed except with the consent of the Project Manager, unless the superintendent proves to be unsatisfactory to the Contractor and ceases to be in his employ, in which case he/she shall be replaced immediately and in no case more than 24 hours with a superintendent acceptable to the Project Manager. The superintendent shall represent the Contractor and all directions given to the superintendent shall be as binding as if given to the Contractor. The Contractor shall provide Project Manager with complete work history profiles of management staff associated with this Project for Project Manager's review.
- 55.6 Licenses and Certificates: The Contractor represents and warrants that it has all necessary licenses and permits required by the laws of the United States, State of California, County of Orange, and any local jurisdiction, and all other appropriate governmental agencies, and agrees to maintain these licenses and permits in effect for the duration of this Contract. Further, Contractor warrants that its employees, agents, and contractors and subcontractors shall conduct themselves in compliance with all applicable laws and licensure requirements now in effect or as subsequently enacted or modified, as promulgated by any local, state, or federal governmental entities, including, without limitation, compliance with laws applicable to non-discrimination, harassment, and ethical behavior. Contractor shall notify the Project Manager immediately and in writing of its inability to obtain or maintain, irrespective of the pendency of any appeal, any such permits, licenses, approvals, certificates, waivers, and exemptions. Such inability shall be cause for termination of this Contract.
- 55.7 Materials and Equipment: The Contractor shall cause all materials and equipment to be delivered to the Site in accordance with any schedule or schedules therefore established from time to time and approved by Project Manager and, in any event, in a manner which will assure the timely progress and completion of the Work but will not encumber the Site unreasonably. Materials delivered to the Site for incorporation in the Work shall not be removed from the Site without the consent of Project Manager. The Contractor shall give, or shall require its Subcontractors to give, full and accurate quality, performance and delivery status reports, in a form satisfactory to Project Manager, regarding any materials and equipment, or such other data with respect thereto as may be requested by Project Manager, and shall obtain for Project Manager the written assurances of any manufacturer that its material or equipment is designed, and appropriate, for the use intended. The Contractor warrants to OCFA that all materials and equipment furnished under this Contract shall be new unless otherwise specified in the Project Manual and that all Work shall be of good quality, free from faults and defects and in conformance with the Project Manual. All Work not so conforming to these standards may be considered defective. All warranties and guarantees from Subcontractors (including, without limitation, manufacturers) shall be assignable to OCFA regardless of whether it is so stated therein, and the Contractor agrees to assign all such warranties and guarantees to the OCFA.

- 55.8 Completion Schedule: The Contractor shall prepare and submit, for Project Manager's approval, a Construction Schedule for the work which shall provide for expeditious and practicable execution of the work for completion within the Contract Time. This schedule shall be coordinated with the entire Project Construction Schedule to the extent required by the Contract Documents.
- 55.9 Reports by Contractor: Daily reports of the site and construction activities shall be provided to Project Manager. The reports shall follow the OCFA approved format including, but not limited to, information regarding trades at work, manpower, weather conditions, construction progress, and solutions to problems.
- 55.10 Contractor Responsibility: The Contractor shall supervise and direct the Work, using its best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences, coordination, scheduling and procedures, for all cleanup and for all safety and weather precautions and programs, in connection with the Work. Contractor shall be solely responsible for the work and the Project as described in the Contract Documents. Contractor shall have complete control over the construction methods, techniques, and procedures, except as may be specifically provided in the Contract Documents. Contractor shall, at its sole cost and expense, perform all labor and services and furnish all material, tools, appliances, and equipment necessary and proper for performing and completing the Work of the Project in strict compliance with the terms and conditions of the Project Manual. Contractor shall provide all labor, materials, and equipment in conformity with the Project Manual and other directions as may be provided by the Project Manager. Contractor shall, at its sole cost and expense, prepare and fully comply with all provisions of the Quality Assurance/Quality Control Program as provided in the Project Manual.
- 55.11 Ongoing Oversight: Contractor shall keep itself continuously informed of the progress of the Work and the Related Work and will attend all meetings related to the Work and the Related Work as specified in the Project Manual and as identified in the Contractor's Construction Schedule. Contractor further agrees to work in a prompt, efficient, expert, and diligent manner and to furnish sufficient manpower to complete the Work in accordance with the Contractor's Construction Schedule. Contractor shall prosecute the Work diligently to completion. Contractor shall be responsible for the coordination and scheduling of all Work and the Related Work.
- 55.12 Ongoing Self-Inspection: Contractor shall, at its sole cost and expense, inspect its work to determine strict conformance to the requirements of the Project Manual. (This obligation of the Contractor is in addition to the Contractor's obligations to make repairs or to remedy deficient or unacceptable work as may be required under this Contract or any other provision of the Project Manual.) If some of the work performed on the Project does not comply with the requirements of the Project Manual, Contractor shall repair or replace such defective work at its sole cost and expense. Contractor shall gain no protection or right of reliance on the Project Manager's or Fire Chief's inspection of the work. If it is determined that the Project Manager or Fire Chief inspected work and failed to call defects or non-conforming items to the attention of Contractor, the OCFA shall not be deemed to have waived the requirements of the Project Manual or accepted the work.
- 55.13 Monitoring and Compliance: The Project Manager shall, at all times, have safe access to the Project site and its related work during its construction, and shall be furnished with every reasonable facility for ascertaining that the materials and the workmanship are in accordance with the requirements and intentions of Contract Documents. All work done and all materials furnished shall be subject to Project Manager inspection. In the event the Project Manager finds or determines that the work or material are not in accordance with

the requirements and the intentions of the Contract Documents, the Project Manager shall issue a Non-Conformance Notice. Upon receipt of a Non-Conformance Notice the Contractor shall provide a written Response to the Non-Conformance Notice within five (5) working days after receipt of the Notice. The Contractor's response shall detail either (a) why Contractor believes that the work was performed in accordance with the Project Manual or (b) what corrective action Contractor intends to take, at its sole cost and expense, to correct the non-conforming work. If Contractor disputes issuance of the Notice, the Project Manager has five- (5) working days in which to respond by either (a) withdrawing the Notice of Non-Conformance or (b) directing the Contractor to correct the work. Such determination of the Project Manager shall be final and conclusive of the matter. If directed to correct the work, Contractor shall do so within five (5) working days after receipt of such direction from the Project Manager, or such other time as may be agreed in writing from the Project Manager.

- 55.14 Inspectors: In addition to the Project Manager, inspectors of Local Jurisdictions are authorized to enforce strict compliance with the terms and conditions of the Contract and the Project Manual and to determine the acceptability of materials and workmanship. Inspectors are authorized to reject work or materials if they determine that such work or materials do not conform to the requirements of the Contract and the Project Manual. Whenever an inspector determines that some work installed by the Contractor, or any Subcontractor or supplier at any tier does not conform to the requirements of the Contract, a Notice of Non-Conformance will be issued to record this determination. In the event of a dispute between the Contractor and an inspector concerning non-conforming work, the Contractor shall pursue the issue in accordance with the requirements of Subsection M above this Section 1.03 of this contract, relating to Non-Conforming Work. Inspectors other than the Project Manager are not authorized to issue or direct changes to the requirements of the Contract. In the event that the Contractor believes some direction given by an inspector does constitute a change to the requirements of the Contract, Contractor shall within two (2) days provide written notice to the Project Manager detailing the direction given, by whom, when and under what circumstances, and why the Contractor believes that such direction constitutes a change to the requirements of the Contract. Failure to provide such written notice to the Project Manager within the specified timeframe shall constitute a waiver of claim with respect to the direction received by the Contractor.
- 55.15 Remedy and Repair of Work: The inspection of the work or materials shall not relieve the Contractor of any of the Contractor's obligations to fulfill the Construction Contract as prescribed. Work and materials not meeting the requirements shall be made good, and unsuitable work or materials may be rejected, notwithstanding that the work or materials have been previously inspected by the Project Manager or that payment therefor has been included in a progress payment. All work which has been rejected as indicated in a Non-Conformance Notice shall be remedied, or removed and replaced by the Contractor in an acceptable manner, and no compensation will be allowed to the Contractor for the removal, replacement or remedial work. Payment shall not be made on any portion of the work for which a Non-Conformance Notice has been issued and the work not corrected to the satisfaction of the Project Manager.
- 55.16 Failure to Comply: Upon failure of the Contractor to comply promptly with any order of the Project Manager made under Paragraphs L, M, N, and O above, the Project Manager, with the approval of the Fire Chief, may cause rejected or unauthorized work to be remedied, removed, or replaced, and to deduct the costs from any moneys due or to become due the Contractor.
- 55.17 Contactor Liabilities: The Contractor shall be responsible to OCFA for the acts and omissions of its employees. The Contractor shall be held responsible for all damages

resulting from its employees or its subcontractors or agents from all errors, omissions, or negligence in the performance of the work and completion of the Project.

- 55.18 **Deficiencies in Contract Documents:** Contractor covenants and agrees that Contractor, its employees, agents, subcontractors, and suppliers have an affirmative duty and obligation to promptly disclose to the Project Manager any deficiency, error, or inconsistency in the Contract Documents and any of the plans and specifications contained therein, so that Project Manager, the OCFA, and the Design Professional can affect any required or necessary modification or clarification thereof in a timely and cost effective manner. In this regard and in furtherance of the Contractor's obligations, the Contractor agrees not to take advantage of errors or omissions in the Project Manual. It is the duty of the Contractor to promptly notify the Project Manager in writing of any design, materials, or specified method that the Contractor believes may prove defective or insufficient. If the Contractor believes that a defect or insufficiency exists in design, materials, or specified methods and fails to promptly notify the Project Manager in writing of this belief, the Contractor thereby waives any right to assert that defect or insufficiency in design, materials, or specified method at any later date in any legal or equitable proceeding against the OCFA, or in any subsequent arbitration or settlement conference between the OCFA and the Contractor. The Project Manager, on receipt of any such notice, will promptly investigate the circumstances and give appropriate instructions to the Contractor. Until such instructions are given, any work done by the Contractor after the Contractor becomes aware that a defect or insufficiency exists in design, materials, or specified method which is directly or indirectly affected by such alleged defect or insufficiency in design, materials, or specified method will be at the Contractor's own risk and the Contractor shall bear all costs arising therefrom.
- 55.19 **Ongoing Duty to Disclose:** If the Contractor, either before commencing work or in the course of the work, finds any discrepancy within the Project Manual, or between the Project Manual and the physical conditions at the Site, or finds an error or omission on the Plans, Specifications, or in any survey, the Contractor shall promptly notify the Project Manager in writing of such discrepancy, error, or omission. If the Contractor observes that the Project Manual is at variance with any applicable law, regulation, order, or decree, the Contractor shall promptly notify the Project Manager in writing of such conflict. The Project Manager, on receipt of such notice, will promptly investigate the circumstances and give appropriate instructions to the Contractor. Until such instructions are given, work done by the Contractor after the discovery of such error, discrepancy, or conflict which is directly or indirectly affected by such error, discrepancy, omission, or conflict will be at the Contractor's own risk and the Contractor shall bear all costs arising therefrom.
- 55.20 **Duty to Coordinate:** The Contractor shall be responsible for coordinating any work carried on at the Site by other parties or by the OCFA, including the Related Work, simultaneously with the Work. The compensation to be paid to Contractor under this Contract includes any costs which the Contractor may incur as a result of coordinating the Work with such other work, including the Related Work. In no case shall the Contractor be entitled to extra compensation from the OCFA for damages suffered as a result of work being carried on at the Site by other parties or the OCFA simultaneously with the construction work for this Project. Nevertheless, if such work results in a delay to the Contractor's work beyond reasonable time allocations afforded to such work and Related Work identified on the Contractor's Construction Schedule as approved by the Project Manager, the Contractor may be eligible for an extension of time as specified in this Contract.
- 55.21 **Failure to Pay for Labor or Materials:** If Contractor fails to pay for labor or materials when due, OCFA may settle such claims by making demand upon the surety to this Agreement. In the event of the failure or refusal of the surety to satisfy said claims, OCFA may settle any claims directly and deduct the amount of payments from the Contract price and any amounts

due to Contractor. In the event OCFA receives a stop notice from any laborer or material supplier alleging non-payment by Contractor, OCFA shall be entitled to deduct all of its costs and expenses incurred relating thereto, including but not limited to administrative and legal fees.

- 55.22 Compliance with Laws: The Contractor shall, at its cost and expense, comply with all Laws, as any may now exist or be hereafter changed or added. It shall be the responsibility of the Contractor to familiarize itself with all such Laws, and any performance of the Work by or on behalf of the Contractor which is not in compliance with the Laws shall be at the Contractor's sole risk and expense. The Contractor shall notify OCFA prior to execution of the Contract (and, without limiting the continuous duty of the Contractor to advise the OCFA) of any instances where the Contract Documents are, or where the Contractor believes the Contract Documents are, not in compliance with the Laws.
- 55.23 Ongoing Responsibility: Any work or material not specified in the Project Manual but which by fair implication, in the judgment of the Project Manager, should be included therein, shall be accomplished, furnished, or provided by the Contractor as part of the Project Manual.
- 55.24 Taxes, Fees, and Licenses: The Contractor shall pay, or cause to be paid, all import duties and sales, consumer, use, excise, value added and ad valorem taxes required to be paid in connection with the Work or upon materials, tools or equipment brought to the Site or used in the Work. If any of the foregoing taxes are not paid in a timely manner, OCFA may withhold the amount of any such taxes from any amounts owing to the Contractor under the Project Manual, submit the amount so withheld to the appropriate taxing authority on behalf of the Contractor or its Subcontractors or Sub-subcontractors and offset said amount against the Contract Sum. The Contractor shall secure and pay for all governmental fees, permits and licenses which OCFA is not specifically required to provide and pay for under the Project Manual.
- 55.25 Tests: If the Project Manual, or any laws, ordinances, rules, regulations, or any orders or decrees of any public or quasi-public authority having jurisdiction, or common practice in the industry, require or dictate that the Contractor have any portion of the Work inspected, tested or approved, the Contractor shall advise Project Manager in a timely manner (in writing, if practicable) of its readiness and of the date arranged so that Project Manager may observe such inspection, testing or approval. The Contractor shall bear all costs of such inspections, tests and approvals except as otherwise specified. Project Manager may require any special inspection, testing or approval of the Work not included under above, or any more stringent inspection, testing or approval thereof, in which event it shall instruct the Contractor to order such inspection, testing or approval, and the Contractor shall advise Project Manager in a timely manner (in writing, if practicable). If such inspection or testing reveals any failure of the Work or the performance thereof to comply with the more stringent of: (a) the requirements of the Project Manual; (b) applicable industry standards; or (c) applicable laws, ordinances, codes, rules, regulations or orders or decrees of any public or quasi-public authority having jurisdiction, or reveals any defect in the Work, the Contractor shall bear the costs of such inspection or testing and all costs to correct the Work to the satisfaction of Project Manager, which, if incurred by OCFA, may be offset by OCFA against any amounts then or thereafter due to the Contractor. If such inspection or testing proves that the Work was performed properly, OCFA shall bear the costs of such inspection or testing. Required certificates of inspection, testing or approval shall be secured by the Contractor and promptly delivered by it to the Project Manager.
- 55.26 General: The duties and responsibilities of the Contractor as set forth in this Section 1.03 are in addition to, and not in lieu of, other duties and responsibilities of the Contractor enumerated elsewhere in the Project Manual.

56 - RESPONSIBILITIES OF THE CONTRACTOR

56.1 CONTRACTOR'S EQUIPMENT AND FACILITIES.

56.1.1 General.

56.1.1.1 Conduct of the Work. The Contractor shall behave, at all times, in a courteous, professional manner. While on site, or entering or exiting the site, there shall be no extraneous activity that might cause disruption to the Project site, surrounding areas, or residents. Failure to comply may result in the suspension of work, or removal of contractor's staff from the Project.

56.1.1.2. Noise Levels. A noise level limit of 86 dbA Max at a distance of fifty feet (50') shall apply to all construction equipment on or related to the job whether owned by the Contractor or not. The use of excessively loud warning signals shall be avoided except in those cases required for the protection of personnel. In addition to those requirements, all work shall comply with all applicable noise ordinances at all times.

56.2 COOPERATION AND COLLATERAL WORK.

The Contractor is advised as to the possibility of other construction projects within the proposed construction zone by the OCFA, other governing agencies or private enterprises. In the event of such projects, the Contractor shall coordinate with the applicable parties as to the extent of any time required to complete their work and shall schedule its work and conduct its operations so as to permit access and time as required for the concurrent work. The Contractor shall immediately notify the Engineer in the event of a delay in scheduling caused solely by this concurrent work. Payment for the above, if any, shall be deemed as included in the items of work as shown on the proposal bid sheet and no additional compensation will be allowed.

56.3 PROJECT SITE MAINTENANCE.

56.3.1. Cleanup and Dust Control.

The Contractor shall keep adjacent properties clean and free of rubbish and debris in a timely manner as necessary and/or as directed by the Engineer.

The Contractor shall implement effective handling, storage, usage, and disposal practices to control material pollution and manage waste and nonstormwater at the job site before they come in contact with storm drain systems and receiving waters.

56.3.1.1 Construction Cleaning

The Contractor shall:

- (a) Initiate and maintain a daily program to prevent accumulation of debris on-site and along access roads and haul routes. Maintain areas under Contractor's control free of waste materials, debris, weeds 6" high, and rubbish. Maintain site in a clean and orderly condition.
- (b) Provide suitable covered containers for deposit of debris and rubbish. Dispose of accumulation of extraneous materials, prohibit overloading of trucks to prevent spillages on access and haul routes and provide daily inspection of haul routes to enforce requirements.
- (c) The Contractor shall supply self-loading motorized street sweepers equipped with a

functional water spray system as part of his daily program.

- (d) Schedule at a minimum, weekly collection and disposal of debris. Provide additional collections and disposals of debris whenever the weekly schedule is inadequate to prevent accumulation.

The Contractor shall remove debris from closed or remote spaces prior to closing the space, control cleaning operations to minimize dust and other particulates and immediately remove clay and earth which adhere to the paved surface of the roadway. Remove by hand scraping, washing, sweeping, and/or other method(s) which will leave a clean non-skid surface without impairing, injuring or loosening the surface.

The Contractor is required to control dust throughout the life of the Contract. The control may be required by job conditions or Engineer. In any case, the Contractor shall use water or other effective means to control the dust. No chemical agents may be used without written authorization from the Agency. The Contractor shall be solely responsible for safety problems, accidents or any other complications or claims arising from inadequate dust control.

No separate payment will be made for any work performed or material used to control dust resulting from the Contractor's performance of the work, or by public traffic, either inside or outside the right-of-way. Full compensation for such dust control will be considered as included in the price paid for the various items of work involved.

No separate payment will be made for any work performed or material used in cleaning the Project. Full compensation for such cleaning shall be considered as included in the price paid for the various items of work involved and no additional compensation will be allowed therefore.

57 Subcontracts

57.1 Licensed Subcontractors: The Contractor shall comply with the provisions of the Subletting and Subcontracting Fair Practices Act (the "Act") (Public Contracts Code Section 4100 et seq.). The Contractor shall not terminate the employment of a Subcontractor or Sub-subcontractor engaged in the Work prior to the expiration of that subcontract without complying with the Act. The Contractor shall in all respects select the subcontractors in the manner provided under law. Each subcontractor selected for the work shall be licensed in the State of California in the subcontractor's particular field.

57.2 Transactions: Transactions with subcontractors shall be made through the Contractor. OCFA may assign to the Contractor any contracts or purchase orders entered into between OCFA and any other person or organization in any way related to the Project or the Work, at any time, in which event the Contractor shall assume full responsibility for such person or organization and its portion of the Work as if such person or organization was originally a Subcontractor. Such assignment may occur by Change Order or other Modification to the Contract, and any increase in the Contract Sum shall be governed by Section 01200 of the Project Manual.

57.3 Writing: All subcontracts and sub-subcontracts shall be in writing. Each subcontract and sub-subcontract shall contain a reference to this Contract and shall incorporate the terms and conditions hereof to the full extent applicable to the portion of the Work covered thereby. Each Subcontractor must agree, for the benefit of OCFA, to be bound by, and to require each of its Subcontractors to be bound by, such terms and conditions to the full extent applicable to its portion of the Work.

57.4 Responsibility: The Contractor shall be fully responsible to the OCFA for the acts and omissions of subcontractors and all persons directly or indirectly employed by them as Contractor is for the acts and omissions of Contractor and of persons directly or indirectly employed by

Contractor and shall pay each subcontractor promptly the amount allowed Contractor on account of such subcontractor's work to the extent of such subcontractor's interest therein.

- 57.5 Incompetent or Disorderly Conduct: If any Subcontractor or person employed by the Contractor shall appear to the Project Manager to be incompetent or to act in a disorderly or improper manner, such person shall be discharged immediately on the request of the Project Manager, and that person shall not again be employed on the work.
- 57.6 Mandatory Subcontract Terms: Each subcontract shall provide for its termination by the Contractor if, in Project Manager's opinion, the Subcontractor fails to comply with the requirements of the Project Manual insofar as the same may be applicable to its portion of the Work; and each Subcontractor shall be required to insert a similar provision in each of its sub-subcontracts. In the event of any such failure by a Subcontractor or Sub-subcontractor to comply with the requirements of the Project Manual, such Subcontractor or Sub-subcontractor, as the case may be, shall be removed immediately from the Work and shall not again be employed on the Work. The Contractor shall be responsible for all costs and expenses arising out of, and shall indemnify OCFA on account of, any such failure by a Subcontractor or Sub-subcontractor (specifically including, without limitation, a failure to pay for labor (including applicable fringe benefits) or materials).
- 57.8 Contractual Relations: Nothing contained in this Contract shall create any contractual relationship between OCFA or the Project Manager or the Design Professional on the one hand, and a subcontractor on the other.

58 Drawings And Specifications

- 58.1 Checking: The Contractor, as part of this Contract, shall agree not to take advantage of errors or omissions in the Contract Documents, including any plans and specifications thereto. It is the duty of the Contractor to promptly notify the Project Manager in writing of any design, materials, or specified method that the Contractor believes may prove defective or insufficient. If the Contractor believes that a defect or insufficiency exists in design, materials, or specified methods and fails to promptly notify the Project Manager in writing of this belief, the Contractor thereby waives any right to assert that defect or insufficiency in design, materials, or specified method at any later date in any legal or equitable proceeding against the OCFA, or in any subsequent arbitration or settlement conference between the OCFA and the Contractor. The Project Manager, on receipt of any such notice, will promptly investigate the circumstances and give appropriate instructions to the Contractor. Until such instructions are given, any work done by the Contractor after the Contractor becomes aware that a defect or insufficiency exists in design, materials, or specified method which is directly or indirectly affected by such alleged defect or insufficiency in design, materials, or specified method will be at the Contractor's own risk and the Contractor shall bear all costs arising therefrom.
- 58.2 Discrepancy in Contract Documents: If the Contractor, either before commencing work or in the course of the work, finds any discrepancy within the Contract Documents, or between the Contract Documents and the physical conditions at the Project site, or finds an error or omission on the plans, specifications, or in any survey, the Contractor shall promptly notify the Project Manager in writing of such discrepancy, error, or omission. If the Contractor observes that the Contract Documents is at variance with any applicable law, regulation, order, or decree, the Contractor shall promptly notify the Project Manager in writing of such conflict. The Project Manager, on receipt of such notice, will promptly investigate the circumstances and give appropriate instructions to the Contractor. Until such instructions are given, work done by the Contractor after the discovery of such error, discrepancy, or conflict which is directly or indirectly affected by such error, discrepancy, omission, or conflict will be at the Contractor's own risk and the Contractor shall bear all costs arising therefrom.

- 58.3 Implication: Any work or material not specified in the Contract Documents but which by fair implication, in the judgment of the Project Manager, should be included therein, shall be accomplished, furnished, or provided by the Contractor as part of the Contract Documents.
- 58.4 Precedence: Figures marked on drawings shall in general be followed in reference to scale measurements. Large scale drawings shall in general govern small scale drawings. Specifications and schedules shall govern over drawings. The Contractor shall compare all drawings and verify the figures before laying out the work and will be responsible for any errors. When measurements are affected by conditions already established, the Contractor shall take measurements notwithstanding the giving of scale or figure dimensions in the drawings. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of discrepancy in the Plans or Specifications, the matter shall be immediately submitted to the Project Manager, without whose decision Contractor shall not adjust said discrepancy save only at Contractor's own risk and expense. The decision of the Project Manager shall be final.
- 58.5 Shop Drawings: The Contractor shall establish, implement, and supervise the submission of shop drawings and other submittals (of any type) in accordance with the Schedule and any Milestones. The Contractor shall note any variances between any such shop drawings or other submittals and the Project Manual for the benefit of OCFA at the time of submission. No approval or other similar action regarding any such submission shall be binding in any way upon OCFA.
- 58.6 Drawings and Specifications at the Site: The Contractor shall keep available at the site for ready reference a complete set of all contract drawings, details, supplementary drawings and approved shop drawings, a complete copy of the specifications with all addenda, bulletins, amendments, and copies of Project correspondence. The Contractor shall maintain on the site a complete "as built" record set of prints. In addition, the Contractor shall keep on the site as required a copy of each manufacturer's current printed recommendations. Contractor shall also submit a copy to the Project Manager.
- 58.7 Deviations: Deviations from the drawings and the dimensions therein given, whether or not error is believed to exist, shall be made only after written authority is obtained from the Project Manager.

59 Divisions Of The Specifications

- 59.1 For convenience, the work as described in the Contract Documents are arranged in several divisions and sections, but such separations shall not be considered as the limits of the work required for any subcontract or trade: the terms and conditions of such limitations are wholly between the Contractor and his subcontractors, and the OCFA will not be responsible for any division of work by subcontractors. The Contractor will be solely responsible for all subcontract arrangements of work regardless of the location of provisions in the specifications.
- 59.2 Schedules of work included in the sections, where listed, are given for convenience only, and shall not be considered as a comprehensive list of items or work necessary to complete the work of any section.
- 59.3 Where devices or items or parts thereof are referred to in the singular, it is intended that such reference shall apply to as many soon devices, items, or parts as are required to properly complete the work.

- 59.4 Each section of the specifications is covered by applicable requirements of the Contract Documents and other related sections as if therein written.

60 Site Conditions

- 60.1 Existing Site Conditions: Information respecting the site of the work given in drawings or specifications has been obtained by OCFA's representatives and is believed to be reasonably correct, but the OCFA does not warrant either the completeness or accuracy of such information, and it is the responsibility of the Contractor to verify all such information.
- 60.2 Changed Conditions: The Contractor shall promptly, and before such conditions are disturbed, notify the Project Manager in writing of:
- 60.2.1 Subsurface or latent physical conditions at the site differing materially from those indicated in the Contract Documents; or
- 60.2.2 Unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents. The Project Manager shall promptly investigate the conditions, and if, as a result, finds that such conditions do so materially differ and cause an increase or decrease in the Contractor's cost of, or the time required for performance an equitable adjustment shall be made and the Contract Documents modified in writing accordingly. Any claim of the Contractor for adjustment hereunder shall not be allowed unless Contractor has given notice as above required.
- 60.3 Public Utility Facilities on Project Site: Pursuant to Government Code, Section 4215, the Contractor shall be compensated for the costs of locating and repairing damage to public utility facilities on the Project site which was not due to failure of Contractor to exercise reasonable care, and removing or relocating main or trunk line utility facilities located on the Project site, if such work is required in the Contract Documents or the Project Manager. Such compensation shall also cover the cost of Contractor's equipment necessarily idled during such work. This provision shall not be deemed to require compensation when the presence of existing service laterals or appurtenances can be inferred from the presence of visible facilities such as buildings, meter and junction boxes, on or adjacent to the construction site. If the Contractor discovers such unidentified utility facilities during construction, Contractor shall immediately notify the Project Manager and the utility in writing.
- 60.4 Space at Site: The Contractor shall be allowed reasonable space at the site of the work as available and access thereto and shall confine Contractor operations to the space assigned. The work shall be done without interference with the ordinary use of the fire station. The Contractor shall cooperate with other Contractors of the OCFA and shall not commit or permit any act which will interfere with the performance of work by any other Contractor or employees of the OCFA whether at the site or not.

61 Conditions Affecting The Work

The Contractor shall be responsible for having taken steps reasonably necessary to ascertain the nature and location of the work, and the general and local conditions which can affect the work or the cost thereof. Any failure by the Contractor to do so will not relieve Contractor from responsibility for successfully performing the work without additional expense to the OCFA. The OCFA assumes no responsibility for any understanding or representations concerning conditions made by any of its officers or agents prior to the execution of the Contract Documents, unless such understanding or representations by the OCFA are expressly stated in the Contract Documents.

62 OCFA's Property On Site

All fixtures, facilities, equipment, vehicles, furniture, and all other personal property of the OCFA located at the job site which are removed in the course of construction of the Project remain the property of the OCFA unless express provision to the contrary is made in the Contract Documents, and the Contractor shall exercise reasonable care to prevent loss or damage to said property and shall deliver promptly such property to the place designated by the Project Manager.

63 Protection

- 63.1 The Contractor shall, throughout the performance of the Work, maintain adequate and continuous protection of all Work, all material and supplies, and temporary facilities against loss or damage from whatever cause, shall protect the property of OCFA and third parties from loss or damage from whatever cause, and shall comply with the requirements of OCFA and its insurers and with all applicable laws, codes, rules and regulations with respect to the prevention of loss or damage to property as a result of fire or other hazards.
- 63.2 The Project Manager may, but shall not be required to, make periodic patrols of the Site as a part of its normal security and safety program. In such event, however, the Contractor shall not be relieved of its aforesaid responsibilities and OCFA shall not assume same, nor shall it be deemed to have assumed, any responsibility otherwise imposed upon the Contractor by the Contract.
- 63.3 Until final acceptance of the Work by OCFA, the Contractor shall have full and complete charge and care of and, except as otherwise provided in this Subparagraph, shall bear all risk of loss of, and injury or damage to, the Work or any portion thereof (specifically including OCFA-furnished supplies, equipment or other items to be utilized in connection with, or incorporated in, the Work), materials, equipment, and supplies, from any cause whatsoever, subject to the limitations set forth below.
- 63.4 The Contractor shall rebuild, repair, restore, replace, and make good all losses of, and injuries or damages to, the Work or any portion thereof (specifically including OCFA-supplied, equipment or other items to be utilized in connection with, or incorporated in, the Work), material, equipment, and supplies before final acceptance of the Work. Such rebuilding, repair, replacement, or restoration shall be at the Contractor's sole cost and expense.
- 63.5 Contractor shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. Contractor shall comply with the provisions of the Construction Safety Orders issued by the State Division of Occupational Safety & Health. Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire construction work, except for any completed unit of construction thereof which theretofore may have been accepted.
- 63.6 The Contractor shall maintain continuously adequate protection of all work from damage and shall protect the OCFA's property from injury or loss arising in connection with the Contract Documents. Contractor shall make good any such damage, injury, or loss, except such as may be directly due to errors in the Contract Documents or caused by agents or representatives of the OCFA. Contractor shall adequately protect adjacent property as provided by law and the Contract Documents, and shall maintain reasonable security of the site at all times, if necessary. Contractor shall limit visitors to the site to those necessary for construction and inspections. Visitors for other purposes shall be referred to the Project Manager. Contractor's and subcontractors' employees shall possess means of identification at all times as required by the Project Manager while on the job site.

- 63.7 In an emergency affecting the safety of life or of the work or of adjoining property the Contractor, without special instruction or authorization from the OCFA, is hereby permitted to act at Contractor's discretion to prevent such threatened loss or injury. Contractor shall so act if directed or instructed by the Project Manager. Any dispute as to compensation claimed by the Contractor on account of emergency work shall be determined by agreement as hereinafter set forth.
- 63.8 The Project Manager may notify the Contractor of any noncompliance with the foregoing provisions and the action to be taken. The Contractor shall, after receipt of such notice, immediately correct such conditions. Such notices, when delivered to the Contractor or Contractor's representative at the site of the work, shall be deemed sufficient for said purpose. Failure of receipt of such notice from the Project Manager shall not relieve the Contractor of responsibility.
- 63.9 If the Contractor fails or refuses to comply promptly, the Project Manager may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop order shall be made the subject of a claim for extension of time or for excess costs or damages to the Contractor. The Contractor will be responsible for ensuring that his subcontractors comply with the provisions of this Section 63.
- 63.10 Surface or Subsurface water or other fluid shall not be permitted to accumulate in excavations or under the structures. Should such conditions develop or be encountered, the water or other fluid shall be controlled and suitably disposed of by means of temporary pumps, piping, drainage lines and ditches, dams or other methods approved in writing by OCFA. The proposed location and coordination of temporary channels and conduits conducting accumulated water from the Site shall be submitted to Project Manager for its prior written approval. All such work shall be done at the sole expense of the Contractor, and in accordance with the Federal National Pollutant Discharge Elimination System (NPDES) and the NPDES General Construction Permit which includes the Contractor's Storm Water Pollution Prevention Plan (SWPPP) pursuant thereto.

64 Payments

The OCFA shall make payments upon the contract price in accordance with the Contract Documents.

65 Assignment

The Contract Documents, and any portion thereof, may not be assigned by the Contractor. Claims for monies due or to become due the Contractor from the OCFA under the Contract Documents may be assigned, with the written consent of the Board of Directors, to a bank, trust company, or other financing institution and may thereafter be further assigned or reassigned to any such institution. To effect such assignments, the Contractor, or Contractor's assignee, shall submit a written request to the Board of Directors enclosing a letter from the proposed assignee indicating that it will accept such assignment. Any attempted assignment contrary to provisions of this paragraph shall be void.

66 Other Contracts

The Board of Directors may undertake or award other contracts for additional work or other work, and the Contractor shall fully cooperate with such other contractors and OCFA employees and carefully fit Contractor's own work to such additional work as may be directed by the Project Manager. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other contractor or by OCFA employees.

67 Warranty / Warranty Work

- 67.1 One-Year Warranty: The Contractor agrees to maintain and guarantees for a period of twelve (12) months from the date of the issuance of the certificate of acceptance of the Project or the issuance of a temporary certificate of occupancy as requested by the Fire Chief in the Fire Chief's sole discretion, whichever event occurs first, (and for such additional or extended periods for portions of the Work as provided in the Project Manual), that the completed work is free from all defects due to faulty materials, equipment or workmanship and that Contractor shall promptly make whatever adjustments or corrections which may be necessary to cure any defects, including repairs or any damage to the Site, Project, Work, or any system installed therein resulting from such defects. .
- 67.2 Warranty Work / Normal Response Time: In the event of failure to comply with the above-mentioned conditions within one (1) week after being notified in writing, the OCFA is hereby authorized to proceed to have the defects remedied and made good at the expense of the Contractor who hereby agrees to pay the cost and charges therefore immediately on demand.
- 67.3 Warranty Work / Emergency Response Time: If in the opinion of the OCFA, defective work creates a dangerous condition, affects the OCFA's essential operations / essential use of the facility, affects the safety or preservation of property or personnel, or requires immediate correction or attention to prevent further loss to the OCFA, the Contractor shall be required to take corrective action within 24 hours after personal or telephonic notice by the OCFA's Property Management Section. If the Contractor cannot be contacted or does not comply with the OCFA's request for correction within 24 hours (or a reasonable time as determined by the OCFA), the OCFA may, notwithstanding the provisions of this Section 67, proceed to make such correction, the cost of which shall be charged against the Contractor.
- 67.4 Failure to Take Corrective Action: Failure by the Contractor to take corrective action as specified above shall constitute a material breach of this agreement and will result in the OCFA taking whatever corrective action it deems necessary including termination of this agreement. All costs resulting from such action by the OCFA will be claimed against Contractor or, if necessary, the Contractor's Performance Bond. The Contractor's Performance Bond shall remain in full force and effect through the warranty period.
- 67.5 Alternative Remedy: In the event that the Contractor fails to make adjustments, repairs, corrections or other work made necessary by such defects, or to properly maintain and service the Project, the OCFA may do so and charge the Contractor the cost incurred. The performance bond shall remain in full force and effect through the guarantee period or, at the option of the Contractor, a warranty bond in the amount of one hundred percent of the Contract price may be substituted for the performance bond. Such warranty bond must be in a form approved by OCFA General Counsel, be issued by a surety authorized by the State Insurance Commissioner to transact business in the State of California as a surety, and must have and maintain, throughout the warranty period, at least an "A-" policyholder's rating, or better, and a financial rating of "Class VII," or better, in accordance with the most current A.M. Best's Rating Guide.
- 67.6 All Inclusive Remedies: The Contractor's obligations under this clause are in addition to the Contractor's other express or implied assurances of this Contract, Project Manual, or state law and in no way diminish any other rights that the OCFA may have against the Contractor for faulty materials, equipment, or work.

68 Extra Work And Changes

68.1 The Contract price as set forth in the Contract and the Contractor's Bid, includes compensation for all work performed by Contractor, unless Contractor obtains a written change order signed by the Project Manager specifying the exact nature of the extra work and the amount of extra compensation to be paid all as more particularly set forth in this Section 68. OCFA shall extend the time fixed in the Contract Documents for completion of the Project by the number of days reasonably required for Contractor to perform the extra work only if Contractor is actually delayed in the performance of any item of the Project on the critical path by:

- 68.1.1 Any act or neglect of OCFA, Project Manager, Design Professional, or any employee, agent, or representative of OCFA; or
- 68.1.2 Combined action of workers, either those employed on the Project or in any industry essential to the conduct of the Work not caused by or resulting from default, negligence, or collusion on the part of Contractor or its Subcontractors of every tier; or
- 68.1.3 Unusually severe weather conditions not reasonably anticipatable for that portion of the Site is located, based upon U.S. Weather Bureau climatological reports for the months included plus a report indicating average precipitation, temperature, etc. for the last ten (10) years from the nearest reporting station; or
- 68.1.4 Excusable Transportation Delays; or
- 68.1.5 Excusable Labor Disputes; or
- 68.1.6 Acts of God; or
- 68.1.7 National Emergency, declared by the President of the United States.

In the event one or more of the specific situations described above occurs, the Scheduled Completion Date may be extended by Change Order for a period not to exceed the length of such delay, provided that Contractor presents a written request to Project Manager, with demonstrated justification, for such time extension within five (5) days of the commencement of such delay. Failure to file such request within the time allowed shall be deemed a waiver of the claim by Contractor as determined by Project Manager. The decision of the Project Manager shall be final.

- 68.2 The Project Manager may, at any time, by written order, and without notice to the sureties, make changes in the drawings or specifications of the Contract Documents if within the general scope thereof. A change order shall also be any other written order (including direction, instruction, interpretation or determination) from the OCFA which causes any change, provided Contractor gives the OCFA written notice stating the date, circumstances and source of the order and that Contractor regards the order as a change order.
- 68.3 If any change under this Section 68 causes an increase or decrease in Contractor's actual direct cost or the time required to perform any part of the work under this Contract, whether or not changed by any order, the Project Manager shall make an equitable adjustment and modify the Contract in writing. Except for claims based on defective specifications, no claim for any change shall be allowed for any costs incurred more than 20 days before the Contractor gives written notice as required below. In the case of defective specifications for which the OCFA is responsible, the equitable adjustment shall include any increased direct cost Contractor reasonably incurred in attempting to comply with those defective specifications.
- 68.4 No extension of time shall be given unless the delay for which a request is made is included in those items for which an extension to the Scheduled Completion Date is appropriate pursuant to the provisions of this Section 68 and the Project Manager finds that such reason for the delay actually adversely affected the ability of the Contractor to complete the Project

by the Scheduled Completion Date or to complete a Milestone. Project Manager's decision will be conclusive on the parties to this Contract.

- 68.5 No claims by Contractor for additional compensation or damages for delays will be allowed unless Contractor satisfies the Project Manager that such delays were unavoidable and not the result of any action or inaction of Contractor and that Contractor took all available measures to mitigate such damages. The Project Manager's decision will be conclusive on all parties to this Contract.
- 68.6 No extension of the Scheduled Completion Date or the right on the part of Contractor to secure any such extension pursuant to this Section 68 shall prejudice any right OCFA may have under the Project Manual, or otherwise, to terminate this Contract.
- 68.7 The Contract Price includes compensation for all work performed by Contractor, unless Contractor obtains a written change order signed by the Project Manager specifying the exact nature of the extra work and the amount of extra compensation to be paid all as more particularly set forth in in this Section 68.
- 68.8 Project Manager may extend the Scheduled Completion Date by the number of days reasonably required for Contractor to perform the extra work, but only to the extent such extra work actually adversely affects the Scheduled Completion Date, as determined by Project Manager. The decision of the Project Manager shall be final.
- 68.9 The OCFA or the Fire Chief may order modifications or authorize change orders for any reason. Such modifications shall be reviewed, evaluated, and processed in the manner specified in this Section 68.
- 68.10 Project Manager may at any time, without notice to any surety, by written order designated or indicated to be a Class 1 or Class 2 Change Order, make any change in the work within the general scope of the Contract, including, but not limited to, changes in:
 - 68.10.1 The Project Manual (including drawings and designs);
 - 68.10.2 The time, method, or manner of performance of the work;
 - 68.10.3 The OCFA-furnished facilities, equipment, materials, services, or site; or
 - 68.10.4 Directing acceleration in the performance of the work.
- 68.11 Except as provided in this Section 68, no order, statement or conduct of the OCFA or its representatives, including, but not limited to the Fire Chief, Project Manager, or the Design Professional, shall be treated as a change under this Section 68 or entitle Contractor to an equitable adjustment.
- 68.12 If any change under this Section 68 causes an increase or decrease in Contractor's actual, direct cost or the time required to complete the Project or a Milestone under this Contract and Project Manual, whether or not changed by any order, the Project Manager shall make an equitable adjustment and the OCFA shall modify the Contract in writing. Except for Class 1 claims based on defective provisions of the Project Manual, no claim for any change under Section 1.16 shall be allowed for any costs incurred more than 15 days before the Contractor gives written notice as required in this Section 68. In the case of defective specifications for which the OCFA is responsible, the equitable adjustment shall include any increased direct cost Contractor reasonably incurred in attempting to comply with those defective specifications.

- 68.13 If Contractor intends to assert a claim for an equitable adjustment under this Section 68, it must, within fifteen (15) days after receipt of a written change order under this Section 68 or the furnishing of a written notice hereunder, submit a written statement to the Project Manager setting forth the general nature and monetary extent of such claim. Such claim shall contain the documentation and information as specified herein. The Project Manager may extend the 15-day period so long as the request for the extension is submitted within such 15-day period and only for good and justified cause. Project Manager's decision regarding any request for extension shall be final and binding on all parties.
- 68.14 Claim documentation shall conform to generally accepted accounting principals and all supporting documentation shall be cited by reference, photocopies, or explanation. Supporting documentation may include, but shall not be limited to, general conditions, general requirements, technical specifications, drawings, correspondence, conference notes, shop drawings logs, survey books, inspection reports, delivery schedules, test reports, daily reports, subcontracts, fragmentary schedules or time impact analyses, photographs, technical reports, requests for information, field instructions, and all other related records necessary to support Contractor's claim.
- 68.15 Supporting documentation of damages for each claim shall be cited, photocopied, or explained. Supporting documentation may include, but shall not be limited to, any or all documents related to the preparation and submission of the bid; certified, detailed labor records including labor distribution reports, material and equipment procurement records, construction equipment ownership cost records or rental records, Subcontractor or vendor files and cost records, service cost records, purchase orders, invoices, project as planned and as-built records, general ledger records, variance reports, accounting adjustment records, and any other accounting materials necessary to support Contractor's claim.
- 68.16 Each copy of the claim documentation shall be certified by a responsible office of the Contractor in accordance with the requirements of the Project Manual.
- 68.17 Should Contractor be unable to support any part of the claim and it is determined that such inability is attributable to falsity of such certification or misrepresentation of fact or fraud on the part of Contractor, the Contractor shall be liable to OCFA as provided for under California Government Code Section 12650 et seq.
- 68.18 Disputed work shall be performed as ordered in writing by the Project Manager, so long as the cost of such work is within the OCFA of the Project Manager as described above, so as to minimize the impact on, and delays to, the Work.
- 68.19 Costs which shall not be allowed or paid in Change Orders or claim settlements under this Contract include, but are not limited to, interest cost of any type other than those mandated by statute; claim preparation or filing costs; legal expenses; the costs of preparing or reviewing proposed Change Orders or change order proposals concerning change orders which are not issued by the OCFA; lost revenues; lost profits; lost income or earnings; rescheduling costs; costs of idled equipment when such equipment is not yet at the Site or has not yet been employed on the Work; lost earnings or interest on unpaid retainage; claims consulting costs; the costs of corporate officers or staff visiting the Site or participating in meetings with the OCFA; any compensation due to the fluctuation of foreign currency conversions or exchange rates; loss of other business; or any other cost identified as unallowable cost under the provisions of the Federal Acquisition Regulations.
- 68.20 No claim by Contractor for an equitable adjustment shall be allowed if made after final payment under this Agreement. Contractor hereby agrees to make any and all changes, furnish the materials and perform the work that OCFA or its Project Manager may require without

nullifying this Contract. Contractor shall adhere strictly to the Contract Documents unless a change therefrom is authorized in writing by the Project Manager, subject to the limitations contained herein. Under no condition shall Contractor make any changes to the Project, either in additions or deductions, without the written order of the OCFA or its Project Manager and the OCFA shall not pay for any extra charges made by Contractor that have not been agreed upon in advance in writing by the OCFA. Contractor shall submit immediately to the OCFA written copies of its firm's cost or credit proposal for change in the work. Disputed work shall be performed as ordered in writing by the OCFA or the Project Manager and the proper cost or credit breakdowns therefor shall be submitted without delay by Contractor to the Project Manager.

- 68.21 Project Manager is authorized by the Board of Directors to make, by written order, changes or additions to the work within the scope of the Contract Documents. This authority to approve changes is limited to 10% of the original contract amount. All changes over the amounts specified above shall be subject to the approval of the Board of Directors. Any change or addition of any kind pursuant to any provision of the Contract Documents which exceeds the limits described in this subsection and which have not been approved by the Board of Directors is void and can not be enforced against the OCFA.
- 68.22 Any claim of the Contractor for adjustment under this Section 68 or any other provision of the Project Manual must be asserted in writing within 15 days from the date of receipt by the Contractor of the notification of change unless the Board of Directors or Project Manager grants a further period of time before the date of final payment under the Contract Documents. Nothing provided in this Section 68 shall excuse the Contractor from proceeding with the prosecution of the work as changed. Except as otherwise provided in this Contract, no charge for any extra work or material will be allowed.
- 68.23 Labor wage rates shall not exceed the Prevailing Wage Rates supported by payroll records. Equipment rental rates should be based on latest edition of equipment rental rates published by the State of California Department of Transportation; Division of Construction.
- 68.24 Nothing in this Section shall excuse the Contractor from proceeding with the Contract Documents as changed.

69 No Verbal Modifications

No verbal statement of any person whomsoever shall in any manner or degree modify or otherwise affect the terms of the Contract or the Project Manual.

70 Material, Workmanship, And Acceptance

- 70.1 Where materials are specified by reference to standard specifications of the American Society for Testing Materials (A.S.T.M.), Federal Specifications, or others, all applicable provisions of the designated specifications shall be considered as forming a part of the Contract Documents to the same force and effect as if repeated therein.
- 70.2 All work under this Contract Documents shall be performed in a skillful and workmanlike manner. The Project Manager may, in writing, require the Contractor to remove from the work any employee the Project Manager deems incompetent, careless, or otherwise objectionable.
- 70.3 The Contractor shall, without charge, replace any material or correct any workmanship found by the Project Manager not to conform to the contract requirements, unless in the public interest the Project Manager consents to accept such material or workmanship with an

appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

- 70.4 If the Contractor does not promptly replace rejected material or correct rejected workmanship, the OCFA (1) may, by contract or otherwise, replace such material or correct such workmanship and charge the cost thereof to the Contractor, or (2) may terminate the Contractor's right to proceed in accordance with these General Conditions.
- 70.5 Unless otherwise provided in the Contract Documents, acceptance by the OCFA shall be accomplished by recordation of Notice of Completion which shall be made as promptly as practicable after completion and inspection of all work required by the Contract Documents. Acceptance shall be final and conclusive except as regards latent defects, fraud, or such gross mistakes as may amount to fraud, or as regard the OCFA's rights under any warranty or guarantee. Informal procedures such as "punch lists" are not to be deemed final or conditional acceptance.

71 Termination For Default & Damages For Delay

- 71.1 The Contract may be terminated in whole or in part in writing by either party in the event of substantial failure by the other party to fulfill its obligations under this Agreement through no fault of the terminating party, provided that no termination may be effected unless the other party is given: (1) Not less than ten (10) calendar days' written notice (delivered by certified mail, return receipt requested) of intent to terminate; and (2) An opportunity for consultation with the terminating party prior to termination.
- 71.2 If the Contractor refuses or fails to prosecute the work with such diligence as will ensure its completion within the time specified in the Contract Documents or any extension thereof, or fails to complete said work within such time, the Board of Directors may, by written notice to the Contractor, terminate Contractor's right to proceed with the work or such part of the work as to which there has been delay. In such event, the OCFA may take over the work and prosecute the same to completion, by contract or otherwise, and may take possession of and utilize in completion the work such materials, appliances, and plant as may be on the site of the work and necessary therefor. Whether or not the Contractor's right to proceed with the work is terminated, Contractor and Contractor's sureties shall be liable for any damage to the OCFA resulting from Contractor's refusal or failure to complete the work within the specified time.
- 71.3 Fixed and agreed liquidated damages are provided in the Contract Documents, these General Conditions, paragraph 1.38 J. If the OCFA so terminates the Contractor's right to proceed, the resulting damage will consist of such liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the OCFA in completing the work.
- 71.4 Fixed and agreed liquidated damages are provided in the Contract Documents, these General Condition, paragraph 1.38 J. If the OCFA does not so terminate the Contractor's right to proceed, the resulting damage will consist of such liquidated damages until the work is completed or accepted.
- 71.5 The Contractor's right to proceed shall not be so terminated nor the Contractor charged with resulting damage if the Contractor is actually delayed in the performance of any item of the Project on the critical path by:
- 71.5.1 Any act or neglect of OCFA, Project Manager, Design Professional, or any employee, agent, or representative of OCFA; or

- 71.5.2 Combined action of workers, either those employed on the Project or in any industry essential to the conduct of the Work not caused by or resulting from default, negligence, or collusion on the part of Contractor or its Subcontractors of every tier; or
- 71.5.3 Unusually severe weather conditions not reasonably anticipatable for that portion of the County of Orange where the Project site is located, based upon U.S. Weather Bureau climatological reports for the months included plus a report indicating average precipitation, temperature, etc. for the last ten (10) years from the nearest reporting station; or
- 71.5.4 Excusable Transportation Delays; or
- 71.5.5 Excusable Labor Disputes; or
- 71.5.6 Acts of God; or
- 71.5.7 National Emergency, declared by the President of the United States.

The Scheduled Completion Date may be extended by Change Order for a period not to exceed the length of such delay, provided that Contractor presents a written request to Project Manager, with demonstrated justification, for such time extension within five (5) days of the commencement of such delay. Failure to file such request within the time allowed shall be deemed a waiver of the claim by Contractor. No extension of time shall be given unless the delay for which a request is made is included in those items for which an extension to the Scheduled Completion Date is appropriate as provided above and the Project Manager finds that such reason for the delay actually adversely affected the ability of the Contractor to complete the Project by the scheduled completion date. Project Manager's decision will be conclusive on the parties to this Contract. No claims by Contractor for additional compensation or damages for delays will be allowed unless Contractor satisfies the Project Manager that such delays were unavoidable and not the result of any action or inaction of Contractor and that Contractor took all available measures to mitigate such damages. The Project Manager's decision will be conclusive on all parties to this Contract. Project Manager may extend the time indicated for completion of the Project by the number of days reasonably required for Contractor to perform the extra work, but only to the extent such extra work actually adversely affects the Scheduled Completion Date, as determined by Project Manager. The decision of the Project Manager shall be final.

The rights and remedies of the OCFA provided in this Section 71 are in addition to any other rights and remedies provided by law or under the Contract Documents.

72 OCFA's Rights Regarding Work

- 72.1 If the Work or any portion thereof is defective and/or does not conform to the Project Manual, or if Contractor fails to supply sufficient skilled workers and suitable material, services, or equipment, or if Contractor fails to make prompt payments to Subcontractors or for labor, materials, or equipment, or if Contractor fails to supervise or coordinate the Work, or if grounds exist pursuant to any other provision of the Project Manual, Project Manager may order Contractor to stop the Work, or any portion thereof, until cause for the order to stop has been eliminated. Project Manager's exercise of this right to stop the Work shall not give rise to any duty on the part of the Project Manager to exercise this right for the benefit of Contractor or any other party. This right to stop the Work pursuant to this Section is in addition to and not in limitation of OCFA's rights to terminate this Contract in accordance with the Project Manual.

- 72.2 Project Manager may at any time and without cause suspend the Work or any portion thereof by written notice to Contractor and a Change Order shall be issued extending the Scheduled Completion Date by the number of days of such suspension. For suspensions of the Work which are fourteen (14) days or less, Contractor shall recommence the Work at the direction of Project Manager with the Lump Sum Price remaining unchanged. Provided Contractor is not in default of the terms of the Project Manual, if there is a suspension of Work or suspensions which in the aggregate extend beyond fourteen (14) days, Contractor shall recommence the Work at the direction of Project Manager and Contractor and Project Manager shall, at Contractor's written request and through good faith negotiations, equitably adjust the Scheduled Completion Date and any Milestones, and shall equitably adjust the Lump Sum Price, in an amount to be approved by the Fire Chief or the OCFA, which approval shall not be unreasonably withheld, for each day of such suspension exceeding fourteen (14) days. Adjustments to the Scheduled Completion Date or completion of a Milestone shall only be provided to the extent the suspension of Work actually adversely affects the Scheduled Completion Date or completion of a Milestone, as determined by Project Manager. The decision of the Project Manager shall be final.
- 72.3 In the event the Project Manager determines that the progress of the Work is behind the progress set forth in the Contractor's Construction Schedule, Project Manager may require Contractor to take such actions as the Project Manager deems necessary to expedite the progress of the Work in conformance with the progress set forth in the Contractor's Construction Schedule. Such actions may include without limitation, increasing the number of workers performing the Work, utilizing overtime work, and requiring additional work shifts. Such action by Project Manager to place Contractor back on schedule shall not be the subject of a Change Order increasing the Lump Sum Price, nor shall Contractor receive any additional compensation for these activities.
- 72.4 Contractor shall cooperate with OCFA, Project Manager, Design Professional, and all other persons as OCFA may retain or employ for (by way of illustration only) installation of furniture, decoration, and training, and the like at the Project. Contractor acknowledges that it is critical to OCFA that separate Contractors are allowed to perform and coordinate the installation of furnishings, fixtures, and equipment not covered by this Contract but necessary for the Project. Contractor covenants to use its best efforts to prevent OCFA from suffering delay in completion of the Work as a result of Contractor's failure to cooperate and coordinate its work with Related Work as required by the Project Manual.
- 72.5 To the extent that OCFA timely provides to Contractor information relating to the work of its separate Contractors, the interrelationships between the work of separate Contractors and/or third parties such as OCFA's purchasing agent and any other special consultants shall be indicated on the Contractor's Construction Schedule to allow OCFA to provide for proper phasing.

73 Contract Price; Method of Payment; Retention Of Funds

- 73.1 OCFA agrees to pay and the Contractor agrees to accept as full consideration for the faithful performance of this Contract, subject to any subsequent additions or deductions as provided in approved change orders, the sum as itemized in the Exhibit K: Schedule of Values.
- 73.2 Progress payments shall be made to the Contractor per month for each successive month as the work progresses. The Contractor shall be paid such sum as will bring the total payments received since the commencement of the work up to ninety percent (90%) of the value of the work completed, less all previous payments, provided that the Contractor submits the request for payment prior to the end of the day required to meet the payment schedule. The OCFA

will retain ten percent (10%) of the amount of each such progress estimate and material cost until 30 days after the recordation of the Notice of Completion.

- 73.3 The Contractor shall request payment through the preparation and submission to OCFA of an Invoice in accordance with the Project Manual. It shall show in detail all monies properly payable to the Contractor, approved by the Project Manager, in accordance with the previously approved activities as identified on the Contractor's Construction Schedule, including those items of labor, materials, and equipment used or incorporated in the Work (and, if OCFA has agreed in advance in writing, suitably stored at the Site) through and including the Payment Application Date. The Application for Partial Payment shall have, as attachments waivers of mechanics' and materialmen's liens by the Contractor and its Subcontractors and Sub-subcontractors as of the date of submission of the Application for Partial Payment, which waivers shall conform in all material respects with the then current provisions of Section 3262 of the California Civil Code (or any successor thereto), certifications of payrolls (30 days in arrears), and such other evidence of performance of the Work, the costs thereof and payment therefor as OCFA may deem necessary or desirable.
- 73.4 The Contractor warrants that title to all Work, materials and equipment covered by an Application for Partial Payment shall pass to OCFA, free and clear of all liens, claims, security interests or encumbrances, upon the sooner occurrence of: (a) the delivery of any such materials or equipment to the Site; or (b) the tender of payment of the applicable Application for Partial Payment by OCFA to the Contractor; and that no Work, materials, or equipment covered by an Application for Partial Payment shall have been acquired, whether by the Contractor or by any Subcontractor or Sub-subcontractor, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person. The passage of title to OCFA as provided herein shall not alter or limit the obligations and duties of the Contractor with respect to the Work and the materials or equipment incorporated therein or used in connection therewith as set forth in the Project Manual. In this regard, it is specifically noted that neither the OCFA, nor its Directors, officers, employees, or agents shall be held responsible in any manner for any loss that may happen to the Work or any part thereof during the course of construction; for any loss or damage to any of the materials, equipment, supplies, or other things used or employed in performing the Work; for injury to or death of any person, either workers or the public; or for damage to property, from any cause that might have been prevented by the Contractor, Contractor's workers, employees, Subcontractors, suppliers, or agents.
- 73.5 If the Contractor has submitted an Application for Partial Payment in the manner prescribed in the Project Manual, The Project Manager shall, with reasonable promptness, review, approve the same (or such portions thereof covering amounts it determines to be properly due), or shall state in writing its reasons for withholding its approval (whether of all or a part).
- 73.6 The Project Manager's approval of an Application for Partial Payment shall not constitute a representation by OCFA that the conditions precedent to the Contractor's entitlement to payment have been fulfilled, nor shall approval of an Application for Partial Payment by OCFA be deemed a representation by OCFA: (a) that it has made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (b) that it has reviewed the construction means, methods, techniques, sequences, coordination or procedures, or the cleanliness of the Site, or the safety precautions and programs, in connection with the Work; (c) that it has made any examination to ascertain how or for what purposes the Contractor has used the monies previously paid on account of the Contract Sum.
- 73.7 No approval of an Application for Partial Payment, progress payment or any beneficial, partial or entire use or occupancy of the Project by OCFA shall constitute an acceptance of any Work which is not in accordance with the Project Manual; and regardless of approval of an

Application for Partial Payment by OCFA, the Contractor shall remain totally obligated and liable for the performance of the Work in strict compliance with the Project Manual.

73.8 Subject to OCFA's rights to offset or withhold as set forth in these General Conditions, after OCFA has approved an Application for Partial Payment, in whole or in part, it shall make payment of the amount approved to the Contractor as provided in the Project Manual.

73.9 Pursuant to California Public Works Contract Code Section 22300, the Contractor will be entitled to post approved securities with the OCFA or an approved financial institution in order to have the OCFA release funds retained by the OCFA to ensure performance of the Contract. Contractor shall be required to execute an addendum to this Contract together with escrow instructions and any other documents in order to effect this substitution.

74 Right To Occupy - Beneficial Use

74.1 OCFA reserves the right, prior to Substantial Completion of the entire Project, to use a portion or portions of the Work when Project Manager determines that such portion or portions may be safe for such use provided such use will not unreasonably interfere with the Contractor's orderly progress of the Work. Such use ("beneficial use") shall not be construed as an acceptance of any such Work, or a part of the Work, as substantially complete, nor shall it affect the dates and times when payments shall become due from the OCFA to Contractor, nor shall it prejudice OCFA's rights pursuant to the Contract or any bonds guaranteeing the same. Notwithstanding such occupancy or use, Contractor shall continue to provide insurance, security, maintenance, utilities, and protection to the Work, unless otherwise agreed by the parties in writing.

74.2 At the sole discretion of the Fire Chief, any time after beneficial use and prior to issuance of a certificate of occupancy by the Local Jurisdictions, the Fire Chief may request one or more of the local Jurisdictions to issue a temporary certificate of occupancy for a portion or portions of the Project. Upon the issuance of such temporary certificate of occupancy, the OCFA may occupy such portion or portions of the Project, and such portions shall be deemed to be substantially complete.

74.3 Beneficial Occupancy shall not constitute acceptance by OCFA or Project Manager of the completed Work or any portion thereof, shall not relieve the Contractor of its full responsibility for correcting defective Work and repairing the Work, shall not be deemed to be the equivalent of completion of the Work and shall not entitle the Contractor to any increase in the Contract Sum.

74.4 Anything in this Section 74 to the contrary notwithstanding, OCFA may certify any portion of the Work to be occupied or used hereunder to be Substantially Completed and, upon the Contractor's timely completion or correction of the items on the "punch-list" with respect thereto, accept that portion of the Work.

75 Final Completion and Final Payment.

75.1 When all permits for the Work have been approved, accepted, or otherwise signed off as complete by the inspectors of the Local Jurisdictions, Contractor shall certify to the Project Manager in writing within ten (10) days that the Work is complete in accordance with the Project Manual and is ready for occupancy. Project Manager, Design Professional, and Fire Chief will make an investigation and inspection of all phases of the Work. If all contractual obligations have not been met, Project Manager shall furnish Contractor a detailed list of all remaining work (the "Punchlist") and Contractor shall commence correction of all items on the Punchlist. A letter of acceptance shall be issued upon completion of all Work specified on the

Punchlist to the satisfaction of the Project Manager. In no case will the letter of acceptance relieve Contractor of any obligations of Contractor that may be outstanding. Within five (5) business days after issuance of a letter of acceptance, Project Manager and the Design Professional shall issue a certificate of final completion. Upon receipt of the certificate of final completion, Contractor shall submit its final application for payment ("Final Application for Payment") which shall set forth all amounts due and remaining unpaid to Contractor and upon approval thereof by the Project Manager and the Design Professional, OCFA shall pay to Contractor the amount due under such Final Application for Payment as provided herein.

75.2 Before OCFA makes the Final Payment to Contractor, all requirements of the Project Manual shall have been fulfilled, including the following:

- (1) Receipt by Project Manager of a complete list of Subcontractors and principal vendors, including addresses, telephone numbers, and names of individuals to contact who are familiar with the Project, including Contractor;
- (2) Receipt by Project Manager of all operation and maintenance manuals, approved by the Design Professional;
- (3) Receipt by OCFA of all releases and written guarantees from all Subcontractors and material suppliers for the Project in a form and content satisfactory to the Project Manager, which Contractor hereby agrees to obtain for, and deliver to, Project Manager prior to completion of the Project;
- (4) Receipt by Project Manager of all "As-Built" records, approved by Project Manager and the Design Professional as specified in the Project Manual;
- (5) Copies of any other warranties or guarantees received from manufacturers, suppliers, or Subcontractors of Contractor or any Subcontractor; and
- (6) Evidence satisfactory to the Project Manager showing that the Contractor has promptly and satisfactorily settled all claims, if any, for services performed and materials furnished in connection with the Work.
- (7) Receipt by Project Manager of all documentation necessary to demonstrate compliance with the Leadership and Environmental Design program requirements.

75.3 Final Payment shall not become due until Contractor submits to Project Manager: (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which OCFA or OCFA's property might in any way be responsible, have been paid or otherwise satisfied; (2) the consent of the surety to Final Payment; and (3) if reasonably required by the Project Manager, other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the Contract, to the extent and in such form as may be designated by the Project Manager. Project Manager may require affidavits or certificates of payment and/or releases from any Subcontractor, laborer, or material supplier.

75.4 If any Subcontractor or material supplier refuses to furnish a release or waiver required by Project Manager, Contractor may satisfy its obligation with respect to such Subcontractor or material supplier by furnishing a cash bond, assignment of a certificate of deposit, or other liquid security satisfactory to Project Manager to indemnify OCFA against any lien. If any lien remains unsatisfied after all payments are made, Contractor shall refund to OCFA all monies that the OCFA may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

75.5 The acceptance of Final Payment shall constitute a waiver of all claims by Contractor except those previously made in writing and identified by Contractor as unsettled at the time of the Final Application for Payment.

- 75.6 The making of Final Payment shall constitute a waiver of all claims by OCFA except those arising from (1) unsettled claims; (2) faulty or defective Work appearing after Final Completion of the Work; (3) failure of the Work to comply with the requirements of the Project Manual; (4) terms of any special warranties required by the Project Manual; (5) "Punchlist" items not yet completed by the Contractor; (6) discrepancies noted in subsequent audits performed by OCFA or its agents within one (1) year following Final Payment; or (7) any claims identified by Project Manager as unsettled prior to making of Final Payment.
- 75.7 Final Payment shall not relieve Contractor of its warranty and indemnification obligations pursuant to the Project Manual, which shall survive such payment.
- 75.8 Contractor shall keep and present within fifteen (15) days after request by OCFA or its agents, in a form reasonably approved by the Project Manager, a final itemized accounting of all expenditures made in connection with the Work together with appropriate suplf any Subcontractor or Sub-subcontractor refuses to furnish any release, satisfaction or waiver of lien required at any time by OCFA under Paragraphs 9.1., or files a claim of lien against OCFA's property, the Contractor shall, if requested by Project Manager and at the Contractor's expense, furnish and record a Mechanic's Lien Release Bond (separate and apart from any other bond provided by the Contractor hereunder) that is in full compliance with the requirements of the then current provisions of Section 3143 of the California Civil Code. If any Subcontractor or Sub- subcontractor serves a Stop Notice (bonded or otherwise) on OCFA, Contractor shall, if requested by OCFA and at Contractor's expense, furnish a Stop Notice Release Bond (separate and apart from any other bond provided by the Contractor hereunder) that is in full compliance with the then current provisions of Section 3171 of the California Civil Code. The Contractor authorizes OCFA, and shall cause its Subcontractors and Sub-subcontractors to authorize OCFA, to check directly with any suppliers of labor and material with respect to any item chargeable to OCFA's property, to confirm balances due and to obtain sworn statements and waivers of lien, all if OCFA so elects. If any lien remains unsatisfied after all payments are made to the Contractor, the Contractor shall reimburse OCFA on account of all monies that the latter may be compelled to pay in discharging such lien, including all costs and attorneys' fees.

76 Surety Bonds.

Contractor shall, upon entering into performance of this Agreement, furnish a bond in the amount of one hundred percent (100%) of the Contract price bid, to guarantee the faithful performance of the work, and an additional bond in the amount of one hundred percent (100%) of the Contract price bid to guarantee payment of all claims for labor and materials furnished. The bonds required pursuant to this Section shall be issued by a surety authorized by the State Insurance Commissioner to transact business in the State of California as a surety and shall have and maintain throughout the life of the Project, at least an "A-" policyholder's rating, or better, and a financial rating of "Class VII," or better, in accordance with the most current A.M. Best's Rating Guide. This Contract shall not become effective until such bonds are supplied to and approved by the OCFA.

77 Risk And Indemnification

- 77.1 Indemnification: To the fullest extent permitted by law, Contractor shall indemnify, defend (at Contractor's sole cost and expense and with legal counsel approved by OCFA, which approval shall not be unreasonably withheld), protect and hold harmless OCFA and all of OCFA's officers, directors, employees, consultants, agents, successors and assigns (collectively the "Indemnified Parties"), from and against any and all claims (including, without limitation, claims for bodily injury, death or damage to property), demands, obligations, damages, actions, causes of action, suits, losses, judgments, fines, penalties, liabilities, costs and expenses (including, without limitation, attorneys' fees, disbursements and court costs, and all other

professional, expert or consultants' fees and costs and OCFA's general and administrative expenses) of every kind and nature whatsoever (individually, a "Claim"; collectively, "Claims") which may arise from or in any manner related (directly or indirectly) to any work performed or services provided under this Agreement (including, without limitation, the negligent and/or willful acts, errors and/or omissions of Contractor, its principals, officers, agents, employees, Contractors, suppliers, consultants, subconsultants, subcontractors, anyone employed directly or indirectly by any of them or for whose acts they may be liable or any or all of them) regardless of any active or passive negligence or strict liability of an Indemnified Party. Contractor understands and acknowledges that the indemnification obligation hereunder is intended to constitute a "Type I" indemnity under California law and extends to and includes Claims arising from the active or passive negligence of Indemnified Parties. Notwithstanding the foregoing, nothing herein shall be construed to require Contractor to indemnify the Indemnified Parties from any Claim arising from the sole negligence or willful misconduct of the Indemnified Parties.

- 77.2 Duty to Defend: The duty to defend hereunder is wholly independent of and separate from the duty to indemnify and such duty to defend exists regardless of any ultimate liability of Contractor. Such defense obligation shall arise immediately upon presentation of a Claim by any party and written notice of such Claim being provided to Contractor. Payment to Contractor by any Indemnified Party or the payment or advance of defense costs by any Indemnified Party shall not be a condition precedent to enforcing such Indemnified Party's rights to indemnification hereunder. Contractor's indemnification obligation hereunder shall survive the expiration or earlier termination of this Agreement until such time as action against the Indemnified Parties for such matter indemnified hereunder is fully and finally barred by the applicable statute of limitations or statute of repose. Contractor's liability for indemnification hereunder is in addition to any liability Contractor may have to OCFA for a breach by Contractor of any of the provisions of this Agreement. Under no circumstances shall the insurance requirements and limits set forth in this Agreement be construed to limit Contractor's indemnification obligation or other liability hereunder. The terms of this Agreement are contractual and the result of negotiation between the parties hereto. Accordingly, any rule of construction of contracts (including, without limitation, California Civil Code Section 1654) that ambiguities are to be construed against the drafting party shall not be employed in the interpretation of this Agreement.

78 Insurance.

78.1 Compliance with Insurance Requirements.

- 78.1.1 As a condition precedent to the effectiveness of this Agreement, and without limiting the indemnity provisions set forth in this Agreement, Contractor shall obtain, maintain, and keep in full force and effect during the term of this Agreement, at its sole cost and expense, and in a form and content satisfactory to OCFA, all insurance required under this section. Contractor shall not commence any work or services under this Agreement unless and until it has provided evidence satisfactory to OCFA that it has secured all insurance required under this section. If Contractor's existing insurance policies do not meet the insurance requirements set forth herein, Contractor agrees to amend, supplement or endorse the policies to do so.
- 78.1.2 The amount of insurance coverage available to pay claims under each policy required hereunder shall be the higher of (a) the minimum limits required below, or (b) the actual limits established in each policy. Thus, by way of example only, if the minimum policy limit is \$2 million per occurrence but insurance actually carried by the Contractor or subcontractor is \$4 million per occurrence, the coverage required to be available for claims

under that policy would be \$4 million. (Nothing herein requires the Contractor to purchase insurance at limits greater than the minimum limits established below.)

78.2 Types of Insurance Required.

Contractor shall obtain and maintain in full force and effect during the term of this Agreement, including any extension thereof, the following policies of insurance:

78.2.1 Commercial General Liability Insurance. Contractor shall obtain and maintain, in full force and effect throughout the term of this Agreement, a policy of Commercial General Liability Insurance (Insurance Services Office form CG 00 01) written on an occurrence basis with limits of at least five million dollars (\$5,000,000.00) per occurrence, five million dollars (\$5,000,000.00) in the general aggregate, and five million dollars (\$5,000,000.00) for completed operations aggregate. Defense costs shall be paid in addition to (and shall not reduce) the limits. The policy shall contain no endorsements or provisions limiting coverage for: (1) contractual liability; (2) cross liability exclusion for claims or suits by one insured against another; or (3) any other exclusion contrary to the Agreement.

78.2.2 Automobile Liability Insurance. Contractor shall obtain and maintain, in full force and effect throughout the term of this Agreement, a policy of Automobile Liability Insurance (Insurance Services Office form CA 001) written on a per occurrence basis with limits of at least one million dollars (\$1,000,000.00) combined limit for each occurrence covering bodily injury and property damage. The policy shall specifically include coverage for owned, non-owned, leased, and hired automobiles.

78.2.3 Workers' Compensation Insurance. Contractor shall obtain and maintain, in full force and effect throughout the term of this Agreement, a policy of Workers' Compensation Insurance in at least the minimum statutory amounts, and in compliance with all other statutory requirements, as required by the State of California. Contractor hereby waives, and agrees to obtain endorsements from its workers' compensation insurer waiving, all subrogation rights against the OCFA, its officials, officers, employees, agents, representatives, attorneys and volunteers, and to require each of its subcontractors, if any, to waive the same and to obtain endorsements waiving the same subrogation rights under their workers' compensation insurance policies. Contractor shall obtain and maintain, in full force and effect throughout the term of this Agreement, a policy of Employer's Liability Insurance written on a per occurrence basis with limits of at least one million dollars (\$1,000,000.00) per incident for bodily injury, disease or other covered claim.

78.2.4 Builders Risk (Course of Construction) Insurance. Contractor shall obtain and maintain, in full force and effect throughout the term of this Agreement, a Builders Risk (Course of Construction) Insurance policy with limits of at least five million dollars (\$5,000,000.00). [Covered causes of loss shall include, or be endorsed to include, earthquake, flooding and other acts of God.] Contractor and each subcontractor agree to waive all rights of subrogation against the OCFA, its officials, officers, employees, agents, representatives, attorneys and volunteers. The Builders Risk policy shall be endorsed to waive all rights of subrogation against the OCFA, its officials, officers, employees, agents, representatives, attorneys and volunteers.

78.3 Acceptability of Insurers.

Insurance required by this section 78 shall be issued by a licensed company authorized to transact business in the state by the Department of Insurance for the State of California with a current rating

of A:VII or better (if an admitted carrier), or a current rating of A:X or better (if offered by a non-admitted insurer listed on the State of California List of Approved Surplus Line Insurers (LASLI), by the latest edition of A.M. Best's Key Rating Guide, except that the OCFA will accept workers' compensation insurance from the State Compensation Fund. In the event the OCFA determines that the work or services to be performed under this Agreement creates an increased or decreased risk of loss to the OCFA, the Contractor agrees that the minimum limits of the insurance policies may be changed accordingly upon receipt of written notice from the OCFA. Contractor shall immediately substitute any insurer whose A.M. Best rating drops below the levels specified herein.

78.4 Insurance Endorsements.

Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the OCFA for written approval. Required insurance policies shall contain the following provisions, or Contractor shall provide endorsements issued by the insurance company on forms approved by the OCFA to add the following provisions to the insurance policies:

- 78.4.1 Additional Insured: The OCFA and its officials, officers, employees, agents, representatives, attorneys and volunteers shall be additional insureds with regard to liability and defense of suits and claims arising out of the performance of the Agreement; and
- 78.4.2 Additional Insured Endorsements: Additional insured endorsements shall not: (1) be restricted to "ongoing operations", (2) exclude "contractual liability", (3) restrict coverage to "sole" liability of Contractor, or (4) contain any other exclusions contrary to the Agreement. The coverage shall contain no special limitations on the scope of protection afforded to additional insureds; and
- 78.4.3 Primary and Non-Contributing Insurance: All policies of Commercial General Liability Insurance and Automobile Liability Insurance shall be primary and any other insurance, deductible, or self-insurance maintained by the OCFA, its officials, officers, employees, agents, representatives, attorneys and volunteers, shall not contribute with this primary insurance. Policies shall contain, or be endorsed to contain, such provisions.
- 78.4.4 Waiver of Subrogation: All policies of Commercial General Liability, Automobile Liability Insurance and Worker's Compensation shall contain or be endorsed to waive all rights of subrogation against the OCFA, its officials, officers, employees, agents, representatives, attorneys and volunteers, or shall specifically allow Contractor or others providing insurance evidence in compliance with the requirements set forth in this section to waive their right to recovery prior to a loss. Contractor hereby agrees to waive its own right of recovery against the OCFA, its officials, officers, employees, agents, representatives, attorneys and volunteers, and Contractor hereby agrees to obtain similar written express waivers and insurance clauses from each of its subcontractors prior to commencement of work by the subcontractor.
- 78.4.5 Notice: Each policy of insurance required by this section 78 shall be endorsed to state that coverage shall not be suspended, voided, cancelled, or modified, or reduced in coverage or in limits, except after thirty (30) days prior written notice by First Class U.S. Mail, postage-prepaid, has been provided to the OCFA. Notwithstanding the foregoing, if coverage is to be suspended, voided, or cancelled because of Contractor's failure to pay the insurance premium, the notice provided to OCFA shall be by ten (10) days prior written notice. (Note: an endorsement that fails to state that the insurance company will provide the notice required by this subsection (e.g., "will endeavor to" or similar non-

committal phrases) does not comply with the requirements of this subsection. Similarly, Contractor's offer to provide the required notice in lieu of the insurance company doing so will not comply with this subsection. It is the Contractor's obligation to ensure that its insurance company(ies) will provide all policy endorsements required under this Contract.)

78.4.2 For all policies of Commercial General Liability Insurance, Contractor shall provide endorsements for completed operations to effectuate this requirement.

78.5. Deductibles and Self-Insured Retentions.

Any deductible or self-insured retention must be approved in writing by the OCFA in advance and shall protect the OCFA, its officials, officers, employees, agents, representatives, attorneys and volunteers in the same manner and to the same extent as they would have been protected had the policy or policies not contained a deductible or self-insured retention. Contractor shall be solely responsible for the payment, and if required by the insurer the advancement, of any and all deductible amounts and self-insured retentions.

78.6. Evidence of Coverage.

Within seven (7) calendar days after the date of the Notice of Apparent Low Bidder, Contractor shall deliver certificates of insurance together with original endorsements affecting each of the insurance policies required by this section. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the OCFA for written approval. The certificates of insurance and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. (ACORD form Certificates of insurance will not be accepted in lieu of approved endorsements.) At least fifteen (15) days prior to the expiration of any such policy, evidence of insurance showing that such insurance coverage has been renewed or extended shall be filed with the OCFA. If such coverage is cancelled or reduced and not replaced immediately so as to avoid a lapse in the required coverage, Contractor shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with the OCFA evidence of insurance showing that the required insurance has been reinstated or is being provided through another insurance company or companies. Contractor shall promptly furnish, at OCFA's request, copies of actual policies including all declaration pages, endorsements, exclusions and any other policy documents OCFA requires to verify coverage.

78.7 Requirements Not Limiting.

Requirement of specific coverage or minimum limits contained in this section are not intended as a limitation on coverage, limits, or other requirements, or a waiver of any coverage normally provided by any insurance. Nothing in this section shall be construed as limiting in any way the indemnification provision contained in this Agreement, or the extent to which Contractor may be held responsible for payments of damages to persons or property.

78.8 Enforcement of Agreement (Non-Estoppel).

Contractor acknowledges and agrees that actual or alleged failure on the part of the OCFA to inform Contractor of any non-compliance with any of the insurance requirements set forth in this section imposes no additional obligation on the OCFA nor does it waive any rights hereunder.

78.9 Insurance for Subcontractors.

Contractor shall either: (1) include all subcontractors engaged in any work or services for Contractor relating to this Agreement as additional named insureds under the Contractor's insurance policies; or (2) Contractor shall be responsible for causing its subcontractors to procure and maintain the same types and amounts of insurance in compliance with the terms of the insurance requirements set forth in this section (except Builders Risk (Course of Construction) Insurance), including but not limited to adding the OCFA, its officials, officers, employees, agents, representatives, attorneys and volunteers, as additional insureds to their respective policies. All policies of Commercial General Liability Insurance and Automobile Liability Insurance provided by Contractor's subcontractors performing any work or services related to this Agreement shall be endorsed to name the OCFA, its officials, officers, employees, agents, representatives, attorneys and volunteers, as additional insureds. Contractor shall not allow any subcontractor to commence any work or services relating to this Agreement unless and until the Contractor has received confirmation that the subcontractor has secured all required insurance. Upon request of OCFA, Contractor shall deliver to OCFA all certificates of insurance and endorsements required from subcontractors. (Note: Contractor's duty to obtain all required insurance for subcontractors required under this Agreement applies whether or not OCFA requests delivery of evidence of such coverage.)

78.10. Insurance for Large Equipment Suppliers

Suppliers of large equipment that will be installed as part of the Project must have and maintain General Liability Insurance and Automobile Insurance with all endorsements required hereinabove unless the Contractor or Subcontractor that will install the large equipment maintains General Liability Insurance and Automobile Liability Insurance that is endorsed to name the large equipment supplier as an additional named insured and such endorsement is provided to OCFA prior to delivery of the large equipment.

78.11 Other Insurance Requirements.

The following terms and conditions shall apply to the insurance policies required of Contractor pursuant to this Agreement:

- 78.11.1 Contractor shall provide immediate written notice to OCFA if (1) any of the insurance policies required herein are terminated, cancelled or suspended, (2) the limits of any of the insurance coverage types or amounts required herein are reduced by the insurer or depleted by other claims, or (3) the deductible or self-insured retention is increased.
- 78.11.2 All insurance coverage and limits provided by Contractor and available or applicable to this Agreement are intended to apply to each insured, including additional insureds, against whom a claim is made or suit is brought to the full extent of the policies. Nothing contained in this Agreement or any other agreement relating to the OCFA or its operations shall limit the application of such insurance coverage.
- 78.11.3 None of the insurance coverages required herein will be in compliance with the requirements of this section if they include any limiting endorsement which substantially impairs the coverages set forth herein (e.g., elimination of contractual liability or reduction of discovery period), unless the endorsement has first been submitted to the OCFA and approved in writing.
- 78.11.4 Certificates of insurance will not be accepted in lieu of required endorsements, and submittal of certificates without required endorsements may delay commencement of the Project. It is

Contractor's obligation to ensure timely compliance with all insurance submittal requirements as provided herein.

78.11.5 Contractor agrees to ensure that subcontractors, if any, and any other parties involved with the Project who are brought onto or involved in the Project by Contractor, have, or are provided by Contractor's insurer, the same minimum insurance coverage required of Contractor. Contractor agrees to monitor and review all such coverage and assumes all responsibility for ensuring that such coverage is provided in conformity with the requirements of this section. Contractor agrees that upon request, all agreements with subcontractors and others engaged in the Project will be submitted to the OCFA for review. Claims for which coverage is required but not provided due to Contractor's failure to comply with this section (e.g., allowing subcontractors to proceed with disallowed limitations on their insurance coverage, or failing to require subcontractors to provide required insurance coverage or endorsements) will result in retention of payments in amounts necessary to cover the anticipated costs associated with defending and paying the claims.

78.11.6 Contractor agrees to provide immediate written notice to OCFA of any claim, demand or loss against Contractor arising out of the work or services performed under this Agreement and for any other claim, demand or loss which may reduce the insurance available to pay claims, demands or losses arising out of this Agreement.

79. Contractor's Liability; OCFA Not Liable; Claims Resolution

79.1 Contractor's liability. The Contractor shall be responsible for any loss or damage that may occur to:

- The work or any part thereof;
- Any of the materials or other things used or employed in performing the work;
- Any injury to any person or persons, either workers or the public;
- Any damage to property resulting from any cause which might have been prevented by the Contractor, including defects or obstructions at any time before completion of the work and its final acceptance.

79.2. OCFA ordered precautions. If, in the opinion of the Engineer, the precautions taken by Contractor are not safe or adequate at any time during the term of the Contract, the Engineer may order the Contractor to take further precautions, and if the Contractor shall fail to do so, the Engineer may order the work done by others and charge the Contractor for the cost thereof, such cost to be deducted from any moneys due or becoming due the Contractor. Failure of the Engineer to order such additional precautions, however, shall not relieve the Contractor from his full responsibility for public safety.

79.3 OCFA not liable. The OCFA shall not be answerable or accountable in any manner, for any loss or damage that may occur to any of the following from any cause which might have been prevented by the Contractor:

- The work or any part thereof;
- Any of the materials or other things used or employed in performing the work;
- Any injury to any person or persons, either workers or the public;
- Any damage to property.

79.4 Claims Resolution.

79.4.1. From time to time during the period of this contract, the OCFA and/or the Contractor may be served with third-party claims, as a result of alleged conduct by Contractor. The following procedures shall be followed by OCFA and Contractor:

For claims received by Contractor:

(1) Contractor shall provide OCFA on a monthly basis details regarding any claim for damages to persons or property, including, date claim made, date of alleged damages, type of damages, alleged cause of damages and, as claims are resolved, details regarding Contractor's denial or payment of such claim and the reasons for denial or payment.

(2) Contractor shall resolve or deny any claim received within thirty (30) days of receipt. If Contractor is unable to resolve a claim within the thirty (30) days set forth above, it shall, prior to the expiration of the thirty (30) days request and extension in writing from the OCFA.

For claims received by OCFA:

(1) OCFA shall process any claims received pursuant to the California Government Claims Act.

(2) If after investigation of the claim, the OCFA determines the Contractor is liable under this Contract, OCFA shall tender the claim to the Contractor for proper handling and resolution.

79.5. Retention of Claimed Damages by OCFA. The OCFA may retain so much of the money due the Contractor under and by virtue of the Contract as shall be considered necessary by the OCFA until disposition has been made of such suits or claims for damages aforesaid.

80 Termination

80.1 The performance of work under the Contract Documents may be terminated in whole, or from time to time in part, whenever the Board of Directors shall determine that such termination is in the best interest of the OCFA, provided that the Contractor is given (1) Not less than ten (10) calendar days' written notice (delivered by email, followed by overnight delivery with proof of delivery) of intent to terminate; (2) the extent to which performance of work under the Contract Documents is terminated; (3) the date upon which such termination becomes effective; and (4) An opportunity for consultation with the terminating party prior to the effective date of the termination.

80.2 This Contract may be terminated, or the right of the Contractor to complete the Project may be terminated, without liability or damage, when in the OCFA's opinion, the Contractor is not complying with the Contract requirements in good faith, has become insolvent, or has assigned or subcontracted any part of the Work without the OCFA's consent. In the event of such termination, the Contractor will be paid the actual amount due based upon the quantity of work completed at the time of termination, less damages caused to the OCFA by acts of the Contractor causing the termination. The Contractor, in having tendered a bid, shall be deemed to have waived any and all claims for damages because of termination of the Contract or the right of the Contractor to complete the Project for any cause stated in this Section 80.

- 80.3 If termination is effected by the OCFA, an equitable adjustment in the price provided for in this Contract shall be made, but (1) no amount shall be allowed for anticipated profit on unperformed services or other work, and (2) any payment due to the Contractor at the time of termination may be adjusted to cover any additional costs to the OCFA because of the Contractor's default. The equitable adjustment for any termination shall provide for payment to the Contractor for services rendered and expenses incurred in accordance with Section 8 of the California, Department of Transportation Standard Specifications.
- 80.4 After receipt of a Notice of Termination, and except as otherwise directed by the Board of Directors, the Contractor shall:
- (1) Stop work under the Contract Documents on the date and to the extent specified in the Notice of Termination; and
 - (2) Place no further orders or subcontracts for materials, services, or facilities except as may be necessary for completion of such portion of the work under the Contract Documents as is not terminated; and
 - (3) Terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the Notice of Termination; and
 - (4) Assign to the OCFA, all of the right, title and interests of the Contractor under the orders and subcontracts so terminated, in which case the OCFA shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts; and
 - (5) Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, subject to the approval of the Board of Directors; and
 - (6) Complete performance of such part of the work as shall not have been terminated by the Notice of Termination; and
 - (7) Deliver or otherwise make available to the OCFA all data, drawings, specifications, reports, estimates, summaries and such other information and materials as may have been accumulated by the Contractor in performing this Contract whether completed or in process; and
 - (8) Take such action as may be necessary, or as the Project Manager may direct, for the protection and preservation of the property related to the Contract Documents which is in the possession of the Contractor and in which the OCFA has, or may acquire, interest.
- 80.5 After receipt of a Notice of Termination, the Contractor shall submit to the Project Manager a verified termination claim. Such claim shall be submitted promptly but in no event later than one year from the effective date of termination, unless one or more extensions in writing are granted by the Board of Directors upon request of the Contractor made in writing within such one-year period or authorized extension thereof.
- 80.6 If any dispute concerning a question of fact arising under the terms of this Contract is not disposed of within a reasonable period of time by Contractor and Project Manager, such matter shall be brought to the attention of the OCFA via written notice of unresolved dispute(s). If agreement cannot be reached after a good faith effort to resolve the dispute, either party may assert its other rights and remedies within this Contract or within a court of competent jurisdiction. The Parties agree that, in the event of a dispute notwithstanding, they will continue without delay to carry out all their responsibilities under this Contract. The Contractor and the OCFA Board of Directors may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of work pursuant to this Section 80, which amount or amounts may include a reasonable allowance for profit on work done; provided, that such agreed amount or amounts, exclusive of settlement costs, shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not

terminated. The Contract Documents shall be amended accordingly, and the Contractor shall be paid the agreed amount.

81 Patent Infringement

- 81.1 The Contractor shall report to the Project Manager, promptly and in reasonable detail, each notice or claim of patent infringement based on the performance of the Contract Documents of which the Contractor has knowledge.
- 81.2 In the event of any suit against the OCFA, or any claim against the OCFA made before suit has been instituted, on account of any alleged patent infringement arising out of the performance of the obligations under the Contract Documents, or out of the use of any supplies furnished or work or services performed hereunder, the Contractor shall, at Contractor's own expense, furnish to the OCFA, upon request, all evidence and information in possession of the Contractor pertaining to such suit or claim. The Contractor further agrees to indemnify and hold harmless the OCFA against any and all claims or lawsuits based upon such patent infringement, to defend such suits, and to pay any judgment rendered against OCFA, its employees, or the Board of Directors.

82 No Waiver By OCFA

The failure of the OCFA in any one or more instances to insist upon strict performance of any of the terms of the Contract Documents or to exercise any option herein conferred shall not be construed as a waiver or relinquishment to any extent of the right to assert or rely upon any such terms or option on any future occasion.

83 Disputes

- 83.1 In the event of a dispute between the parties as to performance of the work, the interpretation of the Contract Documents, or payment or nonpayment for work performed, the parties shall attempt to resolve the dispute. Pending resolution of the dispute, the Contractor shall continue the work diligently to completion as directed by Project Manager. If the dispute is not resolved, the Contractor agrees Contractor will neither rescind the Contract Documents nor stop the progress of the work.
- 83.2 With respect to any "claim" as that term is defined in Public Contract Code section 9204, Contractor shall submit such claim in accordance with Section 91 hereinbelow.

84 Attorneys' Fees

If any action at law or in equity is necessary to enforce or interpret the terms of this Contract, each party shall be responsible for their respective costs, including attorneys' fees. The prevailing party shall not be entitled to recover its attorneys' fees or related costs. Nevertheless, if any action is brought against the Contractor or any Subcontractor to enforce a Stop Notice or Notice to Withhold, which names the OCFA as a party to said action, the OCFA shall be entitled to reasonable attorneys' fees, costs and necessary disbursements arising out of the defense of such action by the OCFA. The OCFA shall be entitled to deduct its costs for any Stop Notice filed, whether court action is involved or not.

85 Contractor's Employees' Compensation

- 85.1 General Prevailing Rate: OCFA has been advised by the State of California Director of Industrial Relations of the Director's of the general prevailing rate of per diem wages and the general prevailing rate for legal holiday and overtime work in the locality in which the work is to be performed for each craft or type of work needed to execute this Contract, and copies of the same are on file in the Office of the Engineer of OCFA. The Contractor agrees that not

less than said prevailing rates shall be paid to workers employed on this public works contract as required by Labor Code Section 1774 of the State of California.

- 85.2 Forfeiture For Violation: Contractor shall, as a penalty to the OCFA, forfeit Fifty Dollars (\$50.00) for each calendar day or portion thereof for each worker paid (either by the Contractor or any subcontractor under it) less than the prevailing rate of per diem wages as set by the Director of Industrial Relations, in accordance with Sections 1770-1780 of the California Labor Code for the work provided for in this Contract, all in accordance with Section 1775 of the Labor Code of the State of California.
- 85.3 Apprentices: Sections 1777.5, 1777.6 and 1777.7 of the Labor Code of the State of California, regarding the employment of apprentices is applicable to this Contract and the contractor shall comply therewith if the prime contract involves Thirty Thousand Dollars [\$30,000.00] or more or twenty (20) working days, or more; or if contracts of specialty contractors not bidding for work through the general or prime contractor are Two Thousand Dollars [\$2,000.00] or more or Five (5) working days or more. Information relative to apprenticeship standards, contributions, wage schedules and other requirements may be obtained from the State Director of Industrial Relations or from the Division of Apprenticeship Standards.
- 85.4 Workday: In the performance of this Contract, not more than eight (8) hours shall constitute a day's work, and Contractor shall not require more than eight (8) hours of labor in a day from any person employed by him hereunder except as provided in Section 11.4.2 above. Contractor shall conform to Article 3, Chapter 1, Part 7 (Sections 1810 et seq.) of the Labor Code of the State of California and shall forfeit to the OCFA as a penalty, the sum of twenty-five Dollars (\$25.00) for each worker employed in the execution of this Contract by Contractor or any Subcontractor for each calendar day during which any worker is required or permitted to labor more than eight (8) hours in any one calendar day and forty (40) hours in any one week in violation of said Article. Contractor shall keep an accurate record showing the name and actual hours worked each calendar day and each calendar week by each worker employed by Contractor in connection with the Project.
- 85.5 Record of Wages; Inspection: The Contractor and each subcontractor performing any portion of the work under the Contract Documents shall keep an accurate record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by Contractor in connection with the work. Said payroll records shall be certified and shall be available for inspection at the principal office of the Contractor on the basis set forth in Labor Code Section 1776. The Contractor shall file a certified copy of said payroll records with the OCFA within ten days after receipt of a written request therefor from Project Manager or otherwise from the OCFA. The Contractor shall inform the OCFA of the location of said payroll records, including the street address, City and State, and shall, within five working days, provide a notice of change of location and address of said payroll records. It shall be the responsibility of the Contractor to ensure the compliance with the provisions of this Section 85 and the provisions of Labor Code Section 1776. In the event of noncompliance with the requirements of this Section or the requirements of Labor Code Section 1776, the Contractor shall have ten days in which to comply subsequent to receipt of written notice specifying in what respects Contractor must comply. Should noncompliance exist after said ten-day period, the Contractor shall, as a penalty to the OCFA, forfeit Twenty-five Dollars (\$25) for each calendar day, or portion thereof, for each worker to whom the noncompliance pertains until strict compliance is effectuated. The Contractor acknowledges that, without limitation as to other remedies of enforcement available to the OCFA, upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement of the California Department of Industrial Relations, such penalties shall be withheld from progress payments then due the Contractor.

- 85.6 Pursuant to California Labor Code Section 1771.4, Contractor's services are subject to compliance monitoring and enforcement by the Department of Industrial Relations. Contractor shall post job site notices as prescribed by DIR regulations and furnish the records specified in California Labor Code Section 1776 directly to the Labor Commissioner in the manner prescribed by California Labor Code Section 1771.4(a)(3) and (c)(2).

86 SAFETY & HEALTH

- 86.1 The General Contractor (the Contractor) shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The Contractor shall take all precautions and follow all procedures for the safety of, and shall provide all protection to prevent injury to, all persons involved in any way in the Work and all other persons, including, without limitation, the employees, agents, guests, visitors, invitees and licensees of OCFA who may be involved. These precautions shall include, but in no event be limited to the:

- (1) Provisions of Local, State and Federal Regulations.
- (2) Posting of danger signs and personal notification to all affected persons of the existence of a hazard, of whatever nature.
- (3) Furnishing and maintaining of necessary traffic control barricades and flagman services.
- (4) Use or storage of required explosives or other hazardous materials only under the supervision of qualified personnel.
- (5) Maintenance of adequate quantities of operable fire protection equipment at the Work Site, as required by Local and /or State regulations.

- 86.2 The Contractor shall set forth in writing its site specific safety precautions and programs in connection with the Work, including an Anti-Substance Abuse Program which meets or exceeds any and all applicable laws, ordinances, rules, regulations, and orders of any public, quasi-public, or other authority relating to the safety of persons and their protection against injury, specifically including, but in no event limited to the:

- (1) California Occupational Safety and Health Act of 1973, as amended, and rules and regulations now or hereafter in effect pursuant to said Act.
- (2) California Code of Regulations, Title 8, as amended.
- (3) The Labor Code of the State of California, as amended.
- (4) Federal Occupational Safety and Health Act of 1970, as amended, and all rules and regulations now or hereafter in effect pursuant to said Act.
- (5) Code of Federal Regulations, Title 29, as amended.
- (6) The Drug-Free Workplace Act of 1988.
- (7) In the event of conflicting requirements, the more stringent shall govern and if requested by OCFA, submit the same to OCFA for review. OCFA may, but shall not be obligated to, make suggestions and recommendations to the Contractor. OCFA shall review and approve the Contractor's Site Specific Program.

- 86.3 All work, whether performed by the Contractor or its Subcontractors, of all tiers or anyone directly or indirectly employed by any of them, and all equipment, machinery, materials, tools and like items incorporated or used in the Work, shall be compliance with and conform to:

- (1) All applicable laws, ordinances, rules, regulations, and orders of any public, quasi-public, or other authority relating to the safety of persons and their protection against injury, specifically including, but in no event limited to, the Federal Occupational Safety and Health Act of 1970, as amended, and all rules and regulations now or hereafter in effect pursuant to said Act, and California Code of Regulations, Title 8, as amended; and,

- (2) All codes, rules, regulations and requirements of OCFA and its insurance carriers relating thereto. In the event of conflicting requirements, the more stringent shall govern.
- 86.4 The Contractor shall designate a responsible and qualified member of its organization at the Work Site who has the authority to enforce the Contractor's Safety and Anti-Substance Abuse Programs, to assure compliance with Paragraph 10.1 and to prevent accidents.
- 86.5 The Contractor shall have a safety representative. The Contractor's safety representative will have:
- (1) The authority to stop work when safety problems are identified.
 - (2) The authority to implement corrective actions.
 - (3) Extensive training in safety and loss control practices regarding the Contractor's type of work.
 - (4) Certification in the OSHA Construction Outreach 10/30 Hour Program.
 - (5) Certification in first aid and CPR.
- 86.6 The Contractor shall require its Subcontractors of all tiers to designate a competent and responsible safety representative to assist the Contractor's representative in the performance of his or her duties.
- 86.7 Should the Contractor fail to provide a safe work environment in accordance with the provisions in 10.1.1, OCFA or Project Manager shall have the right, but not the obligation, to suspend Work in the unsafe area, as specified in 10.6. All costs of any nature resulting from the suspension, by whomsoever incurred, shall be paid by the Contractor.
- 86.8 After a Contractor has been awarded the construction contract for the Project, it will be required to attend a pre-construction safety meeting. The purpose of the meeting is to review the Project's Safety Program and requirements. At this time, specific safety concerns related to the Contractor's work will be discussed.
- 86.9 If deemed necessary by the Project Manager or Project Safety Coordinator, or other OCFA representative, a written Job Safety Analysis (JSA) will be required of the Contractor. The JSA will be required for frequency and severity exposures such as steel erection, deep excavations, spray painting, crane handling of large/expensive equipment, etc. This is to ensure that appropriate controls are established prior to work beginning.
- 86.10 Workplace violence (Type III), verbal intimidation or threats to the Project Manager, OCFA or designee will result in immediate removal from the Project. Contractor shall develop and implement a workplace violence policy and procedure.
- 86.11 The Contractor shall provide, or cause to be provided, each worker on the Site the proper safety equipment for the duties being performed by that worker and will not permit any worker on the Site who fails or refuses to use the same. OCFA and/or Project Manager shall have the right, but not the obligation, to order the Contractor to send a worker off the Site for the day or to require the contractor to not allow the worker any further work on OCFA's site for his or her failure to comply with safety practices, with which order the Contractor shall promptly comply.
- 86.12 **Safety Indemnification.** The Contractor shall defend, indemnify, and hold the Project Manager, OCFA, and their respective officers, directors, agents, employees, and assigns harmless from and against any and all liability, public or private, penalties, contractual or otherwise, losses, damages, costs, attorneys' fees, expenses, causes of action, claims or judgments resulting either in whole or in part from any failure of the Contractor, or its

Subcontractors, of all tiers or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, to comply with provisions of the Project Manual, including but not limited to all applicable laws, ordinances, rules, regulations, and orders of any public, quasi-public, or other authority relating to the safety of persons and their protection against injury, specifically including, but in no event limited to, all Cal/OSHA laws and regulations and the Federal Occupational Safety and Health Act of 1970, as amended, and all rules and regulations now or hereafter in effect pursuant to thereto. The Contractor shall not be relieved of its responsibilities under this Subsection should OCFA act or fail to act pursuant to its rights hereunder, nor shall OCFA thereby assume, nor be deemed to have assumed, any responsibilities otherwise imposed on the Contractor by this Contract, by virtue of providing OCFA's Safety Policies & Procedures, or any other manner whatsoever.

86.12.1 The Contractor shall not raise a defense as to its obligation to indemnify under Subsection 86.12 above any contributing negligence of any of those indemnified hereunder, its being understood and agreed that no such contributing negligence shall relieve the Contractor from its liability to so indemnify nor entitle the Contractor to any contribution, either directly or indirectly, by those indemnified hereunder.

86.12.2 In any and all claims against those indemnified hereunder by any employee of the Contractor or its Subcontractors of all tiers, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Section 86.12 shall not be limited in any way to any limit on the amount or type of damage, compensation or benefits payable by or for the Contractor or its Subcontractors of any tiers under any Worker's Compensation Acts, Disability Benefit Acts or other Employee Benefit Acts.

86.13 In connection with the performance of this contract, OCFA shall have the authority to enter the worksite at any time for the purpose of identifying the existence of conditions, either actual or threatened, that may present a danger or hazard to any or all employees. Contractor agrees that OCFA, in its sole authority and discretion, may order the immediate abatement of any and all conditions that may present an actual or threatened danger or hazard to any and all employees at the worksite. Contractor acknowledges that provisions of Section 6400 of the California Labor Code, which requires that employers shall furnish employment and a place of employment that is safe and healthful for all employees working therein. In the event OCFA identifies the existence of any condition that presents an actual or threatened danger or hazard to any or all employees at the worksite, OCFA is hereby authorized to order the immediate abatement of that actual or threatened condition pursuant to this Section. OCFA may also, at its sole authority and discretion, issue an immediate stop work order to Contractor to ensure that no employee working at the worksite is exposed to a dangerous or hazardous condition. Any stop work order issued by OCFA to Contractor in accordance with the provisions of this Section, shall not give rise to any claim or cause of action for delay damages by Contractor or Contractor's agents or subcontractors against OCFA.

87 Non-Discrimination

87.1 Contractor covenants that, by and for itself, successors, and assigns, including its Subcontractors and suppliers, that there shall be no discrimination against or segregation of, any person or group of persons on account of race, color, creed, religion, gender, marital status, national origin, sexual orientation, or ancestry in the performance of this Contract. Contractor shall take steps to ensure that applicants for any job and that employees are treated without regard to their race, color, creed, religion, gender, marital status, national origin, sexual orientation, or ancestry in full compliance with applicable federal, state, and local laws and regulations.

- 87.2 Contractor shall not engage in, nor permit its agents, including its Subcontractors and suppliers, to engage in discrimination in employment of persons or provision of services or supplies, on the grounds of race, color, creed, religion, gender, marital status, national origin, sexual orientation, or ancestry.
- 87.3 Contractor, and Contractor's Subcontractors and suppliers, shall employ fair employment practices with regard to all employees and all applicants for employment and shall act in accordance with all applicable federal, state, and local laws and regulations relating to such fair employment practices. In furtherance of such obligation, Contractor agrees that Contractor, Subcontractors, and suppliers shall not discriminate in employment and/or provision of services under this Contract and all employment practices shall be without regard to a person's race, color, creed, religion, gender, national origin, age, ancestry, physical handicap, medical condition, marital status, all in accordance with applicable federal, state, and local laws or regulations. Fair employment practices shall include, but not be limited to, employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rate of pay or other form of compensation and selection for training including apprenticeship.
- 87.4 In the performance of the terms of the Contract Documents, Contractor agrees that Contractor will not engage in nor permit such subcontractors as Contractor may employ to engage in discrimination against any employee or applicant for employment on the basis of race, sex, color, religion, ancestry, national origin, marital status, age or as an otherwise qualified handicapped individual. This prohibition shall pertain to employment, upgrading, demotion, or transfer, recruitment advertising, layoff or termination, rates of pay and other forms of compensation, selection for training, including apprenticeship, and any other action or inaction pertaining to employment matters.

88 Assignment of Antitrust Actions

In accordance with Public Contract Code Section 7103.5, by entering into the Contract Documents or into a subcontract to supply goods, services, or materials pursuant to the Contract Documents, the Contractor, or subcontractor, offers and agrees to assign to the OCFA all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the Contract Documents or the subcontract. This assignment shall be made and become effective at the time the OCFA tenders final payment to the Contractor, without further acknowledgment by the parties. The contractor shall cause to be inserted in any such subcontract stipulations to effectuate this Section 88 and the provision of Public Contract Code Section 7103.5.

89 Time of Commencement; Time Is of the Essence

- 89.1 **Commencement:** Contractor agrees to commence the Project within ten (10) calendar days from the date the OCFA's Board approves this Contract, and Contractor shall diligently prosecute the work to Substantial Completion of the Milestones as identified in the Contractor's Construction Schedule and Substantial Completion of the Project no later than the Scheduled Completion Date, excluding modifications for delays caused or authorized by the OCFA as set forth in Section 71.5.
- 89.2 **Construction Schedule:** Within 30 days of the Award of the Contract, Contractor shall furnish to the Project Manager one reproducible, three prints, and an electronic or digital copy in a format approved by the Project Manager of the Contractor's Construction Schedule. The schedule shall be supported by written statements from each supplier of materials or equipment indicating that all orders have been placed and acknowledged, and setting forth

the dates that each item will be delivered. The schedule shall establish the order of work which minimizes disruption of existing travel lanes. Upon submission by Contractor, and approval by the Project Manager, the Contractor's Construction Schedule shall be attached to Project Manual as an Exhibit and shall be deemed the baseline schedule. The Contractor's Construction Schedule shall identify and specify scheduling for the Work based on the critical path method (or other scheduling method acceptable to the Project Manager) and updating thereof, and shall provide other schedules that would further the efficient completion of the Project, including the Work and the Related Work in the most expeditious and economical manner. The Contractor's Construction Schedule shall depict in detail the sequence and timing of all activities of the Work and Related Work, including, without limitation, commencement and Completion Dates of Milestones and for all other significant portions of the Work and Related Work. The Contractor's Construction Schedule shall be updated at least monthly, except that the Scheduled Completion Date shall not be changed or modified unless otherwise approved by the Project Manager pursuant to the terms of this Contract.

89.3 Progress Reports: Concurrently with its submission of Applications for Payment, Contractor shall provide the Project Manager with a report (1) detailing the actual progress of the Work and Related Work as of the date of such report; (2) stating any discrepancies between the actual progress of the Work and Related Work; (3) identifying the progress anticipated by the Contractor's Construction Schedule as of the date of such reports; and (4) stating a recovery schedule to place the Work and Related Work back on schedule, at no cost to the OCFA. The Contractor's Construction Schedule shall include Milestones for each aspect of the Work and the timing for completion of Related Work that could affect completion of the Work by the date listed in the Contractor's Construction Schedule.

89.4 Acceleration.

89.4.1 The OCFA reserves the right to accelerate the work of the Contract at any time during its performance. In the event the OCFA directs acceleration, such directive will be given to the Contractor in writing. The Contractor shall keep cost and other Project records related to the acceleration directive separately from the normal Project cost records and shall provide a written record of acceleration costs to the OCFA on a daily basis.

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

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

89.5 TIME IS THE ESSENCE OF THIS CONTRACT: NOTWITHSTANDING OCFA'S APPROVAL OF ANY UPDATED CONTRACTOR'S CONSTRUCTION SCHEDULE, THE SCHEDULED COMPLETION DATE SHALL BE STRICTLY ADHERED TO DURING THE TERM OF THIS

CONTRACT. THE SCHEDULED COMPLETION DATE MAY ONLY BE CHANGED AS PROVIDED IN THE CONSTRUCTION CONTRACT.

- 89.6 **Ongoing Responsibility of Contractor:** As required by the Project Manual, Contractor shall prepare and obtain approval of all shop drawings, submittals, details, and samples, and do all other things necessary and incidental to the prosecution of Contractor's work in conformance with the Project Manual and Contractor's Construction Schedule. Contractor shall coordinate the Work with the Related Work through the Project Manager, in a manner that will facilitate the efficient completion of the Project in accordance with the Project Manual.
- 89.7 **Control of the Site and Order of Work:** Contractor shall have control of the Site and shall have the right to decide the time or order in which the various portions of the work shall be constructed or installed consistent with the Contractor's Construction Schedule and shall establish the priority of the work of Subcontractors of the Work and the Related Work, and, in general, all matters representing the timely and orderly completion of the Project.
- 89.8 **Cooperation:** Notwithstanding the Scheduled Completion Date, Contractor will cooperate with the OCFA and the OCFA's separate Contractors, consultants, and employees and Contractor agrees to provide for and coordinate access to the Project prior to the Scheduled Completion Date.
- 89.9 **Contractor's Risk Of Non-Performance:** IT IS SPECIFICALLY AGREED THAT CONTRACTOR ASSUMES THE RISK OF NONPERFORMANCE, LATE PERFORMANCE, AND NONCOMPLIANCE WITH THE REQUIREMENTS OF THE PROJECT MANUAL BY CONTRACTOR, CONTRACTOR'S SUBCONTRACTORS, SUPPLIERS, AND AGENTS. CONTRACTOR SHALL NOT BE ENTITLED TO AN EXTENSION OF ANY COMPLETION DATE OF THE SCHEDULED COMPLETION DATE FOR THE ABOVE STATED REASONS OR ANY OTHER REASONS, EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THE PROJECT MANUAL.
- 89.10 **Notification of Inability to Comply:** If the Contractor, at any time, ascertains that for any reason it is unable to complete the phases of the Work by the Milestones, or complete the Project by the Scheduled Completion Date, Contractor shall promptly and without delay notify the Project Manager in writing of this fact.
- 89.11 **Liquidated Damages:** The Parties acknowledge and agree that if Contractor fails to achieve Substantial Completion of the Project by the Scheduled Completion Date or fails to achieve Substantial Completion of a Milestone, as such dates may be extended in accordance with the Project Manual, OCFA will suffer, as a result of Contractor's failure, substantial damages which are both extremely difficult and impracticable to ascertain. Therefore the Parties having reasonably endeavored, but failed, to ascertain an amount bearing a reasonable relationship to the actual damage that OCFA will incur if Contractor fails to achieve Substantial Completion of the Project by the Scheduled Completion Date or fails to achieve completion of a Milestone as such dates may be extended in accordance with the Project Manual, agree that in addition to all other damages to which OCFA may be entitled, Contractor agrees to pay to OCFA as liquidated damages, and not as a penalty but as a reasonable estimate of the amount of damages OCFA will suffer, the amount of Five Hundred Dollars (\$500.00) per day for each calendar day occurring after the completion date of a Milestone during which Contractor fails to achieve Substantial Completion for each such Milestone. In addition, the OCFA shall have the right to charge to the Contractor and to deduct from payments for the Work the actual cost to the OCFA of engineering, inspection, superintendence, and other overhead expenses, which are directly chargeable to the Contract and which accrue during the period of such delay. The expenses and damages described above shall be deducted

from any money due the Contractor under this contract. The Contractor and its sureties shall be liable for any excess cost.

- 89.12 **Additional Remedies:** The Parties also acknowledge and agree that OCFA is entitled to any and all legal and equitable remedies OCFA may have that exceed the amount of Liquidated Damages.

90 **Audit And Access To Records**

- 90.1 Contractor shall maintain all books, records, documents, and other evidence directly pertinent to the performance of the work under this Contract in accordance with generally accepted accounting principles and practices consistently applied. Contractor shall also maintain all financial information and data used by the Contractor in the preparation or support of any cost submission, including the Contractor's original bid required for this Contract, or any Change Order, claim, or other request for any adjustment, and a copy of the cost summary or information submitted to the OCFA. The Project Manager or the Fire Chief shall have access upon twenty-four hours advanced written notice, at all times during normal business hours, to all such books, records, documents, financial information, and all other evidence for the purpose of inspection, audit, and copying. The Contractor shall, at no cost to the OCFA, provide proper facilities for such access, inspection, and copying purposes.
- 90.2 The Parties agree that the provisions of this Section 90 are applicable to Project Manual and all Change Orders, claims, and any other request for adjustment affecting the time or price of this Contract. The Contractor agrees to include the provisions of this Section in all Subcontracts and purchase orders, at any tier, and make this Section 90 applicable to all Change Orders, claims, and other requests for adjustment related to Project performance by Contractor's Subcontractors and suppliers.
- 90.3 Audits conducted under this Section shall be in accordance with generally accepted auditing standards and established procedures and guidelines.
- 90.4 The Contractor agrees to the disclosure of all information and reports resulting from access to records under the provisions of this Section to the OCFA, the Fire Chief, the Project Manager, and any affected or interested state or local agency.
- 90.5 Records under the provisions of this Section shall be maintained and made available during the performance of the Work under this Contract until three years past final payment and until final settlement of all disputes, claims, or litigation, whichever occurs later. In addition, those records which relate to any portion of this Contract to any Change Order, dispute, litigation, settlement of any claim arising out of such performance, or to the cost of items to which an audit exception has been taken, shall be maintained and made available until final payment or final resolution of such dispute, litigation, claim, or exception, whichever occurs later.
- 90.6 These rights to access provisions as provided in this Section apply to all financial records pertaining to this Contract and all Change Orders and claims. In addition, this right to access applies to all records pertaining to all contracts, Change Orders, and any amendments to this Contract: (1) To the extent the records pertain directly to Contract performance; (2) If there is any indication that fraud, gross abuse, or corrupt practices may be involved; or (3) If the Contract is terminated for default or convenience.
- 90.7 Access to records is not limited to the required retention periods. The Fire Chief shall have access to records at any reasonable time for as long as the records are maintained.

91 Resolution Of Construction Claims

- 91.1 California Public Contract Code (PCC) section 9204 as adopted by Assembly Bill 626 prescribes a process to present, confer, and mediate construction claims relating to the OCFA's public works project. Notwithstanding any provisions to the contrary in the Project Manual, this section shall govern all disputes to which section 9204 applies.
- 91.2 For purposes of this Section 91, "Claim" means a separate demand by the Contractor sent by registered mail or certified mail with return receipt requested for (A) a time extension, including, without limitation for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project (B) payment of money or damages arising from work done by or on behalf of the Contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled, or the amount the payment of which is disputed by the local agency. (PCC 9204(c)(1))
- 91.3 For purposes of this Section 91, "Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or another public improvement of any kind.
- 91.4 For any Claim subject to this Section 91, California Public Contract Code section 9204 requires the following:
- 91.4.1 The claim shall be submitted by the Contractor in writing, sent by registered mail or certified mail with return receipt requested and must include the documents necessary to substantiate the claim. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims. However, upon receipt of a claim, the OCFA, and the Contractor may, by mutual agreement, extend the time period provided by statute.
- 91.4.2 For claims of all amounts, the OCFA shall respond within 45 days of receipt of the claim, and provide the claimant a written statement identifying which portion of the claim is disputed and which portion of the claim is undisputed. If the OCFA requires approval from the Board of Directors, and the Board of Directors does not meet within the 45-day period to respond, the OCFA shall have up to three days to issue its response following the Board of Directors meeting.
- 91.4.3 For all portions of a claim determined to be undisputed, the OCFA must process payment to the claimant within 60 days of issuing the OCFA's written determination.
- 91.4.4 If the claimant disputes the OCFA's response, or if the OCFA fails to respond within the time limits provided, the claimant may demand an informal conference to meet and confer for settlement of the issues in dispute. The demand must be sent in writing by registered or certified mail, return receipt requested. Upon receipt of a demand, the OCFA must schedule a meet and confer conference within 30 calendar days for settlement of the disputed claim.
- 91.4.5 Within ten (10) business days following the conclusion of the meet and confer conference, if any portion of the claim remains in dispute, the OCFA shall provide the claimant an addition written statement identifying the portion of the claim that is undisputed and the portion that remains in dispute.

- 91.4.6 For all portions of a claim determined to be undisputed, the OCFA must process payment to the claimant within 60 calendar days of issuing the OCFA's written determination.
- 91.4.7 Any remaining undisputed portion of the claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation in which the parties share the cost evenly. The OCFA and the claimant shall mutually agree on a mediator within ten (10) business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree, each party shall select a mediator and those mediators shall jointly select a qualified, neutral third party to mediate the remaining undisputed claim. Each party shall bear the respective costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside of PCC section 9204.
- 91.4.8 Unless otherwise agreed to by the OCFA and the Contractor in writing, the mediation conducted pursuant to this Section 91 shall excuse any further obligation under PCC Section 20104.4 to mediate after litigation has been commenced.
- 91.4.9 Public Contract Code Section 9204 does not preclude the OCFA from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program if mediation under this section does not resolve the parties' dispute.
- 91.4.10 Should the OCFA fail to respond to a claim, or fail to issue written statements as required, the Contractor's claim is deemed denied. A claim denied by reason of the OCFA's failure to respond shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.
- 91.4.11 Amounts not paid in a timely manner as required by PCC 9204 shall bear interest at seven percent per annum.

92 Notice Of Third-Party Claims

When required by PCC Section 9201, the OCFA will provide timely notification to Contractor of the receipt of any third-party claim relating to the Agreement. The Contractor agrees to reimburse the OCFA for its reasonable costs incurred in providing such notice.

93 Cleanup

- 93.1 The Contractor shall at all times keep the Site clean and free from accumulation of waste materials or rubbish (including, without limitation, hazardous waste), caused by his performance of the Work, and shall continuously throughout performance of the Work remove and dispose of all such materials from the Site and the Project.
- 93.2 Project Manager may require the Contractor to comply with such standards, means and methods of cleanup, removal or disposal as Project Manager may make known to the Contractor. In event the Contractor fails to keep the Site clean and free from such waste or rubbish, or to comply with such standards, means and methods, OCFA may take such action and offset any and all costs or expenses of whatever nature paid or incurred by OCFA in undertaking such action against any sums then or thereafter due to the Contractor.
- 93.3 The Contractor shall notify OCFA in advance of the generation, importation, storage, transportation or disposal, of any hazardous waste, toxic materials or contaminants of any type in connection with the Project. Contractor shall provide Project Manager with Material

Safety Data Sheets (MSDS's) and the Uniform Hazardous Waste documents. The Contractor will develop and implement a written and effective Spill Control and Containment Plan.

94 Trenches and Excavations

- 94.1 The Contractor shall promptly, and before any of the following conditions are disturbed, notify the Project Manager, in writing, of any:
- (1) Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class 1, Class II, or Class III disposal site in accordance with the provisions of existing law; or
 - (2) Subsurface of latent physical conditions at the Site differing from those indicated; or
 - (3) Unknown physical conditions at the Site of unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract and Project Manual.
- 94.2 The Project Manager shall promptly investigate the conditions, and if the Project Manager finds that the conditions materially so differ, or do involve hazardous waste, and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work shall issue a change order, subject to the provisions of the Project Manual.
- 94.3 In the event that a dispute arises between the Project Manager and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work, the Contractor shall not be excused from any Scheduled Completion Date provided for in the Contract, but shall proceed with all work to be performed under the Contract. The Contractor shall retain any and all rights provided either by the Contract or by law which pertain to the resolution of disputes and protests between parties.

95 Uncovering and Correction of Work; OCFA's Right To Carry Out Work

- 95.1 If any portion of the Work should be covered contrary to the instructions or request of Project Manager or the requirements of the Project Manual, the Contractor shall, if required by Project Manager, uncover such portion of the Work for Project Manager's observation and shall replace such Work all at the Contractor's expense.
- 95.2 If any portion of the Work should be covered prior to a specific request for observation or instruction by Project Manager, Project Manager may request to see such Work, and it shall be uncovered by the Contractor. If such Work is found to be in accordance with the Project Manual and without defect, the cost of uncovering and replacement shall, by appropriate Change Order, be charged to OCFA. If such Work is found to be defective or not in accordance with the Project Manual, the Contractor shall bear such costs.
- 95.3 Project Manager shall have the authority to reject any portion of the Work which is defective or does not conform to the Project Manual, and the Contractor shall promptly correct all Work so rejected by Project Manager, whether observed before or after the Date of Substantial Completion and whether or not fabricated, installed or completed. In order that such corrective Work shall not interrupt or delay Contractor's Construction Schedule or the completion date of the Project, the Contractor shall perform such Work according to a schedule therefor established by Project Manager (which may provide that the same be performed on overtime, shiftwork, Saturdays, Sundays and/or holidays), utilizing in the performance thereof such manpower as is necessary to complete the corrective Work in accordance with said schedule. The Contractor shall bear all costs of correcting such rejected

Work including, without limitation, compensation for any additional architectural and engineering services made necessary thereby.

- 95.4 If, within one (1) year after the Completion of the Work (as determined by OCFA) or within such longer period of time as may be prescribed by law or by the terms of any applicable warranty or guarantee required by the Project Manual, any of the Work is found to be defective or not in accordance with the Project Manual, the Contractor shall correct it promptly after receipt of written instructions to that effect from OCFA unless OCFA has previously given the Contractor a written acceptance of such condition.
- 95.5 The Contractor shall remove from the Site all Work which is defective or non-conforming and not corrected under the provisions of these General Conditions unless removal is waived in writing by OCFA.
- 95.6 If the Contractor does not remove such uncorrected defective or non-conforming Work within a reasonable time fixed by written instructions to that effect from Project Manager, OCFA may remove it and store the materials and equipment at the expense of the Contractor. If the Contractor does not pay the cost of such removal and storage within ten (10) days thereafter, OCFA may, upon ten (10) additional days written notification to the Contractor, sell such materials and equipment at public or private sale and account to the Contractor for the net proceeds thereof, after deducting all the costs that should have been borne by the Contractor, including compensation for any additional architectural and engineering services and attorneys' fees made necessary thereby. If such proceeds of sale do not cover all costs which the Contractor should have borne, the difference shall be offset against any amounts then or thereafter due to the Contractor. If the amounts then or thereafter due to the Contractor are not sufficient to cover such difference, the Contractor shall, upon demand, pay the same to OCFA. The obligations of the Contractor under this Subsection shall be in addition to, and not in limitation of, any obligations imposed on it by law, by any other provision of this Contract or by any warranty or guarantee under this Contract.
- 95.7 If the Contractor fails to correct any defective or non-conforming Work, OCFA may correct it with its own forces or by contract with a third party contractor. In the event of a defect found after final acceptance of the Work by OCFA which the Contractor is obligated to correct pursuant to Project Manual, OCFA may, at its option, after giving the Contractor an opportunity to correct such defect, cause such corrective Work to be performed by others and charge the Contractor with the cost thereof. Such charge shall be due and payable by the Contractor upon demand.
- 95.8 If the Contractor defaults or neglects to carry out the Work in accordance with the Project Manual or fails to perform any provision of this Contract, and such default, neglect or non-performance shall continue for a period of 48 hours after written notification thereof from OCFA (or if such default, neglect or non-performance cannot be reasonably remedied within such 48-hour period, and Contractor does not (in the sole determination of OCFA) undertake in good faith the remedy of the same within said period and thereafter proceed diligently to completion), then OCFA may, without prejudice to any other remedy OCFA may have, make good such deficiencies; provided, however, that in the event of an emergency, as determined by OCFA, no notification shall be required. OCFA shall have the right to take possession of such portion of the Site as will enable it to make good such deficiencies and, in connection therewith, to utilize the materials, equipment, tools, construction equipment and machinery of the Contractor located on the Site. If OCFA makes good any such deficiencies, the costs of correcting the same including, without limitation, compensation for additional architectural and engineering services made necessary by such default, neglect or non-performance, shall be offset against any amounts then or thereafter due to the Contractor. If the amounts then

or thereafter due to the Contractor are not sufficient to cover such costs, then the Contractor shall, upon demand, pay the difference to OCFA.

- 95.9 If OCFA prefers to accept defective or non-conforming Work, it may do so instead of requiring its removal and correction, in which case an appropriate amount shall be offset against any amounts then or thereafter due to the Contractor; or, if the said appropriate amount of offset is determined after final payment (or if there is not then or thereafter due to the Contractor an amount sufficient to cover the offset available to OCFA), the Contractor shall, upon demand, pay the appropriate amount (or the difference after offset, as applicable) to OCFA.

96 Plans, Specifications and Survey

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

97 Permits

OCFA will reimburse the Contractor for the public agency-charged fee for permits, inspections. No profit amount shall be added to such reimbursement.

98 Compliance with Laws; Non-Discrimination

Contractor shall ensure that its officers, employees, agents, contractors, and subcontractors: (1) conduct themselves in compliance with all applicable laws and licensure requirements including, without limitation, compliance with laws applicable to nondiscrimination, harassment, and ethical behavior, throughout the duration of the Contract; and (2) comply with all OCFA, State, and Federal, Local Agency and Regulatory Agency orders regarding affirmative action to ensure equal employment opportunities and fair employment practices. Failure to file any report due under said orders will result in suspension of periodic progress payments. The Contractor shall ensure unlimited access to the job site for all equal employment opportunity compliance officers.

99 Right-Of-Way And Easements

In the event any required easements have not yet been acquired by the OCFA, the Contractor shall conduct its operation so as to confine its work to the limits of the existing right-of-way.

100 Disputed Work

Contractor shall keep all records of disputed work in accordance with the General Conditions. In any case where the Contractor believes extra compensation is due the Contractor for work or materials not clearly covered in the Contract, or not ordered by the OCFA as "extra work", the Contractor shall notify the OCFA in writing of the Contractor's intention to make claim for such extra compensation before the Contractor begins the work on which Contractor bases the claim. All "claims" as that term is defined in Public Contract Code section 9204 shall be submitted and processed in accordance with Section 91 hereinabove. Such notice by the Contractor, and the fact that the OCFA has kept account of the cost as aforesaid, shall not in any way be construed as proving the validity of the claim. The validity of the claim must be determined by the OCFA. If the OCFA determines that all or a portion of the claim is well founded, the valid portion shall be allowed and paid for as "extra work"; if the OCFA determines that all or a portion of the claim is not well founded, the portion that is not well founded shall be disallowed and not paid, subject to Section 91. Nothing herein limits the authority of the OCFA to consider, approve or disapprove of Change Orders in accordance with the Project Manual.

101 Time of Completion.

Work will be deemed completed on the same date when the Notice of Completion is recorded with the County of Orange.

102 Delivered Materials.

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

103 Mobilization.

103.1 Mobilization shall consist of preparatory work and operations, including but not limited to those necessary for the movement of personnel, equipment, supplies, and incidentals to the Project site; for the establishment of all offices, buildings and other facilities necessary for the work on this Project; and for all other work and operations which must be performed or cost incurred prior to beginning work on the various contract items on the Project site. Mobilization is deemed to include all aspects of mobilization and de-mobilization work occurring during the life of the Project for any reason.

103.2 Full compensation for mobilization shall be included in the Contract lump sum price bid for Mobilization and shall include full compensation for all costs incurred by the Contractor for doing all the work involved in mobilization as specified herein, and no additional compensation will be allowed. Mobilization shall not exceed 5% of the entire bid, excluding mobilization and as shown in the Proposal Bid Sheet.

104 Facilities For Contract Personnel.**104.1 Extended Field Office Overhead Cost.**

104.1.1 Within fourteen (14) calendar days after receipt of the Notice to Proceed, the Contractor shall submit a written statement to the OCFA detailing its field office overhead costs which are time related. The OCFA will review this first cost submittal and reach a written agreement with the Contractor on a daily field office overhead cost rate which shall be memorialized in a no cost change order. The daily rate agreed to in this change order will be applicable throughout the duration of the Contract. No field office costs will be paid until such an agreement is reached between the OCFA and the Contractor and the change order concerning this daily rate is executed by both parties. Progress payments will be withheld pending receipt of the above-referenced cost submittal and executed change order.

104.1.2 The individual cost components of the daily field office overhead rate shall represent costs which increase as a direct result of any time extension caused solely and exclusively by an act or omission of the OCFA. This listing may include such cost items as on-site project management, supervision, Engineering and clerical salaries; on-site utilities and rent; on-site company vehicles and their operating expenses; and site maintenance and security expenses. Field office overhead costs which are unaffected by increased time shall not be allowable cost in calculating the daily field office overhead rate. These non-time related costs include, but are not limited to, acquisition and installation of stationary equipment; temporary construction facilities; utilities and office furnishings (unless such items are rented or leased); the preparation of the site

including clearing, grubbing, grading, fencing, mobilizations and demobilization costs; and the costs of permits, bonds and insurance coverage for the Project.

104.1.3 The individual wage cost components used to calculate the daily field office rate shall be supported by actual employee payroll records, not salary ranges or estimates. Hourly rates for management, supervisory, engineering, and clerical employees shall be based upon 2080 work hours per year and shall not include allowances for holidays, vacations, or sick time.

104.1.4 When applicable, the daily field office overhead rate shall be multiplied by the number of days the Contract is delayed or extended by change order and shall be added to the agreed upon change order cost. The days of delay shall be those caused solely by the acts or omissions of the OCFA and documented by a time impact analysis prepared and submitted by the Contractor. In the event a deductive change order is issued which reduces time under the Contract, the daily field office overhead rate shall be used to calculate the deductive amount. No allowance for overhead costs and no profit allowance shall be added to the extended field office overhead cost.

105 OCFA Officers And Employees; Non-Discrimination

105.1 No member, officer, member of the OCFA Board of Directors, or employee of the OCFA shall be personally liable to Contractor, or any successor in interest, in the event of any default or breach by OCFA or for any amount which may become due to Contractor or to its successor, or for breach of any obligation of the terms of this Contract.

105.2 Pursuant to the provisions of the OCFA's conflict of interest code, the Political Reform Act as set forth in Government Code Section 81000 et seq., and/or the prohibition against self-dealing in contracts as set forth in Government Code Section 1090 et. seq., the Parties acknowledge that no officer or employee of the OCFA, or any member of the OCFA Board, shall have any personal interest, direct or indirect, in this Contract or any Subcontract under the Contract, nor shall any such officer, employee, or member of the OCFA Board participate in any decision relating to the Contract which effects his or her personal interest or the interest of any corporation, partnership, or association in which he or she is, directly or indirectly, interested. In the furtherance of such acknowledgement, Contractor:

- i. Contractor agrees that no officer, employee, member of the OCFA Board of Directors, agent, or assignee of the OCFA having direct or indirect control of any monies allocated by OCFA to finance this Project, shall serve as an officer, director, employee, or agent of Contractor, or as a officer, director, employee, or agent of any Subcontractor of supplier of Contractor under this Contract; and
- ii. Any conflict or potential conflict of interest of any officer, director, employee, or agent of Contractor or any Subcontractor or supplier of Contractor has been fully disclosed to the OCFA prior to execution of this Contract and such disclosure shall be deemed a part of this Contract.

105.3 Contractor shall not expend any funds for the purpose of influencing or attempting to influence an officer, member, employee, or member of the OCFA Board in the connection with the awarding and the administration of this Contract or any subcontract in furtherance of the Project.

106 Entire Agreement

It is agreed that this Contract (which incorporates the Project Manual) represents the entire agreement. It is further agreed that the Project Manual is incorporated in this Contract by this reference, with the same force and effect as if the same were set forth at length within the Contract, and that Contractor and Contractor's officers, employees, agents, trades, material suppliers, and Subcontractors will be and are bound by any and all of said Project Manual insofar as they relate in any part or in any way, directly or indirectly, to the work covered by this Contract.

107 Written Notices

Any written notice required to be given in any part of the Contract Documents shall be performed by dispatching the same via email directed to the email address of the Contractor as set forth in the Contract Documents, and to the OCFA addressed as follows:

A. [INSERT OCFA CONTACT INFO FOR NOTICES]

B. [INSERT CONTRACTOR CONTACT INFO FOR NOTICES]

108 Miscellaneous Provisions

108.1 Assignment: Contractor shall neither delegate its duties or obligations, nor assign its rights with respect to this Contract, either in whole or in part. Any such attempted delegation and/or assignment shall be void and deemed void at such occurrence, if it were to occur.

108.2 Computation of Time: When any period of time is referred to in the Project Manual by days, it shall be computed to exclude the first and include the last day of the period, provided, however, that if the last day of the period falls on a Saturday, Sunday, or legal holiday, that day shall be omitted from the computation. "Days" refers to calendar days unless otherwise expressly provided.

108.3 Remedies Cumulative: No remedy herein reserved to OCFA is intended to be exclusive of any other remedy, but each and every such remedy shall be cumulative and shall be in addition to any other given in the Project Manual as now or hereafter existing or at law, equity, or by statute.

108.4 Nonwaiver: The failure of the OCFA to notify the Contractor of any default under the Project Manual shall not be deemed to be a waiver by OCFA of any continuing default by Contractor of any term, covenant, or condition set forth in this Contract, nor of the OCFA's right to declare a default for any such continuing breach, and the failure of OCFA to insist upon strict performance of any of the terms, covenants, or conditions of the Project Manual, or to exercise any option in the Project Manual in any one or more instances, shall not be construed as a waiver or relinquishment of any such terms, covenants, conditions or options, but the same shall be and remain in full force and effect.

108.5 Severability: In case any one or more provisions set forth in the Project Manual shall for any reason be held invalid, illegal, or unenforceable in any respect, any such invalidity, illegality, or unenforceability shall not affect any other provision of the Project Manual, and the Project Manual and this Contract shall be construed as if such invalid, illegal, or unenforceable provision had never been incorporated therein so long as the deletion of such provision does not, in the OCFA's judgment, materially alter this Contract.

- 108.6 No Third Party Beneficiaries: The Project Manual and this Contract are not intended and shall not be deemed or construed, to confer any rights, powers, or privileges on any person, firm, partnership, corporation, or other entity not a party to this Contract except as may be expressly provided in the Contract to the contrary.
- 108.7 No Verbal Agreements: No verbal order, objection, claim, or notice by any party to the other shall affect or modify any of the terms or obligations contained in this Contract or the Project Manual, and none of the provisions of the Project Manual shall be held to be waived or modified by reason of any act whatsoever, other than by a definitely agreed waiver or Modification in writing and executed in the manner required in this Contract by authorized officers or representatives of the Parties. No evidence shall be introduced in any proceeding of any other waiver or modification.
- 108.8 Counterparts: This Contract may be executed in any number of counterparts, and each of such counterparts for all purposes shall be deemed to be an original, and all of such counterparts should constitute one and the same agreement.
- 108.9 Governing Law/Venue: The Contract, including the Project Manual, shall be governed by the laws of the State of California. Venue for all disputes related to the Project, the Contract Agreement and/or the Project Manual shall be in Orange County, California.
- 108.10 Services Prior to Execution: Notwithstanding the fact that this Contract is executed as of the date first set forth above, the Parties recognize that a portion of the Work required under the Project Manual may have been performed prior to such date, all of which Work shall be governed by the terms and conditions of this Contract and shall be deemed to be a part of the Work. Without limiting the foregoing, all of Contractor's liabilities and obligations to OCFA under the Project Manual shall apply to all Work and services provided by the Contractor for the Work prior hereto, notwithstanding the fact that the Work may have been performed prior to the date hereof pursuant to prior negotiations, representations, agreements, understandings, or otherwise.
- 108.11 Survival of Rights: Any indemnity, warranty, guarantee given by the Contractor to the OCFA under this Contract shall survive the expiration or termination of this Contract and shall be binding upon Contractor until any action under this Contract is barred by the applicable statute of limitations.
- 108.12 Notice: All notices (whether or not designated as such herein) which are required under this Contract to be given between the parties pursuant to this Paragraph shall be in writing and deemed given and, unless otherwise provided herein, effective when delivered personally to an officer of the party to be served (including the Contractor's Project Manager, in the case of the Contractor), when deposited in the United States mail, or in a sealed envelope, with postage thereon prepaid, sent by registered or certified mail, return receipt requested, and addressed to the appropriate party at the address set forth in the Contract or such other address as may be designated by either party hereto by notice to the other, or when transmitted by wire or facsimile to the appropriate party at the aforesaid address (a complimentary confirming letter shall also be mailed to the appropriate party on the same date).
- 108.13 Maintenance of Harmonious Relations: The Contractor is hereby advised that any portion of the Project, or other projects in proximity to the Project may be subject to, and governed by, certain union or trade agreements. It is the policy of OCFA to promote and maintain harmonious relationships in connection with the Project. The Contractor and its Subcontractors and Sub- subcontractors shall follow this policy; and shall utilize only

qualified persons or organizations in the performance of the Work. A qualified person or organization is one: which is not likely to promote labor unrest on the Project; which shall abide by all local, state and federal labor and employment relation rules, regulations and laws; whose financial stability is reasonably assured throughout the duration of the Contract; and whose commitments to other projects are not likely to interfere with its ability to perform its portion of the Work efficiently and cost effectively. OCFA reserves the right to disapprove, or to require the removal of, any person or organization who is being considered for, or has received, an award to perform all or a portion of the Work but has failed to demonstrate the willingness or ability to follow this policy.

- 108.14 Union Agreements: Regardless of the expiration of any collective bargaining agreement during the term of this Contract which may affect the Contractor in any of its activities including, without limitation, with respect to the Work or the Project, the Contractor is obligated to man the job and properly and timely perform the Work in a diligent manner. Upon notification of expected or actual labor disputes or job disruption arising out of any such collective bargaining negotiations, the expiration of any union or trade agreement or any other cause, the Contractor and its Subcontractors and Sub-subcontractors shall cooperate with OCFA concerning any legal, practical or contractual actions to be taken by OCFA in response thereto and shall perform any actions requested by OCFA to eliminate, neutralize or mitigate the affects of such actions on the progress of the Work and the impact of such actions on the public access to OCFA's facilities. It is the Contractor's obligation, at the Contractor's own cost and expense, to take all steps available to prevent any persons performing the work from engaging in any disruptive activities such as strikes, picketing, slowdowns, job actions or work stoppages of any nature or ceasing to work due to picketing or other such activities, which steps shall include, without limitation, execution of an appropriate project agreement with appropriate unions prohibiting all such activities on or about the Project. Notwithstanding any such occurrences, the Contractor shall not be relieved of its obligation to man the job and properly and timely perform the Work in a diligent manner.
- 108.15 Immigration Reform Control Act: All Contractors, Subcontractors, and Sub-subcontractors must adhere to the Immigration Reform Control Act of 1986 and shall maintain I-9 forms regarding all employees. It is not OCFA's obligation to insure compliance with this law, however, OCFA reserves the right to inspect and copy the Contractor's records in this regard upon request.
- 108.16 General: The captions of divisions, sections, articles, Paragraphs, Subparagraphs, clauses and the like in the Project Manual are for convenience only and shall in no way define the content or limit the meaning or construction of the wording of the divisions, sections, articles, Paragraphs, Subparagraphs, clauses and the like. The parties agree that the Project Manual shall not be construed more strictly against any party regardless of the identity of their drafter. Unless otherwise specified, Section and Subsection references appearing in these General Conditions are to Section and Subsections of the Contract Agreement.
- 108.17 Evidence of Corporate Existence and Good Standing. A corporation to which an award is made may be required, before the Contract Agreement is executed by the OCFA, to furnish evidence of its corporate existence and good standing, of its right to enter into contracts in the State of California, and that the officers signing the Contract and bonds for the corporation have the authority to do so. (Ref: California Corporations Code section 7214.)

SECTION 5: TECHNICAL SPECIFICATIONS

5A: OCFA FIRE STATION 45 BATHROOM REMODEL DRAWINGS

PROJECT LOCATION

Adj.	Adjustable or Adjacent	H.B.	Hose Bibb	S.	South
A.F.F.	Above Finish Floor	Hdr.	Header	S.C.	Solid Core
Alt.	Alternate	Hdwd.	Hardwood	S.D.	Smoke Detector
Approx.	Approximate	Hdwr.	Hardware	S.F.	Square Feet
		Horiz.	Horizontal	Sgl.	Single
Bldg.	Building	H.P.	High Point	Sh.	Sheet
Blkg.	Blocking	Htg.	Heating	Sim.	Similar
B.O.	Bottom of	Ht.	Height	Spec.	Specifications
B.S.	Both Sides			Sq.	Square
		Incl.	Included, ing	S.S.	Select Structural or
Cab.	Cabinet	Insul.	Insulation		Stainless Steel
C.L.	Centerline	Int.	Interior	Std.	Standard
Clg.	Ceiling			Stl.	Steel
Clr.	Clear	Jt.	Joint	Stor.	Storage
C.M.U.	Concrete Masonry Unit				
Col.	Column	L.	Length	T.	Tread
Conc.	Concrete	Lam.	Laminated	Temp.	Tempered
Const.	Construction	Lt.	Light	Thk.	Thick
Cont.	Continuous			T.O.	Top of
Ctr.	Center	Mat'l.	Material	T.O.P.	Top of Parapet
		Max.	Maximum	T.O.W.	Top of Wall
Diam.	Diameter	Mech.	Mechanical	T.P.	Top of Paving
Dbf.	Double	Mfr.	Manufacturer	TS	Tubular Steel
Det.	Detail	Min.	Minimum	Typ	Typical
Dim.	Dimension	Misc.	Miscellaneous		
Dim.	Down	Mtd.	Mounted	U.B.C.	Uniform Building Code or
D.R.	Door or Drain				Applicable Local Building Code
D.S.	Downspout	N.	North	U.N.O.	Unless Noted Otherwise
		N.G.	Natural Grade	U.O.N.	
		N.I.C.	Not In Contract		
E.	East			V.	Varies
Ea.	Each	O.C.	On Center	V.C.T.	Vinyl Composition Tile
El.	Elevation, vertical	O.H.	Over Head	Vent.	Ventilation
Elec.	Electric	Opgn.	Opening	Vert.	Vertical
Eq.	Equal	Opp.	Opposite	V.I.F.	Verify in Field
Equip.	Equipment				
Exist'g or (E)	Existing	Pav.	Paving	W/	With
Ext.	Exterior	P.L.	Property Line	Wd.	Wood
F.D.	Floor Drain	P.Lam.	Plastic Laminite	W.H.	Water Heater or Weep Hole
F.F.	Finish Face of Floor	Plas.	Plaster	W/O	Without
Fin.	Finish	Plywd.	Plywood	W.P.	Waterproof
Fl.	Floor	Pr.	Pair	W.S.	Weatherstripping
Flash.	Flashing	P.T.	Pressure Treated	Wt.	Weight
Flour.	Fluorescent	Pt.	Point		
F.O.	Face Of	Ptd.	Painted		
F.O.S.	Face of Stud				
Ft.	Feet or Foot	Qty	Quantity		
Ftg.	Footing				
Fur.	Furring	R.	Riser or Radius		
		R.A.G.	Return Air Grille		
		Rec.	Recessed		
Ga.	Gauge	Ref.	Reference		
Galv.	Galvanized	Reinf.	Reinforced		
Gen.	General	Req'd	Required		
G.C.	General Contractor	Rev.	Revision or Reversed		
G.S.M.	Galvanized Sheet Metal	Rfg.	Roofing		
Gyp.Bd.	or GWB Gypsum Wall Board	Rm.	Room		
		R.O.	Rough Opening		

DOOR IDENTIFICATION		Door number
WINDOW IDENTIFICATION		Window number (see window schedule)
BUILDING SECTION		Drawing number Sheet number
EXTERIOR ELEVATION		Drawing number Sheet number
WALL SECTION		Drawing number Sheet number
INTERIOR ELEVATION		Drawing number Orientation Sheet number
DETAIL REFERENCE		Drawing number Sheet number
DATUM IDENTIFICATION		Control point
WALL TYPE IDENTIFICATION		Wall type
SMOKE DETECTOR		"C" stands for Carbon monoxide
SCHEDULE ITEM		Finish number (see finish schedule)

PROJECT NAME: FIRE STATION 45 BATHROOM REMODEL

PROJECT ADDRESS:
30131 AVENTURA
RANCHO SANTA MARGARITA, CA 92688

PROJECT DESCRIPTION:
REMODEL OF FIREFIGHTER OPEN BATHROOM AND SHOWER PLAN TO FOUR PRIVATE BATHROOMS WITH SINGLE SHOWERS, AND UPGRADED ACCESSIBLE BATHROOM AND SHOWER.

APN: 805 053 02
TRACT: N TR 12625
BLOCK: BLK LOT 2
TAX RATE AREA: 033-022
STORIES: ONE

OCCUPANCY: S/B/R

TYPE OF CONSTRUCTION: VB

BUILDING CODE: All work will comply with the current Editions of 2025 California Building Code (CBC), California Mechanical Code (CMC), California Plumbing Code (CPC), California Electrical Code (CEC), California Energy Code (CEnC), California Green Building Code (CGBC), Orange County Code of Ordinances, and California Title 24, along with any other local and state laws and regulations.

LOT SIZE: 43,795 SF
LOT ACRES: 1.005

The placing or discharge of illegal pollutants, construction materials or byproducts onto city streets or storm drains is prohibited.

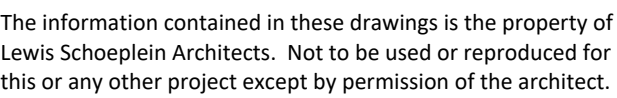
ARCHITECTURAL		ELECTRICAL	
A0.00	GENERAL	E-0.1	ELECTRICAL LEGEND, NOTES, INDEX, AND ABBREVIATIONS
A0.10	ACCESSIBILITY DETAILS	E-0.2	GENERAL ELECTRICAL SPECIFICATIONS
A0.11	ACCESSIBILITY DETAILS	E-0.4	ELECTRICAL DETAILS
A1.00	DEMO PLAN	E-2.0	DEMOLITION POWER PLAN
A1.10	FLOOR PLAN, ENLARGED PLAN	E-2.1	POWER PLAN
A1.20	RPC & LIGHTING SCHEDULE	E-3.0	DEMOLITION LIGHTING PLAN
A1.50	FINISH	E-3.1	LIGHTING PLAN
A2.00	BATHROOM INTERIOR ELEVATIONS		
A3.00	SCHEDULES		
A4.00	DETAILS		
		PLUMBING	
		P-0.1	PLUMBING LEGEND, NOTES, INDEX, AND ABBREVIATIONS
		P-0.2	PLUMBING SCHEDULES
		P-0.3	PLUMBING DETAILS
M-0.1	LEGEND, NOTES, INDEX, AND ABBREVIATIONS	P-0.4	PLUMBING SPECIFICATIONS
M-0.2	SCHEDULES & DETAILS	P-1.1	PLUMBING DEMOLITION PLAN
M-0.3	SPECIFICATIONS	P-2.1	PLUMBING NEW PLAN
M-0.4	SPECIFICATIONS		
M-1.1	DEMOLITION PLAN		
M-2.1	HVAC PLAN		

AMERICANS WITH DISABILITIES ACT (ADA) TITLE II
2010 ADA STANDARDS FOR ACCESSIBLE DESIGN

LOT SIZE:	43,795 SF
PROJECT AREA:	450 SF
(N) BUILDING AREA:	0 SF



OWNER: ORANGE COUNTY FIRE AUTHORITY 1 FIRE AUTHORITY IRVINE, CA 92602	ARCHITECT: LEWIS SCHOEPLIN ARCHITECTS 2018 S WESTGATE, UNIT Z LOS ANGELES, CA 90025
PHONE: 714.573.6488 ATTN: CHLOE MAXWELL	PHONE: 310.231.0300 ATTN: MARC SCHOEPLIN



Date	No.	Description
8/11/25	2	PLAN CHECK
9/25/25	3	BID SET

30131 Aventura, Rancho
Santa Margarita, CA
92688
24570.00

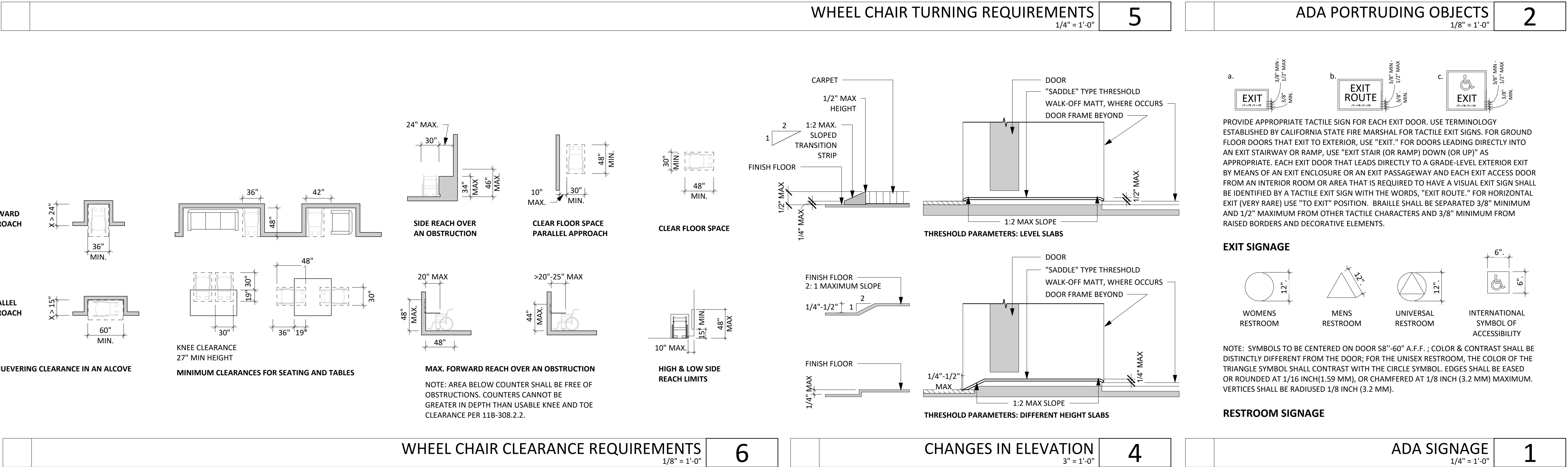
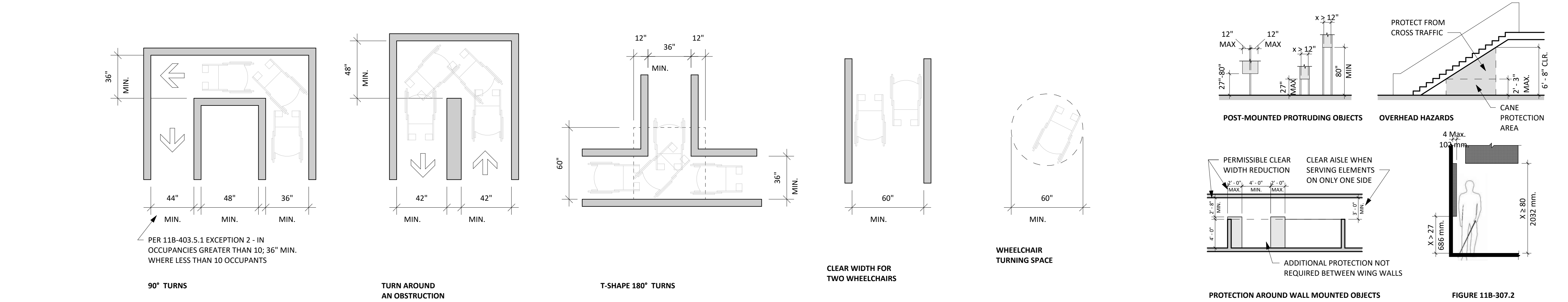
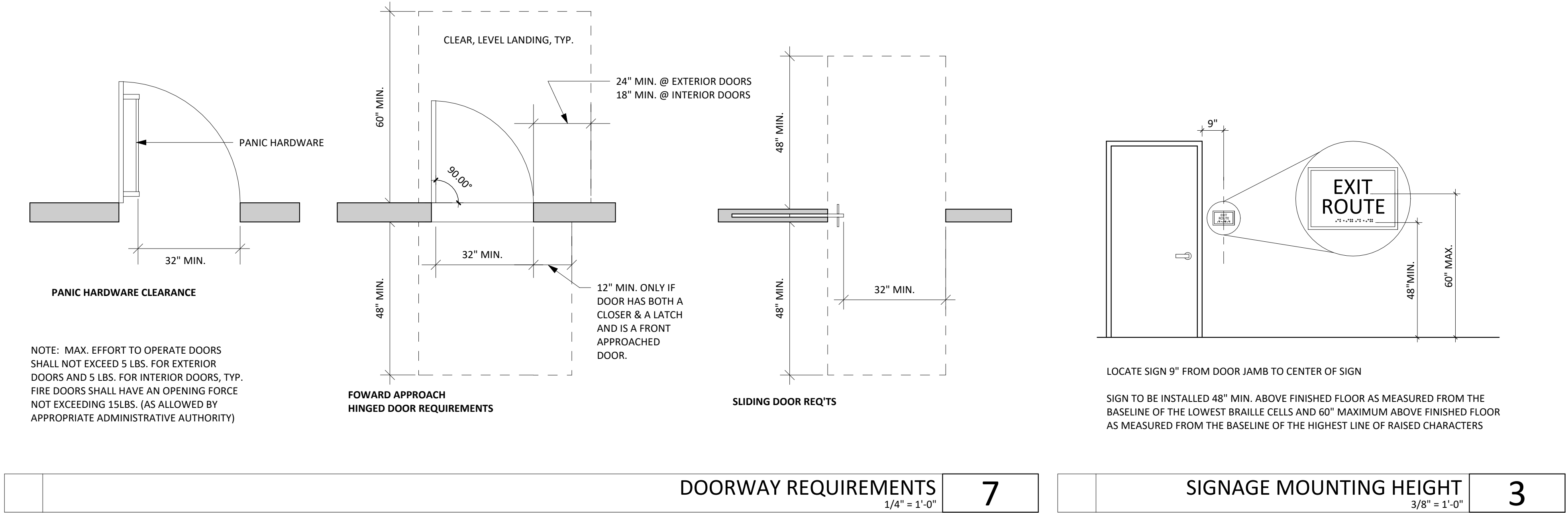
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ISSUES

Date	No.	Description
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9/25/25	3	BID SET



OCFA: FS 45
BATHROOM
REMODEL

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92688
24570.00

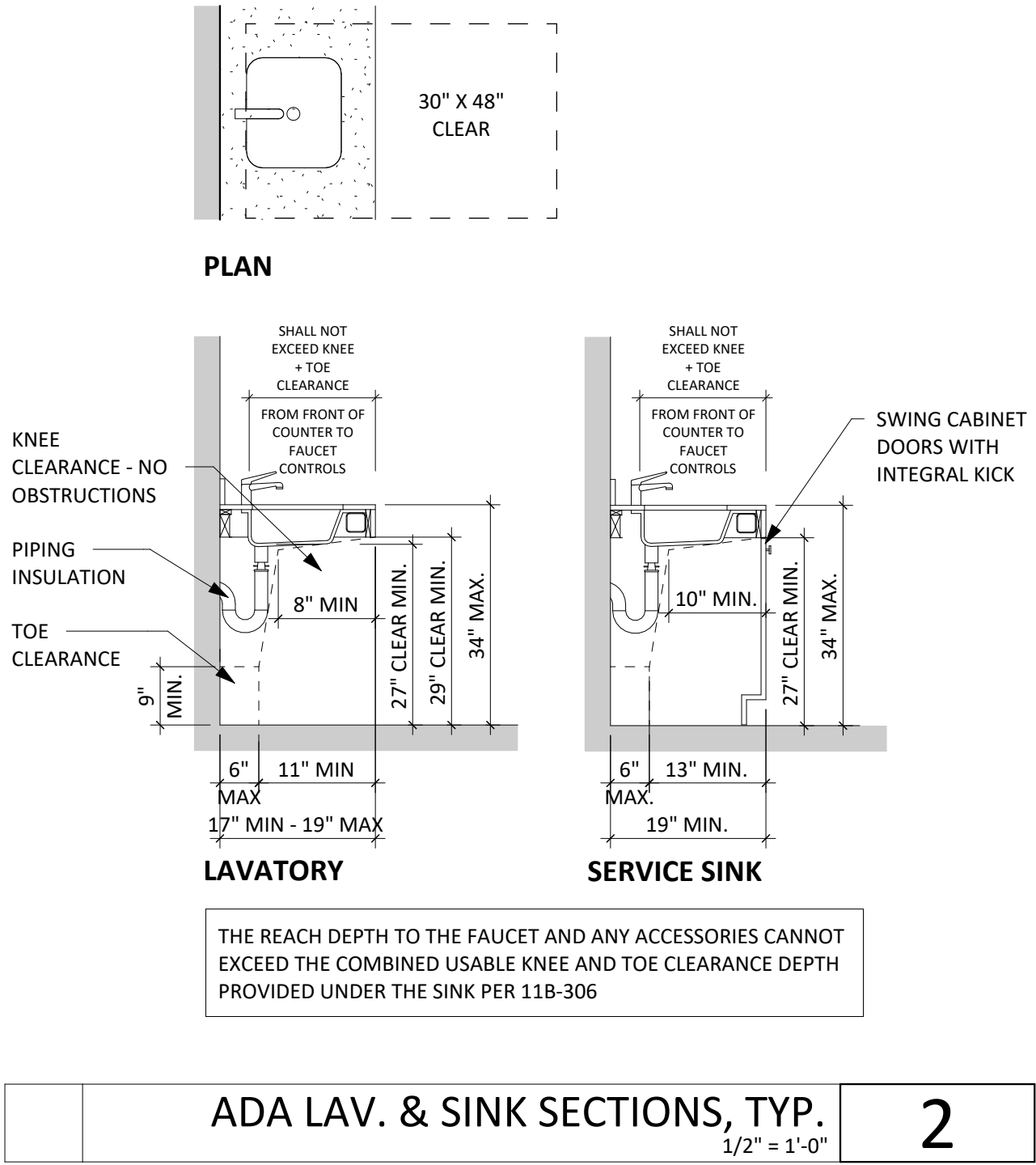
ACCESSIBILITY
DETAILS
A0.10



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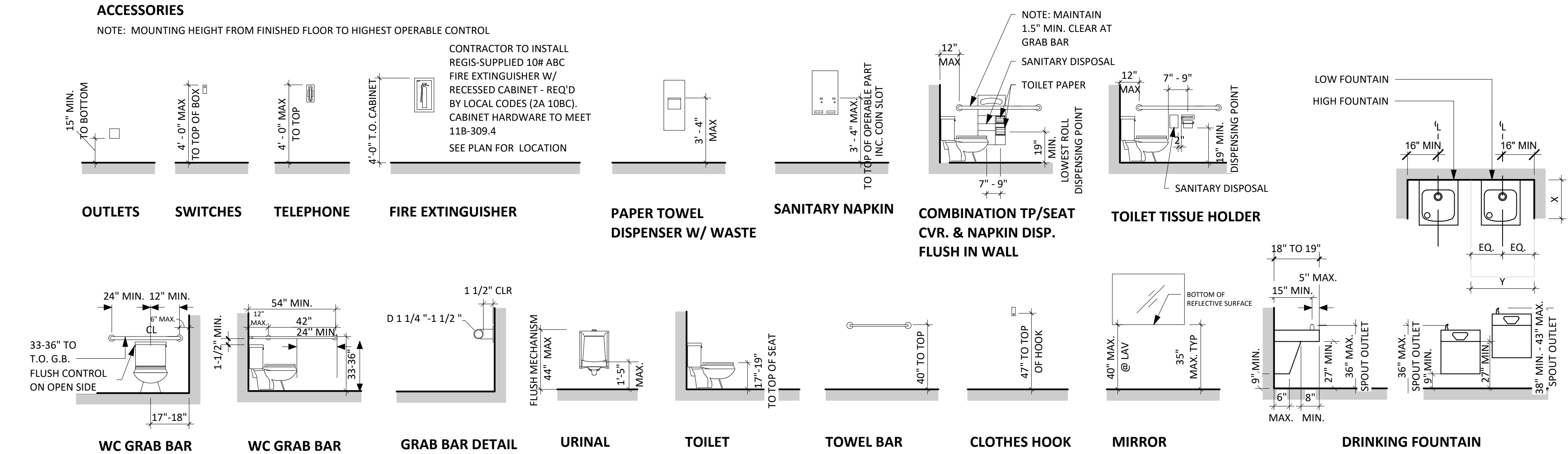
ISSUES

Date	No.	Description
8/11/25	2	PLAN CHECK
9/25/25	3	BID SET



ADA LAV. & SINK SECTIONS, TYP.

2



ADA TYP. FIXTURE & ACCESSORY MOUNTING HEIGHT

1

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REMODEL

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ACCESSIBILITY
DETAILS
A0.11



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8/11/25	2	PLAN CHECK
9/25/25	3	BID SET

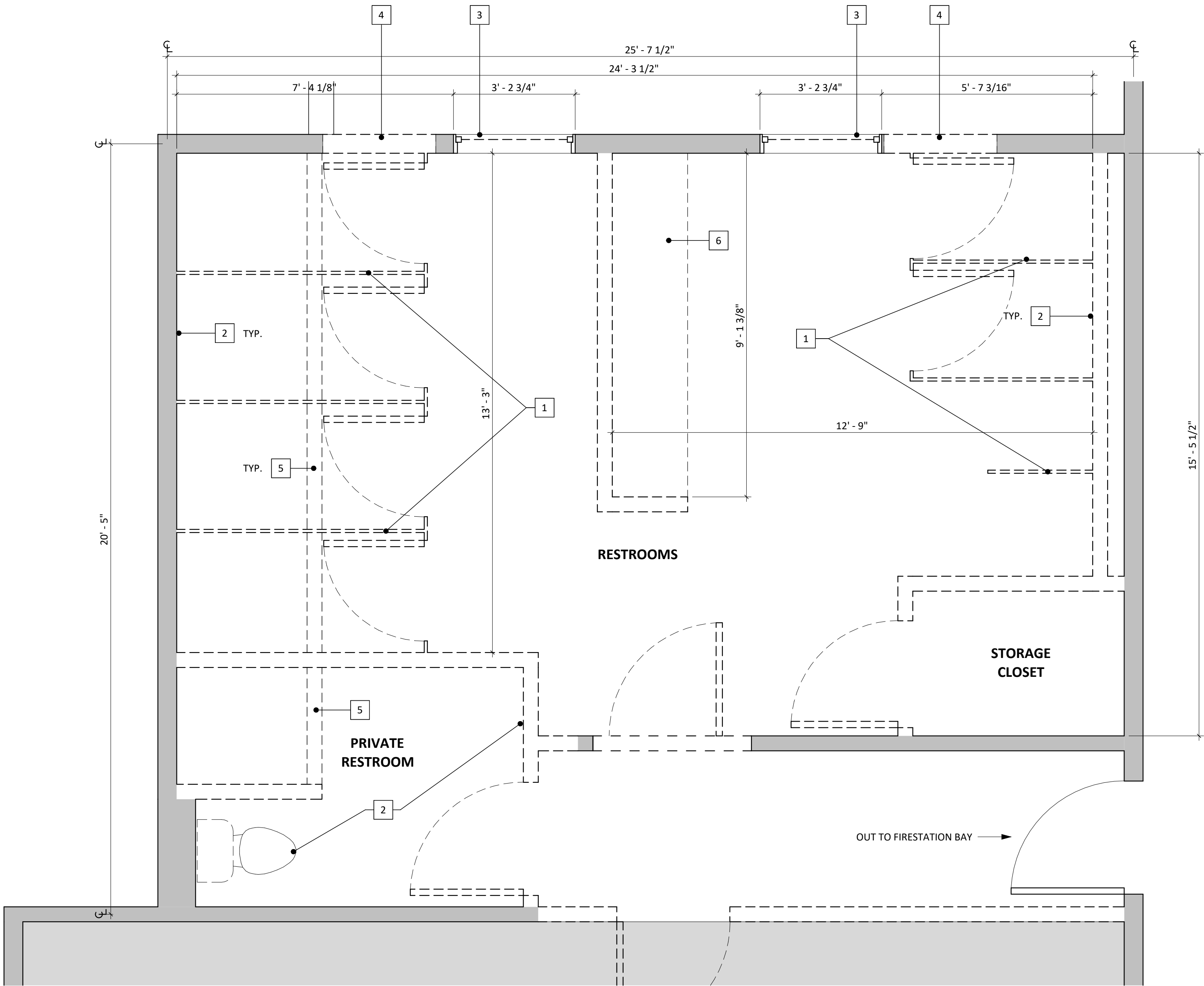
OCFA: FS 45
BATHROOM
REMODEL

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92688
24570.00

DEMO PLAN
A1.00

KEYNOTES

- 1 DEMO EXISTING PARTITIONS
- 2 DEMO ALL PLUMBING
FIXTURES, ACCESSORIES, AND
FINISHES
- 3 DEMO EXISTING WINDOWS
- 4 PREPARE WALL OPENING FOR
NEW WINDOW
- 5 DEMO ALL SHOWER CURBS
- 6 DEMO EXISTING COUNTER,
FINISHES, AND FIXTURES

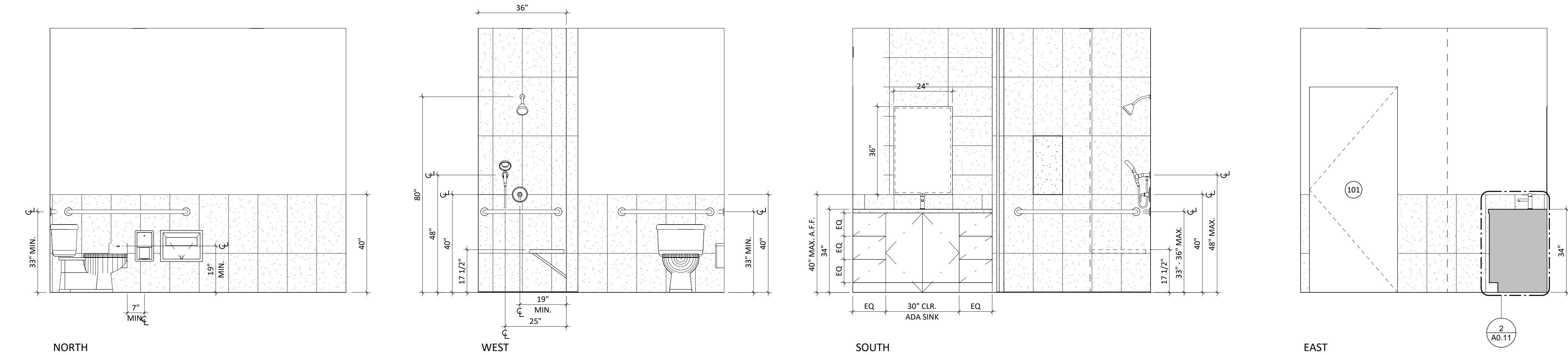


DEMO FLOOR PLAN LEGEND

- NOT IN SCOPE
- EXISTING WALL
- DEMO WALL/
CASEWORK/DOOR

DEMO PLAN
1/2" = 1'-0"

1



ACCESSIBLE RESTROOM ELEVATIONS
1/2" = 1'-0"

2

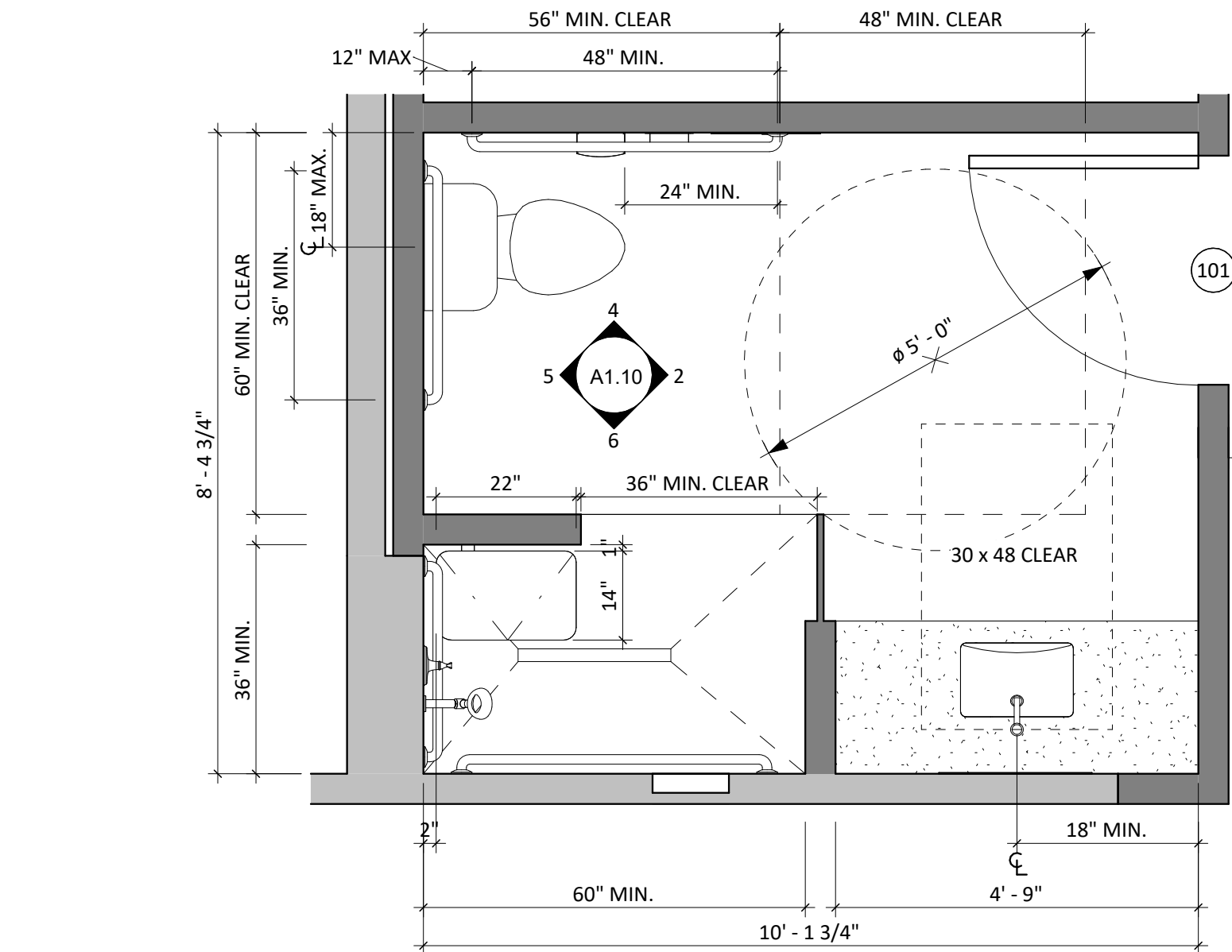
- KEYNOTES
- 1 NEW PLUMBING FIXTURES AND ACCESSORIES, SEE 2/A0.10 AND 1/A0.11 FOR COMPLIANT HEIGHTS
 - 2 SHOWER NICHE
 - 3 GLASS PARTITION
 - 4 WALL TYPE 1, SEE 1/A4.00
 - 5 WALL TYPE 2, SEE 2/A4.00
 - 6 ADA RESTROOM SIGNAGE IN COMPLIANCE W/ CODE, SEE 1 AND 3/A0.10



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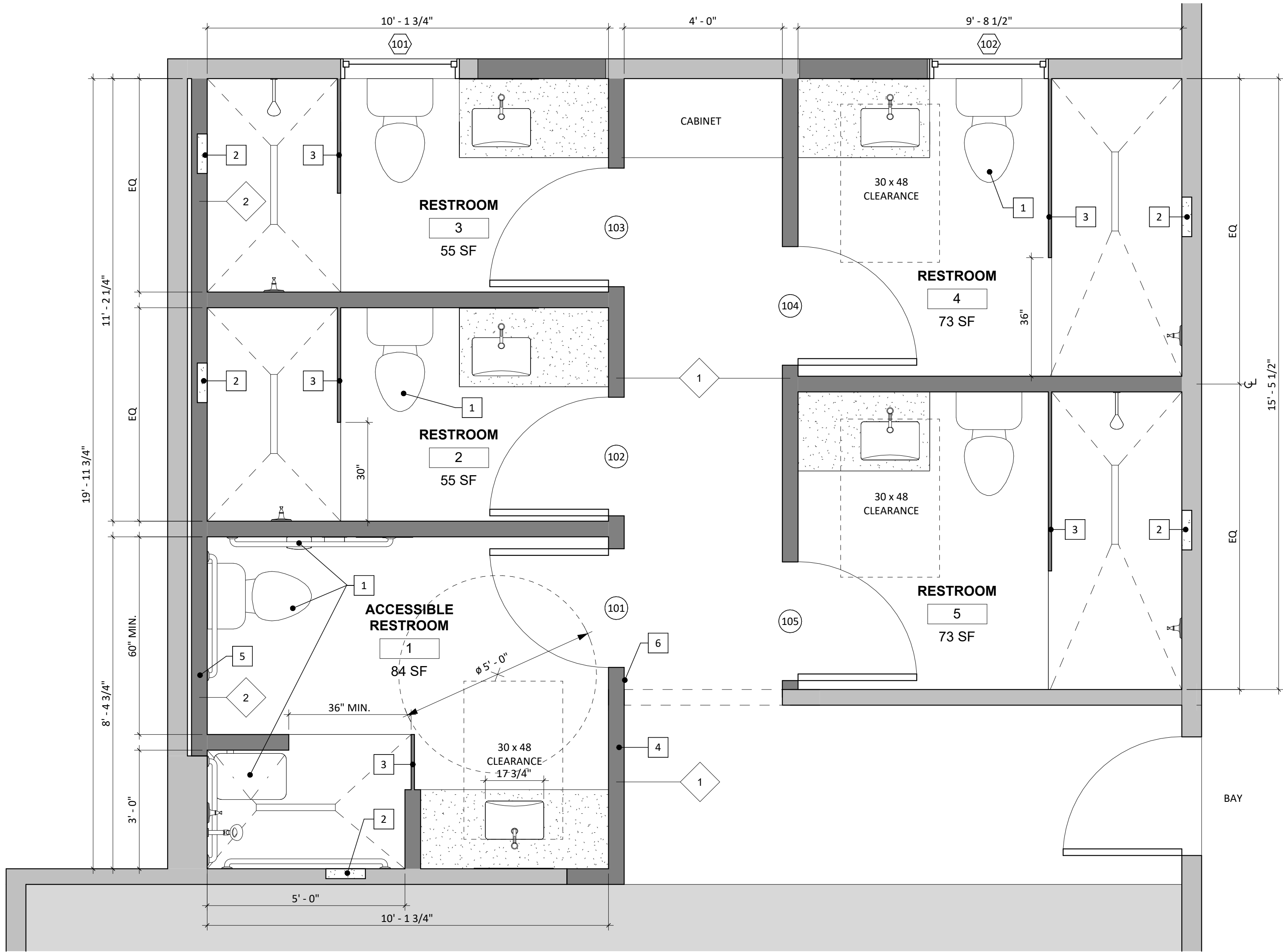
ISSUES

Date	No.	Description
8/11/25	2	PLAN CHECK
9/25/25	3	BID SET



ACCESSIBLE RESTROOM PLAN
1/2" = 1'-0"

3



FLOOR PLAN
1/2" = 1'-0"

1

- FLOOR PLAN LEGEND
- NOT IN SCOPE
 - (E) WALL
 - (N) WALL
 - SOLID SURFACE COUNTERTOP

OCFA: FS 45
BATHROOM
REMODEL

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FLOOR PLAN,
ENLARGED PLAN
A1.10



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ISSUES

Date	No.	Description
8/11/25	2	PLAN CHECK
9/25/25	3	BID SET

OCFA: FS 45
BATHROOM
REMODEL

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Santa Margarita, CA
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24570.00

RCP & LIGHTING
SCHEDULE
A1.20

OC Fire Station 45
Lighting Schedule

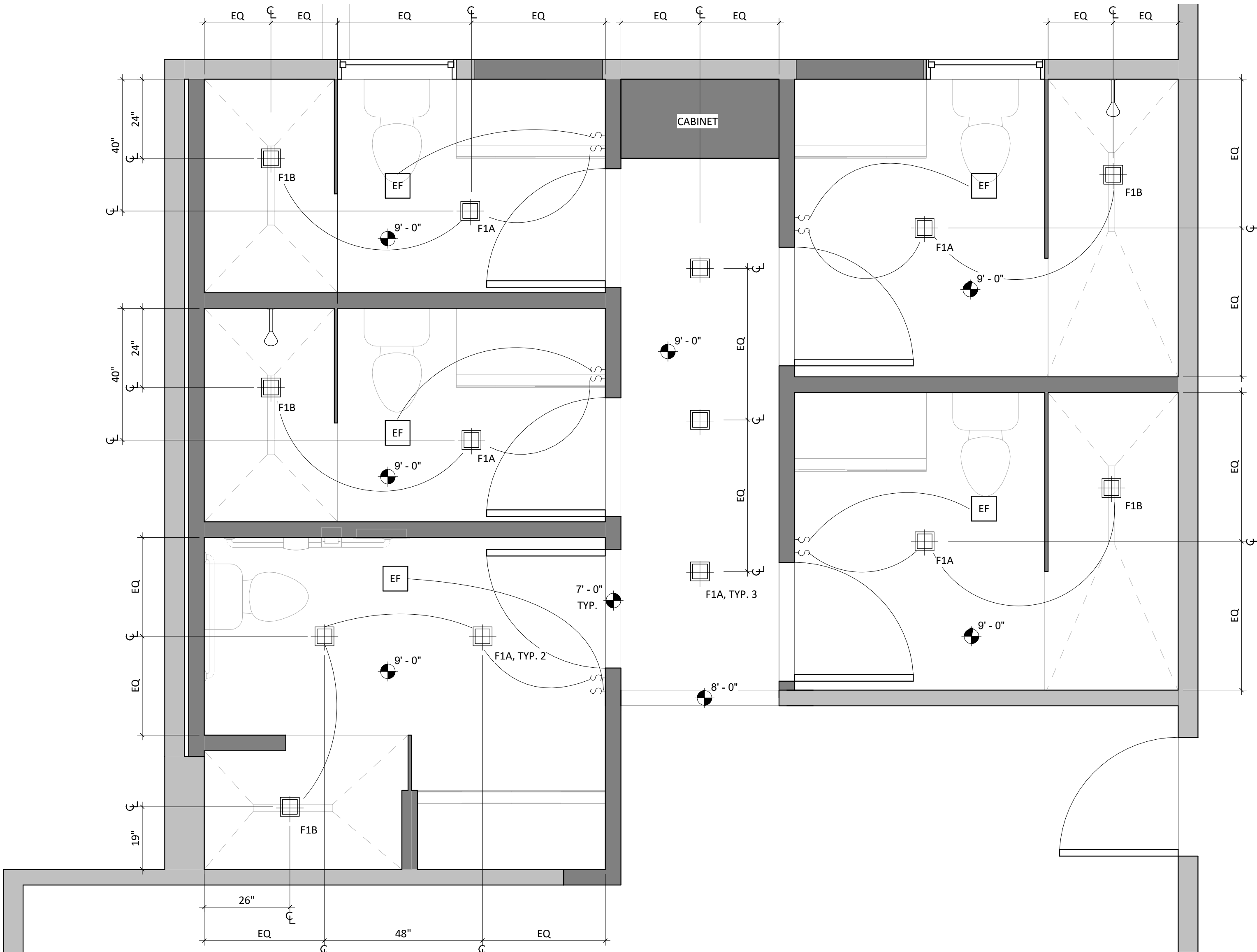
Lewis/Schoeplein Architects
August, 2025

Key	Description	Location	Count	Manufacturer	Model	Finish/Color	Link/Source	Lamp Type	Color Temp	Watt.	Volt
F1A	4" Architectural High Lumen Square LED Downlight	Restrooms	6	Elite Lighting	HH45Q-LED-2000L-DIM10-MVOLT-MD-35K-90-LED-4614-W-WH	W-WH	https://useelite.com/product/hh4sq-led/	LED	3500K	25	MVOLT
F1B	4" Architectural High Lumen Square LED Downlight	Showers	5	Elite Lighting	HH45Q-LED-2000L-DIM10-MVOLT-MD-35K-90-LED-4614-W-WH	W-WH		LED	3500K	25	MVOLT
F2	Contemporary Rectangular Aluminum Frameless Bathroom Wall Mirror with LED Lighting	Restrooms	5	Bellevue	BOMIR63317	Aluminum /frameless	https://www.fergusonhome.com/bellevue-bomir63317/s2012476?uid=4797025&overview	LED			

LIGHTING SCHEDULE

1" = 1'-0"

2



RCP LEGEND

⊞ RECESSED DOWNLIGHT

EF EXHAUST FAN:
- FANS SHALL BE ENERGY STAR COMPLIANT AND DUCTED TO TERMINATE TO THE OUTSIDE OF THE BUILDING.

RCP
1/2" = 1'-0"

1



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ISSUES

Date	No.	Description
9/25/25	3	BID SET

OCFA: FS 45
BATHROOM
REMODEL

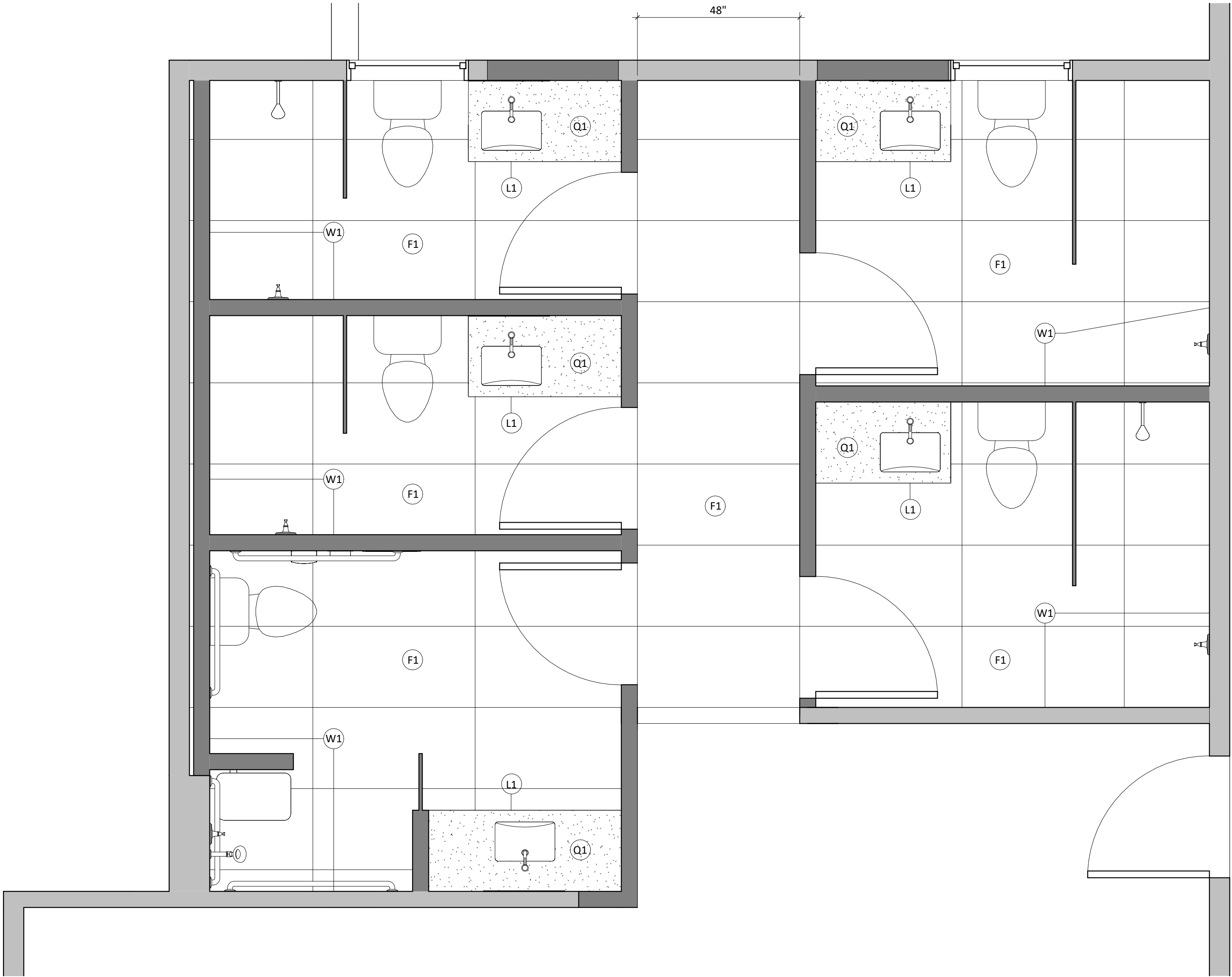
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Santa Margarita, CA
92688
24570.00

FINISH
A1.50

OCFA 45 Bathroom Remodel							
Finish Schedule							
						Lewis/Schoeplein Architects August, 2025	
Key	Product / Location	Manufacturer	Style/Model	Color	Size / Pattern / Finish	Installation Notes	Supplier
Paint							
P1	Interior - Typical	Dunn Edwards					
P2	Windows	Dunn Edwards					
Solid Countertop Material							
Q1	Countertop	Caesarstone		Piatra Grey 5003			
Casework Laminate							
L1	Cabinets	Wilsonart		Harding Oak	Timbergrain		
Wall Tile							
W1	Bathroom walls		Lagom	White Matte	12x24	See interior elevations	Creative Materials
Resilient Flooring							
F1	Porcelain tile	Stonetalk	Martellata	Vein Taupe	24x48, Matte	See finish plan	WalkOn Tile
Suspended Ceiling							
C1	GWB, Painted						

FINISH SCHEDULE
1" = 1'-0"

2



FLOOR PLAN - FINISHES
1/2" = 1'-0"

1

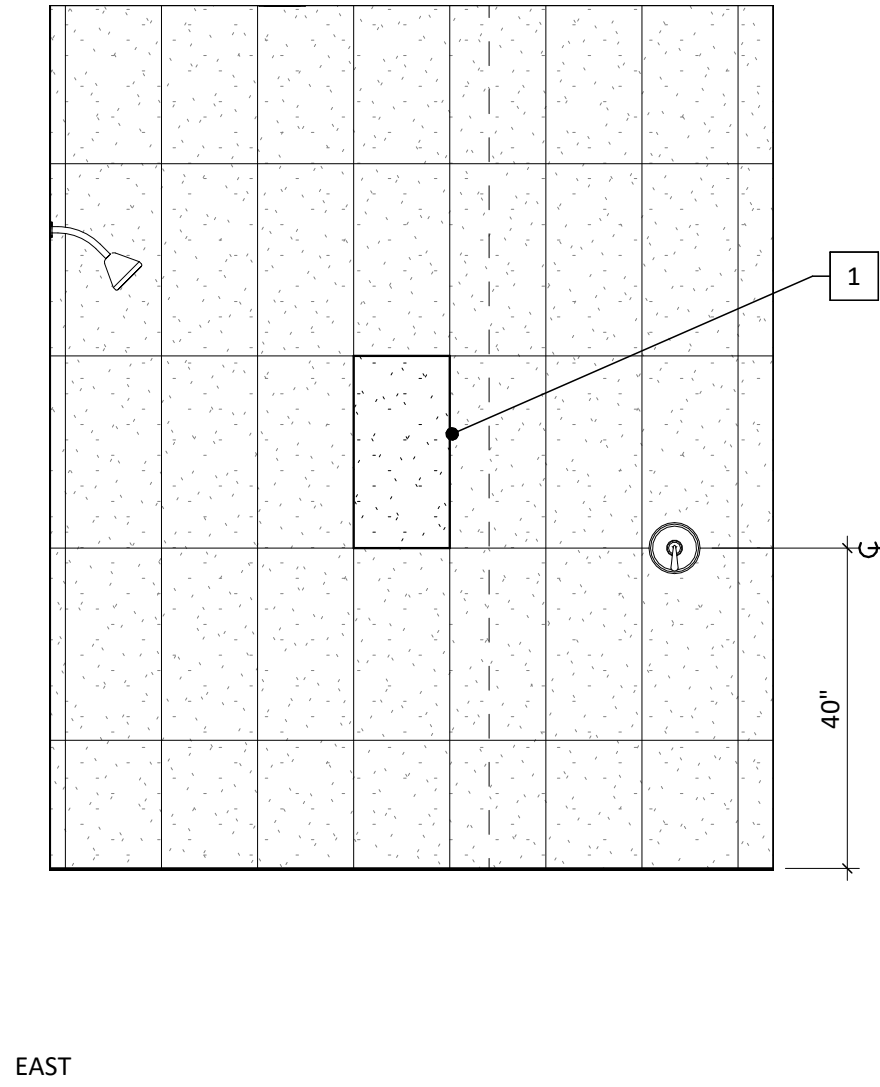
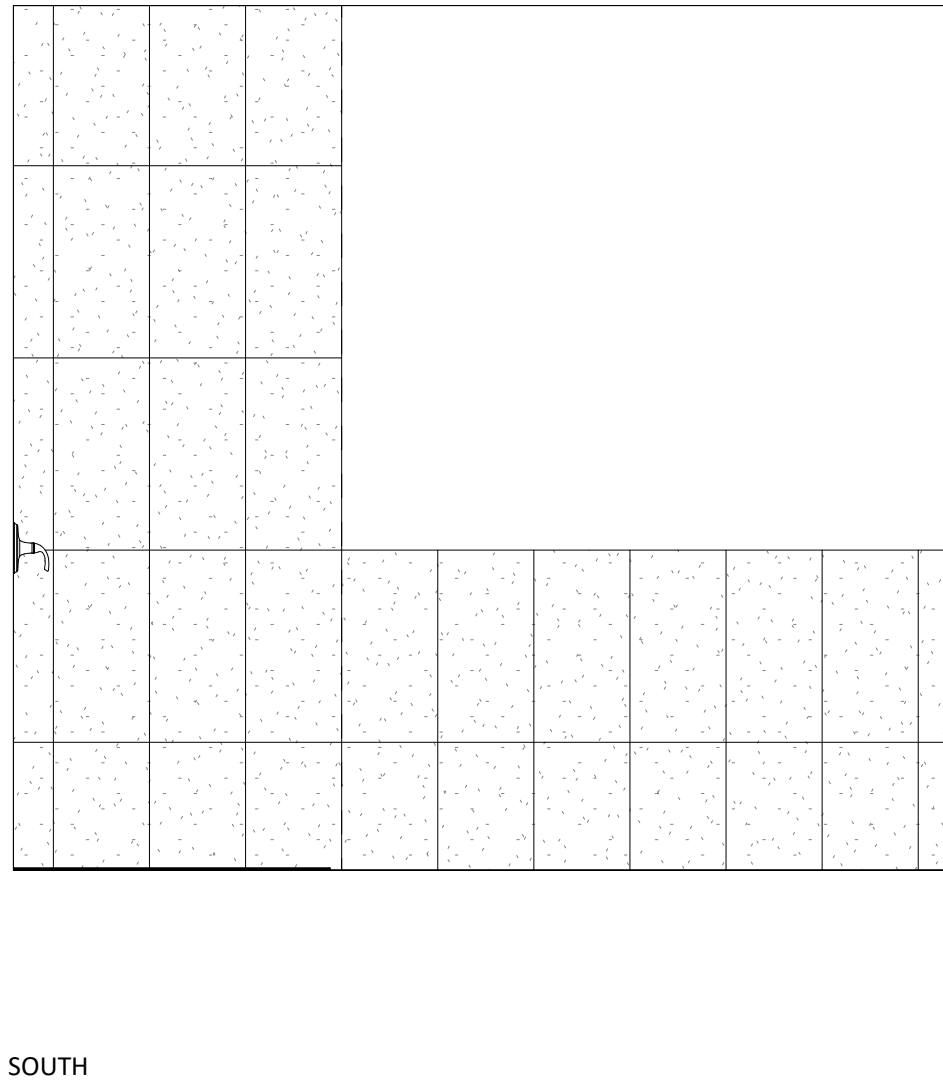
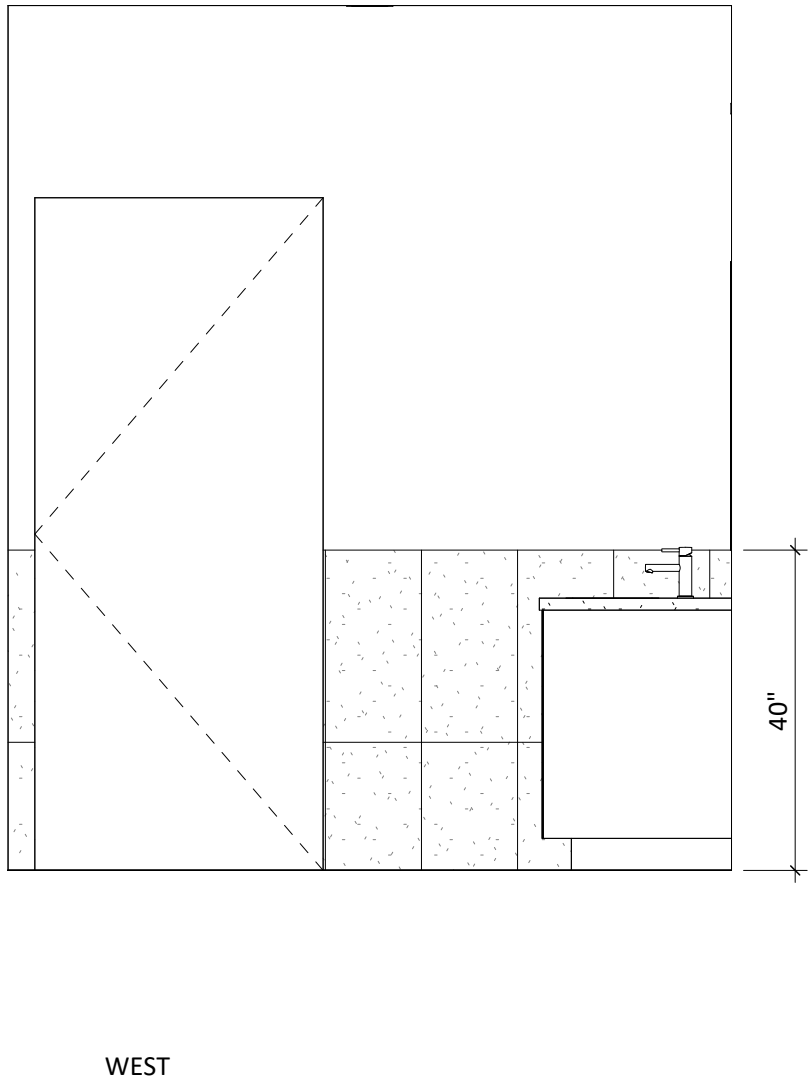
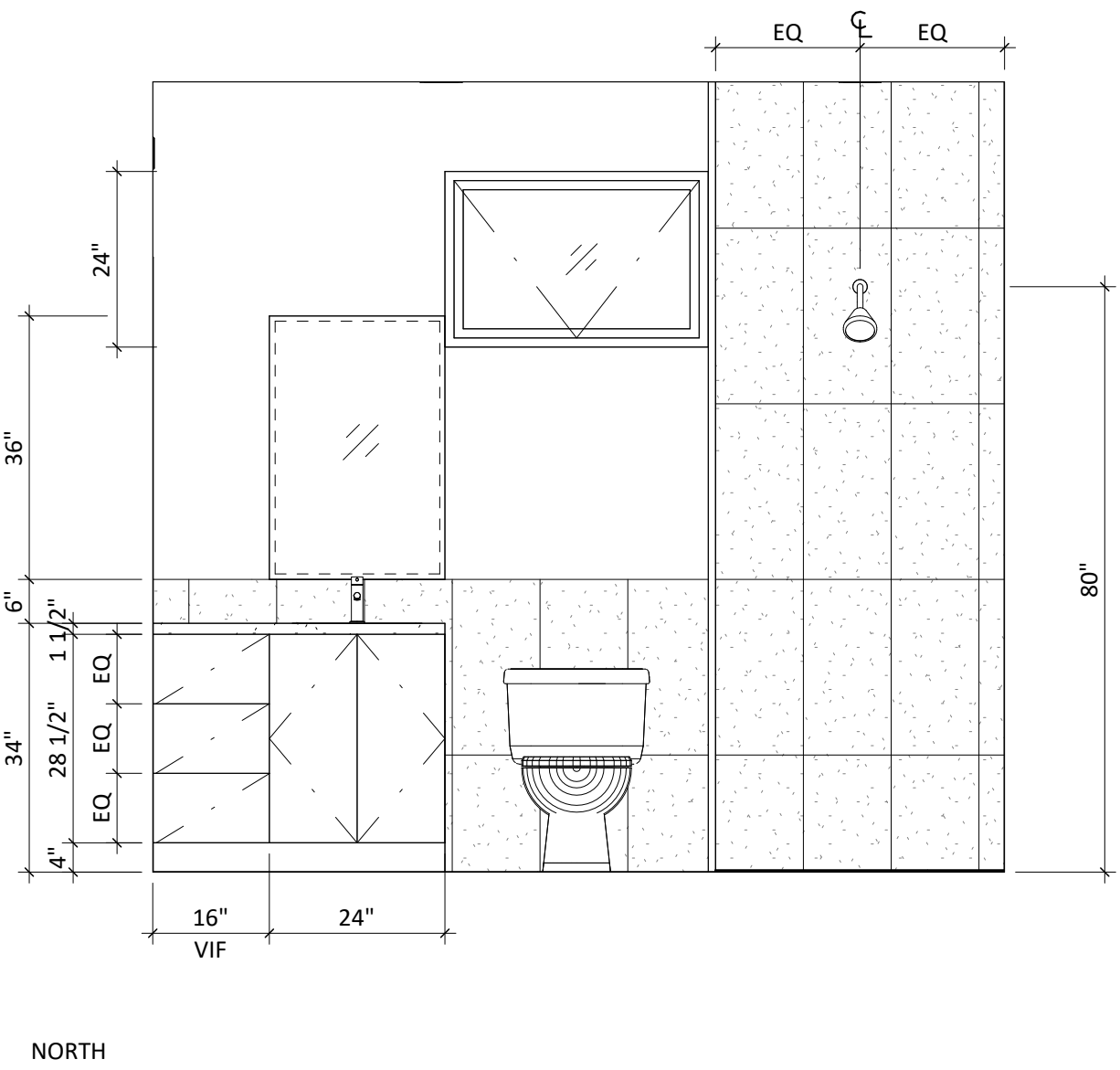
KEYNOTES
1 SHOWER NICHE



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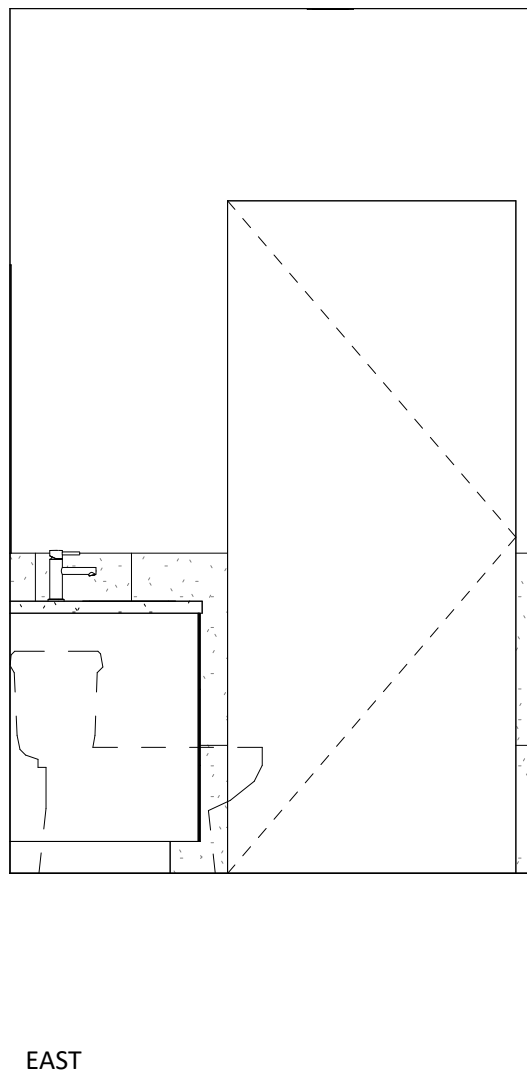
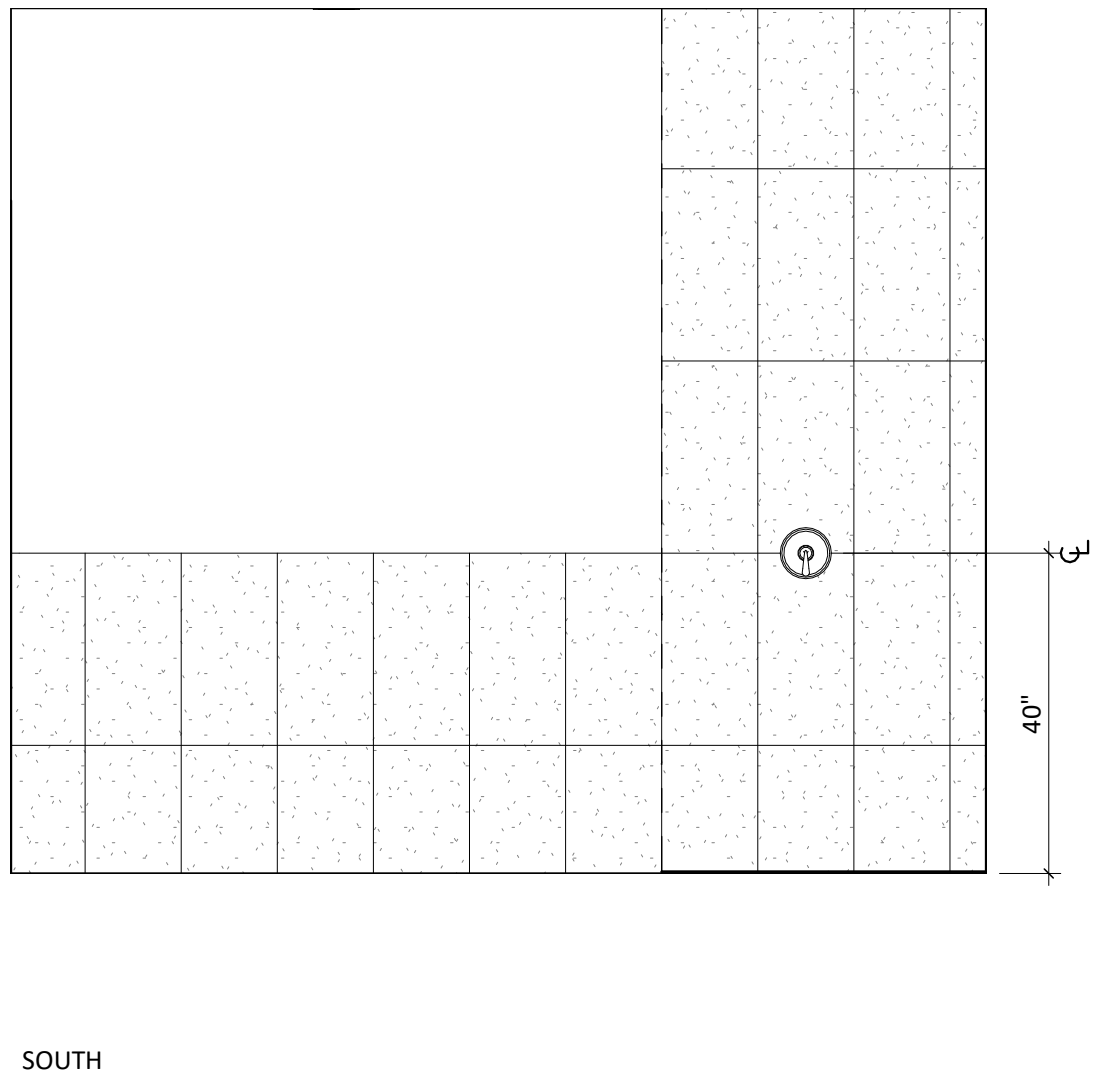
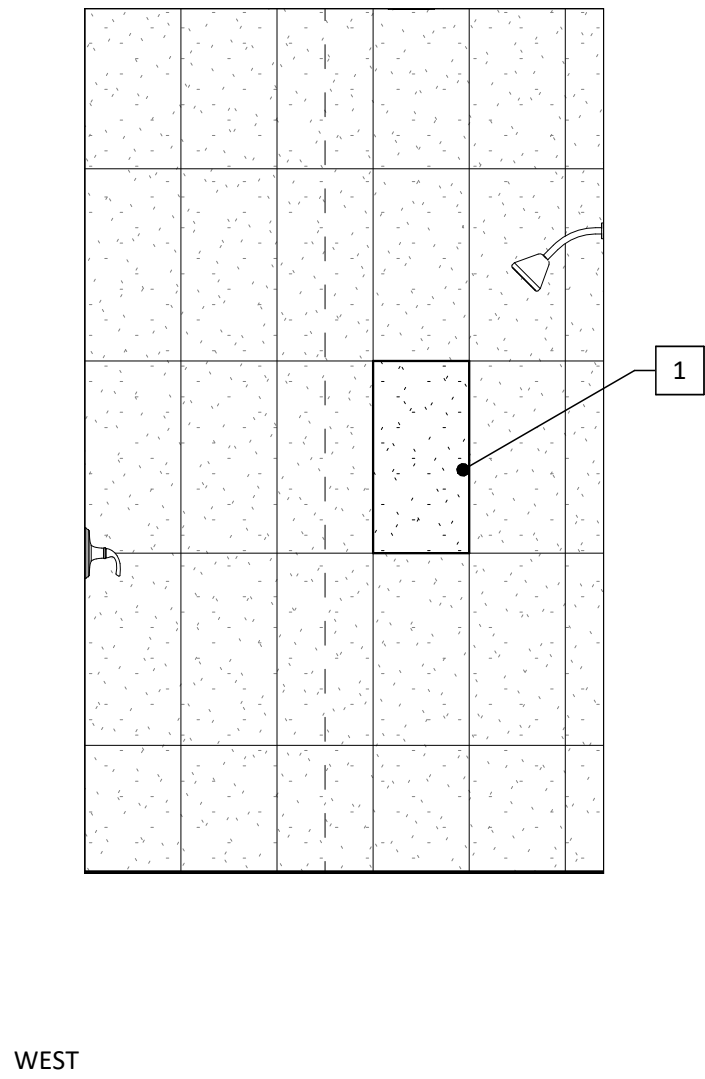
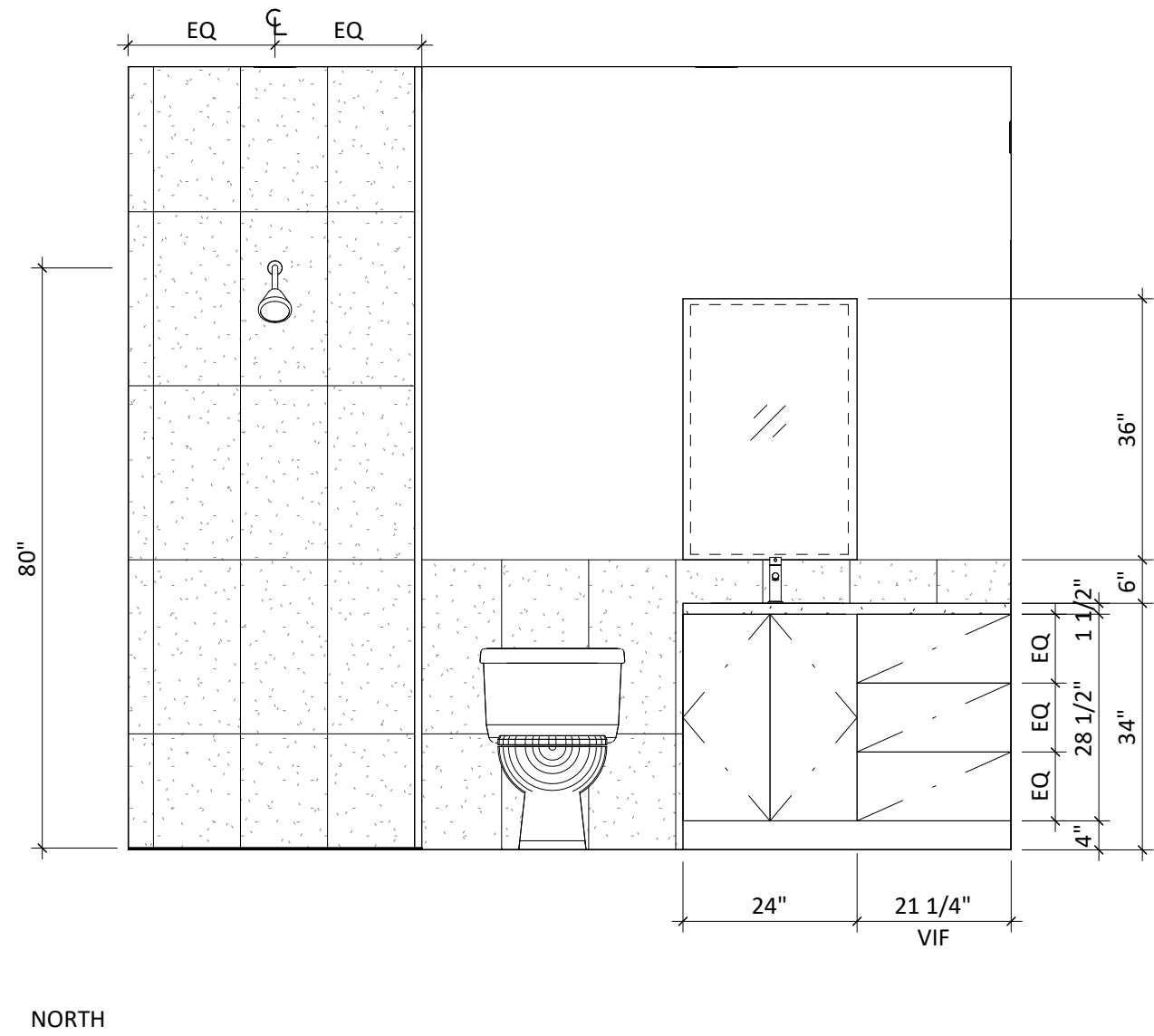
ISSUES

Date	No.	Description
8/11/25	2	PLAN CHECK
9/25/25	3	BID SET



BATHROOM 4/5 INTERIOR ELEVATIONS, TYP.
1/2" = 1'-0"

2



BATHROOM 2/3 INTERIOR ELEVATIONS, TYP.
1/2" = 1'-0"

1

OCFA: FS 45
BATHROOM
REMODEL

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BATHROOM
INTERIOR
ELEVATIONS
A2.00



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ISSUES

Date	No.	Description
8/11/25	2	PLAN CHECK
9/25/25	3	BID SET

OCFA: FS 45
BATHROOM
REMODEL

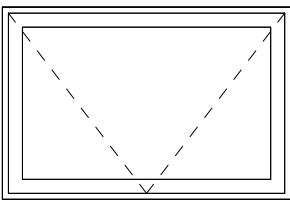
30131 Aventura, Rancho
Santa Margarita, CA
92688
24570.00

OCFA 45 Bathroom Remodel						Lewis/Schoeplein Architects	
Plumbing Fixture/Fitting Schedule						August, 2025	
Key	Type	Manufacturer	Style	Color	Model #	Supplier	Notes
Bathrooms							
P1	Bathroom sink	KOHLER	Ladena Undermount Sink	White	K-2214-0		
P2	Bathroom faucet	MOEN	Align Bathroom Faucet	Brushed Nickel	Model #61988N		
P3	Showerhead	MOEN	Align Chrome Posi-Temp(R) Shower only	Brushed Nickel	Model #T2192BN		
P4	Shower faucet	MOEN	Align Pressure Balanced Valve	Brushed Nickel	Model #T2191BN		
P5	Handheld showerhead	MOEN	Eco-Performance Handheld Shower	Brushed Nickel	Model #3865EPBN		
K1	Shower foldable seat						22" wide, wall-mounted
K2	Mirror	Bellevue	Mateo 24" x 36" Frameless Mirror w/ LED		BOMIR63317		Mounted vertically

PLUMBING SCHEDULE

1" = 1'-0"

3



WINDOW TYPE A

Window Schedule						
Mark	Type	Width	Height	Description	Construction Type	Comments
102	A	3' - 0"	2' - 0"	PTD./MTL.	SINGLE	
101	A	3' - 0"	2' - 0"	PTD./MTL.	SINGLE	

WINDOW SCHEDULE

1/2" = 1'-0"

2



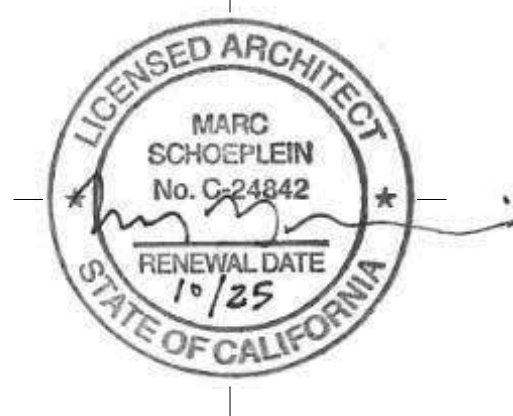
DOOR TYPE A

Door Schedule						
Mark	Door Type	Width	Height	Thickness	Construction Type	Comments
101	A	3' - 0"	7' - 0"	2"	SC WD	
102	A	3' - 0"	7' - 0"	2"	SC WD	
103	A	3' - 0"	7' - 0"	2"	SC WD	
104	A	3' - 0"	7' - 0"	2"	SC WD	
105	A	3' - 0"	7' - 0"	2"	SC WD	

DOOR SCHEDULE

1/2" = 1'-0"

1



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ISSUES

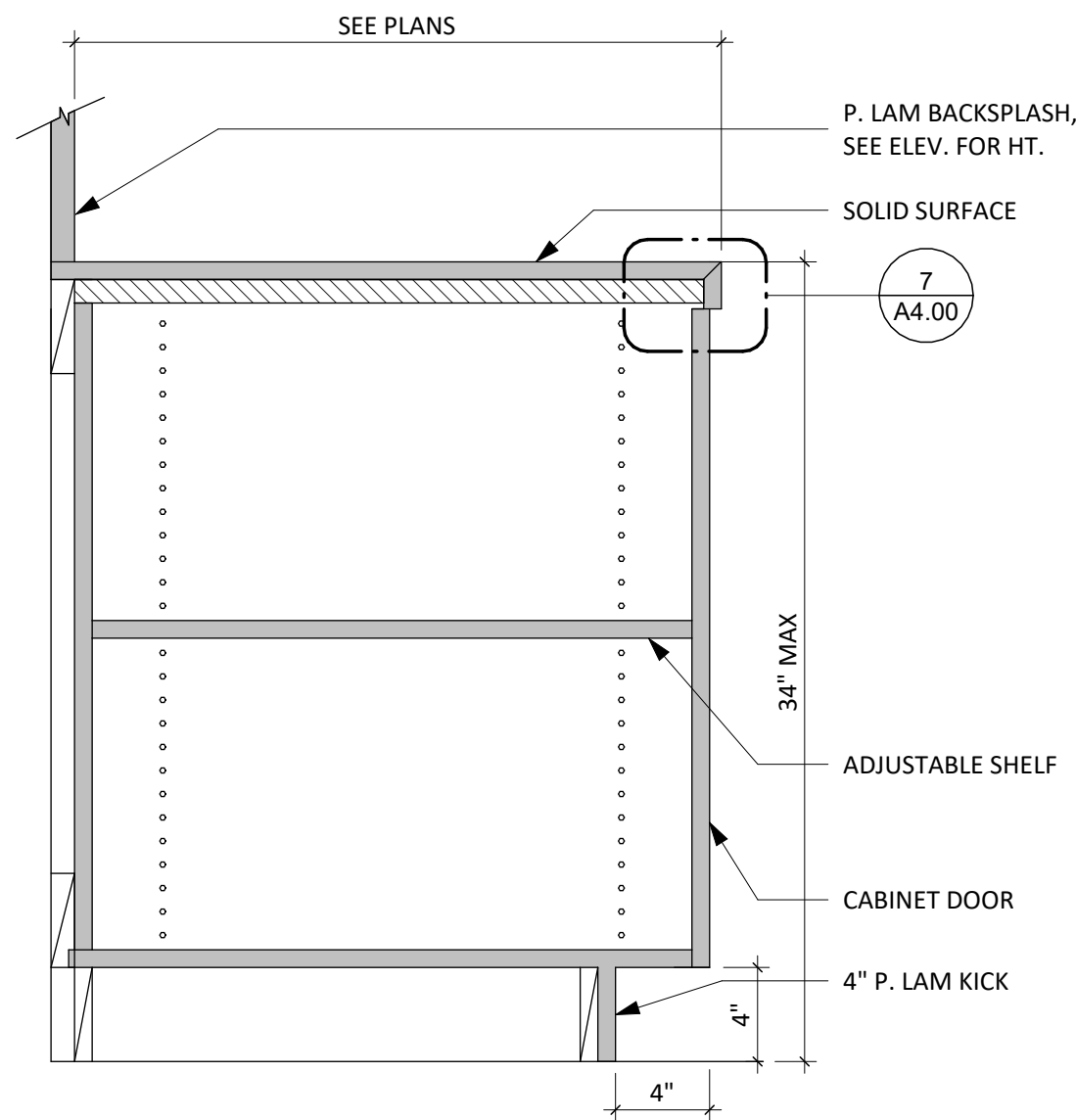
Date	No.	Description
8/11/25	2	PLAN CHECK
9/25/25	3	BID SET

OCFA: FS 45
BATHROOM
REMODEL

30131 Aventura, Rancho
Santa Margarita, CA
92688

24570.00

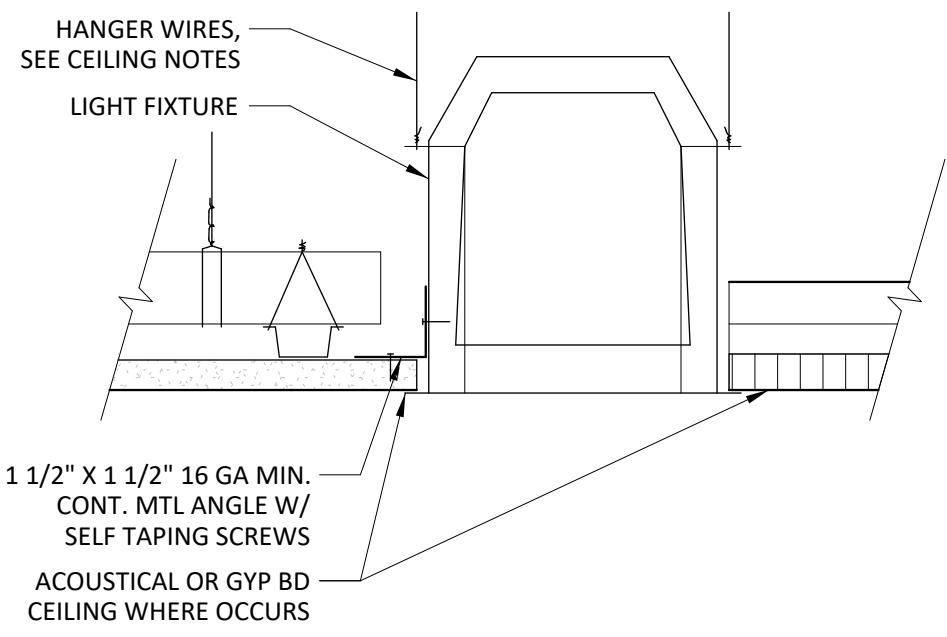
DETAILS
A4.00



TYP. COUNTER SECTION

1 1/2" = 1'-0"

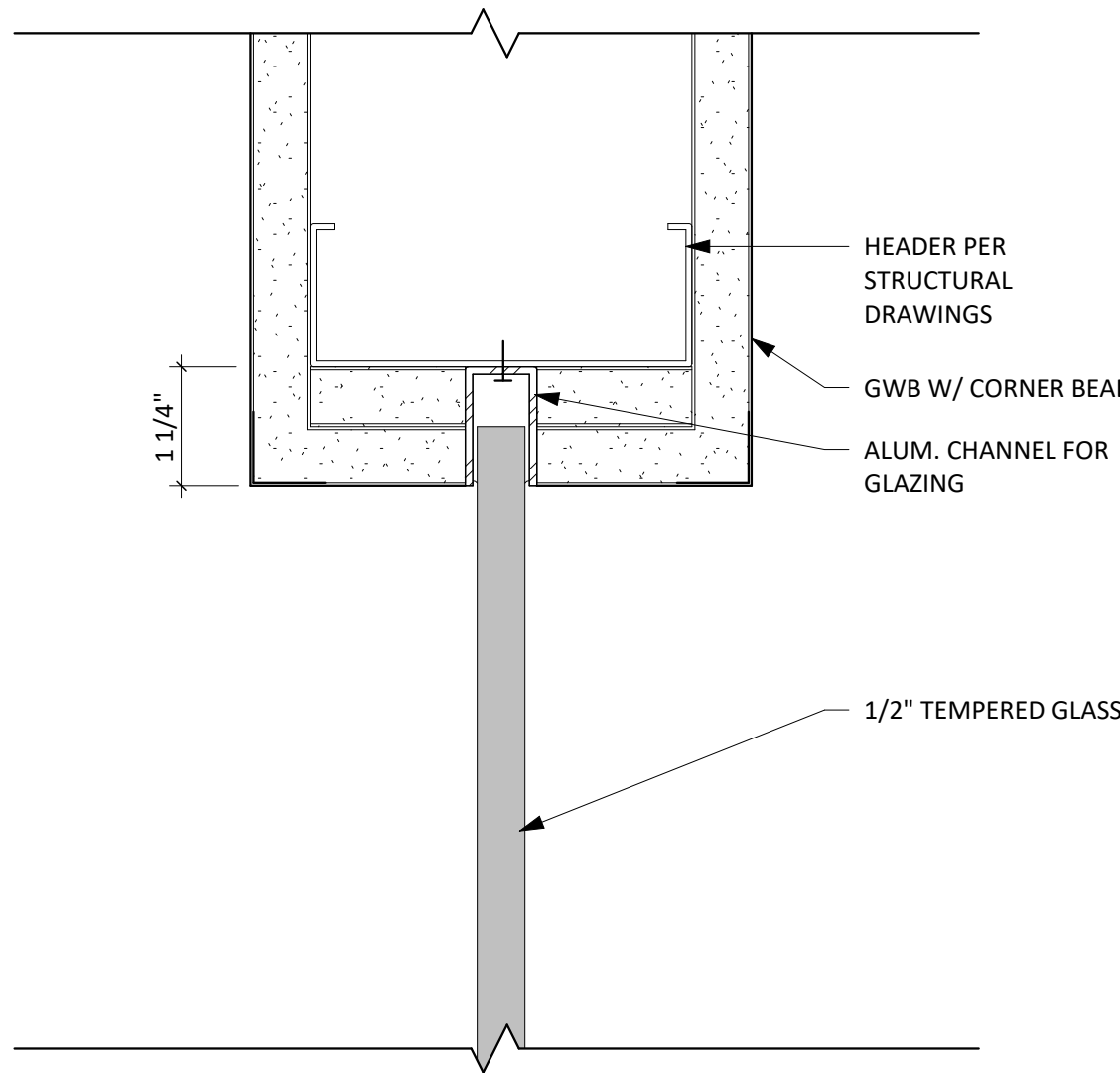
6



FLUSH-MOUNTED DOWNLIGHT

3" = 1'-0"

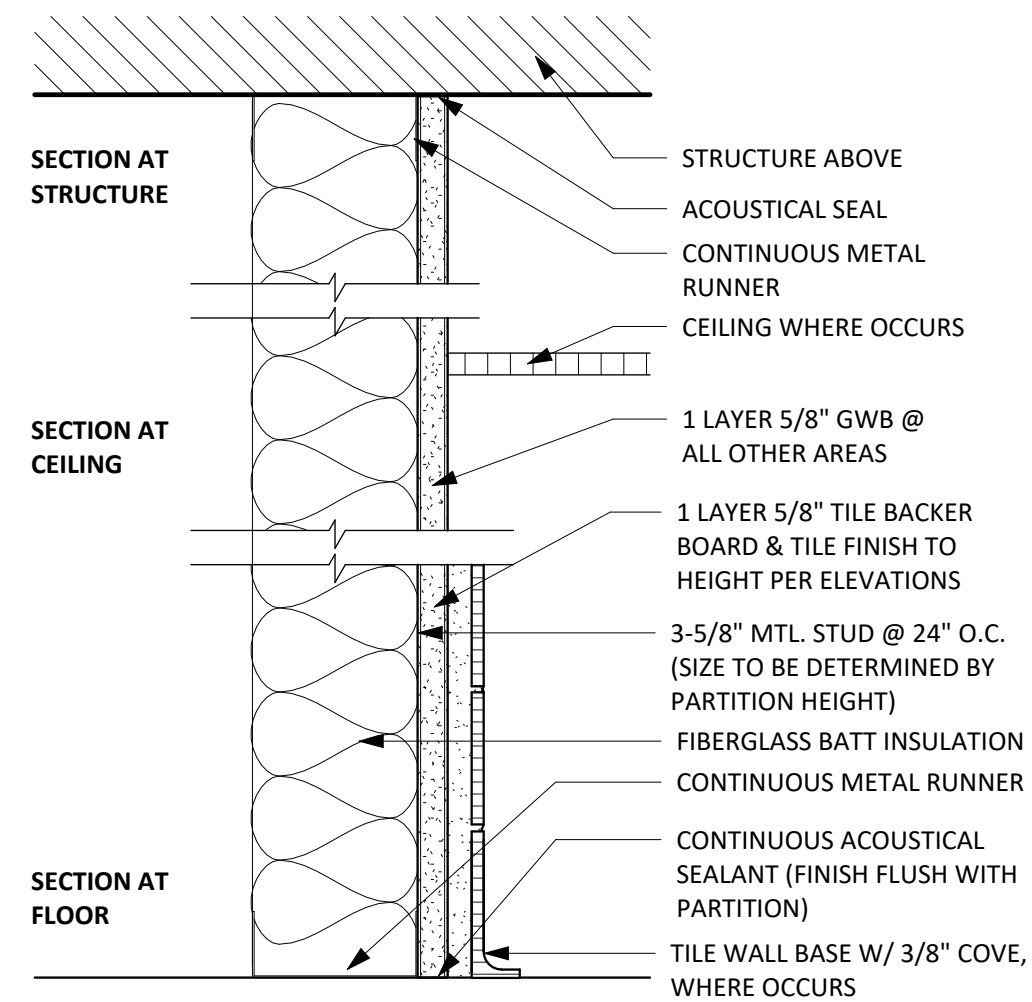
3



GLASS PANEL - HEAD (WALL)

6" = 1'-0"

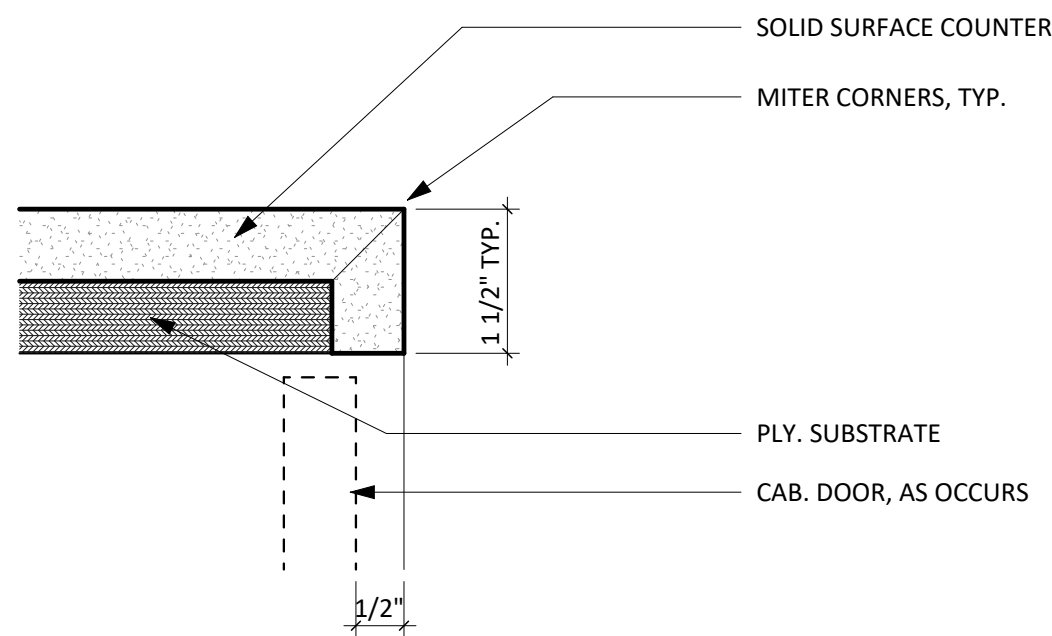
5



WALL TYPE 2 - VOID WALL

3" = 1'-0"

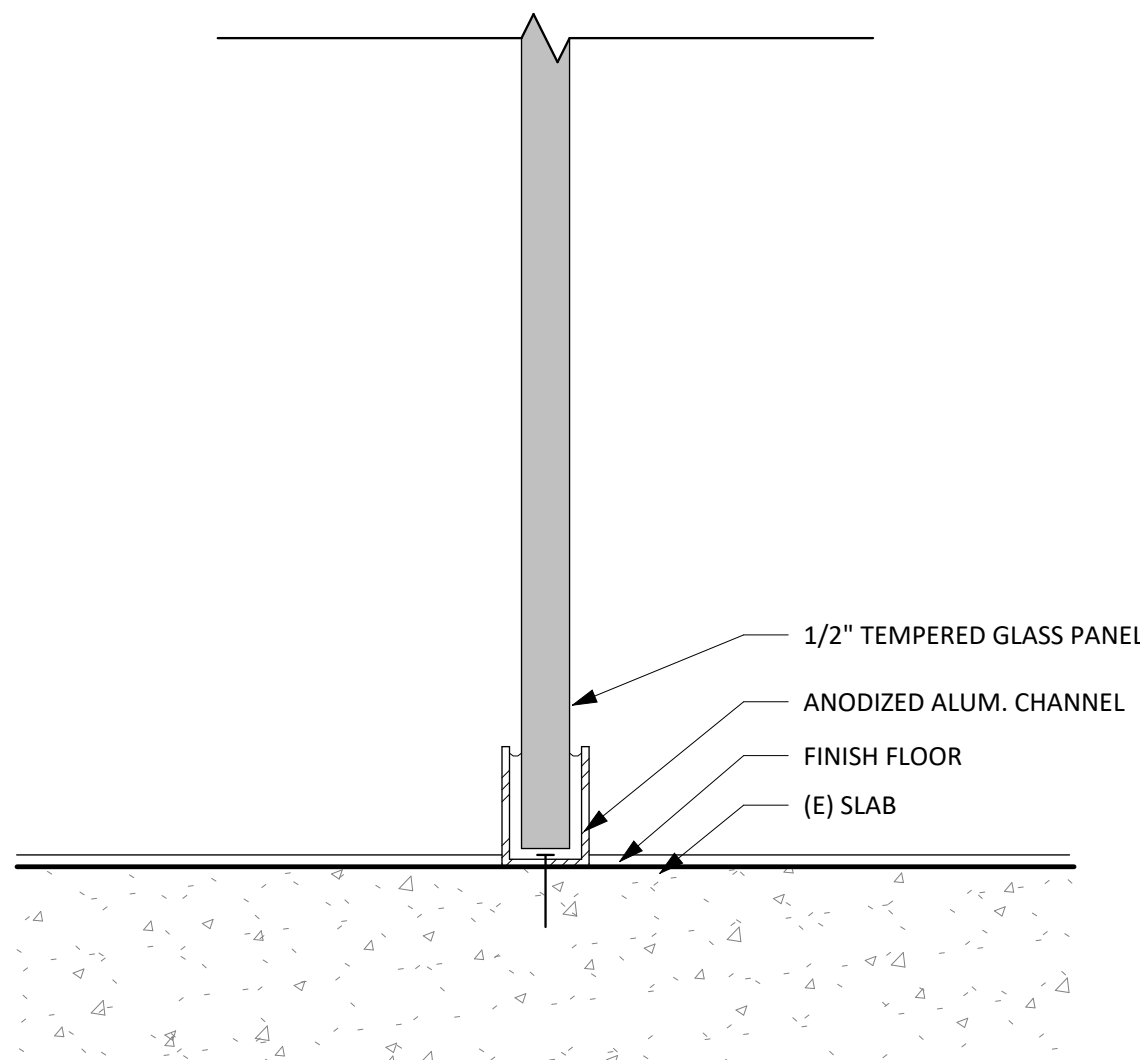
2



SOLID SURFACE EDGE, TYP.

6" = 1'-0"

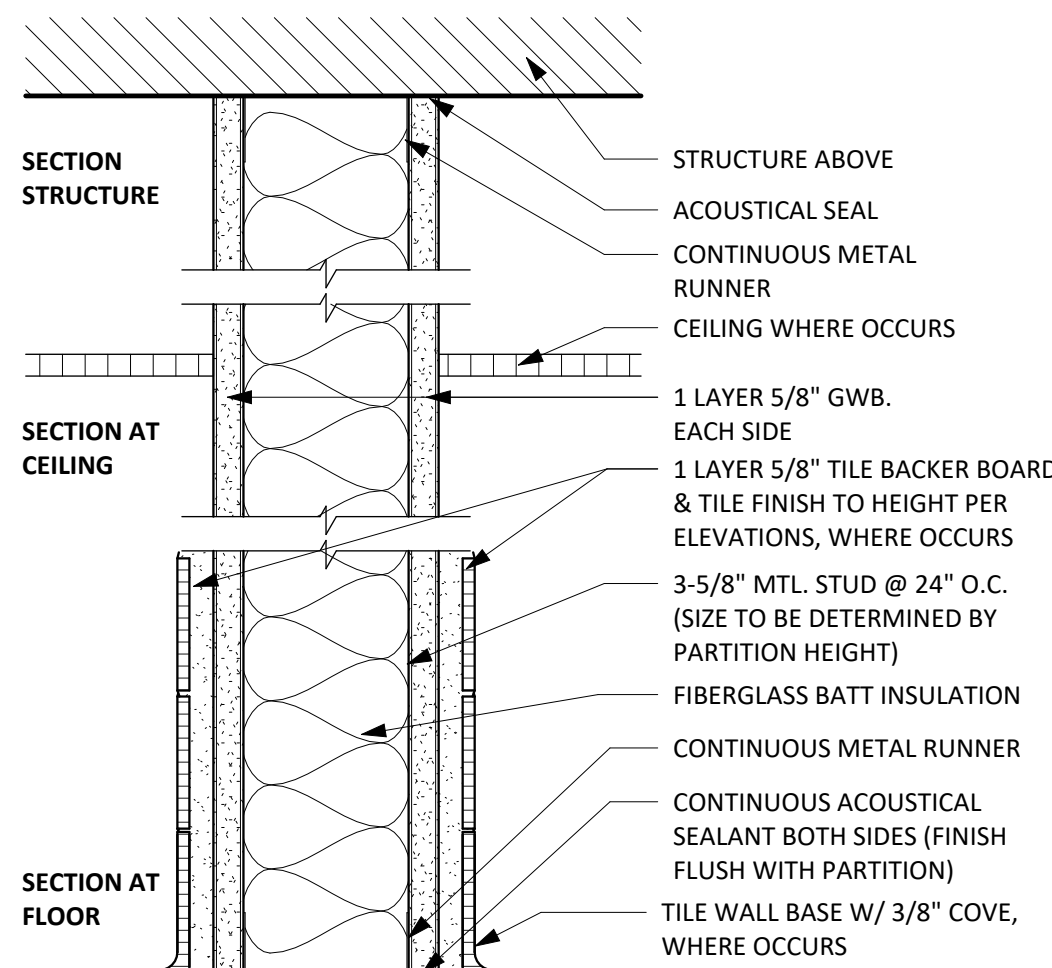
7



GLASS PANEL - BASE

6" = 1'-0"

4



TYPE 1 - FULL HT. PARTITION

3" = 1'-0"

1

GENERAL HVAC NOTES
<div>1. ALL DUCTWORK SHALL BE COORDINATED WITH EXISTING STRUCTURAL JOISTS AND BEAMS. PROVIDE OFFSETS IN PIPES AND DUCTS TO AVOID CUTTING OF BEAMS AND JOISTS.</div> <div>2. SYMBOL AND ABBREVIATION LISTS ARE COMPOSITE. ALL SYMBOLS AND ABBREVIATIONS MIGHT NOT BE USED ON THIS PROJECT.</div> <div>3. MAINTAIN CLEAR ACCESS TO SERVICE EQUIPMENT AND OTHER ACCESSORIES REQUIRING SERVICE, VISUAL INSPECTION OR HAND OPERATION. WHERE INDICATED OR REQUIRED, PROVIDE ACCESS PANELS OF THE TYPE SELECTED TO SUIT MATERIALS IN WHICH INSTALLED.</div> <div>4. THE MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND SHOULD NOT BE SCALED TO ESTABLISH LOCATION OF WORK. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND MAKE ADJUSTMENTS TO DIMENSIONS AS NECESSARY TO COMPLETE THE WORK.</div> <div>5. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND SHALL ARRANGE FOR ALL INSPECTIONS AS REQUIRED.</div> <div>6. CONTRACTOR SHALL THOROUGHLY EXAMINE PREMISES AND OBSERVE ALL CONDITIONS AND CIRCUMSTANCES UNDER WHICH THE WORK SHALL BE PERFORMED. NO ALLOWANCES WILL BE MADE FOR ERRORS OR NEGLIGENCE IN THIS RESPECT.</div> <div>7. CONTRACTOR SHALL PERFORM WORK ONLY AFTER THE GATHERING OF EXACT FIELD DIMENSIONS OF THE BUILDING STRUCTURE AND CEILINGS ETC. WHICH MAY AFFECT THE INSTALLATION OF THE NEW SYSTEMS.</div> <div>8. THE CONTRACTOR SHALL FULLY COORDINATE ALL WORK WITH OTHER TRADES TO ASSURE ALL WORK CAN BE PROPERLY INSTALLED WITHOUT INTERFERENCE OR DELAY.</div> <div>9. CLEAN UP ALL WASTE AND DEBRIS AT THE END OF EACH WORKING DAY AND AT THE COMPLETE OF THE JOB.</div> <div>10. ALL SPECIFIED EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.</div> <div>11. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL HAVE ALL AIR SYSTEMS BALANCED TO INDICATED AIR FLOW QUANTITIES BY A CERTIFIED AABC BALANCING CONTRACTOR. PROVIDE POST-CONSTRUCTION AIR BALANCE REPORT.</div> <div>12. EXACT LOCATIONS OF ALL CEILING DIFFUSERS, REGISTERS, AND GRILLES SHALL BE COORDINATED WITH LIGHTINGS. DRAWINGS SHALL BE USED ONLY FOR GENERAL DUCT ROUTING AND AIR DISTRIBUTION.</div> <div>13. DUCT SIZES SHOWN ON DRAWINGS ARE IN INCHES (CLEAR INSIDE DIMENSIONS) AND REPRESENT THE FREE OR UNOBSTRUCTED AREA REQUIRED ON THE INSIDE OF THE DUCT.</div> <div>14. ALL DUCTWORK SHALL BE GALVANIZED STEEL PER SMACNA GUIDELINES.</div> <div>15. MAXIMUM LENGTH OF RUN OF FLEXIBLE DUCT SHALL NOT EXCEED 5FT.</div> <div>16. PROVIDE VOLUME DAMPERS AT EACH BRANCH TAKE-OFF FROM MAIN SUPPLY, RETURN, AND EXHAUST DUCT SERVING EACH AIR DEVICE.</div> <div>17. ALL DIFFUSERS ARE FOUR-WAY BLOW PATTERNS UNLESS INDICATED ON THE DRAWING.</div> <div>18. CONTRACTOR SHALL FURNISH AND INSTALL DUCT AND PIPE SUPPORT AND BRACING PER SMACNA REQUIREMENT.</div> <div>19. THERMOSTAT SHALL BE INSTALLED BETWEEN 36" AND 48" ABOVE FINISHED FLOOR.</div>
BUILDING DEPARTMENT
<div>1. AIR HANDLING DUCT SYSTEMS SHALL BE CONSTRUCTED, INSTALLED, SEALED AND INSULATED PER 2022 MECHANICAL CODE AS A MINIMUM.</div> <div>2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH 2022 CALIFORNIA BUILDING AND MECHANICAL CODES.</div>
SCOPE OF WORK
<div>1. DEMOLISH (2) EXISTING CEILING FANS.</div> <div>2. PROVIDE (5) NEW CEILING EXHAUST FANS.</div> <div>3. ADJUST AIR DISTRIBUTION FOR NEW LAYOUT.</div>
GREEN CODE NOTES
<div>1. HVAC SYSTEMS AND COMPONENTS SHALL BE TESTED, ADJUSTED AND BALANCED IN ACCORDANCE WITH ONE OF THE FOLLOWING STANDARDS; TABB, NEBB, AABC OR ASHRAE STANDARD 111-2008.</div> <div>2. A FINAL REPORT FOR THE TESTING AND ADJUSTING OF ALL NEW SYSTEMS SHALL BE COMPLETED PRIOR TO FINAL APPROVAL BY THE FIELD INSPECTOR. THIS REPORT SHALL BE SIGNED BY THE INDIVIDUAL RESPONSIBLE FOR PERFORMING THESE SERVICES.</div> <div>3. AN OPERATION & SYSTEM MANUAL SHALL BE PROVIDED TO THE OWNER OR REPRESENTATIVE AND TO THE FIELD INSPECTOR AT THE TIME OF FINAL INSPECTION.</div> <div>4. AN AIR FILTER WITH A MERV OF 13 OR HIGHER SHALL BE INSTALLED IN THE MECHANICAL SYSTEM FOR OUTSIDE AND RETURN AIR PRIOR TO OCCUPANCY.</div> <div>5. IF THE NEW HVAC SYSTEM IS USED DURING CONSTRUCTION, USE RETURN AIR FILTERS WITH A MERV OF 13. REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY.</div> <div>6. ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, OR SHEET METAL UNTIL THE FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT.</div> <div>7. DESIGNED OUTDOOR SMOKING AREA SHALL BE AT LEAST 25 FT. FROM BUILDING ENTRIES, OUTDOOR AIR INTAKES, OR OPERABLE WINDOWS.</div> <div>8. THE BUILDING SHALL MEET OR EXCEED THE PROVISIONS FOR MECHANICAL VENTILATION OF SECTION 1203 SECTION OF LATEST CMC.</div> <div>9. ADDITIONS TO BUILDINGS THAT USE DEMAND CONTROL VENTILATION SHALL HAVE CO2 SENSORS AND VENTILATION CONTROLS INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE CALIFORNIA ENERGY CODE, CCR, TITLE-24, PART-6, SECTION-121(C).</div> <div>10. THE HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT SHALL NOT CONTAIN CFC OR HALONS.</div>

HVAC SYMBOLS	
	SUPPLY DUCT RISER IN PLAN
	RETURN DUCT RISER IN PLAN
	EXHAUST DUCT RISER
	RECTANGULAR DUCTWORK (WIDTH X DEPTH)
	RECTANGULAR DUCTWORK (WIDTH X DEPTH)
	FLAT OVAL DUCTWORK
	ROUND DUCTWORK (SIZE, DIAMETER)
	ACOUSTICALLY LINED DUCTWORK
	SQUARE-THROATED ELBOW W/TURNING VANES
	RADIUS ELBOW
	RADIUS TEE
	SQUARE-THROATED TEE
	VOLUME DAMPER
	TRANSITION WITH FLAT SIDE
	TRANSITION ON CENTER
	RECTANGULAR-TO-ROUND TRANSITION
	TAKE-OFF TAP TO RECTANGULAR DUCT AND VOLUME DAMPER
	CONICAL TAP TO RECTANGULAR DUCT AND VOLUME DAMPER
	FLEXIBLE DUCTWORK, FLEXIBLE EQUIPMENT CONNECTION, DOUBLE LINE
	COMBINATION FIRE SMOKE DAMPER (CFSD)
	FLEXIBLE CONNECTOR
	EXISTING DUCTWORK TO REMAIN
	EXISTING DUCTWORK TO BE REMOVED
	ACCESS REQUIRED FOR EQUIPMENT SERVICE
	SIDE WALL REGISTER/GRILLE
	MOTORIZED DAMPER
	ROUND DIFFUSER
	CEILING DIFFUSER
	RETURN AIR GRILLE
	EXHAUST GRILLE
	THERMOSTAT/TEMPERATURE SENSORS
	EXISTING THERMOSTAT/TEMPERATURE SENSORS
	SMOKE DETECTOR
	EQUIPMENT TAG, DESCRIPTION AC, UNIT NUMBER 1.
	MANUAL VOLUME DAMPER (MVD)
	FIRE DAMPER
	POINT OF CONNECTION (POC)
	POINT DISCONNECTION (POD)
	DOOR UNDERCUT
	DIAMETER
	ROUND DUCT GOING UP
	ROUND DUCT GOING DOWN
	COMBINATION SMOKE/FIRE DAMPER
	OCCUPANCY SENSOR

ABBREVIATIONS	
AC	AIR CONDITIONING UNIT
AD	ACCESS DOOR
AF	AIR FILTER
AFF	ABOVE FINISHED FLOOR
AFM	AIR FLOW MEASURING DEVICE
AHU	AIR HANDLING UNIT
APD	AIR PRESSURE DROP
ATU	AIR TERMINAL UNIT
BAS	BUILDING AUTOMATIC SYSTEM
BDD	BACK DRAFT DAMPER (WEIGHTED)
BTU	BRITISH THERMAL UNITS PER HOUR
CC	COOLING COIL
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
COND	CONDENS(ATE, ER ING, ATION)
CU	CONDENSING UNIT
CONT.,	CONTINUES
CSFD	COMBINATION FIRE/SMOKE DAMPER
CG	CEILING GRILLE
CWWS&R	CONDENSER WATER SUPPLY & RETURN
DB	DECIBELS
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROL
DIA	DIAMETER
DN	DOWN
DPT	DEW POINT TEMPERATURE
DTR	DOWN THRU ROOF
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EFF	EFFICIENCY
EFT	ENTERING FLUID TEMPERATURE
EL	ELEVATION
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM
EMS	ENERGY MANAGEMENT SYSTEM
ER	EXHAUST REGISTER
ESP	EXTERNAL STATIC PRESSURE
(E)	EXISTING
EXIST.	EXISTING
°F	DEGREES, FAHRENHEIT
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FLR	FLOOR
FLA	FULL LOAD AMPS
FPM	FEET PER MINUTE
FT	FEET
FG	FLOOR GRILLE
FV	FACE VELOCITY
HWWS&R	HEATING HOT WATER SUPPLY & RETURN
HZ	HERTZ
HPU	HEAT PUMP UNIT
HP	HORSE POWER
ID	INSIDE DIAMETER
IN	INCHES
IN. W.C.	INCHES OF WATER COLUMN
IFM	INDOOR FAN MOTOR
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LD	LINEAR DIFFUSER
MAX	MAXIMUM
MBH	ONE THOUSAND BTUH
MCA	MINIMUM CIRCUIT AMPS
MCOP	MAXIMUM CIRCUIT AMPS
MD	MOTORIZED DAMPER
MIN	MINIMUM
MISC.	MISCELLANEOUS
MVD	MANUAL VOLUME DAMPER
N	NEW
N/A	NOT APPLICABLE
NC	NOISE CRITERIA
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OFM	OUTDOOR FAN MOTOR
OSA	OUTSIDE AIR
OAI	OUTSIDE AIR INTAKE
OBD	OPPOSED BLADE DAMPER
POC	POINT OF CONNECTION
POD	POINT OF DISCONNECTION
PH	PHASE
(R)	RELOCATED
RA	RETURN AIR
REFG	REFRIGERAT(ANT, ATION)
REB	REBALANCE
REL	RELOCATION
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RLA	RATED LOAD AMPS
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
SA	SUPPLY AIR
SD	SMOKE DETECTOR
SF	SUPPLY AIR FAN
SHR	SENSIBLE HEAT RATIO
SG	SPECIFIC GRAVITY
SP	STATIC PRESSURE
SPEC	SPECIFICATIONS
SPS	STATIC PRESSURE SENSOR
S.F.	SQUARE FOOT
TD	TEMPERATURE DIFFERENCE
TEMP	TEMPERATURE
TSTAT	THERMOSTAT
TYP	TYPICAL
TSP	TOTAL STATIC PRESSURE
UNO	UNLESS NOTED OTHERWISE
UTR	UP THRU ROOF
V	VOLT
VENT	VENTILATION; VENT
VTR	VENT THROUGH ROOF
VAV	VARIABLE AIR VOLUME
W/	WITH
W	WATT
WBT	WET BULB TEMPERATURE
WG	WALL GRILLE
WMS	WIRE MESH SCREEN
SHEET INDEX	
M-0.1	LEGENDS, NOTES, INDEX, AND ABBREVIATIONS
M-0.2	SCHEDULES & DETAILS
M-0.3	SPECIFICATIONS
M-0.4	SPECIFICATIONS
M-1.1	DEMOLITION PLAN
M-2.1	HVAC PLAN

lewis|schoeplein

architects

2018 S. Westgate Ave. unit Z
Los Angeles CA 90025
310/231-0300

REGISTERED PROFESSIONAL ENGINEER
LIN VINH TRAN
M32898
EXP. 09/30/26
MECHANICAL
STATE OF CALIFORNIA

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(805) 584-9719

ISSUES

Date	No.	Description
09/24/25	-	ISSUE FOR PLAN CHECK






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OCFA: FS 45
BATHROOM
REMODEL

30131 Aventura, Rancho
Santa Margarita, CA
92688
24570.00

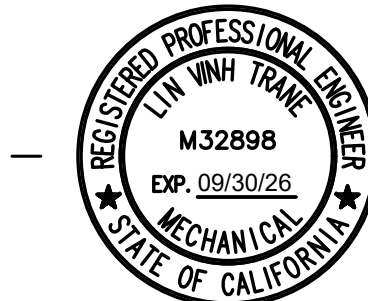
LEGEND, NOTES,
INDEX, AND
ABBREVIATIONS
M-0.1

VISION JOB #: 18129 VCS ISSUE DATE: 09/24/2025

EXHAUST FAN													
SYMBOL	MANUFACTURER AND MODEL NO.	SERVICE	LOCATION	TYPE	CFM	E.S.P. (IN.W.G.)	RPM	DRIVE	WATT	MOTOR (FLA)	V/Ph/Hz	WT. (LBS)	REMARKS
	PANASONIC FV1115VK3	RESTROOM 1	RESTROOM 1	CEILING	129	0.375	1090	DIRECT	19.7	0.37	120/1/60	10	SEE NOTES. USE 6" DUCT.
	PANASONIC FV0511VK3	RESTROOM 2	RESTROOM 2	CEILING	80	0.375	1109	DIRECT	13.2	0.24	120/1/60	10	SEE NOTES. USE 6" DUCT.
	PANASONIC FV0511VK3	RESTROOM 3	RESTROOM 3	CEILING	80	0.375	1109	DIRECT	13.2	0.24	120/1/60	10	SEE NOTES. USE 6" DUCT.
	PANASONIC FV0511VK3	RESTROOM 4	RESTROOM 4	CEILING	110	0.375	1089	DIRECT	17.0	0.24	120/1/60	10	SEE NOTES. USE 6" DUCT.
	PANASONIC FV0511VK3	RESTROOM 5	RESTROOM 5	CEILING	110	0.375	1089	DIRECT	17.0	0.24	120/1/60	10	SEE NOTES. USE 6" DUCT.

NOTES:
1. PROVIDE CONDENSATION SENSOR (FV-CSVK1).

AIR DISTRIBUTION SCHEDULE						
TAG	MANUFACTURER	MODEL	DESCRIPTION	TYPE	BORDER	NOTES
CD-1	PRICE	620	ALUMINUM LOUVER FACE GRILLE	SUPPLY AIR	N-SURFACE FRAME	PROVIDE S ORIENTATION AND OBD.
-	-	-	-	-	-	-



Lin Tran

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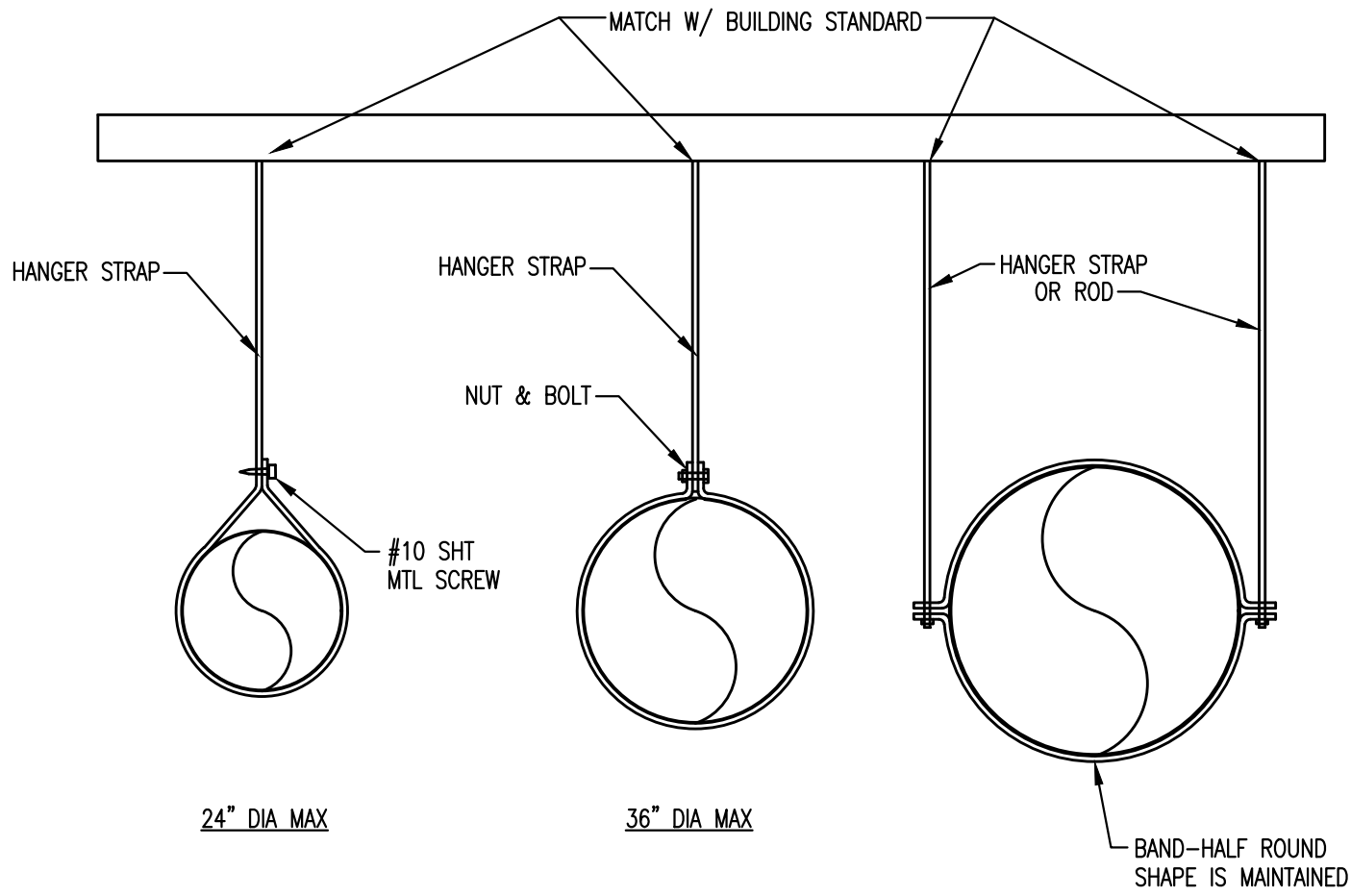
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OCFA: FS 45
BATHROOM
REMODEL

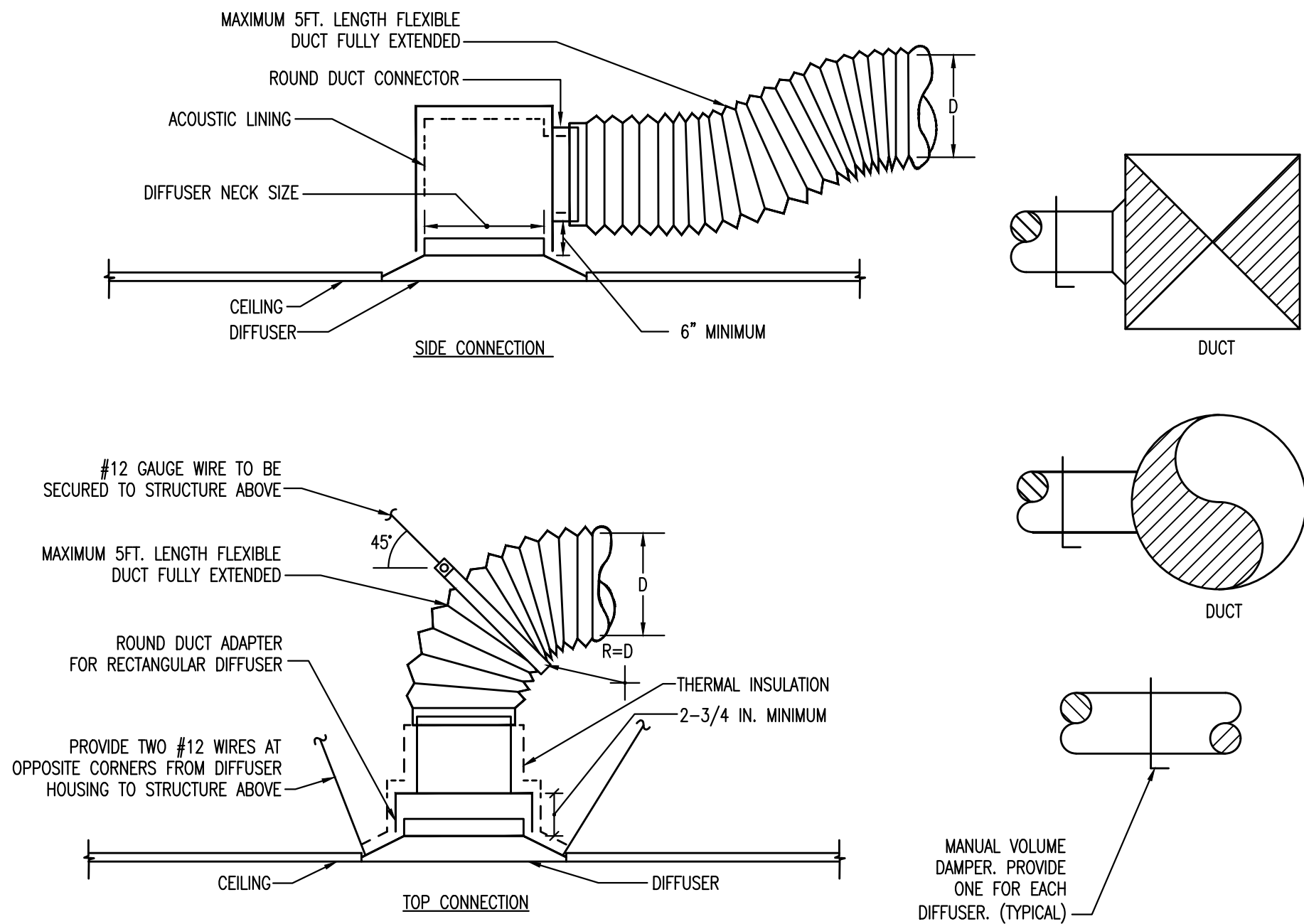
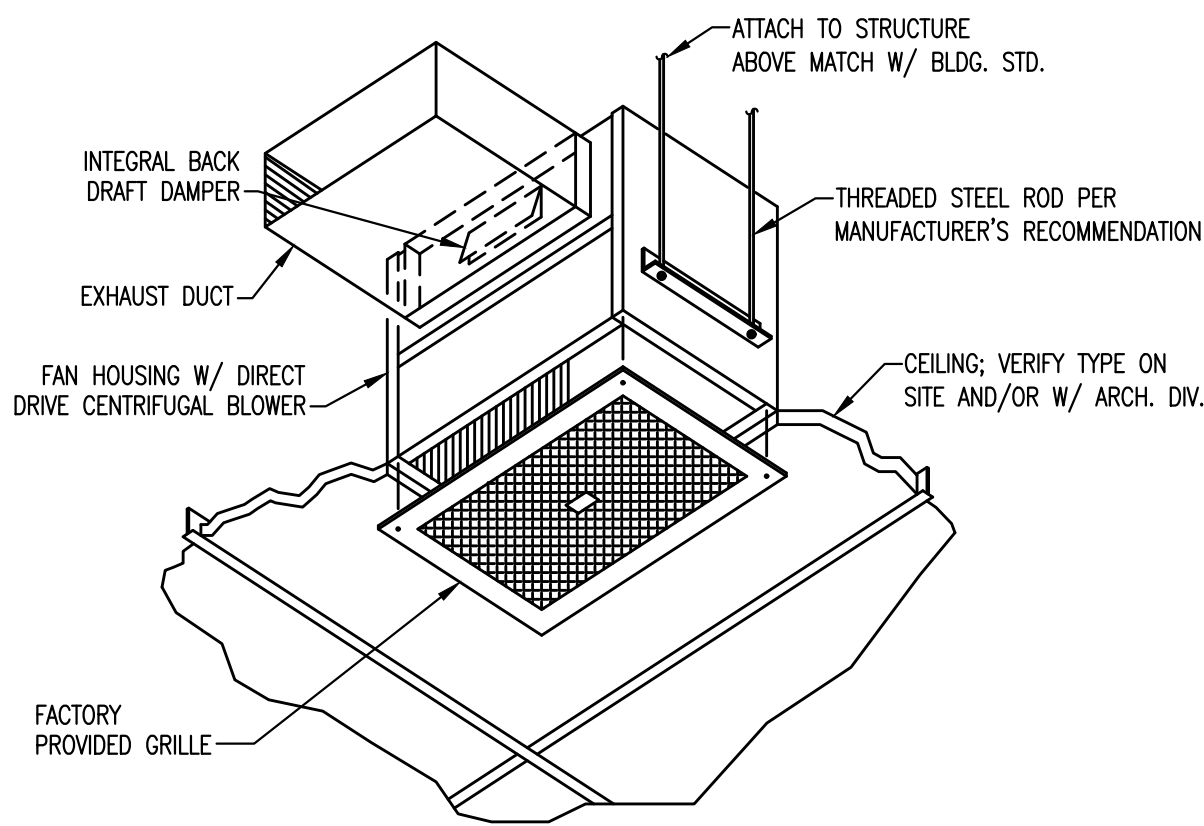
30131 Aventura, Rancho
Santa Margarita, CA
92688
24570.00

SCHEDULES &
DETAILS
M-0.2

VISION JOB #: 18129 VCS ISSUE DATE: 09/24/2025



DIAMETER	MAX SPACING	ROD	STRAP
10" & DN	12 FT	1/4"	1" x 22GA
11"-18"	12 FT	1/4"	1" x 22GA
19"-24"	12 FT	1/4"	1" x 22GA
25"-36"	12 FT	3/8"	1" x 20GA
37"-50"	12 FT	TWO 3/8"	TWO 1" x 20GA
51"-60"	12 FT	TWO 3/8"	TWO 1" x 18GA
61"-84"	12 FT	TWO 3/8"	TWO 1" x 16GA



DUCT HANGERS (ROUND) DETAIL

SCALE
NONE

3

CEILING EXHAUST FAN SUPPORT DETAIL

SCALE
NONE

2

DIFFUSER + FLEX DUCT SUPPORT DETAIL

SCALE
NONE

1

GENERAL HVAC SPECIFICATIONS

1.00 GENERAL

1.01 GENERAL REQUIREMENTS

A. DRAWINGS AND GENERAL PROVISIONS OF CONTACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.02 PRINCIPAL WORK IN THIS SECTION

A. GENERAL REQUIREMENTS:

1. THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, AIA DOCUMENT A201, DESIGN DOCUMENTS, AND THIS SPECIFICATION AS APPLICABLE ARE PART OF THIS CONTRACT.

2. RELATED DOCUMENTS: ARCHITECTURAL AND OTHER DISCIPLINE SPECIFICATIONS, EQUIPMENT SPECIFICATION PACKAGE, GENERAL, SPECIAL AND SUPPLEMENTARY CONDITIONS, SHALL FORM A PART OF THESE SPECIFICATIONS.

3. WHEREVER THERE IS A AMBIGUITY OR APPARENT CONFLICT ON THE DRAWINGS, THE ENGINEER OF RECORD WILL BE THE FINAL ARBITER AS TO THE INTERPRETATION OF THE DRAWINGS.

4. SCOPE OF WORK: PROVIDE ALL REQUIRED LABOR, MATERIALS, EQUIPMENT AND CONTRACTOR'S SERVICES NECESSARY FOR COMPLETE AND SAFE INSTALLATION OF WORK IN CONFORMITY WITH REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION; AS INDICATED ON DRAWINGS AND/OR HEREIN SPECIFIED OR DESCRIBED.

5. SITE CLEANLINESS: KEEP SITE FREE FROM THIS SECTION'S SURPLUS MATERIAL, TOOLS AND RUBBISH AT ALL TIMES DURING CONSTRUCTION PERIOD AND, UPON COMPLETION, LEAVE SITE IN CLEAN CONDITION.

6. SITE SECURITY: PROTECT THIS SECTION'S MATERIALS AND EQUIPMENT FROM ALL DAMAGE DUE TO FIRE, THEFT, VANDALISM, WEATHER, ETC.

7. DAMAGE TO OTHER WORK: REPAIR ANY DAMAGE CAUSED BY THIS SECTION TO WORK OF OTHER SECTIONS.

8. DAMAGE TO FIREPROOFING: REPAIR ANY DAMAGED FIREPROOFING CAUSED BY THIS SECTION TO INTEGRITY OF ORIGINAL CONSTRUCTION.

9. SITE SAFETY: CONTRACTOR AGREES THAT THEY AND THEIR SUBCONTRACTORS AND ASSOCIATED AGENTS, SERVANTS AND EMPLOYEES WILL PROVIDE AND MAINTAIN A SAFE PLACE TO WORK AND THAT THEY WILL COMPLY WITH ALL LAWS AND REGULATIONS OF ANY GOVERNMENTAL AUTHORITY HAVING JURISDICTION THEREOF, AND CONTRACTOR AGREES TO INDEMNIFY, DEFEND AND HOLD HARMLESS, ENGINEER, OWNER AND ARCHITECT FROM AND AGAINST ANY LIABILITY, LOSS, DAMAGE OR EXPENSE, INCLUDING ATTORNEY'S FEES, ARISING FROM A FAILURE OR ALLEGED FAILURE ON THE PART OF CONTRACTOR, THEIR SUBCONTRACTORS AND ASSOCIATED AGENTS, SERVANTS AND EMPLOYEES TO PROVIDE AND MAINTAIN A SAFE PLACE TO WORK OR TO COMPLY WITH ALL LAWS AND REGULATIONS OF ANY GOVERNMENTAL AUTHORITY HAVING JURISDICTION THEREOF.

10. VERIFICATION OF EXISTING:

a. BEFORE SUBMITTING BID, BECOME THOROUGHLY FAMILIAR WITH ACTUAL EXISTING CONDITIONS AND OF THE PRESENT INSTALLATIONS TO WHICH CONNECTIONS MUST BE MADE OR WHICH MUST BE CHANGED OR ALTERED. THE INTENT OF THE WORK IS SHOWN ON THE DRAWINGS AND DESCRIBED HEREIN, AND NO CONSIDERATION WILL BE GRANTED BY REASON OF LACK OF FAMILIARITY ON THE PART OF THE CONTRACTOR WITH ACTUAL PHYSICAL CONDITIONS, REQUIREMENTS, AND PRACTICES AT THE SITE.

11. REQUIREMENTS OF OTHER SECTIONS: CAREFULLY CHECK THE DOCUMENTS OF OTHER SECTIONS TO ASCERTAIN THE REQUIREMENTS OF ANY INTERFACING MATERIALS OR EQUIPMENT BEING FURNISHED AND/OR INSTALLED BY THAT SECTION WHICH RELATE TO THIS SECTION, AND PROVIDE THE PROPER INSTALLATION AND/OR CONNECTION.

12. INFORMATION TRANSFER: TRANSMIT ALL INFORMATION REQUIRED FOR WORK BEING PERFORMED BY OTHER SECTIONS IN AMPLE TIME FOR THE PROPER INSTALLATION AND CONNECTION, AND FOR THE PROVISION OF ALL OPENINGS REQUIRED IN FLOORS AND WALLS.

13. HOLES AND STRUCTURE: FIELD DRILLING AND CUTTING OF HOLES IN BUILDING STRUCTURE REQUIRED FOR WORK UNDER THIS SECTION SHALL BE COORDINATED THROUGH THE GENERAL CONTRACTOR AND APPROVED BY OWNER AND BUILDING STRUCTURAL ENGINEER. ALL SUCH COORDINATION, DRILLING, CUTTING AND REINFORCING COSTS SHALL BE BORNE BY THIS CONTRACTOR.

14. SLEEVES: FURNISH AND SET ALL SLEEVES FOR THE PASSAGE OF DISTRIBUTION SYSTEM THROUGH WALLS, ROOF AND FLOORS AND ELSEWHERE AS WILL BE REQUIRED FOR THE PROPER PROTECTION OF EACH COMPONENT PASSING THROUGH BUILDING SURFACES. COORDINATE THIS WORK WITH THE GENERAL CONTRACTOR IN ORDER TO PROPERLY EXPEDITE AND PERFORM THIS WORK.

15. PASSAGE OF EQUIPMENT: CHECK THE DIMENSIONAL REQUIREMENTS OF EQUIPMENT OF THIS SECTION TO ENSURE THAT SUCH EQUIPMENT CAN PASS THROUGH THE NECESSARY AREAS TO REACH ITS ULTIMATE INSTALLED LOCATION. INCLUDE IN BID COSTS FOR ALL WORK REQUIRED, INCLUDING ANY WORK REQUIRED TO MOVE THE EQUIPMENT THROUGH THE SITE TO THIS FINAL LOCATION, INCLUDING ANY DISMANTLING AND RE-ASSEMBLY.

16. SIGNAGE: PROVIDE SIGNAGE REQUIRED BY CODES AND AUTHORITIES HAVING JURISDICTION.

17. POTENTIAL DELIVERY PROBLEMS: NOTIFY THE GENERAL CONTRACTOR AND ENGINEER IN WRITING, WITHIN FIVE DAYS OF AWARD OF CONTRACT, OF THE PROPOSED DELIVERY SCHEDULE OF ANY EQUIPMENT OR MATERIAL THAT MAY PREVENT THE INSTALLATION FROM BEING COMPLETED BY THE PROJECT COMPLETION DATE.

18. WARRANTY: SUBMIT A SINGLE GUARANTEE STATING THAT ALL PORTIONS OF THE WORK ARE IN ACCORDANCE WITH CONTRACT REQUIREMENTS, GUARANTEE ALL WORK AGAINST FAULTY AND IMPROPER MATERIAL AND WORKMANSHIP FOR ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY OWNER, EXCEPT THAT WHERE GUARANTEES OR WARRANTIES FOR LONGER TERMS ARE SPECIFIED BY CONTRACT, SUCH LONGER TERM SHALL APPLY.

19. RECTIFICATION: AT NO ADDITIONAL COST TO THE OWNER, WITHIN 24 HOURS AFTER NOTIFICATION, CORRECT ANY DEFICIENCIES WHICH OCCUR DURING THE GUARANTEE PERIOD, ALL TO THE SATISFACTION OF THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY SUCH DEFICIENCIES AND REPAIR THEREOF AND REIMBURSE THE OWNER FOR ALL COSTS INCURRED.

B. GENERAL ITEMS:

1. ACCESS DOORS PANELS: PROVIDE CONCEALED EQUIPMENT INCLUDING CONTROLS, VALVES, ETC., REQUIRING ACCESS, WITH ADEQUATELY SIZED ACCESS DOORS/PANELS. IN REMOVABLE TYPE CEILING, PROVIDE ACCESS TILE IDENTIFICATION ONLY.

2. FURNISH AND INSTALL THERMAL INSULATION PER SPECIFICATIONS SECTION 2.06 WHEREVER SUCH INSULATION IS REQUIRED BY CODE OR TO PREVENT CONDENSATION.

3. COORDINATE ALL NEW WORK WITH EXISTING INSTALLATIONS.

4.

1.03 SUBMITTALS

A. PROVIDE FOUR (4) COPIES OF SUBMITTAL MATERIAL WITH DESCRIPTIVE DATA FOR ALL PRODUCTS AND MATERIALS, FURNISHED AS A PART OF THIS CONTRACTOR'S WORK, PRIOR TO INSTALLATION. ALL SUBMITTALS SHALL BE HIGHLIGHTED TO INDICATE SPECIFIC PRODUCTS OR MATERIALS BEING USED.

1.04 SHOP DRAWING

A. CONTRACTOR TO PROVIDE SHOP DRAWING DEPICTING ALL PIPING & DUCTWORK TO BE INSTALLED. DRAWINGS SHALL BE DOUBLE LINE 1/4" SCALE. SHALL SHOW ALL DUCTS, PIPES, OFFSETS, FITTINGS, HANGERS, VALVES & OTHER ACCESSORIES AS APPLICABLE. DRAWINGS SHALL BE SUBMITTED IN PDF FORMAT FOR ENGINEERS REVIEW. PRIOR TO ORDERING MATERIALS OR INSTALLATION.

1.05 QUALITY ASSURANCE

A. QUALITY AND GAUGES OF MATERIALS:

1. NEW, BEST OF THEIR RESPECTIVE KINDS, FREE FROM DEFECTS AND LISTED BY UNDERWRITERS' LABORATORIES, INC. OR BEARING THEIR LABEL.

2. MATERIALS AND EQUIPMENT OF SIMILAR APPLICATION: SAME MANUFACTURE, EXCEPT AS NOTED.

3. CONFORM TO REFERENCE STANDARDS.

1.06 PERMITS AND INSPECTIONS

A. THE CONTRACTOR SHALL SECURE ALL APPROVALS AND PAY ALL FEES FOR ALL WORK INSTALLED. CERTIFICATE SHALL BE DELIVERED TO OWNER BEFORE FINAL PAYMENT WILL BE MADE.

B. PROVIDE ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY FOR A COMPLETE AND SAFE INSTALLATION OF HVAC IN FULL CONFORMITY WITH REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION; ALL AS INDICATED ON DRAWINGS AND/OR HEREIN SPECIFIED FOR THE SYSTEMS INCLUDED. WORK SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER. INCLUDE ALL COST FOR PERMITS, LICENSES, CERTIFICATES, FILING AND INSPECTION REQUIRED BY AUTHORITIES HAVING JURISDICTION.

1.07 JOB CONDITIONS

A. REMOVAL AND RELOCATION OF EXISTING WORK:

1. DISCONNECT, REMOVE OR RELOCATE MATERIAL, EQUIPMENT, DUCTWORK, PIPING AND OTHER WORK NOTED AND REQUIRED BY REMOVAL OR CHANGES IN EXISTING CONSTRUCTION.

2. WHERE EXISTING PIPES, CONDUITS AND/OR DUCTS WHICH ARE TO REMAIN PREVENT INSTALLATION OF NEW WORK AS INDICATED, RELOCATE, OR ARRANGE FOR RELOCATION, OF EXISTING PIPES, CONDUITS AND/OR DUCTS.

3. PROVIDE NEW MATERIAL AND EQUIPMENT REQUIRED FOR RELOCATED EQUIPMENT.

4. PLUG OR CAP ACTIVE PIPING OR DUCTWORK BEHIND OR BELOW FINISH.

5. DO NOT LEAVE LONG DEAD-END BRANCHES. CAP OR PLUG AS CLOSE AS POSSIBLE TO ACTIVE LINE.

6. DISPOSE OF REMOVED MATERIAL AND EQUIPMENT AS DIRECTED.

1.08 SEISMIC SUPPORT

A. CONTRACTOR SHALL SUPPORT AND BRACE ALL HVAC SYSTEMS IN ACCORDANCE WITH CURRENT SEISMIC CODE REQUIREMENTS OR REFER TO STRUCTURAL PLANS.

2.00 PRODUCTS

2.01 DUCTWORK

A. GENERAL: ALL SAFING, DUCTS, DAMPERS, ACCESS DOORS, JOINTS, HANGERS, STIFFENERS, FIRE DAMPERS AND FIRE RETARDING MATERIALS, IN ACCORDANCE WITH REQUIREMENTS OF SMACNA, "HVAC DUCT CONSTRUCTION STANDARDS," LATEST EDITION, AND ALL OTHER AUTHORITIES HAVING JURISDICTION AND AS DESCRIBED HEREIN. ALL SHEET METAL WORK SHALL HAVE A PRESSURE CLASSIFICATION AS FOLLOWS, UNLESS OTHERWISE SPECIFIED:

1. ROUND DUCTWORK – 10 INCHES W.G.

2. RECTANGULAR MAIN SUPPLY DUCTWORK – 4 INCHES W.G.

3. RECTANGULAR BRANCH SUPPLY DUCTWORK – 2 INCHES W.G.

4. RETANGULAR RETURN AND EXHAUST DUCTWORK – 2 INCHES W.G.

B. DUCTWORK: UNLESS OTHERWISE SPECIFIED.

1. COLD ROLLED "COMMERCIAL" QUALITY HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM NO. M525-67.

2. DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS.

3. FITTINGS: SAME GAUGE AND CONSTRUCTION AS DUCTS.

4. DUCT CONSTRUCTION SHALL BE PER SMACNA

C. PROVIDE WATERTIGHT ALUMINUM DUCTWORK FOR THE FOLLOWING:

1. WET DUCTS OR DUCTS IN WET OR CORROSIVE ENVIRONMENT OR AS NOTED ON PLAN.

D. UNEQUAL ELBOWS ARE NOT ACCEPTABLE, EXCEPT RADIUS BRANCH DUCTWORK WITH THROAT.

E. FLEXIBLE DUCTWORK:

1. FACTORY-- MADE FLEXIBLE AIR DUCTS AND CONNECTORS SHALL BE NOT MORE THAN 5 FEET IN LENGTH AND SHALL NOT BE USED IN LIEU OF RIGID ELBOWS OR FITTINGS. THE FLEXIBLE DUCT FOR CONNECTION OF CEILING AIR DIFFUSERS TO SHEET METAL DUCT SHALL BE CASCO SILENT II FLEX OR APPROVED EQUAL.

F. DAMPERS:

1. FURNISH ALL DAMPERS NECESSARY FOR PROPER CONTROL AND BALANCING OF AIR DISTRIBUTION AS FOLLOWS:

a. ALL DUCTS WHICH SPLIT IN 2 OR MORE BRANCHES TO SERVE SUPPLY DIFFUSERS.

b. AT EACH SUPPLY AND RETURN BRANCH DUCT, AS FAR AWAY FROM EACH OUTLET AND INLET AS POSSIBLE.

c. AT EACH SUB-MAIN DUCT TAKEOFF.

d. ADJUSTABLE AND ACCESSIBLE.

e. JIFFY-TYPE AND FIELD FABRICATED DAMPERS ARE NOT ACCEPTABLE.

f. DAMPERS SHALL BE SAME MATERIAL AS DUCTWORK, PER SMACNA CONSTRUCTION STANDARDS, EXCEPT PROVIDE BEARING AT ONE END OF DAMPER ROD AND QUADRANT, WITH LEVER AND LOCKSCREW AT OTHER END. FOR INSULATED DUCTS, QUADRANTS MOUNTED ON COLLAR TO CLEAR INSULATION. LEVERS MUST BE ACCESSIBLE.

G. ACCESS DOORS:

1. FURNISH ACCESS DOOR OF SUFFICIENT SIZE AS REQUIRED, FOR ACCESS INSPECTION, MAINTENANCE, AND REPLACEMENT TO ALL INSTRUMENTS, CONTROLS, AND EQUIPMENT.

2. ACCESS DOORS SHALL BE MUD-IN FRAMES WITH TOUCH LATCH MECHANISM UNLESS NOTED OTHERWISE.

H. TURNING VANES: GALVANIZED STEEL, DOUBLE THICKNESS TURNING VANES ON ALL RECTANGULAR DUCT ELBOWS, IN ACCORDANCE TO SMACNA STANDARDS UNLESS OTHERWISE NOTED.

2.02 AIR OUTLETS AND INLETS

A. ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE OF TYPE AND CAPACITY AS INDICATED ON DRAWINGS.

B. BALANCING DAMPERS SHALL BE PROVIDED IN THE BRANCH DUCT AS FAR AS POSSIBLE FROM ALL SUPPLY AND RETURN DEVICES. THESE SHALL BE ADJUSTABLE AND ACCESSIBLE.

C. SEE PLAN AND SCHEDULES FOR DIFFUSER TYPES AND MANUFACTURER.

D. DIFFUSERS, GRILLES, AND REGISTERS SHALL BE PROVIDED WITH BORDER TYPES SUITABLE FOR THE PROPOSED CEILING TYPE IN EACH LOCATION. REFER TO ARCHITECTURAL PLANS FOR CEILING TYPES.

2.03 HVAC PIPING

A. REFRIGERANT PIPE:

1. COPPER TUBING: ASTM, TYPE ACR HARD DRAWN.

2. FITTINGS: ASME WROUGHT COPPER, PRO-PRESS FITTINGS MAY BE PERMITTED WHEN APPROVED BY BUILDING MANAGEMENT, WHERE PRO-PRESS FITTING ARE USED, THE INSTALLING PERSONNEL MUST BE CERTIFIED IN ITS USAGE.

3. JOINTS: BRASS, AWS BCUP SILVER/PHOSPHORUS/COPPER ALLOY WITH MELTING RANGE 1190°F TO 1480°F.

B. CONDENSER, CHILLED WATER AND HEATING HOT WATER PIPE:

1. COPPER PIPE (SIZE 2-1/2" OR SMALLER):

a. ASTM, TYPE L HARD DRAWN.

b. FITTINGS: ASME WROUGHT COPPER. PRO-PRESS FITTINGS MAY BE PERMITTED WHEN APPROVED BY BUILDING MANAGEMENT, WHERE PRO-PRESS FITTINGS ARE USED, THE INSTALLING PERSONNEL MUST BE CERTIFIED IN ITS INSTALLATION AND USAGE.

c. JOINTS: BRASS, AWS BCUP SILVER/PHOSPHORUS/COPPER ALLOY WITH MELTING RANGE 1190°F TO 1480°F.

2. STEEL PIPE (SIZE 3" OR LARGER):

a. ASTM A 53/A 53M, BLACK STEEL WITH PLAIN ENDS; TYPE, GRADE, AND WALL THICKNESS AS INDICATED IN PART 3 "PIPING APPLICATIONS" ARTICLE.

b. GROOVED MECHANICAL JOINT FITTINGS AND COUPLINGS.

c. WELDED JOINTS SHALL BE PROVIDED FOR PIPING LOCATED WITHIN SHAFTS.

d. GROOVED JOINT MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY ONE OF THE FOLLOWING.

• ANVIL INTERNATIONAL, INC.

• VICTAULIC COMPANY OF AMERICA.

d.a. FITTINGS:

d.a.1. MALLEABLE--IRON THREADED FITTINGS: ASME B16.3, CLASSES 150 AND 300 AS INDICATED IN PART 3 "PIPING APPLICATIONS" ARTICLE.

d.a.2. MALLEABLE--IRON UNIONS: ASME B16.39, CLASSES 150, 250, AND 300 AS INDICATED IN PART 3 "PIPING APPLICATION" ARTICLE.

d.a.3. CAST-- IRON PIPE FLANGES AND FLANGED FITTINGS: ASME B16.1, CLASSES 25, 125, AND 250; RAISED GROUND FACE, AND BOLT HOLES SPOT FACED AS INDICATED IN PART 3 " PIPING APPLICATIONS" ARTICLE.

d.a.4. WROUGHT CAST-- AND FORGED -- STEEL FLANGES AND FLANGED FITTINGS: ASME B16.5, INCLUDING BOLTS, NUTS, AND GASKETS OF THE FOLLOWING MATERIAL GROUP, END CONNECTIONS, AND FACINGS:

• MATERIAL GROUP: 1.1.

• END CONNECTIONS: BUTT WELDING.

• FACING RAISED FACE.

C. TESTING:

1. TEST HYDROSTATICALLY TO 150 PSI.

D. P/T PORTS SHALL BE "PETE'S PLUG II"

E. Y--STRAINERS SHALL BE "WATTS" SYSTEM 777S1 MESH PERFORATED, STAINLESS STEEL SCREEN HOSE END CONNECTION W/ CAP AND CHAIN.

F. SHUT OFF VALVES SHALL BE "MILWAUKEE" MODEL BA150 COMMERCIAL BALL TYPE VALVE.

G. FLEXIBLE PIPE CONNECTION SHALL BE "METRAFLEX" 10" LONG MODEL BBS BRAIDED HOSE CONNECTOR.

H. CHECK VALVES SHALL BE "WATTS" B5300 SWING CHECK.

I. ESCUTCHEONS:

1. PROVIDE EXPOSED PIPING WITH ESCUTCHEONS WHERE PASSING THROUGH WALLS, CEILINGS OR PARTITIONS.

2. PROVIDE SLEEVING FOR ALL PIPING PENETRATES FLOOR SLABS.

2.04 DUCT HANGERS AND SUPPORTS:

A. GENERAL:

1. DUCT SHALL BE SUPPORTED AT EACH CHANGE OF DIRECTION AND IN ACCORDANCE WITH THE LATEST EDITION OF SMACNA HVAC DUCT CONSTRUCTION STANDARDS-- METAL AND FLEXIBLE AND PER ALL RELEVANT CODES.

B. HORIZONTAL DUCT SUPPORTS:

1. STRAP AND ROD SIZES:

• PER LATEST EDITION OF SMACNA HVAC DUCT CONSTRUCTION STANDARDS--METAL AND FLEXIBLE.

2. STRAP HANGERS:

a. EXTEND STRAP DOWN BOTH SIDES OF DUCTS.

b. TURN UNDER BOTTOM ONE INCH MINIMUM.

c. METAL SCREW HANGERS TO:

• BOTTOM OF DUCT.

• UPPER AND LOWER SIDES OF DUCTS.

• NOT MORE THAN 12" ON CENTER.

3. BRACING:

a. SEISMIC SUPPORTS ARE NOT REQUIRED FOR HVAC DUCTWORK WHEN THE Ip = 1.0 IF EITHER OF THE FOLLOWING CONDITIONS IS MET FOR THE ENTIRE DUCT RUN.

• DUCTS ARE SUSPENDED FROM HANGERS 12 IN. OR LESS AS MEASURED FROM THE TOP OF THE DUCT TO THE BOTTOM OF THE SUPPORT WHERE THE HANGER IS ATTACHED. HANGERS MUST BE POSITIVELY ATTACHED TO THE DUCT WITHIN 2 IN. OF THE TOP OF THE DUCT WITH A MINIMUM OF TWO #10 SHEET METAL SCREWS. LATERAL MOTION WILL NOT CAUSE DAMAGING IMPACT WITH OTHER SYSTEMS. LATERAL MOTION WILL NOT CAUSE LOSS OF VERTICAL SUPPORT.

• DUCTS HAVE A CROSS-SECTIONAL AREA OF 6 SQ FT OR LESS.

b. PER SMACNA'S HVAC DUCT CONSTRUCTION STANDARDS -- METAL AND FLEXIBLE AND SMACNA SEISMIC RESTRAINT MANUAL.

• TRANSVERSE BRACING WILL OCCUR AT THE INTERVAL SPECIFIED IN THE TABLES IN CHAPTER 5, 6, 7, OR 8 IN SEISMIC RESTRAINT MANUAL 3RD EDITION. AT BOTH ENDS IF THE DUCT RUN IS LESS THAN THE SPECIFIED INTERVAL, TRANSVERSE BRACING WILL BE INSTALLED AT EACH END OF A DUCT RUN, WITH A MINIMUM OF ONE BRACE AT EACH END.

• LONGITUDINAL BRACING: AT WALL OCCUR AT THE INTERVAL SPECIFIED IN THE TABLES IN CHAPTERS 5, 6, 7, OR 8 IN SEISMIC RESTRAINT MANUAL 3RD EDITION. WITH AT LEAST ONE BRACE PER DUCT RUN.

• TRANSVERSE BRACING FOR ONE DUCT SECTION MAY ALSO ACT AS LONGITUDINAL BRACING FOR A DUCT SECTION AT 90 DEGREES TURNS IF THE BRACING IS INSTALLED WITHIN 24 IN. OF THE INSIDE INTERSECTION OF THE DUCTS AND THE BRACING IS SIZED FOR THE LARGER DUCT, SEE FIGURE 4-1 IN SEISMIC RESTRAINT MANUAL 3RD EDITION. DUCT JOINTS WILL CONFORM TO SMACNA DUCT CONSTRUCTION STANDARDS.

• A GROUP OF DUCTS MAY BE COMBINED IN A LARGER FRAME SO THAT THE COMBINED WEIGHT AND DIMENSIONS OF THE DUCTS ARE LESS THAN OR EQUAL TO THE MAXIMUM WEIGHT AND DIMENSIONS OF THE DUCT FOR WHICH BRACING DETAILS ARE SELECTED.

c. WALLS (INCLUDING GYPSUM BOARD NON--LOAD BEARING PARTITIONS) THAT HAVE DUCTS RUNNING THROUGH THEM MAY REPLACE A TYPICAL TRANSVERSE BRACE. PROVIDE SOLID BLOCKING AROUND DUCT PENETRATIONS AT ALL STUD WALL CONSTRUCTION.

4. TRAPEZE AND RISER SUPPORTS:

a. SUPPORTS FOR GALVANIZED--STEEL DUCTS: GALVANIZED--STEEL SHAPES AND PLATES.

b. SUPPORTS FOR STAINLESS--STEEL DUCTS: STAINLESS--STEEL SHAPES AND PLATES.

c. SUPPORTS FOR ALUMINUM DUCTS: ALUMINUM OR GALVANIZED STEEL COATED WITH ZINC CHROMATE.

5. HANGER AND SUPPORT INSTALLATION:

a. PER SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS -- METAL AND FLEXIBLE" THIRD EDITION CHAPTER 5, " HANGER AND SUPPORTS."

MAXIMUM HALF OF DUCT PERIMETER	PAIR OF 10 FT SPACING		PAIR OF 8 FT SPACING		PAIR OF 5 FT SPACING		PAIR OF 4 FT SPACING	
	STRAP	WIRE/ ROD	STRAP	WIRE/ ROD	STRAP	WIRE/ ROD	STRAP	WIRE/ ROD
P/2= 30"	1" X 22 GA	10 GA (0.135")	1" X 22 GA	10 GA (0.135")	1" X 22 GA	12 GA (0.106")	1" X 22 GA	12 GA (0.106")
P/2= 72"	1" X 18 GA	3/8"	1" X 20 GA	1/4"	1" X 22 GA	1/4"	1" X 22 GA	1/4"
P/2= 96"	1" X 16 GA	3/8"	1" X 18 GA	3/8"	1" X 20 GA	3/8"	1" X 22 GA	1/4"
P/2= 120"	1 1/2" X 16 GA	1/2"	1" X 16 GA	3/8"	1" X 18 GA	3/8"	1" X 20 GA	1/4"
P/2= 168"	1 1/2" X 16 GA	1/2"	1 1/2" X 16 GA	1/2"	1" X 16 GA	3/8"	1" X 18 GA	3/8"
P/2= 192"	NOT GIVEN	1/2"	1 1/2" X 16 GA	1/2"	1" X 16 GA	3/8"	1" X 16 GA	3/8"
P/2= 193" UP	SPECIAL ANALYSIS REQUIRED							
WHEN STRAPS ARE LAP JOINED USE THESE MINIMUM FASTENERS:	SINGLE HANGER MAXIMUM ALLOWABLE LOAD							
	STRAP				WIRE OR ROD (DIA.)			
1" X 18, 20, 22 GA -- TWO #10 OR ONE 1/4" BOLT	1" X 22 GA -- 260 IBS.				0.106" -- 80 IBS.			
1" X 16 GA -- TWO 1/4" DIA.	1" X 20 GA -- 320 IBS.				0.135" -- 120 IBS.			
1 1/2" X 16 GA -- TWO 3/8" DIA.	1" X 18 GA -- 420 IBS.				0.162" -- 160 IBS.			
PLACE FASTENERS IN SERIES, NOT SIDE BY SIDE.	1" X 16 GA -- 700 IBS.				1/4" -- 270 IBS.			
	1/2" X 16 GA -- 1100 IBS.				3/8" -- 680 IBS.			
					1/2" -- 1250 IBS.			
					5/8" -- 2000 IBS.			
					3/4" -- 3000 IBS.			

c. ROUND DUCT HANGER MINIMUM SIZES.				
DIA.	MAXIMUM SPACING	WIRE DIA.	ROD	STRAP
10 IN.	12 FT	ONE 12 GA	1/4 IN.	1 IN. X 22 GA
11--18 IN.	12 FT	TWO 12 GA OR ONE 8 GA	1/4 IN.	1 IN. X 22 GA
19--24 IN.	12 FT	TWO 10 GA	1/4 IN.	1 IN. X 22 GA
25--36 IN.	12 FT	TWO 8 GA	3/8 IN.	1 IN. X 20 GA
37--50 IN.	12 FT	—————>	TWO 3/8 IN.	TWO 1 IN. X 20 GA
51--60 IN.	12 FT	—————>	TWO 3/8 IN.	TWO 1 IN. X 18 GA
61--84 IN.	12 FT	—————>	TWO 3/8 IN.	TWO 1 IN. X 16 GA
85--96 IN.	12 FT	—————>	TWO 1/2 IN.	TWO 1 1/2 IN. X 16 GA

2.05 PIPE HANGERS, SUPPORT AND GUIDES:

A. HORIZONTAL PIPING, EXCEPT AS NOTED:

1. ADJUSTABLE CELVIS TYPE AND ROD:

a. ALL SERVICES AT OR BELOW 250°F.

2. ROLLERS OR SLIDE BASES:

a. PIPE STAND, BRACKET, TRAPEZE OR OTHER EQUIVALENT STRUCTURAL SUPPORT.

b. ROLLERS NOT REQUIRED WHERE SPRING HANGERS ARE CALLED FOR.

3. TRAPEZE HANGERS:

a. GUIDE INDIVIDUAL PIPES ON TRAPEZE WITH 1/4" U-BOLT OR SUPERSTRUT 702 PIPE CLAMP.

b. INSTALL THERMAL HANGER SHIELD AT EACH SUPPORT POINT.

4. VERTICAL SUPPORTS:

a. STEEL RISER CLAMP SIZED TO FIT OUTSIDE DIAMETER OF PIPE.

b. COMPLY WITH MSS SP-58 (TYPE 8).

5. MISCELLANEOUS STEEL:

a. MEMBERS, BEAMS, BRACKETS, ETC. FOR SUPPORT OF WORK IN THIS DIVISION UNLESS SPECIFICALLY INCLUDED IN OTHER DIVISIONS.

B. PIPE SUPPORT SPACING:

1. MAXIMUM SPACING FOR HORIZONTAL/VERTICAL PIPING:

TYPE OF PIPE	PIPE SIZE	HORIZONTAL	VERTICAL
COPPER	1½ INCHES AND SMALLER	6 FEET	EACH FLOOR, NOT TO EXCEED 10 FEET
	2 INCHES AND SMALLER	10 FEET	

a. SPACING NOTES:

• TYPICAL OF CAST IRON AND DURIRON.

• TWO SUPPORTS PER JOINT.

• SUPPORT TO BE WITHIN 18" OF HUB OR JOINT.

• SUPPORT TO BE PLACED ON OR IMMEDIATELY ADJACENT TO COUPLING.

b. ADDITIONAL SUPPORTS AT:

• CHANGES IN DIRECTION.

• BRANCH PIPING AND RUNOUTS OVER 5FT.

• CONCENTRATED LOADS DUE TO VALVES, STRAINERS, AND OTHER SIMILAR ITEMS.

• AT VALVES 4" AND LARGER IN HORIZONTAL PIPING.

• SUPPORT PIPING ON EACH SIDE OF VALVE.

1. PARALLEL PIPING ON TRAPEZE:

a. MAXIMUM SPACING TO BE THAT OF PIPE REQUIRING CLOSEST SPACING.

A. ATTACHMENT TO STRUCTURE:

1. STEEL BEAM ANCHORS:

a. APPROVED BEAM OR CHANNEL CLAMPS.

b. DO NOT CUT OR WELD TO STRUCTURAL STEEL WITHOUT WRITTEN APPROVAL OR OWNER.

c. OTHER METHODS AS DETAILED ON DRAWINGS.

2. STEEL DECK ANCHORS: NO ATTACHMENT TO METAL DECK PERMITTED WITHOUT WRITTEN APPROVAL OF OWNERS REPRESENTATIVE.

a. CONCRETE FILLED: AS SPECIFIED ABOVE.

3. DATE WALL SUPPORTS:

a. CONCRETE WALLS: AS SPECIFIED FOR HANGERS.

b. STUD WALLS:

• TOGGLE BOLTS.

• STUD WELDED TO STRUCTURAL STUDS.

• LAG SCREWS INTO WOOD BACKING.

• OTHER METHODS.

4. SUPPORT SPREADERS:

a. SUPPORT SPREADERS SPANNING BETWEEN STRUCTURAL MEMBERS WHEN HANGER FALL BETWEEN THEM AND HANGER LOAD IS TOO GREAT FOR SLAB OR DECK ATTACHMENT.

D. PIPE HANGER ROD SIZES

1. HANGER ROD SIZES SHALL BE NOT SMALLER THAN THOSE SHOWN IN TABLE BELOW.

PIPE AND TUBE SIZE (INCHES)	ROD SIZES (INCHES)
1/2 -- 4	3/8
5 -- 8	1/2
10 -- 12	5/8

2.06 INSULATION AND LINING

A. MATERIALS:

1. INSULATION, JACKETS, FACINGS, ADHESIVES, COATINGS, AND ACCESSORIES FIRE HAZARD RATING BY UNDERWRITERS LABORATORIES, INC. STEINER TUNNEL TEST METHOD FOR FIRE HAZARD CLASSIFICATION OF BUILDING MATERIALS, STANDARD UL 723, ASTM E-84, NFPA-225.

a. FLAMESPREAD: MAXIMUM 25.

b. FUEL CONTRIBUTED AND SMOKE DEVELOPED: MAXIMUM 50.

2. INSULATION R--VALVE SHALL BE PER TITLE-24 REQUIREMENT.

B. MATERIALS:

1. COMPLY WITH REQUIREMENTS IN EXECUTION PART FOR WHERE INSULATING MATERIALS SHALL BE APPLIED.

a. PRODUCTS SHALL NOT CONTAIN ASBESTOS, LEAD, MERCURY, OR MERCURY COMPOUNDS.

b. PRODUCTS THAT COME IN CONTACT WITH STAINLESS STEEL SHALL HAVE A LEACHABLE CHLORIDE CONTENT OF LESS THAN 50 PPM WHEN TESTED ACCORDING TO ASTM C 871.

c. INSULATION MATERIALS FOR USE ON AUSTENITIC STAINLESS STEEL SHALL BE QUALIFIED AS ACCEPTABLE ACCORDING TO ASTM C 795.

d. FOAM INSULATION MATERIALS SHALL NOT USE CFC OR HCFC BLOWING AGENTS IN THE MANUFACTURING PROCESS.

2. FLEXIBLE ELASTOMERIC: CLOSED--CELL, SPONGE-- OR EXPANDED--RUBBER MATERIALS. COMPLY WITH ASTM C 534, TYPE I FOR TUBULAR MATERIALS AND TYPE II FOR SHEET MATERIALS.

a. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING.

• AEROFLEX USA INC.; AEROCCEL.

• ARMACEL LLC; AP ARMFLEX.

3. MINERAL--FIBER BLANKET INSULATION: MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN. COMPLY WITH ASTM C 553, TYPE II AND ASTM C 1290, TYPE [I] [II WITH FACTORY--APPLIED VINYL JACKET] [III WITH FACTORY--APPLIED FSK JACKET] [III WITH FACTORY--APPLIED FSP JACKET].

a. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:

• JOHNS MANVILLE; MICROLITE.

• KNAUF INSULATION; DUCT WRAP.

• OWENS CORNING; ALL--SERVICE DUCT WRAP.

lewis|schoeplein
architects

2018 S. Westgate Ave. unit Z
Los Angeles CA 90025
310/231-0300



Lin Tran

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30501 Agoura Road, Suite 150
Agoura Hills, CA 91301
(805) 584-9719

ISSUES

Date No. Description
09/24/25 - ISSUE FOR PLAN CHECK

THESE DRAWINGS ARE NOT ISSUED FOR PRICING PURPOSES. THESE ARE SPECIFICALLY ISSUED FOR PLAN CHECK. FOR DETAILED PRICING INSTRUCTIONS REFER TO THE PRICING PLANS AND WRITTEN SPECIFICATIONS.

OCFA: FS 45
BATHROOM
REMODEL

30131 Aventura, Rancho
Santa Margarita, CA
92688
24570.00

SPECIFICATIONS

M-0.3

GENERAL HVAC SPECIFICATIONS

4. MINERAL-FIBER, PREFORMED PIPE INSULATION: MINERAL OR GLASS FIBERS BONDED WITH A THERMOSETTING RESIN. COMPLY WITH ASTM C 547, TYPE I 850 °F GRADE A, TYPE II 1200 °F GRADE A.
- a. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
- JOHNS MANVILLE; MICRO-LOK.
 - KNAUF INSULATION; 1000 PIPE INSULATION.
 - OWENS CORNING; FIBERGLAS PIPE INSULATION.
- C. ADHESIVES:
1. MATERIALS SHALL BE COMPATIBLE WITH INSULATION MATERIALS, JACKETS, AND SUBSTRATES AND FOR BONDING INSULATION TO ITSELF AND TO SURFACES TO BE INSULATED, UNLESS OTHERWISE INDICATED.
2. FLEXIBLE ELASTOMERIC ADHESIVE: COMPLY WITH MIL-A-24179A, TYPE II, CLASS I.
- a. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
- ARMACELL LCC; 520 ADHESIVE.
- b. FOR INDOOR APPLICATIONS, USE ADHESIVE THAT HAS A VOC CONTENT OF 50 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).
3. MINERAL-FIBER ADHESIVE: COMPLY WITH MIL-A-3316C, CLASS 2, GRADE A.
- a. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
- CHILDERS PRODUCTS, DIVISION OF ITW; CP-82.
 - FOSTER PRODUCTS CORPORATION, H. B. FULLER COMPANY; 85-20.
4. ASJ ADHESIVE, AND FSK ADHESIVE: COMPLY WITH MIL-A-3316C, CLASS 2, GRADE A FOR BONDING INSULATION JACKET LAP SEAMS AND JOINTS.
- a. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS PROVIDE ONE OF THE FOLLOWING:
- CHILDERS PRODUCTS, DIVISION OF ITW; CP-82.
 - FOSTER PRODUCTS CORPORATION, H. B. FULLER COMPANY; 85-20.
- b. FOR INDOOR APPLICATIONS, USE ADHESIVE THAT HAS A VOC CONTENT OF 50 G/L OR LESS WHN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).
- D. MASTICS:
1. MATERIALS SHALL BE COMPATIBLE WITH INSULATION MATERIALS, JACKETS, AND SUBSTRATES; COMPLY WITH MIL-C-1956SC, TYPE II.
- a. FOR INDOOR APPLICATIONS, USE MASTICS THAT HAVE A VOC CONTECT OF 36 G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).
- b. VAPOR-BARRIER MASTIC: WATER BASED; SUITABLE FOR INDOOR AND OUTDOOR USE. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
- CILDERS PRODUCTS, DIVISION OF ITW; CP-35.
 - FOSTER PRODUCTS CORPORATION, H. B. FULLER COMPANY; 30-90.
- A. SEALANTS:
4. FSK AND METAL JACKET FLASHING SEALANTS:
- a. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
- CHILDERS PRODUCTS, DIVISION OF ITW; CP-76-B.
 - FOSTER PRODUCTS CORPORATION, H. B. FULLER COMPANY; 95-44.
- F. JACKETS:
1. ALUMINUM JACKET: COMPLY WITH ASTM B 209 (ASTM B 209M), ALLOY 3003, 3005, 3105 OR 5005, TEMPER H-14.
- a. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
- CHILDERS PRODUCTS, DIVISION OF ITW; CMETAL JACKETING SYSTEMS.
 - PABCO METALS CORPORATION; SUREFIT.
- G. TAPES:
1. ASJ TAPE: WHITE VAPOR-RETARDER TAPE MATCHING FACTORY-APPLIED JACKET WITH ACRYLIC ADHESIVE; COMPLYING WITH ASTM C 1136.
2. FSK TAPE: FOIL-FACE, VAPOR-RETARDER TAPE MATCHING FACTORY-APPLIED JACKET WITH ACRYLIC ADHESIVE; COMPLYING WITH ASTM C 1136.
- a. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
- AVERY DENNISON CORPORATION, SPECIALTY TAPES DIVISION; FASSON 0827.
 - COMPAC CORP.; 110 AND 111.
- H. INSULATION PINS AND HANGERS:
1. METAL, ADHESIVELY ATTACHED, PERFORATED-BASE INSULATION HANGER: BASEPLATES WELDED TO PROJECTING SPINDLE THAT IS CAPABLE OF HOLDING INSULATION OF THICKNESS INDICATED, SECURELY IN POSITION INDICATED WHEN SELF-LOCKING WASHER IS IN PLACE. COMPLY WITH THE FOLLOWING REQUIREMENTS:
- a. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
- AGM INDUSTRIES, INC.; TACTOO INSUL-HANGERS, SERIES T.
 - GEMCO; PERFORATED BASE.
2. WIRE: [0.080-INCH (2.0-MM) NICKEL-COPPER ALLOY] [0.062-INCH (1.6-MM) SOFT-ANNEALED, STAINLESS STEEL] [0.062-INCH (1.6-MM) SOFT-ANNEALED, GALVANIZED STEEL].
- a. PRODUCTS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ONE OF THE FOLLOWING:
- C & F WIRE.
 - CHILDERS PRODUCTS.
- I. CORNER ANGLES:
1. ALUMINUM CORNER ANGLES: 0.040 INCH (1.0-MM) THICK, MINIMUM 1 BY 1 INCH (25 BY 25-MM), ALUMINUM ACCORDING TO ASTM B 209 (ASTM B 209M), ALLOY 3003, 3005, 3105 OR 5005; TEMPER H-14.

3.00 EXECUTION

3.01 INSTALLATION OF THE WORK

- A. THE CONTRACT DRAWINGS INDICATE THE GENERAL ARRANGEMENTS FOR THE HVAC SYSTEMS.
- DRAWINGS ARE DIAGRAMMATIC AND DO NOT INDICATE NECESSARY OFFSETS, OBSTRUCTIONS OR STRUCTURAL CONDITIONS.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL THE WORK IN SUCH A MANNER THAT IT WILL BE AT THE HIGHEST ELEVATION POSSIBLE, CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS, MAINTAIN HEADROOM, LEAVE ADEQUATE CLEARANCES FOR LIGHT FIXTURES, RETURN AIR PATHWAYS, MAINTENANCE AND REPAIRS, AND PROVIDE CLEARANCE AND ACCESS AS REQUIRED BY CODES. NOTHING SHALL BE INSTALLED BELOW CEILING LEVEL WITHOUT ARCHITECT'S WRITTEN CONSENT.
 - ABOVE ITEMS TO BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER.
 - PROCEED AS RAPIDLY AS THE BUILDING CONSTRUCTION WILL PERMIT.
 - THOROUGHLY CLEAN ITEMS BEFORE INSTALLATION. CAP OPENINGS TO EXCLUDE DIRT UNTIL FINAL CONNECTIONS HAVE BEEN MADE.
 - CUT MATERIALS ACCURATELY, WORK INTO PLACE WITHOUT SPRINGING OR FORCING, PROPERLY CLEAR WINDOWS, DOORS AND OTHER OPENINGS. EXCESSIVE CUTTING OR OTHER WEAKENING OF THE BUILDING STRUCTURE WILL NOT BE PERMITTED.
 - MANUFACTURER'S DRAWINGS AND INSTRUCTIONS SHALL BE FOLLOWED IN ALL CASES WHERE THE MAKERS OF DEVICES AND EQUIPMENT FURNISH DIRECTIONS OR DETAILS NOT SHOWN ON THE DRAWINGS OR DESCRIBED IN THE SPECIFICATIONS.
 - DRAWINGS ARE NOT INTENDED TO BE SCALED, BUT SHALL BE FOLLOWED WITH SUFFICIENT ACCURACY TO COORDINATE WITH OTHER WORK AND STRUCTURAL LIMITATIONS.
 - SEISMIC DESIGN: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ANCHORS, SUPPORTS AND CONNECTIONS OF MECHANICAL WORK TO THE BUILDING STRUCTURE TO PREVENT DAMAGE AS A RESULT OF AN EARTHQUAKE, INCLUDING MANUFACTURED EQUIPMENT, THE CONNECTION AND INTEGRITY OF SHOP FABRICATED AND FIELD FABRICATED MATERIALS AND EQUIPMENT. ALL SUPPORTS, EQUIPMENT AND CONNECTIONS THERETO SHALL BE DESIGNED TO CONFORM TO REQUIREMENTS OF THE CALIFORNIA BUILDING CODE, OR OTHER GOVERNING CODES.
 - ALL WORK SHALL BE PROPERLY SUPPORTED FROM BUILDING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER, INDEPENDENT OF THE CEILING SUPPORT SYSTEM, WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT DIRECT FASTENING OF SUPPORTS, FURNISH ADDITIONAL FRAMING.
 - ALL EQUIPMENT SHALL BE SECURELY FASTENED TO BUILDING CONSTRUCTION WITH APPROVED SUPPORTS.
 - REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF DIFFUSERS, GRILLES, REGISTERS, AND THERMOSTATS (IF DEPICTED). IF THERMOSTATS ARE NOT DEPICTED SPECIFICALLY ON ARCHITECT'S DRAWINGS, OBTAIN ARCHITECT'S APPROVAL FOR LOCATIONS PRIOR TO INSTALLATION. LOCATIONS SHOULD NOT BE ALLOWED THAT WILL PRECLUDE PROPER OPERATION.
 - COORDINATE THE WORK OF THIS SECTION WITH THE WORK OF OTHER SECTIONS IN AMPLE TIME FOR PROPER INSTALLATION AND CONNECTION.
 - CAREFULLY CHECK SPACE REQUIREMENTS, INCLUDING SERVICING SPACE REQUIREMENTS, WITH OTHER SECTIONS TO ENSURE THAT ALL EQUIPMENT AND MATERIALS CAN BE INSTALLED IN THE SPACES ALLOTTED THERETO.
 - PREPARE DRAWINGS, ATTEND MEETINGS, OBTAIN ALL APPROVALS REQUIRED BY ALL AUTHORITIES HAVING JURISDICTION, CONDUCT REQUIRED TESTS AND OBTAIN REQUIRED PERMITS.

3.02 CONTROL DEVICES

- A. ALL CONTROL DEVICES NOT SPECIFIED TO BE FURNISHED AND INSTALLED UNDER THE ELECTRICAL SECTIONS SHALL BE PROVIDED UNDER THIS SECTION.

3.03 TESTING AND BALANCING

A. GENERAL:

- ADJUSTMENT: EACH PIECE OF EQUIPMENT AND ALL OF THE SYSTEMS SHALL BE ADJUSTED TO INSURE PROPER FUNCTIONING OF ALL CONTROLS, AND SHALL BE LEFT IN OPERATING CONDITION.
- PRELIMINARY OPERATION: THE OWNER RESERVES THE RIGHT TO OPERATE ANY SYSTEMS OR EQUIPMENT PRIOR TO FINAL COMPLETION AND ACCEPTANCE OF THE WORK. SUCH PRELIMINARY OPERATION SHALL NOT BE CONSTRUED AS AN ACCEPTANCE OF ANY WORK.

B. AIR DISTRIBUTION SYSTEMS:

- AIR BALANCING SHALL BE ACCOMPLISHED BY ADJUSTMENT OF FANS AND BRANCH DAMPERS FOR MAJOR ADJUSTMENTS. ADJUSTMENT OF TERMINAL DAMPERS AND DEVICES SHALL BE FOR TRIM OR MINOR ADJUSTMENT ONLY. THIS SHALL BE DONE TO PERMIT THE LEAST NOISE GENERATION IN THE TERMINAL AREAS AND UTILIZE MINIMUM FAN ENERGY. TESTING, ADJUSTING AND BALANCING SHALL BE DONE IN ACCORDANCE WITH THE AABC NATIONAL STANDARD FOR TOTAL SYSTEM BALANCE.
- UPON COMPLETION OF THE INSTALLATION, THE CONTRACTOR SHALL RE-BALANCE ANY EXISTING PORTION OF AIR DISTRIBUTION SYSTEM AFFECTED BY THE RENOVATION AND ALSO BALANCE ALL NEW WORK.
- THE CONTRACTOR SHALL PROVIDE ALL LABOR, ADDITIONAL SHEAVES AND BELTS REQUIRED TO BALANCE SYSTEMS.
- BALANCE AND ADJUST AIR DISTRIBUTION SYSTEM TO QUANTITIES INDICATED ON DRAWINGS IN ACCORDANCE WITH ASSOCIATED AIR BALANCE COUNCIL (AABC) MANUAL, LATEST EDITION.
- BALANCING AND TESTING SHALL BE PERFORMED AND SUPERVISED BY A CERTIFIED INDEPENDENT FIRM SPECIALIZING IN TESTING AND BALANCING. FIRM SHALL BE A MEMBER OF AABC. TEST REPORTS SHALL BE SUBMITTED IN BOUND FOLDERS AND ON AABC TYPE REPORT FORMS. ALL DIFFUSERS SHALL BE IDENTIFIED BY DESIGNATIONS ON DRAWINGS.
- DIFFUSER AIR DELIVERY SHALL NOT BE LESS THAN, NOR EXCEED BY MORE THAN 5%, THE AIR DELIVERY INDICATED ON THE PLANS.

3.04 PROJECT CLOSE-OUT

- A. AFTER FINAL OPERATION FOR INSPECTION AND ACCEPTANCE, DELIVER ALL COPIES OF OPERATION INSTRUCTIONS, MAINTENANCE MANUALS AND PARTS DESCRIPTIONS TO THE ARCHITECT.
- B. ALL TOOLS SUPPLIED WITH THE EQUIPMENT FOR MAINTENANCE SHALL BE TAGGED AND TEMPORARILY SECURED TO THE UNIT, OR TURNED OVER TO THE OWNER.

3.05 MAINTENANCE MANUALS AND AS-BUILTS DRAWINGS.

- A. PROVIDE FOUR (4) COPIES OF OPERATING AND MAINTENANCE MANUAL FOR OWNER'S USE FOR EACH PIECE OF EQUIPMENT. EACH ITEM SHALL BE CROSS-REFERENCED AND NUMBERED WITH AS-BUILT DRAWING DESCRIPTIONS.
- B. AS-BUILT DRAWINGS: DELIVER TO OWNER, ONE SET OF REPRODUCIBLE, CADD CD, AND ONE BOUND SET OF PRINTS AND PANEL SCHEDULES SHOWING WORK AS ACTUALLY INSTALLED.



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Agoura Hills, CA 91301
(805) 584-9719

ISSUES

Date	No.	Description
09/24/25	-	ISSUE FOR PLAN CHECK

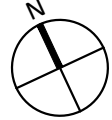
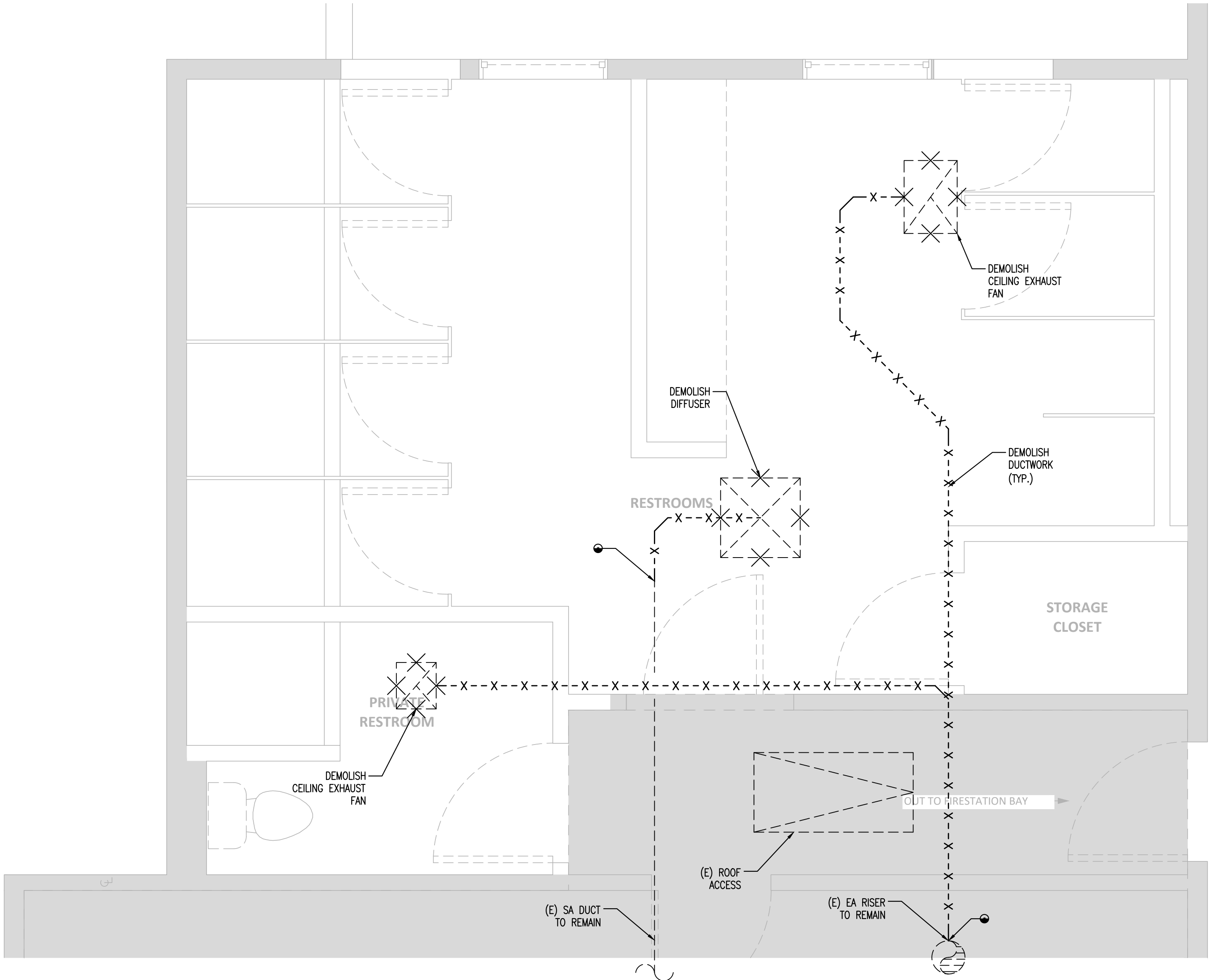
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OCFA: FS 45
BATHROOM
REMODEL

30131 Aventura, Rancho
Santa Margarita, CA
92688
24570.00

SPECIFICATIONS

M-0.4



DEMO SHEET NOTES

1. ALL DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATIONS AND DRAWINGS.
2. INFORMATION PROVIDED IS BASED ON AVAILABLE FIELD ASSESSMENTS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING BID AND START OF ALL WORK.
3. CONTRACTOR SHALL DEMOLISH ALL ABANDONED MECHANICAL EQUIPMENT AND DUCTWORK WITHIN THE PROPOSED SPACE.
4. PROVIDE TEMPORARY ENCLOSURE/PROTECTION/BARRICADES OR WARNING WHERE REQUIRED BY APPLICABLE SAFETY ORDINANCES PRIOR TO START OF DEMOLITION. REMOVE WHEN NO LONGER NEEDED.
5. THE CONTRACTOR SHALL RESTORE TO ITS EXISTING CONDITION ANY EXISTING WORK DAMAGED DURING DEMOLITION INDICATED AS "EXISTING TO REMAIN" ON THE DRAWINGS.
6. THE CONTRACTOR SHALL TURN OVER ALL DEMOLISHED EQUIPMENT AND MATERIALS, OR DISPOSE AS DIRECTED BY THE OWNER. CONTRACTOR SHALL INCLUDE ANY DISPOSAL FEE AS REQUIRED AS PART OF BASE BID.



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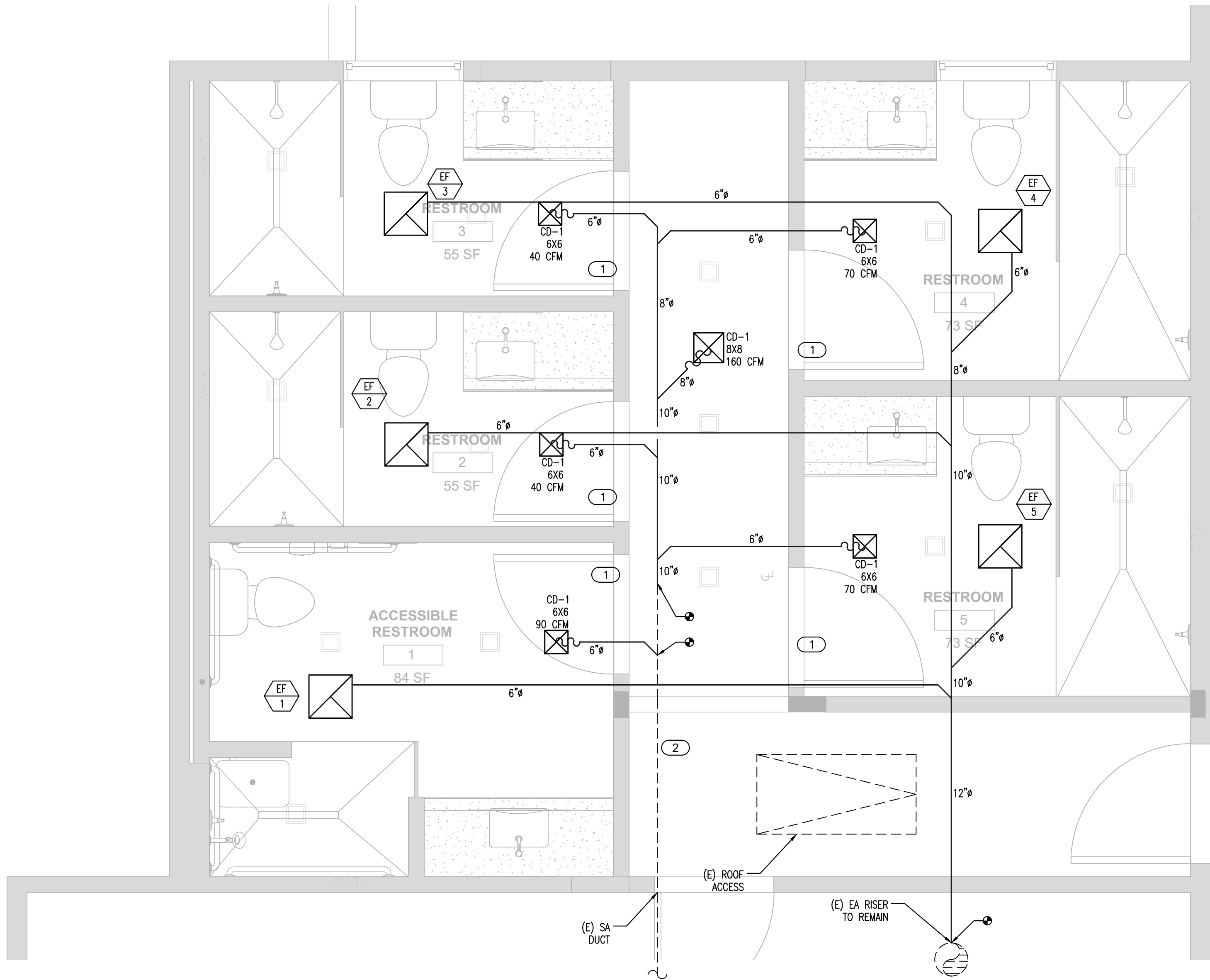
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DEMOLITION
PLAN

M-1.1



HVAC PLAN

SCALE:
1/2"=1'-0"

1

HVAC SHEET NOTES

1. PROVIDE MVD FOR ALL SUPPLY BRANCH AS FAR FROM DIFFUSER AS POSSIBLE TO LIMIT NOISE.
2. JIFFY DAMPERS ARE NOT ACCEPTABLE.
3. ALL DUCT SIZES ARE INSIDE CLEAR.
4. CONTRACTOR SHALL FIELD VERIFY THE EXISTING DUCT SIZES AND FIELD COORDINATE THE EXACT POINT OF CONNECTIONS.

HVAC KEY NOTES

1. PROVIDE 1/2" UNDERCUT DOOR FOR MAKEUP AIR.
2. CONTRACTOR TO VERIFY THAT EXISTING SUPPLY AIR DUCT IS AT LEAST 10" DIAMETER. IF NOT, UP SIZE TO 10" BACK TO RISER.



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92688
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HVAC PLAN

M-2.1

GENERAL ELECTRICAL NOTES

SHEET INDEX

A. GENERAL

1. SCOPE
THESE DRAWINGS AND GENERAL NOTES DESCRIBE THE PRINCIPAL SCOPE OF WORK AND SYSTEMS. THE MATERIAL REQUIRED FOR THE WORK SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE NOTED. THE WORK INCLUDES BUT IS NOT LIMITED TO THE PRINCIPAL SCOPE AND SYSTEMS.

2. PERMITS AND CHARGES
OBTAIN AND PAY FOR ALL NECESSARY CONSTRUCTION PERMITS, INSPECTION FEES, AND OTHER CHARGES BY AGENCIES HAVING JURISDICTION.

3. REGULATIONS AND CODES
PROVIDE AND INSTALL ALL MATERIALS IN CONFORMANCE WITH THE LATEST EDITION OF CALIFORNIA ELECTRICAL CODE (AND ALL LOCALLY ADOPTED AMENDMENTS), CALIFORNIA ADMINISTRATIVE CODE TITLE 8, AND OTHER CODES AND REGULATIONS HAVING JURISDICTION. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE INSPECTING AUTHORITY AND THE MANUFACTURERS RECOMMENDATIONS.

CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES AND STANDARDS:

- 2022 BUILDING STANDARDS ADMINISTRATIVE CODE, TITLE 24 PART 1
- 2022 CALIFORNIA BUILDING CODE (CBC), TITLE 24 PART 2
- 2022 CALIFORNIA ELECOTICAL CODE (CEC), TITLE 24 PART 3
- 2023 LOS ANGELES ELECTRICAL CODE
- 2022 CALIFORNIA MECHANICAL CODE (CMC), TITLE 24 PART 4
- 2022 CALIFORNIA PLUMBING CODE (CPC), TITLE 24 PART 5
- 2022 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS, TITLE 24 PART 6
- 2022 CALIFORNIA FIRE CODE (CFC), TITLE 24 PART 9
- 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), TITLE 24 PART 11
- 2022 CALIFORNIA REFERENCED STANDARDS CODE, TITLE 24 PART 12
- 2022 TITLE 19 C.C.R. PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
- ALL APPLICABLE NFPA REQUIREMENTS FOR FIRE ALARM SYSTEMS, AUTOMATIC SPRINKLER SYSTEMS, STANDPIPE SYSTEMS, PRIVATE FIRE MAINS AND WET CHEMICAL EXTINGUISHING SYSTEMS
- REFERENCE CODE SECTION FOR NFPA STANDARDS-CBC [SFM] 3503.1.3
- UNDERWRITERS LABORATORY (UL), NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA) AND AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)
- ALL OTHER APPLICABLE STATE, LOCAL LAWS AND REGULATIONS

4. VERIFYING EXISTING CONDITIONS
BEFORE SUBMITTING BID, BECOME THOROUGHLY FAMILIAR WITH ACTUAL EXISTING CONDITIONS AT THE BUILDING SITE. THE INTENT OF THE WORK IS SHOWN AND DESCRIBED ON THE DRAWINGS. BY THE ACT OF SUBMITTING A BID PROPOSAL FOR THE WORK, THE CONTRACTOR SHALL BE DEEMED TO HAVE MADE SUCH STUDY AND EXAMINATION AND TO ACCEPT ALL CONDITIONS PRESENT AT THE SITE. NO REQUEST FOR ADDITIONAL PAYMENT WILL BE CONSIDERED AS VALID, DUE TO FAILURE TO ALLOW FOR CONDITIONS WHICH MAY EXIST.

5. COORDINATION
COORDINATE ALL WORK WITH OTHER TRADES. OBTAIN ALL DRAWINGS THAT WILL REQUIRE COORDINATION AND PROVIDE ALL ELECTRICAL CONNECTIONS REQUIRED WHETHER SHOWN ON ELECTRICAL DRAWINGS OR NOT.

ELECTRICAL EQUIPMENT LOCATIONS ARE SHOWN DIAGRAMMATICALLY. EXACT DIMENSIONS SHALL BE VERIFIED.

6. SERVICE CONTINUITY
UNINTERRUPTED EXISTING ELECTRICAL POWER SHALL BE MAINTAINED TO OTHER TRADES FOR TEMPORARY POWER AREAS OF THE SITE DURING CONSTRUCTION. PROVIDE ANY TEMPORARY SERVICES AS MAY BE REQUIRED. IDENTIFY AT BID TIME, ALL WORK TO BE DONE ON PREMIUM TIME AND THE TOTAL OVERTIME MAN-HOURS REQUIRED FOR COMPLETION.

7. CLOSEOUT DOCUMENTATION
PROVIDE RECORD DRAWINGS TO THE OWNER AND THE ELECTRICAL ENGINEER WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT. RECORD DRAWINGS SHALL BE SIGNED AND DATED BY CONTRACTOR PRIOR TO RELEASE OF FINAL RETENTION OF ALL MONIES.

MARK PROJECT RECORD DOCUMENTS DAILY TO INDICATE ALL CHANGES MADE IN THE FIELD. INDICATE ALL CHANGES OF EQUIPMENT LOCATIONS AND RATINGS, TRIP SIZES AND SETTINGS ON CIRCUIT BREAKERS, ALTERATIONS IN RACEWAY RUNS AND SIZES, CHANGES IN WIRE SIZES, CIRCUIT DESIGNATIONS, INSTALLATION DETAILS, ONE-LINE DIAGRAMS, CONTROL DIAGRAMS AND SCHEDULES.

USE GREEN TO INDICATE DELETIONS AND RED TO INDICATE ADDITIONS. USE THE SAME SYMBOLS AND FOLLOW THE SAME DRAFTING CONVENTIONS USED ON THE CONTRACT DRAWINGS.

AT THE COMPLETION OF UNDERGROUND CONDUIT INSTALLATION PROVIDE UNDERGROUND CONDUIT RECORD DOCUMENTS TO OWNER'S REPRESENTATIVE. LOCATE UNDERGROUND CONDUIT STUBBED OUT FOR FUTURE USE, UNDERGROUND FEEDER CONDUITS, AND FEEDER PULL BOX LOCATIONS USING BUILDING LINES BY INDICATING ON THE PROJECT RECORD DRAWINGS.

FURNISH TWO COPIES OF LOCAL AND STATE CODE ENFORCING AUTHORITIES' FINAL INSPECTION CERTIFICATES.

FURNISH TWO COPIES, IN BINDER FORM, OF ELECTRICAL EQUIPMENT CUT SHEETS, MANUFACTURER'S INSTALLATION INSTRUCTIONS, WARRANTY CERTIFICATES, AND PRODUCT LITERATURE FOR ALL PRODUCTS UTILIZED ON PROJECT.

FURNISH A WRITTEN PLAN OF PROCEDURES FOR TESTING AND ADJUSTING LIGHTING AND LIGHTING CONTROLS IN COMPLIANCE WITH CALGREEN. PROVIDE SYSTEM TESTING REPORTING, AND OPERATION AND MAINTENANCE MANUALS FOR ALL SYSTEMS IN COMPLIANCE WITH CALGREEN.

8. GUARANTEE
THE CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE ALL HIS WORK FOR ONE YEAR AFTER ACCEPTANCE AND FURNISH ALL MANUFACTURER WARRANTIES FOR THE EQUIPMENT HE PROVIDES.

9. SHOP DRAWINGS
SUBMIT SHOP DRAWINGS AND MATERIAL LST FOR REVIEW PRIOR TO PURCHASING ALL BREAKER MOUNTING HARDWARE, DISCONNECT SWITCHES, FUSES, CONTROLLERS, LIGHTING FIXTURES, LIGHT SWITCHES, RECEPTACLES, ETC.

10. CONTRACTOR BID
CONTRACTOR'S BID SHALL BE BASED ON ALL WORK SHOWN ON THE PLANS AND AS SPECIFIED. HE SHALL BECOME FAMILIAR WITH ALL ASPECTS OF THE NEW CONSTRUCTION AND ALL REQUIREMENTS THAT MAY BE IMPOSED BY THE OWNER. IF CONTRACTOR PROPOSES TO SUBSTITUTE FOR EQUIPMENT SPECIFIED, HE SHALL SUBMIT HIS REQUEST FOR CONSIDERATION OF THE OWNER AND ENGINEER PRIOR TO BID IN WRITING. ALL SUBSTITUTIONS MUST BE REVIEWED BY THE ENGINEER IN WRITING. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS, AND THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS OWN EXPENSE FOR ANY CHARGES RESULTING FROM HIS PROPOSED SUBSTITUTIONS WHICH AFFECT OTHER PARTS OF HIS OWN WORK, THE OWNER, ENGINEER OF RECORD OR THE WORK OF OTHER CONTRACTORS.

B. MATERIALS
ALL WORK AND MATERIAL SHALL CONFORM TO THE LATEST RULES OF THE GOVERNING ELECTRICAL CODE AND INSTALLATION SHALL BE OF THE LATEST INDUSTRY STANDARDS OF WORKMANSHIP.

ALL MATERIALS SHALL BE NEW AND LISTED BY UNDERWRITERS LABORATORY (U.L.).

ELECTRICAL EQUIPMENT SHALL BE LISTED BY A CITY OF LOS ANGELES RECOGNIZED ELECTRICAL TESTING LABORATORY OR APPROVED BY THE DEPARTMENT.

C. DEMOLITION

1. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OF THE NECESSARY DEMOLITION WORK REQUIRED TO ACCOMMODATE THE REMODELING WITHIN THE VARIOUS AREAS. ELECTRICAL EQUIPMENT, WHETHER SHOWN ON THESE DRAWINGS OR NOT, THAT ARE LOCATED IN REMOVED WALLS, FLOORS, OR CEILING, SHALL BE REMOVED UNLESS OTHERWISE NOTED.

2. THE CONTRACTOR SHALL VISIT THE SITE, INCLUDING ALL AREAS INDICATED ON THE DRAWINGS, SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH EXISTING CONDITIONS AND, BY SUBMITTING A BID, SHALL ACCEPT CONDITIONS UNDER WHICH HE WILL BE REQUIRED TO PERFORM HIS WORK.

3. NOTIFY THE OWNER IMMEDIATELY WHEREVER EXISTING EQUIPMENT IS ENCOUNTERED WHICH MUST BE RELOCATED DUE TO THE NEW CONSTRUCTION, AND WHICH IS NOT INDICATED ON THE PLANS.

4. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO DISCONNECT AND REMOVE ALL EXISTING LIGHTING FIXTURES, RECEPTACLES, ELECTRICAL EQUIPMENT, ETC., AFFECTED BY THE RENOVATION. THIS WILL INCLUDE REROUTING OR EXTENDING OF EXISTING CONDUIT AND FEEDERS WHERE NECESSARY TO MAINTAIN THE CONTINUITY OF THE EXISTING EQUIPMENT TO REMAIN.

5. EXISTING CIRCUIT NUMBERS AND HOMERUNS SHOWN ON THESE DRAWINGS WERE TAKEN FROM EXISTING RECORD DRAWINGS. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF HOMERUNS, AND TO ADJUST CIRCUIT NUMBERS ACCORDING TO EXISTING CONDITIONS AS REQUIRED.

6. ALL WIRING WITHIN EXISTING OUTLETS ARE TO BE RE-IDENTIFIED WITH EZ-MARKERS TO REFLECT THE NEW CIRCUIT DESIGNATIONS.

- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN CONTINUITY OF ALL ELECTRICAL SYSTEMS, EQUIPMENT, ETC., REMAINING IN OPERATION WHICH ARE BEING FED BY ABANDONED COMPONENTS. REROUTE CONDUIT, WIRING, ETC. AS REQUIRED.
- ALL REMOVED MATERIALS AND EQUIPMENT WHICH ARE SALVAGEABLE SHALL REMAIN THE PROPERTY OF THE OWNER. DELIVER SUCH SALVAGED MATERIALS AND EQUIPMENT ON THE PREMISES AS DIRECTED BY OWNER, AND NEATLY PILE OR STORE THEM AND PROTECT FROM DAMAGE. REMOVE FROM PREMISES AND DISPOSE OF ALL MATERIALS CONSIDERED BY THE OWNER TO BE SCRAP.
- ALL CONDUCTORS FOR DEVICES NOTED TO BE REMOVED SHALL BE REMOVED TO THE LAST ACTIVE DEVICE. ALL OVERCURRENT PROTECTION AND DISCONNECT DEVICES NO LONGER UTILIZED BUT REMAINING AS ACTIVE SHALL BE LABELED AS "SPARE". COORDINATE ALL OUTGAGES WITH OWNER'S REPRESENTATIVE.
- WHERE EXISTING CONDUITS BECOME EXPOSED AS A RESULT OF THE WORK, CONTRACTOR SHALL REWORK AS REQUIRED TO SUIT CONDITIONS TO CONCEAL CONDUIT FROM VIEW IN ALL PUBLIC AND BACK OF HOUSE AREAS.
- EXISTING CONDUIT MAY BE REUSED IF ADEQUATELY SIZED.
- DURING EACH PHASE OF DEMOLITION, ALL CIRCUITS FROM EXISTING PANELS WHICH FEED AREAS OUTSIDE THE BOUNDARIES OF THAT PHASE, SHALL BE MAINTAINED.
- WHERE THERE IS A POSSIBILITY TO REUSE A PORTION OF AN ABANDONED CONDUIT SYSTEM FOR FUTURE USE, EXTEND EXISTING CONDUIT TO NEAREST ACCESSIBLE LOCATION AND PROVIDE JUNCTION BOX WITH SUITABLE COVER. COORDINATE EXTENT OF THIS WORK WITH OWNER'S REPRESENTATIVE.
- ALL OPENINGS AT REMOVED OUTLETS INCLUDING LIGHTS, RECEPTACLES, DATA/TEL, ETC., SHALL BE COVERED AND PATCHED TO MATCH THE FINISH OF SURROUNDING WALL OR CEILING TO THE SATISFACTION OF THE OWNER.
- CONTRACTOR SHALL PROTECT ALL EXISTING SYSTEMS WHICH ARE TO REMAIN, INCLUDING BUY NOT LIMITED TO: DATA/TEL, FIRE ALARM, SECURITY, CLOCK, BELL, POWER AND LIGHTING. ALL OUTLETS, HARDWARE, CONDUIT AND CONDUCTORS ARE TO BE SECURED FROM DAMAGE. CONTRACTOR SHALL TEST ALL OUTLETS, HARDWARE, CONDUIT AND CONDUCTORS PRIOR TO COMMENCEMENT OF WORK, AND PROVIDE A WRITTEN REPORT TO OWNER/ARCHITECT, INDICATING ANY FAILURES OR DAMAGE.
- ALL CONDUITS IN EXPOSED AREAS (I.E. OPEN CEILING) SHALL BE ELECTRICAL METALLIC TUBING (EMT). REPLACE ALL EXISTING MC/FLEX CONDUITS IN THE OPEN CEILING WITH EMT CONDUITS. ALL CONDUITS SHALL BE RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL BEAMS OR WALLS. CONTRACTOR SHALL ALSO RECONFIGURE ANY EXISTING EMT CONDUITS NOT CONFORMING TO THE ABOVE-MENTIONED ROUTING REQUIREMENTS. CONTRACTOR TO PROVIDE ALL CONDUCTOR EXTENSIONS AS REQUIRED. COORDINATE ROUTING OF CONDUITS WITH ARCHITECT.

D. EXECUTION
CAREFULLY PROTECT ALL WALLS, TRIM, FLOORS, EQUIPMENT UTILITY LINES AND MATERIALS. WHEN WORKING ON FINISHED SURFACES, LIMIT DAMAGE TO THE CONFINES AS MUCH AS POSSIBLE AND RESTORE TO THE ORIGINAL CONDITION ALL SURFACES WHICH ARE DAMAGED BECAUSE OF THE INSTALLATION OF THIS WORK.

- EQUIPMENT, MATERIALS AND SUPPLIES REMOVED FOR PROTECTION SHALL BE REPLACED IN ORIGINAL LOCATIONS. ANY MATERIALS DAMAGED SHALL BE REPLACED WITH NEW MATERIALS OF LIKE KIND AND QUALITY.
- DO ALL DRILLING, CUTTING, CHANNELING AND PATCHING REQUIRED TO INSTALL ELECTRICAL WORK AS INDICATED OR HEREIN SPECIFIED. ALL HOLES, CURBS, ETC., IN FLOORS, CEILINGS AND WALLS SHALL BE PATCHED, UNLESS INDICATED OTHERWISE. PAINT ALL NEW ELECTRICAL RACEWAYS, CABINETS, ENCLOSURES AND FITTINGS PENETRATING INTO FIRE RATED ENVELOPES, SPACES, ETC.
- ALL CONDUIT RUNS SHALL BE CONCEALED, UON. PROVIDE A PULL WIRE IN ALL EMPTY CONDUITS.
- EXISTING CONDITION SHOWN IS FROM AVAILABLE RECORD DRAWINGS AND VISUAL FIELD SURVEY AND SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITION AT SITE.
- ALL WORK SHOWN IS NEW UNLESS SPECIALLY INDICATED AS EXISTING (E). ALL ELECTRICAL EQUIPMENT MOUNTING AND ANCHORAGE MUST CONFORM WITH LOCAL AND STATE SEISMIC CODES.

E. GROUNDING & BONDING
PROVIDE COMPLETE BONDING AND GROUNDING SYSTEM AS REQUIRED BY CODES. CONTINUITY OF GROUNDING SHALL BE MAINTAINED MECHANICALLY AND ELECTRICALLY THROUGHOUT THE SYSTEM. A GREEN GROUNDING CONDUCTOR, SIZED PER CODE, SHALL BE PROVIDED IN ALL CONDUITS.

F. INSTALLATION
IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS THAT A COMPLETE AND WORKABLE ELECTRICAL INSTALLATION BE PROVIDED FOR ALL THE EQUIPMENT DESCRIBED OR SHOWN AS BEING IN THIS CONTRACT. TOWARD THIS END FURNISH ALL LABOR AND TOOLS NECESSARY AND FURNISH AND INSTALL ALL APPARATUS, MATERIALS AND EQUIPMENT IN A FASHION COMPLYING WITH ALL APPLICABLE CODES, INCLUDING ITEMS REQUIRED BUT NOT NORMALLY SHOWN, SUCH AS LAMPS, COUPLINGS, HANGERS, BRACKETS, CLAMPS, BOXES, CONNECTORS AND HARDWARE. REFER ALSO TO WRITTEN SPECIFICATIONS FOR GENERAL, MECHANICAL AND ELECTRICAL SECTIONS.

THE CONTRACTOR SHALL INSTALL ALL ELECTRIC EQUIPMENT IN A NEAT AND WORKMANLIKE MANNER.

- PROCURE ALL PERMITS FROM LEGALLY CONSTITUTED AUTHORITIES, ARRANGE FOR ALL INSPECTIONS AND PAY ALL COSTS FOR FEES AND TESTS IN CONNECTION THEREWITH. COMPLY WITH CODES: NOTHING IN THESE PLANS AUTHORIZES DEVIATION FROM APPLICABLE CODES.
- DETERMINE EXACT ROUTING OF CONCEALED FEEDERS AND BRANCH HOMERUNS IN COOPERATION WITH OTHER TRADES TO SIMPLIFY INSTALLATION WHEREVER POSSIBLE BUT SUBJECT TO APPROVAL OF ARCHITECT FOR VISUAL AND STRUCTURAL REASONS.
- PROVIDE A CODE APPROVED DISCONNECT SWITCH OR BREAKER WITHIN SIGHT OF EVERY MOTOR. FEED MOTORS NOT EQUIPPED WITH "BUILT IN" PROTECTION THROUGH A MAGNETIC OR MANUAL STARTER WITH OVERLOAD HEATERS SIZED TO COMPLY WITH MOTOR MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODES.
- FOR CONNECTIONS TO EXHAUST FANS, PUMPS, COMPRESSORS, SPACE HEATERS, WATER HEATERS, AQUASTATS, SOLENOID VALVES AND OTHER MECHANICAL EQUIPMENT AND FOR CONDUITS AND WIRE REQUIRED BUT NOT NECESSARILY SHOWN ON THESE DRAWINGS REFER TO MECHANICAL PLANS AND DETERMINE EXACT LOCATIONS UNDER DIRECTION OF HVAC CONTRACTOR.
- DO NOT RUN ANY CONDUIT IN SLAB IF ITS OUTSIDE DIAMETER EXCEEDS 1/3 THE THICKNESS OF THE SLAB. LOCATE CONDUITS WITHIN THE MIDDLE OF THE SLAB. WHERE CONDUITS ARE GROUPED IN PARALLEL RUNS, SPACE THEM 3" OR MORE APART. WHERE CONDUITS CROSS EACH OTHER, THICKEN SLAB PROPORTIONATELY OVER A HORIZONTAL AREA EQUAL TO TEN TIMES THE DIAMETER OF THE LARGEST CONDUIT.
- SIZE OUTLET BOXES IN CONFORMITY WITH CODE FOR NUMBER AND GAUGE OF CONDUCTORS THEREIN, EXCEPT WHERE NOTED TO BE LARGER. MINIMUM BOX SIZE SHALL BE 4" SQUARE BY 1-1/2" DEEP.
- EXAMINE PLANS TO DISCERN CEILINGS WITH A FIRE RATING OF ONE HOUR OR MORE, PROVIDE A ONE HOUR FIRE-RATED ENCLOSURE OVER EACH LIGHT FIXTURE RECESSED THEREIN.
- ALL ELECTRICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING AND REPAIRING. ALL CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. EXPOSED CONDUIT SHALL BE IN STRAIGHT LINES PARALLEL WITH, OR AT RIGHT ANGLES TO, COLUMN LINES OR BEAMS AND SEPARATED BY AT LEAST THREE (3) INCHES FROM WATER LINES WHENEVER THEY RUN LONG SIDE OR ACROSS SUCH LINES. CONDUIT SHALL NOT BE RUN BELOW CABLE TRAYS OR LIGHT FIXTURES WITHOUT SPECIFIC APPROVAL OF THE OWNERS REPRESENTATIVE. HANGERS SHALL BE FASTENED TO STEEL, CONCRETE OR MASONRY, BUT NOT TO PIPING. HANGERS AND SUPPORT SYSTEMS ARE AN INTEGRAL PART OF THE VISUAL ENVIRONMENT. ALL HANGERS AND SUPPORTS EXPOSED TO PUBLIC VIEW MUST BE SHOWN IN DETAIL ON PLANS SUBMITTED TO LANDLORD FOR APPROVAL OF APPEARANCE. ALL HANGERS MUST BE UNIFORMLY SPACED AND NEATLY INSTALLED WITH NO EXCESS MATERIAL BEYOND WHAT IS REQUIRED FOR THE SUPPORT FUNCTION. CONTRACTOR SHALL SELECT ACCESSORIES AND HARDWARE WITH A SMOOTH, NEAT FINISHED APPEARANCE AND PAINT ALL EXPOSED CONDUIT HANGERS TO MATCH THE ADJACENT FINISHES.
- SEE PROJECT ARCHITECTURAL DRAWINGS FOR HEIGHTS OF ALL WALL RECEPTACLES, LIGHT SWITCHES AND OCCUPANT-OPERATED HVAC CONTROLS. DEVICES SHALL COMPLY WITH ADA REQUIREMENTS (MEASURED FROM BOTTOM AND TOP OF BOXES RESPECTIVELY):
RECEPTACLE OUTLETS: 15" TO 48" AFF
SWITCHES: 36 TO 48" AFF
OCCUPANT-OPERATED HVAC CONTROLS: 36" TO 48" AFF
(DEVICES ABOVE COUNTERTOPS SHALL BE MAXIMUM 44" AFF TO TOP OF BOX)

WHERE ARCHITECTURAL DRAWINGS DO NOT INDICATE HEIGHT, PROVIDE THE FOLLOWING STANDARD HEIGHTS UNLESS OTHERWISE NOTED:
RECEPTACLE OUTLETS (NOT ABOVE COUNTERTOPS): 18" TO CENTER OF BOX.
SWITCHES AND OCCUPANT-OPERATED HVAC CONTROLS (NOT ABOVE COUNTERTOPS): 44" TO TOP OF BOX.
RECEPTACLES, SWITCHES AND OCCUPANT-OPERATED HVAC CONTROLS ABOVE COUNTERTOPS: +44" AFF TO TOP OF BOX.
WHERE NON-STANDARD HEIGHT IS INDICATED ON PLAN, HEIGHT INDICATED REPRESENTS TOP OF BOX.

- CONTRACTOR SHALL EXAMINE PLANS AND VERIFY IN FIELD LOCATIONS OF ALL FIRE RATED WALLS, CEILINGS AND FLOORS. CONTRACTOR SHALL SEAL ALL ELECTRICAL SYSTEM PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS AND FLOORS PER U.L.-APPROVED METHODS.
- ALL LINE AND LOW VOLTAGE WIRING IN OPEN CEILINGS AND EXPOSED AREAS INDOORS, EXCEPT FOR WIRING IN CABLE TRAYS, SHALL BE RUN IN CONDUIT.

- SURFACE MOUNTED RACEWAY COMPLETENESS: CONTRACTOR SHALL PROVIDE ALL RACEWAY, FITTINGS, SUPPORTS, BOXES, DEVICES PLATES, ETC. NECESSARY FOR A COMPLETE SURFACE MOUNTED ELECTRICAL RACEWAY SYSTEM. PRIOR TO INSTALLATION CONTRACTOR SHALL PERFORM A JOB WALK WITH OWNER AND ARCHITECT AND VERIFY EXACT ROUTING OF ALL SURFACE MOUNTED RACEWAYS.
- ALL ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED BY THE CONTRACTOR TO RESIST SEISMIC FORCES ACTING IN ANY DIRECTION. PROVIDE COMPLETE SEISMIC ANCHORAGE AND BRACING FOR SUPPORT OF ELECTRICAL RACEWAYS, CONDUITS, CABLE TRAYS, ELECTRICAL EQUIPMENT ETC. IN ACCORDANCE WITH UNIFORM BUILDING CODE WITH CALIFORNIA AMENDMENTS. ALL ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH LATEST EDITION OF SMACNA GUIDELINES. WHERE BRACING DETAILS ARE NOT SHOWN ON THE PLANS, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEERS AND THE ARCHITECT. A COPY OF THE LATEST SMACNA GUIDELINES SHALL BE KEPT ON THE JOB SITE AT ALL TIMES.
- EACH SECTION OF FLOOR MOUNTED SWITCHBOARD, DISTRIBUTION BOARD, MCC, ETC. SHALL BE BOLTED TO A 4" THICK CONCRETE HOUSEKEEPING PAD. PROVIDE MINIMUM 4000 PSI STRENGTH CONCRETE BELOW ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT. TIE THE TOP OF ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT TO THE BUILDING STRUCTURE IN A SEISMICALLY APPROVED MANNER.
- IDENTIFY FEEDERS WITH THE CORRESPONDING CIRCUIT DESIGNATION AT THE OVERCURRENT DEVICE, LOAD END, AND IN PULL BOXES WITH E-Z CODE OR OTHER APPROVED WIRE MARKERS.
- IDENTIFY BRANCH CIRCUITS WITH I.D. MARKERS, THE CORRESPONDING CIRCUIT DESIGNATION AT THE OVER-CURRENT DEVICE, AT ALL SPLITS, IN JUNCTION BOXES, AND IN OUTLETS. USE PLASTIC COATED SELF-STICKING MARKERS SUCH AS THOMAS & BETTS E-Z CODE FOR IDENTIFICATION OF CONDUCTORS.
- IDENTIFY SIGNAL & COMMUNICATION CABLES AT TERMINALS AND OUTLETS.

H. FIRE ALARM SYSTEM (DESIGN BUILD) BY CONTRACTOR

- CONTRACTOR SHALL SUBMIT FOR THE OWNERS SIGNED APPROVAL, APPROVED FIRE DEPARTMENT, STATE FIRE MARSHAL, AND FIRE ALARM DRAWINGS FOR THE PROJECT SPACE.
- ALL DEVICES AND EQUIPMENT SHALL BE CALIFORNIA STATE FIRE MARSHALL APPROVED.
- CONTRACTOR SHALL WARRANTY ALL DEVICES AND SYSTEMS FOR A PERIOD OF TWO YEARS.
- CONTRACTOR SHALL PROVIDE A SATISFACTORY SYSTEM TEST IN THE PRESENCE OF THE OWNER, FIRE PREVENTION BUREAU AND CONSULTING ENGINEER.

STATE FIRE MARSHAL NOTES

- THE FIRE ALARM SYSTEM SHALL CONFORM TO THE 2022 CALIFORNIA ELECTRICAL CODE (CEC) ARTICLE 760 AND THE 2022 CALIFORNIA FIRE CODE (CFC) 105.7 & 907.
- INSTALLATION OF THE FIRE ALARM SYSTEM SHALL NOT START UNTIL DETAILED PLANS AND SPECIFICATIONS, INCLUDING CALIFORNIA STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM, HAVE BEEN APPROVED BY THE CALIFORNIA STATE FIRE MARSHAL.

I. NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO THE ELECTRICAL INSTALLATION SHALL BE PERMITTED TO BE LOCATED WITHIN THE DEDICATED ELECTRICAL SPACE REQUIRED ABOVE ELECTRICAL EQUIPMENT PER NEC 110.26(E).

PROJECT SUMMARY

PROVIDING NEW ELECTRICAL DESIGN FOR INTERIOR TENANT IMPROVEMENT FOR SUITE OFFICE INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

- PROVIDE POWER AND NEW WIRING FOR NEW RECEPTACLES.
- PROVIDE NEW LIGHTING AND LIGHTING CONTROLS.
- PROVIDE POWER AND NEW WIRING FOR NEW MECHANICAL.

ELECTRICAL LEGEND

POWER, VOICE/DATA/AV SYSTEMS AND EXIT SIGNS

- SINGLE RECEPTACLE
- DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- DUPLEX RECEPTACLE WITH DEDICATED CIRCUIT
- DUPLEX RECEPTACLE WITH TOP PORTION CONTROLLED
- DUPLEX RECEPTACLE FULLY CONTROLLED
- CEILING MOUNTED DUPLEX RECEPTACLE
- SPECIAL OUTLET, TYPE AS REQUIRED BY EQUIPMENT.
- JUNCTION BOX SIZED PER NEC ARTICLE 370. FOR BOXES OTHER THAN FIXTURE-MOUNT BOXES, LOCATE JUNCTION BOX IN ACCESSIBLE CEILING SPACE UNLESS OTHERWISE NOTED.
- JUNCTION BOX (WALL MTD.) SIZE PER NEC ARTICLE 370
- THERMOSTAT
- BRANCH CIRCUIT PANELBOARD PER SPECIFICATIONS AS NOTED ON DRAWINGS
- PLUG LOAD CONTROLLER
- FLOOR MOUNTED POWER RECEPTACLE (LEFT) AND DATA/AV DEVICE (RIGHT). SEE PRODUCT REQUIREMENTS IN THESE ELECTRICAL DRAWINGS.
- FLOOR MOUNTED COMBINATION POWER RECEPTACLE AND DATA/AV DEVICE. SEE PRODUCT REQUIREMENTS IN THESE ELECTRICAL DRAWINGS.
- FLOOR MOUNTED MODULAR FURNITURE POWER ENTRANCE CONNECTION (LEFT) AND DATA CABLING ENTRANCE CONNECTION (RIGHT). SEE PRODUCT REQUIREMENTS IN THESE ELECTRICAL DRAWINGS.
- FLOOR MOUNTED MODULAR FURNITURE COMBINATION POWER AND DATA CABLING ENTRANCE CONNECTION. SEE PRODUCT REQUIREMENTS IN THESE ELECTRICAL DRAWINGS.
- WALL MOUNTED MODULAR FURNITURE POWER/DATA CONNECTION. TWO JUNCTION BOXES MINIMUM 45 SQUARE SIZE. PROVIDE WITH SINGLE-GANG MUDRING FOR DATA CONNECTION. PROVIDE ALL SPECIFICATIONS PER ARCHITECT AND VERIFY/PROVIDE REQUIREMENTS PER FURNITURE VENDOR.
- SURFACE MOUNTED RACEWAY BY WIREMOLD, PER SPECIFICATIONS AS NOTED ON DRAWINGS
- 4"x8"x3/4" TELEPHONE BACKBOARD, MARINE PLYWOOD AND PAINTED WITH FIRE RESISTANT PAINT
- VOICE/DATA OUTLET SINGLE GANG BOX WITH 3/4" C.O. WITH NYLON PULL STRING TO 6" ABOVE CEILING WITH INSULATED THROAT BUSHINGS
- EXIT LIGHT FIXTURE (CEILING OR PENDANT MOUNT) WITH QUANTITY OF CHEVRONS AND FACES AS INDICATED.
- EXIT LIGHT FIXTURE (WALL MOUNT) WITH QUANTITY OF CHEVRONS AS INDICATED.

NON-DIGITAL LIGHTING CONTROLS (DIGITAL LIGHTING CONTROLS MAY BE DEFINED ELSEWHERE IN THESE DRAWINGS)

- LINE VOLTAGE SWITCH
- MOTOR RATED SWITCH
- CEILING-MOUNT OCCUPANCY SENSOR
- PHOTOSENSOR
- LINE VOLTAGE OCCUPANCY SENSOR/SENSOR
- TIME CLOCK, AS INDICATED ON PLANS

SINGLE LINE DIAGRAM AND DISCONNECTS

- DISCONNECT SWITCH - 60 AMP SWITCH, 35 AMP FUSE, 3-POLE
- COMBINATION STARTER/DISCONNECT SWITCH SIZED PER PLAN
- METER
- FUSED DISCONNECT SWITCH - 100 AMP SWITCH RATINGS, 60 AMP FUSE, 3 POLE
- MOLDED CASE CIRCUIT BREAKER - 200 AMP FRAME, 150 AMP TRIP RATING, 3 POLE

ANNOTATIONS AND CALLOUTS

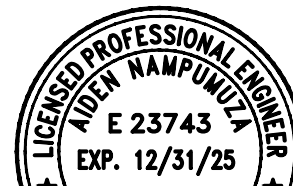
- KEY NOTE
- EQUIPMENT TAG
- FAULT CURRENT ID
- FEEDER TAG
- REVISION CLOUD WITH DELTA. SEE REVISIONS SCHEDULE ON TITLE BLOCK
- DETAIL TAG EXAMPLE: SEE DETAIL #1 ON SHEET E-0.4
- MECHANICAL/PLUMBING EQUIPMENT TAG EXAMPLE: UNIT AC-1

CONDUIT AND WIRING

- CONDUIT, CONCEAL WITHIN CEILING CAVITY OR WITHIN WALL CAVITY UON. NO HASH MARKS INDICATE (2)#12AWG CURRENT-CARRYING CONDUCTORS UON, WITH EQUIPMENT GROUNDING CONDUCTOR SIZED PER CEC 250.122.
- HASH MARKS INDICATE QUANTITY OF CURRENT-CARRYING CONDUCTORS SIZED PER AWG SHOWN. WHERE NO SIZE IS INDICATED, THE CONDUCTORS ARE #12 AWG MINIMUM UON. PROVIDE EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS, SIZED PER CEC 250.122.
- INDICATES A HOMERUN TO PNL 2LA. CKTS 1-3-5 WITH SHARED NEUTRAL & CKT 7 WITH DEDICATED NEUTRAL, PLUS EQUIPMENT GROUND. DASHES INDICATE A MULTI-WIRE CIRCUIT.
- CONDUIT RUN CONCEALED BELOW FLOOR OR UNDERGROUND
- CONDUIT STUB
- CONDUIT TURNS UP
- CONDUIT TURNS DOWN
- BREAK LINE. INDICATES WORK EXTENDED BEYOND LIMITS SHOWN ON DRAWING

lewis|schoeplein
architects

2018 S. Westgate Ave. unit Z
Los Angeles CA 90025
310/231-0300



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ISSUES

Date No. Description
09/24/25 - ISSUE FOR PLAN CHECK

THESE DRAWINGS ARE NOT ISSUED FOR PRICING PURPOSES. THESE ARE SPECIFICALLY ISSUED FOR PLAN CHECK. FOR DETAILED PRICING INSTRUCTIONS REFER TO THE PRICING PLANS AND WRITTEN SPECIFICATIONS.

OCFA: FS 45
BATHROOM
REMODEL

30131 Aventura, Rancho
Santa Margarita, CA
92688
24570.00

ELECTRICAL
LEGEND, NOTES, AND
ABBREVIATIONS
E-0.1

GENERAL ELECTRICAL SPECIFICATIONS

1.0 GENERAL

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A COMPLETE AND OPERABLE ELECTRICAL SYSTEM AS SHOWN ON THE DRAWINGS. THE COMPLETE INSTALLATION SHALL MEET REQUIREMENTS OF THE LATEST NATIONAL ELECTRICAL CODE AND ALL LOCALLY ADOPTED AMENDMENTS.

WHERE THESE SPECIFICATIONS CALL FOR A HIGHER STANDARD THAN APPLICABLE BUILDING STANDARDS, THE SPECIFICATIONS SHALL GOVERN.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSTALL ALL WORK IN ACCORDANCE WITH STAMPED PLANS APPROVED BY THE ELECTRICAL DIVISION OF THE DEPARTMENT OF BUILDING AND SAFETY.

THE ELECTRICAL CONTRACTOR SHALL SHOP DRAWINGS TO THE ARCHITECT FOR APPROVAL WITHIN THIRTY (30) DAYS AFTER THE AWARD OF THE GENERAL CONTRACT. IF SUCH A SCHEDULE CANNOT BE MET, THE ELECTRICAL CONTRACTOR MAY REQUEST IN WRITING FOR AN EXTENSION OF TIME TO THE ARCHITECT. SHOP DRAWINGS SHALL BE SUBMITTED ON ALL MAJOR PIECES OF ELECTRICAL EQUIPMENT, IN ADDITION TO LIGHT FIXTURES, PANELBOARDS, SWITCHES, WIRING DEVICES AND PLATES, AND EQUIPMENT FOR MISCELLANEOUS SYSTEMS. EACH ITEM OF EQUIPMENT PROPOSED SHALL BE A STANDARD CATALOG PRODUCT OF AN ESTABLISHED MANUFACTURER. THE SHOP DRAWING SHALL GIVE COMPLETE INFORMATION ON THE PROPOSED EQUIPMENT. EACH ITEM OF THE SHOP DRAWINGS SHALL BE PROPERLY LABELED, INDICATING THE INTENDED SERVICE OF THE MATERIAL.

WHERE EQUIPMENT IS IDENTIFIED BY MANUFACTURER AND CATALOG NUMBER, IT SHALL BE CONSTRUED AS THE BASE OF REQUIREMENTS FOR QUALITY AND PERFORMANCE. WHERE MANUFACTURERS FOR EQUIPMENT ARE IDENTIFIED BY NAME, THE ELECTRICAL SUBCONTRACTOR MAY SUBMIT FOR APPROVAL, SIMILAR EQUIPMENT OF OTHER MANUFACTURERS AS SUBSTITUTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUFFICIENT SUPPORTING DATA TO PERMIT EVALUATION OF THE PROPOSED SUBSTITUTE WITH RESPECT TO QUALITY, PERFORMANCE, SERVICEABILITY, AND WARRANTY. THE ENGINEER'S DECISION AS TO WHETHER THE SUBMITTED EQUIPMENT IS ACCEPTABLE SHALL BE FINAL AND BINDING.

ALL CHANGES NECESSARY TO ACCOMMODATE THE SUBSTITUTED EQUIPMENT SHALL BE MADE AT THE CONTRACTOR'S EXPENSE, AND SHALL BE AS APPROVED BY THE ENGINEER. DETAILED DRAWINGS INDICATING THE REQUIRED CHANGES SHALL BE SUBMITTED FOR APPROVAL AT THE TIME THE SUBSTITUTION IS REQUESTED.

IF SUBSTITUTIONS ARE MADE IN LIEU OF THE LIGHT FIXTURES SPECIFIED, PHOTOMETRIC PERFORMANCE, FORM, DIMENSION, DESIGN AND PROFILE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

AT COMPLETION OF WORK, CONTRACTOR SHALL CLEAN UP AND REMOVE ALL DEBRIS AND MATERIALS NOT INSTALLED IN WORK, DISPOSE IN AN ENVIRONMENTALLY APPROVED MANNER, LEAVING PREMISES CLEAN.

ELECTRICAL CONTRACTOR SHALL PROVIDE A TEMPORARY CONSTRUCTION SERVICE IF REQUIRED FOR THIS PROJECT TO MAINTAIN ESSENTIAL SERVICES DURING CIRCUIT CUT-OVER PERIODS.

SECURE PERMISSION FROM THE OWNER BEFORE PERFORMING ANY CUTTING OR PATCHING WORK WHICH IS LIKELY TO AFFECT THE STRENGTH OF A STRUCTURAL MEMBER. ALL PENETRATIONS THROUGH CONCRETE CONSTRUCTION SHALL BE DONE BY THE MEANS DENOTED BY ARCHITECT.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL EQUIPMENT AND WIRING AS REQUIRED AND AS INDICATED ON THE ELECTRICAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS. SEE MECHANICAL DRAWINGS FOR EXACT EQUIPMENT LAYOUTS AND REQUIREMENTS INCLUDING SIZES, VOLTAGES, CONTROL WIRING, CONTROL DEVICES TO BE FURNISHED AND/OR INSTALLED, LOCATIONS AND OTHER REQUIREMENTS.

CONDUIT RUNS ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATIONS AND ROUTING TO BE DETERMINED IN THE FIELD TO SUIT CONDITIONS.

THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE AND OBTAIN APPROVAL FOR ALL NECESSARY ADJUSTMENTS IN CIRCUITING AS REQUIRED TO ACCOMMODATE THE RELOCATIONS OF EQUIPMENT AND/OR DEVICES WHICH ARE AFFECTED BY ANY APPROVED AUTHORIZED CHANGE. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE AS-BUILT DRAWINGS.

ALL MATERIAL AND EQUIPMENT SHALL BE NEW, UL LISTED, APPROVED BY THE LOCAL JURISDICTION AND, UNLESS OTHERWISE NOTED, SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. EQUIPMENT EXPOSED TO WEATHER SHALL BE UL LISTED WEATHERPROOF.

ALL MOTORS OR EQUIPMENT LOCATED OUT OF SIGHT OR MORE THAN 50 FEET FROM THE PANEL SHALL HAVE HORSEPOWER RATED DISCONNECTS INSTALLED AT THE MOTOR EQUIPMENT.

ALL REQUIRED POWER OUTAGES THAT ARE NECESSARY IN ORDER TO COMPLETE ANY PORTION OF THE WORK SHALL BE ENTIRELY AT THE OWNER'S CONVENIENCE AND AT A TIME DESIGNATED BY HIM AND BE FULLY COORDINATED WITH THE OWNER'S REPRESENTATIVE. A MINIMUM OF 48 HOURS OF ADVANCED NOTICE SHALL BE GIVEN TO THE OWNER OF TIME DESIRED. OWNER SHALL APPROVE TIME OF OUTAGE BEFORE THIS CONTRACTOR DISCONNECTS ANY CIRCUITS. CONTRACTOR SHALL FURNISH, INSTALL, AND REMOVE ANY TEMPORARY JUMPERS ETC. TO MAINTAIN ALL LOADS THAT THE OWNER DESIGNATES AS NOT BEING ABLE TO SHUT DOWN DURING CONSTRUCTION.

SHOULD ANY CONDITIONS EXIST THAT DIFFER FROM WHAT IS INDICATED ON THESE DRAWINGS THAT CAUSE DEVIATIONS IN THE WORK SHOWN, THE CONTRACTOR SHALL IN A TIMELY MANNER SO NOT TO IMPAIR THE CONSTRUCTION SCHEDULE OR SEQUENCE OF EVENTS, SUBMIT A WRITTEN REPORT OF THE CONDITIONS FOUND TO THE OWNER'S REPRESENTATIVE FOR APPROPRIATE DIRECTION ON HOW TO COMPLETE THE WORK IN QUESTION.

PRIOR TO START OF INSTALLATION THE CONTRACTOR SHALL COORDINATE THE FINAL LOCATION OF EACH LIGHT FIXTURE, SWITCH, DISCONNECT, RACEWAY, PANELBOARD, OUTLET AND DEVICE WITH THE OWNER'S REPRESENTATIVE. THE OWNER RESERVES THE RIGHT TO RELOCATE ANY OUTLET OR DEVICE UP TO 8 FEET FROM THE LOCATION INDICATED ON THE PLANS AT NO ADDITIONAL COST.

ALL FEEDER LENGTHS INDICATED ON SINGLE LINE DIAGRAMS OR FEEDER SCHEDULE ARE FOR VOLTAGE DROP PURPOSES ONLY AND ARE NOT TO BE USED FOR MATERIAL TAKE-OFF OR BIDDING PURPOSES.

COORDINATE ALL EXIT SIGN LOCATIONS WITH THE LOCAL FIRE MARSHAL PRIOR TO BEGINNING WORK.

THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS TO VERIFY DIMENSIONS, CLEARANCES, OBSTRUCTIONS, TYPE OF CONSTRUCTION, DOOR SWINGS, SINK AND SPLASH BOARD DIMENSIONS AND BATH MIRRORS, TO CLEAR SWITCHES AND RECEPTACLES PRIOR TO INSTALLATION.

WHERE ACCESS PANELS FOR ACCOMMODATING ELECTRICAL WORK ARE LOCATED AND/OR SIZED ON THESE DRAWINGS, OR DRAWINGS PREPARED UNDER SEPARATE DIVISIONS OF THE WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO RE-SIZE AND/OR PROVIDE SUITABLE ACCESS PANELS FOR THE CONDITIONS. WHERE INSUFFICIENT SPACE EXISTS TO ACCOMMODATE LARGER ACCESS PANELS, A SUITABLE ALTERNATIVE IS TO MOUNT THE ELECTRICAL COMPONENTS TO THE BACKSIDE OF THE HINGED DOOR WITH AN APPROPRIATELY SIZED AND CODE APPROVED FLEXIBLE FITTING, THUS ALLOWING ACCESS TO ELECTRICAL COMPONENTS FROM THE OCCUPIED SPACE IN LIEU OF THE ATTIC.

WHERE ELECTRICAL RACEWAYS ARE INSTALLED THROUGH 2 TO 4-HOUR RATED FLOORS OR WALLS, THE CONTRACTOR SHALL PROVIDE APPROPRIATE FITTINGS APPROVED BY ALL LOCAL AUTHORITIES FOR THE INTENDED PURPOSE AND APPLICATION. FITTINGS SHALL SEAL TIGHT THE INTERIOR AND EXTERIOR OF EACH RACEWAY PENETRATION TO PROHIBIT FIRE PASSING FROM ONE AREA TO ANOTHER. WHERE EMPTY CONDUITS ARE INSTALLED FOR FUTURE USE, THE CONTRACTOR SHALL PROPERLY SEAL THE RACEWAY TO COMPLY WITH THE PROVISIONS INDICATED ABOVE. THE ELECTRICAL CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW THE PROPOSED FITTINGS TO BE USED AND DETAILS REGARDING THE INSTALLATION METHODS PRIOR TO THEIR INSTALLATION. THE INSTALLATION SHALL NOT BE COMPLETED UNTIL FINAL APPROVAL HAS BEEN RECEIVED FROM THE ARCHITECT TO PROCEED.

AS A CONDITION FOR FURNISHING MATERIAL TO THIS PROJECT, THE MANUFACTURERS AND SUPPLIERS AGREE TO DEFEND, HOLD HARMLESS, AND TO INDEMNIFY OWNER, ARCHITECT, ELECTRICAL ENGINEER, AND ALL RELATED SUBSIDIARIES AGAINST ANY LIABILITY ARISING OUT OF PRODUCT FAILURE OR MANUFACTURING DEFECT OF THE EQUIPMENT THEY FURNISH.

2.0 WIRE AND CABLES

ALL WIRING SHALL BE COPPER, MINIMUM SIZE #12 AWG UNLESS OTHERWISE NOTED. USE THHN IN DRY LOCATIONS ONLY AND THWN IN WET LOCATIONS UNLESS OTHERWISE NOTED.

FOR CIRCUITS FED THROUGH FLUORESCENT FIXTURE CHANNELS AND FEEDS TO RECESSED INCANDESCENT FIXTURES, USE INSULATED WIRE OF 105 DEG. CELSIUS RATING.

ALL CONDUCTORS SHALL BE IDENTIFIED FOR USE AND SYSTEM PER CEC ARTICLE 200. COLOR CODE SECONDARY SERVICE, FEEDER, AND BRANCH CIRCUIT CONDUCTORS WITH FACTORY APPLIED COLOR AS FOLLOWS:

PHASE	208Y/120V	480Y/277V
A	BLACK	BROWN
B	RED	ORANGE
C	BLUE	YELLOW
NEUTRAL	WHITE	GRAY
GROUND	GREEN	GREEN W/ YELLOW STRIPE

3.0 CONDUIT

CONDUIT SHALL BE EMT, PVC, IMC, RIGID OR FLEXIBLE STEEL TYPE. CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH UL-1. A GROUND WIRE IS REQUIRED IN ALL FLEXIBLE CONDUIT AND UNDERGROUND CONDUITS. BUSINGS SHALL BE INSTALLED ON ALL COMMUNICATION, TELEPHONE & SPEAKER CONDUITS. PROVIDE 3/16" NYLON PULL STRING IN ALL EMPTY CONDUITS. MC CABLE SHALL BE PERMITTED ONLY WITH BUILDING OWNER'S APPROVAL.

CONDUIT INSTALLED WITHIN CONCEALED AREAS MAY BE EMT OR RIGID STEEL. IN EXPOSED AREAS SUBJECT TO CONDUIT DAMAGE, ONLY GALVANIZED RIGID STEEL MAY BE USED. ALL CONDUIT IN FINISHED AREAS TO BE CONCEALED.

ALL CONDUITS INSTALLED UNDERGROUND SHALL BE MINIMUM 1". UNDERGROUND CONDUITS SHALL BE PVC, SCHEDULE 40 ELECTRICAL CONDUIT FOR 0-600 VOLT SYSTEMS, SCHEDULE 80 ELECTRICAL CONDUIT FOR 600 TO 25KV SYSTEMS, AS MANUFACTURED BY CARLON OR EQUAL UNLESS NOTED OTHERWISE.

CONDUITS SHOWN ON THE DRAWINGS HAVE BEEN SIZED BASED ON METALLIC RACEWAYS UNLESS NOTED. ELECTRICAL CONTRACTOR MAY OPT TO USE SCHEDULE 40 PVC WHERE PERMITTED BY CODE AND THE OWNER. IF PVC IS USED, ELECTRICAL CONTRACTOR SHALL SIZE ALL SUCH CONDUITS AS REQUIRED TO INCLUDE GROUND CONDUCTOR, AND SHALL SIZE GROUND WIRE PER CODE. PVC RACEWAYS SHALL NOT BE INSTALLED ABOVE GROUND.

ALL PVC UNDERGROUND CONDUITS SHALL UTILIZE COATED OR WRAPPED RIGID STEEL ELBOWS AND RISERS WHEN RISING ABOVE GRADE, EXCEPT IN AREAS NOT SUBJECT TO MECHANICAL DAMAGE AND WITH PRIOR APPROVAL FROM THE ELECTRICAL ENGINEER.

MAINTAIN A MINIMUM OF 6" CLEARANCE BETWEEN ALL CONDUIT SLEEVES. VERIFY WITH GENERAL CONTRACTOR.

THE ELECTRICAL CONTRACTOR SHALL PROVIDE EXPANSION/DEFLECTION FITTINGS FOR CONDUITS CROSSING EXPANSION JOINTS. FITTINGS SHALL BE SUITABLE FOR CONDITIONS TO BE ENCOUNTERED. VERIFY WITH OWNER'S REPRESENTATIVE PRIOR TO COMMENCING WORK.

UNDERGROUND CONDUITS SHALL HAVE A MINIMUM 24" OF COVER.

ALL FINAL FLEX CONDUIT CONNECTIONS TO ANY EQUIPMENT SHALL INCLUDE SUFFICIENT SLACK IN FLEX TO MOVE WITH THE EQUIPMENT.

4.0 OUTLET, PULL AND JUNCTION BOXES

JUNCTION BOXES AND OUTLET BOXES SHALL BE SIZED PER CODE, BUT IN NO CASE LESS THEN THE FOLLOWING: OUTLETS WITH 9 OR LESS #12 CONDUCTORS SHALL BE 4"/5 x 2-1/2"/D AND OUTLETS WITH 10 THROUGH 18 CONDUCTORS SHALL BE 4-11/16"/5 x 2-1/8"/D.

ALL JUNCTION BOXES SHALL CLEARLY INDICATE WITH PERMANENT BLACK MARKER, IN 1/2-INCH LETTERING THE CIRCUIT NUMBERS AND THE SOURCE OF POWER OF ALL CONDUCTORS CONTAINED WITHIN THAT JUNCTION BOX.

OUTLETS FOR THE ATTACHMENT OF THE FIXTURES TO BE PROVIDED WITH 3/8" MALLEABLE IRON FIXTURE STUDS AND BOX HANGERS WHERE REQUIRED.

TELEPHONE OUTLETS SHALL BE DOUBLE GANG BOX WITH SINGLE GANG 1- HOLE TELEPHONE COVER PLATE, UNLESS OTHERWISE NOTED ON DRAWINGS.

CABLE TELEVISION OUTLETS SHALL BE DOUBLE GANG BOX WITH SINGLE GANG 1-HOLE CATV COVER PLATE, UNLESS OTHERWISE NOTED ON DRAWINGS.

INTERIOR BOXES SHALL BE GALVANIZED STEEL. MANUFACTURERS: B & C METAL STAMPING, BRYANT, GENERAL ELECTRIC, LEVITON COMPANY, NORRIS STEEL CITY, CROUSE-HINDS, APPLETON, RACO, CARLON.

EXTERIOR BOXES SHALL BE "FS" TYPE BOXES WITH THREADED HUBS AS REQUIRED AND FULLY GASKETED UNLESS OTHERWISE NOTED.

5.0 PANELBOARDS AND SWITCHBOARDS

ALL SWITCHBOARDS AND PANELBOARDS SHALL BE CONSTRUCTED PER THE NATIONAL ELECTRICAL CODE AND ALL LOCALLY ADOPTED AMENDMENTS. WHERE REGULATIONS APPLY, CONSTRUCTION SHALL MEET REQUIREMENTS OF SERVING UTILITY.

ALL SWITCHBOARDS AND MOTOR CONTROL CENTERS SHALL HAVE WITHSTAND RATINGS GREATER THAN THE AVAILABLE FAULT CURRENT WITH 42,000 AMP BEING THE MINIMUM. CONFIRM CONDITIONS WITH SERVING UTILITY. SUBMIT CERTIFICATION OF COMPLIANCE WITH SHOP DRAWINGS.

ALL OVERCURRENT DEVICES IN EQUIPMENT SHALL BE UL LISTED TO INTERRUPT THE AVAILABLE FAULT CURRENT.

ALL PANELBOARDS AND SWITCHBOARDS SHALL BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL LOCALLY ADOPTED AMENDMENTS.

DISTRIBUTION AND LIGHTING PANELBOARDS SHALL BE OF THE COPPER BUS THREE PHASE, FOUR WIRE DISTRIBUTED PHASING TYPE. CIRCUITING SHALL BE ARRANGED TO PROVIDE, AS NEARLY AS POSSIBLE, AN EVENLY BALANCED LOAD ON ALL PHASES. PANEL BOARDS SHALL BE BOLT-ON CIRCUIT BREAKER TYPE. AVAILABLE FAULT CURRENT IS STATED ON PANEL BOARD SCHEDULE. BREAKERS SHALL MATCH PANEL BOARD FAULT CURRENT. PROVIDE TYPEWRITTEN LIST OF CIRCUITS IN THE DIRECTORY FRAME.

WALL-MOUNTED PANELS SHALL BE PROVIDED WITH TRIM AND DOOR CONSTRUCTED OF CODE GAUGE SHEET STEEL AND SHALL HAVE FACTORY FINISH. DOOR SHALL BE FITTED WITH HINGES, SPRING CATCH LATCH AND CYLINDER LOCK. PROVIDE 2 KEYS WITH EACH PANEL. PROVIDE DIRECTORY CARD HOLDER AND TYPEWRITTEN PANEL SCHEDULE. PANELBOARD SHALL BE SO CONSTRUCTED AS TO PROVIDE FOR ADJUSTABLE ALIGNMENT OF TRIM AND INTERIOR PANEL.

PROVIDE ENGRAVED NAMEPLATES IDENTIFYING SWITCHBOARDS AND PANELBOARDS. ALL EQUIPMENT NAMEPLATE IDENTIFICATIONS SHOWN ON THE DRAWINGS ARE FOR REFERENCE ONLY. PRIOR TO FABRICATING THE FINISHED NAMEPLATES, CONSULT WITH THE OWNER'S BUILDING ENGINEER FOR THE ACTUAL NOMENCLATURE TO BE USED.

PROVIDE PANELBOARDS WITH SEPARATE GROUND BAR.

UNLESS OTHERWISE INDICATED ON PLANS, PANEL SHALL BE INSTALLED WITH TOP OF CABINET AT 6'-6" A.F.F.

MANUFACTURERS SHALL BE SQUARE D OR EQUAL APPROVED BY ENGINEER PRIOR TO BID PROPOSAL.

WHERE LOADS ARE ADDED TO EXISTING PANELBOARDS, THE PANEL SCHEDULE SHALL BE UPDATED AND SHALL INDICATE THE LOCATION AND DESCRIPTION OF THE LOAD.

ALL LUG CONNECTIONS TO PANEL BUSSING, SWITCHES, AND BREAKERS TO BE SIZED TO ACCOMMODATE CONDUCTOR SIZES INDICATED ON THESE DRAWINGS. REDUCTION OF CIRCULAR MIL CAPACITY OF CONDUCTORS IS NOT PERMITTED. ALL LUGS SHALL BE RATED FOR 75°C.

ALL SWITCHBOARDS & PANELBOARDS SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS, PER CEC 110.16 THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.

CONTRACTOR SHALL PROVIDE PERMANENT SIGNAGE AT ALL HIGH VOLTAGE ENCLOSURES, FENCING, ROOMS, VAULTS, ETC. PER CEC 110.34(C). SIGNAGE SHALL READ "DANGER-HIGH VOLTAGE-KEEP OUT"

ALL MULTIWIRE BRANCH CIRCUIT HOMERUNS & WIRING WITH A SHARED NEUTRAL SHALL BE SUPPLIED WITH A MULTIPOLE CIRCUIT BREAKER OR UL LISTED HANDLE PER 2016 CEC 210.4(B). HANDLE IT SHALL BE SQUARE D CATALOG NUMBER QO1HT OR EATON CUTLER HAMMER QL1HT.

6.0 CIRCUIT BREAKERS

MOLDED CASE CIRCUIT BREAKERS SHALL BE OF THE QUICK-MAKE, QUICK- BREAK, TRIP-FREE, THERMAL MAGNETIC BOLT-ON TYPE WITH ON-OFF-TRIPPED POSITIONS.

CIRCUIT BREAKERS ABOVE 225 AMPERE TRIP RATING SHALL HAVE INTERCHANGEABLE TRIP ELEMENTS.

ALL BREAKERS SHALL BE CALIBRATED FOR OPERATION IN AN AMBIENT TEMPERATURE OF 40° C.

ALL MULTI-POLE BREAKERS SHALL BE SO DESIGNED THAT AN OVERLOAD IN ONE POLE AUTOMATICALLY CAUSES ALL POLES TO OPEN.

ALL PANELBOARD CIRCUIT BREAKERS USED FOR DIRECT SWITCHING OR LIGHTING CIRCUITS, SHALL BE SWITCH DUTY RATED.

ALL CIRCUIT BREAKERS SHALL HAVE A MINIMUM 10,000 AIC RATING FOR 250V PANELS AND 14,000 AIC RATING FOR 600V PANELS.

ALL CIRCUIT BREAKERS WITH TRIP RATING OR TRIP SETTINGS OF 1200 AMPS AND ABOVE SHALL BE EQUIPPED WITH REDUCED ENERGY LET-THROUGH OR EQUAL ENERGY REDUCING ACTIVE ARC FLASH MITIGATION SYSTEM, PER CEC 240.87.

7.0 FUSES

ALL FUSES SHALL BE AS MANUFACTURED BY GOULD SHAMUT, LITTLEFUSE, OR BUSSMANN.

8.0 WIRING DEVICES

IN ALL OFFICES AND OFFICE AREAS DEVICES SHALL BE DECORA TYPE WITH COLOR SELECTION BY CONTRACTOR/OWNERS REPRESENTATIVE.

SINGLE-POLE SWITCHES SHALL BE 20 AMPERES, 120/277 VOLT, AC, SPECIFICATION GRADE. VERIFY FINISH COLOR WITH ARCHITECT, SIDE AND BACK WIRED, HUBBELL #HBL-1221-W OR EQUAL BY G.E., PASS & SEYMOUR OR LEVITON.

THREE-WAY SWITCHES SHALL BE 20 AMPERES, 120/277 VOLT, AC, SPECIFICATION GRADE. VERIFY FINISH WITH ARCHITECT, SIDE AND BACK WIRED, HUBBELL #HBL-1223-W OR EQUAL BY G.E., PASS & SEYMOUR OR LEVITON.

DIMMER SWITCHES SHALL BE SLIDE CONTROL 800W, 120 VOLT, AC, FOR INCANDESCENT LOADS OR AS INDICATED ON PLANS.

DUPLEX RECEPTACLES FOR 120 VOLT, SINGLE-PHASE SERVICE TO BE RATED 20 AMPERES, 125 VOLT, BACK AND SIDE WIRED, 2-WIRE (NEMA 5-20R) GROUNDING TYPE, SPECIFICATION GRADE. VERIFY FINISH COLOR WITH ARCHITECT. HUBBELL #HBL5362W OR EQUAL BY PASS & SEYMOUR, G.E. OR LEVITON.

DOUBLE DUPLEX RECEPTACLES (4-PLY.) TO BE SAME AS DUPLEX RECEPTACLES. TWO DUPLEX RECEPTACLES IN 4"x4" OUTLET BOX WITH ONE TWO-GANG FACEPLATE. LEVITON, PASS & SEYMOUR, G.E., OR HUBBELL.

ALL DEVICE PLATES U.O.N. SHALL BE OF THE UNBREAKABLE PLASTIC TYPE, MANUFACTURED BY PASS & SEYMOUR, LUTRON, LEVITON G.E., OR HUBBELL. VERIFY FINISH COLOR WITH ARCHITECT. DEVICE PLATES FOR EQUIPMENT, STORAGE, AND KITCHEN AREAS SHALL BE STAINLESS STEEL.

OUTLETS AND DEVICES SHALL BE SET RIGID, PLUMB, FASTENED SECURELY; WHERE CONCEALED, SET FLUSH WITH FINISH SURFACE.

WIRING CONNECTIONS: CURL WIRE AROUND TERMINAL SCREWS AND TIGHTEN SCREWS FIRMLY. SNAP-IN, PRESSURE-TYPE TERMINALS NOT ACCEPTABLE.

EXTERIOR DUPLEX RECEPTACLES FOR 120 VOLT, SINGLE-PHASE SERVICE TO BE RATED 20 AMPERES, 125 VOLT, BACK AND SIDE WIRED, 2-WIRE (NEMA 5-20R) GFCI TYPE, WP, HUBBELL CAT #GF5362WA TAYMAC CORPORATION #20510 COVER OR EQUAL.

ALL RECEPTACLE AND SWITCH COVER PLATES SHALL CLEARLY INDICATE, WITH PERMANENT BLACK MARKER ON THE INSIDE OF THE PLATE, THE CIRCUIT NUMBER AND THE SOURCE OF POWER FEEDING THAT SWITCH OR RECEPTACLE.

ALL WALL SWITCHES AND RECEPTACLES SHALL BE MOUNTED BETWEEN 18" AND 48" TO TOP OF OUTLET BOX PER ADA REQUIREMENTS UNLESS NOTED OTHERWISE.

CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES OR COOLING, HEATING AND VENTILATING EQUIPMENT, SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF OUTLET BOX NOR LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE OUTLET BOX TO THE LEVEL OF THE FINISH FLOOR OR WORKING PLATFORM.

ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING NOR LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING TO THE LEVEL OF THE FINISH FLOOR OR WORKING PLATFORM.

ALL WALL MOUNTED ELECTRICAL, COMMUNICATION AND SECURITY SYSTEM BOXES IN RATED WALLS SHALL BE COVERED ENTIRELY WITH ONE HOUR FIRE PUTTY AND SEPARATED BY A MINIMUM OF 24".

9.0 LIGHTING

ALL LIGHTING FIXTURES SHALL BE UL LISTED.

PROVIDE LIGHTING FIXTURES WHERE INDICATED ON PLANS AND AS INDICATED IN FIXTURE SCHEDULE. LAMPS SHALL BE PROVIDED BY THE CONTRACTOR. CONTRACTOR SHALL INCLUDE IN HIS BID ALL LABOR AND MATERIAL TO INSTALL ALL FIXTURES, INCLUDING THOSE FURNISHED BY THE OWNER.

ALL RECESSED LIGHTING FIXTURES SHALL HAVE JUNCTION BOXES APPROVED FOR THE NUMBER OF CONDUCTORS REQUIRED. BOXES MAY BE LOCATED IN NEARBY ACCESSIBLE AREAS SUCH AS STORAGE ROOMS, EQUIPMENT ROOMS, CLOSETS, ACCESSIBLE CEILING SPACES OR IN REMOTE AREAS AS APPROVED, BUT NOT WHERE VISIBLE TO PUBLIC.

PROJECT SHALL BE BID WITH LIGHTING FIXTURES AND OTHER EQUIPMENT AS SPECIFIED ON PLANS. SUBSTITUTIONS SHALL BE LISTED AS ALTERNATE.

WHERE THERE IS INSUFFICIENT SPACE FOR A SPECIFIED RECESSED FIXTURE, PROVIDE EITHER A MORE SHALLOW FIXTURE AS APPROVED, OR A SURFACE MOUNTED FIXTURE OF EQUAL QUALITY AND SIMILAR PHYSICAL APPEARANCE TO MATCH OTHER FIXTURES IN THE SAME AREAS AND AS APPROVED.

PROVIDE ALL NECESSARY SUPPORTS FOR LIGHTING FIXTURES AS REQUIRED. WHERE FIXTURES ARE INSTALLED ON OR IN SUSPENDED CEILINGS, SECURE FIXTURES TO CEILING FRAME SYSTEM AND PROVIDE FIXTURE SUPPORTS. INDEPENDENT OF THE CEILING SUSPENSION SYSTEM AS REQUIRED. PROVIDE PENDANT FIXTURES WITH SWIVEL HANGER, LEGALLY APPROVED FOR WEIGHT SUPPORTED AND FOR EARTHQUAKE COMPLIANCE. WHEN INSTALLED, ALL PENDANT FIXTURES INCLUDING CONTINUOUS FIXTURE ROWS SHALL SWING A MINIMUM OF 20" IN ANY DIRECTION.

RECESSED FIXTURES IN FIRE RATED CEILINGS AND SUPPLY AIR PLENUMS SHALL BE EITHER APPROVED FOR THE FIRE RATINGS OF THE CEILING, OR SHALL BE FULLY ENCLOSED IN A FIRE RATED HOUSING ACCEPTABLE TO LEGAL AUTHORITIES. SEAL ALL OPENINGS AS REQUIRED TO ELIMINATE AIR LEAKS.

VERIFY TYPE OF MOUNTING AND COORDINATE LOCATIONS OF ALL FIXTURES WITH THE EXISTING CONDITIONS PRIOR TO STARTING WORK. PROVIDE MOUNTING METHOD AS REQUIRED BY CEILINGS AND FIXTURES TO BE INSTALLED.

ALL LIGHTING FIXTURES SHOWN AND SPECIFIED ON THE ELECTRICAL DRAWINGS AS WELL AS THOSE REFLECTED ON THE ARCHITECTURAL, INTERIOR DESIGN OR OTHER DRAWINGS PREPARED UNDER OTHER DIVISIONS OF WORK SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS OTHERWISE STATED.

10.0 TRANSFORMERS

TRANSFORMERS SHALL COMPLY WITH DOE-2016 ENERGY EFFICIENCY STANDARDS (10 CFR 431, SUBPART K) AND MEET OR EXCEED THE LATEST NEMA EFFICIENCY REQUIREMENTS.

TRANSFORMERS SHALL DRY TYPE, SHEET METAL ENCLOSED, CLASS 220° INSULATION, COPPER-WOUND, 80°C RISE, TWO-WINDING CONSTRUCTION, WITH PRIMARY AND SECONDARY VOLTAGES AND KVA RATINGS AS SHOWN ON THE DRAWINGS. VENTILATED ENCLOSURES SHALL BE HEAVY-GUAGE STEEL, MEETING UL, NEMA AND NEC REQUIREMENTS TO PREVENT ACCIDENTAL ACCESS TO LIVE PARTS.

TRANSFORMERS SHALL BE PROVIDED WITH FOUR (4) 2.5X TAPS - TWO ABOVE AND TWO BELOW NORMAL VOLTAGE ON PRIMARY WINDING.

TERMINALS SHALL BE READILY ACCESSIBLE FROM THE TOP AND FRONT, WITH REMOVABLE PANELS.

SINGLE-PHASE TRANSFORMERS UP TO 167 KVA AND THREE-PHASE TRANSFORMERS UP TO 112.5 KVA SHALL BE CAPABLE OF EITHER FLOOR OR WALL MOUNTING. TRANSFORMERS ABOVE 112.5 KVA SHALL BE FLOOR-MOUNTED.

ALL FLOOR-MOUNTED TRANSFORMERS SHALL BE MOUNTED ON 4" THICK HOUSEKEEPING PAD.

ALL TRANSFORMERS SHALL BE INSTALLED TO MEET THE MANUFACTURERS RECOMMENDED NAMEPLATE CLEARANCES.

TRANSFORMERS SHALL BE MOUNTED ON VIBRATION ISOLATORS. FINAL CONDUIT CONNECTIONS AT TRANSFORMERS SHALL USE FLEXIBLE CONDUIT FOR VIBRATION ISOLATION.

11.0 GROUNDING

PROVIDE A COMPLETE GROUNDING SYSTEM AND SAFELY GROUND ALL SERVICE DISTRIBUTION EQUIPMENT AND RELATED METALLIC EQUIPMENT IN AN APPROVED MANNER AND AS REQUIRED BY NEC AND AS SHOWN ON DRAWINGS.

ALL GROUNDING CONDUCTORS SHALL BE RUN IN CONDUIT AND SHALL BE INSULATED AS SPECIFIED.

THE MAIN GROUNDING CONNECTIONS FOR THE SERVICE EQUIPMENT SHALL BE MADE TO THE UFER GROUNDING SYSTEM AND TO THE WATER MAIN OR NEAREST ACCESSIBLE WATER PIPE WITH CLAMP OR FITTINGS MADE OF COPPER, BRONZE, OR OTHER SIMILAR NON-FERROUS MATERIAL.

RESISTANCE TO GROUND SHALL NOT EXCEED 25 OHMS AS MEASURED BY EITHER THE "FALL OF POTENTIAL" METHOD OR BY "DIRECT READING GROUND RESISTANCE."

CONNECTIONS TO THE WATER MAIN SHALL BE MADE ON THE "STREET SIDE" OF THE WATER METERS. IF THE CONNECTION IS MADE ON THE "BUILDING SIDE" OF THE METERS, SUITABLE COPPER JUMPERS OF FLEXIBLE, STRANDED INSULATED CABLE, BYPASSING ALL METERS, SHALL BE PROVIDED AND INSTALLED. ALL IN ACCORDANCE WITH LOCAL CODE.

ALL GROUNDING CONDUCTORS SHALL BE PROTECTED FROM MECHANICAL INJURY AND SHALL BE RIGIDLY SUPPORTED. UNLESS OTHERWISE SHOWN, GROUND CONDUCTORS SHALL NOT BE RUN IN CONCRETE SLAB OR FILL UNLESS PROTECTED BY STEEL CONDUIT AND BOTH ENDS OF THE CONDUIT SHALL BE PROVIDED WITH A CODE-APPROVED TYPE OF SOLDERLESS CONNECTOR AND SHALL BE BOLTED OR CLAMPED TO EQUIPMENT OR CONDUIT. NO SOLDER CONNECTIONS ARE ALLOWED.

GROUND ALL INTERIOR METALLIC WATER AND GAS PIPING PER REQUIREMENTS OF THE LOCAL AUTHORITIES.

PROVIDE A SEPARATE GREEN EQUIPMENT GROUND CONDUCTOR IN ALL CONDUIT AND RACEWAYS.

LIGHTING MANDATORY MEASURES

2022 TITLE 24 MANDATORY MEASURES FOR LOW-RISE RESIDENTIAL BUILDINGS

*EXCEPTIONS MAY APPLY

§ 110.9 ALL LIGHTING CONTROL DEVICES AND SYSTEMS, BALLASTS, AND LUMINAIRES MUST MEET THE APPLICABLE REQUIREMENTS OF § 110.9.*

§ 150.0(K)1A ALL INSTALLED LUMINAIRES MUST MEET THE REQUIREMENTS IN TABLE 150.0-A.

§ 150.0(K)1B THE NUMBER OF ELECTRICAL BOXES THAT ARE MORE THAN FIVE FEET ABOVE THE FINISHED FLOOR AND DO NOT CONTAIN A LUMINAIRE OR OTHER DEVICE MUST BE NO GREATER THAN THE NUMBER OF BEDROOMS. THESE ELECTRICAL BOXES MUST BE SERVED BY A DIMMER, VACANCY SENSOR CONTROL, OR FAN SPEED CONTROL.

§ 150.0(K)1C LUMINAIRES RECESSED INTO CEILINGS MUST MEET ALL OF THE REQUIREMENTS FOR: INSULATION CONTACT (IC) LABELING; AIR LEAKAGE; SEALING; MAINTENANCE; AND SOCKET AND LIGHT SOURCE AS DESCRIBED IN § 150.0(K)1C.

§ 150.0(K)1D BALLASTS FOR FLUORESCENT LAMPS RATED 13 WATTS OR GREATER MUST BE ELECTRONIC AND MUST HAVE AN OUTPUT FREQUENCY NO LESS THAN 20 KHZ.

§ 150.0(K)1E NIGHT LIGHTS, STEP LIGHTS AND PATH LIGHTS ARE NOT REQUIRED TO COMPLY WITH TABLE 150.0-A OR BE CONTROLLED BY VACANCY SENSORS PROVIDED THEY ARE RATED TO CONSUME NO MORE THAN 5 WATTS OF POWER AND EMIT NO MORE THAN 150 LUMENS.

§ 150.0(K)1F LIGHTING INTEGRAL TO EXHAUST FANS (EXCEPT WHEN INSTALLED BY THE MANUFACTURER IN KITCHEN EXHAUST HOODS) MUST MEET THE APPLICABLE REQUIREMENTS OF § 150.0(K).*

§ 150.0(K)1G SCREW BASED LUMINAIRES MUST CONTAIN LAMPS THAT COMPLY WITH REFERENCE JOINT APPENDIX JA8.*

§ 150.0(K)1H LAMPS AND OTHER SEPARABLE LIGHT SOURCES THAT ARE NOT COMPLIANT WITH THE JA8 ELEVATED TEMPERATURE REQUIREMENTS, INCLUDING MARKING REQUIREMENTS, MUST NOT BE INSTALLED IN ENCLOSED OR RECESSED LUMINAIRES.

§ 150.0(K)1I LIGHT SOURCES INTERNAL TO DRAWERS, CABINETRY OR LINEN CLOSETS ARE NOT REQUIRED TO COMPLY WITH TABLE 150.0-A OR BE CONTROLLED BY VACANCY SENSORS PROVIDED THAT THEY ARE RATED TO CONSUME NO MORE THAN 5 WATTS OF POWER, EMIT NO MORE THAN 150 LUMENS, AND ARE EQUIPPED WITH CONTROLS THAT AUTOMATICALLY TURN THE LIGHTING OFF WHEN THE DRAWER, CABINET OR LINEN CLOSET IS CLOSED.

§ 150.0(K)2A ALL FORWARD PHASE CUT DIMMERS USED WITH LED LIGHT SOURCES MUST COMPLY WITH NEMA SSL 7A.

§ 150.0(K)2B EXHAUST FANS MUST BE CONTROLLED SEPARATELY FROM LIGHTING SYSTEMS.*

§ 150.0(K)2C LIGHTING MUST HAVE READILY ACCESSIBLE WALL-MOUNTED CONTROLS THAT ALLOW THE LIGHTING TO BE MANUALLY TURNED ON AND OFF.*

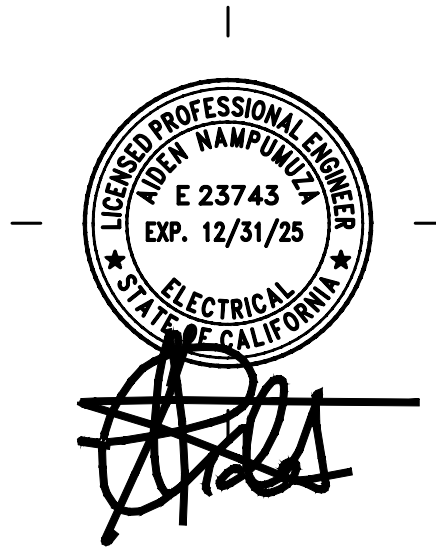
§ 150.0(K)2D CONTROLS AND EQUIPMENT MUST BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

§ 150.0(K)2E CONTROLS MUST NOT BYPASS A DIMMER, OCCUPANT SENSOR, OR VACANCY SENSOR FUNCTION IF THE CONTROL IS INSTALLED TO COMPLY WITH § 150.0(K).

§ 150.0(K)2F LIGHTING CONTROLS MUST COMPLY WITH THE APPLICABLE REQUIREMENTS OF § 110.9.

§ 150.0(K)2G AN ENERGY MANAGEMENT CONTROL SYSTEM (EMCS) MAY BE USED TO COMPLY WITH CONTROL REQUIREMENTS IF IT: PROVIDES FUNCTIONALITY OF THE SPECIFIED CONTROL ACCORDING TO § 110.9; MEETS THE INSTALLATION CERTIFICATE REQUIREMENTS OF § 130.4; MEETS THE EMCS REQUIREMENTS OF § 130.0(E); AND MEETS ALL OTHER REQUIREMENTS IN § 150.0(K)2.

§ 150.0(K)2H A MULTISCENE PROGRAMMABLE CONTROLLER MAY BE USED TO COMPLY WITH DIMMER REQUIREMENTS IN § 150.0(K) IF IT PROVIDES THE FUNCTIONALITY OF A DIMMER ACCORDING TO § 110.9, AND COMPLIES WITH ALL OTHER APPLICABLE REQUIREMENTS IN § 150.0(K)2.



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30501 Agoura Road, Suite 150
Agoura Hills, CA 91301
(805) 584-9719

ISSUES

Date	No.	Description
09/24/25	-	ISSUE FOR PLAN CHECK

THESE DRAWINGS ARE NOT ISSUED FOR PRICING PURPOSES. THESE ARE SPECIFICALLY ISSUED FOR PLAN CHECK. FOR DETAILED PRICING INSTRUCTIONS REFER TO THE PRICING PLANS AND WRITTEN SPECIFICATIONS.

OCFA: FS 45
BATHROOM
REMODEL

30131 Aventura, Rancho
Santa Margarita, CA
92688

24570.00

ELECTRICAL
DETAILS
E-0.4

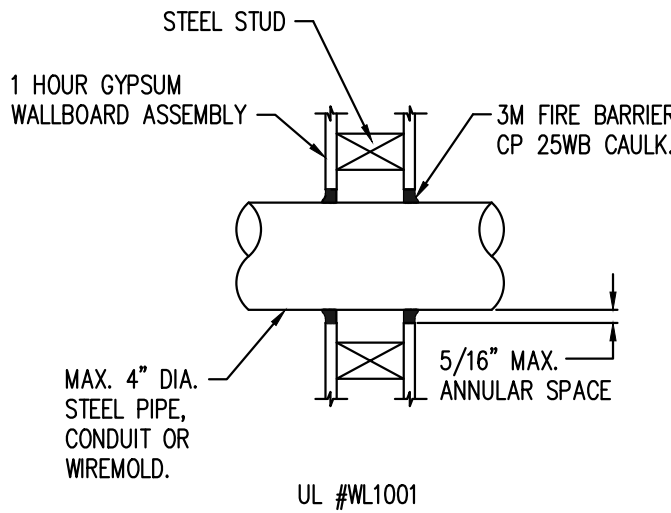
NOTE:
DO NOT CUT OR DAMAGE REBARS.

SYSTEM NO. WL1001
(FORMERLY SYSTEM NO. 147)
F RATINGS - 1,2,3, AND 4 HR (SEE ITEMS 2 AND 3)
T RATINGS - 0,1,2,3, AND 4 HR (SEE ITEM 3)
L RATING AT AMBIENT - LESS THAN 1 CFM/SQ FT (SEE ITEM 3)
L RATING AT 400 F - LESS THAN 1 CFM/SQ FT (SEE ITEM 3)

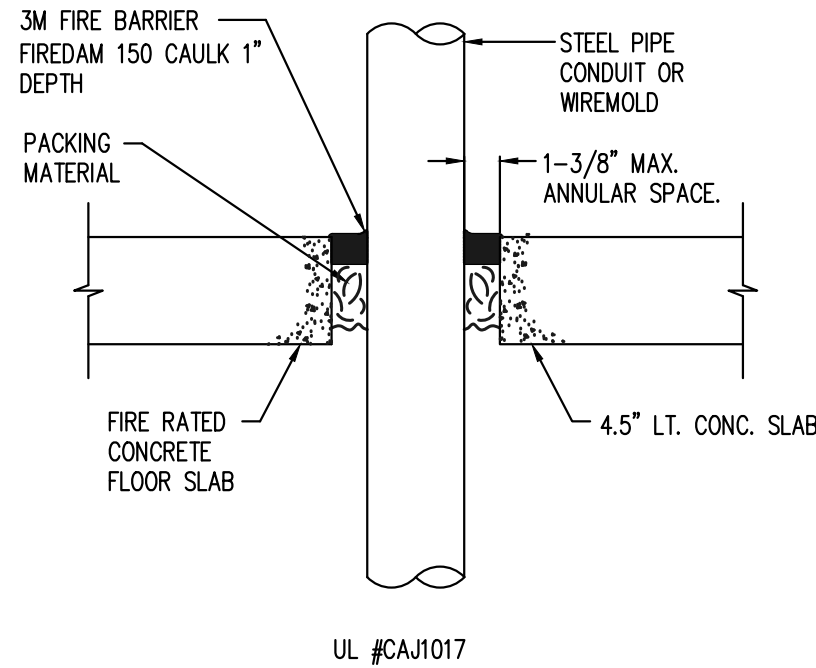
1. WALL ASSEMBLY - THE 1,2,3 OR 4 HR FIRE -RATED GYPSUM WALL BOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
- A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS (MAX.2 HR FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED IN 18 IN. OC WIT NOM 2 BY 4 IN. LUMBER AND PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3-5/8 IN. WIDE BY-3/8 IN. DEEP CHANNELS SPACED MAX 24 IN. CC.
- B. WALLBOARD, GYPSUM - NOM 1/2 OR 5/8 IN.THICK , 4 FT.WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD RYPS, THICKNESS,NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY MAX DIAM OF OPENING IS 13-1/2 IN.
2. PIPE OR CONDUIT - NOM 12 IN.DIAM(OR SMALLER) SCHEDULE 10(OR HAVER)STEEL PIPE NOM 6 IN.DIAM(OR SMALLER) STEEL CONDUIT, NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALIC TUBING OR TYPE L OR (OR HAVER) COPPER TUBING NOM1 IN.DIAM (OR SMALLER) FLEXIBLE STEEL CONDUIT . WHEN COPPER PIPE OR FLEXIBLE STEEL CONDUIT IS USED , MAX F RATING OF FIRESTOP SYSTEM (ITEM STRUCTED USING STEEL CHANNEL STUDS. A MAX OF ONE PIPE OR CONDUIT IS PERMITTED IN THE FIRESTOP SYSTEM. PIPE OR CONDUIT TO BE INSTALLED NEAR CENTER OF STUD CAVITY WIDTH AND TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY .
3. FILL, VOID OR CAVITY MATERIAL - CAULK - CAULK FILL MATERIAL INSTALLED TO COMPLETELY FILL ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND GYPSUM WALLBOARD AND WITH A MIN 1/4 IN. DIAM BOARD OF CHAULK APPLIED TO PERIMETER OF PIPE OR CONDUIT AT ITS EGREES FROM THE WALL. CHAULK INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL ASSEMBLY. THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS SHOWN IN THE FOLLOWING TABLE. THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULETED BELOW :

MAX PIPE OR CONDUIT DIAM, IN	ANULAR SPACE IN	F RATING HR	T RATING HR
1	0 TO 3/16	1 OR 2	0 + 1 OR 2
1	1/4 TO 1/2	3 OR 4	3 OR 4
4	0 TO 1/4	1 OR 2	0
6	1/4 TO 1/2	3 OR 4	0
12	3/16 TO 3/8	1 OR 2	0

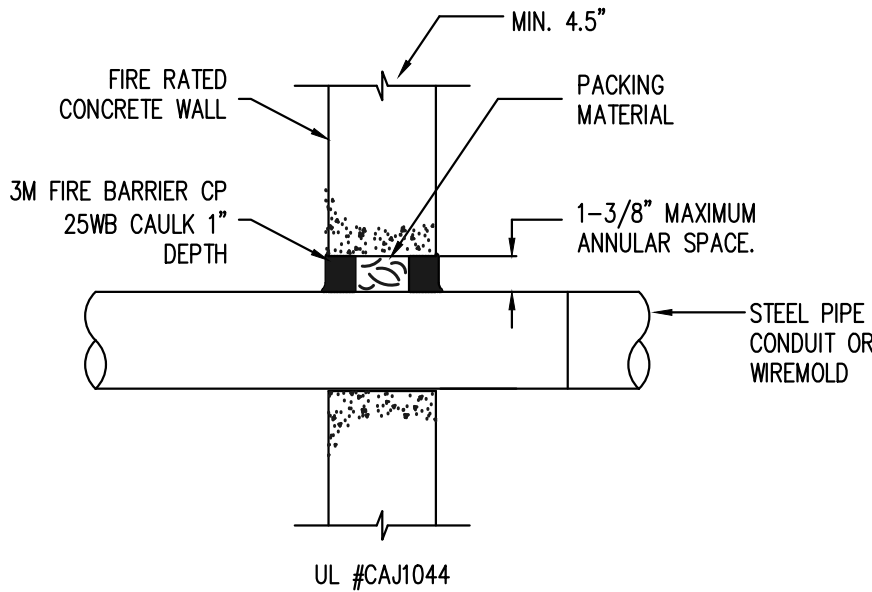
+ WHEN COPPER PIPE IS USED , T RATING IS 0 NOM. MINNESSOTA MINING & MFG. CO. - TYPES CP-25 S/L, CP-25 N/8 , CP-25 WS, CP-25 WS + (NOTE: L RATINGS APPLY WHEN TYPE CP-25 WS+ CAULK IS USED.)



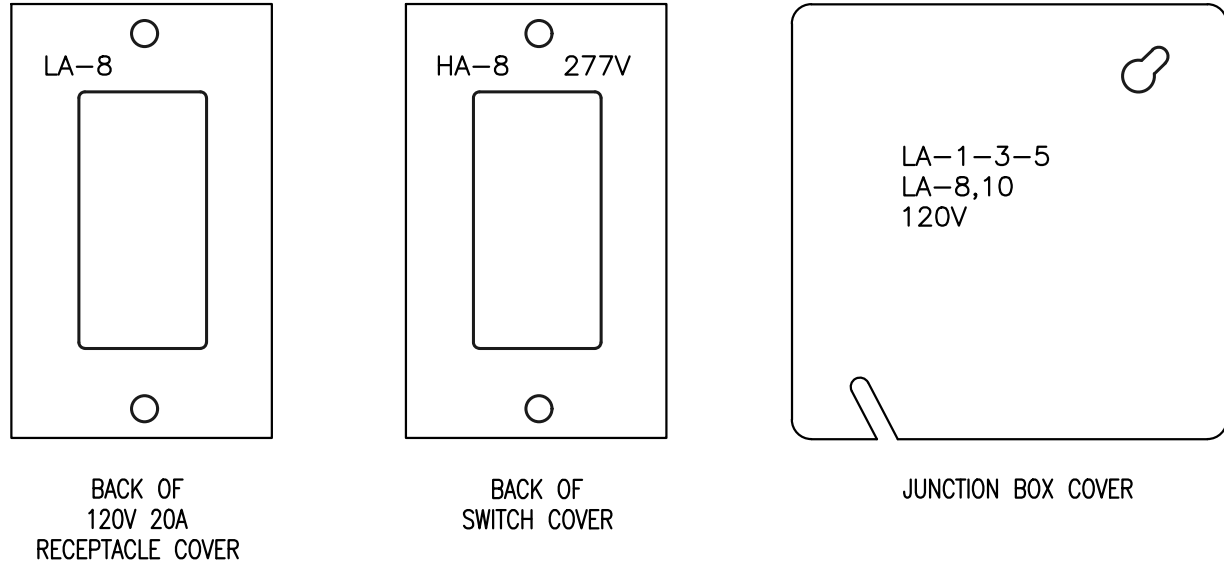
PENETRATION THRU GYPSUM BOARD WALL
NO SCALE



PENETRATION THRU CONCRETE FLOOR
NO SCALE



PENETRATION THRU CONCRETE WALL
NO SCALE



- NOTES:
1. LABELING OF ALL DEVICES AND JUNCTION BOXES IN EXPOSED AREAS SHALL BE ON BACK OF DEVICE/BOX COVERS.
 2. LABELING OF ALL DEVICES AND JUNCTION BOXES IN NON-EXPOSED AREAS SHALL BE ON FRONT OF DEVICE/BOX COVERS.
 3. LABELING SHALL BE 1/4" HIGH AND LEGIBLE.
 4. INDICATE CIRCUIT NUMBERS AT ALL DEVICES AND JUNCTION BOXES.
 5. INDICATE VOLTAGE AT ALL SWITCHES, JUNCTION BOXES, AND SPECIAL PURPOSE RECEPTACLES.

TYPICAL LABELING

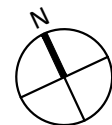
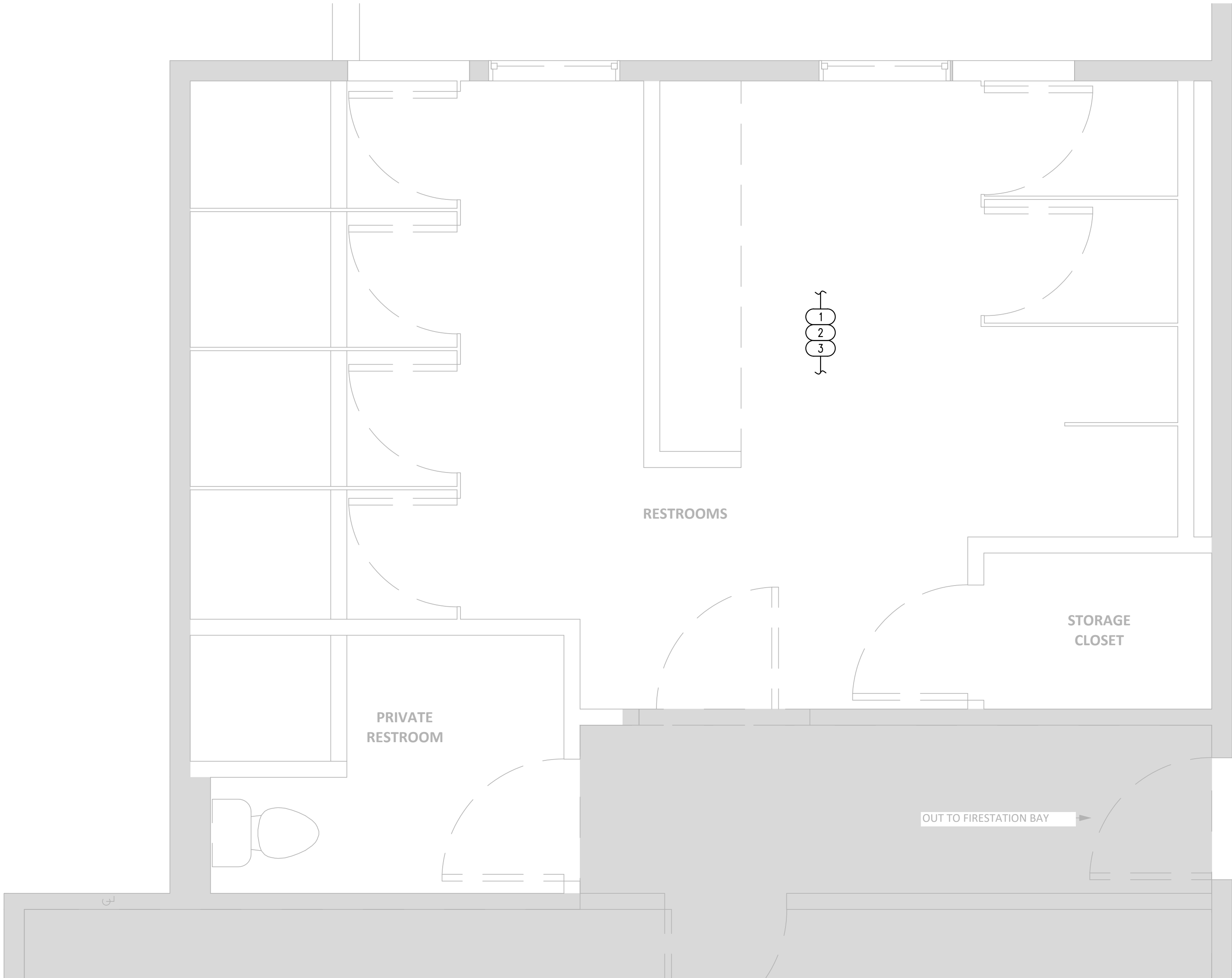
SCALE:
NONE

2

TYPICAL FLOOR + RATED WALL PENETRATION

SCALE:
NONE

1



DEMOLITION POWER PLAN

SCALE
1/2"=1'-0"

1

SHEET NOTES

1. PROVIDE PREPARATION OF THE EXISTING BUILDING TO RECEIVE OR CONNECT THE NEW WORK.
2. PROVIDE DEMOLITION, CUTTING, ALTERATION, AND REPAIR WORK ON EXISTING SITE AND IN THE EXISTING BUILDING NECESSARY FOR THE COMPLETION OF THE ENTIRE PROJECT.
3. PROVIDE DISCONNECTION AND RECONNECTION OF EXISTING ELECTRICAL EQUIPMENT AS REQUIRED BY THE CONSTRUCTION MODIFICATIONS.
4. EXISTING CONDITIONS: PRIOR TO BID MAKE A DETAILED SURVEY OF THE EXISTING CONDITIONS PERTAINING TO THE WORK. CHECK THE LOCATIONS OF ALL EXISTING STRUCTURES, EQUIPMENT AND WIRING. CHECK FOR ANY HAZARDOUS MATERIALS WHICH MAY REQUIRE SPECIAL HANDLING.
5. SALVAGE AND DISPOSAL: ALL REMOVED MATERIAL OTHER THAN ITEMS TO BE REUSED SHALL BE RETURNED TO THE OWNER OR DISPOSED OF IN ACCORDANCE WITH INSTRUCTIONS FROM THE OWNER'S REPRESENTATIVE. DISPOSAL SHALL BE DONE IN ACCORDANCE WITH EPA AND GOVERNING BODY REQUIREMENTS AND REGULATIONS. CONTRACTOR SHALL PAY FEES AND CHARGES FOR DISPOSAL.
6. TWO WEEKS PRIOR TO START OF ANY WORK CONTRACTOR SHALL SCHEDULE ALL WORK AND ELECTRICAL SYSTEM OUTAGES WITH OWNER'S WRITTEN APPROVAL.
7. PROTECT ALL EXISTING POWER, MOTORS AND RELATED EQUIPMENT, ALARM SYSTEM, LIGHTING AND CONTROL SYSTEMS, AND TELEPHONE EQUIPMENT IN PLACE UNLESS OTHERWISE NOTED.
8. CONTRACTOR SHALL LEAVE ALL POWER AND SIGNAL CIRCUITS ENERGIZED, VIA JUNCTION BOX, TO DEVICES IN AREAS OUTSIDE OF DEMOLITION AREA EVEN IF SYSTEMS ARE ROUTED THROUGH DEMOLITION AREA.
9. CONTRACTOR SHALL FIELD-VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY TRENCHING. CONTRACTOR SHALL PROTECT ALL EXISTING-TO-REMAIN UNDERGROUND UTILITY SYSTEMS IN PLACE. CONTRACTOR SHALL REPAIR ANY UTILITY SYSTEM DAMAGE DURING CONSTRUCTION.

DEMOLITION LEGEND

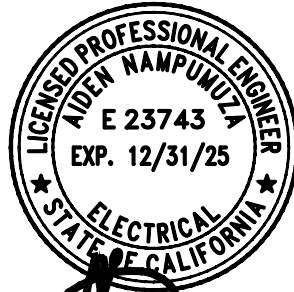
(E)	EXISTING. PROTECT IN PLACE.
(R)	REMOVE EXISTING DEVICE AND ASSOCIATED WIRING. PREPARE AREA TO RECEIVE NEW WORK.
(RE)	RELOCATE EXISTING DEVICE. PREPARE AREA TO RECEIVE NEW WORK.
(R/R)	REMOVE EXISTING DEVICE AND REPLACE WITH NEW AS SHOWN.

KEY NOTES

- 1 REFER TO ARCHITECTURAL DEMOLITION DRAWINGS FOR COORDINATION/REFERENCE OF COMPLETE DEMOLITION SCOPE OF WORK.
- 2 CONTRACTOR TO REMOVE ALL LIGHT FIXTURES AND PREPARE AREA TO RECEIVE NEW WORK.
- 3 CONTRACTOR TO REMOVE ALL EXISTING LIGHTING CONTROLS.

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architects

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Los Angeles CA 90025
310/231-0300



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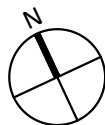
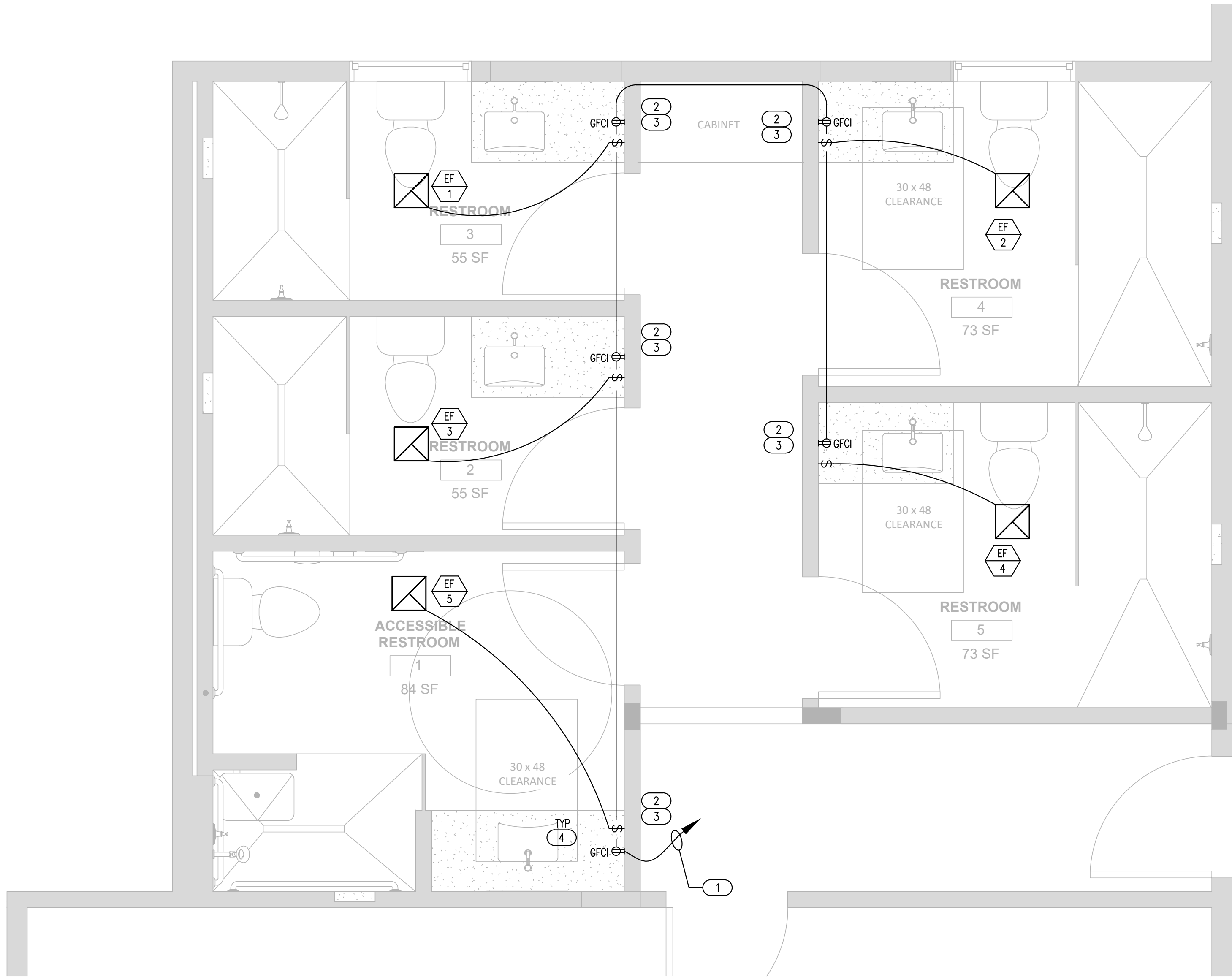
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OCFA: FS 45
BATHROOM
REMODEL

30131 Aventura, Rancho
Santa Margarita, CA
92688
24570.00

DEMOLITION
POWER PLAN

E-2.0



POWER PLAN

SCALE:
1/2"=1'-0"

1

SHEET NOTES

1. CONTRACTOR SHALL VERIFY LOCATION & REQUIREMENTS OF ALL DEVICES REQUIRING ELECTRICAL CONNECTION PRIOR TO BID PROPOSAL, ROUGH-IN AND FINISH.
2. CONTRACTOR SHALL, IN ROUTING ALL CIRCUITS, INCREASE CONDUCTOR & CONDUIT SIZE TO ALLOW FOR VOLTAGE DROP SHOULD THE CONTRACTOR EXCEED ROUTING INDICATED ON DRAWING.
3. COORDINATE WORK WITH OTHER TRADES. OBTAIN ALL DRAWINGS THAT WILL REQUIRE COORDINATION AND PROVIDE ALL ELECTRICAL CONNECTIONS, DEVICES, AND WIRING REQUIRED WHETHER SHOWN ON ELECTRICAL DRAWINGS OR NOT.
4. PROVIDE CODE SIZE EQUIPMENT GROUNDING CONDUCTORS IN ALL OCCUPIED CONDUITS.
5. VERIFY LOCATION OF ALL DEVICES ON ARCHITECTURAL PLANS.
6. VERIFY THE EXACT ROUTING OF ALL EXPOSED CONDUIT WITH OWNER PRIOR TO INSTALLATION.
7. FOR ALL 120V SERVICE OUTLETS REQUIRED WITHIN 25' OF OUTDOOR HVAC EQUIPMENT, PROVIDE WEATHER RESISTANT (WR) AND GROUND FAULT PROTECTED RECEPTACLE (GFCI) WITH WEATHERPROOF (WP) BOX AND IN-USE COVER LISTED AS EXTRA DUTY.
8. CONTRACTOR TO ENSURE THAT NO RECEPTACLES ARE LOCATED WITHIN 3' OF TUB OR SHOWER BASIN PER NEC 406.9(C).

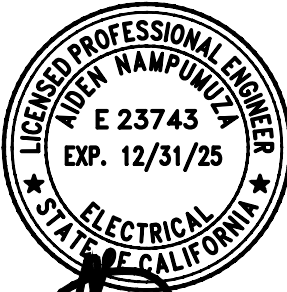
KEY NOTES

1. VERIFY CIRCUIT NUMBER SERVING EXISTING RECEPTACLES IN THIS AREA AND EXTEND TO NEW RECEPTACLES.
2. EXTEND NEW LIGHTING CIRCUIT SERVING THIS AREA TO PROVIDE POWER TO THE NEW EXHAUST FAN AS REQUIRED.
3. PROVIDE HUMIDISTAT SWITCH FOR EXHAUST FAN OR PROVIDE EXHAUST FAN WITH INTEGRAL HUMIDITY CONTROL IN COMPLIANCE WITH CODE. VERIFY AND PROVIDE ANY ADDITIONAL CONTROL REQUIREMENTS PER PROJECT MECHANICAL DRAWINGS.

ARC-FAULT REQUIREMENT:
ALL 120-VOLT, 15-AMP 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 ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT.

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[Signature]

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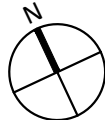
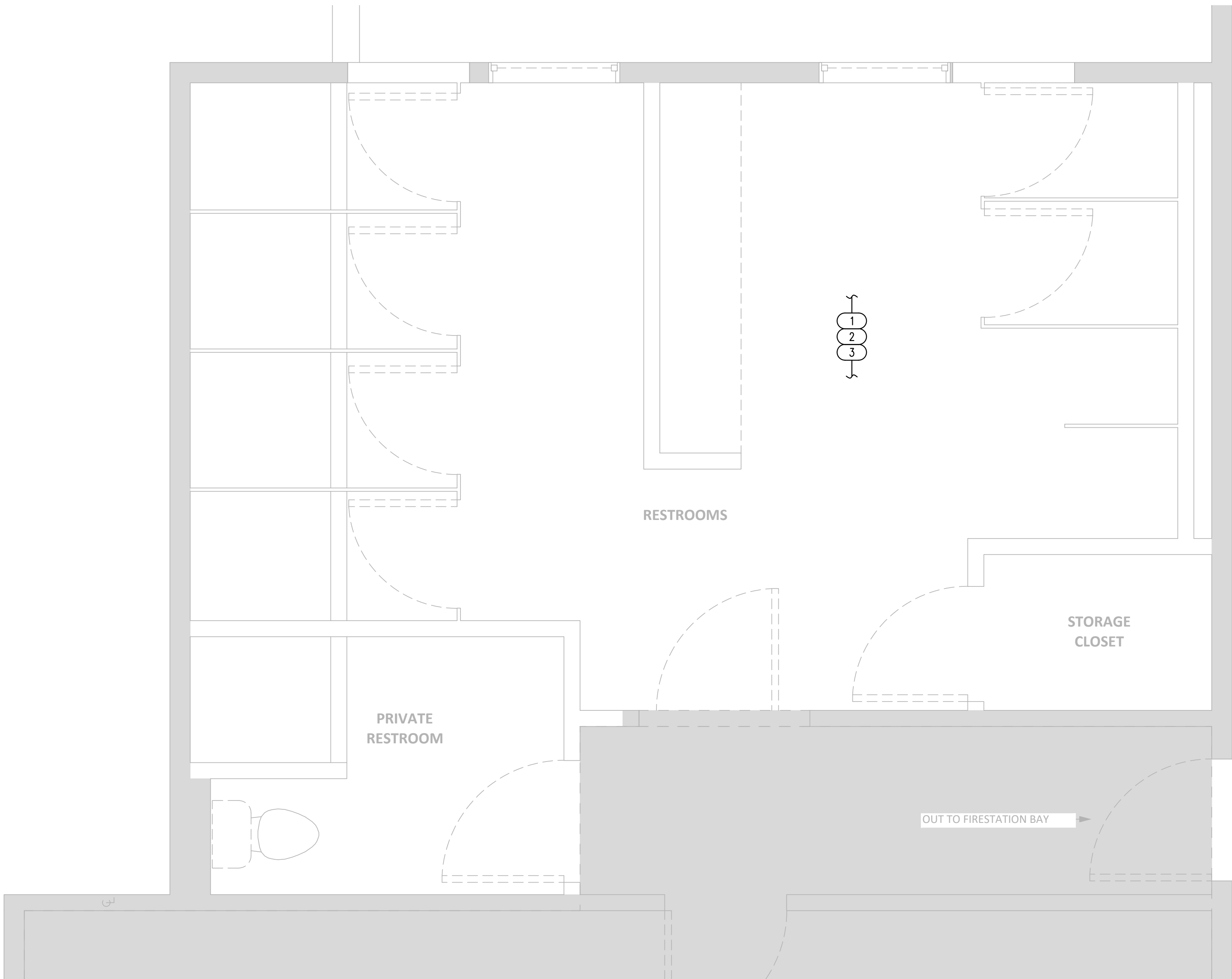
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OCFA: FS 45 BATHROOM REMODEL

30131 Aventura, Rancho
Santa Margarita, CA
92688
24570.00

POWER PLAN
E-2.1



DEMOLITION LIGHTING PLAN

SCALE
1/2"=1'-0"

1

SHEET NOTES

1. PROVIDE PREPARATION OF THE EXISTING BUILDING TO RECEIVE OR CONNECT THE NEW WORK.
2. PROVIDE DEMOLITION, CUTTING, ALTERATION, AND REPAIR WORK ON EXISTING SITE AND IN THE EXISTING BUILDING NECESSARY FOR THE COMPLETION OF THE ENTIRE PROJECT.
3. PROVIDE DISCONNECTION AND RECONNECTION OF EXISTING ELECTRICAL EQUIPMENT AS REQUIRED BY THE CONSTRUCTION MODIFICATIONS.
4. EXISTING CONDITIONS: PRIOR TO BID MAKE A DETAILED SURVEY OF THE EXISTING CONDITIONS PERTAINING TO THE WORK. CHECK THE LOCATIONS OF ALL EXISTING STRUCTURES, EQUIPMENT AND WIRING. CHECK FOR ANY HAZARDOUS MATERIALS WHICH MAY REQUIRE SPECIAL HANDLING.
5. SALVAGE AND DISPOSAL: ALL REMOVED MATERIAL OTHER THAN ITEMS TO BE REUSED SHALL BE RETURNED TO THE OWNER OR DISPOSED OF IN ACCORDANCE WITH INSTRUCTIONS FROM THE OWNER'S REPRESENTATIVE. DISPOSAL SHALL BE DONE IN ACCORDANCE WITH EPA AND GOVERNING BODY REQUIREMENTS AND REGULATIONS. CONTRACTOR SHALL PAY FEES AND CHARGES FOR DISPOSAL.
6. TWO WEEKS PRIOR TO START OF ANY WORK CONTRACTOR SHALL SCHEDULE ALL WORK AND ELECTRICAL SYSTEM OUTAGES WITH OWNER'S WRITTEN APPROVAL.
7. PROTECT ALL EXISTING POWER, MOTORS AND RELATED EQUIPMENT, ALARM SYSTEM, LIGHTING AND CONTROL SYSTEMS, AND TELEPHONE EQUIPMENT IN PLACE UNLESS OTHERWISE NOTED.
8. CONTRACTOR SHALL LEAVE ALL POWER AND SIGNAL CIRCUITS ENERGIZED, VIA JUNCTION BOX, TO DEVICES IN AREAS OUTSIDE OF DEMOLITION AREA EVEN IF SYSTEMS ARE ROUTED THROUGH DEMOLITION AREA.
9. CONTRACTOR SHALL FIELD--VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY TRENCHING. CONTRACTOR SHALL PROTECT ALL EXISTING--TO-REMAIN UNDERGROUND UTILITY SYSTEMS IN PLACE. CONTRACTOR SHALL REPAIR ANY UTILITY SYSTEM DAMAGE DURING CONSTRUCTION.

DEMOLITION LEGEND

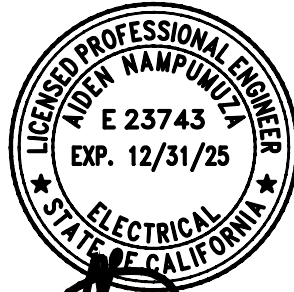
(E)	EXISTING. PROTECT IN PLACE.
(R)	REMOVE EXISTING DEVICE AND ASSOCIATED WIRING. PREPARE AREA TO RECEIVE NEW WORK.
(RE)	RELOCATE EXISTING DEVICE. PREPARE AREA TO RECEIVE NEW WORK.
(R/R)	REMOVE EXISTING DEVICE AND REPLACE WITH NEW AS SHOWN.

KEY NOTES

- 1 REFER TO ARCHITECTURAL DEMOLITION DRAWINGS FOR COORDINATION/REFERENCE OF COMPLETE DEMOLITION SCOPE OF WORK.
- 2 CONTRACTOR TO REMOVE ALL LIGHT FIXTURES AND PREPARE AREA TO RECEIVE NEW WORK.
- 3 CONTRACTOR TO REMOVE ALL EXISTING LIGHTING CONTROLS.

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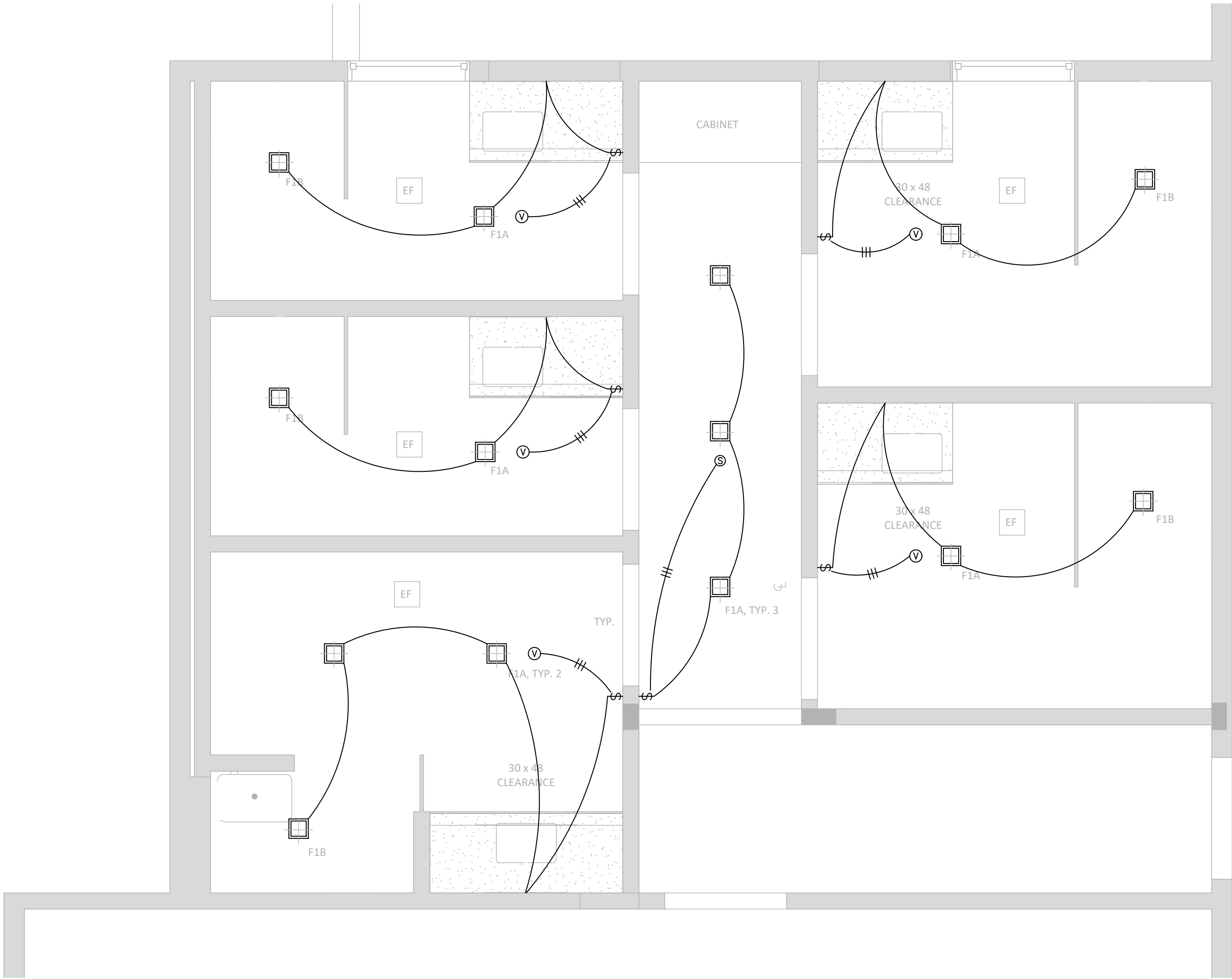
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BATHROOM
REMODEL

30131 Aventura, Rancho
Santa Margarita, CA
92688
24570.00

DEMOLITION
LIGHTING PLAN
E-3.0



LIGHTING CONTROL DEVICE LEGEND

LIGHTING CONTROL DEVICE LEGEND			
	"D" DESIGNATES (1) DIMMING SWITCH FOR EACH SWITCH LEG INDICATED TO THE RIGHT	*NOTE: SWITCH LEG CONVENTION SHOWN APPLIES TO ALL SWITCH TYPES: LINE VOLTAGE, LOW VOLTAGE, DIGITAL, LOW VOLTAGE OVERRIDE, ETC. UNLESS OTHERWISE NOTED.	
	"3" DESIGNATES (1) MULTI-LOCATION SWITCH FOR EACH SWITCH LEG INDICATED TO THE RIGHT	EXAMPLE SHOWN: SWITCHES "a" & "b" ARE DIMMING; SWITCH "c" IS BOTH DIMMING AND MULTI-LOCATION	
SYMBOL	ITEM DESCRIPTION	MOUNTING	REMARKS
	DIMMING WALL SWITCH COMPATIBLE WITH PROPOSED FIXTURE TYPE	STANDARD SWITCH HEIGHT	
	DIMMING WALL SWITCH COMPATIBLE WITH PROPOSED FIXTURE TYPE	STANDARD SWITCH HEIGHT	PROVIDE DIMMING MASTER ON LOAD SIDE OF CIRCUIT. PROVIDE DIMMING COMPANION ON LINE SIDE.
	COMBINATION WALL SWITCH/VACANCY SENSOR (DUAL TECHNOLOGY) LUTRON #MS-A102 (720W MAX)	STANDARD SWITCH HEIGHT	
	CEILING-MOUNT VACANCY SENSOR (DUAL TECH, LINE VOLTAGE) ACUTY/LITHONIA #CMR-PDT-10	CEILING	LOCATE IN ROOM FOR FULL COVERAGE OF AREA PER MANUFACTURER'S RECOMMENDATIONS
NOTES: 1. PROVIDE NEUTRAL AND GROUND CONDUCTORS IN ALL SWITCH BOXES. 2. FORWARD-PHASE DIMMERS CONTROLLING LED LAMPS MUST COMPLY WITH NEMA SSL 7A, PER TITLE 24 150.0(K)2A. 3. REFER TO ALL PRODUCT DOCUMENTATION FOR WIRING REQUIREMENTS PRIOR TO ROUGH-IN. 4. DO NOT EXCEED WATTAGE RATING OF LIGHTING CONTROLS. ALLOW FOR DERATING IN GANGED APPLICATIONS AND FOR LED LOADS (REFER TO MANUFACTURER DOCUMENTATION). 5. CONFIRM SUPPLY WIRING REQUIREMENTS OF ALL CONTROLS PRIOR TO ROUGH-IN.			

LIGHT FIXTURE SCHEDULE

TYPE	SYMBOL	DESCRIPTION	INPUT WATTS	INPUT VOLTS	LAMP QTY	LAMP TYPE	SPECIFICATION	REMARKS	LOCATION
F1A		4" ARCHITECTURAL HIGH LUMEN SQUARE LED DOWNLIGHT	25	MVOLT	NA	LED	HH45Q-LED-2000L-DIM10-MVOLT-MD-35K-90-LED-4614-W-WH	VERIFY DIMMING WITH ARCHITECT AND PROVIDE DIMMABLE SWITCH AS NEEDED	RESTROOMS
F1B		4" ARCHITECTURAL HIGH LUMEN SQUARE LED DOWNLIGHT	25	MVOLT	NA	LED	HH45Q-LED-2000L-DIM10-MVOLT-MD-35K-90-LED-4614-W-WH	VERIFY DIMMING WITH ARCHITECT AND PROVIDE DIMMABLE SWITCH AS NEEDED	SHOWERS

SHEET NOTES

- CONTRACTOR SHALL VERIFY LOCATION, CEILING TYPE, TRIM, AND REQUIREMENTS OF ALL LIGHT FIXTURES AND CONTROLS WITH ARCHITECTURAL REFLECTED CEILING PLAN PRIOR TO BID PROPOSAL, ROUGH-IN, AND FINISH INSTALLATION.
- CONTRACTOR SHALL, IN ROUTING ALL CIRCUITS, INCREASE CONDUCTOR & CONDUIT SIZE TO ALLOW FOR VOLTAGE DROP SHOULD THE CONTRACTOR EXCEED ROUTING INDICATED ON DRAWING. ENGINEER OF RECORD MUST BE NOTIFIED PRIOR TO ANY DEVIATIONS FROM APPROVED PLAN CHECK (PERMIT SET) DRAWINGS.
- VERIFY LOCATION OF ALL DEVICES ON ARCHITECTURAL PLANS.
- MAINTAIN A MAXIMUM 2% VOLTAGE DROP ON ALL LIGHTING HOMERUNS.
- CONTRACTOR SHALL PROVIDE ALL BACKING, BRACKETS, SUPPORTS, AND MOUNTING HARDWARE NECESSARY TO PROPERLY INSTALL LIGHTING FIXTURES.
- VERIFY THE EXACT ROUTING OF ALL EXPOSED CONDUIT WITH OWNER PRIOR TO INSTALLATION.
- COORDINATE WORK WITH OTHER TRADES. OBTAIN ALL DRAWINGS THAT WILL REQUIRE COORDINATION AND PROVIDE ALL ELECTRICAL CONNECTIONS, DEVICES, AND WIRING REQUIRED WHETHER SHOWN ON ELECTRICAL DRAWINGS OR NOT.
- PROVIDE PROTECTIVE GUARD STRIPS OR FRAMING AROUND ALL NONMETALLIC WIRING WITHIN 6 FEET OF ATTIC ACCESS DOORS.
- PROVIDE SMOKE AND CARBON MONOXIDE DETECTORS AT ALL LOCATIONS REQUIRED BY NFPA 72 INCLUDING SLEEPING ROOMS, AREAS ADJACENT TO SLEEPING ROOMS, DOORS LEADING TO GARAGES, AT EACH LEVEL, AND NEAR STAIRCASES.

KEY NOTES

- VERIFY CIRCUIT NUMBER SERVING EXISTING EXHAUST FAN IN THIS AREA AND EXTEND TO NEW FAN.
- VERIFY CIRCUIT NUMBER SERVING EXISTING LIGHTING IN THIS AREA AND EXTEND TO LIGHTING.

SEE "LIGHTING MANDATORY MEASURES" ON SHEET E0.2 FOR ADDITIONAL REQUIREMENTS. PROVIDE COMPLIANCE WITH ALL TITLE 24 REQUIREMENTS.

NOTE:
USE #12 THHN THROUGHOUT UNLESS OTHERWISE NOTED. 15-AMP CIRCUITS WITH #14 THHN ARE PERMISSIBLE ONLY WHERE BREAKERS SHOWN ON DRAWING ARE RATED FOR 15 AMPS.

ARC-FAULT REQUIREMENT:
ALL 120-VOLT, 15-AMP AND 20-AMP BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, BENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT.

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OCFA: FS 45 BATHROOM REMODEL

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Santa Margarita, CA
92688
24570.00

LIGHTING PLAN E-3.1

LIGHTING PLAN

SCALE:
1/2"=1'-0"

1

FIRE PROTECTION NOTES
1. FIRE PROTECTION REMODEL SHALL BE ON A DEFERRED APPROVAL BASIS.
2. THE SUCCESSFUL C-16 LICENSED CONTRACTOR SHALL DESIGN AND INSTALL COMPLETE WET AUTOMATIC FIRE SPRINKLER SYSTEM COVERAGE FOR ALL REMODELED AREAS, COMPLYING WITH NFPA 13, 14, 24- LATEST ENFORCED EDITIONS, STATE CODES AND REGULATIONS AND LOCAL AMENDMENTS.
3. THE CONTRACTOR SHALL SUBMIT AND PAY FOR ALL PLAN CHECKS AND PERMITS REQUIRED FOR THE AUTOMATIC FIRE SPRINKLER SYSTEM. PROVIDE COMPLETE FIRE PROTECTION SYSTEM FOR ALL REMODELED AREAS INCLUDED IN THIS PROJECT SCOPE. THE REMODEL WORK SHALL CONNECT FROM EXISTING SYSTEM AT THE EXISTING FIRE RISER.
4. VISIT THE SITE AND GET FAMILIARIZED WITH THE EXISTING CONDITION PRIOR TO COMMENCING WORK.
5. IN THE REMODELED AREA RELOCATE (IF/AS NECESSARY) CHANGE THE NUMBER OF SPRINKLER HEADS OF EXISTING FIRE SPRINKLER SYSTEM, TO PROVIDE PROPER COVERAGE IN ACCORDANCE WITH THE CODES ENFORCED BY LOCAL AUTHORITIES HAVING JURISDICTION.
6. ADJUST LOCATIONS (POSITIONS AND ELEVATION) OF MAINS AND BRANCH LINES TO AVOID ANY OBSTRUCTIONS, INTERFERENCE AND CONFLICT WITH OTHER TRADES.
7. LOCATE PIPE AND SPRINKLER HEADS IN CENTER OF CEILING TILES SYMMETRICALLY AND FULLY COORDINATED WITH ARCHITECTURAL REFLECTED CEILING PLANS, GRILLES, DIFFUSERS, LIGHTING FIXTURES, DUCTS, CABLE TRAY, CONDUITS AND ALL CEILING MOUNTED ACCESSORIES.
8. COORDINATE THE SPRINKLER HEAD INSTALLATION AGAINST ANY OBSTRUCTIONS.
9. SPRINKLER PIPELINES SHALL BE EXTENDED AS REQUIRED TO FACILITATE INSTALLATION OF PIPE HANGERS IN ACCORDANCE WITH NFPA 13 STANDARDS.
10. FIRE PROTECTION PIPING SHALL BE INSTALLED WITH COUPLING & SWAY BRACING AS REQUIRED PER NFPA 13 AND FM STANDARDS FOR PROTECTION FROM EARTHQUAKE DAMAGE.
11. AUTOMATIC SPRINKLER SYSTEM SHALL BE FABRICATED, INSTALLED, TESTED AND PLACED INTO SERVICE IN ACCORDANCE WITH NFPA 13, CONTRACT DRAWINGS, SPECIFICATIONS AND LOCAL AUTHORITIES HAVING ALL PIPE PENETRATIONS AT FIRE RATED WALLS AND FLOORS SHALL BE SEALED WITH FIRE RATED MATERIAL IN ACCORDANCE WITH APPROVED UL LISTED FIRE SEAL SYSTEM ASSEMBLY.
12. ALL OF THE SPRINKLER PIPING NETWORK EXCEPT SPRINKLER HEAD DROPS SHALL BE SLOPED FOR COMPLETE DRAINAGE. ALL THE ISOLATED LOW POINTS SHALL BE EQUIPPED WITH AUXILIARY DRAINS. DRAINS SHALL CONSIST OF A VALVE NOT SMALLER THAN 3/4" AND A BRASS PLUG.
13. SPACING AND DETAIL OF THE SUPPORT AND BRACING OF FIRE SPRINKLER PIPING SHALL COMPLY WITH THE LATEST EDITION OF NFPA 13.
14. PRIOR TO COMMENCING WORK, SUBMIT SIX COPIES OF ALL DRAWINGS AND CALCULATIONS WITH WATER SUPPLY CRITERIA TO ALL GOVERNING AUTHORITIES, INCLUDING THE OSHPD STATE FIRE AND BUILDING DEPARTMENT AND THE OWNER'S INSURING AGENCY AND OBTAIN APPROVAL STAMPS PRIOR TO INSTALLATION OF THE FIRE PROTECTION SYSTEMS.


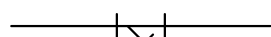
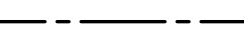


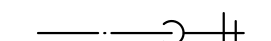

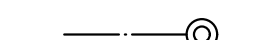
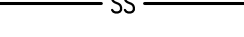
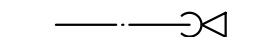
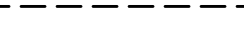
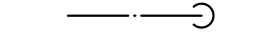
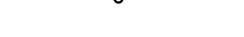
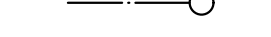


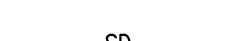
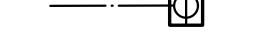
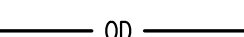
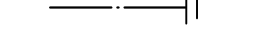

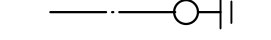

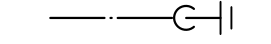

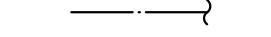




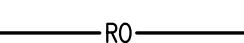



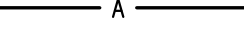

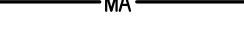
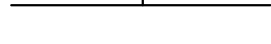




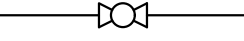

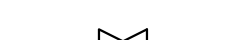

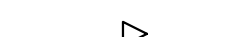






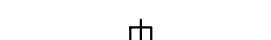


GENERAL SEISMIC NOTES
1. PROVIDE COMPLETE SEISMIC BRACING AND ANCHORAGE OF PIPING, SEISMIC BRACING AND ANCHORAGE TO CONFORM TO MASON INDUSTRIES "SEISMIC RESTRAINT GUIDELINES FOR SUSPENDED PIPING, DUCTWORK AND ELECTRICAL SYSTEMS" WITH OSHPD PRE-APPROVAL NO. OPA-0349 OR OTHER PRE-APPROVED SYSTEMS.
2. THE SEISMIC BRACING AND ANCHORAGE OF FIRE PROTECTION PIPING SHALL ALSO CONFORM TO NFPA-13. CONTRACTOR TO DETAIL THE SEISMIC BRACING AND ANCHORAGE OF FIRE PROTECTION PIPING ON THE DRAWINGS AND SUBMIT SUPPORTING CALCULATIONS TO OSHPD AND OBTAIN APPROVAL PRIOR TO INSTALLATION.
3. THE SHOP DRAWINGS (WITH THE SHOP DRAWING STAMP) SHALL BE SUBMITTED TO THE DISTRICT STRUCTURAL ENGINEER TO REVIEW SEISMIC LATERAL FORCE, FOR THE PRE-APPROVED SYSTEM.
4. THE REVIEWED SHOP DRAWINGS (WITH THE SHOP DRAWING STAMP) SHALL BE KEPT ON THE JOBSITE AND CAN THEN BE USED FOR INSTALLATION OF THE SUPPORT AND BRACING. OSHPD FIELD STAFF WILL REVIEW THE INSTALLED SYSTEM.
5. A COPY OF THE CHOSEN BRACING SYSTEM(S) INSTALLATION GUIDE/MANUAL SHALL BE ON THE JOBSITE PRIOR TO STARTING THE INSTALLATION OF HANGERS AND/OR BRACES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN COPIES OF OSHPD PRE-APPROVALS AND FURNISH THE IOR WITH ONE COPY OF EACH.
6. DO NOT MIX COMPONENTS OF TWO OR MORE PRE-APPROVED BRACING SYSTEMS. ONLY ONE PRE-APPROVED BRACING SYSTEM MAY BE USED FOR A RUN OF PIPE, DUCT, OR CONDUIT. ANY SUBSTITUTION OF A COMPONENT OF A PRE-APPROVED BRACING SYSTEM REQUIRES OSHPD REVIEW AND APPROVAL.

ENERGY NOTES
1. ALL SYSTEMS, EQUIPMENT AND/OR BUILDING COMPONENTS SHALL COMPLY WITH THE APPLICABLE MANUFACTURER PROVISIONS AND INSTALLATION PROVISIONS OF TITLE 24, PART 6, CHAPTER 2, SECTIONS 110.1 THROUGH 110.11.
2. ALL APPLIANCES FOR WHICH A CALIFORNIA STANDARD HAS BEEN ESTABLISHED IN THE APPLIANCE EFFICIENCY REGULATIONS SHALL BE CERTIFIED BY THE MANUFACTURER AS COMPLIANT WITH THE APPLICABLE STANDARDS.
3. CONTROLS FOR SERVICE WATER HEATING SYSTEMS SHALL LIMIT THE OUTLET TEMPERATURE AT PUBLIC LAVATORIES TO 110 DEGREES FAHRENHEIT. INSULATION MINIMUM R-VALUE FOR PIPES 2" AND SMALLER IS R-4.
4. INSULATION MINIMUM R-VALUE FOR PIPES 2" AND LARGER IS R-6.
5. HOT WATER PIPING SHALL BE INSULATED AS PER ENERGY CONSERVATION STANDARDS, TABLE 120.3A.
6. INSULATION SHALL BE PROVIDED ON ALL HOT WATER AND CIRCULATING PIPING AND THE FIRST 5' ON THE COLD WATER FROM THE WATER HEATER.
7. INSTALL APPROVED TEMPERATURE MIXING VALVES AT PLUMBING FIXTURES THAT REQUIRE 110°F WATER PER CPC AND CA. ENERGY CODE.
8. ALL SERVICE WATER HEATING EQUIPMENT TO BE IN COMPLIANCE WITH THE MODEL ENERGY CODE REQUIREMENTS AND LABELED.
9. A CERTIFICATE OF INSTALLATION FORM FOR WATER HEATING SYSTEM PER 2022 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT AFTER THE INSTALLATION OF WATER HEATER(S) AND HOT WATER DISTRIBUTION SYSTEM(S).
10. WITHIN 90 DAYS AFTER THE ENFORCEMENT AGENCY ISSUES A PERMANENT FINAL OCCUPANCY PERMIT, THE BUILDER SHALL PROVIDE A RECORD DRAWINGS WITH COPIES OF THE COMPLETED, SIGNED, SUBMITTED COMPLIANCE DOCUMENTS; OPERATING AND MAINTENANCE INFORMATION FOR ALL APPLICABLE MATERIAL, COMPONENTS, AND DEVICES INSTALLED TO THE BUILDING OWNER AT OCCUPANCY.

GENERAL NOTES
1. CONTRACTOR VERIFICATION: BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS, AND CHARACTERISTICS OF ALL UTILITIES AND PIPING AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
2. EXAMINATION OF THE SITE AND VERIFICATION OF CONDITION: CONTRACTOR SHALL EXAMINE AND BECOME ACQUAINTED WITH THE EXISTING CONSTRUCTION AND THE CONDITION UNDER WHICH THE WORK TO BE CARRIED OUT, WITH THE SITE OR EXISTING CONDITIONS, ACCURATE FIELD DIMENSIONS OF ALL RELATED AREAS, SPACES, OPENINGS, LEVELS, AND ITEMS OF ADJACENT WORK AND BEFORE COMMENCING WORK, REPORT TO THE ENGINEER IN WRITING ALL DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND THE ACTUAL FIELD CONDITIONS. COMMENCEMENT OF WORK SHALL CONSTITUTE ACCEPTANCE OF ALL EXISTING CONDITIONS AFFECTING THE WORK.
3. EXACT LOCATION, MOUNTING HEIGHTS AND COLORS OF PLUMBING FIXTURES SHALL BE OBTAINED FROM THE ARCHITECTURAL DRAWINGS.
4. DISABLE ACCESS FIXTURE: SEE ARCHITECTURAL DWGS FOR HANDICAP FIXTURE LOCATIONS AND MOUNTING HEIGHTS. (INSULATE ALL EXPOSED HOT WATER AND DRAIN PIPING BELOW HANDICAP LAVATORIES AND SINKS.
5. THE CONTRACTOR SHALL COORDINATE AND INSTALL THE LOCATION OF ALL ACCESS PANELS INCLUDING CEILING ACCESS PANEL WITH ARCHITECTURAL REFLECTIVE CEILING PLAN AND THE ELECTRICAL LIGHTING LAYOUT.
6. PIPE INSULATION: ALL HOT WATER PIPING SHALL BE INSULATED PER CODE. ALL EXPOSED PIPING OUTSIDE SHALL BE COVERED WITH ALUMINUM JACKET, WEATHER PROOFED AT JOINTS.
7. ALL CLEANOUTS SHALL BE INSTALLED WHERE READILY ACCESSIBLE. THE CONTRACTOR SHALL COORDINATE ALL CLEANOUTS LOCATIONS WITH EQUIPMENT, CABINETS, ETC., WITH THE ENGINEER PRIOR TO ANY INSTALLATION. ALL CLEANOUTS SHALL BE INSTALLED PER SECTION 707 AND 719 OF 2022 CALIFORNIA PLUMBING CODE.
8. WATER PIPE-BELOW FLOOR: ALL PRESSURIZED WATER PIPING BELOW FLOOR SHALL BE TYPE "K" COPPER INSTALLED WITH SILVER SOLDER FITTING.
9. ALL PLUMBING FIXTURE VENTS TO TERMINATE A MIN. OF 12" FORM ANY VERTICAL SURFACE AND 10'-0" FROM OR 3'-6" ABOVE ANY OUTSIDE AIR INTAKE.
10. AIR GAP: ALL PIPING DISCHARGING INTO FLOOR SINK AND/OR FLOOR DRAINS TO HAVE A MINIMUM AIR GAP AS REQUIRED BY PLBG. CODE OR CITY AMENDMENTS.
11. ALL VALVES, UNIONS, ETC. TO BE THE SAME SIZE AS LINE SIZE UNLESS OTHERWISE INDICATED ON DRAWINGS.
12. UNIONS SHALL BE PROVIDED AND INSTALLED, EACH SCREW-TYPE VALVE AND PRIOR TO EQUIPMENT CONNECTIONS.
13. PROVIDE LATERAL SUPPORT IN ALL DIRECTIONS TO RESIST A MINIMUM OF 50% OF THE EQUIPMENTS OPERATING WEIGHT.
14. ALL WORK AND MATERIAL SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE PLBG. CODE AS ADOPTED AND AMENDED BY THE CITY INSPECTING AUTHORITY. NOTHING IN THIS DRAWING IS TO CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHER APPLICABLE TO THIS PROJECT.
15. STRUCTURAL PENETRATION: ANY STEEL AND TILT UP CONCRETE WALL PENETRATION REQUIREMENTS SHALL BE COORDINATED WITH THE STRUCTURAL ENGINEER PRIOR TO CORING.
16. ACCESSIBILITY: ALL VALVES, TRAP PRIMERS, OR OTHER EQUIPMENT SHOWN IN WALLS OR ABOVE NONE ACCESSIBLE CEILINGS SHALL BE INSTALLED WITHIN 24" ACCESS PANEL.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PATCH AND REPAIRING ALL AREAS WHICH ARE EXCAVATED AND/OR DAMAGED BY THEIR OPERATIONS. IN ADDITION, THE CONTRACTOR SHALL RESTORE THEIR ORIGINAL CONDITION ALL PLANTED AREAS DAMAGED BY THEIR OPERATIONS.
18. SAW CUTTING CORE DRILLING: ALL CUTTING OF EXISTING PAVING, WALKS AND/OR FLOORS SHALL BE BY MACHINE SAW CUTTING, HOLES FOR PIPING IN CONCRETE WALLS OR FLOORS SHALL BE DONE USING CORE DRILLING EQUIPMENT.
19. INCOMPATIBLE MATERIAL CONNECTION: CONNECTION BETWEEN INCOMPATIBLE MATERIALS ABOVE GRADE AND INSIDE BUILDING SHALL BE MADE WITH 2 DIELECTRIC UNIONS SEPARATED BY 12" SECTION OF RED BRASS PIPE.
20. GRAVITY FLOW: ALL DRAINS AND SEWER LINES SHALL BE SLOPED AT MINIMUM 2% UNLESS OTHERWISE NOTED.
21. SLEEVES: PROVIDE SLEEVES AND FIRESTOPPING ASSEMBLIES AT PIPE PENETRATIONS WITH CONSTRUCTION AND MATERIALS IN CONFORMANCE WITH STATE FIRE MARSHALL REQUIREMENTS AND UL BUILDING MATERIALS/FIRE RESISTIVE DIRECTORY.
22. UNDERGROUND SEWER PIPING: TRENCHES SHALL BE BACKFILLED IN THIN LAYERS TO TWELVE (12) INCHES ABOVE THE TOP OF THE PIPING WITH CLEAN EARTH. CLEAN EARTH FILL SHALL BE AN APPROVED MATERIAL FREE OF DEBRIS, ROOTS, FROZEN MATERIALS, ORGANIC MATTER, ROCK, OR GRAVEL LARGER THAN 2 INCH IN ANY DIMENSION OR OTHER HARMFUL MATTER. ADEQUATE PRECAUTION SHALL BE TAKEN TO ENSURE PROPER COMPACTNESS OF BACKFILL AROUND PIPING WITHOUT DAMAGE TO SUCH PIPING. SUITABLE PRECAUTIONS SHALL BE TAKEN TO ENSURE PERMANENT STABILITY FOR PIPE LAID IN FILLED OR MADE GROUND.

LOCAL AHJ GENERAL NOTES
1. ALL WORK TO COMPLY WITH 2022 CALIFORNIA PLUMBING CODE, 2022 CALIFORNIA BUILDING CODE, AND CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS.
2. LEAD FREE COMPLIANCE REQUIRED EFFECTIVE JANUARY 1, 2022 PER CALIFORNIA HEALTH & STANDARDS CODE SECTION 116875.
3. ALL FIXTURES IN HANDICAP RESTROOMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATE OF CALIFORNIA HANDICAP CODE AND LOCAL HANDICAP CODES HAVING JURISDICTION.
4. EACH PLUMBING FIXTURE SHALL BE INDEPENDENTLY VALVE PER CODE.
5. ALL POTABLE WATER OUTLETS WITH HOSE ATTACHMENTS, SUCH AS HOSE BIBS, AND MOP SINKS ARE TO BE PROVIDED WITH A BACKFLOW / ANTI-SIPHON VALVE.
6. THE PREMISE OWNER OR RESPONSIBLE PERSON SHALL HAVE THE BACKFLOW PREVENTION ASSEMBLY TESTED BY A CERTIFIED BACKFLOW ASSEMBLY TESTER AT THE TIME OF INSTALLATION.
7. PORTABLE WATER SUPPLY TO BEVERAGE DISPENSERS, CARBONATED BEVERAGE DISPENSERS, OR COFFEE MACHINES SHALL BE PROTECTED BY APPROVED TYPE NON-REMOVABLE PRESSURE VACUUM BREAKER DEVICE.
8. SANITARY WASTE VENTS SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX (6) INCHES IN HEIGHT ABOVE THE FLOOD LEVEL RIM OF THE FIXTURE BEFORE BEING CONNECTED TO ANY OTHER VENT.
9. DRAINAGE PIPING SERVING FIXTURES WHICH HAVE FLOODWATER RIMS LOCATED BELOW THE ELEVATION OF THE NEXT UPSTREAM MANHOLE COVER OF THE SEWER SERVING SUCH DRAINAGE PIPING SHALL BE PROTECTED FROM BACKFLOW OF SEWAGE BY INSTALLING AN APPROVED TYPE BACKWATER VALVE.
10. VENT TERMINALS SHALL TERMINATE THROUGH ROOF OF A BUILDING SHALL BE LOCATED NOT LESS THAN 10 FEET HORIZONTALLY FROM AN OPERABLE OPENING IN AN ADJACENT BUILDING. THIS SHALL NOT APPLY TO OPERABLE OPENINGS THAT ARE NOT LESS THAN 2 FEET BELOW OR 25 FEET ABOVE THE ELEVATION OF THE VENT TERMINAL. (CPC SEC. 509.8.5)
11. THE PREMISE OWNER OR RESPONSIBLE PERSON SHALL COORDINATE WITH LOS ANGELES WATER DEPARTMENT FOR NEW WATER DEMAND, METER LOCATION AND TYPE OF PRESSURE AVAILABLE.
12. ALL FIXTURES, EQUIPMENT, PIPING, AND MATERIALS SHALL BE LISTED.

PLUMBING ABBREVIATIONS							
ABV AD ADA AFF A.F.G. W/AP ANSI AP ASME ASPE ASTM ARCH AUTO BEH BEL B.F.F. B.F.G. BTUH CLG CBC CP CFH CI CL C CO COTG CONN CONT CSP DCV DCDA DF DIA DN DWG	ABOVE AREA DRAIN AMERICANS WITH DISABILITIES ACT ABOVE FINISHED FLOOR ABOVE FINISHED GRADE WITH ACCESS PANEL AN ACID NEUTRALIZER AMERICAN NATIONAL STANDARDS INSTITUTE ACCESS PANEL, ALARM PANEL AMERICAN SOCIETY OF MECHANICAL ENGN. AMERICAN SOCIETY OF PLUMBING ENGN. AMERICAN SOCIETY FOR TESTING MATERIALS ARCHITECTURAL AUTOMATIC BEHIND BELOW BELOW FINISHED FLOOR BELOW FINISHED GRADE BSMT BASEMENT BRITISH THERMAL UNIT PER HR. CEILING CALIFORNIA BUILDING CODE CIRCULATING PUMP CUBIC FEET PER HOUR CAST IRON CENTERLINE CONC CONCRETE COPPER CLEAN OUT CLEAN OUT TO GRADE CONNECT, CONNECTION CONTINUE, CONTINUATION, COMBINATION STANDPIPE DOUBLE CHECK VALVE DOUBLE CHECK DETECTOR ASSEMBLY DRINKING FOUNTAIN DIAMETER DOWN DRAWING	EFF ELEV ESH EW EWSH EWC EX (E) F FFE FDC FL (FOIC) FPS FT FU FUD FA FUT FV GW GAL GC GPF GPH GPM HD HDR HP HTR HVAC HCP	EFFICIENCY ELEVATION EMERGENCY SHOWER EMERGENCY EYE WASH EMERGENCY EYE WASH / SHOWER ELECTRIC WATER COOLER EXISTING EXISTING FIRE FINISHED FLOOR ELEVATION FIRE DEPARTMENT CONNECTION FLOOR, FLOW LINE FURNISHED BY OWNER, INSTALLED BY CONTRACTOR FEET PER SECOND FLUSH TANK FIXTURE UNITS FUNNEL DRAIN FIXED AIRGAP FUTURE FLUSH VALVE GREASE WASTE GALLONS GENERAL CONTRACTOR GALLONS PER FLUSH GALLONS PER HOUR GALLONS PER MINUTE HEAD HEADER HORSEPOWER HEATER HEATING VENTILATING AND AIR HANDICAPPED	IE IW JC KW L/LAV MAX MH MIN MS MTD (N) NC NFPA NFI NO OFCI OFOI OSD OSHA PD PIV PLBG PO PROV PRESS PSI R.I. & C. R RE RR S SD SSD	INVERT ELEVATION INDIRECT WASTE JANITOR'S CLOSET KILOWATT LAVATORY MAXIMUM MAN HOLE MINIMUM MOP SINK MOUNTED NEW NORMALLY CLOSED NATIONAL FIRE PROTECTION ASSOC. NOT IN CONTRACT NORMALLY OPEN OWNER FURNISHED, CONTRACTOR INSTALLED OWNER FURNISHED, OWNER INSTALLED OVERFLOW STORM DRAIN OCCUPATIONAL SAFETY AND HEALTH ACT PLANTER DRAIN POST INDICATOR VALVE PLUMBING PLUGGED OUTLET PROVIDE (FURNISH & INSTALL) PRESSURE POUNDS PER SQUARE INCH ROUGH IN AND CONNECT RELOCATED REMOVE EXISTING REMOVE RELOCATE SLOPE STORM DRAIN SUB SOIL DRAIN	SE SF SH SK SOG SOV SP SPEC SPR SS TC TEMP TMV TP TYP UBC UL UNO UR UTR VB VBF VERT VO VTR W/ W/O WC WCO WH WHA WM WT WP WSP	SEWAGE EJECTOR SQUARE FEET SHOWER SINK SLAB ON GRADE SHUT OFF VALVE SUMP PUMP SPECIFICATIONS SPRINKLER STAINLESS STEEL TIME CLOCK TEMPERATURE THERMOSTATIC MIXING VALVE TRAP PRIMER TYPICAL UNIFORM BUILDING CODE UNDERWRITERS LABORATORY UNLESS OTHERWISE NOTED URINAL UP THROUGH ROOF VACUUM BREAKER VENT BELOW FLOOR VERTICAL VALVE OUTLET VENT THROUGH ROOF WITH WITHOUT WATER CLOSET WALL CLEAN OUT WATER HEATER WATER HAMMER ARRESTOR (Sa) WATER METER WEIGHT WORKING PRESSURE WET STANDPIPE

PLUMBING ABBREVIATIONS					
SYMBOLS	ABBREVIATIONS	DESCRIPTIONS	SYMBOLS	ABBREVIATIONS	DESCRIPTIONS
	D	INDIRECT DRAIN		STR.	STAINER
	CW	(DOMESTIC) COLD WATER		SOV IN YB	SHUT OFF VALVE IN YARD BOX
	HW	HOT WATER		HB	HOSE BIBB
	HW	HOT WATER RETURN		GD	GARBAGE DISPOSAL
	SS OR W	SOIL, WASTE, OR SANITARY SEWER BELOW GRADE OR FLOOR EMERGENCY EYEWASH		-	SHUT OFF VALVE ON VERTICAL PIPE
	V	SOIL, WASTE, OR SANITARY SEWER VENT		-	PIPING DOWN
	G	GAS LOW PRESSURE		-	PIPING UP
	MG	MEDIUM PRESSURE GAS (3#)		FCO/COTG	FLOOR CLEANOUTS/CLEANOUTS TO GRADE
	GV	GAS VENT		COYB	CLEANOUTS IN YARD BOX
	SD	STORM DRAIN		CO	END OF LINE CLEANOUT
	OD	OVERFLOW DRAIN		WCO	WALL CLEANOUT IN VENT LINE
	TP	TRAP PRIMER		WCO	END OF LINE WALL CLEANOUT
	NPCW	NON POTABLE COLD WATER		-	PIPE BREAK
	NPHW	NON POTABLE HOT WATER		-	REDUCER
	NPHWR	NON POTABLE HOT WATER RETURN		-	REDUCER
	DI	DISTILLED WATER		-	BRANCH CONNECTION OUT OF BOTTOM
	DE	DEIONIZED WATER		-	BRANCH CONNECTION OUT OF TOP
	RO	REVERSE OSMOSIS WATER		-	FLOW-IN DIRECTION OF ARROW
	SCW	SOFT COLD WATER		PSW	PRESSURE SWITCH
	A	COMPRESSED AIR		VTR	VENT THRU ROOF
	MA	MEDICAL COMPRESSED AIR		WHA	WATER HAMMER ARRESTOR
	LA	LABORATORY COMPRESSED AIR		FS	FLOOR SINK WITH GRATE AS SHOWN
		DEMO PIPING (TYP.)		FD	FLOOR DRAIN
	BV	BALL VALVE		T/PRV	TEMPERATURE/PRESSURE RELIEF VALVE
	GTV	GATE VALVE		POD	POINT OF DISCONNECT
	PRV	PRESSURE REDUCING VALVE		POC	POINT OF CONNECTION
	SV	SOLENOID BALL VALVE		SQ. FT	SQUARE FEET
	MV	MOTORIZED VALVE			
	CV	CHECK VALVE			

SHEET INDEX
P-0.1 PLUMBING LEGEND, NOTES, INDEX, AND ABBREVIATIONS
P-0.2 PLUMBING SCHEDULES
P-0.3 PLUMBING DETAILS
P-0.4 PLUMBING SPECIFICATIONS
P-1.1 PLUMBING DEMOLITION PLAN
P-2.1 PLUMBING NEW PLAN

lewis|schoeplein

architects

2018 S. Westgate Ave. unit Z
Los Angeles CA 90025
310/231-0300

REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA

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VISION

CONSULTING SERVICES

30501 Agoura Road, Suite 150
Agoura Hills, CA 91301
(805) 584-9719

ISSUES

Date	No.	Description
09/24/25	-	ISSUE FOR PLAN CHECK

OCFA: FS 45
BATHROOM
REMODEL

30131 Aventura, Rancho
Santa Margarita, CA
92688
24570.00

PLUMBING
LEGEND,
NOTES,
INDEX, AND
ABBREVIATIONS
P-0.1

VISION JOB #: 18129 VCS ISSUE DATE: 09/24/2025

PIPE MATERIAL LIST									
SYSTEM	MATERIAL	PIPE & FITTINGS PER ASTM B 36							
		PIPE	ELBOW	TEE	CROSS	FLANGE	VALVE	ADAPTER	OTHER
POTABLE WATER (CW, DHW, DHWR)	≥ 1/2"								
	< 1/2"								
SANITARY DRAINAGE (SS, W)	ABV. GRADE								
	BELOW GRADE								
SANITARY VENT (V)	ABV. GRADE								
	BELOW GRADE								
INDIRECT DRAIN (D, CD)	ABOVE GRADE ONLY								
TRAP PRIMER (TP)	ALL								

HANGERS AND SUPPORTS			
MATERIALS	TYPES OF JOINTS	HORIZONTAL	VERTICAL
CAST	COMPRESSION GASKET	EVERY OTHER JOINT, UNLESS OVER 4 FEET THEN SUPPORT EACH JOINT	BASE AND EACH FLOOR, NOT TO EXCEED 15 FEET
COPPER & COPPER ALLOYS	SOLDERED, BRAZED, THREADED, OR MECHANICAL	1 1/2 INCHES AND SMALLER, 6 FEET; 2 INCHES AND LARGER, 10 FEET	EACH FLOOR, NOT TO EXCEED 10 FEET
STEEL PIPE FOR GAS	THREADED OR WELDED	1/2 INCH, 6 FEET; 3/4 INCH AND 1 INCH, 8 FEET; 1 1/4 INCHES AND LARGER, 10 FEET	1/2 INCH, 6 FEET; 3/4 INCH AND 1 INCH, 8 FEET; 1 1/4 INCHES EVERY FLOOR LEVEL
SCHEDULE 40 PVC AND ABS DWV	SOLVENT CEMENTED	ALL SIZES, 4 FEET; ALLOW FOR EXPANSION EVERY 30 FEET	BASE AND EACH FLOOR; PROVIDE MID-STORY GUIDES; PROVIDE FOR EXPANSION EVERY 30 FEET.
CPVC	SOLVENT CEMENTED	1 INCH AND SMALLER, 3 FEET; 1 1/2 INCHES AND LARGER, 4 FEET	BASE AND EACH FLOOR; PROVIDE MID-STORY GUIDES

FOR SI UNITS: 1 INCH = 25.4 MM, 1 FOOT = 304.8 MM.

NOTES:

1. SUPPORT ADJACENT TO JOINT, NOT TO EXCEED 18 INCHES (457 MM).
2. BRACE NOT TO EXCEED 40 FOOT (12192 MM) INTERVALS TO PREVENT HORIZONTAL MOVEMENT.
3. SUPPORT AT EACH HORIZONTAL BRANCH CONNECTION.
4. HANGERS SHALL NOT BE PLACED ON THE COUPLING.
5. VERTICAL WATER LINES SHALL BE PERMITTED TO BE SUPPORTED IN ACCORDANCE WITH RECOGNIZED ENGINEERING PRINCIPLES WITH REGARD TO EXPANSION AND CONTRACTION, WHERE FIRST APPROVED BY THE AUTHORITY HAVING JURISDICTION.

PLUMBING FIXTURE SCHEDULE (LEVEL 1 GRAY)									
SYMBOL	DESCRIPTION	CONN. SIZE				MIN BRANCH SIZE		WATER DEMAND	SPECIFICATIONS
		W	V	CW	HW	CW	HW		
WC-1	WATER CLOSET (FT)	4"	2"	3/4"	-	3/4"	-	1.28 GPF	TOTO MS786124CEFG DRAKE TRANSITIONAL TWO PIECE TOILET 1.28 GPF, FLOOR MOUNTED, ELONGATED FRONT BOWL AND SEAT.
LAV-1	LAVATORY	2"	1 1/2"	1/2"	1/2"	1/2"	1/2"	0.5 GPM	KOHLER LADENA K-2214-O UNDERMOUNT BATHROOM SINK, FINISH: WHITE. MOEN ALIGN MODEL #6198BN BATHROOM FAUCET. PROVIDE THERMOSTATIC MIXING VALVE ASSE 1070.
SH-1	SHOWER	2"	2"	3/4"	-	3/4"	-	1.75 GPM	MOEN MODEL #T2192EPBN ALIGN CHROME POSI TEMP(R) SHOWER ONLY, MOEN MODEL # T2191EPBN ALIGN PRESSURE BALANCED VALVE AND MOEN MODEL#3865EPBN ECO-PERFORMANCE HANDHELD SHOWER.
SLD-1	SHOWER LINEAR DRAIN	2"	1 1/2"	-	-	-	-	-	J.R. SMITH 9667 STAINLESS STEEL ADA LINEAR DRAIN.
WCO	WALL CLEAN-OUT	2"	-	-	-	-	-	-	ZURN #Z1441 ROUND WITH SMOOTH STAINLESS STEEL COVER. CENTER SCREW AND RECESSED BRONZE THREADED TAPPED PLUG.
FCO	FLOOR CLEANOUT	-	-	-	-	-	-	-	ZURN #Z1400 EXTRA-HEAVY DUTY "LEVEL-TROL" ADJUSTABLE FLOOR CLEANOUT.

NOTES

- ALL PLUMBING FIXTURES SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO THE INSTALLATION.

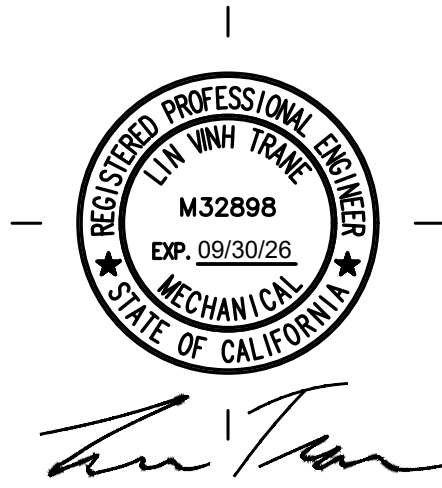
TABLE 120.3-A / 160.4-A PIPE INSULATION THICKNESS						
FLUID TEMPERATURE RANGE (°F)	CONDUCTIVITY RANGE (BTU-IN PER HOUR PER FT² PER °F)	INSULATION MEAN RATING TEMPERATURE (°F)	NOMINAL PIPE DIAMETER (IN INCHES)			
			< 1.0	1 TO < 1.5	1.5 TO < 4.0	1.5 TO 4 MULTIFAMILY & HOTEL/MOTEL
			MINIMUM INSULATION REQUIRED			
105 –140	0.22 – 0.28	100	1.0 IN OR R-7.7	1.5 IN OR R-12.5	1.5 IN OR R-11	2.0 IN OR R-16

HOT WATER BRANCH PIPE LENGTH LIMITATION			
THE MAXIMUM DISTANCE FROM THE FIXTURE TO THE MAIN HOT WATER SUPPLY LINE SHALL NOT EXCEED THE CALCULATED LENGTH BELOW. BRANCH PIPING LESS THAN THE MAXIMUM CALCULATED LENGTH BELOW FROM THE MAIN HOT WATER SUPPLY WILL PREVENT AN EXCESS OF 0.6 GAL (0.08 CUFT.) OF COLD WATER TO BE DELIVERED TO THE FIXTURE BEFORE HOT WATER ARRIVES.			
MAXIMUM HOT WATER LIMITATION LENGTH BASED ON 0.6 GALLON FOR COPPER TYPE 'L' PIPES			
PIPE SIZE (INCH)	ID (INCH)	GALLON OF WATER	MAXIMUM LENGTH (FEET)
3/4"	0.785	0.6	23
1"	1.025	0.6	13
1-1/4"	1.265	0.6	9
1-1/2"	1.505	0.6	6
2"	1.985	0.6	3

EXISTING WATER DEMANDS					
OCFA FIRE STATION 45 - RESTROOM					
FIXTURE TYPE	NUMBER OF FIXTURES		FIXTURE UNITS	=	TOTAL FIXTURE UNITS
Water Closet (Flush Valve)	2	X	5.0	=	10
Water Closet (Flush Tank)	1	X	2.5	=	2.5
Urinal	2	X	4.0	=	8
Lavatory	3	X	1.0	=	3
Shower	5	X	2.0	=	10
TOTAL WSFU					33.5
NEW WATER DEMANDS					
OCFA FIRE STATION 45 - RESTROOM REMODEL					
FIXTURE TYPE	NUMBER OF FIXTURES		FIXTURE UNITS	=	TOTAL FIXTURE UNITS
Water Closet (Flush Tank)	5	X	2.5	=	12.5
Lavatory	5	X	1.0	=	5
Shower	5	X	2.0	=	10
TOTAL WSFU					27.5

lewis|schoeplein
architects

2018 S. Westgate Ave. unit Z
Los Angeles CA 90025
310/231-0300



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ISSUES

Date No. Description
09/24/25 - ISSUE FOR PLAN CHECK

THESE DRAWINGS ARE NOT ISSUED FOR PRICING PURPOSES. THESE ARE SPECIFICALLY ISSUED FOR PLAN CHECK. FOR DETAILED PRICING INSTRUCTIONS REFER TO THE PRICING PLANS AND WRITTEN SPECIFICATIONS.

OCFA: FS 45
BATHROOM
REMODEL

30131 Aventura, Rancho
Santa Margarita, CA
92688
24570.00

PLUMBING
SCHEDULES
P-0.2

PLUMBING SPECIFICATIONS

PLUMBING AND PIPING SYSTEMS PART 1 – GENERAL	
1.01 GENERAL REQUIREMENTS	
A. CODES AND REGULATIONS: COMPLY WITH ALL APPLICABLE SECTIONS OF NATIONAL, STATE AND LOCAL CODES, LAWS, ORDINANCES, RULES AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION.	
B. THE DRAWINGS AND SPECIFICATIONS TAKE PRECEDENCE WHEN THEY CALL FOR MATERIALS OR CONSTRUCTION OF BETTER QUALITY OR LARGER SIZE THAN REQUIRED BY CODES, LAWS, RULES, REGULATIONS AND STANDARDS.	
C. PERMITS: OBTAIN AND PAY FOR ALL FEES, PERMITS AND INSPECTIONS. DELIVER ALL CERTIFICATES OF INSPECTION TO THE OWNER'S REPRESENTATIVE.	
D. FURNISH MATERIALS AND PERFORM LABOR REQUIRED TO COMPLETE THIS WORK FOR A COMPLETE AND OPERABLE FACILITY, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:	
1. PLUMBING FIXTURES, TRIM, CARRIERS AND ACCESSORIES.	
2. SANITARY DRAINAGE, WASTE AND VENT SYSTEMS WITH PIPING, DRAINS AND ACCESSORIES.	
3. DOMESTIC COLD WATER SYSTEM WITH PIPING, VALVES, FIXTURES, TRIM, AND ACCESSORIES.	
4. ROUGH-INS AND FINAL CONNECTIONS TO EQUIPMENT FURNISHED UNDER OTHER SECTIONS.	
1.02 EQUIVALENTS	
A. BASIS FOR DESIGN: THE MANUFACTURER'S NAME AND PRODUCT LISTED ON THE DRAWINGS ARE USED AS A BASIS FOR DESIGN TO ESTABLISH SPACE REQUIREMENTS, A STANDARD OF QUALITY AND PERFORMANCE.	
B. EQUIVALENTS: PRODUCTS OF ONE OR MORE OTHER MANUFACTURERS' NAMES LISTED MAY BE SELECTED, SUBJECT TO MATCHING THE DESIGN, CONSTRUCTION, PERFORMANCE AND SIZE OF THOSE SELECTED FOR DESIGN. STANDARD CATALOGUED PRODUCT MAY REQUIRE CERTAIN MODIFICATIONS TO MEET SPECIFIED REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR CHANGES IN ELECTRIC WIRING, MATERIALS AND FOR ALL OTHER ADDITIONAL COSTS OF CONSTRUCTION BY ALL TRADES INVOLVED TO ACCOMMODATE THE PRODUCT TO PERFORM SAME AS PRODUCT USED ON THE "BASIS OF DESIGN."	
1.03 SUBMITTALS OF MATERIALS AND EQUIPMENT	
A. MAKE SUBMITTALS FOR PRODUCTS OR MATERIALS AS SCHEDULED OR SPECIFIED SUCH AS VALVES, FIXTURES, INSULATION, PIPING, ETC.	
1.04 DAMAGE BY LEAKS	
A. BE RESPONSIBLE FOR DAMAGE TO ANY PART OF THE PREMISES CAUSED BY LEAKS IN THE EQUIPMENT, PIPE OR FIXTURES INSTALLED UNDER APPLICABLE SECTION, FOR THE PERIOD OF TWELVE MONTHS FROM THE DATE OF OCCUPANCY OF THE WORK BY THE OWNER'S REPRESENTATIVE.	
1.05 GUARANTEE AND WARRANTIES	
A. GUARANTEE ALL EQUIPMENT FURNISHED UNDER THIS SPECIFICATION FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE AGAINST DEFECTIVE WORKMANSHIP AND MATERIAL AND IMPROPER INSTALLATION. UPON NOTIFICATION OF FAILURE, CORRECT COMPLAINT WITHOUT COST TO THE OWNER.	
B. PARTS WARRANTY: PROVIDE STANDARD WARRANTY OF MANUFACTURER OF MORE THAN ONE YEAR FOR REPLACEMENT OF PARTS TO APPLY AFTER EXPIRATION OF ABOVE PERIOD.	
1.06 UTILITY CONNECTIONS	
A. WATER SERVICE: CONNECT TO EXISTING AS SHOWN ON THE DRAWINGS.	
B. SEWER: CONNECT TO EXISTING AS SHOWN ON THE DRAWINGS.	
C. GAS SERVICE: CONNECT TO EXISTING AS SHOWN ON THE DRAWINGS.	
1.07 SEISMIC RESTRAINT REQUIREMENTS	
A. PROVIDE RESTRAINTS WITH BRACING FOR PIPES. THE DESIGN AND INSTALLATION OF PIPING RESTRAINING DEVICES FOR LATERAL AND VERTICAL FORCES SHALL BE IN ACCORDANCE WITH SMCMA SEISMIC RESTRAINT MANUAL GUIDELINES FOR MECHANICAL SYSTEMS OR NATIONAL UNIFORM SEISMIC INSTALLATION GUIDELINES (NUSIG).	
PART 2 – PRODUCTS	
2.01 GENERAL	
A. CONFORM TO TYPE AND QUALITY OF EQUIPMENT AND MATERIALS AS DESCRIBED IN THIS PART OF THE SPECIFICATIONS, WHEN APPLICABLE.	
B. PROVIDE EQUIPMENT AND MATERIALS OF NEW AND RECENT MANUFACTURE.	
C. FOR EACH CATEGORY AND TYPE OF EQUIPMENT AND MATERIAL, PROVIDE THE SAME MANUFACTURE.	
2.02 SANITARY SOIL, WASTE, VENT AND DRAIN PIPING	
A. PIPE AND FITTINGS:	
1. ABOVE GROUND, SIZES 1-1/2" AND SMALLER: SCHEDULE 40, ASTM A-53, GRADE A OR B, GALVANIZED STEEL. PIPE WITH ANSI B16.12 CAST IRON SWEATED DRAINAGE FITTINGS OR SERVICE WEIGHT, ASTM A-888, CAST IRON NO-HUB SOIL PIPE AND FITTINGS WITH HEAVY DUTY STAINLESS STEEL NO-HUB COUPLINGS OR TYPE DWV, ASTM B-306, SEAMLESS, HARD TEMPER, COLD DRAWN COPPER TUBING WITH ANSI B16.29/B16.23 COPPER SOLDER SWEAT DRAINAGE FITTINGS (EXCEPTION: DWV COPPER TUBE AND FITTINGS NOT TO BE USED ON BRANCH LINES SERVING URINALS).	
2. ABOVE GROUND, SIZES 2" AND LARGER: SERVICE WEIGHT, ASTM A-888, CAST IRON NO-HUB SOIL PIPE AND FITTINGS WITH HEAVY DUTY STAINLESS STEEL NO-HUB COUPLINGS OR TYPE DWV, ASTM B-306, SEAMLESS, HARD TEMPER, COLD DRAWN COPPER TUBING WITH ANSI B16.29/B16.23 COPPER SOLDER SWEAT DRAINAGE FITTINGS (EXCEPTION: DWV COPPER TUBE AND FITTINGS NOT TO BE USED ON BRANCH LINES SERVING URINALS).	
3. CAST IRON SOIL PIPE NO-HUB COUPLINGS: HEAVY DUTY, 24 GAUGE, TYPE 304 STAINLESS STEEL SHIELD AND CLAMP ASSEMBLY WITH ASTM C564 NEOPRENE SEALING SLEEVE. COUPLING SHALL BE FACTORY MUTUAL APPROVED PER STANDARD 1680, CLASS I. CLAMP-ALL OR EQUIVALENT BY AB&I OR ANACO.	
2.03 DOMESTIC WATER PIPING	
A. PIPING:	
1. ABOVE GROUND: ASTM B-88 TYPE L SEAMLESS COPPER TUBING, HARD TEMPER, COLD DRAWN.	
B. FITTINGS:	
1. COPPER TUBING: ANSI B16.22 WROUGHT COPPER SOLDER SWEAT TYPE, 95/5 LEAD FREE SOLDER JOINTS.	
2.04 PLUMBING FIXTURES	
A. REFER TO PLUMBING FIXTURE SCHEDULE ON SHEET P-0.1 FOR PLUMBING FIXTURE SPECIFICATIONS	
2.05 VALVES	
A. GENERAL:	
1. PROVIDE ALL VALVES OF FIRST QUALITY OF APPROVED MANUFACTURE.	
2. VALVES NOT ACCEPTABLE WHEN DESIGNED FOR LESS THAN 125 POUNDS PER SQUARE INCH STEAM WORKING PRESSURE.	
B. TYPE:	
1. GATE VALVES: CLASS 150, 150 PSI SWP, BRONZE, THREADED RISING STEM, INSIDE SCREW, UNION BONNET, SOLD WEDGE BRONZE DISC. NIBCO T-134.	
2. BALL VALVES: FULL PORT, TWO-PIECE, THREADED BRONZE BODY, TYPE 316 STAINLESS STEEL STEM AND BALL, REINFORCED TFE SEAT RING, LEVER OR TEE HANDLE, 150 LB. SWP. NIBCO T-585-66-LF.	
3. ALL VALVES 2" AND SMALLER SHALL BE AB1953 COMPLIANT.	
2.06 UNIONS	
A. COPPER TUBING: ANSI B16.18 CAST BRONZE, GROUND JOINT.	
2.07 ACCESS PANELS	
A. DESCRIPTION: SQUARE OR RECTANGULAR WITH 16 GAUGE STEEL FRAME, 22 GAUGE CASING BEAD WITH HINGED LOCKED DOOR, 8" X 8" MINIMUM SIZE, ALLEN KEY LATCH. COORDINATED WITH OTHER TRADES. PROVIDE PROPER SIZE AS REQUIRED FOR WORK OF THIS SECTION.	
2.08 FLEXIBLE CONNECTION	
A. DESCRIPTION: WATTS SERIES CFC-S OR EQUAL BRAIDED STAINLESS STEEL WATER SUPPLY CONNECTORS FOR FAUCETS. THESE CONNECTORS PROVIDE PROTECTION FROM VIBRATION AND BURSTING UNDER EXTREME PRESSURES. SURGES. SERIES CFC-S CONSIST OF PVC TUBING JACKED WITH BRAIDED STAINLESS STEEL. NSF 61 APPROVED HOSES FOR SAFER DRINKING WATER.	
2.09 DIELECTRIC FITTING	
A. DESCRIPTION: COMBINATION FITTING OF COPPER ALLOY AND FERROUS MATERIALS WITH THREADED, SOLDER-JOINT, PLAIN, OR	

WELD-NECK END CONNECTIONS THAT MATCH PIPING SYSTEM MATERIALS.	
B. DIELECTRIC UNIONS: FACTORY-FABRICATED, UNION ASSEMBLY, FOR 250-PSIG MINIMUM WORKING PRESSURE AT 180 DEG F	
C. DIELECTRIC FLANGES: FACTORY-FABRICATED, COMPANION-FLANGE ASSEMBLY, FOR 300-PSIG MINIMUM WORKING PRESSURE AS REQUIRED TO SUIT SYSTEM PRESSURES	
D. DIELECTRIC COUPLINGS: GALVANIZED-STEEL COUPLING WITH INERT AND NON-CORROSIVE, THERMOPLASTIC LINING; THREADED ENDS; AND 300-PSIG MINIMUM WORKING PRESSURE AT 225 DEG F	
E. DIELECTRIC NIPPLES: ELECTROPLATED STEEL NIPPLE WITH INERT AND NON-CORROSIVE, THERMOPLASTIC LINING; PLAIN, THREADED, OR GROOVED ENDS; AND 300-PSIG MINIMUM WORKING PRESSURE AT 225 DEG F.	
2.10 SLEEVES	
A. GALVANIZED-STEEL SHEET: 0.0239-INCH MINIMUM THICKNESS; ROUND TUBE CLOSED WITH WELDED LONGITUDINAL JOINT	
B. STEEL PIPE: ASTM A 53, TYPE E, GRADE B, SCHEDULE 40, GALVANIZED, PLAIN ENDS.	
2.11 ESCUTCHEONS	
A. DESCRIPTION: MANUFACTURED WALL AND CEILING ESCUTCHEONS AND FLOOR PLATES, WITH AN ID TO CLOSELY FIT AROUND PIPE, TUBE, AND INSULATION OF INSULATED PIPING AND AN OD THAT COMPLETELY COVERS OPENING.	
B. ONE-PIECE, DEEP-PATTERN TYPE: DEEP-DRAWN, BOX-SHAPED BRASS WITH POLISHED CHROME-PLATED FINISH.	
2.12 HANGERS AND SUPPORTS	
A. MANUFACTURER: TOLCO OR EQUIVALENT BY GRINNELL, SECUR STRUT OR SUPERSTRUT. FIGURE NUMBERS OF MANUFACTURERS ARE LISTED TO INDICATE A STANDARD OF QUALITY AND TYPE.	
B. PIPE HANGER FOR INSULATED PIPE – PIPE SIZES 1/2" TO 2" INCLUSIVE: ADJUSTABLE ZINC PLATED CARBON STEEL SWIVEL RING HANGER. EACH HANGER DESIGNED FOR MAXIMUM RECOMMENDED LOAD WITH A SAFETY FACTOR OF 5. TOLCO FIGURE 2.	
C. PIPE HANGER FOR NON-INSULATED PIPE – PIPE SIZES 1/2" TO 2" INCLUSIVE: ADJUSTABLE ZINC PLATED CARBON STEEL SWIVEL RING HANGER WITH 1/4" THICK FELT LINING. EACH HANGER DESIGNED FOR MAXIMUM RECOMMENDED LOAD WITH A SAFETY FACTOR OF 5. TOLCO FIGURE 2F.	
D. PIPE HANGER FOR NON-INSULATED PIPE – PIPE SIZES 2-1/2" AND LARGER: HEAVY DUTY ADJUSTABLE BLACK CARBON STEEL CLEVIS HANGER WITH 1/4" THICK FELT LINING AND PIPE SLEEVE SPACER OVER THE CROSS BOLT HAVING AN INSIDE DIAMETER 1/4" LARGER THAN THE OUTSIDE DIAMETER OF THE BOLT. EACH HANGER DESIGNED FOR MAXIMUM RECOMMENDED LOAD WITH A SAFETY FACTOR OF 5. TOLCO FIGURE 1F.	
E. HANGER RODS: SOLID CARBON STEEL, THREADED ENDS OR CONTINUOUS THREAD. RODS DESIGNED FOR MAXIMUM RECOMMENDED LOAD WITH A SAFETY FACTOR OF 5. TOLCO FIGURE 103 OR 100.	
PIPE SIZE	ROD SIZE
1/2" TO 2" INCLUSIVE	
2-1/2", 3"	1/2"
4" TO 8" INCLUSIVE	5/8"
F. BEAM CLAMP: TWO MALLEABLE IRON JAWS, STEEL TIE ROD, NUTS, WASHERS AND EXTENSION PIECE. EACH CLAMP DESIGNED FOR MAXIMUM RECOMMENDED LOAD WITH A SAFETY FACTOR OF 5. GRINNELL FIGURE 218.	
G. RISER CLAMPS FOR STEEL OR CAST IRON PIPING: HEAVY DUTY ELECTRO-GALVANIZED CARBON STEEL, ROUNDED EARS. EACH CLAMP DESIGNED FOR MAXIMUM LOAD WITH A SAFETY FACTOR OF 5. PROVIDE VIBRATION ISOLATION BETWEEN RISER CLAMP AND STRUCTURE. TOLCO FIGURE 6.	
H. RISER CLAMP FOR COPPER PIPING: HEAVY DUTY COPPER PLATED CARBON STEEL, ROUNDED EARS. EACH CLAMP DESIGNED FOR MAXIMUM RECOMMENDED LOAD WITH A MINIMUM SAFETY FACTOR OF 5. PROVIDE VIBRATION ISOLATION BETWEEN RISER CLAMP AND STRUCTURE. TOLCO FIGURE 82.	
I. ANCHORS: FABRICATED HEAVY DUTY ASTM A-36 CARBON STEEL. EACH ANCHOR DESIGNED TO WITHSTAND NOT LESS THAN 5 TIMES THE ANCHOR LOAD.	
J. PROTECTION SHIELD: GALVANIZED CARBON STEEL, 1800 COVERAGE. INSTALL ON INSULATED PIPING BETWEEN INSULATION AND HANGER OR SUPPORT. GRINNELL FIGURE 167.	
K. EXPANSION SHIELDS: SELF-DRILLING TYPE. HILTI "KWIK-BOLT II" OR EQUIVALENT BY PHILLIPS "RED HEAD WEDGE".	

PART 3 – EXECUTION

3.01 DRAWINGS AND SITE

A. SITE CONDITIONS: EXAMINE THE SITE AND ALL MECHANICAL, ARCHITECTURAL AND OTHER DRAWINGS, AND ACCEPT SUCH CONDITIONS AND MAKE ALLOWANCES FOR THEM IN PREPARING THE BID.	B. LOCATIONS:	
1. SCALED AND FIGURED DIMENSIONS ARE APPROXIMATE AND ARE GIVEN FOR ESTIMATE PURPOSES ONLY. BEFORE PROCEEDING WITH ANY WORK, CAREFULLY CHECK AND VERIFY ALL DIMENSIONS, SIZES, ETC.		
2. SO FAR AS POSSIBLE, THE WORK HAS BEEN INDICATED ON THE DRAWINGS IN SUCH POSITIONS AS TO SUIT AND ACCOMMODATE THE WORK OF THE OTHER TRADES. PREVENT OBSTRUCTIONS AND MAINTAIN CLEARANCES, BUT THE WORK AS INDICATED IS LARGELY DIAGRAMMATIC AND IS SHOWN PRIMARILY FOR CLARITY. IT IS NOT THE INTENT TO INDICATE ALL NECESSARY OFFSETS FOR PIPING.		
3. CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE CORRECT PLACING OF HIS WORK AND THE PROPER LOCATION AND CONNECTION OF HIS WORK IN RELATION TO THE WORK OF OTHER TRADES AND TO PROVIDE ALL REQUIRED PIPING OFFSETS.		

3.02 PLUMBING DEMOLITION

A. DISCONNECT, DEMOLISH, AND REMOVE PLUMBING SYSTEMS, EQUIPMENT, AND COMPONENTS INDICATED TO BE REMOVED.	
1. PIPING TO BE REMOVED: REMOVE PORTION OF PIPING INDICATED TO BE REMOVED AND CAP OR PLUG REMAINING PIPING WITH SAME OR COMPATIBLE PIPING MATERIAL	
2. PIPING TO BE ABANDONED IN PLACE: DRAIN PIPING AND CAP OR PLUG PIPING WITH SAME OR COMPATIBLE PIPING MATERIAL	
3. EQUIPMENT TO BE REMOVED: DISCONNECT AND CAP SERVICES AND REMOVE EQUIPMENT	
4. EQUIPMENT TO BE REMOVED AND REINSTALLED: DISCONNECT AND CAP SERVICES AND REMOVE, CLEAN, AND STORE EQUIPMENT; WHEN EQUIPMENT IS TO BE REINSTALLED, RECONNECT, AND MAKE EQUIPMENT OPERATIONAL	
5. EQUIPMENT TO BE REMOVED AND SALVAGED: DISCONNECT AND CAP SERVICES AND REMOVE EQUIPMENT AND DELIVER TO OWNER.	
B. IF PIPE, INSULATION, OR EQUIPMENT TO REMAIN IS DAMAGED IN APPEARANCE OR IS UNSERVICEABLE, REMOVE DAMAGED OR UNSERVICEABLE PORTIONS AND REPLACE WITH NEW PRODUCTS OF EQUAL CAPACITY AND QUALITY.	

3.03 INSTALLATION OF PIPING, VALVES AND EQUIPMENT

A. GENERAL:	
1. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INDICATED LOCATIONS AND ARRANGEMENTS WERE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON COORDINATION DRAWINGS.	
2. PITCH: RUN ALL HORIZONTAL SANITARY AND DRAIN PIPING SMALLER THAN 4" AT A UNIFORM GRADE OF NOT LESS THAN 1/4" PER FOOT. RUN ALL HORIZONTAL SANITARY AND DRAIN PIPING 4" AND LARGER AT A UNIFORM GRADE OF NOT LESS THAN 1/8" PER FOOT UNLESS OTHERWISE NOTED ON THE DRAWINGS.	
3. WATER PIPING WITHIN WALLS AND ROUGH-INS FOR FIXTURES AND EQUIPMENT: PROVIDE COPPER PLATED STEEL SUPPORT SYSTEM SOLDERED TO PIPING AND SECURED TO BUILDING CONSTRUCTION SO THAT PIPES CANNOT BE DISPLACED. PROVIDE TRIISOLATOR OR FIRE RETARDANT CLOSED CELL ELASTOMERIC MATERIAL BETWEEN SUPPORT SYSTEM AND BUILDING CONSTRUCTION OR OTHER PIPING; HOLDRITE OR EQUIVALENT.	
4. WASTE AND VENT PIPING WITHIN WALLS AND ROUGH-INS FOR FIXTURES AND EQUIPMENT: SECURE SUPPORTS TO PIPING AND BUILDING CONSTRUCTION SO THAT PIPES CANNOT BE DISPLACED. PROVIDE FELT STRIP ISOLATION BETWEEN DISSIMILAR METALS.	
5. ROUGH-IN WORK: PROCEED AS RAPIDLY AS THE BUILDING CONSTRUCTION WILL PERMIT, COMPLETED, TESTED AND APPROVED BEFORE BEING ENCLOSED.	
6. CONCEAL PIPING WITHIN FINISHED ROOMS, UNLESS OTHERWISE NOTED ON DRAWINGS.	
7. CUT PIPE ACCURATELY TO MEASUREMENTS ESTABLISHED AT THE BUILDING WORK INTO PLATE AT RIGHT ANGLES TO THE BUILDING STRUCTURE WITHOUT SPRINGING OR FORCING; PROPERLY CLAMP ALL WINDOWS, DOORS AND OTHER OPENINGS. EXCESSIVE CUTTING OR OTHER WEAKENING OF THE BUILDING STRUCTURE TO FACILITATE PIPING INSTALLATION WILL NOT BE PERMITTED.	
8. THOROUGHLY CLEAN PIPING BEFORE INSTALLATION. DURING CONSTRUCTION, PROPERLY CAP ALL PIPE OPENINGS TO EXCLUDE DIRT AND DEBRIS UNTIL FIXTURES AND EQUIPMENT ARE INSTALLED AND FINAL CONNECTIONS MADE.	
9. INSTALL PIPING IN CONCEALED LOCATIONS, UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS.	
10. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE.	
11. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.	
12. INSTALL PIPING TO PERMIT VALVE SERVICING.	
13. INSTALL PIPING AT INDICATED SLOPES.	
14. INSTALL PIPING FREE OF SAGS AND BENDS.	
15. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.	
16. INSTALL PIPING TO ALLOW APPLICATION OF INSULATION.	
17. JOINTS: REAM PIPE ENDS TO REMOVE BURRS, EACH LENGTH OF PIPE CAREFULLY INSPECTED, AND ALL OBSTRUCTIONS REMOVED PRIOR TO FABRICATION.	
18. ALLOW NO TOOL MARKS OR THREADS ON EXPOSED PLATED, POLISHED OR ENAMELED CONNECTIONS FROM FIXTURES. TAPE FINISHED SURFACES TO PREVENT DAMAGE DURING PLASTERING.	
19. MAKE ALL CHANGES IN DIRECTION WITH FITTINGS AND CHANGES IN MAIN SIZES THROUGH ECCENTRIC REDUCING FITTINGS. BUSINESS NOT ALLOWED.	
20. INSTALL ALL PIPING PARALLEL TO OR AT RIGHT ANGLES TO THE BUILDING STRUCTURE.	
21. DISSIMILAR METALS: PROVIDE COMPLETE DIELECTRIC ISOLATION BETWEEN ALL FERROUS AND NONFERROUS MATERIALS.	
22. SECURELY BOLT IN PLACE TO BUILDING STRUCTURES, ALL EQUIPMENT, HANGERS, SUPPORTS, ETC.	
23. SUPPORT PIPING WITHIN WALLS WITH MANUFACTURED SUPPORT SYSTEM. USE OF MAKESHIFT DEVICES SUCH AS WIRE, ROPE, WOOD, TAPE, ETC., IS PROHIBITED FOR ANCHORING OR FASTENING PIPES.	
B. ABOVEGROUND, EXTERIOR-WALL PIPE PENETRATIONS: SEAL PENETRATIONS USING SLEEVES AND MECHANICAL SLEEVE SEALS. SELECT SLEEVE SIZE TO ALLOW FOR 1-INCH ANNUAL CLEAR SPACE BETWEEN PIPE AND SLEEVE FOR INSTALLING MECHANICAL SLEEVE SEALS.	

1. INSTALL STEEL PIPE FOR SLEEVES SMALLER THAN 6 INCHES IN DIAMETER.	
2. INSTALL CAST-IRON "WALL PIPES" FOR SLEEVES 6 INCHES AND LARGER IN DIAMETER.	
3. MECHANICAL SLEEVE SEAL INSTALLATION: SELECT TYPE AND NUMBER OF SEALING ELEMENTS REQUIRED FOR PIPE MATERIAL AND SIZE. POSITION PIPE IN CENTER OF SLEEVE. ASSEMBLE MECHANICAL SLEEVE SEALS AND INSTALL IN ANNUAL SPACE BETWEEN PIPE AND SLEEVE. TIGHTEN BOLTS AGAINST PRESSURE PLATES THAT CAUSE SEALING ELEMENTS TO EXPAND AND MAKE WATERTIGHT SEAL.	
C. UNDERGROUND, EXTERIOR-WALL PIPE PENETRATIONS: INSTALL CAST-IRON "WALL PIPES" FOR SLEEVES. SEAL PIPE PENETRATIONS USING MECHANICAL SLEEVE SEALS. SELECT SLEEVE SIZE TO ALLOW FOR 1-INCH (25-MM) ANNUAL CLEAR SPACE BETWEEN PIPE AND SLEEVE FOR INSTALLING MECHANICAL SLEEVE SEALS.	
1. MECHANICAL SLEEVE SEAL INSTALLATION: SELECT TYPE AND NUMBER OF SEALING ELEMENTS REQUIRED FOR PIPE MATERIAL AND SIZE. POSITION PIPE IN CENTER OF SLEEVE. ASSEMBLE MECHANICAL SLEEVE SEALS AND INSTALL IN ANNUAL SPACE BETWEEN PIPE AND SLEEVE. TIGHTEN BOLTS AGAINST PRESSURE PLATES THAT CAUSE SEALING ELEMENTS TO EXPAND AND MAKE WATERTIGHT SEAL.	
D. FIRE-BARRIER PENETRATIONS: MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILINGS, AND FLOORS AT PIPE PENETRATIONS. SEAL PIPE PENETRATIONS WITH FIRESTOP MATERIALS. REFER TO DIVISION 07 SECTION "PENETRATION FIRESTOPPING" FOR MATERIALS.	
E. VERIFY FINAL EQUIPMENT LOCATIONS FOR ROUGHING-IN.	
F. COPPER TUBING:	
1. CUT SQUARE, REMOVE BURRS AND CLEAN PIPE AND INSIDE OF FEMALE FITTING TO A BRIGHT FINISH WITH STEEL WOOL, WIRE BRUSH, SANDPAPER OR EMERY CLOTH. APPLY SOLDER FLUX WITH BRUSH TO TUBING. REMOVE INTERNAL PARTS OF SOLDER END VALVE PRIOR TO SOLDERING.	
2. JOINING FOR COPPER PIPES: SILVABRITE, BRIDGIT, STAY-SAFE 50 OR EQUAL LEAD FREE SOLDER.	

3.04 PLUMBING FIXTURES INSTALLATION

A. INSTALLATION: SET FIXTURES LEVEL AND IN PROPER ALIGNMENT WITH RESPECT TO WALLS AND FLOORS, AND SETS OF FIXTURES EQUALLY SPACED. INSTALL SUPPLIES IN PROPER ALIGNMENT WITH FIXTURES AND WITH EACH OTHER.	
B. GROUTING: GROUT ALL WALL MOUNTED FIXTURES WATERTIGHT WHERE FIXTURE IS IN CONTACT WITH WALL WITH FLEXIBLE WHITE MILDEW RESISTANT SILICONE CAULKING. GROUT ALL FLOOR MOUNTED FIXTURES WITH PLASTER OF PARIS.	
C. CAULKING: CAULK ALL DECK MOUNTED TRIM AT THE TIME OF ASSEMBLY, INCLUDING FIXTURE AND CASEWORK MOUNTED.	
D. TRIM: MAKE UP TRIM WITH CARE AND WITH THE PROPER TOOLS IN ORDER THAT NO TOOL MARKS SHOW AFTER INSTALLATION.	
E. FIXTURE BACKING: PROVIDE BACKING FOR WALL HUNG FIXTURES OTHER THAN FOR THOSE WITH SUPPORTS OR CARRIERS.	
F. STUD WALLS: INSTALL 1/4" X 6" WIDE STEEL PLAT BACKING PLATE TO THE INSIDE WEB OF THE STUDS AND SECURED TO AT LEAST THREE STUDS BY WELDING OR BOLTING OR AS DIRECTED BY OWNER'S REPRESENTATIVE.	

3.05 CLEANOUTS

A. SIZE: CLEANOUTS OF SAME NOMINAL SIZE AS PIPE THEY SERVE.	
B. ACCESSIBILITY: MAKE ALL CLEANOUTS ACCESSIBLE.	
C. LOCATIONS:	
1. AT ALL HORIZONTAL OFFSETS.	
2. FOR CLEANOUTS IN FINISHED PORTIONS OF BUILDING, LOCATIONS SUBJECT TO OWNER'S REPRESENTATIVE APPROVAL BEFORE INSTALLATION.	

3.06 PIPING JOINT CONSTRUCTION

A. REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. BEVEL PLAIN ENDS OF STEEL PIPE.	
B. REMOVE SCALE, SLAG, DIRT, AND DEBRIS FROM INSIDE AND OUTSIDE OF PIPE AND FITTINGS BEFORE ASSEMBLY.	
C. SOLDERED JOINTS: APPLY ASTM B 813, WATER-FLUSHABLE FLUX, UNLESS OTHERWISE INDICATED, TO TUBE END. CONSTRUCT JOINTS ACCORDING TO ASTM B 828 OR CDA'S "COPPER TUBE HANDBOOK," USING LEAD-FREE SOLDER ALLOY COMPLYING WITH ASTM B 32.	
D. BRAZED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS'S "BRAZING HANDBOOK," "PIPE AND TUBE" CHAPTER, USING COPPER-PHOSPHORUS BRAZING FILLER METAL COMPLYING WITH AWS A5.8.	
E. THREADED JOINTS: THREAD PIPE WITH TAPERED PIPE THREADS ACCORDING TO ASTM B120.1. CUT THREADS FULL AND CLEAN USING SHARP DIES. REAM THREADED PIPE ENDS TO REMOVE BURRS AND RESTORE FULL ID. JOIN PIPE FITTINGS AND VALVES AS FOLLOWS:	
1. APPLY APPROPRIATE TAPE OR THREAD COMPOUND TO EXTERNAL PIPE THREADS UNLESS DRY SEAL THREADING IS SPECIFIED.	
2. DAMAGED THREADS: DO NOT USE PIPE OR PIPE FITTINGS WITH THREADS THAT ARE CORRODED OR DAMAGED. DO NOT USE PIPE SECTIONS THAT HAVE CRACKED OR OPEN WELDS.	
G. FLANGED JOINTS: SELECT APPROPRIATE GASKET MATERIAL, SIZE, TYPE, AND THICKNESS FOR SERVICE APPLICATION. INSTALL GASKET CONCENTRICALLY POSITIONED. USE SUITABLE LUBRICANTS ON BOLT THREADS.	
H. PLASTIC PIPING SOLVENT-CEMENT JOINTS: CLEAN AND DRY JOINING SURFACES. JOIN PIPE AND FITTINGS ACCORDING TO THE FOLLOWING:	
1. COMPLY WITH ASTM F 402, FOR SAFE-HANDLING PRACTICE OF CLEANERS, PRIMERS, AND SOLVENT CEMENTS.	
2. ABS PIPING: JOIN ACCORDING TO ASTM D 2235 AND ASTM D 2661 APPENDICES.	
3. CPVC PIPING: JOIN ACCORDING TO ASTM D 2846/7, 2848/48 APPENDIX.	
4. PVC PRESSURE PIPING: JOIN SCHEDULE NUMBER ASTM D 1785, PVC PIPE AND PVC SOCKET FITTINGS ACCORDING TO ASTM D 2872. JOIN OTHER-THAN-SCHEDULE-NUMBER PVC PIPE AND SOCKET FITTINGS ACCORDING TO ASTM D 2855.	
5. PVC NON-PRESSURE PIPING: JOIN ACCORDING TO ASTM D 2855.	
6. PVC TO ABS NON-PRESSURE TRANSITION FITTINGS: JOIN ACCORDING TO ASTM D 3139 APPENDIX.	

3.07 PIPING CONNECTIONS

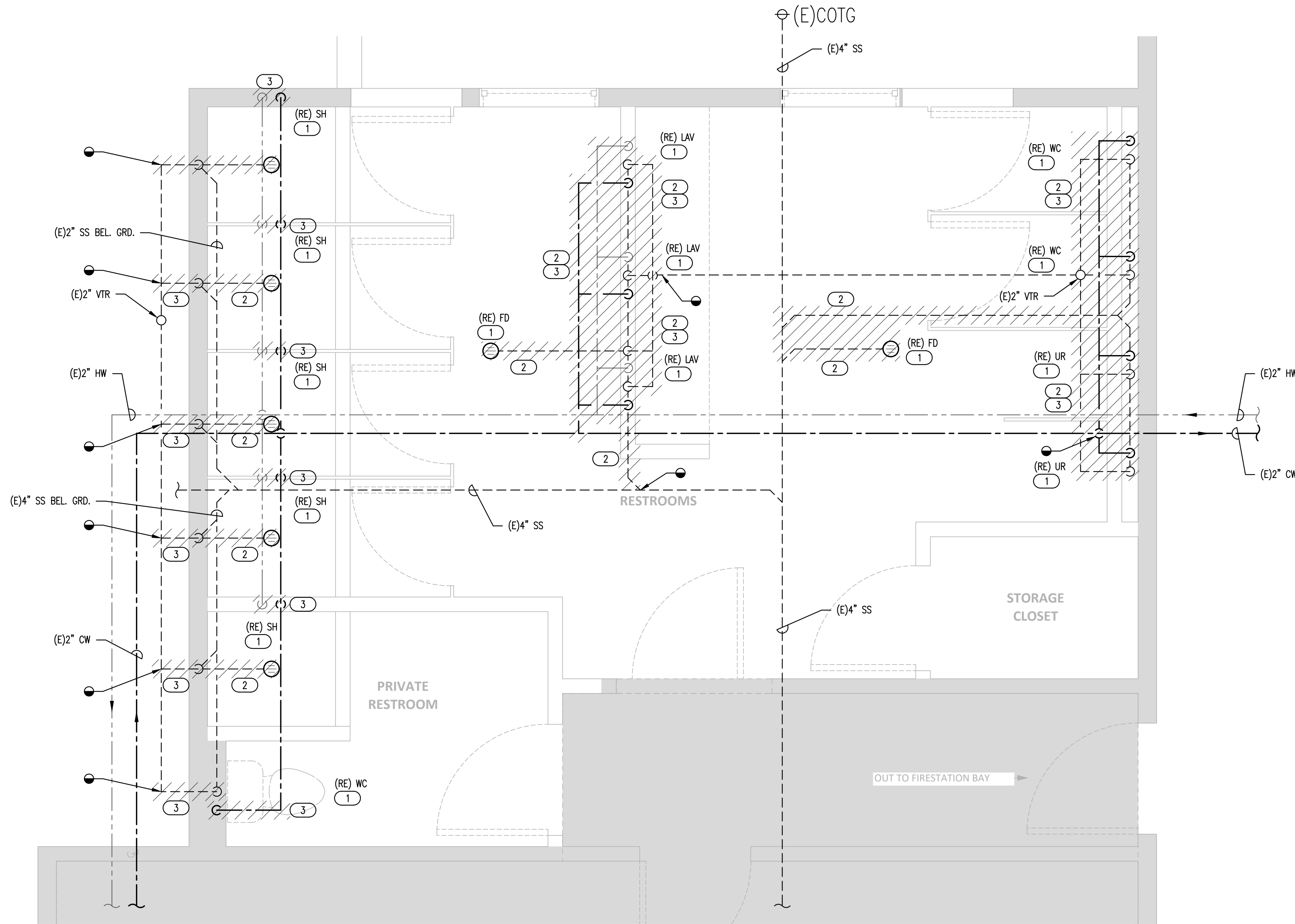
A. MAKE CONNECTIONS ACCORDING TO THE FOLLOWING, UNLESS OTHERWISE INDICATED:	
1. INSTALL UNIONS, IN PIPING NPS 2 (DN 50) AND SMALLER, ADJACENT TO EACH VALVE AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT.	
2. INSTALL FLANGES, IN PIPING NPS 2-1/2 (DN 65) AND LARGER, ADJACENT TO FLANGED VALVES AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT.	
3. DRY PIPING SYSTEMS: INSTALL DIELECTRIC UNIONS AND FLANGES TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.	
4. WET PIPING SYSTEMS: INSTALL DIELECTRIC COUPLING AND NIPPLE FITTINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.	

3.08 EQUIPMENT INSTALLATION – COMMON REQUIREMENTS

- B. INSTALL EQUIPMENT TO ALLOW MAXIMUM POSSIBLE HEADROOM UNLESS SPECIFIC MOUNTING HEIGHTS ARE NOT INDICATED.
- B. INSTALL EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS IN EXPOSED INTERIOR SPACES, UNLESS OTHERWISE INDICATED.
- C. INSTALL PLUMBING EQUIPMENT TO FACILITATE SERVICE, MAINTENANCE, AND REPAIR OR REPLACEMENT OF COMPONENTS. CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM INTERFERENCE TO OTHER INSTALLATIONS. EXTEND GREASE FITTINGS TO ACCESSIBLE LOCATIONS.
- D. INSTALL EQUIPMENT TO ALLOW RIGHT OF WAY FOR PIPING INSTALLED AT REQUIRED SLOPE.

3.09 DISINFECTION OF WATER SYSTEMS

- A. GENERAL: DISINFECT ALL HOT AND COLD WATER SYSTEMS PER AWWA STANDARD C651-86 AND THE FOLLOWING.
- B. DISINFECTING AGENT: USE CHLORINE SOLUTION OF TYPE APPROVED FOR WATER SYSTEM DISINFECTION.
- C. PREPARATION:
 - 1. SERVICE COCK: PROVIDE SERVICE COCK OR VALVE WITHIN 3' OF SUPPLY MAIN FOR INTRODUCING DISINFECTING AGENT INTO LINES.
 - 2. FLUSHING: LEAVE EACH FIXTURE OR OUTLET WIDE OPEN AFTER FINAL PRESSURE TESTS UNTIL FLOW SHOWS ONLY CLEAR WATER.
- D. PROCEDURE:
 - 1. FLUSHING: WITH SYSTEM FULL OF WATER AND UNDER MAIN PRESSURE, OPEN ALL OUTLETS.
 - 2. INJECT DISINFECTANT THROUGH SERVICE COCK AT SLOW, EVEN, CONTINUOUS RATE UNTIL ORTHOTOLUIDINE TEST AT EACH OUTLET SHOWS CHLORINE RESIDUAL CONCENTRATION OF MORE THAN 50 PARTS PER MILLION (PPM).
 - 3. CLOSE ALL OUTLETS AND VALVES INCLUDING SERVICE VALVE AT MAIN AND INJECTION COCK. MAINTAIN FOR 24 HOURS.
 - 4. TEST: ORTHOTOLUIDINE TEST, AFTER 24 HOUR PERIOD, SHALL INDICATE MINIMUM CHLORINE RESIDUAL CONCENTRATION OF 50 PPM. IF NOT, REPEAT DISINFECTION PROCEDURE UNTIL THIS STANDARD IS ATTAINED.
 - 5. FINAL FLUSHING: AFTER SATISFACTORY COMPLETION OF ABOVE TEST, FLUSH OUT SYSTEM UNTIL ORTHOTOLUIDINE TESTS SHOW MAXIMUM CHLORINE RESIDUAL OF 0.6 PPM.
- E. BACTERIOLOGICAL ANALYSIS OF WATER: AFTER FINAL FLUSHING, ANALYZE WATER SAMPLES TO TEST NEGATIVE FOR COLI-AEROGENE ORGANISMS. ANALYSIS TO INDICATE TOTAL PLATE COUNT LESS THAN 100 BACTERIA PER CC OR EQUAL TO CONTROL SAMPLE.
- F. FINAL APPROVAL: IF ANALYSIS RESULTS ARE NOT SATISFACTORY, REPEAT DISINFECTION PROCEDURE UNTIL SPECIFIED



PLUMBING DEMOLITION PLAN

SCALE:
1/2"=1'-0" 1

DEMOLITION SHEET NOTES

1. REMOVE ALL EXISTING PLUMBING FIXTURES WITHIN THE PROPOSED SPACE TO PROVIDE NEW LAYOUT ON THIS PLAN, COORDINATE WITH ARCHITECT PRIOR TO THE REMOVAL. CAP AND SEAL THE PIPES AS REQUIRED ABOVE CEILING. FIELD COORDINATE EXACT POINT OF DISCONNECT.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING BID AND START OF ALL WORK.
3. PROVIDE TEMPORARY ENCLOSURE/PROTECTION/BARRICADES OR WARNING WHERE REQUIRED BY APPLICABLE SAFETY ORDINANCES PRIOR TO START OF DEMOLITION REMOVE WHEN NO LONGER NEEDED.
4. DURING DEMOLITION, CONTRACTOR SHALL ALWAYS BE AWARE OF THE INTENDED FINAL RENOVATED CONDITIONS OF THE SPACE.
5. CONTRACTOR SHALL RESTORE TO ITS EXISTING CONDITION ANY EXISTING WORK DAMAGED DURING DEMOLITION INDICATED OR INTENDED "EXISTING TO REMAIN" ON PLAN.
6. CONTRACTOR SHALL TURN OVER ALL THE DEMOLISHED EQUIPMENT OR MATERIALS OR DISPOSE AS DIRECTED BY THE OWNER.

KEY NOTES

- 1 REMOVE EXISTING FIXTURE AND RETURN TO OWNER OR DEMOLISH PER OWNER'S DIRECTION. REMOVE ALL ASSOCIATED PIPING IN WALL, ABOVE CEILING, AND BELOW FLOOR.
- 2 CAP EXISTING PIPING BELOW FLOOR AND REMOVE CROSS-HATCH PIPING AS SHOWN.
- 3 CAP EXISTING PIPING ABOVE CEILING AND REMOVE CROSS-HATCH PIPING AS SHOWN.

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ISSUES

Date	No.	Description
09/24/25	-	ISSUE FOR PLAN CHECK

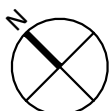
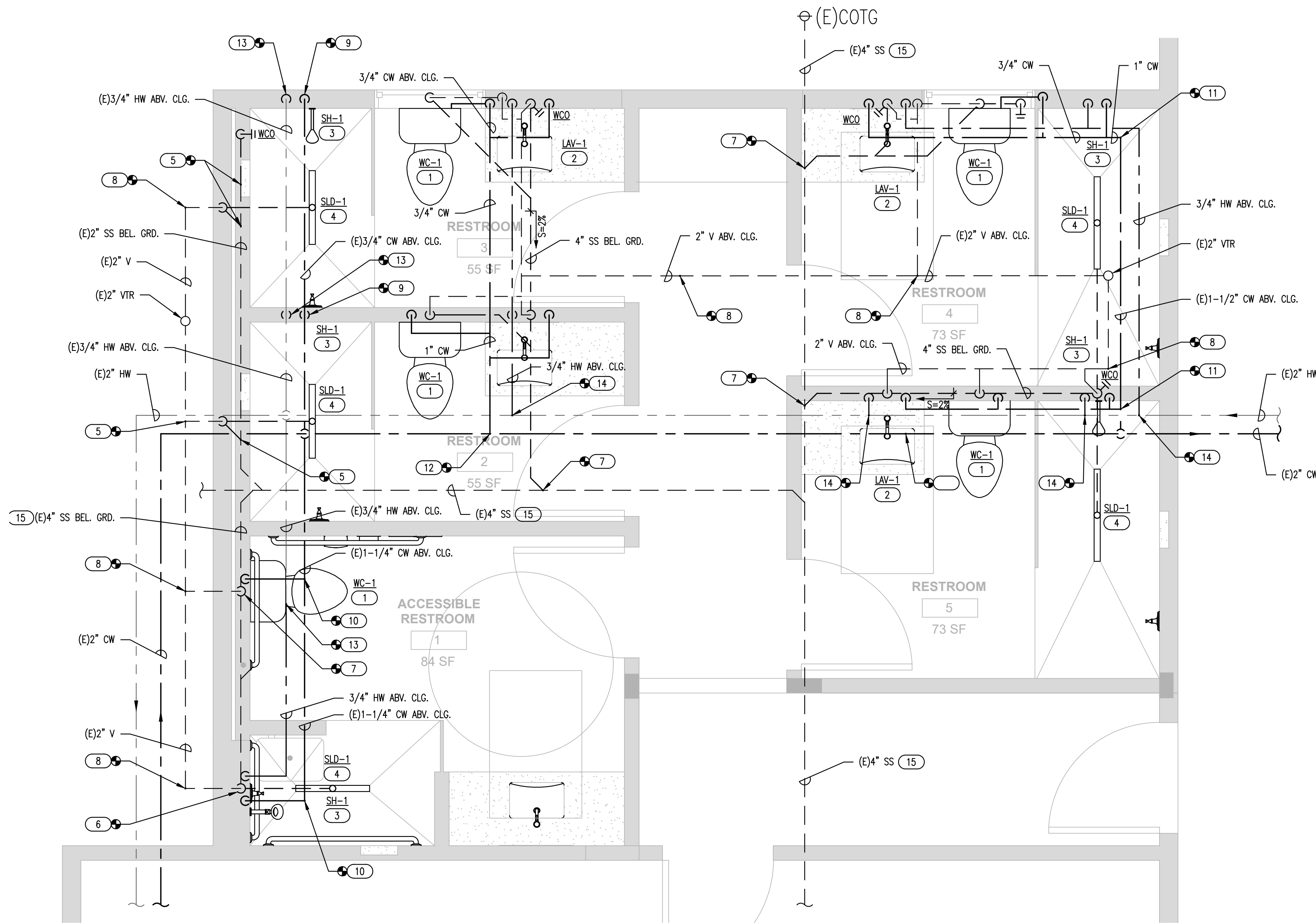
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OCFA: FS 45
BATHROOM
REMODEL

30131 Aventura, Rancho
Santa Margarita, CA
92688
24570.00

PLUMBING
DEMOLITION
PLAN
P-1.1

VISION JOB #: 18129 VCS ISSUE DATE: 09/24/2025



PLUMBING NEW PLAN

SCALE:
1/2"=1'-0"

1

SHEET NOTES

- FOR PIPE SIZES, REFER TO RISER DIAGRAMS.
- CONTRACTOR SHALL SCOPE EXISTING UNDERGROUND SANITARY SEWER INTENDED FOR THIS PROJECT PRIOR TO START OF WORK. CONTRACTOR SHALL PROVIDE A REPORT TO THE ENGINEER OF THE LOCATION, INVERT ELEVATION, SIZE, AND CONDITION OF THE UNDERGROUND SANITARY SEWER, SO WE CAN VALIDATE THE DESIGN.
-
- HOT WATER PIPE INSULATION SHALL HAVE A MINIMUM WALL THICKNESS OF NOT LESS THAN THE DIAMETER OF THE PIPE FOR A PIPE UP TO 2 INCHES IN DIAMETER. INSULATION WALL THICKNESS SHALL BE NOT LESS THAN 2 INCHES FOR A PIPE OF 2 INCHES OR MORE IN DIAMETER. INSULATION SHALL HAVE A CONDUCTIVITY OF LESS THAN 0.28 BTU.IN./ (H-FIT2-DEGREES F).
- VERIFY EXACT POINT OF CONNECTIONS AT THE SITE AND PROVIDE ANY ADJUSTMENTS IF REQUIRED.
- CONTRACTOR SHALL MAINTAIN 2% SLOPE FOR ALL HORIZONTAL SEWER PIPES INSIDE THE BUILDING AND 1% SLOPE FOR ALL HORIZONTAL CONDENSATE DRAIN PIPES.
- ALL REQUIRED CLEANOUTS SHALL BE INSTALLED AS PER SEC. 707 OF 2022 CPC.
- EACH PLUMBING VENT SHALL TERMINATE NOT LESS THAN 10 FT. FROM OR AT LEAST 3 FT ABOVE ANY WINDOW, DOOR, OPENING, AIR INTAKE OR VENT SHAFT.
- NO MORE THAN ONE-THIRD OF THE TOTAL PERMITTED LENGTH OF ANY MINIMUM SIZED VENT SHALL BE INSTALLED IN A HORIZONTAL POSITION.
- NEW OR REPAIRED POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE ACCORDING TO THE METHOD SET IN SECTION 609.9 OF THE PLUMBING CODE.
- VENT FOR ALL PLUMBING FIXTURES SHALL BE WITHIN TRAP ARM DISTANCE. THE MAXIMUM DEVELOPED LENGTH OF THE TRAP ARM FROM THE TRAP WEIR TO THE INNER EDGE OF THE VENT SHALL BE WITHIN THE DISTANCE GIVEN IN SECTION 1002.2 OF 2022 CPC.

KEY NOTES

- PROVIDE WATER CLOSET PER FIXTURE SCHEDULE, 4" SANITARY SEWER DOWN TO BELOW FLOOR, 2" VENT RISE TO ABOVE CEILING, 3/4" COLD WATER DROP IN WALL.
- PROVIDE NEW LAVATORY PER FIXTURE SCHEDULE, 2" SANITARY SEWER DOWN TO BELOW FLOOR, 1-1/2" VENT RISE TO ABOVE CEILING, 1/2" HOT AND COLD WATER DROP IN WALL.
- PROVIDE NEW SHOWER PER FIXTURE SCHEDULE, 3/4" HOT AND COLD WATER DROP IN WALL.
- PROVIDE NEW SHOWER LINEAR DRAIN PER FIXTURE SCHEDULE, 2" SANITARY SEWER DOWN TO BELOW FLOOR, 1-1/2" VENT RISE TO ABOVE CEILING.
- CONNECT 2" SANITARY SEWER TO EXISTING 2" OR LARGER SANITARY SEWER BELOW GROUND. CONTRACTOR SHALL FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION PRIOR TO START OF WORK.
- CONNECT 2" SANITARY SEWER TO EXISTING 4" OR LARGER SANITARY SEWER BELOW GROUND. CONTRACTOR SHALL FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION PRIOR TO START OF WORK.
- CONNECT 4" SANITARY SEWER TO EXISTING 4" OR LARGER SANITARY SEWER BELOW GROUND. CONTRACTOR SHALL FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION PRIOR TO START OF WORK.
- CONNECT 2" VENT TO EXISTING 2" VENT ABOVE CEILING. CONTRACTOR SHALL FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION PRIOR TO START OF WORK.
- CONNECT 3/4" COLD WATER TO EXISTING 3/4" COLD WATER ABOVE CEILING. CONTRACTOR SHALL FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION PRIOR TO START OF WORK.
- CONNECT 3/4" COLD WATER TO EXISTING 1-1/4" COLD WATER ABOVE CEILING. CONTRACTOR SHALL FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION PRIOR TO START OF WORK.
- CONNECT 1" COLD WATER TO EXISTING 1-1/2" COLD WATER ABOVE CEILING. CONTRACTOR SHALL FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION PRIOR TO START OF WORK.
- CONNECT 1" COLD WATER TO EXISTING 2" COLD WATER ABOVE CEILING. CONTRACTOR SHALL FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION PRIOR TO START OF WORK.
- CONNECT 3/4" HOT WATER TO EXISTING 3/4" HOT WATER ABOVE CEILING. CONTRACTOR SHALL FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION PRIOR TO START OF WORK.
- CONNECT 3/4" HOT WATER TO EXISTING 2" HOT WATER ABOVE CEILING. CONTRACTOR SHALL FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION PRIOR TO START OF WORK.
- EXISTING SANITARY SEWER SHOULD BE AT LEAST 4" TO BE USE FOR A NEW LAYOUT. IF NOT CONTACT THE ENGINEER SO THAT WE CAN PROVIDE ALTERNATE SOLUTION.

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REMODEL

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Santa Margarita, CA
92688
24570.00

PLUMBING
NEW PLAN
P-2.1

5B: OCFA FIRE STATION 45 BATHROOMS – FINISH SELECTIONS

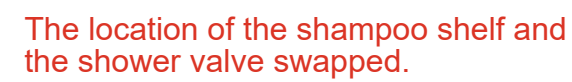


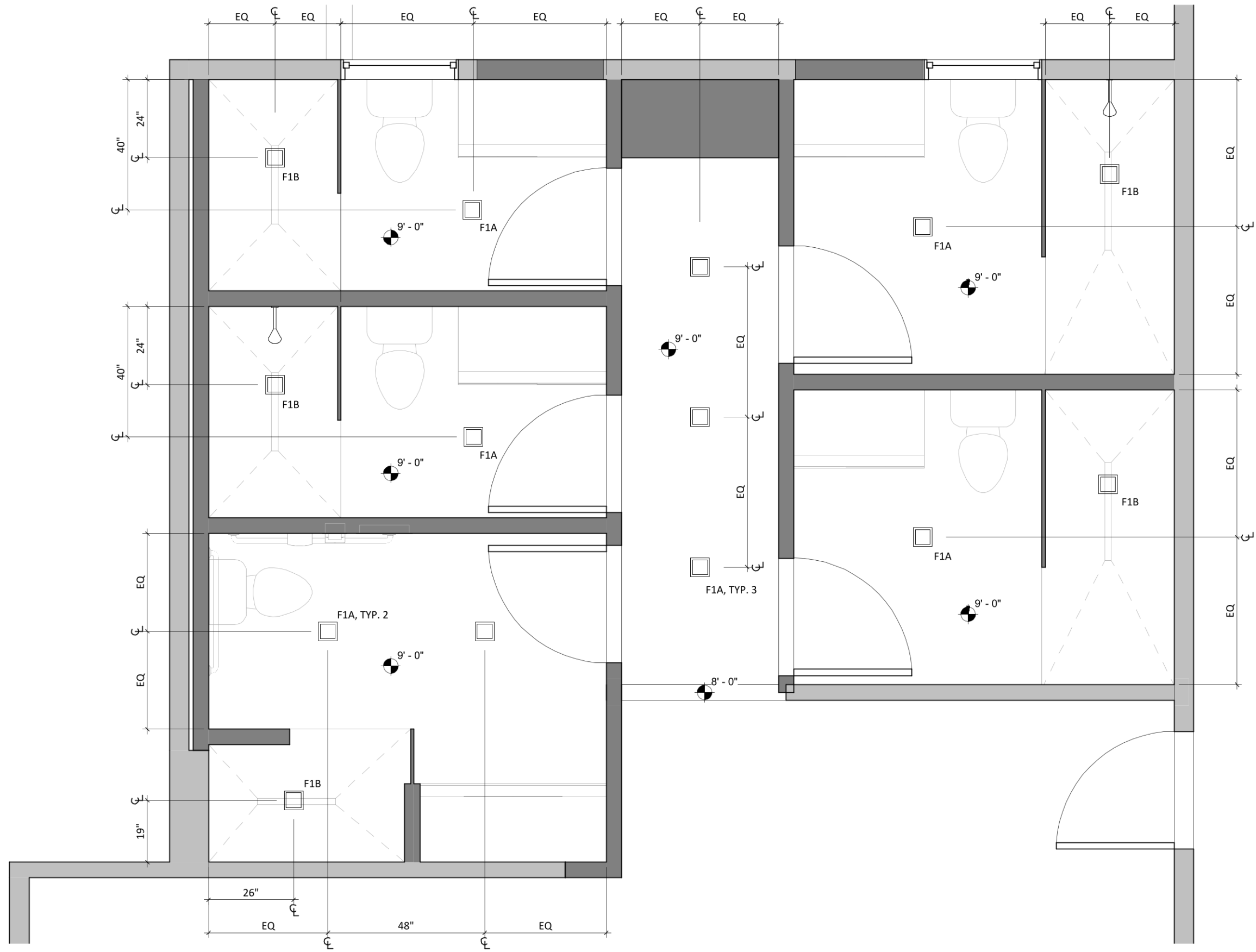
OCFA Fire Station 45 Bathrooms

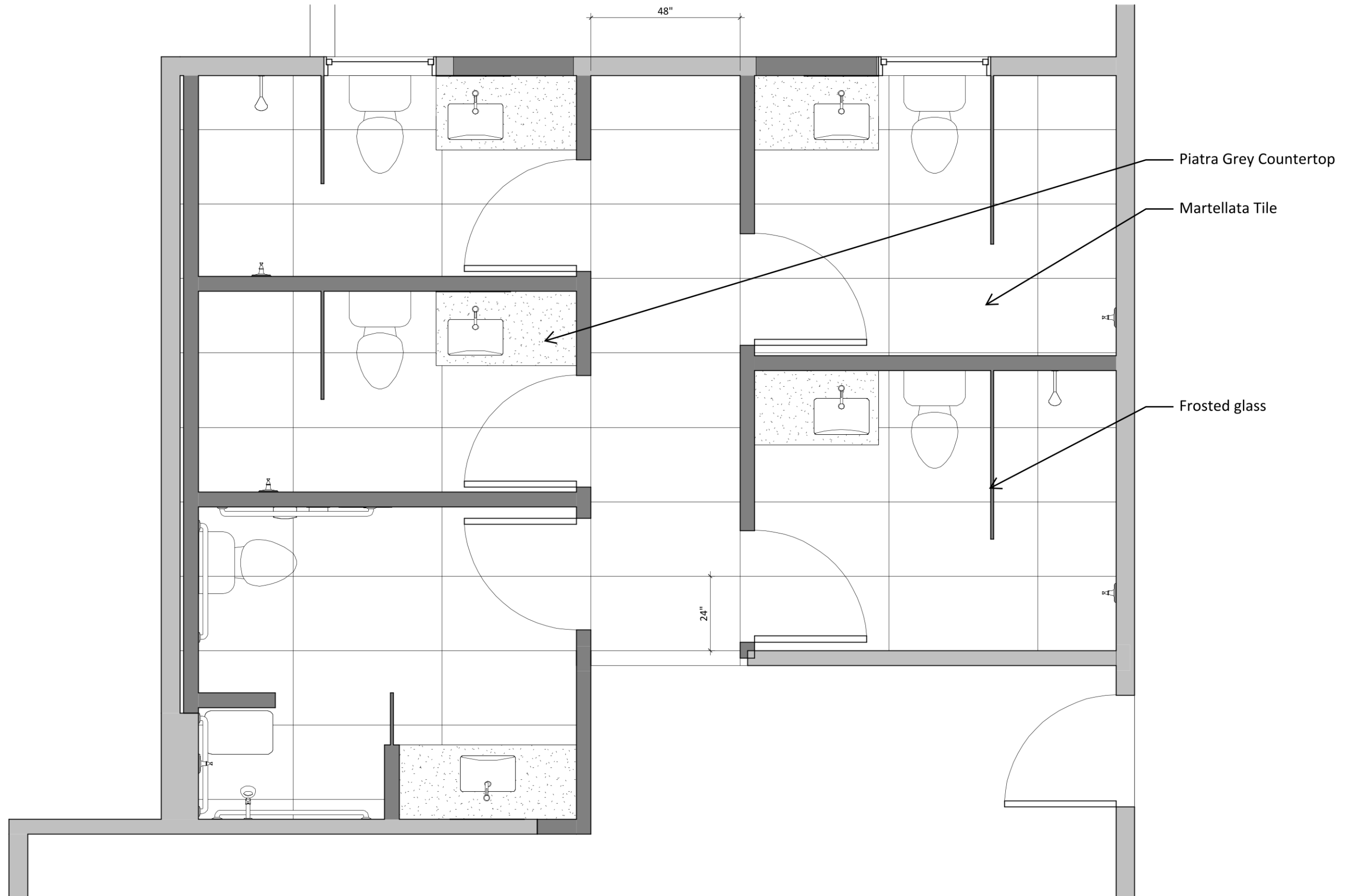
Finish Selections

05.22.2025

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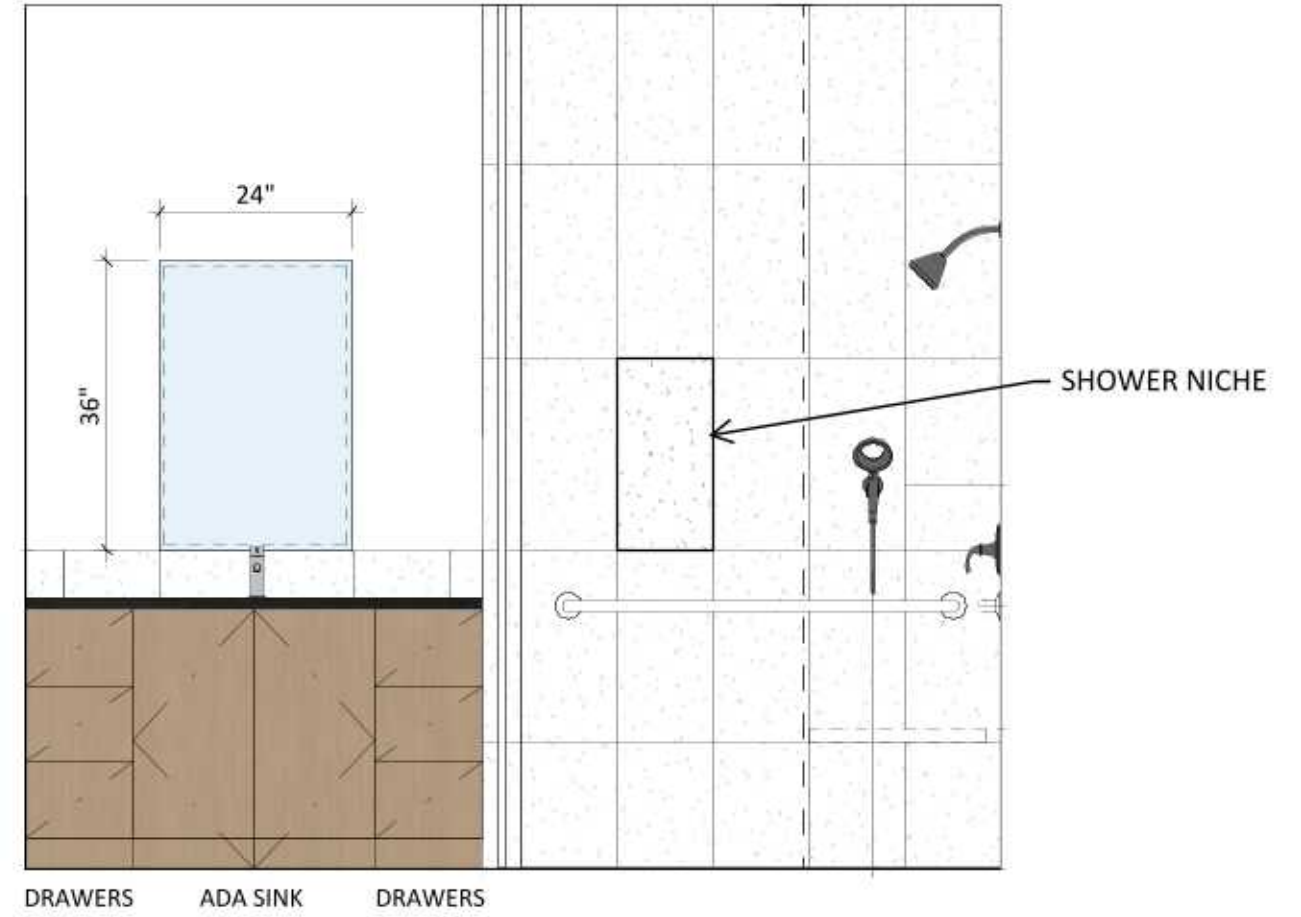
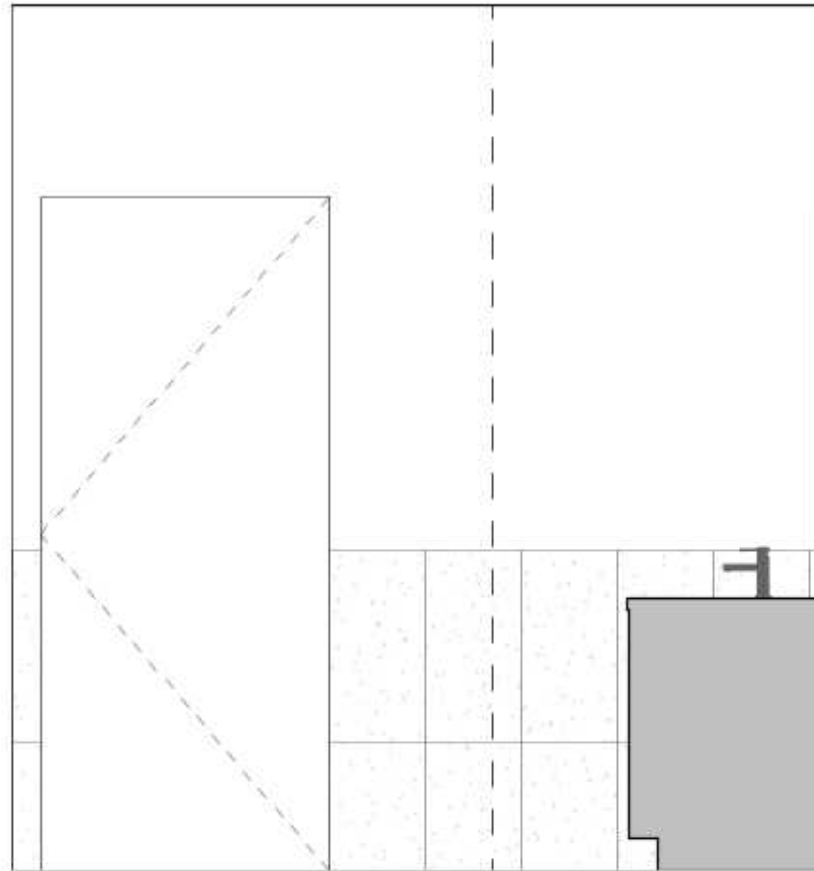
Wall - Lagom White Matte

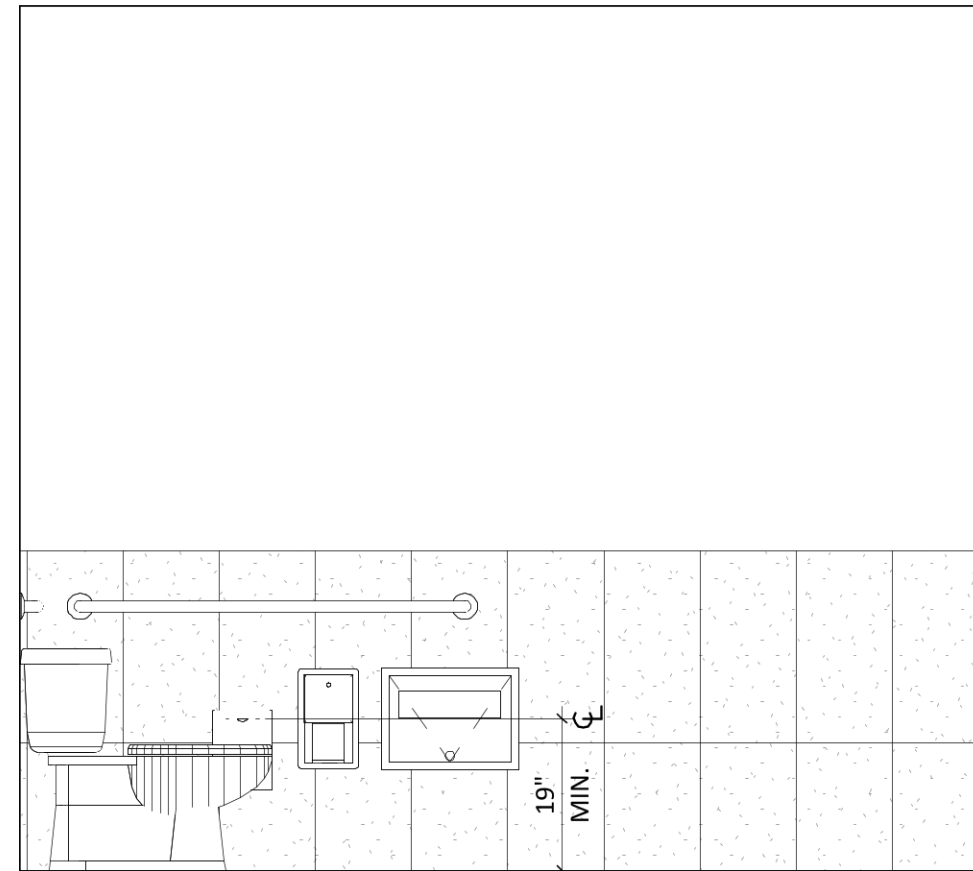
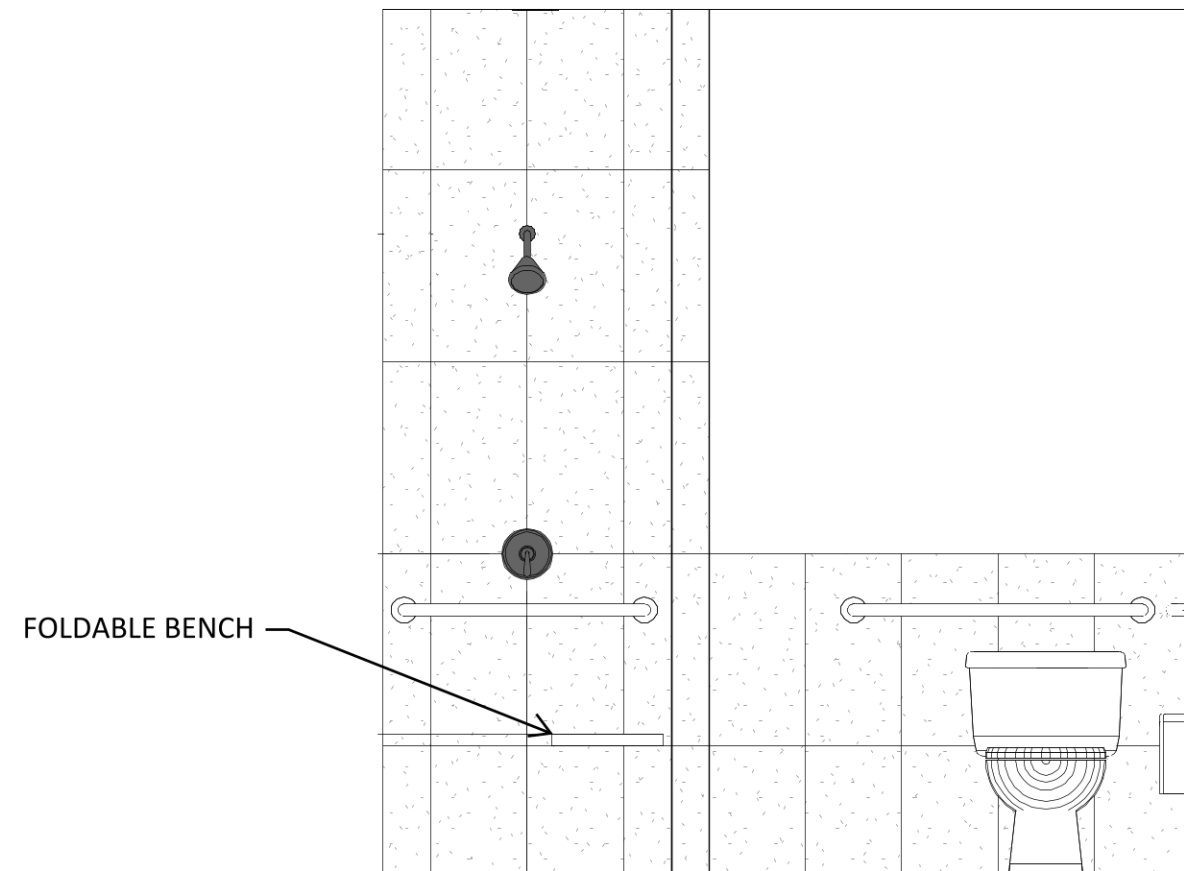
Countertop - 5003 Piatra Grey

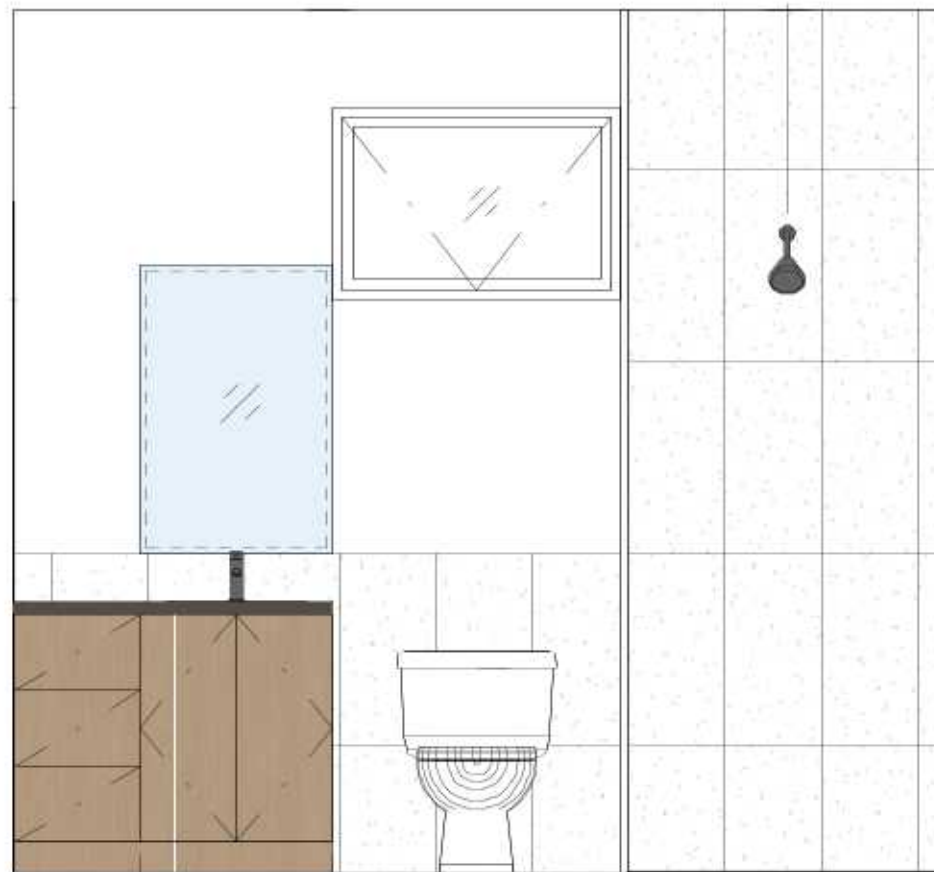
Floor - Martellata Vein Taupe

Laminate - Harding Oak

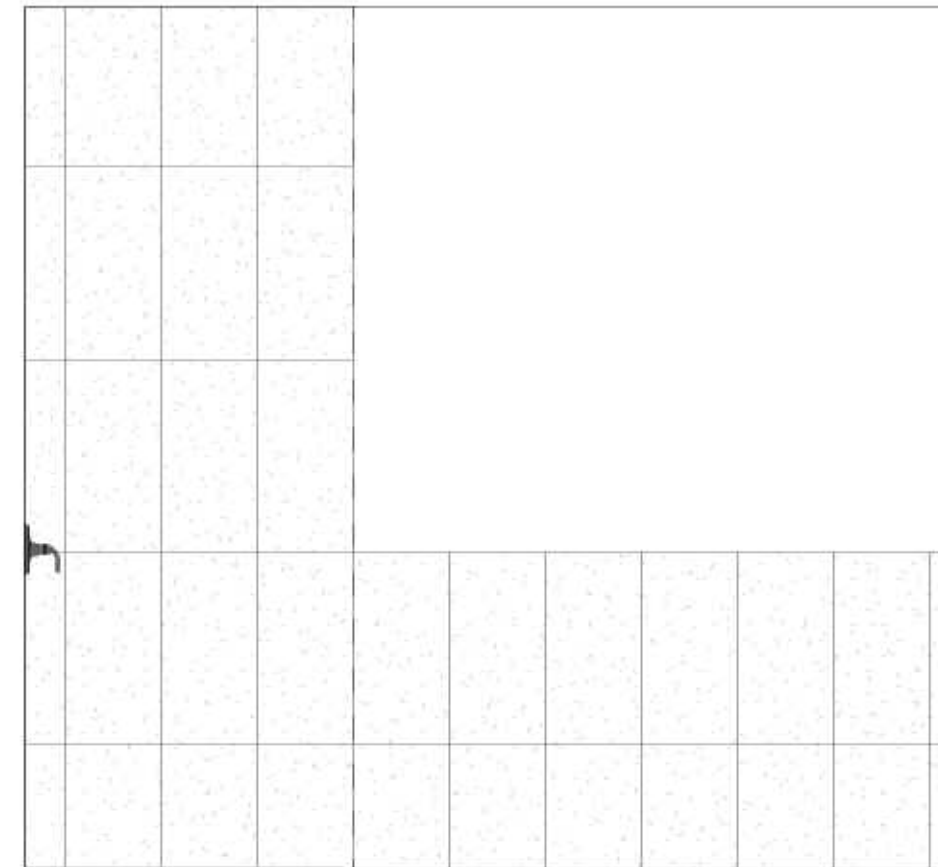


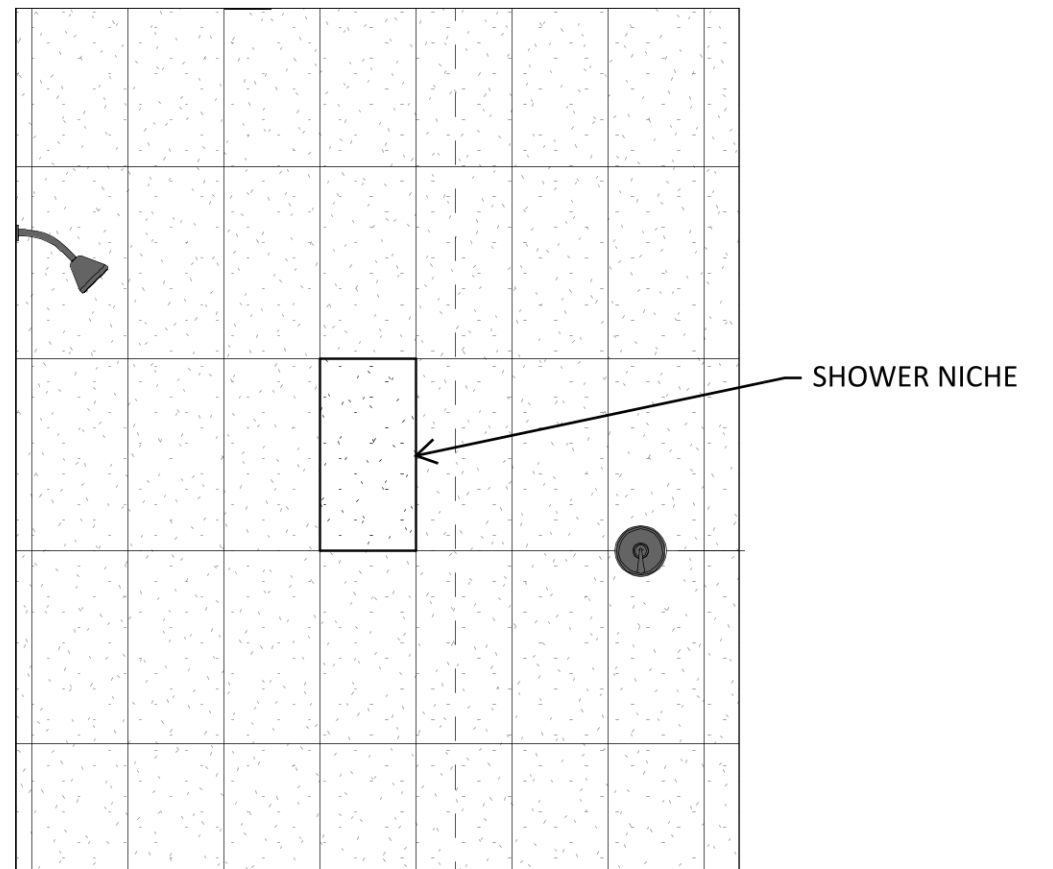
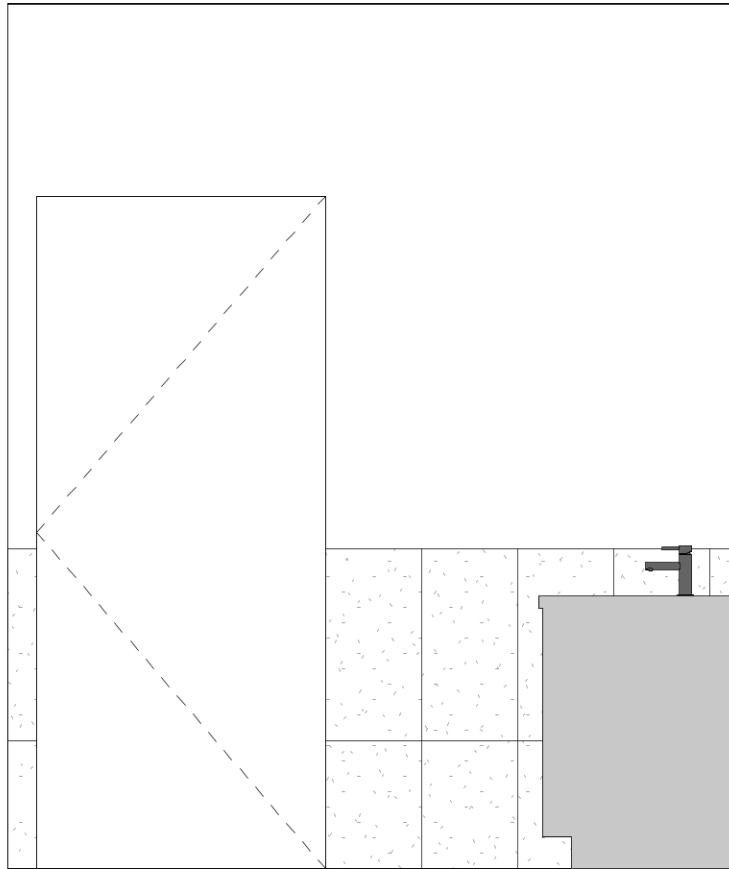


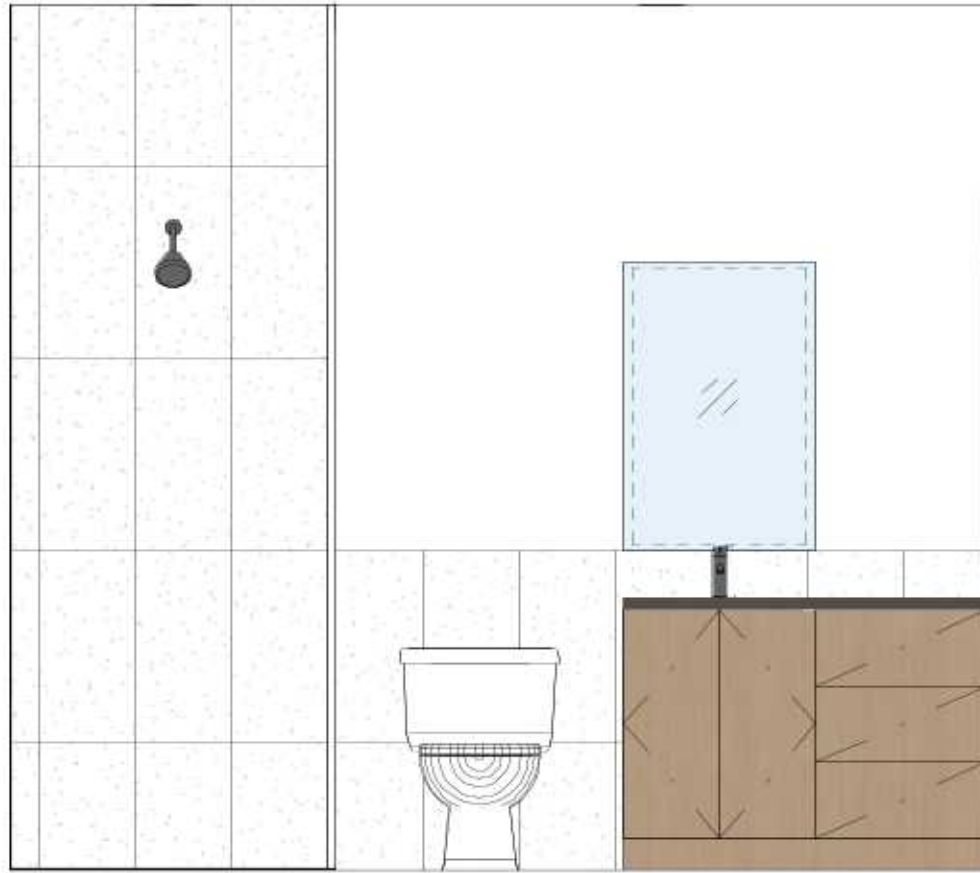




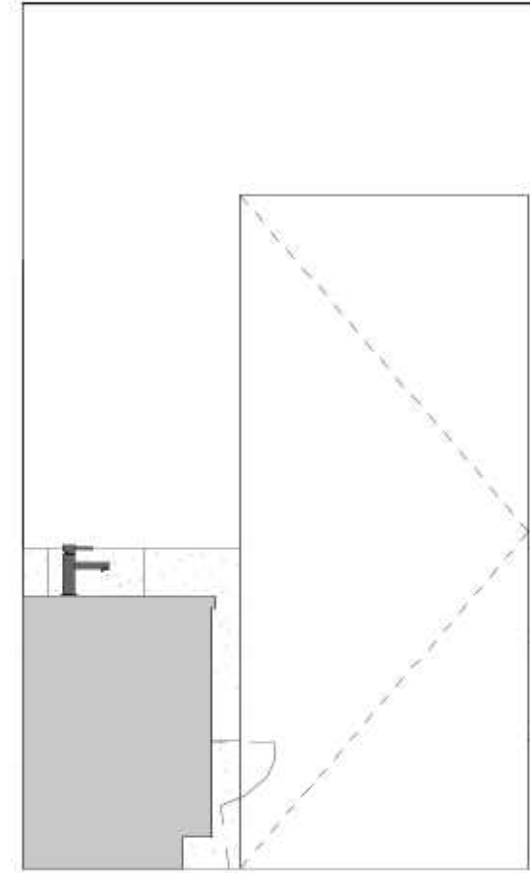
DRAWERS

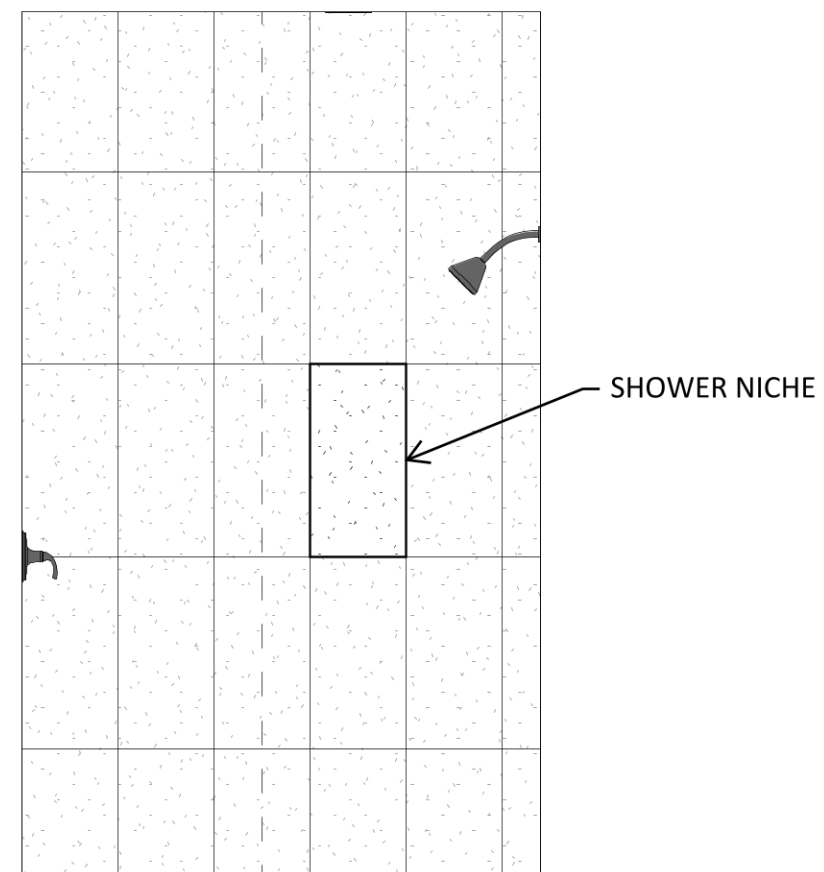
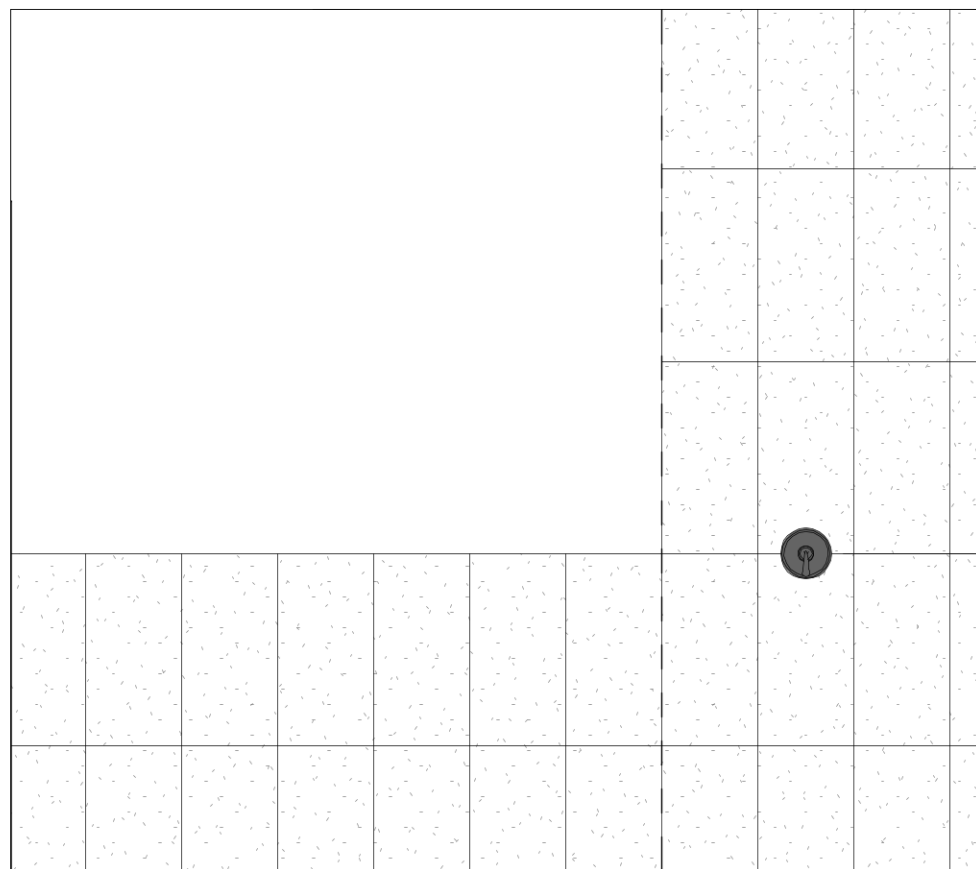






DRAWERS







Bellevue Mateo 24"x36" Mirror w/ LED Lighting
(Vertical)

Sink and vanity



MOEN Align Bathroom Faucet



KOHLER Ladena Undermount Sink



MOEN Align Single Handle Showerhead



Shower