

## **Solicitation 1802-215**

### **Additional Facilities at Southwest Williamson County Regional Park**

**Bid Designation: Public**



**Williamson County, Texas**

## Bid 1802-215

### Additional Facilities at Southwest Williamson County Regional Park

|                            |   |
|----------------------------|---|
| Bid Number                 | 1802-215  |
| Bid Title                  | Additional Facilities at Southwest Williamson County Regional Park  |
| Expected Expenditure       | \$500,000.00 (This price is expected - not guaranteed)  |
| Bid Start Date             | In Held   |
| Bid End Date               | Mar 16, 2018 3:00:00 PM CDT   |
| Question & Answer End Date | Mar 9, 2018 5:00:00 PM CST  |
| Bid Contact                | Blake Skiles<br>Senior Purchasing Specialist<br>512-943-1478<br>blake.skiles@wilco.org  |
| Contract Duration          | One Time Purchase   |
| Contract Renewal           | 1 annual renewal  |
| Prices Good for            | 30 days   |
| Pre-Bid Conference         | Mar 12, 2018 1:00:00 PM CDT<br>Attendance is optional<br>Location: Cedar Rock Railroad - Located Within<br>Southwest Williamson County Regional Park<br>3005 County Road 175, Leander, TX   |
| Bid Comments               | Williamson County seeks a qualified firm to construct additional restroom facilities, site work, related utilities, covered parking, and storage buildings at Southwest Williamson County Regional Park located at 3005 County Road 175, Leander, TX. |

#### Item Response Form

|   |  |
|---|--|
| Item                                    | 1802-215--01-01 - Total Proposal Price                     |
| Quantity                                | 1 each   |
| Unit Price                              | <input type="text"/>                                       |
| Delivery Location                       | Williamson County, Texas<br><u>No Location Specified</u>   |
|   | Qty 1  |
| <b>Description</b>                      |  |
| Total Proposal Price                    |  |
| Item                                    | 1802-215--01-02 - Please Attach All Documents To This Line |
| Quantity                                | 1 each   |
| Prices are not requested for this item. |  |



Delivery Location

**Williamson County, Texas**No Location Specified**Qty 1****Description**

Please Attach All Documents To This Line



## PUBLIC ANNOUNCEMENT AND GENERAL INFORMATION

### **WILLIAMSON COUNTY PURCHASING DEPARTMENT SOLICITATION NUMBER 1802-215**

Additional Facilities at Southwest Williamson County Regional Park

**PROPOSALS MUST BE RECEIVED ON OR BEFORE:  
Mar 16, 2018 3:00:00 PM CDT**

**PROPOSALS WILL BE PUBLICLY OPENED:  
Mar 16, 2018 3:00:00 PM CDT**

Notice is hereby given that Competitive Sealed Proposals for the above-mentioned construction services will be accepted by the Williamson County Purchasing Department. Williamson County uses BidSync to distribute and receive Proposals. Specifications for this RFCSP may be obtained by registering at [www.bidsync.com](http://www.bidsync.com).

**Williamson County prefers and requests electronic submittal of this Proposal.**

**All electronic proposals must be submitted via:** [www.bidsync.com](http://www.bidsync.com)

Electronic Proposals are requested, however paper proposals will currently still be received, until further notice and may be mailed or delivered to the address listed below.

**Respondents are strongly encouraged to carefully read this entire RFCSP.**

All interested Respondents are invited to submit a Proposal in accordance with the Instructions and General Requirements, Proposal Format, Proposal Specifications, and Definitions, Terms and Conditions stated in this RFCSP.

**Please note that a complete package must be submitted choosing one of the above two methods. Split packages where a partial submittal is received in paper and a partial submittal is received via BidSync will be considered “unresponsive” and will not be accepted or evaluated.**

**Williamson County will not accept any Proposals received after the submittal deadline, and shall return such Proposals unopened to the Respondent.**

General Information:

- If mailed or delivered in person, Proposal and Proposal addenda are to be delivered in sealed envelope on or before the submittal deadline, as noted in the Public Announcement and General Information listed above for this RFCSP, to:

Williamson County Purchasing Department  
Attn: **PROPOSAL NAME AND NUMBER**  
901 South Austin Avenue  
Georgetown, Texas 78626

- Respondents should list the Proposal Number, Proposal Name, Name and Address of Respondent, and the Date of the Proposal opening on the outside of the box or envelope and note "Competitive Sealed Proposal Enclosed."
  - Respondent should submit one (1) original.
  - Williamson County will NOT be responsible for unmarked or improperly marked envelopes.
  - Williamson County will not accept any responsibility for Proposals being delivered by third party carriers.
  - Facsimile transmittals will NOT be accepted.
- Proposals will be opened publicly and the names of the offerors and any monetary Proposals made by the offerors, will be read aloud.
  - All submitted questions with their answers will be posted and updated on [www.bidsync.com](http://www.bidsync.com).
  - It is the Respondent's responsibility to review all documents in BidSync, including any Addenda that may have been added after the document packet was originally released and posted.
    - Any Addenda and/or other information relevant to the RFCSP will be posted on [www.bidsync.com](http://www.bidsync.com).
    - The Williamson County Purchasing Department takes no responsibility to ensure any interested Respondent has obtained any outstanding addenda or additional information.



## **Williamson County – Request for Competitive Sealed Proposal (RFCSP)**

### **SECTION 1 - DEFINITIONS**

**Addendum/Addenda** – means any written or graphic instruments issued by the County prior to the consideration of Proposals which modify or interpret the Proposal Documents by additions, deletions, clarifications, or corrections.

**Agreement/Ensuing Agreement(s)** – means the Successful Respondent may be required by the County to sign an additional Agreement containing terms necessary to ensure compliance with the RFCSP and the Respondent's Proposal. Such Ensuing Agreement(s) shall contain the Proposal specifications, terms and conditions that are derived from the RFCSP.

**Contract** – means this RFCSP and the Proposal of the Successful Respondent shall become a Contract between the Successful Respondent and the County once the Successful Respondent Proposal is properly accepted by the Williamson County Commissioners Court (sometimes referred to herein as the Commissioner's Court").

**Commissioner's Court** – means the Williamson County Commissioners Court.

**County** – means Williamson County, a political subdivision of the State of Texas.

**Executive Summary** – means the document submitted by Respondent that represents a concise summary of the contents of the Proposal. It does not include any information concerning costs.

**Proposal Documents** – means the Legal Notice, RFCSP including attachments, and any Addenda issued by the County prior to the consideration of any Proposals.

**Proposal** – means the complete, properly signed document, and ALL required forms and documentation listed in the proposal package which have been submitted in accordance with this RFCSP package. A Proposal submitted in accordance with this RFCSP is irrevocable during the specified time period for evaluation and acceptance of Proposals, unless a waiver is obtained from the Williamson County Purchasing Agent.

**Respondent** – means a person or entity who submits a Proposal in response to this RFCSP.

**Request for Competitive Sealed Proposals (RFCSP)** – means this document, together with the attachments thereto and any future Addenda issued by the County.

**Successful Respondent** – means the responsible Respondent who, in the County's sole opinion, submits the Proposal which is in the best interest of the County, taking into account factors identified herein, and to whom the County intends to award the Contract.

## **SECTION 2 - RESPONSE FORMAT AND SUBMISSION**

### **2.1 INTRODUCTION**

Each Proposal submitted in response to this RFCSP should clearly reference the numbered sections of this RFCSP that require a response. Failure to arrange the Proposal as requested may result in the disqualification of the Proposal.

Though there is not a page limit for Proposals, to save natural resources including paper, and to allow the County staff to efficiently evaluate all submitted Proposals, the County requests that Proposals be orderly, concise, but comprehensive in providing the requested information. Conciseness and clarity of content are emphasized and encouraged. If mailed or delivered in person, please limit additional, non requested information.

Please provide your Proposal response using:

- A. 8 ½" x 11" pages, inclusive of any cover letter or supporting materials.
- B. The least amount of plastic/laminate or other non-recyclable binding materials.
- C. Single-sided printing.

Vague and general Proposals will be considered non-responsive, and may, at the County's sole discretion, result in disqualification. Proposals must be legible and complete. Failure to provide the required information may result in the disqualification of the Proposal. All pages of the Proposal should be numbered and the Proposal should contain an organized, paginated table of contents corresponding to the sections and pages of the Proposal.

### **2.2 ORGANIZATION OF PROPOSAL CONTENTS AND TABLE OF CONTENTS**

Each Proposal should be submitted with a table of contents that clearly identifies and denotes the location of all enclosures of the Proposal. The table of contents should follow the RFCSP's structure as much as is practical.

Each Proposal should be organized in the manner described below:

- A. Transmittal Letter. Please see Section 2.3, Transmittal Letter, for more information.
- B. Table of Contents.
- C. Executive Summary. Please see Section 2.4, Executive Summary.
- D. Proposal Response to Criteria. (Please see the sections in this RFCSP package that list the Specifications & Cost Proposal, Experience and Qualifications, References, and Implementation Strategy to respond to our criteria in a clear and concise manner)
- E. Price Sheet.
- F. References: Identification of three (3) references within the last four (4) years, for which the Respondent is providing, or has provided, the goods and/or services (public sector) of the type requested in this RFCSP. Include the name, position/title, and telephone number of a contact person at each entity.
- G. Conflict of Interest Questionnaire.

H. Proposal Affidavit (Signature Page).

- I. Attach your entities sample Contract, if applicable, for the County's review and consideration. This should include any additional terms or conditions. The County is not required to use the sample Contract submitted.

## 2.3 TRANSMITTAL LETTER

The Respondent should submit a Transmittal Letter that provides the following information:

- A. Name and address of individual or business entity submitting the Proposal.
- B. Respondent's type of business entity (i.e., Corporation, General Partnership, Limited Partnership, LLC, etc.). See Section 3.5, Signature of Respondent, for more information.
- C. Place of incorporation or organization, if applicable.
- D. Name and location of major offices and other facilities that relate to the Respondent performance under the terms of this RFCSP.
- E. Name, physical address, email address, business and fax number of the Respondent's principal contact person regarding all contractual matters relating to this RFCSP.
- F. The Respondent's Federal Employer Identification Number.
- G. A commitment by the Respondent to provide the services required by the County;
- H. A statement that the Proposal is valid for the time specified on page three (3), under the section named *Prices Good for*, of this Proposal packet. Any Proposal containing a term of less than the required amount, may at the County's sole discretion, be rejected as non-responsive.
- I. If the Proposal being submitted will have an effect on air quality for the County (as it relates to any state, federal, or voluntary air quality standard), then the Respondent is encouraged to provide information in narrative indicating the anticipated air quality impact. See Section 4.40, Air Quality for more information.

The Transmittal Letter should be signed by a person legally authorized to bind the Respondent to the representations in the Transmittal Letter and the Proposal. In the case of a joint Proposal, each party must sign the Transmittal Letter.

## 2.4 EXECUTIVE SUMMARY

The Respondent should provide an Executive Summary of its Proposal that asserts that the Respondent is providing in its response all of the requirements of this RFCSP. The Executive Summary should not include any information concerning the cost of the Proposal, but instead must represent a full and concise summary of the contents of the Proposal. It is recommended the Executive Summary include the following information:

- A. Identify any goods and/or services that are provided beyond those specifically requested. If the Respondent is providing services and/or goods that do not meet the specific requirements of this RFCSP, but in the opinion of the Respondent are equivalent or superior to those specifically requested, any such differences should be noted in the Executive Summary. However, the Respondent must realize that failure to provide the goods and/or services specifically required, at the County's sole discretion, may result in disqualification of the Proposal.

- B. Indicate why the Respondent believes that it is the most qualified Respondent to provide the services described in this RFCSP. The Successful Respondent must demonstrate extensive experience and understanding of the intent of this project. The Respondent should describe in detail the current and historical experience the Respondent and its subcontractors have that would be relevant to completing the project. References must contain the name of key personnel and telephone numbers for each contact, as described in Section 3.14, References.
- C. Briefly state why the Respondent believes its proposed goods and/or services best meet the County's needs and RFCSP requirements, and the Respondent also should concisely describe any additional features, aspects, or advantages of its goods and/or services in any relevant area not covered elsewhere in its Proposal.

## 2.5 CONFLICT OF INTEREST

No public official shall have interest in a contract, in accordance with Vernon's Texas Codes Annotated, Local Government Code, Title 5, Subtitle C, Chapter 171, as amended.

As of January 1, 2006, all Respondents are responsible for complying with Local Government Code, Title 5, Subtitle C, Chapter 176. Additional information may be obtained from the County's website at the following link:

<http://www.wilco.org/CountyDepartments/Purchasing/ConflictofInterestDisclosure/tabid/689/language/en-US/Default.aspx>

Each Respondent must disclose any existing or potential conflict of interest relative to the performance of the requirements of this RFCSP. **Examples of potential conflicts of interest may include an existing business or personal relationship between the Respondent, its principal, or any affiliate or subcontractor with the County or any other entity or person involved in any way with the project that is subject to this RFCSP.** Similarly, any personal or business relationship between the Respondent, the principals, or any affiliate or subcontractor with any employee, or official of the County or its suppliers must be disclosed. Any such relationship that might be perceived or represented as a conflict must be disclosed. Failure to disclose any such relationship or reveal personal relationships with the County employees or officials may be cause for termination.

The County will decide if an actual or perceived conflict should result in Proposal disqualification.

By submitting a Proposal in response to this RFCSP, all Respondents affirm they have not given, nor intend to give, at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a County public servant or any employee, official or representative of same, in connection with this procurement.

**Each Respondent must provide a Conflict of Interest Statement.**

## 2.6 CERTIFICATE OF INTERESTED PARTIES – FORM 1295

As of January 1, 2016, all Respondents are responsible for complying with the Texas Government Code, Section 2252.908. The law states that the County may not enter into certain contracts with a Respondent unless the Respondent submits a disclosure of interested parties to the County at the time the Respondent submits the signed contract. The law applies only to a contract of the County on or after January 1, 2016 that either:

- A. Requires an action or vote by the Commissioners Court before the contract may be signed (all contracts that fall under the jurisdiction of the Commissioners Court approval, such as contracts resulting from an Initiation for Bid (IFB), RFCSP, Request for Qualifications (RFQ), etc., excluding, but not limited to, certain Juvenile Service contracts, contracts funded with Sheriff

- seized fun monies, etc.); or
- B. Has a value of at least \$1,000,000.

By January 1, 2016, the Texas Ethics Commission will make available on its website, a new filing application that must be used to file Form 1295. Information regarding how to use the filing application is available on the Texas Ethics Commission website at the following link:

[https://www.ethics.state.tx.us/whatsnew/elf\\_info\\_form1295.htm](https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm)

A Respondent must:

- A. Use the online application to process the required information on Form 1295.
- B. Print a copy of the form which will contain a unique certification number.
- C. An authorized agent of the Respondent must sign the printed copy of the form.
- D. Have the form notarized.
- E. File the completed Form 1295 and certification of filing (scanning and emailing form is sufficient) with Williamson County Purchasing Agent at the time the signed Contract is submitted for approval.

After the Commissioners Court award of the contract, the County shall notify the Texas Ethics Commission, using the Texas Ethics Commission's filing application, of the receipt of the filed Form 1295 and certification of filing not later than the 30th day after the date the contract binds all parties to the contract. The Texas Ethics Commission will post the completed Form 1295 to its website within seven business days after receiving notice from the County.

## **2.7 PROPOSAL SUBMITTAL DEADLINE**

The Proposal is due no later than the submittal date and time set forth in the Public Announcement and General Information listed in this RFCSP package. Contents of each Proposal shall be submitted in accordance with this RFCSP.

## **2.8 ETHICS**

The Respondent shall not accept or offer gifts or anything of value, nor enter into any business arrangement with any employee, official or agent of the County.

## **2.9 DELIVERY OF PROPOSALS**

The County uses BidSync to distribute and receive bids and Proposals. It is preferred that Proposals be submitted electronically through BidSync; however, Respondents can submit a hard copy.

Refer to [www.bidsync.com](http://www.bidsync.com) for further information on how to submit electronically.

If mailed or delivered in person, Proposal and Proposal Addenda are to be delivered in sealed envelope on or before the submittal deadline, as noted in the Public Announcement and General Information listed in this RFCSP package, to:

Williamson County Purchasing Department  
Attn: **Proposal Name and Number**  
901 South Austin Avenue  
Georgetown, Texas 78626



Also, all Respondents should list their Name and Address, and the Date of the Proposal opening on the outside of the box or envelope and note "Competitive Sealed Proposal Enclosed." Williamson County will not accept any Proposals after the submittal deadline, and shall return such Proposals unopened to the Respondent. The County will not accept any responsibility for Proposals being delivered by third party carriers.

Proposals will be opened publicly and the names of the offerors and any monetary proposals made by the offerors, will be read aloud.

## **SECTION 3 - INSTRUCTIONS AND GENERAL REQUIREMENTS**

### **3.1 INSTRUCTIONS**

Read this document carefully, and follow all instructions and requirements. All Respondents are responsible for fulfilling all requirements and specifications. Be sure to have a clear understanding of this RFCSP.

General requirements apply to all advertised RFCSPs; however, these may be superseded, in whole or in part, by the proposal specifications, Addenda and modifications issued as a part of this RFCSP. Be sure your Proposal package is complete.

### **3.2 AMBIGUITY, CONFLICT, OR OTHER ERRORS IN THIS RFCSP**

If a Respondent discovers any ambiguity, conflict, discrepancy, omission or other error in this RFCSP, the Respondent shall immediately notify the County Purchasing Department of such error in writing and request modification or clarification of the document.

Modifications will be made by issuing Addenda. If the Respondent fails to notify the County prior to the date and time fixed for submission of Proposals of an error or ambiguity in the RFCSP known to the Respondent, or an error or ambiguity that reasonably should have been known to the Respondent, then the Respondent shall be deemed to have waived the error or ambiguity or its later resolution.

The County may also modify the RFCSP, no later than forty-eight (48) hours prior to the date and time fixed for submission of Proposals, by issuance of an Addendum. All Addenda will be numbered consecutively, beginning with one (1).

### **3.3 NOTIFICATION OF MOST CURRENT ADDRESS**

All Respondents in receipt of this RFCSP shall notify the Williamson County Purchasing Department any address changes, contact person changes, and/or telephone number changes no later than forty eight (48) hours prior to the date and time fixed for submission of Proposals.

### **3.4 SIGNATURE OF RESPONDENT**

A Transmittal Letter, which shall be considered an integral part of the Proposal as stated in Section 2.3, Transmittal Letter, shall be signed by an individual who is authorized to bind the Respondent contractually.

- A. If the Respondent is a Corporation or Limited Liability Company, the legal name of the Corporation or Limited Liability Company shall be provided together with the signature of the officer or officers authorized to sign on behalf of such entity.
- B. If the Respondent is a General Partnership, the true name of the firm shall be provided with the signature of each partner authorized to sign.
- C. If the Respondent is a Limited Partnership, the name of the Limited Partner's General Partner shall be provided with the signature of the officer authorized to sign on behalf of the General Partner.
- D. If the Respondent is a Sole Proprietor(s) (individual), each Sole Proprietor(s) shall sign.
- E. If signature is by an agent, other than the Sole Proprietor(s) or an officer of a Corporation, Limited Liability Company, General Partner or a member of a General Partnership, a power of attorney equivalent document must be submitted to the Williamson County Purchasing Department.

### **3.5 ASSUMED BUSINESS NAME**

If the Respondent operates business under an Assumed Business Name, the Respondent must have file with the Williamson County Clerk a current Assumed Name Certificate and provide a file marked copy of same prior to contract award.

### **3.6 ECONOMY OF PRESENTATION**

Proposals should not contain promotional or display materials, except as they may directly answer in whole or in part questions contained in the RFCSP. Such exhibits shall be clearly marked with the applicable reference number of the question in the RFCSP. Proposals must address the technical requirements as specified in the RFCSP. All questions posed by the RFCSP must be answered concisely and clearly. Proposals that do not address each criterion may be, at the sole discretion of the County, rejected and not considered.

### **3.7. REJECTION OR ACCEPTANCE**

It is understood that the Commissioners Court of Williamson county, Texas, reserves the right to accept or reject any and/or all proposals for any or all materials and/or services covered in the RFP, and to waive informalities or defects in the proposal or to accept such proposal it shall deem to be in the best interest of Williamson County.

### **3.8 PROPOSAL OBLIGATION**

The contents of the RFCSP, Proposal, and any clarification thereof submitted by the Successful Respondent shall become part of the contractual obligation and incorporated by reference into the Contract and any Ensuing Agreement(s).

### **3.9 COMPLIANCE WITH RFCSP SPECIFICATIONS**

It is intended that this RFCSP describe the requirements and the Proposal format in sufficient detail to secure comparable Proposal. Failure to comply with all provisions of the RFCSP may, at the sole discretion of the County, result in disqualification.

### **3.10 EVALUATION**

The County reserves the right to use all pertinent information (also learned from sources other than disclosed in the RFCSP process) that might affect the County's judgment as to the appropriateness an award to the best evaluated Respondent. This information may be appended to the Proposal evaluation process results. Information on a Respondent from reliable sources, and not within the Respondent's Proposal, may also be noted and made part of the evaluation file. The County shall have sole discretion for determining the reliability of the source. The County reserves the right to conduct written and/or oral discussions/interviews after the Proposal opening. The purpose of such discussions/interviews is to provide clarification and/or additional information to make an award that is in the best interest of the County.

### **3.11 WITHDRAWAL OF PROPOSAL**

The Respondent may withdraw its Proposal by submitting a written request with the company letterhead and the signature of an authorized individual, as described in Section 3.4, Signature of Respondent, to the Williamson County Purchasing Department any time prior to the submission deadline.

The Respondent may submit a new Proposal prior to the deadline. Alterations of the Proposal in any manner will not be considered if submitted after the deadline. Withdrawal of a Proposal after the deadline will be subject to written approval of the Williamson County Purchasing Agent.

### **3.12 RESPONSIBILITY**

It is expected that a Respondent will be able to affirmatively demonstrate responsibility. A prospective Respondent should be able to meet the following requirements:

- A. Have adequate financial resources, or the ability to obtain such resources as required;
- B. Be able to comply with the required or proposed delivery schedule;
- C. Have a satisfactory record of performance that can be determined thru references provided; and
- D. Be otherwise qualified and eligible to receive an award.

The County may request representation and other information sufficient to determine the Respondent ability to meet these minimum standards listed above.

### **3.13 PURCHASE ORDERS**

If required by the Williamson County Purchasing Department, a purchase order(s) may be generated to the Successful Respondent for goods and/or services. If a purchase order is issued, the purchase order number must appear on all itemized invoices and/or requests for payment.

### **3.14 SILENCE OF SPECIFICATIONS**

The apparent silence of any RFCSP specifications as to any detail or to the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best practices are to prevail. All interpretations of these specifications shall be made on the basis of this statement.

### **3.15 REFERENCES**

Respondents shall furnish a list of contracts where similar responsibilities and goods and/or services have been required and/or performed for the past five (5) years, to include names, titles, phone numbers and email addresses of reference contacts, contract numbers and dates of performance.

Also, Respondents shall include a list of any contracts that have been cancelled or terminated within the last five (5) years, along with an explanation of the cancellation and the names, email address and phone number of a reference person with that institution.

The County may contact some or all of the references in order to determine the Respondent performance record on work similar to that described in this RFCSP. The County reserves the right to contact references other than those provided in the response and to use the information gained from them in the evaluation process.

References should be provided in accordance with this RFCSP. Proposal may not be deemed complete without the inclusion of requested references.

## **SECTION 4 - TERMS AND CONDITIONS**

### **4.1 VENUE AND GOVERNING LAW**

The Respondent hereby agrees and acknowledges that venue and jurisdiction of any suit, right, or cause of action arising out of or in connection with this RFCSP, the Contract and any Ensuing Agreement(s), shall lie exclusively in either Williamson County, Texas or in the Austin Division of the Western Federal District of Texas, and the parties hereto expressly consent and submit to such jurisdiction. Furthermore, except to the extent that this RFCSP, the Contract and any Ensuing Agreement(s) is governed by the laws of the United States, this RFCSP, the Contract and any Ensuing Agreement(s) shall be governed by and construed in accordance with the laws of the State of Texas, excluding, however, its choice of law rules.

### **4.2 INCORPORATION BY REFERENCE AND PRECEDENCE**

- A. The Contract shall be derived from the RFCSP and its Addenda (if applicable), and the Respondent's Proposal. In the event of a dispute under the Contract, applicable documents will be referred to for the purpose of clarification or for additional detail in the following order of precedence:
  - 1. The RFCSP and its Addenda (if applicable); and
  - 2. The Respondent's Proposal.
- B. In the event the County requires that an Ensuing Agreement be executed following award and a dispute arises between the terms and conditions of the Ensuing Agreement, the RFCSP and its Addenda (if applicable), and the Respondent's Proposal, applicable documents will be referred to for the purpose of clarification or for additional detail in the following order of precedence:
  - 1. The terms and conditions of the Ensuing Agreement;
  - 2. The RFCSP and its Addenda; and
  - 3. The Respondent's Proposal.

### **4.3 OWNERSHIP OF PROPOSAL**

Each Proposal shall become the property of the County upon submittal and will not be returned to Respondents unless received after the submittal deadline.

### **4.4 DISQUALIFICATION OF RESPONDENT**

Upon signing and submittal of the Proposal, a Respondent offering to sell supplies, materials, services, or equipment to the County, certifies that the Respondent has not violated the antitrust laws of the State of Texas codified in Business & Commerce Code, Section 15.01, or the Federal Antitrust Laws, and has not communicated directly or indirectly the offer made to any competitor or any other person engaged such line of business. Any or all Proposals may be rejected if the County believes that collusion exists among the Respondents.

## 4.5 FUNDING

The County intends to budget and make sufficient funds available and authorize funds for expenditure to finance the costs of the Contract. All Respondents understand and agree that the County's payment of amounts under the Contract shall be contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to make payments under this Contract.

### A. ASSIGNMENT, SUCCESSORS AND ASSIGNS

The Successful Respondent may not assign, sell, or otherwise transfer the Contract or any other rights or interests obtained under the Contract without written permission of the Williamson County the Commissioners Court. The Contract and any Ensuing Agreement(s) shall be binding upon and inure to the benefit of the contracting parties hereto and their respective successors and permitted assigns.

## 4.6 IMPLIED REQUIREMENTS

Products or services not specifically described or required in the RFCSP, but are necessary to provide the functional capabilities described by the Respondent, shall be implied and deemed to be included in the Proposal.

## 4.7 TERMINATION

- A. Termination for Cause:** The County reserves the right to terminate the Contract and/or any Ensuing Agreement(s) for default if the Successful Respondent breaches any of the Proposal specifications, terms and conditions, including warranties of the Respondent, if any, or if the Successful Respondent becomes insolvent or commits acts of bankruptcy. Such right of termination is in addition to and not in lieu of any other remedies the County may have at law or equity or as may otherwise be provided hereunder. Default may be construed as, but not limited to, failure to deliver the proper goods and/or services within the proper amount of time, and/or to properly perform any and all other requirements to the County's satisfaction, and/or to meet all other obligations and requirements.
- B. Termination for Convenience:** The County may terminate the Contract and/or any Ensuing Agreement(s) for convenience and without cause or further liability, upon no less than thirty (30) calendar days written notice to the Successful Respondent. The County reserves the right to extend this period if it is in the best interest of the County. In the event the County exercises its right to terminate without cause, it is understood and agreed that only the amounts due to the Successful Respondent for goods, commodities and/or services provided and expenses incurred to and including the date of termination, will be due and payable. No penalty will be assessed for the County's termination for convenience.

## 4.8 NON-PERFORMANCE

It is the objective of the County to obtain complete and satisfactory performance of the requirements set forth herein. In addition to any other remedies available at law, in equity or that may be set out herein, failure to perform may result in a deduction of payment equal to the amount of the goods and/or services that were not provided and/or performed to the County's satisfaction.

In the event of such non-performance, the County shall have the right, but shall not be obligated, to complete the services itself or by others and/or purchase the goods from other sources. If the County elects to acquire the goods or perform the services itself or by others, pursuant to the foregoing, the Successful Respondent shall reimburse the County, within ten (10) calendar days of demand, for all costs incurred by the County (including, without limitation, applicable, general, and administrative expenses, and field overhead, and the cost of necessary equipment, materials, and field labor) in correcting the nonperformance which the Successful Respondent fails to meet pursuant to the requirements set out herein. In the event the Successful Respondent refuses to reimburse the County as set out in this provision, the County shall have the right to deduct such reimbursement amounts from any amounts that may be then owing or that may become owing in the future to the Successful Respondent.

#### **4.9 PROPRIETARY INFORMATION AND THE TEXAS PUBLIC INFORMATION ACT**

All material submitted to the County shall become public property and subject to the Texas Public Information Act upon receipt. If a Respondent does not desire proprietary information in the Proposal to be disclosed, each page must be clearly identified and marked proprietary at time of submittal or, more preferably, all proprietary information may be placed in a folder or appendix and be clearly identified and marked as being proprietary. Failure to clearly identify and mark information as being proprietary as set forth under this provision will result in all unmarked information being deemed non-proprietary and available to the public. For all information that has not been clearly identified and marked as proprietary by the Respondent, the County may choose to place such information on the County's website and/or a similar public database without obtaining any type of prior consent from the Respondent.

The County will, to the extent allowed by law, endeavor to protect from public disclosure the information that has been identified and marked as proprietary. The final decision as to what information must be disclosed, however, lies with the Texas Attorney General.

To the extent, if any, that any provision in this RFCSP or in the Respondent's Proposal is in conflict with Texas Government Code, Chapter 552, as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood, and agreed, that the County, and its officers and employees, may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any items or data furnished to the County as to whether or not the same are available to the public. It is further understood that that the County, and its officers and employees, shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that the County, its officers and employees shall have no liability or obligation to any party hereto for the disclosure to the public, or to any person or persons, of any items or data furnished to the County by a party hereto, in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

#### **4.10 RIGHT TO AUDIT**

The Successful Respondent agrees that the County or its duly authorized representatives shall, until the expiration of three (3) years after termination or expiration of the services to be performed, have access to and the right to examine and photocopy any and all books, documents, papers and records of the Successful Respondent, which are directly pertinent to the services to be performed or goods to be delivered for the purposes of making audits, examinations, excerpts and transcriptions. The Successful Respondent agrees that the County shall have access during normal working hours to all necessary facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. The County shall give the Successful Respondent reasonable advance notice of intended audits.

#### **4.11 TESTING AND INSPECTIONS**

The County reserves the right to inspect and test equipment, supplies, materials and goods for quality and compliance with this RFCSP, and ability to meet the needs of the user. Demonstration units must be available for review. Should the goods or services fail to meet requirements and/or be unavailable for evaluation, the County can deem the Respondent to be in breach and terminate the Contract and/or any Ensuing Agreement(s).

#### **4.12 PROPOSAL PREPARATION COSTS**

The cost of developing Proposals is the sole responsibility of the Respondents and shall not be charged to the County. There is no expressed or implied obligation for the County to reimburse the Respondents for any expense incurred in preparing a Proposal in response to this RFCSP and the County will not reimburse the Respondents for such expenses.

#### **4.13 INDEMNIFICATION**

The Successful Respondent shall indemnify, defend and save harmless, the County, its officials, employees, agents and agent's employees from, and against, all claims, liability, and expenses including reasonable attorneys' fees, arising from activities of the Respondent, its agents, servants or employees, performed hereunder that result from the negligent act, error, or omission of the Respondent or any of the Respondent's agents, servants or employees, as well as all claims of loss or damage to the Respondent's and the County's property, equipment, and/or supplies.

Furthermore, the County, its officials, employees, agents and agents' employees shall not be liable for damages to the Successful Respondent arising from any act of any third party, including, but not limited to, theft. The Successful Respondent further agrees to indemnify, defend and save harmless, the County from its officials, employee, agents and agents' employees against all claims of whatever nature arising from any accident, injury, or damage whatsoever, caused to any person, or the property of any person, occurring in relation to the Successful Respondent's performance of any services requested hereunder during the term of the Contract and/or any Ensuing Agreement(s).

The Successful Respondent shall timely report all claims, demands, suits, actions, proceedings, liens or judgements to the County and shall, upon the receipt of any claim, demand, suit, action, proceeding, lien or judgement, not later than the fifteenth (15<sup>th</sup>) day of each month; provide the County with a written report on each such matter, setting forth the status of each matter, the schedule or planned proceedings with respect to each matter and the cooperation or assistance, if any, of the County required by the Successful Respondent in the defense of each matter. The Successful Respondent's duty to defend, indemnify and hold the County harmless shall be absolute. It shall not abate or end by reason of the expiration or termination of the Contract and/or any Ensuing Agreement(s), unless otherwise agreed by the County in writing. The provisions of this section shall survive the termination of the Contract and shall remain in full force and effect with respect to all such matters no matter when they arise.

In the event of any dispute between the parties, as to whether a claim, demand, suit, action, proceeding, lien or judgement, that appears to have been caused by or appears to have arisen out of or in connection with acts or omissions of the County, the Respondent shall nevertheless fully defend such claim, demand, suit or action, proceeding, lien or judgement, until and unless there is a determination by a court of competent jurisdiction that the acts and omissions of the Respondent are not an issue in the matter.

The Successful Respondent's indemnification shall cover, and the Successful Respondent agrees to, indemnify the County, in the event the County is found to have been negligent for having selected the Successful Respondent to perform the work described in this request. The provision by the Successful Respondent of insurance shall not limit the liability of the Successful Respondent under the Contract and/or any Ensuing Agreement(s).



#### **4.14 WAIVER OF SUBROGATION**

The Successful Respondent and the Successful Respondent's insurance carrier waive any and all rights whatsoever with regard to subrogation against the County as an indirect party to any suit arising out of personal or property damages resulting from the Respondent's performance under this Contract and any Ensuing Agreement(s).

#### **4.15 RELATIONSHIP OF THE PARTIES**

The Successful Respondent shall be an independent contractor and shall assume all of the rights, obligations, liabilities, applicable to it as such independent contractor hereunder and any provisions herein which may appear to give the County the right to direct the Successful Respondent as to details of doing work herein covered, or to exercise a measure of control over the work, shall be deemed to mean that the Successful Respondent shall follow the desires of the County in the results of the work only. The County shall not retain or have the right to control the Successful Respondent's means, methods or details pertaining to the Successful Respondent's performance of the work. The County and the Successful Respondent hereby agree and declare that the Successful Respondent is an independent contractor and as such meets the qualifications of an "Independent Contractor" under Texas Workers Compensation Act, Texas Labor Code, Section 406.141, that the Successful Respondent is not an employee of the County, and that the Successful Respondent and its employees, agents and subcontractors shall not be entitled to workers compensation coverage or any other type of insurance coverage held by the County.

#### **4.16 SOLE PROVIDER**

The Successful Respondent agrees and acknowledges that it shall not be considered a sole provider of the goods and/or services described herein and that the County may contract with other providers of such goods and/or services if the County deems, at its sole discretion, that multiple providers of the same goods and/or services will serve the best interest of the County.

#### **4.17 FORCE MAJEURE**

If the party obligated to perform is prevented from performance by an act of war, order of legal authority, act of God, or other unavoidable cause not attributable to the fault or negligence of said party, the other party shall grant such party relief from the performance. The burden of proof for the need of such relief shall rest upon the party obligated to perform. To obtain release based on force majeure, the party obligated to perform shall file a written request with the other party.

#### **4.18 SEVERABILITY**

If any provision of this RFCSP, the Contract or any Ensuing Agreement(s) shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision thereof, but rather the entire RFCSP, Contract or any Ensuing Agreement(s) will be construed as if not containing the particular invalid or unenforceable provision or provisions, and the rights and obligation of the parties shall be construed and enforced in accordance therewith. The parties acknowledge that if any provision of this RFCSP, the Contract or any Ensuing Agreement(s) is determined to be invalid or unenforceable, it is the desire and intention of each that such provision be reformed and construed in such a manner that it will, to the maximum extent practicable, give effect to the intent of this RFCSP, the Contract or any Ensuing Agreement(s) and be deemed to be validated and enforceable.

#### **4.19 EQUAL OPPORTUNITY**

Neither party shall discriminate against any employee or applicant for employment because of race, color, sex, religion or national origin.

#### **4.20 NOTICE**

Any notice to be given shall be in writing and may be distributed by personal delivery, or by registered or certified mail, return receipt requested, addressed to the proper party, at the following address:

The County: Williamson County Purchasing Department  
Attn: Purchasing Agent  
901 South Austin Avenue  
Georgetown, Texas 78626

The Respondent: Address set out in Respondent's Transmittal Letter

Notices given in accordance with this provision shall be effective upon (1) receipt by the party to which notice is given, or (2) on the third (3rd) calendar day following mailing, whichever occurs first.

#### **4.21 SALES AND USE TAX EXEMPTION**

The County is a body, corporate and politic, under the laws of the State of Texas and claims exemption from sales and use taxes under Texas Tax Code, Section 151.309, as amended, and the services and/or goods subject hereof are being secured for use by the County.

#### **4.22 COMPLIANCE WITH LAWS**

The County and the Successful Respondent shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of the Contract and any Ensuing Agreement(s), including, without limitation, Workers' Compensation laws, salary and wage statutes and regulations, licensing laws and regulations. When required, the Successful Respondent shall furnish the County with certification of compliance with said laws, statutes, ordinances, rules, regulations, orders, and decrees above specified.

#### **4.23 INCORPORATION OF EXHIBITS, APPENDICES AND ATTACHMENTS**

All of the Exhibits, Appendices and Attachments referred to herein are incorporated by reference as if set forth verbatim herein. Any conflicting terms in the Contract documents will be resolved at the sole discretion of the Commissioners Court.

#### **4.24 NO WAIVER OF IMMUNITIES**

Nothing herein shall be deemed to waive, modify or amend any legal defense available at law or in equity to the County, its past or present officers, employees, or agents, nor to create any legal rights or claim on behalf of any third party. The County does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

#### **4.25 NO WAIVER**

The failure or delay of any party to enforce at any time or any period of time any of the provisions of this RFCSP, the Contract or any Ensuing Agreement(s) shall not constitute a present or future waiver of such provisions nor the right of either party to enforce each and every provision. Furthermore, no term or provision hereof shall be deemed waived and no breach excused unless such waiver or consent shall be in writing and signed by the party claimed to have waived or consented. Any consent by any party to, or waiver of, a breach by the other, whether expressed or implied, shall not constitute a consent to, waiver of or excuse for any other, different or subsequent breach.

#### **4.26 CURRENT REVENUES**

The obligations of the parties under the Contract and any Ensuing Agreement(s) do not constitute a general obligation or indebtedness of the County for which the County is obligated to levy, pledge, or collect any of taxation. It is understood and agreed that the County shall have the right to terminate the Contract and any Ensuing Agreement(s) at the end of any the County fiscal year if the governing body of the County does not appropriate sufficient funds as determined by the County's budget for the fiscal year in question. The County may effect such termination by giving written notice of termination to the Successful Respondent at the end of its then-current fiscal year.

#### **4.27 BINDING EFFECT**

This Contract and any Ensuing Agreement(s) shall be binding upon and inure to the benefit of the parties and their respective permitted assigns and successors.

#### **4.28 SAFETY**

The Successful Respondent is responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with any services to be provided hereunder. The safety program shall comply with all applicable requirements of the current federal Occupational Safety and Health Act and all other applicable federal, state and local laws and regulations.

#### **4.29 GENERAL OBLIGATIONS AND RELIANCE**

The Successful Respondent shall perform all services and/or provide all goods, as well as those reasonably inferable and necessary for completion and provision of services and/or goods required hereunder. The Successful Respondent shall keep the County informed of the progress and quality of the services. The Successful Respondent agrees and acknowledges that the County is relying on the Successful Respondent's represented expertise and ability to provide the goods and/or services described herein. The Successful Respondent agrees to use its best efforts, skill, judgment, and abilities to perform its obligations in accordance with the highest standards used in the profession and to further the interests of the County in accordance with the County's requirements and procedures. The Successful Respondent's duties, as set forth herein, shall at no time be in any way diminished by reason of any approval by the County, nor shall the Successful Respondent be released from any liability by reason of such approval by the County, it being understood that the County at all times is ultimately relying upon the Successful Respondent's skill and knowledge in performing the services and providing any goods required hereunder.

#### **4.30 CONTRACTUAL DEVELOPMENT**

The Commissioners Court may award the Contract on the basis of the initial Proposals received, without any further or additional discussions. Therefore, each initial Proposal should contain the Respondent's best terms and offer. The contents of the RFCSP and the selected Proposal will become an integral part of the Contract, but may be modified, at Williamson County's sole discretion, by provisions of an Ensuing Agreement. Therefore, the Respondent must agree to inclusion in an Ensuing Agreement of the Proposal specifications, terms and conditions of this RFCSP. Williamson County and its architect or engineer may discuss with the Successful Respondent options for a scope or time modification and any price change associated with the modification. In the event such discussions are conducted and Williamson County and the Successful Respondent cannot agree to scope or time modifications and any price change associated with such modifications, the County may still opt to contract with the Successful Respondent based on the selected Respondent's original Proposal to the RFCSP.

The Successful Respondent shall be required to execute a formal contract at Williamson County offices in Georgetown, Texas within ten (10) days after the award. Said contract shall be in the same form as the Agreement Between Owner and Contractor which begins on the following page. The only anticipated changes in the contract will be to include additional exhibits, to fill in blanks to identify the contractor, and terms relating to the compensation, or to revise the contract to accommodate corrections, changes in the scope of services, or changes pursuant to addenda issued. Respondents should raise any questions regarding the terms of the contract, or submit requested changes in said terms, in the form of written questions or submittals. Because the signed contract will be substantively and substantially derived from the attached contract, each Respondent is urged to seek independent legal counsel as to any questions about the terms, conditions or provisions contained in the attached contract before submitting a Proposal. Again, the attached contract contains important legal provisions and is considered part and parcel of this RFCSP. Failure or refusal to sign aforesaid contract shall be grounds for Williamson County to revoke any award which has been issued, forfeit security, if applicable, and select another Respondent.

#### **4.31 ENTIRE AGREEMENT**

The Contract and any Ensuing Agreement(s) shall supersede all prior Agreements, written or oral between the Successful Respondent and the County and shall constitute the entire Agreement and understanding between the parties with respect to the services and/or goods to be provided. Each of the provisions herein shall be binding upon the parties and may not be waived, modified, amended or altered, except by writing signed by the Successful Respondent and the County.

#### **4.32 SURVIVABILITY**

All applicable agreements that were entered into between the Successful Respondent and the County, under the terms and conditions of the Contract and/or any Ensuing Agreement(s), shall survive the expiration or termination thereof for ninety (90) days unless a new contract has been awarded.

The County may exercise, by written notice to the Successful Respondent no later than ten (10) calendar days of the Contract expiration, this clause for emergency cases only.

#### **4.33 PAYMENT**

The County's payment for goods and services shall be governed by the Texas Government Code, Chapter 2251. An invoice shall be deemed overdue the thirty-first (31<sup>st</sup>) day after the later of the following:

- A. The date the County receives the goods under the Contract;
- B. The date the performance of the service under the Contract is completed; or
- C. The date the Williamson County Auditor receives an invoice for the goods or services.

Interest charges for any overdue payments shall be paid by the County in accordance with Texas Government Code, Section 2251.025. More specifically, the rate of interest that shall accrue on a late payment is the rate in effect on September 1 of the County's fiscal year in which the payment becomes due. The said rate in effect on September 1 shall be equal to the sum of one (1) percent and the prime rate published in the Wall Street Journal on the first (1<sup>st</sup>) day of July of the preceding fiscal year that does not fall on a Saturday or Sunday.

In the event that an error appears in an invoice submitted by the Successful Respondent, the County shall notify the Successful Respondent of the error not later than the twenty-first (21st) day after the date the County receives the invoice. If the error is resolved in favor of the Successful Respondent, the Successful Respondent shall be entitled to receive interest on the unpaid balance of the invoice submitted by the Successful Respondent beginning on the date that the payment for the invoice became overdue. If the error is resolved in favor of the County, the Successful Respondent shall submit a corrected invoice that must be paid in accordance within the time set forth above. The unpaid balance accrues interest as provided by the Texas Government Code, Chapter 2251, if the corrected invoice is not paid by the appropriate date.

As a minimum, invoices shall include:

- A. Name, address, and telephone number of the Successful Respondent and similar information in the event the payment is to be made to a different address.
- B. The County Contract, Purchase Order.
- C. Identification of items or service as outlined in the Contract.
- D. Quantity or quantities, applicable unit prices, total prices and total amount.
- E. Any additional payment information which may be called for by the Contract.

Payment inquiries should be directed to the following address:

Williamson County Auditor's Office, Accounts Payable Department  
Email: [accountspayable@wilco.org](mailto:accountspayable@wilco.org)  
Phone: 512-943-1500

#### **4.34 CONTRACTUAL FORMATION AND ENSUING AGREEMENT**

The RFCSP and the Respondent's Proposal, when properly accepted by the Commissioners Court, shall constitute a Contract equally binding between the Successful Respondent and the County. The Successful Respondent may be required by Williamson County to sign an additional Agreement containing terms necessary to ensure compliance with the RFCSP and Respondent's Proposal.

#### **4.35 LEGAL LIABILITY INFORMATION**

The Successful Respondent shall disclose all legal liability information by listing any pending litigation anticipated litigation that your firm is involved in including, but not limited to, potential or actual legal matters with private parties and any local, state, federal or international governmental entities. The County reserves the right to consider legal liability information in the recommendation of any proposed contract to the Commissioners Court.

#### **4.36 CONFIDENTIALITY**

Respondent expressly agrees that it will not use any direct or incidental confidential information that may be obtained while working in a governmental setting for its own benefit, and agrees that it will not access unauthorized areas or confidential information and it will not disclose any information to unauthorized third parties, and will take care to guard the security of the information at all times.

#### **4.37 INCLEMENT WEATHER**

In case of inclement weather or any other unforeseen event causing the County to close for business on the date of a Proposal submission deadline, the Proposal closing will automatically be postponed until the next business day the County is open. If inclement weather conditions or any other unforeseen event causes delays in carrier service operations, the County may issue an Addendum to all known Respondents interested in the project to extend the deadline. It will be the responsibility of the Respondent to notify the County of their interest in the project if these conditions are impacting their ability to turn in a submission within the stated deadline. The County reserves the right to make the final judgement call to extend any deadline.

#### **4.38 AIR QUALITY**

In determining the overall best Proposal, the County may, to the extent applicable, exercise the option granted to local governments under the Texas Local Government Code, Section 271.907.

This option allows the County to evaluate Proposals and give preference to goods and/or services of Respondent that demonstrates that the Respondent meets or exceeds any and all state or federal environmental standards, including voluntary standards, relating to air quality. If the Proposal being submitted will have an effect on air quality for the County (as it relates to any state, federal, or voluntary air quality standard), then the Respondent is encouraged to provide information in narrative indicating anticipated air quality impact. All Respondents are expected to meet all mandated state and federal air quality standards.

#### **4.39 COOPERATIVE PURCHASING PROGRAM**

During the term of the Contract resulting from this RFCSP, the County would like to afford the same prices, terms and conditions to other political subdivisions or public entities. Another entity's participation in the Contract resulting from this RFCSP is subject to a properly authorized Purchasing Cooperative Inter-local Agreement (ILA) with the County. Any liability created by purchase orders issued against the Contract shall be the sole responsibility of the governmental agency placing the order.

#### **4.40 PREVAILING WAGE RATES**

To the extent this procurement is for the construction of a public work, including a building, highway, road, excavation, and repair work or other project development or improvement, paid for in whole or in part from public funds, without regard to whether the work is done under public supervision or direction, Texas Government Code, Chapter 2258, shall apply and the contractor shall pay not less than the wage scale of the various classes of labor as shown on the "Prevailing Wage Schedule" provided by the County. Pursuant to Texas Government Code, Section 2258.022(a)(2), the County has determined the general prevailing rate of the "Prevailing Wage Schedule" in the locality in which the public work is to be performed for each craft or type of worker needed to execute the contract and the prevailing rate for legal holiday and overtime work by using the prevailing wage rate as determined by the United States Department of Labor in accordance with the United States Code, Section 276a (Davis-Bacon Act).

The specified wage rates are minimum rates only, and are not representations that qualified labor adequate to perform the work is available locally at the prevailing wage rates. The County is not bound to pay—and will not consider—any claims for additional compensation made by any contractor because the contractor pays wages in excess of the applicable minimum rate contained in the Contract Documents. The "Prevailing Wage Schedule" is not a representation that quantities of qualified labor adequate to perform the work may be found locally at the specified wage rates.

For classifications not shown, workers shall not be paid less than the wage indicated for laborers. The contractor shall notify each worker commencing work on the project the worker's job classification and the established minimum wage rate required to be paid, as well as the actual amount being paid. The notice must be delivered to and signed in acknowledgement of receipt by the employee and must list both the monetary wages and fringe benefits to be paid or furnished for each classification in which the worker is assigned duties. When requested by the County, competent evidence of compliance with the Texas Prevailing Wage Law shall be furnished by contractor. A copy of each worker wage rate notification shall be submitted to the County with the Application for Payment for the period during which the worker began on-site activities.

Should the contractor at any time become aware that a particular skill or trade not reflected on the County's "Prevailing Wage Schedule" will be or is being employed in the work, whether by the contractor or by a subcontractor, the contractor shall promptly inform the County and shall specify a wage rate for that skill or trade, which shall bind the contractor.

The contractor and any subcontractor shall pay to the County a penalty of sixty dollars (\$60.00) for each worker employed for each calendar day, or portion thereof, that the worker is paid less than the wage rates stipulated in the "Prevailing Wage Schedule" or any supplement thereto. The contractor and each subcontractor shall keep, or cause to be kept, an accurate record showing the names and occupations of all workers employed in connection with the work, and showing the actual per diem wages paid to each worker, which records shall be open at all reasonable hours for the inspection by the County.

Within thirty-one (31) days of receipt of information concerning a violation of the Texas Government Code Chapter 2258, the County shall make an initial determination as to whether good cause exists to believe a violation occurred. The County's decision on the initial determination shall be reduced to writing and sent to the contractor or subcontractor against whom the violation was alleged, and to the affected worker. When a good cause finding is made, the County shall retain the full amounts claimed by the claimant or claimants as the difference between wages paid and wages due under the "Prevailing Wage Schedule" and any supplements thereto, together with the applicable penalties, such amounts being subtracted from successive progress payments pending a final decision on the violation.

After the County makes its initial determination, the affected contractor or subcontractor and worker have fourteen (14) calendar days in which to resolve the issue of whether a violation occurred, including the amount that should be retained by the County or paid to the affected worker. If the contractor or subcontractor and affected worker reach an agreement concerning the worker's claim, the contractor shall promptly notify the County in a written document signed by the worker. If the contractor or Subcontractor and affected worker do not agree before the fifteenth (15<sup>th</sup>) calendar day after the County determination, the contractor or subcontractor and affected worker must participate in binding arbitration in accordance with the Texas General Arbitration Act, Chapter 171, (Texas Civil Practice and Remedies Code). The parties to the arbitration have ten (10) calendar days after the expiration of the fifteen (15) calendar days referred to above, to agree on an arbitrator; if by the eleventh (11<sup>th</sup>) calendar day there is no agreement to an arbitrator, a district court shall appoint an arbitrator on the petition of any of the parties to the arbitration.

If an arbitrator determines that a violation has occurred, the arbitrator shall assess and award against the contractor or subcontractor the amount of penalty as provided above and the amount owed the worker. The County may use any amounts retained hereunder to pay the worker the amount as designated in the arbitration award. If the County has not retained enough from the contractor or subcontractor to pay the worker in accordance with the arbitration award, the worker has a right of action against the contractor and subcontractor as appropriate, and the surety of either to receive the amount owed, attorneys' fees and court costs. The contractor shall promptly furnish a copy of the arbitration award to the County.

Money retained pursuant to the provisions above shall be used to pay the claimant or claimants the

difference between the amount the worker received in wages for labor on the project at the rate paid by the contractor or subcontractor and the amount the worker would have received at the general prevailing wage rate as provided by the agreement of the claimant and the contractor or subcontractor affected, or in the arbitrator's award. The full statutory penalty of sixty dollars (\$60.00) per calendar day of violation per worker shall be retained by Williamson County to offset its administrative costs, pursuant to Texas Government Code, Section, 2258.023. Any retained funds in excess of these amounts shall be paid to the contractor on the earlier of the next progress payment or final payment. Provided, however, that the County shall have no duty to release any funds to either the claimant or the contractor until it has received the notices of agreement or the arbitration award as provided under the provision herein-above.

#### **4.41 CONFIDENTIALITY**

The Respondent expressly agrees that it will not use any direct or incidental confidential information that may be obtained while working in a governmental setting for its own benefit, and agrees that it will not access unauthorized areas or confidential information and it will not disclose any information to unauthorized third parties, and will take care to guard the security of the information at all times.





## **Additional Stipulations**

### **1 Additional Stipulations**

#### **1.1 Introduction**

The Proposal evaluation and selection process is detailed in this section, as are other factors, and the format in which the Price Proposal of each Proposal should be submitted.

#### **1.2 Price Proposal**

The Respondent must utilize the price sheet form as provided which will be attached to this RFCSP. The Price Proposal should be included in each copy of the Proposal if submitted in paper form.

**Note: Any reworked version of the Price Proposal that is intended to be a substitute and that is provided by a Respondent may be determined as non-responsive, and may, at the County's sole discretion, result in the Respondent's disqualification.**

#### **1.3 Proposal Evaluation and Selection**

##### **1.3.1 Evaluation/Selection Criteria**

No later than the 45<sup>th</sup> day after the date on which the Proposals are opened, all Proposals received by the designated date and time will be evaluated based on the Respondent's Proposal and the published evaluation Criteria. Other information may be taken into consideration when that information potentially provides an additional benefit to the County, and further helps the County in receiving the services listed in the RFCSP.

## Additional Stipulations - Proposal

**Respondents' Proposals must meet all mandatory (minimum) requirements in order to be scored. Scoring may also be based on total information gathered by the County at its discretion, including but not limited to respondent's ability to perform "without delay or interference, character, responsibility, integrity, and experience or demonstrated capability; quality of prior work; compliance with laws; and noncompliance with requirements as to submission of relevant information."**

### **1.3.2 Evaluation Committee and Selection Process**

Williamson County will conduct a comprehensive, fair and impartial evaluation of all proposals received in response to the RFCSP. All Proposals will be evaluated by a County appointed Evaluation Committee. The Evaluation Committee may be composed of County Staff that may have expertise, knowledge or experience with the services and/or goods being procured hereunder. Those Respondents meeting all requirements and deemed most qualified may receive further evaluation via telephone or in-person interviews with members of the Evaluation Committee. Respondents may be interviewed and re-scored based upon the same criteria or other criteria, to be determined by the Evaluation Committee. The County will select a Respondent determined best and most responsible Respondent meeting minimum specifications and qualifications.

Respondents are advised that the Evaluation Committee, at its option, may recommend an award strictly on the basis of the initial RFCSP responses, or in addition, may have interviews with firms to determine its final recommendation. Williamson County then selects the proposal that offers the best value based on the published selection criteria and its ranking evaluation. Following the selection, the contract negotiation process begins. The County negotiates first with the highest ranked offeror. At this stage, the County and its architect or engineer may discuss modifications to the proposed score, time and price. Modifications are not required, and if they are discussed and not agreed to by the County and the offeror, a final contract may still be negotiated and agreed upon based on the original response to the RFCSP.

If the two parties are unable to reach a final agreement, the County must inform the offeror in writing that negotiations are ended. The County may then negotiate with the next ranked offeror. This continues in the order of the selection ranking until a contract is reached or all proposals are rejected. In this form of contract procurement, the County is not restricted to considering price alone in its selection, but may consider any other factor from among the established selection criteria to determine which offeror offers the County the best value. The Evaluation Committee will present its recommendation to the Williamson County Commissioners Court for approval and award of contract.

### **1.3.3 Mandatory Criteria**

Minimum requirements (if applicable) must be passed in order to be considered for scoring as described in section 1.3.4.

## Additional Stipulations - Proposal

**1.3.4 Graded Evaluation Factors**

The following graded evaluation factors will be used to determine how well a Respondent(s) meet(s) the desired performance.

- 1. The price (40% of score – 40 points max)**
  - a. Submit pricing per the attached price sheet.
- 2. The Respondent's proposed personnel for the project (20% of score – 15 points max)**
  - a. Respondent to provide list of proposed staff to be used on the project. Provide names of Company Owner, Project Manager, Superintendent, Etc. and/or equivalents.
- 3. Respondent's experience and reputation (20% of score – 15 points max)**
  - a. Respondent to provide a list of 3 similar (or larger) projects performed in Texas. Please include project name, owner contact name & contact information, brief project description with size/square footage and contracted dollar amount.
- 4. Respondents office location as it relates to distance from the project site (20% of score – 15 points max)**
  - a. Provide verifiable physical address of Respondent's closest permanent location to project and length of time at that location.

**1.3.5 Interviews**

Interview scoring (if applicable) will be provided along with invitation to interview candidates.

**1.3.6 Additional Evaluation Information**

The County reserves the right to award a contract for any or all areas of this RFCSP.

It is the responsibility of the Respondent to provide sufficient information/data in a convincing manner to the County to assure all of the terms, conditions and expectations for satisfactory performance of the services requested herein will be met.

**All contact during the evaluation phase shall be through the Williamson County Purchasing Department only.** The Respondent shall neither contact nor lobby evaluators during the evaluation process. Attempts by the Respondent to contact and/or influence members of the Evaluation Committee may result in disqualification of Proposal.

## Additional Stipulations - Proposal

**1.4 Technical Contact**

Randy Bell (or successor), Director of Parks, Williamson County shall serve as the County's Technical Contact with designated responsibility to ensure compliance with the requirements of the Contract and any Ensuing Agreement, such as, but not limited to, acceptance, inspection and delivery. The Technical Contact together with the Purchasing Department will serve as a liaison between the Williamson County Commissioners Court and the Successful Respondent.

**1.5 Time for Performance**

A time frame of one hundred eighty three (183) days (one hundred fifty three (153) to substantial completion/thirty (30) to final completion) is given for completion of plans on this bid. This may begin at the time specified by the County within the three hundred sixty-five (365) days of the pricing quoted on this bid, starting on the day of award. The Contractor will be given written notice to begin work on this project. The Work on this project shall begin within ten (10) calendar days after such notification.

Liquidated damages for failure to substantially complete the work within the allotted time will be applied. Liquidated damages are \$500 per working day.

The Contractor will be given written notice to begin work on this project. Work on this project shall begin within five (5) working days after such notification. Failure to begin work within the allotted time will result in liquidated damages being incurred at the rate of \$500 per working day

**1.6 Contract Extensions**

At the end of the Initial Contract Term, the Commissioners Court reserves the right to extend the Initial Contract Term, by mutual agreement of both parties, as it deems to be in the best interest of the County. The extension may be negotiated if renewal indications are provided within the County's timeframe which reflect renewal terms for the forthcoming policy year that are deemed by the County to be competitive with current market conditions. However, the County may terminate the contract at any time if funds are restricted, withdrawn, not approved, or if service is unsatisfactory. Any extension will be in twelve (12) month increments for up to an additional twenty-four (24) months, with the terms and conditions remaining the same. The total period of the contract, including all extensions will not exceed a maximum combined period of sixty (60) months. The extension of the contract is contingent on the appropriation of necessary funds by the Commissioners Court for the fiscal year in question. Upon the failure of the Commissioners Court to so appropriate in any year, the Respondent may elect to terminate the contract, with no additional liability to the County. The County and the Respondent agree that termination shall be the Respondent's sole remedy under this circumstance.

## Additional Stipulations - Proposal

## 1.7 Insurance Requirements

By signing its Proposal, the Respondent agrees to maintain at all times during any term of the Contract and any ensuing Agreement at Respondent's cost, insurance in accordance with this provision.

Respondent will be required to submit Certificates of Insurance **prior to commencing work.**

All certificates of insurance coverage as specified below must be provided to the following location:

Williamson County Purchasing Department  
901 S Austin Ave  
Georgetown, Texas 78626

Failure to comply with these Insurance Requirements may result in the termination of the Contract and any ensuing Agreement(s) between the Successful Respondent and County.

The following coverage limits shall be required at a minimum:

- A. Worker's Compensation Statutory – Texas Law
- B. Employer's Liability:

|                           |                        |
|---------------------------|------------------------|
| Bodily Injury by Accident | \$500,000 Ea. Accident |
| Bodily Injury by Disease  | \$500,000 Ea. Employee |
| Bodily Injury by Disease  | \$500,000 Policy Limit |

- C. Comprehensive general liability including completed operations and contractual liability insurance for bodily injury, death, or property damages in the following amounts:

| COVERAGE                        | PER PERSON  | PER OCCURRENCE |
|---------------------------------|-------------|----------------|
| Comprehensive General Liability | \$1,000,000 | \$1,000,000    |
| Aggregate policy limits:        | \$1,000,000 |                |

Successful Respondent's property will not be covered by any insurance that may be carried by Williamson County. Successful Respondent assumes the risk of loss on its contents and property that are situated on/in/around the County property. The Successful Respondent is strongly encouraged to obtain insurance on its property to the extent deemed necessary by the Successful Respondent.

The deductible for an insurance policy required hereunder shall not exceed \$100,000. **The County shall be named as an additional insured under any policy of insurance required hereunder.**

Successful Respondent shall not commence any work until it has obtained all required insurance and such insurance has been approved by County. Successful Respondent shall not allow any subcontractor(s) to commence work to be performed until all required insurance has been obtained by such subcontractor(s) and approved by County. Approval of the insurance by County shall not relieve or decrease the liability of Successful Respondent or its subcontractor(s) hereunder.

## Additional Stipulations - Proposal

The required insurance must be written by a company approved to do business in the State of Texas with a financial standing of at least an A- rating, as reflected in Best's insurance ratings or by a similar rating system recognized within the insurance industry at the time the policy is issued. Successful Respondent shall furnish County with a certificate of coverage issued by the insurer. Successful Respondent shall not cause any insurance to be canceled nor permit any insurance to lapse. ALL INSURANCE CERTIFICATES SHALL INCLUDE A CLAUSE TO THE EFFECT THAT THE POLICY SHALL NOT BE CANCELED OR REDUCED, RESTRICTED OR LIMITED UNTIL TEN (10) CALENDAR DAYS AFTER COUNTY HAS RECEIVED WRITTEN NOTICE AS EVIDENCED BY RETURN RECEIPT OF REGISTERED OR CERTIFIED LETTER.

It is the intention of the County, and agreed to and hereby acknowledged by the Successful Respondent, that no provision of this Contract or any ensuing Agreement shall be construed to require the County to submit to mandatory arbitration or mediation in the settlement of any claim, cause of action or dispute, except as specifically required in direct connection with an insurance claim or threat of claim under an insurance policy required hereunder which absolutely requires arbitration or mediation of such claim, or as otherwise required by law or a court of law with jurisdiction over the provisions of this Contract or any ensuing Agreement.

**Workers' Compensation Coverage Requirements**

The Texas Labor Code, Section 406.096, requires workers' compensation insurance coverage for all persons providing services on a building or construction project for a governmental entity such as the County. The rule requires the County to timely obtain certificates of coverage and retain them for the duration of the project. The rule also sets out the language to be included in the Bid specifications and in contracts awarded by a governmental entity and the information required to be in the posted notice to employees. The rule is adopted under the Texas Labor Code, Section 402.061.

The information provided below is a result of this rule. By submitting your Bid to the County, you are acknowledging that this rule is a part of these Bid specifications, and that you will observe and abide by all of the requirements outlined in the rule. You are further agreeing that should your Bid be accepted by the Williamson County Commissioners Court, the necessary certificates of coverage showing workers' compensation coverage, will be provided to the following name and address prior to beginning work:

Williamson County Purchasing Department  
901 S. Austin Ave.  
Georgetown, TX 78626

Failure to comply with this request may result in termination of the Contract and any ensuing Agreement. If you have any questions related to this ruling and/or requirement, you are encouraged to contact either the Williamson County Purchasing Department at (512) 943-1546, or you may call the Texas Workers' Compensation Commission at (800) 372-7713.

- A. The following words and terms, when used in this provision, shall have the following meanings. Terms not defined in this rule shall have the meaning defined in the Texas Labor Code, if so defined.

## Additional Stipulations - Proposal

1. Certificate of coverage (certificate) – A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a workers' compensation coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees (including those subject to a coverage agreement) providing services on a project, for the duration of the project.
  2. Building or Construction – Has the meaning defined in the Texas Labor Code, Section 406.096(e)(1).
  3. Contractor – A person bidding for or awarded a building or construction project by Williamson County.
  4. Coverage – Workers' compensation insurance meeting the statutory requirements of the Texas Labor Code, Section 401.011(44).
  5. Coverage agreement – A written agreement on form TWCC-81, form TWCC-82, form TWCC-83, or form TWCC-84, filed with the Texas Workers' Compensation Commission which establishes a relationship between the parties for purposes of the Texas Workers' Compensation Act, pursuant to the Texas Labor Code, Chapter 406, Subchapters F and G, as one of employer/employee and establishes who will be responsible for providing workers' compensation coverage for persons providing services on the project.
  6. Duration of the project--Includes the time from the beginning of work on the project until the work on the project has been completed and accepted by the County.
  7. Persons providing services on the project ("subcontractor" in the Texas Labor Code, Section 406.096) – includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.
  8. Project – Includes the provision of all services related to a building or construction contract for the County.
- B. The contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of the Texas Labor Code, Section 401.011(44), for all employees of the contractor providing services on the project, for the duration of the project.
- C. The Contractor must provide a certificate of workers compensation coverage to Williamson County prior to being awarded the Contract.

## Additional Stipulations - Proposal

- D. If the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project, the contractor must, prior to the end of the coverage period, file a new certificate of coverage with Williamson County showing that coverage has been extended.
- E. The contractor shall obtain from each person providing services on a project, and provide to the County:
  - 1. A certificate of coverage, prior to that person beginning work on the project, so Williamson County will have on file certificates of coverage showing coverage for all persons providing services on the project; and
  - 2. No later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.
- F. The contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.
- G. The contractor shall notify the County in writing by certified mail or personal delivery, within ten (10) days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.
- H. The contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.
- I. The contractor shall contractually require each person with whom it contracts to provide services on a project, to:
  - 1. Provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44), for all of its employees providing services on the project, for the duration of the project;
  - 2. Provide to the contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;
  - 3. Provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;



## Additional Stipulations - Proposal

4. Obtain from each other person with whom it contracts, and provide to the contractor:
    - i. (a) a certificate of coverage, prior to the other person beginning work on the project; and
    - ii. (b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;
  5. Retain all required certificates of coverage on file for the duration of the project and for one year thereafter;
  6. Notify the County in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and
  7. Contractually require each person with whom it contracts, to perform as required by paragraphs 1 – 7, with the certificates of coverage to be provided to the person for whom they are providing services
- J. By signing this Contract or providing or causing to be provided a certificate of coverage, the contractor is representing to Williamson County that all employees of the contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.
- K. The contractor's failure to comply with any of these provisions is a breach of Contract by the contractor which entitles the County to declare the contract void if the contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the County.

## **Southwest Williamson County Regional Park - Restrooms and Storage**

3005 CR 175  
Leander, Texas 78641  
United States

### Williamson County Parks and Recreation

3005 CR 175  
Leander, Texas 78641  
United States

### MODE Design Company

1102 S. Austin Ave.  
Suite 103  
Georgetown, Texas 78626  
United States

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SUMMARY

01/03/2018

## SECTION 011000 - SUMMARY

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section Includes:

- 1. Project information.
- 2. Work covered by Contract Documents.
- 3. Specification and drawing conventions.

- B. Related Requirements:

- 1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

## 1.3 PROJECT INFORMATION

- A. Project Identification: SOUTHWEST WILLIAMSON COUNTY REGIONAL PARK - RESTROOMS.

- 1. Project Location: 3005 COUNTY ROAD 175, LEANDER, TX 78641.

- B. Owner: WILLIAMSON COUNTY PARKS AND RECREATION.

- 1. Owner's Representative: RANDY BELL.

- C. Architect: MODE DESIGN COMPANY, 1002 S. AUSTIN AVE., SUITE 103, GEORGETOWN, TX 78626.

- D. Architect's Consultants: The Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:

- 1. STRUCTURAL ENGINEER: ENGINEERING 360.
- 2. M.E.P. ENGINEER: HENDRIX CONSULTING ENGINEERS.
- 3. CIVIL ENGINEER: WAELTZ & PRETE.

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## SUMMARY

01/03/2018

## 1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and consists of the following:
  - 1. SITE WORK AND UTILITIES FOR RESTROOMS AND STORAGE BUILDINGS. RESTROOM(S) AND POSSIBLE STORAGE BUILDINGS..
- B. Type of Contract:
  - 1. Project will be constructed under a single prime contract.

## 1.5 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
  - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
  - 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
  - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
  - 2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.
  - 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

012300

ALTERNATES

01/03/2018

## SECTION 012300 - ALTERNATES

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

## 1.3 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
  - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
  - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.

## 1.4 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
  - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated revisions to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.

012300

ALTERNATES

01/03/2018

- D. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. 1: RESTROOM #1 PREFAB OPTION.

1. Base Bid: RESTROOM BUILDING #1 as indicated on Sheet A-1.1
2. Alternate: RESTROOM BUILDING #1 - AS PREFABRICATED OPTION SIMILAR TO PUBLIC RESTROOM COMPANY PS-022-CE.

- B. Alternate No. 2A: RESTROOM #2 - PER DRAWINGS.

1. Base Bid: RESTROOM BUILDING #2 -NO RESTROOM BUILDING
2. Alternate: RESTROOM BUILDING #2 - AS SHOWN ON DRAWINGS

- C. Alternate No. 2B: RESTROOM #2 - PREFAB OPTION.

1. Base Bid: RESTROOM BUILDING #2 -NO RESTROOM BUILDING
2. Alternate: RESTROOM BUILDING #2 - AS PREFABRICATED OPTION SIMILAR TO PUBLIC RESTROOM COMPANY PS-022-CE.

- D. Alternate No. 3: COVERED STORAGE BUILDING.

1. Base Bid: NO COVERED STORAGE BUILDING as indicated on Sheet A-2.0
2. Alternate: STORAGE BUILDING PER DRAWINGS as indicated on Sheet A-2.0

- E. Alternate No. 4: CMU STORAGE BUILDINGS.

1. Base Bid: NO CMU STORAGE BUILDINGS as indicated on Sheet A-3.0
2. Alternate:(2) CMU STORAGE BUILDINGS as indicated on Sheet A-3.0

END OF SECTION 012300



012500

## SUBSTITUTION PROCEDURES

01/03/2018

## SECTION 012500 - SUBSTITUTION PROCEDURES

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
  - 1. Section 012100 "Allowances" for products selected under an allowance.
  - 2. Section 012300 "Alternates" for products selected under an alternate.
  - 3. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

## 1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
  - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.

## 1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
  - 1. Substitution Request Form: Use CSI Form 13.1A.
  - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
    - b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.

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## SUBSTITUTION PROCEDURES

01/03/2018

- c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
  - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
  - e. Samples, where applicable or requested.
  - f. Certificates and qualification data, where applicable or requested.
  - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
  - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
  - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
  - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
  - k. Cost information, including a proposal of change, if any, in the Contract Sum.
  - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
  - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
  - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

## 1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

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## SUBSTITUTION PROCEDURES

01/03/2018

## 1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

## PART 2 - PRODUCTS

## 2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
  - 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
    - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    - b. Substitution request is fully documented and properly submitted.
    - c. Requested substitution will not adversely affect Contractor's construction schedule.
    - d. Requested substitution is compatible with other portions of the Work.
    - e. Requested substitution has been coordinated with other portions of the Work.
- B. Substitutions for Convenience: Not allowed [unless otherwise indicated].

## PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

012900

## PAYMENT PROCEDURES

01/03/2018

## SECTION 012900 - PAYMENT PROCEDURES

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

## 1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

## 1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
  - 1. Coordinate line items in the schedule of values with other required administrative forms and schedules, including the following:
    - a. Application for Payment forms with continuation sheets.
    - b. Submittal schedule.
    - c. Items required to be indicated as separate activities in Contractor's construction schedule.
  - 2. Submit the schedule of values to Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
  - 3. Subschedules for Separate Design Contracts: Where the Owner has retained design professionals under separate contracts who will each provide certification of payment requests, provide subschedules showing values coordinated with the scope of each design services contract as described in Section 011000 "Summary."
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

012900

## PAYMENT PROCEDURES

01/03/2018

1. Identification: Include the following Project identification on the schedule of values:
  - a. Project name and location.
  - b. Name of Architect.
  - c. Architect's project number.
  - d. Contractor's name and address.
  - e. Date of submittal.
2. Arrange schedule of values consistent with format of AIA Document G703.
3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
  - a. Description of the Work.
  - b. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
    - 1) Labor.
    - 2) Materials.
    - 3) Equipment.
4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
  - a. Include separate line items under principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
6. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
  - a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
7. Provide separate line items in the schedule of values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
8. Purchase Contracts: Provide a separate line item in the schedule of values for each purchase contract. Show line-item value of purchase contract. Indicate owner payments or deposits, if any, and balance to be paid by Contractor.
9. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
  - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.

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10. Schedule Updating: Update and resubmit the schedule of values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

## 1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
  1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Application for Payment Forms: Use forms acceptable to Architect and Owner for Applications for Payment. Submit forms for approval with initial submittal of schedule of values.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
  1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
  2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
  3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
  4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
  1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
  2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
  3. Provide summary documentation for stored materials indicating the following:
    - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
    - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.

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- c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- F. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
  - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
  - 1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
  - 2. When an application shows completion of an item, submit conditional final or full waivers.
  - 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
  - 4. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
  - 1. Schedule of values.
  - 2. Contractor's construction schedule (preliminary if not final).
- I. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
  - 1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
  - 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
  - 1. Evidence of completion of Project closeout requirements.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

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## SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. General coordination procedures.
  - 2. Requests for Information (RFIs).
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

## 1.3 DEFINITIONS

- A. RFI: Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

## 1.4 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
  - 1. Name, address, and telephone number of entity performing subcontract or supplying products.
  - 2. Number and title of related Specification Section(s) covered by subcontract.
  - 3. Drawing number and detail references, as appropriate, covered by subcontract.
- B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.



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1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

## 1.5 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
  1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
  3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
  1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
  1. Preparation of Contractor's construction schedule.
  2. Preparation of the schedule of values.
  3. Installation and removal of temporary facilities and controls.
  4. Delivery and processing of submittals.
  5. Progress meetings.
  6. Preinstallation conferences.
  7. Project closeout activities.
  8. Startup and adjustment of systems.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
  1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

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## 1.6 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
1. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
  2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
  2. Project number.
  3. Date.
  4. Name of Contractor.
  5. Name of Architect.
  6. RFI number, numbered sequentially.
  7. RFI subject.
  8. Specification Section number and title and related paragraphs, as appropriate.
  9. Drawing number and detail references, as appropriate.
  10. Field dimensions and conditions, as appropriate.
  11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  12. Contractor's signature.
  13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
    - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: Software-generated form with substantially the same content as indicated above, acceptable to Architect.
1. Attachments shall be electronic files in Adobe Acrobat PDF format.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
1. The following Contractor-generated RFIs will be returned without action:
    - a. Requests for approval of submittals.
    - b. Requests for approval of substitutions.
    - c. Requests for approval of Contractor's means and methods.
    - d. Requests for coordination information already indicated in the Contract Documents.

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- e. Requests for adjustments in the Contract Time or the Contract Sum.
  - f. Requests for interpretation of Architect's actions on submittals.
  - g. Incomplete RFIs or inaccurately prepared RFIs.
- 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
- 3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."
  - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 10 days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly. Include the following:
  - 1. Project name.
  - 2. Name and address of Contractor.
  - 3. Name and address of Architect.
  - 4. RFI number including RFIs that were returned without action or withdrawn.
  - 5. RFI description.
  - 6. Date the RFI was submitted.
  - 7. Date Architect's response was received.
- F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven days if Contractor disagrees with response.
  - 1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
  - 2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

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## SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
  - 1. Startup construction schedule.
  - 2. Contractor's construction schedule.
  - 3. Construction schedule updating reports.
- B. Related Requirements:
  - 1. Section 013300 "Submittal Procedures" for submitting schedules and reports.
  - 2. Section 014000 "Quality Requirements" for submitting a schedule of tests and inspections.

## 1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
  - 1. Working electronic copy of schedule file, where indicated.
  - 2. PDF electronic file.
- B. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
  - 1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
- C. Construction Schedule Updating Reports: Submit with Applications for Payment.
- D. Qualification Data: For scheduling consultant.

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## 1.4 QUALITY ASSURANCE

- A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of Architect's request.

## 1.5 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.
  - 1. Secure time commitments for performing critical elements of the Work from entities involved.
  - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

## PART 2 - PRODUCTS

## 2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion.
  - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each story or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
  - 1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
  - 2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
  - 3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
  - 4. Startup and Testing Time: Include no fewer than 15 days for startup and testing.
  - 5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.

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6. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.
- C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
  1. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion, and the following interim milestones:
  1. Temporary enclosure and space conditioning.
- E. Cost Correlation: Superimpose a cost correlation timeline, indicating planned and actual costs. On the line, show planned and actual dollar volume of the Work performed as of planned and actual dates used for preparation of payment requests.
  1. See Section 012900 "Payment Procedures" for cost reporting and payment procedures.
- F. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
  1. Unresolved issues.
  2. Unanswered Requests for Information.
  3. Rejected or unreturned submittals.
  4. Notations on returned submittals.
  5. Pending modifications affecting the Work and Contract Time.
- G. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

## 2.2 STARTUP CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Submit startup, horizontal, bar-chart-type construction schedule within seven days of date established for the Notice to Proceed.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

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## 2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (CPM SCHEDULE)

- A. General: Prepare network diagrams using AON (activity-on-node) format.
- B. CPM Schedule: Prepare Contractor's construction schedule using a time-scaled CPM network analysis diagram for the Work.
  - 1. Develop network diagram in sufficient time to submit CPM schedule so it can be accepted for use no later than 60 days after date established for the Notice to Proceed.
    - a. Failure to include any work item required for performance of this Contract shall not excuse Contractor from completing all work within applicable completion dates, regardless of Architect's approval of the schedule.
  - 2. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.
  - 3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.
  - 4. Use "one workday" as the unit of time for individual activities. Indicate nonworking days and holidays incorporated into the schedule in order to coordinate with the Contract Time.
- C. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the startup network diagram, prepare a skeleton network to identify probable critical paths.
  - 1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:
    - a. Punch list and final completion.
  - 2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
  - 3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
  - 4. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
    - a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.
  - 5. Cost- and Resource-Loading of CPM Schedule: Assign cost to construction activities on the CPM schedule. Do not assign costs to submittal activities. Obtain Architect's approval prior to assigning costs to fabrication and delivery activities. Assign costs

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under main subcontracts for testing and commissioning activities, operation and maintenance manuals, punch list activities, Project record documents, and demonstration and training (if applicable), in the amount of 5 percent of the Contract Sum.

- a. Each activity cost shall reflect an appropriate value subject to approval by Architect.
  - b. Total cost assigned to activities shall equal the total Contract Sum.
- D. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using a network fragment to demonstrate the effect of the proposed change on the overall project schedule.
- E. Initial Issue of Schedule: Prepare initial network diagram from a sorted activity list indicating straight "early start-total float." Identify critical activities. Prepare tabulated reports showing the following:
1. Contractor or subcontractor and the Work or activity.
  2. Description of activity.
  3. Main events of activity.
  4. Immediate preceding and succeeding activities.
  5. Early and late start dates.
  6. Early and late finish dates.
  7. Activity duration in workdays.
  8. Total float or slack time.
  9. Average size of workforce.
  10. Dollar value of activity (coordinated with the schedule of values).
- F. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
1. Identification of activities that have changed.
  2. Changes in early and late start dates.
  3. Changes in early and late finish dates.
  4. Changes in activity durations in workdays.
  5. Changes in the critical path.
  6. Changes in total float or slack time.
  7. Changes in the Contract Time.
- G. Value Summaries: Prepare two cumulative value lists, sorted by finish dates.
1. In first list, tabulate activity number, early finish date, dollar value, and cumulative dollar value.
  2. In second list, tabulate activity number, late finish date, dollar value, and cumulative dollar value.
  3. In subsequent issues of both lists, substitute actual finish dates for activities completed as of list date.
  4. Prepare list for ease of comparison with payment requests; coordinate timing with progress meetings.



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- a. In both value summary lists, tabulate "actual percent complete" and "cumulative value completed" with total at bottom.
- b. Submit value summary printouts one week before each regularly scheduled progress meeting.

## PART 3 - EXECUTION

## 3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
  1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
  2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
  3. As the Work progresses, indicate final completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Architect Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
  1. Post copies in Project meeting rooms and temporary field offices.
  2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

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## SUBMITTAL PROCEDURES

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## SECTION 013300 - SUBMITTAL PROCEDURES

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Requirements:
  - 1. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.

## 1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.
- D. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

## 1.4 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time

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required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.
  - a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.
4. Format: Arrange the following information in a tabular format:
  - a. Scheduled date for first submittal.
  - b. Specification Section number and title.
  - c. Submittal category: Action; informational.
  - d. Name of subcontractor.
  - e. Description of the Work covered.
  - f. Scheduled date for Architect's final release or approval.
  - g. Scheduled date of fabrication.
  - h. Scheduled dates for purchasing.
  - i. Scheduled dates for installation.
  - j. Activity or event number.

## 1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will not be provided by Architect for Contractor's use in preparing submittals.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
  1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
  3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
  4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

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- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
  2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
  3. Resubmittal Review: Allow 15 days for review of each resubmittal.
  4. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.
- D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
  2. Name file with submittal number or other unique identifier, including revision identifier.
    - a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).
  3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.
  4. Transmittal Form for Electronic Submittals: Use software-generated form from electronic project management software acceptable to Owner, containing the following information:
    - a. Project name.
    - b. Date.
    - c. Name and address of Architect.
    - d. Name of Contractor.
    - e. Name of firm or entity that prepared submittal.
    - f. Names of subcontractor, manufacturer, and supplier.
    - g. Category and type of submittal.
    - h. Submittal purpose and description.
    - i. Specification Section number and title.
    - j. Specification paragraph number or drawing designation and generic name for each of multiple items.
    - k. Drawing number and detail references, as appropriate.
    - l. Location(s) where product is to be installed, as appropriate.

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- m. Related physical samples submitted directly.
  - n. Indication of full or partial submittal.
  - o. Transmittal number, numbered consecutively.
  - p. Submittal and transmittal distribution record.
  - q. Other necessary identification.
  - r. Remarks.
- 5. Metadata: Include the following information as keywords in the electronic submittal file metadata:
  - a. Project name.
  - b. Number and title of appropriate Specification Section.
  - c. Manufacturer name.
  - d. Product name.
- E. Options: Identify options requiring selection by Architect.
- F. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
  - 1. Note date and content of previous submittal.
  - 2. Note date and content of revision in label or title block and clearly indicate extent of revision.
  - 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- I. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

## PART 2 - PRODUCTS

## 2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
  - 1. Submit electronic submittals via email as PDF electronic files.

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- a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.
  2. Action Submittals: Submit three paper copies of each submittal unless otherwise indicated. Architect will return two copies.
  3. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. Architect will not return copies.
  4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
    - a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
    - b. Provide a notarized statement on original paper copy certificates and certifications where indicated.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
  2. Mark each copy of each submittal to show which products and options are applicable.
  3. Include the following information, as applicable:
    - a. Manufacturer's catalog cuts.
    - b. Standard color charts.
  4. Submit Product Data before or concurrent with Samples.
  5. Submit Product Data in the following format:
    - a. PDF electronic file.
    - b. Three paper copies of Product Data unless otherwise indicated. Architect will return two copies.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
    - a. Identification of products.
    - b. Schedules.
    - c. Notation of coordination requirements.
    - d. Relationship and attachment to adjoining construction clearly indicated.
  2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm), but no larger than 30 by 42 inches (750 by 1067 mm).
  3. Submit Shop Drawings in the following format:

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- a. PDF electronic file.
4. BIM File Incorporation: Develop and incorporate Shop Drawing files into Building Information Model established for Project.
  - a. Prepare Shop Drawings in the following format: Same digital data software program, version, and operating system as the original Drawings.
  - b. Refer to Section 013100 "Project Management and Coordination" for requirements for coordination drawings.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
  1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
  2. Identification: Attach label on unexposed side of Samples that includes the following:
    - a. Generic description of Sample.
    - b. Product name and name of manufacturer.
    - c. Sample source.
    - d. Number and title of applicable Specification Section.
    - e. Specification paragraph number and generic name of each item.
  3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
  4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
    - a. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
  5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
    - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.

## 2.2 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
  1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

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- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF electronic file paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.
  - 1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.
- C. BIM File Incorporation: Incorporate delegated-design drawing and data files into Building Information Model established for Project.
  - 1. Prepare delegated-design drawings in the following format: Same digital data software program, version, and operating system as the original Drawings.

## PART 3 - EXECUTION

## 3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

## 3.2 ARCHITECT'S ACTION

- A. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- B. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- C. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- D. Submittals not required by the Contract Documents may be returned by the Architect without action.

END OF SECTION 013300



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## SECTION 014000 - QUALITY REQUIREMENTS

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, Commissioning Authority, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Requirements:
  - 1. Section 012100 "Allowances" for testing and inspecting allowances.

## 1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic

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effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

1. Laboratory Mockups: Full-size physical assemblies constructed at testing facility to verify performance characteristics.
  2. Integrated Exterior Mockups: Mockups of the exterior envelope erected separately from the building but on Project site, consisting of multiple products, assemblies, and subassemblies.
  3. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes, doors, windows, millwork, casework, specialties, furnishings and equipment, and lighting.
- D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

## 1.4 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality

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levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

#### 1.5 ACTION SUBMITTALS

- A. Shop Drawings: For integrated exterior mockups, provide plans, sections, and elevations, indicating materials and size of mockup construction.
  - 1. Indicate manufacturer and model number of individual components.
  - 2. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

#### 1.6 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed, and not less than five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.
- B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
  - 1. Project quality-control manager may also serve as Project superintendent.
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
- D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
  - 1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
  - 2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections."
  - 3. Owner-performed tests and inspections indicated in the Contract Documents.
- E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into

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compliance with standards of workmanship established by Contract requirements and approved mockups.

- F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

## 1.7 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
1. Date of issue.
  2. Project title and number.
  3. Name, address, and telephone number of testing agency.
  4. Dates and locations of samples and tests or inspections.
  5. Names of individuals making tests and inspections.
  6. Description of the Work and test and inspection method.
  7. Identification of product and Specification Section.
  8. Complete test or inspection data.
  9. Test and inspection results and an interpretation of test results.
  10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
  11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
  12. Name and signature of laboratory inspector.
  13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of technical representative making report.
  2. Statement on condition of substrates and their acceptability for installation of product.
  3. Statement that products at Project site comply with requirements.
  4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  6. Statement whether conditions, products, and installation will affect warranty.
  7. Other required items indicated in individual Specification Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

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1. Name, address, and telephone number of factory-authorized service representative making report.
  2. Statement that equipment complies with requirements.
  3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  4. Statement whether conditions, products, and installation will affect warranty.
  5. Other required items indicated in individual Specification Sections.
- D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

## 1.8 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
  2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- G. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

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- H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Integrated Exterior Mockups: Construct integrated exterior mockup as indicated on Drawings. Coordinate installation of exterior envelope materials and products for which mockups are required in individual Specification Sections, along with supporting materials.

## 1.9 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
  - 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
  - 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
  - 1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
  - 2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
    - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
  - 3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
  - 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  - 5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  - 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."
- D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's

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services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

- E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- F. Testing Agency Responsibilities: Cooperate with Architect, Commissioning Authority and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
  - 1. Notify Architect, Commissioning Authority, and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  - 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
  - 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
  - 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
  - 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
  - 6. Do not perform any duties of Contractor.
- G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
  - 1. Access to the Work.
  - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
  - 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
  - 4. Facilities for storage and field curing of test samples.
  - 5. Delivery of samples to testing agencies.
  - 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  - 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
  - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.

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## 1.10 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:
- B. Special Tests and Inspections: Conducted by a qualified testing agency as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:
  - 1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.
  - 2. Notifying Architect, Commissioning Authority, and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
  - 3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect and Commissioning Authority with copy to Contractor and to authorities having jurisdiction.
  - 4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
  - 5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
  - 6. Retesting and reinspecting corrected work.

## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

## 3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
  - 1. Date test or inspection was conducted.
  - 2. Description of the Work tested or inspected.
  - 3. Date test or inspection results were transmitted to Architect.
  - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's, Commissioning Authority's, reference during normal working hours.

## 3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.



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1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

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REFERENCES

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## SECTION 014200 - REFERENCES

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- C. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- D. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- E. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- F. "Provide": Furnish and install, complete and ready for the intended use.

## 1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

## 1.4 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the

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## REFERENCES

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following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. AABC - Associated Air Balance Council; [www.aabc.com](http://www.aabc.com).
2. AAMA - American Architectural Manufacturers Association; [www.aamanet.org](http://www.aamanet.org).
3. AAPFCO - Association of American Plant Food Control Officials; [www.aapfco.org](http://www.aapfco.org).
4. AASHTO - American Association of State Highway and Transportation Officials; [www.transportation.org](http://www.transportation.org).
5. AATCC - American Association of Textile Chemists and Colorists; [www.aatcc.org](http://www.aatcc.org).
6. ABMA - American Bearing Manufacturers Association; [www.americanbearings.org](http://www.americanbearings.org).
7. ACI - American Concrete Institute; (Formerly: ACI International); [www.concrete.org](http://www.concrete.org).
8. ACPA - American Concrete Pipe Association; [www.concrete-pipe.org](http://www.concrete-pipe.org).
9. AEIC - Association of Edison Illuminating Companies, Inc. (The); [www.aeic.org](http://www.aeic.org).
10. AF&PA - American Forest & Paper Association; [www.afandpa.org](http://www.afandpa.org).
11. AGA - American Gas Association; [www.aga.org](http://www.aga.org).
12. AHAM - Association of Home Appliance Manufacturers; [www.aham.org](http://www.aham.org).
13. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); [www.ahrinet.org](http://www.ahrinet.org).
14. AI - Asphalt Institute; [www.asphaltinstitute.org](http://www.asphaltinstitute.org).
15. AIA - American Institute of Architects (The); [www.aia.org](http://www.aia.org).
16. AISC - American Institute of Steel Construction; [www.aisc.org](http://www.aisc.org).
17. AISI - American Iron and Steel Institute; [www.steel.org](http://www.steel.org).
18. AITC - American Institute of Timber Construction; [www.aitc-glulam.org](http://www.aitc-glulam.org).
19. AMCA - Air Movement and Control Association International, Inc.; [www.amca.org](http://www.amca.org).
20. ANSI - American National Standards Institute; [www.ansi.org](http://www.ansi.org).
21. AOSA - Association of Official Seed Analysts, Inc.; [www.aosaseed.com](http://www.aosaseed.com).
22. APA - APA - The Engineered Wood Association; [www.apawood.org](http://www.apawood.org).
23. APA - Architectural Precast Association; [www.archprecast.org](http://www.archprecast.org).
24. API - American Petroleum Institute; [www.api.org](http://www.api.org).
25. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
26. ARI - American Refrigeration Institute; (See AHRI).
27. ARMA - Asphalt Roofing Manufacturers Association; [www.asphaltroofing.org](http://www.asphaltroofing.org).
28. ASCE - American Society of Civil Engineers; [www.asce.org](http://www.asce.org).
29. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
30. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; [www.ashrae.org](http://www.ashrae.org).
31. ASME - ASME International; (American Society of Mechanical Engineers); [www.asme.org](http://www.asme.org).
32. ASSE - American Society of Safety Engineers (The); [www.asse.org](http://www.asse.org).
33. ASSE - American Society of Sanitary Engineering; [www.asse-plumbing.org](http://www.asse-plumbing.org).
34. ASTM - ASTM International; (American Society for Testing and Materials International); [www.astm.org](http://www.astm.org).
35. ATIS - Alliance for Telecommunications Industry Solutions; [www.atis.org](http://www.atis.org).
36. AWEA - American Wind Energy Association; [www.awea.org](http://www.awea.org).
37. AWI - Architectural Woodwork Institute; [www.awinet.org](http://www.awinet.org).
38. AWMAC - Architectural Woodwork Manufacturers Association of Canada; [www.awmac.com](http://www.awmac.com).
39. AWPA - American Wood Protection Association; (Formerly: American Wood-Preservers' Association); [www.awpa.com](http://www.awpa.com).

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40. AWS - American Welding Society; [www.aws.org](http://www.aws.org).
41. AWWA - American Water Works Association; [www.awwa.org](http://www.awwa.org).
42. BHMA - Builders Hardware Manufacturers Association; [www.buildershardware.com](http://www.buildershardware.com).
43. BIA - Brick Industry Association (The); [www.gobrick.com](http://www.gobrick.com).
44. BICSI - BICSI, Inc.; [www.bicsi.org](http://www.bicsi.org).
45. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); [www.bifma.com](http://www.bifma.com).
46. BISSC - Baking Industry Sanitation Standards Committee; [www.bissc.org](http://www.bissc.org).
47. BOCA - BOCA; (Building Officials and Code Administrators International Inc.); (See ICC).
48. BWF - Badminton World Federation; (Formerly: International Badminton Federation); [www.bwfbadminton.org](http://www.bwfbadminton.org).
49. CDA - Copper Development Association; [www.copper.org](http://www.copper.org).
50. CEA - Canadian Electricity Association; [www.electricity.ca](http://www.electricity.ca).
51. CEA - Consumer Electronics Association; [www.ce.org](http://www.ce.org).
52. CFFA - Chemical Fabrics & Film Association, Inc.; [www.chemicalfabricsandfilm.com](http://www.chemicalfabricsandfilm.com).
53. CFSEI - Cold-Formed Steel Engineers Institute; [www.cfsei.org](http://www.cfsei.org).
54. CGA - Compressed Gas Association; [www.cganet.com](http://www.cganet.com).
55. CIMA - Cellulose Insulation Manufacturers Association; [www.cellulose.org](http://www.cellulose.org).
56. CISCA - Ceilings & Interior Systems Construction Association; [www.cisca.org](http://www.cisca.org).
57. CISPI - Cast Iron Soil Pipe Institute; [www.cispi.org](http://www.cispi.org).
58. CLFMI - Chain Link Fence Manufacturers Institute; [www.chainlinkinfo.org](http://www.chainlinkinfo.org).
59. CPA - Composite Panel Association; [www.pbmdf.com](http://www.pbmdf.com).
60. CRI - Carpet and Rug Institute (The); [www.carpet-rug.org](http://www.carpet-rug.org).
61. CRRC - Cool Roof Rating Council; [www.coolroofs.org](http://www.coolroofs.org).
62. CRSI - Concrete Reinforcing Steel Institute; [www.crsi.org](http://www.crsi.org).
63. CSA - Canadian Standards Association; [www.csa.ca](http://www.csa.ca).
64. CSA - CSA International; (Formerly: IAS - International Approval Services); [www.csa-international.org](http://www.csa-international.org).
65. CSI - Construction Specifications Institute (The); [www.csinet.org](http://www.csinet.org).
66. CSSB - Cedar Shake & Shingle Bureau; [www.cedarbureau.org](http://www.cedarbureau.org).
67. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); [www.cti.org](http://www.cti.org).
68. CWC - Composite Wood Council; (See CPA).
69. DASMA - Door and Access Systems Manufacturers Association; [www.dasma.com](http://www.dasma.com).
70. DHI - Door and Hardware Institute; [www.dhi.org](http://www.dhi.org).
71. ECA - Electronic Components Association; [www.ec-central.org](http://www.ec-central.org).
72. ECAMA - Electronic Components Assemblies & Materials Association; (See ECA).
73. EIA - Electronic Industries Alliance; (See TIA).
74. EIMA - EIFS Industry Members Association; [www.eima.com](http://www.eima.com).
75. EJMA - Expansion Joint Manufacturers Association, Inc.; [www.ejma.org](http://www.ejma.org).
76. ESD - ESD Association; (Electrostatic Discharge Association); [www.esda.org](http://www.esda.org).
77. ESTA - Entertainment Services and Technology Association; (See PLASA).
78. EVO - Efficiency Valuation Organization; [www.evo-world.org](http://www.evo-world.org).
79. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); [www.fiba.com](http://www.fiba.com).
80. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); [www.fivb.org](http://www.fivb.org).
81. FM Approvals - FM Approvals LLC; [www.fmglobal.com](http://www.fmglobal.com).
82. FM Global - FM Global; (Formerly: FMG - FM Global); [www.fmglobal.com](http://www.fmglobal.com).

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84. FSA - Fluid Sealing Association; [www.fluidsealing.com](http://www.fluidsealing.com).
85. FSC - Forest Stewardship Council U.S.; [www.fscus.org](http://www.fscus.org).
86. GA - Gypsum Association; [www.gypsum.org](http://www.gypsum.org).
87. GANA - Glass Association of North America; [www.glasswebsite.com](http://www.glasswebsite.com).
88. GS - Green Seal; [www.greenseal.org](http://www.greenseal.org).
89. HI - Hydraulic Institute; [www.pumps.org](http://www.pumps.org).
90. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
91. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
92. HPVA - Hardwood Plywood & Veneer Association; [www.hpva.org](http://www.hpva.org).
93. HPW - H. P. White Laboratory, Inc.; [www.hpwhite.com](http://www.hpwhite.com).
94. IAPSC - International Association of Professional Security Consultants; [www.iapsc.org](http://www.iapsc.org).
95. IAS - International Approval Services; (See CSA).
96. ICBO - International Conference of Building Officials; (See ICC).
97. ICC - International Code Council; [www.iccsafe.org](http://www.iccsafe.org).
98. ICEA - Insulated Cable Engineers Association, Inc.; [www.icea.net](http://www.icea.net).
99. ICPA - International Cast Polymer Alliance; [www.icpa-hq.org](http://www.icpa-hq.org).
100. ICRI - International Concrete Repair Institute, Inc.; [www.icri.org](http://www.icri.org).
101. IEC - International Electrotechnical Commission; [www.iec.ch](http://www.iec.ch).
102. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); [www.ieee.org](http://www.ieee.org).
103. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); [www.ies.org](http://www.ies.org).
104. IESNA - Illuminating Engineering Society of North America; (See IES).
105. IEST - Institute of Environmental Sciences and Technology; [www.iest.org](http://www.iest.org).
106. IGMA - Insulating Glass Manufacturers Alliance; [www.igmaonline.org](http://www.igmaonline.org).
107. IGSHPA - International Ground Source Heat Pump Association; [www.igshpa.okstate.edu](http://www.igshpa.okstate.edu).
108. ILI - Indiana Limestone Institute of America, Inc.; [www.iliai.com](http://www.iliai.com).
109. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); [www.intertek.com](http://www.intertek.com).
110. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); [www.isa.org](http://www.isa.org).
111. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
112. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); [www.isfanow.org](http://www.isfanow.org).
113. ISO - International Organization for Standardization; [www.iso.org](http://www.iso.org).
114. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
115. ITU - International Telecommunication Union; [www.itu.int/home](http://www.itu.int/home).
116. KCMA - Kitchen Cabinet Manufacturers Association; [www.kcma.org](http://www.kcma.org).
117. LMA - Laminating Materials Association; (See CPA).
118. LPI - Lightning Protection Institute; [www.lightning.org](http://www.lightning.org).
119. MBMA - Metal Building Manufacturers Association; [www.mbma.com](http://www.mbma.com).
120. MCA - Metal Construction Association; [www.metalconstruction.org](http://www.metalconstruction.org).
121. MFMA - Maple Flooring Manufacturers Association, Inc.; [www.maplefloor.org](http://www.maplefloor.org).
122. MFMA - Metal Framing Manufacturers Association, Inc.; [www.metalframingmfg.org](http://www.metalframingmfg.org).
123. MHIA - Material Handling Industry of America; [www.mhia.org](http://www.mhia.org).
124. MIA - Marble Institute of America; [www.marble-institute.com](http://www.marble-institute.com).

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126. MPI - Master Painters Institute; [www.paintinfo.com](http://www.paintinfo.com).
127. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; [www.mss-hq.org](http://www.mss-hq.org).
128. NAAMM - National Association of Architectural Metal Manufacturers; [www.naamm.org](http://www.naamm.org).
129. NACE - NACE International; (National Association of Corrosion Engineers International); [www.nace.org](http://www.nace.org).
130. NADCA - National Air Duct Cleaners Association; [www.nadca.com](http://www.nadca.com).
131. NAIMA - North American Insulation Manufacturers Association; [www.naima.org](http://www.naima.org).
132. NBGQA - National Building Granite Quarries Association, Inc.; [www.nbgqa.com](http://www.nbgqa.com).
133. NCAA - National Collegiate Athletic Association (The); [www.ncaa.org](http://www.ncaa.org).
134. NCMA - National Concrete Masonry Association; [www.ncma.org](http://www.ncma.org).
135. NEBB - National Environmental Balancing Bureau; [www.nebb.org](http://www.nebb.org).
136. NECA - National Electrical Contractors Association; [www.necanet.org](http://www.necanet.org).
137. NeLMA - Northeastern Lumber Manufacturers Association; [www.nelma.org](http://www.nelma.org).
138. NEMA - National Electrical Manufacturers Association; [www.nema.org](http://www.nema.org).
139. NETA - InterNational Electrical Testing Association; [www.netaworld.org](http://www.netaworld.org).
140. NFHS - National Federation of State High School Associations; [www.nfhs.org](http://www.nfhs.org).
141. NFPA - NFPA; (National Fire Protection Association); [www.nfpa.org](http://www.nfpa.org).
142. NFPA - NFPA International; (See NFPA).
143. NFRC - National Fenestration Rating Council; [www.nfrc.org](http://www.nfrc.org).
144. NHLA - National Hardwood Lumber Association; [www.nhla.com](http://www.nhla.com).
145. NLGA - National Lumber Grades Authority; [www.nlga.org](http://www.nlga.org).
146. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
147. NOMMA - National Ornamental & Miscellaneous Metals Association; [www.nomma.org](http://www.nomma.org).
148. NRCA - National Roofing Contractors Association; [www.nrca.net](http://www.nrca.net).
149. NRMCA - National Ready Mixed Concrete Association; [www.nrmca.org](http://www.nrmca.org).
150. NSF - NSF International; (National Sanitation Foundation International); [www.nsf.org](http://www.nsf.org).
151. NSPE - National Society of Professional Engineers; [www.nspe.org](http://www.nspe.org).
152. NSSGA - National Stone, Sand & Gravel Association; [www.nssga.org](http://www.nssga.org).
153. NTMA - National Terrazzo & Mosaic Association, Inc. (The); [www.ntma.com](http://www.ntma.com).
154. NWFA - National Wood Flooring Association; [www.nwfa.org](http://www.nwfa.org).
155. PCI - Precast/Prestressed Concrete Institute; [www.pci.org](http://www.pci.org).
156. PDI - Plumbing & Drainage Institute; [www.pdionline.org](http://www.pdionline.org).
157. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); [www.plasa.org](http://www.plasa.org).
158. RCSC - Research Council on Structural Connections; [www.boltcouncil.org](http://www.boltcouncil.org).
159. RFCI - Resilient Floor Covering Institute; [www.rfci.com](http://www.rfci.com).
160. RIS - Redwood Inspection Service; [www.redwoodinspection.com](http://www.redwoodinspection.com).
161. SAE - SAE International; (Society of Automotive Engineers); [www.sae.org](http://www.sae.org).
162. SCTE - Society of Cable Telecommunications Engineers; [www.scte.org](http://www.scte.org).
163. SDI - Steel Deck Institute; [www.sdi.org](http://www.sdi.org).
164. SDI - Steel Door Institute; [www.steeldoor.org](http://www.steeldoor.org).
165. SEFA - Scientific Equipment and Furniture Association; [www.sefalabs.com](http://www.sefalabs.com).
166. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).

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168. SJI - Steel Joist Institute; [www.steeljoist.org](http://www.steeljoist.org).
169. SMA - Screen Manufacturers Association; [www.smainfo.org](http://www.smainfo.org).
170. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; [www.smacna.org](http://www.smacna.org).
171. SMPTE - Society of Motion Picture and Television Engineers; [www.smpte.org](http://www.smpte.org).
172. SPFA - Spray Polyurethane Foam Alliance; [www.sprayfoam.org](http://www.sprayfoam.org).
173. SPIB - Southern Pine Inspection Bureau; [www.spib.org](http://www.spib.org).
174. SPRI - Single Ply Roofing Industry; [www.spri.org](http://www.spri.org).
175. SRCC - Solar Rating and Certification Corporation; [www.solar-rating.org](http://www.solar-rating.org).
176. SSINA - Specialty Steel Industry of North America; [www.ssina.com](http://www.ssina.com).
177. SSPC - SSPC: The Society for Protective Coatings; [www.sspc.org](http://www.sspc.org).
178. STI - Steel Tank Institute; [www.steeltank.com](http://www.steeltank.com).
179. SWI - Steel Window Institute; [www.steelwindows.com](http://www.steelwindows.com).
180. SWPA - Submersible Wastewater Pump Association; [www.swpa.org](http://www.swpa.org).
181. TCA - Tilt-Up Concrete Association; [www.tilt-up.org](http://www.tilt-up.org).
182. TCNA - Tile Council of North America, Inc.; (Formerly: Tile Council of America); [www.tileusa.com](http://www.tileusa.com).
183. TEMA - Tubular Exchanger Manufacturers Association, Inc.; [www.tema.org](http://www.tema.org).
184. TIA - Telecommunications Industry Association; (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); [www.tiaonline.org](http://www.tiaonline.org).
185. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
186. TMS - The Masonry Society; [www.masonrysociety.org](http://www.masonrysociety.org).
187. TPI - Truss Plate Institute; [www.tpinst.org](http://www.tpinst.org).
188. TPI - Turfgrass Producers International; [www.turfgrasssod.org](http://www.turfgrasssod.org).
189. TRI - Tile Roofing Institute; [www.tilerroofing.org](http://www.tilerroofing.org).
190. UBC - Uniform Building Code; (See ICC).
191. UL - Underwriters Laboratories Inc.; [www.ul.com](http://www.ul.com).
192. UNI - Uni-Bell PVC Pipe Association; [www.uni-bell.org](http://www.uni-bell.org).
193. USAV - USA Volleyball; [www.usavolleyball.org](http://www.usavolleyball.org).
194. USGBC - U.S. Green Building Council; [www.usgbc.org](http://www.usgbc.org).
195. USITT - United States Institute for Theatre Technology, Inc.; [www.usitt.org](http://www.usitt.org).
196. WASTEC - Waste Equipment Technology Association; [www.wastec.org](http://www.wastec.org).
197. WCLIB - West Coast Lumber Inspection Bureau; [www.wclib.org](http://www.wclib.org).
198. WCMA - Window Covering Manufacturers Association; [www.wcmanet.org](http://www.wcmanet.org).
199. WDMA - Window & Door Manufacturers Association; [www.wdma.com](http://www.wdma.com).
200. WI - Woodwork Institute; (Formerly: WIC - Woodwork Institute of California); [www.wicnet.org](http://www.wicnet.org).
201. WMMPA - Wood Moulding & Millwork Producers Association; (See MMPA).
202. WSRCA - Western States Roofing Contractors Association; [www.wsrca.com](http://www.wsrca.com).
203. WPA - Western Wood Products Association; [www.wwpa.org](http://www.wwpa.org).

- B. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

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## REFERENCES

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1. CFR - Code of Federal Regulations; Available from Government Printing Office; [www.gpo.gov/fdsys](http://www.gpo.gov/fdsys).
2. DOD - Department of Defense; Military Specifications and Standards; Available from Department of Defense Single Stock Point; <http://dodssp.daps.dla.mil>.
3. DSCC - Defense Supply Center Columbus; (See FS).
4. FED-STD - Federal Standard; (See FS).
5. FS - Federal Specification; Available from Department of Defense Single Stock Point; <http://dodssp.daps.dla.mil>.
  - a. Available from Defense Standardization Program; [www.dsp.dla.mil](http://www.dsp.dla.mil).
  - b. Available from General Services Administration; [www.gsa.gov](http://www.gsa.gov).
  - c. Available from National Institute of Building Sciences/Whole Building Design Guide; [www.wbdg.org/ccb](http://www.wbdg.org/ccb).
6. MILSPEC - Military Specification and Standards; (See DOD).
7. USAB - United States Access Board; [www.access-board.gov](http://www.access-board.gov).
8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200



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## SECTION 017300 - EXECUTION

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
  - 1. Installation of the Work.
  - 2. Cutting and patching.
  - 3. Protection of installed construction.
- B. Related Requirements:
  - 1. Section 011000 "Summary" for limits on use of Project site.
  - 2. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

## 1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

## 1.4 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
  - 1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection

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2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. [Operational elements include the following:]
    - a. Primary operational systems and equipment.
    - b. Fire separation assemblies.
    - c. Air or smoke barriers.
    - d. Fire-suppression systems.
    - e. Mechanical systems piping and ducts.
    - f. Control systems.
    - g. Communication systems.
    - h. Fire-detection and -alarm systems.
    - i. Conveying systems.
    - j. Electrical wiring systems.
    - k. Operating systems of special construction.
  3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
    - a. Water, moisture, or vapor barriers.
    - b. Membranes and flashings.
    - c. Exterior curtain-wall construction.
    - d. Sprayed fire-resistive material.
    - e. Equipment supports.
    - f. Piping, ductwork, vessels, and equipment.
    - g. Noise- and vibration-control elements and systems.
    - h. <Insert miscellaneous element>.
  4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- B. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.
- C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

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## PART 2 - PRODUCTS

## 2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
  - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials.

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, **[mechanical and electrical systems,]** and other construction affecting the Work.
  - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
  - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
  - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
  - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
  - 1. Description of the Work.
  - 2. List of unacceptable installation tolerances.
  - 3. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

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### 3.2 PREPARATION

- A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."
- E.

### 3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  - 1. Make vertical work plumb and make horizontal work level.
  - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.
- F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that

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adequate provisions are made for locating and installing products to comply with indicated requirements.

- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.
  - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
  - 2. Allow for building movement, including thermal expansion and contraction.
  - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

### 3.4 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
  - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to [minimize][prevent] interruption to occupied areas.

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- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
  4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
  5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
  6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.
1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
  2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.
    - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    - b. Restore damaged pipe covering to its original condition.
  3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
    - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
  4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.

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5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

### 3.5 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

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## SECTION 017700 - CLOSEOUT PROCEDURES

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
  - 1. Substantial Completion procedures.
  - 2. Final completion procedures.
  - 3. Warranties.
  - 4. Final cleaning.
  - 5. Repair of the Work.
- B. Related Requirements:
  - 1. Section 017300 "Execution" for progress cleaning of Project site.
  - 2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.
  - 3. Section 017900 "Demonstration and Training" for requirements for instructing Owner's personnel.

## 1.3 ACTION SUBMITTALS

- A. Product Data: For cleaning agents.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

## 1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.



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## 1.5 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

## 1.6 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
  - 1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."

## 1.7 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
  - 1. Organize list of spaces in sequential order, starting with exterior areas first.
  - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
  - 3. Include the following information at the top of each page:
    - a. Project name.
    - b. Date.
    - c. Name of Architect.
    - d. Name of Contractor.
    - e. Page number.

## 1.8 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
  - 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.

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2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
  3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
  4. Warranty Electronic File: Scan warranties and bonds and assemble complete warranty and bond submittal package into a single indexed electronic PDF file with links enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

## PART 2 - PRODUCTS

## 2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

## PART 3 - EXECUTION

## 3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
    - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.

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- c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
- d. Remove tools, construction equipment, machinery, and surplus material from Project site.
- e. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
- f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
- g. Sweep concrete floors broom clean in unoccupied spaces.
- h. Remove labels that are not permanent.
- i. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
- j. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
- k. Leave Project clean and ready for occupancy.

## 3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
  - 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
  - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
    - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
  - 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
  - 4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 017700

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## SECTION 017823 - OPERATION AND MAINTENANCE DATA

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
  - 1. Operation and maintenance documentation directory.
  - 2. Operation manuals for systems, subsystems, and equipment.
  - 3. Product maintenance manuals.
  - 4. Systems and equipment maintenance manuals.
- B. Related Requirements:
  - 1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

## 1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

## 1.4 CLOSEOUT SUBMITTALS

- A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
  - 1. Architect will comment on whether content of operations and maintenance submittals are acceptable.
  - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.
- B. Format: Submit operations and maintenance manuals in the following format:

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1. PDF electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Architect.
    - a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
    - b. Enable inserted reviewer Comments on draft submittals.
  2. Three paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves. Architect will return two copies.
- C. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.
1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.

## PART 2 - PRODUCTS

## 2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

- A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:
1. List of documents.
  2. List of systems.
  3. List of equipment.
  4. Table of contents.
- B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
- C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
- D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

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## 2.2 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
1. Title page.
  2. Table of contents.
  3. Manual contents.
- B. Title Page: Include the following information:
1. Subject matter included in manual.
  2. Name and address of Project.
  3. Name and address of Owner.
  4. Date of submittal.
  5. Name and contact information for Contractor.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.
1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
  2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
- F. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.
1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-

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mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

- a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
  - b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.
2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
  3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
  4. Supplementary Text: Prepared on 8-1/2-by-11-inch (215-by-280-mm) white bond paper.
  5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
    - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
    - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

## 2.3 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
  1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
  2. Operating standards.
  3. Operating procedures.
  4. Operating logs.
  5. Wiring diagrams.
  6. Control diagrams.
  7. Piped system diagrams.
  8. Precautions against improper use.
- B. Descriptions: Include the following:
  1. Product name and model number. Use designations for products indicated on Contract Documents.

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2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

## 2.4 PRODUCT MAINTENANCE MANUALS

A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.



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3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

- E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

## 2.5 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

- A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.
- B. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:
1. Standard maintenance instructions and bulletins.
  2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
  3. Identification and nomenclature of parts and components.
  4. List of items recommended to be stocked as spare parts.
- D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
1. Test and inspection instructions.
  2. Troubleshooting guide.
  3. Precautions against improper maintenance.
  4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  5. Aligning, adjusting, and checking instructions.
  6. Demonstration and training video recording, if available.
- E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

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1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
  2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
1. Include procedures to follow and required notifications for warranty claims.

## PART 3 - EXECUTION

## 3.1 MANUAL PREPARATION

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.
- B. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- C. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
  2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- D. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
- E. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

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1. Do not use original project record documents as part of operation and maintenance manuals.
  2. Comply with requirements of newly prepared record Drawings in Section 017839 "Project Record Documents."
- F. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

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## SECTION 017900 - DEMONSTRATION AND TRAINING

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
  - 1. Demonstration of operation of systems, subsystems, and equipment.
  - 2. Training in operation and maintenance of systems, subsystems, and equipment.
  - 3. Demonstration and training video recordings.
- B. Allowances: Furnish demonstration and training instruction time under the Demonstration and Training Allowance as specified in Section 012100 "Allowances."
- C. Unit Price for Instruction Time: Length of instruction time will be measured by actual time spent performing demonstration and training in required location. No payment will be made for time spent assembling educational materials, setting up, or cleaning up. See requirements in Section 012200 "Unit Prices."

## 1.3 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.

## 1.4 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.

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- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

## PART 2 - PRODUCTS

## 2.1 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
  - 1. Documentation: Review the following items in detail:
    - a. Emergency manuals.
    - b. Operations manuals.
    - c. Maintenance manuals.
    - d. Project record documents.
    - e. Identification systems.
    - f. Warranties and bonds.
    - g. Maintenance service agreements and similar continuing commitments.
  - 2. Emergencies: Include the following, as applicable:
    - a. Instructions on meaning of warnings, trouble indications, and error messages.
    - b. Instructions on stopping.
    - c. Shutdown instructions for each type of emergency.
    - d. Operating instructions for conditions outside of normal operating limits.
    - e. Sequences for electric or electronic systems.
    - f. Special operating instructions and procedures.
  - 3. Operations: Include the following, as applicable:
    - a. Startup procedures.
    - b. Equipment or system break-in procedures.
    - c. Routine and normal operating instructions.
    - d. Regulation and control procedures.
    - e. Control sequences.
    - f. Safety procedures.

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- g. Instructions on stopping.
  - h. Normal shutdown instructions.
  - i. Operating procedures for emergencies.
  - j. Operating procedures for system, subsystem, or equipment failure.
  - k. Seasonal and weekend operating instructions.
  - l. Required sequences for electric or electronic systems.
  - m. Special operating instructions and procedures.
4. Adjustments: Include the following:
- a. Alignments.
  - b. Checking adjustments.
  - c. Noise and vibration adjustments.
  - d. Economy and efficiency adjustments.
5. Troubleshooting: Include the following:
- a. Diagnostic instructions.
  - b. Test and inspection procedures.
6. Maintenance: Include the following:
- a. Inspection procedures.
  - b. Types of cleaning agents to be used and methods of cleaning.
  - c. List of cleaning agents and methods of cleaning detrimental to product.
  - d. Procedures for routine cleaning
  - e. Procedures for preventive maintenance.
  - f. Procedures for routine maintenance.
  - g. Instruction on use of special tools.
7. Repairs: Include the following:
- a. Diagnosis instructions.
  - b. Repair instructions.
  - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
  - d. Instructions for identifying parts and components.
  - e. Review of spare parts needed for operation and maintenance.

## PART 3 - EXECUTION

## 3.1 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 017823 "Operation and Maintenance Data."

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- B. Set up instructional equipment at instruction location.

## 3.2 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
  - 1. Architect will furnish an instructor to describe basis of system design, operational requirements, criteria, and regulatory requirements.
  - 2. Owner will furnish an instructor to describe Owner's operational philosophy.
  - 3. Owner will furnish Contractor with names and positions of participants.
- C. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
  - 1. Schedule training with Owner, through Architect, with at least seven days' advance notice.
- D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- E. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

END OF SECTION 017900

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## SECTION 042200 - CONCRETE UNIT MASONRY

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

## A. Section Includes:

- 1. Concrete masonry units.
- 2. Mortar and grout.
- 3. Ties and anchors.
- 4. Embedded flashing.

## B. Related Sections:

- 1. Section 071900 "Water Repellents" for water repellents applied to concrete unit masonry.
- 2. Section 076200 "Sheet Metal Flashing and Trim" for sheet metal flashing and for furnishing manufactured reglets installed in masonry joints.

## 1.3 DEFINITIONS

- A. CMU(s): Concrete masonry unit(s).
- B. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

## 1.4 QUALITY ASSURANCE

- A. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.
- B. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.
- C. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.



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## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- D. Deliver preblended, dry mortar mix in moisture-resistant containers designed for use with dispensing silos. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in covered weatherproof dispensing silos.
- E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

## 1.6 PROJECT CONDITIONS

- A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
  - 1. Extend cover a minimum of 24 inches (600 mm) down both sides of walls and hold cover securely in place.
- B. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least three days after building masonry walls or columns.
- C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.
  - 1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
  - 2. Protect sills, ledges, and projections from mortar droppings.
  - 3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
  - 4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.
- D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

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1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and higher and will remain so until masonry has dried, but not less than 7 days after completing cleaning.
- E. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

## PART 2 - PRODUCTS

## 2.1 MASONRY UNITS, GENERAL

- A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not use units where such defects will be exposed in the completed Work.
- B. Fire-Resistance Ratings: Where indicated, provide units that comply with requirements for fire-resistance ratings indicated as determined by testing according to ASTM E 119, by equivalent masonry thickness, or by other means, as acceptable to authorities having jurisdiction.

## 2.2 CONCRETE MASONRY UNITS

- A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.
  1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
  2. Provide square-edged units for outside corners unless otherwise indicated.
- B. CMUs: ASTM C 90.
  1. Density Classification: Normal weight.
  2. Size (Width): Manufactured to dimensions 3/8 inch less than nominal dimensions.
  3. Size (Width): Manufactured to the following dimensions:
    - a. 100 mm nominal; 92 mm actual.
    - b. 150 mm nominal; 143 mm actual.
    - c. 200 mm nominal; 194 mm actual.
    - d. 250 mm nominal; 244 mm actual.
    - e. 300 mm nominal; 295 mm actual.
    - f. 400 mm nominal; 396 mm actual.
  4. Exposed Faces: Provide color and texture matching the range represented by Architect's sample.
  5. Faces to Receive Plaster: Where units are indicated to receive a direct application of plaster, provide textured-face units made with gap-graded aggregates.

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## 2.3 MASONRY LINTELS

- A. General: Provide one of the following:
- B. Masonry Lintels: Prefabricated or built-in-place masonry lintels made from bond beam CMUs with reinforcing bars placed as indicated and filled with coarse grout. Cure precast lintels before handling and installing. Temporarily support built-in-place lintels until cured.

## 2.4 MORTAR AND GROUT MATERIALS

- A. Masonry Cement: ASTM C 91.
- B. Aggregate for Mortar: ASTM C 144.
  - 1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
  - 2. For joints less than 1/4 inch (6 mm) thick, use aggregate graded with 100 percent passing the No. 16 (1.18-mm) sieve.
- C. Aggregate for Grout: ASTM C 404.
- D. Water: Potable.

## 2.5 TIES AND ANCHORS

- A. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated.
  - 1. Mill-Galvanized, Carbon-Steel Wire: ASTM A 82/A 82M; with ASTM A 641/A 641M, Class 1 coating.
  - 2. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82/A 82M; with ASTM A 153/A 153M, Class B-2 coating.
  - 3. Stainless-Steel Wire: ASTM A 580/A 580M, Type 304.
  - 4. Galvanized Steel Sheet: ASTM A 653/A 653M, Commercial Steel, G60 (Z180) zinc coating.
  - 5. Steel Sheet, Galvanized after Fabrication: ASTM A 1008/A 1008M, Commercial Steel, with ASTM A 153/A 153M, Class B coating.
  - 6. Stainless-Steel Sheet: ASTM A 666, Type 304.
  - 7. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
  - 8. Stainless-Steel Bars: ASTM A 276 or ASTM A 666, Type 304.
- B. Partition Top Anchors: 0.105-inch-(2.66-mm-)thick metal plate with 3/8-inch-(9.5-mm-)diameter metal rod 6 inches (152 mm) long welded to plate and with closed-end plastic tube fitted over rod that allows rod to move in and out of tube. Fabricate from steel, hot-dip galvanized after fabrication.

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- C. Rigid Anchors: Fabricate from steel bars 1-1/2 inches (38 mm) wide by 1/4 inch (6.35 mm) thick by 24 inches (610 mm) long, with ends turned up 2 inches (51 mm) or with cross pins unless otherwise indicated.

1. Corrosion Protection: Hot-dip galvanized to comply with ASTM A 153/A 153M.

## 2.6 MISCELLANEOUS ANCHORS

- A. Unit Type Inserts in Concrete: Cast-iron or malleable-iron wedge-type inserts.
- B. Anchor Bolts: Headed or L-shaped steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers; hot-dip galvanized to comply with ASTM A 153/A 153M, Class C; of dimensions indicated.

## 2.7 EMBEDDED FLASHING MATERIALS

- A. Metal Flashing: Provide metal flashing complying with SMACNA's "Architectural Sheet Metal Manual " and as follows:

1. Stainless Steel: ASTM A 240/A 240M, Type 304, 0.016 inch (0.40 mm) thick.
2. Copper: ASTM B 370, Temper H00, cold-rolled copper sheet, 16-oz./sq. ft. (4.9-kg/sq. m) weight or 0.0216 inch (0.55 mm) thick or ASTM B 370, Temper H01, high-yield copper sheet, 12-oz./sq. ft. (3.7-kg/sq. m) weight or 0.0162 inch (0.41 mm) thick.
3. Fabricate continuous flashings in sections 96 inches (2400 mm) long minimum, but not exceeding 12 feet (3.7 m). Provide splice plates at joints of formed, smooth metal flashing.
4. Fabricate through-wall flashing with snaplock receiver on exterior face where indicated to receive counterflashing.
5. Fabricate through-wall flashing with drip edge unless otherwise indicated. Fabricate by extending flashing 1/2 inch (13 mm) out from wall, with outer edge bent down 30 degrees and hemmed.
6. Fabricate metal drip edges and sealant stops for ribbed metal flashing from plain metal flashing of same metal as ribbed flashing and extending at least 3 inches (76 mm) into wall with hemmed inner edge to receive ribbed flashing and form a hooked seam. Form hem on upper surface of metal so that completed seam will shed water.
7. Metal Drip Edge: Fabricate from stainless steel. Extend at least 3 inches (76 mm) into wall and 1/2 inch (13 mm) out from wall, with outer edge bent down 30 degrees and hemmed.

- B. Flexible Flashing: Use one of the following unless otherwise indicated:

1. Elastomeric Thermoplastic Flashing: Composite flashing product consisting of a polyester-reinforced ethylene interpolymer alloy.
  - a. Accessories: Provide preformed corners, end dams, other special shapes, and seaming materials produced by flashing manufacturer.

- C. Application: Unless otherwise indicated, use the following:

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1. Where flashing is indicated to receive counterflashing, use metal flashing.
2. Where flashing is indicated to be turned down at or beyond the wall face, use metal flashing.
3. Where flashing is partly exposed and is indicated to terminate at the wall face, use metal flashing with a drip edge.
4. Where flashing is fully concealed, use metal flashing or flexible flashing.

D. Solder and Sealants for Sheet Metal Flashings:

1. Solder for Stainless Steel: ASTM B 32, Grade Sn60, with acid flux of type recommended by stainless-steel sheet manufacturer.
2. Solder for Copper: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead.
3. Elastomeric Sealant: ASTM C 920, chemically curing silicone sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

E. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.

## 2.8 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
2. Use masonry cement mortar unless otherwise indicated.
3. For exterior masonry, use masonry cement mortar.
4. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.

B. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification. Provide the following types of mortar for applications stated unless another type is indicated or needed to provide required compressive strength of masonry.

1. For masonry below grade or in contact with earth, use Type M.
2. For mortar parge coats, use Type S.
3. For exterior, above-grade, load-bearing and non-load-bearing walls and parapet walls; for interior load-bearing walls; for interior non-load-bearing partitions; and for other applications where another type is not indicated, use Type N.
4. For interior non-load-bearing partitions, Type O may be used instead of Type N.

C. Grout for Unit Masonry: Comply with ASTM C 476.

1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with Table 1.15.1 in ACI 530.1/ASCE 6/TMS 602 for dimensions of grout spaces and pour height.
2. Proportion grout in accordance with ASTM C 476, Table 1.

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3. Provide grout with a slump of 8 to 11 inches (203 to 279 mm) as measured according to ASTM C 143/C 143M.

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
  1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
  2. Verify that foundations are within tolerances specified.
  3. Verify that reinforcing dowels are properly placed.
- B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 INSTALLATION, GENERAL

- A. Build chases and recesses to accommodate items specified in this and other Sections.
- B. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match the construction immediately adjacent to opening.
- C. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

## 3.3 TOLERANCES

- A. Dimensions and Locations of Elements:
  1. For dimensions in cross section or elevation do not vary by more than plus 1/2 inch (12 mm) or minus 1/4 inch (6 mm).
  2. For location of elements in plan do not vary from that indicated by more than plus or minus 1/2 inch (12 mm).
  3. For location of elements in elevation do not vary from that indicated by more than plus or minus 1/4 inch (6 mm) in a story height or 1/2 inch (12 mm) total.
- B. Lines and Levels:

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1. For bed joints and top surfaces of bearing walls do not vary from level by more than **1/4 inch in 10 feet** (**6 mm in 3 m**), or **1/2 inch** (**12 mm**) maximum.
2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than **1/8 inch in 10 feet** (**3 mm in 3 m**), **1/4 inch in 20 feet** (**6 mm in 6 m**), or **1/2 inch** (**12 mm**) maximum.
3. For vertical lines and surfaces do not vary from plumb by more than **1/4 inch in 10 feet** (**6 mm in 3 m**), **3/8 inch in 20 feet** (**9 mm in 6 m**), or **1/2 inch** (**12 mm**) maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than **1/8 inch in 10 feet** (**3 mm in 3 m**), **1/4 inch in 20 feet** (**6 mm in 6 m**), or **1/2 inch** (**12 mm**) maximum.
5. For lines and surfaces do not vary from straight by more than **1/4 inch in 10 feet** (**6 mm in 3 m**), **3/8 inch in 20 feet** (**9 mm in 6 m**), or **1/2 inch** (**12 mm**) maximum.
6. For vertical alignment of exposed head joints, do not vary from plumb by more than **1/4 inch in 10 feet** (**6 mm in 3 m**), or **1/2 inch** (**12 mm**) maximum.

## C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus **1/8 inch** (**3 mm**), with a maximum thickness limited to **1/2 inch** (**12 mm**).
2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than **1/8 inch** (**3 mm**).
3. For head and collar joints, do not vary from thickness indicated by more than plus **3/8 inch** (**9 mm**) or minus **1/4 inch** (**6 mm**).
4. For exposed head joints, do not vary from thickness indicated by more than plus or minus **1/8 inch** (**3 mm**).

## 3.4 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less than nominal **4-inch** (**100-mm**) horizontal face dimensions at corners or jambs.
- C. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than **4-inches** (**100-mm**). Bond and interlock each course of each wythe at corners. Do not use units with less than nominal **4-inch** (**100-mm**) horizontal face dimensions at corners or jambs.
- D. Stopping and Resuming Work: Stop work by racking back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar before laying fresh masonry.

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- E. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.
- F. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.
- G. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below and rod mortar or grout into core.
- H. Fill cores in hollow CMUs with grout **24 inches (600 mm)** under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.
- I. Build non-load-bearing interior partitions full height of story to underside of solid floor or roof structure above unless otherwise indicated.
  - 1. Install compressible filler in joint between top of partition and underside of structure above.
  - 2. Fasten partition top anchors to structure above and build into top of partition. Grout cells of CMUs solidly around plastic tubes of anchors and push tubes down into grout to provide **1/2-inch (13-mm)** clearance between end of anchor rod and end of tube. Space anchors **48 inches (1200 mm)** o.c. unless otherwise indicated.
  - 3. Wedge non-load-bearing partitions against structure above with small pieces of tile, slate, or metal. Fill joint with mortar after dead-load deflection of structure above approaches final position.
  - 4. At fire-rated partitions, treat joint between top of partition and underside of structure above to comply with Section 078446 "Fire-Resistive Joint Systems."

## 3.5 MORTAR BEDDING AND JOINTING

- A. Lay hollow CMUs as follows:
  - 1. With face shells fully bedded in mortar and with head joints of depth equal to bed joints.
  - 2. With webs fully bedded in mortar in all courses of piers, columns, and pilasters.
  - 3. With webs fully bedded in mortar in grouted masonry, including starting course on footings.
  - 4. With entire units, including areas under cells, fully bedded in mortar at starting course on footings where cells are not grouted.
- B. Set cast-stone trim units in full bed of mortar with full vertical joints. Fill dowel, anchor, and similar holes.
  - 1. Clean soiled surfaces with fiber brush and soap powder and rinse thoroughly with clear water.
  - 2. Allow cleaned surfaces to dry before setting.
  - 3. Wet joint surfaces thoroughly before applying mortar.
- C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.



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- D. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.

## 3.6 ANCHORING MASONRY TO STRUCTURAL STEEL AND CONCRETE

- A. Anchor masonry to structural steel and concrete where masonry abuts or faces structural steel or concrete to comply with the following:
  - 1. Provide an open space not less than **1/2 inch (13 mm)** wide between masonry and structural steel or concrete unless otherwise indicated. Keep open space free of mortar and other rigid materials.
  - 2. Anchor masonry with anchors embedded in masonry joints and attached to structure.
  - 3. Space anchors as indicated, but not more than **24 inches (610 mm)** o.c. vertically and **36 inches (915 mm)** o.c. horizontally.

## 3.7 CONTROL AND EXPANSION JOINTS

- A. General: Install control and expansion joint materials in unit masonry as masonry progresses. Do not allow materials to span control and expansion joints without provision to allow for in-plane wall or partition movement.
- B. Form control joints in concrete masonry using one of the following methods:
  - 1. Fit bond-breaker strips into hollow contour in ends of CMUs on one side of control joint. Fill resultant core with grout and rake out joints in exposed faces for application of sealant.
  - 2. Install preformed control-joint gaskets designed to fit standard sash block.
  - 3. Install interlocking units designed for control joints. Install bond-breaker strips at joint. Keep head joints free and clear of mortar or rake out joint for application of sealant.
  - 4. Install temporary foam-plastic filler in head joints and remove filler when unit masonry is complete for application of sealant.

## 3.8 LINTELS

- A. Provide masonry lintels where shown and where openings of more than **12 inches (305 mm)** for brick-size units and **24 inches (610 mm)** for block-size units are shown without structural steel or other supporting lintels.
- B. Provide minimum bearing of **8 inches (200 mm)** at each jamb unless otherwise indicated.

## 3.9 FLASHING

- A. General: Install embedded flashing in masonry at lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.
- B. Install flashing as follows unless otherwise indicated:

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1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
  2. At lintels, extend flashing a minimum of **6 inches (150 mm)** into masonry at each end. At heads and sills, extend flashing **6 inches (150 mm)** at ends and turn up not less than **2 inches (50 mm)** to form end dams.
  3. Interlock end joints of ribbed sheet metal flashing by overlapping ribs not less than **1-1/2 inches (38 mm)** or as recommended by flashing manufacturer, and seal lap with elastomeric sealant complying with requirements in Section 079200 "Joint Sealants" for application indicated.
  4. Install metal drip edges and sealant stops with ribbed sheet metal flashing by interlocking hemmed edges to form hooked seam. Seal seam with elastomeric sealant complying with requirements in Section 079200 "Joint Sealants" for application indicated.
  5. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing **1/2 inch (13 mm)** back from outside face of wall and adhere flexible flashing to top of metal drip edge.
  6. Install metal flashing termination beneath flexible flashing at exterior face of wall. Stop flexible flashing **1/2 inch (13 mm)** back from outside face of wall and adhere flexible flashing to top of metal flashing termination.
  7. Cut flexible flashing off flush with face of wall after masonry wall construction is completed.
- C. Install single-wythe CMU flashing system in bed joints of CMU walls where indicated to comply with manufacturer's written instructions. Install CMU cell pans with upturned edges located below face shells and webs of CMUs above and with weep spouts aligned with face of wall. Install CMU web covers so that they cover upturned edges of CMU cell pans at CMU webs and extend from face shell to face shell.
- D. Install reglets and nailers for flashing and other related construction where they are shown to be built into masonry.

## 3.10 REINFORCED UNIT MASONRY INSTALLATION

- A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.
1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
  2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and other loads that may be placed on them during construction.
- B. Placing Reinforcement: Comply with requirements in ACI 530.1/ASCE 6/TMS 602.

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- C. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.

1. Comply with requirements in ACI 530.1/ASCE 6/TMS 602 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
2. Limit height of vertical grout pours to not more than 60 inches (1520 mm).

## 3.11 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas, as needed to perform tests and inspections. Retesting of materials that fail to meet specified requirements shall be done at Contractor's expense.
- B. Inspections: Level 1 special inspections according to the "International Building Code."
1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
  2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.
  3. Place grout only after inspectors have verified proportions of site-prepared grout.
- C. Testing Prior to Construction: One set of tests.
- D. Testing Frequency: One set of tests for each 5000 sq. ft. (464 sq. m) of wall area or portion thereof.
- E. Concrete Masonry Unit Test: For each type of unit provided, according to ASTM C 140 for compressive strength.
- F. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, according to ASTM C 780.
- G. Mortar Test (Property Specification): For each mix provided, according to ASTM C 780. Test mortar for mortar air content and compressive strength.
- H. Grout Test (Compressive Strength): For each mix provided, according to ASTM C 1019.
- I. Prism Test: For each type of construction provided, according to ASTM C 1314 at 7 days and at 28 days.

## 3.12 PARGING

- A. Parge exterior faces of below-grade masonry walls, where indicated, in 2 uniform coats to a total thickness of 3/4 inch (19 mm). Dampen wall before applying first coat and scarify first coat to ensure full bond to subsequent coat.

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- B. Use a steel-trowel finish to produce a smooth, flat, dense surface with a maximum surface variation of 1/8 inch per foot (3 mm per 300 mm). Form a wash at top of parging and a cove at bottom.
- C. Damp-cure parging for at least 24 hours and protect parging until cured.

## 3.13 REPAIRING, POINTING, AND CLEANING

- A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.
- B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.
- C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
  - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
  - 2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
  - 3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
  - 4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
  - 5. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.

## 3.14 MASONRY WASTE DISPOSAL

- A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
- B. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.
  - 1. Crush masonry waste to less than 4 inches (100 mm) in each dimension.
  - 2. Mix masonry waste with at least two parts of specified fill material for each part of masonry waste. Fill material is specified in Section 312000 "Earth Moving."
  - 3. Do not dispose of masonry waste as fill within 18 inches (450 mm) of finished grade.

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- C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 042200

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## SECTION 074113.13 - FORMED METAL ROOF PANELS

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section Includes:
  - 1. Exposed-fastener, lap-seam, metal roof panels.
- B. Related Sections:
  - 1. Section 074213.53 "Metal Soffit Panels" for metal panels used in horizontal soffit applications.
  - 2. Section 077253 "Snow Guards" for prefabricated devices designed to hold snow on the roof surface, allowing it to melt and drain off slowly.

## 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.
- B. Shop Drawings:
  - 1. Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.
  - 2. Accessories: Include details of the flashing, trim, and anchorage systems, at a scale of not less than 1-1/2 inches per 12 inches (1:10).

## 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

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- B. UL-Certified, Portable Roll-Forming Equipment: UL-certified, portable roll-forming equipment capable of producing metal panels warranted by manufacturer to be the same as factory-formed products. Maintain UL certification of portable roll-forming equipment for duration of work.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.
- B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness, with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Retain strippable protective covering on metal panels during installation.

## 1.6 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed according to manufacturers' written instructions and warranty requirements.

## 1.7 COORDINATION

- A. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.
- B. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

## 1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Structural failures including rupturing, cracking, or puncturing.
    - b. Deterioration of metals and other materials beyond normal weathering.

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2. Warranty Period: Two years from date of Substantial Completion.
- B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
  1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
    - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
    - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
    - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
  2. Finish Warranty Period: 20 years from date of Substantial Completion.

## PART 2 - PRODUCTS

## 2.1 EXPOSED-FASTENER, LAP-SEAM, METAL ROOF PANELS

- A. General: Provide factory-formed metal roof panels designed to be installed by lapping side edges of adjacent panels and mechanically attaching panels to supports using exposed fasteners in side laps. Include accessories required for weathertight installation.
- B. Tapered-Rib-Profile, Exposed-Fastener Metal Roof Panels-: Formed with raised, trapezoidal major ribs and intermediate stiffening ribs symmetrically spaced between major ribs.
  1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
    - a. Berridge Manufacturing Co.
  3. Metallic-Coated Steel Sheet: Zinc-coated (galvanized) steel sheet complying with ASTM A 653/A 653M, **G90 (Z275)** coating designation, or aluminum-zinc alloy-coated steel sheet complying with ASTM A 792/A 792M, **Class AZ50 (Class AZM150)** coating designation; structural quality. Prepainted by the coil-coating process to comply with ASTM A 755/A 755M.
    - a. Nominal Thickness: **0.028 inch (0.71 mm)**.
    - b. Exterior Finish: Three-coat fluoropolymer.
    - c. Color: As selected by Architect from manufacturer's full range.
  4. Major-Rib Spacing: **12 inches (305 mm)** o.c.
  5. Panel Coverage: **36 inches (914 mm)**.
  6. Panel Height: **1.25 inches (32 mm)**.



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## 2.2 UNDERLAYMENT MATERIALS

- A. Self-Adhering, High-Temperature Underlayment: Provide self-adhering, cold-applied, sheet underlayment, a minimum of **30 mils (0.76 mm)** thick, specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer when recommended by underlayment manufacturer.
1. Thermal Stability: Stable after testing at **220 deg F (111 deg C)**; ASTM D 1970.
  2. Low-Temperature Flexibility: Passes after testing at minus **20 deg F (29 deg C)**; ASTM D 1970.
- B. Slip Sheet: Manufacturer's recommended slip sheet, of type required for application.

## 2.3 MISCELLANEOUS MATERIALS

- A. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.
1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal panels.
  2. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum **1-inch-(25-mm-)** thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
- B. Flashing and Trim: Provide flashing and trim formed from **same material as metal panels** as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.
- C. Gutters: Formed from same material as roof panels, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum **96-inch-(2400-mm-)** long sections, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual." Furnish gutter supports spaced a maximum of **36 inches (914 mm)** o.c., fabricated from same metal as gutters. Provide wire ball strainers of compatible metal at outlets. Finish gutters to match roof fascia and rake trim.
- D. Downspouts: Formed from same material as roof panels. Fabricate in **10-foot-(3-m-)** long sections, complete with formed elbows and offsets, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual." Finish downspouts to match gutters.
- E. Panel Fasteners: Self-tapping screws designed to withstand design loads. Provide exposed fasteners with heads matching color of metal panels by means of plastic caps or factory-applied coating. Provide EPDM or PVC sealing washers for exposed fasteners.

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- F. Panel Sealants: Provide sealant types recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.
1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape **1/2 inch (13 mm)** wide and **1/8 inch (3 mm)** thick.
  2. Joint Sealant: ASTM C 920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended in writing by metal panel manufacturer.
  3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.

## 2.4 FABRICATION

- A. General: Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using UL-certified, portable roll-forming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown.
- C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
- D. Fabricate metal panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.
- E. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.
1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
  2. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
  3. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.
  4. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
  5. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.

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- a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal panel manufacturer for application, but not less than thickness of metal being secured.

## 2.5 FINISHES

- A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are unacceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Steel Panels and Accessories:
  1. Three-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
  2. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil (0.013 mm).

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.
  1. Examine primary and secondary roof framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal roof panel manufacturer.
  2. Examine solid roof sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal roof panel manufacturer.
    - a. Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

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## 3.2 PREPARATION

- A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C 754 and metal panel manufacturer's written recommendations.

## 3.3 UNDERLAYMENT INSTALLATION

- A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply at locations indicated below, wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches (152 mm) staggered 24 inches (610 mm) between courses. Overlap side edges not less than 3-1/2 inches (90 mm). Extend underlayment into gutter trough. Roll laps with roller. Cover underlayment within 14 days.
1. Apply over the entire roof surface.
  2. Apply over the roof area indicated below:
    - a. Roof perimeter for a distance up from eaves of 24 inches (610 mm) beyond interior wall line.
    - b. Valleys, from lowest point to highest point, for a distance on each side of 18 inches (460 mm). Overlap ends of sheets not less than 6 inches (152 mm).
    - c. Rake edges for a distance of 18 inches (460 mm).
    - d. Hips and ridges for a distance on each side of 12 inches (305 mm).
    - e. Roof-to-wall intersections for a distance from wall of 18 inches (460 mm).
    - f. Around dormers, chimneys, skylights, and other penetrating elements for a distance from element of 18 inches (460 mm).
- B. Slip Sheet: Apply slip sheet over underlayment before installing metal roof panels.
- C. Flashings: Install flashings to cover underlayment to comply with requirements specified in Section 076200 "Sheet Metal Flashing and Trim."

## 3.4 METAL PANEL INSTALLATION

- A. General: Install metal panels according to manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
1. Shim or otherwise plumb substrates receiving metal panels.
  2. Flash and seal metal panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air or water-resistive barriers and flashings that are concealed by metal panels are installed.
  3. Install screw fasteners in predrilled holes.
  4. Locate and space fastenings in uniform vertical and horizontal alignment.
  5. Install flashing and trim as metal panel work proceeds.

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6. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
  7. Align bottoms of metal panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.
  8. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.
- B. Fasteners:
1. Steel Panels: Use stainless-steel fasteners for surfaces exposed to the exterior; use galvanized-steel fasteners for surfaces exposed to the interior.
- C. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel manufacturer.
- D. Lap-Seam Metal Panels: Fasten metal panels to supports with fasteners at each lapped joint at location and spacing recommended by manufacturer.
1. Lap ribbed or fluted sheets one full rib. Apply panels and associated items true to line for neat and weathertight enclosure.
  2. Provide metal-backed washers under heads of exposed fasteners bearing on weather side of metal panels.
  3. Locate and space exposed fasteners in uniform vertical and horizontal alignment. Use proper tools to obtain controlled uniform compression for positive seal without rupture of washer.
  4. Install screw fasteners with power tools having controlled torque adjusted to compress washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.
  5. Flash and seal panels with weather closures at perimeter of all openings.
  6. Watertight Installation:
    - a. Apply a continuous ribbon of sealant or tape to seal lapped joints of metal panels, using sealant or tape as recommend by manufacturer on side laps of nesting-type panels and elsewhere as needed to make panels watertight.
    - b. Provide sealant or tape between panels and protruding equipment, vents, and accessories.
    - c. At panel splices, nest panels with minimum 6-inch (152-mm) end lap, sealed with sealant and fastened together by interlocking clamping plates.
- E. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
1. Install components required for a complete metal panel system including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by metal panel manufacturer; or, if not indicated, provide types recommended in writing by metal panel manufacturer.

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- F. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level. Install work with laps, joints, and seams that are permanently watertight.
1. Install exposed flashing and trim that is without buckling and tool marks, and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and achieve waterproof performance.
  2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (610 mm) of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).
- G. Gutters: Join sections with riveted and soldered or lapped and sealed joints. Attach gutters to eave with gutter hangers spaced not more than 36 inches (914 mm) o.c. using manufacturer's standard fasteners. Provide end closures and seal watertight with sealant. Provide for thermal expansion.
- H. Downspouts: Join sections with telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch (25 mm) away from walls; locate fasteners at top and bottom and at approximately 60 inches (1524 mm) o.c. in between.
1. Provide elbows at base of downspouts to direct water away from building.
- I. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to metal roof panels as recommended by manufacturer.

## 3.5 ERECTION TOLERANCES

- A. Installation Tolerances: Shim and align metal panel units within installed tolerance of 1/4 inch in 20 feet (6 mm in 6 m) on slope and location lines and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

## 3.6 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
- B. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 074113.13

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JOINT SEALANTS

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## SECTION 079200 - JOINT SEALANTS

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section Includes:
  - 1. Nonstaining silicone joint sealants.

## 1.3 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

## 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
- B. Product Testing: Test joint sealants using a qualified testing agency.
  - 1. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

## 1.5 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
  - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (5 deg C).
  - 2. When joint substrates are wet.
  - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
  - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

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## PART 2 - PRODUCTS

## 2.1 JOINT SEALANTS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

## 2.2 NONSTAINING SILICONE JOINT SEALANTS

- A. Nonstaining Joint Sealants: No staining of substrates when tested according to ASTM C 1248.
- B. Silicone, Nonstaining, S, NS, 100/50, NT: Nonstaining, single-component, nonsag, plus 100 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.

## 2.3 JOINT-SEALANT BACKING

- A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:



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1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
  2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
    - a. Concrete.
    - b. Masonry.
  3. Remove laitance and form-release agents from concrete.
  4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
    - a. Glass.
    - b. Porcelain enamel.
    - c. Glazed surfaces of ceramic tile.
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

### 3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
1. Do not leave gaps between ends of sealant backings.
  2. Do not stretch, twist, puncture, or tear sealant backings.
  3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
1. Place sealants so they directly contact and fully wet joint substrates.

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2. Completely fill recesses in each joint configuration.
  3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
  2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
  3. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.
  4. Provide flush joint profile at locations indicated on Drawings according to Figure 8B in ASTM C 1193.
  5. Provide recessed joint configuration of recess depth and at locations indicated on Drawings according to Figure 8C in ASTM C 1193.

## 3.4 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

## 3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

## 3.6 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces[-].
1. Joint Locations:
    - a. Isolation and contraction joints in cast-in-place concrete slabs.
  2. Joint Sealant: Urethane, M, P, 50, T, NT.
  3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces[-].

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1. Joint Locations:
    - a. Construction joints in cast-in-place concrete.
    - b. Control and expansion joints in unit masonry.
    - c. Perimeter joints between materials listed above and frames of doors and louvers.
    - d. Control and expansion joints in and other.
    - e. Other joints as indicated on Drawings.
  2. Joint Sealant: Silicone, nonstaining, S, NS, 50, NT.
  3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces[-].
1. Joint Locations:
    - a. Isolation joints in cast-in-place concrete slabs.
  2. Joint Sealant: Urethane, S, P, 25, T, NT.
  3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces[-].
1. Joint Locations:
    - a. Joints on underside of plant-precast structural concrete planks.
  2. Joint Sealant: Urethane, S, NS, 25, NT.
  3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 079200

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## SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes hollow-metal work.
- B. Related Requirements:
  - 1. Section 087111 "Door Hardware (Descriptive Specification)" for door hardware for hollow-metal doors.

## 1.3 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

## 1.4 COORDINATION

- A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

## 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Include the following:
  - 1. Elevations of each door type.
  - 2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
  - 3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
  - 4. Locations of reinforcement and preparations for hardware.
  - 5. Details of each different wall opening condition.
  - 6. Details of anchorages, joints, field splices, and connections.
  - 7. Details of accessories.
  - 8. Details of moldings, removable stops, and glazing.

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9. Details of conduit and preparations for power, signal, and control systems.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow-metal work palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
  1. Provide additional protection to prevent damage to factory-finished units.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow-metal work vertically under cover at Project site with head up. Place on minimum ~~4-inch~~-(102-mm-)high wood blocking. Provide minimum ~~1/4-inch~~ (6-mm) space between each stacked door to permit air circulation.

## PART 2 - PRODUCTS

## 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  1. Curries
- B. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

## 2.2 EXTERIOR HOLLOW-METAL DOORS AND FRAMES

- A. Construct exterior doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.
- B. Hollow-Metal Doors and Frames: NAAMM-HMMA 860.-.
  1. Physical Performance: Level A according to SDI A250.4.
  2. Doors:
    - a. Type: As indicated in the Door and Frame Schedule.
    - b. Thickness: ~~1-3/4 inches~~ (44.5 mm.)
    - c. Face: Metallic-coated steel sheet, minimum thickness of ~~0.042 inch~~ (1.0 mm), with minimum ~~G60~~ (Z180 or) ~~A60~~ (ZF180) coating.
    - d. Edge Construction: Continuously welded with no visible seam.
    - e. Core: Steel stiffened.
  3. Frames:

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- a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.3 mm), with minimum G60 (Z180 or) A60 (ZF180) coating.
- b. Construction: Full profile welded.

4. Exposed Finish: Prime.

## 2.3 FRAME ANCHORS

## A. Jamb Anchors:

1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch (1.0 mm) thick, with corrugated or perforated straps not less than 2 inches (51 mm) wide by 10 inches (254 mm) long; or wire anchors not less than 0.177 inch (4.5 mm) thick.

## 2.4 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.
- D. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 04Z (12G) coating designation; mill phosphatized.
  1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
- F. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.
- G. Grout: ASTM C 476, except with a maximum slump of 4 inches (102 mm), as measured according to ASTM C 143/C 143M.
- H. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.
- I. Glazing: Comply with requirements in Section 088000 "Glazing."

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- J. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil (0.4-mm) dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

## 2.5 FABRICATION

- A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.
- B. Hollow-Metal Doors:
1. Steel-Stiffened Door Cores: Provide minimum thickness 0.026 inch (0.66 mm), steel vertical stiffeners of same material as face sheets extending full-door height, with vertical webs spaced not more than 6 inches (152 mm) apart. Spot weld to face sheets no more than 5 inches (127 mm) o.c. Fill spaces between stiffeners with glass- or mineral-fiber insulation.
  2. Vertical Edges for Single-Acting Doors: Provide beveled or square edges at manufacturer's discretion.
  3. Top Edge Closures: Close top edges of doors with inverted closures, except provide flush closures at exterior doors of same material as face sheets.
  4. Bottom Edge Closures: Close bottom edges of doors where required for attachment of weather stripping with end closures or channels of same material as face sheets.
  5. Exterior Doors: Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
- C. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
1. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
  2. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
  3. Jamb Anchors: Provide number and spacing of anchors as follows:
    - a. Masonry Type: Locate anchors not more than 16 inches (406 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c., to match coursing, and as follows:
      - 1) Two anchors per jamb up to 60 inches (1524 mm) high.
      - 2) Three anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
      - 3) Four anchors per jamb from 90 to 120 inches (2286 to 3048 mm) high.
      - 4) Four anchors per jamb plus one additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 120 inches (3048 mm) high.

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4. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
  - a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
  - b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
- D. Fabricate concealed stiffeners and edge channels from either cold- or hot-rolled steel sheet.
- E. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
  1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
  2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.
- F. Stops and Moldings: Provide stops and moldings around glazed lites and louvers where indicated. Form corners of stops and moldings with butted or mitered hairline joints.
  1. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames.
  2. Provide loose stops and moldings on inside of hollow-metal work.
  3. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.

## 2.6 STEEL FINISHES

- A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
  1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

## 2.7 ACCESSORIES

- A. Louvers: Provide louvers for interior doors, where indicated, which comply with SDI 111C, with blades or baffles formed of 0.020-inch-(0.5-mm-)thick, cold-rolled steel sheet set into 0.032-inch-(0.8-mm-)thick steel frame.
  1. Sightproof Louver: Stationary louvers constructed with inverted-V or inverted-Y blades.
- B. Grout Guards: Formed from same material as frames, not less than 0.016 inch (0.4 mm) thick.



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## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.
- C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
- B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

## 3.3 INSTALLATION

- A. General: Install hollow-metal work plumb, rigid, properly aligned, and securely fastened in place. Comply with Drawings and manufacturer's written instructions.
- B. Hollow-Metal Frames: Install hollow-metal frames of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.
  - 1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
    - a. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
    - b. Install door silencers in frames before grouting.
    - c. Remove temporary braces necessary for installation only after frames have been properly set and secured.
    - d. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
    - e. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.

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2. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
  3. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
    - a. Squareness: Plus or minus  $1/16$  inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
    - b. Alignment: Plus or minus  $1/16$  inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
    - c. Twist: Plus or minus  $1/16$  inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
    - d. Plumbness: Plus or minus  $1/16$  inch (1.6 mm), measured at jambs at floor.
- C. Hollow-Metal Doors: Fit hollow-metal doors accurately in frames, within clearances specified below. Shim as necessary.
1. Non-Fire-Rated Steel Doors:
    - a. Between Door and Frame Jambs and Head:  $1/8$  inch (3.2 mm) plus or minus  $1/32$  inch (0.8 mm).
    - b. Between Edges of Pairs of Doors:  $1/8$  inch (3.2 mm) to  $1/4$  inch (6.3 mm) plus or minus  $1/32$  inch (0.8 mm).
    - c. At Bottom of Door:  $3/4$  inch (19.1 mm) plus or minus  $1/32$  inch (0.8 mm).
    - d. Between Door Face and Stop:  $1/16$  inch (1.6 mm) to  $1/8$  inch (3.2 mm) plus or minus  $1/32$  inch (0.8 mm).

## 3.4 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.
- B. Remove grout and other bonding material from hollow-metal work immediately after installation.
- C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- D. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION 081113

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## SECTION 087111 - DOOR HARDWARE (DESCRIPTIVE SPECIFICATION)

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes:

- 1. Mechanical door hardware for the following:
  - a. Swinging doors.
- 2. Cylinders for door hardware specified in other Sections.

- B. Related Sections:

- 1. Section 081113 "Hollow Metal Doors and Frames" for door silencers provided as part of hollow-metal frames.

## 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.

- B. Other Action Submittals:

- 1. Door Hardware Schedule: Prepared by or under the supervision of Installer, detailing fabrication and assembly of door hardware, as well as installation procedures and diagrams. Coordinate final door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
  - a. Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate the fabrication of other work that is critical in Project construction schedule.

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- b. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule." Double space entries, and number and date each page.
- c. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
- d. Content: Include the following information:
  - 1) Identification number, location, hand, fire rating, size, and material of each door and frame.
  - 2) Locations of each door hardware set, cross-referenced to Drawings on floor plans and to door and frame schedule.
  - 3) Complete designations, including name and manufacturer, type, style, function, size, quantity, function, and finish of each door hardware product.
  - 4) Fastenings and other pertinent information.
  - 5) Explanation of abbreviations, symbols, and codes contained in schedule.
  - 6) Mounting locations for door hardware.
  - 7) List of related door devices specified in other Sections for each door and frame.

#### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Supplier of products and an employer of workers trained and approved by product manufacturers and an Architectural Hardware Consultant who is available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.
  - 1. Warehousing Facilities: In Project's vicinity.
  - 2. Scheduling Responsibility: Preparation of door hardware and keying schedules.
- B. Source Limitations: Obtain each type of door hardware from a single manufacturer.
- C. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meet requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
  - 1. Air Leakage Rate: Maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at the tested pressure differential of 0.3-inch wg (75 Pa) of water.
- D. Means of Egress Doors: Latches do not require more than 15 lbf (67 N) to release the latch. Locks do not require use of a key, tool, or special knowledge for operation.
- E. Accessibility Requirements: For door hardware on doors in an accessible route, comply with the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines.

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1. Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf (22.2 N).
  2. Comply with the following maximum opening-force requirements:
    - a. Interior, Non-Fire-Rated Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.
    - b. Sliding or Folding Doors: 5 lbf (22.2 N) applied parallel to door at latch.
    - c. Fire Doors: Minimum opening force allowable by authorities having jurisdiction.
  3. Bevel raised thresholds with a slope of not more than 1:2. Provide thresholds not more than 1/2 inch (13 mm) high.
  4. Adjust door closer sweep periods so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.
- F. Keying Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." In addition to Owner Contractor, and Architect, conference participants shall also include Installer's Architectural Hardware Consultant. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including, but not limited to, the following:
1. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
  2. Preliminary key system schematic diagram.
  3. Requirements for access control.
  4. Address for delivery of keys.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Tag each item or package separately with identification coordinated with the final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.

## 1.6 COORDINATION

- A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified elsewhere.
- B. Installation Templates: Distribute for doors, frames, and other work specified to be factory prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

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- C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.
- D. Existing Openings: Where hardware components are scheduled for application to existing construction or where modifications to existing door hardware are required, field verify existing conditions and coordinate installation of door hardware to suit opening conditions and to provide proper door operation.

## PART 2 - PRODUCTS

## 2.1 SCHEDULED DOOR HARDWARE

- A. Provide door hardware for each door as scheduled in Part 3 "Door Hardware Schedule" Article to comply with requirements in this Section.
  - 1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated.
- B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Part 3 "Door Hardware Schedule" Article. Products are identified by descriptive titles corresponding to requirements specified in Part 2.

## 2.2 HINGES

- A. Hinges: BHMA A156.1.
- B. Plain-Bearing Hinges: Grade 3 (standard weight).
  - 1. Mounting: Full mortise (butts).
  - 2. Base and Pin Metal: Steel with steel pin.
  - 3. Pins: Nonremovable.
  - 4. Tips: Flat button.
  - 5. Corners: Square.

## 2.3 MECHANICAL LOCKS AND LATCHES

- A. Lock Functions: As indicated in door hardware schedule.
- B. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:
  - 1. Bored Locks: Minimum 1/2-inch (13-mm) latchbolt throw.
  - 2. Deadbolts: Minimum 1-inch (25-mm) bolt throw.
- C. Lock Backset: 2-3/4 inches (70 mm), unless otherwise indicated.

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- D. Strikes: Provide manufacturer's standard strike for each lock bolt or latchbolt complying with requirements indicated for applicable lock or latch and with strike box and curved lip extended to protect frame; finished to match lock or latch.

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.

- E. Bored Locks: BHMA A156.2; Grade 1; Series 4000.

## 2.4 LOCK CYLINDERS

- A. Lock Cylinders: Tumbler type, constructed from brass or bronze, stainless steel, or nickel silver.

- B. Standard Lock Cylinders: BHMA A156.5; Grade 1; permanent cores that are removable; face finished to match lockset.

1. Number of Pins: Five.
2. Type: Bored-lock type.

## 2.5 KEYING

- A. Keying System: Factory registered, complying with guidelines in BHMA A156.28, Appendix A. Incorporate decisions made in keying conference.

1. Existing System:
  - a. Master key or grand master key locks to Owner's existing system.
  - b. Re-key Owner's existing master key system into new keying system.

2. Keyed Alike: Key all cylinders to same change key.

- B. Keys: Nickel silver.

1. Stamping: Permanently inscribe each key with a visual key control number and include the following notation:

- a. Notation: "DO NOT DUPLICATE."

## 2.6 OPERATING TRIM

- A. Operating Trim: BHMA A156.6; stainless steel, unless otherwise indicated.

- B. Push-Pull Plates: 1/8 inch (3.2 mm) thick, 3-1/2 inches wide by 15-3/4 inches high (89 mm wide by 400 mm high) with square corners, beveled edges, and raised integral lip; secured with exposed screws.

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## 2.7 SURFACE CLOSERS

- A. Surface Closers: BHMA A156.4; rack-and-pinion hydraulic type with adjustable sweep and latch speeds controlled by key-operated valves and forged-steel main arm. Comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.
- B. Surface Closer with Cover: Grade 1; Modern Type with mechanism enclosed in cover.
  - 1. Mounting: Hinge side, top jamb.
  - 2. Type: Regular arm.
  - 3. Backcheck: Factory preset, effective between 60 and 85 degrees of door opening.
  - 4. Cover Material: Aluminum.
  - 5. Closing Power Adjustment: At least 50 percent more than minimum tested value.

## 2.8 OVERHEAD STOPS AND HOLDERS

- A. Overhead Stops and Holders: BHMA A156.8.
- B. Overhead Surface-Mounted, Jointed-Arm Holders: Type 3; Grade 1; hold open and release by push and pull of door; control capable of being set in inactive position; with stop and shock absorber; for single-acting doors opening 110 degrees.

## 2.9 DOOR GASKETING

- A. Door Gasketing: BHMA A156.22; air leakage not to exceed 0.50 cfm per foot (0.000774 cu. m/s per m) of crack length for gasketing other than for smoke control, as tested according to ASTM E 283; with resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.
- B. Adhesive-Backed Perimeter Gasketing: Vinyl bulb gasket material applied to frame rabbet with self-adhesive.
- C. Door Sweeps: Neoprene gasket material held in place by flat aluminum housing or flange; surface mounted to face of door with screws.

## 2.10 THRESHOLDS

- A. Thresholds: BHMA A156.21; fabricated to full width of opening indicated.
- B. Plate Thresholds: Solid metal plate.
  - 1. Top Surface: Fluted with slip-resistant abrasive.
  - 2. Base Metal: Aluminum.

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## 2.11 METAL PROTECTIVE TRIM UNITS

- A. Metal Protective Trim Units: BHMA A156.6; fabricated from 0.050-inch-(1.3-mm-)thick aluminum; with manufacturer's standard machine or self-tapping screw fasteners.
- B. Kick Plates: 12 inches (305 mm) high by door width with allowance for frame stops.

## 2.12 FABRICATION

- A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location except in conjunction with required fire-rated labels and as otherwise approved by Architect.
  - 1. Manufacturer's identification is permitted on rim of lock cylinders only.
- B. Base Metals: Produce door hardware units of base metal indicated, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18.
- C. Fasteners: Provide door hardware manufactured to comply with published templates prepared for machine, wood, and sheet metal screws. Provide screws that comply with commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.
  - 1. Spacers or Sex Bolts: For through bolting of hollow-metal doors.
  - 2. Fasteners for Wood Doors: Comply with requirements in DHI WDHS.2, "Recommended Fasteners for Wood Doors."
  - 3. Gasketing Fasteners: Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.

## 2.13 FINISHES

- A. Provide finishes complying with BHMA A156.18 as indicated in door hardware schedule.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

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SPECIFICATION)

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## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 PREPARATION

- A. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.

## 3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights [indicated on Drawings][to comply with the following] unless otherwise indicated or required to comply with governing regulations.
  - 1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
  - 2. Custom Steel Doors and Frames: HMMA 831.
- B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work. Do not install surface-mounted items until finishes have been completed on substrates involved.
  - 1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
  - 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- C. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than the number recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
- D. Intermediate Offset Pivots: Where offset pivots are indicated, provide intermediate offset pivots in quantities indicated in door hardware schedule but not fewer than one intermediate offset pivot per door and one additional intermediate offset pivot for every 30 inches (750 mm) of door height greater than 90 inches (2286 mm).

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- E. Lock Cylinders: Install construction cores to secure building and areas during construction period.
  - 1. Furnish permanent cores to Owner for installation.
- F. Thresholds: Set thresholds for exterior doors and other doors indicated in full bed of sealant complying with requirements specified in Section 079200 "Joint Sealants."
- G. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.
- H. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- I. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
- J. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

## 3.4 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
  - 1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.
- B. Occupancy Adjustment: Approximately three months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors, door hardware, and electrified door hardware.

## 3.5 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

## 3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Section 017900 "Demonstration and Training."

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3.7 DOOR HARDWARE SCHEDULE

END OF SECTION 087111

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FIXED LOUVERS

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## SECTION 089119 - FIXED LOUVERS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
  - 1. Fixed, formed-metal louvers.
- B. Related Requirements:
  - 1. Section 081113 "Hollow Metal Doors and Frames" for louvers in hollow-metal doors.
  - 2. Section 099113 "Exterior Painting" for field painting louvers.

#### 1.3 DEFINITIONS

- A. Louver Terminology: Definitions of terms for metal louvers contained in AMCA 501 apply to this Section unless otherwise defined in this Section or in referenced standards.
- B. Horizontal Louver: Louver with horizontal blades (i.e., the axes of the blades are horizontal).
- C. Vertical Louver: Louver with vertical blades (i.e., the axes of the blades are vertical).
- D. Drainable-Blade Louver: Louver with blades having gutters that collect water and drain it to channels in jambs and mullions, which carry it to bottom of unit and away from opening.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. For louvers specified to bear AMCA seal, include printed catalog pages showing specified models with appropriate AMCA Certified Ratings Seals.
- B. Shop Drawings: For louvers and accessories. Include plans, elevations, sections, details, and attachments to other work. Show frame profiles and blade profiles, angles, and spacing.
  - 1. Show weep paths, gaskets, flashing, sealant, and other means of preventing water intrusion.

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2. Show mullion profiles and locations.

## 1.5 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.3/D1.3M, "Structural Welding Code - Sheet Steel."

## 1.6 FIELD CONDITIONS

- A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Source Limitations: Obtain louvers from single source from a single manufacturer where indicated to be of same type, design, or factory-applied color finish.

### 2.2 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Louvers shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated without permanent deformation of louver components, noise or metal fatigue caused by louver-blade rattle or flutter, or permanent damage to fasteners and anchors. Wind pressures shall be considered to act normal to the face of the building.

1. Wind Loads: Determine loads based on a uniform pressure of 20 lbf/sq. ft. (957 Pa), acting inward or outward.

- B. SMACNA Standard: Comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" for fabrication, construction details, and installation procedures.

### 2.3 FIXED, FORMED-METAL LOUVERS

- A. Horizontal, Drainable-Blade Louver-:

1. Louver Depth: 6 inches (150 mm).
2. Frame and Blade Material and Nominal Thickness: Galvanized-steel sheet, not less than 0.052 inch (1.32 mm) for frames and 0.040 inch (1.02 mm) for blades.
3. Mullion Type: Exposed.
4. AMCA Seal: Mark units with AMCA Certified Ratings Seal.

### 2.4 LOUVER SCREENS

- A. General: Provide screen at each exterior louver.

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1. Screen Location for Fixed Louvers: Interior face.
  2. Screening Type: Insect screening.
- B. Secure screen frames to louver frames with machine screws with heads finished to match louver, spaced a maximum of **6 inches (150 mm)** from each corner and at **12 inches (300 mm)** o.c.
- C. Louver Screen Frames: Fabricate with mitered corners to louver sizes indicated.
1. Metal: Same type and form of metal as indicated for louver to which screens are attached. Reinforce extruded-aluminum screen frames at corners with clips.
  2. Finish: Same finish as louver frames to which louver screens are attached.
  3. Type: Rewirable frames with a driven spline or insert.
- D. Louver Screening for Galvanized-Steel Louvers:
1. Insect Screening: Galvanized steel, **18-by-14 (1.4-by-1.8-mm)** mesh, **0.011-inch (0.28-mm)** wire.

## 2.5 MATERIALS

- A. Galvanized-Steel Sheet: ASTM A 653/A 653M, **G60 (Z180)** zinc coating, mill phosphatized.
- B. Fasteners: Use types and sizes to suit unit installation conditions.
1. Use tamper-resistant screws for exposed fasteners unless otherwise indicated.
  2. For fastening galvanized steel, use hot-dip-galvanized steel or 300 series stainless-steel fasteners.
  3. For color-finished louvers, use fasteners with heads that match color of louvers.
- C. Postinstalled Fasteners for Concrete and Masonry: Torque-controlled expansion anchors, made from stainless-steel components, with capability to sustain, without failure, a load equal to 4 times the loads imposed, for concrete, or 6 times the load imposed for masonry, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.
- D. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.

## 2.6 FABRICATION

- A. Factory assemble louvers to minimize field splicing and assembly. Disassemble units as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.
- B. Vertical Assemblies: Where height of louver units exceeds fabrication and handling limitations, fabricate units to permit field-bolted assembly with close-fitting joints in jambs and mullions, reinforced with splice plates.

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1. Continuous Vertical Assemblies: Fabricate units without interrupting blade-spacing pattern unless horizontal mullions are indicated.
  2. Horizontal Mullions: Provide horizontal mullions at joints unless continuous vertical assemblies are indicated.
- C. Maintain equal louver blade spacing, including separation between blades and frames at head and sill, to produce uniform appearance.
- D. Fabricate frames, including integral sills, to fit in openings of sizes indicated, with allowances made for fabrication and installation tolerances, adjoining material tolerances, and perimeter sealant joints.
1. Frame Type: Exterior flange unless otherwise indicated.
- E. Include supports, anchorages, and accessories required for complete assembly.
- F. Provide vertical mullions of type and at spacings indicated, but not more than is recommended by manufacturer, or 72 inches (1830 mm) o.c., whichever is less.
1. Fully Recessed Mullions: Where indicated, provide mullions fully recessed behind louver blades. Where length of louver exceeds fabrication and handling limitations, fabricate with close-fitting blade splices designed to permit expansion and contraction.
  2. Semirecessed Mullions: Where indicated, provide mullions partly recessed behind louver blades so louver blades appear continuous. Where length of louver exceeds fabrication and handling limitations, fabricate with interlocking split mullions and close-fitting blade splices designed to permit expansion and contraction.
  3. Exposed Mullions: Where indicated, provide units with exposed mullions of same width and depth as louver frame. Where length of louver exceeds fabrication and handling limitations, provide interlocking split mullions designed to permit expansion and contraction.
  4. Exterior Corners: Prefabricated corner units with mitered blades with concealed close-fitting splices and with fully recessed mullions at corners.
- G. Provide subsills made of same material as louvers for recessed louvers.
- H. Join frame members to each other and to fixed louver blades with fillet welds concealed from view unless otherwise indicated or size of louver assembly makes bolted connections between frame members necessary.

## 2.7 GALVANIZED-STEEL SHEET FINISHES

- A. Finish louvers after assembly.
- B. Surface Preparation: Clean surfaces with nonpetroleum solvent so surfaces are free of oil and other contaminants. After cleaning, apply a conversion coating compatible with the organic coating to be applied over it. Clean welds, mechanical connections, and abraded areas and repair according to ASTM A 780.



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- C. Baked-Enamel or Powder-Coat Finish: Immediately after cleaning and pretreating, apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat, with a minimum dry film thickness of 2 mils (0.05 mm).

1. Color and Gloss: As selected by Architect from manufacturer's full range.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates and openings, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation of anchorages that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Project site.

#### 3.3 INSTALLATION

- A. Locate and place louvers level, plumb, and at indicated alignment with adjacent work.
- B. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight connection.
- C. Form closely fitted joints with exposed connections accurately located and secured.
- D. Provide perimeter reveals and openings of uniform width for sealants and joint fillers, as indicated.
- E. Protect unpainted galvanized and nonferrous-metal surfaces that are in contact with concrete, masonry, or dissimilar metals from corrosion and galvanic action by applying a heavy coating of bituminous paint or by separating surfaces with waterproof gaskets or nonmetallic flashing.
- F. Install concealed gaskets, flashings, joint fillers, and insulation as louver installation progresses, where weathertight louver joints are required. Comply with Section 079200 "Joint Sealants" for sealants applied during louver installation.

#### 3.4 ADJUSTING AND CLEANING

- A. Clean exposed louver surfaces that are not protected by temporary covering, to remove fingerprints and soil during construction period. Do not let soil accumulate during construction period.
- B. Before final inspection, clean exposed surfaces with water and a mild soap or detergent not harmful to finishes. Thoroughly rinse surfaces and dry.

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- C. Restore louvers damaged during installation and construction so no evidence remains of corrective work. If results of restoration are unsuccessful, as determined by Architect, remove damaged units and replace with new units.
  - 1. Touch up minor abrasions in finishes with air-dried coating that matches color and gloss of, and is compatible with, factory-applied finish coating.

END OF SECTION 089119

096723

RESINOUS FLOORING

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## SECTION 096723 - RESINOUS FLOORING

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes resinous flooring systems.

## 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include manufacturer's technical data, application instructions, and recommendations for each resinous flooring component required.
- B. Samples for Initial Selection: For each type of exposed finish required.

## 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storage and mixing with other components.

## 1.6 FIELD CONDITIONS

- A. Environmental Limitations: Comply with resinous flooring manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting resinous flooring application.
- B. Lighting: Provide permanent lighting or, if permanent lighting is not in place, simulate permanent lighting conditions during resinous flooring application.
- C. Close spaces to traffic during resinous flooring application and for 24 hours after application unless manufacturer recommends a longer period.

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RESINOUS FLOORING

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## PART 2 - PRODUCTS

## 2.1 PERORMANCE REQUIREMENTS

- A. Flammability: Self-extinguishing according to ASTM D 635.

## 2.2 MANUFACTURERS

- A. Source Limitations: Obtain primary resinous flooring materials, including primers, resins, hardening agents, grouting coats, and topcoats, from single source from single manufacturer. Obtain secondary materials, including patching and fill material, joint sealant, and repair materials, of type and from manufacturer recommended in writing by manufacturer of primary materials.

## 2.3 RESINOUS FLOORING-

- A. Resinous Flooring System: Abrasion-, impact-, and chemical-resistant, aggregate-filled, and resin-based monolithic floor surfacing designed to produce a seamless floor and integral cove base.
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 2. Basis-of-Design Product: Subject to compliance with requirements, provide Tnemec Decotread or comparable product by one of the following:
    - a. Tnemec Decotread
- B. System Characteristics:
  - 1. Color and Pattern: As selected by Architect from manufacturer's full range.
  - 2. Wearing Surface: Manufacturer's standard wearing surface.
  - 3. Overall System Thickness: 1/8 inch (3.2 mm).
- C. Patching and Fill Material: Resinous product of or approved by resinous flooring manufacturer and recommended by manufacturer for application indicated.

## PART 3 - EXECUTION

## 3.1 PREPARATION

- A. Prepare and clean substrates according to resinous flooring manufacturer's written instructions for substrate indicated. Provide clean, dry substrate for resinous flooring application.

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- B. Concrete Substrates: Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants incompatible with resinous flooring.
1. Roughen concrete substrates as follows:
    - a. Comply with ASTM C 811 requirements unless manufacturer's written instructions are more stringent.
  2. Repair damaged and deteriorated concrete according to resinous flooring manufacturer's written instructions.
  3. Verify that concrete substrates are dry and moisture-vapor emissions are within acceptable levels according to manufacturer's written instructions.
    - a. Relative Humidity Test: Use in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.
- C. Patching and Filling: Use patching and fill material to fill holes and depressions in substrates according to manufacturer's written instructions.
1. Control Joint Treatment: Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through resinous flooring according to manufacturer's written instructions.
- D. Resinous Materials: Mix components and prepare materials according to resinous flooring manufacturer's written instructions.

## 3.2 APPLICATION

- A. Apply components of resinous flooring system according to manufacturer's written instructions to produce a uniform, monolithic wearing surface of thickness indicated.
1. Coordinate application of components to provide optimum adhesion of resinous flooring system to substrate, and optimum intercoat adhesion.
  2. Cure resinous flooring components according to manufacturer's written instructions. Prevent contamination during application and curing processes.
  3. Expansion and Isolation Joint Treatment: At substrate expansion and isolation joints, comply with resinous flooring manufacturer's written instructions.
- B. Integral Cove Base: Apply cove base mix to wall surfaces before applying flooring. Apply according to manufacturer's written instructions and details, including those for taping, mixing, priming, troweling, sanding, and topcoating of cove base. Round internal and external corners.
1. Integral Cove Base: 4 inches (100 mm) high.
- C. Topcoats: Apply topcoats in number indicated for flooring system and at spreading rates recommended in writing by manufacturer and to produce wearing surface indicated.

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RESINOUS FLOORING

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### 3.3 PROTECTION

- A. Protect resinous flooring from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by resinous flooring manufacturer.

END OF SECTION 096723

099113

EXTERIOR PAINTING

01/03/2018

## SECTION 099113 - EXTERIOR PAINTING

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Related Requirements:
  - 1. Section 099300 "Staining and Transparent Finishing" for surface preparation and the application of wood stains and transparent finishes on exterior wood substrates.

## 1.3 DEFINITIONS

- A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- D. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- E. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- F. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

## 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
  - 1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
  - 2. Indicate VOC content.
- B. Samples for Initial Selection: For each type of topcoat product.

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## 1.5 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
1. Architect will select one surface to represent surfaces and conditions for application of each paint system.
    - a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).
    - b. Other Items: Architect will designate items or areas required.
  2. Final approval of color selections will be based on mockups.
    - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
  3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).
1. Maintain containers in clean condition, free of foreign materials and residue.
  2. Remove rags and waste from storage areas daily.

## 1.7 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).
- B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

## PART 2 - PRODUCTS

## 2.1 PAINT, GENERAL

- A. Material Compatibility:



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1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
  2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- B. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction.
- C. Colors: As selected by Architect from manufacturer's full range.
1. Ten percent of surface area will be painted with deep tones.

## 2.2 SOURCE QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:
1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
  2. Testing agency will perform tests for compliance with product requirements.
  3. Owner may direct Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
1. Concrete: 12 percent.
  2. Fiber-Cement Board: 12 percent.
  3. Masonry (Clay and CMUs): 12 percent.
  4. Wood: 15 percent.
  5. Portland Cement Plaster: 12 percent.
  6. Gypsum Board: 12 percent.
- C. Portland Cement Plaster Substrates: Verify that plaster is fully cured.

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- D. Exterior Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- E. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- F. Proceed with coating application only after unsatisfactory conditions have been corrected.
  - 1. Application of coating indicates acceptance of surfaces and conditions.

## 3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
  - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
  - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- E. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.
- F. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:
  - 1. SSPC-SP 2.
  - 2. SSPC-SP 3.
  - 3. SSPC-SP 7/NACE No. 4.
  - 4. SSPC-SP 11.
- G. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- H. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

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- I. Aluminum Substrates: Remove loose surface oxidation.
- J. Wood Substrates:
  - 1. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for exterior use in paint system indicated.
  - 2. Sand surfaces that will be exposed to view, and dust off.
  - 3. Prime edges, ends, faces, undersides, and backsides of wood.
  - 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.
- K. Plastic Trim Fabrication Substrates: Remove dust, dirt, and other foreign material that might impair bond of paints to substrates.

## 3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."
  - 1. Use applicators and techniques suited for paint and substrate indicated.
  - 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
  - 3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
  - 4. Paint entire exposed surface of window frames and sashes.
  - 5. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
  - 6. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
  - 1. Paint the following work where exposed to view:
    - a. Equipment, including panelboards and switch gear.
    - b. Uninsulated metal piping.

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- c. Uninsulated plastic piping.
- d. Pipe hangers and supports.
- e. Metal conduit.
- f. Plastic conduit.
- g. Tanks that do not have factory-applied final finishes.

## 3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
  - 1. Contractor shall touch up and restore painted surfaces damaged by testing.
  - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

## 3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

## 3.6 EXTERIOR PAINTING SCHEDULE

- A. CMU Substrates:
  - 1. High-Build Latex System: Dry film thickness of not less than 10 mils (0.25 mm).
    - a. Prime Coat: As recommended in writing by topcoat manufacturer.
    - b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
    - c. Topcoat: Latex, exterior, high build.
- B. Wood Substrates: Wood-based panel products.
  - 1. Latex over Latex Primer System:
    - a. Prime Coat: Primer, latex for exterior wood.

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- b. Intermediate Coat: Latex, exterior, matching topcoat.
- c. Topcoat: Latex, exterior, semi-gloss (MPI Gloss Level 5).

END OF SECTION 099113

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STAINING AND  
TRANSPARENT FINISHING

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## SECTION 099300 - STAINING AND TRANSPARENT FINISHING

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section includes surface preparation and application of wood stains and transparent finishes on the following substrates:
  - 1. Exterior Substrates:
    - a. Wood-based panel products.

## 1.3 DEFINITIONS

- A. MPI Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- C. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- D. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- E. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

## 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
  - 1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
  - 2. Indicate VOC content.
- B. Samples for Initial Selection: For each type of product.

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## 1.5 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each finish system indicated and each color selected to verify preliminary selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.
1. Architect will select one surface to represent surfaces and conditions for application of each type of finish system and substrate.
    - a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).
    - b. Other Items: Architect will designate items or areas required.
  2. Final approval of stain color selections will be based on mockups.
    - a. If preliminary stain color selections are not approved, apply additional mockups of additional stain colors selected by Architect at no added cost to Owner.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).
1. Maintain containers in clean condition, free of foreign materials and residue.
  2. Remove rags and waste from storage areas daily.

## 1.7 FIELD CONDITIONS

- A. Apply finishes only when temperature of surfaces to be finished and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).
- B. Do not apply finishes when relative humidity exceeds 85 percent, at temperatures less than 5 deg F (3 deg C) above the dew point, or to damp or wet surfaces.
- C. Do not apply exterior finishes in snow, rain, fog, or mist.

## PART 2 - PRODUCTS

## 2.1 MATERIALS, GENERAL

- A. Material Compatibility:
1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
  2. For each coat in a paint system, products shall be recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

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- B. Stain Colors: As selected by Architect from manufacturer's full range.

## 2.2 SOURCE QUALITY CONTROL

- A. Testing of Materials: Owner reserves the right to invoke the following procedure:
1. Owner will engage the services of a qualified testing agency to sample wood finishing materials. Contractor will be notified in advance and may be present when samples are taken. If materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
  2. Testing agency will perform tests for compliance with product requirements.
  3. Owner may direct Contractor to stop applying wood finishes if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying materials from Project site, pay for testing, and refinish surfaces finished with rejected materials. Contractor will be required to remove rejected materials from previously finished surfaces before refinishing with complying materials if the two finishes are incompatible or produce results that, in the opinion of the Architect, are aesthetically unacceptable.

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Exterior Wood Substrates: 15 percent, when measured with an electronic moisture meter.
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Proceed with finish application only after unsatisfactory conditions have been corrected.
1. Beginning finish application constitutes Contractor's acceptance of substrates and conditions.

## 3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and finishing.



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1. After completing finishing operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean and prepare surfaces to be finished according to manufacturer's written instructions for each substrate condition and as specified.
1. Remove dust, dirt, oil, and grease by washing with a detergent solution; rinse thoroughly with clean water and allow to dry. Remove grade stamps and pencil marks by sanding lightly. Remove loose wood fibers by brushing.
  2. Remove mildew by scrubbing with a commercial wash formulated for mildew removal and as recommended by stain manufacturer.
- D. Exterior Wood Substrates:
1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
  2. Prime edges, ends, faces, undersides, and backsides of wood.
    - a. For solid hide stained wood, stain edges and ends after priming.
    - b. For varnish-coated stained wood, stain edges and ends and prime with varnish. Prime undersides and backsides with varnish.
  3. Countersink steel nails, if used, and fill with putty or plastic wood filler tinted to final color. Sand smooth when dried.
- E. Interior Wood Substrates:
1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
  2. Apply wood filler paste to open-grain woods, as defined in "MPI Architectural Painting Specification Manual," to produce smooth, glasslike finish.
  3. Sand surfaces exposed to view and dust off.
  4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dry.

## 3.3 APPLICATION

- A. Apply finishes according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."
1. Use applicators and techniques suited for finish and substrate indicated.
  2. Finish surfaces behind movable equipment and furniture same as similar exposed surfaces.
  3. Do not apply finishes over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- B. Apply finishes to produce surface films without cloudiness, holidays, lap marks, brush marks, runs, ropiness, or other surface imperfections.

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## 3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing finish application, clean spattered surfaces. Remove spattered materials by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from finish application. Correct damage by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced finished wood surfaces.

## 3.5 EXTERIOR WOOD-FINISH-SYSTEM SCHEDULE

- A. Wood Substrates: Wood-based panel products.
  - 1. Semitransparent Stain System MPI EXT 6.4D:
    - a. Prime Coat: Stain, exterior, solvent based, semitransparent, matching topcoat.
    - b. Topcoat: Stain, exterior, solvent based, semitransparent.

END OF SECTION 099300

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## SECTION 101419 - DIMENSIONAL LETTER SIGNAGE

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section Includes:
  - 1. Fabricated channel dimensional characters.

## 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For dimensional letter signs.
  - 1. Include fabrication and installation details and attachments to other work.
  - 2. Show sign mounting heights, locations of supplementary supports to be provided by others, and accessories.
  - 3. Show message list, typestyles, graphic elements, and layout for each sign at least half size.
- C. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.
  - 1. Include representative Samples of available typestyles and graphic symbols.

## 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

## 1.5 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Deterioration of finishes beyond normal weathering.

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b. Separation or delamination of sheet materials and components.

2. Warranty Period: Five years from date of Substantial Completion.

## PART 2 - PRODUCTS

## 2.1 PERFORMANCE REQUIREMENTS

A. Thermal Movements: For exterior fabricated channel dimensional characters, allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

## 2.2 DIMENSIONAL CHARACTERS

A. Fabricated Channel Characters-: Metal face and side returns, formed free from warp and distortion; with uniform faces, sharp corners, and precisely formed lines and profiles; internally braced for stability and for securing fasteners; and as follows.

1. Character Material: Sheet or plate aluminum.
2. Material Thickness: Manufacturer's standard for size and design of character.
3. Character Height: As indicated.
4. Character Depth: 2".
5. Finishes:

a. Integral Aluminum Finish: Clear anodized.

6. Mounting: Projecting studs.

a. Hold characters at manufacturer's recommended distance from wall surface.

7. Typeface: Times Roman.

## 2.3 DIMENSIONAL CHARACTER MATERIALS

A. Aluminum Sheet and Plate: ASTM B 209 (ASTM B 209M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

B. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

## 2.4 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signage, noncorrosive and compatible with each material joined, and complying with the following:

1. For exterior exposure, furnish nonferrous-metal devices unless otherwise indicated.
2. Sign Mounting Fasteners:

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- a. Projecting Studs: Threaded studs with sleeve spacer, welded or brazed to back of sign material, screwed into back of sign assembly, or screwed into tapped lugs cast integrally into back of cast sign material, unless otherwise indicated.

## 2.5 FABRICATION

- A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.
  1. Preassemble signs and assemblies in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
  2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
  3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
  4. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
  5. Internally brace signs for stability and for securing fasteners.
  6. Provide rebates, lugs, and brackets necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.

## 2.6 GENERAL FINISH REQUIREMENTS

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

## 2.7 ALUMINUM FINISHES

- A. Clear Anodic Finish: AAMA 611, Class I, 0.018 mm or thicker.

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## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of signage work.
- B. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 INSTALLATION

- A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.
  - 1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
  - 2. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
  - 3. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.
- B. Mounting Methods:
  - 1. Projecting Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.
    - a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place spacers on studs, place sign in position, and push until spacers are pinched between sign and substrate, embedding the stud ends in holes. Temporarily support sign in position until adhesive fully sets.
    - b. Thin or Hollow Surfaces: Place spacers on studs, place sign in position with spacers pinched between sign and substrate, and install washers and nuts on stud ends projecting through opposite side of surface, and tighten.

## 3.3 ADJUSTING AND CLEANING

- A. Remove and replace damaged or deformed characters and signs that do not comply with specified requirements. Replace characters with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.
- B. Remove temporary protective coverings and strippable films as signs are installed.

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- C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 101419

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PANEL SIGNAGE

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## SECTION 101423 - PANEL SIGNAGE

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section Includes:
  - 1. Room-identification signs.

## 1.3 DEFINITIONS

- A. Accessible: In accordance with the accessibility standard.

## 1.4 COORDINATION

- A. Furnish templates for placement of sign-anchorage devices embedded in permanent construction by other installers.

## 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For panel signs.
  - 1. Include fabrication and installation details and attachments to other work.
  - 2. Show sign mounting heights, locations of supplementary supports to be provided by others, and accessories.
  - 3. Show message list, typestyles, graphic elements, including raised characters and Braille, and layout for each sign at least half size.
- C. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.
  - 1. Include representative Samples of available typestyles and graphic symbols.

## 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.



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## 1.7 FIELD CONDITIONS

- A. Field Measurements: Verify locations of anchorage devices embedded in permanent construction by other installers by field measurements before fabrication, and indicate measurements on Shop Drawings.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Thermal Movements: For exterior signs, allow for thermal movements from ambient and surface temperature changes.
  - 1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- B. Accessibility Standard: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities for signs.

### 2.2 SIGNS

- A. Room-Identification Sign:- Sign with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:
  - 1. Basis-of-Design Product: Restroom Identification signs to match owner standards..
  - 2. Laminated-Sheet Sign: Photopolymer face sheet with raised graphics laminated over subsurface graphics to phenolic backing sheet to produce composite sheet.
    - a. Composite-Sheet Thickness: Manufacturer's standard for size of sign.
    - b. Subsurface Graphics: Reverse halftone or dot-screen image.
    - c. Color(s): As selected by Architect from manufacturer's full range.
  - 3. Sign-Panel Perimeter: Finish edges smooth.
    - a. Edge Condition: Square cut.
    - b. Corner Condition in Elevation: Square.
  - 4. Mounting: Manufacturer's standard method for substrates indicated with
  - 5. Text and Typeface: Accessible raised characters and Braille and Times Roman. Finish raised characters to contrast with background color, and finish Braille to match background color.

### 2.3 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signage, noncorrosive and compatible with each material joined, and complying with the following:

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1. Use concealed fasteners and anchors unless indicated to be exposed.
2. Inserts: Furnish inserts to be set by other trades into concrete or masonry work.

## 2.4 FABRICATION

- A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.
  1. Preassemble signs and assemblies in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
  2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
  3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
  4. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
  5. Internally brace signs for stability and for securing fasteners.
  6. Provide rebates, lugs, and brackets necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.
- B. Subsurface-Applied Graphics: Apply graphics to back face of clear face-sheet material to produce precisely formed image. Image shall be free of rough edges.
- C. Subsurface-Engraved Graphics: Reverse engrave back face of clear face-sheet material. Fill resulting copy with manufacturer's standard enamel. Apply opaque manufacturer's standard background color coating over enamel-filled copy.
- D. Shop- and Subsurface-Applied Vinyl: Align vinyl film in final position and apply to surface. Firmly press film from the middle outward to obtain good bond without blisters or fishmouths.

## 2.5 GENERAL FINISH REQUIREMENTS

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Directional Finishes: Run grain with long dimension of each piece and perpendicular to long dimension of finished trim or border surface unless otherwise indicated.

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- D. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of signage work.
- B. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.
- C. Verify that anchor inserts are correctly sized and located to accommodate signs.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 INSTALLATION

- A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.
  - 1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
  - 2. Install signs so they do not protrude or obstruct according to the accessibility standard.
  - 3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
- B. Room-Identification Signs and Other Accessible Signage: Install in locations on walls according to accessibility standard.

#### 3.3 ADJUSTING AND CLEANING

- A. Remove and replace damaged or deformed signs and signs that do not comply with specified requirements. Replace signs with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.
- B. Remove temporary protective coverings and strippable films as signs are installed.
- C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

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PANEL SIGNAGE

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END OF SECTION 101423

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PLASTIC TOILET  
COMPARTMENTS

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## SECTION 102113.19 - PLASTIC TOILET COMPARTMENTS

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section Includes:
  - 1. Solid-plastic toilet compartments configured as urinal screens.
- B. Related Requirements:
  - 1. Section 102800 "Toilet, Bath, and Laundry Accessories" for toilet tissue dispensers, grab bars, purse shelves, and similar accessories mounted on toilet compartments.

## 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for toilet compartments.
- B. Shop Drawings: For toilet compartments.
  - 1. Include plans, elevations, sections, details, and attachment details.
  - 2. Show locations of cutouts for compartment-mounted toilet accessories.
  - 3. Show locations of centerlines of toilet fixtures.
  - 4. Show locations of floor drains.
  - 5. Show overhead support or bracing locations.
- C. Samples for Initial Selection: For each type of toilet compartment material indicated.
  - 1. Include Samples of hardware and accessories involving material and color selection.

## 1.4 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication.

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PLASTIC TOILET  
COMPARTMENTS

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## PART 2 - PRODUCTS

## 2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities for toilet compartments designated as accessible.

## 2.2 SOLID-PLASTIC TOILET COMPARTMENTS-

- A. Urinal-Screen Style: Wall hung.
- B. Pilaster Shoes and Sleeves (Caps): Manufacturer's standard design; stainless steel.
- C. Brackets (Fittings):
  - 1. Stirrup Type: Ear or U-brackets, stainless steel.

## 2.3 HARDWARE AND ACCESSORIES

- A. Hardware and Accessories: Manufacturer's standard operating hardware and accessories.
  - 1. Material: Stainless steel.
- B. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless-steel, hot-dip galvanized-steel, or other rust-resistant, protective-coated steel compatible with related materials.

## 2.4 MATERIALS

- A. Aluminum Castings: ASTM B 26/B 26M.
- B. Aluminum Extrusions: ~~ASTM B 221~~ (ASTM B 221M).
- C. Brass Castings: ASTM B 584.
- D. Brass Extrusions: ASTM B 455.
- E. Stainless-Steel Sheet: ASTM A 666, Type 304, stretcher-leveled standard of flatness.
- F. Stainless-Steel Castings: ASTM A 743/A 743M.

## 2.5 FABRICATION

- A. Fabrication, General: Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.

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## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for fastening, support, alignment, operating clearances, and other conditions affecting performance of the Work.
  - 1. Confirm location and adequacy of blocking and supports required for installation.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.
  - 1. Maximum Clearances:
    - a. Pilasters and Panels: 1/2 inch (13 mm).
    - b. Panels and Walls: 1 inch (25 mm).
  - 2. Stirrup Brackets: Secure panels to walls and to pilasters with no fewer than three brackets attached at midpoint and near top and bottom of panel.
    - a. Locate wall brackets so holes for wall anchors occur in masonry or tile joints.
    - b. Align brackets at pilasters with brackets at walls.

## 3.3 ADJUSTING

- A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors to return doors to fully closed position.

END OF SECTION 102113.19

102800

TOILET, BATH, AND LAUNDRY  
ACCESSORIES

01/03/2018

## SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section Includes:
  - 1. Public-use washroom accessories.

## 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include the following:
  - 1. Construction details and dimensions.
  - 2. Anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
  - 3. Material and finish descriptions.
  - 4. Features that will be included for Project.
  - 5. Manufacturer's warranty.

## 1.4 QUALITY ASSURANCE

- A. Source Limitations: For products listed together in the same Part 2 articles, obtain products from single source from single manufacturer.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

## 1.5 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.



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TOILET, BATH, AND LAUNDRY  
ACCESSORIES

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## PART 2 - PRODUCTS

## 2.1 MATERIALS

- A. Stainless Steel: ASTM A 666, Type 304, 0.031-inch (0.8-mm) minimum nominal thickness unless otherwise indicated.
- B. Brass: ASTM B 19, flat products; ASTM B 16/B 16M, rods, shapes, forgings, and flat products with finished edges; or ASTM B 30, castings.
- C. Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold rolled, commercial steel), 0.036-inch (0.9-mm) minimum nominal thickness.
- D. Galvanized-Steel Sheet: ASTM A 653/A 653M, with G60 (Z180) hot-dip zinc coating.
- E. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- F. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.
- G. Chrome Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).
- H. Mirrors: ASTM C 1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.
- I. ABS Plastic: Acrylonitrile-butadiene-styrene resin formulation.

## 2.2 PUBLIC-USE WASHROOM ACCESSORIES

- A. Toilet Tissue (Roll) Dispenser:-
  - 1. Description: Single-roll dispenser.
  - 2. Mounting: Surface mounted.
  - 3. Operation: Noncontrol delivery with theft-resistant spindle.
  - 4. Capacity: Designed for 5-inch-(127-mm-) diameter tissue rolls.
  - 5. Material and Finish: Stainless steel, No. 4 finish (satin).

## 2.3 WARM-AIR DRYERS

- A. Warm-Air Dryer:-
  - 1. Basis-of-Design Product: Xcelerator.
  - 2. Mounting: Semirecessed.
  - 3. Operation: Electronic-sensor activated with timed power cut-off switch.
    - a. Operation Time: 30 to 40 seconds.

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TOILET, BATH, AND LAUNDRY  
ACCESSORIES

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4. Cover Material and Finish: Steel, with white enamel finish.
5. Electrical Requirements: 115 V, 13 A, 1500 W.

## 2.4 FABRICATION

- A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.
- B. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

## PART 3 - EXECUTION

## 3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

## 3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.
- B. Remove temporary labels and protective coatings.
- C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

END OF SECTION 102800

224213.13

COMMERCIAL WATER  
CLOSETS

01/03/2018

## SECTION 224213.13 - COMMERCIAL WATER CLOSETS

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section Includes:
  - 1. Water closets.
  - 2. Flushometer valves.
  - 3. Toilet seats.

## 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for water closets.
  - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

## 1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For flushometer valves to include in operation and maintenance manuals.

## PART 2 - PRODUCTS

## 2.1 WALL-MOUNTED WATER CLOSETS

- A. Water Closets:- Wall mounted, top spud, accessible.
  - 1. Bowl:
    - a. Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.
    - b. Material: Vitreous china.

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COMMERCIAL WATER  
CLOSETS

01/03/2018

- c. Type: Siphon jet.
  - d. Style: Flushometer valve.
  - e. Height: Standard.
  - f. Rim Contour: Elongated.
  - g. Water Consumption: 1.28 gal. (4.8 L) per flush.
  - h. Spud Size and Location: NPS 1-1/2 (DN 40); top.
2. Flushometer Valve: Sloan Royal #111.
  3. Toilet Seat: Bemis 1955C or equivalent. Stainless steel hardware only (no plastic allowed)..
  4. Support:
    - a. Standard: ASME A112.6.1M.
    - b. Description: Waste-fitting assembly as required to match drainage piping material and arrangement with faceplates, couplings gaskets, and feet; bolts and hardware matching fixture. Include additional extension coupling, faceplate, and feet for installation in wide pipe space.
    - c. Water-Closet Mounting Height: Standard.

## 2.2 FLUSHOMETER VALVES

## A. Lever-Handle, Diaphragm Flushometer Valves-:

1. Standard: ASSE 1037.
2. Minimum Pressure Rating: 125 psig (860 kPa).
3. Features: Include integral check stop and backflow-prevention device.
4. Material: Brass body with corrosion-resistant components.
5. Exposed Flushometer-Valve Finish: Chrome plated.
6. Style: Exposed.
7. Consumption: 1.28 gal. (4.8 L) per flush.
8. Minimum Inlet: NPS 1 (DN 25).
9. Minimum Outlet: NPS 1-1/4 (DN 32).

## 2.3 TOILET SEATS

## A. Toilet Seats-:

1. Standard: IAPMO/ANSI Z124.5.
2. Material: Plastic.
3. Type: Commercial (Standard).
4. Shape: Elongated rim, open front.
5. Hinge: Check.
6. Hinge Material: Noncorroding metal.
7. Seat Cover: Not required.
8. Color: White.

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COMMERCIAL WATER  
CLOSETS

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## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before water-closet installation.
- B. Examine walls and floors for suitable conditions where water closets will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 INSTALLATION

## A. Water-Closet Installation:

- 1. Install level and plumb according to roughing-in drawings.
- 2. Install floor-mounted water closets on bowl-to-drain connecting fitting attachments to piping or building substrate.
- 3. Install accessible, wall-mounted water closets at mounting height for handicapped/elderly, according to ICC/ANSI A117.1.

## B. Support Installation:

- 1. Install supports, affixed to building substrate, for floor-mounted, back-outlet water closets.
- 2. Use carrier supports with waste-fitting assembly and seal.
- 3. Install wall-mounted, back-outlet water-closet supports with waste-fitting assembly and waste-fitting seals; and affix to building substrate.

## C. Flushometer-Valve Installation:

- 1. Install flushometer-valve, water-supply fitting on each supply to each water closet.
- 2. Attach supply piping to supports or substrate within pipe spaces behind fixtures.
- 3. Install lever-handle flushometer valves for accessible water closets with handle mounted on open side of water closet.
- 4. Install actuators in locations that are easy for people with disabilities to reach.
- 5. Install fresh batteries in battery-powered, electronic-sensor mechanisms.

## D. Install toilet seats on water closets.

## E. Wall Flange and Escutcheon Installation:

- 1. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations and within cabinets and millwork.
- 2. Install deep-pattern escutcheons if required to conceal protruding fittings.
- 3. Comply with escutcheon requirements specified in Section 220518 "Escutcheons for Plumbing Piping."

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COMMERCIAL WATER  
CLOSETS

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## F. Joint Sealing:

1. Seal joints between water closets and walls and floors using sanitary-type, one-part, mildew-resistant silicone sealant.
2. Match sealant color to water-closet color.
3. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

## 3.3 CONNECTIONS

- A. Connect water closets with water supplies and soil, waste, and vent piping. Use size fittings required to match water closets.
- B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."
- C. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."
- D. Where installing piping adjacent to water closets, allow space for service and maintenance.

## 3.4 ADJUSTING

- A. Operate and adjust water closets and controls. Replace damaged and malfunctioning water closets, fittings, and controls.
- B. Adjust water pressure at flushometer valves to produce proper flow.

## 3.5 CLEANING AND PROTECTION

- A. Clean water closets and fittings with manufacturers' recommended cleaning methods and materials.
- B. Install protective covering for installed water closets and fittings.
- C. Do not allow use of water closets for temporary facilities unless approved in writing by Owner.

END OF SECTION 224213.13

224213.16

COMMERCIAL URINALS

01/03/2018

## SECTION 224213.16 - COMMERCIAL URINALS

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section Includes:
  - 1. Urinals.
  - 2. Flushometer valves.

## 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for urinals.
  - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

## 1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For flushometer valves to include in operation and maintenance manuals.

## PART 2 - PRODUCTS

## 2.1 WALL-HUNG URINALS

- A. Urinals:- Wall hung, back outlet, washout, accessible.
  - 1. Fixture:
    - a. Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.
    - b. Material: Vitreous china.
    - c. Type: Washout with extended shields.
    - d. Strainer or Trapway: Manufacturer's standard strainer with integral trap.

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## COMMERCIAL URINALS

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- e. Water Consumption: Low.
  - f. Spud Size and Location: **NPS 3/4 (DN 20)**, top.
  - g. Outlet Size and Location: **NPS 2 (DN 50)**, back.
  - h. Color: White.
- 2. Flushometer Valve:-.
  - 3. Waste Fitting:
    - a. Standard: ASME A112.18.2/CSA B125.2 for coupling.
    - b. Size: **NPS 2 (DN 50)**.
  - 4. Support: ASME A112.6.1M, Type I, urinal carrier with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. Include rectangular, steel uprights.

## 2.2 URINAL FLUSHOMETER VALVES

## A. Lever-Handle, Diaphragm Flushometer Valves:-

- 1. Standard: ASSE 1037.
- 2. Minimum Pressure Rating: **125 psig (860 kPa)**.
- 3. Features: Include integral check stop and backflow-prevention device.
- 4. Material: Brass body with corrosion-resistant components.
- 5. Exposed Flushometer-Valve Finish: Chrome plated.
- 6. Style: Exposed.
- 7. Consumption: **0.5 gal. (1.9 L)** per flush.
- 8. Minimum Inlet: **NPS 3/4 (DN 20)**.
- 9. Minimum Outlet: **NPS 3/4 (DN 20)**.

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before urinal installation.
- B. Examine walls and floors for suitable conditions where urinals will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 INSTALLATION

## A. Urinal Installation:

- 1. Install urinals level and plumb according to roughing-in drawings.
- 2. Install wall-hung, back-outlet urinals onto waste fitting seals and attached to supports.



224213.16

## COMMERCIAL URINALS

01/03/2018

3. Install accessible, wall-mounted urinals at mounting height for the handicapped/elderly, according to ICC/ANSI A117.1.

B. Support Installation:

1. Install supports, affixed to building substrate, for wall-hung urinals.
2. Use off-floor carriers with waste fitting and seal for back-outlet urinals.
3. Use carriers without waste fitting for urinals with tubular waste piping.
4. Use chair-type carrier supports with rectangular steel uprights for accessible urinals.

C. Flushometer-Valve Installation:

1. Install flushometer-valve water-supply fitting on each supply to each urinal.
2. Attach supply piping to supports or substrate within pipe spaces behind fixtures.
3. Install lever-handle flushometer valves for accessible urinals with handle mounted on open side of compartment.

D. Wall Flange and Escutcheon Installation:

1. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations.
2. Install deep-pattern escutcheons if required to conceal protruding fittings.
3. Comply with escutcheon requirements specified in Section 220518 "Escutcheons for Plumbing Piping."

E. Joint Sealing:

1. Seal joints between urinals and walls and floors using sanitary-type, one-part, mildew-resistant silicone sealant.
2. Match sealant color to urinal color.
3. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

### 3.3 CONNECTIONS

- A. Connect urinals with water supplies and soil, waste, and vent piping. Use size fittings required to match urinals.
- B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."
- C. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."
- D. Where installing piping adjacent to urinals, allow space for service and maintenance.

224213.16

COMMERCIAL URINALS

01/03/2018

## 3.4 ADJUSTING

- A. Operate and adjust urinals and controls. Replace damaged and malfunctioning urinals, fittings, and controls.
- B. Adjust water pressure at flushometer valves to produce proper flow.

## 3.5 CLEANING AND PROTECTION

- A. Clean urinals and fittings with manufacturers' recommended cleaning methods and materials.
- B. Install protective covering for installed urinals and fittings.
- C. Do not allow use of urinals for temporary facilities unless approved in writing by Owner.

END OF SECTION 224213.16

224216.13

COMMERCIAL LAVATORIES

01/03/2018

## SECTION 224216.13 - COMMERCIAL LAVATORIES

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

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

## 1.2 SUMMARY

- A. Section Includes:

- 1. Lavatories.

## 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for lavatories.
  - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

## 1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For lavatories and faucets to include in operation and maintenance manuals.

## PART 2 - PRODUCTS

## 2.1 ENAMELED, CAST-IRON, WALL-MOUNTED LAVATORIES

- A. Lavatory-: Rectangular, enameled, cast iron, wall mounted.

- 1. Fixture:
    - a. Standard: ASME A112.19.1/CSA B45.2.
    - b. Type: Straight-front apron with straight back.
    - c. Nominal Size: Rectangular, 20 by 18 inches (508 by 457 mm).
    - d. Faucet-Hole Punching: Three holes, 2-inch (51-mm) centers.
    - e. Faucet-Hole Location: Top.
    - f. Color: White.

224216.13

## COMMERCIAL LAVATORIES

01/03/2018

- g. Mounting Material: Wall bracket.
- 2. Faucet:-.
- 3. Support: ASME A112.6.1M, Type III, lavatory carrier. Include rectangular, steel uprights.

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before lavatory installation.
- B. Examine counters and walls for suitable conditions where lavatories will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 INSTALLATION

- A. Install lavatories level and plumb according to roughing-in drawings.
- B. Install supports, affixed to building substrate, for wall-mounted lavatories.
- C. Install accessible wall-mounted lavatories at handicapped/elderly mounting height for people with disabilities or the elderly, according to ICC/ANSI A117.1.
- D. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings. Comply with escutcheon requirements specified in Section 220518 "Escutcheons for Plumbing Piping."
- E. Seal joints between lavatories, counters, and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 079200 "Joint Sealants."
- F. Install protective shielding pipe covers and enclosures on exposed supplies and waste piping of accessible lavatories. Comply with requirements in Section 220719 "Plumbing Piping Insulation."

## 3.3 CONNECTIONS

- A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.
- B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."

224216.13

## COMMERCIAL LAVATORIES

01/03/2018

- C. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."

## 3.4 ADJUSTING

- A. Operate and adjust lavatories and controls. Replace damaged and malfunctioning lavatories, fittings, and controls.
- B. Adjust water pressure at faucets to produce proper flow.

## 3.5 CLEANING AND PROTECTION

- A. After completing installation of lavatories, inspect and repair damaged finishes.
- B. Clean lavatories, faucets, and other fittings with manufacturers' recommended cleaning methods and materials.
- C. Provide protective covering for installed lavatories and fittings.
- D. Do not allow use of lavatories for temporary facilities unless approved in writing by Owner.

END OF SECTION 224216.13

SOUTHWEST WILCO PARK

WILLIAMSON COUNTY PARKS AND RECREATION

3005 CO RD 175, LEANDER, TX 78641

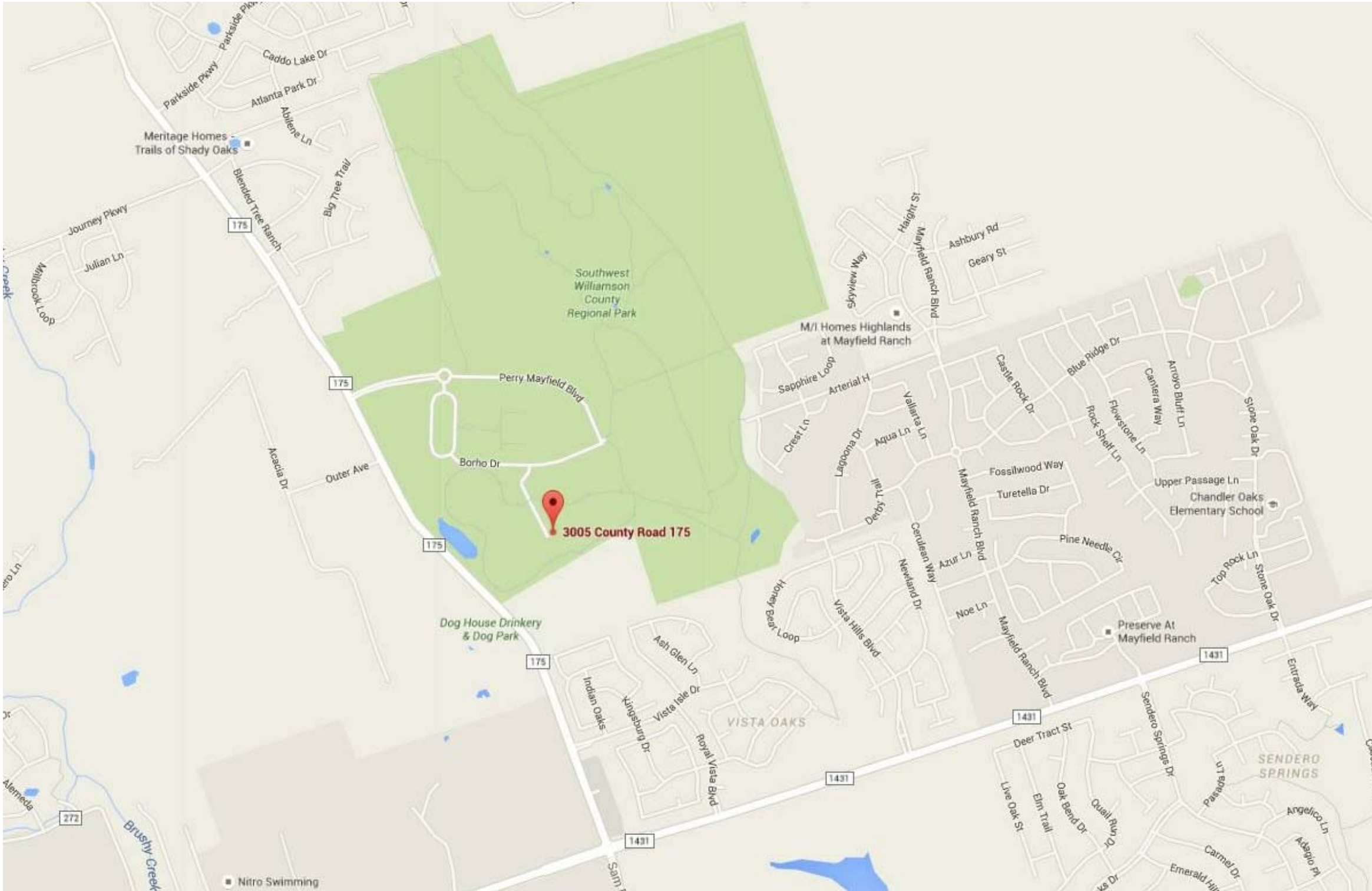
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PLUMBING ENGINEER  
HENDRIX CONSULTING ENGINEER  
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ROUND ROCK, TX 78664  
512 | 218-0060



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- A-1.0 ALTERNATES PLAN
- A-1.1 RESTROOM BUILDING
- A-1.2 RESTROOM BUILDING SECTIONS AND DETAILS
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- E-1.2 SCHEDULES - ELECTRICAL
- E-2.1 FLOOR PLANS - ELECTRICAL



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*Ryan Hansanuwat*  
11/6/2017

SOUTHWEST WILCO PARK  
WILLIAMSON COUNTY PARKS AND RECREATION  
3005 CO RD 175, LEANDER, TX 78641

PROJECT PHASE  
CONSTRUCTION DOCUMENTS  
REVISIONS

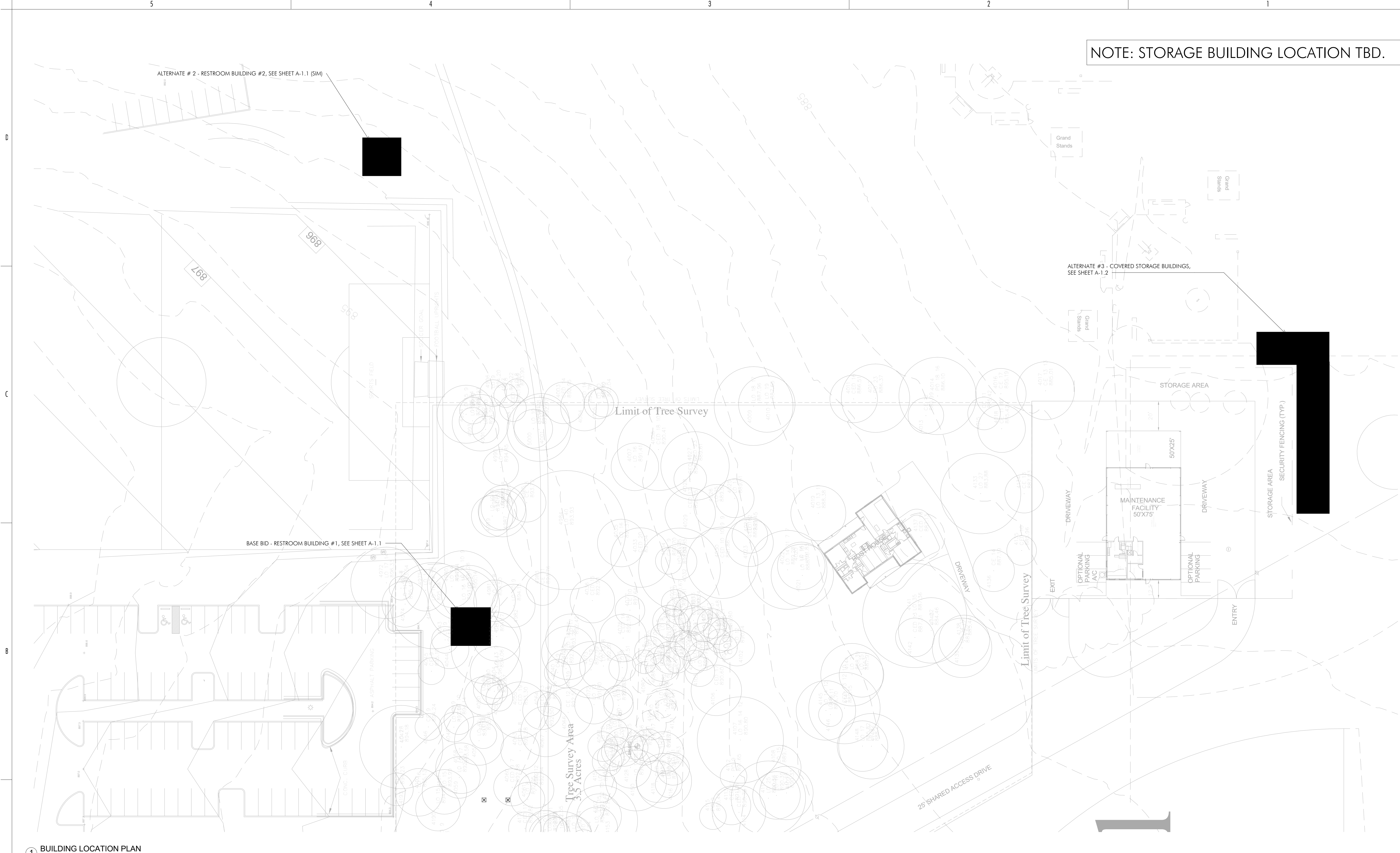
PROJECT NUMBER  
15107-00  
DATE ISSUED  
11/6/2017  
SHEET TITLE

COVER SHEET

SHEET NUMBER

A-0.0





1 BUILDING LOCATION PLAN  
1" = 30'-0"

ALTERNATES SCHEDULE:

BASE BID: ALL UTILITIES AND SITEWORK SHOWN ON CIVIL DRAWINGS AND RESTROOM BUILDING #1 AS SHOWN ON DOCUMENTS CONTAINED HEREIN

ALTERNATE #1: OPTION TO PROVIDE PREFABRICATED RESTROOM BUILDING SIMILAR TO BASIS OF DESIGN: PUBLIC RESTROOM COMPANY PS-022-CE IN LIEU OF RESTROOM SHOWN ON SHEET A-1.1. PROVIDE COST AND SCHEDULE IMPACT.

ALTERNATE #2A: ADDITIONAL RESTROOM #2 SIMILAR TO RESTROOM SHOWN ON DOCUMENTS CONTAINED HEREIN

ALTERNATE #2B: ADDITIONAL RESTROOM #2 AS PREFABRICATED RESTROOM BUILDING SIMILAR TO BASIS OF DESIGN: PUBLIC RESTROOM COMPANY PS-022-CE IN LIEU OF RESTROOM SHOWN ON SHEET A-1.1. PROVIDE COST AND SCHEDULE IMPACT.

ALTERNATE #3: PROVIDE PREFABRICATED POLE-BARN BUILDING SHOWN SHEET A-2.0

ALTERNATE #4: PROVIDE (2) STORAGE BUILDINGS SHOWN SHEET A-3.0

NOTE: STORAGE BUILDING LOCATION TBD.



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Ryan Hansanway  
11/6/2017

**SOUTHWEST WILCO PARK**  
WILLAMSON COUNTY PARKS AND RECREATION  
3005 CO RD 175, LEANDER, TX 78641

PROJECT PHASE  
CONSTRUCTION DOCUMENTS  
REVISIONS

PROJECT NUMBER  
15107-00  
DATE ISSUED  
11/6/2017  
SHEET TITLE

**ALTERNATES PLAN**

SHEET NUMBER

**A-1.0**

SITE DEVELOPMENT PLANS FOR:  
**WILLIAMSON COUNTY REGIONAL PARK**  
**RESTROOM FACILITY AT THE CEDAR ROCK RAIL STATION**

3005 COUNTY ROAD 175  
LEANDER, TEXAS 78641  
SEPTEMBER, 2016

DESIGN PROFESSIONALS:

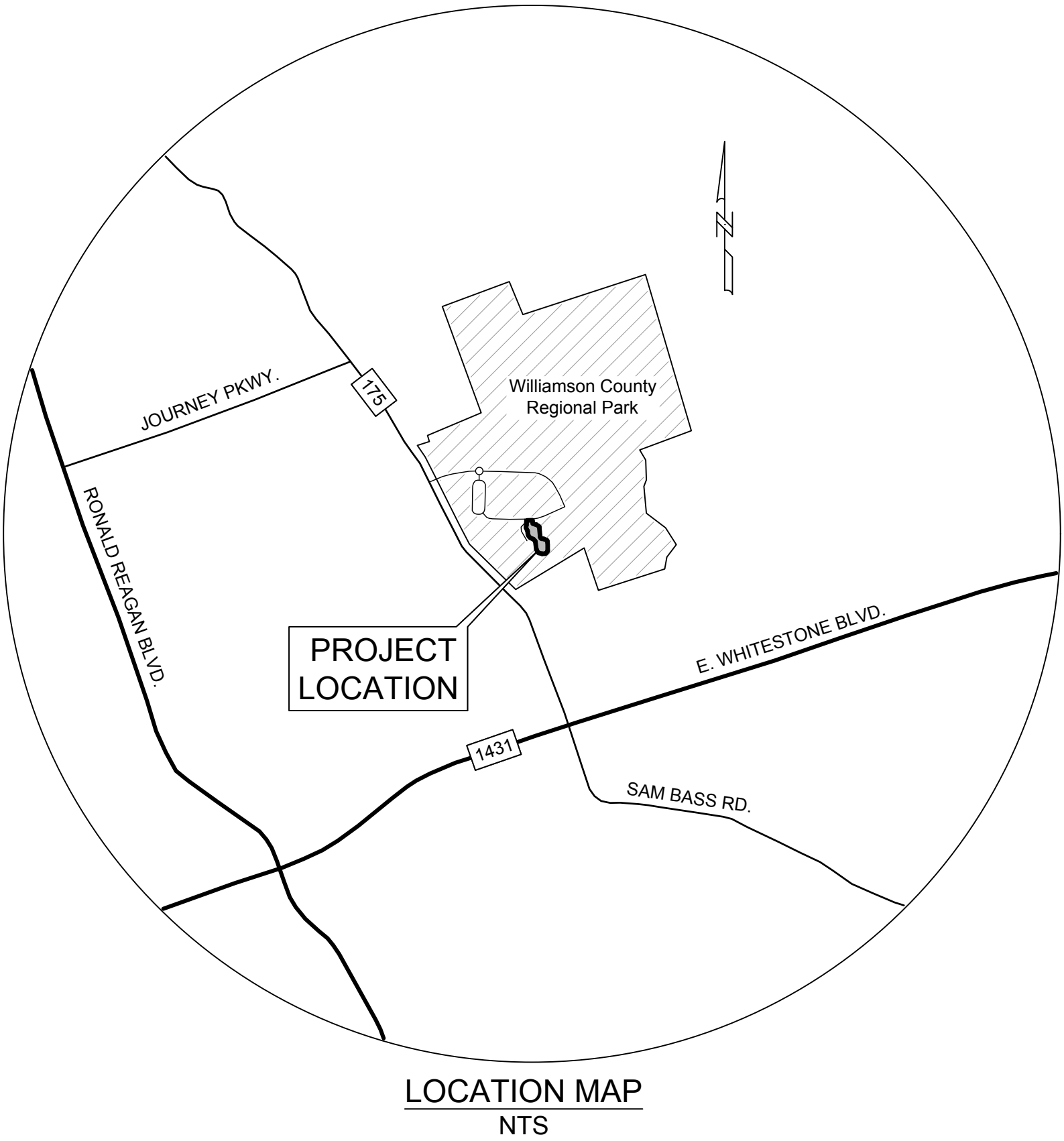
|   |  |
|---|--|
| CIVIL ENGINEER / APPLICANT:   | ARCHITECT:   |
| ANTONIO A. PRETE, P.E.<br>WELTZ & PRETE, INC.<br>3000 JOE DIMAGGIO BLVD. #72<br>ROUND ROCK, TEXAS 78665<br>PH: (512) 505-8953<br>EMAIL: tony@w-pinc.com | RYAN HANSANUWAT<br>MODE DESIGN COMPANY<br>1102 S. AUSTIN AVE., STE 103<br>GEORGETOWN, TEXAS 78626<br>PH: (512) 733-1150<br>EMAIL: ryan@modedc.us |

SHEET INDEX

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|----------|---|
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| C-2      | GENERAL NOTES                           |
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| C-4      | TCEQ NOTES AND TREE LIST                |
| C-5      | OVERALL ESC AND UTILITY PLAN            |
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| C-10     | WASTEWATER PLAN AND PROFILE (1 OF 2)    |
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| C-13     | UTILITY DETAILS (1 OF 2)                |
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NOTES:

1. THESE PLANS ARE NOT TO BE CONSIDERED FINAL FOR CONSTRUCTION UNTIL ACCEPTED BY THE COUNTY. CHANGES MAY BE REQUIRED PRIOR TO APPROVAL.
2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY, AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
3. THIS SITE IS LOCATED WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
4. NO PORTION OF THIS PROJECT IS WITHIN THE FEMA 1% ANNUAL CHANCE FLOODPLAIN, PER PANEL NUMBER 48491C0470E, DATED SEPTEMBER 26, 2008.



STATE OF TEXAS

COUNTY OF WILLIAMSON

I, ANTONIO A. PRETE, P.E., DO HEREBY CERTIFY THAT THE PUBLIC WORKS AND DRAINAGE IMPROVEMENTS DESCRIBED HEREIN HAVE BEEN DESIGNED IN COMPLIANCE WITH THE SUBDIVISION AND BUILDING REGULATION ORDINANCES AND STORMWATER DRAINAGE POLICY ADOPTED BY WILLIAMSON COUNTY, TEXAS.



ANTONIO A. PRETE, P.E.  
STATE OF TEXAS #93759

DATE

JOB NO.: 082-002

ACCEPTED FOR CONSTRUCTION:

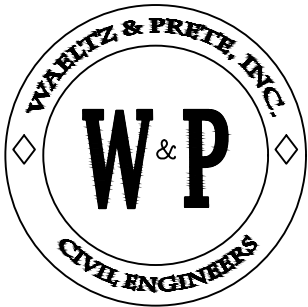
ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN ACCEPTING THESE PLANS, THE CITY OF ROUND ROCK MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

WILLIAMSON COUNTY, TEXAS  
PARKS AND RECREATION DEPARTMENT  
DATE  
SWPPP PERMIT #  
RECORDED PLAT DOC #

OWNER:

RANDY BELL, DIRECTOR  
WILLIAMSON COUNTY PARD  
219 PERRY MAYFIELD BLVD.  
LEANDER, TEXAS 78641  
PH: (512) 260-4283  
EMAIL: randybell@wilco.org

ENGINEER:



WELTZ & PRETE, INC.  
CIVIL ENGINEERS  
3000 JOE DIMAGGIO BLVD. #72  
ROUND ROCK, TX. 78665  
PH (512) 505-8953  
FIRM TX. REG. #F-10308

REVISIONS:

| No. | Date | Revision | ACC. | DATE |
|-----|------|----------|------|------|
|     |      |          |      |      |
|     |      |          |      |      |
|     |      |          |      |      |
|     |      |          |      |      |
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|     |      |          |      |      |

WILLIAMSON COUNTY REGIONAL PARK  
RESTROOM FACILITY AT THE CEDAR ROCK RAIL STATION









**Texas Commission on  
Environmental Quality  
Water Pollution Abatement Plan**  
TCEQ-0592 (Rev. 3/15/07)

portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal and conditions, stabilization measures shall be initiated as soon as practicable.

- Austin Regional Office**  
2800 S. IH 35, Suite 100  
Austin, Texas 78704-5712  
Phone (512) 339-2929  
Fax (512) 339-3795
- San Antonio Regional Office**  
14250 Judson Road  
San Antonio, Texas 78233-4480  
Phone (210) 490-3096  
Fax (210) 545-4329

6. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).
7. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake must be provided that can indicate when the sediment occupies 50% of the basin volume.
8. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).
9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.
10. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that

| NUMBER | TYPE    | SIZE |
|--------|---------|------|
| 20811  | LIVEOAK | 8    |
| 20812  | LIVEOAK | 6    |
| 20813  | LIVEOAK | 7    |
| 20814  | LIVEOAK | 11   |
| 20815  | LIVEOAK | 12   |
| 20816  | LIVEOAK | 11   |
| 20817  | LIVEOAK | 13   |
| 20818  | LIVEOAK | 12   |
| 20819  | LIVEOAK | 7    |
| 20820  | LIVEOAK | 9    |
| 20821  | LIVEOAK | 8    |
| 20822  | LIVEOAK | 11   |
| 20823  | LIVEOAK | 10   |
| 20824  | LIVEOAK | 12   |
| 20825  | LIVEOAK | 11   |
| 20826  | LIVEOAK | 8    |
| 20831  | CEDAR   | 16   |
| 20832  | ELM     | 10   |
| 20838  | CEDAR   | 15   |
| 20839  | LIVEOAK | 8    |
| 20851  | LIVEOAK | 17   |
| 20852  | LIVEOAK | 8    |
| 20853  | LIVEOAK | 10   |
| 20854  | LIVEOAK | 7    |
| 20862  | LIVEOAK | 11   |
| 20863  | LIVEOAK | 11   |
| 20864  | LIVEOAK | 11   |
| 20865  | LIVEOAK | 15   |
| 20866  | LIVEOAK | 8    |
| 20867  | LIVEOAK | 8    |
| 20868  | LIVEOAK | 9    |
| 20869  | LIVEOAK | 12   |
| 20870  | LIVEOAK | 15   |
| 20871  | LIVEOAK | 16   |

3000 JOE DIMAGGIO BLVD. #72  
ROUND ROCK, TX. 78665  
PH (512) 505-8953  
FIRM TX. REG. #F-10308



WILLIAMSON COUNTY  
REGIONAL PARK  
RESTROOM  
FACILITIES

CLIENT:

WILLIAMSON COUNTY

DATE: 12/28/2017

[illegible]

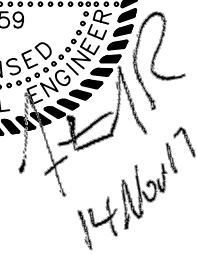
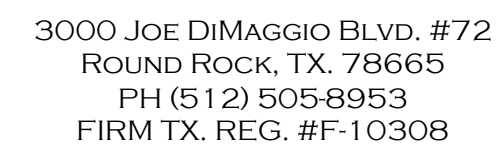
## TCEQ NOTES AND TREE LIST

082-002

C-4







3005 CO. RD. 175

WILLIAMSON COUNTY

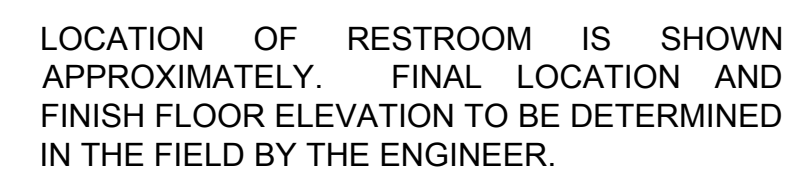
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DRAWN: DAS      DATE: 12/28/2017

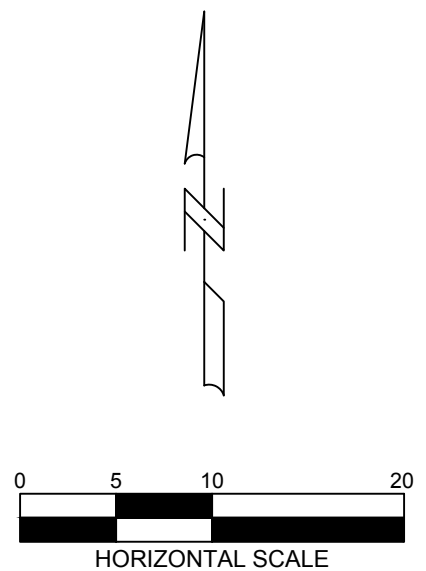
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WP PROJECT NO.:

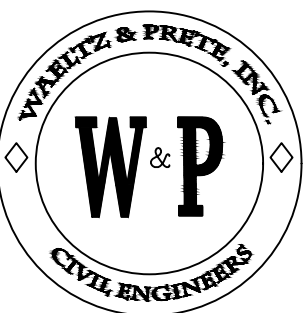
SHEET NO.:

C-6





LOCATION OF RESTROOM IS SHOWN APPROXIMATELY. FINAL LOCATION AND FINISH FLOOR ELEVATION TO BE DETERMINED IN THE FIELD BY THE ENGINEER.



3000 JOE DIMAGGIO BLVD. #72  
ROUND ROCK, TX. 78665  
PH (512) 505-8953  
FIRM TX. REG. #F-10308



WILLIAMSON COUNTY  
REGIONAL PARK  
RESTROOM  
FACILITIES

3005 CO. RD. 175

CLIENT:

WILLIAMSON COUNTY

DESIGNED: AAP      APPROVED: AAP  
DRAWN: DAS      DATE: 12/28/2017

[illegible]

SHEET TITLE

# SITE PLAN - RESTROOM #2

WP PROJECT NO.:

082-002

SHEET NO.

C-7

3000 JOE DIMAGGIO BLVD. #72  
ROUND ROCK, TX. 78665  
PH (512) 505-8953  
FIRM TX. REG. #F-10308



WILLIAMSON COUNTY  
REGIONAL PARK  
RESTROOM  
FACILITIES

CLIENT:

DESIGNED: AAP      APPROVED: AAP  
DRAWN: DAS      DATE: 12/28/2017

[illegible]

## SITE PLAN - FUTURE PAVILION

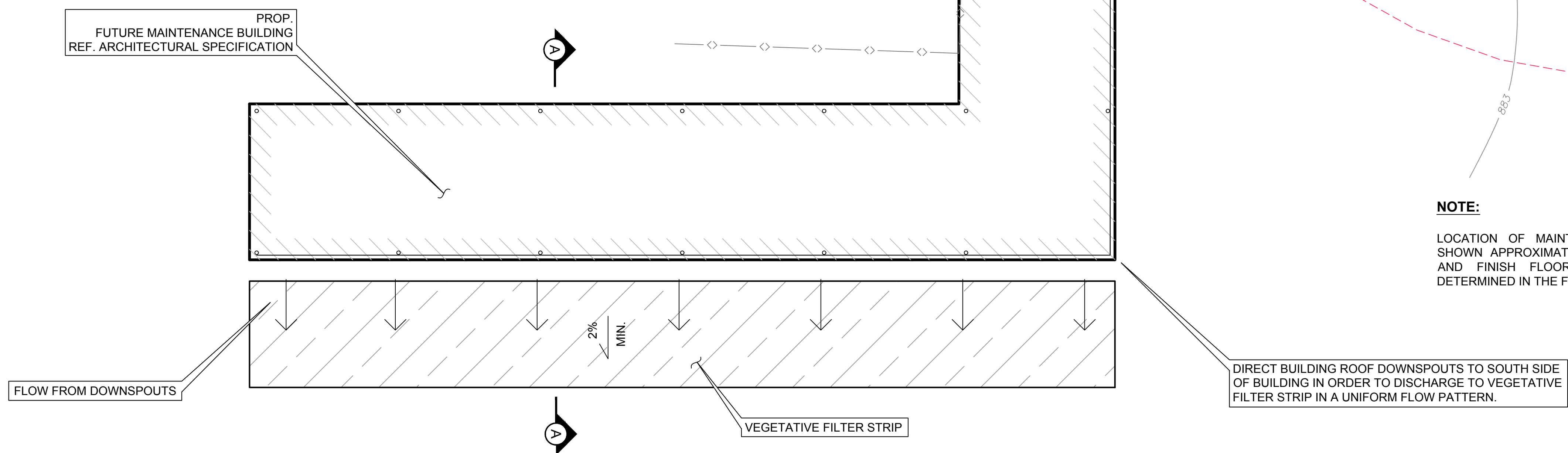
082-002

C-8

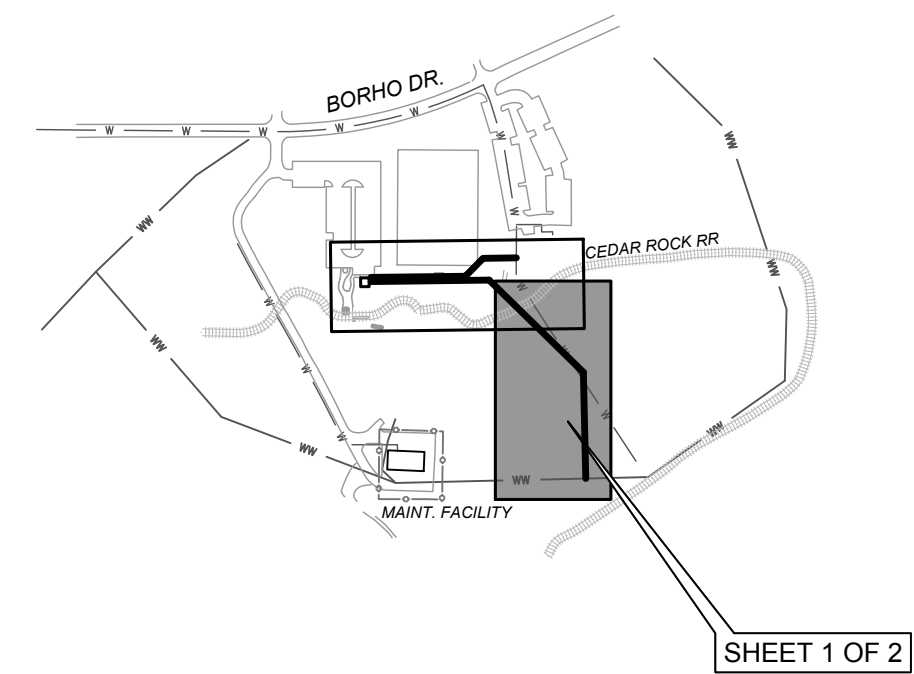


LOCATION OF PAVILION IS SHOWN APPROXIMATELY. FINAL LOCATION AND FINISH FLOOR ELEVATION TO BE DETERMINED IN THE FIELD BY THE ENGINEER.









3000 JOE DIMAGGIO BLVD. #72  
ROUND ROCK, TX. 78665  
PH (512) 505-8953  
FIRM TX. REG. #F-10308



3005 CO. RD. 175

CLIENT:

WILLIAMSON COUNTY

DESIGNED: AAP      APPROVED: AAP  
DRAWN: DAS      DATE: 12/28/2017

[illegible]

SHEET TITLE:

WASTEWATER  
PLAN AND  
PROFILE (1 OF 2)

WP PROJECT NO.:

082-002

SHEET NO.:

C-10

3000 JOE DIMAGGIO BLVD. #72  
ROUND ROCK, TX. 78665  
PH (512) 505-8953  
FIRM TX. REG. #F-10308



3005 CO. RD. 175

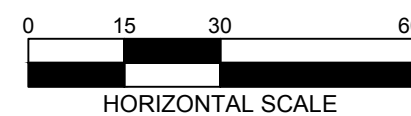
WILLIAMSON COUNTY

DESIGNED: AAP      APPROVED: AAP  
DRAWN: DAS      DATE: 12/28/2017

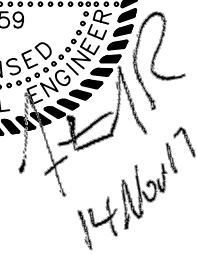
WASTEWATER  
PLAN AND  
PROFILE (2 OF 2)

082-002

C-11







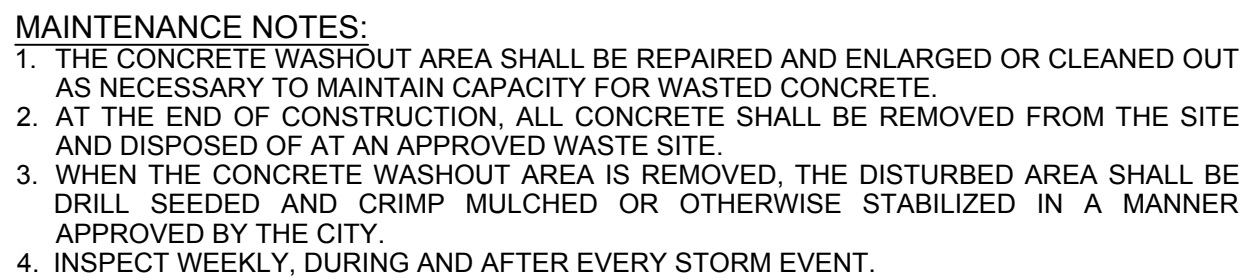
3005 CO. RD. 175

WILLIAMSON COUNTY

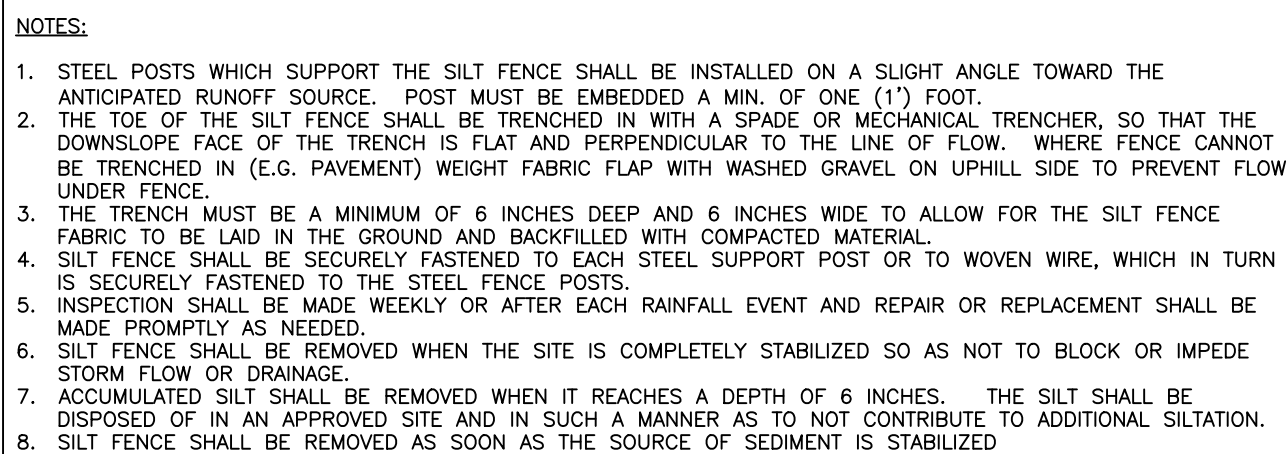
## ESC DETAILS

082-002

C-12

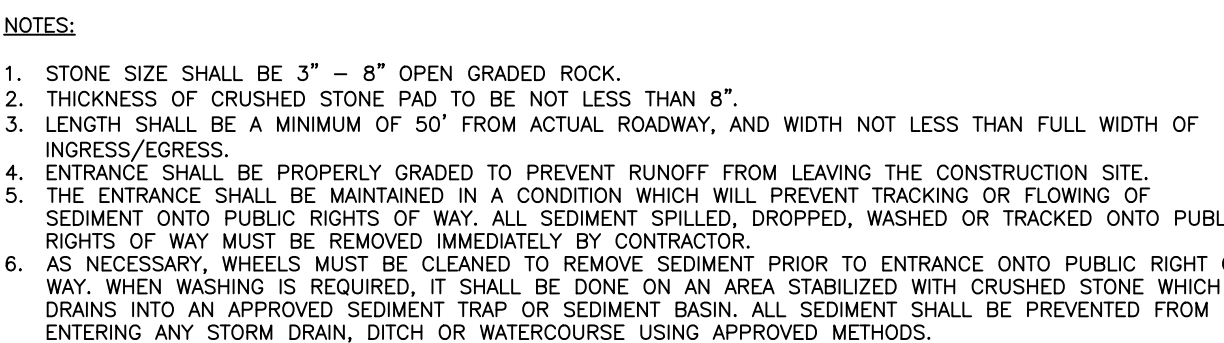



TEMPORARY CONCRETE TRUCK WASH OUT AREA  
NTS



|  |                    |   |
|--|--------------------|---|
| RECORD SIGNED COPY<br>ON FILE AT PUBLIC WORKS  | CITY OF ROUND ROCK | DRAWING NO.<br>EC-10  |
| APPROVED<br>03-25-11<br>DATE   |                    | <br>ROUND ROCK, TEXAS<br>PUBLIC WORKS DEPARTMENT |
| THE ARCHITECT/ENGINEER ASSUMES<br>RESPONSIBILITY FOR THE APPROPRIATE<br>USE OF THIS DETAIL. (NOT TO SCALE) | SILT FENCE DETAIL  |   |

SILT FENCE  
NTS

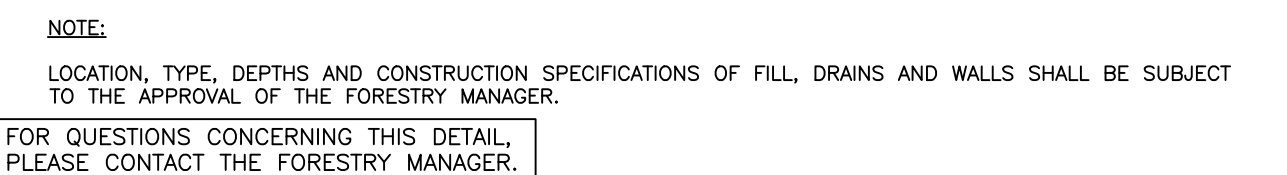



|   |                    |   |
|---|--------------------|---|
| RECORD SIGNED COPY<br>ON FILE AT PUBLIC WORKS | CITY OF ROUND ROCK | DRAWING<br>EC-05  |
| APPROVED<br>03-25-11<br>DATE                  |                    | <br>STABILIZED CONSTRUCTION<br>ENTRANCE DETAIL |

STABILIZED CONSTRUCTION ENTRANCE  
NTS

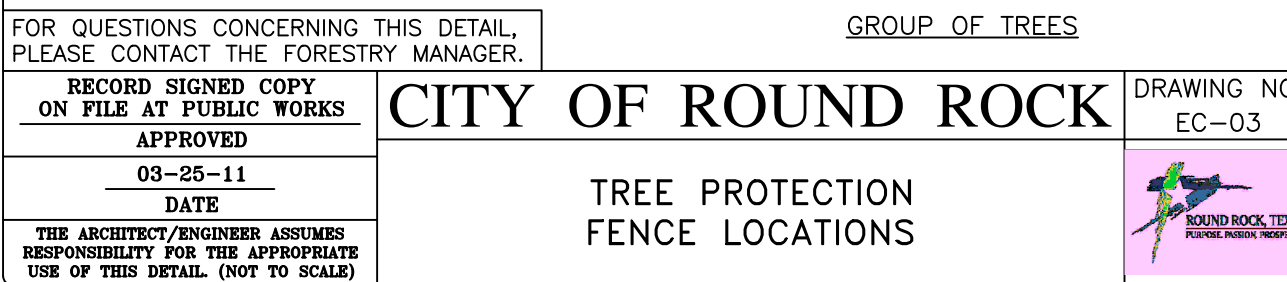
- |   |  |   |  |
|---|--|---|--|
| FOR QUESTIONS CONCERNING THIS DETAIL,<br>PLEASE CONTACT THE FORESTRY MANAGER.                             |  | DRAWING NO.:<br>EC-01   |  |
| RECORD SIGNED COPY<br>ON FILE AT PUBLIC WORKS   |  | CITY OF ROUND ROCK  |  |
| APPROVED<br>DATE 03-25-11   |  | TREE PROTECTION NOTES   |  |
| THE ARCHITECT/ENGINEER ASSUMES<br>RESPONSIBILITY FOR THE APPROPRIATE<br>USE OF THIS DETAIL (NOT TO SCALE) |  |  |  |

TREE PROTECTION NOTES  
NTS

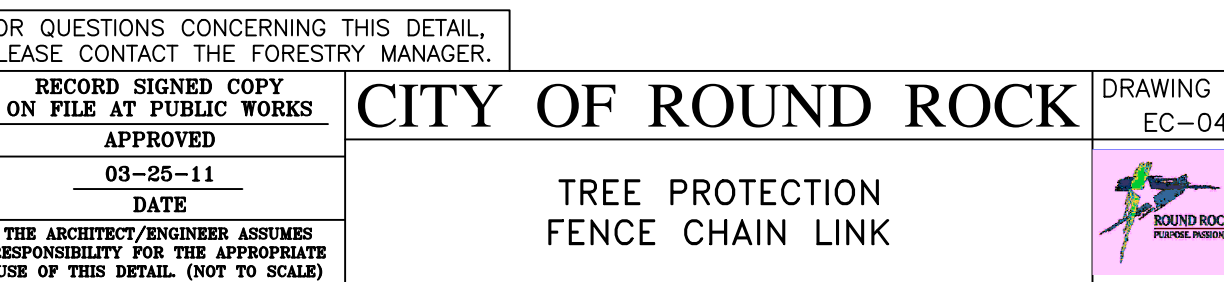


|   |   |   |
|---|---|---|
| RECORD SIGNED COPY<br>ON FILE AT PUBLIC WORKS<br>APPROVED<br>03-25-11<br>DATE<br>THE ARCHITECT/ENGINEER ASSUMES<br>RESPONSIBILITY FOR THE APPROPRIATE<br>USE OF THIS DETAIL. (NOT TO SCALE) | CITY OF ROUND ROCK<br><br>TREE PROTECTION<br>TREE WELLS | DRAWING NO.<br>EC-02<br> |
|---|---|---|

TREE PROTECTION TREE WELLS  
NTS

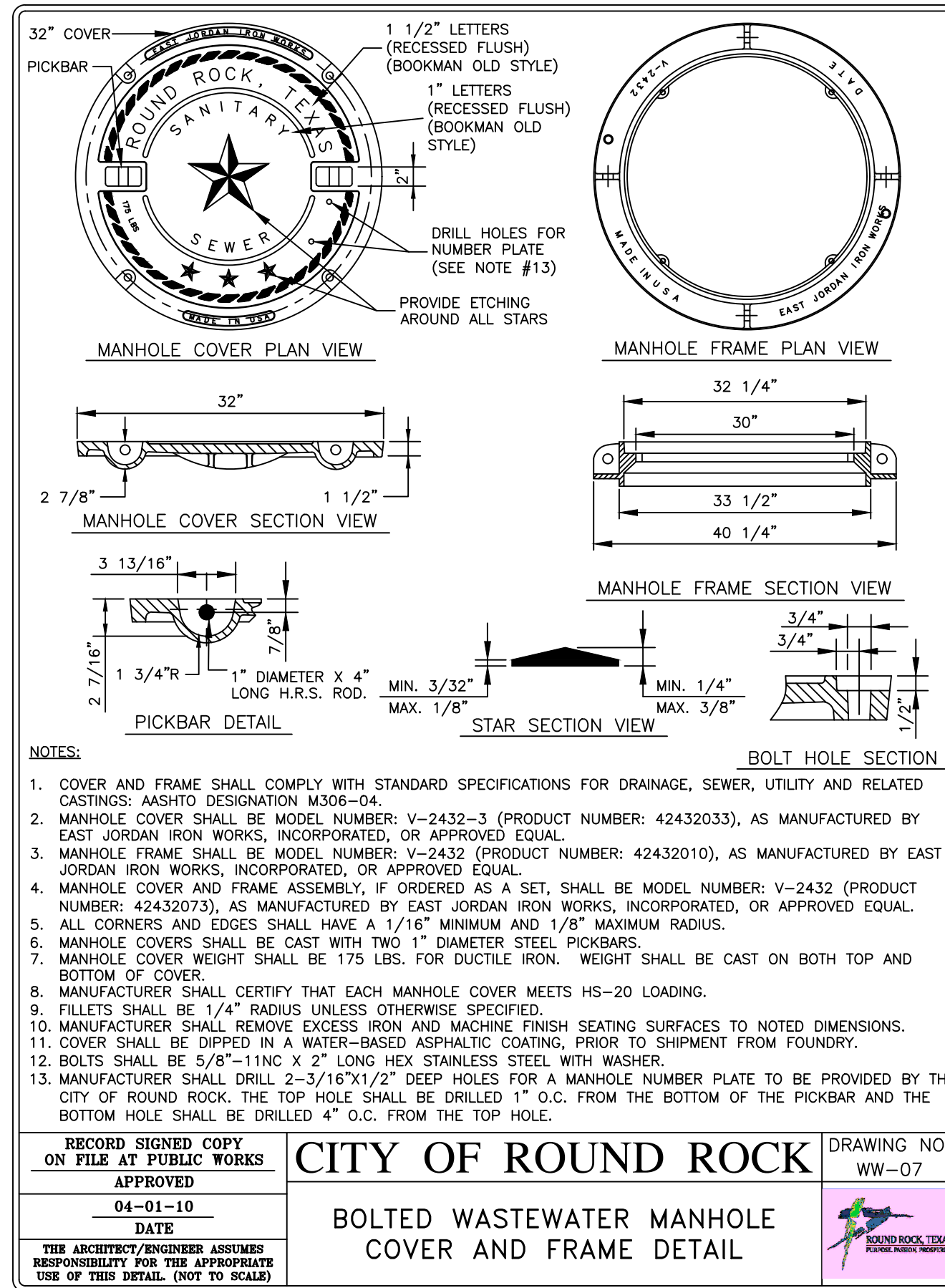


TREE PROTECTION FENCE  
NTS

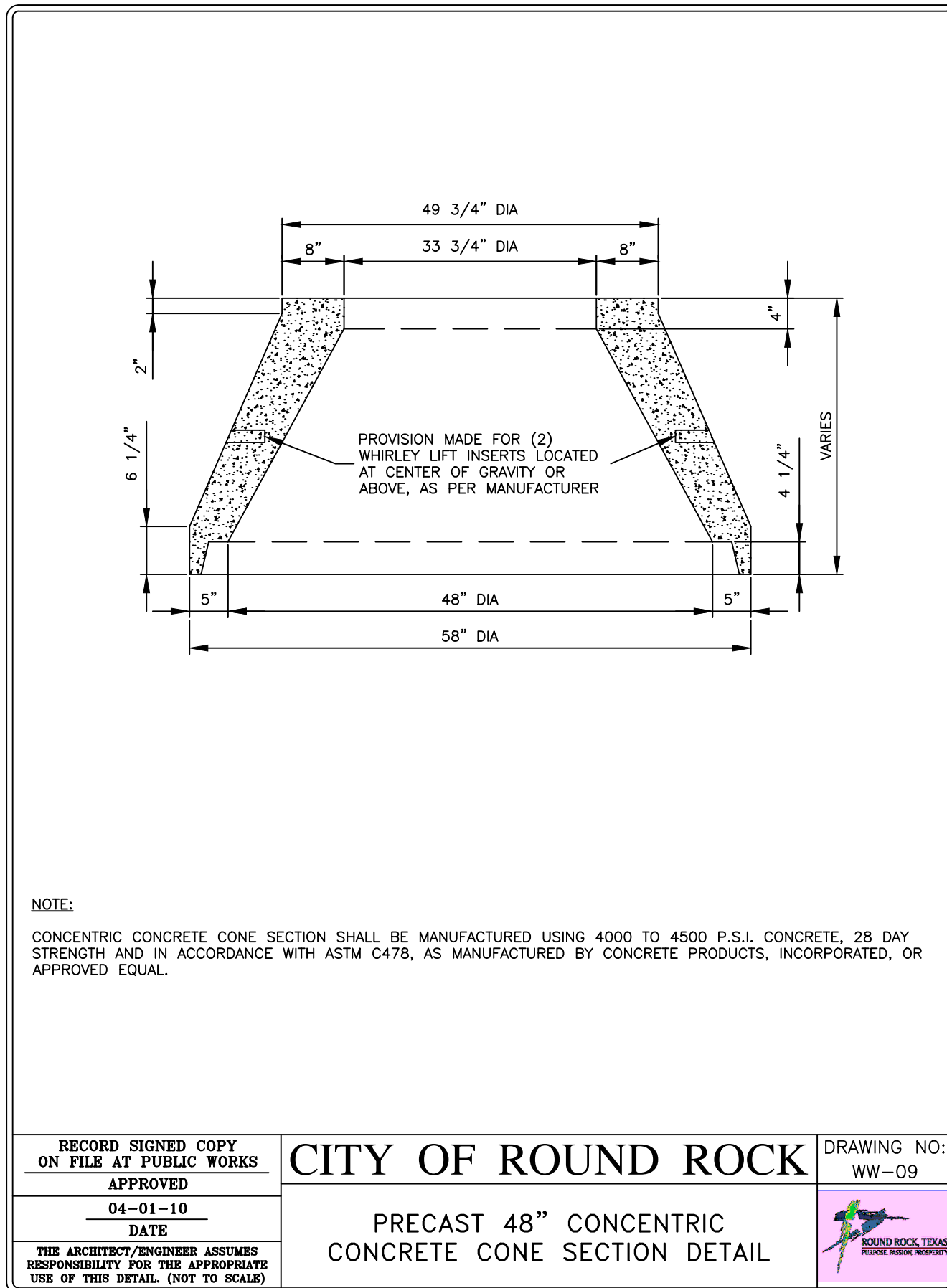


TREE PROTECTION FENCE CHAIN LINK  
NTS

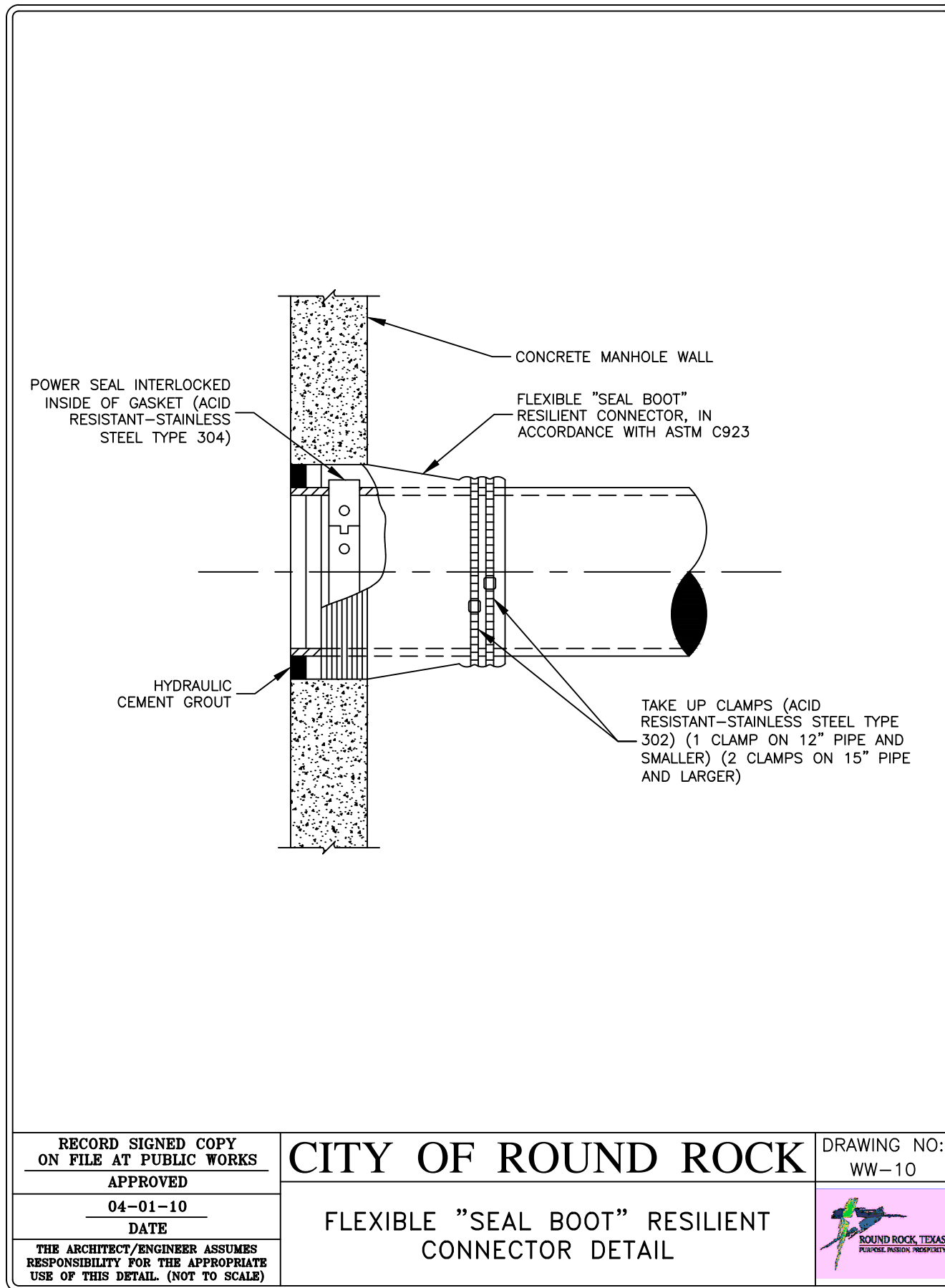




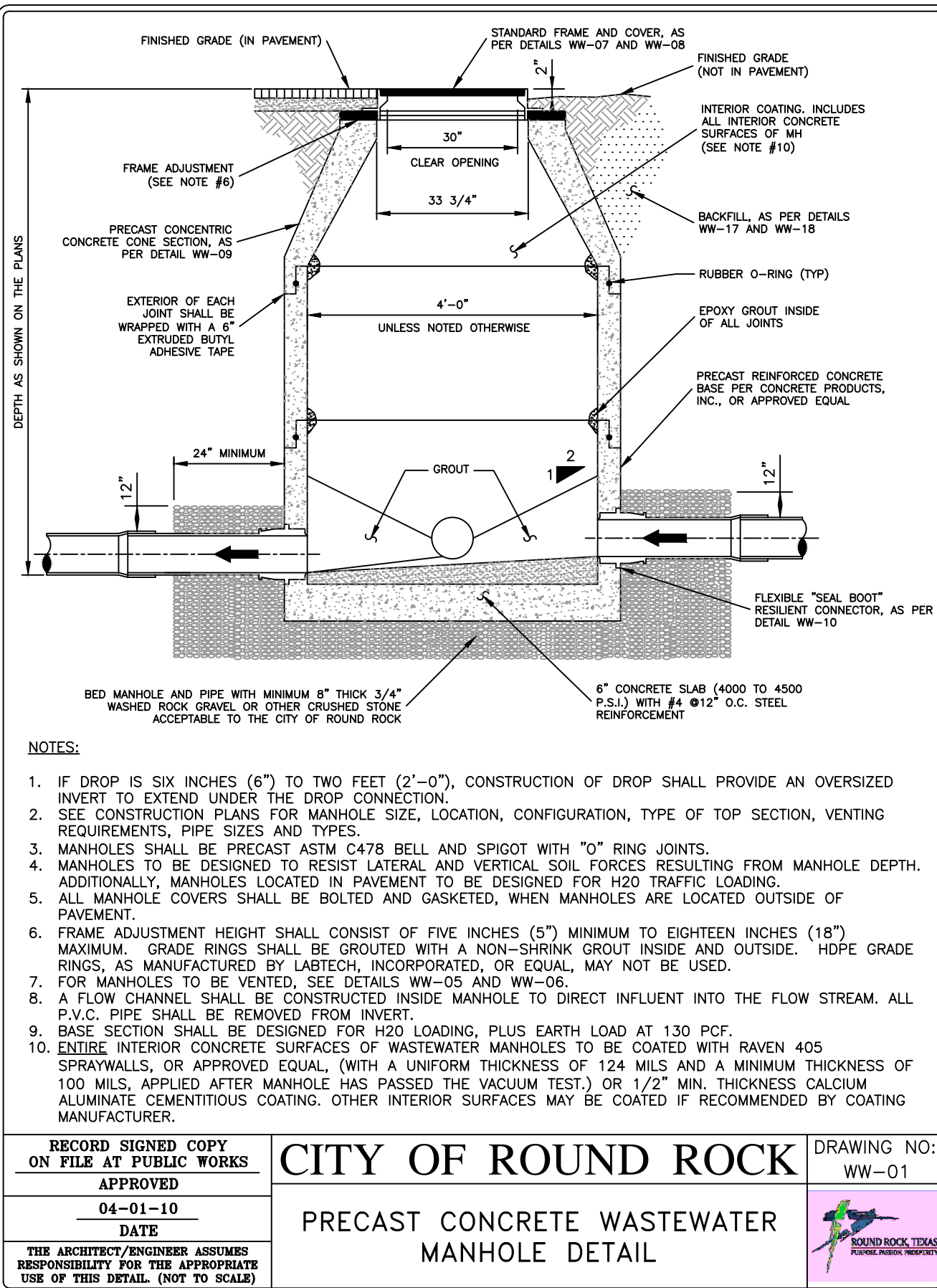
BOLTED WASTEWATER MANHOLE COVER AND FRAME  
NTS



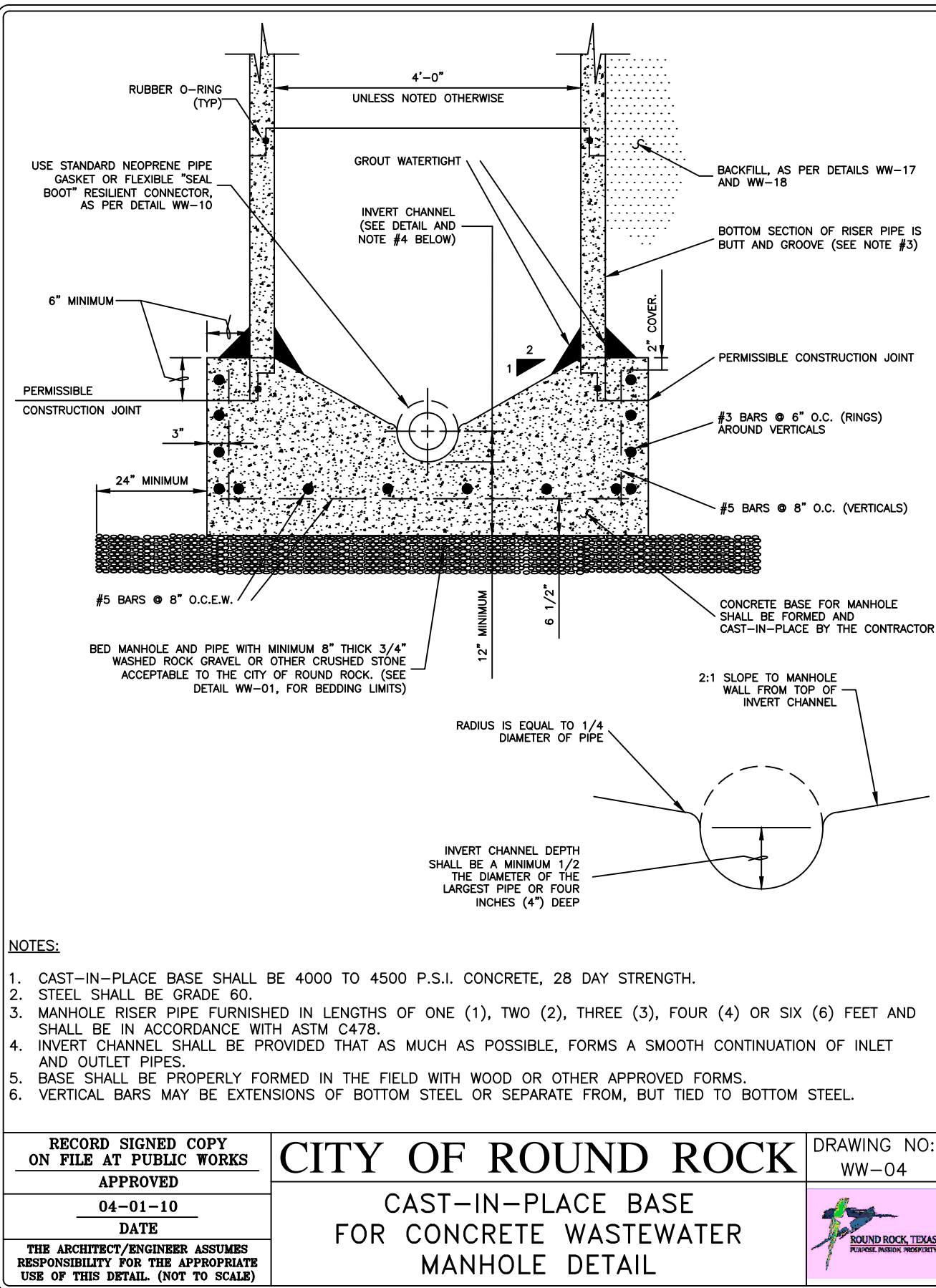
PRECAST 48" CONCENTRIC CONE  
NTS



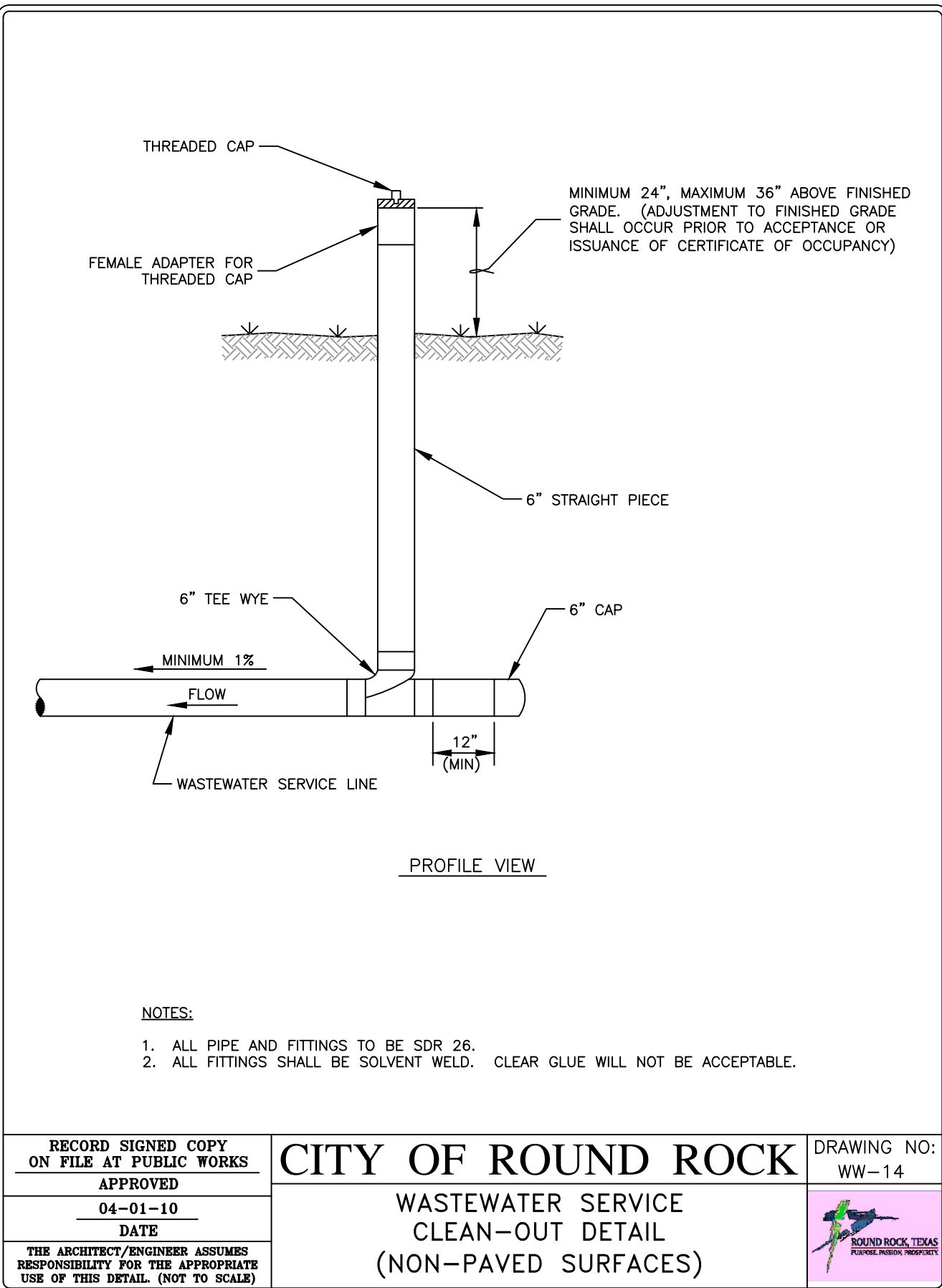
FLEXIBLE SEAL BOOT  
RESILIENT CONNECTOR  
NTS



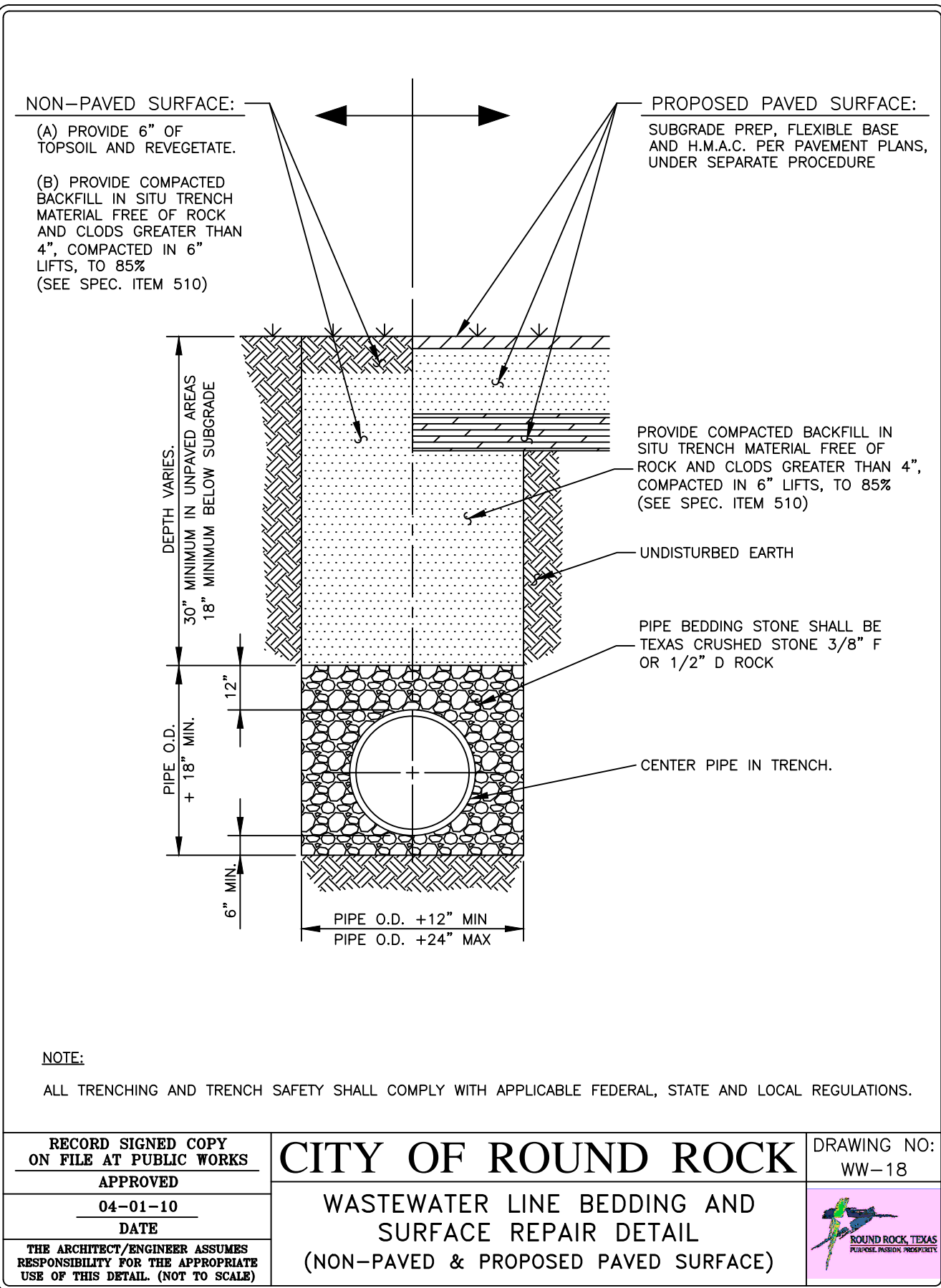
WASTEWATER MANHOLE  
NTS



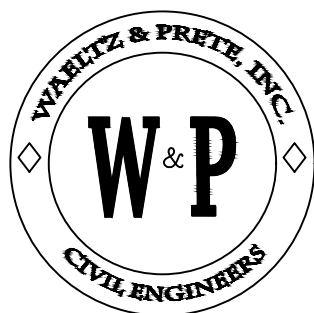
WASTEWATER MANHOLE  
CAST-IN-PLACE BASE  
NTS



WASTEWATER CLEANOUT  
NTS



WASTEWATER LINE BEDDING AND PAVEMENT REPAIR  
(NON-PAVED AND PROPOSED PAVED SURFACE)  
NTS



WAELTZ & PRETE, INC.  
CIVIL ENGINEERS

3000 JOE DIMAGGIO BLVD. #72  
ROUND ROCK, TX. 78665  
PH (512) 505-8953  
FIRM TX. REG. #F-10308



PROJECT:

WILLIAMSON COUNTY  
REGIONAL PARK  
RESTROOM  
FACILITIES

3005 CO. RD. 175

CLIENT:

WILLIAMSON COUNTY

DESIGNED: AAP      APPROVED: AAP  
DRAWN: DAS      DATE: 12/28/2017

[illegible]

SHEET TITLE:

## UTILITY DETAILS (1 OF 2)

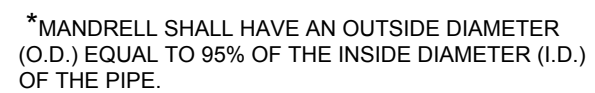
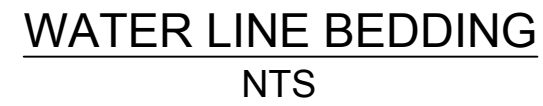
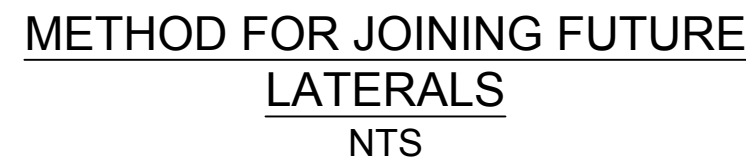
WP PROJECT NO.:

082-002

SHEET NO.:

C-13





| SIZE | TYPE        | O.D. AVERAGE | MIN. WALL THICKNESS | R1     | R2    | L1      | L2    | T1    | T2    | ROD DIAMETER |
|------|-------------|--------------|---------------------|--------|-------|---------|-------|-------|-------|--------------|
| 6"   | D3034 SDR35 | 6.275        | 0.180               | 2.810  | 0.750 | 4.500   | 6.000 | 0.375 | 1.000 | 0.375        |
| 6"   | D3034 SDR26 | 6.275        | 0.241               | 2.750  | 1.750 | 4.500   | 6.000 | 0.375 | 1.000 | 0.375        |
| 6"   | D2241 SDR26 | 6.625        | 0.255               | 2.900  | 0.750 | 4.500   | 6.000 | 0.375 | 1.000 | 0.375        |
| 8"   | D3034 SDR35 | 8.400        | 0.241               | 3.760  | 1.250 | 6.000   | 6.000 | 0.375 | 1.000 | 0.375        |
| 8"   | D3034 SDR26 | 8.400        | 0.323               | 3.680  | 1.250 | 6.000   | 6.000 | 0.375 | 1.000 | 0.375        |
| 8"   | D2241 SDR26 | 8.625        | 0.331               | 3.780  | 1.250 | 6.000   | 6.000 | 0.375 | 1.000 | 0.375        |
| 10"  | D3034 SDR35 | 10.50        | 0.300               | 4.700  | 1.500 | 7.500   | 6.000 | 0.375 | 1.000 | 0.375        |
| 10"  | D3034 SDR26 | 10.50        | 0.404               | 4.600  | 1.500 | 7.500   | 6.000 | 0.375 | 1.000 | 0.375        |
| 10"  | D2241 SDR26 | 10.75        | 0.413               | 4.710  | 1.500 | 7.500   | 6.000 | 0.375 | 1.000 | 0.375        |
| 12"  | D3034 SDR35 | 12.05        | 0.357               | 5.600  | 1.750 | 9.000   | 6.000 | 0.375 | 1.000 | 0.375        |
| 12"  | D3034 SDR26 | 12.50        | 0.481               | 5.480  | 1.750 | 9.000   | 6.000 | 0.375 | 1.000 | 0.375        |
| 12"  | D2241 SDR26 | 12.75        | 0.490               | 5.590  | 1.750 | 9.000   | 6.000 | 0.375 | 1.000 | 0.375        |
| 15"  | D3034 SDR35 | 15.30        | 0.437               | 6.850  | 2.000 | 11.250  | 6.000 | 0.375 | 1.000 | 0.375        |
| 15"  | D3034 SDR26 | 15.30        | 0.588               | 6.710  | 2.000 | 11.250  | 6.000 | 0.375 | 1.000 | 0.375        |
| 16"  | D2241 SDR26 | 16.0         | 0.615               | 7.010  | 2.000 | 11.250  | 6.000 | 0.375 | 1.000 | 0.375        |
| 18"  | F679 T-1    | 18.701       | 0.536               | 8.060  | 2.500 | 13.500  | 9.000 | 0.500 | 1.500 | 0.500        |
| 21"  | F679 T-1    | 22.047       | 0.632               | 9.500  | 3.000 | 150.750 | 9.000 | 0.500 | 1.500 | 0.500        |
| 24"  | F679 T-1    | 24.803       | 0.711               | 10.680 | 3.500 | 18.000  | 9.000 | 0.500 | 1.500 | 0.500        |
| 27"  | F679 T-1    | 27.953       | 0.801               | 12.030 | 4.000 | 20.25   | 9.000 | 0.500 | 1.500 | 0.500        |

1. MANDREL SHALL BE CONSTRUCTED OF METAL OR A RIGID PLASTIC MATERIAL THAT CAN WITHSTAND 200PSI WITHOUT BEING DEFORMED.
2. AFTER WELDING IS COMPLETED, TRUE THE OUTSIDE DIAMETER DIMENSION. FOR THE FULL LENGTH OF "B" TO 0.010".
3. A PROVING RING SHALL BE PROVIDED AND USED FOR EACH SIZE MANDREL IN USE.
4. MANDREL OD MUST BE EQUAL TO 95% OF THE ID OF THE PIPE
5. MANDREL BARREL LENGTH 'B' MUST BE EQUAL TO 75% OF THE ID OF THE PIPE
6. ADJUSTABLE MANDREL IS NOT ACCEPTABLE.



CLIENT:

WILLIAMSON COUNTY

DESIGNED: AAP      APPROVED: AAP  
DRAWN: DAS      DATE: 12/28/2017

[illegible]

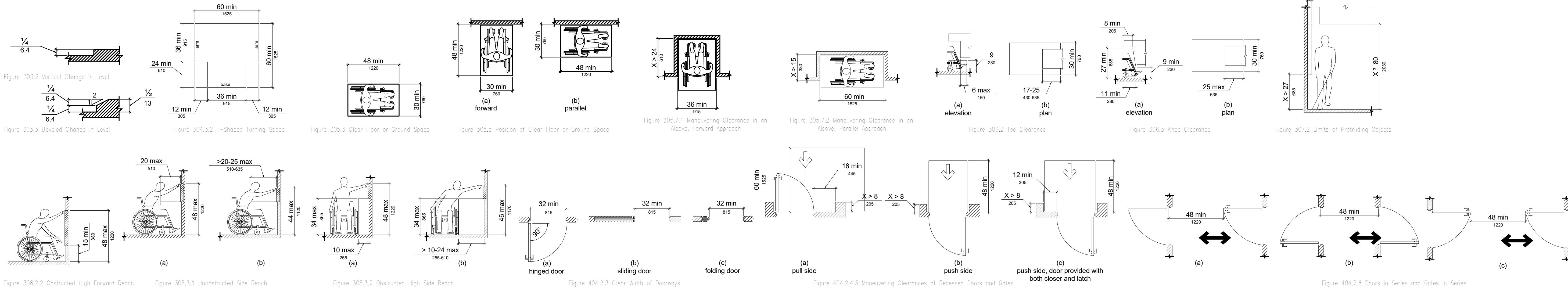
WP PROJECT NO.:

SHEET NO.:

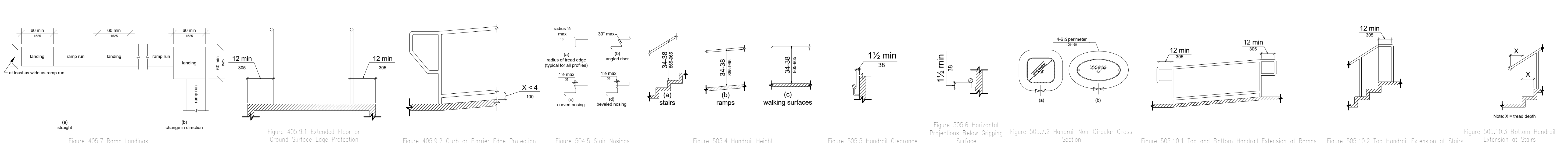
C-14



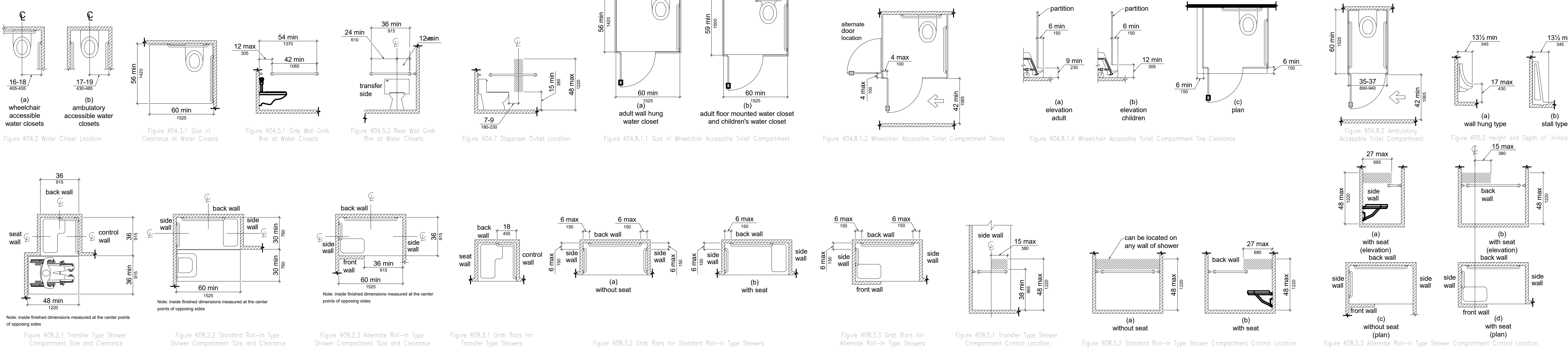
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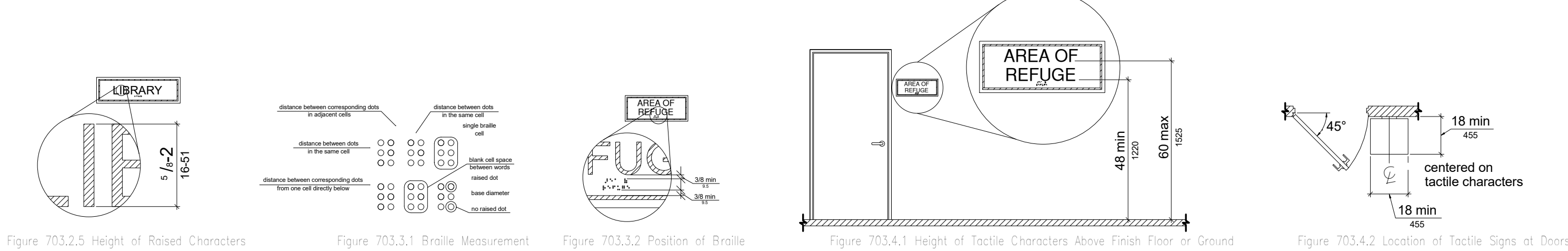
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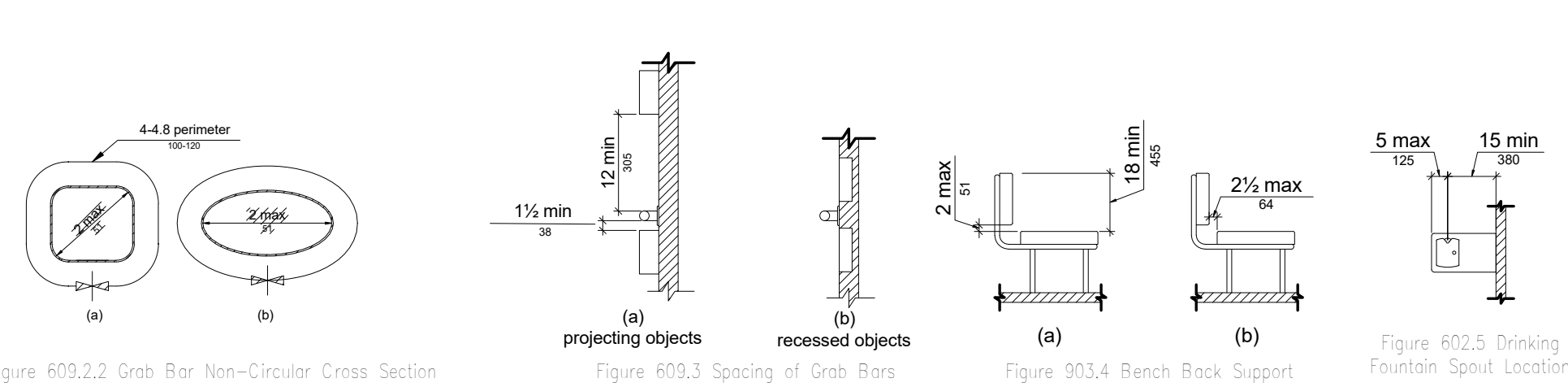
TOILET AND BATHING ROOMS



SIGNAGE



MISC.



**MODE**  
design company

1102 | s austin ave, suite 103  
georgetown, tx 78626  
ryan@modedc.us | www.modedc.us  
+ 1 512 733 1150

REGISTERED ARCHITECT  
RYAN HANSANUWAY  
STATE OF TEXAS  
227331  
Ryan Hansanuwat  
11/6/2017

**SOUTHWEST WILCO PARK**  
WILLIAMSON COUNTY PARKS AND RECREATION  
3005 CO RD 175, LEANDER, TX 78641

PROJECT PHASE  
CONSTRUCTION DOCUMENTS  
REVISIONS

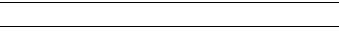
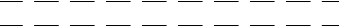





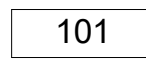

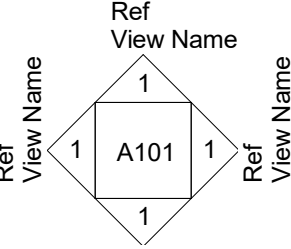
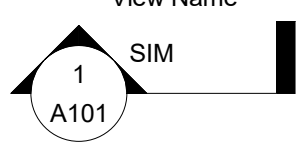
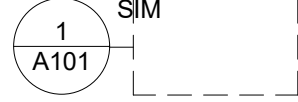


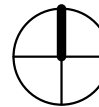

PROJECT NUMBER  
15107-00  
DATE ISSUED  
11/6/2017  
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ACCESSIBILITY  
DIAGRAMS  
SHEET NUMBER

A-0.1



# FLOOR PLAN

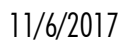
- |  |                         |
|--|-------------------------|
|                                     | EXISTING WALL TO REMAIN |
|                                     | ITEMS TO BE DEMOLISHED  |
|                                     | CENTERLINE              |
|                                     | COLUMN GRID             |
|                                     | PARTITION TYPE          |
|                                     | WINDOW TYPE             |
|                                     | DOOR NUMBER             |
| <b>Room name</b><br>                | ROOM NAME AND NUMBER    |
| <b>Name Elevation</b>               | ELEVATION DATUM POINT   |
|                                     | ELEVATION VIEW          |
|                                     | SECTION/DETAIL          |
|                                     | ENLARGED PLAN           |
|                                     | REVISION KEY            |
|                                     | REVISION CLOUD          |
|                                    | NORTH ARROW             |
|  <b>View Name</b><br>1/8" = 1'-0" | VIEW TITLE              |

# ARCHITECTURE

|            |   |         |                             |        |                               |
|------------|---|---------|-----------------------------|--------|-------------------------------|
| ACC        | AIR CONDITIONING ACCESS                   | GA      | GUAGE                       | PLAM   | PLASTIC LAMINATE              |
| ACP        | ACOUSTICAL CEILING PANEL                  | GALV    | GALVANIZED                  | PLUMB  | PLUMBING                      |
| ADDL       | ADDITIONAL                                | GB      | GRAB BAR                    | PLYWOD | PLYWOOD                       |
| ADDUM      | ADDENDUM                                  | GC      | GENERAL CONTRACTOR          | PNL    | PANEL                         |
| ADH        | ADHESIVE                                  | GD      | GRADE                       | PREFAB | PREFABRICATED                 |
| ADJ        | ADJUSTABLE                                | GEN     | GENERAL                     | PREFIN | PREFINISHED                   |
| AGF        | ABOVE FINISHED FLOOR                      | GL      | GLASS/GLAZING               | PRF    | PREFORMED                     |
| AGG        | AGGREGATE                                 | GLB     | GLASS BLOCK                 | PSF    | POUNDS PER SQUARE FOOT        |
| ALT        | ALTERNATE                                 | GTR     | GUTTER                      | PSI    | POUNDS PER SQUARE INCH        |
| ALUM       | ALUMINUM                                  | GVL     | GRAVEL                      | PT     | PAINT                         |
| APPROX     | APPROXIMATELY                             | GYP     | GYPSUM                      | PVC    | POLYVINYL CHLORIDE            |
| ARCH       | ARCHITECT/ARCHITECTURAL                   | GYP BD  | GYPSUM BOARD                | R      | RADIUS                        |
| ASPH       | ASPHALT                                   | HB      | HOSE BIB                    | RA     | RETURN AIR                    |
| AUTO       | AUTOMATIC                                 | HC      | HOLLOW CORE                 | RDR    | ROOF DRAIN                    |
| AV         | AUDIO VISUAL                              | HDP     | HANDICAP                    | RE BAR | REINFORCING BARS              |
| BD         | BOARD                                     | HDR     | HEADER                      | RECP   | RECEPTACLE                    |
| BL         | BUILDING LINE                             | HDW     | HARDWOOD                    | REF    | REFERENCE                     |
| BLDG       | BUILDING                                  | HDWR    | HARDWARE                    | REFR   | REFRIGERATOR                  |
| BLVD       | BOULEVARD                                 | HM      | HOLLOW METAL                | REG    | REGISTER                      |
| BM         | BEAM                                      | HORZ    | HORIZONTAL                  | REINF  | REINFORCED                    |
| B.M.       | BENCH MARK                                | HT      | HEIGHT                      | REQD   | REQUIRED                      |
| BRK        | BRICK                                     | HTG     | HEATING                     | RET    | RETURN                        |
| BRZ        | BRONZE                                    | HVAC    | HEATING VENTILATION         | RH     | RIGHT HAND                    |
| BSMT       | BASEMENT                                  | HW      | HOT WATER                   | RM     | ROOM                          |
| BTU        | BRITISH THERMAL UNIT                      |         |                             | RO     | ROUGH OPENING                 |
| BVL        | BEVEL/BEVELED                             | IBC     | INTERNATIONAL BUILDING CODE | ROW    | RIGHT OF WAY                  |
|            |   |         |                             | RT     | RUBBER TILE                   |
| CAB        | CABINET                                   | IN      | INCH                        | S      | SOUTH                         |
| CB         | CATCH BASIN                               | INCL    | INCLUDED                    | SCB    | STANDARD BUILDING CODE        |
| C/C        | CENTER TO CENTER                          | INSUL   | INSULATION                  | SBC    | SOLID CORE                    |
| CFI        | CONTRACTOR FURNISHED CONTRACTOR INSTALLED | INT     | INTERIOR                    | SCHED  | SCHEDULE                      |
|            |   |         |                             | SEED   | SCREEN                        |
| CG         | CAST IRON                                 | JAN     | JANITOR                     | SEAL   | SEALANT                       |
| CG         | CORNER GUARD                              | JBOX    | JUNCTION BOX                | SHTH   | SHEATHING                     |
| CLG        | CEILING                                   | JCT     | JUNCTION                    | SHT    | SHEET                         |
| CLK        | CAULK/CAULKING                            | JST     | JOIST                       | SH     | SHINGLE HUNG                  |
| CLO        | CLOSET                                    | JT      | JOINT                       | SIM    | SIMILAR                       |
| CLR        | CLEAR/CLEARANCE                           |         |                             | SLV    | SLEEVE                        |
| CMU        | CONCRETE MASONRY UNIT                     | KIT     | KITCHEN                     | SPEC   | SPECIFICATIONS                |
| CND        | CONDUIT                                   | KPL     | KICKPLATE                   | SQ     | SQUARE                        |
| COL        | COLUMN                                    | KO      | KNOCK OUT                   | SQ FT  | SQUARE FEET                   |
| COMP       | COMPOSITION/COMPOSITE                     |         |                             | STD    | STANDARD                      |
| CONC       | CONCRETE                                  | LAB     | LABORATORY                  | STD    | STEEL                         |
| CONF       | CONFERENCE                                | LAM     | LAMINATE                    | STL    | STORAGE                       |
| CONN       | CONNECTION                                | LAV     | LAVATORY                    | STOR   | STRUCTURAL                    |
| CONST      | CONSTRUCTION                              | LH      | LEFT HAND                   | STRCT  | SUSPENDED                     |
| CSMT       | CASEMENT                                  | LL      | LIVE LOAD                   | SUSP   | SYMMETRICAL                   |
|            |   | LT      | LIGHT                       | SYM    | SYNTHETICAL                   |
| DEPT       | DEPARTMENT                                | LWT     | LIGHTWEIGHT                 | SYN    | SYSTEM                        |
| DH         | DOUBLE HUNG                               |         |                             | SYN    |                               |
| DIA        | DIAMETER                                  | MAS     | MASONRY                     |        |                               |
| DIM        | DIMENSION                                 | MATL    | MATERIAL                    | TAN    | TANGENT                       |
| DN         | DOWN                                      | MAX     | MAXIMUM                     | TAS    | TEXAS ACCESSIBILITY STANDARDS |
| DS         | DOWNSPOUT                                 | MB      | MACHINE BOLT                |        | TECHNICAL                     |
| DW         | DISHWASHER                                | MECH    | MECHANICAL                  | TECH   | TELEPHONE                     |
| DWG        | DRAWING                                   | MEMB    | MEMBRANE                    | TG     | TONGUE AND GROOVE             |
|            |   | MEZZ    | MEZZANINE                   | T&G    | THICK                         |
| E          | EAST                                      | MFR     | MANUFACTURER                | THK    | THRESHOLD                     |
| EA         | EACH                                      | MH      | MAN HOLE                    | THRES  | TOILET                        |
| EB         | EXPANSION BOLT                            | MICRO   | MICROWAVE                   | TIB    | TOP OF BLOCK                  |
| EJ         | EXPANSION JOINT                           | MIN     | MINIMUM                     | TOB    | TOP OF CURB                   |
| EL         | ELEVATION                                 | MIR     | MIRROR                      | TOC    | TOP OF MASONRY                |
| ELEC       | ELECTRIC/ELECTRICAL                       | MISC    | MISCELLANEOUS               | TOM    | TOP OF PARAPET                |
| ELEV       | ELEVATION/ELEVATOR                        | MLD     | MOULDING                    | TOP    | TOP OF PLATE                  |
| EMER       | EMERGENCY                                 | MLWK    | MILLWORK                    | TOP    | TOP OF STAIR                  |
| ENC        | ENCLOSURE                                 | MO      | MASONRY OPENING             | TOS    | TOP OF SLAB                   |
| ENT        | ENTRANCE                                  | MOD     | MODULAR                     | TOSL   | TOP OF WALL                   |
| EQ         | EQUAL                                     | MTD     | MOUNTED                     | TOW    | TRANSFORMER                   |
| EQPT       | EQUIPMENT                                 | MTL     | METAL                       | TRANS  | TUBE STEEL                    |
| EST        | ESTIMATE                                  | MULT    | MULTIPLE                    | TS     | TELEVISION                    |
| EWC        | ELECTRIC WATER COOLER                     |         |                             | TV     | TYPICAL                       |
| EWV        | ELECTRIC WATER HEATER                     | N       | NORTH                       |        |                               |
| EXC        | EXCAVATE                                  | NAT     | NATURAL                     |        |                               |
| EXH        | EXHAUST FAN                               | NIC     | NOT IN CONTRACT             |        |                               |
| EXT        | EXHAUST                                   | NIOM    | NOMINAL                     |        |                               |
| EXT        | EXTERIOR                                  | NTS     | NOT TO SCALE                |        |                               |
|            |   |         |                             | UNO    | UNIFORM BUILDING CODE         |
| FA         | FIRE ALARM                                | OBS     | OBSOLETE                    | UNFIN  | UNFINISHED                    |
| FBD        | FIBER BOARD                               | OC      | ON CENTER                   | UNO    | UNLESS NOTED OTHERWISE        |
| FBO        | FURNISHED BY OWNER                        | OC NEW  | ON CENTER EACH WAY          | UR     | URINAL                        |
| FBK        | FIRE BRICK                                | OH      | OVERHEAD                    |        |                               |
| FDC        | FLOOR DRAIN                               | OP      | OPAQUE                      | VB     | VAPOR BARRIER                 |
| CONNECTION | FIRE DEPARTMENT                           | OPNG    | OPENING                     | VAR    | VARIES                        |
| FE         | FIRE EXTINGUISHER                         | OPP     | OPPOSITE                    | VERT   | VERTICAL                      |
| FEC        | FIRE EXTINGUISHER CABINET                 | OPP HD  | OPPOSITE HAND               | VOL    | VENTILATION VOLUME            |
| FF         | FINISH FLOOR                              | ORIG    | ORIGINAL                    | WTW    | WALL TO WALL                  |
| FFE        | FINISHED FLOOR ELEVATION                  | OWJ     | OPEN WEB JOIST              | WC     | WATER CLOSET                  |
| FFL        | FINISHED FLOOR LINE                       | OZ      | OUNCE                       | WH     | WATER HEATER                  |
| FIN        | FINISHED                                  |         |                             | WP     | WATER PROOFING                |
| FIXT       | FIXTURE                                   | PAR     | PARALLEL                    | W      | WEST                          |
| FLOUR      | FLOURESCENT                               | PART    | PARTITION                   | W/O    | WITH                          |
| FLR        | FLOOR                                     | PART BD | PARTICLE BOARD              | W/O    | WITHOUT                       |
| FOUN       | FOUNDATION                                | PC      | PER CAST                    | WDW    | WOOD                          |
| FOC        | FACE OF CONCRETE                          | PCF     | POUNDS PER CUBIC FOOT       | WFT    | WINDOW                        |
| FOF        | FACE OF FINISH                            | PEO     | PEDESTAL                    | WI     | WEIGHT                        |
| FOM        | FACE OF MASONRY                           | PERM    | PERIMETER                   |        | WROUGHT IRON                  |
| FOS        | FACE OF STUD                              | PERM    | PERMANENT                   | YD     | YARD                          |
| FIREPROOF  | FIREPROOF                                 | PERP    | PERPENDICULAR               |        |                               |
| FPL        | FIREPLACE                                 | PFL     | POUNDS PER LINEAL FOOT      |        |                               |
| FRC        | FIRE RESISTANT COATING                    | PKG     | PARKING                     |        |                               |
| FRF        | FIRE RETARDANT                            | PL      | PLATE                       |        |                               |
| FT         | FOOT/FEET                                 | PL      | PROPERTY LINE               |        |                               |
| FTG        | FOOTING                                   | PLAS    | PLASTER                     |        |                               |
| FURR       | FURRED/FURRING                            |         |                             |        |                               |
| FURN       | FURNISHED                                 |         |                             |        |                               |

## INTERIOR FINISHES ABBREVIATIONS

|      |                          |     |                      |      |                        |
|------|--------------------------|-----|----------------------|------|------------------------|
| ACP  | ACOUSTICAL CEILING PANEL | PL  | PLASTIC LAMINATE     | STC  | STAINED CONCRETE       |
| CONC | CONCRETE                 | PT  | PAINT                | TZ   | TERRAZZO               |
| CPT  | CARPET/CARPET TILE       | QT  | QUARRY TILE          | VCT  | VINYL COMPOSITION TILE |
| CT   | CERAMIC TILE             | RAF | RAISED FLOORING      | VTL  | VINYL TILE             |
| F    | FURNITURE                | RB  | RESILIENT BASE       | VW   | VINYL WALL COVERING    |
| FAB  | FABRIC (FURNITURE)       | RES | RESINOUS FLOORING    | WD   | WOOD VENEER/WOOD BASE  |
| FWC  | FABRIC WALL COVERING     | RF  | RESILIENT FLOORING   | W    | WOOD TRIM              |
| GL   | GLASS/GLAZING            | SP  | SPECIALTY PRODUCTS   | WDLF | WOOD FLOORING          |
| GLB  | GLASS BLOCK              | SS  | SOLID SURFACE        | WT   | WINDOW TREATMENT       |
| MTL  | METAL                    | ST  | STONE/STONE FLOORING |      |                        |



**SOUTHWEST WILCO PARK**  
WILLIAMSON COUNTY PARKS AND RECREATION  
3005 CO RD 175, LEANDER, TX 78641

SHEET NUMBER

## A-0.2

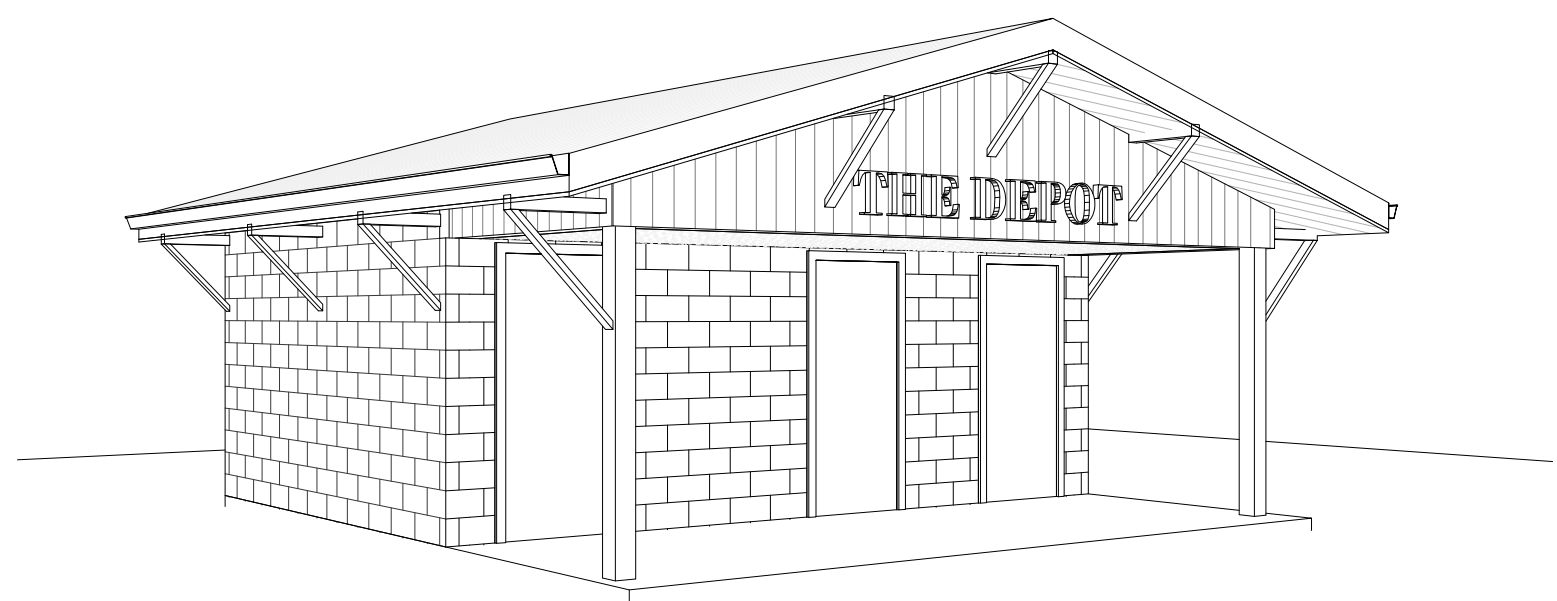


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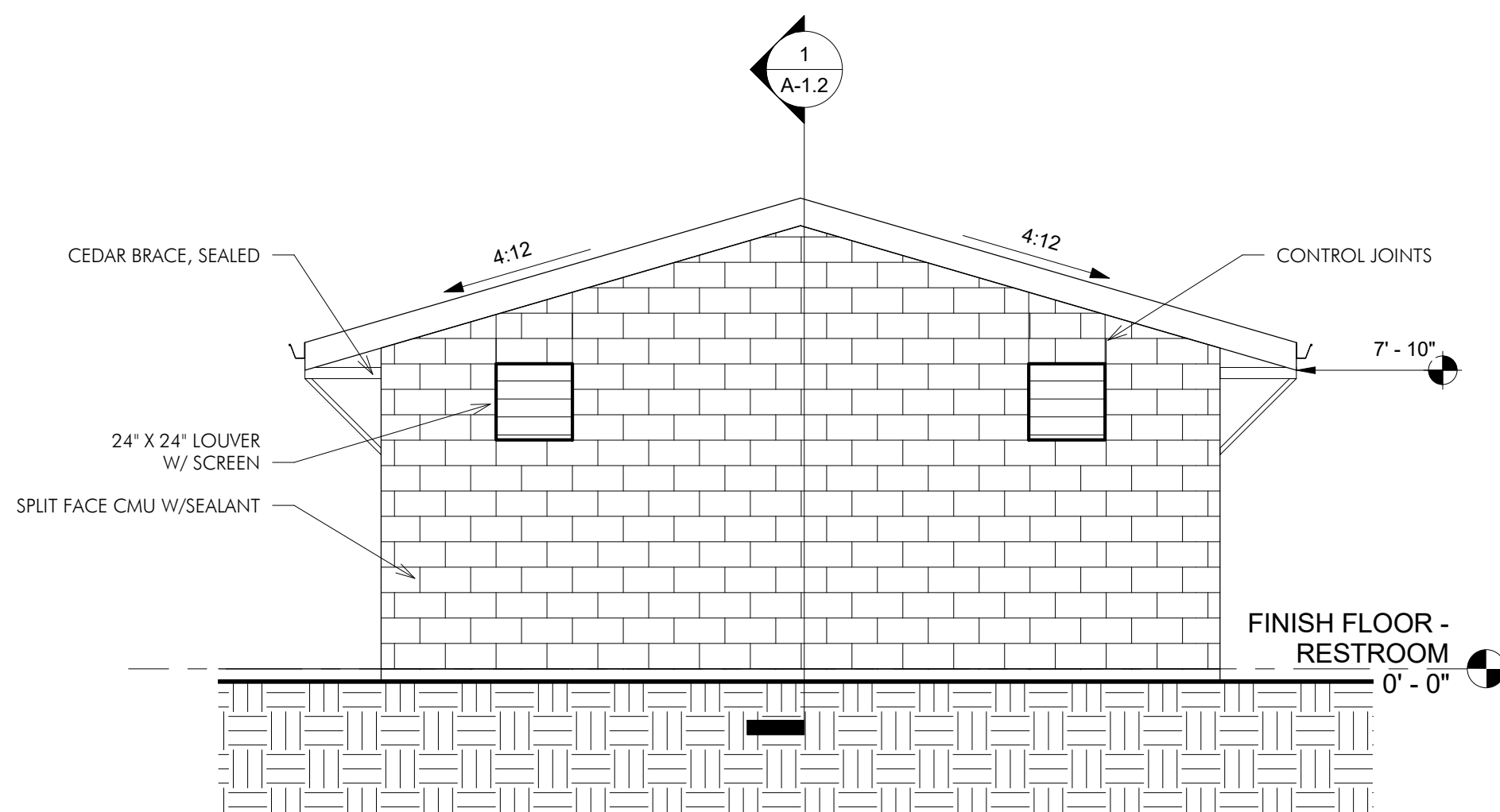
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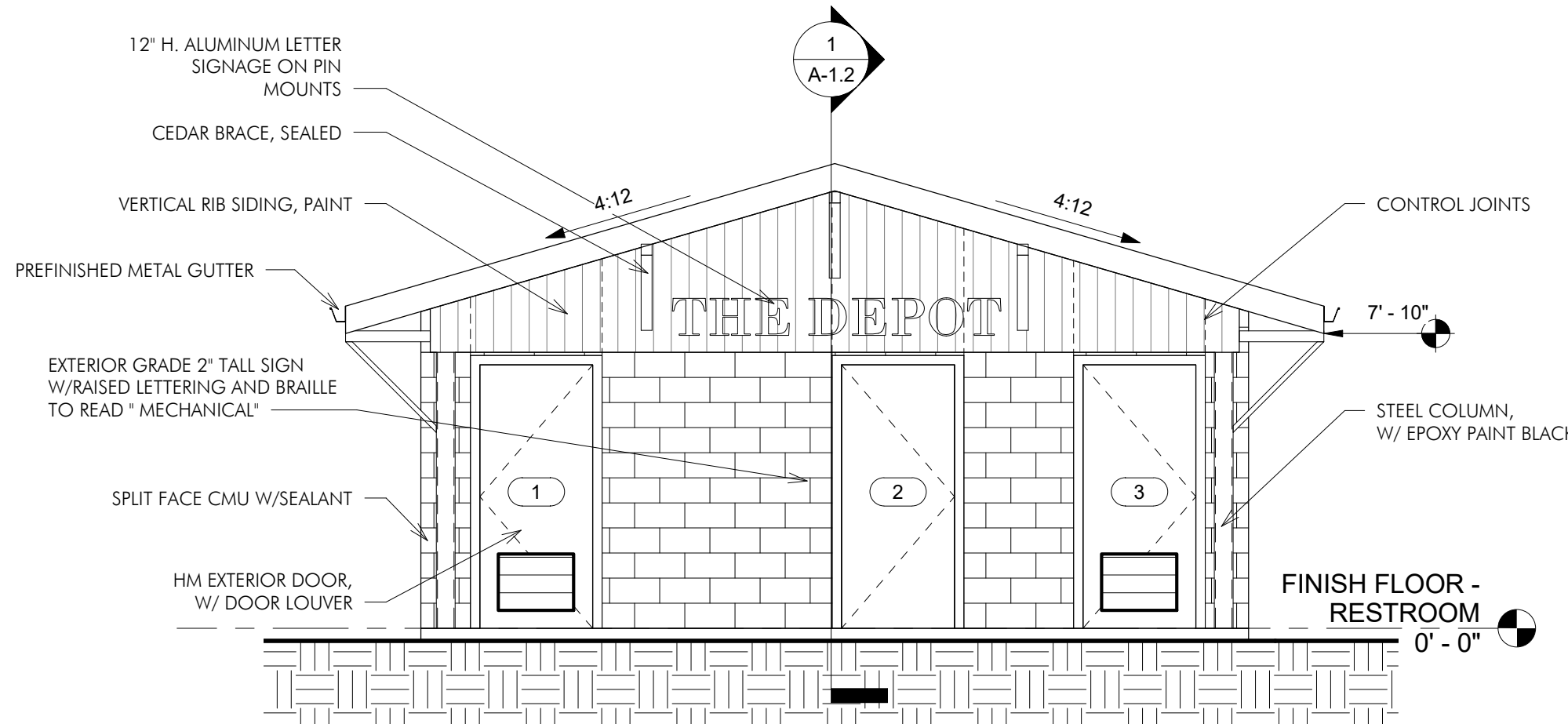
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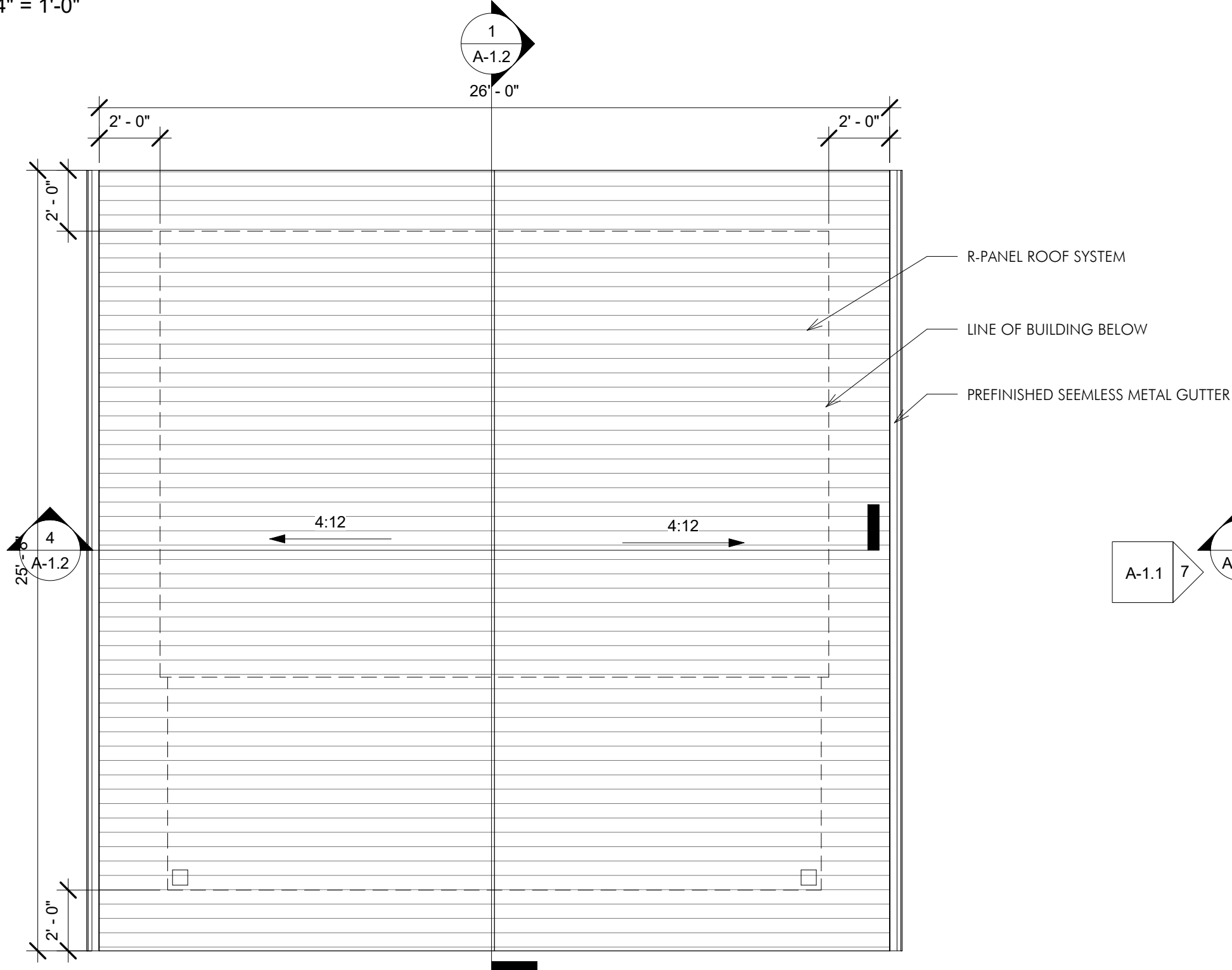
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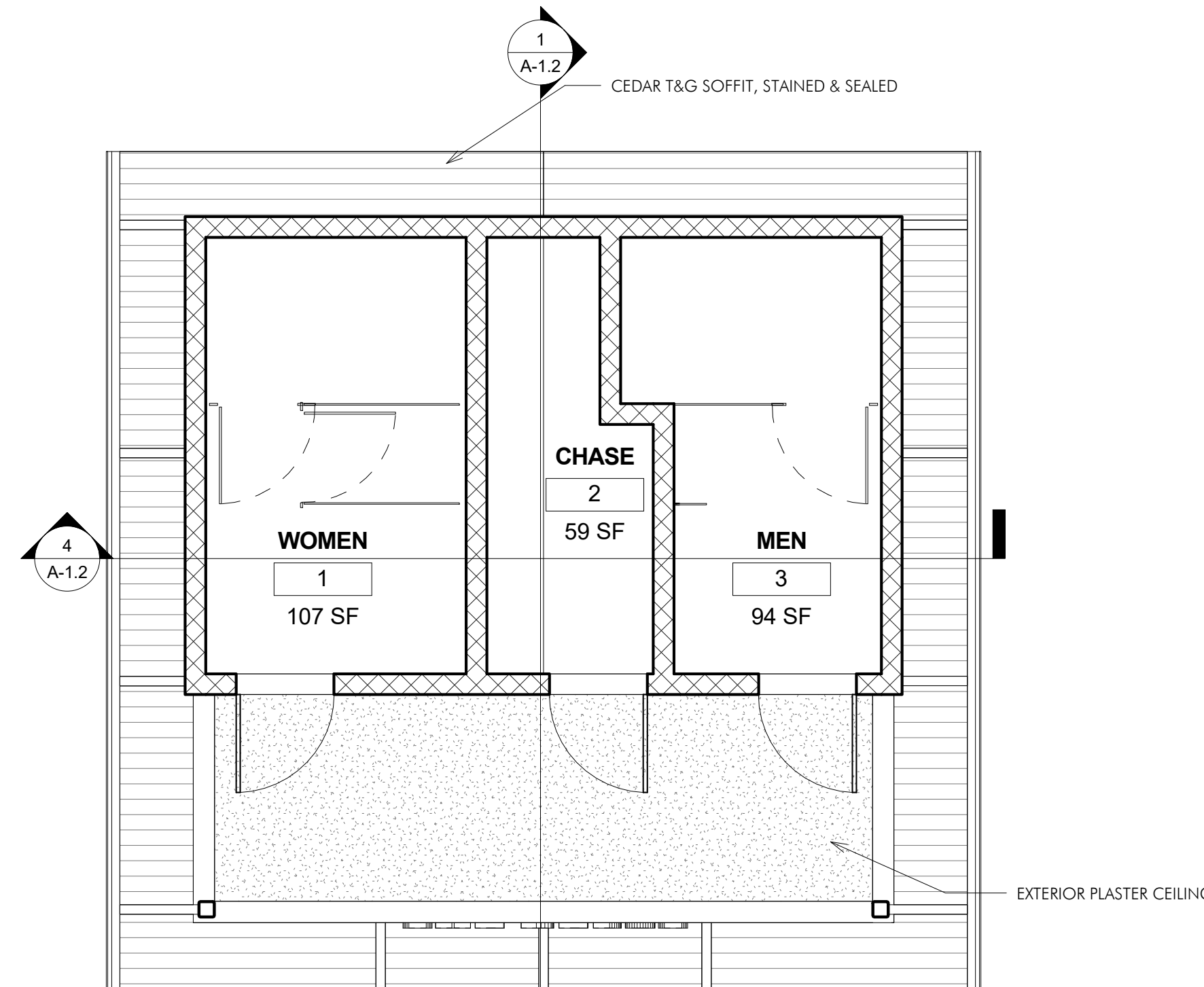
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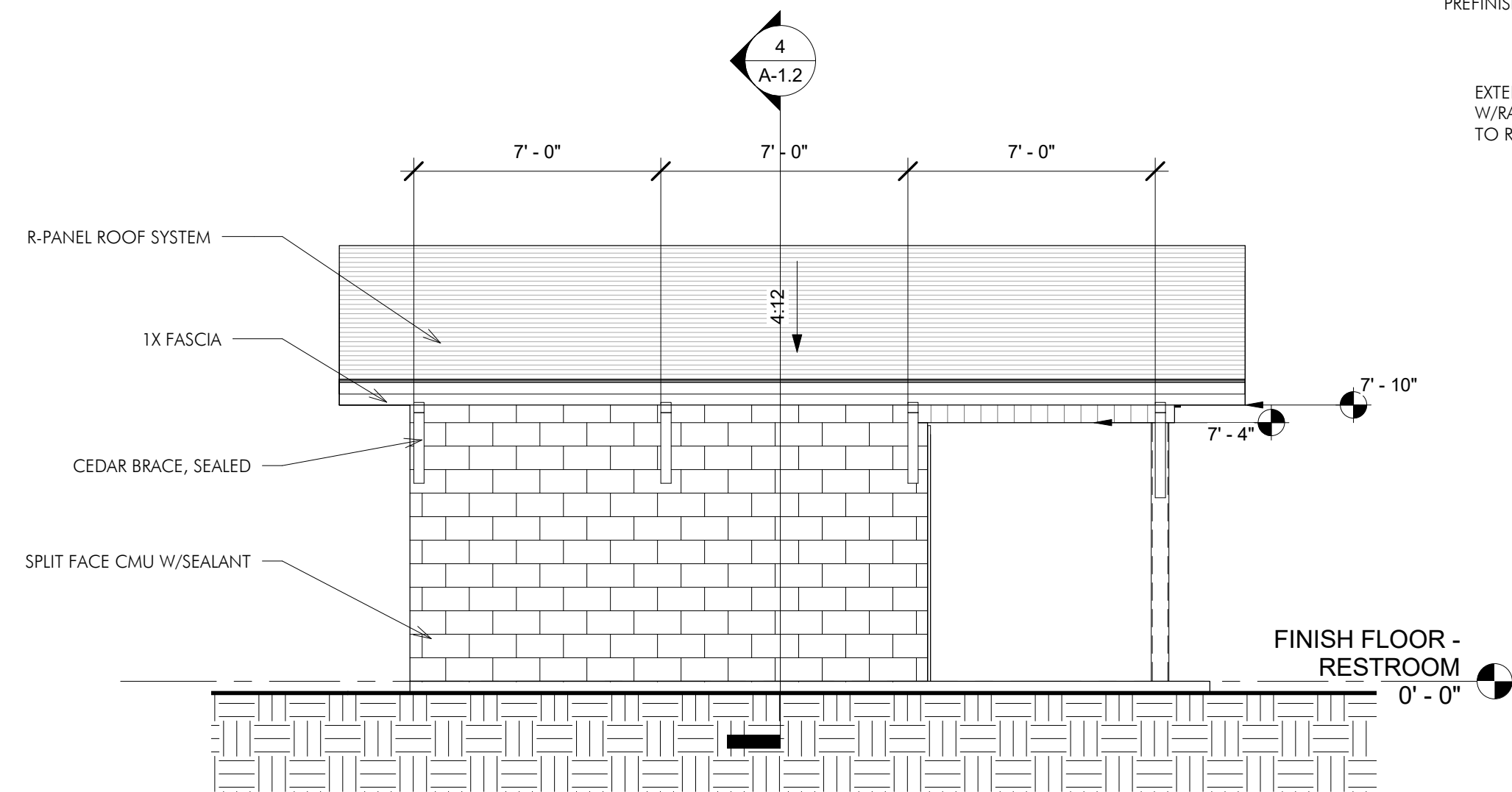
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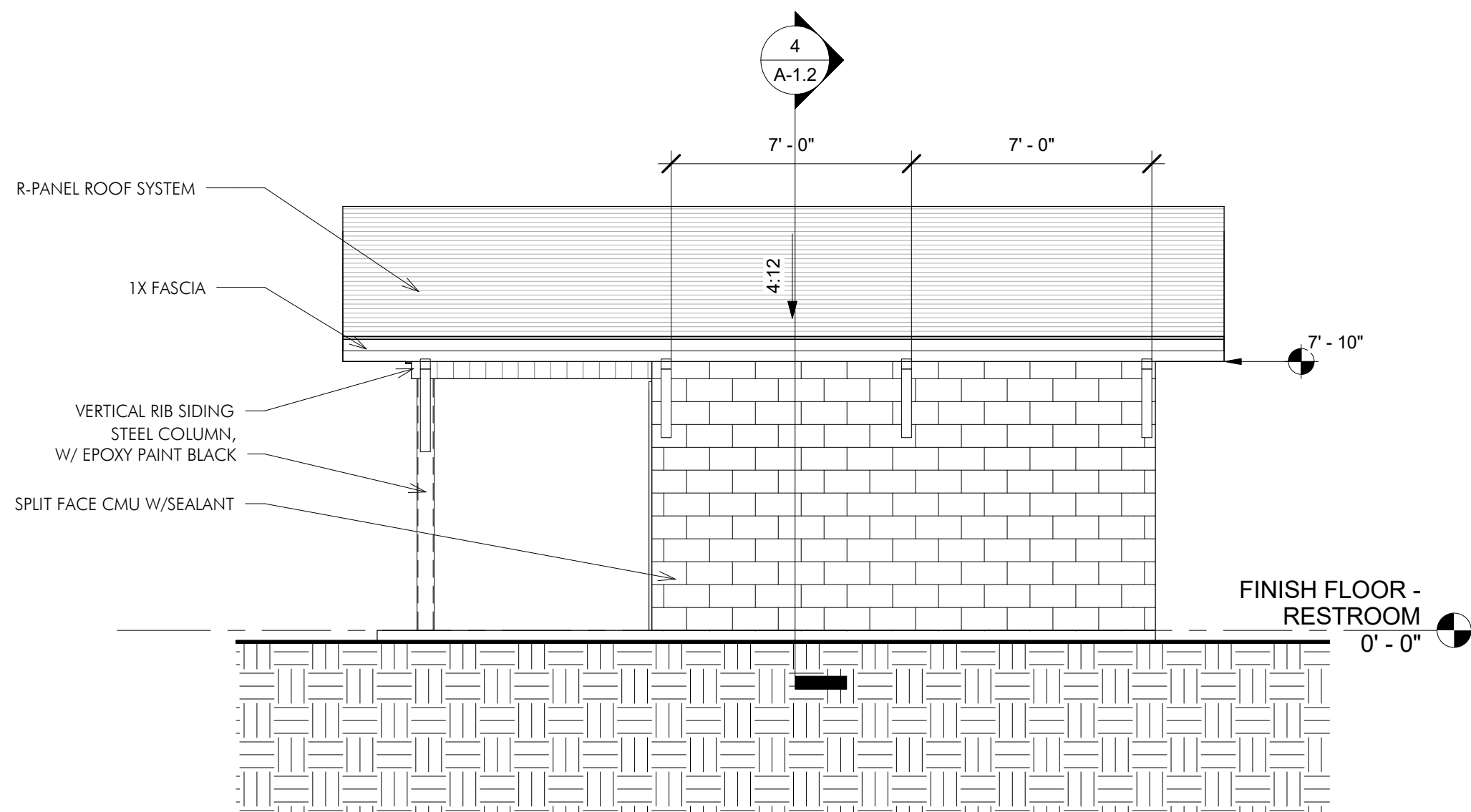
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1/4" = 1'-0"



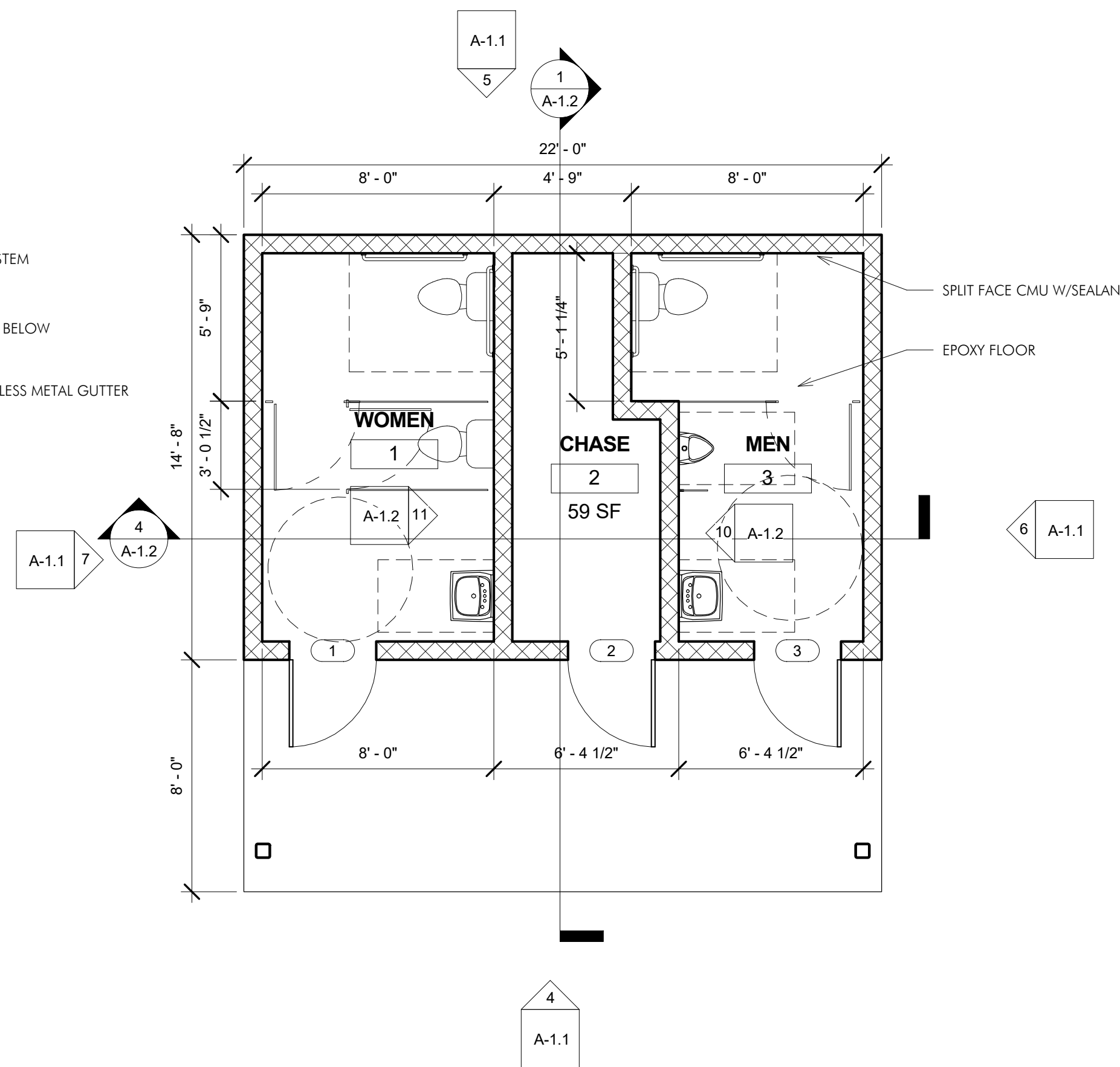
2 CEILING PLAN  
1/4" = 1'-0"



7 EXTERIOR ELEVATION  
1/4" = 1'-0"



6 EXTERIOR ELEVATION  
1/4" = 1'-0"



1 FINISH FLOOR - RESTROOM  
1/4" = 1'-0"

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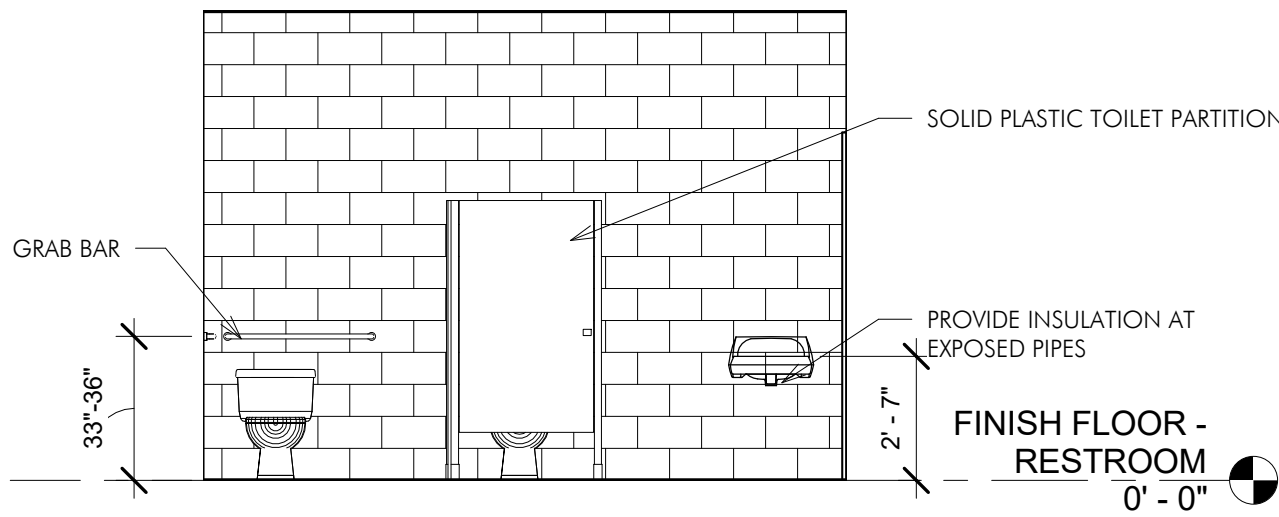
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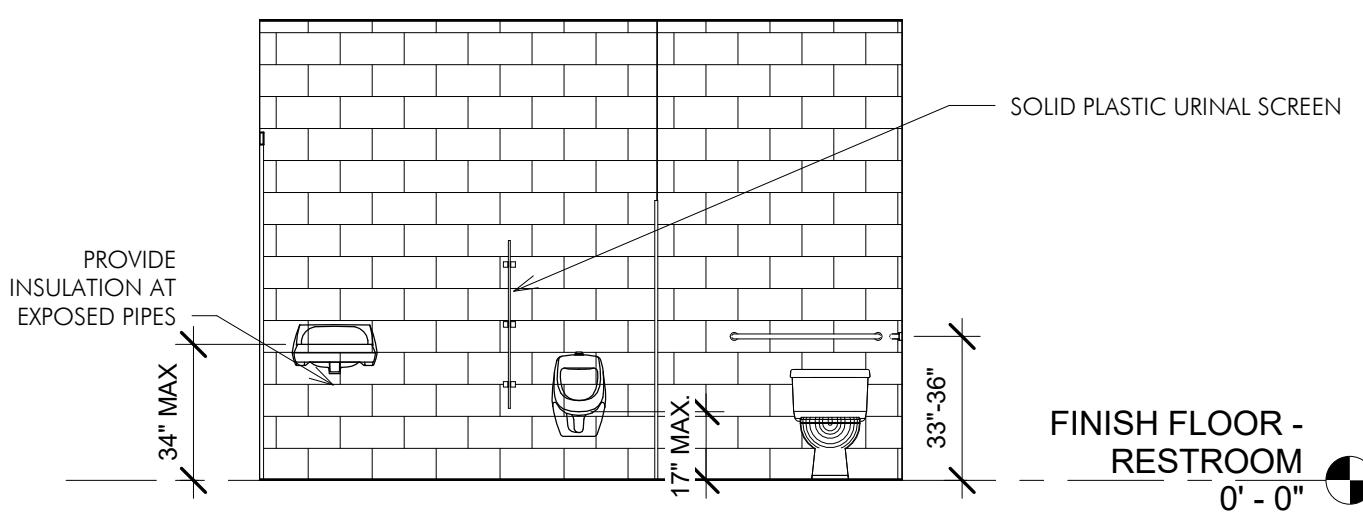


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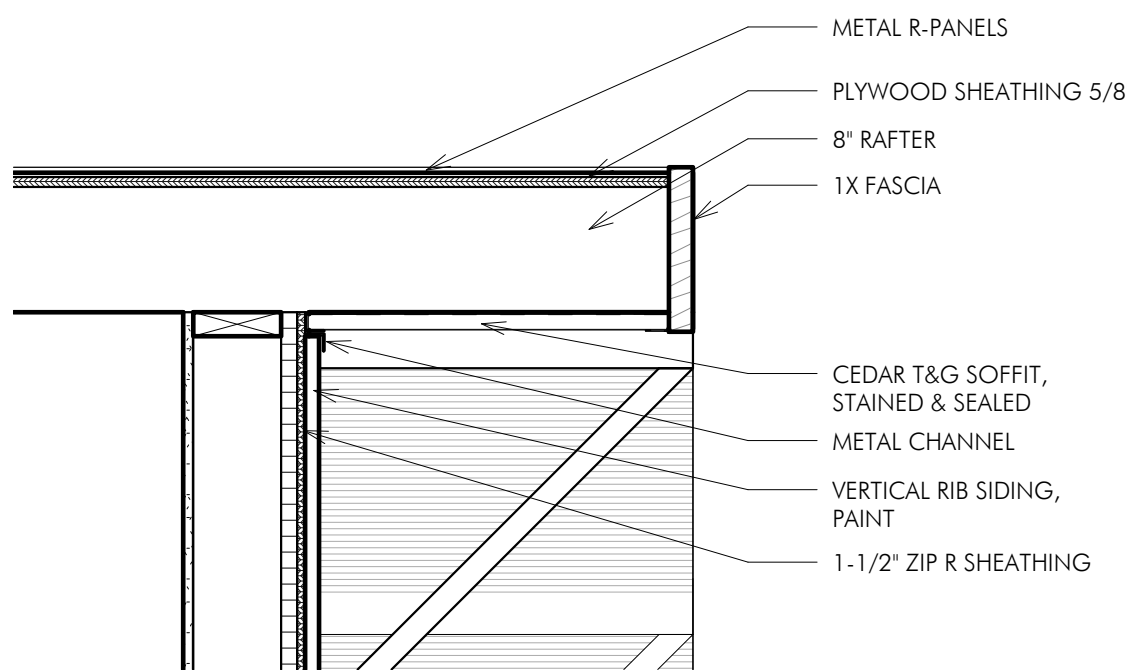
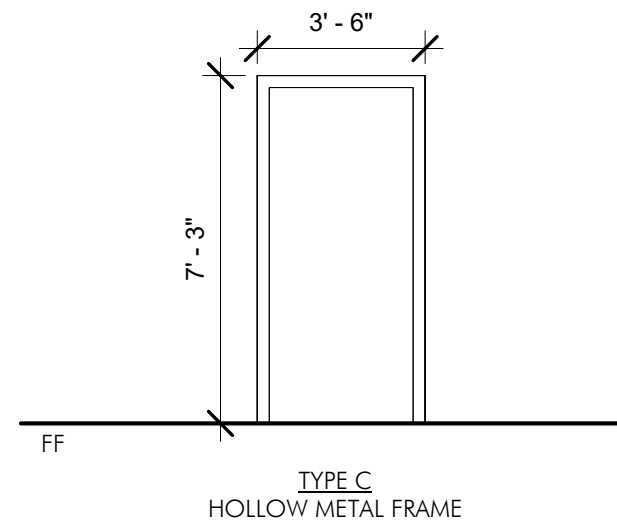
| DOOR SCHEDULE |      |    |           |           |            |          |          |           |             |          |
|---------------|------|----|-----------|-----------|------------|----------|----------|-----------|-------------|----------|
| DOOR NO.      | FROM | TO | ROOM NAME | DOOR TYPE | FRAME TYPE | WIDTH    | HEIGHT   | THICKNESS | FIRE RATING | COMMENTS |
| 1             | 1    |    |           | C         | 1          | 3' - 0"  | 7' - 0"  | 1 1/2"    |             |          |
| 2             | 2    |    |           | C         | 1          | 3' - 0"  | 7' - 0"  | 1 1/2"    |             |          |
| 3             | 3    |    |           | C         | 1          | 3' - 0"  | 7' - 0"  | 1 1/2"    |             |          |
| 5             |      |    |           |           |            | 10' - 0" | 10' - 0" | 3"        |             |          |



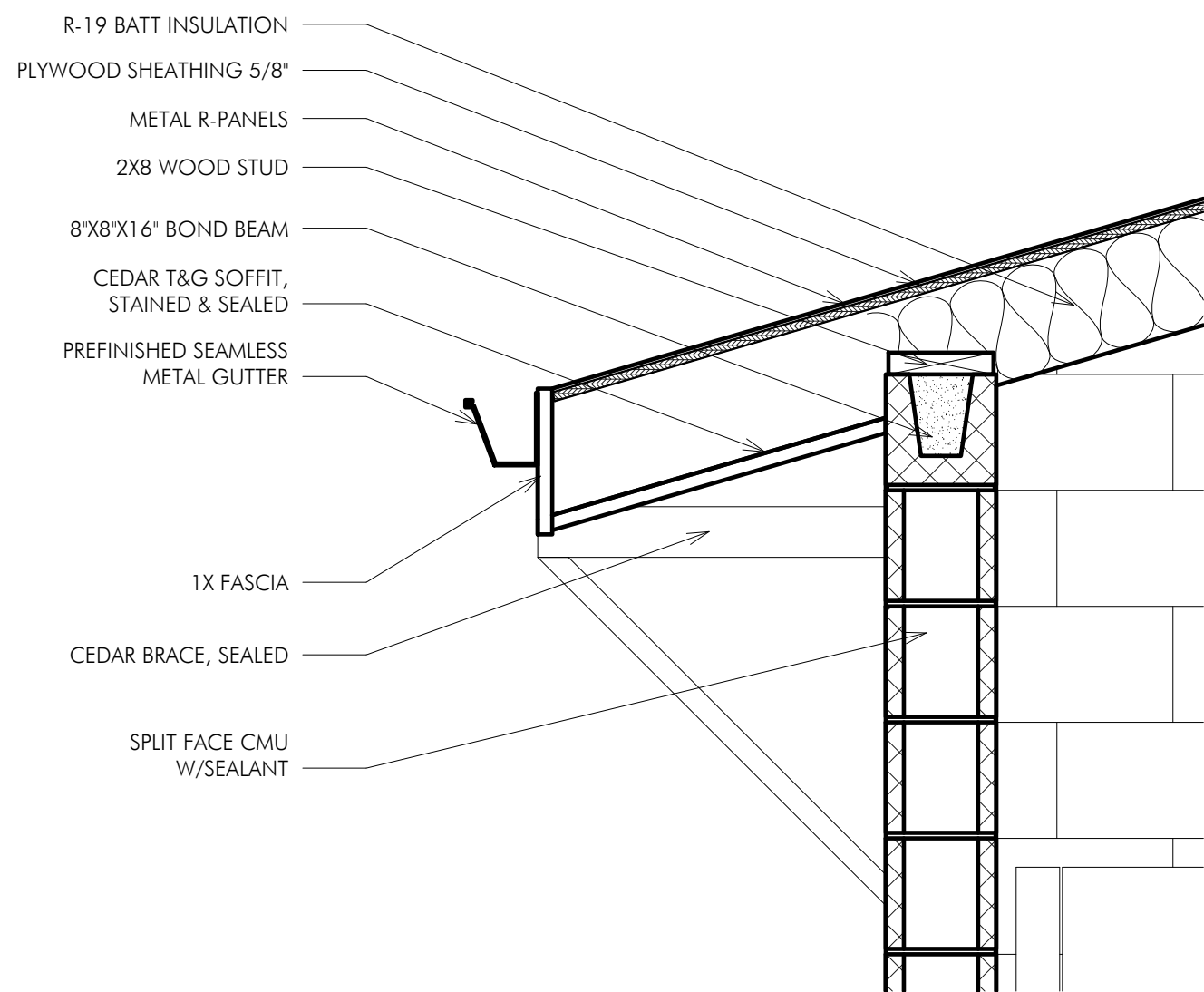
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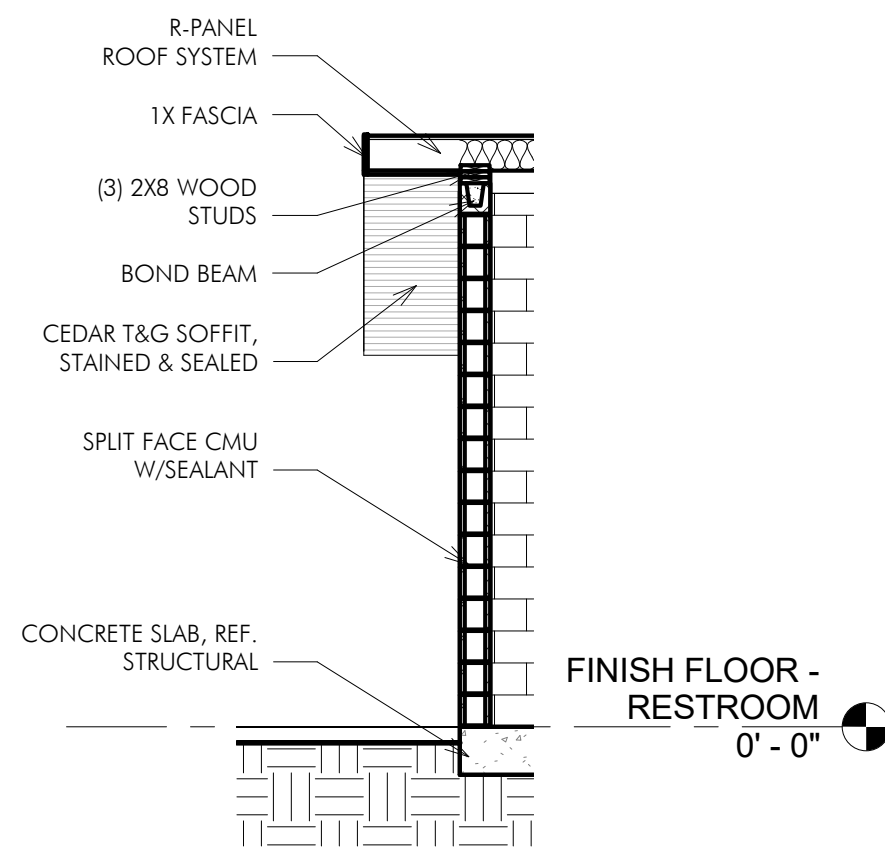
10 INTERIOR ELEVATION  
1/4" = 1'-0"



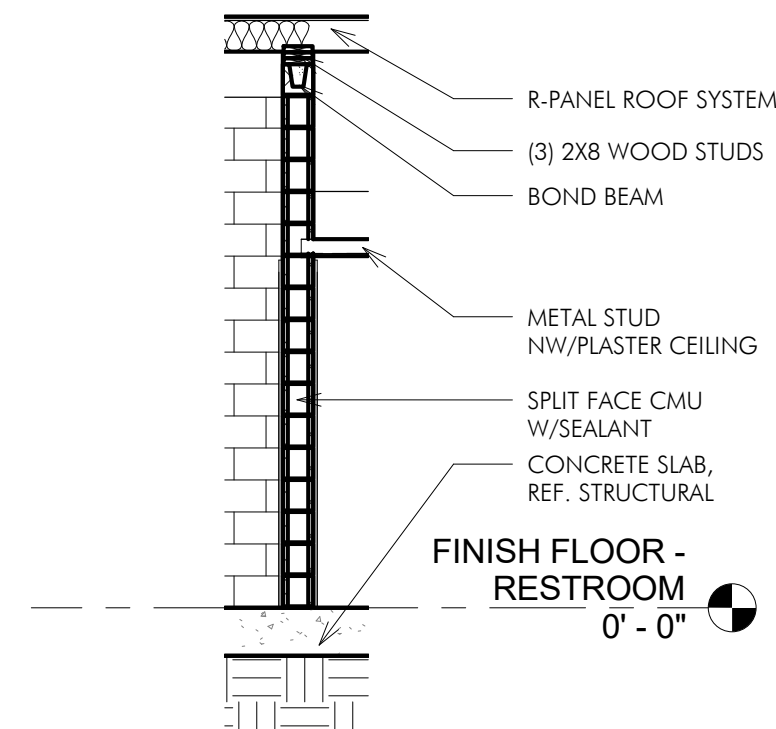
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1" = 1'-0"



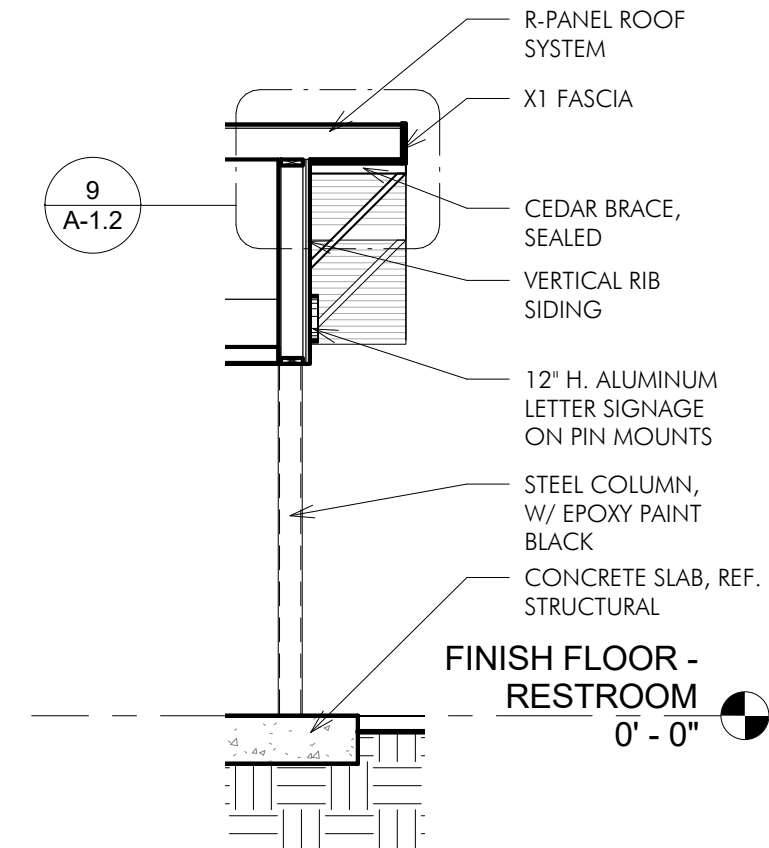
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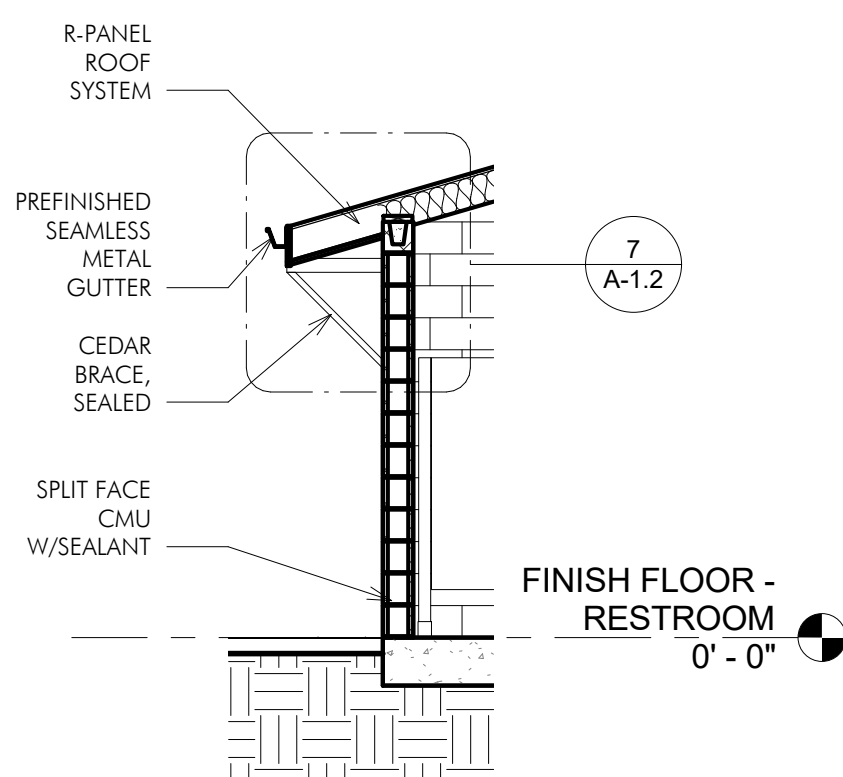
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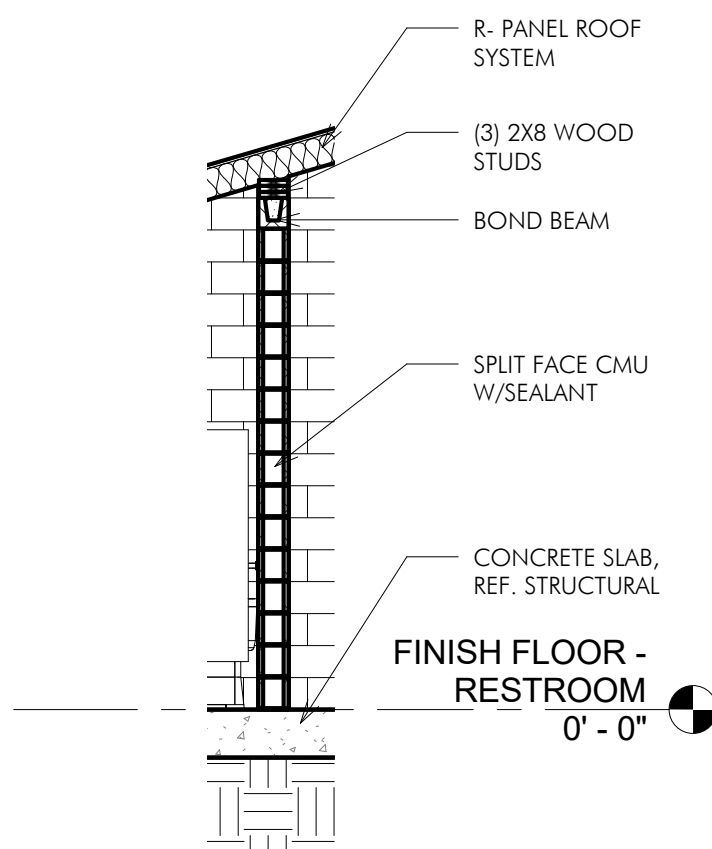
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1/4" = 1'-0"



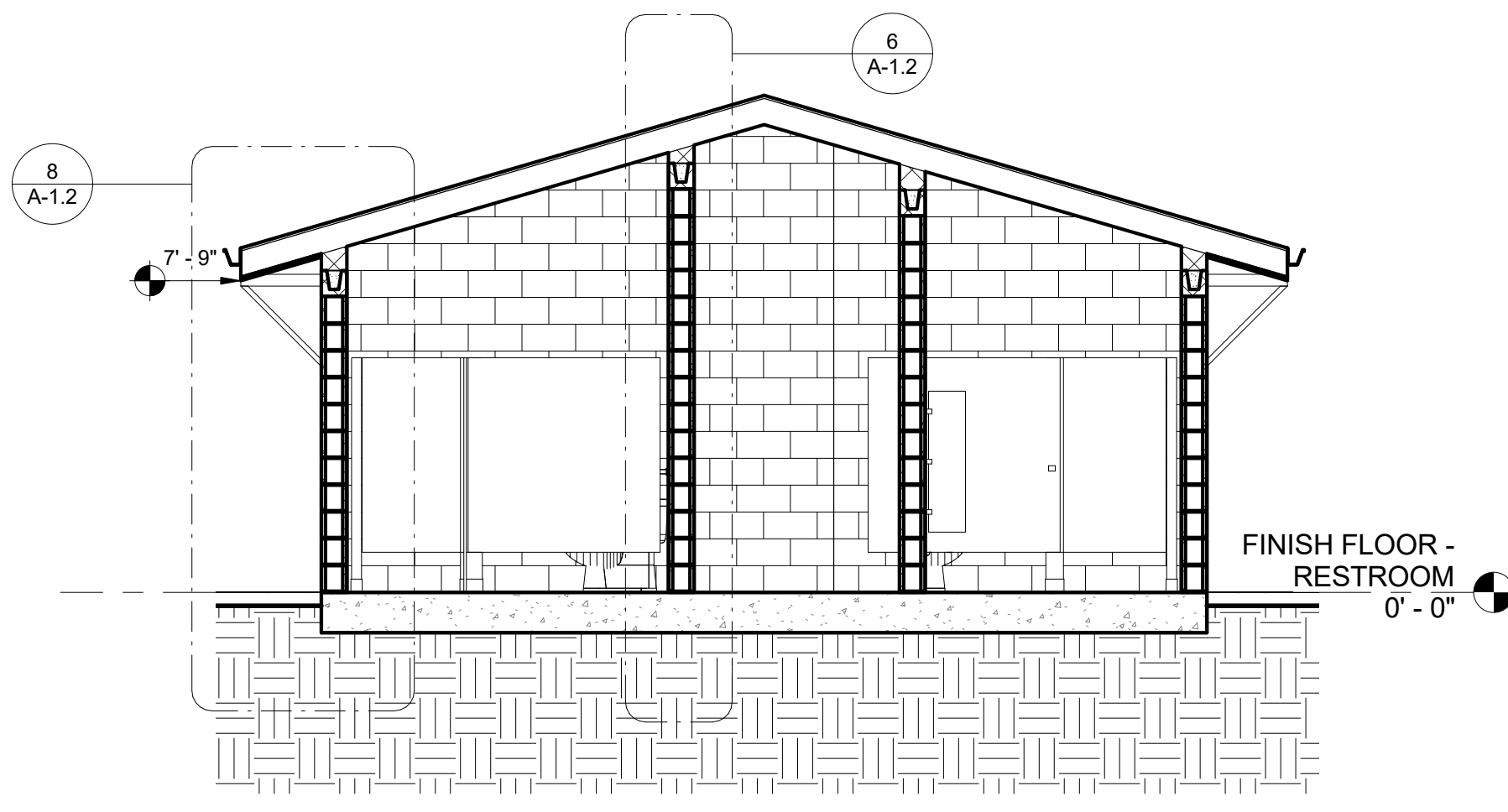
2 WALL DETAIL  
1/4" = 1'-0"



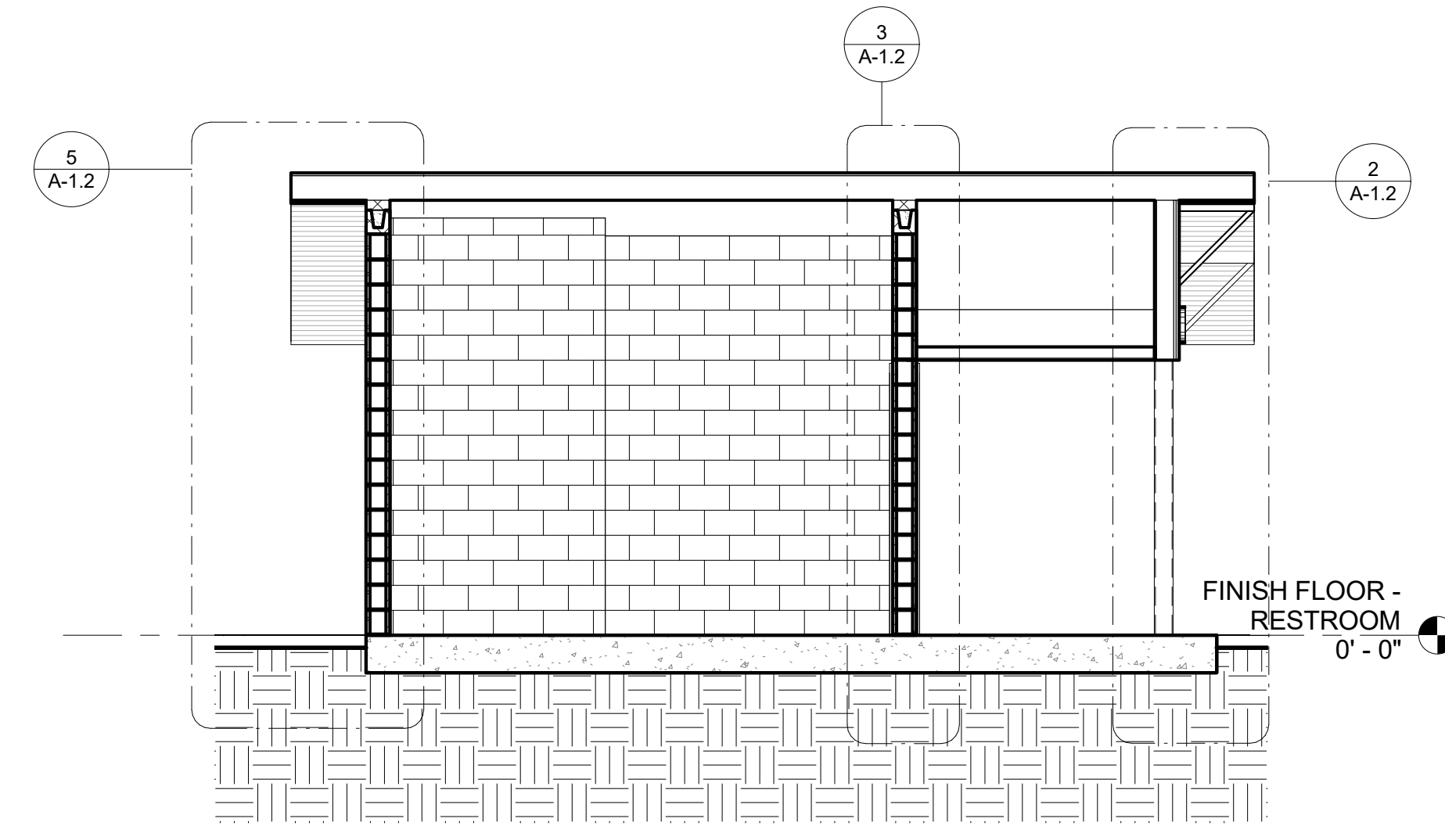
8 WALL DETAIL  
1/4" = 1'-0"



6 WALL DETAIL  
1/4" = 1'-0"



4 BUILDING SECTION  
1/4" = 1'-0"



1 BUILDING SECTION  
1/4" = 1'-0"

SOUTHWEST WILCO PARK  
WILLAMSON COUNTY PARKS AND RECREATION  
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RESTROOM  
BUILDING  
SECTIONS AND  
DETAILS

2/16/2017 1:18 AM

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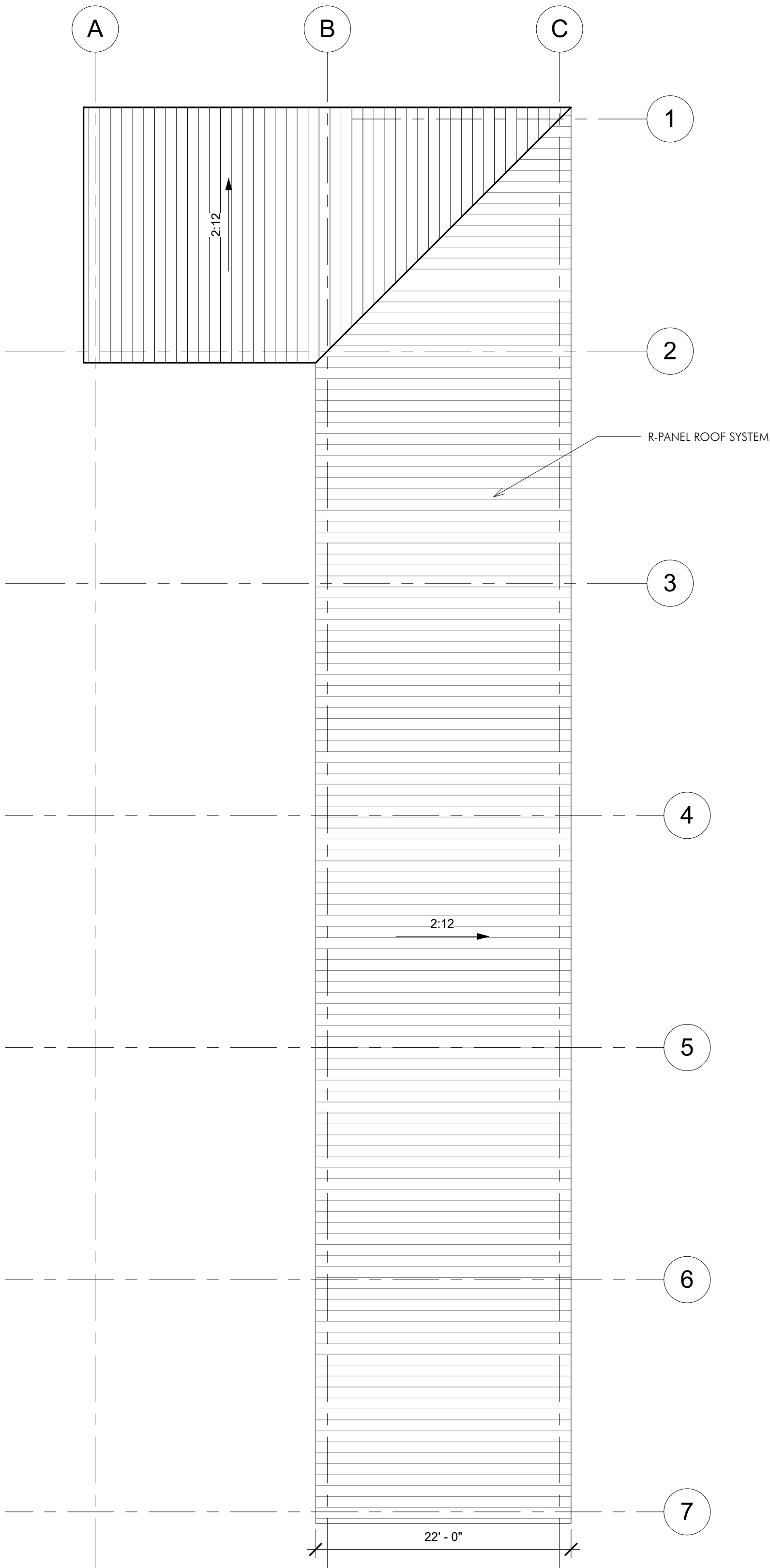
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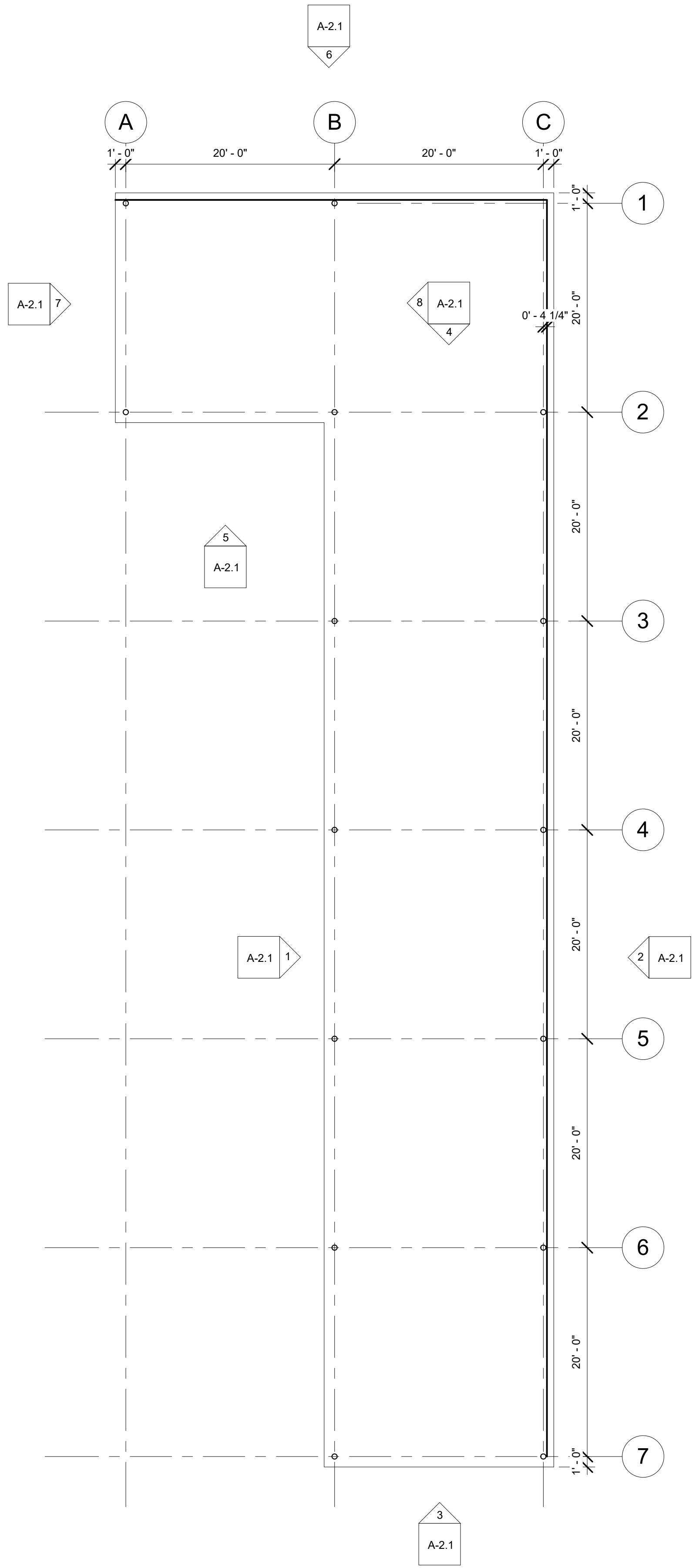
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2

1



2 ROOF PLAN - COVERED STORAGE  
1/8" = 1'-0"



2 ROOF PLAN - COVERED STORAGE  
1/8" = 1'-0"



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Ryan Hansanuwat  
11/6/2017

# SOUTHWEST WILCO PARK

WILLIAMSON COUNTY PARKS AND RECREATION  
3005 CO RD 175, LEANDER, TX 78641

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COVERED STORAGE  
PLANS

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p. 221

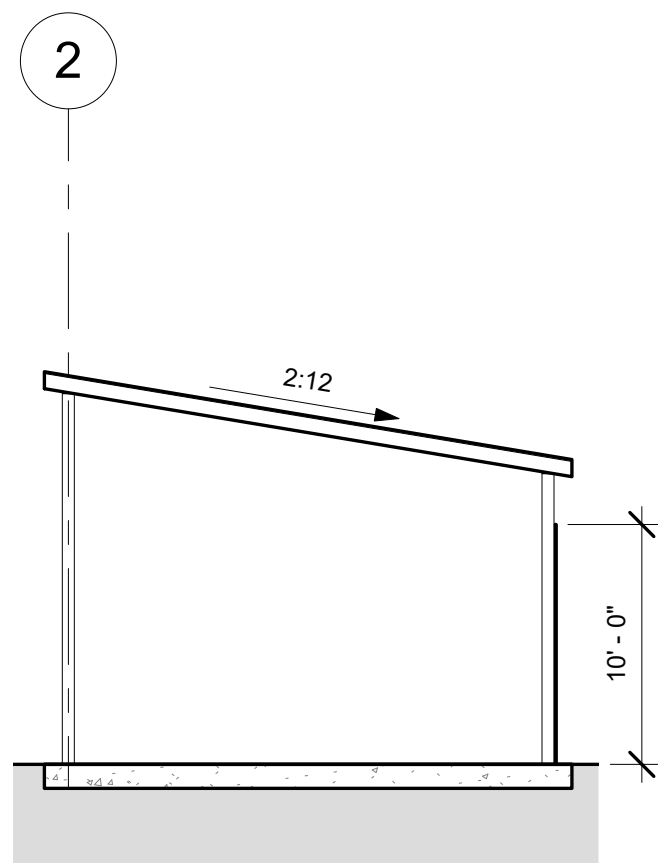
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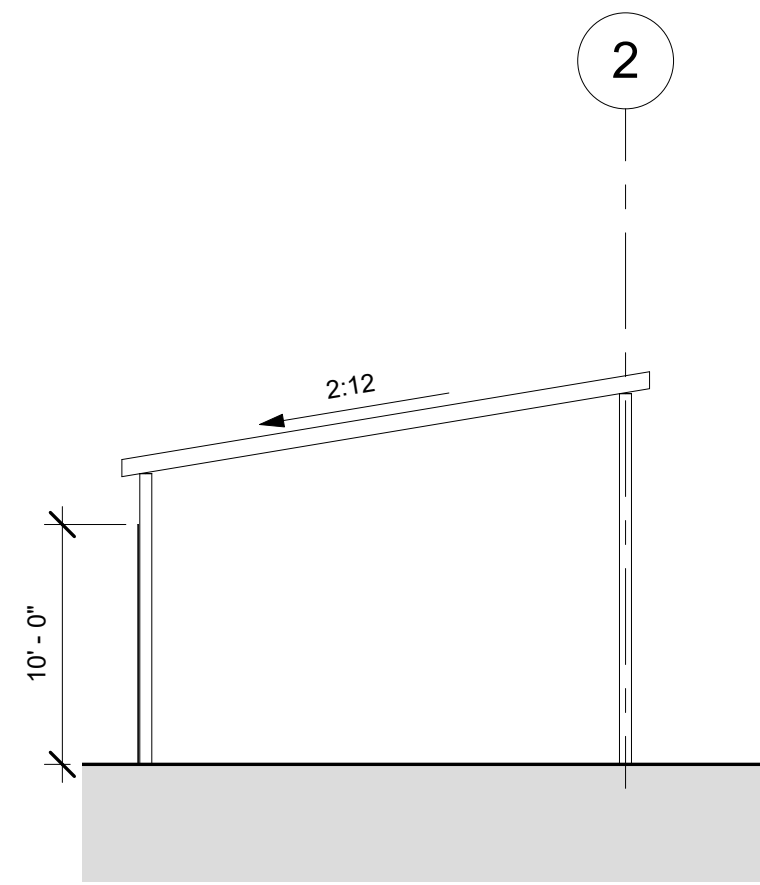
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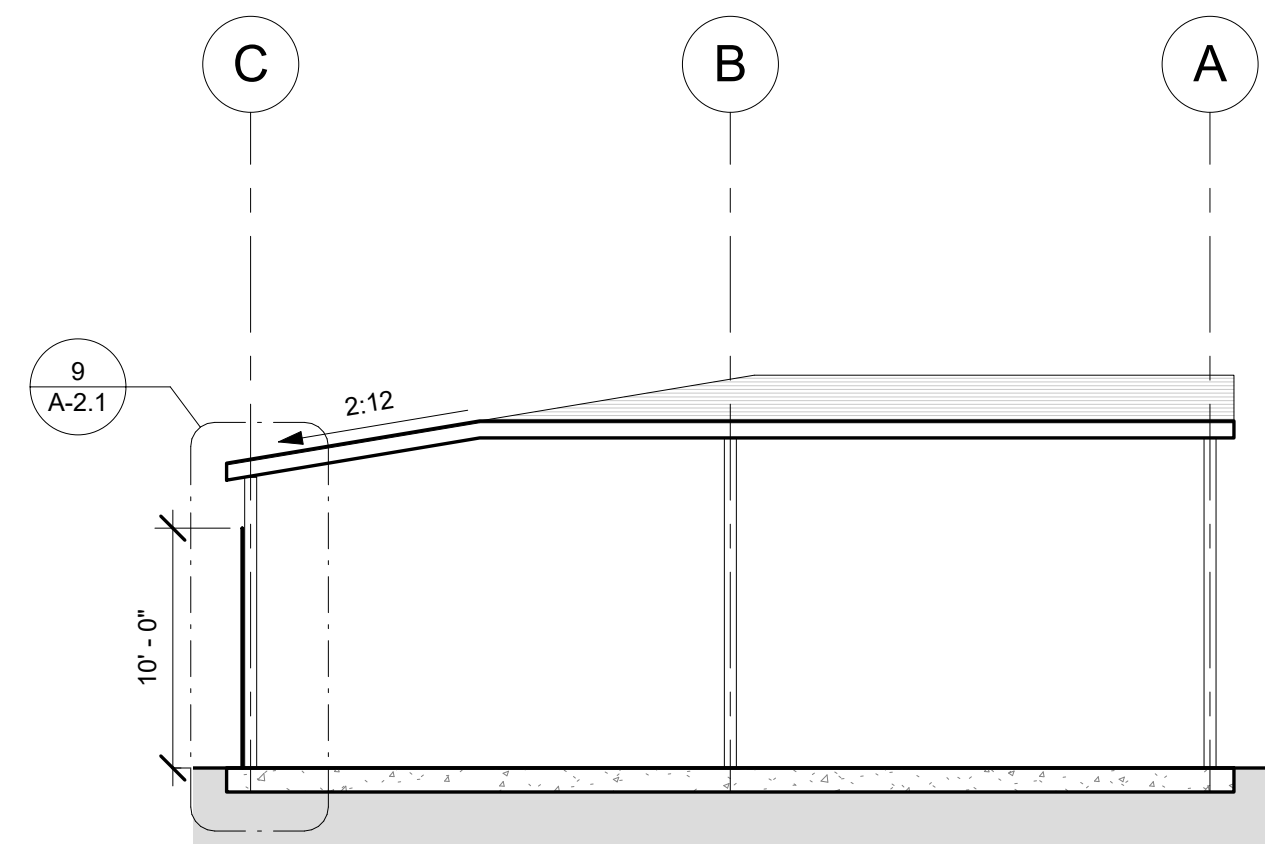
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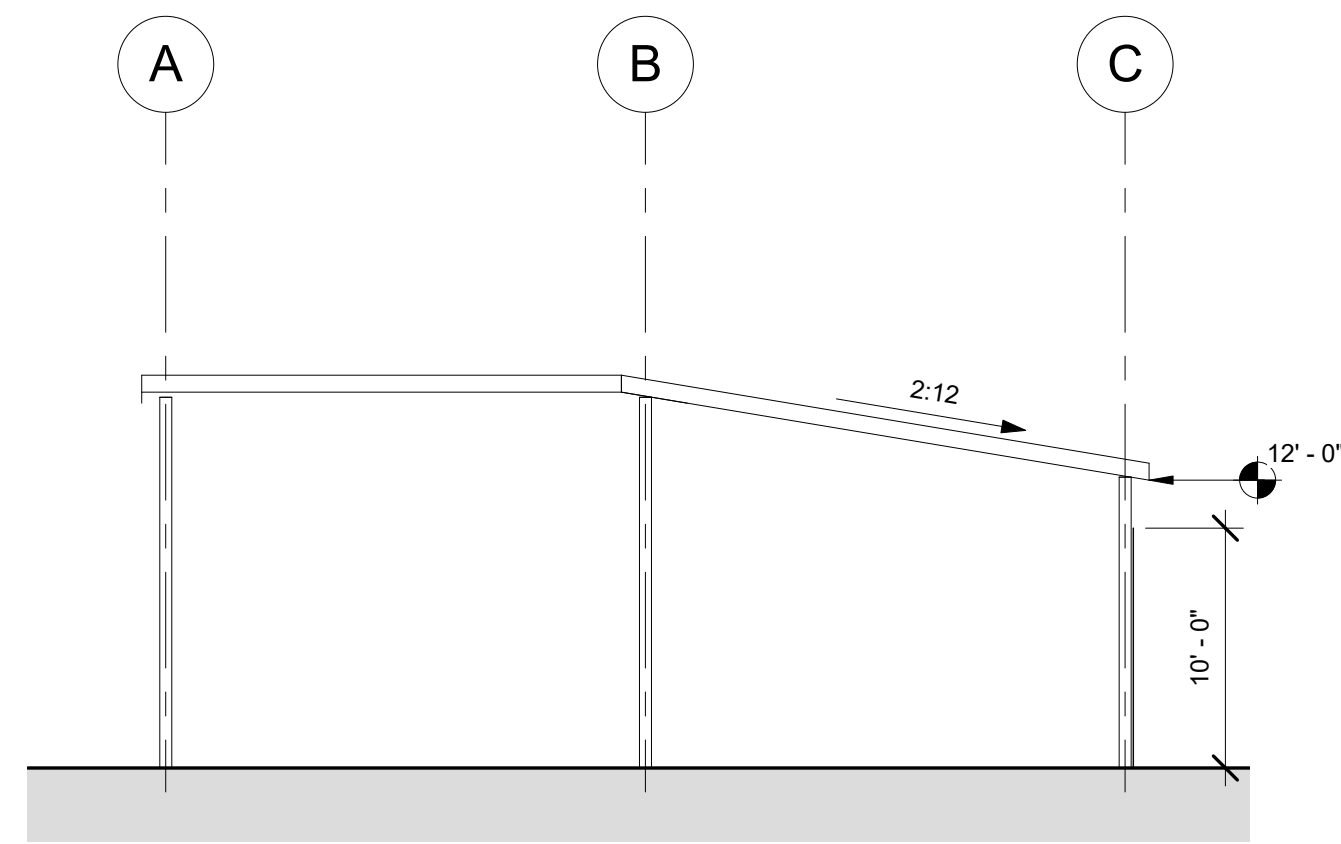
8 COVERED STORAGE ELEVATION  
1/8" = 1'-0"



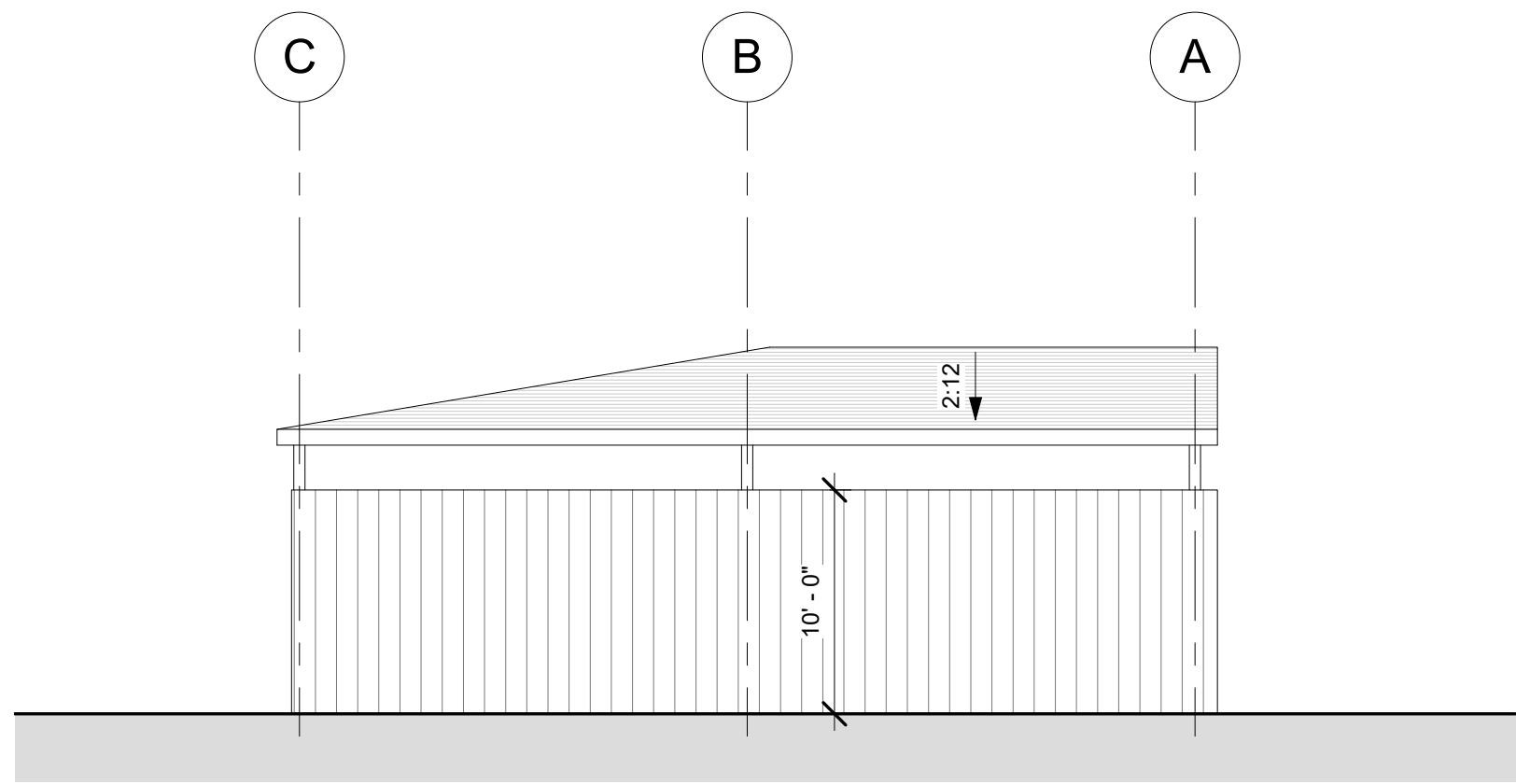
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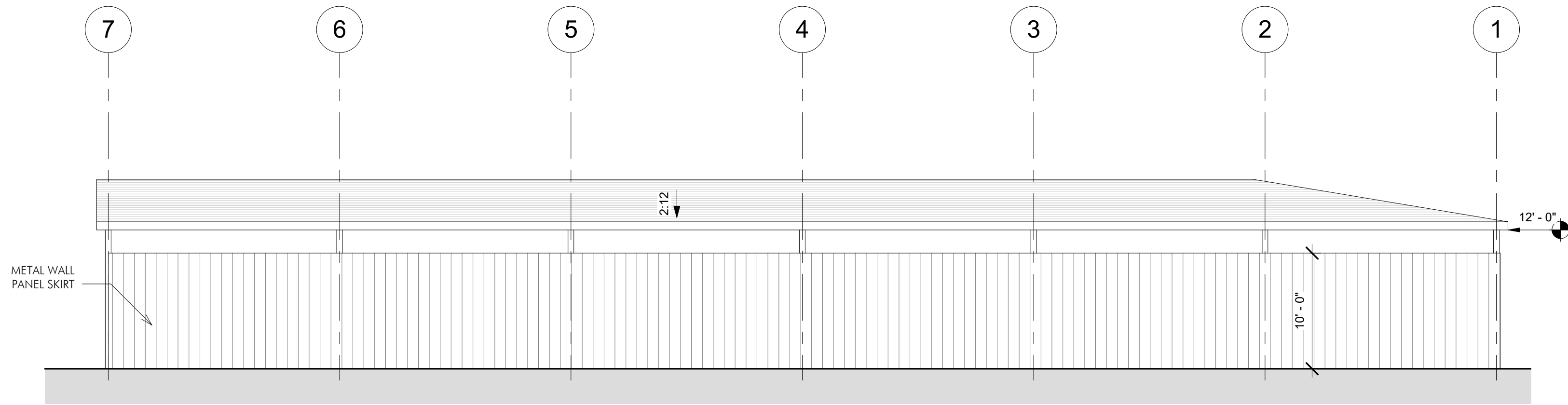
4 COVERED STORAGE ELEVATION  
1/8" = 1'-0"



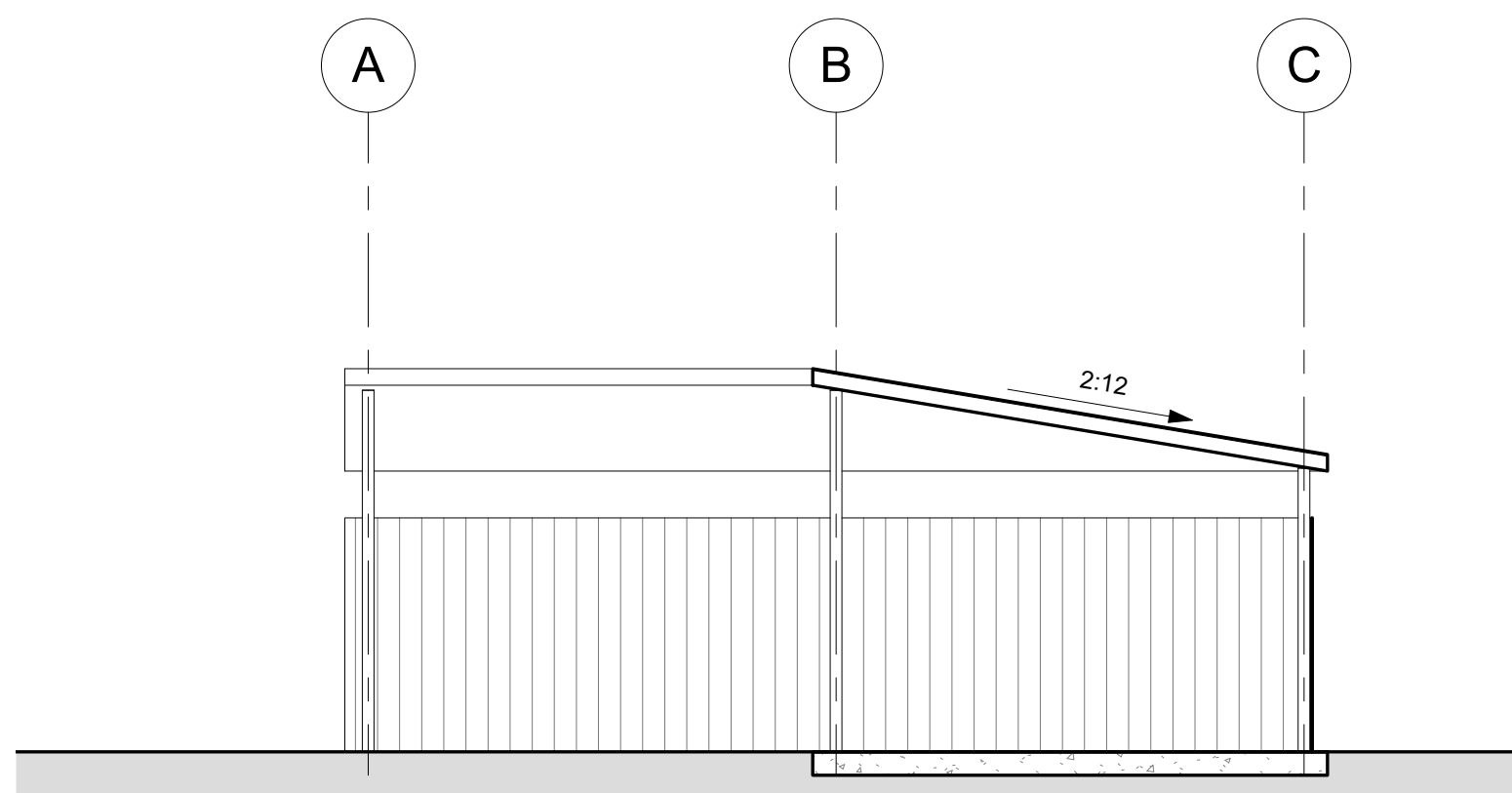
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1/8" = 1'-0"



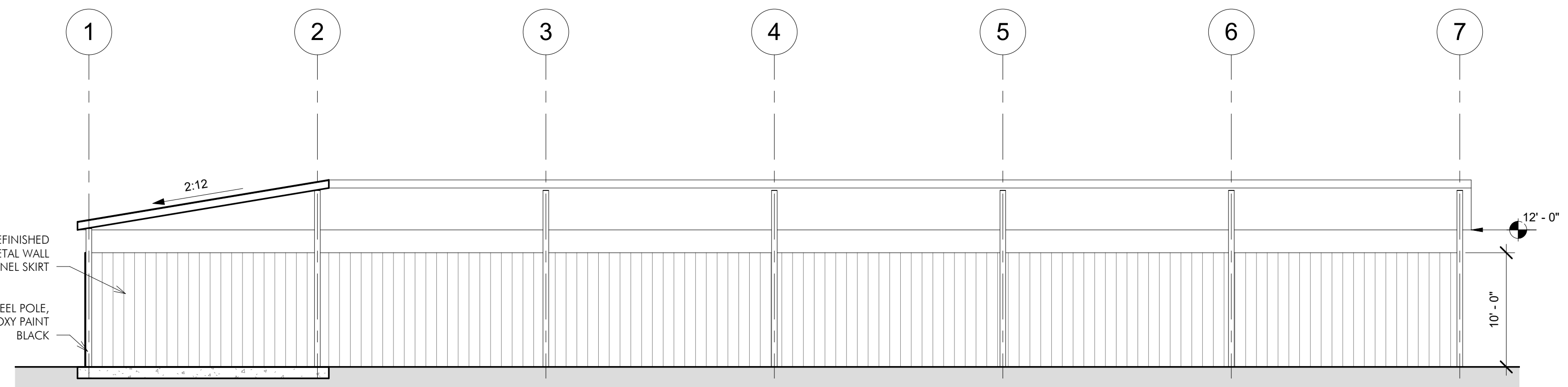
6 COVERED STORAGE ELEVATION  
1/8" = 1'-0"



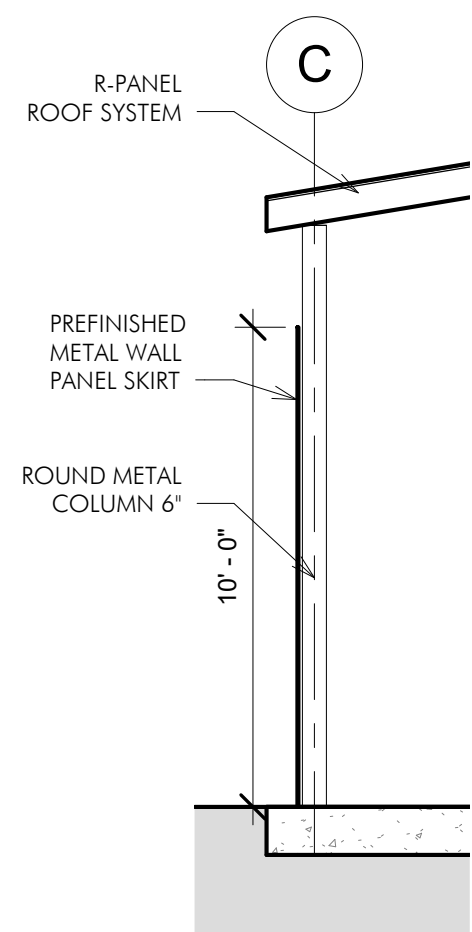
2 COVERED STORAGE ELEVATION  
1/8" = 1'-0"



5 COVERED STORAGE ELEVATION  
1/8" = 1'-0"



1 COVERED STORAGE ELEVATION  
1/8" = 1'-0"



9 WALL SECTION  
1/4" = 1'-0"



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Ryan Hansanuwat  
11/6/2017

**SOUTHWEST WILCO PARK**  
WILLIAMSON COUNTY PARKS AND RECREATION  
3005 CO RD 175, LEANDER, TX 78641

PROJECT PHASE  
CONSTRUCTION DOCUMENTS  
REVISIONS

PROJECT NUMBER  
15107-00  
DATE ISSUED  
11/6/2017  
SHEET TITLE

COVERED STORAGE  
ELEVATIONS

SHEET NUMBER

A-2.1

Williamson County, Texas

BH-18026-2/18

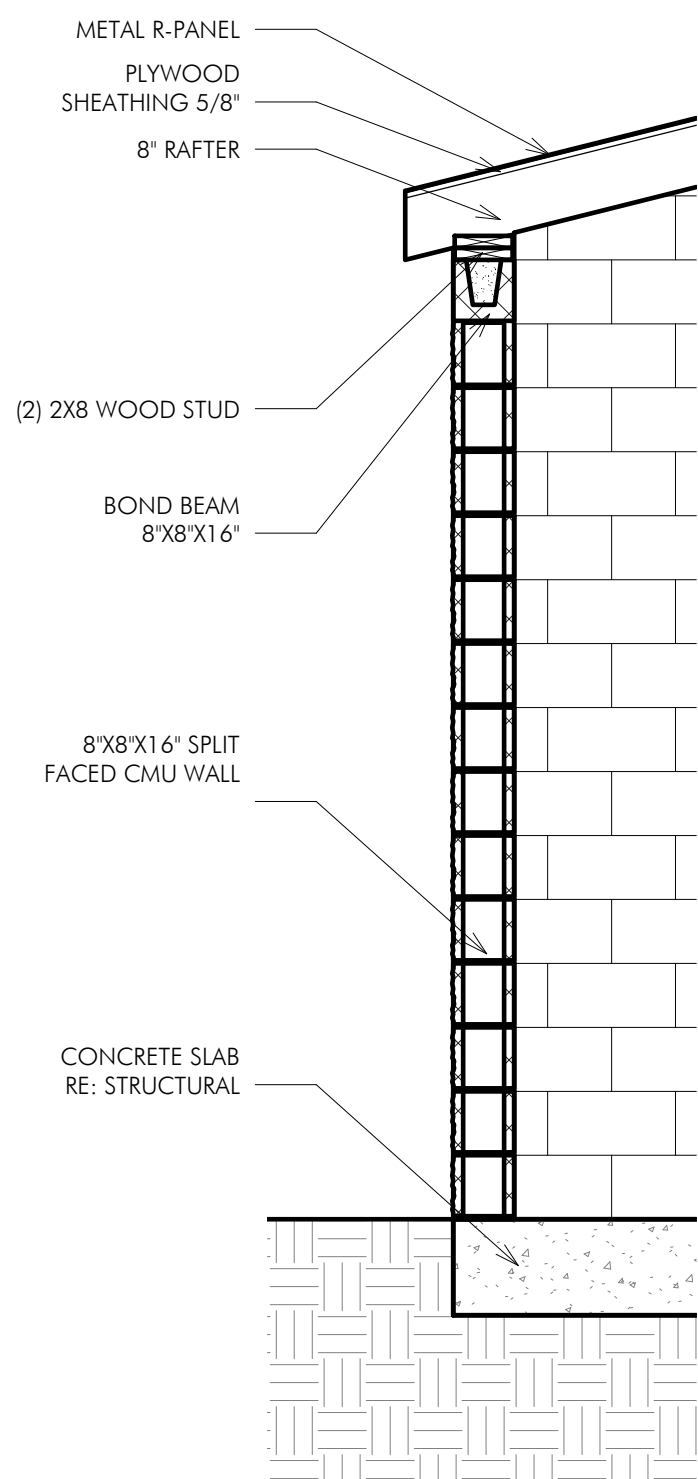


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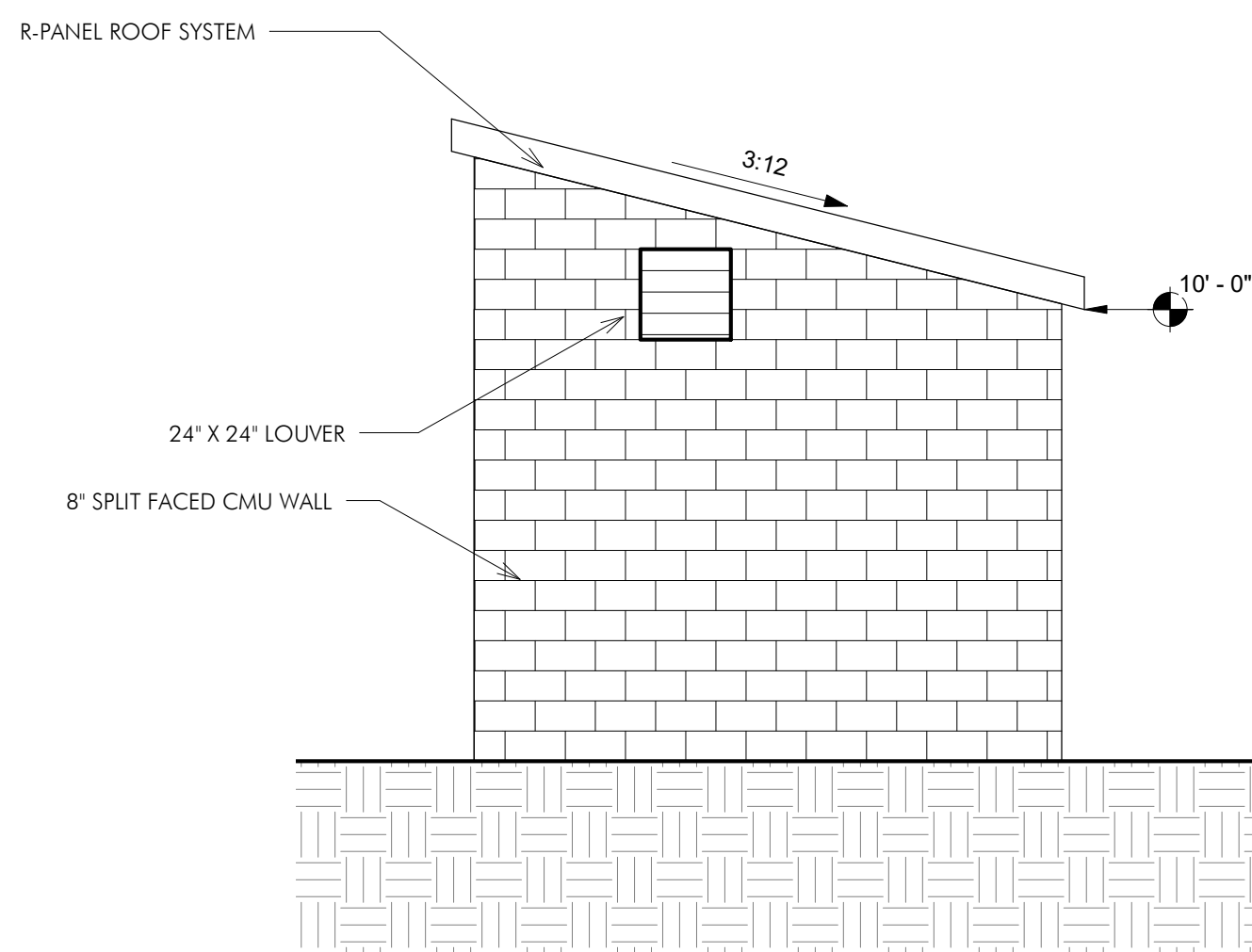
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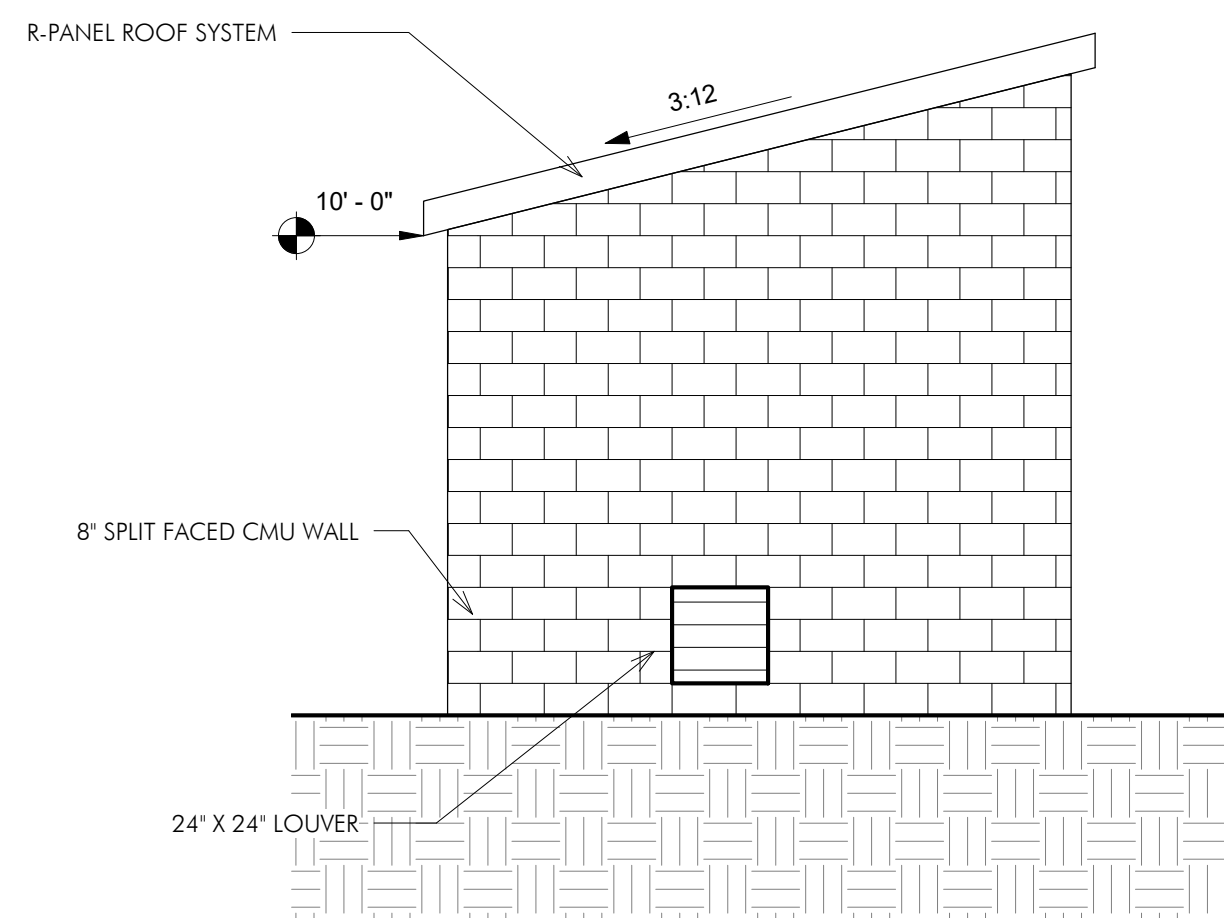
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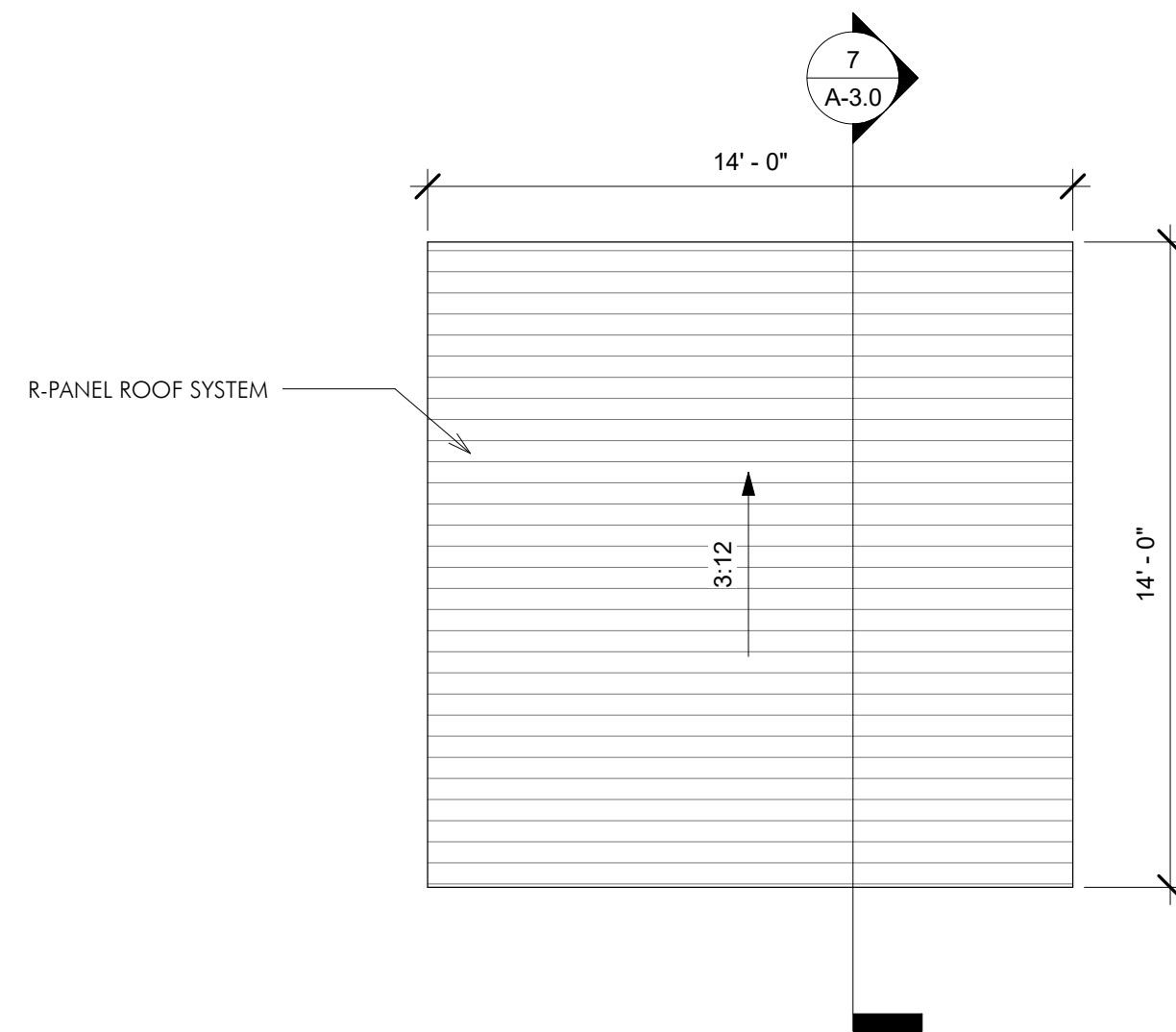
8 WALL SECTION  
1/2" = 1'-0"



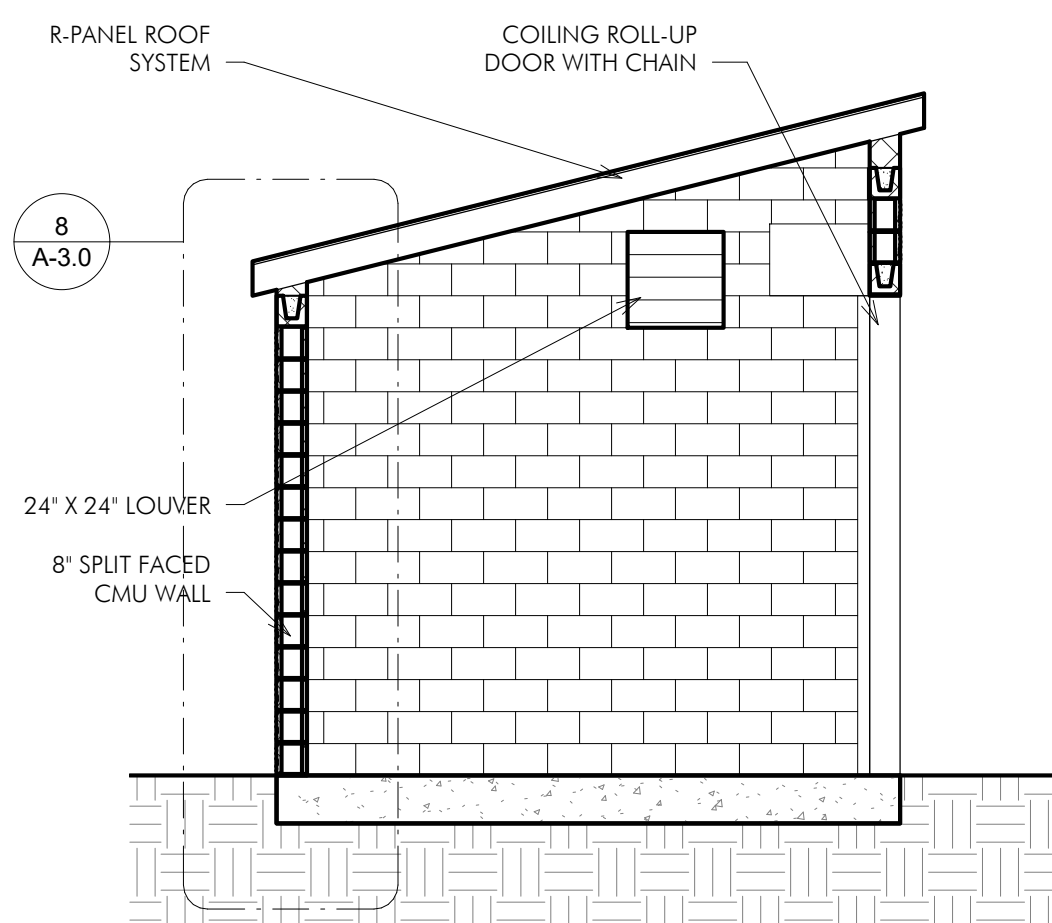
6 STORAGE BUILDING ELEVATION 04  
1/4" = 1'-0"



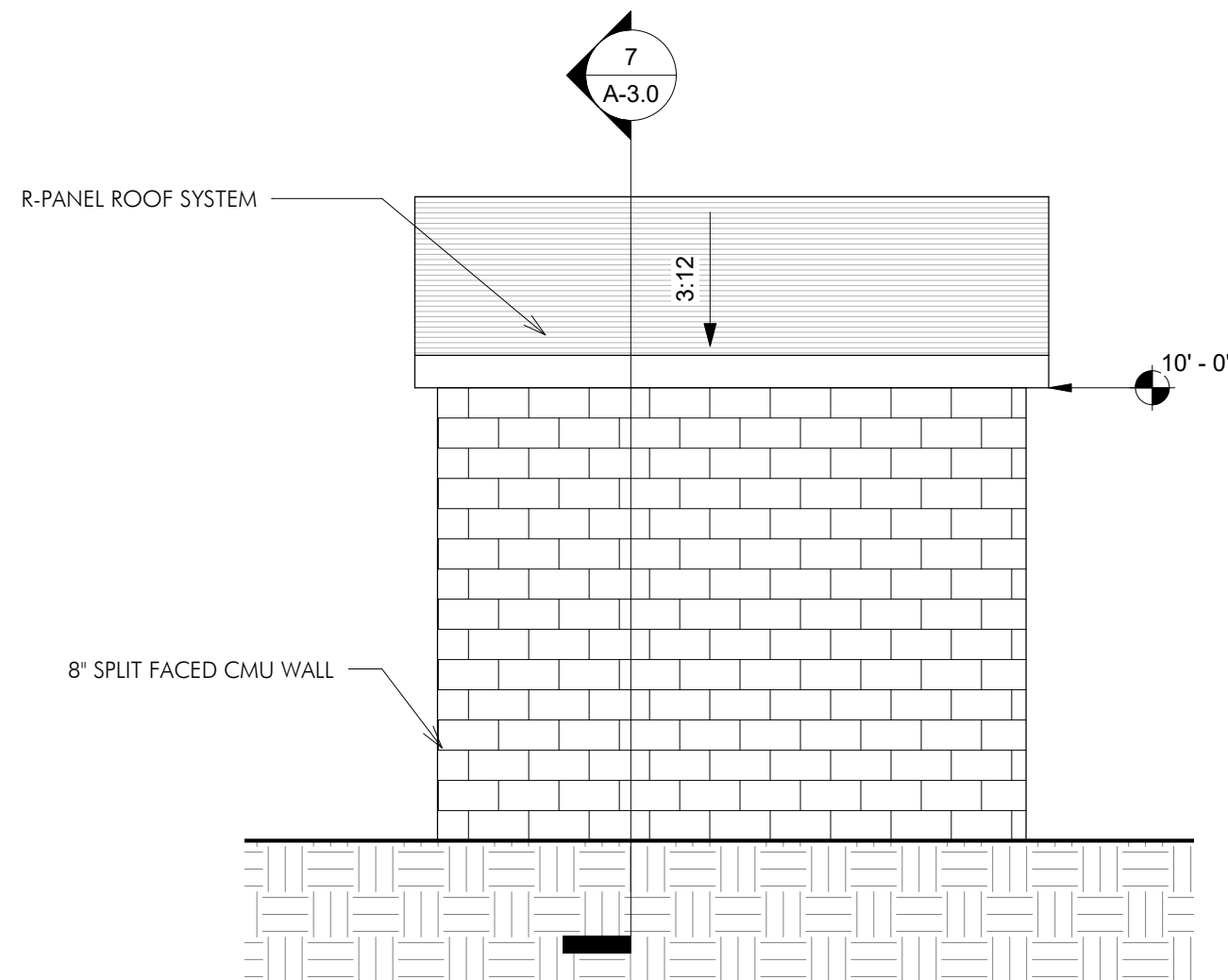
4 STORAGE BUILDING ELEVATION 02  
1/4" = 1'-0"



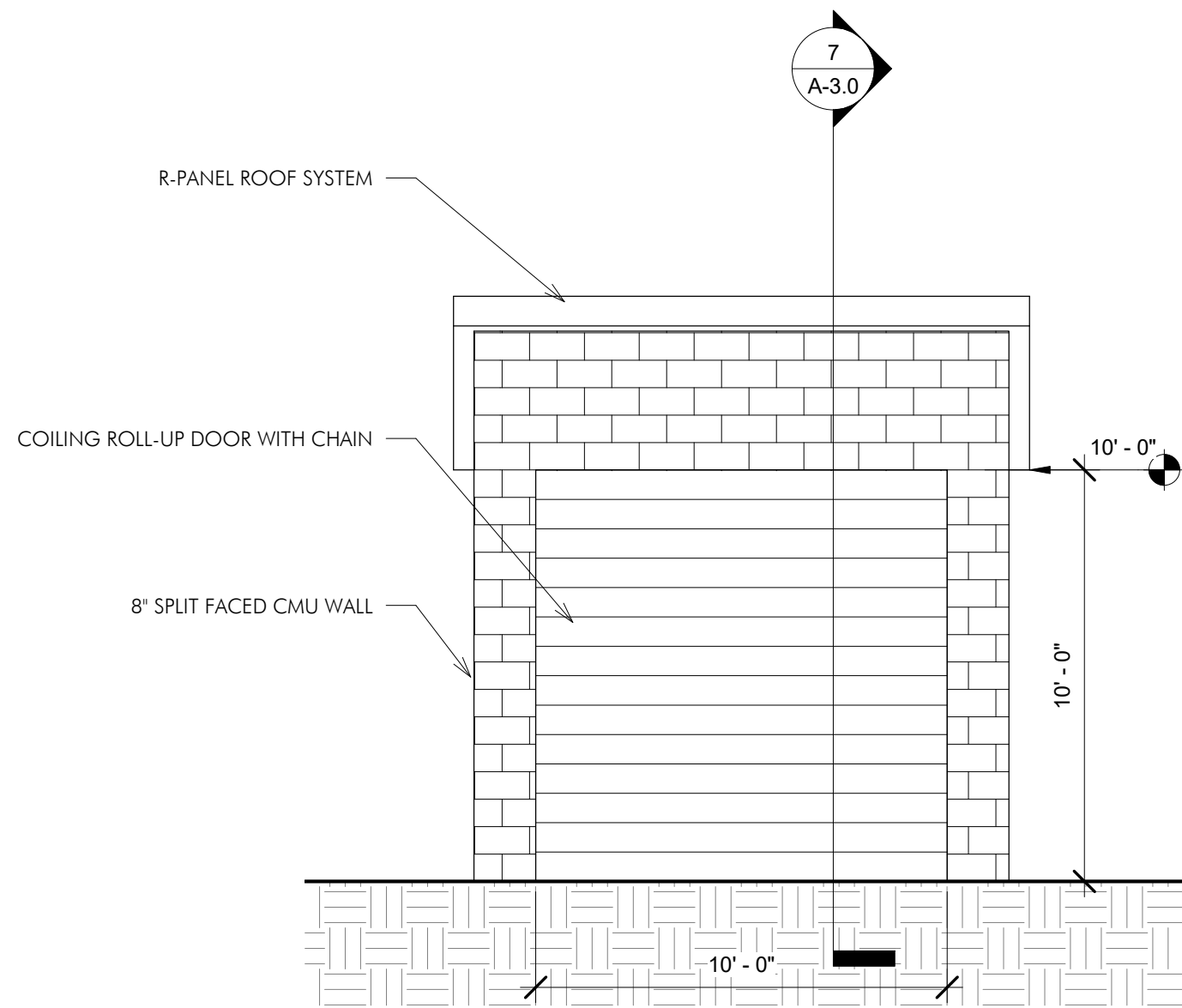
2 ROOF PLAN - STORAGE  
1/4" = 1'-0"



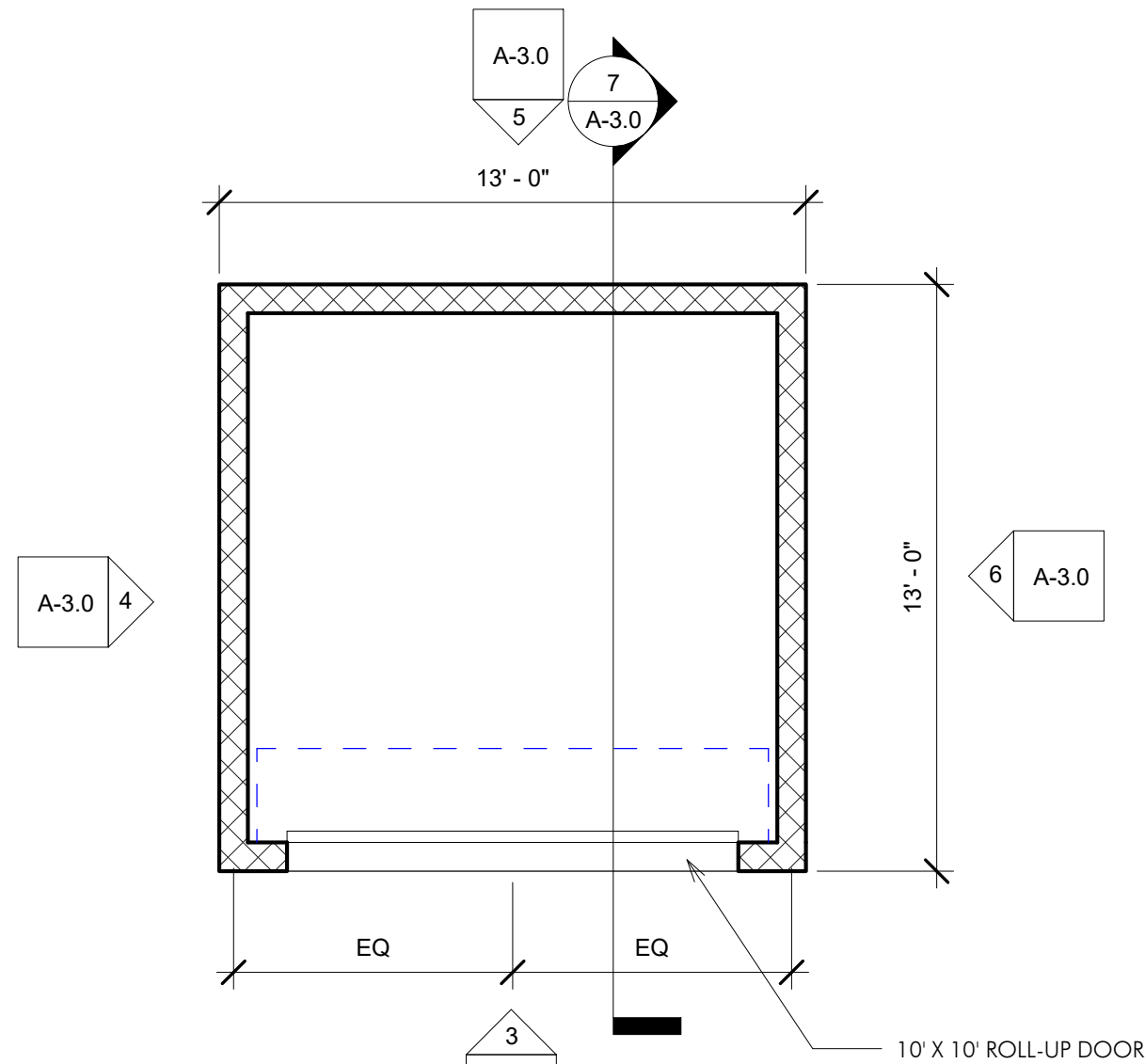
7 STORAGE BUILDING SECTION  
1/4" = 1'-0"



5 STORAGE BUILDING ELEVATION 03  
1/4" = 1'-0"



3 STORAGE BUILDING ELEVATION 01  
1/4" = 1'-0"



1 FINISH FLOOR - STORAGE  
1/4" = 1'-0"



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Ryan Hansanuwat  
11/6/2017

# SOUTHWEST WILCO PARK

## WILLAMSON COUNTY PARKS AND RECREATION

3005 CO RD 175, LEANDER, TX 78641

PROJECT PHASE  
CONSTRUCTION DOCUMENTS  
REVISIONS

PROJECT NUMBER  
15107-00  
DATE ISSUED  
11/6/2017  
SHEET TITLE

STORAGE BUILDING

SHEET NUMBER

A-3.0

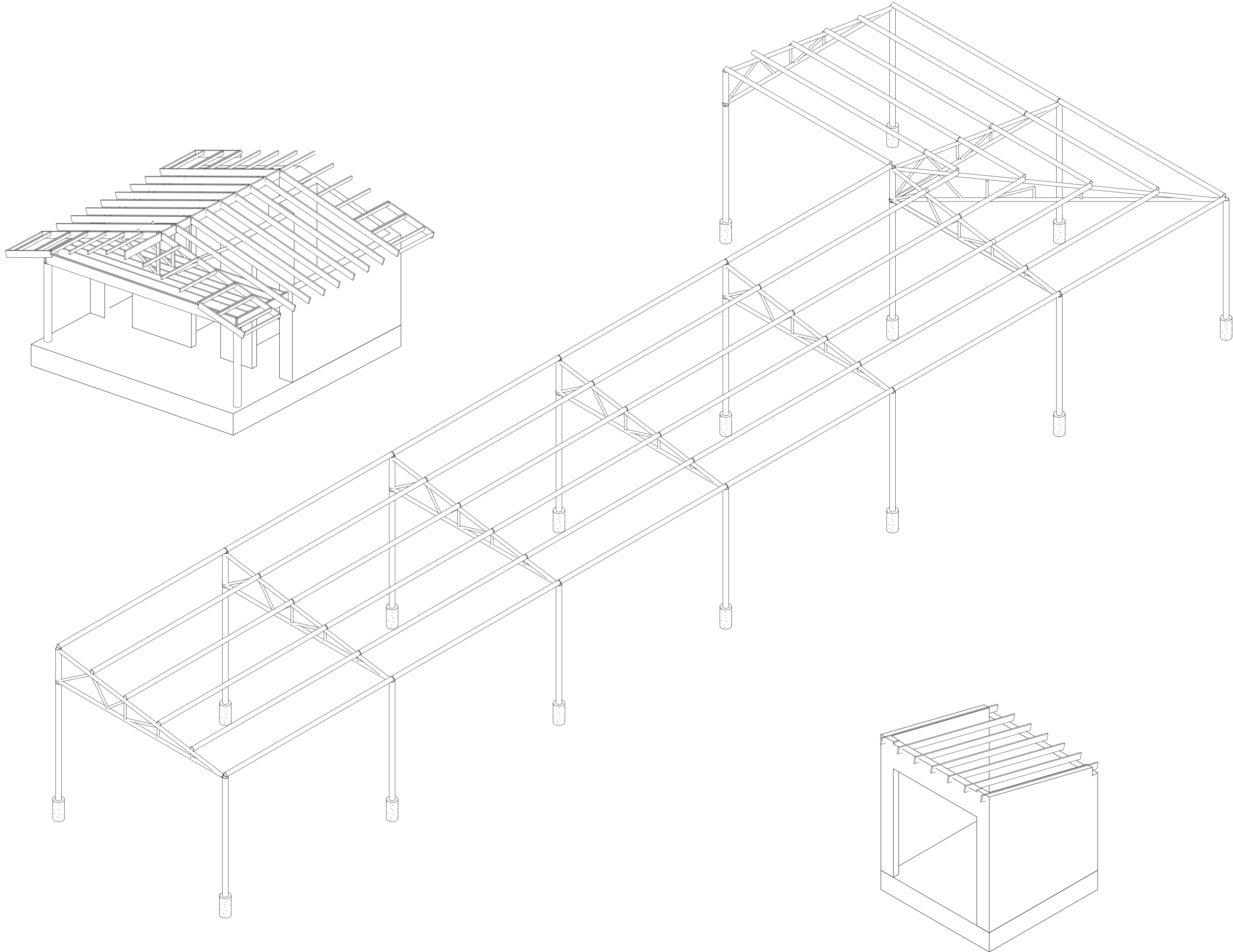
D

C

B

A

STRUCTURAL SHEET INDEX



DRAWING SYMBOLS

LOAD BEARING MASONRY WALL

WOOD BLOCKING

WELDED WIRE FABRIC

SPAN DIRECTION OF HOLLOW CORE SLABS

COLUMN GRIDLINE & GRID DESIGNATIONS  
GRID DESIGNATION

DETAIL TARGETS  
DETAIL NUMBER  
SHEET NUMBER

EARTH/COMPACT FILL

BEAM SPLICE LOCATION

BEAM MOMENT CONNECTION

PIER DIAMETER/EMBEDMENT INTO LIMESTONE STRATA

TILT WALL PANEL NUMBER

SECTION CUTS  
SECTION NUMBER  
SHEET NUMBER

ELEVATION TARGET  
SHEET NUMBER  
ELEVATION NUMBER

REVISION CLOUDS  
REVISED AREA CLOUDED

CURB STEP

TRENCH STEP

STEP W/ SLOPE

STEP DOWN

SLOPE DOWN

EXISTING CONDITION

MECHANICAL UNIT(S)

ABBREVIATIONS

|  |  |   |   |
|--|--|---|---|
| <b>A</b><br>A.B. ANCHOR BOLT<br>ALT. ALTERNATE<br>ARCH. ARCHITECTURAL  | <b>E</b><br>E. EAST<br>EA. EACH<br>E.S. EACH SIDE<br>EQ. EQUAL<br>EXIST. EXISTING<br>EXP. EXPANSION<br>EXT. EXTERIOR   | <b>L</b><br>LH. LONG LEG HORIZONTAL<br>LV. LONG LEG VERTICAL<br>L.L. LIVE LOAD  | <b>R</b><br>R.D. RADIUS<br>R.D. ROOF DRAIN<br>REV. REVISED<br>REF. REFERENCE<br>REQD. REQUIRED  |
| <b>B</b><br>B.S. BOTH SIDES<br>BLDG. BUILDING<br>BL. BEAM<br>BOT. BOTTOM<br>BRG. BEARING<br>BSMT. BASEMENT<br>BTWN. BETWEEN<br>BLK. BLOCK  | <b>F</b><br>FD. FLOOR DRAIN<br>FDL. FOUNDATION<br>FTG. FOOTING<br>FUT. FUTURE<br>F.S. FAR SIDE<br>FAB. FABRICATE (OR)<br>FLG. FLANGE<br>F.O.B. FACE OF BRICK | <b>M</b><br>MIN. MINIMUM<br>MAN. MASONRY<br>MANUF. MANUFACTURER<br>MEZZ. MEZZAINE<br>MSC. MISCELLANEOUS<br>M.O. MASONRY OPENING<br>MATL. MATERIAL<br>MTL. METAL   | <b>S</b><br>SCHD. SCHEDULE<br>SM. SIMILAR<br>SQ. SQUARE<br>STD. STANDARD<br>STL. STEEL<br>STRUCT. STRUCTURAL<br>SPAL. SPALLS<br>S.L. SNOW LOAD  |
| <b>C</b><br>C.J. CONTROL JOINT<br>CL. CENTER LINE<br>CLR. CLEARANCE<br>C.M.U. CONCRETE MASONRY UNIT<br>C.B. CONCRETE BLOCK<br>COL. COLUMN<br>CONC. CONCRETE<br>CONN. CONNECTION<br>CONSTR. CONSTRUCTION<br>CONT. CONTINUOUS<br>C.I.P. CAST IN PLACE<br>COMP. COMPOSITE | <b>G</b><br>GA. GAGE, GAUGE<br>GALV. GALVANIZED<br>G.C. GENERAL CONTRACTOR<br>G.B. GRADE BEAM  | <b>N</b><br>N. NORTH<br>NTS. NOT TO SCALE<br>N.S. NEAR SIDE<br>N.C. NOT IN CONTACT  | <b>T</b><br>TEMP. TEMPORARY<br>TYP. TYPICAL<br>T.O. TOP OF<br>TBE. TOP OF BEAM ELEVATION<br>TDE. TOP OF DECK ELEVATION<br>TTE. TOP OF FOOTING ELEVATION<br>TSE. TOP OF STEEL ELEVATION<br>TAB. TOP AND BOTTOM<br>T&G. TONGUE AND GROOVE |
| <b>D</b><br>DET. DETAIL<br>DIA. DIAMETER<br>DN. DOWN<br>DWG. DRAWING<br>DBL. DOUBLE<br>D.L. DEAD LOAD<br>DO. DITTO   | <b>H</b><br>H.C.A. HEADED CONCRETE ANCHOR<br>HORIZ. HORIZONTAL<br>HT. HEIGHT<br>H.S. HEADED STUDS<br>HSS. TUBE STEEL   | <b>O</b><br>O.C. ON CENTER<br>O.C.E.W. ON CENTER EACH WAY<br>O.S. OUTSIDE<br>OPNG. OPENING<br>OPP. OPPOSITE<br>O.F. OUTSIDE FACE  | <b>U</b><br>UNEC. UNENCAVATED<br>UN.O. UNLESS NOTED OTHERWISE   |
| <b>I</b><br>INFO. INFORMATION<br>INSIDE FACE   | <b>K</b><br>K. KIP<br>K.O. KNOCK-OUT<br>K.S.I. KIPS PER SQ. INCH   | <b>P</b><br>P.C. PRECAST CONCRETE<br>PERIM. PERIMETER<br>P.J. PANEL JOINT<br>PL. PLATE<br>PLF. POUNDS PER LINEAR FOOT<br>PRE-ENGINEERED METAL BUILDING<br>PROJ. PROJECTION<br>PSF. POUNDS PER SQ. FOOT<br>PSI. POUNDS PER SQ. INCH<br>P.T. PRESSURE TREATED | <b>V</b><br>VERT. VERTICAL<br>W. WEST<br>W. WITH<br>W.P. WORM POINT<br>W.W.F. WELDED WIRE FABRIC  |
| <b>J</b><br>JST. JOIST<br>JT. JOINT<br>JBNG. JOIST BEARING   | <b>X</b><br>KIP<br>K.O. KNOCK-OUT<br>K.S.I. KIPS PER SQ. INCH  | <b>Q</b><br>QTY. QUANTITY   |   |

DRAWING INDEX

- S000 PROJECT VIEW
- S001 STRUCTURAL NOTES
- S100 FOUNDATION PLAN
- S101 FOUNDATION PLAN
- S200 CEILING/ROOF FRAMING PLAN
- S201 ROOF FRAMING PLAN
- S300 FOUNDATION DETAILS
- S400 FRAMING DETAILS
- S401 FRAMING DETAILS



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"Bringing Structure to the World"



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SOUTHWEST WILCO PARK  
WILLIAMSON COUNTY PARKS AND RECREATION  
3005 CO RD 175, LEANDER, TX 78641

PROJECT PHASE  
CONSTRUCTION DOCUMENTS  
REVISIONS

PROJECT NUMBER  
15107-00  
DATE ISSUED  
11-13-17  
SHEET TITLE  
PROJECT VIEW

SHEET NUMBER  
S000





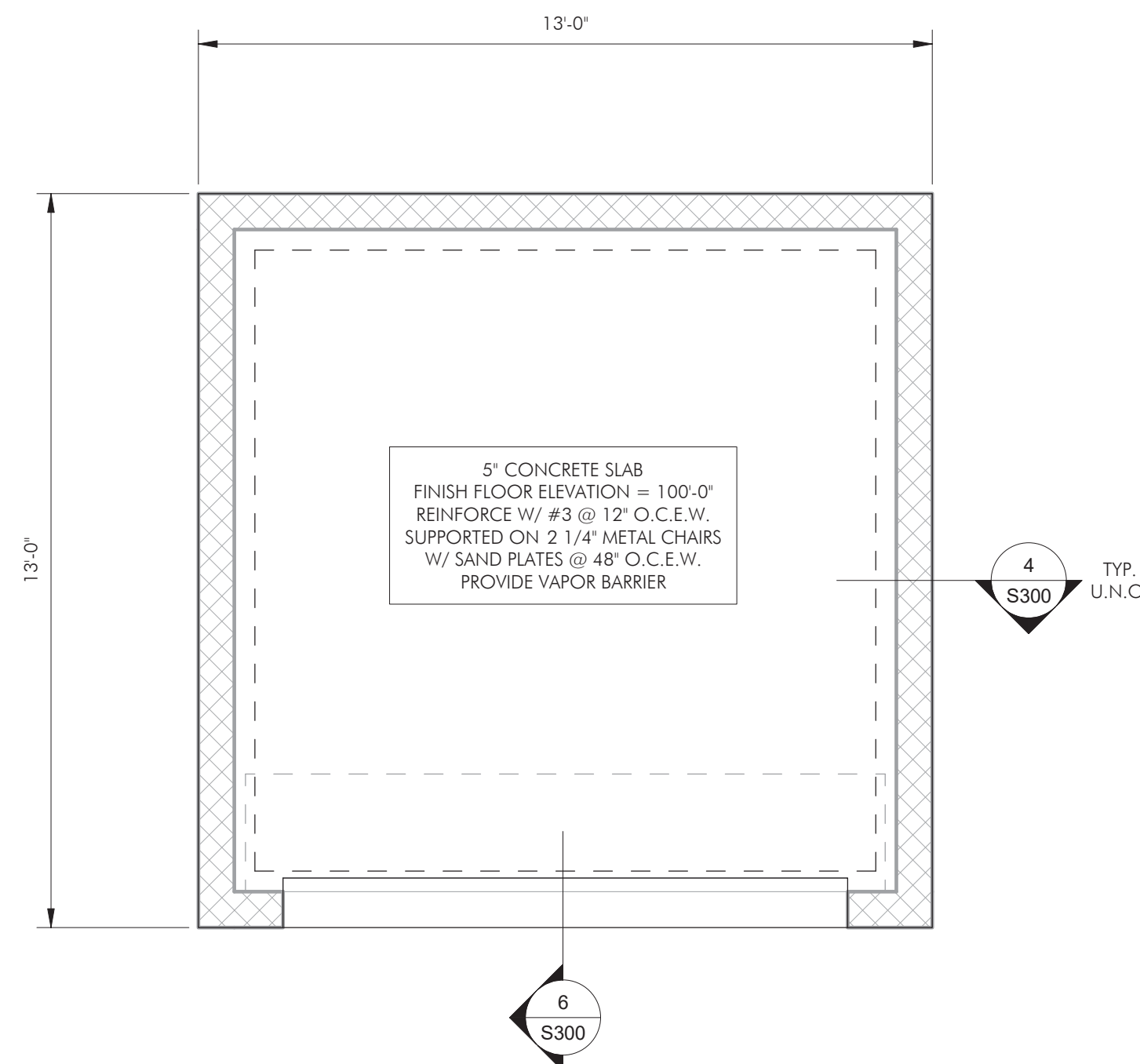


## Williamson County, Texas

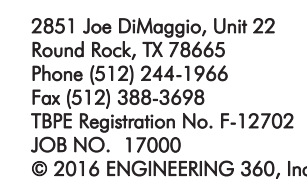
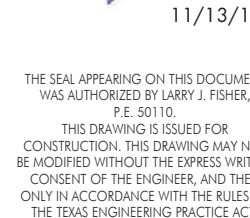
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15107-00  
DATE ISSUED  
11-13-17  
SHEET TITLE

SHEET NUMBER

# S100



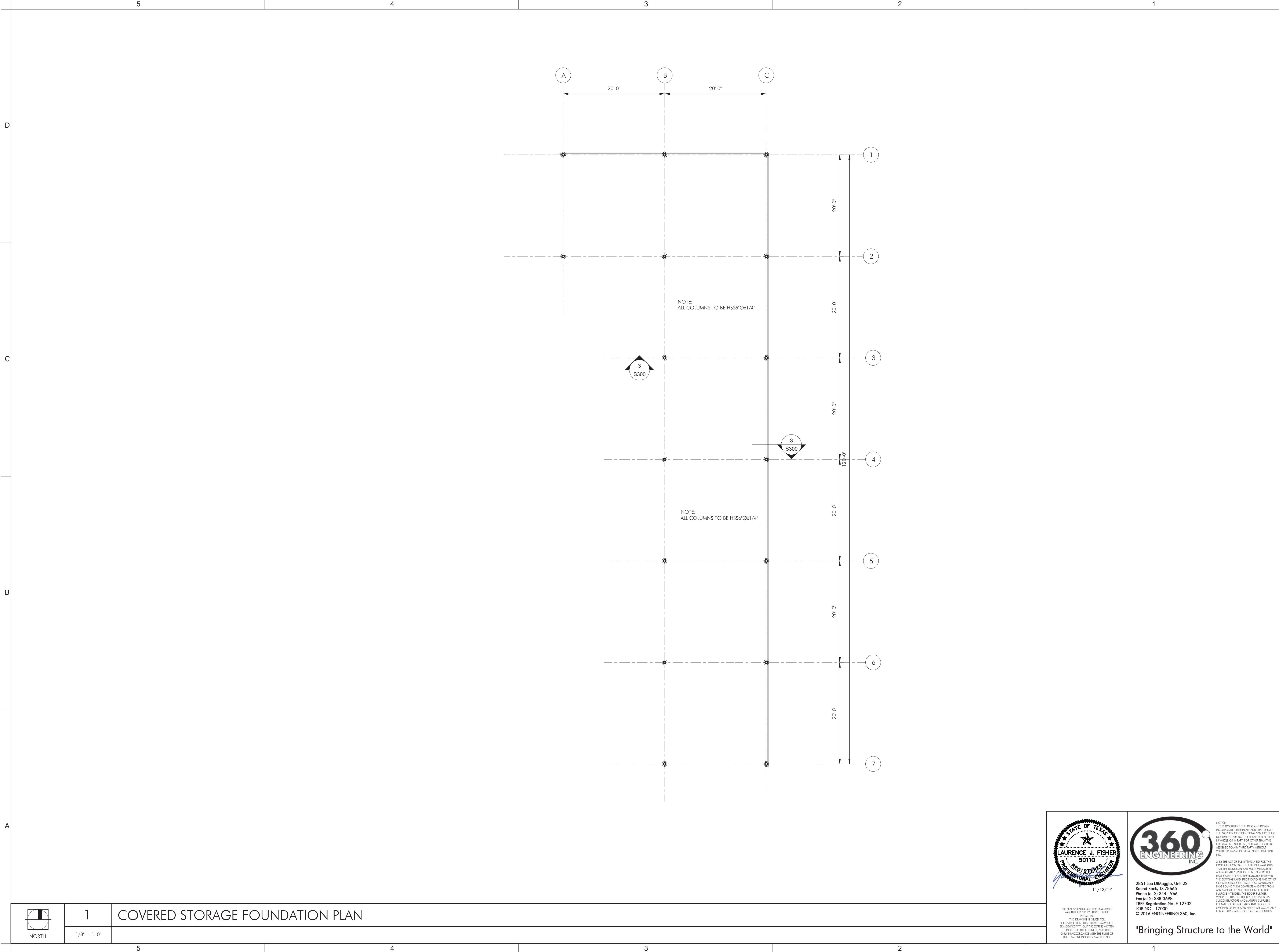
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2. PROVIDE CORNER BARS IN GRADE BEAMS PER DETAIL 9/S400.
3. PLUMBING FIXTURES ARE SHOWN FOR REFERENCE ONLY. REFER ARCHITECTURAL AND PLUMBING PLANS FOR LOCATIONS, TYPE AND QUANTITIES.
4. REFER TO DETAIL 10/S400 FOR ALL PIPE/CONDUIT IN THE FOUNDATION.
5. REFER TO DETAIL 11 AND 12/S400 FOR GRADE BEAM PENETRATIONS.



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# SOUTHWEST WILCO PARK

WILLIAMSON COUNTY PARKS AND RECREATION  
3005 CO RD 175, LEANDER, TX 78641

PROJECT PHASE  
CONSTRUCTION DOCUMENTS  
REVISIONS

PROJECT NUMBER  
15107-00  
DATE ISSUED  
11-13-17  
SHEET TITLE

FOUNDATION  
PLAN

SHEET NUMBER

S101

11/13/17

2851 Joe DiMaggio, Unit 22  
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Fax (512) 388-3698  
TBP# Registration No. F-12702  
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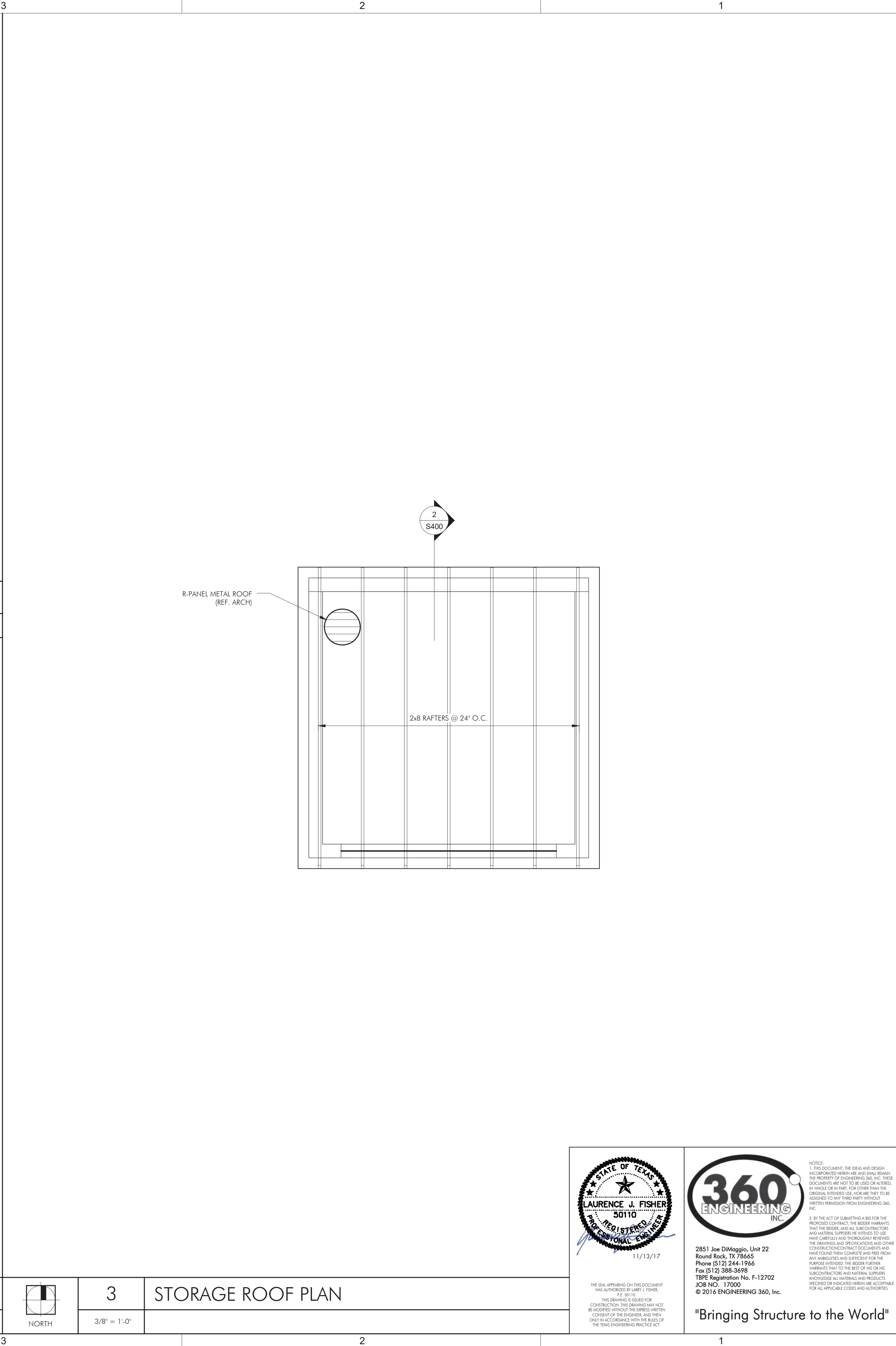
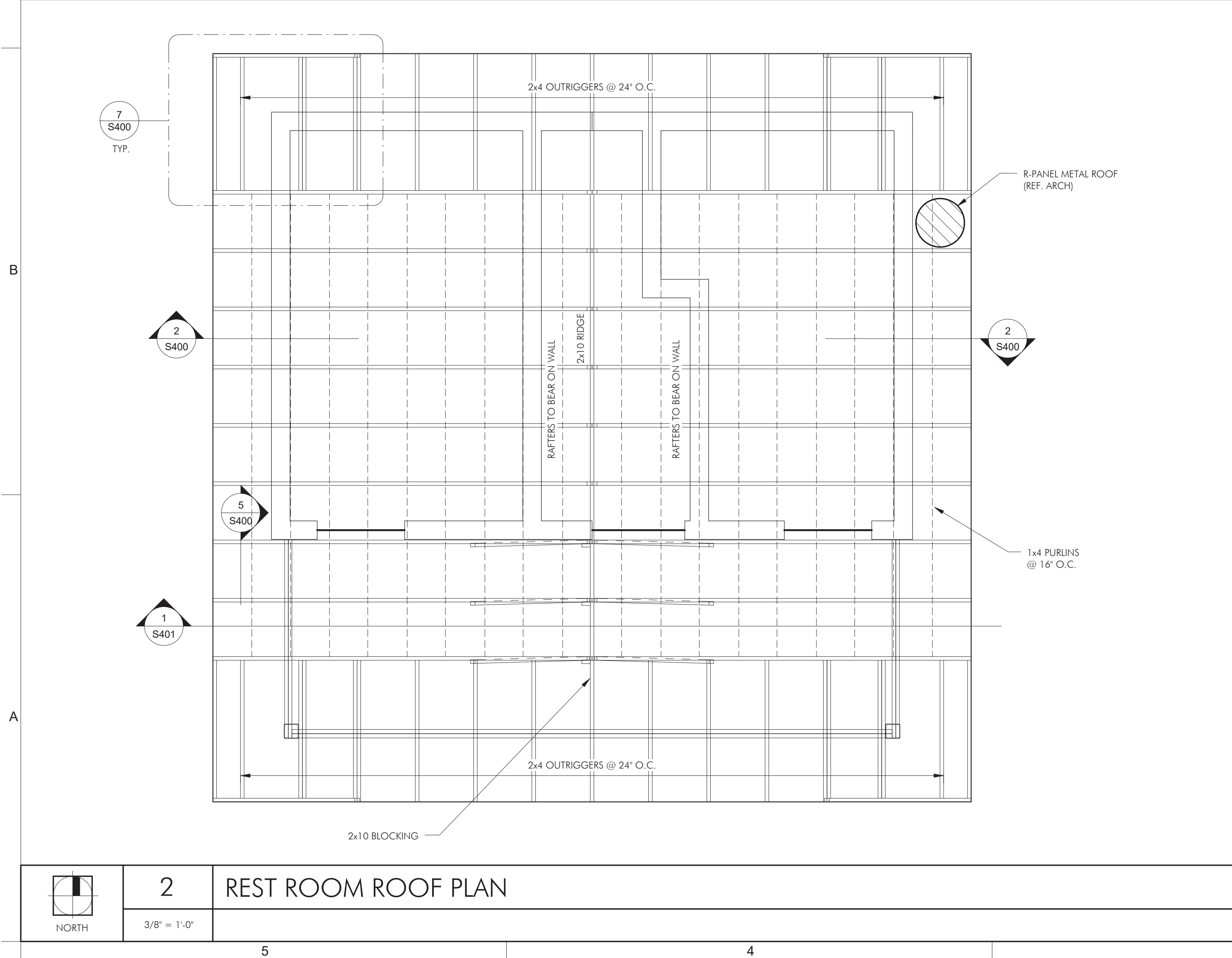
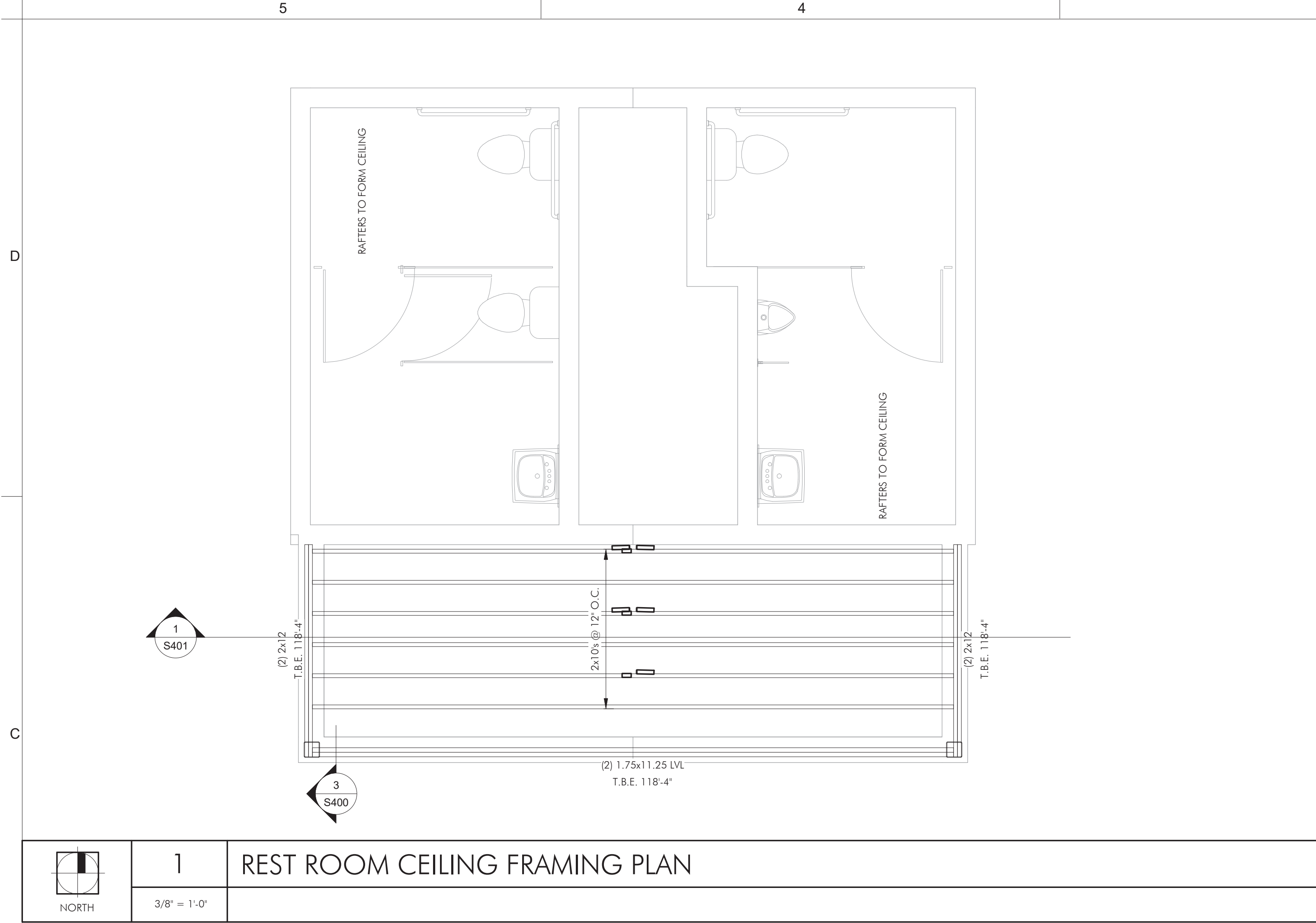
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1  
1/8" = 1'-0"

COVERED STORAGE FOUNDATION PLAN





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"Bringing Structure to the World"

# SOUTHWEST WILCO PARK

## WILLIAMSON COUNTY PARKS AND RECREATION

3005 CO RD 175, LEANDER, TX 78641

PROJECT PHASE  
CONSTRUCTION DOCUMENTS  
REVISIONS

PROJECT NUMBER  
15107-00  
DATE ISSUED  
11-13-17  
SHEET TITLE

CEILING/ROOF  
FRAMING PLAN

SHEET NUMBER  
S200

**SOUTHWEST WILCO PARK**  
WILLIAMSON COUNTY PARKS AND RECREATION  
3005 CO RD 175, LEANDER, TX 78641

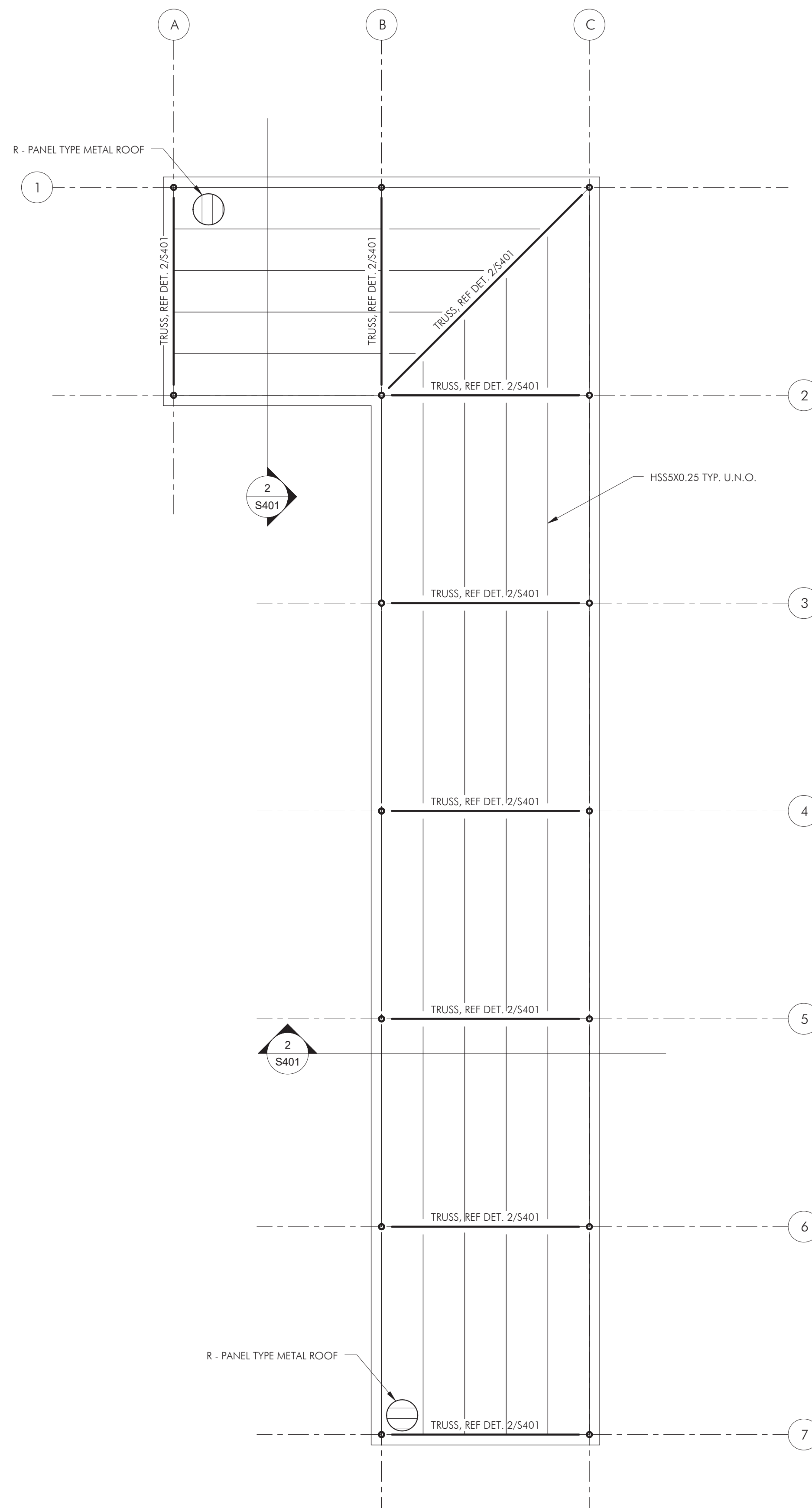
PROJECT PHASE  
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15107-00  
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## ROOF FRAMING PLAN

SHEET NUMBER

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$$\frac{1}{8'' = 1' \cdot 0''}$$

COVERED STORAGE ROOF PLAN



3/16/2018 7:18 AM

|   |   |                               |    |                                    |    |                                   |    |                                   |
|---|---|-------------------------------|----|------------------------------------|----|-----------------------------------|----|-----------------------------------|
| D |   |                               |    |                                    |    |                                   |    |                                   |
|   | 1 | SECTION                       | 2  | TYPICAL BASE PLATE DETAIL          | 3  | SECTION                           | 4  | SECTION                           |
| C |   |                               |    |                                    |    |                                   |    |                                   |
|   | 5 | TYP. INT. GRADE BEAM          | 6  | SECTION                            | 7  | SECTION                           | 8  | TYP. INT. GRADE BEAM              |
| B |   |                               |    |                                    |    |                                   |    |                                   |
|   | 9 | TYP. GRADE BEAM REINF. DETAIL | 10 | TYPICAL SLAB OVER UTILITIES DETAIL | 11 | TYP. GRADE BM. PENETRATION DETAIL | 12 | TYP. GRADE BM. PENETRATION DETAIL |
| A |   |                               |    |                                    |    |                                   |    |                                   |
|   |   |                               |    |                                    |    |                                   |    |                                   |

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SOUTHWEST WILCO PARK

WILLAMSON COUNTY PARKS AND RECREATION

3005 CO RD 175, LEANDER, TX 78641

PROJECT PHASE

CONSTRUCTION DOCUMENTS

REVISIONS

PROJECT NUMBER

15107-00

DATE ISSUED

11-13-17

SHEET TITLE

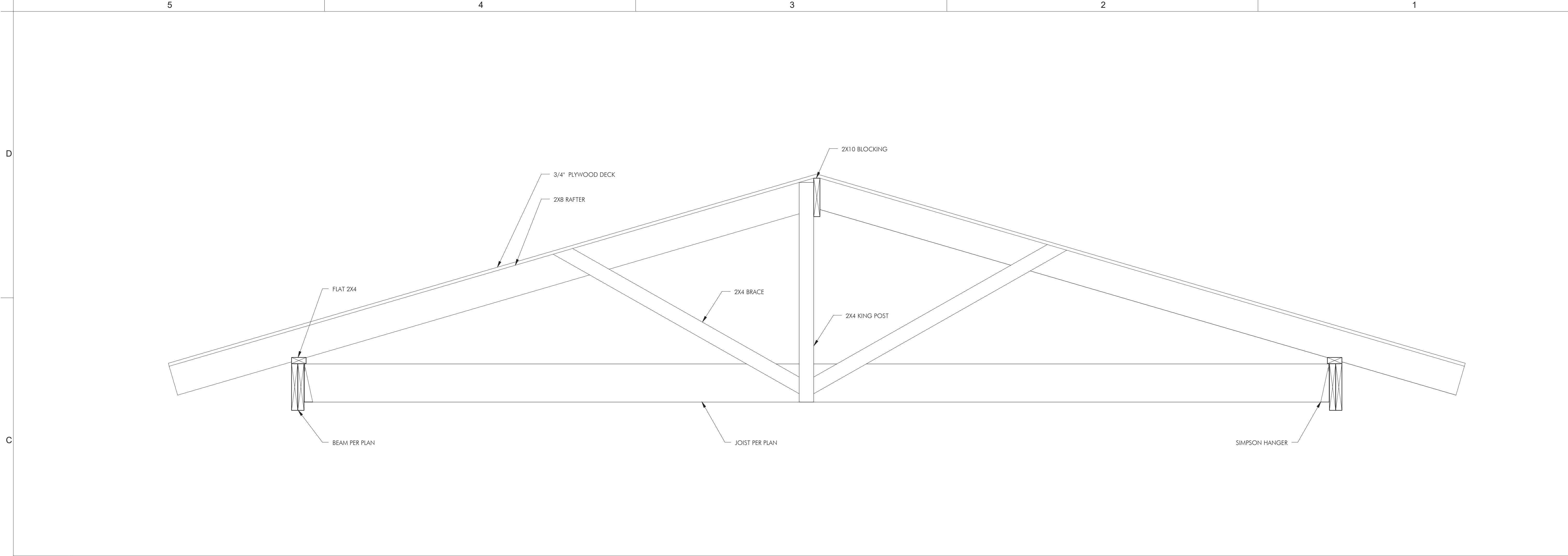
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SHEET NUMBER

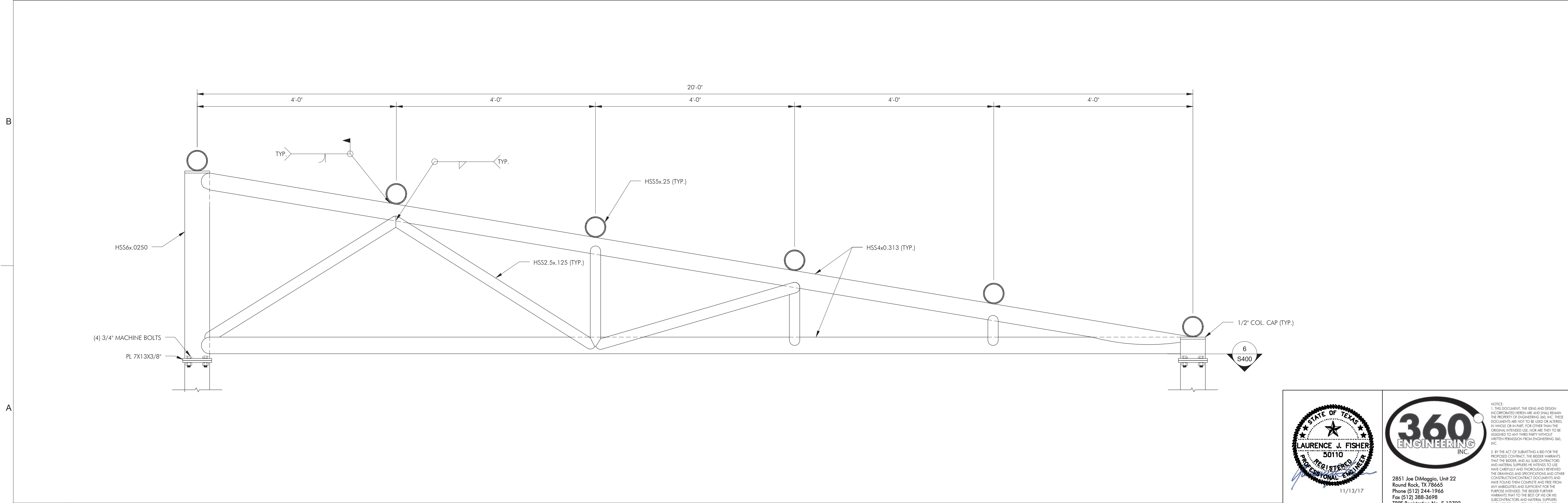
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|                       |  |            |  |                |   |            |  |  |  |  |  |  |  |  |
|-----------------------|--|------------|--|----------------|---|------------|--|--|--|--|--|--|--|--|
| D                     | 5  |            | 4  |                | 3   |            | 2  |  | 1  |  |  |  |  |  |
|                       | <div><div>BLOCK LINTEL SCHEDULE</div><div>NOTE: PROVIDE BLOCK LINTELS FOR ALL OPENINGS IN INTERIOR BLOCK PARTITIONS AND IN EXTERIOR BLOCK WALLS FOR WHICH STEEL LINTELS ARE NOT SCHEDULED. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS. PROVIDE 8" MINIMUM BEARING AT EACH END.</div><div><div><div><div><div></div><div>1 COURSE</div></div><div><div>CONC. FILL</div><div>(1) #4 CONT.</div></div><div><div>4" CMU</div></div></div><div><div>1 COURSE</div><div>6" OR 8" CMU</div></div></div><div><div>2 COURSES</div><div>CONC. FILL</div><div>#2 @ 12" O.C.</div><div>CONC. FILL</div><div>(1) #6 CONT.</div><div>6" OR 8" CMU</div></div><div><div>2 COURSES</div><div>CONC. FILL</div><div>#2 @ 12" O.C.</div><div>CONC. FILL</div><div>(1) #4 CONT.</div><div>4" CMU</div></div></div><div>OPENINGS LESS THAN 5'-0" WIDE</div><div>OPENINGS 5'-0" TO 10'-0" WIDE</div></div> |            | <div><div><div>2x8 RAFTER</div><div>3/4" PLYWOOD DECK</div><div>1/2" Ø A.B. @ 48" O.C.</div><div>ATTACH EA. RAFTER W/ SIMPSON HM9 (1) #6 CONT.</div><div>CMU WALL, REF. ARCH</div></div></div>             |                | <div><div><div>4 S400</div><div>3/8" PLATE (TYP.)</div><div>(4) 3/4" MACHINE BOLTS @ 3" O.C. VERT. MAX</div><div>(2) 11.25 LVL</div><div>1/2" COL. CAP</div><div>1 1/2" TYP.</div><div>1 1/2" TYP.</div><div>(2) 2X12</div><div>HSS 6X6X1/4</div></div></div> |            | <div><div><div>WALL BELOW</div><div>RAFTER (REF. PLAN)</div><div>GABLE END BOARD (REF. PLAN)</div><div>2x SUPPORT</div><div>FASCIA</div></div></div> |  |  |  |  |  |  |  |
|                       | 1  |            | 2  |                | 3   |            |  |  |  |  |  |  |  |  |
| BLOCK LINTEL SCHEDULE |  | SECTION    |  | SECTION        |   |            |  |  |  |  |  |  |  |  |
| 1" = 1'-0"            |  | 1" = 1'-0" |  | 1" = 1'-0"     |   |            |  |  |  |  |  |  |  |  |
| C                     | <div><div><div>(2) 2x12</div><div>3/8" PLATE (TYP.)</div><div>(4) 3/4" MACHINE BOLTS @ 3" O.C. VERT. MAX</div><div>(2) 11.25 LVL</div><div>10 3/4"</div></div></div>   |            | <div><div><div>FLAT 2X8</div><div>2X8 RAFTERS</div><div>BEAM PER PLAN</div><div>1/2" Ø A.B. @ 48" O.C.</div><div>(1) #6 CONT.</div><div>SIMPSON WMU HANGER</div><div>CMU WALL, REF. ARCH</div></div></div> |                | <div><div><div>1 1/2" TYP.</div><div>1 1/2" TYP.</div><div>COL. PER PLAN</div><div>1'-1 1/4"</div></div></div>  |            |  |  |  |  |  |  |  |  |
|                       | 4  |            | 5  |                | 6   |            | 7  |  |  |  |  |  |  |  |
|                       | SECTION  |            | SECTION  |                | SECTION   |            | SECTION  |  |  |  |  |  |  |  |
| 1" = 1'-0"            |  | 1" = 1'-0" |  | 1 1/2" = 1'-0" |   | 1" = 1'-0" |  |  |  |  |  |  |  |  |
| B                     | <div>NOT USED</div>  |            | <div>NOT USED</div>  |                | <div>NOT USED</div>   |            | <div>NOT USED</div>  |  |  |  |  |  |  |  |
|                       |  |            |  |                |   |            |  |  |  |  |  |  |  |  |
|                       |  |            |  |                |   |            |  |  |  |  |  |  |  |  |
| A                     | <div>NOT USED</div>  |            | <div>NOT USED</div>  |                | <div>NOT USED</div>   |            | <div>NOT USED</div>  |  | <div><div><div><div>STATE OF TEXAS</div><div>LAURENCE J. FISHER</div><div>50110</div><div>REGISTERED PROFESSIONAL ENGINEER</div></div><div>11/13/17</div><div><div>THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY LAURENCE J. FISHER, P.E. 12/31/17.</div><div>THIS DRAWING IS ISSUED FOR CONSTRUCTION. THIS DRAWING MAY NOT BE REPRODUCED WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ENGINEER, AND THEN ONLY IN ACCORDANCE WITH THE RULES OF THE TEXAS ENGINEERING PRACTICE ACT.</div></div></div></div> <div><div><div>360 ENGINEERING INC.</div><div>2851 Joe DiMaggio, Unit 22<br/>Round Rock, TX 78665<br/>Phone (512) 244-1966<br/>Fax (512) 388-3698<br/>TBE Registration No. F-12702<br/>JOB NO. 17000<br/>© 2016 ENGINEERING 360, Inc.</div><div>NOTICE:<br/>1. THIS DOCUMENT, THE IDEAS AND DESIGN INCORPORATED HEREIN ARE AND SHALL REMAIN THE PROPERTY OF ENGINEERING 360, INC. THESE DOCUMENTS ARE NOT TO BE USED OR ALTERED IN WHOLE OR IN PART, FOR OTHER THAN THE ORIGINAL INTENDED USE. NOX ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT WRITTEN PERMISSION FROM ENGINEERING 360, INC.<br/>2. BY THE ACT OF SUBMITTING A BID FOR THE PROPOSED CONTRACT, THE BIDDERS WARRANTS THAT THE BIDDERS AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS INTEND TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS AND SPECIFICATIONS AND OTHER CONSTRUCTION CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSES INTENDED. THE BIDDERS FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE OF ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.</div><div>"Bringing Structure to the World"</div></div></div> |  |  |  |  |  |
|                       | 5  |            | 4  |                | 3   |            | 2  |  | 1  |  |  |  |  |  |



|            |         |
|------------|---------|
| 1          | SECTION |
| 1" = 1'-0" |         |



|            |         |
|------------|---------|
| 2          | SECTION |
| 1" = 1'-0" |         |

# SOUTHWEST WILCO PARK

WILLIAMSON COUNTY PARKS AND RECREATION  
3005 CO RD 175, LEANDER, TX 78641

PROJECT PHASE  
CONSTRUCTION DOCUMENTS  
REVISIONS

PROJECT NUMBER  
15107-00  
DATE ISSUED  
11-13-17  
SHEET TITLE

FRAMING  
DETAILS

SHEET NUMBER

S401



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SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE  
FOR ALL APPLICABLE CODES AND AUTHORITIES.

"Bringing Structure to the World"



**SOUTHWEST WILCO PARK**  
WILLIAMSON COUNTY PARKS AND RECREATION  
3005 CO RD 175, LEANDER, TX 78641

PROJECT PHASE  
CONSTRUCTION DOCUMENTS  
REVISIONS

PROJECT NUMBER  
15107-00  
DATE ISSUED  
11/17/2017  
SHEET TITLE

SITE PLAN - ELECTRICAL

SHEET NUMBER

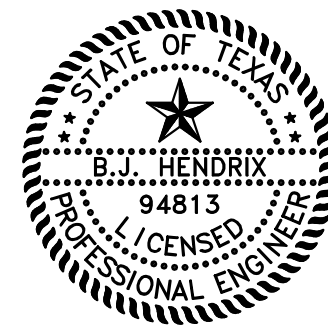
E-1.0

**KEYED NOTES**

THESE NOTES APPLY TO THIS SHEET ONLY

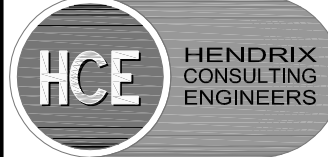
- 1 UNDERGROUND ELECTRIC CONDUIT, PULL BOXES, ETC. REFERENCE RISER DIAGRAM ON SHEET E1.2. ALL UTILITIES PER LATEST UTILITY COMPANY REQUIREMENTS.
- 2 UNDERGROUND ELECTRIC, SECONDARY. REFERENCE RISER DIAGRAM ON SHEET E1.2
- 3 COORDINATE FINAL CONNECTION POINT AND REQUIREMENTS WITH UTILITY PROVIDER.
- 4 FIELD COORDINATE LOCATION OF SERVICE RACK WITH OWNER AND UTILITY PRIOR TO INSTALLATION. REFERENCE RISER FOR ADDITIONAL SERVICE RACK INFORMATION.
- 5 FIELD VERIFY LOCATIONS OF EXISTING PANELS AND INTERCONNECTING CONDUIT SIZING.

**DO NOT BEGIN SITE UTILITY WORK UNTIL DRAWINGS HAVE BEEN RECEIVED FROM UTILITY COMPANY.**



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY B.J. HENDRIX, P.E. NO. 94813 ON 11/17/2017

REFERENCE GENERAL NOTES ON SHEETS M1.1, P1.1 AND E1.1 FOR ADDITIONAL INFORMATION



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F - 4095  
HCE job no.: 17-014

**01 SITE PLAN - ELECTRICAL**  
SCALE: 1" = 40'-0"

D  
C  
B  
A







[illegible]

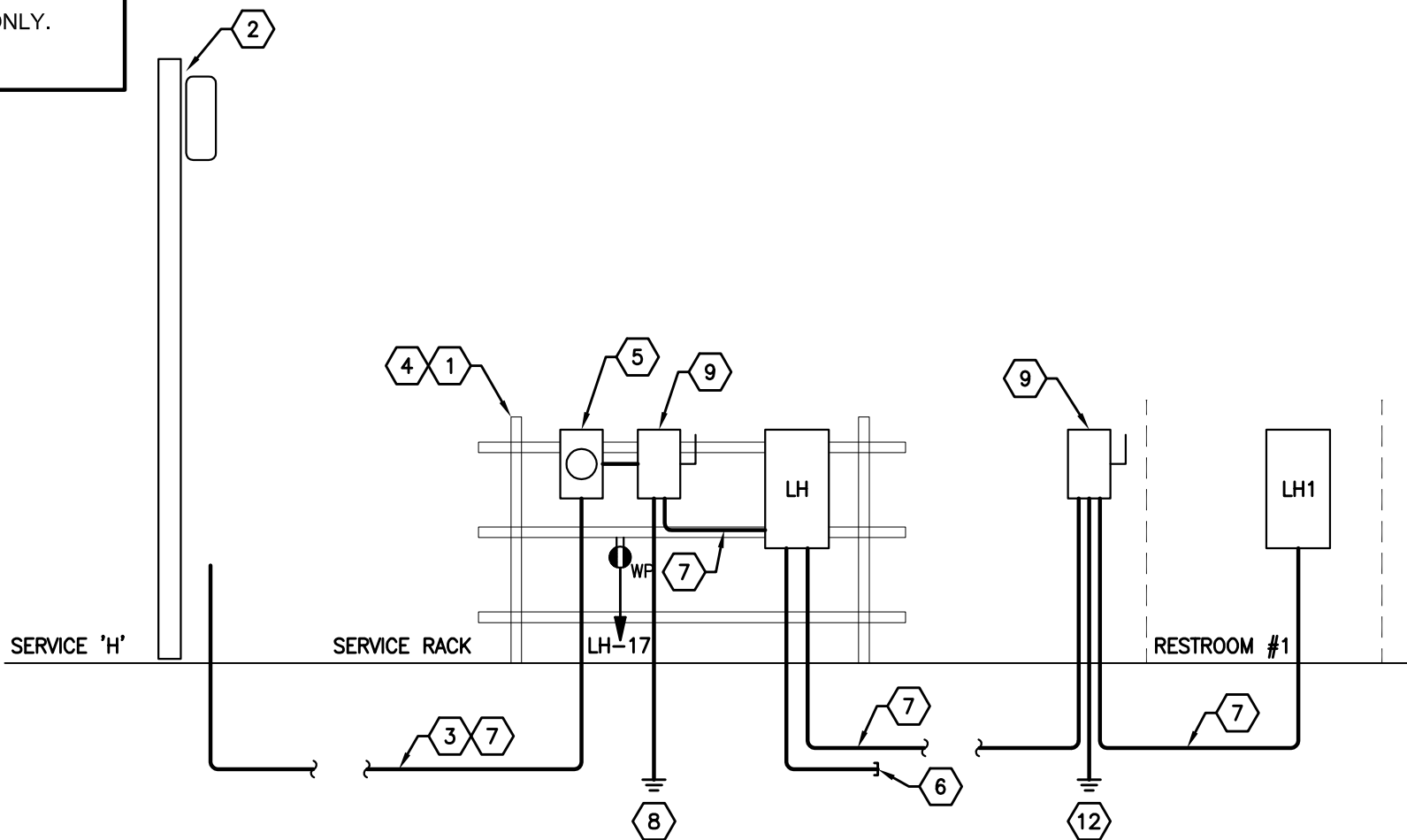
## REMARKS: 120/208 3 PHASE, 150 AMP SERVICE

[illegible]

- 7 FIELD COORDINATE ACTUAL LOCATION OF SERVICE RACK WITH UTILITY AND OWNER TO MINIMIZE IMPACT TO EXISTING TREES.
- 2 NEW POLE MOUNTED UTILITY TRANSFORMER PROVIDED AND INSTALLED BY UTILITY COMPANY.
- 3 SECONDARY RISER TO SERVICE RACK LOCATION. COORDINATE RISER REQUIREMENTS WITH UTILITY COMPANY.
- 4 SERVICE RACK SHALL 2 1/2" RIGID PIPE VERTICALS BURIED A MINIMUM OF 3' IN THE GROUND AND ENCASED IN CONCRETE. PROVIDE SCREW CAPS AT TOP OF POLE TO PREVENT THE ENTRY OF WATER. HORIZONTALS MAY BE UNISTRUT INSTALLED AS NEEDED FOR SUPPORT OF PANEL AND RECEPTACLE ENCLOSURE. PROVIDE A COLD GALV PAINT ON ALL UNISTRUT CUTS TO PREVENT RUSTING.
- 5 TRANSOMETER METER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR PER UTILITY REQUIREMENTS.
- 6 STUB 1-2" C TO A LOCATION 5 FEET OUTSIDE SERVICE RACK FOR ELECTRICAL SERVICE TO CEDAR ROCK RAIL STATION BY OTHERS.
- 7 REFERENCE PANELBOARD CONNECTION SCHEDULE FOR CONDUIT/WIRING SIZES AND QUANTITIES.
- 8 GROUND PER NEC 250.
- 9 REFERENCE DISCONNECT SCHEDULE FOR ADDITIONAL INFORMATION.
- 10 PROVIDE AND INSTALL 40A/2P CIRCUIT BREAKER IN EXISTING PANEL 'LG'
- 11 RE-FEED PANEL 'LG' WITH (3) #2/0 AND (1) #1 GROUND BACK TO EXISTING PANEL 'LD' IN EXISTING "2". FIELD VERIFY EXISTING LENGTH AND ROUTING.
- 12 PROVIDE GROUND BAR OR EUPHER GROUND. CONNECT TO GROUND BAR ONLY. REFERENCE REMOTE BUILDING REQUIREMENTS, NEC 250-32.

| SYMBOL                 | DESCRIPTION                                   | REMARKS       |
|------------------------|---|---------------|
| \$ <sup>DT</sup>       | DUAL TECHNOLOGY WALL MOUNT MOTION AND DIMMING | nWSX-PDT-D-SA |
| \$ <sup>C1</sup>       | ONE ZONE CONTROLLER, ON/OFF AND DIMMING       | nP0DM-DX      |
| \$ <sup>C2</sup>       | TWO ZONE CONTROLLER, ON/OFF AND DIMMING       | nP0DM-2P-DX   |
| \$ <sup>C4</sup>       | FOUR ZONE CONTROLLER, 4 PRESET TOGGLE BUTTONS | nP0DM-4S-DX   |
| \$ <sup>K</sup>        | ONE ZONE KEYED CONTROLLER, ON/OFF AND DIMMING | nP0D-KEY      |
| <u>M</u> <sub>DT</sub> | MOTION SENSOR, DT (DUAL TECHNOLOGY)           | nCM-PDT-9     |
| <u>M</u> <sub>DT</sub> | MOTION SENSOR, DT (DUAL TECHNOLOGY)           | nCM-PDT-10    |
| <u>M</u> <sub>DT</sub> | MOTION SENSOR, DT (DUAL TECHNOLOGY)           | nWV-PDT-16    |
| Ⓟ                      | PHOTOCELL                                     | nCM-ADCX      |
|                        |   |               |
|                        |   |               |

A. PROVIDE CONTROL STATIONS AS SHOWN ON PLANS.  
B. ONE OVERALL ZONE TO CONTROL ALL LIGHTS IN ROOM.  
C. PROVIDE COMPLETE MOTION SENSOR COVERAGE FOR MINOR MOVEMENTS. MANUAL ON / AUTO OFF. SHOP DRAWING REQUIRED.



## SCALE: NONE

## SCALE: NONE

- A. CONFIRM CEILING TYPE AND CONSTRUCTION PRIOR TO ORDERING LIGHT FIXTURE. PROVIDE FLANGE KIT FOR PROPER INSTALLATION OF LAY-IN FIXTURE IN GYPSUM CEILING. PROVIDE FIXTURE TYPE 'H2' IN LIEU OF FIXTURE TYPE 'A2' IN ROOMS WITH NO CEILING. CHAIN HANG AT 10' A.F.F.
- B. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT OF WALL MOUNTED LIGHT FIXTURES WITH ARCHITECT PRIOR TO ROUGH-IN.
- C. REFER TO ARCHITECTURAL REFLECTIVE CEILING PLAN FOR EXACT LOCATION OF LIGHT FIXTURE.
- D. CONFIRM FINISH WITH ARCHITECT PRIOR TO ORDERING LIGHT FIXTURES.
- E. 'E' DESIGNATION ADJACENT TO LIGHTING FIXTURE TYPE INDICATES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY PACK UNIT (LITHONIA PS1400 OR EQUAL). LIGHT FIXTURE SHALL BE SWITCHED, BATTERY PACK SHALL BE UNSWITCHED.
- F. 'N' DESIGNATION ADJACENT TO LIGHTING FIXTURE TYPE INDICATES FIXTURE SHALL BE PROVIDED WITH EMERGENCY BATTERY PACK UNIT (LITHONIA PS1400 OR EQUAL). LIGHT FIXTURE AND BATTERY PACK SHALL BE UNSWITCHED.
- G. FIXTURES SHALL HAVE A MAXIMUM OF TWO (2) LAMPS PER BALLAST.
- H. CONNECT ALL EXIT LIGHTING TO THE NEAREST UNSWITCHED CIRCUIT OR THE NEAREST EMERGENCY CIRCUIT.
- (\*) PROVIDE UNIT PRICE FOR THIS FIXTURE. INCLUDE MATERIAL AND LABOR TO BE ADDED AT ANY TIME DURING THE PROJECT.

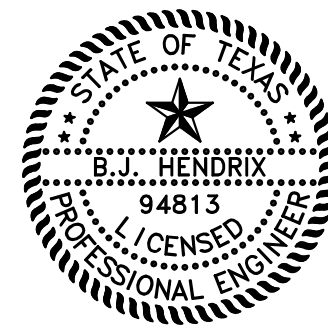
| MARK | MANUFACTURERS<br>CATALOG NUMBER                                       | LAMPS<br>NO. / TYPE / WATTS | FIXTURE<br>VOLTS / WATTS | DESCRIPTION AND COMMENTS   |
|------|---|-----------------------------|--------------------------|--|
| J2   | LITHONIA<br>FEM L48-4000LM-LPAFL-MD-<br>VSC-1-172-32-53K-80CRI-N100   | 1/LED 4109L/30              | MVOLT/30                 | ENCLOSED LED WET LOCATION STRIP. LOW<br>PROFILE LENS. WHITE FINISH. DIM, NUGHT   |
| J3   | LITHONIA<br>FEM L48-6000LM-LPAFL-MD-<br>MVOLT-GZ10-35K-80CRI-N100     | 1/LED 6057/46               | MVOLT/46                 | ENCLOSED LED WET LOCATION STRIP. LOW<br>PROFILE LENS. WHITE FINISH. DIM, NUGHT   |
| T1   | VISIONAIRE LIGHTING<br>VSC-1-172-32-530-4000K-<br>UNV-WM-DB           | 1/LED ENGINES/54            | MVOLT/54                 | ARCHITECTURAL WALL MOUNTED LED FIXTURE<br>WITH DIE CAST ALUMINUM HOUSING, FULL<br>CUT-OFF. DARK BRONZE FINISH. MOUNT<br>CENTER OF FIXTURE AT APPROX. 12'-14" A.F.F.<br>MATCH ARCHITECTURAL ELEVATIONS.   |
| T5   | VISIONAIRE LIGHTING<br>VSC-1-172-16-530-4000K-<br>UNV-WM-BZ-WSC-X-DIM | 1/LED ENGINES/27            | MVOLT/27                 | SLIM ARCHITECTURAL WALL MOUNTED LED<br>FIXTURE WITH DIE CAST ALUMINUM HOUSING,<br>ALUMINUM REFLECTOR WITH FULL CUT-OFF,<br>HIGH EFFICIENCY DRIVER WITH WATSTOPPER<br>FSP-211 FOR MOTION DIMMING AND<br>PHOTOCELL CONTROL. DARK BRONZE FINISH.<br>OVER DOOR OR TO SIDE OF DOOR AS SHOWN<br>ON PLANS. APPROX 8'-10" AFF. COORDINATE<br>FINAL HEIGHT WITH ARCHITECTURAL. PROVIDE<br>WITH EMERGENCY BALLAST. |
| Y1   | LITHONIA<br>ELM2-ALED   | INCLUDED                    | 277/20                   | EMERGENCY EGRESS FIXTURE WITH POLYCARBONATE<br>HOUSING, EMERGENCY BATTERY PACK AND<br>AMMETER. WHITE FINISH. WALL MT APPROX 9'<br>AFF. CONNECT TO NEAREST UNSWITCHED LIGHT<br>CIRCUIT.   |

- A. WHEN THE LENGTH OF THE SECONDARY CONDUCTORS OF ANY TRANSFORMER EXCEEDS TEN FEET, PROVIDE AN ENCLOSED CIRCUIT BREAKER OR FUSED DISCONNECT WITHIN TEN FEET OF THE TRANSFORMER SECONDARY TERMINALS IN ACCORDANCE WITH NEC ARTICLE 240-21(C)(2). THIS OVERCURRENT DEVICE SHALL HAVE AN AMP RATING EQUAL TO THE AMP RATING OF THE PANEL BEING SERVED. THE PANEL BEING FED MAY BE CHANGED TO MAIN LUG ONLY.
- B. PROVIDE LUG KITS AND/OR WIRING GUTTERS FOR PANELS WITH OVERSIZED CONDUCTORS DUE TO VOLTAGE DROP AND/OR DISTANCE. MAKE CONNECTIONS IN ACCORDANCE WITH THE NEC.
- C. PROVIDE SHOP DRAWINGS OF ALL ELECTRIC ROOMS INDICATING ALL PANEL, TRANSFORMER AND DISCONNECT LOCATIONS. ELECTRICAL EQUIPMENT MAY SHIFT IN LOCATION TO INSURE PROPER CLEARANCES.
- D. REFERENCE "DISCONNECT SCHEDULE" FOR ADDITIONAL DISCONNECT INFORMATION.

**ELECTRICAL CONTRACTOR FILL OUT UTILITY  
COMPANY LOAD FORMS BASED ON LOAD  
ANALYSIS PROVIDED ON THE PLANS.**



# E-1.2



THE SEAL APPEARING ON THIS  
DOCUMENT WAS AUTHORIZED BY  
B.J. HENDRIX, P.E. NO: 94813  
on 11/17/2017

REFERENCE GENERAL NOTES ON  
SHEETS M1.1, P1.1 AND E1.  
FOR ADDITIONAL INFORMATION



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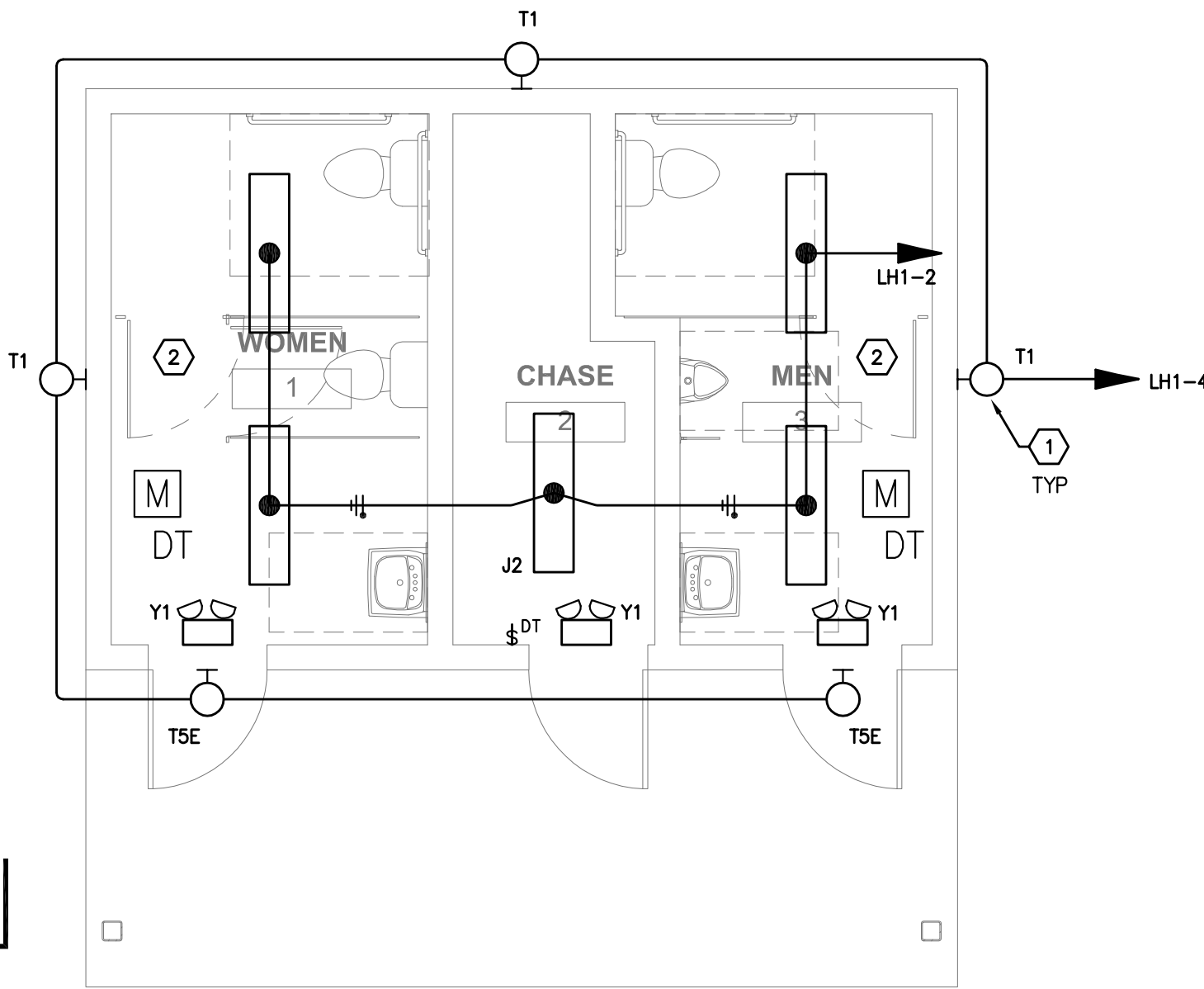


## ELECTRICAL KEYED NOTES

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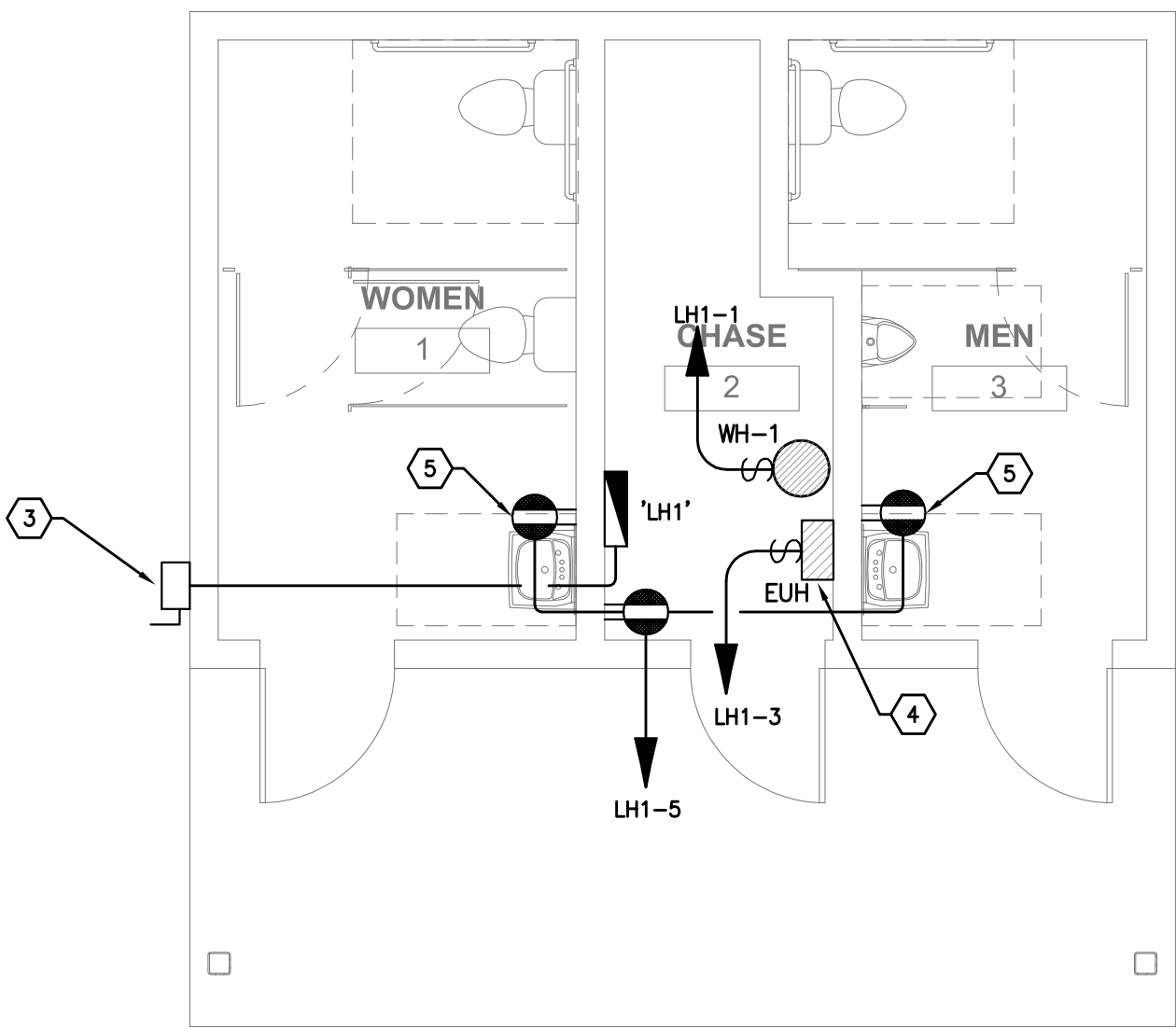
- 1 EXTERIOR LIGHTS CONTROLLED BY PHOTOCELL. PROVIDE PHOTOCELL ON NORTH SIDE IN THE SHADE. ELEVATION BY ARCHITECT.
- 2 INTERIOR BATHROOM LIGHTS RUN BY MOTION SENSOR ONLY.
- 3 REFERENCE DISCONNECT SCHEDULE.
- 4 ELECTRICAL CONTRACTOR SHALL PROVIDE ELECTRIC UNIT HEATER (EUH): MODEL MARKEL E3313T2RPW, 1.5KW, 120V. ELECTRIC UNIT HEATER INSTALLED ABOVE DOOR. COORDINATE FINAL LOCATION WITH ALL TRADES. PROVIDE WITH BUILT-IN THERMOSTAT. PROVIDE SNAP SWITCH SERVICE DISCONNECT. FREEZE PROTECTION FOR CHASE ONLY.
- 5 POWER FOR AUTOMATIC FAUCET.

RESTROOM #1 LAYOUT IS TYPICAL FOR ALTERNATE RESTROOM #2. FOR RESTROOM #2, REPLACE PANEL AND CIRCUIT DESIGNATION 'LH1' WITH PANEL 'LG1'.



**01 FLOOR PLAN - LIGHTING**

SCALE: 1/4" = 1'-0"



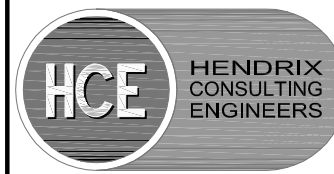
**02 FLOOR PLAN - POWER**

SCALE: 1/4" = 1'-0"



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HCE job no.: 17-014

## SOUTHWEST WILCO PARK

WILLIAMSON COUNTY PARKS AND RECREATION  
3005 CO RD 175, LEANDER, TX 78641

PROJECT PHASE  
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PROJECT NUMBER  
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SHEET TITLE

FLOOR PLANS - ELECTRICAL

SHEET NUMBER

E-2.1



COMPUTED BY: SOUTH WEST WILCO PARKS AND RECREATION, 1111 DOWNTOWN SQUARE, SUITE 200, FORT WORTH, TEXAS 76102  
DATE: 09/15/2018 7:18 AM

## GENERAL NOTES

- A. THE CONTRACTOR IS TO VISIT THE SITE PRIOR TO BID TO FAMILIARIZE HIMSELF WITH ALL CONDITIONS AS THEY EXIST. SUBMISSION OF BID INDICATES THE CONTRACTOR'S UNDERSTANDING OF EXISTING CONDITIONS AND HIS WILLINGNESS TO WORK WITH THESE CONDITIONS. NO ADDITIONAL TIME OR MONEY WILL BE ALLOTTED DUE TO LACK OF COORDINATION WITH EXISTING CONDITIONS OR OTHER TRADES.
- B. CONTRACTORS TO REVIEW AND COMPARE ALL DRAWINGS SO ALL WORK IN THEIR RESPECTIVE TRADE IS INCLUDED IN BID. EACH CONTRACTOR SHALL INCLUDE ALL MATERIALS AND INSTALLATION REQUIRED FOR HIS PARTICULAR TRADE AFTER COMPLETE REVIEW OF ALL CONTRACT DRAWINGS AND SPECIFICATIONS.
- C. ALL WORK SHALL COMPLY WITH THE APPLICABLE LOCAL, STATE AND FEDERAL CODES AND ORDINANCES. FOLLOW RECOMMENDED PRACTICES AS SET DOWN BY ASME, SMACNA, ASHRAE, NFPA, APPLICABLE BUILDING CODE, APPLICABLE MECHANICAL CODE, APPLICABLE PLUMBING CODE, NATIONAL ELECTRICAL CODE, AGA, ADA AND OSHA, AS THEY APPLY TO THIS PROJECT EXCEPT IN CASES WHERE LOCAL STATUTES GOVERN.
- D. THE CONTRACTOR SHALL VERIFY WITH AUTHORITY HAVING JURISDICTION THE LATEST ADOPTED LOCAL CODES, ORDINANCES AND AMENDMENTS THAT APPLY TO THIS PROJECT. PROVIDE CONDENSATE DISPOSAL POINT FOR ALL MECHANICAL EQUIPMENT TO CODE APPROVED DISPOSAL. COORDINATE WITH MECHANICAL CONTRACTOR.
- E. ABSOLUTELY NO PIPING OR DUCTWORK CAN BE ROUTED ABOVE ELECTRICAL PANELS, GEAR OR TRANSFORMERS. THE ONLY HVAC, PLUMBING, SPRINKLER OR DUCTWORK THAT CAN ENTER AN ELECTRIC ROOM ARE THOSE SPECIFICALLY SERVING THAT ROOM. THESE SERVICES CAN ONLY ENTER INTO ELECTRIC ROOM ABOVE ENTRY DOOR.
- F. PROVIDE VALVE TAGS FOR ALL VALVES. PROVIDE CEILING ACCESS MARKERS FOR VALVES LOCATED ABOVE CEILING OR BEHIND WALL MOUNTED PANEL.
- G. PLUMBING PIPING SHALL NOT BLOCK ACCESS TO EQUIPMENT, JUNCTION BOXES, DISCONNECTS, ACCESS DOORS, ETC.
- H. ALL VALVES ARE TO BE ACCESSIBLE AND SHALL NOT BE LOCATED MORE THAN FOUR FEET ABOVE THE CEILING.
- I. CONTRACTOR TO CONNECT COLD WATER, TEMPERED WATER, WASTE WATER AND VENT PIPING TO ALL FIXTURES PER MANUFACTURER'S RECOMMENDATIONS, UNLESS OTHERWISE NOTED ON DRAWINGS.
- J. BEFORE ANY CUTTING OR TRENCHING OPERATIONS BEGIN, VERIFY WITH OWNER'S REPRESENTATIVE, UTILITY COMPANIES AND OTHER INTERESTED PARTIES THAT ALL AVAILABLE INFORMATION HAS BEEN PROVIDED CONCERNING EXISTING UTILITY LOCATION. VERIFY LOCATIONS GIVEN. CONTACT ARCHITECT IMMEDIATELY UPON UNCOVERING UNKNOWN UTILITIES FOR FURTHER DIRECTION. INDICATE ALL UNCOVERED UTILITIES ON RECORD DRAWINGS.
- K. INSTALL ROOF JACK AS REQUIRED AT ALL GAS PIPING ROOF PENETRATIONS.
- L. FIRE SEAL AROUND ALL PIPING AT PENETRATIONS THROUGH RATED WALLS, CEILINGS AND TUNNELS PER UL LISTED MATERIAL FOR ACTUAL SEALANT BEING USED. COORDINATE WITH ARCHITECTURAL PLANS FOR RATED WALL LOCATION.
- M. PROVIDE ALL APPROPRIATE TOOLS, WRENCHES, KEYS, ETC. AS REQUIRED FOR ACCESS AND OPERATION OF VALVES, COVERS, ETC.
- N. DO NOT ROUTE PIPING UNDER EQUIPMENT LOCATED ABOVE CEILING. ROUTE PIPING AROUND EQUIPMENT TO ALLOW FOR ACCESS AROUND EQUIPMENT AND FOR FUTURE REMOVAL OF EQUIPMENT.
- O. PLUMBING CONTRACTOR IS RESPONSIBLE FOR PROVIDING FLUES AND COMBUSTION AIR PIPING TO EXTERIOR FOR GAS FIRED WATER HEATERS AND BOILERS.
- P. PROVIDE HEAT TRAPS ON INCOMING AND DISCHARGE LINES FROM WATER HEATERS WHICH DO NOT HAVE THEM FACTORY INSTALLED OR ARE NOT CONNECTED TO A RECIRCULATING SYSTEM.

## PLUMBING FIXTURE SCHEDULE

### NOTES:

- REFERENCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- ALL WALL HUNG FIXTURES TO BE INSTALLED WITH WALL CARRIERS, VERIFY CONFIGURATION TYPE.
- PROVIDE VANDAL RESISTANT SCREWS AT ALL FIXTURES.
- INSTALL STAINLESS STEEL CAPS AT ALL UNUSED LAVATORY FAUCET HOLES.
- NO OFFSET FLANGES WILL BE ALLOWED FOR WATER CLOSET INSTALLATIONS.
- GROUT FOR LEVELING WATER CLOSETS SHALL NOT EXTEND UP ON SIDE OF WATER CLOSET BASES. TAKE GROUT BACK TO MINIMUM 1/8" UNDER BASE AND CAULK FOR FINAL FINISH. VERIFY CAULK COLOR AND TYPE WITH ARCHITECT.
- REFERENCE ARCHITECTURAL CONTRACT DOCUMENTS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL PLUMBING FIXTURES. CONTACT ARCHITECT FOR ADDITIONAL INFORMATION AS REQUIRED.
- PROVIDE INVERTED TEE CONNECTION FROM SINK TAILPIECE OR FLUSH VALVE TYPE TRAP PRIMER CONNECTION TO ALL FLOOR DRAINS, FLOOR SINKS AND HUB DRAINS. AS LAST RESORT PROVIDE MECHANICAL TYPE TRAP PRIMER (PPP INC. "OREGON #1" TYPE). CONNECT TO NEAREST WATER SERVING THAT AREA PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.**
- ALL PLUMBING FIXTURES TO BE "LEAD FREE" AB1953 COMPLIANT (.25% OR LESS AVERAGE LEAD CONTENT). PROVIDE DOCUMENTATION IN SUBMITTALS THAT THIS REQUIREMENT IS MET FOR EACH APPLICABLE FIXTURE.

**WCW**  
WATER CLOSET: AMERICAN STANDARD #2257.001, WALL MOUNTED, VITREOUS CHINA, 1 1/2" TOP SPUD, ELONGATED BOWL. REFERENCE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT.  
EXPOSED FLUSH VALVE: SLOAN ROYAL #111 WITH EBV-500-A SIDE MOUNT BATTERY PACK AUTO FLUSH, 1.28 GALLON FLUSH. SEAT: BEMIS 1955C OR EQUIVALENT. STAINLESS STEEL HARDWARE ONLY (NO PLASTIC ALLOWED).

**WCWH**  
WATER CLOSET (ADA): AMERICAN STANDARD #2257.001, WALL MOUNTED, VITREOUS CHINA, 1-1/2" TOP SPUD, ELONGATED BOWL. REFERENCE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT.  
EXPOSED FLUSH VALVE: SLOAN ROYAL #111 WITH EBV-500-A SIDE MOUNT BATTERY PACK AUTO FLUSH, 1.28 GALLON FLUSH. SEAT: BEMIS 1955C OR EQUIVALENT. STAINLESS STEEL HARDWARE ONLY (NO PLASTIC ALLOWED).

**URH**  
URINAL: SLOAN MODEL SU-1009-A UNIVERSAL HIGH EFFICIENCY, VITREOUS CHINA, 3/4" TOP SPUD.  
EXPOSED FLUSH VALVE: SLOAN ROYAL #186-0.125 WITH EBV-500-A SIDE MOUNT BATTERY PACK AUTO FLUSH, 0.125 GALLON FLUSH. REFERENCE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT.

**LH**  
LAVATORY (ADA): AMERICAN STANDARD 0356.015, 20" x 18" VITREOUS CHINA, WALL HUNG, 8" FAUCET CENTERS AND GRID STRAINER. PROVIDE WITH TEMPERATURE MIXING VALVE EQUAL TO POWERS HYDROGUARD T/P #480 SERIES, .5 GPM MINIMUM FLOW, ASSE 1070, INTEGRAL CHECKS, 1.9 GPM AT 10 psi DROP.  
FAUCET: CHICAGO #116.122.AB.1 DUAL BEAM INFRARED SENSOR FAUCET WITH USER ADJUSTABLE MIXER, .5 GPM AERATOR, 12 SECOND RUN TIME. PROVIDE WITH 8" DECK PLATE AND PLUG IN TRANSFORMERS AS REQUIRED FOR BANK OF FAUCETS. PROVIDE ONE (1) HAND HELD PROGRAMMING UNIT MODEL#116.585.00.1 FOR PROJECT FOR ADJUSTING RUN TIME ON ALL FAUCETS.

**WH-1**  
WATER HEATER: A.O.SMITH MODEL DEL-6, 6 GALLON STORAGE, 1.5KW-120V-1PH NON-SIMULTANEOUS ELEMENTS, 8 GPH RECOVERY AT 80 DEGREES RISE.

**HB**  
HOSE BIBB: WOODFORD MODEL B67 SERIES, IN FLUSH MOUNTING WALL BOX, ASSE 1052 OR 1011 BACKFLOW PROTECTED AUTOMATIC DRAINING, FREEZELESS, NO SPRAYBACK. PROVIDE SHUT-OFF VALVE INSIDE BUILDING IN ACCESSIBLE LOCATION. SLOPE LINE FROM SHUT-OFF VALVE TO WALL HYDRANT TO ALLOW DRAINING OF LINE FOR FREEZE PROTECTION.

**FD**  
FLOOR DRAIN (GENERAL PURPOSE): C.I. BODY, FLASHING COLLAR, WEEPHOLES, ADJUSTABLE HEAVY DUTY STAINLESS STEEL OR NICKEL BRONZE ROUND TOP (6" DIAMETER) AND STAINLESS STEEL SEDIMENT BASKET. MIFAB F1000-C-3-5-6-7 SERIES.

### PLUMBING LEGEND

| SYMBOL    | ABB.  | DESCRIPTION                         |
|-----------|-------|-------------------------------------|
| — — — — — | CW    | COLD WATER PIPING                   |
| — — — — — | HW    | HOT WATER PIPING                    |
| — — — — — | HWR   | HOT WATER RETURN PIPING             |
| — — — — — | WW    | WASTE WATER                         |
| — — — — — |       | VENT PIPING                         |
| — — — — — | T     | TEMPERED WATER                      |
| — — — — — | G     | GAS PIPING                          |
| — — — — — | F     | FIRE LINE                           |
| — — — — — | GT    | GREASE TRAP LINE                    |
| — — — — — | A     | COMPRESSED AIR PIPING               |
| — — — — — | D     | RELIEF OR CONDENSATE DRAIN PIPING   |
| — — — — — | SD    | STORM DRAIN                         |
| — — — — — | RL    | RAIN LEADER                         |
| — — — — — | ORL   | OVERFLOW RAIN LEADER                |
| — — — — — |       | FULL PORT BALL PIPE ISOLATION VALVE |
| — — — — — | HB    | HOSE BIBB/WALL HYDRANT              |
| — — — — — | U     | UNION                               |
| — — — — — | FD/TS | FLOOR DRAIN/FLOOR SINK              |
| — — — — — | HD    | HUB DRAIN                           |
| — — — — — | CO    | CLEAN OUT                           |
| — — — — — |       | DOUBLE CLEAN OUT                    |
| — — — — — | WCO   | WALL CLEAN OUT                      |
| — — — — — |       | GAS COOK                            |
| — — — — — |       | BALANCE VALVE                       |
| — — — — — |       | CHECK VALVE                         |
| — — — — — |       | POINT OF CONNECTION                 |
| — — — — — |       | GAS PRESSURE REGULATOR              |

### M/P ABBREVIATION SCHEDULE

|        |                            |       |                        |
|--------|----------------------------|-------|------------------------|
| AD     | ACCESS DOOR                | MAINT | MAINTENANCE            |
| ABV    | ABOVE                      | MAU   | MAKEUP AIR UNIT        |
| AFP    | ABOVE FINISHED FLOOR       | MAX   | MAXIMUM                |
| ARCH   | ARCHITECT                  | MC    | MECHANICAL CONTRACTOR  |
| AUTO   | AUTOMATIC                  | MEH   | 1000 BTU PER HOUR      |
| AUX    | AUXILIARY                  | MECH  | MECHANICAL             |
| AHU    | AIR HANDLING UNIT          | MH    | MANHOLE                |
| BD     | BALANCE DAMPER             | MN    | MINIMUM                |
| BFT    | BELOW FINISHED FLOOR       | MSC   | MISCELLANEOUS          |
| BDO    | BOTTOM OF DUCT             | MD    | MOUNTED                |
| BOP    | BOTTOM OF PIPE             | MOU   | MOTOR OPERATED DAMPER  |
| BF     | BOOSTER FAN                | NC    | NOT IN CONTRACT        |
|        |                            | N.O.  | NORMALLY OPEN          |
|        |                            | N.C.  | NORMALLY CLOSED        |
|        |                            | NOS   | NUMBER                 |
|        |                            | NTS   | NOT TO SCALE           |
| CLE    | CESING                     | O/A   | OUTDOOR AIR            |
| CLR    | CLEAR/CLEARANCE            | OBD   | OPPOSED BLADE DAMPER   |
| COL    | COLUMN                     | OC    | ON CENTER(S)           |
| CONC   | CONCRETE                   | OPND  | OPENING                |
| CONTR  | CONTRACTOR                 | ORL   | OVERFLOW RAINLEADER    |
| CONN   | CONNECTION                 | OSH   | OUTSIDE AIR HOOD       |
| CU     | CUPPER                     | PC    | PLUMBING CONTRACTOR    |
| CSE    | CHILLED WATER SUPPLY       | PH    | PHASE                  |
| CWR    | CHILLED WATER RETURN       | PLBG  | PLUMBING               |
| DA     | DIAMETER                   | R/A   | RETURN AIR             |
| DM     | DRAWING                    | RL    | REFRIGERANT            |
| DH     | DUST HEATER                | REFRG | REFRIGERANT            |
| E/A    | EXHAUST AIR                | REQD  | REQUIRED               |
| EF     | ELECTRICAL CONTRACTOR      | RHP   | RADIANT HEAT PANEL     |
| ELC    | ELECTRIC/ELECTRICAL        | RL    | RAINLEADER             |
| EQ     | EQUAL                      | RM    | ROOM                   |
| EQSP   | EQUIPMENT                  | RTU   | ROOFTOP UNIT           |
| EXT    | EXISTING                   | S/A   | SUPPLY AIR             |
| EXH    | EXHAUST                    | SEN   | SCHEDULE               |
| E.S.P. | EXTERNAL STATIC PRESSURE   | SP    | STATIC PRESSURE        |
| ERV    | ENERGY RECOVERY VENTILATOR | SPEC  | SPECIFICATION          |
|        |                            | SD    | STORM DRAIN            |
|        |                            | SF    | SUPPLY FAN             |
|        |                            | TF    | TOTAL STATIC PRESSURE  |
|        |                            | TR    | TYPICAL                |
|        |                            | UN    | UNLESS OTHERWISE NOTED |
| GA     | GAUGE                      | UG    | UNDERGROUND            |
| GC     | GENERAL CONTRACTOR         | UH    | UNIT HEATER            |
| GEN    | GENERAL                    | V     | VENT (PLUMBING)        |
| GYP    | GYP/SUM BOARD              | V     | VOLTAGE (ELECTRICAL)   |
|        |                            | VTR   | VENT THROUGH ROOF      |
| HP     | HEAT PUMP                  | W/    | WITH                   |
| HP     | HOT/POWER                  | W/O   | WITHOUT                |
| HT     | HEAD                       | WP    | WATERPROOF             |
| HW     | HOT WATER                  | WT    | WATER                  |
| HWC    | HOT WATER CIRC             | WTR   | WATER                  |
| HR     | HOUR                       | WW    | WASTE WATER            |
| HWR    | HEATING WATER RETURN       | WCO   | WALL CLEANOUT          |
| HWS    | HEATING WATER SUPPLY       | WH    | WATER HEATER           |
| LOC    | LOCATION                   |       |                        |

## PIPE SIZING REQUIREMENTS

- ALL FLOOR DRAINS AND FLOOR SINKS MUST HAVE TRAP PRIMERS. PROVIDE INVERTED TEE CONNECTION FROM SINK TAILPIECE OR FLUSH VALVE TYPE TRAP PRIMER CONNECTION TO ALL FLOOR DRAINS, FLOOR SINKS AND HUB DRAINS. AS LAST RESORT PROVIDE MECHANICAL TYPE TRAP PRIMER (PPP INC. "OREGON #1" TYPE). CONNECT TO NEAREST WATER SERVING THAT AREA PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. IN JURISDICTIONS WHERE PRESSURE ACTIVATED MECHANICAL PRIMERS ARE NOT ALLOWED, USE ELECTRONIC TRAP PRIMERS. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR. PROSET "TRAP GUARD" DEVICE MAY BE USED IN LIEU OF TRAP PRIMERS WHEN ALLOWED BY LOCAL CODE AUTHORITY HAVING JURISDICTION, BEFORE USING PROSET "TRAP GUARD" CONTRACTOR MUST OBTAIN WRITTEN APPROVAL FROM LOCAL CODE AUTHORITY HAVING JURISDICTION AND PROVIDE COPIES TO ARCHITECT AND ENGINEER.
- PIPING SIZE FOR WATER MAIN DROPS AND MANIFOLD IN CHASE OR WALL TO REMAIN FULL SIZE OF DROP INDICATED. REFERENCE FIXTURE CONNECTION SCHEDULE FOR INDIVIDUAL LINE SIZE TO EACH FIXTURE.
- COORDINATE ALL WASTEWATER FLOOR PENETRATIONS AND PIPING PENETRATIONS WITH STRUCTURAL PRIOR TO INSTALLATION. PIPING MAY BE OFFSET SLIGHTLY TO AVOID STRUCTURAL CONFLICTS.
- ROUTE VENT FROM EACH FIXTURE TO HORIZONTAL VENT HEADER IN CHASE/WALL OR TO NEAREST COMMON VTR ABOVE CEILING. REFERENCE FIXTURE CONNECTION SCHEDULE FOR INDIVIDUAL FIXTURE VENT SIZES. VENT HEADERS IN CHASE TO BE SIZED ACCORDINGLY: 1 1/2" VENT UP TO 6 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 60 FEET (EXCEPT FOR WATER CLOSETS), 2" VENT UP TO 20 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 120 FEET, 3" VENT UP TO 84 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 212 FEET AND 4" VENT UP TO 256 DRAIN FIXTURE UNITS MAXIMUM DEVELOPED LENGTH OF 300 FEET. BRANCH VENTS EXCEEDING 40 FEET IN DEVELOPED LENGTH ARE TO BE INCREASED BY ONE PIPE SIZE. NO MORE THAN 1/3 OF THE CODE PERMITTED DEVELOPED LENGTH SHALL BE IN HORIZONTAL POSITION. EXTEND COMMON VENT UP THROUGH ROOF.
- ROUTE ALL VENTS TO NEAREST COMMON VENT THRU ROOF (VTR) TO MINIMIZE ROOF PENETRATIONS. **VTR TO BE MINIMUM 15 FEET AWAY FROM OUTSIDE AIR INTAKES. COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.**

## FIXTURE CONNECTION SCHEDULE

| MARK                          | CW   | HW   | TW   | WASTE | DRAIN<br>FIXTURE UNITS | VENT      |
|-------------------------------|------|------|------|-------|------------------------|-----------|
| WATER CLOSET<br>(FLUSH VALVE) | 1"   | —    | —    | 4"    | 6                      | 2"        |
| WATER CLOSET<br>(TANK TYPE)   | 1/2" | —    | —    | 4"    | 4                      | 2"        |
| URINAL                        | 3/4" | —    | —    | 2"    | 2                      | 2"        |
| LAVATORY *                    | 1/2" | —    | 1/2" | 2"    | 1                      | 1 1/2" ** |
| SINK ** *                     | 1/2" | 1/2" | 1/2" | 2"    | 2                      | 1 1/2" ** |
| SERVICE SINK                  | 3/4" | 3/4" | —    | 3"    | 2                      | 2"        |
| WASH FOUNTAIN                 | 1/2" | —    | 1/2" | 2"    | 2                      | 1 1/2" ** |
| EWC                           | 1/2" | —    | —    | 2"    | 1                      | 1 1/2" ** |
| WASHING MACHINE               | 3/4" | 3/4" | —    | 2"    | 2                      | 2"        |
| HOSE BIBB                     | 3/4" | —    | —    | —     | —                      | —         |
| SHOWER * * * *                | 1/2" | 1/2" | —    | 3"    | 2                      | 1 1/2"    |
| FLOOR DRAIN                   | —    | —    | —    | 3"    | 2                      | 2"        |

\* HOT (TEMPERED) AND COLD WATER REQUIRED UNLESS NOTED OTHERWISE ON PLUMBING FIXTURE SCHEDULE. PROVIDE TEMPERATURE MIXING VALVE (ASSE 1070) AT THE FIXTURE.

\*\* IF HORIZONTAL VENT LENGTH EXCEEDS 20 FEET, INCREASE VENT SIZE TO TWO INCHES.

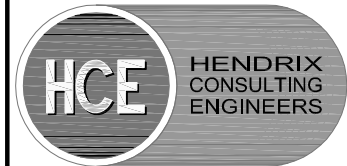
\*\* \* COMMERCIAL KITCHEN SINKS GET HOT WATER, REMAINDER TO BE PROVIDED WITH TEMPERATURE MIXING VALVE (ASSE 1070) AT THE FIXTURE.

\* \* \* \* SHOWER VALVES TO BE BALANCED-PRESSURE, THERMOSTATIC OR COMBINATION BALANCED-PRESSURE/THERMOSTATIC CONFORMING TO ASSE 1016.



*B.J. Hendrix*  
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY B.J. HENDRIX, P.E. NO. 94813 ON 11/17/2017

REFERENCE GENERAL NOTES ON SHEETS M-1, P-1, AND E-1 FOR ADDITIONAL INFORMATION



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**F - 4095**

HCE job no.: 17-014



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**SOUTHWEST WILCO PARK**

WILLIAMSON COUNTY PARKS AND RECREATION

3005 CO RD 175, LEANDER, TX 78641

PROJECT PHASE

CONSTRUCTION DOCUMENTS

REVISIONS

PROJECT NUMBER

15107-00

DATE ISSUED

11/17/2017

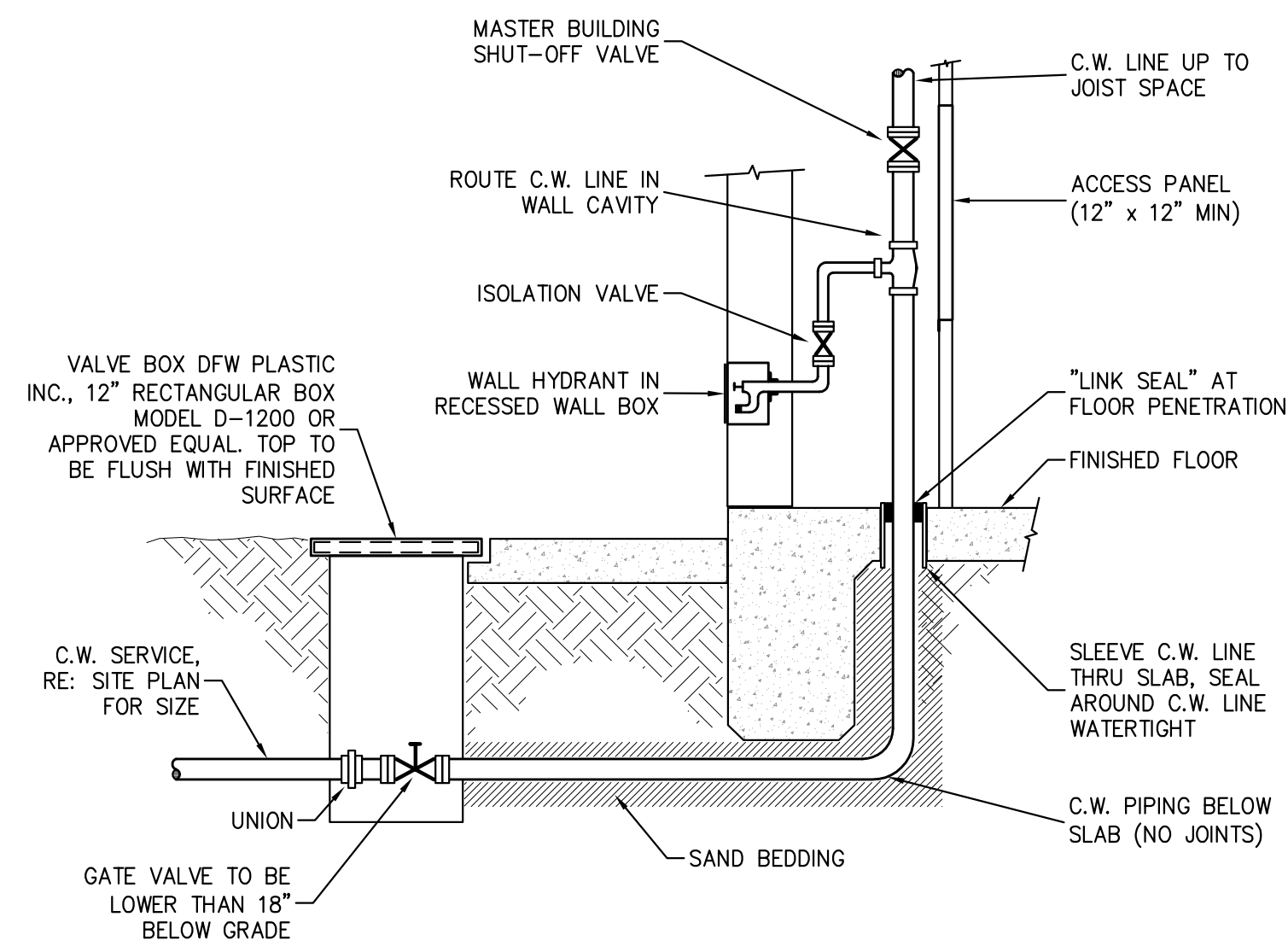
SHEET TITLE

**SCHEDULES, NOTES, AND LEGENDS - MECH/PLUMB**

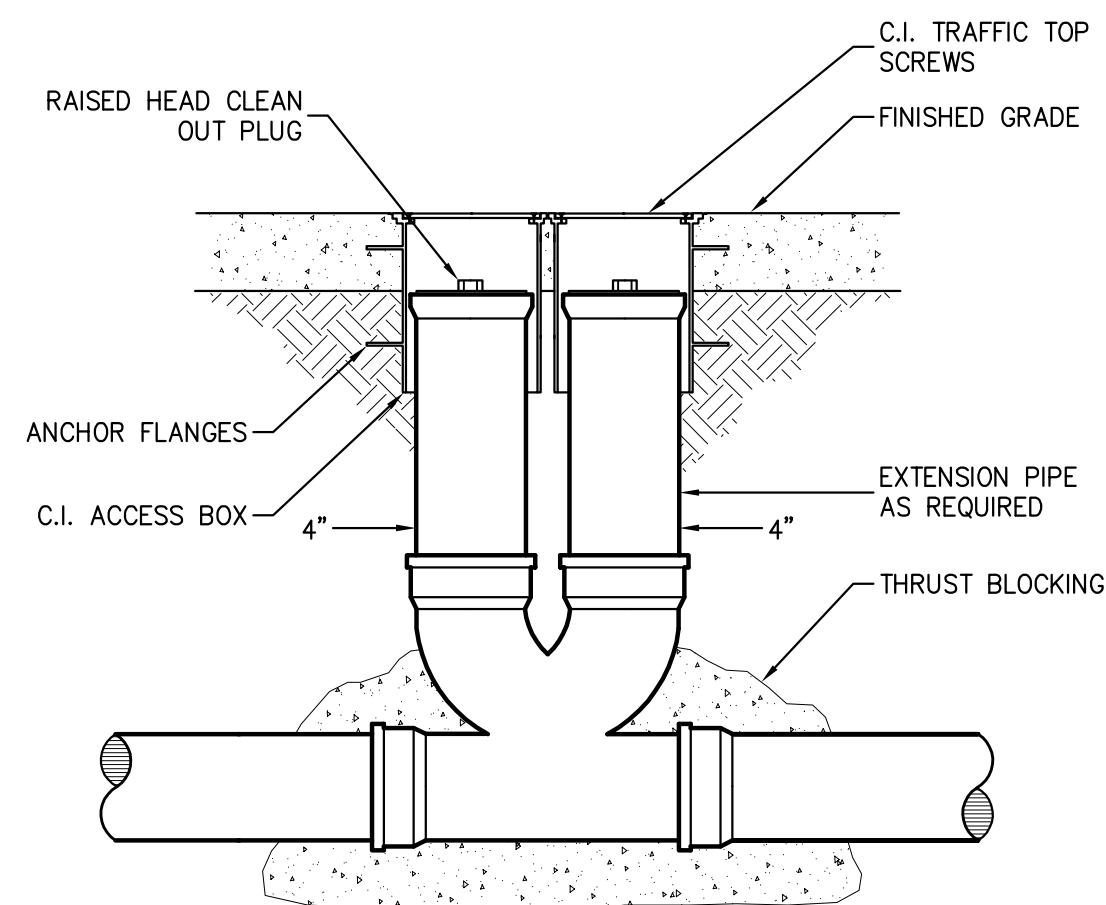
SHEET NUMBER

**MP-1.1**

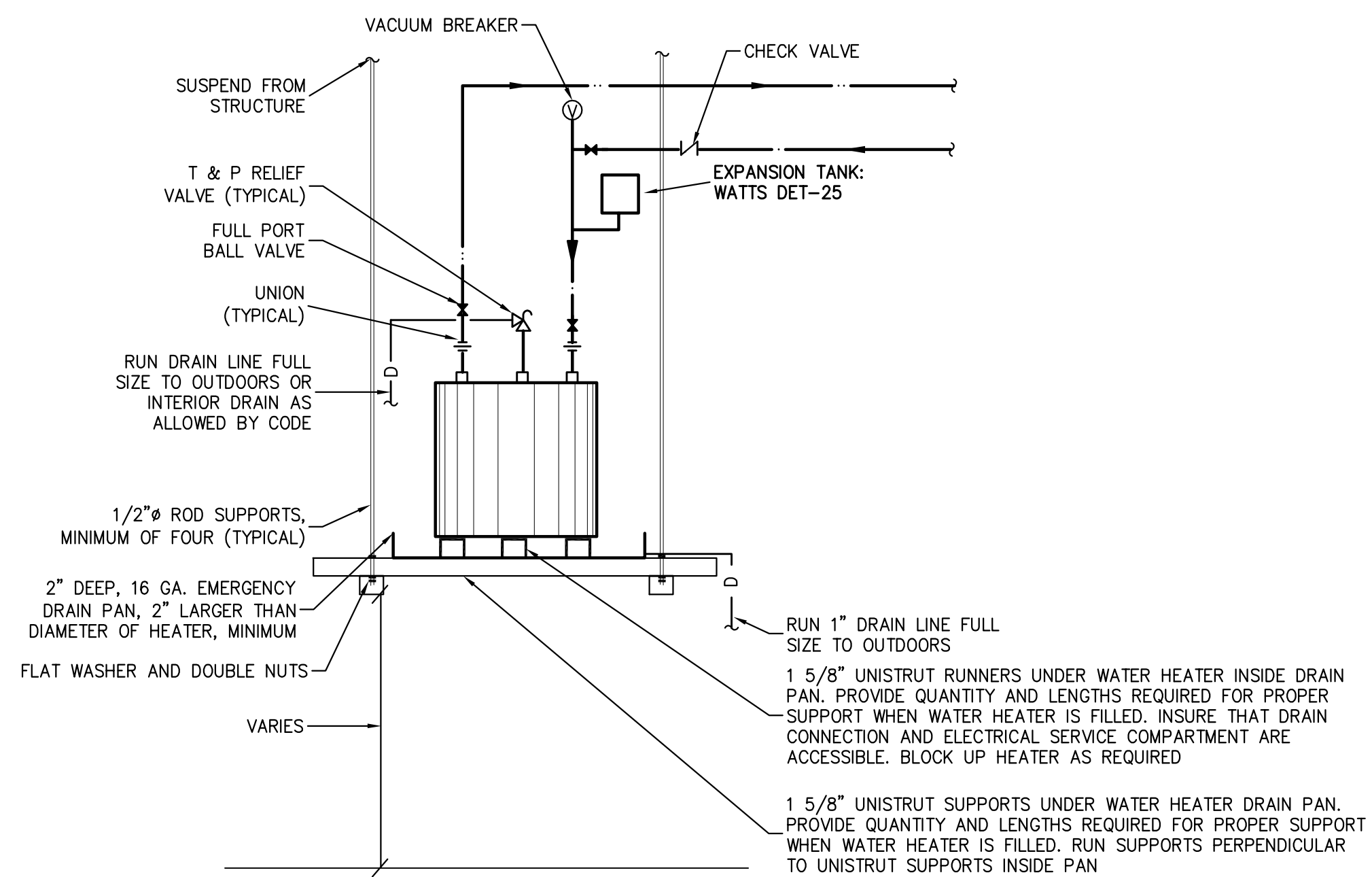




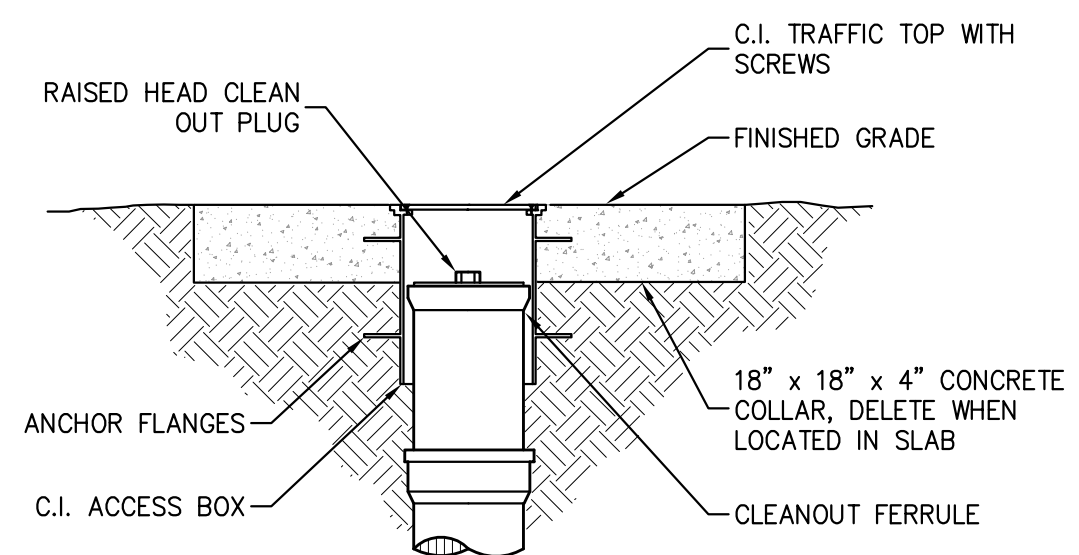
**C.W. BUILDING ENTRY DETAIL**  
NO SCALE PDE52



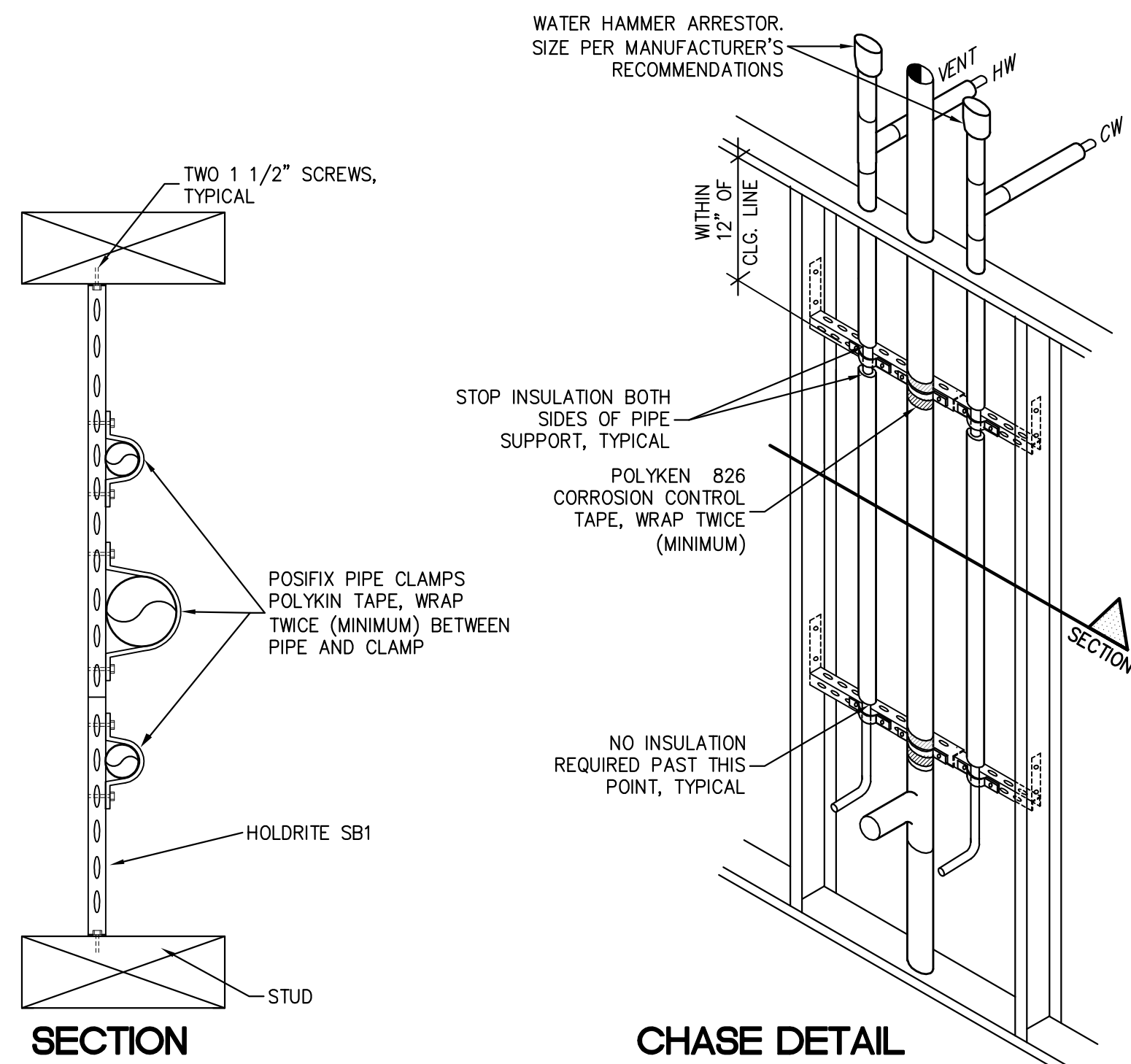
**DOUBLE CLEANOUT DETAIL**  
NO SCALE PDE43



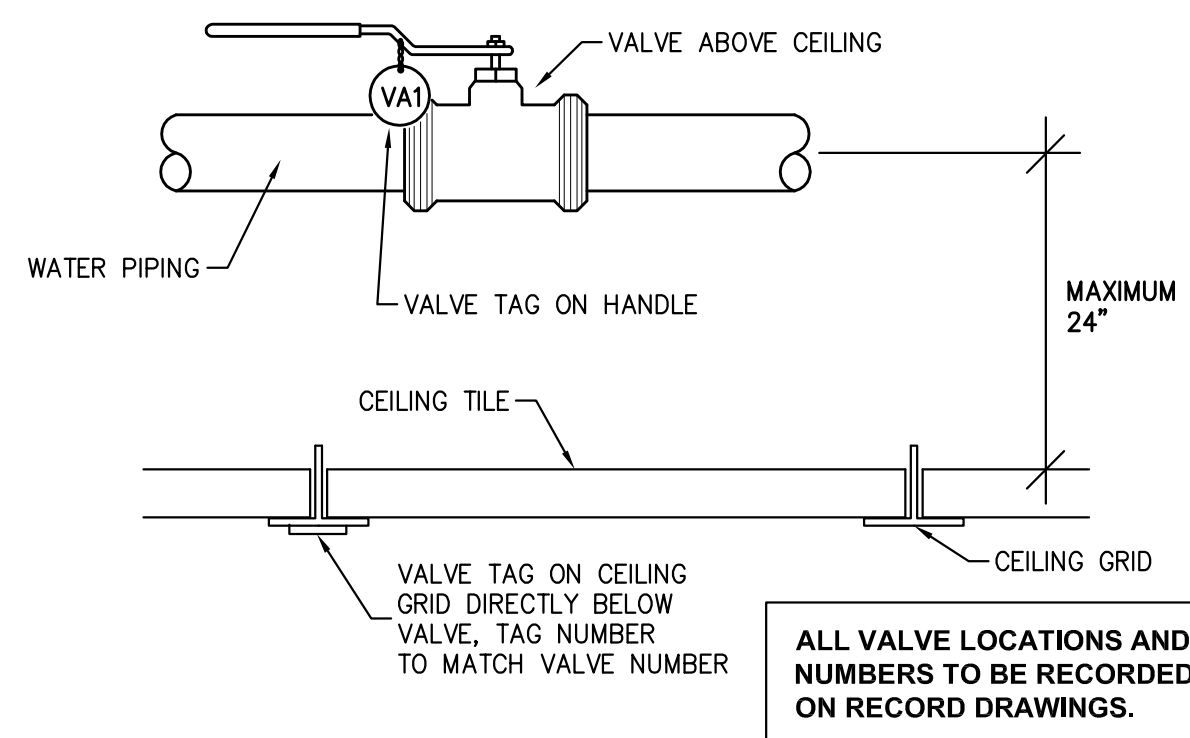
**SUSPENDED WATER HEATER DETAIL**  
NO SCALE PDE53



**EXTERIOR CLEANOUT**  
NO SCALE PDE88



**TYP. PLUMBING CHASE SUPPORT DETAIL**  
NO SCALE PDE30



**TYPICAL VALVE IDENTIFICATION DETAIL**  
SCALE: NO SCALE PDE27



REFERENCE GENERAL NOTES ON SHEETS M1.1, P1.1 AND E1.1 FOR ADDITIONAL INFORMATION



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**SOUTHWEST WILCO PARK**

WILLIAMSON COUNTY PARKS AND RECREATION  
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PROJECT PHASE  
CONSTRUCTION DOCUMENTS  
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PROJECT NUMBER  
15107-00  
DATE ISSUED  
11/17/2017  
SHEET TITLE

**DETAILS - MECHANICAL  
AND PLUMBING**

SHEET NUMBER

**MP-1.2**

C:\PROJECTS\2018\1507-00 SOUTH WEST WILCO PARK\DWG\1507-00\_FLOOR PLANS\1507-00\_FLOOR PLANS.dwg  
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Williamson County, Texas

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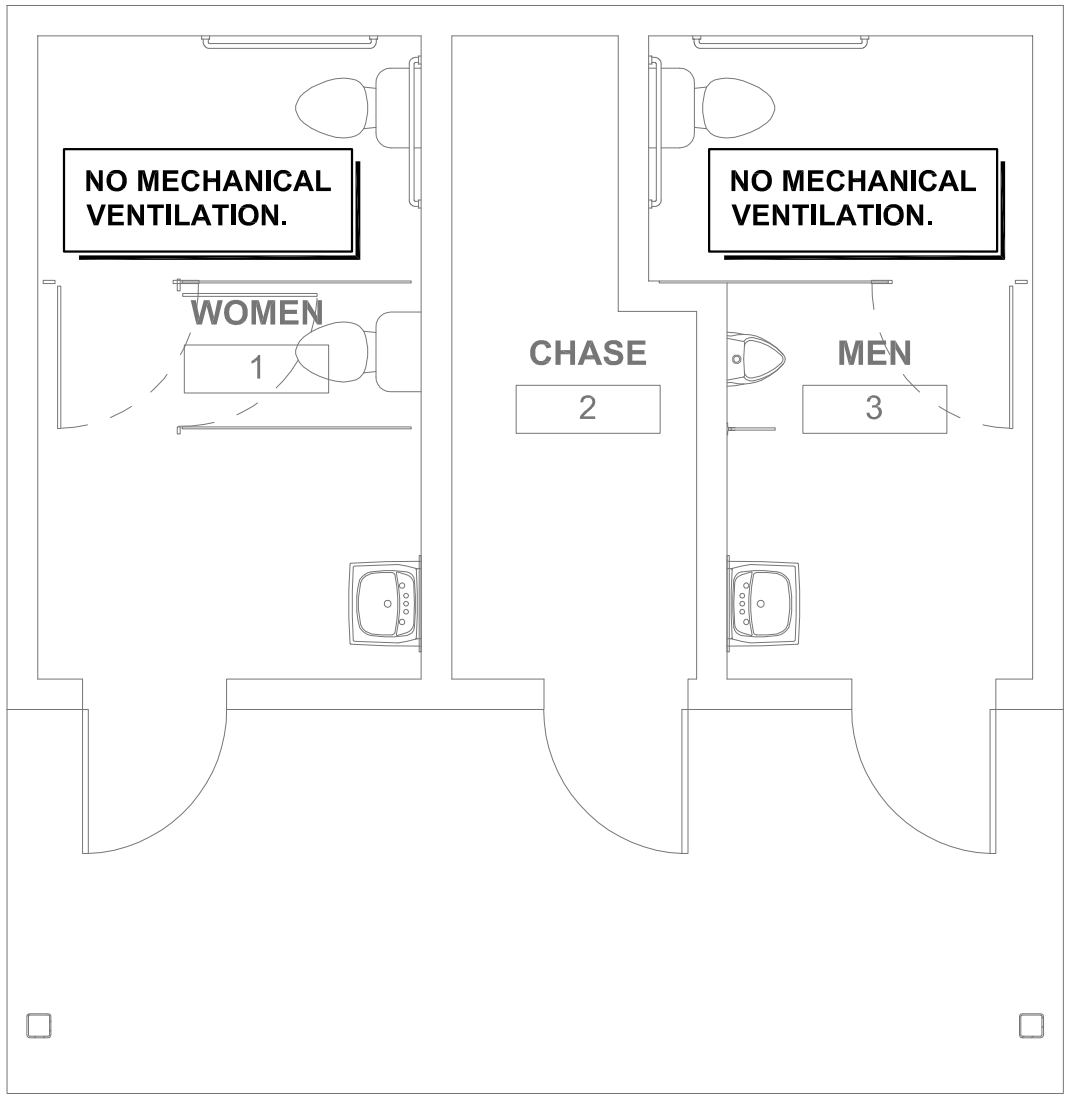
## KEYED NOTES

THESE NOTES APPLY TO THIS SHEET ONLY

- 1 RE: DOUBLE CLEANOUT DETAIL ON PLUMBING DETAIL SHEET(S).
- 2 RE: EXTERIOR CLEANOUT DETAIL ON PLUMBING DETAIL SHEET(S).
- 3 WH-1: REFERENCE SCHEDULE AND DETAIL.
- 4 ALL UTILITIES IN CHASE TO BE RUN TIGHT TO WALLS TO ALLOW MAXIMUM ACCESS SPACE DOWN CENTER OF CHASE. RUN 2" CW MAIN DOWN EACH SIDE OF CHASE. PROVIDE SEPARATE SHUT-OFF VALVE FOR EACH SIDE IN ACCESSIBLE LOCATION.
- 5 PROVIDE MAIN BUILDING SHUT-OFF VALVE AT CW ENTRY TO CHASE. REFERENCE DETAIL.
- 6 RE: SIMILAR TO CW BUILDING ENTRY DETAIL ON PLUMBING DETAIL SHEET(S).
- 7 HOSE BIB FOR MAINTENANCE AND TO ASSIST IN DRAIN DOWN IN THE EVENT OF FREEZING TEMPERATURES.
- 8 REFERENCE PLUMBING FIXTURE CONNECTION SCHEDULE FOR ADDITIONAL INFORMATION.
- 9 CONNECT TO WASTEWATER (WW) STUB PROVIDED BY CIVIL. FIELD VERIFY EXACT LOCATION AND INVERT. PROVIDE ADAPTER AS REQUIRED TO MAKE SIZE AND/OR MATERIAL TRANSITION.
- 10 CONNECT TO COLD WATER (CW) STUB PROVIDED BY CIVIL. FIELD VERIFY EXACT LOCATION. PROVIDE ADAPTER AS REQUIRED TO MAKE SIZE AND/OR MATERIAL TRANSITION.
- 11 DO NOT ROUTE ANY PIPING ABOVE THIS AREA.

RESTROOM #1 LAYOUT IS TYPICAL  
FOR ALTERNATE RESTROOM #2.

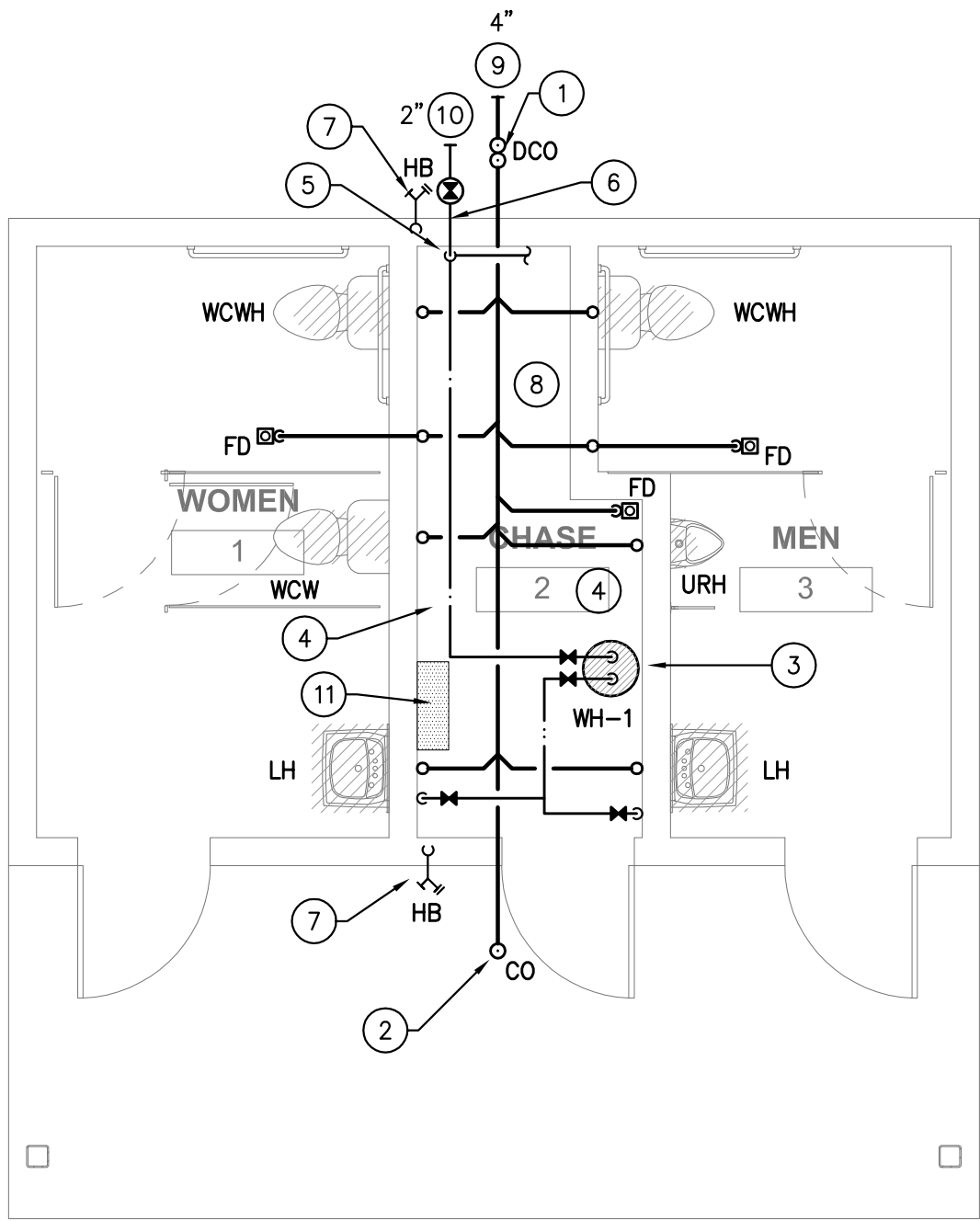
UNIT HEATER IN CHASE PROVIDED  
BY ELECTRICAL CONTRACTOR. NO  
MECHANICAL SCOPE.



01 FLOOR PLAN - MECHANICAL

SCALE: 1/4" = 1'-0"

FREEZE PROTECTION IN  
CHASE ONLY. CHASE TO HAVE  
LID. FREEZE PROTECTION IN  
RESTROOMS NOT PROVIDED.  
PLUMBING MUST BE DRAINED.



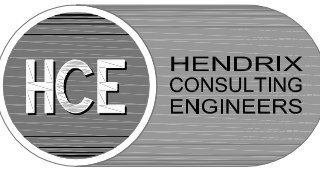
02 FLOOR PLAN - PLUMBING

SCALE: 1/4" = 1'-0"



THE SEAL APPEARING ON THIS  
DOCUMENT WAS AUTHORIZED BY  
B.J. HENDRIX, P.E. NO. 94813  
ON 11/17/2017

REFERENCE GENERAL NOTES ON  
SHEETS M1.1, P1.1 AND E1.1  
FOR ADDITIONAL INFORMATION



This document, the ideas and  
designs incorporated herein are  
and shall remain the property of  
Hendrix Consulting Engineers.  
These documents are not to be  
used or altered, in whole or in  
part, for other than the original  
intended use, nor are they to be  
assigned to any third party  
without written permission from  
Hendrix Consulting Engineers.  
F - 4095

HCE job no.: 17-014

## SOUTHWEST WILCO PARK

WILLIAMSON COUNTY PARKS AND RECREATION  
3005 CO RD 175, LEANDER, TX 78641

PROJECT PHASE  
CONSTRUCTION DOCUMENTS  
REVISIONS

PROJECT NUMBER  
15107-00  
DATE ISSUED  
11/17/2017

SHEET TITLE

FLOOR PLANS - MECHANICAL  
AND PLUMBING

SHEET NUMBER

MP-2.1

004113

BID FORM - STIPULATED SUM  
(SINGLE-PRIME CONTRACT)

02/12/2018

## SECTION 004113 - BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

## PART 1 - Bid Form - Stipulated Sum (Single-Prime Contract)

## 1.1 BID INFORMATION

- A. Bidder: \_\_\_\_\_.
- B. Project Name: Southwest Williamson Park Restroom(s).
- C. Project Location: 3005 CR 175, Leander, TX 78641.
- D. Owner: Williamson County Parks and Recreation.
- E. Architect: MODE Design Company.

## 1.2 CERTIFICATIONS AND BASE BID

- A. Base Bid, Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by MODE Design Company and Architect's consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:
  - 1. \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

## 1.3 TIME OF COMPLETION

- A. The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice to Proceed to be issued by Architect, and shall fully complete the Work within \_\_\_\_\_ calendar days.

## 1.4 ACKNOWLEDGEMENT OF ADDENDA

- A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:
  - 1. Addendum No. 1, dated \_\_\_\_\_.
  - 2. Addendum No. 2, dated \_\_\_\_\_.
  - 3. Addendum No. 3, dated \_\_\_\_\_.
  - 4. Addendum No. 4, dated \_\_\_\_\_.

004113

BID FORM - STIPULATED SUM  
(SINGLE-PRIME CONTRACT)

02/12/2018

## 1.5 BID SUPPLEMENTS

A. The following supplements are a part of this Bid Form and are attached hereto.

1. Bid Form Supplement - Alternates.

## 1.6 CONTRACTOR'S LICENSE

A. The undersigned further states that it is a duly licensed contractor, for the type of work proposed, in State of Texas, and that all fees, permits, etc., pursuant to submitting this proposal have been paid in full.

## 1.7 SUBMISSION OF BID

A. Respectfully submitted this \_\_\_\_ day of \_\_\_\_\_, 2018.

B. Submitted By: \_\_\_\_\_ (Name of bidding firm or corporation).

C. Authorized Signature: \_\_\_\_\_ (Handwritten signature).

D. Signed By: \_\_\_\_\_ (Type or print name).

E. Title: \_\_\_\_\_ (Owner/Partner/President/Vice President).

F. Witness By: \_\_\_\_\_ (Handwritten signature).

G. Attest: \_\_\_\_\_ (Handwritten signature).

H. By: \_\_\_\_\_ (Type or print name).

I. Title: \_\_\_\_\_ (Corporate Secretary or Assistant Secretary).

J. Street Address: \_\_\_\_\_.

K. City, State, Zip: \_\_\_\_\_.

L. Phone: \_\_\_\_\_.

M. License No.: \_\_\_\_\_.

N. Federal ID No.: \_\_\_\_\_ (Affix Corporate Seal Here).

END OF SECTION 004113

004323

ALTERNATES FORM

02/12/2018

## SECTION 004323 - ALTERNATES FORM

## PART 1 - Alternates Form

## 1.1 BID INFORMATION

- A. Bidder: \_\_\_\_\_.
- B. Prime Contract: \_\_\_\_\_.
- C. Project Name: Southwest Williamson County Regional Park.
- D. Project Location: 3005 COUNTY ROAD 175, LEANDER, TX 78641.
- E. Owner: WILLIAMSON COUNTY PARKS AND RECREATION.
- F. Architect: MODE DESIGN COMPANY.
- G. Architect Project Number: 15107-00.

## 1.2 BID FORM SUPPLEMENT

- A. This form is required to be attached to the Bid Form.

## 1.3 DESCRIPTION

- A. The undersigned Bidder proposes the amount below be added to or deducted from the Base Bid if particular alternates are accepted by Owner. Amounts listed for each alternate include costs of related coordination, modification, or adjustment.
- B. The Bidder shall be responsible for determining from the Contract Documents the affects of each alternate on the Contract Time and the Contract Sum.
- C. Owner reserves the right to accept or reject any alternate, in any order, and to award or amend the Contract accordingly within 60 days of the Notice of Award unless otherwise indicated in the Contract Documents.
- D. Acceptance or non-acceptance of any alternates by the Owner shall have no affect on the Contract Time unless the "Schedule of Alternates" Article below provides a formatted space for the adjustment of the Contract Time.

## 1.4 SCHEDULE OF ALTERNATES

- A. Alternate No. 1: RESTROOM #1 - PREFABRICATED:

004323

## ALTERNATES FORM

02/12/2018

1. ADD \_\_\_ DEDUCT \_\_\_ NO CHANGE \_\_\_ NOT APPLICABLE \_\_\_.
2. \_\_\_\_\_ Dollars (\$\_\_\_\_\_).
3. ADD \_\_\_ DEDUCT \_\_\_ calendar days to adjust the Contract Time for this alternate.

## B. Alternate No. 2: RESTROOM #2 - PER DRAWINGS:

1. ADD \_\_\_ DEDUCT \_\_\_ NO CHANGE \_\_\_ NOT APPLICABLE \_\_\_.
2. \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

## C. Alternate No. 3: COVERED STORAGE BUILDING PER DRAWINGS. SHEET A-2.0:

1. ADD \_\_\_ DEDUCT \_\_\_ NO CHANGE \_\_\_ NOT APPLICABLE \_\_\_.
2. \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

## D. Alternate No. 4:(2) STORAGE BUILDINGS PER DRAWINGS, SHEET A-3.0:

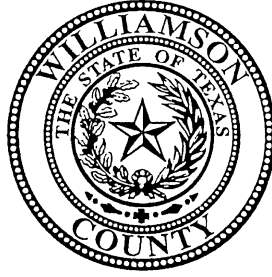
1. ADD \_\_\_ DEDUCT \_\_\_ NO CHANGE \_\_\_ NOT APPLICABLE \_\_\_.
2. \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

## 1.5 SUBMISSION OF BID SUPPLEMENT

- A. Respectfully submitted this \_\_\_ day of \_\_\_\_\_, 2018.
- B. Submitted By: \_\_\_\_\_ (Insert name of bidding firm or corporation).
- C. Authorized Signature: \_\_\_\_\_ (Handwritten signature).
- D. Signed By: \_\_\_\_\_ (Type or print name).
- E. Title: \_\_\_\_\_ (Owner/Partner/President/Vice President).

END OF SECTION 004323





**AGREEMENT  
BETWEEN OWNER AND CONTRACTOR**

The **Owner:** Williamson County  
710 Main Street, Ste. 101  
Georgetown, Texas 78626

and **Contractor**

[REDACTED]  
[REDACTED]  
[REDACTED]

for the **Project:**

[REDACTED]  
[REDACTED]  
[REDACTED]

**Architect:**

[REDACTED]  
[REDACTED]  
[REDACTED]

**AGREEMENT**, this Agreement Between Owner and Contractor (hereinafter called "Agreement") is entered into effective as of the date indicated herein below and all attachments (the "Effective Date"), by and between Williamson County a political subdivision of the State of Texas (hereinafter called the "Owner") and [REDACTED] (hereinafter called "Contractor").

**WHEREAS**, the Owner desires to retain a Contractor for the [REDACTED] (hereinafter called the "Project"),

**WHEREAS**, the Owner desires a Contractor who will render, diligently and competently in accordance with the highest standards used in the profession, all Contractor services which shall be necessary or advisable for the expeditious, economical and satisfactory completion of the Project, and

**NOW, THEREFORE**, in consideration of the mutual undertakings herein contained, the parties hereto agree as follows:

## **ARTICLE 1     SCOPE OF WORK**

The Contractor has overall responsibility for and shall provide complete construction services and furnish all materials, equipment, tools and labor as necessary or reasonably inferable to complete the Work, or any phase of the Work, in accordance with the Specifications and Drawings for the Project and the Owner's requirements. The Specifications and Drawings were prepared for Williamson County by the Architect. The Contractor shall do everything required by the Contract Documents.

## **ARTICLE 2             CONTRACT DOCUMENTS**

**2.1**     The Contract Documents consist of the following, which are incorporated by reference for all purposes:

- a. This Agreement and all exhibits and attachments listed, contained or referenced in this Agreement;
- b. The Uniform General Conditions for Williamson County ("General Conditions");
- c. The Supplementary or Special Conditions, if any;
- d. All Addenda issued prior to the Effective Date of this Agreement;
- e. The Bid/Proposal Documents as defined by the Invitation for Bidders/Request for Proposals;
- f. All Change Orders issued after the Effective Date of this Agreement;
- g. Minimum Insurance Coverages and Minimum Coverage Amounts, which is attached here to as **Exhibit 1**; and
- h. The Drawings, Specifications, details and other documents developed by Architect to describe the Project and accepted by Owner, which are attached hereto **Exhibit 2**.

**2.2**     The Contract Documents form the entire and integrated Contract and Agreement between Owner and Contractor and supersede all prior negotiations, representations or agreements, written or oral. Contractor acknowledges receipt of all Contract Documents as of the date of its execution hereof.

**2.3**     The term "Contractor" shall be interchangeable with the terms "Proposer," "Bidder," "Respondent" and "General Contractor" or other similar terms as appropriate in the Contract Documents.

## **ARTICLE 3             CONTRACT TIME**

The Owner shall provide a Notice to Proceed in which a date for commencement of the work shall be started. The Contractor shall achieve Substantial Completion of the Work within \_\_\_\_\_ (\_\_\_\_\_) calendar days after such commencement date, as such completion date may be extended by approved Change

Orders. Unless otherwise specified in writing, Contractor shall achieve Final Completion within [REDACTED] ( [REDACTED] ) calendar days of Substantial Completion. The time set forth for completion of the work is an essential element of the Contract.

#### **ARTICLE 4                    CONTRACTOR REPRESENTATIONS**

**4.1**                    In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

- A.       Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bid/Proposal Documents.
- B.       Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C.       Contractor is familiar with and is satisfied as to all federal, state, and local laws and regulations that may affect cost, progress, and performance of the Work.
- D.       Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor's safety precautions and programs.
- E.       Based on the information and observations referred to in Paragraph 4.1.D above, Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- F.       Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

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the allowed markup will be allowed only on the net addition. The allowed markup shall cover all overhead expenses and profit of any kind relating to the specific change.

## **ARTICLE 6            TIME**

### **6.1    TIME LIMITS STATED IN THE CONTRACT DOCUMENTS ARE OF THE ESSENCE OF THIS AGREEMENT.**

**6.2**    Unless otherwise approved in writing, the Owner and the Contractor shall perform their respective obligations under the Contract Documents as expeditiously as is consistent with reasonable skill and care and the orderly progress of the Work.

**6.3    Liquidated Damages.** Contractor and Owner recognize that time is of the essence and that Owner will suffer financial loss if the Work is not completed within the times specified in Article 3 above, plus any extensions thereof allowed in accordance with the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, for each consecutive calendar day after the date of Substantial Completion that the Work is not substantially completed, the Owner may deduct the amount of:

**Five Hundred Dollars per calendar day (\$500.00/calendar day)**

from any money due or that becomes due the Contractor, not as a penalty but as liquidated damages representing the parties' estimate at the time of contract execution of the damages that the Owner will sustain for late completion. The parties stipulate and agree that calculating Owner's actual damages for late completion of the Project would be impractical, unduly burdensome, and cause unnecessary delay and that the amounts of daily liquidated damages set forth are reasonable. Contractor expressly agrees that the amounts of daily liquidated damages are a reasonable forecast of the actual damages Owner will incur due to any such delay.

## **ARTICLE 7            NOTICES**

Notices of claims, disputes or other legal notices shall be in writing and shall be deemed to have been given when delivered in person to the representative of the Contractor or Owner for whom it is intended, as set out below or sent by U. S. Mail to the representative of the Contractor or Owner for whom it is intended, as set out below. Mail notices are deemed effective upon receipt or on the third business day after the date of mailing, whichever is sooner.

If to Owner:

Williamson County Judge  
710 Main Street, Ste. 101  
Georgetown, Texas 78626

with copy to:

Hal C. Hawes  
General Counsel to the  
Williamson County Commissioners Court  
710 Main Street, Suite 102  
Georgetown, Texas 78626

If to Contractor:

[REDACTED]  
[REDACTED]  
[REDACTED]

The parties may make reasonable changes in the person or place designated for receipt of notices upon advance written notice to the other party.

## **ARTICLE 8 PARTY REPRESENTATIVES**

The Owner's Designated Representative (sometimes referred to as the "ODR") authorized to act in the Owner's behalf with respect to the Project is:

[REDACTED]  
[REDACTED]  
[REDACTED]  
Phone (512) [REDACTED]  
Fax (512) [REDACTED]

The Contractor's designated representative authorized to act on the Contractor's behalf and bind the Contractor with respect to the Project is:

[REDACTED]  
[REDACTED]  
[REDACTED]  
Phone (512) [REDACTED]  
Fax (512) [REDACTED]

The parties may make reasonable changes in their designated representatives upon advance written notice to the other party.

## **ARTICLE 9 ENTIRE AGREEMENT**

This Agreement supersedes all prior agreements, written or oral, between Contractor and Owner and shall constitute the entire agreement and understanding between the parties with respect to the Project. This Agreement and the terms of the Contract Documents shall

be binding upon the parties and may not be waived, modified, amended or altered except by a writing signed by Contractor and Owner.

BY SIGNING BELOW, the Parties have executed and bound themselves to this Agreement to be effective as of the date of the last party's execution below (the "Effective Date").

WILLIAMSON COUNTY  
Williamson County, Texas,

\_\_\_\_\_, a  
Texas \_\_\_\_\_,

By: \_\_\_\_\_

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_, 20\_\_\_\_

Date: \_\_\_\_\_, 20\_\_\_\_



**EXHIBIT 1**

**Minimum Insurance Coverages  
and  
Minimum Coverage Amounts**

- A. All policies of insurance provided by the Contractor must comply with the requirements of this Exhibit, the Contract Documents and the laws of the State of Texas.
- B. The Contractor shall provide and maintain, until the Work covered in the Agreement Between Owner and Contractor is completed and accepted by the Owner, the minimum insurance coverages in the minimum amounts as described below. Coverage shall be written on an occurrence basis by companies authorized and admitted to do business in the State of Texas and rated A- or better by A.M. Best Company, or otherwise acceptable to Owner.

| Type of Coverage |  | Limits of Liability       |
|------------------|--|---------------------------|
| 1.               | Worker's Compensation  | Statutory                 |
| 2.               | Employer's Liability   |                           |
|                  | Bodily Injury by Accident  | \$500,000 Ea. Accident    |
|                  | Bodily Injury by Disease   | \$500,000 Ea. Employee    |
|                  | Bodily Injury by Disease   | \$500,000 Policy Limit    |
| 3.               | Comprehensive general liability including completed operations and contractual liability insurance for bodily injury, death, or property damages in the following amounts: |                           |
|                  | COVERAGE   | PER OCCURRENCE            |
|                  | Comprehensive General Liability (including premises, completed operations and contractual)   | \$1,000,000               |
|                  | Aggregate policy limits:   | \$2,000,000               |
| 4.               | Comprehensive automobile and auto liability insurance (covering owned, hired, leased and non-owned vehicles):  |                           |
|                  | COVERAGE   | PER PERSON PER OCCURRENCE |
|                  | Bodily injury (including death)  | \$1,000,000 \$1,000,000   |

|                 |             |             |
|-----------------|-------------|-------------|
| Property damage | \$1,000,000 | \$1,000,000 |
|-----------------|-------------|-------------|

|                         |                    |
|-------------------------|--------------------|
| Aggregate policy limits | No aggregate limit |
|-------------------------|--------------------|

5. Builder's Risk Insurance (all risks)

An all risk policy, in the amount equal at all times to 100% of the Contract Price or Contract Sum. The policy shall be issued in the name of the Contractor and shall name its Subcontractors as additional insureds. The Owner shall be named as a loss payee on the policy. The builders risk policy shall have endorsements as follow:

a. This insurance shall be specific as to coverage and not considered as contributing insurance with any permanent insurance maintained on the present premises. If off-site storage is permitted, coverage shall include transit and storage in an amount sufficient to protect property being transported or stored.

b. This insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, caused by certified acts of terrorism as defined in the Terrorism Risk Insurance Act, theft, vandalism, malicious mischief, collapse, earthquake, flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss as well as coverage for building materials while in transit or building materials suitably stored at a temporary location. Property insurance provided by the Contractor shall not cover any tools, apparatus, machinery, scaffolding, hoists, forms, staging, shoring, and other similar items commonly referred to as construction equipment that may be on the site and the capital value of which is not included in the Work. The Contractor shall make its own arrangements for any insurance it may require on such construction equipment. Any such policy obtained by the Contractor under this section shall include a waiver of subrogation in accordance with the requirements of Section 11.3.4 of the General Conditions.

C. For renovation projects and or portions of work contained within an existing structure, the Owner waives subrogation for damage by fire to existing building structure(s), if the Builder's Risk Policy has been endorsed to include coverage for existing building structure(s) in the amount described in the Special Conditions. However, Contractor shall not be required to obtain such an endorsement unless specifically required by the

Special Conditions in the Contract Documents. The aforementioned waiver of subrogation shall not be effective unless such endorsement is obtained.

6. Flood insurance when specified in Supplementary General Conditions or Special Conditions.
7. Umbrella coverage in the amount of not less than \$5,000,000.

C. Workers' Compensation Insurance Coverage:

a. Definitions:

(1) Certificate of coverage ("certificate") - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the Texas Workers' Compensation Commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the duration of the Project.

(2) Duration of the Project - includes the time from the beginning of the work on the Project until the Contractor's/person's work on the Project has been completed and accepted by the Owner.

(3) Coverage – Workers' compensation insurance meeting the statutory requirements of the Texas Labor Code, §401.011(44).

(4) Persons providing services on the Project ("subcontractor") - includes all persons or entities performing all or part of the services the Contractor has undertaken to perform on the Project, regardless of whether that person contracted directly with the Contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the Project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the Project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

- b. The Contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, §401.011(44) for all employees of the Contractor providing services on the Project, for the duration of the Project.
- c. The Contractor must provide a certificate of coverage prior to execution of the Agreement Between Owner and Contractor, and in no event later than ten (10)

days from Notice of Award. Failure to provide the insurance in a timely fashion may result in loss of Contractor's bid bond.

- d. If the coverage period shown on the Contractor's current certificate of coverage ends during the duration of the Project, the Contractor must, prior to the end of the coverage period, file a new certificate of coverage with the Owner showing that coverage has been extended.
- e. The Contractor shall obtain from each person providing services on a project, and provide to the Owner:
  - (1) a certificate of coverage, prior to that person beginning work on the Project, so the Owner will have on file certificates of coverage showing coverage for all persons providing services on the Project; and
  - (2) no later than seven days after receipt by the Contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the Project.
- f. The Contractor shall retain all required certificates of coverage for the duration of the Project and for one year thereafter.
- g. The Contractor shall notify the Owner in writing by certified mail or personal delivery, within 10 days after the Contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the Project.
- h. The Contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the Project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.
- i. The Contractor shall contractually require each person with who it contracts to provide services on a project, to:
  - (1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas labor Code, Section 401.011(44) for all of its employees providing services on the Project, for the duration of the Project;
  - (2) provide to the Contractor, prior to that person beginning work on the Project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the Project, for the duration of the Project;
  - (3) provide the Contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the Project;

- (4) obtain from each other person with whom it contracts, and provide to the Contractor:
    - a. a certificate of coverage, prior to the other person beginning work on the Project; and
    - b. a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the Project;
  - (5) retain all required certificate of coverage on file for the duration of the Project and for one year thereafter;
  - (6) notify the Owner in writing by certified mail or personal delivery, within 10 days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the Project; and
  - (7) contractually require each person with whom it contracts, to perform as required by paragraphs (1)-(7), with the certificates of coverage to be provided to the person for whom they are providing services.
- j. By signing the Agreement Between Owner and Contractor or providing or causing to be provided a certificate of coverage, the Contractor is representing to the Owner that all employees of the Contractor who will provide services on the Project will be covered by workers' compensation coverage for the duration of the Project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.
  - k. The Contractor's failure to comply with any of these provisions is a breach of contract by the Contractor which entitles the Owner to declare the Agreement Between Owner and Contractor void if the Contractor does not remedy the breach within ten days after receipt of notice of breach from the Owner.
- D. If insurance policies are not written for the amounts specified in this Exhibit, Contractor shall carry Umbrella or Excess Liability Insurance for any differences in amounts specified. If Excess Liability Insurance is provided, it shall follow the form of primary coverage.
- E. The furnishing of the above listed insurance coverage, as may be modified by the Contract Documents, must be tendered prior to execution of the Agreement Between Owner and Contractor, and in no event later than ten (10) days from Notice of Award. Failure to provide the insurance in a timely fashion may result in loss of Contractor's bid bond.

- F. Owner shall be entitled, upon request and without expense, to receive copies of the policies and all endorsements as they apply to the limits set out in this Exhibit.
- G. Contractor shall be responsible for payment of premiums for all of the insurance coverages required under this Exhibit. Contractor further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all matters for which the Contractor is responsible hereunder, Contractor shall be solely responsible for all deductibles and self-insured retentions. Any deductibles or self-insured retentions over **\$75,000** in the Contractor's insurance must be declared and approved in writing by Owner in advance.

**EXHIBIT 2 –DRAWINGS AND SPECIFICATIONS****FOR****LIST OF DRAWINGS**DWG DRAWING TITLEISSUE DATE



TABLE OF CONTENTS  
For  
TECHNICAL SPECIFICATION SECTIONS

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DIVISION 1

END OF TECHNICAL SPECIFICATIONS

## PROPOSAL AFFIDAVIT

**This form must be completed, signed, notarized and returned with Proposal package**

The undersigned attests that the company named below, under the provisions of Subtitle F, Title 10, Texas Government Code Chapter 2270:

1. Does not boycott Israel currently; and
2. Will not boycott Israel during the term of the contract.

Pursuant to Section 2270.001, Texas Government Code:

1. "Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes; and
2. "Company" means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, or any limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business associations that exist to make a profit

The undersigned certifies that the RFSCP and the Respondent's Proposal have been carefully reviewed and are submitted as correct and final. Respondent further certifies and agrees to furnish any and/or all goods and/or services upon which prices are extended at the price Proposal, and upon the conditions contained in the RFSCP.

I hereby certify that the foregoing Proposal has not been prepared in collusion with any other Respondent or other person or persons engaged in the same line of business prior to the official opening of this Proposal. Further, I certify that the Respondent is not now, nor has been for the past six (6) months, directly or indirectly concerned in any pool or agreement or combination, to control the price of services/commodities Proposal on, or to influence any person or persons to submit a Proposal or not to submit a Proposal thereon."

|   |  |
|---|--|
| <b>Name of Respondent:</b>                          | <input style="width: 90%;" type="text"/> |
| <b>Address of Respondent:</b>                       | <input style="width: 90%;" type="text"/> |
| <b>Email:</b>                                       | <input style="width: 90%;" type="text"/> |
| <b>Telephone:</b>                                   | <input style="width: 90%;" type="text"/> |
| <b>Printed Name of Person Submitting Affidavit:</b> | <input style="width: 90%;" type="text"/> |
| <b>Signature of Person Submitting Affidavit:</b>    | <input style="width: 90%;" type="text"/> |

### **Cooperative Purchasing Program**

**Check one of the following options below.** A non-affirmative Proposal will in no way have a negative impact on the County's evaluation of the Proposal.

|                          |   |
|--------------------------|---|
| <input type="checkbox"/> | I will offer the quoted prices to all authorized entities during the term of the County's Contract. |
| <input type="checkbox"/> | I will not offer the quoted prices to all authorized entities.                                      |

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**\*If no box is checked, the Respondent agrees to make best efforts in good faith to offer the quoted prices to all authorized entities. \***

BEFORE ME, the undersigned authority, a Notary Public, personally appeared [ ] (Name of Signer), who after being by me duly sworn, did depose and say: "I, [ ], (Name of Signer) am a duly authorized officer of/agent for [ ] (Name of Respondent) and have been duly authorized to execute the foregoing on behalf of the said [ ] (Name of Respondent).

SUBSCRIBED AND SWORN to before me by the above-named [ ] on this the [ ] day of [ ], 20[ ].

[ ]  
Notary Public in and for

The State of [ ]

The County of [ ]

**SIGNATURE AND NOTARY NOT REQUIRED IF COMPLETING IN BIDSYSN ELECTRONICALLY.**

| <b>CONFLICT OF INTEREST QUESTIONNAIRE</b><br><b>For vendor or other person doing business with local governmental entity</b>   |  | <b>Form</b><br><b>CIQ</b>  |
|--|--|--|
| <p>This questionnaire is being filed in accordance with chapter 176 of the Local Government Code by a person doing business with the governmental entity.</p> <p>By law this questionnaire must be filed with the records administrator of the local government not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code.</p> <p>A person commits an offense if the person violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.</p> |  | <b>OFFICE USE ONLY</b><br><br>Date Received<br><div style="border: 1px solid black; height: 20px; width: 100%;"></div> |
| 1  | <b>Name of person doing business with local governmental entity.</b><br><div style="border: 1px solid black; height: 20px; width: 100%;"></div>  |  |
| 2  | <p><b>Check this box if you are filing an update to a previously filed questionnaire.</b></p> <p><input type="checkbox"/></p> <p>(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than September 1 of the year for which an activity described in Section 176.006(a), Local Government Code, is pending and not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)</p> |  |
| 3  | <p><b>Describe each affiliation or business relationship with an employee or contractor of the local governmental entity who makes recommendations to a local government officer of the local governmental entity with respect to expenditure of money.</b></p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div> <div style="text-align: right; position: absolute; top: 0; right: 0;">5</div> <div style="text-align: right; position: absolute; bottom: 0; right: 0;">6</div>    |  |
| 4  | <p><b>Describe each affiliation or business relationship with a person who is a local government officer and who appoints or employs a local government officer of the local governmental entity that is the subject of this questionnaire.</b></p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div> <div style="text-align: right; position: absolute; top: 0; right: 0;">5</div> <div style="text-align: right; position: absolute; bottom: 0; right: 0;">6</div>                |  |

|  |   |  |
|--|---|--|
| <b>CONFLICT OF INTEREST QUESTIONNAIRE</b><br><b>For vendor or other person doing business with local governmental entity</b> |   | <b>Form</b><br><b>CIQ</b><br><b>Page 2</b> |
| 5  | <p><b>Name of local government officer with whom filer has affiliation or business relationship.</b><br/> <b>(Complete this section only if the answer to A, B, or C is YES.)</b></p> <p>This section, item 5 including subparts A, B, C &amp; D, must be completed for each officer with whom the filer has affiliation or other relationship. Attach additional pages to this Form CIQ as necessary.</p> <p>A. Is the local government officer named in this section receiving or likely to receive taxable income from the filer of the questionnaire?<br/> <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>B. Is the filer of the questionnaire receiving or likely to receive taxable income from or at the direction of the local government officer named in this section AND the taxable income is not from the local governmental entity?<br/> <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>C. Is the filer of this questionnaire affiliated with a corporation or other business entity that the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?<br/> <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>D. Describe each affiliation or business relationship.</p> <div style="border: 1px solid black; height: 40px; margin-top: 5px;"></div> |  |
|  | <p><b>6. Describe any other affiliation or business relationship that might cause conflict of interest:</b></p> <div style="border: 1px solid black; height: 40px; margin-top: 5px;"></div>   |  |
| 7  | <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="width: 60%; border-bottom: 1px solid black; margin-bottom: 5px;"></div> <div style="width: 35%; border-bottom: 1px solid black; margin-bottom: 5px;"></div> </div> <div style="display: flex; justify-content: space-between;"> <span>Signature of person doing business with the governmental entity</span> <span>Date</span> </div>   |  |
|  | <b>Signature not required if completing in BIDSYNC electronically.</b>  |  |

## Proposal References

List the last three (3) companies or governmental agencies, where the same or similar goods and/or services as contained in this RFP package, were recently provided by Respondent.

### **Reference 1**

Client Name:

Location:

Contact Name:

Title:

Phone:

E-mail

Contract Date To:

Contract Date From:

Contract Value: \$

Scope of Work:

### **Reference 2**

Client Name:

Location:

Contact Name:

Title:

Phone:

E-mail

Contract Date To:

Contract Date From:

Contract Value: \$

Scope of Work:

### **Reference 3**



Client Name:

Location:

Contact Name:

Title:

Phone:

E-mail

Contract Date To:

Contract Date From:

Contract Value: \$

Scope of Work:

5

6

## Question and Answers for Bid #1802-215 - Additional Facilities at Southwest Williamson County Regional Park

### Overall Bid Questions

There are no questions associated with this bid.