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Fountain & Site Amenities Improvements  
PR-021-22  
Mobile, Alabama

**SECTION 00100 – INVITATION TO BID**

You are invited to submit a sealed bid for construction of the following facility:

PROJECT NAME:	Bienville Square Fountain and Site Amenities Improvements
PROJECT LOCATION:	150 Dauphin Street, Mobile, AL 36607
PROJECT NUMBER:	PR-021-22

1 BID DATE:

- A. Sealed Bids will be received and clocked in until 2:15 PM local time, Wednesday, the 26th day of April, 2023. Bidders shall insert sealed Bids into a receptacle, marked “City of Mobile Bids”, located in the elevator lobby outside the office of the City Clerk Office, 9th Floor South Tower, Government Plaza, 205 Government Street, Mobile, Alabama 36602.
- B. All Bids not clocked in at the City Clerk’s Office prior to the time specified, or Bids received after the specified time, will be automatically rejected and returned immediately, unopened.
- C. Bids will be publicly opened and read at 2:30 PM local time, in the Atrium Lobby of Government Plaza.

2 SPECIFICATIONS AND DRAWINGS:

- A. Specifications and Drawings are on file and may be examined and obtained from the following location: <https://www.cityofmobile.org/bids/>
- B. Bidders shall use complete sets of Bid Documents in preparing their bid. Neither the Owner nor Architect/Engineer assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bid Documents.
- C. **Addenda will be issued via e-mail to all Pre-Bid Conference attendees.**

3 BID SURETY: Required on Bids \$10,000.00 or more

- A. A Cashier’s Check drawn on a bank registered to do business in the State of Alabama and which is a member of the Federal Deposit Insurance Corporation, or a Bid Bond payable to Owner, City of Mobile, in the amount of 5% of the Base Bid, but in no event more than \$10,000.00 is required to accompany Bid.
- B. Bid Bond must be issued by a Surety licensed to do business in the State of Alabama. Bidder shall require the attorney in fact who executes the required bonds on behalf of the surety to affix to the bond a certified and current copy of the power of attorney.
- C. No Bid may be modified, withdrawn, or canceled for a period of sixty (60) days after the time designated above for receipt of bids.
- D. The City of Mobile will have sixty (60) days from the bid opening date to award contract.

4 SURETY QUALIFICATIONS:

- A. A Surety authorized to do business in the State of Alabama must issue Bonds.
- B. If the Base Bid is \$50,000 or more, the Surety must have a minimum rating of A/Class VI as reported by the latest issue of Best Key Rating Guide Property-Casualty published by Alfred M. Best Company, Inc.

5 IRREGULARITIES AND REJECTION:

- A. The City of Mobile reserves the right to waive irregularities in the Bid and in Bidding, and to reject any or all Bids.

6 BIDDER QUALIFICATIONS:

- A. Bids for Work costing \$50,000 or more must be licensed pursuant to current Alabama law and of classifications compliant with the State of Alabama Licensing Board for General Contractors. Note that if the contract amount is \$10,000 or greater, both a Performance Bond and a Labor and Material Payment Bond shall be required. **Before Bidding, Contractor shall verify their license classification of their**

Fountain & Site Amenities Improvements  
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**General Contractors license with the State of Alabama Licensing Board for General Contractors to verify classification is acceptable to perform 51% of the Scope of Work.**

- B. In case of a joint venture of two or more Contractors, the amount for the bid shall be within the maximum bid limitations as set by the State of Alabama Licensing Board for General Contractors of at least one of the partners to the joint venture.
- 7 NON-RESIDENT CONTRACTORS:
- A. Except for contracts funded in whole or part with funds received from a federal agency, preference shall be given to resident Contractors on the same basis as the nonresident Contractor's state awards contracts to Alabama Contractors bidding in similar circumstances.
  - B. Nonresident Bidders shall, prior to submitting a bid, be registered with the Alabama Secretary of State and the Alabama Department of Revenue. Provide the Secretary of State Business "Entity ID Number" on the Bid Form in the space provided.
- 8 PRE-BID CONFERENCE:
- A. A Pre-Bid Conference shall be held on April 12, 2023, **in Bienville Square, 150 Dauphin Street** at 10:00 AM local time. The conference will include a walkthrough of the site location. Social distancing practices shall be observed, including wearing of face coverings/masks by all participants. A representative of the Bidder is encouraged to be present at the meeting. However, if no representative can be present in person, the Bidder shall contact the Project Manager, Hargrove Engineers & Constructors, at 251-375-5634, at least 24 hours prior to the meeting, in order to coordinate attendance of the meeting by conference call. Bidders are required to participate in the Pre-Bid Conference, visit the site prior to submitting a Bid and include all costs associated with the project in their Bids.
  - B. Minutes of this conference will be made as an Addendum for the project.
- 9 BID SUBMITTAL:
- A. Bids must be submitted on copies of the Bid Forms furnished in the bidding documents.
  - B. Bid, with Bid Security, Sales Tax Form C-3A, City of Mobile Subcontracting and Major Supplier Plan and other supporting data specified, shall be contained in a sealed, opaque envelope, approximately 9x12 inches or larger and be marked on the outside with the words "**SEALED BID FOR BIENVILLE SQUARE FOUNTAIN & SITE AMENITIES IMPROVEMENTS**".
  - C. The Bid envelope shall be clearly addressed to the Owner as indicated on the Bid Form and include the bid date, the name, address and State License number and classification of the Bidder issued by the State of Alabama Licensing Board for General Contractors.
  - D. All Bids of \$50,000 or more must include the bidder's State of Alabama General Contractor's License information written on the outside of the bid envelope. Any bid submitted without such license information may be rejected and returned to the bidder unopened.
  - E. In addition, in large letters on both front and back of envelope, write the following: **DO NOT OPEN UNTIL TWO-THIRTY PM, APRIL 26, 2023.**
  - F. For a bid to be valid it shall be delivered at designated location prior to time and date for receipt of Bids indicated in INVITATION TO BID, or prior to any extension thereof issued to Bidders. After that time no Bid will be received or withdrawn.
  - G. When sent by mail, preferably special delivery, express service, or registered mail, the sealed Bid, marked as indicated above, shall be enclosed in another envelope for mailing such that the exterior mailing container or envelope may be opened without revealing the contents of the Bid. It is the Contractors responsibility to assure delivery of the bid to the City Clerk's Office prior the time and date established.
- 10 EQUAL OPPORTUNITY:
- A. The City of Mobile, Alabama is an Equal Opportunity Employer and requires that all Contractors comply with the Equal Employment Opportunity laws and the provisions of the Bid Documents in this regard.

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- B. The City of Mobile also encourages and supports the utilization of Minority Business Enterprises on these and all other publicly solicited Bids, and shall be in compliance with the City of Mobile's Minority Utilization Plan as adopted by the City Council.
- C. Contractor shall provide an appropriately completed copy of the "City of Mobile Subcontracting and Major Supplier Plan" in the envelope with their Bid Form. Form shall document DBE Subcontractors participating in the project and, should the total % of DBE participation not meet the 15% minimum, all efforts to obtain DBE Subcontractors shall be documented on or attached to the DBE Form when submitted. During construction, contractors are required to submit a "DBE Utilization Report" with every Pay Application.
- D. Contractors should contact the City of Mobile, Supplier Diversity Manager for assistance with DBE Subcontractor information and any questions regarding the DBE Compliance Forms. Contact Archnique Kidd at 251-208-7967.
- E. A Directory of DBE Vendors can be found at the following location: <https://workwith.cityofmobile.org/>

11 ADDITIONAL BIDDING PROCEDURES:

- A. Refer to the complete information in the Bid Documents prior to submitting a bid. Additional Bidding Procedure information is contained therein, particularly in the specification Section 00200 "Instructions to Bidders - AIA Document A701".

12 STATE OF ALABAMA IMMIGRATION ACT

"The State of Alabama, under the Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, Alabama Code Section 31-13-1, et. Seq., requires:

- A. That the Contractor shall be enrolled in the E-Verify Program, shall participate in that Program during the performance of the contract, and shall verify the immigration status of every employee who is required to be verified, according to the applicable federal rules and regulations; and
- B. That it will attach to the contract the company's documentation of enrollment in E-Verify.
- C. The subcontractor must also enroll in the E-Verify Program prior to performing any work on the contract and shall attach to its sworn affidavit documentation establishing that the subcontractor is enrolled in the E-Verify Program.

13 PUBLIC CONTRACTS WITH ENTITIES ENGAGING IN CERTAIN BOYCOTT ACTIVITIES

- A. By signing this contract, Contractor further represents and agrees that it is not currently engaged in, nor will it engage in, any boycott of a person or entity based in or doing business with a jurisdiction with which the State of Alabama can enjoy open trade.

END OF SECTION 00100

Bienville Square

April 5, 2023

Fountain & Site Amenities Improvements  
PR-021-22  
Mobile, Alabama

## **SECTION 00200 – INSTRUCTIONS TO BIDDERS**

### **PART 1 GENERAL**

- A. This section includes the INSTRUCTIONS TO BIDDERS, AIA Document A701 to be utilized with the Owner's most recent modifications and which shall be used in conjunction with the entire Bid Documents.

# AIA<sup>®</sup> Document A701™ – 2018

## Instructions to Bidders

for the following Project:

*(Name, location, and detailed description)*

«Bienville Square – Fountain and Site Amenities Improvements PR-021-22 »  
«150 Dauphin Street »  
«Mobile, Alabama 36602 »

### THE OWNER:

*(Name, legal status, address, and other information)*

«City of Mobile »  
«PO Box 1827 »  
«Mobile, Alabama 36602 »

### THE LANDSCAPE ARCHITECT:

*(Name, legal status, address, and other information)*

«Hargrove and Associates, Inc. d/b/a »  
«Hargrove Engineers + Constructors »  
«20 South Royal Street »  
«Mobile, Alabama 36602 »

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**ADDITIONS AND DELETIONS:** The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

FEDERAL, STATE, AND LOCAL LAWS MAY IMPOSE REQUIREMENTS ON PUBLIC PROCUREMENT CONTRACTS. CONSULT LOCAL AUTHORITIES OR AN ATTORNEY TO VERIFY REQUIREMENTS APPLICABLE TO THIS PROCUREMENT BEFORE COMPLETING THIS FORM.

It is intended that AIA Document G612™-2017, Owner's Instructions to the Architect, Parts A and B will be completed prior to using this document.

## **ARTICLE 1 DEFINITIONS**

§ 1.1 Bidding Documents include the Bidding Requirements and the Proposed Contract Documents. The Bidding Requirements consist of the advertisement or invitation to bid, Instructions to Bidders, supplementary instructions to bidders, the bid form, and any other bidding forms. The Proposed Contract Documents consist of the unexecuted form of Agreement between the Owner and Contractor and that Agreement's Exhibits, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda, and all other documents enumerated in Article 8 of these Instructions.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, or in other Proposed Contract Documents apply to the Bidding Documents.

§ 1.3 Addenda are written or graphic instruments issued by the Landscape Architect, which, by additions, deletions, clarifications, or corrections, modify or interpret the Bidding Documents.

§ 1.4 A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

§ 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents, to which Work may be added or deleted by sums stated in Alternate Bids.

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from, or that does not change, the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

§ 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, as described in the Bidding Documents.

§ 1.8 A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents. A Bidder must be licensed by the State Licensing Board for General Contractors if the amount for the Contract exceeds the amount established by said Board.

§ 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment, or labor for a portion of the Work. A Sub-bidder performing Work must be licensed by the State Licensing Board for General Contractors if the Sub-bidders' contract amount exceeds that established by said Board.

- 1.10 A non-resident Bidder or Sub-bidder is one who
- a. Is neither organized nor existing under the laws of the State of Alabama
  - b. nor maintains its principal place of business in the State of Alabama.

A non-resident contractor who has maintained a permanent branch office within the State of Alabama for at least five (5) continuous years shall not thereafter be deemed to be a non-resident contractor so long as such contractor continues to maintain a branch office within Alabama.

## **ARTICLE 2 BIDDER'S REPRESENTATIONS**

§ 2.1 By submitting a Bid, the Bidder represents that:

- .1 the Bidder has read and understands the Bidding Documents;
- .2 the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;
- .3 the Bid complies with the Bidding Documents;
- .4 the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, and has correlated the Bidder's observations with the requirements of the Proposed Contract Documents;
- .5 the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception; and
- .6 the Bidder has read and understands the provisions for liquidated damages, if any, set forth in the form of Agreement between the Owner and Contractor.

§ 2.2 The Bidder is licensed by the State Licensing Board for General Contractors and the amount Bid does not exceed the Bid Limit stipulated in the Bidder's License and by the City of Mobile.



§ 2.3 Each and every Contractor belonging to or comprising a part of any entity that is bidding as a joint venture or association involving two or more contractors is licensed by the State Licensing Board for General Contractors and that the amount Bid does not exceed the Bid limit stipulated in at least one of their licenses.

§ 2.4 Any non-resident Bidder is authorized by the Secretary of State of Alabama and is registered with Alabama Department of Revenue to transact business in Alabama.

§ 2.5 Joint Ventures or Associations of Contractors, whether the same are Bidders or Subcontractors of Bidders, will remain in existence until all insurance and warranty requirements for the Project have been fulfilled.

### **ARTICLE 3 BIDDING DOCUMENTS**

#### **§ 3.1 Distribution**

§ 3.1.1 Bidders shall obtain complete Bidding Documents, as indicated below, from the issuing office designated in the advertisement or invitation to bid, for the deposit sum, if any, stated therein.

§ 3.1.2 Any required deposit shall be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within ten days after receipt of Bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.

§ 3.1.3 Bidding Documents will not be issued directly to Sub-bidders unless specifically offered in the advertisement or invitation to bid, or in supplementary instructions to bidders.

§ 3.1.4 Bidders shall use complete Bidding Documents in preparing Bids. Neither the Owner nor Landscape Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete Bidding Documents.

§ 3.1.5 The Bidding Documents will be available for the sole purpose of obtaining Bids on the Work. No license or grant of use is conferred by distribution of the Bidding Documents.

#### **§ 3.2 Modification or Interpretation of Bidding Documents**

§ 3.2.1 The Bidder shall carefully study the Bidding Documents, shall examine the site and local conditions, and shall notify the Landscape Architect of errors, inconsistencies, or ambiguities discovered and request clarification or interpretation pursuant to Section 3.2.2.

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Landscape Architect at least five (5) calendar days prior to the date for receipt of Bids.

§ 3.2.3 Modifications and interpretations of the Bidding Documents shall be made by Addendum. Modifications and interpretations of the Bidding Documents made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.2.4 The Contract Drawings and Specifications are intended to cooperate and agree, but should conflicts or difference be found to exist between the requirements within either and clarification has not been obtained in accordance with the above procedure prior to Bidding, then the most costly and/or restrictive interpretation by the decision of the Landscape Architectural Engineering Department Director will be final.

#### **§ 3.3 Substitutions**

§ 3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution.

##### **§ 3.3.2 Substitution Process**

§ 3.3.2.1 Written requests for substitutions shall be received by the Landscape Architect at least fifteen (15) calendar days prior to the date for receipt of Bids. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in Section 3.2.2.

§ 3.3.2.2 Bidders shall submit substitution requests on a Substitution Request Form if one is provided in the Bidding Documents.

§ 3.3.2.3 If a Substitution Request Form is not provided, requests shall include (1) the name of the material or equipment specified in the Bidding Documents; (2) the reason for the requested substitution; (3) a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, performance and test data, and relevant drawings; and (4) any other information necessary for an evaluation. The request shall include a statement setting forth changes in other materials, equipment, or other portions of the Work, including changes in the work of other contracts or the impact on any Project Certifications (such as LEED), that will result from incorporation of the proposed substitution.

§ 3.3.3 The burden of proof of the merit of the proposed substitution is upon the proposer. The Landscape Architect's decision of approval or disapproval of a proposed substitution shall be final.

§ 3.3.4 If the Landscape Architect approves a proposed substitution prior to receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding, and Bidders shall not rely upon them.

§ 3.3.5 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 3.3.6 See Division One Section "Substitution Procedures", if included in Specification.

#### § 3.4 Addenda

§ 3.4.1 Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents.

§ 3.4.2 Addenda will be available where Bidding Documents are on file.

§ 3.4.3 Addenda will be issued no later than two (2) days prior to the date for receipt of Bids, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

§ 3.4.4 Prior to submitting a Bid, each Bidder shall ascertain that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.

### ARTICLE 4 BIDDING PROCEDURES

#### § 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with or identified in the Bidding Documents. No bid will be considered unless made out and submitted on a copy of the Bid Form, Section 00410. Additional Bid Forms will be furnished to prospective Bidders upon request.

Fountain Re-installation Requirements: The Downtown Parks Conservancy contracted with Robinson Iron of Alexander City, AL to refurbish the existing cast iron fountain located in Bienville Square. Under that contract, Robinson Iron is responsible for transporting the refurbished fountain components back to Bienville Square and for reinstalling the fountain.

Bidder shall provide support for the reinstallation to include but not limited to the following:

1. Coordinate the date and time of reinstallation with Robinson Iron.
2. Provide and install the required anchor bolts in the concrete plinth supporting the fountain. Robinson Iron will provide an anchor bolt template.
3. Provide a 25-ton carry deck crane with the operator for one (1) 8-hour workday on the date of fountain reinstallation to offload fountain components, move to a location within the park, and place in coordination with Robinson Iron personnel.
4. Provide the required plumbing and electrical personnel, equipment, and materials required to complete the reinstallation of the fountain, all fountain lighting, and the fountain controller.

The Bidder shall include all costs associated with the above-listed items and services in their proposal.

§ 4.1.2 All blanks on the bid form shall be legibly executed. Paper bid forms shall be executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in both words and numbers, unless noted otherwise on the bid form. In case of discrepancy, the amount entered in words shall govern.

§ 4.1.4 Edits to entries made on paper bid forms must be initialed by the signer of the Bid.

§ 4.1.5 All requested Alternates shall be bid. If no change in the Base Bid is required, enter “No Change” or as required by the bid form.

Contingency Allowance: As shown on the Bid Form, Contractor shall add the amount of the contingency allowance to the Base Bid to derive the Total Bid. The contingency allowance shall cover cost of material, labor, overhead, profit and other expenses for complete installation of items of additional work as required for a complete functional project. The contingency allowance shall be used to fund unforeseen conditions not covered in the construction documents and shall be subject to the provisions of change orders. Upon the completion of work any unused portion of the contingency allowance shall be credited to the Owner by change order.

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder’s refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall neither make additional stipulations on the bid form nor qualify the Bid in any other manner.

§ 4.1.7 Each copy of the Bid shall state the legal name and legal status of the Bidder. As part of the documentation submitted with the Bid, the Bidder shall provide evidence of its legal authority to perform the Work in the jurisdiction where the Project is located. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract. A Bid by a corporation shall further name the state of incorporation and have the corporate seal affixed. A Bid submitted by an agent shall have a current power of attorney attached, certifying the agent’s authority to bind the Bidder.

§ 4.1.8 A Bidder shall incur all costs associated with the preparation of its Bid.

## § 4.2 Bid Security

§ 4.2.1 Each Bid shall be accompanied by the following bid security if so required in the Bidding Documents:  
*(Insert the form and amount of bid security.)*

«The Bidder shall provide a Bid Security in the form of a cashier’s check drawn on a bank registered to do business in the State of Alabama and which is a member of the Federal Deposit Insurance Corporation, or a Bid Bond. Bid Security is required for bids exceeding \$10,000.00. Bid Security shall be in the amount of 5% of the TOTAL BID, but in no event more than \$10,000.00.»

§ 4.2.2 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and shall, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.

§ 4.2.3 If a surety bond is required as bid security, it shall be written on AIA Document A310™, Bid Bond, unless otherwise provided in the Bidding Documents. The attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until (a) the Contract has been executed and bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected.

§ 4.2.5 Bonds must be issued by a Surety authorized to do business in the State of Alabama. A Performance Bond and a Labor and Material Payment Bond are required for projects exceeding \$10,000.00. If the project cost is \$50,000.00 or more, the Surety must have a minimum rating of A/Class VI as reported by the latest issue of Best’s Key Rating Guide Property-Casualty published by Alfred M. Best Company, Inc.

### § 4.3 Submission of Bids

#### § 4.3.1 A Bidder shall submit its Bid as indicated below:

*(Indicate how, such as by website, host site/platform, paper copy, or other method Bidders shall submit their Bid.)*

«Submission of Bid shall be as stated in Section 00100, Invitation to Bid, Paragraph 9, titled “Bid Submittal”.»

§ 4.3.3 Bids shall be submitted by the date and time and at the place indicated in the invitation to bid. Bids submitted after the date and time for receipt of Bids, or at an incorrect place, will not be accepted and will be returned unopened.

§ 4.3.4 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

§ 4.3.5 A Bid submitted by any method other than as provided in this Section 4.3 will not be accepted.

### § 4.4 Modification or Withdrawal of Bid

§ 4.4.1 Prior to the date and time designated for receipt of Bids, a Bidder may submit a new Bid to replace a Bid previously submitted, or withdraw its Bid entirely, by notice to the party designated to receive the Bids. Such notice shall be received and duly recorded by the receiving party on or before the date and time set for receipt of Bids. The receiving party shall verify that replaced or withdrawn Bids are removed from the other submitted Bids and not considered. Notice of submission of a replacement Bid or withdrawal of a Bid shall be worded so as not to reveal the amount of the original Bid.

§ 4.4.2 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids in the same format as that established in Section 4.3, provided they fully conform with these Instructions to Bidders. Bid security, if required, shall be in an amount sufficient for the Bid as resubmitted.

## ARTICLE 5 CONSIDERATION OF BIDS

### § 5.1 Opening of Bids

If stipulated in an advertisement or invitation to bid, or when otherwise required by law, Bids properly identified and received within the specified time limits will be publicly opened and read aloud. A summary of the Bids may be made available to Bidders.

### § 5.2 Rejection of Bids

Unless otherwise prohibited by law, the Owner shall have the right to reject any or all Bids.

### § 5.3 Acceptance of Bid (Award)

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest responsive and responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. Unless otherwise prohibited by law, the Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner’s judgment, is in the Owner’s best interests.

§ 5.3.2 The Owner shall accept Alternates in the order listed on the Bid Form to determine the lowest responsive and responsible Bidder on the basis of the sum of the Base Bid and Alternates accepted.

## ARTICLE 6 POST-BID INFORMATION

### § 6.1 Contractor’s Qualification Statement

Bidders to whom award of a Contract is under consideration shall submit to the Landscape Architect, upon request and within the timeframe specified by the Landscape Architect, a properly executed AIA Document A305™, Contractor’s Qualification Statement, unless such a Statement has been previously required and submitted for this Bid.

### § 6.3 Submittals

§ 6.3.1 After notification of selection for the award of the Contract, the Bidder shall, within three (3) calendar days or as stipulated in the Bidding Documents, submit in writing to the Owner through the Landscape Architect:

- .1 a designation of the Work to be performed with the Bidder’s own forces;
- .2 names of the principal products and systems proposed for the Work and the manufacturers and suppliers of each; and

- .3 names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the Work.
- .4 The name of the Project Superintendent and Project Manager together with the resume of qualifications of each;
- .5 Nonresident Contractor shall submit a letter from an attorney as required by Subparagraph 11.1.2 below and;
- .6 Engineering Firm or Testing Laboratory for testing as specified.

§ 6.3.2 The Bidder will be required to establish to the satisfaction of the Landscape Architect and Owner the reliability and responsibility of the persons or entities proposed to furnish and perform the Work described in the Bidding Documents.

§ 6.3.3 Prior to the execution of the Contract, the Landscape Architect will notify the Bidder if either the Owner or Landscape Architect, after due investigation, has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Landscape Architect has reasonable objection to a proposed person or entity, the Bidder may, at the Bidder's option, withdraw the Bid or submit an acceptable substitute person or entity. The Bidder may also submit any required adjustment in the Base Bid or Alternate Bid to account for the difference in cost occasioned by such substitution. The Owner may accept the adjusted bid price or disqualify the Bidder. In the event of either withdrawal or disqualification, bid security will not be forfeited.

§ 6.3.4 Persons and entities proposed by the Bidder and to whom the Owner and Landscape Architect have made no reasonable objection must be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Landscape Architect.

§ 6.3.5 The Contractor shall, within ten (10) calendar days of receiving Contract Forms for signature, furnish to the Owner the following items, along with the signed contract, or the Bid Security will be forfeited automatically without further delay:

- .1 A Signed Construction Contract;
- .2 Performance Bond and Labor and Material Payment Bond (originals) on all Bids over \$10,000.00;
- .3 Certificate of Insurance and copy of Builder's Risk Policy (original), as identified in the specifications;
- .4 Schedule of Values; and
- .5 Federal Immigration Law Compliance: E-Verify enrollment documentation.

§ 6.3.6 The Bid Check or Bond of the three (3) lowest Bidders will not be returned until after the Construction Contract is executed.

## **ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND**

### **§ 7.1 Bond Requirements**

§ 7.1.1 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

§ 7.1.3 The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of the Contract Sum.

§ 7.1.4 A Surety authorized to do business in the State of Alabama shall issue Performance Bond and Labor and Material Payment Bond, as required by the Contract Documents. If the project cost is \$50,000.00 or more, the Surety must have a minimum rating of A/Class VI as reported by the latest issue of Best's Key Rating Guide Property-Casualty, published by Alfred M. Best Company, Inc.

## **§ 7.2 Time of Delivery and Form of Bonds**

**§ 7.2.1** The Bidder shall deliver the required bonds to the Owner not later than ten (10) calendar days from receiving the Construction Contract forms for signature.

**§ 7.2.2** The bonds shall be written on City's Performance Bond and Labor and Material Payment Bond forms.

**§ 7.2.3** The bonds shall be dated on or after the date of the Contract.

**§ 7.2.4** The Bidder shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix to the bond a certified and current copy of the power of attorney.

## **ARTICLE 8 FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR**

Unless otherwise required in the Bidding Documents, the Agreement for the Work will be written on AIA Document A101, Standard Form of Agreement Between Owner and Contractor Where the Basis of Payment Is a Stipulated Sum.

**§ 8.1.1** AIA Document A101, Standard Form of Agreement Between Owner and Contractor where the Basis of Payment is a stipulated sum will be edited electronically and include the standard signatures as required by the City of Mobile.

## **ARTICLE 9 NONDISCRIMINATION**

**§ 9.1.1** Contractor shall comply with all Federal, State and local laws concerning nondiscrimination, including but not limited to City of Mobile Ordinance No. 14-034 which requires, *inter alia*, that all contractors performing work for the City of Mobile not discriminate on the basis of race, creed, color, national origin or disability, require that all subcontractors they engage do the same, and make every reasonable effort to assure that fifteen percent of the work performed under contract be awarded to socially and economically disadvantaged individuals and business entities. Contractor shall provide a completed copy of the City of Mobile Subcontracting and Major Supplier Plan with the Bid Form, for bids of \$250,000.00 or greater.

## **ARTICLE 10 USE OF DOMESTIC PRODUCTS**

**§ 10.1.1** Section 39-3-1 Code of Alabama provides that the Contractor agrees, in the execution of this contract, to use material supplies and products manufactured, mined, processed or otherwise produced in the United States or its territories, if available at reasonable prices, and that breach of this agreement by the Contractor shall result in the assessment of liquidated damages in an amount not less than \$500 nor more than 20 percent of the gross amount of the contract price.

**§ 10.1.2** Section 39-3-4, Code of Alabama provides that the Contractor for a municipal construction project, financed by the State of Alabama or any political subdivision thereof, is required to use steel produced within the United States. If the Contractor violates the requirement to use domestic steel, this contract will automatically be revoked and the contractor shall not be entitled to any set-off or recoupment for labor or materials used up to the time of revocation.

## **ARTICLE 11 PREFERENCE TO RESIDENT CONTRACTORS**

**§ 11.1.1** Except for contracts funded in whole or in part with funds received from a federal agency, preference shall be given to Alabama resident contractors, and a nonresident bidder domiciled in a state having laws granting preference to local contractors shall be awarded the contracts only on the same basis as a the nonresident bidder's state awards contracts to Alabama contractors bidding under similar circumstances. In the letting of public contracts in which any state, county or municipal funds are utilized, resident contractors in Alabama, be they corporations, individuals or partnerships, are to be granted preference over nonresidents in awarding of contracts in the same manner and to the same extent as provided by the laws of the state of domicile of the nonresident.

**§ 11.1.2** A successful nonresident bidder shall include in his post bid submittals a written opinion of an attorney at law licensed to practice law in such nonresident bidders' state of domicile, as to the preferences, if any or none, granted by the law of that state to its own business entities whose principal places of business are in that state in the letting of any or all public contracts.

## **ARTICLE 12 PRE-BID REQUIREMENTS**

### **§ 12.1 STATE OF ALABAMA CONTRACTORS LICENSE**

**§ 12.1.1** If the Project total bid amount is \$50,000 or more, a license issued by the State of Alabama Licensing Board for

General Contractors is required prior to submitting a bid and the licensed classification and bid limits must cover the type of work in this project. See Invitation to Bid, Section 6 “Bidder Qualifications”.

**§ 12.2 A NONRESIDENT BIDDER**

**§ 12.2.1** Every bidder shall be registered with the Department of Revenue and with the Alabama Secretary of the State prior to bidding. The Secretary of State’s “Business Entity ID” registration number shall be included on the bid form.

**ARTICLE 13 POST-BID REQUIREMENTS**

**§ 13.1 CITY CONTRACTOR’S LICENSE**

**13.1.1** A City of Mobile Contractors License is required and must be current before the Contractor signs the Contract. Contractor must qualify and post \$10,000.00 Surety Bond with the Land Use/Code Administration Department before a Contractors License will be issued by the Revenue Department. Information on the City Contractors License may be obtained by writing or calling:

Land Use/Code Administration  
P. O. Box 1827  
Mobile, Alabama 36633-1827  
Phone: 251.208.7421

Revenue Department  
P. O. Box 1827  
Mobile, Alabama 36633-1827  
251.208.7461

**13.2 E-VERIFY DOCUMENTATION**

**§ 13.2.1** The Contractor agrees that it shall comply with all of the requirements of the State of Alabama Immigration Law (Act. No. 2011-535 as amended by Act. No. 2012-491, Alabama Code (1975) Section 31-13-1, et. Seq., See Section 31-13-9), and the provisions of said Law, including all penalties for violation thereof, are incorporated therein.

**13.3 PUBLIC CONTRACTS WITH ENTITIES ENGAGING IN CERTAIN BOYCOTT ACTIVITIES**

**§ 13.3** The Contractor represents and agrees that it is not currently engaged in, nor will engage in, any boycott of a person or entity based in or doing business with a jurisdiction with which the State of Alabama can enjoy open trade.

## **SECTION 00300 – SUPPLEMENTARY INSTRUCTIONS TO BIDDERS**

### **THE ATTENTION OF ALL BIDDERS IS CALLED TO THE FOLLOWING INSTRUCTIONS AND CONDITIONS:**

#### **I. BIDDING DOCUMENTS:**

- A. Bidders may obtain complete sets of Bid Documents and Specifications (Project Manual) from the Department of Architectural Engineering as listed in the Invitation to Bid.
- B. Bidders shall use the complete set of documents in preparing their bid. Neither the City of Mobile nor the Engineer assume responsibility for errors or misinterpretations resulting from use of an incomplete set of documents.

#### **2. INTERPRETATION OF BID DOCUMENTS:**

- A. Bidders shall carefully study and compare the Bidding Documents and compare various components of the Bidding Documents with each other, shall examine the site and local conditions and shall at once report to the Project Manager any errors, inconsistencies or ambiguities discovered.
- B. Bidders requiring clarification or interpretation of the Bidding Documents shall make a written request to the Project Manager by 3:00 PM at least seven (7) calendar days prior to the date for receipt of Bids. E-mail requests are required and should be addressed to [louis.tooker@cityofmobile.org](mailto:louis.tooker@cityofmobile.org). Interpretations, corrections and changes to the Bidding Documents will be made by a formal, written Addendum. Interpretations, corrections and changes to the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely on them.
- C. Any discrepancy not resolved prior to Bidding shall be bid by the Contractor to provide for the most costly and/or restrictive interpretation of the documents.

#### **3. BIDDING PROCEDURES:**

- A. No Bid will be considered unless made out and submitted on a copy of the Bid Form as set forth by the Bid Documents.
- B. All blanks on the Bid Form shall be legibly executed in a non-erasable medium.
- C. Sums shall be expressed in both words and figures. In case of discrepancy, the amount written in words shall govern.
- D. Interlineations, alterations and erasures must be initialed by the signer of the Bid.
- E. All requested Alternates, Unit Prices and Allowances shall be bid as indicated on the Bid Form and the Bid Documents.



- F. Addenda shall be considered as a part of the Bid Documents and those issued prior to the opening of Bids shall be acknowledged on the Bid Form and any adjustment in cost shall be included in the Contract Sum.

4. BID SECURITY:

- A. A Cashier's Check drawn on a bank registered to do business in the State of Alabama and which is a member of the Federal Deposit Insurance Corporation, or Bid Bond payable to Owner, City of Mobile, in the amount of 5% of the Base Bid, but in no event more than \$10,000.00, must accompany bid. By submitting a Bid Security, the Bidder pledges to enter into a Contract with the City of Mobile on the terms stated in the Bid, and will, if required, furnish bonds covering faithful performance of the Contract and required insurance certificate. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds or insurance or any other required document, the amount of the Bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.
- B. Bid Bond shall be valid for a minimum of sixty (60) days from the date of the Bid. The Owner reserves the right to retain the security of all Bidders until the successful Bidder enters into the Contract or until (60) days after Bid opening, whichever is sooner.
- C. Bonds must be issued by a Surety licensed to do business in the State of Alabama. If the project cost is more than \$50,000.00 the Surety must have a minimum rating of A/Class VI as reported by the latest issue of Best's Key Rating Guide Property-Casualty published by Alfred M. Best Company, Inc.
- D. Power of Attorney is required for all Bonds.
- E. The Surety company shall be required to execute AIA Document G-707, "Consent of Surety to Final Payment" prior to Final Payment of retainage being made to the Contractor.

5. EXAMINATION OF DOCUMENTS AND SITE WORK:

- A. Before submitting a Bid, Bidders should carefully examine the Bid Documents, visit the site of the Work, including attendance at the MANDATORY Pre-Bid conference, fully inform themselves as to existing conditions and limitations, and include in the Bid a sum to cover the cost of all items included in the Contract and necessary to perform the Work. The submission of a Bid will be considered as conclusive evidence that the Bidder has made such examination.

6. SUBMISSION OF BIDS:

- A. Bid, with Bid Security, Sales Tax Form C-3A, City of Mobile Subcontracting & Major Supplier Plan and other supporting data specified, shall be contained in a sealed, opaque envelope, approximately 9 x 12 inches or larger and be marked on the outside with the words "**SEALED BID FOR BIENVILLE SQUARE FOUNTAIN & SITE AMENITIES IMPROVEMENTS**", the Bid Date, and

Contractor's name, address, and City of Mobile Business License number. And, if bidding in an amount \$50,000 or greater, the State of Alabama General Contractor's License number and classification of the Bidder issued by the State of Alabama Licensing Board for General Contractors shall be written on the envelope.

- B. Bids shall be deposited at the designated location prior to the time and date for receipt of Bids. Bids received after the time and date specified in the Invitation to Bid, or as modified by Addendum, will not be considered. Late Bids will be returned to the Bidder unopened.
- C. The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.
- D. Oral, telephonic, facsimile or other electronically transmitted bids will not be considered.

7. MODIFICATION OR WITHDRAWAL OF BIDS:

- A. A Bid may not be modified, withdrawn, or canceled by the Bidder for a period of sixty (60) days following the time and date designated for receipt of bids, and each Bidder so agrees in submitting a Bid.

8. CONSIDERATION AND AWARD OF BIDS:

- A. At the discretion of the City, the properly identified Bids received on time will be publicly opened and will be read aloud.
- B. The City shall have the right to reject any and all Bids. A Bid not accompanied by a required Bid security or a Bid which is in any way incomplete or irregular is subject to rejection.
- C. It is the intent of the City to award a Contract to the lowest qualified Bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The City shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the City's judgment, is in the City's best interest.
- D. The award shall be based on the lowest Total Bid for the Base Bid and any allowances, plus any alternates and/or options that may be accepted, as listed on the Bid Form.

9. PROOF OF COMPETENCY OF BIDDER:

- A. Bidders may be required to furnish evidence satisfactory to the City of Mobile that they have sufficient means and experience in the types of work called for to assure the completion of the Contract in a satisfactory manner.

10. SIGNING OF CONTRACT:

- A. The Standard Agreement between the City of Mobile and the Contractor, included herein, shall serve as the Agreement between the City and the Contractor.

- B. The Bidder to whom the Contract is awarded shall, within ten (10) calendar days of receiving the Contract Forms, properly execute and deliver to the Owner, the following items with the signed Agreement:
  - (1). Performance Bond and Labor and Material Payment Bond (originals);
  - (2). Certificate of Insurance (original) with endorsements to City of Mobile;
  - (3). Evidence of enrollment in the E-Verify program.
  - (4). Other documentation as required by the Contract Documents.
- C. Failure or refusal to sign the Agreement or to provide Certificates of Insurance in a form satisfactory to the City of Mobile, E-Verify verification, or other required documentation, shall subject the Bidder to immediate forfeiture of Bid Security.
- D. On all documents: City of Mobile Business License, the Alabama Secretary of State Business Identity, the Alabama Secretary of State Certificate of Authority (out of state contractors), E-verify documentation, and ACORD Insurance Form, the Contractor's name shall be EXACTLY the same.

11. NONDISCRIMINATION:

- A. Contractor shall comply with all Federal, State and local laws concerning nondiscrimination, including but not limited to City of Mobile Ordinance No. 14-034 which requires, inter alia, that all contractors performing work for the City of Mobile not discriminate on the basis of race, creed, color, national origin or disability, require that all subcontractors they engage do the same, and make every reasonable effort to assure that fifteen percent of the work performed under contract be awarded to socially and economically disadvantaged individuals and business entities.

12. AMERICANS WITH DISABILITIES ACT (ADA):

- A. Bidders shall comply with the provisions of the Americans with Disabilities Act (ADA) of 1990 which prohibits discrimination against individuals with disabilities.

13. USE OF DOMESTIC PRODUCTS:

- A. Section 39-3-1, Alabama Code, 1975, provides that the Contractor agree, in the execution of this Contract, to use materials, supplies and products manufactured, mined, processed or otherwise produced in the United States or its territories, if available at reasonable prices, and that breach of this Agreement by the Contractor shall result in the assessment of liquidated damages in an amount not less than \$500.00 nor more than twenty (20) percent of gross amount of the Contract Price.

14. NON-RESIDENT (OUT OF STATE) CONTRACTORS:

- A. Preference to Resident Contractors: Section 39-3-5, Code of Alabama, 1975, provides that a non-resident (out of State) bidder domiciled in a state which grants a preference to local Contractors is to be awarded a public contract on the same basis as the non-resident bidder's state awards contracts to Alabama bidders. Alabama bidders are given a preference to the same extent that a

non-resident bidder receives a preference in his home state. A non-resident bidder must include with any written bid documents a written opinion of an attorney licensed to practice in the non-resident bidder's state declaring what preferences, if any, exists in the non-resident's state.

- B. Certificate of Authority: All non-resident (out of State) bidders shall be registered with the Alabama Secretary of State and the Alabama Department of Revenue prior to submitting a Bid. Provide the Secretary of State Business "Entity ID Number" on the Bid Form in the space provided.

15. ALABAMA IMMIGRATION ACT:

- A. The State of Alabama Immigration Law (Act No. 2011-535 as amended by Act No. 2012-491), requires that Contractors not violate federal immigration law or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama. In addition, Contractors are required to enroll in the federal E-Verify program and submit verification of enrollment to the City of Mobile within ten (10) days of receiving the contract forms (see Section 00600).

16. CITY OF MOBILE BUSINESS LICENSE:

- A. A City of Mobile Business License is required and must be current at time of contract award and throughout contract period.

17. CITY OF MOBILE CONTRACTOR'S BUSINESS LICENSE:

- A. A City of Mobile Contractor's Business License is required and must be current when contractor signs the contract and throughout contract period.
- B. Contractor must qualify and post a \$10,000 surety bond with the Land Use/Code Administration Department before a Contractor's Business License will be issued by the Revenue Department. Information on the City Contractor's License may be obtained by writing or calling:

Land Use/Code Administration  
P.O. Box 1827  
Mobile, Alabama 36633-1827  
Phone: 251-208-7421

Revenue Department  
P.O. Box 1827  
Mobile, Alabama 36633-1827  
Phone: 251-208-7461

18. CITY OF MOBILE BUILDING PERMIT:

- A. City of Mobile Building, Electrical, Mechanical, Plumbing, and Land Disturbance Permits are required and shall be obtained from the Land Use/Code Administration Department, but at no cost to the Contractor. Contractor is responsible for determining any additional permitting that may be required for the project.
- B. Contractor is responsible for ensuring that all inspections are successfully performed in accordance with City of Mobile regulations.

19. CONSTRUCTION SCHEDULE AND ACCESS:

- A. The project shall be completed within seventy (150) calendar days from the date indicated by the Notice to Proceed.
- B. At all buildings that will remain in use throughout the Construction period, the Contractor is directed to coordinate all areas of work and scheduling of work with the Owner. Within five days of the bid opening, the Apparent Low Bidder shall meet with the Owner to discuss Owner scheduling and priorities. Apparent Low Bidder shall then provide a proposed schedule within 5 calendar days of the initial meeting for Owner review and approval.
- C. Contractor shall have access to the various buildings as follows:  
**ON-SITE RESTROOM FACILITIES AND PAVILION – MONDAY – FRIDAY  
7:00AM-7:00PM**
- D. The Contractor may be allowed additional construction days due to inclement conditions (“rain days”) only as such are appropriately documented and are in excess of the NOAA/National Weather Service average (previous 5 years) for the given month. A “rain day” is defined as more than a “trace” (0.10”) of rain falling within a given 24 hour period. The Contractor shall provide documentation and formally request any “rain days” they feel are legitimately due. Documentation shall be submitted to the Project Manager, in writing, within ten (10) calendar days of the rain event. Claim shall include documentation of trades adversely impacted and the impacted activities of each trade.

20. SITE CONSIDERATIONS:

- A. It is the Contractor’s responsibility to carefully remove and store any items not permanently installed within the work areas. We strongly recommend that the Contractor photograph, videotape or in some manner document any features to be removed and their condition, prior to removal.
- B. Noise and strong smells shall be isolated or kept to a minimum when adjacent portions of the site are occupied.
- C. Contractor shall be responsible to leave the work area and adjacent site clear of equipment and debris, etc. at the end of each work day. All final cleaning is the responsibility of the Contractor and shall be executed prior to acceptance for reuse of any portion of the site.
- D. A dumpster and lay down area for Contractor materials and staging may be located at the site and located per the direction of the Owner. Dumpster, lay-down area, and staging may not occur within the critical root zone area of any protected trees. The Contractor is responsible for the removal of the dumpster, any storage containers and any security fencing, temporary erosion control (BMPs), etc. as soon as practical after their use by the Contractor or the work is complete.

- E. State archaeologists reserve the right for further inspection of any area that is excavated more than 12" in depth.

21. SALES AND USE TAX EXEMPTION:

- A. As per the State of Alabama ACT 2013-205, the Alabama Department of Revenue (ADOR) has been granted the authority to issue a "Certificate of Exemption from Sales and Use Tax for Governmental Entities" on construction projects. Therefore, this project shall qualify for State of Alabama Sales and Use Tax Exemptions under this ACT. It is the responsibility of the Bidder to confirm the potential tax exempt status of their bid with the ADOR and include any such savings in their bid, as well as accounting for same on their bid form attachment Sales Tax Form C-3A.
- B. The full text of ACT 2013-205 is available on the State of Alabama Building Commission web-site at [www.bc.alabama.gov](http://www.bc.alabama.gov).

22. SUBMISSION OF LIEN WAIVERS AND DBE COMPLIANCE, UTILIZATION REPORTS:

- A. At each monthly Application for Payment submitted to the owner, the Contractor shall provide completed "City of Mobile DBE Compliance, Utilization Reports" and lien waivers, including those from Subcontractors and material suppliers.

23. NOTICE OF COMPLETION:

- A. For Contracts \$50,000 or greater:  
Contractor shall provide proof of publication of Advertisement of Completion for four consecutive weeks in a local newspaper, as required in the Title 39, Section 39-1-1, Subsection (f), of the Code of Alabama. This Advertisement shall not begin until the Project has been accepted by the City of Mobile.
- B. Notice of Completion advertisement shall read as follows:

STATE OF ALABAMA

COUNTY OF MOBILE

NOTICE OF COMPLETION

In accordance with Chapter 1, Title 39, Code of Alabama, 1975, NOTICE IS HEREBY given that (COMPANY NAME) has completed the contract for **FOUNTAIN & SITE AMENITIES IMPROVEMENTS – PR-021-22**, Mobile, Alabama 36602. All persons having any claims for labor, material or otherwise in connection with this project should immediately notify the Architectural Engineering Department, City of Mobile, P.O. Box 1827, Mobile, Alabama 36633-1827.

- C. Advertisement shall not begin until the Project has been accepted by the City of Mobile as Substantially Complete.

24. CONTRACTOR WARRANTY AND CERTIFICATION:

- A. Upon completion of the contract, the Contractor shall certify under oath that all bills have been paid in full.
- B. Contractor shall provide a one year Labor and Materials Warranty on company letterhead in addition to other warranties required by the Bid Documents.

25. LIQUIDATED DAMAGES

- A. A time charge equal to Two Hundred Fifty Dollars (\$250.00) per calendar day will be made against the Contractor for the entire period that any part of the Work remains uncompleted, or any required closeout documents are not acceptably submitted, for more than thirty (30) calendar days after the time specified for the Substantial Completion for the Work, the amount of which shall be deducted by the owner, and shall be retained by the Owner out of monies otherwise due the Contractor in the final payment, not as a penalty, but as liquidated damages sustained.

END OF SECTION 00300

**SECTION 00400 – BID FORM**

Copies of the following Bid Forms shall be used. Bids submitted on alternate forms may be rejected. Fill in all blank spaces with an appropriate entry. Bid Form must be signed by an officer of the company and notarized.

**TO: City of Mobile, 205 Government St., P.O. Box 1827, Mobile, AL, 36633**

**REF: PROJECT NO.: PR-021-22**  
**PROJECT NAME: Bienville Square – Fountain and Site Amenities Improvements**  
**PROJECT LOCATION: 150 Dauphin Street**  
**Mobile, Alabama, 36602**

In compliance with the Bid Documents and having carefully and thoroughly examined said documents for the subject Work prepared by the City of Mobile, Architectural Engineering Department and Hargrove Engineers dated April 5, 2023; and all Addendum (a) Number(s) \_\_\_\_\_, dated \_\_\_\_\_, 2023 (CAUTION: before submitting any bid it is the Bidder's responsibility to check with the Architectural Engineering Department for all Addenda or special instructions that may impact the Bid) thereto, receipt of which is hereby acknowledged, the premises and all conditions affecting the Work prior to making this Proposal, the Undersigned Bidder, hereby proposes to furnish all labor, materials, tools, equipment, and supplies and to sustain all the expenses incurred in performing the Work on the above-captioned Project in accordance with the terms of the Contract Documents, and all applicable laws and regulations for the sum listed below. The initial term of the Contract shall extend for one hundred fifty (150) calendar days from the date of the Notice to Proceed.

**COMPANY NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_ **PHONE** \_\_\_\_\_

**ALABAMA GENERAL CONTRACTOR LICENSE NO.** \_\_\_\_\_

**CITY OF MOBILE BUSINESS LICENSE NO.** \_\_\_\_\_

**SECRETARY OF STATE OF ALABAMA BUSINESS IDENTITY NO.** \_\_\_\_\_

**SECRETARY OF STATE OF ALABAMA ACCOUNT NO.** \_\_\_\_\_

(Note: Secretary of State Account Number shall be filled in only by non-resident bidders)

(Check one)  A Corporation  A Partnership  An Individual Doing Business



**Base Bid:** \$ \_\_\_\_\_ **.00**

**Contingency Allowance:** + \$ **350,000.00**

**Total Base Bid:** \$ \_\_\_\_\_ **.00**

(Fill in here and in Total Bid below)

**TOTAL BASE BID:**

\_\_\_\_\_

\_\_\_\_\_ Dollars, (\$ \_\_\_\_\_ **.00**)

(Amount in Words)

(Amount in Figures)

(Note: Show amount in both words and figures. In case of discrepancy, the amount in words shall govern). **Bids shall be provided in whole dollar amount with no cents.**

**CONTINGENCY ALLOWANCE:** \$350,000.00 lump sum Contingency Allowance shall be included in the Total Bid for work related to unforeseen conditions as approved by the Owner.

**BID SECURITY:** The undersigned Bidder agrees that the attached Bid Security, as a Cashier's Check drawn on a bank registered to do business in the State of Alabama and which is a member of the Federal Deposit Insurance Corporation, or a Bid Bond, made payable to the City of Mobile, in the amount of 5% of the bid amount, but in no event more than \$10,000, as the proper measure of liquidated damages which the City will sustain by the failure of the undersigned to execute the Contract. Said Bid Security shall become the property of the City of Mobile as liquidated damages as specified in the Contract Documents.

**AMERICANS WITH DISABILITIES ACT (ADA):** The undersigned Bidder agrees to fully comply with all requirements of the Americans with Disabilities Act of 1990 and the Amendment Act.

**NONDISCRIMINATION:** Contractor shall comply with all Federal, State and local laws concerning nondiscrimination, including but not limited to City of Mobile Ordinance No. 14-034 which requires, *inter alia*, that all contractors performing work for the City of Mobile not discriminate on the basis of race, creed, color, national origin or disability, require that all subcontractors they engage do the same, and make every reasonable effort to assure that fifteen percent of the work performed under contract be awarded to socially and economically disadvantaged individuals and business entities.

**SIGNATURE:** If the undersigned Bidder is incorporated, the entire legal title of the company followed by "a corporation" should be used. If Bidder is an individual, then that individual's full legal name followed by doing business as (d/b/a) and name of firm, if any, should be used. If Bidder is a partnership, then full name of each partner should be listed followed by "d/b/a" and name of firm, if any.

Ensure that name and exact arrangement thereof is the same on all forms submitted with this Bid. If a word is abbreviated in the official company name, such as "Co.", then use that abbreviation. If not abbreviated in the official name, spell out.

Bidder agrees not to revoke or withdraw this Bid until sixty (60) calendar days following the time and date for receipt of bids. If notified in writing of the acceptance of this Bid within this time period, Bidder agrees to execute a Contract based on this Bid on the proscribed form within ten (10) calendar days of said notification and to furnish Performance Bond and Materials and Payment Bond as specified.

**COMPANY NAME:** \_\_\_\_\_  
(Printed or Typed)

**BY:** \_\_\_\_\_  
(Signature of Company Officer)

**COMPANY OFFICER:** \_\_\_\_\_  
(Printed or Typed)

**TITLE** \_\_\_\_\_ **DATE** \_\_\_\_\_, 2023  
(Printed or Typed)

Sworn to and subscribed before me this \_\_\_\_\_ day of \_\_\_\_\_ 2023

\_\_\_\_\_  
Notary Public

- Attachments:
1. Bid Security, with Power of Attorney
  2. Secretary of State Authorization (Out of state bidders only)
  3. Sales Tax Form C-3A
  4. Supplier Diversity Subcontracting & Major Supplier Plan

END OF BID FORM

**ACCOUNTING OF SALES TAX  
ATTACHMENT TO BID FORM SECTION 00400  
SALES TAX FORM C-3A**

To: City of Mobile

Date: \_\_\_\_\_

Name of Project: BIENVILLE SQUARE – FOUNTAIN & SITE AMENITIES  
IMPROVEMENTS

Project Number: PR-021-22

**SALES TAX ACCOUNTING**

Pursuant to Act 2013-205, Section 1(g) the Contractor accounts for the sales tax NOT included in the bid proposal form as follows:

**ESTIMATED SALES TAX AMOUNT**

**OPTION ONE BASE BID:** \$ \_\_\_\_\_

**Failure to provide an accounting of sales tax shall render the bid non-responsive. Other than determining responsiveness, sales tax accounting shall not affect the bid pricing nor be considered in the determination of the lowest responsible and responsive bidder.**

**Legal Name of Bidder** \_\_\_\_\_

Mailing Address \_\_\_\_\_

**\*By (Legal Signature)** \_\_\_\_\_

\*Name (type or print) \_\_\_\_\_ (Seal)

\*Title \_\_\_\_\_

Telephone Number \_\_\_\_\_



OFFICE OF SUPPLIER DIVERSITY  
**CITY OF MOBILE**  
Subcontracting and Major Supplier Plan

Contact Office of Supplier Diversity for  
questions on completing this form.  
Via email: Archnique.kidd@cityofmobile.org  
251.208.7967  
205 Government Street, 5<sup>th</sup> Floor

**Bidders and Proposers – Please complete and submit these forms as required by your City of Mobile Bid or Proposal Specification.**

If you are submitting a proposal in response to a Request for Qualifications, Request for Proposal, or other solicitation (“Solicitations”) issued by the City of Mobile, the bid specification may require you to utilize disadvantaged business enterprise (“DBE”) subcontractors and suppliers. If DBE participation is required, you must complete and submit these forms with your proposal. If required, failure to submit this form will render your bid non-responsive. NOTE: To satisfy participation requirements for a federally funded project, you must utilize DBEs certified through the Alabama Unified Certification Program.

If DBE participation is required, and you fail to satisfy the participation requirement, you must show that you made a good faith effort to include such participation; you will be required to submit DBE Compliance Form 2 and include additional information if needed. When so required, failure to address adequately the good faith effort factors on Form 2 will render your bid or proposal non-responsive. The “good faith effort” factors on Form 2 are not intended to be a mandatory, exhaustive, or exclusive.

You are encouraged to work with the City of Mobile Supplier Diversity Manager when preparing this form. Please consult with the City Supplier Diversity Manager for a list of eligible DBEs. The “good faith effort” factors on **Form 2** are not intended to be mandatory, exhaustive, or exclusive; they are a tool to help you, and the City of Mobile, determine whether you made efforts which, by their scope, intensity, and appropriateness to the objective, would reasonably be expected to fulfill the participation requirement.

About “**DBEs**”: Disadvantaged business enterprise or DBE means a for-profit small business concern (1) That is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals; and (2) whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

About “**Good Faith**” **Effort**: Good faith efforts means efforts to achieve a DBE goal or other requirement of this part which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirement. The City of Mobile expects contractors holding large contracts to recruit and engage DBEs to be a part of their team.

Failure to submit this form, when so required by the bid or proposal specification, will render your bid non-responsive.



OFFICE OF SUPPLIER DIVERSITY  
**CITY OF MOBILE**  
 Subcontracting and Major Supplier Plan

Contact Office of Supplier Diversity for  
 questions on completing this form.  
 Via email: Archnique.kidd@cityofmobile.org  
 251.208.7967  
 205 Government Street, 5<sup>th</sup> Floor

**FORM 1: Background and Plan**

**Section I. Information about your company**

Company	
Address	
Telephone	
E-Mail	

RFP/RFQ Solicitation Number	
Project Description	
Is your company a DBE company?	Yes <input type="checkbox"/> No <input type="checkbox"/>
Work force demographics	Male _____ Female _____ Minority _____ Non-minority _____ SDVO _____ Total #of Employees _____

**Subcontractor/Major Supplier Plan submitted by:**

Printed Name: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_

The following employee will be designated as the **DBE Liaison** for all communication regarding DBE participation including documentation for DBE participation and maintenance of records of Good Faith Efforts for this contract award:

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_



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 205 Government Street, 5<sup>th</sup> Floor

**FORM 1: Background and Plan (Cont'd)**

**Section II. Subcontractors/Major Vendors Supplier Plan submitted by:**

Please Print Company \_\_\_\_\_ Your Bid/Proposal Amount \$ \_\_\_\_\_ Date: \_\_\_\_\_  
 \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_ Description \_\_\_\_\_

Name of Bidder/Proposer: \_\_\_\_\_

**I intend to use the following subcontractors: (Attach additional pages if necessary)**

Subcontractor or Major Supplier	Phone	Scope of Work to be performed	\$\$ Value to be Performed	% Of Your Bid Amount	DBE?	Official Verification Only



OFFICE OF SUPPLIER DIVERSITY  
**CITY OF MOBILE**  
 Subcontracting and Major Supplier Plan

**Form 2: Good Faith Effort Documentation**

Name of Bidder: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone \_\_\_\_\_ Email \_\_\_\_\_

Please complete this form if you are unable to identify DBE subcontractors or suppliers to reach 15% of the value of your bid.

YES ( <input type="checkbox"/> )	NO ( <input type="checkbox"/> )	<b>Did you do these suggested areas for DBE recruitment and engagement</b>
		<b>PRE-BID MEETING(S):</b> The bidder attended all pre-bid meetings scheduled by the City to inform DBEs of contracting and subcontracting opportunities.
		<b>CMDBE/ALDOT DBE LIST(S):</b> The bidder utilized the Office of Supplier Diversity's list or lists of certified through the Alabama Department of Transportation UCP DBE Listing
		<b>SMALL CONTRACT(S):</b> The bidder selected specific portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goals (including breaking down contracts into smaller units to facilitate DBE participation). Consider support services, including insurance, accounting, temporary labor, and transportation, landscaping, and janitorial as potential areas for DBE use.
		<b>FOLLOW-UP:</b> The bidder followed-up initial indications of interest by DBEs by contacting those DBEs to determine with certainty if they remained interested in bidding.
		<b>GOOD FAITH NEGOTIATIONS:</b> The bidder negotiated in good faith with interested DBEs and did not reject DBEs as unqualified without sound business reasons based on a thorough investigation of their capabilities. Bidders are not expected to engage unqualified subcontractors or subcontractors whose pricing, after negotiation, remains excessive or unreasonable. (Please document qualification deficiencies or unreasonable pricing if it prevented your engagement of specific DBE subcontractors.)
		<b>ADVERTISEMENT:</b> The bidder advertised in general circulation and/or trade association publications concerning subcontracting opportunities and allowed DBEs reasonable time to respond.
		<b>INTERNET ADVERTISING:</b> The bidder advertised DBE and/or subcontracting opportunities in the newspaper or other internet portals that are accessible to DBEs and/or potential subcontractors.



OFFICE OF SUPPLIER DIVERSITY  
**CITY OF MOBILE**  
 Subcontracting and Major Supplier Plan

		<b>INFORMATION:</b> The bidder provided interested DBEs with adequate information about the plans, specifications and requirements of the subcontract.
		<b>WRITTEN NOTICE(S):</b> The bidder/proposer took the necessary steps to provide written notice in a manner reasonably calculated to inform DBEs of subcontracting opportunities and allowed sufficient time for them to participate effectively.
		<b>COMMUNITY RESOURCES:</b> The bidder/proposer used the services of available community organizations, small and/or disadvantaged business assistance offices and other organizations that provided assistance in the recruitment and placement of DBE firms.

**CONTRACT RECORDS:**

The bidder/proposer has maintained the following records for each DBE that has bid on the subcontracting opportunity:

1. Name, address, email address and telephone number
2. A description of information provided by the bidder/proposer or subcontractor; and
3. A statement of whether an agreement was reached, and if not, why not, including any reasons for concluding that the DBE was unqualified to perform the job.

**Section 2(B)**

\_\_\_\_\_ There are not ways to break out 15% of the value of this contract for subcontractors / suppliers. Provide further detail in Section 2(c) if the inability to break-out 15% of the value of the contract was the reason, or a reason, you could not meet the participation requirements.

\_\_\_\_\_ Could not find sufficient DBEs to provide subcontracting or supplier services.

\_\_\_\_\_ DBEs were available but did not have sufficient qualifications or experience to meet the needs of this contract.

Please indicate additional efforts you have taken to recruit and engage DBEs. \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_



**SECTION 00500 – STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR**

**PART 1 GENERAL**

- A. This section includes the STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR, AIA Document A101 to be utilized with the Owner's most recent modifications and which shall be used in conjunction with the entire Bid Documents.

# DRAFT AIA® Document A101™ – 2017

## Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the « » day of « » in the year « »

(In words, indicate day, month and year.)

BETWEEN the Owner:

(Name, legal status, address and other information)

«City of Mobile »« »  
«P. O. Box 1827 »  
«Mobile, Alabama 36633-1827 »  
« »

and the Contractor:

(Name, legal status, address and other information)

«Hargrove And Associates, Inc. d/b/a»« »  
«Hargrove Engineers + Constructors»  
«20 South Royal Street»  
«Mobile, Alabama 36602»

«City of Mobile Business License Number: »  
«Secretary of State Registration Number: 18929 »

for the following Project:

(Name, location and detailed description)

«Bienville Square - Fountain & Site Amenities Improvements  
150 Dauphin Street  
Mobile, Alabama 36602  
PR-021-22

This Project consist of the installation of 3,200 Linear Feet of galvanized chain link fence fabric and post. The Contractor shall also install five (5) vehicular entry gates.

The Architect:

(Name, legal status, address and other information)

«  
Architectural Engineering Department  
P. O. Box 1827  
Mobile, Alabama 36633-1827»

The Owner and Contractor agree as follows.

**ADDITIONS AND DELETIONS:**  
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101™-2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201™-2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

**ELECTRONIC COPYING** of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

## TABLE OF ARTICLES

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2	THE WORK OF THIS CONTRACT
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4	CONTRACT SUM
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### ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

### ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others (See attachment Exhibit A).

### ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:  
(Check one of the following boxes.)

[  ] A date set forth in a notice to proceed issued by the Owner.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

#### § 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:  
(Check one of the following boxes and complete the necessary information.)

[  ] Not later than «One-hundred and fifty» ( «150» ) calendar days from the date of the Notice to Proceed for commencement of the Work.

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

**ARTICLE 4 CONTRACT SUM**

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be «\_\_\_\_\_» and 00/100 Dollars » (\$ «0.00»), subject to additions and deductions as provided in the Contract Documents.

Base Bid: \$ 0.00  
Contingency Allowance: \$ 0.00  
Total Contract Sum: \$ 0.00

**§ 4.2 Alternates**

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price
_____	_____

§ 4.3 Allowances, if any, included in the Contract Sum:  
(Identify each allowance.)

Contingency Allowance: three hundred fifty thousand and 00/100 Dollars (\$350,000.00)

- A. Contingency Allowance shall cover cost of material, labor, overhead, profit and other expenses for complete installation of items of additional work as required for a complete, functionot covered in the construction documents.
- C. All extra work under this section must be authorized by the Onal project.
- B. Contingency Allowance shall be used for unforeseen conditions wner, in writing, prior to materials or undertaking work.
- D. Upon completion of the Work, the unused portion of the Allowance shall be credited back to the Owner in the form of a Change Order.
- E. Allowances are subject to the same provision of AIA 201 Article 7.3.7.

**§ 4.4 Unit prices, if any:**

(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)
_____	_____	_____

**§ 4.5 Liquidated damages:**

(Insert terms and conditions for liquidated damages, if any.)

«A time charge equal to Two Hundred Fifty and 00/100 Dollars (\$250.00) per calendar day will be made against the Contractor for the entire period that any part of the Work remains uncompleted or any required closeouts documents are not acceptably submitted for more than thirty (30) days after the date specified for the substantial Completion of the Work, the amount of which shall be deducted by the owner, and shall be retained by the Owner out of monies otherwise due the Contractor in the final payment, not as a penalty, but as liquidated damages sustained. »

**ARTICLE 5 PAYMENTS**

**§ 5.1 Progress Payments**

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the 25th of the month.

« »

§ 5.1.3 Provided that an Application for Payment in acceptable format is received by the Architect not later than the first «1st » day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the tenth «10th » day of the «following » month. If an Application for Payment in acceptable format is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than «forty » ( «40 » ) days after the Architect receives the Application for Payment.  
(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This accepted schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201, General Conditions of the Contract for Construction (including Owner's then-current modifications), and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing and insured as specified;
- .3 Completed work shall be determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum allocated to that portion of the Work in the schedule of values.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201-2017;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201-2017; and
- .5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.6.3 Any Progress Payment shall include partial release of liens for material and labor for previous application for payment amount approved and paid. The DBE Utilization Report shall be included with the pay application.

### § 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

*(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)*

«Five percent (5%) of the first fifty percent (50%) of the completed work and after fifty percent (50%) completion has been accomplished, no further retainage shall be held from the original Contract Sum. Increases in the contract sum by Change Order shall also be subject to retainage.»

§ 5.1.7.1.1 The following items are not subject to retainage:

*(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)*

«N/A »

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:

*(Insert any other conditions for release of retainage upon Substantial Completion.)*

«The net amount of the Retainage shall be equal to two and one half percent (2.5%) of total Contract Sum, as increased or decreased by Change Order. »

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

## § 5.2 Final Payment

§ 5.2.1 Final monthly progress payment, constituting the entire unpaid balance of the Contract Sum, less retainage, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201 (including Owner's then-current modifications which may be obtained from the Owner or, alternatively, a copy of which is incorporated in the Project Manual and incorporated by reference herein as a part thereof), and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a Certificate of Substantial Completion has been issued by the Architect/Owner and the project accepted.

§ 5.2.2 The Owner's final payment to the Contractor of retainage shall be made as follows:

« The final two and one half percent (2.5%) of the total Contract Sum retained will not be paid until proof of publication is submitted and all written claims paid in full. Contractor to submit the following:

- Contractor's Affidavit of Payment of Debts and Claims (AIA form G706, included in contract documents) with
  - a.) Contractor's Release or Waiver of Liens
  - b.) Releases or Waivers of Liens from Subcontractors and Material and Equipment Suppliers;
- Contractor's Affidavit of Release of Liens (AIA form G706A, included in contract documents);
- Consent of Surety, if any, to final payment (AIA form G707, included in contract documents);
- Any additional close out requirements per the contract documents; and
- Notarized Affidavit of Notice of Completion advertisement from publisher.

Contractor shall provide proof of publication of Notice of Completion in a local newspaper once per week for four (4) consecutive weeks, as required in the Title 39, Section 39-1-1, Subsection (f), of the Code of Alabama quoted below. "The Contractor shall, immediately after the completion of the contract, give notice of Completion by an advertisement in a newspaper of general circulation published within the city or county in which the work has been done, for a period of four (4) consecutive weeks. A final settlement shall not be made upon the contract until the expiration of thirty (30) days after the completion of the notice. Proof of publication of the notice shall be made by the contractor to the authority by whom the contract was made by affidavit of the publisher and a printed copy of the notice published. If no newspaper is published in the county in which the work is done, the notice may be given by the contract." (Acts 1927, No. 39, 9.37; Acts 1935, No. 39, 9. 70; Code 1940, T. 50, Section 16; Acts 1983, No. 83-737, 9.1203; Acts 1989, No. 89-650m 9. 1284, Section 1; Acts 1994, No. 94-207, p, 270, Section 1; Acts 1997, No. 97-225, p. 348, Section 1.)

The Notice of Completion shall read as follows:

STATE OF ALABAMA  
COUNTY OF MOBILE  
NOTICE OF COMPLETION

In accordance with Chapter I, Title 39, Code of Alabama, 1975, NOTICE IS HEREBY given that Hagan Storm Fence of Mobile, Inc. has completed the contract for Brookley By The Bay – Chain Link Fence Installation (PR-061-22), 2002 Bay Front Rd, Mobile, Alabama 36615. All persons having any claims for labor, material or otherwise in connection with this project should immediately notify the Architectural Engineering Department, City of Mobile, P. O. Box 1827, Mobile, Alabama 36633-1827.

Publication of the Notice of Completion shall not begin until the Project has been accepted as Substantially Complete by the City of Mobile. »

## ARTICLE 6 DISPUTE RESOLUTION

### § 6.1 Initial Decision Maker

The Engineer will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker. *(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)*

«N/A »

### § 6.2 Binding Dispute Resolution

For any Claim, the method of binding dispute resolution shall be as follows:  
*(Check the appropriate box.)*

[  ] Litigation in a court of competent jurisdiction

### § 6.3 Governing Law and Venue

This Agreement shall be governed by the laws of the State of Alabama, and the appropriate venue of any actions arising out of this Agreement shall be a court of proper jurisdiction in Mobile, Alabama.

## ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201, General Conditions of the Contract for Construction, including Owner's then-current modifications, a copy of which is incorporated in the contract documents and incorporated by reference herein as a part thereof.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201, General Conditions of the Contract for Construction, including Owner's then-current modifications, a copy of which is incorporated in the contract documents and incorporated by reference herein as a part thereof.

## ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents. A copy of such amended, revised or supplemental provision is incorporated in the contract documents and hereby incorporated by reference herein as a part thereof.

§ 8.2 The Owner's representative:  
*(Name, address, email address, and other information)*

«Director, Architectural Engineering Department »

«P. O. Box 1827 »

«Mobile, Alabama 36633-1827 »

§ 8.3 The Contractor's representative:  
*(Name, address, email address, and other information)*

« »

<< » § 8.4 Neither the Owner’s nor the Contractor’s representative shall be changed without ten (10) days’ prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth below:

The Contractor shall purchase and maintain from a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor’s operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers’ compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor’s employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor’s employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor’s obligations under Section 3.18 of the General Conditions of the Contract for Construction.

The Contractor shall take out and maintain during the life of the Contract no less than the following amounts of insurance with the City of Mobile named as an additional insured. Contractor shall submit a Certificate of Insurance. Insurance companies listed as the "Companies Affording Coverage" shall be authorized by the Secretary of the State of Alabama. Insurance produced out of the State of Alabama must be signed or counter signed by a licensed Agent of Alabama, with the Agent’s name, address and telephone number typed or printed on the face of the Certificate of Insurance.

- .1 Workmen’s Compensation Insurance: - Statutory-amount and coverage as required by all applicable laws, rules or regulations of the State of Alabama.
- .2 Employee’s Liability Insurance shall be provided for limits of liability not less than:
  - A. Bodily Injury by Accident \$1,000,000 each accident
  - B. Bodily Injury by Disease \$1,000,000 each employee
  - C. Bodily Injury by Disease \$1,000,000 each policy
- .3 The Contractor shall provide Broad Form (commonly termed Comprehensive) General Liability Insurance (including premises-product-completed operations, independent contractors, and blanket contractual liability), specifically covering the obligations assumed by the Contractor for limits of liability not less than:
  - A. Bodily Injury \$1,000,000 each person  
\$1,000,000 each occurrence
  - B. Property Damage \$1,000,000 each occurrence; or
  - C. Bodily Injury and Property Damage \$1,000,000 combined single limit
- .4 Such comprehensive policy shall include the following:
  - A. All liability of the Contractor, for the Contractor’s Direct Operations.



- B. Subcontractor's Operations.
  - C. Completed Operations Cover, thereby meaning any loss which shall occur after the contract has been completed, but which can be traced back to the Contract.
  - D. General Aggregate Limit of \$2,000,000 shall apply on a "Per Project" Basis.
  - E. Contractual Liability, meaning thereby; any risk assumed by the Contractor under Hold Harmless Agreements or any other assumption of liability, but specifically items 11.1.1.8.3G herein below
  - F. Broad Form Property damage Coverage, including Completed Operations.
  - G. Personal Injury Liability, with employee's exclusions removed.
  - H. Explosion and Collapse Hazard:
    - Included or  Not Applicable.
  - I. Underground Hazard:
    - Included or  Not Applicable.
- .5 The Contractor shall carry for himself and shall require that all Subcontractors and all Owners of Automobiles or trucks rented or hired on the contract carry, until the Contracts is completed, Comprehensive Automobile Liability Coverage for Bodily Injury and property. Damage for any auto in amounts not less than the minimum amounts as indicated. The Contractor and Subcontractor shall also carry for themselves insurance for all non-owned and hired automobile at the limits of liability as indicated below:
- |    |                                      |  |
|----|--------------------------------------|--|
| A. | Bodily Injury                        | \$1,000,000 each person<br>\$1,000,000 each occurrence |
| B. | Property damage                      | \$1,000,000 each occurrence; or,                       |
| C. | Bodily Injury and<br>Property damage | \$1,000,000 combined single limit                      |
- .6 Umbrella/Excess Liability: \$2,000,000 combined single limit each occurrence for bodily injury and/or property damage
- .7 A Surety authorized to do business in the State of Alabama shall furnish the required Insurance.
- .8 The standard ACORD™ format shall be provided. The ACORD™ Certificate must be signed or countersigned by a Licensed Resident Agent of the State of Alabama and the agent's name, address and telephone number must appear on the face of the certificate.
- .9 The Surety must have a minimum rating of A/Class VI as reported in the latest issue of Best's Key Rating Guide Property-Casualty, published by Alfred M. Best Company, Inc. if the bid price exceeds \$50,000.00.

The insurance shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

Certificates of insurance acceptable to the Owner shall be filed with the Owner within ten (10) calendar days from date of issuance of contract forms for execution. Contractor shall deliver to the City of Mobile, certificates of insurance certifying the existence and limits of the insurance coverages along with separate policy endorsements. Contractor shall also be responsible for delivering policy renewal certificates to the City of Mobile, and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies shall contain a provision that coverages afforded under the policies will not be cancelled subject to non-renewal nor material change, or allowed to expire without at least thirty (30) days' (except ten (10) days from non-payment) prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment

and thereafter upon renewal or replacement of such coverage until the expiration of the time. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

All policies of insurance, except worker's compensation, shall be endorsed to provide that all such insurances are primary and non-contributing with any other insurance maintained by the City of Mobile and endorsed to waive rights of subrogation in favor of the City of Mobile.

The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

**§ 8.5.2** The Contractor shall provide bonds as set forth below:

Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder.

Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

The Labor and Material Payment Bond and the Performance Bond shall each be for one hundred percent (100%) of the Contract Sum.

1. Bond shall be submitted with the executed agreement on provided form(s).
2. Power of Attorney is required for both bonds.
3. A Surety authorized to do business in the State of Alabama shall furnish both bonds.
4. A Surety licensed to do business in the State of Alabama must execute the bonds.
5. The Surety must have a minimum rating of A/Class VI as reported in the latest issue of Best's Key Rating Guide Property-Casualty, published by Alfred M. Best Company, Inc., if the bid price exceeds \$50,000.00.
6. The Surety company shall be required to execute AIA Document G-707, "Consent of Surety to Final Payment" prior to Final Payment being made to the Contractor.

**§ 8.6** Indemnification:

The Contractor shall indemnify, defend and hold harmless City and its officers, elected officials, agents, representatives, and employees in respect of any and all claims, injuries, losses, diminution in value, damages, liabilities, whether or not currently due, and related expenses (including without limitation, settlement costs and any legal or other expenses for investigating or defending any actions or threatened actions) arising from or in connection with the contractor's performance under this agreement, including but not limited to, environmental laws, regulations, orders and decrees of whatever character or nature and damage or injury to persons or property. Contractor hereby confirms and agrees that Contractor is not a 'design professional' as defined in Alabama Act 2021-318, and not required to carry professional liability insurance for the performance or obligations of this contract.

**§ 8.7** Other Provisions:

«Contractor shall provide a minimum one (1) year warranty from the date of substantial completion of all Labor and Materials for the Work covered by this contract, unless otherwise specified. Labor and Material warranties required by other sections of the construction document shall not conflict with this provision. The most stringent warranty provision shall apply. »

**§ 8.8** Force Majeure:

In the event that either party hereto shall be delayed or hindered in or prevented from the performance of any act required hereunder by reason of strikes, lockouts, labor troubles, inability to procure materials, failure of power, restrictive governmental laws or regulations, riots, insurrection, war, Act of God, or other reason of a like nature not the fault of the party delayed in performing work or doing acts required under the terms of this Agreement, then performance of such act shall be excused for the period of the delay and the period for the performance of any such act shall be extended for a period equivalent to the period of such delay.

**ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS**

§ 9.1 This Agreement is comprised of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor
- .2 Drawings

Number	Title	Date
L0.00	COVER SHEET/ INDEX	04/05/2023
L0.01	GENERAL NOTES	04/05/2023
C1.00	EROSION CONTROL PLAN	04/05/2023
C1.01	EROSION CONTROL NOTES AND DETAILS	04/05/2023
L1.00	EXISTING CONDITIONS PLAN	04/05/2023
L1.01	DEMO/TREE PROTECTION PLAN	04/05/2023
L1.02	DEMO/ TREE PROTECTION DETAILS	04/05/2023
L2.00	LAYOUT PLAN	04/05/2023
L2.01	LAYOUT PLAN: FOUNTAIN PLAZA ENLARGEMENT	04/05/2023
L2.02	SITE AMENITIES	04/05/2023
L2.03	SITE SLEEVING PLAN	04/05/2023
L2.04	SITE JOINT PLAN	04/05/2023
L2.05	FOUNTAIN PLAZA CONCRETE FOUNDATION JOINT PLAN	04/05/2023
L3.00	GRADING PLAN	04/05/2023
L4.00	HARDSCAPE PLAN	04/05/2023
L4.01	HARDSCAPE DETAILS I	04/05/2023
L4.02	HARDSCAPE DETAILS II	04/05/2023
L4.03	PAVING CUT SHEET DIAGRAM	04/05/2023
L4.04	FOUNTAIN PLAZA DETAIL I	04/05/2023
L4.05	FOUNTAIN PLAZA DETAIL II	04/05/2023
L5.00	PLANTING PLAN	04/05/2023
L5.01	PLANTING DETAILS	04/05/2023
L6.00	SCHEMATIC IRRIGATION DIAGRAM	04/05/2023
L6.01	IRRIGATION DETAILS	04/05/2023
L6.02	IRRIGATION DETAILS II	04/05/2023
F1.00	DISCHARGE PIPING SCHEMATIC	04/05/2023
F2.00	SUCTION PIPING SCHEMATIC	04/05/2023
F2.01	DRAIN PIPING SCHEMATIC	04/05/2023

F3.00	ELECTRICAL SCHEMATIC	04/05/2023
F3.01	ELECTRICAL SCHEMATIC	04/05/2023
F3.02	ELECTRICAL SCHEMATIC	04/05/2023
F3.03	ELECTRICAL SCHEMATIC	04/05/2023
F3.10	POWER SUPPLY & BONDING DETAILS	04/05/2023
F4.00	VAULT & MECHANICAL DETAILS	04/05/2023
44.01	VAULT & MECHANICAL DETAILS	04/05/2023
F4.10	EQUIPMENT INSTALLATION DETAILS	04/05/2023
F4.11	EQUIPMENT INSTALLATION DETAILS	04/05/2023
F4.21	NOTES	04/05/2023
F5.00	ENLARGED PLANS AND SECTIONS	04/05/2023
F5.01	ENLARGED PLANS AND SECTIONS	04/05/2023
F5.02	FEATURE FLOW DIAGRAM	04/05/2023
F5.03	FEATURE LIGHTING ELECTRICAL DIAGRAM	04/05/2023
S1.01	FOUNTAIN FOUNDATION PLAN, SECTIONS, AND DETAILS	04/05/2023
S1.02	EQUIPMENT VAULT FOUNDATIONS PLAN, SECTIONS AND DETAILS	04/05/2023
E1.0	ELECTRICAL PLAN	04/05/2023
E2.0	ELECTRICAL PLAN	04/05/2023
E3.0	ELECTRICAL PLAN	04/05/2023
P1.0	PLUMBING WATER AND WASTE PLAN	04/05/2023

### .3 Specifications

Section	Title	Date
Section 00100	Invitation to Bid	04/05/2023
Section 00200	Instructions to Bidders – AIA Document A701	04/05/2023
Section 00300	Supplementary Instructions to Bidders	04/05/2023
Section 00400	Bid Form	04/05/2023
	Sales Tax Form C-3A	04/05/2023
	Supplier Diversity Subcontracting & Major Supplier Plan	04/05/2023
Section 00500	Standard Form of Agreement Between Owner and Contractor – AIA Document A101	04/05/2023
Section 00600	Bonds, Certificates and Affidavits	04/05/2023
	Performance Bond (Owner’s modified form)	04/05/2023
	Labor and Materials Payment Bond (Owner’s Modified Form)	04/05/2023
	E-Verify Documentation (Sample)	04/05/2023
		04/05/2023
		04/05/2023

	Application and Certification for Payment – AIA Document G702 and AIA Document G703 with DBE Utilization Report	04/05/2023
	Certificate of Substantial Completion - AIA Document G704	04/05/2023
	Contractor’s Affidavit of Payments of Debits & Claims – AIA Document G706	04/05/2023
	Contractor’s Affidavit of Release of Liens – AIA Document G706A	04/05/2023
	Consent of Surety to Final Payment – AIA Document G707	04/05/2023
Section 00700	Request for Taxpayer Identification Number and Certification, City of Mobile Vender Information Form, and W-9 Form	04/05/2023
Seals	General Conditions of the Contract for Construction – AIA Document A201	04/05/2023
Section 010100	Seals Page	04/05/2023
Section 013300	Summary of the Work	04/05/2023
Section 014000	Submittal Procedures	04/05/2023
Section 016350	Quality Requirements	04/05/2023
Section 017300	Substitution Procedures	04/05/2023
Section 017010	Execution Requirements	04/05/2023
Section 017823	Closeout Procedures	04/05/2023
Section 017839	Operations and Maintenance Manuals	04/05/2023
Section 022310	Project Record Documents	04/05/2023
Section 024119	Tree Protection and Trimming	04/05/2023
Section 031100	Selective Demolition	04/05/2023
Section 032000	Concrete Formwork	04/05/2023
Section 033100	Concrete Reinforcement	04/05/2023
Section 040600	Cast in Place Concrete	04/05/2023
Section 042000	Masonry Mortar and Grout	04/05/2023
Section 071400	Unit Masonry	04/05/2023
Section 131213	Fluid Applied Waterproofing	04/05/2023
Section 311000	Exterior Fountains	04/05/2023
Section 312300	Site Clearing	04/05/2023
Section 321313	Earthwork	04/05/2023
Section 321373	Concrete Paving	04/05/2023
Section 321400	Concrete Paving Joints Sealants	04/05/2023
	Unit Paving	
Section 328400	Planting Irrigation	04/05/2023
Section 329200	Turf and Grasses	04/05/2023
Section 329300	Plants	04/05/2023

**.4** Addenda, if any:

Number	Date

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

**.5** Other Exhibits:  
*(Check all boxes that apply and include appropriate information identifying the exhibit where required.)*

**§ 9.2**  
 Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
N/A			

§ 9.2.1 Other documents, if any, listed below:

*(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)*



§ 9.2.2 Best Management Practices (BMPs):

The Contractor shall be responsible for providing, implementing and maintaining BMPs for sediment and erosion control in full compliance with all applicable Local, State and Federal Codes and Ordinances throughout the contract period. All Work shall be in accordance with the Clean Water Act; the Alabama Water Pollution Control Act; the current version of the Alabama Handbook for Erosion Control, Sediment Control Stormwater Management on Construction sites and Urban Areas; and the current version of the Mobile, Alabama City Code Chapter 17 Stormwater Management and Flood Control. All Waste water with oils, grease, paint, mortar, etc., shall be properly contained and disposed of.

§ 9.2.3 Contractor shall comply with all Federal, State and local laws concerning nondiscrimination, including but not limited to City of Mobile Ordinance No. 14-034 which requires, *inter alia*, that all contractors performing work for the City of Mobile not discriminate on the basis of race, creed, color, national origin or disability, require that all subcontractors they engage do the same, and make every reasonable effort to assure that fifteen percent of the work performed under contract be awarded to socially and economically disadvantaged individuals and business entities.

§ 9.2.4 By signing this contract, the contracting parties affirm, for the duration of the agreement, that they will not violate federal immigration law or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the agreement and shall be responsible for all damages resulting therefrom.

§ 9.2.5 Public Contracts with Entities Engaging in certain Boycott Activities:

By signing this contract, the Contractor further represents and agrees that it is not currently engaged in, nor will it engage in, any boycott of a person or entity based in or doing business with a jurisdiction with which the State of Alabama can enjoy open trade.

§ 9.2.6 Severability Clause:

In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement, but this Agreement shall be construed as if such invalid or illegal or unenforceable provision had never been contained herein. Upon such determination that any term or other provision is invalid, illegal or unenforceable, the court or other tribunal making such determination is authorized and instructed to modify this Agreement so as to effect the original intent of the parties as closely as possible so that the transactions and agreements contemplated herein are consummated as originally contemplated to the fullest extent possible.

§ 9.2.7 Non-Agency Clause:

Contractor, in the performance of its operations and obligations hereunder, shall not be deemed to be an agent of City but shall be deemed to be an independent Contractor in every respect and shall take all steps at its own expense, as City may from time to time request, to indicate that it is an independent Contractor. City does not and will not assume any responsibility for the means by which or the manner in which the services by Contractor provided for herein are performed, but on the contrary, Contractor shall be wholly responsible therefore.

**REMAINDER OF PAGE INTENTIONALLY LEFT BLANK**

TRABAR

This Agreement entered into as of the day and year first written above.

City of Mobile

Legal Name of Party to Contract:  
Contractor:

\_\_\_\_\_  
OWNER (Signature)

\_\_\_\_\_  
CONTRACTOR (By Signature)

\_\_\_\_\_  
William S. Stimpson, Mayor  
(Printed name and title)

\_\_\_\_\_  
(Printed name and title)

ATTEST:

\_\_\_\_\_  
City Clerk

STATE OF ALABAMA  
COUNTY OF MOBILE

Before me, the undersigned a Notary Public in and for said County and State, personally appeared \_\_\_\_\_ as \_\_\_\_\_ of \_\_\_\_\_ and after being duly sworn, did depose and say that he, as such officer and with full authority, signed the above and foregoing voluntarily as the act of said corporation on the day the same bears date. Sworn to and subscribed for me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

My Commission Expires: \_\_\_\_\_



## **SECTION 00600 – BONDS, CERTIFICATES, AND AFFIDAVITS**

### **PART 1 GENERAL**

This section includes the Bond Forms and Certificates that are to be used on this Project. No other forms will be accepted. Forms may be obtained from the Architectural Engineering Department, City of Mobile, telephone number 251-208-7454.

#### **1.1 FORMS**

- A. PERFORMANCE BOND. Owner's modified Performance Bond form.
- B. LABOR AND MATERIAL PAYMENT BOND. Owner's modified Payment Bond form.
- C. E-Verify Documentation (Sample)
- D. APPLICATION AND CERTIFICATION FOR PAYMENT - AIA Document G702 and AIA Document G703 and DBE Utilization Report
- E. CERTIFICATE of SUBSTANTIAL COMPLETION – AIA Document G704-2017
- F. CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS - AIA Document G706
- G. CONTRACTOR'S AFFIDAVIT OF RELEASE OF LIENS - AIA Document G706A.
- H. CONSENT OF SURETY TO FINAL PAYMENT - AIA Document G707
- I. Request for Taxpayer Identification Number and Certification, W-9 Form, and City of Mobile Vendor Information Form

## PERFORMANCE BOND

Any singular reference to Contractor, Surety, Owner or other Party shall be considered plural where applicable.

**KNOW ALL MEN BY THESE PRESENTS:** That the Contractor, \_\_\_\_\_,  
\_\_\_\_\_, hereinafter called the Principal, and \_\_\_\_\_,  
\_\_\_\_\_, hereinafter called the Surety, are held and firmly bound unto the **City of Mobile, P. O. Box 1827, Mobile, AL 36633**, hereinafter called the Owner, in the penal sum of \_\_\_\_\_ and xx/100 Dollars (\$\_\_\_\_\_.00) for payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns for the faithful performance of a certain written Contract dated the \_\_\_\_ day of \_\_\_\_\_, 2023 entered into between the Principal and the City of Mobile for furnishing all labor, material, equipment and insurance and performing all Work required to properly complete Bienville Square – Fountain and Site Amenities Improvements (PR-021-22) 150 dauphin Street, Mobile, Alabama, a copy of which said Contract is incorporated herein by reference and is made a part hereof as if fully copied herein.

**NOW, THEREFORE**, the condition of this obligation is such that if the Principal shall faithfully perform the terms and conditions of the Contract in all respects on its part and shall fully pay all obligations incurred in connection with the performance of such Contract on account of labor and materials used in connection therewith, and all such other obligations of every form, nature and character, and shall save harmless the Owner from all and any liability of every nature, kind and character which may be incurred in connection with the performance or fulfillment of such Contract or other such and liability resulting from negligence or otherwise on the part of such Principal and further save harmless the Owner from all cost and damage which may be suffered by reason of the failure to fully and completely perform said contract and shall fully reimburse and repay the Owner for all expenditures of every kind, character, and description which may be incurred by the Owner in making good any and every default which may exist on the part of the Principal in connection with the performance of said Contract; and further that the Principal shall pay all lawful claims of all persons, firms, partnerships, or corporations for all labor performed and material furnished in connection with the performance of the Contract, and that the failure to do so with such persons, firms, partnerships or corporations shall give them a direct obligation; and provided, however, that no suit, action, or proceedings by reason of any default whatever shall be brought on this bond after two years from the date on which the final payment on the Contract falls due, and provided, further, that if any alterations or additions which may be made under the Contract, or in the work to be done under it, or the giving by the Owner of any extensions of time for the performance of the Contract or any other forbearance being expressly waived. This obligation shall remain in full force and effect until the performance of all covenants, terms and conditions herein stipulated and after such performance, it shall become null and void.

In addition to any other legal mode of service, service of summons, and other process in civil actions brought in Mobile County may be had on the Contractor or the Surety on the bond by leaving a copy of the summons and complaint or other pleading or process with the Mayor of the City of Mobile which shall bind the principal Contractor and Surety to the mode of service above described and that the service shall be the same as personal service on the contractor or surety. This Bond is given pursuant to the terms of Alabama Code, Title 39-1-1, et. al., As Amended.

### EXECUTED IN FOUR (4) COUNTERPARTS.

SIGNED, SEALED AND DELIVERED this \_\_\_\_ day of \_\_\_\_\_, 2023.

**CONTRACTOR AS PRINCIPAL**

Company: \_\_\_\_\_  
(Corporate Seal)

By: \_\_\_\_\_  
(Signature)

Name and Title: \_\_\_\_\_

**SURETY**

Company: \_\_\_\_\_  
(Corporate Seal)

By: \_\_\_\_\_  
(Signature)

Name and Title: \_\_\_\_\_

Resident Agent: \_\_\_\_\_  
(Signature)

Name and Title: \_\_\_\_\_  
Company Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone and Fax: \_\_\_\_\_

Owner's Representative: Cassie Boatwright  
REAM Director  
PO Box 1827  
Mobile, AL 36633  
251-208-7454

# LABOR AND MATERIAL PAYMENT BOND

Any singular reference to Contractor, Surety, Owner or other Party shall be considered plural where applicable.

**KNOW ALL MEN BY THESE PRESENTS:** That the Contractor, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, as Principal, and \_\_\_\_\_, as Surety, are held and firmly bound unto the **City of Mobile, P. O. Box 1827, Mobile, AL 36633** (hereinafter called the "Obligee") in the penal sum of \_\_\_\_\_ and xx/100 (\$ \_\_\_\_\_ .00) lawful money of the United States, for the payment of which sum well and truly to be made we bind ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, said Principal has entered into a certain Contract with said Obligee, dated the \_\_\_\_ day of \_\_\_\_\_, 2023 (hereinafter called the "Contract") for furnishing all labor, material, equipment and insurance and perform all work required to properly complete Bienville Square – Fountain and Site Amenities Improvements (PR-021-22) 150 dauphin Street, Mobile, Alabama, which, **THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH** that if said Principal and all subcontractors to whom any portion of work provided for in said Contract is sublet and all assignees of said Principal and of such subcontractors shall promptly make payments to all persons supplying him or them with labor, materials or supplies for or in the prosecution of the work provided for in such Contract, or in any amendment or extension of or additions to said Contract, and for the payment of reasonable attorney's fees, incurred by the claimant or claimants in suits on each bond, then the above obligations shall be void; otherwise to remain in full force and effect. **PROVIDED**, however, that this bond is subject to the following conditions and limitations.

- (a) Any person, firm or corporation that has furnished labor, materials or supplies for or in the prosecution of the work provided for in said contract shall have a direct right of action against the Principal and Surety on this bond, which right of action shall be asserted in a proceeding instituted in the County in which the work provided for in said Contract is to be performed or in any county in which said Principal and Surety does business. Such right of action shall be asserted in a proceeding instituted in the name of the claimant or claimants for his or their use and benefit against said Principal and Surety or either of them (but not later than one year after the final settlement of said Contract) in which action such claim or claims shall be adjudicated and judgment rendered thereon.
- (b) The Principal and Surety hereby designate and appoint \_\_\_\_\_ **Attorney-In-Fact**, as the agent of each of them to receive and accept service of process or other pleading issued or filed in any proceeding instituted on this bond and hereby consent that such service shall be the same as personal service on the Principal and/or Surety. In addition to any other legal mode of service, service of summons, and other process in civil actions brought in Mobile County may be had on the Contractor or the Surety on the bond by leaving a copy of the summons and complaint or other pleading or process with the Mayor of the City of Mobile which shall bind the principal Contractor and Surety to the mode of service above described and that the service shall be the same as personal service on the contractor or surety.
- (c) The Surety shall not be liable hereunder for damage or compensation recoverable under any Workmen's Compensation or Employer's Liability Statute.
- (d) In no event shall the Surety be liable for a greater sum than the penalty of this bond, or subject to any suit, action or proceeding thereon that is instituted later than two years after the final settlement of said Contract.
- (e) This bond is given pursuant to the terms of Alabama Code, Title 39-1-1, et. al., As Amended.

**EXECUTED IN FOUR (4) COUNTERPARTS.**

SIGNED, SEALED AND DELIVERED this \_\_\_\_ day of \_\_\_\_\_, 2023

**CONTRACTOR AS PRINCIPAL**  
Company: \_\_\_\_\_  
(Corporate Seal)

**SURETY**  
Company: \_\_\_\_\_  
(Corporate Seal)

By: \_\_\_\_\_  
(Signature)

By: \_\_\_\_\_  
(Signature)

Name and Title: \_\_\_\_\_

Name and Title: \_\_\_\_\_

Resident Agent: \_\_\_\_\_  
(Signature)

Owner's Representative: Cassie Boatwright  
REAM Director  
PO Box 1827  
Mobile, AL 36633  
251-208-7454

Name and Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone and Fax: \_\_\_\_\_

Company ID Number:

Approved by:

Employer	
Name (Please Type or Print)	
Signature	Date
Department of Homeland Security, Division	
Name (Please Type or Print)	Title
Signature	Date

**SAMPLE**

Company ID Number:

Information Required for the E-Verify Program	
Information relating to your Company:	
Company Name	
Company Facility Address	
Company Alternate Address	
County or Parish	
Employer Identification Number	
North American Industry Classification Systems Code	
Parent Company	
Number of Employees	
Number of Sites Verified for	

**SAMPLE**

TO OWNER City of Mobile  
P. O. Box 1827  
Mobile, Alabama 36633-1827

PROJECT:

APPLICATION NO:

Distribution to:

<input type="checkbox"/>	OWNER
<input type="checkbox"/>	ARCHITECT
<input type="checkbox"/>	CONTRACTOR
<input type="checkbox"/>	
<input type="checkbox"/>	

PERIOD TO:

FROM CONTRACTOR:

VIA ARCHITECT:

PROJECT NO:

CONTRACT FOR:

CONTRACT DATE:

**CONTRACTOR'S APPLICATION FOR PAYMENT**

Application is made for payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

- 1. ORIGINAL CONTRACT SUM \$ \_\_\_\_\_
- 2. Net change by Change Orders \$ \_\_\_\_\_
- 3. CONTRACT SUM TO DATE (Line 1 ± 2) \$ \_\_\_\_\_
- 4. TOTAL COMPLETED & STORED TO DATE (Column G on G703) \$ \_\_\_\_\_
- 5. RETAINAGE:
  - a. \_\_\_\_\_ % of Completed Work \$ \_\_\_\_\_  
(Column D + E on G703)
  - b. \_\_\_\_\_ % of Stored Material \$ \_\_\_\_\_  
(Column F on G703)
  - Total Retainage (Lines 5a + 5b or Total in Column I of G703) \$ \_\_\_\_\_
- 6. TOTAL EARNED LESS RETAINAGE \$ \_\_\_\_\_  
(Line 4 Less Line 5 Total)
- 7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate) \$ \_\_\_\_\_
- 8. CURRENT PAYMENT DUE \$ \_\_\_\_\_
- 9. BALANCE TO FINISH, INCLUDING RETAINAGE \$ \_\_\_\_\_  
(Line 3 less Line 6)

CONTRACTOR:

By: \_\_\_\_\_ Date: \_\_\_\_\_

State of: \_\_\_\_\_ County of: \_\_\_\_\_  
Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_  
Notary Public:  
My Commission expires: \_\_\_\_\_

**ARCHITECT'S CERTIFICATE FOR PAYMENT**

In accordance with the Contract Documents, based on on-site observations and the data comprising the application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED . . . . . \$ \_\_\_\_\_

*(Attach explanation if amount certified differs from the amount applied. Initial all figures on this Application and on the Continuation Sheet that are changed to conform with the amount certified.)*  
ARCHITECT:

By: \_\_\_\_\_ Date: \_\_\_\_\_

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner		
Total approved this Month		
<b>TOTALS</b>		
NET CHANGES by Change Order		

# CONTINUATION SHEET

AIA DOCUMENT G703

PAGE OF PAGES

AIA Document G702, APPLICATION AND CERTIFICATION FOR PAYMENT, containing Contractor's signed certification is attached.

APPLICATION NO:  
APPLICATION DATE:

In tabulations below, amounts are stated to the nearest dollar.

PERIOD TO:

Use Column I on Contracts where variable retainage for line items may apply.

ARCHITECT'S PROJECT NO:

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED (NOT IN D OR E)	G		H BALANCE TO FINISH (C - G)	I RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD		TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G ÷ C)		
<b>GRAND TOTALS</b>									

Users may obtain validation of this document by requesting of the license a completed AIA Document D401 - Certification of Document's Authenticity

OFFICE OF SUPPLIER DIVERSITY

**CITY OF MOBILE**

**DBE Compliance  
DBE UTILIZATION REPORT**

**Return to Office of Supplier Diversity**  
Via email: [archnique.kidd@cityofmobile.org](mailto:archnique.kidd@cityofmobile.org)  
or  
P.O. Box 1948  
Mobile, AL 36633

<b>CONTRACTOR:</b>	<b>Certified DBE:</b>	<b>YES</b>	<b>NO</b>	<b>Contract Start Date:</b>
--------------------	-----------------------	------------	-----------	-----------------------------

<b>DESCRIPTION:</b>	<b>Estimated Completion Date:</b>
---------------------	-----------------------------------

<b>This report is for the month of:</b> <b>(CHECK ONE):</b>	JAN	APR	JULY	OCT	
	FEB	MAY	AUG	NOV	FINAL _____
	MARCH	JUNE	SEPT	DEC	

Original Contract Amount	Total Amount of Contract Changes (change orders or amendments)	Final Contract Amount (include contract changes)	Payments to Date from City of Mobile	OFFICE USE ONLY (Verification)
\$	\$	\$	\$	

**Instructions:** List all DBEs utilized on the contract, whether or not the firms were originally listed for DBE goal credit. List actual amount paid to each DBE firm. If the established Percentage is not being met, please include a narrative description of the progress being made in DBE participation.

DBE SUBCONTRACTOR	DBE DESCRIPTION OF WORK	DBE SUBCONTRACT AMOUNT	DBE PAYMENTS THIS REPORT	PAYMENTS TO DATE	OFFICE USE ONLY (Verification)
		\$	\$	\$	
		\$	\$	\$	
		\$	\$	\$	
		\$	\$	\$	
<b>TOTALS</b>		\$	\$	\$	

**I HEREBY CERTIFY THAT THE INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT. SUPPORTING DOCUMENTATION IS ON FILE AND IS AVAILABLE FOR INSPECTION BY CITY OF MOBILE OFFICE OF SUPPLIER DIVERSITY PERSONNEL AT ANY TIME.**

PRINT NAME: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ /\_\_\_\_\_/\_\_\_\_\_  
(Title) (Date)







# AIA® Document G704™ – 2017

## Certificate of Substantial Completion

<b>PROJECT:</b> <i>(name and address)</i>  Contract #	<b>CONTRACT INFORMATION:</b> Contract For: Construction Date:	<b>CERTIFICATE INFORMATION:</b> Certificate Number: 001 Date:
<b>OWNER:</b> <i>(name and address)</i> City of Mobile - AE Department P. O. Box 1827 Mobile, Alabama 36633	<b>ARCHITECT:</b> <i>(name and address)</i>	<b>CONTRACTOR:</b> <i>(name and address)</i>

The Work identified below has been reviewed and found, to the Architect’s best knowledge, information, and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project or portion designated below is the date established by this Certificate.  
*(Identify the Work, or portion thereof, that is substantially complete.)*  
Work of the Contract for Construction.

<b>ARCHITECT</b> <i>(Firm Name)</i>	<b>SIGNATURE</b>	<b>PRINTED NAME AND TITLE</b>	<b>DATE OF SUBSTANTIAL COMPLETION</b>
-------------------------------------	------------------	-------------------------------	---------------------------------------

### WARRANTIES

The date of Substantial Completion of the Project or portion designated above is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:  
*(Identify warranties that do not commence on the date of Substantial Completion, if any, and indicate their date of commencement.)*

### WORK TO BE COMPLETED OR CORRECTED

A list of items to be completed or corrected is attached hereto, or transmitted as agreed upon by the parties, and identified as follows:  
*(Identify the list of Work to be completed or corrected.)*  
See attached punch list.

The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. Unless otherwise agreed to in writing, the date of commencement of warranties for items on the attached list will be the date of issuance of the final Certificate of Payment or the date of final payment, whichever occurs first. The Contractor will complete or correct the Work on the list of items attached hereto within ( ) days from the above date of Substantial Completion.

Cost estimate of Work to be completed or corrected: \$

The responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work, insurance, and other items identified below shall be as follows:

*(Note: Owner’s and Contractor’s legal and insurance counsel should review insurance requirements and coverage.)*

Per the Contract Documents, the Contractor shall be responsible for damages to the Work and providing all Insurance required under the AIA A101-Agreement Between Owner and the Contractor for a Stipulated Sum, Article 8.5.1, until Final Payment. The Contractor shall also be responsible for labor and materials as required to provide repairs to the work for one calendar year following the substantial completion date. The Owner shall be responsible for general security, heat, and utilities at the facility.

The Owner and Contractor hereby accept the responsibilities assigned to them in this Certificate of Substantial Completion:

<b>CONTRACTOR</b> <i>(Firm Name)</i>  City of Mobile	<b>SIGNATURE</b>	<b>PRINTED NAME AND TITLE</b>  Cynthia L. Klotz, AIA, Assistant Director	<b>DATE</b>
<b>OWNER</b> <i>(Firm Name)</i>	<b>SIGNATURE</b>	<b>PRINTED NAME AND TITLE</b>	<b>DATE</b>



# AIA<sup>®</sup> Document G706<sup>™</sup> – 1994

## Contractor's Affidavit of Payment of Debts and Claims

PROJECT: *(Name and address)*

ARCHITECT'S PROJECT NUMBER:

OWNER:

ARCHITECT:

TO OWNER: *(Name and address)*

CONTRACT FOR: General Construction

CONTRACTOR:

CONTRACT DATED:

SURETY:

OTHER:

STATE OF:

COUNTY OF:

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor, and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO:

1. Consent of Surety to Final Payment. Whenever Surety is involved, Consent of Surety is required. AIA Document G707, Consent of Surety, may be used for this purpose

Indicate Attachment  Yes  No

CONTRACTOR: *(Name and address)*

*The following supporting documents should be attached hereto if required by the Owner:*

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.
3. Contractor's Affidavit of Release of Liens (AIA Document G706A).

BY: \_\_\_\_\_

*(Signature of authorized representative)*

\_\_\_\_\_  
*(Printed name and title)*

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:



# AIA<sup>®</sup> Document G706A<sup>™</sup> – 1994

## Contractor's Affidavit of Release of Liens

<b>PROJECT:</b> <i>(Name and address)</i>	<b>ARCHITECT'S PROJECT NUMBER:</b>	OWNER: <input type="checkbox"/>
	<b>CONTRACT FOR:</b> General Construction	ARCHITECT: <input type="checkbox"/>
<b>TO OWNER:</b> <i>(Name and address)</i>	<b>CONTRACT DATED:</b>	CONTRACTOR: <input type="checkbox"/>
		SURETY: <input type="checkbox"/>
		OTHER: <input type="checkbox"/>

**STATE OF:**  
**COUNTY OF:**

The undersigned hereby certifies that to the best of the undersigned's knowledge, information and belief, except as listed below, the Releases or Waivers of Lien attached hereto include the Contractor, all Subcontractors, all suppliers of materials and equipment, and all performers of Work, labor or services who have or may have liens or encumbrances or the right to assert liens or encumbrances against any property of the Owner arising in any manner out of the performance of the Contract referenced above.

**EXCEPTIONS:**

**SUPPORTING DOCUMENTS ATTACHED HERETO:**

1. Contractor's Release or Waiver of Liens, conditional upon receipt of final payment.
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers, to the extent required by the Owner, accompanied by a list thereof.

**CONTRACTOR:** *(Name and address)*

BY: \_\_\_\_\_

*(Signature of authorized representative)*

\_\_\_\_\_  
*(Printed name and title)*

Subscribed and sworn to before me on this date:

Notary Public:

My Commission Expires:



# AIA<sup>®</sup> Document G707<sup>™</sup> – 1994

## Consent Of Surety to Final Payment

PROJECT: *(Name and address)*

ARCHITECT'S PROJECT NUMBER:

OWNER:

CONTRACT FOR: General Construction

ARCHITECT:

TO OWNER: *(Name and address)*

CONTRACT DATED:

CONTRACTOR:

SURETY:

OTHER:

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the  
*(Insert name and address of Surety)*

on bond of  
*(Insert name and address of Contractor)*

, SURETY,

hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the  
Surety of any of its obligations to  
*(Insert name and address of Owner)*

, CONTRACTOR,

as set forth in said Surety's bond.

, OWNER,

IN WITNESS WHEREOF, the Surety has hereunto set its hand on this date:  
*(Insert in writing the month followed by the numeric date and year.)*

\_\_\_\_\_  
*(Surety)*

\_\_\_\_\_  
*(Signature of authorized representative)*

\_\_\_\_\_  
*(Printed name and title)*

Attest:

*(Seal):*

**CITY OF MOBILE, AL  
VENDOR INFORMATION FORM**

*Company Information:*

1. City Vendor Number:

2. Name of Company:

3. Company D.B.A. Name, if any:

4. Mailing Address:

5. Remittance Address:

6. Telephone:

7. Fax

8. Main Email:

*Primary Contact:*

9. Contact Name and Title:

10. Contact Phone:

11. Contact Fax:

12. Contact Email:

*Alternate Contact (if applicable):*

13. Alt. Contact Name and Title:

14. Alt. Contact Phone:

15. Alt. Contact Fax:

16. Alt. Contact Email:

*City of Mobile Business License Information:*

17. City of Mobile Business License No. (if required):

*Please attach additional sheets if necessary.*

## Request for Taxpayer Identification Number and Certification

**Give Form to the  
 requester. Do not  
 send to the IRS.**

Print or type See Specific Instructions on page 2.	Name (as shown on your income tax return)	
	Business name/disregarded entity name, if different from above	
	Check appropriate box for federal tax classification: <input type="checkbox"/> Individual/sole proprietor <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate  <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____  <input type="checkbox"/> Other (see instructions) ▶ _____	
	<input type="checkbox"/> Exempt payee	
	Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
City, state, and ZIP code		
List account number(s) here (optional)		

### Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on the "Name" line to avoid backup withholding. For individuals, this is your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Social security number									

**Note.** If the account is in more than one name, see the chart on page 4 for guidelines on whose number to enter.

Employer identification number									

### Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me), and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding, and
3. I am a U.S. citizen or other U.S. person (defined below).

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 4.

<b>Sign Here</b>	Signature of U.S. person ▶	Date ▶
------------------	----------------------------	--------

### General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

#### Purpose of Form

A person who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) to report, for example, income paid to you, real estate transactions, mortgage interest you paid, acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA.

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN to the person requesting it (the requester) and, when applicable, to:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income.

**Note.** If a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien,
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States,
- An estate (other than a foreign estate), or
- A domestic trust (as defined in Regulations section 301.7701-7).

**Special rules for partnerships.** Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax on any foreign partners' share of income from such business. Further, in certain cases where a Form W-9 has not been received, a partnership is required to presume that a partner is a foreign person, and pay the withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid withholding on your share of partnership income.

**SECTION 00700 – General Conditions of the Contract for construction**

**PART 1 GENERAL**

- A. This section includes the GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, AIA Document A201 to be utilized with the Owner's most recent modifications and which shall be used in conjunction with the entire Bid Documents.





**AIA**<sup>®</sup>

# Document A201<sup>™</sup> – 2007

## **General Conditions of the Contract for Construction**

**for the following PROJECT:**

Bienville Square - Fountain &  
Site Amenities Improvements  
150 Dauphin Street  
Mobile, Alabama 36602

**THE OWNER:**

*(Name, legal status and address)*

City of Mobile

Architectural Engineering Department

P. O. Box 1827

Mobile, Alabama 36633-1827

This document has important  
legal consequences.  
Consultation with an attorney  
is encouraged with respect to  
its completion or modification.

**THE ARCHITECT:**

Hargrove And Associates, Inc. d/b/a  
Hargrove Engineers + Constructors  
20 South Royal Street  
Mobile, Alabama 36602

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- 3      **CONTRACTOR**
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Int.

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User Notes:

(1383216234)

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(Numbers and Topics in Bold are Section Headings)

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## ARTICLE 1 GENERAL PROVISIONS

### § 1.1 BASIC DEFINITIONS

#### § 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

#### § 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

#### § 1.1.3 THE WORK

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

#### § 1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

#### § 1.1.5 THE DRAWINGS

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

#### § 1.1.6 THE SPECIFICATIONS

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

#### § 1.1.7 INSTRUMENTS OF SERVICE

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, Project Manual, specifications, and other similar materials.

#### § 1.1.8 INITIAL DECISION MAKER

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2 and certify termination of the Agreement under Section 14.2.2.

### § 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

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§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

### § 1.3 CAPITALIZATION

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

### § 1.4 INTERPRETATION

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

### § 1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

### § 1.6 TRANSMISSION OF DATA IN DIGITAL FORM

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

## ARTICLE 2 OWNER

### § 2.1 GENERAL

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

~~§ 2.1.2 The Owner shall furnish to the Contractor within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.~~

### § 2.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

§ 2.2.1 Prior to commencement of the Work, the Contractor may request in writing that the Owner provide reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. Thereafter, the Contractor may only request such evidence if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) a change in the Work materially changes the Contract Sum; or (3) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due. The Owner shall furnish such evidence as a condition precedent to commencement or continuation of the Work or

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the portion of the Work affected by a material change. After the Owner furnishes the evidence, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.2 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site, site, as may be required. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 ~~Unless otherwise provided in the Contract Documents, the~~ The Owner shall furnish to the Contractor one ~~copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2 up to ten copies of the drawings and specifications as required for Contractor's execution of the Work. Any additional sets of documents that the contractor desires for construction of the Project will be issued to contractor at actual printing and handling costs.~~

#### § 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

#### § 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

### ARTICLE 3 CONTRACTOR

#### § 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

### § 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

### § 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

3.3.4 Three (3) days after the opening of the Bids, the Contractor shall furnish for written approval, an outline of the education, experience and character of the Contractor's project manager, superintendent and engineer. Any future substitution must have prior written approval of the Architect.

### § 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to ~~them~~them.

3.4.4 The Contractor's or his Subcontractor's supervisors and workmen engaged on special work or skilled Work in any supervisory position or trade shall be qualified and have had sufficient education, training and experience as a recognized professional or master mechanic in such Work to perform it properly and satisfactorily as prescribed in the Contract Documents.

3.4.5 Any project manager, superintendent, engineer, foreman or workman employed by the Contractor or by a subcontractor who, in the sole opinion of the Architect, does not perform his Work in a proper and skillful manner or becomes party to disrespectful, intemperate, disorderly, intoxicated, or dishonest behavior, or uses foul language, fights, commits criminal act(s) falsifies records and construction, covers-up faulty Work or materials, does not comprehend or follow instructions, does not get along with the Architect or Owner's representative, or is otherwise objectionable, shall, at the written request by the Architect, be discharged 24 hours by the Contractor or Subcontractor employing such project manager, superintendent, engineer, foreman or workman, and shall not be employed again or any portion of the Work without the written consent of the Architect.

3.4.6 Should the Contractor fail to remove such person or persons specified in Article 3.4.5 hereinabove or fail to furnish suitable and sufficient machinery, equipment, materials or qualified labor force for the proper execution of the Work, the Architect may withhold all payments which are or may become due the Contractor or may suspend the Work until such orders are complied with.

3.4.7 Contractor shall abide by provisions of Section 14-1 and Section 14.2, Code of the City of Mobile, originally adopted December 10, 1991. Prohibiting Discrimination in Employment by Contractors, Subcontractors and Vendors performing Work and providing materials and supplies for the City of Mobile. A copy of said Code is located in the City's Projects Architectural Engineering Department. Certification of compliance with this requirement shall be made for all persons involved in the Work by the signature of the General Contractor on the Bid Form (Section 00410).

### § 3.5 WARRANTY

The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

### § 3.6 TAXES

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

**§ 3.7 PERMITS, FEES, NOTICES AND COMPLIANCE WITH LAWS**  
**PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS**

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure ~~and pay for the building permit as well as for City of Mobile building permit without cost~~ and shall secure and pay for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

3.7.1.1 The Contractor shall secure building and other permits customarily obtained from the City of Mobile at no cost.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 **Concealed or Unknown Conditions.** If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

**§ 3.8 ALLOWANCES**

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 ~~Allowances~~ allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 ~~Whenever~~ whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

### § 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Architect requires additional time to review. Failure of the Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

### § 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, ~~promptly within ten (10) business days~~ after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

### § 3.11 DOCUMENTS AND SAMPLES AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

### § 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals

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upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. Submittals which are not marked as reviewed for compliance with the Contract Documents and approved by the Contractor may be returned by the Architect without action. Wherever Shop Drawings are required in these Specifications, Shop Drawings shall be submitted for approval before materials are fabricated. Drawings shall show complete details. The General Contractor shall check and approve them either in writing or by stamp before forwarding to the Architect. The Architect will mark copies "Approved" if correct; or, "Approved As Noted" if only minor corrections are necessary. If major corrections are necessary they will be noted on the Shop Drawings and they will be returned to the Contractor for correction and resubmission. Submit four (4) copies for Architect's and Owner's use plus the number of copies the contractor requires for his own use.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor

shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

**§ 3.13 USE OF SITE**

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

**§ 3.14 CUTTING AND PATCHING**

**§ 3.14.1** The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

**§ 3.14.2** The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

**§ 3.15 CLEANING UP**

**§ 3.15.1** The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

**§ 3.15.2** If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

**§ 3.16 ACCESS TO WORK**

The Contractor shall provide the Owner and Architect access to the Work in preparation and progress wherever located.

**§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS**

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

**§ 3.18 INDEMNIFICATION**

**§ 3.18.1** To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that which would otherwise exist as to a party or person described in this Section 3.18.

**§ 3.18.2** In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be

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liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

3.19 As applicable, the Contractor shall be responsible at the appropriate time during construction of the Project to have all permanent meters installed (electrical, water, gas, etc.) and all utilities connected prior to the time of Final Inspection. The Contractor shall pay all utilities costs until the Project is accepted by the City of Mobile.

#### ARTICLE 4 ARCHITECT

##### § 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number. "Architect" may also designate the Licensed Designer of the Project and may be an Engineer or Landscape Architect.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.1.3 If the employment of the Architect is terminated, the Owner shall employ a successor architect as to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

##### § 4.2 ADMINISTRATION OF THE CONTRACT

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment: (1) during construction (2) until all conditions necessary for the final completion and payment have been fulfilled and (3) with the Owner's concurrence, from time to time during the one-year period for correction of Work described in Section 12.2. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents, unless otherwise modified in writing in accordance with other provisions of the Contract.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

##### § 4.2.4 COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to communicate with each other through the Architect about matters arising out of or relating to the Contract. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

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§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may authorize minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

## ARTICLE 5 SUBCONTRACTORS

### § 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

### § 5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

§ 5.2.1 ~~Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, The apparent low bidder, within (3) days after bids are opened shall furnish in writing to the Owner through the Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or (2) that the Architect requires additional time for review. Failure of the Owner or Architect to reply within the 14-day-14 day period shall constitute notice of no reasonable objection.~~

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. ~~If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.~~

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

### § 5.3 SUBCONTRACTUAL RELATIONS

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

### § 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

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- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall ~~may~~ be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. ~~If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.~~

## ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

### § 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6 and Articles 10, 11 and 12.

### § 6.2 MUTUAL RESPONSIBILITY

§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

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§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

#### § 6.3 OWNER'S RIGHT TO CLEAN UP

If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

### ARTICLE 7 CHANGES IN THE WORK

#### § 7.1 GENERAL

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents. The total of all Change Orders on each contract shall not exceed ten percent (10%) of the contract price for each project and shall be subject to at least one of the following criteria:

- .1 Minor changes for a total monetary value less than required for competitive bidding under the State Competitive Bid Laws.
- .2 Changes for matters relatively minor and incidental to the original contract necessitated by unforeseen circumstances arising during the course of the Work.
- .3 Emergencies arising during the course of the Work on the Contract.
- .4 Changes or Alternates provided for in the original bidding where there is no difference in price on the Change Order from the original best bid on the Alternate.
- .5 Changes of relatively minor items not contemplated when the plans and specifications were prepared and the project was bid which are in the public interest.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

#### § 7.2 CHANGE ORDERS

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.
- .4 There shall be attached to each Change Order a signed statement from the Architect containing the following:
  - A. A statement of what the Change Order covers and who instituted the Change Order and why it is necessary or desired.
  - B. A statement setting forth the reasons for using the Change Order method rather than taking new competitive bids.
  - C. A statement that all prices have been reviewed and found reasonable, fair and equitable and recommending approval of the same.

#### § 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes

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in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall may be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, ~~an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount, allowance of 10% mark-up on Subcontractor's direct cost (actual cost of Labor & Materials) and 15% mark-up on a Contractor's direct (actual cost of Labor & Materials).~~ In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, ~~whether incorporated or consumed; actually incorporated or consumed in the work;~~
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented ~~from by~~ the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and
- .5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be



reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

#### § 7.4 MINOR CHANGES IN THE WORK

The Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes will be effected by written order signed by the Architect and shall be binding on the Owner and Contractor.

### ARTICLE 8 TIME

#### § 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

#### § 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

1. No Work shall commence and no materials ordered until the Owner issues the written Notice to Proceed.

2. The Work shall be commenced within ten (10) days of the date of a written Notice to Proceed.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

#### § 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; ~~Owner~~; or by other causes that the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

#### 8.4 LIQUIDATED DAMAGES

8.4.1 Time is the essence of the Contract. Any delay in the completion of the Work as provided for in the Contract Documents will cause inconvenience to the public and loss and damage to the Owner in interest, and in additional administrative, architectural, inspection, and supervision charges.

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Therefore, a time charge equal to \$250.00 per calendar day will be made against the Contractor for the entire period that any part of the Work remains uncompleted or any required closeouts documents are not acceptably submitted for more than 30 days after the time specified for the Substantial Completion of the Work, the amount of which shall be deducted by the Owner, and shall be retained by the Owner out of monies otherwise due the Contractor in the final payment, not as a penalty, but as liquidated damages sustained.

## ARTICLE 9 PAYMENTS AND COMPLETION

### § 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

### § 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

.1 Unit Prices and Allowances, if stated in the Contract Documents, shall be identified within the Schedule of Values.

### § 9.3 APPLICATIONS FOR PAYMENT

~~§ 9.3.1 At least ten days before the date established for each progress payment, the~~ The Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the ~~on the first of each month, for Work done through the 25<sup>th</sup> of the preceding month, four (4) original, itemized Applications for Payment for Work completed in accordance with the accepted schedule of values, if required under Section 9.2, 9.2., for completed portions of the Work. Such application shall be notarized, if required, notarized and supported by such data substantiating the Contractor's right to payment as the Owner or Architect may require, such as copies of requisitions from Subcontractors subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents and documents as follows:~~

.1 Until the final payment is made, the Owner shall pay ninety-seven and one half percent (97.5%) of the amount due the Contractor on account of progress payments (note: the 2-1/2% retainage is calculated by withholding the first 5% of the first 50% of the work completed); and

.2 The Contractor shall provide documentation substantiating that test, inspections and approvals for portions of Work included in an Application for Payment and required by the Contract Documents, or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction were made at the appropriate time.

~~§ 9.3.1.1 As provided in Section 7.3.9, such~~ Such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders. Work, which have been authorized and approved by properly executed Change Order(s).

~~§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay. Such applications may include requests for payment on account of changes in the Work, which have been authorized and approve by properly executed Change Order(s).~~

~~§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.~~

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§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

#### § 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

#### § 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third-party claims filed or reasonable evidence indicating probable filing of such claims unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a separate contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.3 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the

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Owner makes payments by joint check, the Owner shall notify the Architect and the Architect will reflect such payment on the next Certificate for Payment.

#### § 9.6 PROGRESS PAYMENTS

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than seven days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

#### § 9.7 FAILURE OF PAYMENT

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents the amount certified by the ~~Architect or awarded by binding dispute resolution, Architect,~~ then the Contractor may, upon seven additional days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time ~~shall~~ may be extended appropriately and the Contract Sum ~~shall~~ may be increased by the amount of the Contractor's reasonable costs of shut-down, delay and start-up, plus interest as provided for in the Contract Documents.

#### § 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents. Work.

#### § 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5 and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

#### § 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection and, when the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed

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to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment and (5), if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien. If such lien remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees payment. (5) contractors Affidavit of Release of Liens. (6) separate Releases or Waivers of Liens from Subcontractors and material and equipment suppliers (7) written warranty on Contractor's letterhead covering materials and labor for one year. and (8) the advertisement of completion. The Contractor shall provide proof of publication of Advertisement of completion in a local newspaper for four (4) consecutive weeks, as required in Title 39, Section 39-1-1, Subsection (f), of the Code of Alabama. The final 2.5% retained will not be paid until proof of publication is submitted and all written claims paid in full. This advertisement shall not begin until the City of Mobile has accepted the Project.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, Contractor, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 ~~liens~~, Claims, security interests or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents; or
- .3 terms of special warranties required by the Contract Documents.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

## ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

### § 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

### § 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall comply with all Federal, State and Local law regarding safety including the requirements of the Occupational Safety and Health Act of 1970, Public Law #91-596, latest revision. Contractor shall take all other reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
- .4 The Contractor shall be responsible for damage done to buried cables and other utilities by its equipment and shall contact the appropriate offices prior to construction for information depth, etc., of utilities in the area.

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§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss ~~(other than damage or loss insured under property insurance required by the Contract Documents)~~ loss to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

#### § 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

#### § 10.3 HAZARDOUS MATERIALS

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and ~~start-up~~ start-up, except to the extent that any such delay is attributable to the Contractor's objection to the persons or entities whom Owner shall have furnished to perform the task of removal or safe containment of such material or substance.

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~~§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.~~

~~§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances for materials or substances brought to the site by the Contractor regardless of whether such materials or substances were required by the Contract Documents.~~

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence or wantonness on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner ~~shall indemnify~~ may reimburse the Contractor for all reasonable cost and expense thereby incurred.

#### § 10.4: EMERGENCIES

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency ~~shall may~~ be determined only as provided in Article 15 and Article 7.

### ARTICLE 11 INSURANCE AND BONDS

#### § 11.1 CONTRACTOR'S LIABILITY INSURANCE

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, ~~other than to the Work itself,~~ because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

The Contractor shall take out and maintain during the life of the Contract no less than the following amounts of insurance with the Owner named as an additional insured. Contractor shall submit a Certificate of Insurance and a supplemental Attachment for Certificate of Insurance 25-2 (7/90), AIA Document G715, Insurance companies listed as the "Companies Affording Coverage"



shall be authorized by the Secretary of the State of Alabama. Insurance produced out of the State of Alabama must be signed or counter signed by a Resident Agent of Alabama, with the Resident Agent's name, address and telephone number typed or printed on the face of the Certificate of Insurance.

1. Workmen's Compensation and Employer's Liability Insurance: - Statutory-amount and coverage as required by law of place in which the Work is performed.

2. Employee's Liability Insurance shall be provided for limits of liability not less than:

- |    |                           |                           |
|----|---------------------------|---------------------------|
| A. | Bodily Injury by Accident | \$1,000,000 each accident |
| B. | Bodily Injury by Disease  | \$1,000,000 each employee |

3. The Contractor shall provide Broad Form (commonly termed Comprehensive) General Liability Insurance (including premises-product-completed operations) for limits of liability not less than:

- |    |                                    |  |
|----|------------------------------------|--|
| A. | Bodily Injury                      | \$1,000,000 each person<br>\$1,000,000 each occurrence |
| B. | Property Damage                    | \$1,000,000 each occurrence; or                        |
| C. | Bodily Injury &<br>Property Damage | \$1,000,000 combined single limit                      |

4. Such comprehensive policy shall include the following:

- |    |   |
|----|---|
| A. | All liability of the Contractor, for the Contractor's Direct Operations.  |
| B. | Subcontractor's Operations.   |
| C. | Completed Operations Cover, thereby meaning any loss which shall occur after the contract has been completed, but which can be traced back to the Contract.   |
| D. | Contractual Liability, meaning thereby, any risk assumed by the Contractor under Hold Harmless Agreements or any other assumption of liability, but specifically items 11.1, 1.8, 3G herein below   |
| E. | Broad Form Property damage Coverage, including Completed Operations.  |
| F. | Personal Injury Liability, with employee's exclusions removed.  |
| G. | The Contractor shall indemnify and save harmless the Owner against all loss, cost, or damaged on account of injuries to persons or property occurring in the performance of the Contract, including all reasonable attorney's fees incurred by the Owner, on account thereof. |
| H. | Explosion and Collapse Hazard:<br>Included or <input checked="" type="checkbox"/> Not Applicable.   |
| I. | Underground Hazard:<br>Included or <input checked="" type="checkbox"/> Not Applicable.  |

5. The Contractor shall carry for himself and shall require that all Subcontractors and all Owners of Automobiles or trucks rented or hired on the contract carry until the Contract is completed, Comprehensive Automobile Liability Coverage for Bodily Injury and property Damage in amounts not less than the minimum amounts as indicated. The Contractor and Subcontractor shall also carry for themselves insurance for all non-owned and hired automobile at the limits of liability as indicated below:

- |    |                                    |  |
|----|------------------------------------|--|
| A. | Bodily Injury                      | \$1,000,000 each person<br>\$1,000,000 each occurrence |
| B. | Property damage                    | \$1,000,000 each occurrence; or                        |
| C. | Bodily Injury &<br>Property damage | \$1,000,000 combined single limit                      |

6. Excess Liability: \$2,000,000 limit

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7. Builder's Risk Coverage. The Contractor shall carry for the Owner, himself, and all Subcontractor's a Builder's Risk Policy to cover the full amount of the Contract during construction, fabrications or erection of any equipment.

8. A Surety authorized to do business in the State of Alabama shall furnish the required insurance.

9. The ACCORD™ Certificate must be signed or countersigned by a Licensed Resident Agent of the State of Alabama and the agent's name, address and telephone number must appear on the face of the certificate.

10. The Surety must have a minimum rating of A/Class VI as reported in the latest issue of Best's Key Rating Guide Property-Casualty, published by Alfred M. Best Company, Inc., if the bid price exceeds \$50,000.00

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be filed with the Owner prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Section 11.1 shall contain a provision that coverages afforded under the policies will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner, the Architect and the Architect's ~~consultants~~ Consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

#### § 11.2 OWNER'S LIABILITY INSURANCE

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

#### § 11.3 PROPERTY INSURANCE

§ 11.3.1 ~~Unless otherwise provided, the Owner~~ The Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional ~~deductibles~~, deductibles (See 11.1.1 Supplement Builder's Risk Coverage). Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property 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, 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.

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§ 11.3.1.2 If the Owner does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Owner shall so inform the Contractor in writing prior to commencement of the Work. The Contractor may then effect insurance that will protect the interests of the Contractor, Subcontractors and Sub-subcontractors in the Work, and by appropriate Change Order the cost thereof shall be charged to the Owner. If the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain insurance as described above, without so notifying the Contractor in writing, then the Owner shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 If the property insurance requires deductibles, the ~~Owner-Contractor~~ shall pay costs not covered because of such deductibles.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

~~§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.~~

~~§ 11.3.2 BOILER AND MACHINERY INSURANCE~~

~~The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.~~

~~§ 11.3.3 LOSS OF USE INSURANCE~~

~~The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused. The Owner waives all rights of action against the Contractor for loss of use of the Owner's property, including consequential losses due to fire or other hazards however caused.~~

~~§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.~~

~~§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.~~

~~§ 11.3.6 Before an exposure to loss may occur, the Owner shall file with the Contractor a copy of each policy that includes insurance coverages required by this Section 11.3. Each policy shall contain all generally applicable~~

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conditions, definitions, exclusions and endorsements related to this Project. Each policy shall contain a provision that the policy will not be canceled or allowed to expire, and that its limits will not be reduced, until at least 30 days' prior written notice has been given to the Contractor.

#### § 11.3.7 WAIVERS OF SUBROGATION

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent covered by property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 If required in writing by a party in interest, the Owner as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Owner's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Owner shall deposit in a separate account proceeds so received, which the Owner shall distribute in accordance with such agreement as the parties in interest may reach, or as determined in accordance with the method of binding dispute resolution selected in the Agreement between the Owner and Contractor. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor after notification of a Change in the Work in accordance with Article 7.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement. If the Owner and Contractor have selected arbitration as the method of binding dispute resolution, the Owner as fiduciary shall make settlement with insurers or, in the case of a dispute over distribution of insurance proceeds, in accordance with the directions of the arbitrators.

#### § 11.4 PERFORMANCE BOND AND PAYMENT BOND

§ 11.4.1 The Owner shall have the right to require the Contractor to Contractor shall furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract thereunder.

§ 11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

11.4.3. The Labor and Material Payment Bond and Performance Bond shall each be for one hundred percent (100%) of the Contract price if the Contract Price is greater than \$10,000.00

1. Cost of the bonds shall be included in the bid.
2. Bonds shall be submitted with the executed agreement on provided form(s).

3. Power of Attorney is required for both bonds.
4. A Surety authorized to do business in the State of Alabama shall furnish both bonds.
5. A Surety licensed to do business in the State of Alabama must execute the bonds.
6. ~~Each bond must be signed or countersigned by a Resident Agent of the State of Alabama.~~
7. The Surety must have a minimum rating of A/Class VI as reported in the latest issue of Best's Key Rating Guide Property-Casualty, published by Alfred M. Best Company, Inc., if the bid price exceeds \$50,000.00.
8. The Surety company shall be required to execute AIA Document G-707, "Consent of Surety to Final Payment" prior to Final Payment being made to the Contractor.

## ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

### § 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

### § 12.2 CORRECTION OF WORK

#### § 12.2.1 BEFORE OR AFTER SUBSTANTIAL COMPLETION

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

#### § 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

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§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

### § 12.3 ACCEPTANCE OF NONCONFORMING WORK

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

## ARTICLE 13 MISCELLANEOUS PROVISIONS

### § 13.1 GOVERNING LAW

The Contract shall be governed by the law of the place where the Project is located except that, if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

State of Alabama.

### § 13.2 SUCCESSORS AND ASSIGNS

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate such assignment.

13.2.3 No assignment of the Contract shall be made without the written permission of Surety providing bonding and the City of Mobile.

### § 13.3 WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

### § 13.4 RIGHTS AND REMEDIES

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

### § 13.5 TESTS AND INSPECTIONS

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public

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authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.5.3, shall be at the Owner's expense.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

13.5.7 Test, inspections or approvals made in addition to the Architects normal design and contract administration services caused by the Contractor shall be paid for by the Contractor. The normal service schedule is contained in Article 2.8.1 of AIA B102-2007 as amended by the Owner and is available to Contractor on request.

13.5.8 The Contractor must call the Urban Development Department of the City of Mobile for their inspections and approval at the times required by the Urban Development Department, as well as notify the Architect. Consulting Engineer, and/or Test Laboratory, for inspection and approval of sub-grade conditions, under slab and footing Conditions, vapor barrier placement, reinforcing steel placement, all structural connections, electrical, mechanical, etc. None of the above will be accepted that have been covered up before receiving approval of the Architect or his Consultant.

#### § 13.6 INTEREST

~~Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at such rate as the parties may agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.~~

#### § 13.7 TIME LIMITS ON CLAIMS

The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the requirements of the final dispute resolution method selected in the Agreement within the time period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all claims and causes of action not commenced in accordance with this Section 13.7.

#### 13.8 COMMENCEMENT OF STATUTORY LIMITATION PERIOD

13.8.1 As between the Owner and Contractor:

- I. Before Substantial Completion. As to acts or failures to act occurring prior to the relevant date of Substantial Completion, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than such date of Substantial Completion;

2. Between Substantial Completion and Final Payment. As to acts or failures to act occurring subsequent to the relevant date of Substantial Completion and prior to the final payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all event not later than the date of issuance of the final Certificate for Payment; and
3. After Final Payment. As to acts or failures to act occurring after the relevant date of the final Payment, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the date of any act or failure to act by the Contractor pursuant to any Warranty provided under Section 3.5, the date of any correction of the Work or failure to correct the Work by the Contractor under Section 3.5, the date of any correction of the Work or failure to correct the Work by the Contractor under Section 12.2, or the date of actual commission of any other act or failure to perform any duty or obligation by the Contractor or Owner, whichever occurs last.

### 13.9 SUBSTITUTION OF MATERIALS AND EQUIPMENT

13.9.1 Whenever a material, article or piece of equipment is identified on the Drawings or in the Specifications by reference to manufacturer's or vendor's names, trade names, catalog numbers, or the like, it is so identified for the purpose of establishing a standard, and any material, article, or piece of equipment of other manufacturers or vendors which will perform adequately the duties imposed by the general design will be considered equally acceptable provided the material, article, or piece of equipment so proposed is, in the opinion of the Architect, of equal substance, appearance and function. It shall not be purchased or installed by the Contractor without the Architect's written approval.

## **ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT**

### **§ 14.1 TERMINATION BY THE CONTRACTOR**

**§ 14.1.1** The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

1. Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
2. An act of government, such as a declaration of national emergency that requires all Work to be stopped;
3. Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
4. The Owner has failed to furnish to the Contractor promptly, upon the Contractor's request, reasonable evidence as required by Section 2.2.1.

**§ 14.1.2** The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

**§ 14.1.3** If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages executed.

**§ 14.1.4** If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.



**§ 14.2 TERMINATION BY THE OWNER FOR CAUSE**

**§ 14.2.1** The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

**§ 14.2.2** When any of the above reasons exist, the Owner, upon certification by the Initial Decision Maker that sufficient cause exists to justify such action, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

**§ 14.2.3** When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

**§ 14.2.4** If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

**§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE**

**§ 14.3.1** The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

**§ 14.3.2** The Contract Sum and Contract Time shall may be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

**§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE**

**§ 14.4.1** The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

**§ 14.4.2** Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

**§ 14.4.3** In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and costs incurred by reason of ~~such termination, along with reasonable overhead and profit on the Work not executed.~~ termination.

## ARTICLE 15 CLAIMS AND DISPUTES

### § 15.1 CLAIMS

#### § 15.1.1 DEFINITION

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

#### § 15.1.2 NOTICE OF CLAIMS

~~Claims by either the Owner or Contractor must be initiated by written notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party must be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes acting with due diligence, reasonable should have first recognized the condition giving rise to the Claim, whichever is later. Claims must be initiated by written notice to the Architect and the other party.~~

#### § 15.1.3 CONTINUING CONTRACT PERFORMANCE

Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the decisions of the Initial Decision Maker.

#### § 15.1.4 CLAIMS FOR ADDITIONAL COST

If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Work giving rise to such claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

#### § 15.1.5 CLAIMS FOR ADDITIONAL TIME

~~§ 15.1.5.1~~ If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

~~§ 15.1.5.2~~ If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

#### § 15.1.6 CLAIMS FOR CONSEQUENTIAL DAMAGES

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.6 shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

### § 15.2 INITIAL DECISION

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been

rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

~~§ 15.2.2 The Initial Decision Maker Architect will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, Architect reasonably concludes that, it would be inappropriate for the Initial Decision Maker to resolve the Claim.~~

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

~~§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; therefore, and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.~~

~~§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.~~

~~§ 15.2.6.1 Either party may, within 30 days from the date of an initial decision, demand in writing that the other party file for mediation within 60 days of the initial decision. If such a demand is made and the party receiving the demand fails to file for mediation within the time required, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.~~

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

### § 15.3 MEDIATION

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.6 shall not be subject to mediation as a condition precedent to binding dispute resolution.

~~§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in~~

writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

#### § 15.4 ARBITRATION

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

#### § 15.4.4 CONSOLIDATION OR JOINDER

§ 15.4.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

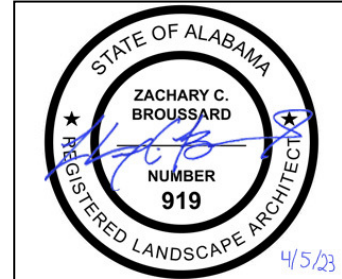
§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Contractor under this Agreement.

**DOCUMENT SEALS – PROFESSIONAL SEALS PAGE**

1.1 DESIGN PROFESSIONALS OF RECORD

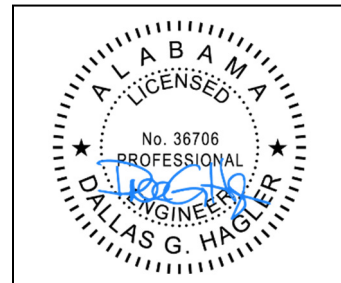
**LANDSCAPE ARCHITECT (PRIME)**

CARBO Landscape Architecture  
200 Laurel Street, Suite 100  
Baton Rouge, LA 70801



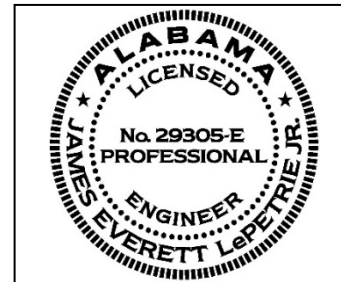
**STRUCTURAL ENGINEER**

Hargrove Engineers & Constructors  
20 Royal St.  
Mobile, AL 36602



**WATER FEATURE**

WET Engineering Inc.  
4337 Pablo Oaks Court, Suite 101  
Jacksonville, FL 32224



## **SECTION 01010 – SUMMARY OF THE WORK**

### **PART 1 GENERAL**

#### **1.1 SECTION INCLUDES**

- A. Summary of Work: Contract, contractor use of premises.
- B. Contract Considerations: Contingency allowance, schedule of values, applications for payment, change procedures, alternates.
- C. Coordination and Meetings: Coordination, field engineering, cutting and patching, meetings, progress meetings, examination, preparation.
- D. Submittals: Submittal procedures, construction progress schedules, proposed products list, shop drawings, product data, samples, manufacturers' installation instructions, manufacturers' certificates.
- E. Quality Control: Quality assurance - control of installation, Tolerances, References, Mock-ups, Manufacturers' field services and reports.
- F. Construction Facilities and Temporary Controls: Electricity, temporary lighting for construction purposes, heat, temporary ventilation, telephone service, water service, temporary sanitary facilities, barriers and fencing, exterior enclosures, protection of installed work, security, access roads, parking, progress cleaning and waste removal, project identification, field offices and sheds, removal of utilities, facilities, and controls.
- G. Material and Equipment: Products, transportation, handling, storage, and protection, products options, substitutions.
- H. Contract Closeout: Contract closeout procedures, final cleaning, adjusting, project record documents, operation and maintenance data, spare parts and maintenance materials, warranties. loss

#### **1.2 CONTRACT**

- A. Summary of Work:  
Base Bid: The project shall include providing and installing approximately 7,472 square feet of bluestone and granite paving on a concrete base; 13,096 square feet of new concrete paths; xx linear feet of a brick seat wall with brick cap; landscape and lawn installation with irrigation; new site lighting, relocation of an existing electrical panel; updates to the fountain to include basin, lighting, and mechanics; and 90 linear feet of a brick fountain seat wall with a bluestone cap. The project also includes the installation of the vault that will service the fountain. The site is at the center of historic Bienville Square requiring consideration for and protection of existing facilities, live oak trees, and historic character. Contractor shall protect all concrete after it is poured until the concrete has hardened enough to prevent indenture vandalism.
- B. Contract Description: Stipulated sum.

#### **1.3 CONTRACTOR USE OF PREMISES**

- A. Limit use of premises to allow continued Owner occupancy. All facilities shall remain in use except the immediate work area for this project. Obey all Facility Regulations and coordinate access and schedule of work with Project Manager.

- B. Special conditions: Due to residential properties nearby, work is only to be performed from the hours of 7:00 am to 7:00 pm; any requests for work performed outside of those hours is to be approved by the City of Mobile. The protection of the existing Live Oaks is critical to the success of the project. Any work to be done within the critical root zone of any tree shall be done under the direction of a licensed arborist and with permission of Peter Toler, Deputy Director of Forestry (251.208.1522 – peter.toler@cityofmobile.org). The City of Mobile Deputy Director of Forestry should be contacted prior to the commencement of any work within the critical root zone area of any trees. Lastly, the site has been under archaeological review since the beginning of construction documentation. State archaeologists reserve the right for further inspection of any area that is excavated more than 12” in depth.

#### 1.4 CONTINGENCY ALLOWANCE

- A. Include in the Contract the stipulated amount for use upon Owner's instruction.
- B. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, equipment rental, overhead and profit are included in Change or Field Orders authorizing expenditure of funds from this Contingency Allowance.

#### 1.5 SCHEDULE OF VALUES

- A. Submit Schedule of Values on AIA Form G703 within five (5) calendar days of notification of project award.

#### 1.6 APPLICATIONS FOR PAYMENT

- A. Submit two signed and notarized originals of each application on AIA Form G702 and AIA Form G703. Submit Lien Release Waivers, including from subcontractors and major suppliers, with each pay application.
- B. Content and Format: Utilize Schedule of Values, AIA Form G703, for listing items in Application for Payment.
- C. Payment Period: Monthly, except for final payment of retainage after all Close Out documents are submitted and approved.

#### 1.7 CHANGE ORDER PROCEDURES

- A. All contract changes involving a change in scope, payment and/or time shall be made by change order.
- B. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for a Change Order as approved by Owner.

#### 1.8 COORDINATION

- A. Coordinate scheduling, submittals, and Work at the facility to ensure an efficient and orderly sequence and to facilitate the continued uninterrupted use of the Facility.
- B. Request Utility interruptions at least 72 hours in advance. Note that due to scheduling in the facility, utility interruptions must be approved.

#### 1.9 FIELD ENGINEERING

- A. Establish elevations, lines, and levels and certify that elevations and locations of the Work conform

to the Contract Documents. Verify existing conditions.

- B. Contractor shall field verify all measurements and quantities required for a complete installation.

#### 1.10 PRECONSTRUCTION MEETINGS

- A. Owner will schedule a pre-construction meeting after contract award for all affected parties.

#### 1.11 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at pre-approved intervals.
- B. Preside at meetings, record minutes, and distribute copies within two days to those affected by decisions made.

#### 1.12 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial progress schedule in duplicate within five (5) calendar days after date of notice of award of project for Project Manager's review.
- B. Submit revised schedules with each Application for Payment, identifying changes since previous version. Indicate estimated percentage of completion for each item of Work at each submission.

#### 1.13 SHOP DRAWINGS

- A. Shop Drawings for Review: Submit to Project Manager/Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.
- B. Submit four copies for use by the owner plus the number of copies that Contractor requires. Electronic submittals may be acceptable with prior approval of the Project Manager and Engineer. Close Out documents shall include electronic and hard copies of all submittals.

#### 1.14 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' written instructions.
- C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- D. Supply certification from manufacturer that the installed Work meets or exceeds all manufacturers' requirements.

#### 1.15 EXAMINATION

- A. Verify that existing site conditions and subsurfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify that utility services are available, of the correct characteristics, and in the correct location.

#### 1.16 PREPARATION



- A. Prepare surfaces prior to applying next material installation.

#### 1.17 TOLERANCES

- A. Monitor fabrication and installation tolerance control of installed Products over suppliers, manufacturers, Products, site conditions, and workmanship, to produce acceptable Work. Do not permit tolerances to accumulate. Comply fully with manufacturers' tolerances.

#### 1.18 REFERENCES

- A. Conform to reference standards by date of issue current as of date of Contract Documents.
- B. Should specified reference standard conflict with Contract Documents, request clarification from Project Manager before proceeding.

#### 1.19 ELECTRICITY

- A. Unless otherwise provided for, Contractor shall be allowed to utilize power from the facility in moderate amounts.
- B. Provide power outlets for construction operations, branch wiring, distribution boxes, and flexible power cords as required.

#### 1.20 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain temporary lighting for construction operations as may be required.
- B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.

#### 1.21 WATER SERVICE

- A. Owner shall provide suitable potable water in moderate quantities without cost to the Contractor.

#### 1.22 TEMPORARY SANITARY FACILITIES

- A. Contractor to provide temporary sanitary facilities that are to be locked when the construction site is not active and removed as soon as construction is completed.

#### 1.23 BARRIERS AND FENCING

- A. Provide chain link fencing as shown on the drawings to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from dust, debris and damage.

#### 1.24 PROTECTION OF INSTALLED WORK

- A. Protect installed Work and provide special protection where specified in individual specification sections. Prohibit traffic or storage upon grass or paving surfaces.

#### 1.25 SECURITY

- A. Provide security and facilities to protect Work and existing facilities from unauthorized entry, vandalism, or theft.

1.26 ACCESS ROADS & HAULING

- A. Maintain temporary access routes through the public thoroughfare and parking areas to serve the construction area as required without obstructing traffic or blocking access for facility staff or participants. Provide drive pads as required.
- B. Restore site to pre-construction condition. Fill ruts, replace broken or damaged amenities, sod disturbed areas.

1.27 PARKING

- A. Arrange for temporary parking areas to accommodate construction personnel on site. Do not block traffic.

1.28 PROGRESS CLEANING AND WASTE REMOVAL

- A. Collect and maintain work areas free of waste materials, debris, and rubbish on a daily basis. Maintain site in a clean and orderly condition. Provide refuse containers and dispose of construction debris legally off site. The Owner may request load tickets from landfills permitted to accept construction debris.

1.29 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities and materials, prior to Substantial Completion review.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

1.30 PRODUCTS

- A. Products: Means new material, machinery, components, equipment, fixtures, and systems forming the Work, but does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work.

1.31 TRANSPORTATION, HANDLING, STORAGE AND PROTECTION

- A. Transport, handle, store, and protect Products in accordance with manufacturers' instructions.

1.32 PRODUCT OPTIONS

- A. Products Specified by Naming One Manufacturer or equal: Products of manufacturer named approved as "Basis of Design". Equal alternate products to be approved by Owner as Substitutions. Submit product data as required in SUBSTITUTIONS.

1.33 SUBSTITUTIONS

- A. Architect/Engineer will consider requests for Substitutions only within 10 days after date established in Notice to Proceed. For Pre-Bid approved Substitutions, submit request 7 calendar days or more before bid date with all back up data to show that all characteristics of the Basis of Design product are met with the substituted product or material.

- B. Document each request with complete backup data substantiating compliance of proposed Substitution with all characteristics of the materials specified in the Contract Documents.
- C. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
- D. Substitution shall indicate all product properties and show that they are equal to that Specified.
- D. Acceptance or Rejection of Pre-Bid Substitution Requests will be issued by Addendum.

#### 1.34 FINAL CLEANING

- A. Execute final cleaning prior to final inspection of work area. User may occupy portions of the work incrementally as the work is completed and accepted. Entire project to be ready for use by User once all areas of work are completed.
- B. Clean debris from site and drainage systems.
- C. Remove waste and surplus materials, rubbish, and construction facilities from the facility and the site. Leave site in raked and smooth condition.

#### 1.35 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of Contract Documents to be utilized only for record documents.
- B. Record actual revisions to the Work. Record information concurrent with construction progress.
- C. Specifications: Legibly mark and record at each Product section a description of actual Products installed.
- D. Record Documents and Shop Drawings: Legibly mark each item to record actual construction.
- E. Submit documents to Project Manager with claim for final Application for Payment.
- F. Submit 2 paper copies and 1 disc with pdf copies to include:
  - a. As built drawings and specifications
  - b. Approved submittals
  - c. Warrantees and guarantees
  - d. Certificate of Occupancy or Letter of Completion from Permitting Department or other agencies, as applicable.

#### 1.36 WARRANTIES

- A. Product and Manufacturer's Warranties shall be provided per specifications.
- B. In addition, all materials and labor shall be warranted for a minimum of one year after Substantial Completion of the entire project. Contractor to promptly repair all deficiencies within that time. A warranty inspection shall be scheduled by the Owner, with the Contractor and Owner's representative, before the end of the warranty period, in order to review the work and note deficiencies for the Contractor to correct. Said meeting may be waived if no deficiencies are noted.

#### PART 2 PRODUCTS

Not Used.

#### PART 3 EXECUTION

Not Used.

Bienville Square  
Fountain & Site Amenities Improvements  
PR-021-22  
Mobile, Alabama

April 5, 2023

END OF SECTION

## **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:
  - 1. Submittal schedule requirements.
  - 2. Administrative and procedural requirements for submittals.
- B. Related Requirements:
  - 1. Section 01400 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
  - 2. Section 017100 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.

#### **1.3 DEFINITIONS**

- A. Action Submittals: Written and graphic information and physical samples that require Project Manager'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 Project Manager'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."

#### **1.4 SUBMITTAL SCHEDULE**

- A. Submittal Schedule: Submit, as an action submittal, a list 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 required for making corrections or revisions to submittals noted by Project Manager 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 10 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 Project Manager's final release or approval.
  - g. Scheduled dates for purchasing.
  - h. Scheduled date of fabrication.
  - i. Scheduled dates for installation.
  - j. Activity or event number.

#### 1.5 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
  1. Project name.
  2. Date.
  3. Name of Project Manager.
  4. Name of Construction Manager.
  5. Name of Contractor.
  6. Name of firm or entity that prepared submittal.
  7. Names of subcontractor, manufacturer, and supplier.
  8. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier; and alphanumeric suffix for resubmittals.
  9. Category and type of submittal.
  10. Submittal purpose and description.
  11. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
  12. Drawing number and detail references, as appropriate.
  13. Indication of full or partial submittal.
  14. Location(s) where product is to be installed, as appropriate.
  15. Other necessary identification.
  16. Remarks.
  17. Signature of transmitter.
- B. Options: Identify options requiring selection by Project Manager.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Project Manager on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. Paper Submittals:
  1. Place a permanent label or title block on each submittal item for identification; include name of firm or entity that prepared submittal.
  2. Provide a space approximately 6 by 6 inches on label or beside title block to record Contractor's review and approval markings and action taken by Project Manager.
  3. Action Submittals: Submit three paper copies of each submittal unless otherwise indicated. Project Manager will return one copy.
  4. Informational Submittals: Submit 2 paper copies of each submittal unless otherwise indicated. Project Manager will not return copies.
  5. Additional Copies: Unless additional copies are required for final submittal, and unless Project Manager observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

6. Transmittal for Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using AIA Document G810 transmittal form.
- E. PDF Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.
- F. Submittals for Web-Based Project Software: Prepare submittals as PDF files, or other format indicated by Project software website.

#### 1.6 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
  1. Email: Prepare submittals as PDF package, and transmit to Project Manager by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Project Manager.
    - a. Project Manager will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.
  2. Web-Based Project Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
  3. Paper: Prepare submittals in paper form, and deliver to Project Manager.
- 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 submittals for related parts of the Work specified in different Sections so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. Owner and Project Manager reserve the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Project Manager'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 10 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Project Manager 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 10 days for review of each resubmittal.
  4. Sequential Review: Where sequential review of submittals by Project Manager's consultants, Owner, or other parties is indicated, allow 15 days for initial review of each submittal.
- D. 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 Project Manager's action stamp.
- E. 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.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Project Manager's action stamp.

#### 1.7 SUBMITTAL REQUIREMENTS

- A. 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 unsuitable 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. Manufacturer's product specifications.
    - c. Standard color charts.
    - d. Statement of compliance with specified referenced standards.
    - e. Testing by recognized testing agency.
    - f. Application of testing agency labels and seals.
    - g. Notation of coordination requirements.
    - h. Availability and delivery time information.
  4. For equipment, include the following in addition to the above, as applicable:
    - a. Wiring diagrams that show factory-installed wiring.
    - b. Printed performance curves.
    - c. Operational range diagrams.
    - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
  5. Submit Product Data before Shop Drawings, and before or concurrent with Samples.
- B. 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. Compliance with specified standards.
    - d. Notation of coordination requirements.
    - e. Notation of dimensions established by field measurement.
    - f. Relationship and attachment to adjoining construction clearly indicated.
    - g. Seal and signature of professional engineer if specified.
  2. Paper Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.



- a. Two opaque (bond) copies of each submittal. Project Manager will return one copy.
    - b. Three opaque copies of each submittal. Project Manager One copy; remainder will be returned.
- C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.
  1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
  2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
    - a. Project name and submittal number.
    - b. Generic description of Sample.
    - c. Product name and name of manufacturer.
    - d. Sample source.
    - e. Number and title of applicable Specification Section.
    - f. Specification paragraph number and generic name of each item.
  3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.
  4. Paper Transmittal: Include paper transmittal including complete submittal information indicated.
  5. 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 that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
  6. 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 of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Project Manager will return submittal with options selected.
  7. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
    - a. Number of Samples: Submit three sets of Samples. Project Manager will retain two Sample sets; remainder will be returned.
      - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
      - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.
- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
  2. Manufacturer and product name, and model number if applicable.
  3. Number and name of room or space.
  4. Location within room or space.
- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of Project Managers and owners, and other information specified.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
1. Certificates and Certifications Submittals: Submit 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. Provide a notarized signature where indicated.
  2. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
  3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
  4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
  5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
  6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.
- H. Test and Research Reports:
1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
  2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
  3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
  4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
  5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
  6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
    - a. Name of evaluation organization.
    - b. Date of evaluation.

- c. Time period when report is in effect.
- d. Product and manufacturers' names.
- e. Description of product.
- f. Test procedures and results.
- g. Limitations of use.

#### 1.8 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 insufficient to perform services or certification required, submit a written request for additional information to Project Manager.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit three 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.

#### 1.9 CONTRACTOR'S REVIEW

- A. Action Submittals 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 Project Manager.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include 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.
  - 1. Project Manager will not review submittals received from Contractor that are incomplete or that do not have Contractor's review and approval.

#### 1.10 PROJECT MANAGER'S REVIEW

- A. Action Submittals: Project Manager will review each submittal, indicate corrections or revisions required, and return it.
  - 1. PDF Submittals: Project Manager will indicate, via markup on each submittal, the appropriate action.
  - 2. Paper Submittals: Project Manager will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- B. Informational Submittals: Project Manager will review each submittal and will not return it, or will return it if it does not comply with requirements. Project Manager will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Project Manager.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

- E. Project Manager will discard submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Project Manager without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

## 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 quality-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 Landscape Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

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

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

#### 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 Landscape 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, including tests and inspections indicated to be performed by the Commissioning Authority.
- 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 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 Landscape 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:
  - 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 products that are similar in material, design, and extent to those indicated for this Project.
- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. 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.
- H. 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.
- I. 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.
- J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:



1. Contractor responsibilities include the following:
  - a. Provide test specimens representative of proposed products and construction.
  - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
  - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
  - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
  - e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
  - f. When testing is complete, remove test specimens, assemblies, and mockups; do not reuse products on Project.
2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Landscape Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by Landscape Architect.
2. Notify Landscape Architect seven days in advance of dates and times when mockups will be constructed.
3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at Project.
4. Demonstrate the proposed range of aesthetic effects and workmanship.
5. Obtain Landscape Architect's approval of mockups before starting work, fabrication, or construction.
  - a. Allow seven days for initial review and each re-review of each mockup.
6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
7. Demolish and remove mockups when directed unless otherwise indicated.

## 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 01330 "Submittal Procedures."
- D. **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..
- E. **Testing Agency Responsibilities:** Cooperate with Landscape Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Landscape Architect 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.
- F. **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.
- G. **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.

#### 1.10 SPECIAL TESTS AND INSPECTIONS

- A. **Special Tests and Inspections:** Conducted by a qualified testing agency special inspector 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 Landscape Architect 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 Landscape Architect 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 Landscape 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 Landscape Architect'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.
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 01700 "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

## **SECTION 01 63 50 – 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 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Sections:
  - 1. Divisions 2 through 16 Sections for specific requirements and limitations for substitutions and pre-bid approvals.

#### 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.
  - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

#### 1.4 SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced.
  - 1. 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 modifications needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
    - c. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
    - d. 12"x12" Samples of each finish material in proposed pattern and color.
    - e. Certificates and qualification data.
    - f. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
    - g. Cost information, including a proposal of change, if any, in the Contract Sum (not applicable for pre-bid Submittals).
    - h. Impact of substitution on construction schedule.

- i. 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.
    - j. 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.
  2. Project Manager's Action: If necessary, Project Manager will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Project Manager 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 Project Manager Supplemental Instructions for minor changes in the Work.
    - b. Use product specified if Project Manager 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 qualified testing agency to perform compatibility tests recommended by manufacturers.

#### 1.6 PROCEDURES

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

## **SECTION 01 70 00 – EXECUTION REQUIREMENTS**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 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. Construction Layout.
  - 2. Field Engineering and Surveying
  - 3. Installation of the Work.
  - 4. Cutting and patching.
  - 5. Progress cleaning.
  - 6. Starting and adjusting.
  - 7. Protection of installed construction.
  - 8. Correction of the Work.
- B. Related Sections:
  - 1. Division 1 Sections "Summary of the Work", "Project Record Documents", or "Closeout Procedures", for submitting closeout documents 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 INFORMATIONAL SUBMITTALS**

- A. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:
  - 1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
  - 2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
  - 3. Products: List products to be used for patching and firms or entities that will perform patching work.
  - 4. Dates: Indicate when cutting and patching will be performed.
  - 5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate how long services and systems will be disrupted. Prior approval of Utility outages is required. Notify Owner of intent at least 72 hours in advance.

1.5 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

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 the 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 work, 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. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
    - a. Description of the Work.
    - b. List of detrimental conditions, including substrates.
    - c. List of unacceptable installation tolerances.
    - d. Recommended corrections.
  - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
  - 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  - 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
  - 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. 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.
- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. 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 the Contractor, submit a request for information to Architect according to requirements in Division 1 Section "Project Management and Coordination."
- D. Surface and Substrate Preparation: Comply with manufacturer's recommendations for preparation of substrates to receive subsequent work.

### 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.
  - 4. Maintain minimum headroom clearance of 96 inches, but in no case shall the new piping be lower than the existing piping.
- 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. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. 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 adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. 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.



- H. 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.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous, and meet environmental requirements.

### 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. Temporary Support: Provide temporary support of work to be cut.
- C. 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.
- D. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements of Division 1 Section "Summary."
- E. 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 prevent interruption to occupied areas.
- F. 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. 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.
  - 5. Proceed with patching after construction operations requiring cutting are complete.
- G. 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.

- H. 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 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
  - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
  - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
    - a. Utilize containers intended for holding waste materials of type to be stored.
  - 4. Coordinate progress cleaning for joint-use areas where more than one installer has worked.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
  - 1. Remove liquid spills promptly.
  - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- F. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways.
- G. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- H. Clean completed construction as frequently as necessary through the remainder of the construction period.

### 3.6 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in other Division 2 -16 Sections."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in other Division 2-16 Sections.

### 3.7 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.

### 3.8 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
  - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

### 3.9 ENVIRONMENTAL CONCERNS

- 1. Provide protection and conduct construction in ways that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

### 3.10 STORMWATER CONTROL AND DISCHARGE

- 1. Comply with City of Mobile and Alabama Department of Environmental Management requirements. Pay particular attention to Water Regulations and Allowable Discharges.
- 2. See City of Mobile Code, Chapter 17, Storm Water Management and Flood Control.
- 3. Obtain any necessary permits that may be required due to discharges.

END OF SECTION 01700

## **SECTION 01 71 00 – 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.

#### **1.3 ACTION SUBMITTALS**

- A. Product Data: For each type of cleaning agent.
- 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 CLOSEOUT SUBMITTALS**

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.

#### **1.5 MAINTENANCE MATERIAL SUBMITTALS**

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

#### **1.6 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.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
  3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number.
    - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.
  5. Submit testing, adjusting, and balancing records.
  6. Submit sustainable design submittals not previously submitted.
  7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
  2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
  3. Complete startup and testing of systems and equipment.
  4. Perform preventive maintenance on equipment used prior to Substantial Completion.
  5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
  6. Advise Owner of changeover in utility services.
  7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  8. Complete final cleaning requirements.
  9. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
  2. Results of completed inspection will form the basis of requirements for final completion.
- 1.7 FINAL COMPLETION PROCEDURES
- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
1. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

2. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
3. Submit final completion photographic documentation.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

#### 1.8 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 items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
  2. 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.
  3. Submit list of incomplete items in the following format:
    - a. MS Excel electronic file. Architect will return annotated file.
    - b. PDF electronic file. Architect will return annotated file.

#### 1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
- D. Warranties in Paper Form:
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 paper.
  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.
- E. 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, and grounds, in areas disturbed by construction and delivery activities, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    - c. Rake grounds that are not planted, mulched, or paved to a smooth, even-textured surface.
    - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    - e. Clean exposed exterior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces.
    - f. Restore reflective surfaces to their original condition.
    - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    - h. Sweep concrete floors broom clean in unoccupied spaces.
    - i. Remove labels that are not permanent.
    - j. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
    - k. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
    - l. First subparagraph below describes a major work item that requires coordination with other closeout procedures.
    - m. Retain first subparagraph below in environments with demanding HVAC system cleaning standards or for special contamination issues. Coordinate with the requirements of sustainable design requirements specified in Section Series 018113 "Sustainable Design Requirements." Below adds significantly to cleaning cost.
    - n. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
    - o. 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 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 SECTION017100



## **SECTION 01 78 23 – OPERATION AND MAINTENANCE DATA**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

- A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
  - 1. Operation manuals for systems, subsystems, and equipment.
  - 2. Maintenance manuals for the care and maintenance of products, materials, and finishes, systems and equipment.
- B. See Divisions 01 through 16 Sections for specific operation and maintenance manual requirements for the Work in those Sections.

#### **1.2 SUBMITTALS**

- A. Manual: Submit two copies of each manual in final form at least 15 days before final inspection. Architect will return copy with comments within 10 days after final inspection.
  - 1. Correct or modify each manual to comply with Architect's comments. Submit **2** copies of each corrected manual within 10 days of receipt of Architect's comments.
  - 2. Provide PDF copies on 2 discs. Submit with the corrected manual.

### **PART 2 - PRODUCTS**

#### **2.1 MANUALS, GENERAL**

- 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 a title page, table of contents, and manual contents.
- B. Title Page: Enclose title page in transparent plastic sleeve. 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, address, and telephone number of Contractor.
  - 6. Name and address of Architect and Engineer.
  - 7. Cross-reference to related systems in other operation and maintenance manuals.
- 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.
- 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.

1. Binders: Heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
  - a. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.
2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section. 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 diskettes for computerized electronic equipment.
4. 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.

## 2.2 OPERATION MANUALS

- A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and equipment descriptions, operating standards, operating procedures, operating logs, wiring and control diagrams, and license requirements.
- B. Descriptions: Include the following:
  1. Product name and model number.
  2. Manufacturer's name.
  3. Equipment identification with serial number of each component.
  4. Equipment function.
  5. Operating characteristics.
  6. Limiting conditions.
  7. Performance curves.
  8. Engineering data and tests.
  9. Complete nomenclature and number of replacement parts.
- C. Operating Procedures: Include start-up, break-in, and control procedures; stopping and normal shutdown instructions; routine, normal, seasonal, and weekend operating instructions; and required sequences for electric or electronic systems.
- 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.

## 2.3 PRODUCT MAINTENANCE MANUAL

- 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.

- 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 inspection procedures, types of cleaning agents, methods of cleaning, schedule for cleaning and maintenance, and 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.

#### 2.4 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

- 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.
- C. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including maintenance instructions, drawings and diagrams for maintenance, nomenclature of parts and components, and recommended spare parts for each component part or piece of equipment:
- D. Maintenance Procedures: Include test and inspection instructions, troubleshooting guide, disassembly instructions, and adjusting instructions, and demonstration and training videotape if available, that detail essential maintenance procedures.
- E. Submit demonstration and training video for all lighting control systems.
- F. 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.
- G. 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.
- H. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.
- I. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

### PART 3 - EXECUTION

#### 3.1 MANUAL PREPARATION

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. 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.
- C. 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.
- D. 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.
  - 1. Do not use original Project Record Documents as part of operation and maintenance manuals.
- E. Comply with Division 01 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

## **SECTION 01 78 39 – PROJECT RECORD DOCUMENTS**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
  - 1. Record Drawings.
  - 2. Record Specifications.
  - 3. Record Product Data.
- B. See Division 01 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
- C. See Divisions 01 through 16 Sections for specific requirements for Project Record Documents of the Work in those Sections.

#### **1.2 SUBMITTALS**

- A. Record Drawings: Comply with the following:
  - 1. Number of Copies: Submit copies of Record Drawings as follows:
    - a. Final Submittal: Submit two sets of marked-up Record Prints, showing all dimensional locations, materials changes, any changes via addendum or change order. Pay particular attention to noting underground utilities.
- B. Record Specifications: Submit two copies of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit two copies of each Product Data submittal.
- D. Submit PDF's of Record Drawings, Record Specifications, Record Change Orders, Requests for Proposal, Documentation of use of Allowances, Product and Contractor's Warrantees, Product Test Reports, Final Surveys, Record Product Data, etc on 2 discs.

### **PART 2 - PRODUCTS**

#### **2.1 RECORD DRAWINGS**

- A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
  - 1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
    - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
    - b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

2. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
  3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
  4. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
  2. Record Transparencies: Organize into unbound sets matching Record Prints. Place transparencies in durable tube-type drawing containers with end caps. Mark end cap of each container with identification. If container does not include a complete set, identify Drawings included.
  3. Record CAD Drawings: Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each CAD file.
  4. Identification: As follows:
    - a. Project name.
    - b. Date.
    - c. Designation "PROJECT RECORD DRAWINGS."
    - d. Name of Architect and Engineer.
    - e. Name of Contractor.

## 2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
  3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
  4. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

## 2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
  3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Completed Test Reports.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

END OF SECTION 017839

## **SECTION 02 23 10 - TREE PROTECTION AND TRIMMING**

### **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 protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.
- B. Related Sections:
  - 1. Section 311000 "Site Clearing" for removing existing trees and shrubs.

#### **1.3 DEFINITIONS**

- A. Caliper: Diameter of a trunk measured by a diameter tape or the average of the smallest and largest diameters at 6 inches above the ground for trees up to, and including, 4-inch size; and 12 inches above the ground for trees larger than 4-inch size.
- B. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction, and indicated on Drawings.
- C. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings.
- D. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

#### **1.4 SUBMITTALS**

- A. Tree Pruning Schedule: Written schedule detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.
  - 1. Species and size of tree.
  - 2. Location on site plan. Include unique identifier for each.
  - 3. Reason for pruning.
  - 4. Description of pruning to be performed.
  - 5. Description of maintenance following pruning.
- B. Qualification Data: For qualified arborist and tree service firm.
- C. Certification: From arborist, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
- D. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.
- E. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.



1. Use sufficiently detailed photographs or videotape.
2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.

1.5 QUALITY ASSURANCE

- A. Arborist Qualifications: Certified Arborist-Municipal Specialist as certified by ISA .
- B. Tree Service Firm Qualifications: An experienced tree service firm that has successfully completed temporary tree and plant protection work similar to that required for this Project and that will assign an experienced, qualified arborist to Project site during execution of the Work..
- C. Preinstallation Conference: Conduct conference at Project site.
  1. Review methods and procedures related to temporary tree and plant protection including, but not limited to, the following:
    - a. Construction schedule. Verify availability of materials, personnel, and equipment needed to make progress and avoid delays.
    - b. Enforcing requirements for protection zones.
    - c. Arborist's responsibilities.
    - d. Field quality control.

1.6 PROJECT CONDITIONS

- A. The following practices are prohibited within protection zones:
  1. Storage of construction materials, debris, or excavated material.
  2. Parking vehicles or equipment.
  3. Foot traffic.
  4. Erection of sheds or structures.
  5. Impoundment of water.
  6. Excavation or other digging unless otherwise indicated.
  7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- B. Do not direct vehicle or equipment exhaust toward protection zones.
- C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.
- D. Prohibit disposal of chemical or paint remains within root zone protection areas.
- E. Topsoil: Natural or cultivated top layer of the soil profile or manufactured topsoil; containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 1 inch in diameter; and free of weeds, roots, and toxic and other non-soil materials.
  1. Obtain topsoil only from well-drained sites where topsoil is 4 inches deep or more; do not obtain from bogs or marshes.
- F. Topsoil: Stockpiled topsoil from project site or imported topsoil complying with ASTM D 5268.
- G. Organic Mulch: Free from deleterious materials and suitable as a top dressing for trees and shrubs, consisting of one of the following:
  1. Type 1: Pine straw – in newly planted areas.
  2. Type 2: Shredded hardwood – beneath existing live oak trees as shown on the plan.
  3. Color: Natural.

- H. Protection-Zone Fencing: Fencing fixed in position and meeting the following requirements. Vehicles and materials are not allowed within the barricades and shall be erected at the critical root zone of the trees unless otherwise approved by the Owner or Landscape Architect.
  - 1. Plastic Protection-Zone Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch maximum opening in pattern and weighing a minimum of 0.4 lb/ft.; remaining flexible from minus 60 to plus 200 deg F; inert to most chemicals and acids; minimum tensile yield strength of 2000 psi and ultimate tensile strength of 2680 psi; secured with plastic bands or galvanized-steel or stainless-steel wire ties; and supported by tubular or T-shape galvanized-steel posts spaced not more than 8 feet apart.
    - a. Height: 4 feet
    - b. Color: High-visibility orange, nonfading.
  - 2. Gates: Single swing access gates matching material and appearance of fencing, to allow for maintenance activities within protection zones; leaf width 36 inches.

## PART 2 - EXECUTION

### 2.1 EXAMINATION

- A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- B. For the record, prepare written report, endorsed by arborist, listing conditions detrimental to tree and plant protection.

### 2.2 PREPARATION

- A. Locate and clearly identify trees, shrubs, and other vegetation to remain. Tie a 1-inch blue-vinyl tape around each tree trunk at 54 inches above the ground.
- B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.
- C. Tree-Protection Zones: Mulch areas inside tree-protection zones and other areas indicated.
  - 1. Apply 3-inch average thickness of organic mulch. Do not place mulch within 6 inches of tree trunks.

### 2.3 TREE- AND PLANT-PROTECTION ZONES

- A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people and animals from easily entering protected area except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.
  - 1. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to Landscape Architect & city Arborist.
  - 2. Access Gates: Install to allow for entry into tree protection zone for maintenance; adjust to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

- B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by Landscape Architect & city Arborist. Install one sign spaced approximately every 35 feet on protection-zone fencing, but no fewer than four signs with each facing a different direction.
- C. Maintain protection zones free of weeds and trash.
- D. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Landscape Architect & city Arborist.
- E. Maintain protection-zone fencing and signage in good condition as acceptable to Landscape Architect & city Arborist, and remove when construction operations are complete and equipment has been removed from the site.
  - 1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.
  - 2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

#### 2.4 EXCAVATION

- A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Section 312300 "Earthwork."
- B. Trenching near Trees: Where utility trenches are required within protection zones, hand excavate under or around tree roots or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning.
- C. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches back from new construction and as required for root pruning.
- D. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

#### 2.5 ROOT PRUNING

- A. Prune roots that are affected by temporary and permanent construction. Prune roots as follows:
  - 1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
  - 2. Cut Ends: Coat cut ends of roots more than 1-1/2 inches in diameter with an emulsified asphalt or other coating formulated for use on damaged plant tissues and that is acceptable to arborist.
  - 3. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
  - 4. Cover exposed roots with burlap and water regularly.
  - 5. Backfill as soon as possible according to requirements in Section 312300 "Earthwork."
- B. Root Pruning at Edge of Protection Zone: Prune roots flush with the edge of the protection zone, by cleanly cutting all roots to the depth of the required excavation.
- C. Root Pruning within Protection Zone: Clear and excavate by hand to the depth of the required excavation to minimize damage to root systems. Use narrow-tine spading forks, comb soil to expose roots, and cleanly cut roots as close to excavation as possible.

2.6 CROWN PRUNING

- A. Prune branches that are affected by temporary and permanent construction. Prune branches as follows:
  - 1. Prune trees to remain to compensate for root loss caused by damaging or cutting root system. Provide subsequent maintenance during Contract period as recommended by arborist.
  - 2. Pruning Standards: Prune trees according to ANSI A300 (Part 1) and the following:
    - a. Type of Pruning: Cleaning Thinning Raising Reduction.
  - 3. Cut branches with sharp pruning instruments; do not break or chop.
  - 4. Do not apply pruning paint to wounds, unless otherwise specified for disease or pest control.
- B. Chip removed branches and dispose of off-site.

2.7 REGRADING

- A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- B. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

2.8 FIELD QUALITY CONTROL

- A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

2.9 REPAIR AND REPLACEMENT

- A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Landscape Architect.
  - 1. Submit details of proposed root cutting and tree and shrub repairs.
  - 2. Have arborist perform the root cutting, branch pruning, and damage repair of trees and shrubs.
  - 3. Treat damaged trunks, limbs, and roots according to arborist's written instructions.
  - 4. Perform repairs within 24 hours.
  - 5. Replace vegetation that cannot be repaired and restored to full-growth status, as determined by Landscape Architect.
- B. Trees: Remove and replace trees indicated to remain that are more than 25 percent dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that Landscape Architect determines are incapable of restoring to normal growth pattern.
  - 1. Provide new trees of same size and species as those being replaced for each tree that measures 6 inches or smaller in caliper size.
  - 2. Provide three new tree(s) of 6-inch caliper size for each tree being replaced that measures more than 6 inches in caliper size.
    - a. Species: Species selected by Landscape Architect.
- C. Soil Aeration: Where directed by Landscape Architect, aerate surface soil compacted during construction. Aerate 10 feet beyond drip line and no closer than 36 inches to tree trunk. Drill 2-inch- diameter holes a minimum of 12 inches deep at 24 inches o.c. Backfill holes with an equal mix of augered soil and sand.

2.10 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove excess excavated material, displaced trees, trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 022310

## SECTION 024119 - SELECTIVE DEMOLITION

### 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. Demolition and removal of selected portions of a building or structure.
2. Demolition and removal of selected site elements.
3. Salvage of existing items to be reused or recycled.

##### B. Related Requirements:

1. Section 010100 "Summary" for restrictions on the use of the premises, Owner-occupancy requirements, and phasing requirements.
2. Section 022310 "Tree Protection and Trimming" for temporary protection of existing trees and plants that are affected by selective demolition.
3. Section 017300 "Execution" for cutting and patching procedures.
4. Section 311000 "Site Clearing" for site clearing and removal of above- and below-grade improvements.

#### 1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

#### 1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
  1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 PREINSTALLATION MEETINGS

- A. Pre-demolition Conference: Conduct conference at Project site.
1. Inspect and discuss condition of construction to be selectively demolished.
  2. Review structural load limitations of existing structure.
  3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
  4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
  5. Review areas where existing construction is to remain and require protection.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For refrigerant recovery technician.
- B. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and, for noise control. Indicate proposed locations and construction of barriers.
- C. Schedule of Selective Demolition Activities: Indicate the following:
1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
  2. Interruption of utility services. Indicate how long utility services will be interrupted.
  3. Coordination for shutoff, capping, and continuation of utility services.
  4. Coordination of Owner's continuing occupancy of portions of the park and of Owner's partial occupancy of completed Work.
- D. Inventory: Submit a list of items to be removed and salvaged and deliver to Owner prior to start of demolition.
- E. Pre-demolition Photographs or Video: Submit before Work begins.
- F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- G. Warranties: Documentation indicated that existing warranties are still in effect after completion of selective demolition.

1.7 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.
- B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.8 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications (if applicable): Certified by an EPA-approved certification program.

1.9 FIELD CONDITIONS

- A. Owner will occupy portions of park immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
  - 1. Hazardous materials will be removed by Owner before start of the Work.
  - 2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Historic Areas: Demolition and hauling equipment and other materials shall be of sizes that clear surfaces within historic spaces, areas, and openings, including temporary protection, by 12 inches or more.
- F. Storage or sale of removed items or materials on-site is not permitted.
- G. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
  - 1. Maintain fire-protection facilities in service during selective demolition operations.

1.10 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties. Notify warrantor before proceeding.
- B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in record documents.



- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.
- E. Survey of Existing Conditions: Record existing conditions by use of measured drawings, preconstruction photographs, and preconstruction videos.
  - 1. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
  - 2. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

### 3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
  - 1. Comply with requirements for existing services/systems interruptions specified in Section 010100 "Summary."
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
  - 1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
  - 2. Arrange to shut off indicated utilities with utility companies.
  - 3. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
  - 4. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.
    - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
    - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
    - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
    - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
    - e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.
    - f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
    - g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.

### 3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings, elements, and facilities to remain.
  - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of park.

- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
  - 1. Strengthen or add new supports when required during progress of selective demolition.

### 3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
  - 1. Proceed with selective demolition systematically.
  - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
  - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
  - 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
  - 5. Maintain adequate ventilation when using cutting torches.
  - 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
  - 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
  - 8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
  - 9. Dispose of demolished items and materials promptly.
- B. Removed and Salvaged Items:
  - 1. Clean salvaged items.
  - 2. Pack or crate items after cleaning. Identify contents of containers.
  - 3. Store items in a secure area until delivery to Owner.
  - 4. Transport items to Owner's storage area designated by Owner.
  - 5. Protect items from damage during transport and storage.
- C. Removed and Reinstalled Items:
  - 1. Clean and repair items to functional condition adequate for intended reuse.
  - 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
  - 3. Protect items from damage during transport and storage.
  - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

### 3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch (19 mm) at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.

- B. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove concrete between saw cuts.
- C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
- D. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

### 3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
  - 1. Do not allow demolished materials to accumulate on-site.
  - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
  - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
  - 4. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
- B. Burning: Do not burn demolished materials.
- C. Burning: Burning of demolished materials **will not** be permitted.
- D. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

### 3.7 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

## **SECTION 03 11 00 – CONCRETE FORMWORK**

### **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. All concrete and related items required to complete the paving and fountain improvements, provide off-sets, bulkheads, recesses, openings, chases, etc. and install any inserts, sleeves, etc., required by other trades.
- B. Related Sections:
  - 1. Section 032000 "Concrete Reinforcement"
  - 2. Section 033100 "Cast-in-Place Concrete"
  - 3. Section 040600 "Masonry Mortar and Grout"
  - 4. Section 321313 "Concrete Paving"
- C. Work installed but furnished by other sections:
  - 1. Built-in anchors, inserts, and bolts for connection of other materials
  - 2. Built-in sleeves, thimbles, dovetail slots, and water-stops.

#### **1.3 ACTION SUBMITTALS**

- A. Product Data: For each different concrete masonry unit.
- B. Product Data: For the following:
  - 1. Accessories
  - 2. Material certificates for each different masonry product required.
  - 3. Material test reports from a qualified independent testing laboratory for mortar, grout mixes, and masonry units.
- C. Samples for Initial Selection: For the following:
  - 1. Each type of concrete masonry unit indicated.
  - 2. Color
  - 3. Finish
- D. Samples for Verification:
  - 1. Full-size units of each type of concrete masonry unit indicated.
  - 2. Shop drawings for reinforcing detailing fabrication, bending, and placement of unit masonry reinforcing bars.

#### **1.4 DEFINITIONS:**

- A. Architectural Concrete Surfaces: Formed surfaces where appearance is of major importance.
- B. Non-architectural Concrete Surfaces: Formed surfaces where appearance is not of major importance.

#### 1.5 QUALITY ASSURANCE

- A. Design Criteria:
  - 1. General: Conform to ACI 347-Current Edition Chapter 1, Design.
  - 2. Plywood: Conform to tables for form design in APA Form V 345-Current Edition, including strength.
- B. Requirements of Regulatory Agencies: Erect forms to meet requirements of the Local Building Code.
- C. Allowable Tolerances:
  - 1. Non-Architectural Concrete: Conform to ACI 347-Current Edition.
- D. Contractor shall assume full responsibility for earthwork or an existing structure used as a form and such form work must meet all requirements of this section.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. On delivery to job site, place materials in area protected from weather.
- B. Store materials above ground on framework or blocking and cover with protective waterproof covering providing for adequate air circulation or ventilation.
- C. Handle materials to prevent damage.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Conform to ACI 347-Current Edition, Chapter 3, Materials and Form Work

#### 2.2 LUMBER:

- A. Softwood framing lumber. Kiln dried, PS 20-70.
- B. Boards less than 1 ½" thick, used for basic forms and form liners: Kiln dried.
- C. Grade marked by grading rules agency approved by American Lumber Standards Committee.
- D. Light framing or studs for plywood forms, 2 in. to 4 inches in width and thickness, construction grade.

#### 2.3 PLYWOOD

- A. Exterior type softwood plywood, PS 1-66
- B. Each panel stamped or branded indicating veneer grades, species, type, and identification.

- C. Wood faced plywood for architectural concrete surfaces. Panel veneer grades: A-C. Mill-oiled sides and mill-sealed edges of panels.

2.4 CORNER FORMERS:

- A. Profile type: chamfered face.
- B. Material: Wood

2.5 TIES:

- A. Material: Carbon Steel
- B. Type: Snap ties
- C. Depth of break back: 1 inch
- D. Maximum diameter: ¼ inch

2.6 FORM COATINGS

- A. Plywood and wood forms shall be sealed against absorption of moisture from the concrete with an approved non-staining form oil or sealer.
- B. Form sealer, lacquer, or any form of release agents containing wax, oil, or other materials that would interfere with adhesion shall not be used on form work for concrete which is to receive exposed aggregate coatings.

PART 3 - EXECUTION

3.1 GENERAL

- A. The design, engineering, bracing, and construction of form work shall be the responsibility of the Contractor.
- B. Form work shall conform to shapes, lines, and dimensions of members as shown on contract plans and shall be sufficient to prevent mortar leakage and to maintain position and shaping during and after placing of concrete. Form work for exposed surfaces shall be constructed of undamaged materials that will result in an unblemished, flush surface when removed.
- C. Shoring and bracing of form work shall be adequate to resist all construction loads, wet concrete, stored and lateral loads due to earthwork. Shoring and bracing of elevated slabs shall remain in place until the concrete has reached a minimum compressive strength of 75% of the specified 28-day design strength.
- D. Preparation of forms: Edges of exposed concrete work, exterior and interior shall be pointed up to present a good square appearance.
- E. Provide temporary openings in framework for concrete placement.

- F. Removal of forms is subject to weather conditions after concrete is poured. Remove formwork in manner to ensure complete safety of structure. Do not place building materials on slabs until they are strong enough to carry the imposed load. Contractor shall decide when to remove and accept full responsibility for their removal.
- G. Do not run reinforcement, corner protection angles, or related fixed metal items, embedded in or bonded into concrete through expansion joints. Provide filler strips for expansion joints between slabs on grade and all joints between slabs on grade and vertical surfaces. Construct joints ½ inch wide and full depth of slab unless otherwise noted.
- H. Execution for removal and reusing forms: clean and repair surfaces of forms to be reused in the work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.

END OF SECTION 03 11 00

## **SECTION 03 20 00 - CONCRETE REINFORCEMENT**

### **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. Foundations.
  - 2. Footings.
  - 3. Bench footings and stem walls
- B. Related Requirements:
  - 1. Section 031100 "Concrete Formwork"
  - 2. Section 033100 "Cast-in-Place Concrete"
  - 3. Section 321313 "Concrete Paving"

#### **1.3 REFERENCES**

- A. ACI 301-84 - Structural Concrete for Buildings (Revised 1988).
- B. ACI 318-95/318R-95 - Building Code Requirements For Reinforced Concrete.
- C. ACI 315 - Manual of Standard Practice for Detailing Reinforced Concrete Structures.
- D. ANSI/ASTM A82 - Cold Drawn Steel Wire for Concrete Reinforcement.
- E. ANSI/ASTM A185 - Welded Steel Wire Fabric for Concrete Reinforcement.
- F. SP-66-88 - ACI Detailing Manual.
- G. ANSI/ASTM A496 - Deformed Steel Wire Fabric for Concrete Reinforcement.
- H. ANSI/ASTM A497 - Welded Deformed Steel Wire Fabric for Concrete Reinforcement.
- I. ANSI/AWS D1.4 - Structural Welding Code for Reinforcing Steel.
- J. ANSI/AWS D12.1 - Reinforcing Steel Welding Code.
- K. ASTM A615 - Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
- L. CRSI - Concrete Reinforcing Steel Institute Manual of Practice.
- M. CRSI 63 - Recommended Practice For Placing Reinforcing Bars.
- N. CRSI 65 -Recommended Practice For Placing Bar Supports, Specifications and Nomenclature

#### **1.4 ACTION SUBMITTALS**



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

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Submittals shall meet the requirements of Section 01330, Contractor's Submittals.
- B. Record Data: Indicate bar sizes, spacings, locations, and quantities of reinforcing steel, bending and cutting schedules, supporting and spacing devices, and joint and splice locations.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Comply with ACI 315, Chapters 1 through 8.
- E. Manufacturer's specifications and installation instructions for all proprietary products, including sleeves for welded splices.

#### 1.6 QUALITY ASSURANCE

- A. Perform work in accordance with referenced standards. Submit certified copies of mill test report of reinforcement materials analysis.

#### 1.7 COORDINATION

- A. Coordinate work with other trades, placement of formwork, formed openings and other work.

### PART 2 - PRODUCTS

#### 2.1 REINFORCEMENT

- A. Reinforcing Bars: Deformed, new billet steel conforming to ASTM A615, Grade 60 for nonweldable bars and ASTM A706, Grade 60 for weldable bars. Grade 60 shall be used for concrete paving.
- B. Welded Wire Fabric: ASTM A185 for smooth wire and ASTM A457 for deformed wire.

#### 2.2 ACCESSORY MATERIALS

- A. Tie Wire: Minimum 16-gage annealed type.
- B. Supports for Reinforcement: Conform to CRSI 63.
- C. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for strength and support of reinforcement during concrete placement conditions including load bearing pad on bottom to prevent settling or vapor barrier puncture.
- D. Special Chairs, Bolsters, Bar Supports, Spacers Adjacent to Weather Exposed Concrete Surfaces: Plastic coated steel or stainless steel type, size and shape as required.
- E. Splices
- F.
  - 1. Mechanical Connections:
    - a. Compression: Submit sample for L.A. Approval; Size device to develop 125 percent of yield strength of bar.

- b. Tension: Submit sample for L.A. Approval; Size device to develop 125 percent of yield strength of bar.
2. Welded Splices: "Cadweld," "Thermoweld" or approved equivalent. Size device to develop 125 percent of yield strength of bar.
3. Lap Splices: Submit sample for L.A. Approval; Size device to develop 125 percent of yield strength of bar.

### 2.3 FABRICATION

- A. Fabricate concrete reinforcing in accordance with CRSI Manual of Practice. Locate reinforcing splices not indicated on Plans at point of minimum stress. Review location of splices with ENGINEER.

## PART 3 - EXECUTION

### 3.1 PLACEMENT

- A. Place, support and secure reinforcement against displacement by means of accepted spacers, chairs or hangers. Do not deviate from required position.
- B. Do not displace or damage vapor barrier.
- C. Accommodate placement of formed openings.
- D. Conform to AC1 318 code for concrete cover over reinforcement. Concrete surfaces in contact with liquids shall have 2-inch cover.
- E. Clean reinforcement to remove loose rust, mill scale, oil, earth, ice, and other materials which might reduce or destroy bond with concrete.

### 3.2 FIELD QUALITY CONTROL

- A. Concrete shall not be placed until reinforcing steel is inspected by OWNER's Representative and Landscape Architect. All concrete placed in violation of this provision will be rejected. The CONTRACTOR shall give 48 hours notice prior to completion of reinforcement placement.

END OF SECTION 320000

## **SECTION 03 31 00 – CAST-IN-PLACE CONCRETE**

### **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. Fountain Basin
  - 2. Fountain Vault
  - 3. Concrete Seat Wall at Fountain
- B. Related Sections:
  - 1. Section 031100 "Concrete Formwork"
  - 2. Section 032000 "Concrete Reinforcement"

#### **1.3 DEFINITIONS**

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, and ground granulated blast-furnace slag.

#### **1.4 REFERENCES**

- A. ACI 301-84 - Structural Concrete for Buildings (Revised 1988).
- B. ACI 302 - Guide for Concrete Floor and Slab Construction.
- C. ACI 304 - Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.
- D. ACI 305R - Hot Weather Concreting.
- E. ACI 306R - Cold Weather Concreting.
- F. ACI 308 - Standard Practice for Curing Concrete.
- G. ACI 318-95/318-95R - Building Code Requirements for Reinforced Concrete.
- H. ANSI/ASTM D1752 - Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
- I. ASTM C33-86 - Concrete Aggregates.
- J. ASTM C94-86 - Ready-Mixed Concrete.
- K. ASTM C150-86 - Portland Cement.
- L. ASTM C260-86 - Air Entraining Admixtures for Concrete.
- M. ASTM C494 - Chemical Admixtures for Concrete.

#### **1.5 SUBMITTALS**

- A. Submit under provisions of Section 01330 Submittal Procedures.
- B. Product Data: Provide data on joint devices, attachment accessories, curing compounds, admixtures, mix designs, tests performed to establish mix designs, and physical capacity of mixing plant and trucking facilities.
- C. Manufacturer's Installation Instructions: Indicate installation procedures and interface required with adjacent work

#### 1.6 PROJECT RECORD DOCUMENTS

- A. Submit under the provisions of the GENERAL CONDITIONS. Accurately record actual locations of embedded utilities and components which are concealed from view.
- B. CONTRACTOR shall furnish delivery tickets with each load of concrete delivered indicating amount or weights of each component in the load, the cubic yards in the load, the amount of water which may be added in the field without exceeding the specifications, the time batched, and truck number. Ticket shall be printed and legible.

#### 1.7 QUALITY ASSURANCE

- A. All work shall be performed in accordance with the standards referenced in Part 1.4. Cement and aggregate shall be obtained from the same source for all work.
- B. Preinstallation Conference: Conduct conference at Project site.
  - 1. Review methods and procedures related to concrete placement, including but not limited to, the following:
    - a. Concrete mixture design.
    - b. Quality control of concrete materials and concrete paving construction practices.
  - 2. Require representatives of each entity directly concerned with concrete paving to attend, including the following:

#### 1.8 COORDINATION

- A. Coordinate the placement of joint devices with erection of concrete formwork and placement of form accessories.
  - a. Contractor's superintendent.
  - b. Independent testing agency responsible for concrete design mixtures.
  - c. Concrete paving subcontractor.

#### 1.9 PROJECT CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

## PART 2 - PRODUCTS

### 2.1 CONCRETE MATERIALS

- A. Cement: ASTM C150, Type I or II.
- B. Fine and Coarse Aggregates: ASTM C33.
  - 1. Do not use aggregates containing soluble salts or other substances such as iron sulfides, pyrite, marcasite, ochre, or other materials that can cause stains on exposed concrete surfaces.
  - 2. Fine Aggregate: Clean, sharp, natural sand free from loam, clay, lumps or other deleterious substances. Dune sand, bank run sand and manufactured sand are not acceptable.
  - 3. Coarse Aggregate: Clean, uncoated, processed aggregate containing no clay, mud, loam, or foreign matter, as follows:
    - a. Crushed stone, processed from natural rock or stone.
    - b. Wash gravel, either natural or crushed. Use of slag and pit or bank run gravel is not permitted.
    - c. Coarse Aggregate Size: Size to be ASTM C33, Nos. 57 or 67, except that No. 467 may be used for footings, foundation mats and walls 16 inches or greater in thickness.
- C. Water: Clean and not detrimental to concrete.

### 2.2 ADMIXTURES

- A. Air Entrainment: ASTM C260; MB-VR manufactured by Master Builders Company or approved equivalent.
- B. Chemical: ASTM C494, Type A - Water Reducing Pozzoloth manufactured by Master Builders Company or approved equivalent.
- C. Set-Control Admixtures: ASTM C494, as follows:
  - 1. Type B, Retarding.
  - 2. Type C, Accelerating.
  - 3. Type D, Water-reducing and Retarding.
  - 4. Type E, Water-reducing and Accelerating.
  - 5. Type F, Water-reducing, High Range.
- D. Crystalline Waterproofing Additive: Concrete waterproofing and protection system shall be of the crystalline type in powder form that chemically controls and permanently fixes a non-soluble crystalline structure within the pores and capillary tracts of the concrete. Mixed ant manufacturers recommended rates. Manufactured by Xypex Chemical Corporation or approved equivalent

### 2.3 ACCESSORIES

- A. Bonding Agent: Sika-Dur Hi-Mod manufactured by Sika Chemical Corporation or approved equivalent.
- B. Non-Shrink and Epoxy Grout:
  - 1. Non-Shrink Grout, Non-Metallic Grout: Factory premixed grout conforming to CRD-C-621-80, "Corps of Engineers Specification for Non-Shrink Grout".
    - a. Acceptable Manufacturers:
      - 1) EUCO NS, the Euclid Chemical Company
      - 2) SonogROUT, Sonneborn-Contech
      - 3) Masterflow 713, Master Builders
      - 4) DuragROUT, L & M Construction Chemical Co.
- C. Epoxy Grout: Structural epoxy adhesive conforming to ASTM C881.
  - 1. Acceptable Manufacturers:
    - a. Sikadur 32 Hi-mod by Sika Corporation
    - b. Sonneborn Epogel by Chemrex, Inc.
    - c. Epcon C6 by ITW Ramset/Redhead
    - d. Hilti HY-200
- D. Reinforcing doweling system for existing concrete shall be capsule anchors, Anchor Bolts, Expansion Anchors and Concrete Inserts, and shall be installed per the manufacturer's instructions.
- E. Dovetail Anchor Slots: Hot-dip galvanized-steel sheet, not less than 0.034 inch thick, with bent tab anchors. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

## 2.4 JOINT DEVICES AND FILLER MATERIALS

- A. Joint Fillers: ASTM D 1751, asphalt-saturated cellulosic fiber or approved equal.
- B. Metal Keyed Control Joints: QuickKey galvanized metal keyway joint catalog #QK35 by BoMetals Inc., 141 Hammond St., Carrollton, GA 30117, Phone: 1.800.862.4835, Fax: 770.832.2095 or approved equal.

## 2.5 CONCRETE MIX

- A. Provide concrete with the following mix design limitations where Class "A" concrete is specified to result in concrete placed in the field of minimum compressive strength of 4500 psi at 28 days based on test cylinders which are taken during concrete placement.

<u>Unit</u>	<u>Measurement</u>
Minimum Compressive Strength (7 day)	3200 psi
Minimum Compressive Strength (28 day)	4500psi
Coarse Aggregate	ASTM C33, No. 57
Fine Aggregate	ASTM C33
Water/Cement Ratio (maximum)	0.44 by weight
Air Entrainment	5-7 percent
Slump - Plus or minus 1 inch	4 inches*

Minimum Cement Content 564 pounds per cy

\* For drilled pier, use slump 6 inches

- B. Provide concrete with the following mix design limitations where Class "B" concrete is specified to result in concrete placed in the field of minimum compressive strength of 3200 psi at 28 days based on test cylinders which are taken during concrete placement.

<u>Unit</u>	<u>Measurement</u>
Minimum Compressive Strength (7 day)	2250 psi
Minimum Compressive Strength (28 day)	3200 psi
Coarse Aggregate	ASTM C33, No. 467
Fine Aggregate	ASTM C33
Water/Cement Ratio (maximum)	0.50 by weight
Air Entrainment	4-6 percent
Slump - Plus or minus 1 inch	4 inches
Minimum Cement Content	470 pounds per cubic yard

- C. Provide concrete with the following mix design limitations where Class "C" concrete is specified to result in concrete placed in the field of minimum compressive strength of 2000 psi at 28 days based on test cylinders which are taken during concrete placement.

<u>Unit</u>	<u>Measurement</u>
Minimum Compressive Strength (7 day)	1500 psi
Minimum Compressive Strength (28 day)	2000 psi
Coarse Aggregate	ASTM C33, No. 467
Fine Aggregate	ASTM C33
Water/Cement Ratio (maximum)	0.82 by weight
Air Entrainment	None
Slump - Plus or minus 1 inch	4 inches
Minimum Cement Content	376 pounds per cubic yard

- D. The concrete mix design listed above for the various classes shall be proportioned to produce 28 days concrete compression strength above the specified 28 days concrete compression strength when cylinder test is made from concrete mixed and moisture cured in the laboratory as follows:

<u>Specified 28 days strength</u>	<u>Laboratory 28 days test cylinder</u>
$f_c = 3000$ psi and under	$f_c + 1000$ psi
$f_c = 4000$ to $5000$ psi	$f_c + 1200$ psi

Adjustment in the limitation listed in mix design shall be made to produce the required strength of laboratory made and cured cylinder.

- E. Use accelerating admixtures in cold weather only when approved by LANDSCAPE ARCHITECT. Use of admixtures will not relax cold weather placement requirements.
- F. Do not use calcium chloride in concrete or in any admixture.

- G. Use set retarding admixtures during hot weather only when approved by LANDSCAPE ARCHITECT.
- H. Use air entraining agent in all concrete mix except for interior slabs subject to abrasion or unless otherwise shown.
- I. Maximum chloride ion content for corrosion protection shall meet Table 4.4.1 listed in ACI 318/318R (1995). Testing for chloride ion content shall conform to AASHTO T260.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Verify site conditions prior to construction.
- B. Verify requirements for concrete cover over reinforcement.
- C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not cause hardship in placing concrete.

#### 3.2 PREPARATION

- A. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.
- B. In locations where new concrete is to be doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with epoxy adhesive, unless capsule anchors or other form of fastening is shown on Plans.

#### 3.3 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304.
- B. Notify OWNER's representative 48 hours prior to completion of reinforcement placement.
- C. Ensure that reinforcement, inserts, embedded parts, formed joint fillers, joint devices and water stops are not disturbed during concrete placement.
- D. Install joint fillers, primer and sealant in accordance with manufacturer's instructions.
- E. Separate slabs on grade from vertical surfaces with 3/4-inch thick joint filler where shown on the Plans.
- F. Extend joint filler from bottom of slab to within 1/4 inch of the finished slab surface. Conform to Section 321373 for finish joint sealer requirements.



- G. Maintain records of concrete placement. Record date, location, quantity, air temperature, and test samples taken.
- H. Place concrete continuously between predetermined expansion, control, and construction joints.
- I. Do not interrupt successive placement; do not permit cold joints to occur.
- J. Place floor slabs on grade in checkerboard pattern when indicated on plans.
- K. Screed floors and slabs on grade level to required level, maintaining surface flatness of maximum 1/4-inch in 10 ft.

### 3.4 CONCRETE FINISHING

- A. Apply non-slip light broom finish to exterior concrete runnels, curbs, paving, platforms, steps, and ramps, and elsewhere as shown on the Plans or in the schedules. Immediately after trowel finishing, slightly roughen the concrete surface by brooming in the direction perpendicular to the main traffic route (in applications where concrete is used for paving, broom the surface parallel to the main traffic route or length ways). Use fiber-bristle broom unless otherwise directed. Coordinate the required final finish with the LANDSCAPE ARCHITECT before application.

### 3.5 CURING AND PROTECTION

- A. Provide smooth rubbed finish to scheduled concrete surface which have received smooth form finish treatment, not later than one day after form removal. Moisten concrete surfaces and rub with carborundum brick until a uniform color and texture is produced.
- B. Curing shall conform to the requirements of ACI 308.
- C. Curing operations shall follow finishing operations within 2 hours and shall continue for 7 days.
- D. Curing shall be accomplished by one of the following methods:
  - 1. Ponding or continuously sprinkling.
  - 2. Absorptive mats or fabrics kept continuously wet.
  - 3. Use of approved curing compounds. Curing compounds shall not be used on any surface which will receive additional concrete or where concrete hardeners or terrazzo floors are scheduled to be installed. Remove the compound film from all exposed surfaces at the end of the curing period.

### 3.6 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed in accordance with ACI 301 and under the provisions of the General Conditions.
- B. CONTRACTOR shall provide free access to the Work and cooperate with the appointed testing firm.

- C. Submit proposed mix design of each class of concrete to inspection and testing firm for review prior to commencement of Work.
- D. Tests of cement and aggregates may be performed to ensure conformance with specified requirements.
- E. Four concrete test cylinders will be taken for every 75 or less cubic yards of each class of concrete placed.
- F. One additional test cylinder will be taken during cold weather concreting, cured on job site under same conditions as concrete it represents.
- G. One slump test will be taken for each set of test cylinders taken.
- H. One air content test for each load of concrete at point of discharge or when indication of change requires.

### 3.7 PATCHING

- A. Allow OWNER'S REPRESENTATIVE or LANDSCAPE ARCHITECT to inspect concrete surfaces immediately upon removal of forms.
- B. Excessive honeycomb or embedded debris in concrete is not acceptable. Notify OWNER'S REPRESENTATIVE or LANDSCAPE ARCHITECT upon discovery.
- C. Patch imperfections in accordance with ACI 301 and as directed by the OWNER or LANDSCAPE ARCHITECT.

### 3.8 DEFECTIVE CONCRETE

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- B. Repair or replacement of defective concrete will be as determined by the LANDSCAPE ARCHITECT.
- C. Do not patch, fill, touch-up, repair, or replace defective concrete except upon express direction of OWNER or LANDSCAPE ARCHITECT for each individual area.

### 3.9 SCHEDULE - CONCRETE TYPES

- A. Class "A" concrete shall be steel reinforced and shall include the following:
  - 1. Fountain Basin
  - 2. Fountain Seat Wall.
  - 3. Slabs.
  - 4. Street paving.

5. Girders.
  6. Columns.
  7. Drilled piers.
  8. Thrust blocks.
  9. Footings.
- B. Class "B" concrete shall be placed without forms or with simple forms, with little or no reinforcing, and shall include the following:
1. Fountain equipment vault base.
  2. Equipment bases.
  3. Standard pipe supports (except thrust blocks).
  4. Fence post footings.
  5. Manhole bases.
  6. Pipe encasements.
- C. Class "C" concrete shall be placed with or without forms and shall be unreinforced. It is intended for use in the following applications:
1. Concrete fill.
  2. Working slab.

### 3.10 SCHEDULE - CONCRETE FINISHES

- A. Provide smooth-rubbed finish, rubbing concrete with a Carborundum brick no later than one day after form removal, for the following locations Unless otherwise indicated in drawings:
1. Exterior exposed vertical surfaces down to two feet below finished grade.
  2. Top of concrete curb through lawn panel
  3. Interior vertical surfaces of liquid containing structures down to one foot below liquid level.
- B. At tops of walls, horizontal offsets, and similar unformed surfaces occurring adjacent to the formed surfaces, strike-off smooth and finish with a texture matching adjacent formed surfaces. Continue the final surface treatment of formed surfaces uniformly across the adjacent unformed surfaces unless otherwise shown.
- C. Exposed Aggregate Finish. Add 1/8~1/4" diameter brown pea gravel to concrete mix. Pea gravel should be integral to mix and not just broadcast over top and tamped in. Remove surface retarded mortar with water pressure stream from hose and a stiff brush within a period of 12 to 24 hours after placement, depending upon temperature and climatic conditions at time of placement. Follow retardant Manufacturer's Specifications to obtain deep exposed aggregate finish to match the approved sample. Contractor shall provide a 3'x3' sample for Landscape Architect's approval prior to pour.
- D. Provide rough-form finish with tie-holes and imperfections repaired and with fins and other projections exceeding 1/4 inch rubbed down or chipped off at the following locations:
1. Exterior vertical surfaces up to two feet below finished grade.
  2. Interior vertical surfaces of liquid containing structures up to one foot below liquid level.

- E. Foundation Waterproofing: The exterior of all concrete walls not exposed to view and placed below ground level shall be given a waterproofing application of Slatex System as manufactured by Multicoat Co. A compatible bonding agent shall be added to or included in the mix per bonding agent manufacturer's recommendations.
- F. Provide a medium broom finish on all exposed surfaces in parking areas and curbs.

3.11 MODIFICATION AND REPAIR TO EXISTING CONCRETE

A. Cut, repair, reuse, demolish, excavate or otherwise modify parts of the existing structures or appurtenances, as indicated on the Contract Drawings, specified, or necessary to permit completion of the work. Finishes, joints, reinforcements, sealants, etc. are specified under respective sections of Specification. All work shall conform with other requirements of this Section and to detail Drawings.

B. Mix proportions of materials used in the modifications and repair to existing concrete as indicated on the Drawings shall be:

1. When new material other than non-shrink grout is shown to be connected to existing concrete, add the following cement mixtures depending on the depths called for or shown on the Drawings:

a. Less than or equal to 2 inches in depth.

<u>Material</u>	<u>Volume</u>
Cement	1.0
Sand	2.0
Water	5 gals/200 lbs. cement

b. Greater than 2 inches to 12 inches in depth.

<u>Material</u>	<u>Volume</u>
Cement	1.0
Pea Gravel	2.5
Sand	2.0
Water	5 gals/200 lbs. cement

c. Greater than 12 inches in depth.

<u>Material</u>	<u>Volume</u>
Concrete as specified under 2.1 MATERIALS in this section	2.0

2. Non-shrink Grout – Instructions for use as a Repair Mortar:

- a. Remove all areas of spalled and unsound concrete from surface to be repaired.
- b. Repair areas that are subject to heavy traffic should have a vertical edge of 1/2" (12 mm) or more, formed by use of a pneumatic jackhammer or sawing.
- c. Dampen surface with clean water before patching. Remove standing water.
- d. The repaired areas should be filled by placing material full depth, from one end to the other to eliminate partial depth lifts between batches.
- e. Consolidate the material by hand tamping or chopping with a shovel or trowel. This is particularly important around the edges.

- f. Screed and finish to create a surface that matches the surrounding finish.
  - g. Repair Mortar temperature should be maintained from 50°F to 90°F (10°C - 32°C) to achieve specified results. Use cold water in hot weather or hot water in cold weather to achieve desired grout temperature. Do not use if temperature is expected to go below 32°F (0°C) within a 12 hour period.
  - h. Remove excess material before material cures. If material has cured, remove using mechanical methods that will not damage substrate.
3. Epoxy Bonding Agent
- a. Epoxy bonding agent shall be a two component epoxy adhesive specifically formulated for bonding old concrete to new (plastic) concrete. Component A shall be an epoxy resin and Component B shall be epoxy hardener. The epoxy bonding agent shall be "Sikastix 370, Sikdadur Hi-Mod", by Sika Corporation, Lindhurst, New Jersey; "Pro Bond 821 or 822" by Protex Industries, Denver, Colorado; "Concrete 1170" by Adhesive Engineering Company, San Carlos, California; or equal.
  - b. The mixing ratio shall be as recommended by the manufacturer for the ambient temperature when placed. Furnish manufacturer's specific instruction for specific job application and obtain LANDSCAPE ARCHITECT's review prior to purchase.
  - c. Epoxy bonding agent shall conform to ASTM C-881 and corresponding tests for bond strength and shrinkage as specified in ASTM C-882, C-883, and C-884.
  - d. The properties of the cured material shall meet the following:
    - 1) Compressive Strength (ASTM D-695)  
48 hour - 1000 psi  
28 day - 7000 psi
    - 2) Tensile Strength (ASTM D-638)  
7 day - 4000 psi
    - 3) Bond Strength (ASTM C-882 or C-884) - 1500 psi
  - e. Approval requirements - The CONTRACTOR must furnish notarized certification that the material proposed for use meets all of the above requirements and that the material has been previously used successfully for the purpose described.
4. Epoxy Protectant - Sikagard 62 by Sika Chemical Corporation, Lindhurst, New Jersey, or equal.
- C. Demolition of Existing Concrete shown to be removed on the Drawings shall be done by Sawcutting at limits of concrete as indicated on the Drawings. The CONTRACTOR shall be responsible for removing concrete in such a manner that surrounding concrete or existing reinforcing to be left in place and existing in place equipment is not damaged.
- D. Connection to Existing Concrete
- 1. Roughen surface of existing concrete to be connected to new materials by sandblasting, chipping, or scarifying. Thoroughly clean area of concrete to receive new materials of loose particles and dust or other contaminating objects.
  - 2. Existing reinforcing to be left in place as shown on the Drawings shall be wire brushed to remove rust or concrete on the bar. The existing reinforcing shall be cut, bent, lapped, or

welded to new reinforcing as shown on the Drawings and provided with a minimum of 1 inch of cover all around and at ends of the bar. The reinforcing shall be thoroughly cleaned of loose particles and dust before incorporating in new materials.

3. After existing concrete surface has been roughened and cleaned as specified above, apply epoxy bonding agent at connection surface. The field preparation and application of the epoxy bonding agent shall conform strictly with the manufacturer's recommendations. Immediately pour new cement mixture or non-shrink grout as detailed on the Drawings.

END OF SECTION 03 31 00

## **SECTION 04 06 00 - MASONRY MORTAR AND GROUT**

### **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. Mortar and grout for masonry
- B. Related Sections:
  - 1. Division 01: Administrative, procedural, and temporary work requirements.
  - 2. Section 042000 – Unit Masonry

#### **1.3 REFERENCES**

- A. ASTM International (ASTM):
  - 1. C144 - Standard Specification for Aggregate for Masonry Mortar.
  - 2. C150 - Standard Specification for Portland Cement.
  - 3. C207 - Standard Specification for Hydrated Lime for Masonry Purposes.
  - 4. C270 - Standard Specification for Mortar for Unit Masonry.
  - 5. C404 - Standard Specification for Aggregates for Masonry Grout.
  - 6. C476 - Standard Specification for Mortar and Grout for Reinforced Masonry.
- B. The Masonry Society (TMS):
  - 1. 402 - Building Code for Masonry Structures.
  - 2. 602 - Specification for Masonry Structures.

#### **1.4 ACTION SUBMITTALS**

- A. Product Data: For materials other than water and aggregates.
- B. Product Data: For the following:
  - 1. Mortar and grout materials.
- C. Samples for Initial Selection: For the following:
  - 1. Mortar and grout color
    - a. Submit for selection, colored mortar samples showing full extent of colors available.
    - b. After mortar color has been selected by Landscape Architect, submit (3) samples of each color selected for use by Landscape architect in verifying that proper mortar color(s) are used on Project.
- D. Quality Control Submittals:
  - 1. Test reports:
    - a. Indicating mortar compliance with ASTM C270.
    - b. Indicating grout compliance with ASTM C476.

2. Delivery tickets: If mortar is delivered to site dry and pre-blended, furnish delivery

#### 1.5 QUALITY ASSURANCE

- A. Perform work in accordance with TMS 402 and 602
- B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
- C. Preinstallation Conference: Conduct conference at Project site.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver cement and lime in manufacturer's original, unopened packages or containers.
- B. Protect materials from moisture absorption and damage; reject damaged containers.
- C. Store sand to prevent inclusion of foreign matter.

#### 1.7 PROJECT CONDITIONS

- A. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit paver work damaged by frost or freezing.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Manufacturers:
  1. Argos USA  
3015 Windward Plaza  
Suite 300  
Alpharetta, GA 30005  
(678) 368-4300
    - a. Masonry Cement Type N
    - b. Color: final selection to be made during unit masonry mock-up
  2. Holcim Mortamix  
1 (888) 646-5246
    - a. Masonry Cement Type N
    - b. Color: final selection to be made during unit masonry mock-up
  3. Or approved equal.
- B. Submit samples to Landscape Architect for final approval. Perform mock-up with specified brick.

### PART 3 - EXECUTION



3.1           INSTALLATION

- A.       Follow manufacturer's requirements, and requirements specified in referenced sections.

END OF SECTION 04 06 00

## **SECTION 04 20 00 - 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. Brick Unit Masonry and Accessories.
  - 2. Stone trim units.
- B. Related Sections:
  - 1. Section 031100 "Concrete Formwork"
  - 2. Section 032000 "Concrete Reinforcement"
  - 3. Section 033100 "Cast-in-Place Concrete"
  - 4. Section 040600 "Masonry Mortar and Grout"

#### **1.3 ACTION SUBMITTALS**

- A. Product Data: For each different concrete masonry unit.
- B. Product Data: For the following:
  - 1. Accessories
  - 2. Material certificates for each different masonry product required.
  - 3. Material test reports from a qualified independent testing laboratory for mortar, grout mixes, and masonry units.
- C. Samples for Initial Selection: For the following:
  - 1. Each type of concrete masonry unit indicated.
  - 2. Color
  - 3. Finish
- D. Samples for Verification:
  - 1. Full-size units of each type of concrete masonry unit indicated.
  - 2. Shop drawings for reinforcing detailing fabrication, bending, and placement of unit masonry reinforcing bars.

#### **1.4 QUALITY ASSURANCE**

- A. Source Limitations: Obtain each type of unit paver, joint material, and setting material from single source with resources to provide materials and products of consistent quality in appearance and physical properties.

- B. Unit Masonry Standard: As per Standard Building Code, comply with ACI 530.1/ASCE 6" Specifications for Masonry Structures," except as otherwise indicated.
  - 1. Revise ACI 530.1/ASCE 6 to exclude Sections 1.4 and 1.7; Parts 2.1.2, 3.1.2, and 4.1.2; and Articles 1.5.1.2, 1.5.1.3, 2.1.1.1, 2.1.1.2, and 2.3.3.9 and to modify Article 2.1.1.4 by deleting requirement for installing vent pipes and conduits built into masonry.
- C. Fire Performance Characteristics: Where indicated, provide materials and construction identical to those of assemblies whose fire resistance has been determined per ASTM E119 by a testing and inspecting organization, by equivalent concrete masonry thickness, or by another means, as acceptable to authorities having jurisdiction.
- D. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution. Mockup to be 36" length representation of brick veneer wall and bluestone cap, full height, and in a separate location from the elements that are to be constructed.
- E. Preinstallation Conference: Conduct conference at Project site.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store concrete 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.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

#### 1.6 PROJECT CONDITIONS

- A. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace concrete masonry unit work damaged by frost or freezing.
- B. Weather Limitations for Mortar and Grout:
  - 1. Cold-Weather Requirements: Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
  - 2. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602. Provide artificial shade and windbreaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 100 deg F and higher.
    - a. When ambient temperature exceeds 100 deg F , or when wind velocity exceeds 8 mph and ambient temperature exceeds 90 deg F , set pavers within 1 minute of spreading setting mortar.

### PART 2 - PRODUCTS

#### 2.1 BRICK VENEER

- A. Manufacturers:
  - 1. Acme Brick Tile & Stone  
2180 Avenue C

Brookley Complex  
Mobile, AL 36615  
(251) 433-5569

- a. Style: Acme Abbeville Queen Size
  - b. Size: Queen
2. Riley Stuart Supply  
601 Western Drive  
Mobile, AL 36601  
(251) 471-4361
    - a. Style: Columbus "Charleston"
    - b. Size: Queen
  3. Or approved equal.
- B. Face Brick: ASTM C216, Type FBS, Grade SW. Brick Supplier is to provide samples to the Landscape Architect for selection.
- C. Size and Shape: Brick to be 7 5/8" x 2 3/4" x 2 3/4" All solid pieces only. Provide special units as required.
- D. Samples: Submit whole brick samples to Landscape Architect for approval.

## 2.2 STONE TRIM UNITS

- A. Material: Bluestone
- B. Source: single-source quarry to match Bluestone unit paving.
- C. Color: Trueblue
- D. Finish: Thermal finish on top surface; rock face on exposed edges; refer to drawings.
- E. Face size: As indicated on drawings.
- F. Thickness: not less than 2 inches unless otherwise indicated.
- G. Samples: Submit 12"x12" samples to Landscape Architect for approval.

## 2.3 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C150, Type I or II, except Type III may be used for cold-weather construction.
- B. Masonry Cement: ASTM C91.
- C. Hydrated Lime: ASTM C207, Type S.
- D. Aggregate for Mortar: ASTM C144.
- E. Aggregate for Grout: ASTM C404.
- F. Water: Clean and potable.
- G. Color: See Section 040600.

- H. Bonding Agent: Acceptable products: 1. "Daraweld-C manufactured by Grace Construction Products, W.R Grace & Co. , 7221 West Parkland Court, Milwaukee, WI 53223 (414) 354-4400. 2. "Acrylbond" manufactured by Lambert Corporation, 20 N. Coburn Avenue, Orlando, FL 32805 (800) 423-4746.

## 2.4 JOINT REINFORCEMENT

- A. Form joint reinforcing from the following; space maximum 16 inches O.C. vertically.
1. Galvanized carbon steel wire, coating class as required by referenced unit masonry standard for application indicated.
  - 2.
  3. Description: Welded-wire units prefabricated with deformed continuous side rods and plain cross rods into straight lengths of not less than 10 feet, with prefabricated corner and tee units, and complying with requirements indicated below:
    - a. Wire Diameter for Rods: 0.1483 inch (9 gauge).
    - b. For single-wythe masonry, provide truss design with single pair of side rods.
    - c. For multiwythe masonry provide tab design, with drip at cavity walls.
- B. Acceptable Welded Wire Manufacturers:
- a. Dur-O-wall, Inc.
  - b. Hohmann & Bernard, Inc., or approved equal.

## 2.5 ANCHORS

- A. Ties and Anchors, General: Comply with requirements for metal and size of referenced unit masonry standard and the following:
1. Galvanized Carbon Steel Wire: ASTM A82, coating class as required by referenced unit masonry standard for application indicated.
  2. Galvanized Steel Sheet: ASTM 635 (commercial quality) hot-rolled carbon steel sheet hot-dip galvanized after fabrication to comply with ASTM A525, Class B3, for rigid anchors made from steel sheet or strip 0.180 inch thick or more.
  3. Steel Plates and Bars: ASTM A36, hot-dip galvanized to comply with ASTM A123 or ASTM A153, Class B3, as applicable to size and form indicated.
- B. Rigid Anchors: Provide straps of form, thickness, and length indicated.
- C. Anchor Bolts: Steel bolts complying with A307, Grade A; with ASTM A563 hex nuts and, where indicated, flat washers; hot-dip galvanized to comply with ASTM A153, Class C.

## 2.6 EMBEDDED FLASHING MATERIALS: ONE OF THE FOLLOWING AT CONTRACTOR'S OPTION

- A. Vinyl Sheet Flashing: flexible sheet flashings especially formulated from virgin polyvinyl chloride with plasticizers and other modifiers to remain flexible and waterproof in concealed masonry applications, black in color, minimum 30 mils thickness.
- B. Copper-Fabric Laminated Flashing: Copper sheet weighing 7 oz. per sq. ft. bonded with asphalt between 2 layers of glass-fiber cloth.

2.7 MISCELLANEOUS MASONRY ACCESSORIES

- A. Nonmetallic Expansion Joint Strips: Premolded filler strips complying with ASTM D1056, Type 2, Class A, Grade 1, compressible up to 35 percent, of width and thickness indicated.
- B. Bond Breaker Strips: Asphalt-saturated organic roofing felt complying with ASTM D226, Type I (No. 15 asphalt felt).
- C. Weep Holes: Provide one of the following as noted on drawings; see drawings for spacing.
  - 1. Round Plastic Tubing: Gray medium-density polyethylene, 1/2-inch outside diameter.
  - 2. Wicking Material: Cotton sash cord or fibrous glass rope, in length required to produce 2 inches exterior exposure and 18 inches in cavity.
- D. Wall Nailing Plugs: Heckman 335/336 or Southern Construction Products 9500/9501, 16" O.C. in mortar joints.

2.8 MASONRY CLEANERS: USE LEAST HARSH THAT CLEANS

- A. Job-Mixed Detergent Solution: Solution of trisodium phosphate (1/2-cup dry measure) and laundry detergent (1/2 cup dry measure) dissolved in one gallon of water.
- B. Job-mixed Muriatic Solution: Solution of 1 part muriatic acid and 10 parts clean water, mixed in a nonmetallic container with acid added to water.
- C. Proprietary Acidic Cleaner: General-purpose cleaner designed for removing new construction stains from new masonry surfaces without discoloring or damaging masonry surfaces; approved for intended use by manufacturer of masonry units being cleaned.

2.9 MORTAR AND GROUT MIXES

- A. Do not add admixtures unless otherwise indicated. Do not use calcium chloride in mortar or grout.
- B. Mortar for Unit masonry: ASTM C270, Property Specification for job-mixed mortar and ASTM C1142 for ready-mixed mortar, of types indicated below:
- C. For exterior masonry, use Type S. Add water-repellent admixture. Add one pint per sack of mortar mix or as per manufacturer's recommendations.
- D. For other applications where another type is not indicated, use Type N.

PART 3 - EXECUTION

3.1 INSTALLATION - GENERAL

- A. Comply with referenced unit masonry standard and other requirements indicated applicable to each type of installation included in project.

### 3.2 LAYING MASONRY WALLS

- A. Layout walls in advance for accurate spacing of surface bond patterns with uniform joint widths and for accurately locating openings, movement-type joints, returns, and offsets. Avoid the use of less-than-half-size units at corners, jambs, and where possible at other locations.
- B. Lay up walls to comply with specified construction tolerances, with courses accurately spaced and coordinated with other construction.
- C. Bond Pattern for Exposed Masonry: Lay masonry in running bond; do not use units with less than half the horizontal face dimensions at corners or jambs.
- D. Brick veneer walls to have 1/2" to 3/4" joints, with sack finish.
- E. Reinforcement and ties: Install masonry reinforcement and ties as indicated.
- F. Built-In Work: As construction progresses, build in items specified under this and other Sections of the Specifications. Fill in solidly with masonry around built-in items.
  - 1. Fill space between hollow metal frames and masonry solidly with mortar, unless otherwise indicated.

### 3.3 CAVITIES/AIR SPACES

- A. Keep cavities/air spaces clean of mortar droppings and other materials during construction. Strike joints facing cavities/air spaces flush.
- B. Inspection: Verify that openings in masonry walls are sealed to prevent escape of granular fill and that resilient rods or seals are in place around fixtures, pipes, receptacle outlets, and other items in or through the wall to seal openings.

### 3.4 FLASHING/WEEP HOLES

- A. Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to the downward flow of water in the wall, and where indicated.

### 3.5 REPAIR AND CLEANING

- A. Remove and replace loose, chipped, broken, stained, or otherwise damaged masonry units.
- B. Tool exposed joints slightly concave using a jointer larger than joint width; perform tooling while mortar is still plastic and before it takes final set.
- C. Pointing: During the tooling of joints, enlarge any voids or holes, except weep holes, and completely fill with mortar.
  - 1. Rinse masonry joint surfaces with water to remove any dust particles. Time application of rinse so that, at time of pointing, excess water has evaporated or run off, and joint surfaces are damp but free of standing water.
  - 2. Apply first layer of pointing mortar to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8" until a uniform depth is formed. Compact each layer thoroughly and allow to become thumbprint-hard before applying next layer.
  - 3. After joints have been filled to a uniform depth, place remaining pointing mortar 3 layers with each of first and second layers filling approximately 2/5 of joint depth and third layer remaining 1/5. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing bricks have rounded edges recess tool final layer slightly back from face of brick. Take care not to spread mortar over edges onto exposed masonry, or to featheredge mortar.

4. When mortar is thumbprint hard, tool joints to match original appearance of existing flush joints, unless otherwise indicated. Remove excess mortar from edge by brushing.
  5. Cure mortar by maintaining in a damp condition for not less than 72 hours.
  6. Where repointing work precedes cleaning of existing masonry, allow mortar to harden not less than 30 days before beginning cleaning work.
  7. Owner shall have the right to perform periodic tests to verify depth of repointing. Contractor shall repair, with like materials, area where mortar has been removed to ascertain depth of repointing.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry by first removing large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels before proceeding as follows:
1. Test cleaning methods on sample wall panel; leave ½ panel uncleaned for comparison purposes.
  2. Protect adjacent surfaces from contact with cleaner.
  3. Wet wall surfaces with water prior to application of cleaners; remove cleaners promptly by rinsing thoroughly with clear water.
  4. Clean brick by means of bucket and brush hand-cleaning method described in BIA "Technical Note No. 20 Revised" using least harsh masonry cleaner indicated under products that will satisfactorily clean the masonry.
  5. Clean concrete masonry by means of cleaning method indicated in NCMA TEK 45 applicable to type of stain present on exposed surfaces.

END OF SECTION 04 20 00



## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Provide labor, materials, equipment and supervision necessary to install a fluid-applied reflecting pool waterproofing system as outlined in this specification.
- B. The manufacturer's application instructions for each product used are considered part of this specification and should be followed at all times.
- C. Related Sections:
  - 1. Section 03 30 00: Cast-in-Place Concrete
  - 2. Section 03 40 00: Precast Concrete
  - 3. Section 07 26 00: Vapor Retarders
  - 4. Section 07 90 00: Joint Protection

### **1.2 SYSTEM DESCRIPTION**

- A. Basis of design for fluid applied waterproofing for fountain basin shall be:
  - 1. Pool-Gard C by Neogard. Product shall be shall be a complete system of compatible materials to create a seamless waterproof membrane.
  - 2. Pool-Gard C shall be designated for application on the specific type of substrate indicated on the drawings.
- B. Other products providing equal characteristics, performance and warranty may be considered for substitution.

### **1.3 SUBMITTALS**

- A. Technical Data: Submit manufacturer's product data, Safety Data Sheets (SDS) and installation instructions.
- B. Samples: Submit five (5) 6"x6" samples. Samples shall be construed as examples of finished color and texture of the system only.
- C. Applicator Approval: Submit letter from manufacturer stating applicator is approved to install the specified or approved equal substitute system.
- D. Warranty: Submit copy of manufacturer's standard sample warranty, identifying the terms and conditions stated in section 1.7 Warranty.

### **1.4 QUALITY ASSURANCE**

- A. Applicator Qualifications: Applicator shall be approved to install specified system.
- B. Requirement of Regulatory Agencies: Comply with applicable codes, regulations, ordinances and laws regarding use and application of coating systems.

### **1.5 DELIVERY, STORAGE AND HANDLING**

- A. Delivery: Materials shall be delivered in original sealed containers, clearly marked with supplier's name, brand name and type of material.
- B. Storage and Handling: Recommended material storage temperature is 75°F/23°C. Handle products to prevent damage to container. All materials shall be stored in compliance with local fire and safety requirements. Avoid high temperatures and direct sunlight.

### **1.6 PROJECT CONDITIONS**

- A. Prior to starting work, read and follow the SDS and container labels for detailed health and safety information.
- B. Proceed with application of materials only when substrate temperature is 40°F/4°C or greater. Do not proceed if precipitation is imminent. Only apply to dry, clean surfaces; do not apply to damp, dirty, or frosty surfaces. Ambient temperature should be a minimum 40°F/4°C and rising, and more than 5°F/3°C above dew point. Take special precautions when ambient and/or substrate temperatures are approaching, at, or above 100°F/38°C; it may be necessary to limit material application to evening hours for exterior exposed decks.
- C. Coordinate waterproofing work with other trades. Applicator shall have sole right of access to the specified area for the time needed to complete the application and allow the fluid applied reflecting pool waterproof coatings to cure adequately.
- D. Protect plants, vegetation or other surfaces not to be coated against damage or soiling.
- E. Keep products away from spark or flame. Do use equipment which may produce sparks during application and until all vapors have dissipated. Post "No Smoking" signs.
- F. Maintain work area in a neat and orderly condition, removing empty containers, rags and debris daily from the site.

## 1.7 WARRANTY

- A. Provide a one year material warranty beginning on the date of Substantial Completion of the project and receipt of a properly executed warranty request form.

## PART 2 MATERIALS

### 2.1 MANUFACTURER

- A. Neogard, A part of Hempel, 2728 Empire Central, Dallas, TX 75235, (800) 321-6588, [www.neogard.com](http://www.neogard.com). Local NEOGARD Representative- Dan Anagnos (443)799-0102-[daana@hempel.com](mailto:daana@hempel.com).
- B. Or approved substitution.

### 2.2 MATERIALS

- A. Pool-Gard C materials (Hempel product numbers in parentheses):
  - 1. Primer: 7740/7741 (252J9/95WJB) 100% solids epoxy primer.
  - 2. Flashing Tape: 86218 (62ZJB) flashing tape.
  - 3. Sealant: 70991 (47XJB) or other polyurethane sealant approved by Neogard.
  - 4. Base Coat: 7825/7821 (47NJB) polyurethane coating, black in color.
  - 5. Topcoat: 7825/7821 (47NJB) polyurethane coating, black in color. Note: Exterior applications exposed to UV must have a topcoat with exterior finish primer and exterior finish coat.
  - 6. Exterior Finish Primer: 33014/99951 (15050) Ureprime HS4 epoxy urethane primer.
  - 7. Exterior Finish Coat: Hempel Acrylithane urethane enamel, color selection by Landscape Architect from manufacturers standard RAL color options.

### 2.3 MATERIAL PERFORMANCE CRITERIA

- A. Typical physical properties of cured 7825/7821 urethane used on this project are:
  - 1. Tensile Strength, ASTM D412, 1,500 psi
  - 2. Elongation, ASTM D412, 300%
  - 3. Permanent Set, ASTM D412, 20%
  - 4. Tear Resistance, ASTM D1004, 160 pli
  - 5. Water Resistance, ASTM D471, < 2%
  - 6. MVT (20 mils), ASTM E96, 0.5 English Perm
  - 7. Taber Abrasion, ASTM D4060, 5 mg (1,000 CS-17)

8. Shore A, ASTM D2240, 80–90
9. Adhesion, ASTM D4541, 400 psi

B. The above tested results are typical values. 10% or less variance from the typical value is acceptable for individual product lots.

## 2.4 ACCESSORIES

A. Miscellaneous materials such as cleaning agents, adhesives, reinforcing fabric, closed cell backer rod, drains, etc., shall be compatible with the specified reflecting pool coating system.

## 2.5 MIXING

A. Comply with manufacturer's instructions for mixing procedures.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Concrete: Verify that the work done under other sections meets the following requirements:
1. That due to hydrostatic, capillary and moisture vapor pressure, substrates in contact with ground must have a properly installed, effective vapor barrier.
  2. That the concrete surface is free of ridges and sharp projections. If metal forms or decks are used they should be ventilated to permit adequate drying of concrete on exterior exposed deck.
  3. That the concrete was cured for a minimum of 28 days (Minimum of 3,000 psi compressive strength). Water-cured treatment of concrete is preferred. The use of concrete curing agents, if any, shall be of the sodium silicate base only; others require written approval by Neogard. If membrane-forming curing compounds are present, they must be mechanically removed prior to the application of Pool-Gard C.
  4. That the concrete was finished by a power or hand steel trowel followed by soft hair broom to obtain light texture or "sidewalk" finish.
  5. That damaged areas of the concrete substrate be restored to match adjacent areas. Use 100% solids epoxy and sand for filling and leveling.

### 3.2 PREPARATION

- A. Concrete Cleaning: Surfaces contaminated with oil or grease shall be vigorously scrubbed with a stiff bristle broom and a strong non-sudsing detergent. Thoroughly wash, clean, and dry. Areas where oil or other contaminants penetrate deep into the concrete may require removal by mechanical methods.
- B. Acid Etching: Treat concrete surfaces with 18°–20° Baume muriatic acid and water mixed 1:1 to remove laitance and impurities. After acid has stopped foaming or boiling, immediately rinse thoroughly with water. Re-rinse as required to remove muriatic acid solution. Note: If acid etching is not practical, shot blasting or other mechanical abrasion is an acceptable alternative. However, care should be taken to leave the pores of the concrete unopened.

**Note: Acid or alkali cleaning agents shall not be permitted unless they are captured prior to entering into waterways and/or storm drains. If acid or alkali cleaning agents are used, the wash byproduct (what comes off any surfaces) shall be dammed up, collected in a tank and removed from site by truck. If the wash water from acid or alkali cleaning products escapes and gets onto pavement, in gutters, on curbs, inlets, etc. contractor is subject to ticketing and fines by the City of Mobile for illicit discharge.**

- C. Concrete Patching: Ridges and sharp projections should be ground off and pits, holes and low spots should be filled in with 100% solids epoxy and sand, mixed at a ratio of one part epoxy to four parts sand. The repairs should be done after any chemical or mechanical cleaning or acid etching is complete. Allow the epoxy patching to cure approximately 24 hours at 75°F/23°C.
- D. Cracks and Cold Joints: Visible hairline cracks (less than 1/16" in width) in concrete and cold joints shall be cleaned, primed as required and treated with thoroughly mixed 7825/7821 base coat material a

minimum distance of 2" on each side of crack to yield a total thickness of 30 dry mils. Large cracks (greater than 1/16" in width) shall be routed and sealed with 70991 sealant. Sealant shall be applied to inside area of crack only, not applied to substrate surface. Detail sealed cracks with thoroughly mixed 7825/7821 base coat material a distance of 2" on each side of crack to yield a total thickness of 30 dry mils.

- E. Control Joints: Seal control joints equal to or less than 1" in width with 70991 sealant. Depending on the width to depth ratio of the joint, backing material and a bond breaker may be required. Install sealants in accordance with ASTM C1193 and manufacturer's instructions. Sealant shall be applied to inside area of joint only, not applied to substrate surface. Detail sealed joints with thoroughly mixed 7825/7821 base coat material a distance of 2" on each side of joint to yield a total thickness of 30 dry mils.
- F. Flashing Tape: Install 86218 flashing tape where indicated on the drawings and/or where required by the manufacturer prior to the application of base coat.
- G. Surface Condition: Surface shall be clean and dry prior to coating.

### 3.3 APPLICATION

- A. To ensure that specified dry film thickness is achieved, use a wet mil gauge to verify actual thickness of wet coating applied, adjusting as needed for those factors which directly affect the dry film build. Factors that may affect dry film thickness include: volume solids, thinning, surface profile, application technique and equipment, overspray, squeegee, brush and roller wet out, container residue, spills and other waste\
- B. Primer: Thoroughly mix 7740/7741 primer and apply at a rate of 200 sf/gal (0.5 gal/100 sf or 8 wet mils) to yield 8 dry mils. Within 24 hours of application of primer, base coat must be applied. If base coat cannot be applied within 24 hours, inspect surface for contaminants, clean surface as necessary, and re-prime.
- C. Base Coat: Thoroughly mix 7825/7821 and apply at a rate of 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 24 dry mils. Extend base coat over cracks and control joints which have received detail treatment. Note: Vertical surfaces may require additional coats to build film to design thickness.
- D. Topcoat: When base coat is dry to touch, thoroughly mix 7825/7821 and apply at a rate of 66 sf/gal (1.5 gal/100 sf or 24 wet mils) to yield 24 dry mils. Note: Vertical surfaces may require additional coats to build film to design thickness
- E. Note: Exterior applications exposed to UV must receive a topcoat with Exterior Finish Primer and Exterior Finish Coat.
- F. Exterior Finish Primer: Thoroughly mix 33014/99951 Ureprime HS4 and apply at a rate of 300 sf/gal (0.33 gal/100 sf or 5 wet mils) to yield 3 dry mils.
- G. Exterior Finish Coat: Apply two coats of thoroughly mixed Acrylithane series urethane enamel at the rate of 200 sf/gal (0.5 gal/100 sf) per coat to yield 4–5 dry mils per coat.
- H. Caution: Allow entire Pool-Gard C coating system to cure for a minimum of ten days prior to filling with water.
- I. Applicator is responsible for applying sufficient coating to the substrate.

### 3.4 CLEANING

- A. Remove debris resulting from completion of coating operation from the project site.

### 3.5 PROTECTION

- A. After completion of application, do not allow traffic on coated surfaces for a period of at least 48 hours at 75°F/23°C and 50% relative humidity, or until completely cured.

**END OF SECTION**

## SECTION 131213 – EXTERIOR FOUNTAINS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Work of this Section includes all labor, materials, equipment, tools, incidentals, and services necessary to design, engineer, manufacture, supply, and install the Stationary Fountain with related mechanical and electrical systems complete including all components, hardware, and accessories as indicated on the Contract Drawing and specified herein:
1. Discharge and suction piping systems.
  2. Electrical conduit and wiring systems.
  3. Subterranean Vault
  4. Mechanical and electrical equipment with components and accessories.
  5. Manufacture of primary fountain equipment and components is a "Basis of Design".
  6. Include fountain system testing, adjustment, and operational training for Owner.
  7. Custom fabricated fixtures.
- B. Related Fountain System Work to be Provided by Other Separate Contractors:
1. Concrete fountain basin reservoir.
  2. Paving systems.
  3. Earthwork including trench excavation and backfill.
  4. Stone Structure and Pedestal

#### 1.2 REFERENCES AND STANDARDS

- A. General: As Specified in Division 1.
- B. "Rules Governing and Restricting the Use and Supply of Water", City of Mobile, AL. Department of Environmental Protection, Bureau of Water and Sewer Operations, Division of Water Connections and Permits.
- C. Other Standards and References:
1. American Society for Testing and Materials (ASTM).
  2. American Water Works Association (AWWAA).
  3. American Public Works Association (APWA).
  4. American National Standards Institute, Inc. (ANSI).
  5. National Fire Protection Association (NFPA).
  6. Underwriters Laboratories, Inc. (UL).
  7. National Sanitation Foundation (NSF).
  8. Department of Health (DOH).
  9. National Electric Code (NEC).
  10. American Society of Mechanical Engineers (ASME).
  11. American Society of Sanitary Engineering (ASSE).
  12. Commercial Standards (CS).

13. National Electrical Manufacturer's Association (NEMA).
  14. Uniform Building Code (UBC).
  15. Institute of Electrical and Electronic Engineers (IEEE).
  16. Insulated Power Cable Engineers Association (IPCEA).
  17. International Plumbing Code (IPC)
- D. All work shall conform to the latest edition of the National Building Code and/or International Plumbing Code.

### **1.3 SYSTEM REQUIREMENTS**

A. Design Requirements:

1. The fountain described in this Section shall be a fully automated, self-contained type stationary feature.
2. The work of this Section shall include design of equipment items for fabrication and installation of fountain equipment and components to suit Project requirements as approved by Owner. See Division 1 for additional provisions related to delegated design by Owner's Engineer.

B. Performance Requirements:

The water feature consists of a prefabricated, iron, pedestal mounted fountain with multiple tiers. The inner cavity of the fountain contains multiple discharge feeds with the appropriate fittings and lighting cables. Water will discharge from the feature pump to these (3) feeds, filling their individual tiers before spilling over into lower tiers. The lowest tier has multiple spouts, where the combined flow for the (3) discharge feeds returns to the concrete basin below and eventually back to the vault, to be filtered and circulated through the system. The minimum pumping rate for this portion of the feature is 34 g.p.m.

The concrete constructed basin has (2) 12"W x 12"L suction sumps with 3" connections to return the water back to feature and filter pump. The filter pump discharges to the (4) 1-1/2" floor inlet fittings embedded in the basin floor. The minimum pumping rate for this portion of the feature is 63 g.p.m.

A water level sensor in the basin will be used in conjunction with the water makeup assembly for automatic water level control. During mild wind conditions, water to the top tier (plume) will be diverted to the basin via a manifold mounted motorized valve in the equipment vault. The pumps shall shut down completely during extreme wind conditions.

### **1.4 SUBMITTALS**

- C. General: Refer to and comply with Division 1 Section, for procedures and additional submittal criteria.

- D. Installer Qualifications: Comply with Article “Quality Assurance” herein. Submit fountain system installer qualifications including resume and system identification of previous work experience on fountain systems of type indicated for Project and the following work:
1. Plumbing work.
  2. Electrical work
  3. Concrete and Waterproofing Work.
  4. Other specific work; rock work, stainless steel, etc...
- E. Product Data:
1. Submit manufacturers’ data for all equipment and individual components listed in “Part 2 – Products”. Partial submissions, or submissions without data for all components listed in “Part 2: Products”, will be rejected and not partially reviewed.
  2. Submit U.L. listed (as assembly) control panel, per logic diagram, panel layout, and bill of materials provided in “Part 2: Products, Section H” of this specification.
  3. Submit for other items and materials of system not indicated in this section including for items of conduit, wiring, electrical devices, piping and fittings, sealants and/or seals to confirm compatibility and conformance to Project wide requirements.
- F. Shop Drawings: A concise plan, details, and section(s) shall accompany the submittal data on all components to assure compliance with the intended design as specified and shown on the Contract Drawings.
1. Include equipment and material handling instructions and interfacing requirements and coordination notes with other trades and contractors.
  2. If family product data sheets are submitted for approval, cross out all items not appropriate and highlight the selections for the components to be submitted, including all options.
- G. Samples for Verification: Submit for surface exposed elements of system as requested by Architect and highlight only the information that is pertinent.
- H. Quality Control Submittals:
1. Test Reports: Fountain Control Panel test report must be included in the control panel information package. This report shall include results of the test on both motors and all lighting circuits and uncommissioning report indicating proper operation.
  2. Field Reports: The manufacturer shall provide a field test report in the controls package. This report, which includes information on the field voltage, current, and resistance at all components, must be filled out by the installing electrical contractor and submitted to the manufacturer and the Architect for approval.
- I. Contract Closeout, Operations and Maintenance: Submit manuals pertaining to the operations and maintenance of the fountain system prior to final approval of system installation. The manuals shall include specification sheets, operations and maintenance data, exploded diagrams, replacement part lists, copies of field and test reports, and warranty information. Comply with Division 1.

## **1.5 QUALITY ASSURANCE**

- A. General:



1. Insofar as possible, all materials and equipment used in the installation of this work shall be of the same brand or manufacturer throughout for each class of material or equipment. The specification has allowed for substitutions; however, the substitution process will be strictly adhered to. If the process is incomplete, or not within the time frame, no substitutions will be considered. Substitutions will not be partially approved. If any item is not approved, the entire submittal will be rejected, not for resubmission. There will be no consideration for alternates, after the bid. Conform to Reference Standards and other Project Manual Sections as applicable.
  2. Piping materials shall bear label, stamp, or other markings of specified testing agency.
  3. Use numbers of skilled workmen equal to work requirement or occasion. The skilled workman shall be thoroughly trained and experienced in the necessary crafts and shall be completely familiar with the specified requirements and methods needed for proper performance of the work in this Section.
- B. Fountain Manufacturer: All fountain manufacturers requesting approval must comply with the requirements listed in the SUBMITTALS section under the Product Data paragraph. All manufacturers' data on individual components listed in PART 2: Products, or pre-approved equals where allowed, shall be submitted to the Landscape Architect and fountain consultant, prior to approval. Manufacturers requesting prior approval shall submit to the owner, at least 10 business days prior to the bid date, all data on all individual components listed in PART 2: Products, for review by the owner and fountain consultant. All approvals will be issued in an addendum prior to the bid date.
- C. Installer's Qualifications: Plumbing and electrical work for fountain system installation shall be performed by firms with each having at least 5 years of successful commercial fountain installation experience on features similar to that required for the Project.
- D. Water feature contractor qualifications:
1. In entering into a contract covering this work, the Contractor accepts the specifications and drawings and guarantees that the work will be performed in accordance with the requirements of the specifications and drawings, or such modifications to said specifications and drawings as may be made in the contract documents. The Contractor, in accepting the contract, has verified the design, and will perform such work as is required to achieve the design intent.
  2. The contractor shall currently be in the business of constructing custom water features and shall have a continuous 5-year record of no less than 5 successful projects of equal or greater scope.
  3. The Contractor further guarantees that the workmanship and material will be of the best quality procurable and that none but experienced workmen, familiar with each particular class of work, will be employed.
  4. The Contractor further agrees to hold himself/herself responsible for any defects which may develop in any part of the entire system, including equipment as provided for under this specification, due to faulty workmanship, design, or material, and to replace, make good, without cost to the Owner, any such faulty parts or construction which may develop at any time within one (1) year from the date of the final acceptance. Any repairs or replacements required because of defects, as outlined in this clause, are to be made promptly and approved in writing by the Landscape Architect.
- E. Field Measurements: Verify dimensions with other work on the Project which adjoins the equipment item(s) of this Section, or to which work of this Section will be a part.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Packing and Shipping: Fountain manufacturer shall adequately package all shipments to protect the material during shipment. Consolidate the freight of like items when possible, to ensure minimal shipments. All shipments to be freight on board, manufacturer's plant, with fully insured freight allowed to the jobsite.
- B. Handling and Unloading: All shipments shall be driver signed and counted to verify all components listed on the packing slips are included in the shipment prior to leaving the manufacturer's premise.
- C. Special Handling: Contractor to take necessary precautions in unloading, handling, moving, and storing all shipments, until it is installed in its final position, to protect all components from damage. Contractor to refer to all notes on the shop drawings for any additional instructions on handling fountain equipment.
- D. Acceptance at Site: Contractor to schedule and arrange for delivery of all shipments. Contractor is responsible for preparations of all equipment necessary to safely facilitate the unloading of all shipments and moving it to the final location. Freight is F.O.B plant, full freight allowed to jobsite. Contractor to account for all items in each shipment for accuracy before signing for acceptance of shipment. All damages and shortages shall be clearly documented on the Bill of Lading and packing slip before the delivery driver leaves the premises. The manufacturer shall be promptly notified within 24 hours of any and all documented damages and shortages. By signing the bill of lading, it is mutually agreed that the goods listed are accepted in apparent good order, condition and correct quantity, except as noted, and are in proper condition for transportation according to the applicable regulations of the department of transportation (for truck load shipments). In cases where shipments that are damaged in-transit and are signed for in good condition, it will be the contractor's responsibility to replace those damaged items. All shipments are subject to the manufacture's standard terms and conditions.
- E. Storage and Protection: Contractor shall store all components in their original packages and protect all items from damage until final placement occurs. Contractor shall rotate all motor shafts ¼ turn each and every month during storage up to the time of first performance to ensure motor shaft integrity.

## 1.7 WARRANTY

- A. Fountain contractor and installer shall furnish warranty for fountain system installation for a minimum period of one year from date of Substantial Completion of the Contract as specified in Contract Conditions. Contractor shall include provisions of warranty to Owner not otherwise covered by manufacturer. Warranty to include the following:
  - 1. Fountain system to be free of defects of materials and workmanship.
  - 2. Fountain system performance to the designated water volumes, heights, patterns, and display features, as outlined in the design requirements in section 1.3(E)(3).
  - 3. Adjustments and/or corrections to warranted equipment shall be made at factory as per standard warranty terms.
- B. The manufacturer shall warrant all properly installed and maintained fountain equipment (except lamps) as provided in "Part 2 – Products" of this section, free of defects in material and workmanship for a minimum period of one year from the date of Substantial Completion. The fountain equipment manufacturer, at their option, shall replace or repair any materials,

components, or workmanship found to be defective within the warranty period when returned to the factory, freight pre-paid. No component may be returned for repair or replacement without an approved Return Materials Authorization.

1. Extended Warranties: Fountain contractor shall furnish to Owner any extended warranty that is standard and usually available from item manufacture/supplier for an item of equipment.

## **1.8 MAINTENANCE AND EXTRA MATERIALS**

- A. Contractor shall supply chemical treatment materials of sufficient quantity, in addition to materials needed for system testing and adjustment, for use by Owner in maintenance of the system for a period of at least one month after Substantial Completion.
- B. Contractor shall supply any other special tools or parts that would be needed for Owner's maintenance of the fountain system.
- C. Extra Materials – one additional replacement element is to be provided for all cartridge filters. Contractor to supply 30 day supply of chemicals

## **PART 2 – PRODUCTS**

### **2.0 COMPONENTS**

- A. Mechanical Components: The major mechanical components of the stationary fountain are as follows:
  1. Speck Model 72 V, 2 HP, Self-priming full-rated, NSF approved feature pump and fitted 2" FPT connections. The pump shall operate at a minimum of 35 GPM at 83' TDH. Pump is one-piece case constructed with oversized basket strainer, double ring lock design lid for tool free access to removable basket strainer and pump internals. The pump shall have a floating eye seal between the closed impeller and diffuser for maximum efficiency. The motor shall be 208V, 3 $\phi$ , 3450 RPM and have a rust-proof stainless-steel shaft, and permanently lubricated, sealed bearings. The motor shall be "Heavy Duty 1081" E-plus/ extreme-E energy efficient pool motor with a large 56 frame. The body shall be constructed of non-corrosive, chemical/UV resistant. A 3/8" winterization drain port shall be part of the design. Feature pump is pre-plumbed in the equipment vault including all necessary check valves, isolation/flow control valves, true union type, as shown on the drawings.
  2. Speck Model 72 IV, 1.5 HP, Self-priming full-rated, NSF approved filter pump and fitted 3" FPT connections. The pump shall operate at a minimum of 63 GPM at 73' TDH. Pump is one-piece case constructed with oversized basket strainer, double ring lock design lid for tool free access to removable basket strainer and pump internals. The pump shall have a floating eye seal between the closed impeller and diffuser for maximum efficiency. The motor shall be 208V, 3 $\phi$ , 3450 RPM and have a rust-proof stainless-steel shaft, and permanently lubricated, sealed bearings. The

- motor shall be "Heavy Duty 1081" E-plus/ extreme-E energy efficient pool motor with a large 56 frame. The body shall be constructed of non-corrosive, chemical/UV resistant. A 3/8" winterization drain port shall be part of the design. Filter pump is pre-plumbed in the equipment vault including all necessary check valves, isolation/flow control valves, true union type, as shown on the drawings.
3. Automatic/ UL listed sump pumps for equipment vault, 1/3 HP, 110V, 1 $\phi$ , 1-1/2" NPT discharge, cast iron motor housing, thermoplastic pump body and strainer, cast iron impeller with 10 vane vortex with pump out vanes on back side, 300 series stainless steel shaft and hardware, Buna-N o-rings, silicon carbide/silicon carbide/Buna-N single mechanical seal, 10ft. cord with plug and pressure grommet for sealing and strain relief, single row, ball, oil lubricated upper and lower bearing, including thermal overload protection in motor, vertical float, PVC, Snap Action level control operating at 30' shut off head. Pre-plumbed with 1-1/2" Sch. 80 PVC and a 1-1/2" flapper check valve, clear PVC constructed true union type, EPDM O-ring seals and is rated at 150 PSI at 73°F, and pre-wired in the equipment vault/s. Sump pump shall be wired as:
    - a. Pump 3 to be connected to the Control panel with a grounded single receptacle GFI circuit.
    - b. Pump 4 to be hardwired to the Power Distribution Panel.
  4. 8'W x 8'L x 8'H inside dimensions, subterranean equipment vault, heavy-duty fiberglass constructed with minimum (13) layers of fiberglass, or a minimum of 3/4" thick, one-piece molded construction on bottom shell and lid. Fabricating the bottom shell from fiberglass sheets and caulking the joints will not be acceptable. The vault access hatch shall be a 42" x 42" aluminum tile set hatch with steel recessed locking access and springs for opening. 8" PVC vent piping with type 304 stainless steel vent caps. All pipe connection fittings to be glassed and sealed to the vault wall and shall follow the 3-step waterproofing method to seal penetrations through the vault structure. This includes the use of a high performance 2-part methacrylate adhesive, a minimum (3) layers of fiberglass and a waterproof layer of gel coat to seal the entire penetration and prevent hygroscopic water intrusion. The use of bulkhead type fittings will not be accepted. A leveling skid fabricated from steel tubing shall be glassed to the vault bottom allowing for clearance of the sump and for ease of leveling and handling of the vault on site. The vault is to house the feature/filter pump, filtration equipment, chemical feed equipment, automatic sump pumps, exhaust fan, utility light and access ladder and dome lid. The vault is pre-plumbed and has a pre-wired junction box, with mirrored terminal strip to the main control panel, ready for installation.
  5. Custom vent cap, constructed of type 304 stainless steel with an integrated 8" diameter, schedule 10 pipe welded to a pipe flange. Powder coated black finish with a minimum of 3 mil thickness.
  6. 2" custom fabricated automatic backwashing filter system with (2) bronze three way valves and motorized actuator with custom 304 stainless steel linkage and stainless steel fasteners tying the (2) three way valves together for simultaneous operation. Backwashing system is pre-plumbed in vault for proper operation and backwashing cycle, including site glass and all necessary isolation valves, gauges, and differential switch, as shown on drawings.
  7. 24" diameter sand filter with automatic back washing valve. 3.14 square feet of filter surface area and multi-port valve. The sand filter tank is heavy duty one-piece reinforced fiberglass constructed with UV resistant outer coating surface finish. Sand filter includes integral pressure gauge with air-relief valve, swing away diffuser for easy access to sand and internal parts. All internal parts are threaded for ease of service. Maximum operating pressure – 50 psi. Sand filter is pre-plumbed in equipment vault. Filter media, including gravel and sand, is to be provided by contractor.
  8. Vacuum Switch and Gauge Panel Assembly equipped with (1) weathertight NEMA 4 enclosure, single pole/double throw switching element, combination vacuum switch with viton o-rings that are suitable for temperatures of 32° - 400° F. Panel also includes (1) 3/4" NPT, glycerin liquid filled, Type 304 stainless steel cased pressure gauge with 2.25" dial face, and (1) 3/4" NPT, glycerin liquid filled, Type 304 stainless steel cased vacuum gauge with 2.25" dial face. Mounted on PVC backboard. Tubing shall be 1/4" polyethylene.

9. Filtration Differential Pressure Switch and Gauge Panel Assembly equipped with (1) weathertight NEMA 4 enclosure, single pole/double throw switching element, pressure differential switch with viton o-rings that are suitable for temperatures of 32°- 400° F. Panel is also equipped with influent and effluent ¾" NPT glycerin liquid filled, Type 304 stainless steel cased pressure gauges with 2.25" dial face. Mounted on PVC backboard.
10. 120 / 240v line of sight, non-fusible, general duty disconnect switch with a nema 1 rating (room) and nema 3r rating (vault). Tubing shall be 1/4" polyethylene.
11. 9 lb Automatic erosion type bromine feeder, heavy-duty ABS constructed with integral check valve and proportioning valve. Feeder is pre-plumbed in the equipment vault. Start up chemicals to be provided by installing contractor
12. 1" water make-up assembly, Type 304, schedule 40 type 304 stainless steel constructed with 120V, bronze, slow closing solenoid valve, 0-60 PSI pressure gauge, water hammer arrestor and (3) 1" heavy-duty bronze constructed ball valves. The water make-up assembly installed in equipment vault is pre-plumbed, ready for installation by the contractor. PVC or copper construction is not acceptable. The contractor shall reduced pressure zone, and pressure reducing valve to ensure the incoming line pressure does not exceed 50 PSI.
13. ¾" Hammer Arrestor, machined type 316 stainless steel adapter, cap, piston and barrel with high pressure EPDM O-ring seal. Pipe Thread Sealant. Operating pressure 35 to 500 PSI and spike pressure not to exceed 2000 PSI. Pre-plumbed on water make-up system as shown on drawings.
14. 1-1/2" NPT cast bronze constructed floor inlet fitting with polished bronze cap, 360 degree discharge, and stainless steel hardware.
15. 12" X 12" suction sump, constructed of a minimum of 6 layers of heavy-duty fiberglass, black gel coat finish on the inside, sand coat finish on the outside for better adhesion to concrete, and with integral water-stop flange. The anti-vortex plate shall be type 304 stainless steel, 1/8" thick stainless steel. The frame shall be type 304 1-1/2" x 1-1/2" x 1/4" Thick angle. The grate shall be type 304 18-gauge perforated sheet with 51% open area, 3/16" holes. Perforated Sheet manufacturer: McNichols, Item #: 1831141838. Suction Sump must include integral schedule 40 PVC, 3" coupling. Powder coat finish to be determined landscape architect.
16. Side wall overflow niche, heavy duty fiberglass constructed, with bronze faceplate, a 3" PVC standpipe overflow fitting, and integral schedule 40 PVC 3" coupling.
17. 3" NPT cast bronze constructed floor drain with integral waterstop flange and plug.
18. Transducer style water level sensor, min. type 316 stainless steel housing with isolated diaphragm sensors. The transducer is certified intrinsically safe, 4 to 20 mA outputs. The transducer is shipped complete with polyurethane jacketed shielded cable with polyethylene vent tube and Kevlar tension members, 200 lbs pull strength for use in a 5' depth tank. Conductors are 22 AWG. The length of the cable shall be no less than 150' and shall be verified by contractor if more is required to make home run to PLC without a junction.
19. 24W/24VDC RGBW LED UL Listed, IP68 rated, wet/dry submerged fountain light fixture with adjustable swivel base, certified marine grade 316SS housing with minimum 1/8" thick shell (stamped or spun fixture housing will not be accepted), silicone gasket, tempered glass lens, standard 10 degree beam angle, 3M UL listed SOW cable (3,5 or 7 wire). Static or Auto preprogrammed color change with connection to power supply, supplied with internal DMX-512 and driver on board. Replaceable LEDs, for wet or dry installation and standard "sparkle matt" face ring with optional mirror polish SS. Light fixtures are configured as follows:
  - a. Mounted in a niche in the basin wall and allows rotation and tilting of the fixture. Includes a 3/4" NPT drain and plug.
  - b. Free standing and adhesive mounted, with removable base disc and yoke and custom light brackets to allow tilting, swiveling, and height adjustment.
20. 3-Cup Anemometer, conduit mounted, PVC constructed, pulse type output. Condulet and 18/2 shielded cable to be provided by contractor.
21. 8-Tap underwater deck box, cast bronze constructed with silicone gasket with machined brass cord seals, and stainless steel hardware and configured as follows:

- a. (1) 1" bottom tap and (2) 3/4" side taps.
  - b. (1) 1-1/2" bottom tap and (1) 1-1/2" side tap.
22. 3/4" NPT Schedule 40 type 304 stainless steel penetration nipples with integral water-stop flanges. Red brass or PVC will not be acceptable.
23. 1" and 1-1/2" NPT Schedule 40, type 304 stainless steel penetration nipple bank with integral waterstop flange. Red brass or PVC will not be acceptable.
24. Type 304 stainless steel penetration coupling with integral water- stop flange, bonding connection, and natural finish. PVC will not be acceptable. Sizes are as follows:
- a. 1-1/2"
  - b. 1"
  - c. 3/4"
25. 3/4" Machined brass cord seals with neoprene grommet, for water sensor cord.
26. 2123C, two-part re-enterable potting compound for application in the junction boxes to provide watertight environment for electrical connections.
27. 2" Sch. 80 PVC true union ball valve. Low operating torque. Anti-block system that avoids ball blockage. Minimum pressure drop. Threaded seal-carrier for upstream maintenance without emptying the system. Handle built-in tool for easy adjustment of threaded seal-carrier (and ball torque); socket or threaded connections, PVC body, shaft, seal carrier, and ball. HDPE ball seat and EPDM O-rings. As shown on the drawings.
- a. 3"
  - b. 2"
  - c. 1-1/2"
  - d. 1"
28. Sch. 80 PVC true union check valve, socket or threaded connections, PVC body, union nut, end connector, and seal carrier, AISI Type 302 stainless steel spring, and EPDM O-rings. As shown on the drawings and are sizes are as follows:
- a. 2"
  - b. 1-1/2", Clear PVC constructed
  - c. 1"
- B. Electrical Components: The major components to be included in the control panel and to be incorporated into a fully functional operating fountain system are specified and listed below:

#### GENERAL

1. The fountain control system shall be designed for 208 Volts, 3 $\phi$ , 4 wire service and shall operate (1) 2 HP feature pump, (1) 1.5 HP filter pump, (26) 24W/24VDC LED lights, (1) Anemometer for wind speed compensation control of the display pump, and appurtenances of the fountain. A Transducer style low water cut off system shall be provided to de-energize the control system during a low water level condition. The water level sensor shall also provide a separate water level control system to increase the water level before the low water cut off alarms in both operating and static environments.
2. Enclosures shall be provided as follows: 60"H x 36"W: NEMA 3R enclosure of galvanized steel construction, primed and phosphatized, finished with ANSI 49 gray baked on enamel, manufactured by Hoffman, equal to HCR series shall be provided. The enclosure shall have collar studs for sub-panel mounting, hasp and staple for padlocking, butterfly type stainless steel draw latches and hinged cover. All Hardware shall be stainless steel.
3. All components shall be mounted to a removable sub-panel. The sub-panel shall be fabricated from 14-gauge steel and shall be finished with baked on white enamel.

4. A Power Distribution Block shall be provided, sized for 600 volts, 175-amp minimum to accept Branch Circuit Conductors. The power distribution block shall have a flammability rating of UL 94V-0, shall be based on NEC table using 75 degrees C wire and shall be equivalent to Square D class 9080.
5. A 600V lightning arrestor shall be provided and connected to the Power Distribution Block for 3 phase power and 250V lightning arrestor for single phase power.
6. Motor starters for feature pump shall be IEC rated full voltage, non-reversing with thermal overload relay. Auxiliary contacts shall be provided as required for the specific control functions. Motor starters shall be as manufactured by Square 'D', Allen Bradley or pre-approved equal.
7. All 120-volt equipment shall be protected individually by thermal magnetic circuit breakers with an interrupting rating of 10KAIC @ 240 volt minimum. All circuit breakers shall be calibrated and sealed at the factory and shall be equivalent to Square D, type QOU.
8. The lighting and filter pump contactors shall be 30 amps rated and shall be equivalent to Omron type g72 or equal.
9. The fountain feature / filter pump, and lights shall be controlled by individual 24-hour time clock settings. The time clocks shall be electronic with 24-hour capabilities and shall be integral to the PLC and populated on the HMI.
10. The motor and lights shall be controlled by a touch screen, designated "Hand - Off - Auto". In the "Hand" mode, the appropriate motor or set of lights shall be energized until the selection is placed in the "Off" mode. In the "Auto" mode, the appropriate motor shall be controlled by the appropriate time clock.
11. All power wiring shall be color coded using MTW #12 AWG minimum. Control wiring shall be MTW #14 AWG minimum and be numbered/lettered at each end. Wire numbers/letters shall be equivalent to Pass and Seymore "LeGrande".
12. All wiring shall be routed through a wiring duct system to provide wire protection and an organized appearance.
13. Terminals shall be provided for interface with field-installed equipment. The terminal blocks shall be mounted on a 30-degree angle for ease of field connection. Terminals shall be equivalent to Siemens, Allen Bradley, or Square D.
14. All components shall be labeled using a laser-screened Mylar nameplate. The nameplate shall be a laminated two-part system using black letters on a white background on the door and yellow background on the back panel providing protection against fading, peeling, or warping. The labeling system shall be computer controlled to provide logos, post script type or custom design. The use of engraved plastic type tags is not acceptable.
15. The control system shall have complete drawings/schematics using AutoCAD. The drawing shall have a complete Bill of Materials, front panel view with component locations and electrical schematic. References to the Bill of Materials shall be located for each component.
16. The control system shall be designed and manufactured to meet all state and local codes, Underwriters Laboratories and the National Electric Code (particular attention to article 430 and 680)
17. The entire control system shall bear a UL 508 serialized label "Enclosed Industrial Control Panel". The use of the UL label "industrial control panel enclosure" without the UL 508 serialized label is not acceptable. Additionally, the control panel shall bear a UL label signifying "Industrial Control Panel for Permanently Attached Fountains".
18. The low water cutoff system shall provide intrinsically safe voltage to the transducer sensor. The sensor shall provide an input to the PLC to de-energize the pumps and motors. An adjustable time delay shall be provided to prevent nuisance tripping. The HMI shall indicate this alarm as well as provide time delay values for alarm and reset.

19. The water make-up system shall provide intrinsically safe voltage to the transducer sensor. The sensor shall provide an input to the PLC to energize the water make up solenoid. An adjustable time delay shall be provided to prevent nuisance tripping. The HMI shall indicate this alarm as well as provide time delay values for alarm and reset. The water make-up shall operate on 2 set points for operating and static fill functions.

C. Programmable Logic Controller for Machine Logic Sequencing

1. A programmable logic controller shall control the fountain pumps. The PLC shall be a Siemens S71200 series, no substitutions.
  - a. Mechanical features
    - 1) Rugged, compact plastic housing
    - 2) Easily accessible connection elements and controls
    - 3) Assembly on standard horizontal or vertical
    - 4) Terminal block as permanent wiring assembly.
  - b. Design features
    - 1) Data integrity: the user program is the most important.
    - 2) Parameter settings are stored in the internal EEPROM.
    - 3) Built-in DC 24V sensor/load power supply for the
    - 4) Direct connection of sensors and actuators
    - 5) On-board digital input/outputs (CPU with 12 inputs and 12 outputs)
    - 6) Interrupt points
    - 7) High-speed counters
    - 8) Easy expandability
    - 9) 2 high-frequency pulse outputs
    - 10) EEPROM 16K memory sub-module with real time clock.
    - 11) Battery module for long-term back up.
    - 12) Embedded web page for remote access and monitoring.
  - c. Functions
    - 1) Fast instruction execution: Instruction execution times of ms or 0.8
    - 2) Extensive instruction set: A large variety of basic operations such as binary logic, result assignment, save, count, time generation, load, transfer, compare, shift, rotate, complement generation, call subroutines, integrated communications instructions and other user-friendly functions such as pulse duration modulation, pulse train function, arithmetic functions, floating-point arithmetic, PID closed-loop control, jump functions, loop functions and code conversions serve to simplify programming.
    - 3) Counting
    - 4) Interrupt handling
    - 5) Edge-controlled interrupts
    - 6) Time-driven interrupts
    - 7) Counter interrupts
    - 8) Communications interrupts
    - 9) Direct interrogation and driving of inputs and outputs
    - 10) Password protection
    - 11) Full access



- 12) Read-only
  - 13) Complete protection
  - 14) Debugging and diagnostic functions
  - 15) "Forcing" of inputs and outputs in debugging and diagnostic mode.
- d. Communications: The built-in PPI (point-to-point interface) provides a range of communications features.
1. USS Protocol.
  2. Hexadecimal Triggers.
  3. If the control panel drawings include remote communication, the avenue of connection through Ethernet via cat5 cable or WIFI will be installed by contractor. The communications capabilities can range from PLC upload/download, to full HMI, VFD, and PLC monitoring and control.
2. Programming: The PLC shall be supplied with a fully functional program that shall perform basic operations including time clock settings, pump/motor lockouts and water level control functions. Using the latest Siemens software TIA Portal V17.
- D. HMI (Human Machine Interface) – Touchscreen
1. The Siemens TP700 (HMI) comfort color touch screen is equipped with a 7" inch display. A resolution of 800 x 480 pixels enables the representation of complex operating screens. The panel can be operated by a resistive analog touch screen– when actuated – provides tactile feedback.
  2. The HMI shall be programmed to provide a minimum of user accessible screens. There shall be individual screens as applicable:
    1. Main (providing access to all screens).
    2. Feature Pump (includes Hand Off Auto, Run Status, Strainer/Low Level/Lockout Alarms).
    3. Feature Pump Auto Set (includes 2-time clocks for multiple on/off selections).
    4. Filter Pump (includes Hand Off Auto, Run Status, Strainer/Low Level/Lockout Alarms).
    5. Filter Pump Auto Set (includes 1-time clock for multiple on/off selections).
    6. Water Level (includes all level settings for Water Fill Time Exceed, Full Timer, Full Level Setting, Fill Timer, Fill Level Setting, Low Level Reset Timer, Low Level Setting, Low Level Timer).
    7. Backwash (includes all Filter Backwash settings/timers/status).
    8. Lights (includes Hand Off Auto, Color Status, Low Level/Lockout Alarms).
    9. Light Color Show [includes user friendly choice of RED, GREEN, BLUE, YELLOW, PURPLE, PINK, CHRISTMAS (RED, GREEN, WHITE), INDEPENDENCE DAY (RED, WHITE, BLUE), CINCO DE MAYO (GREEN, WHITE, RED), MARDI GRAS (PURPLE, GREEN), UNIVERSITY OF ALABAMA (CRIMSON, WHITE), ST. PATRICK'S DAY (GREEN), LGBT (RAINBOW), AND HALLOWEEN (ORANGE, PURPLE)]. Each show shall be coordinated with the landscape architect.
    10. Lights Auto Set (includes 2-times clock for multiple on/off selections).
    11. Wind (includes High Wind Lockout of Feature Pumps/ Low Wind Reset).
    12. Status (a screen shot of the status of all Fountain Equipment).

E. Programmable DMX Show Controller

Programmable DMX Lighting Controller

Pharos model #LPC-1 DMX512 programmable show controller, no substitutions.

Performance Features:

- Incoming Power: 9V to 48V DC
- Power Consumption: ~ 4W
- Protocols: DMX512
- Ethernet: Art-Net II, Pathport, sACN
- Operating Temperatures: 0°C to 50°C
- Up to 4 Universes of DMX512
- Programmed using Pharos Designer Software
- Integrated web interface to allow remote management
- Removable SD Card memory card data storage

Interface Features

- Isolated DMX512 ports
- RS232/485 serial port/ DMX in
- RJ45 socket for 10/100Base-TX Ethernet
- IEEE 802.3af PoE powered device
- USB-B socket for USB 1.1
- 5-pin DIN socket for MIDI In
- 5-pin DIN socket for MIDI Out

The DMX Lighting Controller shall be factory preprogrammed for a minimum of user color selections; RED, GREEN, BLUE, YELLOW, PURPLE, PINK, CHRISTMAS, 4<sup>TH</sup> JULY, AND HALLOWEEN. This controller can be programmed for user defined color shows by the fountain manufacturer. Each light shall be programmed individually.

The DMX Controller shall be factory preprogrammed for a the VFD display speeds  
Each VFD shall be programmed individually.

DMX Signal Splitter (Not Required for CS-1000 Lights)

***Acclaim RDS 600 DMX512 signal splitter for RGB lights or pre-approved equivalent.***

Performance Features:

- Operating Voltage 100-240VAC
- Operating Frequency: 50/60 Hz
- Power Consumption: .12A, 14.4W at 120VAC
- Number of DMX Inputs: 1
- Number of DMX Outputs: 6
- Number of DMX Thru Links: 1

- Protocols: RDM & DMX-512
- Operating Temperatures: -10°C to 50°C
- Fixture Connectors: 3 pin terminal blocks for lights, 3 conductors for AC input
- Warranty: 3 Year

The splitters shall have individual ports isolating the DMX signal for each light. The DMX Signal to each light shall be separated from all other lights.

#### REMOTE USER INTERFACE

##### Utilizing User WIFI for Touchscreen and/or Fountain Manufacturer access to PLC/HMI Downloads

HMI – Simatic HMI TP700 comfort, comfort panel, touch operation, 7" widescreen-TFT-display, 16 mil. colors, 800 x 480 pixels, Profinet interface, MPI/Profibus DP interface, 12 mb user memory, Windows CE 6.0, configurable from WinCC comfort v11. It shall come with a SMART SERVICE Licenses to allow for connection to a LAN that can be accessed remotely over private VPN tunnel. Siemens Model #6AV2124-0GC01-0AX0 or pre-approved equivalent.

eWON Cosy EC61330C establishes a secure VPN connection from the hmi/plc to anywhere in the world via Talk2M, a cloud-based remote connectivity solution. The router seamlessly communicates on the local area network with the PLC and the HMI, and allows remote connection from a computer,

WAN Ethernet	Up to 3 ports, 10/100 Mb Ethernet
LAN Ethernet	Up to 4 ports, 10/100 Mb Ethernet
Field interface	Up to 10 USB 2.0 connections, female connector 2.0
SD card reader	YES, for Cosy commissioning (firmware upgrade, backup, talk2M registration)
Router	IP filtering, IP forwarding, NAT, Port forwarding, Proxy, Routing table, DHCP client/server
Internet	Outbound connection for talk2M using HTTPS (port 443 or UDP 1194)
VPN	OpenVPN either in SSL UDP or HTTPS
Talk2M	Talk2M Free+ or Talk2M Pro, natively support
VPN Security	Communications between the remote user and the eWON are fully encrypted using the SSL/TLS protocol, thereby ensuring data authenticity, integrity, & confidentiality. All users and eWON units are authenticated using x509 SSL certifications and end-to-end traffic is encrypted using strong symmetric & asymmetric algorithms that are part of the SSL/TLS protocol cipher suite.
Synchronization	Embedded real-time clock, manual setup via HTTP or automatic via NPT
File Management	FTP server for configuration, firmware update
Web-based configuration	Embedded web interface with setup wizards for configuration and maintenance (no additional software needed) basic authentication (login/password) and session control for security

Mechanicals	Dimensions: 108 x 99 x 42 mm (HxDxW) Weight: 191 gr. DIN rail or wall screw fixing system
Power Supply	12-24 VDC +/-20%, LPS
Extended Temp Range	Operating: -25°C to +70°C, 10 to 95% relative humidity (non-condensing) Storage: -40°C to +70°C, 10 to 95% relative humidity (non-condensing)
Hardware	1xDO: open drain (MOSFET) 200mA; isolation 1.5kV, 2xDI: 0 to 24VDC; 1.5 kV isolation
Marking	CE, cULus listed, FCC
Warranty	36 months

F. Variable Frequency Drive

1. The VFD shall be the Siemens SINAMICS G120 drive series. The VFD shall have the latest power component technology, including the PM240-2 power modules with higher power densities, matching control units, new operator panels, enhanced vector control and basic positioning capabilities.
2. The Power Unit shall be PM240-2 series.C. Advantages include:
  - a) Side-by-side mounting without derating
  - b) Integrated, comprehensive safety concept up to PLe/SIL3
  - c) Available in three voltage classes: 200V, 400V and 690V
  - d) Increased ruggedness
  - e) Innovative push-through design also available
3. Features include:

Voltage: 1AC / 3AC 200 ... 240V; 3AC 380 ... 480V; 3AC 500 ... 690V  
Power range: 0.55–250 kW (0.75–400 hp)  
Degree of protection: IP20 Environmental class 3C2 (3C3 is possible with SIPLUS Control Unit—for frames D, E, F)  
Ambient temperature: –10° C to +60° C (up to +40° C with derating)  
EMC: According to EN 61800-3 up to Category C2  
Standards: CE, UL, cUL, c-Tick  
Safety technology Safety Integrated: STO (up to SIL 3, PL e, Cat. 3), SS1, SBC, SLS, SDI, SSM, PROFI safe  
Communication: USS protocol  
Closed-loop control modes V/f, flux current control (FCC), vector control with and without encoder Functions: Basic positioning function with EP os, energy recovery using efficient infeed technology, PROFI energy, PROFIdrive3
4. The Control Unit shall be CU240P-2. The Control Unit controls and monitors the Power Module and the connected motor.
5. The Operator Panel shall be BOP-2. The Control Unit controls and monitors the Power Module and the connected motor. The BOP-2 connects to the Inverter through an RS232 interface. The BOP-2 automatically recognize all variants of the following Control Units from the SINAMICS G120 CU230P-2
6. The drive shall have an extended warranty for not less than 5 years. The replacement shall include all parts that fail within the 5-year time period. The warranty shall be documented with the drive manufacture utilizing model/serial numbers up to the date of commissioning.

G. Programming Software


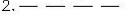

1. All programming software used above for the PLC, DMX Controller, VFD shall be surrendered in a non-protected copy to the owner.

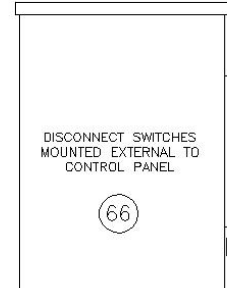
H. Control Panel Logic, Panel Layout, and Bill of Materials.

1. Refer to the images on page 17 through 38.

# CONTROL PANEL ELECTRICAL SCHEMATIC

## NOTES:

1.  TERMINALS ON TERMINAL STRIP.
2.  FIELD WIRING (ALL DEVICES EXTERNAL TO CONTROL PANEL/VAULT).
3.  PANEL/VAULT WIRING.
4. SEAL ALL CONDUITS ENTERING CONTROL PANEL.
5. PANEL IS UL 508A LABELED.
6. MINIMUM #12 AWG POWER WIRE AT 600 VOLTS, 75 DEG C.
7. DURING CONSTRUCTION, INSTALLATION AND PRIOR TO START UP, KEEP POWER ON SUMP PUMP(S) TO PREVENT VAULT FLOODING.



























FIELD WIRING TO GROUND  
 LUG MUST BE TIGHTENED  
 TO THE FOLLOWING TORQUES:

#14 - 10	35LB/IN
#8	40LB/IN
#6 - 4	45LB/IN
#3 - 2	50LB/IN

FIELD WIRING TO NEUTRAL BAR  
 LUG MUST BE TIGHTENED  
 TO THE FOLLOWING TORQUES:

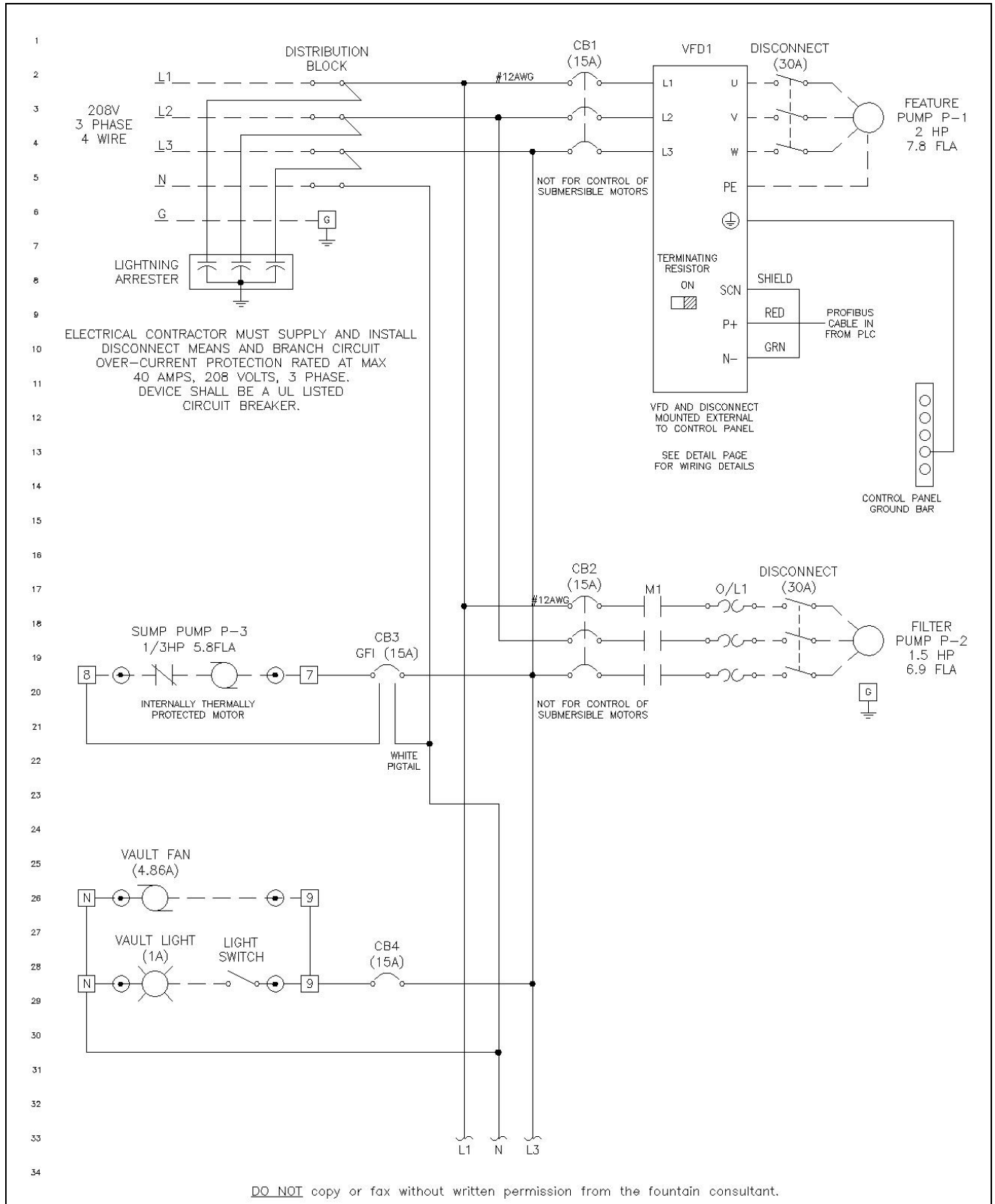
#14 - 10	20LB/IN
#8	25LB/IN
#6 - 4	35LB/IN
#3 - 2	45LB/IN

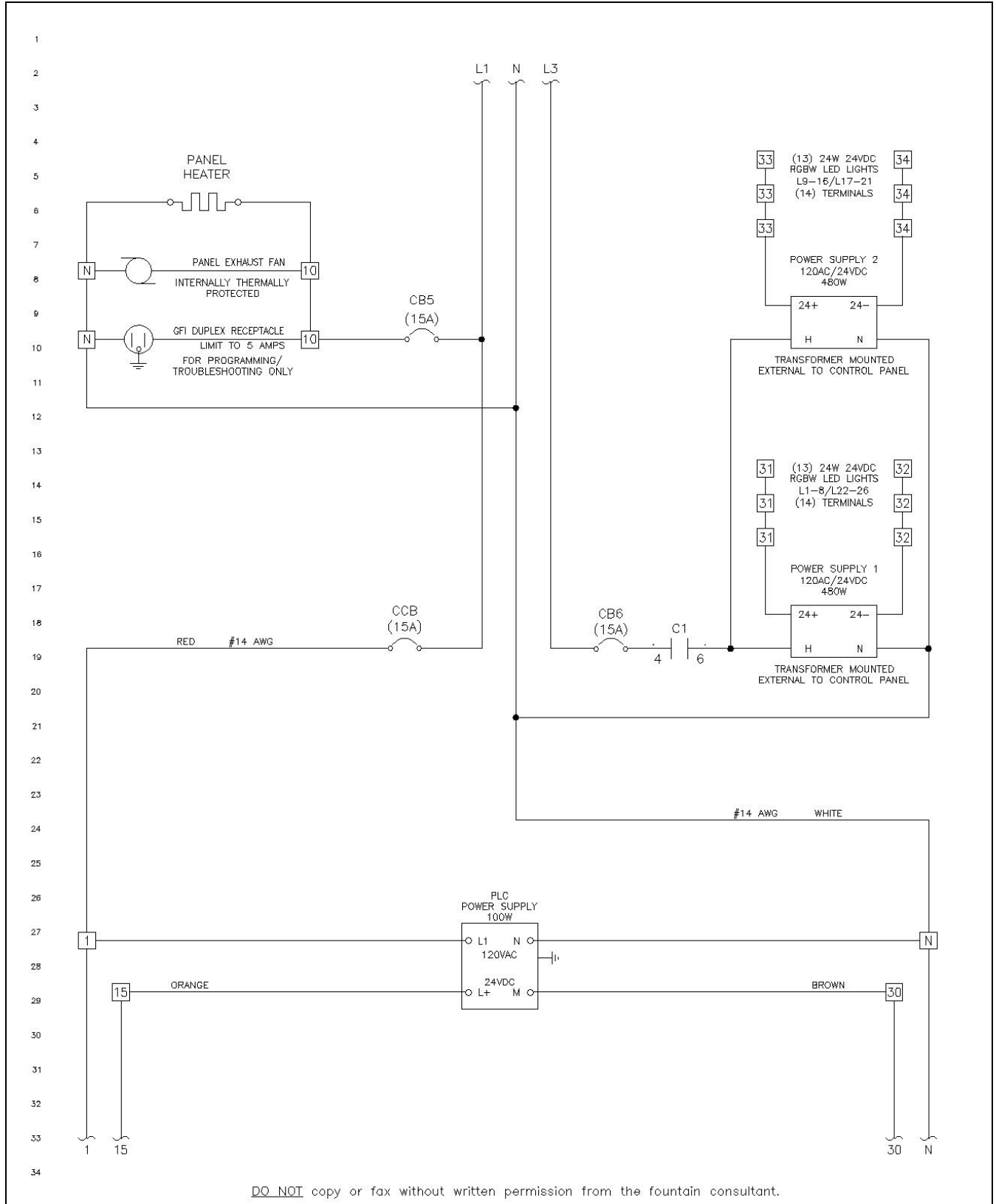
## TYPICAL ELECTRICAL SYMBOLS

	FUSE		OVERLOAD		TRANSDUCER (0-10VDC)
	CIRCUIT BREAKER		COIL		THERMOSTAT
	DISTRIBUTION BLOCK		RESISTOR		TERMINAL BLOCK
	NORMALLY OPEN FLOAT SWITCH		SOLENOID		NORMALLY OPEN CONTACT
	NORMALLY CLOSED FLOW SWITCH		NORMALLY OPEN PRESSURE SWITCH		NORMALLY CLOSED CONTACT
	GROUND		NORMALLY CLOSED VACUUM SWITCH		MOTOR STARTER
	3 POSITION SELECTOR SWITCH		PANEL HEATER		NORMALLY CLOSED TIMER CONTACT
	2 POSITION SELECTOR SWITCH		NORMALLY OPEN TIMER CONTACT		
	PILOT LIGHT (GREEN)				

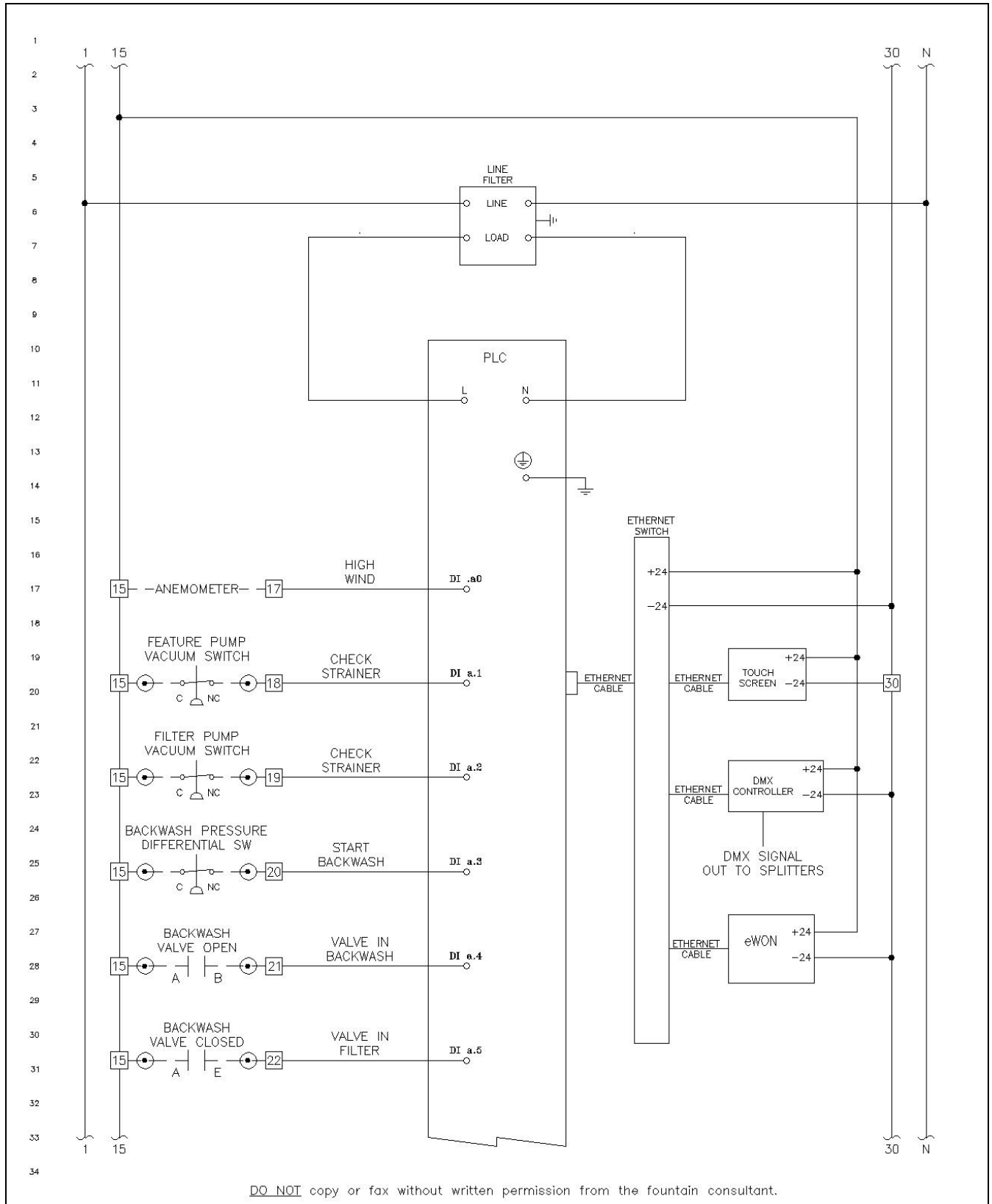
### GENERAL ELECTRICAL NOTES:

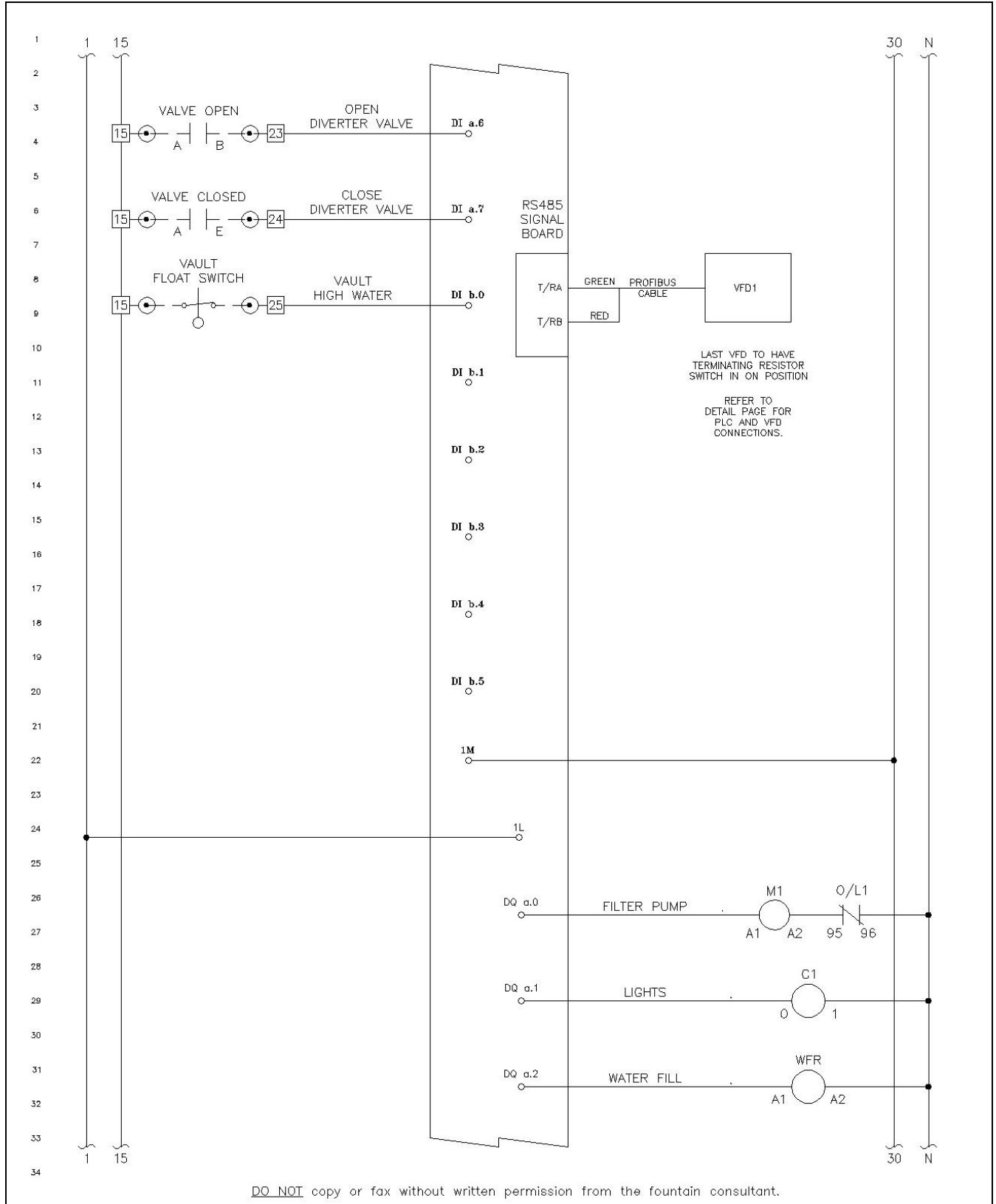
1. THE INSTALLATION OF ELECTRICAL EQUIPMENT AND WIRING IN WATER CAN PRODUCE EXTREME HAZARDS, IT IS THE RESPONSIBILITY OF THE INSTALLING ELECTRICAL CONTRACTOR TO CONSULT & COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (NEC) PUBLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION; SAFETY REGULATIONS PRIOR TO INSTALLATION OF ELECTRICAL EQUIPMENT. IN THE EVENT OF CONFLICTING REQUIREMENTS BETWEEN CONTRACT DOCUMENTS AND ANY LOCAL ELECTRIC CODE OR OTHER GOVERNING ORGANIZATIONS FOR THIS LOCATION, THE MOST STRINGENT SHALL GOVERN AND TAKE PRECEDENCE. IN THIS EVENT, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY IN WRITING OF SUCH CONFLICT.
2. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ALL ELECTRICAL EQUIPMENT IS INSTALLED AND WIRED BY A QUALIFIED, LICENSED ELECTRICIAN EXPERIENCED IN FOUNTAIN SYSTEM WIRING. THE FOUNTAIN CONSULTANT ASSUMES NO RESPONSIBILITY OR LIABILITY WHATSOEVER FOR INSTALLATIONS NOT CARRIED OUT BY A QUALIFIED, LICENSED, ELECTRICIAN AND IN ACCORDANCE WITH OUR SHOP DRAWINGS, AND ALL PROVISIONS OF THE LATEST EDITION OF NEC IN GENERAL, ARTICLE 680 SPECIFICALLY, AND LOCAL SAFETY REGULATIONS.
3. ALL ELECTRICAL EQUIPMENT MUST BE PROPERLY BONDED AND GROUNDED FOR SAFETY, PER THE LATEST NEC AND LOCAL CODE REQUIREMENTS. ALL BONDING LUGS SHALL BE PROVIDED BY INSTALLING ELECTRICAL CONTRACTOR. INSTALLING CONTRACTOR SHALL VERIFY ALL NECESSARY REQUIREMENTS OF LOCAL INSPECTOR BEFORE INSTALLING, AND NOTIFY THE FOUNTAIN CONSULTANT OF ANY REQUIRED DEVIATIONS FROM SPECIFICATIONS OR PLANS AND NOTES, AND RESOLVE ALL CONFLICTS BEFORE INSTALLING EQUIPMENT. CONTRACTOR TO INSURE THAT ALL BONDING CODES ARE COMPLIED WITH FOR EACH METAL FOUNTAIN EQUIPMENT COMPONENT.
4. THE INSTALLING CONTRACTOR SHALL SIZE ALL FEED-WIRES LEADING TO FOUNTAIN CONTROL PANEL FOR NO MORE THAN 2% VOLTAGE DROP, AND SHALL NOTIFY THE FOUNTAIN CONSULTANT BEFORE THE CONTROL PANEL IS FABRICATED IF WIRE IS ALUMINUM OR UPSIZED, SUCH THAT EXTRA LARGE WIRE LUGS ARE REQUIRED. IT IS THE RESPONSIBILITY OF ELECTRICAL CONTRACTOR TO PROVIDE ANY DISCONNECT REQUIRED BY LOCAL CODE REQUIREMENTS.
5. THE FOUNTAIN CONTROL PANEL SHALL BE ADEQUATELY PROTECTED FROM DEBRIS AND STORED PROPERLY DURING CONSTRUCTION AND PRIOR TO INITIAL OPERATION AND SHALL BE VACUUMED CLEAN AND ALL SCREWS FOR TERMINAL CONNECTIONS TIGHTENED. CONTROL PANELS STORED IMPROPERLY, THAT ALLOWS CONDENSATION TO FORM, VOIDS THE WARRANTY.
6. THE ELECTRICAL CONTRACTOR SHALL ENSURE THAT SUPPLY VOLTAGE IS WITHIN 5% OF DESIGN VOLTAGE WHEN ALL EQUIPMENT IS IN OPERATION AND SHALL RE-TAP TRANSFORMER, UP SIZE WIRE, OR SUPPLY A BUCK AND BOOST TRANSFORMER TO GET SUPPLY VOLTAGE TO NECESSARY LEVEL, IF NECESSARY.
7. ANY AND ALL COSTS ASSOCIATED WITH THE ABOVE ARE THE RESPONSIBILITY OF INSTALLING CONTRACTOR.
8. CONDUITS ENTERING FOUNTAIN SYSTEM CONTROL PANELS SHALL BE INSTALLED INTO BOTTOM OF ENCLOSURE. IN THE EVENT WATER ENTERS CONDUIT AND FLOWS INTO PANEL THROUGH CONDUIT OPENINGS, A DRAIN OPENING MUST BE MADE IN BOTTOM OF ENCLOSURE PAN TO ALLOW DRAINAGE OF WATER FROM ENCLOSURE IN THE EVENT OF WATER INGRESS. DO NOT MOUNT CONTROL PANEL WHERE IRRIGATION NOZZLES WILL SPRAY DIRECTLY AT PANEL.
9. ALL UNDER WATER JUNCTION BOXES MUST BE POTTED WITH RE-ENTERABLE POTTING COMPOUND TO PREVENT WATER FROM ENTERING THE CONDUITS.
10. THE WORK TO COMPLETE THE INSTALLATION OF THE FOUNTAIN INCLUDES SUCH NECESSARY MATERIAL AND DEVICES OF A MINOR NATURE THAT MAY NOT BE INDICATED ON THE DRAWINGS OR MENTIONED IN THE SPECIFICATIONS, BUT WHICH ARE NECESSARY FOR THE COMPLIANCE WITH CODES AND FOR THE SUCCESSFUL OPERATION OF THE FEATURE. THE CONTRACTOR SHALL BE ALLOWED NO EXTRA COMPENSATION BECAUSE OF THIS REQUIREMENT.
11. ALL CONNECTIONS MUST BE RECHECKED BEFORE START UP AND ONE MONTH AFTER STARTUP BY A QUALIFIED TECHNICIAN.

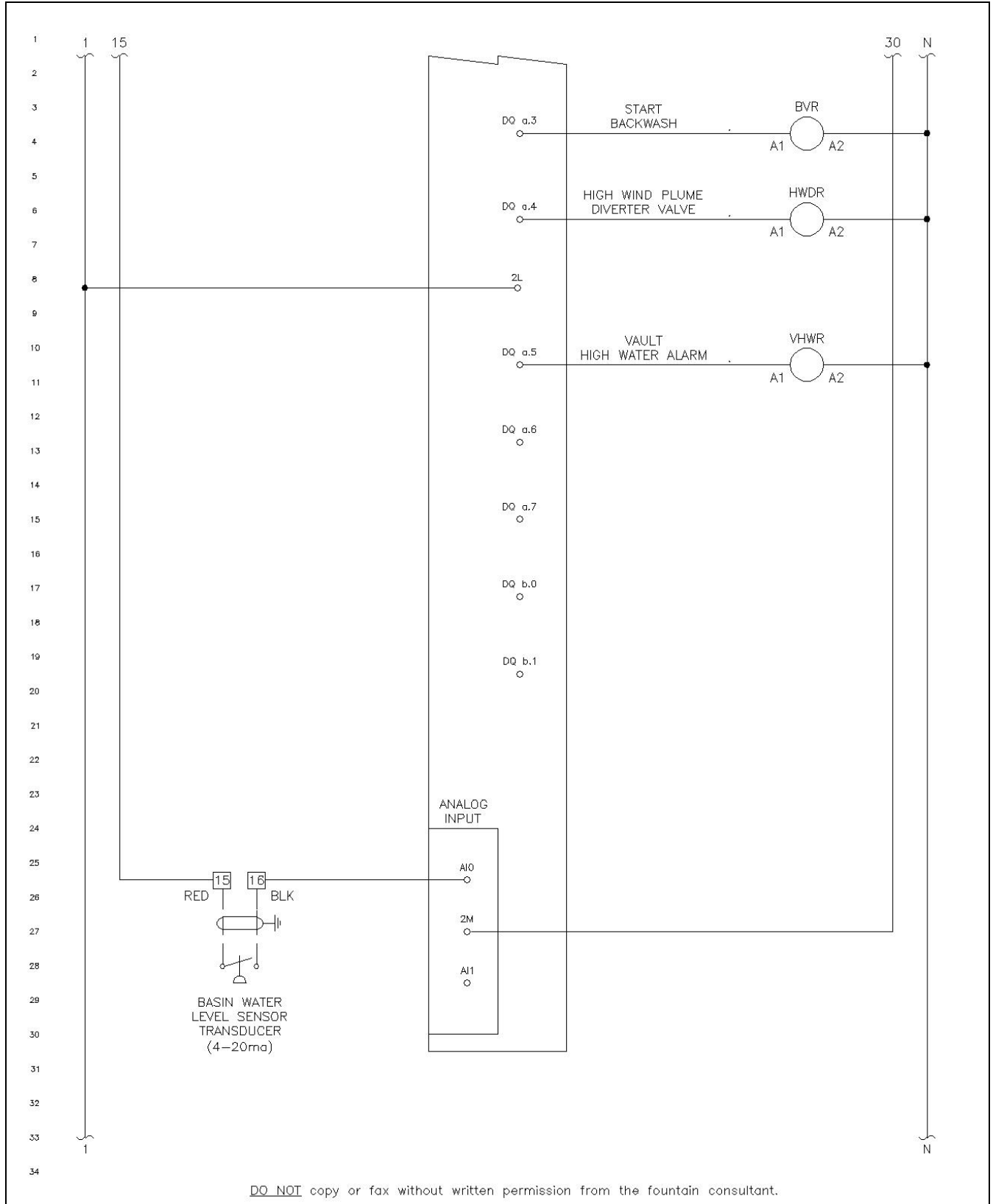


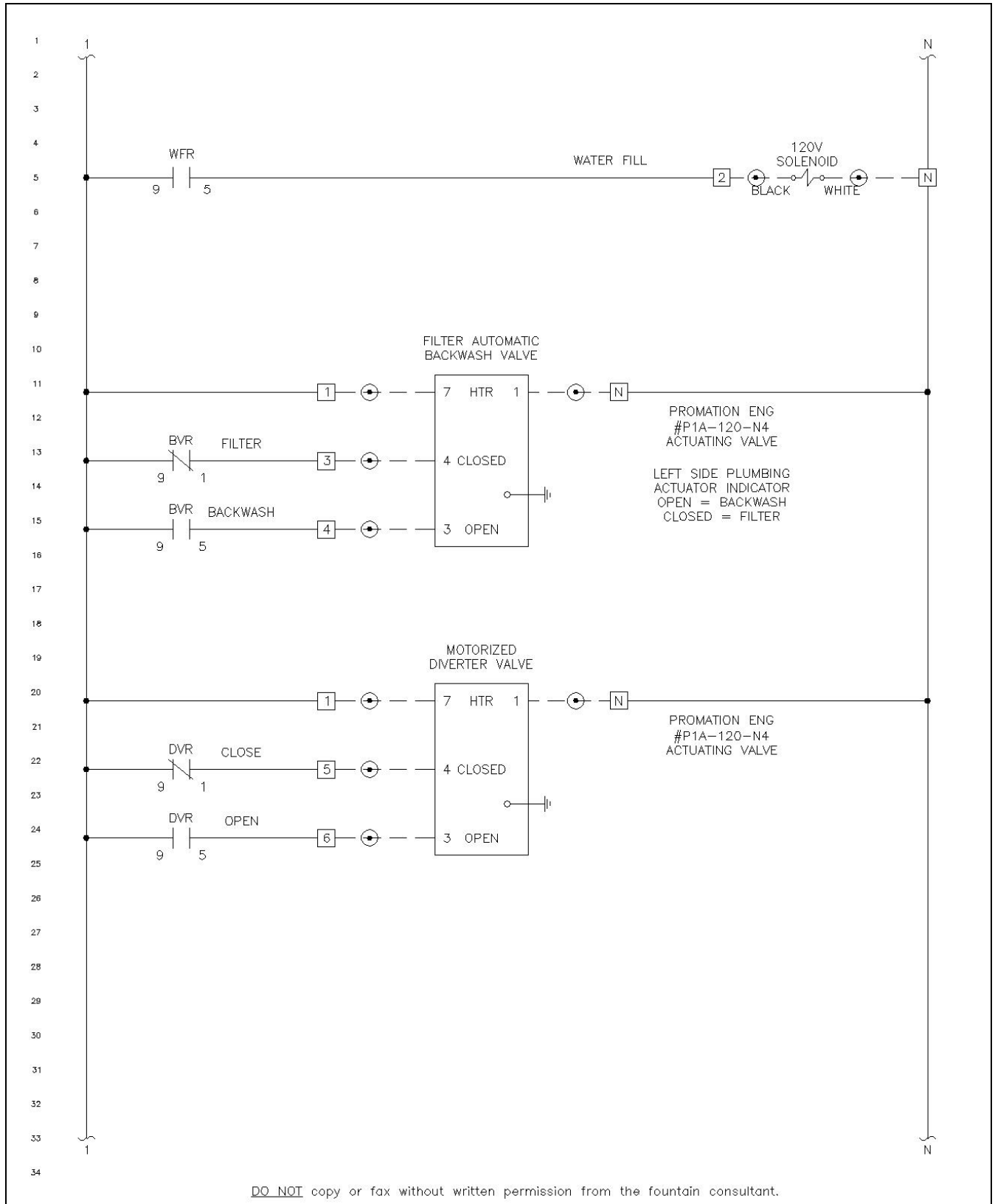




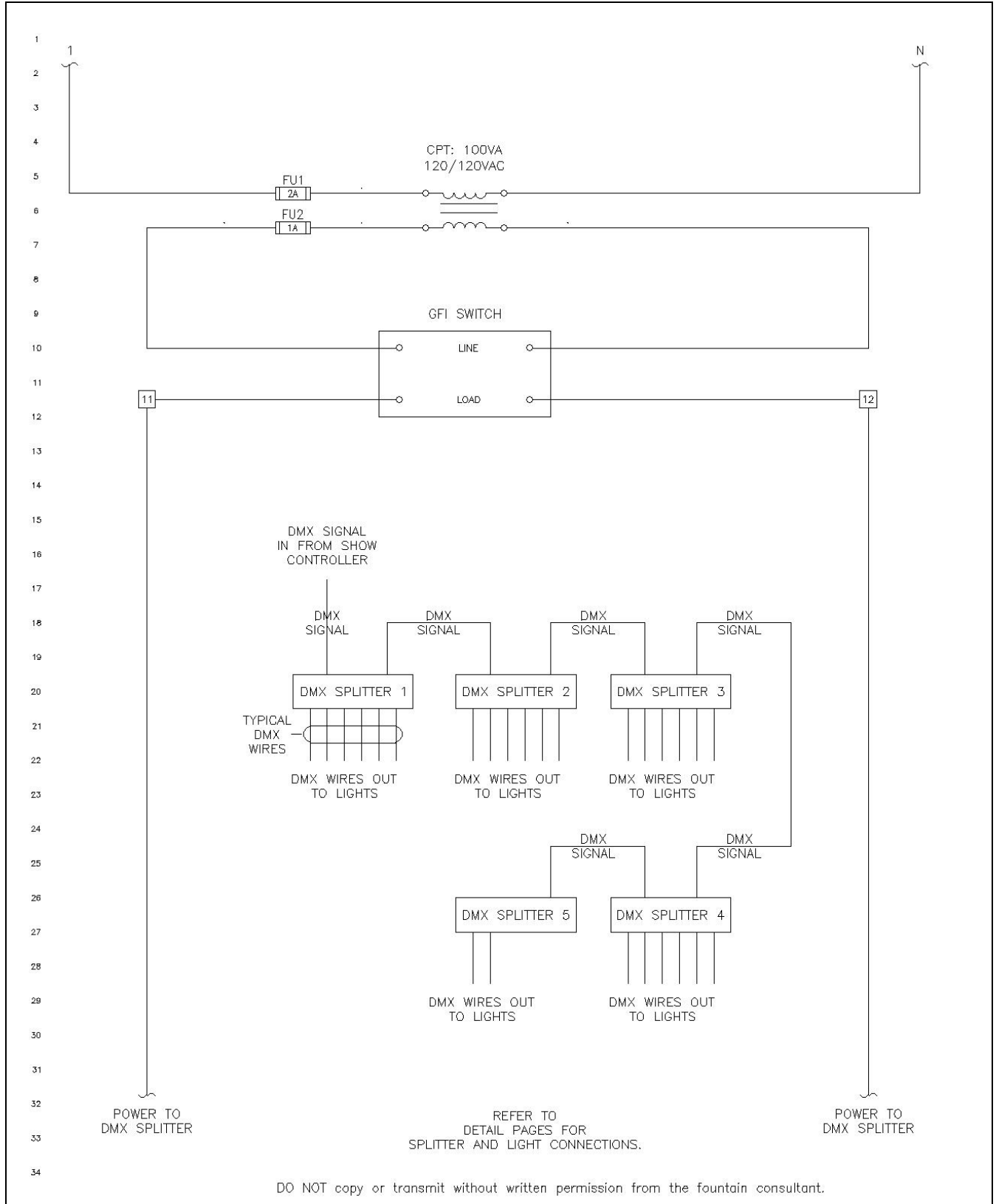


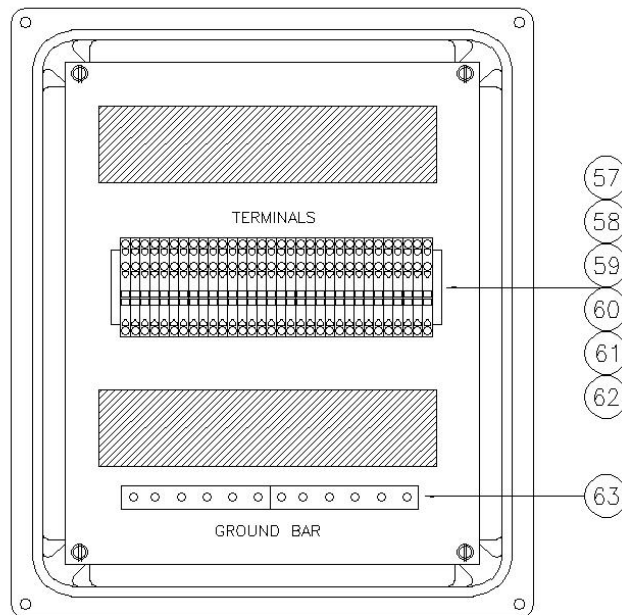






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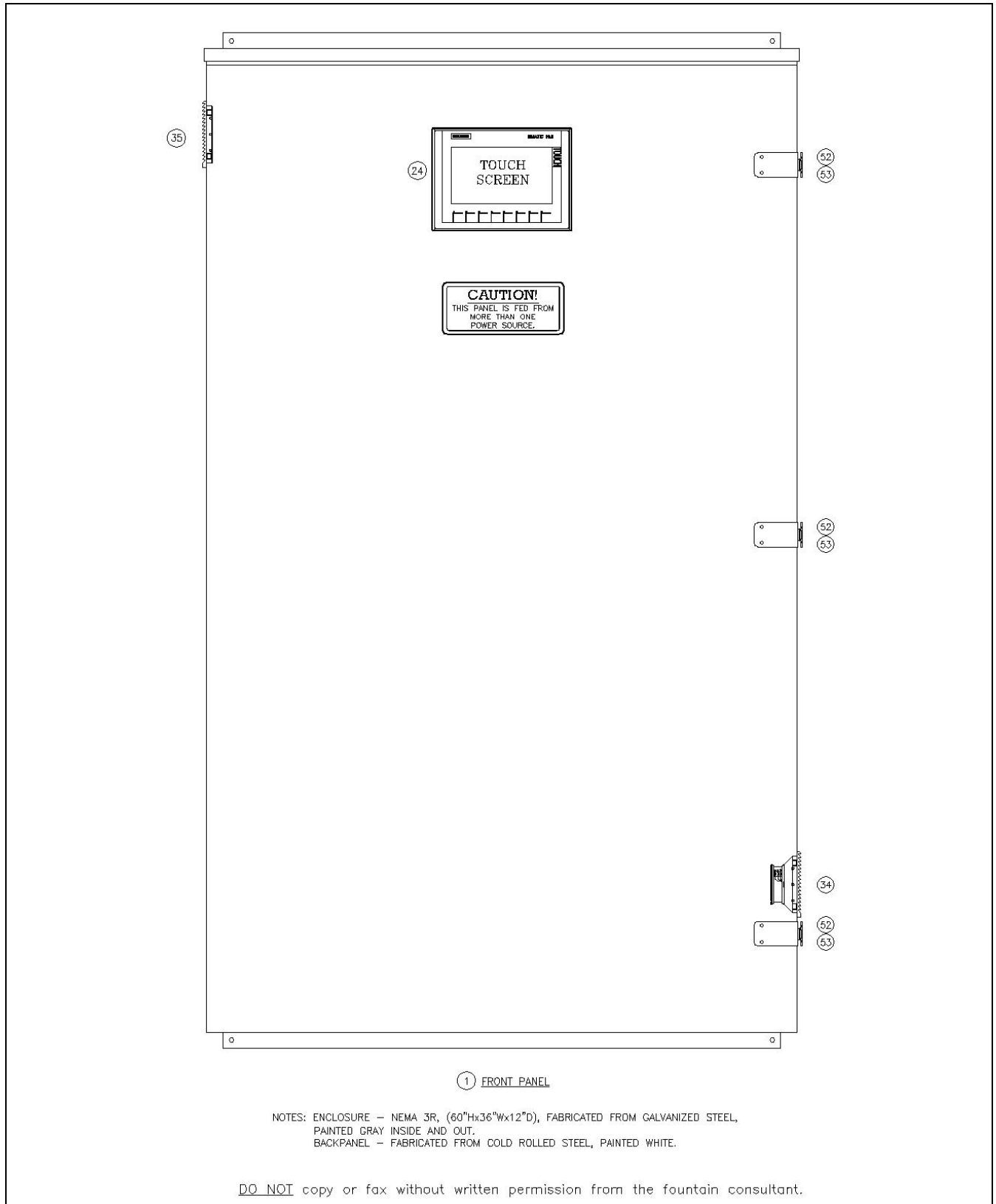


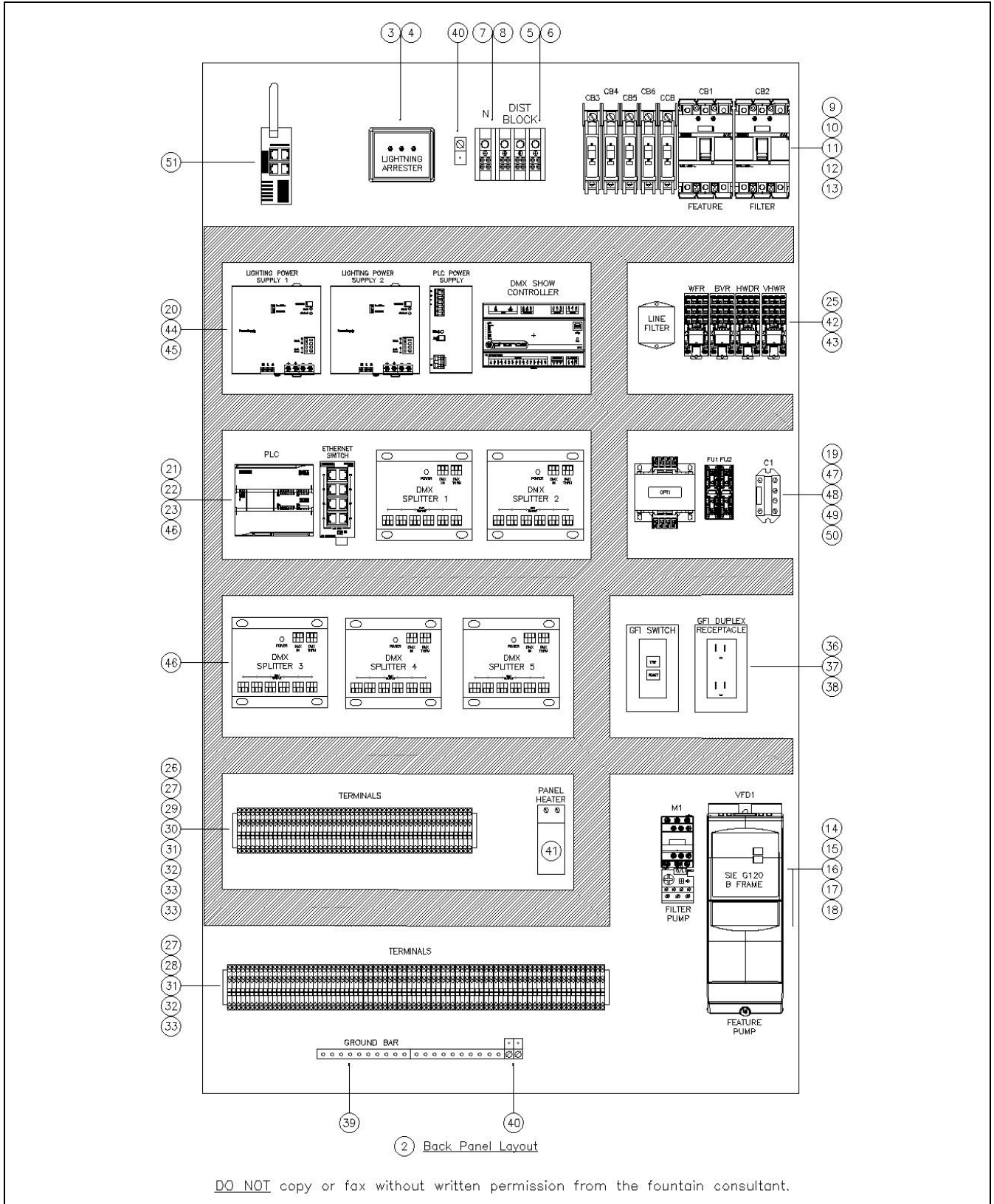


55 56 VAULT CONTROLS JUNCTION BOX

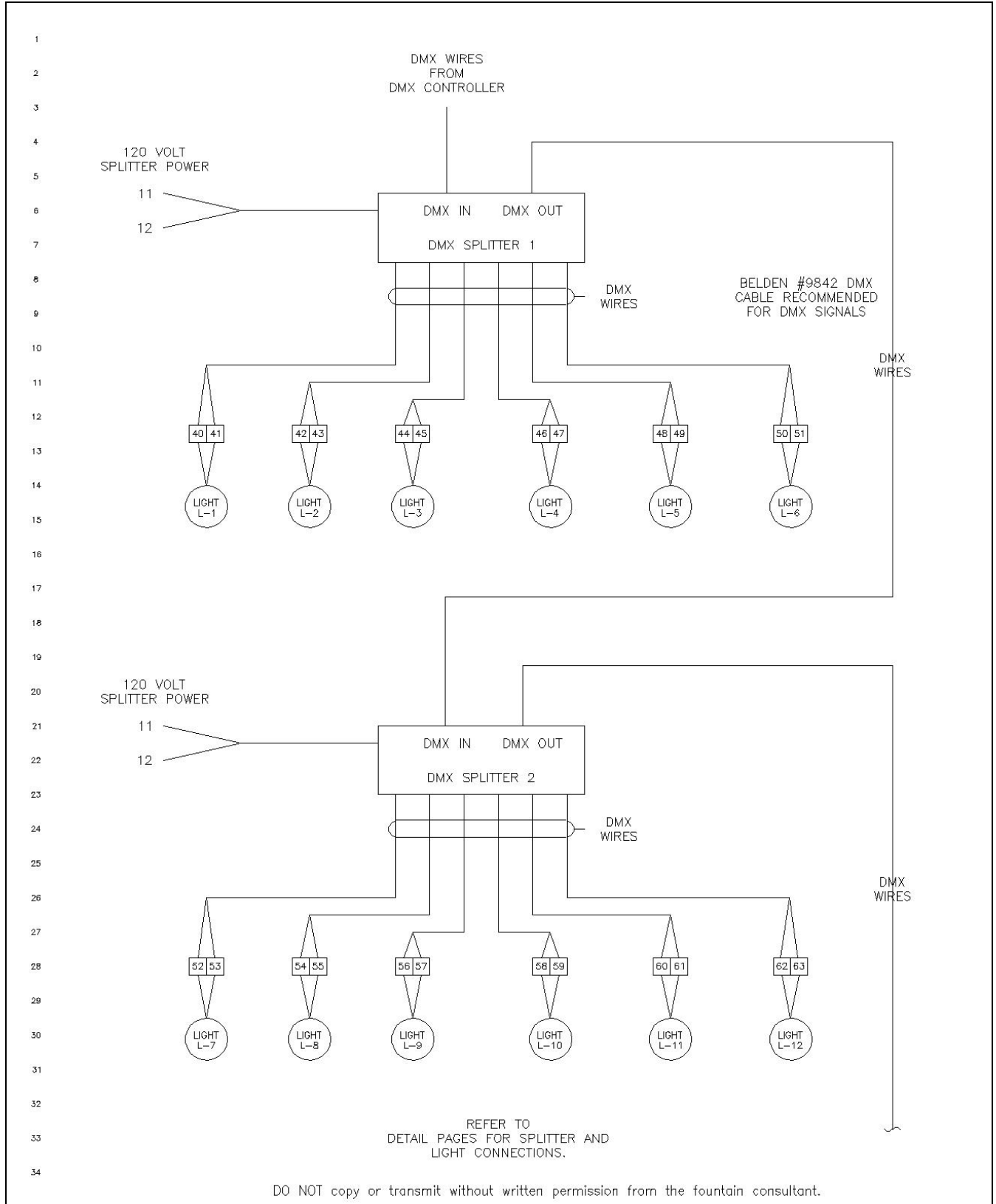
\*\* FOR EQUIPMENT IN VAULT WIRING TO  
VAULT JUNCTION BOX—TERMINAL NUMBERS  
TO MATCH CONTROL PANEL TERMINAL NUMBERS

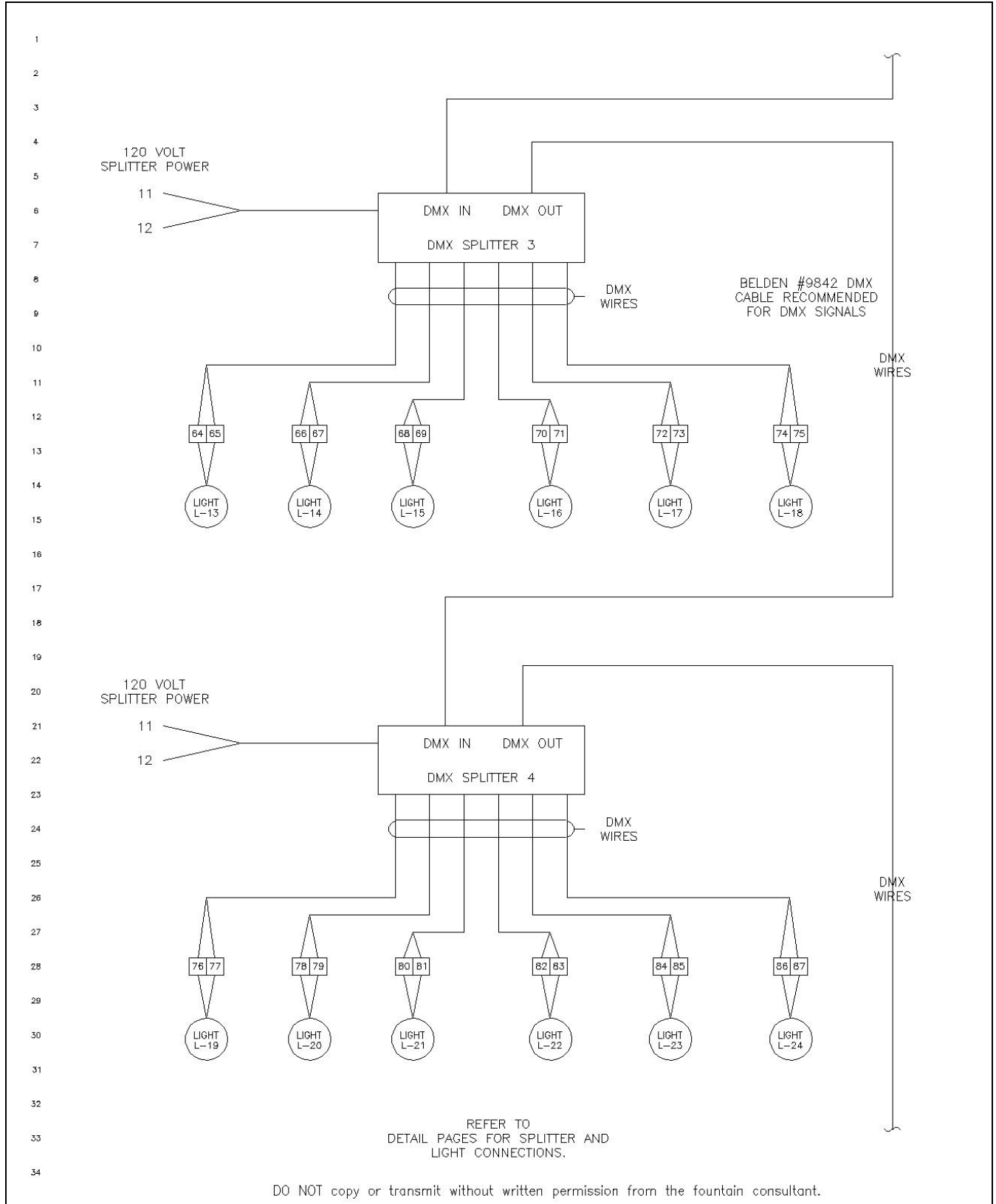
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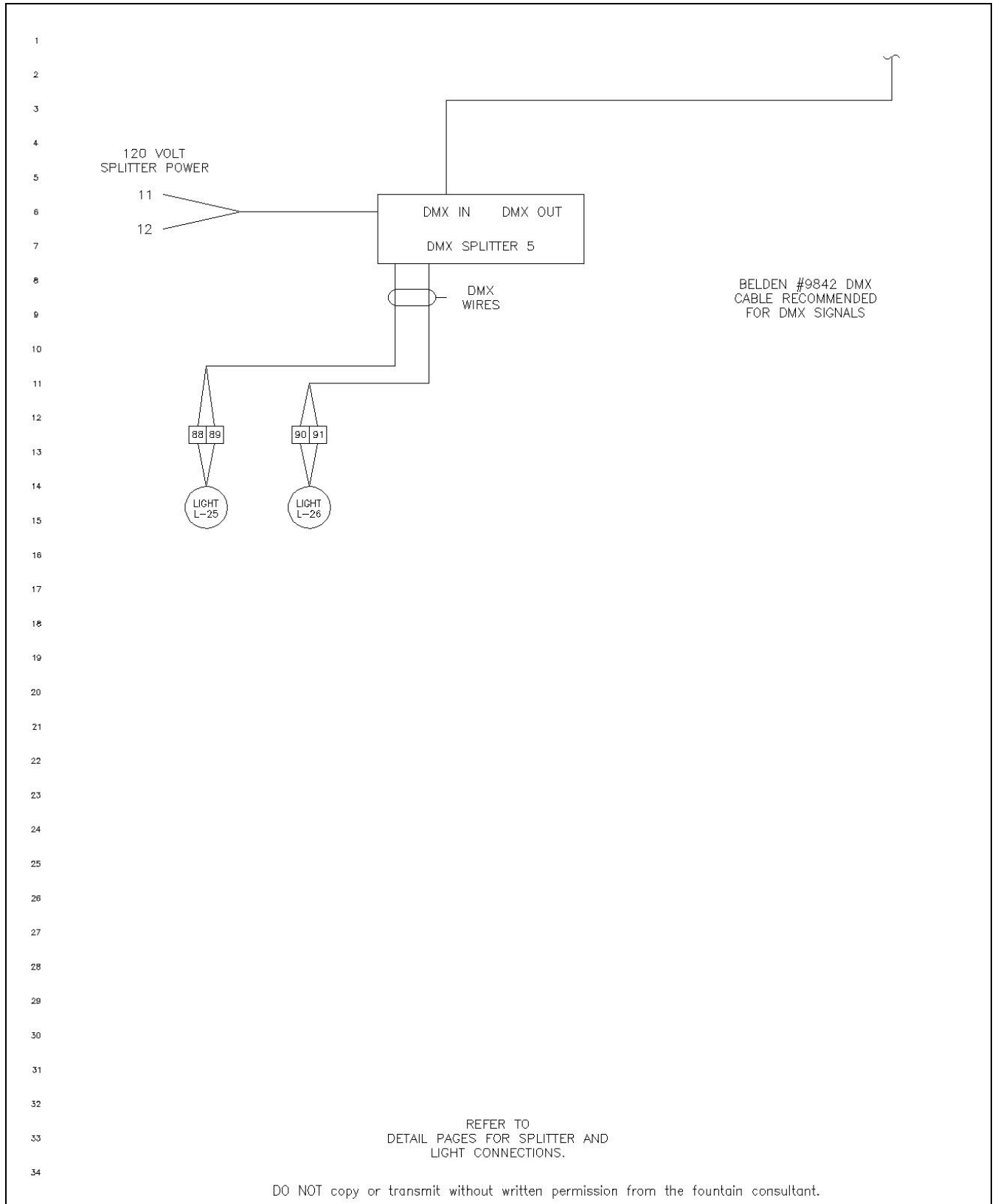


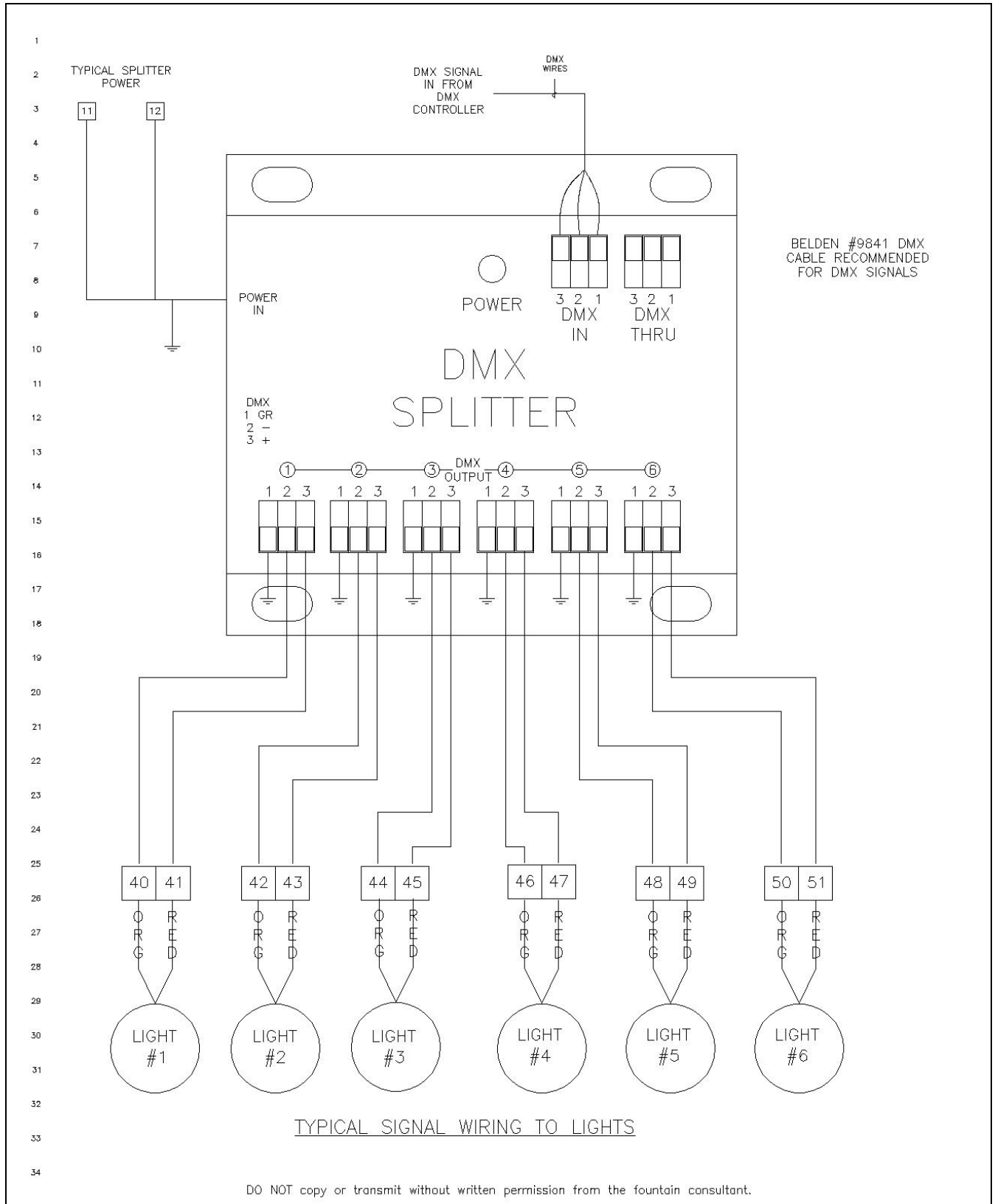


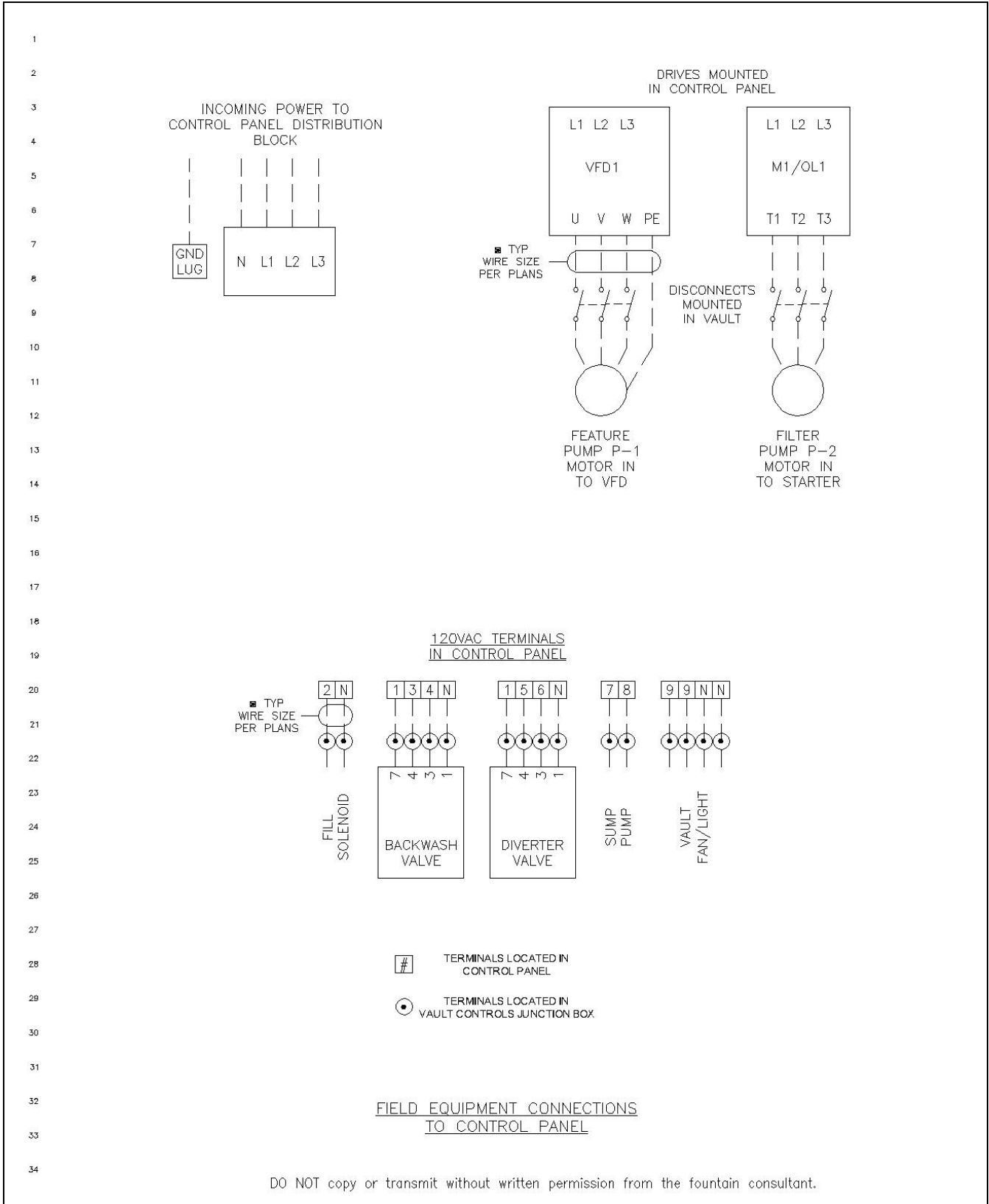


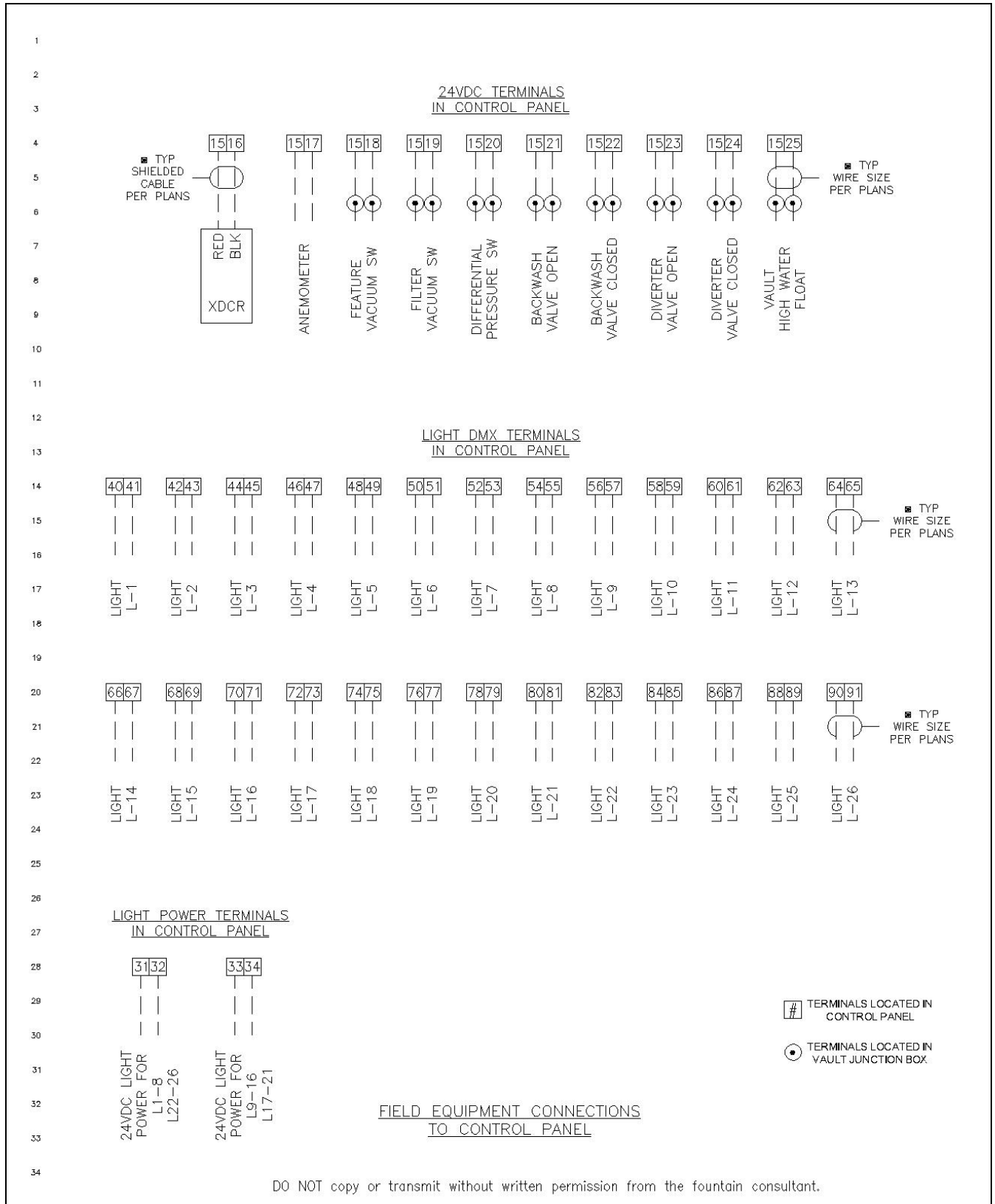


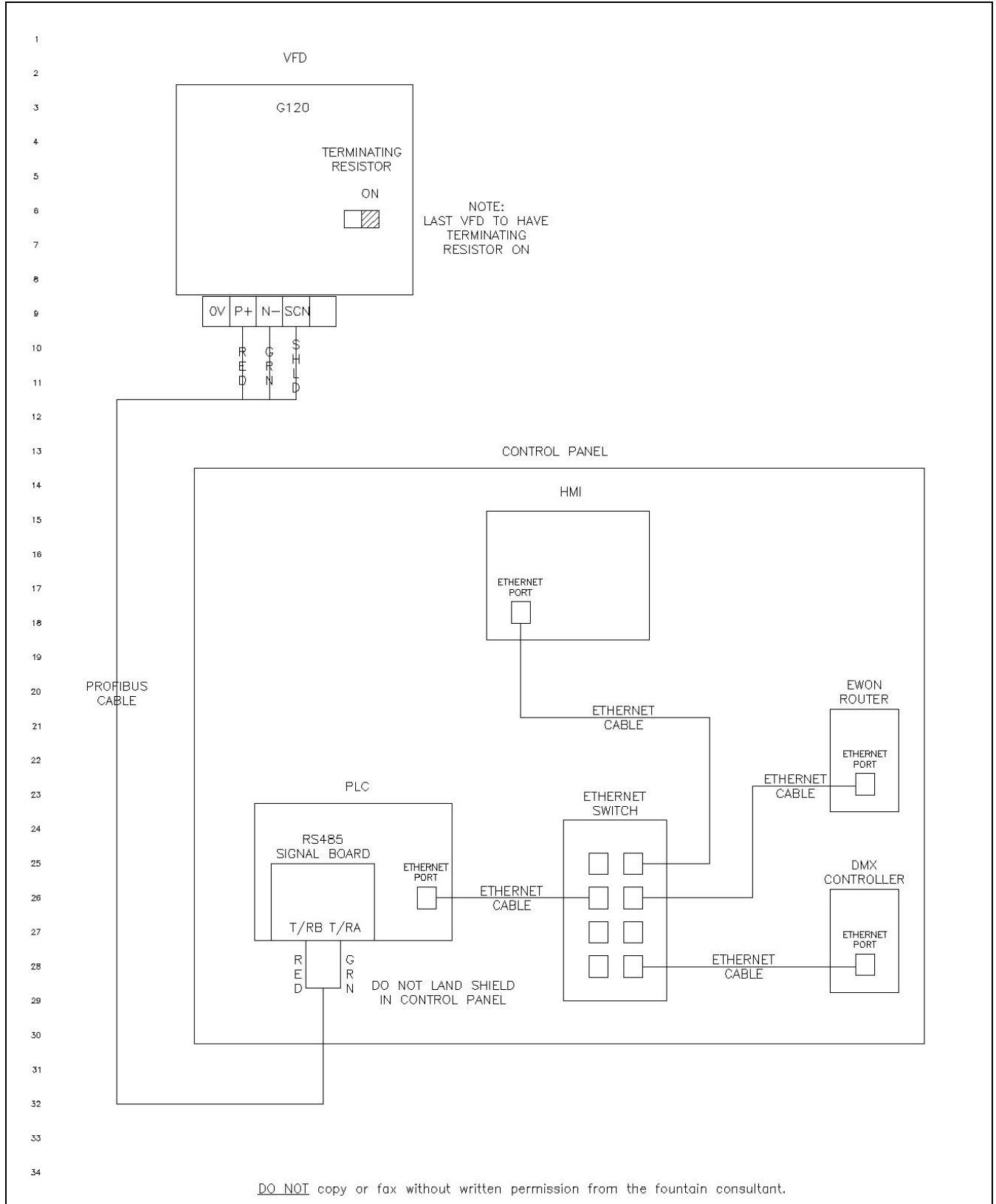


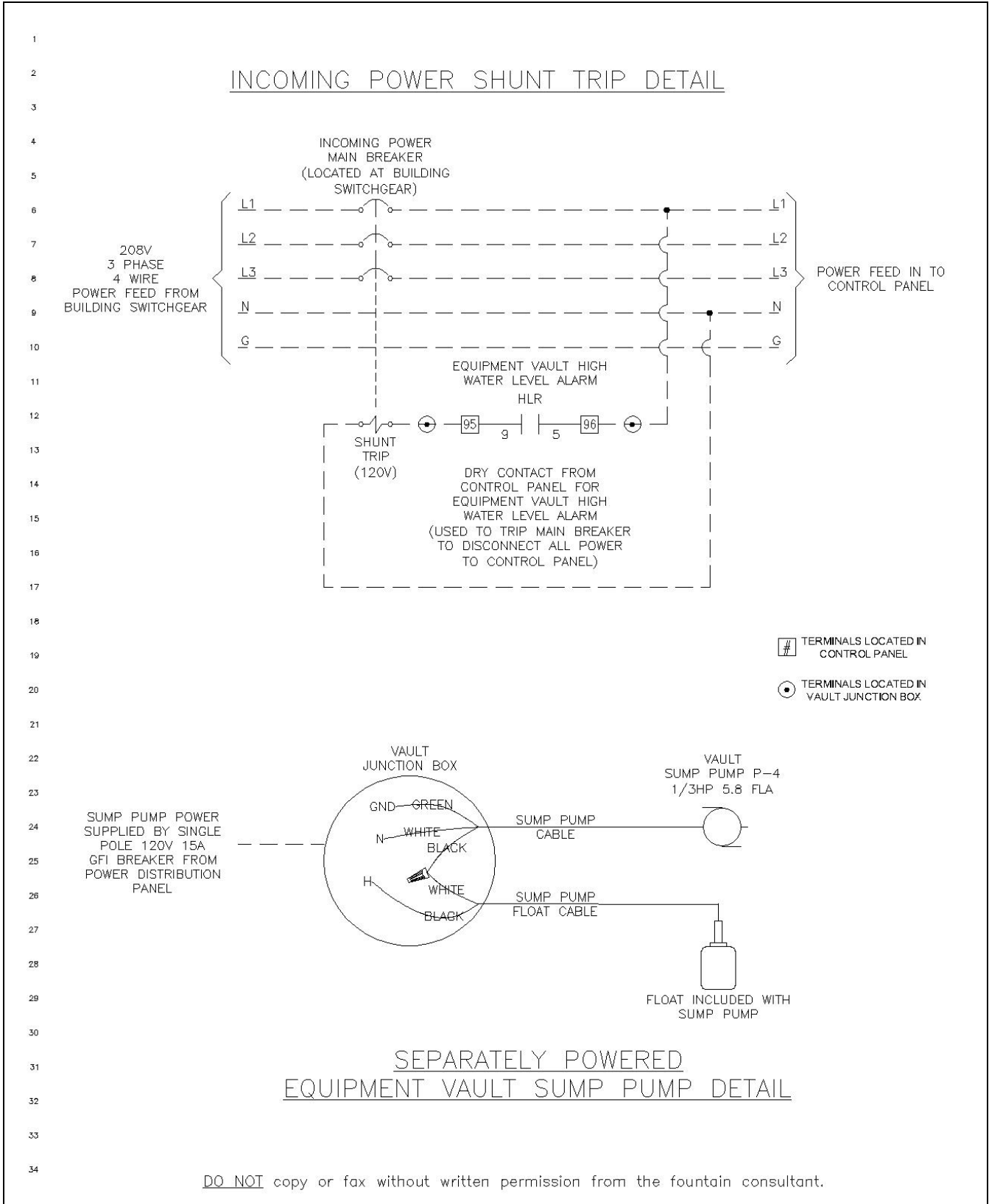














## BILL OF MATERIAL

ITEM	PART NUMBER	MANUFACTURER	DESCRIPTION	QTY.
1	A-60R3612HCR	Hoffman	Enclosure, NEMA 3R, Galvanized	1
2	A-60P36	Hoffman	Backpanel, Painted steel	1
3	SDSA3650	Square D	Lightning Arrester, 600V	1
4	QOSAMK	Square D	Lightning Arrester Bracket	1
5	9080-LBA362104	Square D	Distribution Block, 3 Pole	1
6	9080-LB23	Square D	Distribution Block 3 Cover	1
7	9080-LBA162104	Square D	Distribution Block, 1 Pole	1
8	9080-LB21	Square D	Distribution Block 1 Cover	1
9	3VA5195-4EC31-0AA0	Square D	Circuit Breaker, 3P, 15A	2
10	3VA9133-0JB11	Square D	Circuit Breaker Lugs	4
11	QO115	Square D	Circuit Breaker, 1P, 15A	4
12	QO115GFI	Square D	GFI Circuit Breaker, 1P, 15A	1
13	QOMB1	Square D	GFI Breaker Mounting Clip	5
14	6SL3210-1PB17-4UL0	Siemens	Power Module, 2HP, 208V	1
15	6SL3243-0BB30-1HA3	Siemens	Control Unit	1
16	6SL3255-0AA00-4CA1	Siemens	Basic Operator Panel	1
17	LC1D12G7	Square D	Contact, IEC Rated 12 amps	1
18	LRD12	Square D	Overload Relay, 3P, 5.5-8A	1
19	2XC22	WWG/Omron	Power Relay, SPDT, 120VAC	1
20	787-1616	Wago	Power Supply, 120V/24VDC, 100W	1
21	6ES7214-1BG40-0XB0	Siemens	S7-1200 PLC CPU	1
22	6ES7241-1CH30-1XB0	Siemens	RS485 Module	1
23	6GK5008-0BA10-1AB2	Siemens	Ethernet Switch	1
24	6AV2124-0GC01-0AX0	Siemens	KTP700 Comfort Touch Screen	1
25	3EMC3	Corcom	Line Filter	1
26	2004-1301	Wago	Terminal Block, 1P, Gray	28
27	2004-1302	Wago	Terminal Block, 1P, Orange	52
28	2004-1304	Wago	Terminal Block, 1P, Blue	52
29	2004-1306	Wago	Terminal Block, 1P, Yellow	2
30	2004-1391	Wago	End Plate, Gray	1
31	2004-1392	Wago	End Plate, Orange	1
32	249-116	Wago	Terminal End Section	4
33	8WA746	Siemens	Angle Bracket	6
34	3237110	Rittal	Exhaust Fan	1
35	3237200	Rittal	Filter Kit	1
36	2x4	Steel City	Handy Box	1
37	ELE15-WH-L	ELE Manufacturing	GFI Duplex Receptacle	1
38	2085-W	Pass & Seymour	GFI Switch	1
39	PK7GTA	Square D	Ground Bar	2
40	KA2U	Burndy	Ground Lug	3
41	060300-00	Stego	Panel Heater	1
42	RU2S-A110	Idec	Relay, DPDT, 120VAC	4
43	SU2S-11L	Idec	Relay Base	4
44	QS20.241	Puls	Power Supply, 120V/24VDC, 480W	1
45	LPC1	Pharos	Show Controller	1
46	RDS600	Acclaim	DMX Splitter	5
47	9070T100D24	Square D	Xfmr, 100VA, 120/120V	1
48	FNQ-R-1	Bussman	Fuse, 600V, 1A	1
49	FNQ-R-2	Bussman	Fuse, 600V, 2A	1
50	BC6032P	Bussman	Fuseholder, 600V, 2P	1

## BILL OF MATERIAL

ITEM	PART NUMBER	MANUFACTURER	DESCRIPTION	QTY.
51	EC6133C	Ewon	Industrial Router	3
52	LH-20119	Fab Tech	Wing Turn Catch	3
53	LH-20120	Fab Tech	Special Strike Wing	3
54				
55	AM1426L	Allied Moulded	Enclosure, NEMA 4X, Fiberglass	1
56	PLA142	Allied Moulded	Backpanel, Aluminum	1
57	2004-1301	Wago	Terminal Block, 1P, Gray	16
58	2004-1302	Wago	Terminal Block, 1P, Orange	16
59	2004-1391	Wago	End Plate, Gray	1
60	2004-1392	Wago	End Plate, Orange	1
61	249-116	Wago	Terminal End Section	2
62	8WA746	Siemens	Angle Bracket	2
63	PK7GTA	Square D	Ground Bar	2
64				
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66	DU321RB	Square D	Disconnect, 3 Pole, 30A	2
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## 2.1 INSTALLATION COMPONENTS

### A. Piping Materials:

1. Unless architect's specifications indicate otherwise, the suggested minimum piping and fitting standard recommended for this installation is Type 1.
2. All interconnecting piping and associated fittings, supplied by installing Contractor, shall be a minimum of Schedule 80 PVC, NSF-PW rated.
3. All welded PVC fittings above 6" diameter shall be fiberglass reinforced and used only on non-pressurized lines.
4. Use only clear PVC cleaner meeting NSF, UPC, and ASTM standards for cleaning and repairing PVC pipe and fitting surfaces for solvent cementing (IPS Corporation "Weld-On" Type C-65 or equivalent). Follow all directions and instructions appearing on product label.
5. Use only purple PVC primer meeting NSF, UPC, and ASTM #F-656 standards for softening and preparing field pipe and fitting surfaces for solvent cementing (IPS Corporation "Weld-On Type P-70 or equivalent). Follow all directions and instructions appearing on product label.
6. Use only clear or white, heavy bodied, medium setting PVC cement meeting NSF, UPC, and ASTM #D-2564 standards for solvent cementing PVC plastic pipe and fittings (IPS Corporation "Weld-On" Type 711 or equivalent). Follow all directions and instructions on product label.
7. Provide Link Seal for all penetrations in equipment room. All penetrations through outside walls to below grade shall be sealed per building specifications. Using "easy-link seals" is recommended
8. All piping penetrations through structure walls into open areas below pool structure must have the necessary allowances made for settlement.
9. Pipe hangers and supports per national plumbing code. All piping in open areas below the pools shall be installed free hanging from the ceiling in the level below with pipe hangers/per specifications and code
10. Reference requirements of other Project Manual Specifications for materials and items not specified herein.
11. Thrust Block for Piping Turns

### B. Electrical Materials:

1. Rigid conduit shall be corrosion resistant and either galvanized steel or rigid PVC as specified in Part 3 Article "Basic Electrical Methods" herein. Submit Product Data and related specifications on materials to be used. All electrical conduit and conduit fittings between submersible light fixture niches, junction boxes and control panels will be U.L. listed rigid, nonmetallic, PVC NEMA, TC-2 max. 90°C, sunlight resistant for above and below ground use. All conduits shall be protected at all times from possible water ingress. Use only approved primer and PVC glue suitable for joining all PVC conduits and fittings per manufacturer's instructions.
2. All conductors shall be copper with insulation suitable for the particular wiring location as specified in Part 3.4 Article "Basic Electrical Methods" herein. Submit Product Data and related specifications on materials to be used underwater.
3. Reference requirements of other Project Manual Specifications for materials and items not specified herein.
4. All PVC conduit connections underground shall be SCH40 pressure fittings ((FE) male adaptors and couplings). Use color coded primer, pressure fitting PVC glue, and Teflon paste. The use of normal electrical PVC fittings is prohibited.
5. All connections in the pool/fountain shall be made with the assistance of a plumber, using Teflon paste or Teflon tape to eliminate all leaks. Use only tapered (NPT) stainless steel fittings and nipples. The use of galvanized, black, brass or steel piping is prohibited.
6. All conduit connections between dissimilar metals must be made with dielectric fittings, and sealed with dielectric thread compound to prevent galvanic degradation

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Verification of existing elevations: Verify all joining elevations prior to laying pipe or setting pipe. Notify Fountain equipment manufacturer, Architect, and or Engineer of all discrepancies before proceeding with the construction of the fountain.
- B. Verification of Dimensions: Before proceeding with any work, the contractor shall check and verify all dimensions, sizes, and the like, and shall assume full responsibility for the fitting-in of all materials and equipment to the conditions on site if the Fountain equipment manufacturer, Architect, and or Engineer is not notified in writing and a resolution is not agreed upon.
- C. All conflicts relating to any penetration size, dimension, elevation, equipment location, or equipment size or dimension, shall be addressed and resolved with the manufacturer, Architect, and or Engineer of record before the contractor can proceed with the construction of any part of the fountain that may be or become affected by the confliction.
- D. Verify Utilities: Contractor shall verify with local authorities where the proper tie into sanitary or storm sewer for overflow and drain.
- E. Contractor shall verify matching voltage and phase of main power feed provided to serve the fountain equipment control panel and report all discrepancies in writing to the Fountain Manufacturer, Architect, and Engineer.

#### **3.2 INSTALLATION**

- A. All equipment furnished under this Section shall be installed in full conformity with the Contract Documents, engineering data, instructions, and recommendations of the manufacturer.
- B. Contractor shall obtain all necessary installation permits and inspections
- C. Installation of fountain equipment appurtenances shall conform with provisions of Reference Standards and suit existing conditions on site as approved by Architect.
- D. Contractor shall insure that installation complies with all applicable national and local codes and project specifications.
- E. The incoming water supply line pressure must not exceed 50 PSI and is part of the building contract, not the fountain.
- F. Install horizontal piping 1' below freeze line.
- G. Excavation, Backfill, and Compaction:
  - 1. Excavating, trenching, and backfilling shall be as specified in the Contract Documents and as noted on the drawings and compaction done in a maximum of 6" lifts.
- H. All pools/splash pads shall be waterproofed by specified approved means.

- I. Prior to any finishing materials (i.e. lights, jets, cover plates) being installed, all pools shall be tested for leaks for a minimum of 72 hours, and all waterproofing and tile work shall be completed.
- J. Refer to mechanical and electrical notes on drawing for further information.
- K. Contractor shall field verify all dimensions.
- L. Consult architectural, structural, mechanical, and electrical drawings for additional details not shown on these drawings.
- M. When applicable, all weirs shall be installed with an accuracy of “± 1/16” over the entire weir length. Unless otherwise noted, refer to the architectural drawings for weir details.
- N. Contractor shall provide all concrete work as required by all mechanical and electrical fountain equipment requirements including, but not limited to, housekeeping pads, lock-down slabs, and thrust blocks where indicated.
- O. Contractor shall provide all utilities such as power supplies, water supplies, and sewer connections under the building contract up to the fountain controls, equipment and/or pool fittings where indicated.
- P. Contractor shall provide and is responsible for all elevation and X-Y coordinates relating to all fountain equipment including vaults, pool floors, and pumps.

### **3.3 BASIC PIPING METHODS**

- A. The Contractor shall verify and confirm all piping layouts, locations, and dimensions shown in these drawings, and ensure that the specified locations do not interfere with other equipment, architecture, or construction before installation. All piping shall be installed as shown and as otherwise specified to make a complete, workable, and neat system. All piping shall be cut accurately from dimensions established at the Project site and allowances shall be made for clearance of other devices.
- B. All interconnecting piping and associated fittings, supplied by system manufacturer, shall be a minimum of Schedule 80 PVC, NSF-PW rated. Interconnecting-intraconnecting interface points shall be slip fit, threaded or flanged.
- C. All interconnecting piping and associated fittings, supports, and seals shall be per section 2.1 A.
- D. The Contractor shall not deviate from the pipe sizes shown herein unless prior written approval is obtained from the manufacturer and Architect. When a size is not indicated, the Contractor shall request the pipe size from the fountain manufacturer. In the event that interference with other equipment or architecture requires relocation of pipes or a layout different from that shown herein, the Contractor shall notify the fountain manufacturer immediately for reexamination of hydraulic parameters of the affected sections.
- E. Pipe and accessories shall be handled in such a manner to not cause damage. All cutting shall be done in a good workmanlike manner. Before installation, all piping and fittings shall be visually inspected for damage or defects. The interior of the pipe shall be clean during the laying operation. Pipe shall not be laid in water or in the trench when weather conditions are unsuitable for the work. Water shall be kept out of the trench until the pipe is installed. While work is in progress, open

ends of the pipe and fittings shall be securely closed so that no trench water, earth, or other foreign matter will enter the piping system or fittings.

- F. Perform adequate trenching and backfill operations when installing PVC piping below grade. Trench width should be minimum of "pipe O.D. plus 12 inches" and deep enough to allow piping to be buried a minimum of 12" below the maximum expected frost penetration line to avoid freeze damage. Lay piping in horizontal, parallel, or perpendicular manner. Avoid vertical stacking of pipes. Space minimum of 3" apart on all parallel runs.
- G. Use only clean, free-flowing, non-expansive backfill material (naturally rounded ¼" pea gravel, 57 stone, or sand) and backfill in 6" lifts with adequate and complete compaction between lifts to 90% of maximum density per ASTM 1557-70. Compaction to excessive loads shall not be permitted. A second pressure test on the piping system must be made at this time to ensure that piping has not been damaged during backfill operations.
- H. Concrete "thrust" blocking is recommended at all directional changes (tee's, elbows, etc.), reducer fittings and line terminations (bushings, end caps, plugs, etc.) in fountain display discharge piping 6" and larger.
- I. The bearing surface for the concrete thrust blocks, where possible, should be placed against undisturbed soil. Where it is not possible, the fill between bearing surface and undisturbed soil must be compacted to at least 90% standard proctor density. Thrust block shall be a concrete mix not leaner than one part cement, two and one-half sand, and five parts stone. Contractor shall coordinate the location of the thrust block with other work and existing conditions. Work shall be performed in accordance with all applicable codes. For additional information, refer to NFPA 24.
- J. The sump pump in the equipment vault shall be connected as immediately as possible after secure placement and shall have a continuous power supply for the duration of the fountain system installation process.
- K. Pressure test all piping as specified in Part 3 Article "Field Quality Control" herein.
- L. Avoid laying suction piping in a manner that could result in a suction loop before, during, or after backfilling and compaction. Always pitch pipe in a downward direction to avoid a suction loop that will cause air to be permanently trapped, causing loss in performance of the piping system due to increased friction and work load demand.
- M. Piping in areas subject to freezing shall be installed at elevation of minimum 1 foot below frost line.
- N. Do not install any water lines above the control panel.
- O. Any and all costs associated with above are responsibility of installer.

### **3.4 BASIC ELECTRICAL METHODS**

- A. The information supplied in the drawings specifies the general requirements of a complete functioning electrical power distribution and control system. The electrical subcontractor shall coordinate all electrical installation activities with the Construction Manager, Contractor, Architect, and (with respect to work Phase) other separate contractors performing work related to fountain installation.

- B. All electrical work shall comply with the latest edition of the National Electric Code (NEC), Section 680, published by the National Fire Protection Association: Quincy, Massachusetts. In the event of conflicting requirements between Contract Documents and any local electric code or other governing organizations for this location, the most stringent shall govern and take precedence. In this event, the Architect shall be notified immediately in writing of such conflict.
- C. The installation of electrical equipment and wiring in water can produce extreme hazards. It is the responsibility of the installing electrical contractor to consult and comply with all electrical codes and safety regulations prior to installation of electrical equipment. Local codes take precedence over the general notes where discrepancies of conflicts exist.
- D. All wiring and conduit shall be sized by the electrical sub-contractor in accordance with the latest edition of the NEC and all electrical codes and regulations. Where wiring and conduit sizes are specified herein, they shall be interpreted as minimum allowable sizes. All conductors shall be copper with insulation suitable for the particular wiring location. Minimum acceptable insulation is type THWN or better, suitable for both dry and wet locations. Conductor insulation shall be moisture resistant, flame-retardant thermoplastic as approved by the NEC. Conductor sizing shall be based on an ambient temperature of 30°C and a conductor temperature rating of 75°C maximum per Article 310 of NEC. All underwater electrical cable shall either be encased in waterproof, sealed PVC conduit or shall be rated for continuous operation in underwater, marine environments.
- E. Contractor shall obtain all necessary installation permits and inspections.
- F. It is the responsibility of the installing electrical contractor to ensure that all electrical equipment is installed and wired, in accordance with Section 2.4 paragraph D above, whether it is called out or not, within the contract documents. This is to be done by a qualified, licensed electrician, experienced in fountain system wiring. The fountain manufacturer assumes no responsibility for liability whatsoever for installations not carried out by a qualified, licensed, electrician in accordance with our shop drawings, and all provisions of the latest edition of NEC in general, Article 680 specifically, and local safety regulations. All fountain manufacturer electrical control panels include GFCI's when and where required, when furnished.
- G. It is the responsibility of the installing electrical contractor to verify all field dimensions critical to fountain equipment installation and performance and report any discrepancies to the fountain manufacturer and the engineer upon immediate notice.
- H. All conductors shall be run in rigid conduit sized for the number of wires contained within per NEC requirements. Rigid conduit shall be corrosion resistant and either galvanized steel or rigid PVC. When conduit is submerged or in other wet locations, rigid PVC shall be required. Conductor sizing shall be corrected for the number of wires to be run in a single conduit or raceway in accordance with NEC. All conduit locations and routing shall be approved by the Architect before installation.
- I. The work includes such necessary material and devices of a minor nature that may not be indicated on the drawings or mentioned in the specifications, but which are necessary for the compliance with codes and for the successful operation of the entire control system. The contractor shall be allowed no extra compensation because of this requirement.
- J. All GFCI protected circuits must have a separate neutral. All GFCI breakers have pigtails wired to a neutral bar. A Class 'A' ground fault circuit interrupter (GFCI) must be installed in each branch

- circuit supplying submersible or underwater fountain equipment. Equipment operating at 15 volts or less must be protected by suitable transformer U.L. Listed and marked for the application.
- K. Conduits are drawn for clarity and do not necessarily show exact routing. Contractor shall install conduits with as few changes in direction as jobsite conditions will allow.
  - L. All electrical equipment must be properly bonded and grounded for safety, per the latest NEC and local code requirements. All bonding lugs shall be provided by installing electrical contractor. Installing contractor shall verify all necessary requirements of local inspector before installing and notify the fountain engineer of any required deviations from specifications or plans or notes, and resolve all conflicts before installing equipment. Contractor to ensure that all bonding codes are complied with for each metal pool equipment component.
  - M. Submersible/underwater lighting fixtures must be installed for operation at 150 volts or less between conductors. Submersible pumps most operate at 300 volts or less between conductors.
  - N. Submersible lighting fixtures must be installed with the top of the fixture lens a minimum of 2" below the normal operation water level and must have the lens adequately guarded to prevent contact by any person.
  - O. All electrical equipment which depends on submersion for safe operation must be protected against overheating by an independent low water cutoff device if the water level drops below normal operating levels, or contain an internal Thermal Bimetallic Ambient compensating overload.
  - P. Maximum length of exposed submersible cord in the fountain is limited to 9 feet. Cords extending beyond fountain perimeter must be enclosed in approved wiring enclosures.
  - Q. All submersible lights and pumps must have sufficient cord length to allow removal from the water for re-lamping and normal maintenance. Fixtures can not be permanently embedded in the fountain structure so that the water level must be reduced, or the fountain drained for re-lamping, maintenance, or inspection.
  - R. Submersible equipment must be inherently stable or be securely fastened in place with non-corrosive fasteners suitable for the purpose.
  - S. Underwater junction boxes must be filled with an approved re-enterable electrical potting compound (wax or paraffin is not acceptable) prior to filling pool and after all circuits have been checked to prevent the entry of moisture and must be firmly attached to supports or directly to the fountain surface and bonded as required. All conduit stubbed up through pool floor must be stainless steel. PVC, Red Brass, and Everdur are not acceptable as a conduit support stub for submersible junction boxes. All conduit entries must be completely sealed prior to potting to prevent compound from entering conduit system. After testing, junction boxes shall be sealed with scotch 3M re-enterable compound or other approved filling compound.
  - T. All underwater junction boxes must be equipped with threaded conduit entries and compression type cord connectors for cord entry. Strain relief connectors serving niche-Mounted underwater lights shall be capable of sealing both the fixture cord and an AWG #8 insulated bonding wire which may be required by some local codes.



- U. Pull correct quantity and size conductors, wired with separate ground, through conduit into junction box. Make all splices and connections tight and well insulated. Connect ground wire to ground lug in junction box, or other suitable grounding location.
- V. Insert each submersible cord through the brass cord seals provided on the junction box and tighten completely.
- W. Do not operate submersible lights or pumps more than ten seconds unless completely submerged or damage will result, and warranty will be voided.
- X. The installing electrical contractor will verify that all electrical equipment grounds will have the same reference potential and will give evidence of such to fountain engineer before any equipment is initially energized.
- Y. The installing contractor shall size all feed-wires leading to fountain control panel for no more than 2% voltage drop and shall notify the fountain engineer before fabricating electrical control panel if wire is upsized such that extra large wire lugs are required. It is the responsibility of electrical contractor to provide any disconnect required by local code requirements.
- Z. The fountain control panel shall be adequately protected from debris and stored properly during construction and prior to initial operation and shall be vacuumed clean and all screws for terminal connections tightened.
- AA. The electrical contractor shall ensure that supply voltage is within 5% of design voltage when all equipment is in operation and shall re-tap transformer, up size wire, or supply a buck and boost transformer to get supply voltage to necessary level, if necessary.
- BB. Wires for water level sensors must be run in a separate conduit to the fountain control panel.
- CC. All conduit penetrations through structure walls into trade areas below the pool structure must have the necessary allowances made for settlement.
- DD. Floor mounted motor control centers and transformers for fountain related equipment shall be installed on a 4" concrete housekeeping pad in equipment room.
- EE. Contractor installing fountain manufacturer supplied deck boxes in concrete for fountain lighting is to ensure that all open conduit ports are plugged watertight prior to slab pour around deck boxes.
- FF. All penetrations through outside walls to below grade shall be sealed per building specifications. Using "easy-link-seals" is recommended.
- GG. Any and all costs associated with the above are the responsibility of installing contractor.

### **3.5 FIELD QUALITY CONTROL**

- A. Inspection and Testing, General: Labor, materials, instruments, and power for testing shall be furnished by the Contractor. All tests shall be performed to the satisfaction of the Owner, Architect, and such other parties that may have legal jurisdiction. Item or system to be tested shall not be closed up, buried, or covered until testing is completed and owner confirms approval. Prepare reports of testing activities and submit as specified.

1. Reference Division 1 Section 01400 "Quality Requirements" for related and additional provisions.

**B. Piping Test:**

1. Conduct piping tests before joints are covered and after thrust blocks have been hardened sufficiently. Fill pipeline 24 hours before testing and apply test pressure to stabilize system. Use only potable water. Flush out all pipes with clean water prior to performing leak tests.
2. Do not include equipment in tests which could be damaged by high pressure.
3. Automatic water make-up systems shall be thoroughly tested and operative at the time of final observation.
4. Pressure testing requires that a prescribed period of curing / drying time be allowed in order to allow the PVC cement to properly cure and take a permanent set. The following table sets forth the minimum drying period before the required pressure tests. Note that the table applies only to weather temperatures ranging from 50° F. to 90°F. For drying times during temperatures that differ from this, consult the fountain manufacturer.

<b>Piping Size</b>	<b>Curing Time</b>
1.5" – 2.5"	8 hours
3" – 4"	18 hours
6" –8"	24 hours
10" & higher	36 hours

5. A 24-hour static pressure test of 10 ft. above highest vacuum, drainage, or gravity pipe invert elevation shall be performed on all vacuum and or gravity pipe lines using water as the medium. All vacuum and gravity drain piping shall be tested with no loss of water, pressure, or noticeable leaks. All pressure testing shall include a visual check of each joint by the Contractor in the presence of Construction Manager, owner, authorized representative, and/or Architect.
6. The Contractor shall provide all pumps, pressure plugs, gauges, and other instruments and devices necessary to perform the hydrostatic pressure tests specified herein. Each complete discharge piping system shall be hydrostatically tested to a pressure of 150% of the system working pressure. For purposes of this test, system-working pressure shall be defined at 50 PSIG and the hydrostatic test shall be performed at 75 PSIG. Pressure test for at least 8 hours, at which time pressure shall remain constant, without additional pumping, pressure loss, or noticeable leaks. PSI is required on all pressure piping to include return inlets piping using water as the medium.
7. Pressure test all water piping prior to commencing backfill operations. Hydrostatic (water) testing shall be the only approved method. DO NOT PRESSURE TEST WITH COMPRESSED AIR as severe pipe damage and bodily injury can occur. Do not exceed the rated operational pressure of the piping and/or fittings carrying the lowest pressure rating. Locate and repair any leaks and retest prior to completion of backfill operations
8. After the system has operated for one week, contractor and owner's representative shall inspect water make-up rates and agree that water usage is appropriate for a system of this type, are within local ordinances or codes, and that such rates are not indicative of excessive leakage from system. A water meter shall be placed on the fill line for this purpose, if necessary to document precise water usage.

**C. Manufacturer's Field Services:**

1. The fountain manufacturer shall be present for a minimum of 4 site coordination meetings, which includes the review of the plans and shop drawings with the mechanical, electrical, and structural disciplines. The fountain manufacturer must be available at the jobsite within a one week notice. The representative shall be a factory employee, not a local representative.

### **3.6 START UP AND ADJUSTMENTS**

- A. Manufacturer shall be present for the initial start up of the fountain system.
- B. Contractor shall adjust fountain water system for volume and water flow characteristics to reflect design intent as approved by Architect.
- C. Contractor shall have the following conditions satisfied prior to departure of personnel from factory.
  - 1. All electrical connections shall be made and tested.
  - 2. All underwater lighting shall be lamped, installed, and tested.
  - 3. Thoroughly test all fixtures, services, and all circuits for proper operating conditions and freedom from grounds and short circuits before acceptance is requested. All equipment, appliances, and devices shall be operated under load conditions
  - 4. All underwater junction boxes shall be wired and sealed with potting compound.
  - 5. Pump and filter motors shall be power tested to insure proper impeller rotation at specified voltage.
  - 6. Electronic water level control and/or low water cut-off control shall be installed and wired for operation.
  - 7. All hydraulic lines and fittings shall be pressure tested for leaks, repaired as necessary, and flushed clean. Basket strainers shall be checked and cleaned as required.
  - 8. All nozzles, jets, manifolds, headers, and spray apparatus shall be installed properly and flushed of debris as required. Final nozzle adjustment for position and throttling to achieved specified performance for all display discharge points to be performed by installing contractor.
  - 9. Pump vaults, when supplied by manufacturer shall be thoroughly cleaned of debris, tested for electrical integrity and pressure tested for leaks.
  - 10. Chemical feed system, when supplied, shall be filled to proper level with required dosage of chemicals. (Manufacturer does not supply chemicals unless specifically listed in proposal).
  - 11. The fountain basin shall be thoroughly cleaned and filled to proper water level with clean, fresh water.
  - 12. Contractor shall make available to factory personnel a plumber and electrician who have first hand knowledge of the fountain installation, at contractors own expense.
  - 13. Contractor will perform any manual labor or provide any tools for adjustment and start-up.
- D. Contractor shall allow for a minimum of 1 full day for system start up. The lighting program shall be loaded and tested prior to start up.
- E. Contractor acknowledges the above requirements and understands that, should above requirements not be completed, factory personnel may immediately cancel visit and return to factory. In such case, Contractor shall be responsible for all costs and expenses incurred by manufacturer.

### **3.7 DEMONSTRATION**

- A. Furnish complete on-site instructions and demonstration to owner in the operation, adjustment and maintenance of fountain system.

**END OF SECTION**

Bienville Square  
Fountain & Site Amenities Improvements  
PR-021-22  
Mobile, Alabama

April 05, 2023

## SECTION 31 10 00 - SITE CLEARING

### 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. Protecting existing vegetation to remain.
  - 2. Removing existing vegetation.
  - 3. Clearing and grubbing.
  - 4. Stripping and stockpiling topsoil.
  - 5. Removing above- and below-grade site improvements.
  - 6. Disconnecting, capping or sealing, and removing site utilities abandoning site utilities in place.
  - 7. Temporary erosion- and sedimentation-control measures.
- B. Related Sections:
  - 1. Section 01700 "Execution" for field engineering and surveying.

#### 1.3 DEFINITIONS

- A. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- B. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil and is the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of subsoil and weeds, roots, toxic materials, or other nonsoil materials.
- D. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction, and indicated on Drawings.
- E. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and indicated on Drawings.
- F. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

#### 1.4 MATERIAL OWNERSHIP

- A. Except for stripped topsoil and other materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.
  - 1. Use sufficiently detailed photographs or videotape.
  - 2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.

#### 1.6 QUALITY ASSURANCE

- A. Preinstallation Conference: Conduct conference at Project site.

#### 1.7 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
  - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Utility Locator Service: Notify utility locator service Texas One Call for area where Project is located before site clearing.
- C. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.
- D. The following practices are prohibited within protection zones:
  - 1. Storage of construction materials, debris, or excavated material.
  - 2. Parking vehicles or equipment.
  - 3. Foot traffic.
  - 4. Erection of sheds or structures.
  - 5. Impoundment of water.
  - 6. Excavation or other digging unless otherwise indicated.
  - 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- E. Do not direct vehicle or equipment exhaust towards protection zones.
- F. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.
- G. Soil Stripping, Handling, and Stockpiling: Perform only when the topsoil is dry or slightly moist.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 312300 "Earthwork."
  - 1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.
- B. Antirust Coating: Fast-curing, lead- and chromate-free, self-curing, universal modified-alkyd primer complying with MPI #79, Alkyd Anticorrosive Metal Primer or SSPC-Paint 20 or SSPC-Paint 29 zinc-rich coating.

1. Use coating with a VOC content of 420 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

### PART 3 - EXECUTION

#### 3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Locate and clearly identify trees, shrubs, and other vegetation to remain. Flag each tree trunk by tying 1-inch blue-vinyl tape around each tree trunk at 54 inches above the ground.
- C. Protect existing site improvements to remain from damage during construction.
  1. Restore damaged improvements to their original condition, as acceptable to Owner.

#### 3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction. Contractor shall submit an Erosion-and Sedimentation-Control Plan for Landscape Architects approval.
- B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- D. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

#### 3.3 TREE AND PLANT PROTECTION

- A. General: Protect trees and plants remaining on-site according to requirements in Section 022310 "Temporary Tree and Plant Protection."
- B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Landscape Architect.

#### 3.4 EXISTING UTILITIES

- A. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place.
  1. Arrange with utility companies to shut off indicated utilities.
  2. Fiber Optic Cable – ensure fiber optic cable is protected and undisturbed.
- B. Locate, identify, and disconnect utilities indicated to be abandoned in place.
- C. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
  1. Notify Engineer and Landscape Architect not less than two days in advance of proposed utility interruptions.

2. Do not proceed with utility interruptions without Engineers and Landscape Architect's written permission.

D. Removal of underground utilities is included in earthwork sections and with applicable fire suppression, plumbing, HVAC, electrical, communications, electronic safety and security and utilities sections.

### 3.5 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.

1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
2. Grind down stumps and remove roots, obstructions, and debris to a depth of 24-inches below exposed subgrade.
3. Use only hand methods for grubbing within protection zones.
4. Chip removed tree branches and store on site for future use.

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.

### 3.6 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

Strip topsoil in a manner to prevent intermingling with underlying subsoil or other waste materials.

1. Remove subsoil and non-soil materials from topsoil, including clay lumps, gravel, and other objects more than 2 inches in diameter; trash, debris, weeds, roots, and other waste materials.

B. Stockpile topsoil away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.

1. Limit height of topsoil stockpiles to 72 inches.
2. Do not stockpile topsoil within protection zones.
3. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.

### 3.7 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.

1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.
2. Paint cut ends of steel reinforcement in concrete to remain with two coats of antirust coating, following coating manufacturer's written instructions. Keep paint off surfaces that will remain exposed.

### 3.8 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 31 10 00



## SECTION 31 23 00 - EARTHWORK

### PART 1 – GENERAL

- 1.1 Scope: This section covers all work associated with the placing and compaction of all fill materials as necessary for the construction of embankments including the preparation of the site and placement of materials to the required lines, grades, thickness and typical cross-sections shown on the Drawings.
- 1.2 Existing Utilities:
- A. The Contractor shall not interrupt utilities serving facilities occupied by the Owner or others unless permitted in writing by the Owner and then only after arranging to provide temporary utility services according to requirements indicated:
1. Notify Owner not less than two days in advance of proposed utility interruptions.
  2. Do not proceed with utility interruptions without Owner's written permission.
  3. Contact utility locator service for area where project is located prior to any excavation.
- 1.3 Submittals:
- A. Sustainable Design Submittals:
1. Resource Reuse.
  2. Regionally Extracted Materials.
- B. Submit pricing for cost of materials with a total amount to be used and cost per cubic yard.

### PART 2 – PRODUCTS

- 2.1 Soil Materials:
- A. Satisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups GW, GP, GM, SM, SW, and SP, or AASHTO M 145 soil classification groups A-1, A-2-4, A-2-5, and A-3. See specifications 029300 for topsoil description.
- B. Backfill and Fill Materials shall be those satisfactory soils, inactive, with a maximum plasticity index (PI) of 15, free of rock or gravel larger than two (2) inches in any dimension, debris, vegetation or other deleterious materials.
- C. Roadway and Parking Area Sub-base Materials shall consist of naturally or artificially graded mixture of natural or crushed gravel, crushed stone, crushed slag, and natural or crushed sand.
- D. Granular Fill shall be a washed, evenly graded mixture of crushed stone, or crushed gravel with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.

### PART 3 – EXECUTION

- 3.1 Proof Rolling, Shaping:
- A. After stripping topsoil, clearing and grubbing, proof roll the entire paving area to detect any soft spots. Remove soft spots, backfill with satisfactory material and compact as specified.
- B. Grade and shape the entire area of construction to conform with the grades, lines, and cross-section required for the completed paving. Remove any unsuitable soils encountered and replace with specified materials.
- C. Spoil materials resulting from clearing, grubbing and stripping shall be removed from the site and legally disposed of. Appropriate excavated earth may be used in yard areas as topsoil.
- 3.2 Excavation:

- A. Excavate for trenches to the depth indicated or otherwise required and to establish indicated flow lines or invert elevations. Maintain uniform width required for particular item to be installed, including width to provide ample working room.
- B. Cut existing ground under pavement areas to comply with cross-sections, elevations, and grades indicated on the Drawings.
- C. If unsatisfactory soil materials are encountered at design elevations, continue excavation as directed by the Geotechnical and/or Structural Engineer.

3.3 Backfill and Fill:

- A. Prepare ground surface to receive fill by removing a minimum of six (6) inches of topsoil, vegetation, debris, unsatisfactory soil material and obstructions. Scarify area so that fill material will bond with the existing soil.
- B. Place backfill and fill materials in layers not more than eight (8) inches in loose depth, compacting each layer to the specified density.
- C. Compact each layer of backfill and fill materials to 95 percent maximum density as measured by the Standard Proctor Test, ASTM D698.

3.4 Grading:

- A. Add 2" minimum coverage of topsoil over all areas that are to receive sod.
- B. Grade areas indicated, including adjacent transition areas, with uniform levels or slopes between finish elevations. Shape surface of areas to within 0.10 foot above or below required finish elevation, compact as specified.

3.5 Quality Control:

- A. The Contractor shall engage a qualified independent geotechnical engineering testing agency to perform field testing. (geotechnical information shall be provided as part of the specifications package).
- B. The testing agency shall be allowed to inspect and test sub-grades and each fill or backfill layer. The Contractor shall proceed with subsequent earthwork only after test results for previously tested work complies with these specifications.
- C. When testing results indicate a failure to meet these specifications, the Contractor shall scarify and moisten or aerate or remove and replace the soil to the depth required; re-compact and retest until specified compaction is obtained.

3.6 Protection and Maintenance:

- A. The Contractor shall protect all newly graded areas from damage due to traffic and erosion.
- B. Those areas that become damaged due to erosion or rutting shall be reestablished to the lines and grades specified.
- C. In areas where settling occurs, remove finished surfacing, backfill with additional soil materials, compact and reconstruct surfacing.
- D. Do not add fill beneath the canopies of existing trees on site.

END OF SECTION 31 23 00

## SECTION 32 13 13 – CONCRETE PAVING

### 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

- 1. Sidewalks & Concrete Paving shown in Landscape Drawings
- B. Related Sections:
  - 1. Section 031100 "Concrete Formwork"
  - 2. Section 032000 "Concrete Reinforcement"
  - 3. Section 033100 "Cast-in-Place Concrete" for general building applications of concrete.
  - 4. Section 321373 "Concrete Paving Joint Sealants" for joint sealants in expansion and contraction joints within concrete paving and in joints between concrete paving and asphalt paving or adjacent construction.

#### 1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, and ground granulated blast-furnace slag.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For each type of product, ingredient, or admixture requiring color selection.
- C. Other Action Submittals:
  - 1. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For the following, from manufacturer:
  - 1. Cementitious materials.
  - 2. Steel reinforcement and reinforcement accessories.
  - 3. Admixtures.
  - 4. Curing compounds.
  - 5. Joint fillers.
- B. Material Test Reports: For each of the following:

1. Aggregates. Include service-record data indicating absence of deleterious expansion of concrete due to alkali-aggregate reactivity.

C. Field quality-control reports.

#### 1.6 QUALITY ASSURANCE

A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities" (Quality Control Manual - Section 3, "Plant Certification Checklist").

B. Testing Agency Qualifications: Qualified according to ASTM C 1077 and ASTM E 329 for testing indicated..

1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.

C. Concrete Testing Service: Engage a qualified testing agency to perform material evaluation tests and to design concrete mixtures.

D. ACI Publications: Comply with ACI 301 unless otherwise indicated.

E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Build mockups of full-thickness sections of concrete paving to demonstrate typical joints; surface finish, texture, and color; curing; and standard of workmanship.
2. Build mockups of each type of concrete paving in the location and of the size indicated or, if not indicated, build mockups where directed by Landscape Architect and not less than 3 feet x 3 feet.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Landscape Architect specifically approves such deviations in writing.

F. Preinstallation Conference: Conduct conference at Project site.

1. Review methods and procedures related to concrete paving, including but not limited to, the following:
  - a. Concrete mixture design.
  - b. Quality control of concrete materials and concrete paving construction practices.
2. Require representatives of each entity directly concerned with concrete paving to attend, including the following:
  - a. Contractor's superintendent.
  - b. Independent testing agency responsible for concrete design mixtures.
  - c. Concrete paving subcontractor.

#### 1.7 PROJECT CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

### PART 2 - PRODUCTS

#### CONCRETE PAVING

## 2.1 FORMS

- A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, and smooth exposed surfaces.
  - 1. Use flexible or uniformly curved forms for curves with a radius of 100 feet or less.
- B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and that will not impair subsequent treatments of concrete surfaces.

## 2.2 STEEL REINFORCEMENT

- A. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, fabricated from galvanized-steel wire into flat sheets.
- B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 ; deformed.
- C. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60 plain-steel bars. Cut bars true to length with ends square and free of burrs.
- D. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete specified, and as follows:
  - 1. Equip wire bar supports with sand plates or horizontal runners where base material will not support chair legs.
- E. Zinc Repair Material: ASTM A 780.

## 2.3 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of same type, brand, and source throughout Project:
  - 1. Portland Cement: ASTM C 150, gray portland cement Type I/II .
- B. Normal-Weight Aggregates: ASTM C 33, uniformly graded. Provide aggregates from a single source for exposed surfaces.
  - 1. Do not use aggregates containing soluble salts or other substances such as iron sulfides, pyrite, marcasite, ochre, or other materials that can cause stains on exposed concrete surfaces.
  - 2. Fine Aggregate: Clean, sharp, natural sand free from loam, clay, lumps or other deleterious substances. Dune sand, bank run sand and manufactured
  - 3.
  - 4. Coarse Aggregate: Clean, uncoated, processed aggregate containing no clay, mud, loam, or foreign matter, as follows:
    - a. Crushed stone, processed from natural rock or stone.
    - b. Wash gravel, either natural or crushed. Use of slag and pit or bank run gravel is not permitted.
    - c. Coarse Aggregate Size: Size to be ASTM C33, No. 67.
- C. Water: Potable and complying with ASTM C 94/C 94M.

- D. Air-Entraining Admixture: ASTM C 260.

#### 2.4 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. dry.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.
- D. Evaporation Retarder: Waterborne, monomolecular, film forming, manufactured for application to fresh concrete.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

#### 2.5 RELATED MATERIALS

- A. Expansion Joints: Provide a semi-rigid, closed-cell polypropylene foam, preformed joint filler that meets the following physical property requirements and fully complies with ASTM D8139.
  - 1. Compression Strength 30-60 psi per ASTM D 545 or AASHTO T 42
  - 2. Compression Recovery > 80% per ASTM D 545 or AASHTO T 42
  - 3. Extrusion < 0.1 in. per ASTM D 545 or AASHTO T 42
  - 4. Density >3.5 lbs./cu.ft. per ASTM D 545 or AASHTO T 42
  - 5. Water Absorption < 1.0% per ASTM D 545 or AASHTO T 42
  - 6. Heat Resistance °F 392°F± 5°F per ASTM D 5249
  - 7. Freeze Thaw Resistance No change per ASTM C 666 (300 cycles)
  - 8. UV Weathering No change per ASTM D 4329 (1000 hrs., Cycle A)
  - 9. Thickness 3/8"
- B. Nomaflex expansion joints or approved equal.

#### 2.6 CONCRETE MIXTURES

- A. Prepare design mixtures, proportioned according to ACI 301 , for each type and strength of normal-weight concrete, and as determined by either laboratory trial mixtures or field experience.
  - 1. Use a qualified independent testing agency for preparing and reporting proposed concrete design mixtures for the trial batch method.
  - 2. When automatic machine placement is used, determine design mixtures and obtain laboratory test results that meet or exceed requirements.
- B. Proportion mixtures to provide normal-weight concrete with the following properties:
  - 1. Compressive Strength (28 Days): 3200 psi .
  - 2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.50.
  - 3. Slump Limit: 4 inches , plus or minus 1 inch.
- C. Add air-entraining admixture at manufacturer's prescribed rate to result in normal-weight concrete at point of placement having an air content as follows:
  - 1. Air Content: 6 percent plus or minus 1.5 percent for 1-inch nominal maximum aggregate size.

- D. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.
- E. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.
  - 1. Use water-reducing admixture in concrete as required for placement and workability.
  - 2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

## 2.7 CONCRETE MIXING

- A. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Mix concrete materials in appropriate drum-type batch machine mixer.
  - 1. For concrete batches of 1 cu. yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
  - 2. For concrete batches larger than 1 cu. yd. , increase mixing time by 15 seconds for each additional 1 cu. yd. .
  - 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixing time, quantity, and amount of water added.
  - 4.
  - 5.
  - 6.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.
- B. Proof-roll prepared subbase surface below concrete paving to identify soft pockets and areas of excess yielding.
  - 1. Completely proof-roll subbase in one direction and repeat in perpendicular direction. Limit vehicle speed to 3 mph.
  - 2. Correct subbase with soft spots and areas of pumping or rutting exceeding depth of 1/2 inch according to requirements in Section 312300 "Earthwork."
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Remove loose material from compacted subbase surface immediately before placing concrete.

### 3.3 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

- B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

### 3.4 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.
- D. Install welded wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.
- E. Zinc-Coated Reinforcement: Use galvanized-steel wire ties to fasten zinc-coated reinforcement. Repair cut and damaged zinc coatings with zinc repair material.

### 3.5 JOINTS

- A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.
  - 1. When joining existing paving, place transverse joints to align with previously placed joints unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.
  - 1. Continue steel reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of paving strips unless otherwise indicated.
  - 2. Provide tie bars at sides of paving strips where indicated.
  - 3. Keyed Joints: Provide preformed keyway-section forms or bulkhead forms with keys unless otherwise indicated. Embed keys as indicated.
  - 4. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or coat with asphalt one-half of dowel length to prevent concrete bonding to one side of joint.
- C. Expansion Joints: Form expansion joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.
  - 1. Typical doweled expansion joint
    - a. Locate expansion joints as indicated on plan.
    - b. Extend joint fillers full width and depth of joint.
    - c. Terminate joint filler not less than 1/2 inch or more than 1 inch below finished surface if joint sealant is indicated where keyway expansion joints are not used.
    - d. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.
    - e. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.



- f. During concrete placement, protect top edge of joint filler with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.
- D. Sawcut Control Joints:
  - 1. Sawcut control joints to be 1/8" wide. Depth shall be 1/4 the total depth of concrete slab.
- E. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 1/2 inch radius on all exposed edges, no radius on jointed edges. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

### 3.6 CONCRETE PLACEMENT

- A. Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast-in.
- B. Remove snow, ice, or frost from subbase surface and steel reinforcement before placing concrete. Do not place concrete on frozen surfaces.
- C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.
- D. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.
- E. Do not add water to concrete during delivery or at Project site. Do not add water to fresh concrete after testing.
- F. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- G. Consolidate concrete according to ACI 301 by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.
  - 1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement dowels and joint devices.
- H. Screed paving surface with a straightedge and strike off.
- I. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.
- J. Cold-Weather Placement: Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing, or low temperatures. Comply with ACI 306.1 and the following:
  - 1. When air temperature has fallen to or is expected to fall below 40 deg F , uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.
  - 2. Do not use frozen materials or materials containing ice or snow.
  - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in design mixtures.
- K. Hot-Weather Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:

### CONCRETE PAVING

1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated in total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

### 3.7 FLOAT FINISHING

- A. General: Do not add water to concrete surfaces during finishing operations.
- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
  1. Medium-to-Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.
  2. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch deep with a stiff-bristled broom, perpendicular to line of traffic.

### 3.8 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- B. Comply with ACI 306.1 for cold-weather protection.
- C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.
- D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- E. Curing Methods: Cure concrete by moisture curing moisture-retaining-cover curing compound or a combination of these as follows:
  1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
    - a. Water.
    - b. Continuous water-fog spray.
    - c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
  2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover, placed in widest practicable width, with sides and ends lapped at least 12 inches and sealed by waterproof tape or adhesive. Immediately repair any holes or tears Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas that have been subjected to heavy rainfall within three

hours after initial application. Maintain continuity of coating, and repair damage during curing period.

### 3.9 PAVING TOLERANCES

- A. Comply with tolerances in ACI 117 and as follows:
1. Elevation: 1/4 inch .
  2. Thickness: Plus 3/8 inch , minus 1/4 inch .
  3. Surface: Gap below 10-foot- long, unlevelled straightedge not to exceed 1/4 inch .
  4. Alignment of Tie-Bar End Relative to Line Perpendicular to Paving Edge: 1/4 inch per 12 inches of tie bar.
  5. Lateral Alignment and Spacing of Dowels: 1/2 inch .
  6. Vertical Alignment of Dowels: 1/4 inch .
  7. Alignment of Dowel-Bar End Relative to Line Perpendicular to Paving Edge: 1/4 inch per 12 inches of dowel.
  8. Joint Spacing: 3 inches .
  9. Joint Width: Plus 1/16 inch , no minus.

### 3.10 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
- B. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
1. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mixture placed each day.
    - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
  2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
  3. Air Content: ASTM C 231, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
  4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when it is 80 deg F and above, and one test for each composite sample.
  5. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.
  6. Compressive-Strength Tests: ASTM C 39/C 39M; test one specimen at seven days and two specimens at 28 days.
    - a. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at 28 days.
- C. Strength of each concrete mixture will be satisfactory if average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi .
- D. Test results shall be reported in writing to Landscape Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.

- E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Landscape Architect but will not be used as sole basis for approval or rejection of concrete.
- F. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Landscape Architect..
- G. Concrete paving will be considered defective if it does not pass tests and inspections.
- H. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- I. Prepare test and inspection reports.

3.11 REPAIRS AND PROTECTION

- A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Landscape Architect.
- B. Drill test cores, where directed by Landscape Architect, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory paving areas with portland cement concrete bonded to paving with epoxy adhesive.
- C. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur. Contractor shall be responsible for replacing and/or repairing any portions of new paving caused by vandalism due to lack of precaution taken to protect paving.
- D. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

E.

END OF SECTION 32 13 13

## **SECTION 32 13 73 - CONCRETE PAVING 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. Cold-applied joint sealants.
  - 2. Hot-applied joint sealants.
- B. Related Sections:
  - 1. Section 321313 "Concrete Paving" for constructing joints in concrete pavement.

#### **1.3 PRECONSTRUCTION TESTING**

- A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, Samples of materials that will contact or affect joint sealants.
  - 1. Use ASTM C 1087 to determine whether priming and other specific joint-preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
  - 2. Submit no fewer than eight pieces of each type of material, including joint substrates, shims, joint- sealant backings, secondary seals, and miscellaneous materials.
  - 3. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
  - 4. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.
  - 5. Testing will not be required if joint-sealant manufacturers submit joint-preparation data that are based on previous testing, not older than 24 months, of sealant products for compatibility with and adhesion to joint substrates and other materials matching those submitted.

#### **1.4 ACTION SUBMITTALS**

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- C. Pavement-Joint-Sealant Schedule: Include the following information:
  - 1. Joint-sealant application, joint location, and designation.
  - 2. Joint-sealant manufacturer and product name.
  - 3. Joint-sealant formulation.
  - 4. Joint-sealant color options.

#### **1.5 INFORMATIONAL SUBMITTALS**

- A. Qualification Data: For qualified Installer and testing agency.

- B. Product Certificates: For each type of joint sealant and accessory, from manufacturer.
- C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for joint sealants.
- D. Preconstruction Compatibility and Adhesion Test Reports: From joint-sealant manufacturer, indicating the following:
  - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility with and adhesion to joint sealants.
  - 2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

#### 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain each type of joint sealant from single source from single manufacturer.
- C. Product Testing: Test joint sealants using a qualified testing agency.
  - 1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.

#### 1.7 PROJECT 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 .
  - 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.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Compatibility: Provide joint sealants, backing materials, 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 Landscape Architect from manufacturer's full range.

#### 2.2 COLD-APPLIED JOINT SEALANTS

- A. POLYURETHANE CONCRETE & METAL JOINT SEALANT.
- B. Single-Component, Self-Leveling, Joint Sealant for Concrete:
  - 1. Products: Subject to compliance with requirements, provide the following or approved equal:
    - a. BASF/ Sonneborn SL-1 concrete joint sealant.

#### 2.3 PRIMERS

- A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

### 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 joint-sealant performance.
- 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.
- B. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer, based on 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. Joint-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 joint-sealant backings of kind indicated to support joint 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 joint-sealant backings.
  - 2. Do not stretch, twist, puncture, or tear joint-sealant backings.
  - 3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install joint sealants using proven techniques that comply with the following and at the same time backings are installed:
  - 1. Place joint sealants so they directly contact and fully wet joint substrates.
  - 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. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

#### 3.4 CLEANING

- A. Clean off excess joint 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 and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.

3.6 PAVEMENT-JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Joints within cement concrete pavement
  - 1. Joint Location:
    - a. Expansion and isolation joints as indicated in drawings.
  - 2. Urethane Joint Sealant for Concrete: Sonneborn SL-1
  - 3. Joint-Sealant Color: As selected by Landscape Architect from manufacturer's full range.

END OF SECTION 32 13 73



## SECTION 32 14 00 - UNIT PAVING

### 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. Stone pavers set in mortar setting beds on concrete with polymeric sand filled joints.
- B. Related Sections:
  - 1. Section 312300 "Earthwork" for establishment of subgrade elevations.
  - 2. Section 321313 "Concrete Paving" for concrete base under unit pavers.

#### 1.3 PRECONSTRUCTION TESTING

- A. Preconstruction Adhesion and Compatibility Testing: Submit to latex-additive manufacturer, for testing as indicated below, samples of paving materials that will contact or affect mortar and grout that contain latex additives.
  - 1. Use manufacturer's standard test methods to determine whether mortar and grout materials will obtain optimum adhesion with, and will be nonstaining to, installed pavers and other materials constituting paver installation.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For materials other than water and aggregates.
- B. Product Data: For the following:
  - 1. Stone pavers.
  - 2. Mortar setting materials.
  - 3. Joint sand materials.
- C. Adhesion and Compatibility Test Reports: From latex-additive manufacturer for mortar and grout containing latex additives.
- D. Samples for Verification:
  - 1. 12" x 12" units of each type of unit paver indicated, with representation of selected finish, cut edge, and rock face.
  - 2. Joint materials.
- E. Shop Drawings:
  - 1. For Stone pavers: Shop drawings should demonstrate understanding of the dimensional layout, radius cuts, etc. as well as setting requirements and joint details.

#### 1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of unit paver, joint material, and setting material from single source with resources to provide materials and products of consistent quality in appearance and physical properties.
- B. Mockups: Build sample panel to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution. Panel shall be 8 ft. x 8 ft. minimum, exhibiting the specified base, setting method, thickness, colors, jointing, pattern, finish, and workmanship. The accepted panel shall become the standard for the entire job and shall remain undisturbed until completion of the concrete unit paving.
  - 1. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
  - 2. Notify Landscape Architect seven days in advance of dates and times when mockups will be constructed.

- C. Substitutions: As approved by the Landscape Architect
  - D. Preinstallation Conference: Conduct conference at project site.
- 1.6 DELIVERY, STORAGE, AND HANDLING
- A. Store pavers 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.
  - 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. Store liquids in tightly closed containers protected from freezing.
  - E. Store asphalt cement and other bituminous materials in tightly closed containers.
- 1.7 PROJECT CONDITIONS
- A. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit paver work damaged by frost or freezing.
  - B. Weather Limitations for Sand:
    - 1. Joint sand to be applied only in dry conditions.

## PART 2 - PRODUCTS

- 2.1 QUALITY
- A. Use new materials without flaws or defects.
- 2.2 SUBSTITUTIONS
- A. Specified product is only used to denote the general style, type, character, and quality standard of the product desired. Bidders are not restricted to the specified brand, make, or manufacturer.
  - B. Use specified product, or pre-approved equal. Alternative products must be approved by Landscape Architect prior to bidding. Changes and associated design costs to accommodate alternative equipment are Contractor's responsibility.
- 2.3 BASE SLAB
- A. Concrete base. Refer to Section 321313, Concrete Paving.
- 2.4 STONE PAVERS
- A. All stone pavers shall be from a sole source, same quarry strata – matching in color unless otherwise indicated.
  - B. Granite Pavers: Dimensional paving slabs made from granite complying with ASTM C 615.
    - 1. Products: Subject to compliance with requirements, provide the following:
      - a. Basis of design: Academy Black from Cold Spring Granite, Inc.
    - 2. Finish: Thermal finish on top surface; cut finish on edges.
    - 3. Match Landscape Architect's samples for color, finish, and other stone characteristics relating to aesthetic effects.
    - 4. Thickness: Not less than 2 inches unless otherwise indicated.
    - 5. Face size: As indicated on drawings
    - 6. Samples: Submit stone samples to Landscape Architect for approval. Refer to 1.4 Action Submittals.
  - C. Bluestone Pavers:
    - 1. Products: Cut bluestone pavers in standard available sizes.
    - 2. Color: Trueblue
    - 3. Finish: Thermal finish on top surface; cut finish on edges.
    - 4. Face size: As indicated on drawings.

5. Thickness: not less than 2 inches unless otherwise indicated.
6. Samples: Submit stone samples to Landscape Architect for approval. Refer to 1.4 Action Submittals.

2.5 MORTAR SETTING-BED MATERIALS

- A. Mortar that meets or exceeds ANSI A118.4 requirements when mixed with water or a latex admixture and is designed for installation of large format tile.
  1. Portland Cement: ASTM C 150, Type I or Type II.
  2. Hydrated Lime: ASTM C 207, Type S.
  3. Sand: ASTM C 144.
  4. Latex Additive: Manufacturer's standard acrylic resin or styrene-butadiene- rubber water emulsion, serving as replacement for part or all of gaging water, of type specifically recommended by latex-additive manufacturer for use with field-mixed portland cement and aggregate mortar bed, and not containing a retarder.
  5. Water: Potable.

2.6 MORTAR AND GROUT MIXES

- A. General: Comply with referenced standards and with manufacturers' written instructions for mix proportions, mixing equipment, mixer speeds, mixing containers, mixing times, and other procedures needed to produce setting-bed and joint materials of uniform quality and with optimum performance characteristics. Discard mortars and grout if they have reached their initial set before being used.
- B. Mortar-Bed Bond Coat: Mix neat cement and latex additive to a creamy consistency.
- C. Latex-Modified, Portland Cement Setting-Bed Mortar: Proportion and mix portland cement, sand, and latex additive for setting bed to comply with written instructions of latex-additive manufacturer and as necessary to produce stiff mixture with a moist surface when bed is ready to receive pavers.
- D. Latex-Modified, Portland Cement Bond Coat: Proportion and mix portland cement, aggregate, and liquid latex for bond coat to comply with written instructions of liquid- latex manufacturer.

2.7 SAND MATERIALS

- A. Sand for Joints
  1. Manufacturer
    - a. TechniSeal, Inc., Boucherville, Canada J4B 7K2; Tel 800 363 7560; "Alliance DP SuperSand Bond" Polymeric Sand, manufactured by Alliance Designer Products, Inc., Laval, Canada, H7L 6A1; Tel 866 212 1611
    - b. Approved Equal
  2. Type: Polymeric joint sand for pavement Joints
  3. Provide sand of color needed to match pavers, for approval by Landscape Architect.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas indicated to receive paving, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Where pavers are to be installed over waterproofing, examine waterproofing installation, with waterproofing Installer present, for protection from paving operations, including areas where waterproofing system is turned up or flashed against vertical surfaces.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Sweep concrete substrates to remove dirt, dust, debris, and loose particles.
- B. Proof-roll prepared subgrade according to requirements in Section 312300 "Earthwork" to identify soft pockets and areas of excess yielding. Proceed with unit paver installation only after

deficient subgrades have been corrected and are ready to receive subbase and base course for unit pavers.

3.3 INSTALLATION, GENERAL

- A. Do not use unit pavers with chips, cracks, voids, discolorations, or other defects that might be visible or cause staining in finished work.
- B. Mix pavers from several pallets or cubes, as they are placed, to produce uniform blend of colors and textures.
- C. Cut unit pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.
- D. Joint Pattern: See Drawings.
- E. Tolerances: Do not exceed 1/32-inch unit-to-unit offset from flush (lippage) nor 1/8 inch in 10 feet from level, or indicated slope, for finished surface of paving.

3.4 MORTAR SETTING-BED APPLICATIONS

- A. Saturate concrete sub-base with clean water several hours before placing setting bed. Remove surface water about one hour before placing setting bed.
- B. Apply mortar-bed bond coat over surface of concrete sub-base about 15 minutes before placing mortar bed. Limit area of bond coat to avoid its drying out before placing setting bed. Do not exceed 1/16-inch thickness for bond coat.
- C. Mix and place only that amount of mortar bed that can be covered with pavers before initial set. Before placing pavers, cut back, bevel edge, and remove and discard setting- bed material that has reached initial set.
- D. Place pavers before initial set of cement occurs. Immediately before placing pavers on mortar bed, apply uniform 1/16-inch- thick bond coat to mortar bed or to back of each paver with a flat trowel.
- E. Tamp or beat pavers with a wooden block or rubber mallet to obtain full contact with setting bed and to bring finished surfaces within indicated tolerances. Set each paver in a single operation before initial set of mortar; do not return to areas already set or disturb pavers for purposes of realigning finished surfaces or adjusting joints.

3.5 FIELD QUALITY CONTROL

- A. After removal of excess joint sand, check final elevations for conformance to the drawings

3.6 REPAIRING, POINTING, AND CLEANING

- A. Remove and replace unit pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.
- B. Pointing: During tooling of joints, enlarge voids or holes and completely fill with grout. Point joints at sealant joints to provide a neat, uniform appearance, properly prepared for sealant application.
- C. Cleaning: Remove excess grout from exposed paver surfaces; wash and scrub clean.
  - 1. Remove temporary protective coating as recommended by coating manufacturer and as acceptable to paver and grout manufacturers.
  - 2. Do not allow protective coating to enter floor drains. Trap, collect, and remove coating material.

END OF SECTION 32 14 00

## SECTION 328400 - IRRIGATION

### 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. Valves
- 2. Piping
- 3. Sprinklers
- 4. Specialties
- 5. Accessories
- 6. Controls
- 7. Wiring for tree and shrubbery irrigation systems

- B. Related Sections:

- 1. Section 329200 "Turf and Grasses" for turf (lawn) and meadows
- 2. Section 329300 "Plants" for trees, shrubs, and perennials

#### 1.3 DEFINITIONS

- A. Pipe sizes used in this Section are nominal pipe size (NPS) in inches. Tube sizes are standard size in inches. Equivalent SI (metric) sizes are indicated in millimeters (mm) in parentheses.
- B. Pressure piping: Piping downstream from point of connection to and including control valves. Piping is under irrigation system pressure. Piping in this category includes pressure regulators, water meters, and backflow preventers, when used.
- C. Circuit Piping: Piping downstream from control valves to irrigation system sprinklers, emitters, devices, and drain valves. Piping is under pressure (less than pressure piping) during flow.
- D. Control Valve: Manual or automatic (electrically operated) valve for control water flow to irrigation system zone.
- E. Drain Piping: Downstream from circuit piping drain valves. Piping is not under pressure.
- F. Drain Valve: Manual or automatic (pressure operated) drain valve for draining of irrigation system circuit piping.

#### 1.4 SYSTEM PERFORMANCE REQUIREMENTS

- A. Location of Sprinklers and Devices: Diagrammatic drawings are provided to show limits of coverage for permanent and temporary irrigation. Contractor shall provide irrigation layout plan for review and approval prior to installation.
- B. Minimum Water Coverage: Contractor shall be responsible for 100% coverage for all irrigated areas.
- C. Components and Installation: Capable of producing piping systems with the following minimum pressure ratings: 50 psi static, 32 psi working

1. Pressure Piping: 50 psi (static).
2. Circuit and Drain Piping: 32 psi (working).

#### 1.5 SUBMITTALS

- A. General: Submit the following according to the Conditions of the Contract and Division 1 Specification Sections:
- B. Materials List: Include sleeving, pipe, fittings, mainline components, sprinkler components, drip irrigation components, control system components, and other components shown on drawings and installation details or described herein. Include pipe sealant, wire, wire connectors, ID tags, and other miscellaneous items. Quantities of materials need not be included.
- C. Product Data: Submit manufacturer's product data including pressure rating, rated capacity, settings, and electrical data of selected models for the following:
  1. Backflow preventers, including sizing and test equipment
  2. Pressure regulators.
  3. Valves, including general duty, underground, manual and automatic control, and quick coupler types, and valve boxes.
  4. Sprinklers, including emitters, bubblers, and devices.
  5. Controls, including controller wiring diagrams.
  6. Wiring.
  7. Any other component listed on material list.
- D. Maintenance data for inclusion in "Operations and Maintenance Manual" for:
  1. Backflow preventers, including instruction for testing.
  2. Pressure regulators.
  3. Automatic control valves
  4. Sprinklers.
- E. Warranty: Manufacturer's standard warranty.

#### 1.6 QUALITY ASSURANCE

- A. Comply with requirements of utility supplying water for prevention of backflow and back-siphonage.
- B. Comply with requirements of authority with jurisdiction for irrigation systems.
- C. Product Options: Contractor shall submit a list of all irrigation components for review and approval, including manufacturer's information and model information of all components. All irrigation system valves, irrigation heads, controllers, and accessories shall be from a single source. Similar components with equal performance characteristics produced by other manufacturers may be considered, provided deviations in dimensions, operations, and other characteristics do not change design concept or intended performance as judged by the Landscape Architect. The burden of proof of product equality is on the Contractor.

#### 1.7 PROJECT CONDITIONS

- A. Perform site survey, research public utility records, and verify existing utility locations. Verify that irrigation system may be installed in compliance with original intent and reference standards.

#### 1.8 SEQUENCING AND SCHEDULING

- A. Coordinate irrigation systems work with landscape work specified in Division 2 "Landscape Work".

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer. Deliver piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.
- B. Storage: Store materials in clean, dry area in accordance with manufacturer's instructions. Keep materials in manufacturer's original, unopened containers and packaging until installation. Store plastic piping protected from direct sunlight. Support to prevent sagging and bending.
- C. Handling: Protect materials and finish during handling and installation to prevent damage

1.10 TESTING

- A. Products will be free from defects in materials and/or workmanship for a period of three years from the date of invoice. Schedule testing with Owner's Representative a minimum of three days in advance of testing.
- B. Mainline pipe jointed with rubber gaskets for threaded connections may be subjected to pressure test at any time after partial completion of backfill. Allow irrigation pipe jointed with solvent-welded PVC joints to cure at least 24 hours before testing.
- C. Subsections of mainline pipe may be tested independently, subject to review of Irrigation Engineer.
- D. Provide clean, clear water, pumps, labor, fittings, and equipment necessary to conduct tests or retests.
- E. Test Documentation
  - 1. Submit a written report of all tests to Owner. Each test must list name of test, date of test, name of the individual completing the test, name of the company completing the test. Submit test documentation to Owner within three (3) days of completing test.
  - 2. Hydraulic Pressure Test: Include starting and ending pressures. If pipe does not pass test, document reason for pressure loss.
  - 3. Copper Tracing Wire: Include voltage readings for length of tested wire. If wire does not pass test, documents reason for voltage failure.
  - 4. Control System Grounding: Include identification of each grounding equipment by the remote-control valve number and the ohms resistance to ground.
- F. Hydrostatic Pressure Test:
  - 1. Subject mainline pipe to hydrostatic pressure equal to 120 PSI for two hours. Test with mainline components installed.
  - 2. Backfill to prevent pipe from moving under pressure. Expose couplings and fittings.
  - 3. Purge air from mainline pipe before test. Attach pressure gauge to mainline pipe in test section.
  - 4. Observe pressure loss on pressure gauge. If pressure loss is greater than 5 PSI, identify reason for pressure loss. Replace defective pipe, fitting, joint, valve, or appurtenance. Repeat test until pressure loss is equal to or less than 5 PSI.
  - 5. Visually inspect irrigation pipe for leakage and replace defective pipe, fitting, joint, valve, or appurtenance. Repeat test until pipe passes test.
  - 6. Cement or caulking to seal leaks is prohibited.
- G. Operational Test:
  - 1. Activate each remote-control valve in sequence from controller. Provide either one additional personal with radio or use handheld remote to activate remote control valves from controller. Manually activating remote control valve using manual bleed mechanism at remote control valve is not an acceptable method of activation. Owner's Representative will visually observe operation, water application patterns, and leakage.

2. Replace defective remote-control valve, decoder, solenoid, two wire cable, wiring, or appurtenance to correct operational deficiencies.
3. Replace, adjust, or move water emission devices to correct operational or coverage deficiencies.
4. Replace defective pipe, fitting, joint, valve, sprinkler, or appurtenance to correct leakage problems. Cement or caulking to seal leaks is prohibited.
5. Repeat test(s) until each lateral passes all tests. Repeat tests, replace components, and correct deficiencies at no additional cost to Owner.

H. Copper Tracing Wire

1. Pass current through wire and demonstrate that wire is capable of locating all mainline pipe.
2. If wire will not pass current, locate break in circuit, repair or replace wire or splice, and test until tracer wire works in accordance for its intended use.

I. Control System Grounding:

1. Test for proper grounding of control system and two wire cable per manufacturer's recommendations. Test results must meet or exceed manufacturer's guidelines for acceptance.
2. Replace defective wire, grounding rods, or appurtenances. Repeat test until manufacturer's guidelines are met.

J. Testing Review:

1. Failure of initial testing review will require additional review. Payment of costs, including travel expenses and site visits by Owner's Representative, for additional reviews that may be required due to non-compliance with the Construction Documents will be Contractor's responsibility.

K. Field Mock Up:

1. Fabricate an on-site example of the following assemblies for demonstration prior to construction. The mock-ups must be presented to the Owner's Representative and meet approval prior to construction.
  - a. Remote Control Valve Assembly: Mock-up is to include remote control valve, wire splices, two wire cable, and decoder.
  - b. Decoder Grounding: Mock-up is to include decoder, wire splices, and grounding equipment.

1.11 CONSTRUCTION REVIEW

- A. The purpose of on-site reviews by Owner's Representative is to periodically observe work in progress, Contractor's interpretation of construction documents, and to address questions with regard to installation.
- B. Schedule reviews for irrigation system layout or testing with Owner's Representative as required by these specifications.
- C. Impromptu reviews may occur at any time during project.
- D. A review will occur at completion of irrigation system installation and Project Record Drawing submittal.

1.12 WARRANTY

- A. Products will be free from defects in materials and/or workmanship for a period of three years from the date of invoice.



- B. The warranty does not apply to damage resulting from accident, alterations, misuse, tampering, negligence, or abuse.
- C. Purchasers should be aware that normal use of these high-quality products can result in superficial damage affecting the finish. Scratches, nicks, and dents are to be considered normal wear and tear and are not the responsibility of the manufacturer.

## **PART 2 - PRODUCTS**

### **2.1 QUALITY**

- A. Use new materials without flaws or defects.

### **2.2 SUBSTITUTIONS**

- A. Bidders are not restricted to a specified brand, make, or manufacturer. All irrigation system valves, irrigation heads, controllers, and accessories shall be from a single source. Similar components with equal performance characteristics produced by other manufacturers may be considered, provided deviations in dimensions, operations, and other characteristics do not change design concept or intended performance as judged by the Landscape Architect.
- B. Pipe Sizes are referenced as minimum sizes and may be increased at Contractors option.

### **2.3 PIPES AND TUBES**

#### **A. Mainline Pipe and Fittings:**

1. Use rigid, unplasticized polyvinyl chloride (PVC) 1120, 1220 National Sanitation Foundation (NSF) approved pipe, extruded from material meeting requirements of Cell Classification 12454-A or 12454-B, ASTM Standard D1784, with integral belled end.
2. Use Class 200, SDR-21, rated at 200 PSI, conforming to dimensions and tolerances established by ASTM Standard D2241.
3. Use solvent weld pipe for mainline pipe with nominal diameter less than or equal to 3-inches. Use Schedule 40, Type 1, PVC solvent weld fittings conforming to ASTM Standards D2466 and D1784. Use primer approved by pipe manufacturer. Use solvent cement conforming to ASTM Standard D2564.
4. Mainline pipe within sleeves: Use solvent weld pipe for mainline pipe with nominal diameter 3-inches and smaller installed within sleeves.

#### **B. Lateral Pipe and Fittings:**

1. Use rigid, unplasticized polyvinyl chloride (PVC) 1120, 1220 National Sanitation Foundation (NSF) approved pipe, extruded from material meeting requirements of Cell Classification 12454-A or 12454-B, ASTM Standard D1784, with integral belled end suitable for solvent welding.
2. Use Class 160, SDR-26, rated at 160 PSI, conforming to dimensions and tolerances established by ASTM Standard D2241. Use PVC pipe rated at higher pressures than Class 160 in cases where small nominal diameters are not manufactured in Class 160. Use solvent weld pipe for lateral pipe. Use Schedule 40, Type 1, PVC solvent weld fittings conforming to ASTM Standards D2466 and D1784 for PVC pipe. Use primer approved by pipe manufacturer. Solvent cement to conform to ASTM Standard D2564, of type approved by pipe manufacturer.

#### **C. Specialized Pipe and Fittings:**

1. Copper pipe: Use Type "K" rigid pipe conforming to ASTM Standard B88.

2. Use wrought copper or cast bronze fittings, soldered, flared mechanical, or threaded joint per installation details or local code. Use a 95-percent tin and 5-percent antimony solder.
3. Use dielectric union wherever copper-based metal (copper, brass, bronze) is joined to iron-based metal (iron, galvanized steel, stainless steel).
4. Ductile iron pipe: Use Class 50 conforming to ANSI A21.51 (AWWA C151). Use mechanical joints conforming to ANSI A21.10 (AWWA C110) and ANSI A21.11 (AWWA C111).
5. Galvanized steel pipe: use Schedule 40 conforming to ASTM Standard A53. Use galvanized, threaded, standard weight, malleable iron fittings.
6. Use PVC Schedule 80 nipples and PVC Schedule 40 or 80 threaded fittings for threaded pipe connections.

#### 2.4 COPPER TRACING WIRE

- A. Use American Wire Gauge (AWG) No. 12-1 solid copper, 600 volt, Type UF or PE cable, UL approved for direct underground burial.
- B. Color: Tracing wire must be of color different from that of any active two wire cable, control wire, or common wire. Wire color shall be continuous or over entire length.
- C. Splices: Use 3M DBR/Y wire connector with waterproof sealant.

#### 2.5 MAINLINE COMPONENTS

- A. Check Valve Assembly: Contractor to provide details for review and approval.
- B. Blow Out Assembly: Contractor to provide details for review and approval.
- C. Isolation Gate Valve Assembly: Contractor to provide details for review and approval.
- D. Quick Coupling Valve Assembly: Contractor to provide details for review and approval.

#### 2.6 SPRINKLER IRRIGATION COMPONENTS

- A. Check Remote Control Valve (RVC) Assembly for Sprinkler Laterals:
  1. Contractor to provide details for review and approval.
- B. Sprinkler Assembly: Contractor to provide details for review and approval.

#### 2.7 JOINING MATERIALS

- A. Solvent Cement: ASTM F 656 primer and ASTM D 2564 solvent cement.

#### 2.8 BACKFLOW PREVENTERS

- A. Contractor to provide size, make and model for review and approval. See plans for preferred location.

#### 2.9 AUTOMATIC CONTROL SYSTEM

- A. Description: Low-voltage controller system, made for control of irrigation system automatic control valves. Controller operates on 120 volts a.c. power system, provides 24 volts a.c.

power to control valves, and includes stations for at least the number of control valves indicated.

B. Irrigation Controller Assembly:

1. Controller: See drawings and installation details for basis of design, wall mounted
2. Electrical conduit: Use PVC Schedule 40 conduit conforming to dimensions and tolerances established by ASTM Standard D-1785. Use Schedule 40, Type 1, PVC solvent weld sweep fittings for PVC conduit conforming to ASTM Standards D2466 and D1784 for buried installations. Use rigid metallic conduit with sweep elbows for above grade installations.
3. Lightning protection: As presented in drawings and installation details.
4. Wire markers: Prenumbered or labeled with indelible nonfading ink, made of permanent, nonfading material.

C. Interior Control Enclosures: Drip-proof enclosures with locking cover and 2 matching keys. Enclosure construction complies with NFPA 70 and NEMA 250, Type 12.

D. Transformer Internal-type, and suitable for converting 120 volts a.c. building power to 24 volts a.c. power.

E. Two Wire Cable from Controller to Decoders:

1. Use two wire cable per controller manufacturer's guidelines.
2. Splices
  - a. 3M DBR/Y wire connector with waterproof sealant.
  - b. Approved Equal
3. Electrical conduit: Use PVC Schedule 40 conduit conforming to dimensions and tolerances established by ASTM Standard D-1785. Use Schedule 40, Type 1, PVC solvent weld sweep fittings for PVC conduit conforming to ASTM Standards D2466 and D1784 for buried installations. Use rigid metallic conduit with sweep elbows for above grade installations.
4. Warning tape: Inert plastic film highly resistant to alkalis, acids, or other destructive chemical components likely to be encountered in soils. Three inches wide, colored red, and imprinted with "CAUTION: BURIED ELECTRIC LINE BELOW."

F. Low Voltage Control Wire from Solenoid Valve to Decoder:

1. Use American Wire Gauge (AWG) No. 14-1 solid copper, 600 volt, Type UF or PE cable, UL approved for direct underground burial for individual control wires from the decoder to each remote control valve assembly
2. Color: Use colors same as decoder station wires. Use easily distinguished colors for other control wires. Wire color shall be continuous over entire length.
3. Use 3M DBR/Y wire connector with waterproof sealant.

H. Instrumentation:

1. Contractor to provide size, make and model for review and approval. See plans for preferred location.

I. Rain Check: Install Controller with a device capable of canceling operation during periods of heavy rain. Location to be verified with Landscape Architect.

J. Other Components

1. Tools and Spare Parts: Furnish operating keys, servicing tools, test equipment, spare parts and other items indicated in drawings and specifications.

2. Other Materials: Provide other materials or equipment shown on drawings or installation details that are part of irrigation system, even though items may not have been referenced in specifications.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Investigate and determine available water supply water pressure and flow characteristics.

#### **3.2 PREPARATION**

- A. Set stakes to identify proposed sprinkler locations. Obtain landscape Architect's approval before excavation.

#### **3.3 PIPING APPLICATIONS**

- A. Refer to Part 2 of this Section for detailed specifications for pipe and fittings products listed below. Use pipe, tube, fittings, and joining methods according to the following applications. Piping in pits and above ground may be joined with flanges instead of joints indicated.
- B. Use pipe, tube, fittings, and joining methods according to the following applications.
  1. Pressure Piping Above ground: Use the following:
    - a. ASTM D 1785, Schedule 40 PVC pipe, ASTM D 2466 Schedule 40 PVC fittings, solvent cemented joints.
  2. Pressure Piping Underground: Use the following:
    - a. Main Lines - ASTM D 2466 Schedule 40 PVC, ASTM D 2466 Schedule 40 PVC fittings, and solvent cemented joints
    - b. Lateral Lines - ASTM D 1785 Class 200 PVC pipe, ASTM D 2466 Schedule 40 PVC fittings, and solvent cemented joints
    - c. HDPE Pipe: Lateral piping in sleeves under building shall be 1" HDPE.
  3. Circuit Piping: Use the following:
    - a. ASTM D 1785 Class 200 PVC pipe, ASTM D 2466 Schedule 40 PVC fittings, and solvent cemented joints.
  4. Swing Joints: Use the following:
    - a. ASTM D1785 Schedule 40 PVC pipe, ASTM D 2466 Schedule 40 PVC fittings, and solvent cemented joints. (use only for 'rotor' type heads).
    - b. Plastic piping made for this application "Funny Pipe" shall be used instead of pipe and fittings specified for all 'spray' type heads.
  5. Sleeves: ASTM D 1785, Schedule 40, polyvinyl chloride (PVC) plastic pipe; ASTM D 2466, Schedule 40, PVC plastic, socket-type fittings and solvent-cemented joints.

#### **3.4 JOINT CONSTRUCTION**

- A. Polyvinyl Chloride (PVC) Piping Solvent-Cemented Joints: Construct joints according to ASTM D 2672 and ASTM D 2855.
  1. Handling of Solvent Cements, Primers and Cleaners: Comply with procedures in ASTM F 402 for safe handling when joining plastic pipe and fittings with solvent cements.

#### **3.5 PIPING SYSTEMS – COMMON REQUIREMENTS**

- A. General Locations and Arrangements: Drawings indicate general coverage areas for permanent and temporary irrigation. Contractor to provide irrigation drawings for review and approval.
- B. Install components having pressure rating equal to or greater than system operating pressure.
- C. Install piping free of sags and bends.

- D. Locate groups of pipes parallel to each other, spaced to permit valve servicing.
- E. Install fittings for changes in direction and branch connections.

### 3.6 PIPING INSTALLATION

- A. Install underground piping according to ASTM D 2774.
- B. Lay piping on solid sub-base, uniformly sloped without humps or depressions.
  - 1. Slope exhaust header in drip system down toward drain valve minimum of ½ inch in 10 feet (1:240).
  - 2. Install polyvinyl chloride (PVC) plastic pipe in dry weather when temperature is above 40 deg F (4 deg C). Allow joints to cure at least 24 hours at temperature above 40 deg F (4 deg C) before testing, unless otherwise recommended by manufacturer.
- C. Drain Pockets for Drip System: Excavate to a minimum of 12" x 12".
  - 1. Backfill with cleaned gravel or crushed stone, graded from 3 inches (75mm) to ¾ inch (19mm) minimum.
- D. Minimum Cover: Provide following minimum cover over top of buried piping:
  - 1. Pressure Piping: Greater depth of minimum of 24 inches (915 mm) below finished grade, or not less than 18 inches (460 mm) below average local frost depth.
  - 2. Circuit Piping: 12 inches (300 mm).
  - 3. Drain Piping: 12 inches (300 mm).
  - 4. Sleeves: 24 inches (600 mm).
  - 5. Drip tube: 2"
- E. Tunneling: Install pipe under streets or other obstructions that cannot be disturbed, by tunneling, boring, or jacking.
- F. Install piping under sidewalks and paving in sleeves provided.

### 3.7 VALVE INSTALLATION

- A. Valves: Install underground valves in valve boxes.
- B. Control Valves: Install in valve control valve boxes, arranged for easy adjustment and removal. Install union on downstream side.

### 3.8 BACKFLOW PREVENTER INSTALLATION

- A. See plans for location. Contractor to provide information on manufacturer, model, and size for review and approval.

### 3.9 WATER METER INSTALLATION

- A. Install one water meter that will be dedicated to irrigation. Irrigation meter should be sized to accommodate the needs of the permanent and temporary irrigation required for the coverage areas indicated on the plans. Irrigation meter to be supplied by the City of Gretna, Louisiana. Coordinate the location of irrigation meters with City of Gretna, Louisiana.

### 3.10 SPRINKLER INSTALLATION

- A. Sprinklers: Flush circuit piping with full head of water and install sprinklers after hydrostatic test is completed.
  - 1. Install sprinklers at manufacturer's recommended heights.

2. Locate sprinklers to maintain a minimum distance of 4 inches (100 mm) from walls and other structures, unless otherwise indicated.

### 3.11 AUTOMATIC CONTROL SYSTEM INSTALLATION

- A. Install control wiring in same trench with piping.

### 3.12 CONNECTIONS

- A. Connect piping to sprinklers, devices, valves, control valves, specialties, and accessories.
- B. Connect water supplies to irrigation systems. Include backflow preventers on potable water supplies.
- C. Electrical Connections: Connect to power source, controllers, and automatic control valves.
- D. Ground system

### 3.13 FIELD QUALITY CONTROL

- A. Testing: Perform hydrostatic test of piping and valves before back-filling trenches. Piping may be tested in sections to expedite work.
  1. Cap and subject the piping system to a static water pressure of 50 psi above the operating pressure without exceeding pressure rating of piping system materials. Isolate test source and allow to stand for 4 hours. Leaks and loss in test pressure constitute defects that must be repaired.
  2. Repair leaks and defects with new materials and retest system of portion thereof until satisfactory results are obtained

### 3.14 CLEANING AND ADJUSTING

- A. Flush dirt and debris from piping before installing sprinklers and other devices.
- B. Adjust automatic control valves to provide flow rate of rated operating pressure required for each sprinkler circuit.
- C. Adjust settings of controllers and automatic control valves.

### 3.15 COMMISSIONING

- A. Starting Procedures: Follow manufacturer's written procedures. If no procedures are prescribed by manufacturers, proceed as follows:
  1. Verify that specialty valves and their accessories have been installed correctly and operate correctly.
  2. Verify that specified tests of piping are complete.
  3. Check that sprinklers and devices are correct type.
  4. Check that damaged sprinklers and devices have been replaced with new materials.
  5. Check that potable water supplies have correct type backflow preventers.
  6. Energize circuits to electrical equipment and devices.
  7. Adjust operating controls.
- B. Operational Testing: Perform operational testing after hydrostatic testing is completed, backfill is in place, and sprinklers are adjusted to final position.

3.16 DEMONSTRATION

- A. Demonstrate to Landscape Architect that system meets coverage requirements and that automatic controls function properly.
- B. Demonstrate to Owner's maintenance personnel operation of equipment, sprinklers, specialties, and accessories. Review operating and maintenance information.
- C. Provide 7 days' written notice in advance of demonstration.

3.17 WARRANTY

- A. Contractor shall warranty entire system to be complete and operational for a period of one year from the date of final project acceptance.

END OF SECTION 328400

## SECTION 329200 - TURF AND GRASSES

### 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. Fine grading and preparing lawn areas.
  - 2. Furnishing and applying new topsoil.
  - 3. Furnishing and applying soil amendments.
  - 4. Furnishing and applying fertilizers.
  - 5. Sodding new lawns
  - 6. Replanting unsatisfactory or damaged lawns.
- B. Related Sections:
  - 1. Section 311000 "Site Clearing" for topsoil stripping and stockpiling.
  - 2. Section 312300 "Earthwork" for excavation, filling and backfilling, and rough grading.
  - 3. Section 328400 "planting Irrigation" for turf irrigation
  - 4. Section 329300 "Plants" for border edgings

#### 1.3 DEFINITIONS

- A. Finish Grade: Elevation of the finished surface of planting soil.
- B. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- C. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- D. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- E. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- F. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or top surface of a fill or backfill before planting soil is placed.
- G. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- H. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil, but in disturbed areas such as urban environments, the surface soil can be subsoil.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
  - 1. Pesticides and Herbicides: Include product label and manufacturer's application instructions specific to this Project.
  - 2. Product data for Soil Amendments and Fertilizer

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified landscape Installer.



- B. Product Certificates: For soil amendments and fertilizers, from the manufacturer.
- C. Material Test Reports: For standardized ASTM D 5268 topsoil and imported or manufactured topsoil.
- D. Maintenance Instructions: Recommended procedures to be established by the Owner for maintenance of turf during a calendar year. Submit before the expiration of the required initial maintenance periods.

#### 1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful turf establishment.
  - 1. Experience: Five years' experience in turf installation in addition to requirements in Section 014000 "Quality Requirements."
  - 2. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
  - 3. Pesticide Applicator: State licensed, commercial.
- B. Soil-Testing Laboratory Qualifications: An independent laboratory or university laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
- C. Soil Analysis: For each unamended soil type, furnish soil analysis and a written report by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; sodium absorption ratio; deleterious material; pH; and mineral and plant-nutrient content of the soil.
  - 1. Testing methods and written recommendations shall comply with USDA's Handbook No. 60.
  - 2. The soil-testing laboratory shall oversee soil sampling, with depth, location, and number of samples to be taken per instructions from Landscape Architect. A minimum of three representative samples shall be taken from varied locations for each soil to be used or amended for planting purposes.
  - 3. Report the suitability of tested soil for turf growth.
    - a. Based on the test results, state recommendations for soil treatments and soil amendments to be incorporated. State recommendations in weight per 1000 sq. ft. or volume per cu. yd. for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.
    - b. Report the presence of problem salts, minerals, or heavy metals, including aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, and vanadium. If such problem materials are present, provide additional recommendations for corrective action.
- D. Preinstallation Conference: Conduct a conference at the Project site.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Sod: Harvest, deliver, store, and handle sod according to requirements in "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" in TPI's "Guideline Specifications to Turfgrass Sodding." Deliver sod in time for planting within 24 hours of harvesting. Protect sod from breakage and drying.
- B. Bulk Materials:
  - 1. Do not dump or store bulk materials near structures, utilities, walkways, and pavements, or on existing turf areas or plants.
  - 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
  - 3. Accompany each delivery of bulk fertilizers, lime, and soil amendments with appropriate certificates.

#### 1.8 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to the manufacturer's written instructions.
- B. Planting Season: Install sod during normal planting seasons for the type of lawn work required. Correlate planting with specified maintenance periods to provide required maintenance from the date of Substantial Completion.

1.9 MAINTENANCE SERVICE

- A. Initial Turf Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until acceptable turf is established but for not less than the following periods.
  - 1. Sodded Turf: 30 days from the date of Substantial Completion.
- B. Maintenance shall consist of watering, replanting, maintaining existing grades, and repair of erosion damage as specified and any other work incidental to proper maintenance. One mowing shall be performed at the time that the grass obtains a height of two inches (2"). At that time, it shall be mowed to a height of one and a half inches (1-1/2"). Repeat mowing as required to maintain the specified height without cutting more than 40 percent of the grass height. Remove no more than 40 percent of grass-leaf growth in initial or subsequent mowings, to maintain a grass height of 1½" - 2". The maintenance period shall continue for a 180-day period after the completion of turf operations or until a uniform stand of grass is established.
- C. Maintenance watering shall be applied based on soil moisture and maturity of installed plant material. Water shall be applied over the entire planted area until the soil is thoroughly wet to a depth of three (3") inches. During and following effective rainfall, watering shall be discontinued. If no irrigation system is available, water shall be applied using portable aluminum lines with rotating sprinklers.
- D. When the surface to be grassed becomes gullied or otherwise damaged or repair work is required due to faulty operations or negligence on the part of the contractor, repair work shall be performed at no additional cost to the owner.
- E. Inspection and Acceptance: Final acceptance will be made on completion of a 180-day maintenance period. Acceptance of the established turf will be determined by visual inspection. The existence of erosion problems or dead and drying sod will not be acceptable. A healthy growing turf is expected with not more than five percent (5%) bare areas. Sodded lawns will be acceptable provided all requirements, including maintenance, have been complied with, and a healthy uniform close stand of the specified grass is established, free of weeds, bare spots, and irregularities.
- F. Post fertilization: Apply fertilizer to the lawn after first mowing and when the grass is dry.
  - 1. Use a fertilizer that will provide actual nitrogen of at least 1 lb. per 1000 sq. ft. of lawn area.

PART 2 - PRODUCTS

2.1 TURFGRASS SOD

- A. Turfgrass Sod: Certified Number 1 Quality/Premium, including limitations on thatch, weeds, diseases, nematodes, and insects, complying with "Specifications for Turfgrass Sod Materials" in TPI's "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted.
- B. Strongly rooted 'Celebration' Bermuda sod, not less than 3 years old, from an off-site source; free of weeds, undesirable plants, large stones, and other materials detrimental to the development and maintenance of the lawn. Sod shall consist of ninety-five (95%) of the specified grass ('Celebration' Bermuda). Sod that fails to meet requirements shall be rejected.

2.2 INORGANIC SOIL AMENDMENTS

- A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
  - 1. Class: T, with a minimum of 99 percent passing through No. 8 sieve and a minimum of 75 percent passing through No. 60 sieve.
  - 2. Provide lime in form of ground dolomitic limestone.
- B. Aluminum Sulfate: Commercial grade, unadulterated.

2.3 ORGANIC SOIL AMENDMENTS

- A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing 1/2-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

1. Organic Matter Content: 50 to 60 percent of dry weight.
  2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.
- B. Sphagnum Peat: Partially decomposed sphagnum peat moss, finely divided or of granular texture, with a pH range of 3.4 to 4.8.
- C. Manure: Well-rotted, unbleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.

## 2.4 FERTILIZERS

### A. Granular Fertilizer:

1. Complete Fertilizer of 1-2-2 ratio.
2. Gypsum or dolomite calcium fertilizer.
3. Urea or IBDU fertilizer.
4. Rates to be determined based on soil fertility analysis and environmental conditions.

### B. Liquid Biological and Biostimulant – Post sod installation

1. Verma Plex® Concentrate
  - a. Apply 15 ounces per 1000 SF active ingredient with 3 gallons total spray volume per 1000 SF
2. 6-20-6
  - a. Apply with VermaPlex at 15 ounces per 1000 SF active ingredient and a total spray volume of 3 gallons per 1000 SF.
3. Do not mix with pesticides.
4. Supplier:
  - a. Southern Organics & Supply  
4813 East Fork Lane  
Monroe, NC 28110  
Phone: 866-240-8501  
Web: [www.southernorganicsandsupply.com](http://www.southernorganicsandsupply.com)

## 2.5 PLANTING SOILS

- A. Planting Soil: ASTM D 5268 topsoil, with pH range of 5.5 to 7, a minimum of 4 percent organic material content; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth. Mix ASTM D 5268 topsoil with soil amendments and fertilizer at rates recommended
- B. Expanded Shale Soil Mix: This mix shall only be used for the base material and shall consist of:
1. 40% Expanded Shale - Size 3/8x10
  2. 60% Topsoil
- C. General: Pesticide, registered and approved by EPA, acceptable to authorities having jurisdiction, and of A type recommended by the manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- D. Pre-Emergent Herbicide (Selective and Non-Selective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas to be planted for compliance with requirements and other conditions affecting performance.
1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
  2. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
  3. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.

4. Uniformly moisten excessively dry soil that is not workable and which is too dusty.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Landscape Architect and replace it with new planting soil.

### 3.2 PLANTING SOIL PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
  1. Protect grade stakes set by others until directed to remove them.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- C. Preparation of Changed Grades: Where lawns are to be planted in areas altered or disturbed by excavating, grading, or surface soil stripping operations, or where existing topsoil is sufficient to support plant growth, prepare the soil as follows:
  1. Limit preparation to areas that will be planted in the immediate future.
  2. Loosen subgrade to a maximum depth of one inch (1"). Remove stones larger than 1-1/2 inches in any dimension and all sticks, roots, rubbish, and other extraneous matter. Agricultural lime, if required, shall be spread prior to scarifying the areas.
  3. Apply soil amendments and fertilizers with topsoil at the rates recommended. Delay mixing fertilizer if planting does not follow placing of planting soil within a few days. Mix lime with dry soil before mixing fertilizer. Either mix soil before spreading or apply soil amendments on the surface of the topsoil and mix thoroughly into the topsoil before planting.
  4. Spread planting soil to a minimum depth of two inches (2") and as required to meet thickness, grades, and elevations shown, but not less than required to meet finish grades after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
- D. Grade lawns and grass areas to a smooth, even surface with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit fine grading to areas that can be planted in the immediate future. Remove trash, debris, and stones larger than 1-1/2 inches in any dimension, and other objects that may interfere with planting or maintenance operations.
- E. Moisten prepared lawn areas before planting when the soil is dry. Water thoroughly and allow the surface to dry before planting. Do not create muddy soil.
- F. Restore prepared areas if eroded or otherwise disturbed after fine grading and before planting.
- G. Before planting, obtain Landscape Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

### 3.3 SODDING NEW LAWNS

- A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if the ground is frozen or muddy.
- B. Sod shall be placed in areas designated on the drawings. Sod is to be installed prior to October 15<sup>th</sup>.
  1. Sod shall be harvested in 42-inch and 21-inch widths. The depth of soil harvested for sod shall be 0.25 to 0.5 inches measured from below the thatch layer.
  2. When placing sod, the Contractor shall use great care so as not to disturb the finished grades of the rootzone mix. The contractor will make provisions to avoid rutting of the Rootzone Mix. Equipment used to lay sod shall have large floatation tires. Equipment is not allowed to drive over laid sod.
  3. The first row of sod should, if possible, be laid in a straight line with subsequent rows placed parallel and tightly against one another. Lateral joints shall be staggered 36 inches minimum to promote more uniform growth and strength. Do not stretch or overlap sod pieces. All joints are butted tight in order to prevent voids. Lap ends of sod rolls 6" and cut new tight joint.
  4. Lay sod across the angle of slopes exceeding 1:3.
  5. Anchor sod on slopes exceeding 1:6 with wood pegs or steel staples spaced as recommended by the sod manufacturer but not less than 2 anchors per sod strip to prevent slippage.
- C. Saturate sod with fine water spray within two hours of planting. During the first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches below the sod.

3.4 SATISFACTORY TURF

- A. Turf installations shall meet the following criteria as determined by the Landscape Architect.
  - 1. Turf has rooted into the Rootzone mix to a depth of 3 inches.
  - 2. The turfgrass surface has a smooth appearance.
  - 3. Turf is free of dead or bare spots in excess of 3 square inches in 5,000 SF.
  - 4. Replant lawns that are unsatisfactory.
- B. Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory.

3.5 PESTICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents in accordance with requirements of authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.

3.6 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.
- C. Remove nondegradable erosion-control measures after grass establishment period.

END OF SECTION 329200

## SECTION 329300 - PLANTS

### 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. Excavation as required for all planting and backfilling tree pits.
2. Minor filling and leveling as necessary to ensure the survival of plants in all areas.
3. Furnishing, transporting, preparing, and placing prepared topsoil for plant beds.
4. Bed preparation.
5. Furnishing and planting of trees, shrubs, and ground covers as indicated on Drawings.
6. Tree Stabilization.
7. Samples and analyses for approval.
8. Maintenance during the Period of Establishment (365 days), and one-year plant material guarantee.
9. Landscape edging
10. Replacement of unsatisfactory plant material.

B. Related Sections:

1. Section 024119 "Tree Protection and Trimming" for protecting, trimming, pruning, repairing, and replacing existing trees to remain that interfere with, or are affected by, execution of the Work.
2. Section 311000 "Site Clearing" for protection of existing trees and plantings, topsoil stripping and stockpiling, and site clearing.
3. Section 312300 "Earthwork " for excavation, filling, rough grading, and subsurface aggregate drainage and drainage backfill materials.
4. Section 329200 "Turf and Grasses" for turf (lawn) and meadows

#### 1.3 DEFINITIONS

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Balled and Burlapped Stock: Plants dug with firm, natural balls of earth in which they were grown, with ball size not less than the diameter and depth recommended by ANSI Z60.1 for type and size of plant required; wrapped with burlap, tied, rigidly supported, and drum laced with twine with the root flare visible at the surface of the ball as recommended by ANSI Z60.1.
- C. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching the sides of the container and maintaining a firm ball when removed from the container. The container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for the type and size of plant required.
- D. Finish Grade: Elevation of the finished surface of planting soil.
- E. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- F. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- G. Pests: Living organisms that occur where they are not desired, or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents

(gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.

- H. Planting Area: Areas to be planted.
- I. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- J. Plant; Plants; Plant Material: These terms refer to vegetation in general, including trees, shrubs, vines, ground covers, ornamental grasses, bulbs, corms, tubers, or herbaceous vegetation.
- K. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.
- L. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.
- M. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
- N. Subsoil: All soil beneath the topsoil layer of the soil profile, typified by the lack of organic matter and soil organisms.
- O. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.
- P. Contractor: The term "Contractor" as referred to in this section only means the Landscape Contractor. The Landscape Contractor shall be currently licensed to do landscape contracting work in the State of Alabama.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated, including soils.
  - 1. Plant Materials: Include botanical name, common name, quantities, sizes, quality, and sources for plant materials.
  - 2. Pesticides and Herbicides: Include product label and manufacturer's application instructions specific to the Project.
  - 3. Plant Photographs: Include color photographs in digital format of each required species and size of plant material as it will be furnished to the Project. Take photographs from an angle depicting the true size and condition of the typical plant to be furnished. Include a scale rod or other measuring device in each photograph. For species where more than 20 plants are required include a minimum of three photographs showing the average plant, the best quality plant, and the worst quality plant to be furnished. Identify each photograph with the full scientific name of the plant, plant size, and name of the growing nursery.
  - 4. Product data for Soil Amendments and Fertilizer
- B. Samples for Verification: For each of the following:
  - 1. Mulch: 1-quart volume of each organic mulch required; in sealed plastic bags labeled with the composition of materials by weight percentage and mulch source. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of color, texture, and organic makeup.
  - 2. Edging Materials and Accessories: Manufacturer's standard size, to verify the color selected.
  - 3. Tree Stabilization System: Submit 1 full staking system of each type for review

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified landscape Installer. Include a list of similar projects completed by the Installer demonstrating the Installer's capabilities and experience. Include project names, addresses, and year completed, and include names and addresses of owners' contact persons.

- B. Product Certificates: For each type of manufactured product, from the manufacturer, and complying with the following:
  - 1. Manufacturer's certified analysis of standard products.
  - 2. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.
- C. Material Test Reports: For standardized ASTM D 5268 topsoil existing native surface topsoil existing in-place surface soil and imported or manufactured topsoil.
- D. Maintenance Instructions: Recommended procedures to be established by the Owner for the maintenance of plants during a calendar year. Submit before the expiration of the required initial maintenance periods.
- E. Warranty: Sample of special warranty.

1.6 APPLICABLE STANDARDS

- A. Work shall be in strict accordance with sound nursery practice. The following documents, used as standards, are to be considered part of these Specifications.
  - 1. American Standard for Nursery Stock, Latest edition, as published by the American Association of Nurserymen, Inc.
  - 2. Standardized Plant Names, latest edition, as adopted by the American-Joint Committee on Horticultural Nomenclature.
  - 3. Grades and Standards for Landscape Materials, latest edition, as prepared by the Louisiana Association of Nurserymen, Inc.

1.7 SPECIAL LANDSCAPE PROVISIONS

- A. Contractor: The term "Contractor" as referred to in this section only means the Landscape Contractor. The Landscape Contractor shall be currently licensed to do landscape contracting work in the State of Alabama.
- B. Water: It is the Contractor's responsibility to ensure proper scheduling and quantity of watering of all plant material.
- C. Finished Grading: It shall be the Contractor's responsibility to do whatever additional fine grading may be required to bring areas to be planted back up to the existing finished grades or to grades specified on the Drawings or these Specifications. This shall also apply to existing slopes, berms, or lawn areas damaged during the Work herein, and the Contractor shall replace or repair such existing area to return it to its original grade or condition.
- D. Disposal of Waste Materials: Reusable items are to be removed and stored in such a manner that they may be used again. The Owner shall have priority for the selection of salvaged equipment and materials. Any excess soil and/or other materials determined to remain as the property of the Owner shall be removed and delivered to a location as designated by the Owner. Materials not retained by the Owner shall become the property of the Contractor and shall be removed from the site by the Contractor.
- E. Period of Establishment and Replacement
  - 1. Upon the completion of planting, and providing the plants are in place, living, and conform to these Specifications, this portion of the Contract will be given provisional acceptance.
  - 2. The Contractor shall be responsible for replacing dead, damaged, or unhealthy plant materials and in general insuring proper plant growth by watering as needed for a Period of Establishment, which shall be 365 calendar days after the provisional acceptance is made. Plant materials shall be guaranteed for a period of one year after provisional acceptance.
  - 3. Plant materials, which have partially died so that the shape, size, or symmetry has been damaged, shall be considered subject to replacement. In such cases, the opinion of the owner shall be final.
  - 4. Plants used for replacement shall be of the same quantity, size, kind, and quality as those originally planted, and they shall be planted as originally specified. This extra



work, including materials, labor, and equipment used in replacements, shall be at no cost to the Owner. Replaced plants shall carry the same establishment period as the original. Damage, including ruts in lawn or bed areas, existing utilities, paving, and other improvements, incurred in making replacements shall be immediately repaired to the satisfaction of the Owner.

5. At the direction of the Owner, plants may be replaced at the start of the next year's planting or digging season, but in such cases, dead plants shall be removed from the premises immediately.
6. The Contractor agrees that for the Period of Establishment, he will water the plants during dry periods.
7. This replacement guarantee does not apply where plants die after final acceptance because of injury by storm, hail, insects and diseases, or vandalism.
8. Final acceptance will be made only if all plants are in place, living, and in conformance with the Drawings and these special provisions.

#### 1.8 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced and qualified Installer who has completed landscaping work similar in material, design, and extent to that indicated for this Project and with a record of successful plant establishment.
  1. Experience: Five years of experience in landscape installation in addition to requirements in Section 014000 "Quality Requirements."
  2. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on the Project site when work is in progress.
  3. Maintenance Proximity: Not more than three hours' normal travel time from the Installer's place of business to the Project site.
  4. Pesticide Applicator: State licensed, commercial.
- B. Soil-Testing Laboratory Qualifications: An independent laboratory or university laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in the types of tests to be performed.
- C. Soil Analysis: For each unamended soil type, furnish soil analysis and a written report made by a qualified independent soil-testing agency stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; sodium absorption ratio; deleterious material; pH; and mineral and plant-nutrient content of the soil.
  1. Testing methods and written recommendations shall comply with USDA's Handbook No. 60.
  2. The soil-testing laboratory shall oversee soil sampling; with depth, location, and the number of samples to be taken per instructions from the Landscape Architect. A minimum of three representative samples shall be taken from varied locations for each soil to be used or amended for planting purposes.
  3. Report the suitability of tested soil for plant growth.
    - a. Based upon the test results, state recommendations for soil treatments and soil amendments to be incorporated. State recommendations in weight per 1000 sq. ft. or volume per cu. yd. for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.
    - b. Report the presence of problem salts, minerals, or heavy metals, including aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, and vanadium. If such problem materials are present, provide additional recommendations for corrective action.
- D. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.
- E. Measurements: Measure according to ANSI Z60.1. Do not prune to obtain the required sizes.
  1. Trees and Shrubs: Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container-grown stock. Measure the main body of the tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper

measurements 6 inches above the root flare for trees up to 4 inches in caliper size, and 12 inches above the root flare for larger sizes.

2. Other Plants: Measure with stems, petioles, and foliage in their normal position.

F. Plant Material Observation: Landscape Architect may observe plant material either at the place of growth or at the site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Landscape Architect retains the right to observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and to reject unsatisfactory or defective material at any time during the progress of work. Remove rejected trees or shrubs immediately from the Project site.

1. Notify Landscape Architect of sources of planting materials seven days in advance of delivery to the site.

G. Pre-installation Conference: Conduct a conference at the Project site.

#### 1.9 DELIVERY, STORAGE, AND HANDLING

A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of the manufacturer, and an indication of conformance with state and federal laws if applicable.

B. Bulk Materials:

1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.

2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.

3. Accompany each delivery of bulk fertilizers, lime, and soil amendments with appropriate certificates.

C. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.

D. Handle planting stock by the root ball.

E. Store bulbs, corms, and tubers in a dry place at 60 to 65 deg. F until planting.

F. Deliver plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect them from weather and mechanical damage, and keep roots moist.

1. Set balled and burlapped stock on the ground and cover the rootball with soil, peat moss, sawdust, or other acceptable material.

2. Do not remove container-grown stock from containers before the time of planting.

3. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but a not overly-wet condition.

#### 1.10 PROJECT CONDITIONS

A. Field Measurements: Verify actual grade elevations, service and utility locations, irrigation system components, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.

B. Interruption of Existing Services or Utilities: Do not interrupt services or utilities to facilities occupied by the Owner or others unless permitted under the following conditions and then only after arranging to provide temporary services or utilities according to the requirements indicated:

1. Notify Landscape Architect and Owner no fewer than three days in advance of the proposed interruption of each service or utility.
  2. Do not proceed with the interruption of services or utilities without the Landscape Architect's or Owner's written permission.
- C. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from the date of Substantial Completion.
1. Spring Planting: March 1 – May 31.
  2. Fall Planting: September 1 – October 31.
- D. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to the manufacturer's written instructions and warranty requirements.
- E. Coordination with Turf Areas (Lawns): Plant trees, shrubs, and other plants after finish grades are established and before planting turf areas unless otherwise indicated.
1. When planting trees, shrubs, and other plants after planting turf areas, protect turf areas, and promptly repair damage caused by the planting operations.

#### 1.11 WARRANTY

- A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within the specified warranty period.
1. Failures include, but are not limited to, the following:
    - a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by the Owner, or incidents that are beyond the Contractor's control.
    - b. Structural failures including plantings falling or blowing over.
    - c. Faulty performance of tree stabilization and metal edgings.
    - d. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
  2. Warranty Periods from Date of Substantial Completion:
    - a. Trees, Shrubs, Vines, and Ornamental Grasses: 12 months.
    - b. Ground Covers, Biennials, Perennials, and Other Plants: 12 months.
    - c. Annuals: Three months.
  3. Include the following remedial actions as a minimum:
    - a. Immediately remove dead plants and replace them unless required to plant in the succeeding planting season.
    - b. Replace plants that are more than 25 percent dead or in an unhealthy condition at the end of the warranty period.
    - c. A limit of one replacement for each plant will be required except for losses or replacements due to failure to comply with requirements.
    - d. Provide extended warranty for a period equal to the original warranty period, for replaced plant material.

#### 1.12 MAINTENANCE SERVICE

- A. Initial Maintenance Service for Trees and Shrubs: Provide maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established but for not less than the maintenance period below.
1. Maintenance Period: Twelve (12) months from the date of Substantial Completion.

- B. Initial Maintenance Service for Ground Cover and Other Plants: Provide maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established but for not less than the maintenance period below.
  - 1. Maintenance Period: Twelve (12) months from the date of Substantial Completion.
- C. Maintenance Plan: Contractor shall provide a maintenance plan to the owner for all bed areas, groundcover, shrubs and trees; including all watering, weed prevention, fertilization, pruning, and other maintenance regimes.

## PART 2 - PRODUCTS

### 2.1 PLANT MATERIAL

- A. General: Furnish No. 1 grade or better nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant Schedule or Plant Legend shown on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
  - 1. Trees with damaged, crooked, or multiple leaders; tight vertical branches where the bark is squeezed between two branches or between branch and trunk ("included bark"); crossing trunks; cut-off limbs more than 3/4 inch in diameter; or with stem girdling roots will be rejected.
  - 2. Collected Stock: Do not use plants harvested from the wild, from native stands, from an established landscape planting, or not grown in a nursery unless otherwise indicated.
- B. Quality and Size
  - 1. Specific requirements concerning the various species, sizes, and manner in which they are to be furnished are shown on the Plans and Plant List.
  - 2. Provide plants of sizes, grades, and root ball or container sizes complying with ANSI Z60.1 for types and forms of plants required. Plants of a larger size may be used if acceptable to Landscape Architect, with a proportionate increase in the size of containers or root balls.
  - 3. Plants and trees shall equal or exceed the measurements specified in the Plant List, which are minimum acceptable sizes. They shall be measured before pruning, with branches in normal position. Dimensions for height and spread as contained herein refer to the main body of the plant and not from branch tip to branch tip. No pruning of branches to obtain the required height shall be done before the plants are delivered to the site unless so approved by the Owner.
  - 4. Stock furnished in a size range specified shall be interpreted to mean that not less than fifty percent (50%) shall be of the maximum size specified.
  - 5. The determining measurements for the trees shall be the caliper and/or height as described in the Plant List. Caliper shall be taken six (6) inches above the ground when the tree is in a natural position.
  - 6. Plants larger in size than specified in the Plant List may be used if approved by the Owner, but the use of larger plants shall not increase the contract price. If the use of larger plants is approved, the ball of earth shall be increased in proportion to the size of the plant.
  - 7. Plants shall have a habit growth, which is normal for the species, and shall be sound, healthy, vigorous, and free from insect pests, plant diseases, injuries, and aftereffects thereof.
  - 8. Nursery-grown plants shall mean plants, which are healthy, vigorous, plants, lined out in rows in a nursery and which are cultivated, sprayed, pruned, and fertilized in accordance with good horticulture practice.
  - 9. No trees, which have had their leaders cut, or have been damaged so that cutting is necessary, will be accepted.
  - 10. Plants lacking compactness or proper proportions and plants injured by being planted too close in nursery rows will not be accepted.
  - 11. Plants shall be freshly dug or containerized; neither heeled-in plants nor plants from cold storage will be accepted. Nursery-grown plants shall have been transplanted or root pruned at least once in the past three years.

12. Plants designated "B&B" in the Plant List shall be balled and burlapped. Requirements for the measurement, branching, grading, quality, balling and burlapping of the plants generally follow the code of standards in the "American Standard of Nursery Stock". They shall be dug with firm, natural balls of earth sufficient diameter and depth to encompass the plant. Balls shall be firmly wrapped with burlap or similar material and bound with twine or cord. Plants with a rootball greater than or equal to 20 inches in diameter shall be placed in a properly sized wire basket for transport and handling. After planting, the wire basket is to be cut away and removed. Any plant with a loose soil ball or broken ball at the time of planting will be rejected.
  13. The balls of "B&B" plants, which cannot be planted immediately on delivery, shall be covered with moist soil or mulch, or other protection from drying winds and sun. Bare-rooted plants will not be allowed. Plants shall be watered as necessary by the Contractor until planting.
  14. Plants grown in containers shall be fully rooted throughout the earth ball within the container, but not root bound. Container plants must be acclimated to area conditions.
- C. Shape and Form:
1. Plant material shall be symmetrical, typical for the variety and species, and shall conform to the measurements specified in the Plant List. Plants used where symmetry is required shall be matched as nearly as possible.
  2. Plants meeting the requirements specified in the Plant List, but not possessing a normal balance between height and spread will be rejected.
  3. No plant shall be bound with wire or rope at any time so as to damage the bark or break the branches. After planting, wires and ropes will be removed.
- D. Inspection / Rejection: The Landscape Architect may inspect plants at the place of growth, but such inspection does not preclude the right of rejection on site. Any materials may be rejected if, in the opinion of the Landscape Architect, such do not meet the requirements of the Plant List, Drawings, or Specifications. Rejected materials shall be removed from the site by the Contractor at no cost to the Owner.
- E. Plant Material Selection: Contractor shall make provision for the Landscape Architect's approval of all plant materials to be used prior to installation (except those plant materials pre-selected by the Landscape Architect). Approval of plant material may require a site visit to the nursery or field where the material is grown. The expense of any site visit for plant material approval/selection will be the responsibility of the contractor.
- F. Substitutions: Will not be permitted without the approval of the Landscape Architect. If proof is submitted that any plant specified is not reasonably obtainable, a proposal will be considered for the use of the nearest equivalent size or variety with an equitable adjustment of the Contract price. Notification of possible substitutions prior to award of Contract will be made at least **7 DAYS** prior to bid opening.
- G. Quantities: Quantities necessary to complete the planting as shown and located on the Drawings shall be furnished. Dimensions for ground cover beds have, in all instances, been established from scaled drawings. It is the Contractor's responsibility to check these dimensions on the site and allow for the correct quantity of plants accordingly.
- H. Root-Ball Depth: Furnish trees and shrubs with root balls measured from the top of the root ball, which shall begin at root flare according to ANSI Z60.1. Root flare shall be visible before planting.
- I. Labeling: Label each plant of each variety, size, and caliper with a securely attached, waterproof tag bearing a legible designation of the common name and full scientific name, including genus and species. Include nomenclature for hybrid, variety, or cultivar, if applicable for the plant as shown on Drawings.
- J. If formal arrangements or consecutive order of plants is shown on Drawings, select stock for uniform height and spread, and number the labels to assure symmetry in planting.
- K. Annuals and Biennials: Provide healthy, disease-free plants of species and variety shown or listed, with well-established root systems reaching to the sides of the container to maintain a firm ball, but not with excessive root growth encircling the container. Provide only plants that are acclimated to outdoor conditions before delivery and that are in bud but not yet in bloom.

## 2.2 SOIL PREPARATION MATERIAL

- A. Topsoil: Topsoil shall be fertile, friable soil obtained from well drained arable land. It shall be free draining, non-toxic and capable of sustaining healthy plant growth. Topsoil shall be reasonably free of calcium carbonate, subsoil, refuse, roots, and other deleterious substances. The contractor shall furnish a written soil analysis prepared by an accredited soil analyst. The analysis shall indicate pH, total soluble salts, and plasticity index, and particle size gradation.
- B. Sand: Sand shall be loose, granular soil containing particles smaller than gravel but coarser than silt. Sandy soil shall obtain a minimum of 90% sand and no greater than 5% clay.
- C. Peat Moss: Peat moss shall be imported Canadian sphagnum peat moss, brown, low in content of woody material, and free of any mineral matter harmful to plant life. Peat moss shall have an acid rating of approximately 4.5 pH and have a water absorbing capacity of 1100 to 1200 % by weight. Peat moss shall be thoroughly pulverized before use except when used as a topdressing. No native or sedge peats shall be approved.
- D. Organic Soil Conditioner: Organic soil conditioner shall be partially decomposed ground pine bark. Sawdust will not be accepted. Particle size and surface area shall be such as to resist displacement by wind or by surface stormwater or irrigation runoff for two growing seasons.
- E. Commercial Fertilizer: Fertilizer shall be a complete, slow-release, 12-6-6 fertilizer or approved alternate delivered in original unopened containers bearing the manufacturer's guaranteed analysis. To be applied at the manufacturer's recommended rate.
- F. Herbicide: Snapshot brand pre-emergent herbicide manufactured by Dow Agra or approved equal, applied at manufacturer's recommendations.
- G. Topdressing: Pine straw mulch shall be used as topdressing for all beds and newly planted tree areas.
- H. Composted Cow Manure: Composted cow manure shall be a minimum of 50% cow manure by weight. The contractor is to provide a sample and analysis for approval by Landscape Architect.
- I. Standard Planting Mix: The Planting Mix for all bed areas and pits shall consist of:
  - 1. 1 CY Organic Soil Conditioner per 50SF of bed area
  - 2. 1 CY Composted Cow Manure per 150SF of bed area
  - 3. 1 3.8CF Bale of Peat Moss per 50SF of bed area
  - 4. Sandy Topsoil may be added to the planting mix if the existing soil is of poor quality. The Landscape Architect will make this determination prior to the beginning of work.
  - 5. Commercial Fertilizer and Pre-emergent Herbicide per manufacturer's recommendations.
  - 6. Substitutions may be made on the advice of the Landscape Architect.

## 2.3 FERTILIZERS

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
  - 1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.
- B. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium.

## 2.4 MULCHES

- A. Pine straw Mulch: Shall be pine straw of sufficient character to resist displacement by wind or stormwater or by irrigation runoff. Pine straw to be freshly harvested, uniform in color, and free of deleterious materials. The contractor is required to submit a sample to Landscape Architect for approval prior to placing. Pine Straw Mulch shall be used as topdressing for all bed and newly planted tree areas.

- B. Decomposed Shredded Hardwood Mulch: This shall be premium grade decomposed shredded hardwood of sufficient character to resist displacement by wind or stormwater or by irrigation runoff. Decomposed shredded hardwood to be uniform in color and free of deleterious materials. The contractor is required to submit a sample to the Landscape Architect for approval prior to placing. Decomposed Shredded Hardwood Mulch shall be used beneath existing sand live oaks.

## 2.5 PESTICIDES & HERBICIDES

- A. General: Pesticide registered and approved by EPA, acceptable to authorities having jurisdiction, and of the type recommended by the manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent Herbicide (Selective and Non-Selective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Non-Selective): Effective for controlling weed growth that has already germinated.

## 2.6 TREE STABILIZATION MATERIALS

- A. Root-Ball Stabilization Materials:
  - 1. Root-Ball Stabilization Devices: At- or below-grade stabilization systems to secure each new planting by root ball; sized per manufacturer's written recommendations unless otherwise indicated.
    - a. Products: Subject to compliance with requirements, provide the following or approved equal:
      - 1) Foresight Products, LLC; Duckbill Rootball Fixing System  
6430 East 49th Drive  
Commerce City, CO 80022  
USA Contact: Matthew Esquibel  
Phone: 800-325-5360 / 303 286-8955  
E-mail: [mesquibel@earthanchor.com](mailto:mesquibel@earthanchor.com)
      - 2) Tree Frog Environmental Products; Tree Frog RBK System  
411 N. Donnelly St  
Mount Dora, FL 32757  
Phone: 1-352-735-7411  
Fax: 1-352-735-7412  
E-mail: [info.treefrogpe@gmail.com](mailto:info.treefrogpe@gmail.com)

## 2.7 LANDSCAPE EDGINGS

- A. Steel Edging: Standard commercial-steel edging, rolled edge, fabricated in sections of standard lengths, with loops stamped from or welded to the face of sections to receive stakes.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equal:
    - a. COL-MET  
3333 Miller Park South  
Garland, TX 75042  
Phone : 1-972-494-3900  
Toll free: 1-800-829-8225  
Email: [sales@colmet.com](mailto:sales@colmet.com)
    - a. Dura-Edge by J.D. Russell Company  
129 Second St.  
Henderson, KY 42420  
Phone : 1-270-826-7008  
Toll free: 1-800-888-6872  
Email: [jdr4@mindspring.com](mailto:jdr4@mindspring.com)

2. Edging Size: ¼ inches thick by 4 inches deep.
3. Stakes: Tapered steel, a minimum of 12 inches long.
4. Accessories: Standard tapered ends, corners, and splicers.
5. Finish: Raw steel

## 2.8 MISCELLANEOUS PRODUCTS

- A. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to the manufacturer's written instructions.
- B. Burlap: Non-synthetic, biodegradable.
- C. Mycorrhizal Fungi: Dry, granular inoculant containing at least 5300 spores per lb of vesicular-arbuscular mycorrhizal fungi and 95 million spores per lb of ectomycorrhizal fungi, 33 percent hydrogel, and a maximum of 5.5 percent inert material.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas to receive plants for compliance with requirements and conditions affecting installation and performance.
  1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
  2. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
  3. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
  4. Uniformly moisten excessively dry soil that is not workable and which is too dusty.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Landscape Architect and replace with new planting soil.

### 3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas, and existing plants from damage caused by planting operations.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- C. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain the Landscape Architect's acceptance of the layout before excavating or planting. Make minor adjustments as required.
- D. Layout plants at locations directed by Landscape Architect. Stake locations of individual trees and shrubs and outline areas for multiple plantings.
- E. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.
  1. If deciduous trees or shrubs are moved in full leaf, spray with antidesiccant at the nursery before moving and again two weeks after planting.



- F. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect them from wind and other damage during digging, handling, and transportation.

### 3.3 PLANTING AND BED PREPARATION

#### A. General:

1. Preparation for Planting Operations: Before planting operations are begun, existing turf areas that are to be trucked over or upon which soil is to be temporarily stacked pending its reuse or removal, or turf areas which may be subject to abuse of any other kind, shall be covered in a manner which will satisfactorily protect such areas from damage.
2. Plant Material Locations: As shown on the drawings are diagrammatic, and the exact locations shall be approved by the Landscape Architect. Shade and ornamental trees shall be located with stakes according to the plan. Shrubs, vines, and ground cover shall be positioned on prepared bed areas as shown on the Drawings in their original containers. After quantity and spacing have been adjusted, if necessary, and approved by the Landscape Architect, install plants where located.
3. Obstructions or Unsuitable Conditions Below Grade: Any rock over 3/4" diameter, concrete, or other underground obstruction or unsuitable planting soil shall be removed to the depth necessary to permit proper planting according to Plans and Specifications. If underground construction, utilities, unusually large rocks, other serious obstructions, or unsuitable soil conditions are encountered in planting areas, other locations for the planting may be selected by the Landscape Architect.

#### B. Excavation for Planting:

1. Pits: Shall be circular in outline with vertical, scarified sides and conical bottoms. Mechanical digging of pits may be approved by the Landscape Architect. Trim the perimeter of the bottom leaving the center area of the bottom raised slightly to support the root ball and assist in drainage away from the center. Do not further disturb the base. Ensure that the root ball will sit on undisturbed base soil to prevent settling. Pits shall be at least 3 times the diameter of the ball. Pits for trees shall be of sufficient depth to allow a six-(6) inch layer of planting soil spread around the ball while resting on scarified subgrade when they are set to grade. Pits for shrubs and other plants shall be of sufficient depth to allow a six-(6) inch layer of planting soil under the ball when they are set to grade.
2. Planting Beds: Existing soil conditions may require various excavation depths. All planting beds shall be stripped of any grass, weeds, and debris prior to excavation. The exact depth of any excavation is to be determined on-site by the Landscape Architect.

#### C. Soil Preparation:

1. General: Bed Areas shall have six (6) to nine (9) inches of backfill of planting soil, above the existing grade, prepared as specified herein. Treat bed areas with specified pre-emergent herbicide at the manufacturer's recommended rate.
2. Shrub and Groundcover Beds: After stripping grass from the proposed bed area, the area shall be thoroughly roto-tilled to a depth of six (6) inches. The bed area shall then be roto-tilled again incorporating one (1) cubic yard of organic soil conditioner and (1) 3.8 cubic foot bale of peat moss per fifty (50) square feet of bed area, as well as 1 CY of composted cow manure per 150 square feet of bed area until total bed depth is twelve (12) to fifteen (15) inches. Coordinate with Landscape Architect for exact depths. The ultimate goal is to have a bed approximately 9" above the existing grade.
3. Tree Pits: Planting soil for tree pit backfill shall be prepared as specified under Section 2.2 "SOIL PREPARATION MATERIAL".

#### D. Setting Plants:

1. General: Plants, except for ground cover plants, shall be set approximately 1-1/2 to 2 inches above the existing grade so that after settlement they will bear the same relationship to the finished grade of the surrounding soil that they bore to the grade of the soil from which they were dug.
2. Balled and Burlapped Plants: After pits have been dug as specified previously, set plants straight and plumb in pits and remove the burlap from the sides and tops of

balls, but no burlap shall be pulled from underneath. Place prepared planting soil around the ball to two-thirds (2/3) depth of the pit. Firmly tamp and compact carefully to avoid injury to roots and to fill voids. Add water and allow it to drain away, and fill the pit to the finished grade with soil. After the ground settles, additional soil shall be filled to the level of the finished grade.

3. Plants in Beds: Carefully insert plants into prepared topsoil at slightly above the finished grade. When plants are in place, rake the entire bed area smoothly, water, and allow it to drain away. After settlement, add soil as necessary to the finished grade and water again.
4. Forming Saucers: After planting has been completed, form a "saucer" or "bowl" of soil around each plant. Bowl shall extend to the limits of the plant pit for trees and shrubs. No bowls are required in areas of bed preparation, and shrubs in lines may share a common bowl around their perimeter.

E. Fertilizing of Planting:

1. Rates: Use a complete fertilizer with contents as specified herein and apply at the manufacturer's recommended rates.
2. Placement: Place fertilizer uniformly around and within the diameter of the plant saucer and work into the upper layer of planting soil, except in bed areas where fertilizer is worked into the soil. Fertilizers used in backfilling planting soil shall be mixed with planting soil mix prior to backfilling operations.

F. Mulching: Upon completion of the planting of trees, shrubs, and groundcovers, bed areas shall be mulched with a 3" layer of pine straw entirely covering the area around each plant. In the case of bed areas, the area between the plants is to be so treated, regardless of plant spacing, and trees shall be mulched entirely covering the tree pit area within the saucer. Alternative mulching materials will be considered by the landscape architect.

3.4 TREE, SHRUB, AND VINE PRUNING

- A. Each tree shall be assessed for pruning by an experienced plantsman to preserve the natural shape and character of the tree upon acceptance by the Landscape Architect. The method of pruning shall follow the International Society of Arboriculture guidelines for "Pruning Young Trees". Unless otherwise indicated by Landscape Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.
- B. Prune, thin, and shape trees, shrubs, and vines according to standard professional horticultural and arboricultural practices. Unless otherwise indicated by Landscape Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.
- C. Pruning cuts shall be sharp and clean. Pruning cuts over 3/4" in diameter may be painted with an approved tree surgery paint or sealer, applied only for cosmetic reasons, at the direction of the Landscape Architect.

3.5 TREE STABILIZATION

- A. Root-Ball Stabilization: Install a below-grade stabilization system to secure each new planting by the root ball unless otherwise indicated.
  1. Proprietary Root-Ball Stabilization Device: Install a root-ball stabilization system sized and positioned as recommended by the manufacturer unless otherwise indicated and according to the manufacturer's written instructions.

3.6 EDGING INSTALLATION

- A. Steel Edging: Install steel edging where indicated and according to the manufacturer's written instructions. Anchor edging with steel stakes spaced approximately 30 inches apart, driven below the top elevation of edging.

3.7 PLANT MAINTENANCE

- A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades

or vertical position, and performing other operations as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease.

- B. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
- C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

### 3.8 PESTICIDE & HERBICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents in accordance with authorities having jurisdiction and the manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify the Owner before each application is performed.
- B. Pre-Emergent Herbicides (Selective and Non-Selective): Apply to tree, shrub, and ground-cover areas in accordance with the manufacturer's written recommendations. Do not apply to seeded areas.
- C. Post-Emergent Herbicides (Selective and Non-Selective): Apply only as necessary to treat already-germinated weeds and in accordance with the manufacturer's written recommendations.

### 3.9 CLEANUP AND PROTECTION

- A. During planting, keep adjacent paving and construction clean and the work area in an orderly condition.
- B. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.
- C. After installation and before Substantial Completion, remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.

### 3.10 DISPOSAL

- A. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.

END OF SECTION 329300

# BIENVILLE SQUARE- FOUNTAIN & SITE AMENITIES IMPROVEMENTS- PR-021-22

## 100% CONSTRUCTION DOCUMENTS

150 DAUPHIN ST  
MOBILE, AL 36607

APRIL 05, 2023

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- C1.01 EROSION CONTROL NOTES AND DETAILS
- △ L1.00 EXISTING CONDITIONS PLAN
- L1.01 DEMO/ TREE PROTECTION PLAN
- L1.02 DEMO/TREE PROTECTION DETAILS
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- F2.00 SUCTION PIPING SCHEMATIC
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## BIENVILLE SQUARE

FOUNTAIN & SITE AMENITIES  
IMPROVEMENTS - PR-021-22

MOBILE, ALABAMA

CLARBO | LANDSCAPE  
ARCHITECTURE

200 LAUREL ST. SUITE 100  
BATON ROUGE, LA 70801  
225 302 7452

DELTA FOUNTAINS  
11494 COLUMBIA PARK DR.  
WEST SUITE #4  
JACKSONVILLE, FL 32258

V. (904) 888-9090 ARCHITECTURAL &  
F. (904) 888-9099 PLUMBING FOUNTAINS

hargrove

Nimrod Long  
And Associates

30 CDC ENGINEERS  
1112 Oak Grove North • Mobile, AL 36689  
Office (251) 662-5891 • Fax (251) 662-5892

CONSTRUCTION DOCUMENTS



NOT FOR CONSTRUCTION

REVISIONS:

△ 04/17/2023 REVISION #1

# DATE NAME

DATE: APRIL 05, 2023

DRAWN BY: AA

CHECKED BY: SB

SCALE: NO SCALE

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COVER SHEET/  
INDEX

L0.00

GENERAL NOTES:

- 1. CONTRACTOR SHALL COORDINATE WITH ALABAMA 811... 2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ANY REMAINING STRUCTURES OR PAVING... 3. CONTRACTOR SHALL PROVIDE MATS OR OTHER PROTECTION FOR EXISTING CONCRETE PAVING OR ASPHALT... 4. CONTRACTOR SHALL VERIFY WITH LANDSCAPE ARCHITECT AND THE CITY OF MOBILE OF ALL EXISTING CONCRETE PATHWAYS WITHIN THE LIMIT OF WORK TO BE REMOVED... 5. CONTRACTOR SHALL VERIFY WITH LANDSCAPE ARCHITECT AND THE CITY OF MOBILE OF ALL EXISTING TREES WITHIN THE LIMIT OF WORK TO BE REMOVED... 6. CONTRACTOR SHALL COORDINATE WITH OWNER FOR KNOWN UTILITIES... 7. ALL EXISTING VEGETATION AND TREES, UNLESS OTHERWISE NOTED, SHALL BE REMOVED AS INDICATED... 8. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ANY SUBSURFACE OBSTRUCTIONS THAT MAY INTERFERE WITH PROPOSED IMPROVEMENTS... 9. THE FINISH SURFACES ARE EXPECTED TO CONFORM TO ALL APPLICABLE CODES AND STANDARDS... 10. FOUNTAIN INSTALLATION REQUIREMENTS: THE IRON FOUNTAIN BOWLS WILL BE PROVIDED, DELIVERED, AND INSTALLED BY ROBINSON IRON AND IS NOT THE RESPONSIBILITY OF THE CONTRACTOR...

DEMOLITION NOTES:

- 1. COORDINATE ALL CONSTRUCTION STAGING AND PARKING WITH THE CITY OF MOBILE AND LANDSCAPE ARCHITECT... 2. COORDINATE ALL TRASH AND DEBRIS CONTAINERS AND LANDSCAPE REMOVAL AND EXCAVATION WITH THE CITY OF MOBILE... 3. NO PARKING, STAGING, EQUIPMENT OFFLOADING OR STORAGE, CONCRETE WASH OUT, PAINT BRUSH WASH OUT, OR FUELING WILL BE ALLOWED UNDER THE DRIP LINE OF TREES... 4. PROTECT ALL SITE DRAINAGE STRUCTURES FROM SOIL OR DEBRIS CONTAMINATION FOR THE DURATION OF THE PROJECT... 5. BORING, TRENCHING, AND/OR EXCAVATION UNDER DRIP LINES OF TREES REQUIRES APPROVAL BY THE LANDSCAPE ARCHITECT AND THE CITY OF MOBILE... 6. OTHER THAN UTILITIES LOCATED WITHIN THE DRIP LINE OF EXISTING TREES, ANY UTILITIES THAT ARE DISCONNECTED OR DEMOLISHED UNDER THE SCOPE OF THIS WORK SHALL BE REMOVED IN THEIR ENTIRETY... 7. WHERE ROOT PRUNING IS REQUIRED, THE CONTRACTOR SHALL EMPLOY A LICENSED ARBORIST TO PERFORM THE WORK... 8. FOR ANY WORK WITHIN 18" OF AN EXISTING GAS LINE, REPRESENTATIVES OF THE ESTABLISHMENT AND THE UTILITY PROVIDER MUST BE ON SITE DURING THE ENTIRE CONSTRUCTION ACTIVITY... 9. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION... 10. THE CONTRACTOR SHALL PROTECT ALL EXISTING HARDSCAPE THAT IS SCHEDULED TO REMAIN...

TREE PROTECTION NOTES:

- 1. SEE PLAN FOR APPROXIMATE LOCATION OF TREE PROTECTION FENCING... 2. EXISTING TREES SHALL BE PROTECTED AT ALL TIMES PER CITY OF MOBILE TREE PROTECTION ORDINANCE W/ CONSTRUCTION FENCING W/ T-POSTS... 3. CONSTRUCTION FENCE SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITIES... 4. ANY WORK THAT OCCURS WITHIN THE DRIPLINE OF ANY TREE SHALL BE DONE WITH THE DIRECTION OF A LICENSED ARBORIST... 5. CONTRACTOR SHALL PHOTOGRAPH PROTECTED TREES FROM ALL SIDES AFTER INSTALLING TREE PROTECTION FENCING... 6. ANY ADDITIONAL PRUNING NECESSARY TO COMPLETE THE CONSTRUCTION ACTIVITIES SHALL BE PERFORMED BY A LICENSED ARBORIST... 7. CONTRACTOR SHALL COMPLY WITH ALL LOCAL DESIGN STANDARDS AND SPECIFICATIONS FOR TREE PROTECTION AND MITIGATION.

LAYOUT & SLEEVING NOTES:

- 1. CONTRACTOR SHALL REPORT ANY PLAN DISCREPANCIES TO LANDSCAPE ARCHITECT FOR CLARIFICATION PRIOR TO PROCEEDING... 2. CONTRACTOR SHALL CALL ALABAMA 811 PRIOR TO DIGGING TO IDENTIFY ANY EXISTING UNDERGROUND UTILITY SERVICE... 3. CONTRACTOR SHALL STAKE OUT ALL PAVING WITH GRADE STAKES FOR LANDSCAPE ARCHITECT APPROVAL PRIOR TO FORMING... 4. GRADES AND SLOPES OF SIDEWALK FORMING SHALL BE APPROVED IN FIELD BY LANDSCAPE ARCHITECT PRIOR TO CONCRETE POUR... 5. LAYOUT AND GRADING OF PAVED AREAS SHALL BE SUBJECT TO APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO ANY POURING... 6. HARDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION AND INSTALLATION OF SLEEVES AT LOCATIONS SHOWN ON THE SLEEVING PLAN... 7. ALL SLEEVE LOCATIONS SHALL CONTAIN (2) 4" SCHEDULE 40 PVC PIPES SLEEVES (UNLESS OTHERWISE NOTED) AND SHALL BE LOCATED DIRECTLY UNDER PAVEMENT... 8. ALL SLEEVES FOR ELECTRICAL LINES SHALL COMPLY WITH LOCAL ELECTRICAL CODE IN REGARDS TO DEPTH AND SPACING FROM OTHER UTILITIES... 9. ENDS OF SLEEVES SHALL BE CAPPED WITH PVC CAPS AND MARKED WITH A FLAG... 10. COORDINATE AND VERIFY ALL SLEEVE LOCATIONS WITH ELECTRICAL AND IRRIGATION PLANS.

GRADING & DRAINAGE NOTES:

- 1. CONTRACTOR SHALL BE RESPONSIBLE FOR POSITIVE DRAINAGE OF ALL LANDSCAPED AND PAVED AREAS... 2. LANDSCAPE ARCHITECT WILL NOT BE RESPONSIBLE FOR DRAINAGE OF SITE COMPONENTS THAT ARE NOT WITHIN THE DESIGN SCOPE OF WORK... 3. CONTRACTOR SHALL DIRECT WATER AS INDICATED BY CONTOURS, SPOT ELEVATIONS, AND SLOPE ARROWS... 4. ANY DAMAGE TO EXISTING DRAINAGE SYSTEM DURING CONSTRUCTION SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE... 5. CONTRACTOR SHALL REPORT ANY PLAN DISCREPANCIES TO ARCHITECT OR LANDSCAPE ARCHITECT FOR CLARIFICATION PRIOR TO PROCEEDING... 6. ALL PAVING SHALL HAVE A MINIMUM SLOPE OF 1% AND ALL UNPAVED AREAS SHALL HAVE A MINIMUM SLOPE OF 2% UNLESS OTHERWISE NOTED... 7. ALL PIPE AND FITTINGS SHALL BE AS NOTED IN THE SPECIFICATIONS.

HARDSCAPE NOTES:

- 1. CONTRACTOR SHALL STAKE ALL PROPOSED IMPROVEMENTS, INCLUDING EDGE OF PAVEMENT OF SIDEWALKS W/ GRADE STAKES... 2. CONTRACTOR SHALL PROVIDE SAMPLE OF ALL CONCRETE FINISHES FOR APPROVAL BY LANDSCAPE ARCHITECT... 3. CONTRACTOR SHALL PROVIDE MOCK-UPS OF EACH TYPE OF PAVING TO DEPICT COLOR, TEXTURE, AND PATTERN PRIOR TO INSTALLATION... 4. GRADES AND SLOPES OF SIDEWALK FORMING TO BE APPROVED IN FIELD BY LANDSCAPE ARCHITECT... 5. CONTRACTOR IS RESPONSIBLE FOR THE STRUCTURAL INTEGRITY OF ALL CONCRETE WORK... 6. COMPACT ALL SOIL SUBGRADES TO 95% STANDARD PROCTOR DENSITY UNLESS OTHERWISE NOTED... 7. VERIFY PAVING SLOPES ON SITE WITH LANDSCAPE ARCHITECT... 8. REFER TO DETAILS AND SPECIFICATIONS ON LANDSCAPE ARCHITECT'S PLANS FOR GREATER DETAIL.

PLANTING NOTES:

- 1. ALL SOIL IN PLANTING AREAS TO BE TESTED AND AMENDED FOR SUITABLE PLANTING... 2. TOPSOIL SHALL BE FERTILE, FERTILE SOIL DERIVED FROM WELL DRAINED ARABLE LAND... 3. PEAT MOSS SHALL BE IMPORTED CANADIAN SPHAGNUM PEAT MOSS... 4. ORGANIC SOIL CONDITIONER, ORGANIC SOIL CONDITIONER SHALL BE PARTIALLY DECOMPOSED... 5. COMMERCIAL FERTILIZER, FERTILIZER SHALL BE A COMPLETE, SLOW RELEASE... 6. HERBICIDE, SNAPSHOT PRE-EMERGENT HERBICIDE MANUFACTURED BY DOW AGRA OR APPROVED EQUAL... 7. TOPDRESSING, TOPDRESSING SHALL BE PINESTRAW (UNLESS OTHERWISE SPECIFIED ON PLANS)... 8. COMPOSTED COW MANURE, COMPOSTED COW MANURE SHALL BE A MINIMUM OF 50% COW MANURE BY WEIGHT... 9. COMPOST, WELL-COMPOSTED STABLE AND WEED-FREE ORGANIC MATTER... 10. SANDY TOPSOIL MAY BE ADDED TO BE PLANTING MIX IF THE EXISTING SOIL IS OF POOR QUALITY... 11. MODIFIED BED PREPARATION... 12. BEGIN BY CLEARING UNDERBRUSH AND DEBRIS... 13. PLANTING MIX... 14. PERENNIAL/ANNUAL BED PREPARATION... 15. PIT PLANTING... 16. MULCH SURROUNDING AREA, PREPARE PIT FOR NEW PLANT MATERIAL AND AMEND SOIL WITHIN HOLE WITH NEW PLANTING SOIL MIX... 17. ENTIRE AREA TO BE TOP DRESSED WITH A 3" LAYER OF PINE STRAW.

SODDED LAWN NOTES:

- 1. DELIVER SOD IN TIME FOR PLANTING WITHIN 24 HOURS OF HARVESTING... 2. SOD SHALL BE INSTALLED IN SPRING (MARCH 1- MAY 30)... 3. LAY SOD TO FORM A SOLID MASS WITH TIGHTLY FITTED JOINTS... 4. LANDSCAPE CONTRACTOR SHALL PROVIDE FULL MAINTENANCE SERVICES... 5. MAINTAIN AND ESTABLISH TURF BY WATERING, FERTILIZING, WEEDING, TRIMMING, MOWING, REPLANTING, AND PERFORMING OTHER OPERATIONS... 6. WATERING: INSTALL AND MAINTAIN TEMPORARY PIPING... 7. THE SODDED AREAS SHALL BE PROTECTED AGAINST TRAFFIC OR OTHER USE... 8. THE CONTRACTOR SHALL PRODUCE DENSE, VIGOROUS, WELL ESTABLISHED LAWN AND SHALL MAINTAIN LAWN AREAS UNTIL FINAL ACCEPTANCE OF THE WORK...

IRRIGATION NOTES:

- 1. ALL IRRIGATION COMPONENTS TO BE INSTALLED IN COMPLIANCE WITH LOCAL CODES... 2. THE SYSTEM ASSUMES A MINIMUM WORKING PRESSURE OF 32 PSI... 3. COORDINATE LOCATION OF UNDERGROUND UTILITIES... 4. IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE OF PLANTING AREAS FOR CLARITY... 5. ADJUST RADIUS OF THROW AND ROTATION ARC OF EACH SPRAY HEAD OR ROTOR TO PROVIDE OPTIMAL COVERAGE... 6. INSTALL ELECTRICAL POWER TO CONTROLLER IN ACCORDANCE WITH ALL APPLICABLE CODES... 7. ALL ZONE PIPE SHALL BE 3/4" UNLESS OTHERWISE NOTED ON PLAN... 8. PLAN IS DIAGRAMMATIC AND INDICATES APPROXIMATE NUMBER OF HEADS REQUIRED... 9. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGED AREAS RESULTING FROM HIS WORK... 10. CONTRACTOR SHALL INSTALL TWO (2) 4" DIAMETER SCHEDULE 40 PVC SLEEVES AT EACH LOCATION SHOWN ON PLAN.

MATERIAL NOTES:

PAVING

- 1. CONCRETE SUB-BASE 1.1. 3200 PSI @ 4" MIN. DEPTH- SEE DETAILS 1.2. 3200 PSI LIGHT BROOM FINISH CONTRACTOR TO PROVIDE A 3 X 3 X SAMPLE TO L.A. AND CITY OF MOBILE FOR APPROVAL... 2. BLUESTONE PAVERS 2.1. COLOR- TRUE-BLUE 2.2. FINISH- THERMAL 2.3. SEE L400 SERIES FOR PAVING SIZES 2.4. CONTRACTOR TO PROVIDE SAMPLE TO L.A. AND CITY OF MOBILE FOR APPROVAL... 3. GRANITE 3.1. COLOR- ACADEMY BLACK 3.2. FINISH- THERMAL 3.3. MANUFACTURER- COLD SPRING OR APPROVED EQUAL 3.4. SEE L400 SERIES FOR PAVING SIZES 3.5. CONTRACTOR TO PROVIDE SAMPLE TO L.A. AND CITY OF MOBILE FOR APPROVAL... 3.6. CONTRACTOR RESPONSIBLE FOR FINAL COUNT ON PAVEMENT QUANTITY.

SEAT WALL

- 1. BRICK 1.1. CONTRACTOR TO PROVIDE SAMPLE TO L.A. AND CITY OF MOBILE FOR APPROVAL... 2. BLUESTONE CAP 2.1. COLOR- TRUE-BLUE 2.2. FINISH- THERMAL W/ ROCK FACE ON EXPOSED SIDES 2.3. CONTRACTOR TO PROVIDE SAMPLE TO L.A. AND CITY OF MOBILE FOR APPROVAL... 2.4. CONTRACTOR RESPONSIBLE FOR FINAL UNIT COUNT QUANTITY.

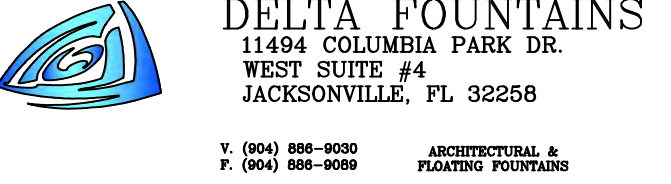
BIENVILLE SQUARE

FOUNTAIN & SITE AMENITIES IMPROVEMENTS - PR-021-22

MOBILE, ALABAMA



200 LAUREL ST. SUITE 100 BATON ROUGE, LA 70801 225 302 7452



Nimrod Long And Associates



CONSTRUCTION DOCUMENTS



NOT FOR CONSTRUCTION

REVISIONS:

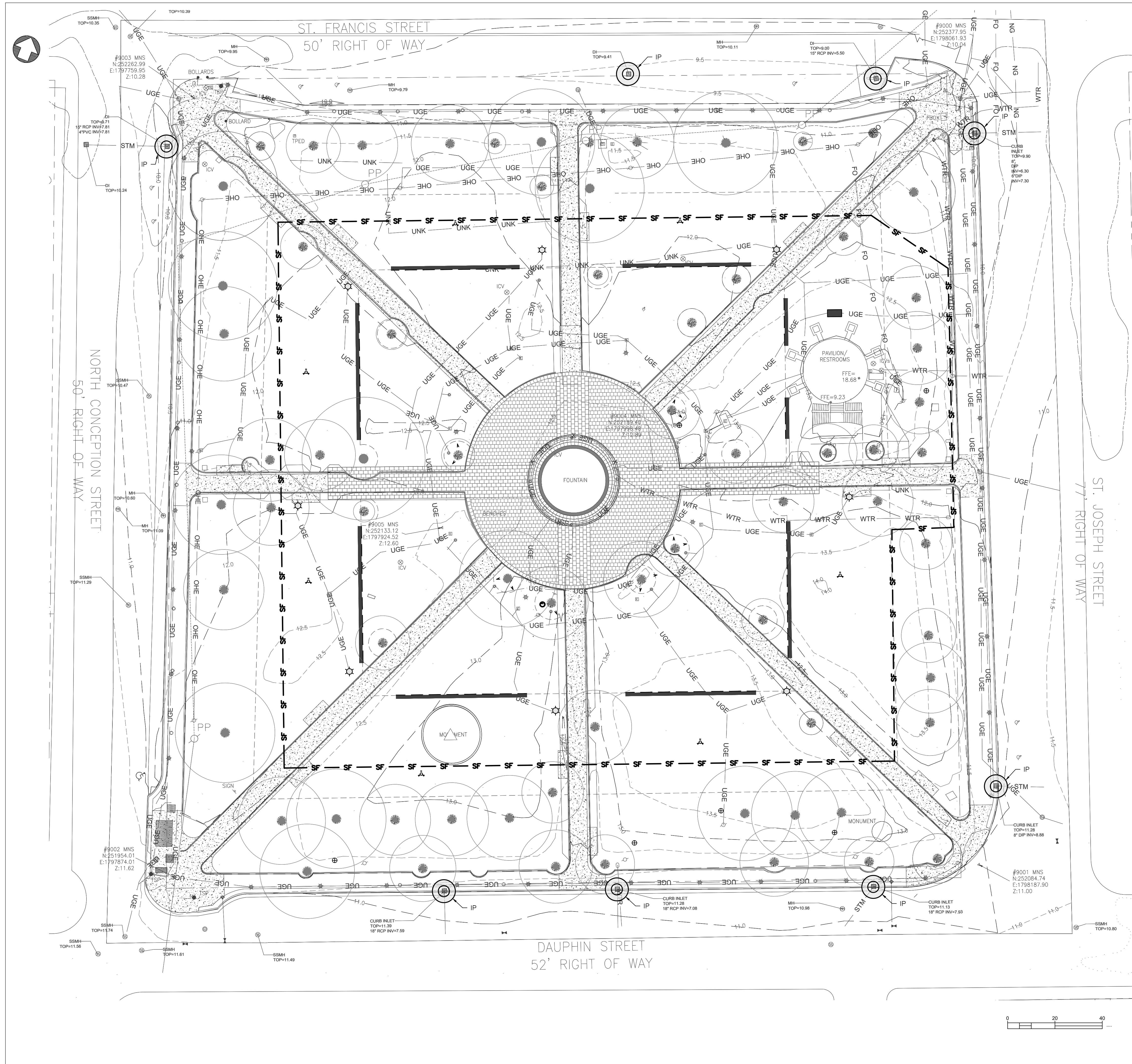
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Table with 2 columns: FIELD, VALUE. Fields include DATE (APRIL 05, 2023), DRAWN BY (AA), CHECKED BY (SB), SCALE (NO SCALE)

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GENERAL NOTES

LO.01



**NOTES:**

1. SEE SHEET C1.01 FOR EROSION CONTROL NOTES AND DETAILS.
2. CONTRACTOR SHALL UNDERGROUND UTILITIES LOCATED AND MARKED PRIOR TO INSTALLATION OF SILT FENCE POST TO PREVENT DAMAGE. ALL DAMAGE WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR.

**LEGEND**

- 15 — EXISTING MAJOR CONTOUR
- 14 — EXISTING MINOR CONTOUR
- SF — SF — SILT FENCE
- IP INLET PROTECTION

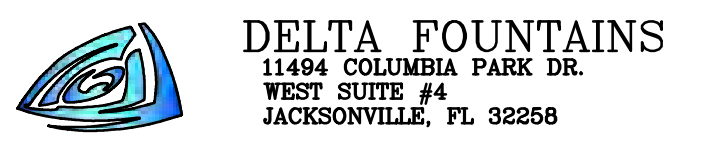
**BIENVILLE SQUARE**

FOUNTAIN & SITE AMENITIES  
IMPROVEMENTS – PHASE 1A  
PR-021-22

MOBILE, ALABAMA



200 LAUREL ST. SUITE 100  
BATON ROUGE, LA 70801  
225 302 7452



11484 COLUMBIA PARK DR.  
WEST SUITE #4  
JACKSONVILLE, FL 32256



Nimrod Long  
And Associates



BID DOCUMENTS

REVISIONS:

#	DATE	NAME
1	03.29.23	ISSUED FOR CONSTRUCTION
0	07.27.22	ISSUED FOR CONSTRUCTION



**ISSUED FOR CONSTRUCTION**

DATE: JULY 22, 2022  
DRAWN BY: CKN  
CHECKED BY: JAC  
SCALE: 1"=20'-0"

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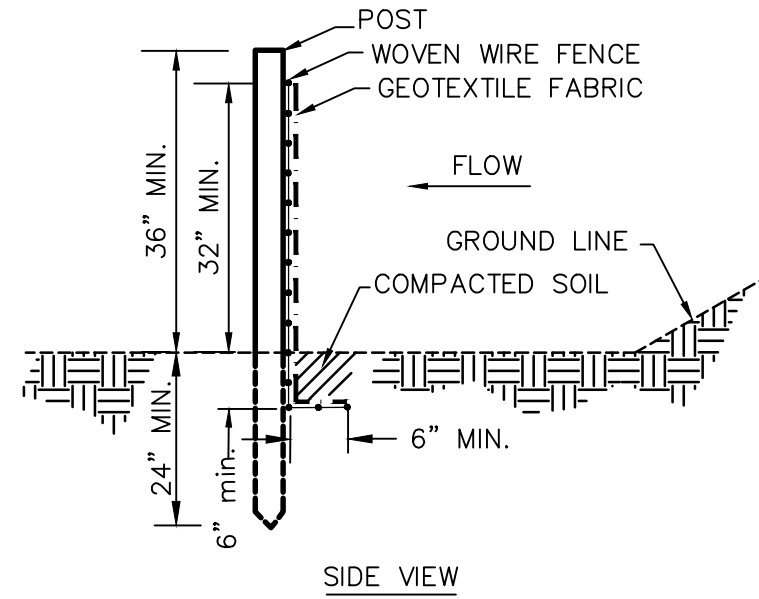
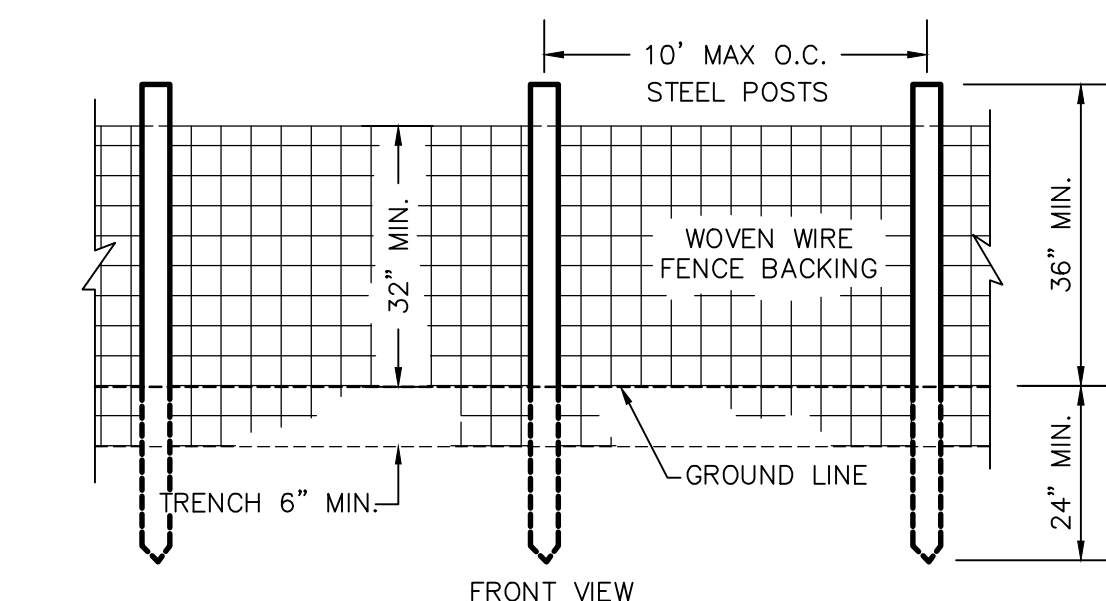


EROSION CONTROL PLAN

C1.00

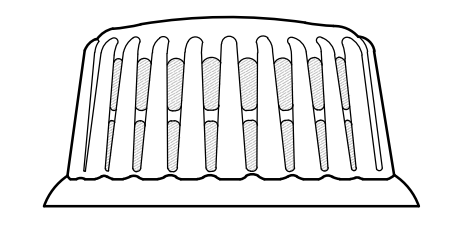
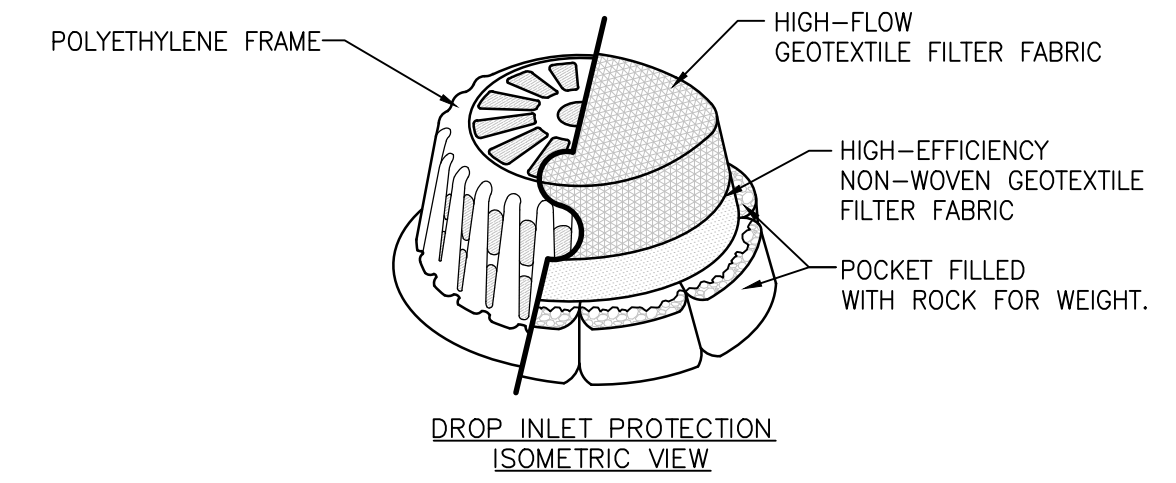
**EROSION CONTROL NOTES**

1. ALL SITE EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE ALABAMA HANDBOOK FOR EROSION CONTROL, SEDIMENT CONTROL, AND STORM WATER MANAGEMENT ON CONSTRUCTION SITES AND URBAN AREAS (LATEST EDITION), AND SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION ACTIVITIES.
2. CONTRACTOR SHALL HAVE ALL UTILITIES LOCATED PRIOR TO BEGINNING INSTALLATION OF EROSION CONTROL DEVICES. CONTRACTOR SHALL NOT ASSUME UTILITIES ARE EXACTLY IN THE AREA MARKED AND SHALL USE EXTREME CAUTION WHEN WORKING IN AREAS WHERE EXISTING UTILITIES ARE PRESENT.
3. SILT FENCE(S), INLET PROTECTION, AND ALL OTHER PERIMETER EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO SITE CONSTRUCTION ACTIVITIES.
4. AT A MINIMUM, THE EROSION CONTROL DEVICES SHOWN ON THESE PLANS SHALL BE INSTALLED. ADDITIONAL MEASURES MAY BE REQUIRED AND SHALL BE IMMEDIATELY INSTALLED UPON ANY ADDITIONAL SILTATION, EROSION, AND OTHER DEGRADATION OR POLLUTION TO THE SITE OR ADJACENT PROPERTIES, STREAMS, DITCHES, AND PUBLIC ROADWAYS NOT MITIGATED OR UNFORESEEN BY THIS SET OF PLANS.
5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING THE CONSTRUCTION PROCESS. AFTER EACH RAINFALL GREATER THAN 0.75 INCHES IN A 24 HOUR PERIOD, ANY WIND GUSTS GREATER THAN 25 MPH, ANY SUSTAINED WINDS GREATER THAN 20 MPH IN A 24 HOUR PERIOD AND UNTIL ALL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ALL EROSION CONTROL INSTALLATION, MAINTENANCE, REPAIRS, AND CLEAN UP FROM INSUFFICIENT DEVICES SHALL BE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE AT NO ADDITIONAL COST TO THE OWNER.
6. THE CONTRACTOR SHALL INITIATE PERMANENT STABILIZATION MEASURES IMMEDIATELY. ALL TEMPORARY STABILIZATION MEASURES SHALL BE INITIATED IMMEDIATELY WHEN WORK FOR ANY PORTION OF THE SITE HAS TEMPORARILY CEASED AND WILL NOT RESUME FOR A PERIOD EXCEEDING 13 DAYS.
7. ALL DISTURBED AREAS NOT ENCOMPASSED BY STRUCTURES, PAVEMENT OR CALLED OUT FOR OTHER SURFACE TREATMENT SHALL BE AT A MINIMUM, TOPSOILED, SEEDED AND MULCHED IN ACCORDANCE WITH THE ALABAMA HANDBOOK FOR PERMANENT SEEDING (PS) AND/OR TEMPORARY SEEDING (TS).
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL EROSION CONTROL MEASURES EXCEPT CHANNEL LINING AND OUTLET PROTECTION AFTER SITE STABILIZATION. THE CONTRACTOR SHALL DRESS ALL AREAS TO THE LINE AND GRADE SHOWN ON THESE PLANS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND/OR FLUSHING SEDIMENT FROM EXISTING STORM DRAINS IF AN EXCESSIVE AMOUNT IS COLLECTED DURING CONSTRUCTION ACTIVITIES.
10. REMOVE ACCUMULATED SEDIMENT WHEN DEPTH REACHES 1/4" THE HEIGHT OF THE BARRIER.
11. ALL EROSION CONTROL MEASURES SHALL REMAIN UNTIL ALL UPLAND DISTURBANCE ACTIVITIES HAVE CEASED AND PERMANENT STABILIZATION HAS BEEN ACHIEVED. AFTER EROSION CONTROL MEASURES HAVE BEEN REMOVED, THE CONTRACTOR SHALL CLEAN AND DRESS THE AREA.
12. DISCHARGE FROM DEWATERING OPERATIONS SHALL NOT POLLUTE, ERODE, NOR CAUSE DAMAGE TO ADJACENT PROPERTIES.

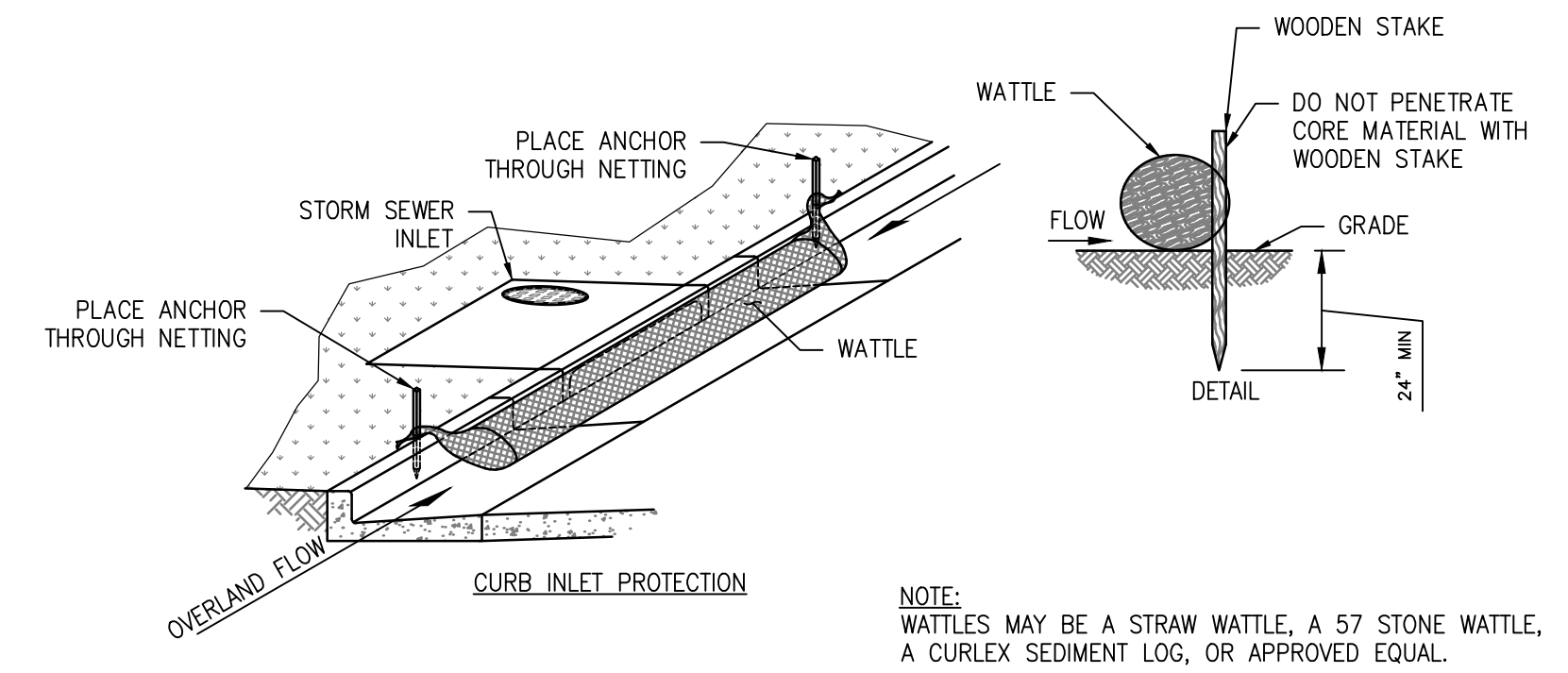


- NOTES:
1. THE WOVEN WIRE FENCING SHALL BE FASTENED TO THE UPSTREAM SIDE OF POSTS BY STAPLES OR WIRE TIES.
  2. GEOTEXTILE FABRIC SHALL BE SECURELY FASTENED TO THE WOVEN WIRE FENCING.
  3. MACHINE TRENCHED GEOTEXTILE SHALL BE TRENCHED VERTICAL AT LEAST 8" DEEP.
  4. CONTRACTOR SHALL USE EXTREME CAUTION WHEN PLACING SILT FENCE ABOVE EXISTING UTILITIES TO ENSURE NO DAMAGE IS CAUSED.

**1 SILT FENCE**  
SCALE: N.T.S.



- NOTES:
1. FABRIC DROP INLET PROTECTION SHALL BE INSPECTED DAILY AND SEDIMENT REMOVED.



NOTE:  
WATTLES MAY BE A STRAW WATTLE, A 57 STONE WATTLE, A CURLEX SEDIMENT LOG, OR APPROVED EQUAL.

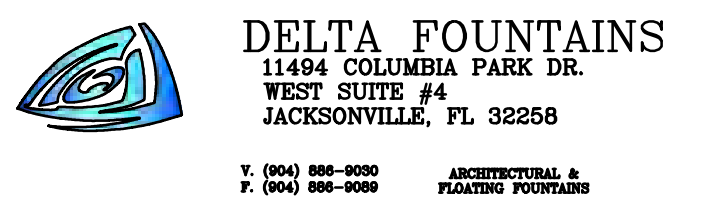
**2 INLET PROTECTION**  
SCALE: N.T.S.



**ISSUED FOR CONSTRUCTION**



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225 302 7452



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And Associates



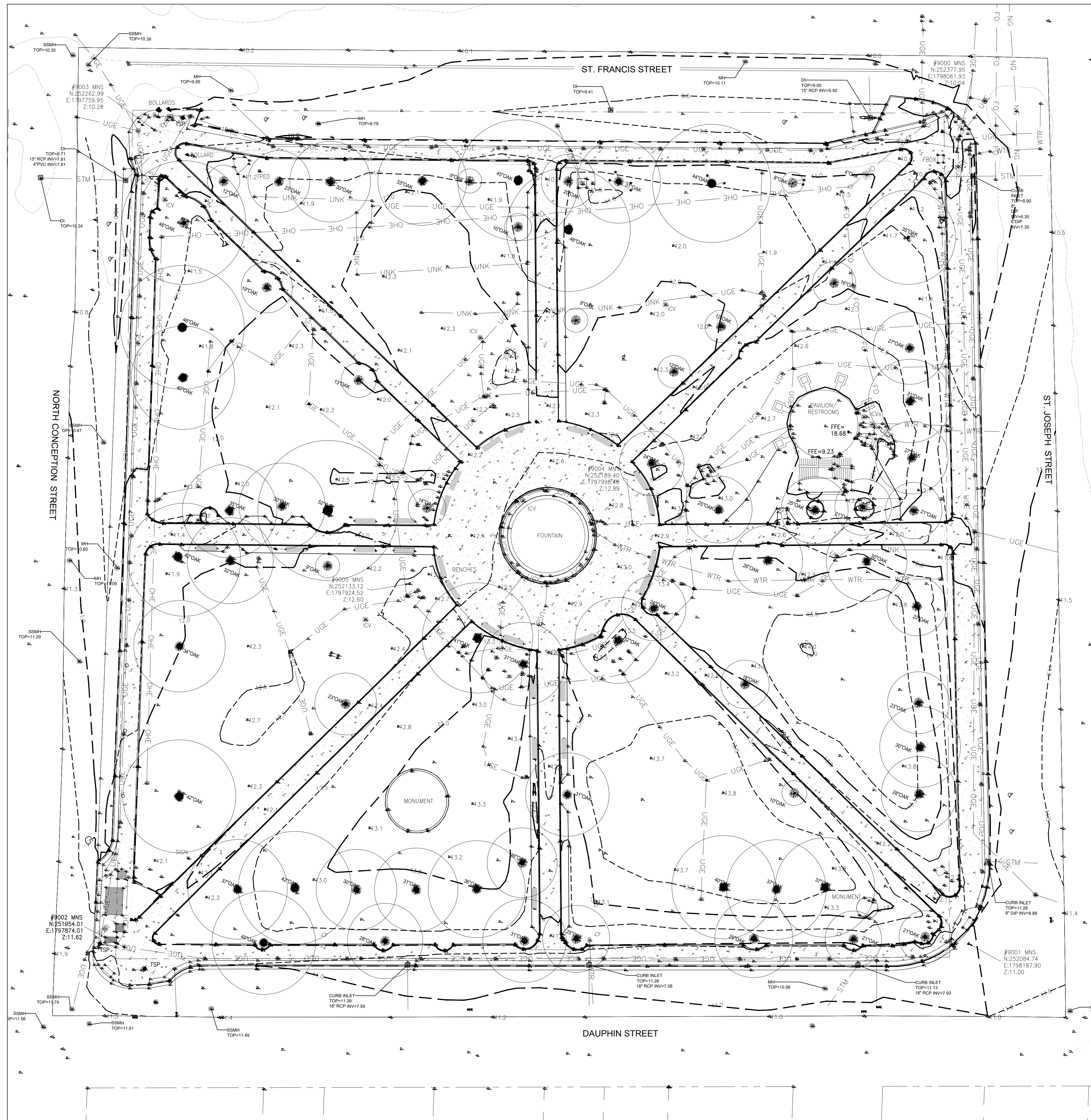
BID DOCUMENTS

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0	07.27.22	ISSUED FOR CONSTRUCTION

DATE: **JULY 22, 2022**  
DRAWN BY: **CKN**  
CHECKED BY: **JAC**  
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**LEGEND**

— RW —	RIGHT OF WAY
— FO — FO —	FIBER OPTIC LINE
— NG — NG —	NATURAL GAS LINE
— UGE — UGE —	UNDERGROUND ELEC. LINE
— OHE — OHE —	OVERHEAD ELEC. LINE
— STM — STM —	STORM PIPE
— WTR — WTR —	WATER LINE
— UNK — UNK —	UNKNOWN UNDERGROUND LINE
---	CONTOUR - MAJOR
---	CONTOUR - MINOR
LP	LIGHT POLE
⊙	ELECTRICAL EQUIPMENT
⊙	UTILITY POLE
⊙	ELEC. MANHOLE
⊙	ELEC. BOX
⊙	ELEC. BOX WITH GRATE
TSP	TRAFFIC LIGHT
⊙	FIBER OPTIC BOX
▭	BENCH
⊙	STORM SEWER MANHOLE
⊙	MANHOLE
▭	STORM DRAIN
⊙	EXISTING TREE
⊙	FIRE HYDRANT
⊙	IRRIGATION VALVE BOX
⊙	WATER VALVE
▭	CONCRETE PAVING

**BIENVILLE SQUARE**  
**FOUNTAIN & SITE AMENITIES**  
**IMPROVEMENTS - PR-021-22**

MOBILE, ALABAMA

**CIARBO** LANDSCAPE ARCHITECTURE  
 200 LAUREL ST. SUITE 100  
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 225 302 7452

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 11494 COLUMBIA PARK DR.  
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 F: (904) 888-9089 PLANNING FOUNTAINS

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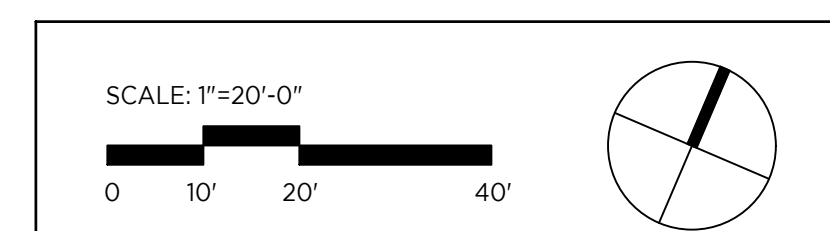
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**EXISTING**  
**CONDITIONS PLAN**

**L1.00**





**BIENVILLE SQUARE**

**FOUNTAIN & SITE AMENITIES  
IMPROVEMENTS - PR-021-22**

MOBILE, ALABAMA

**CIARBO** LANDSCAPE ARCHITECTURE

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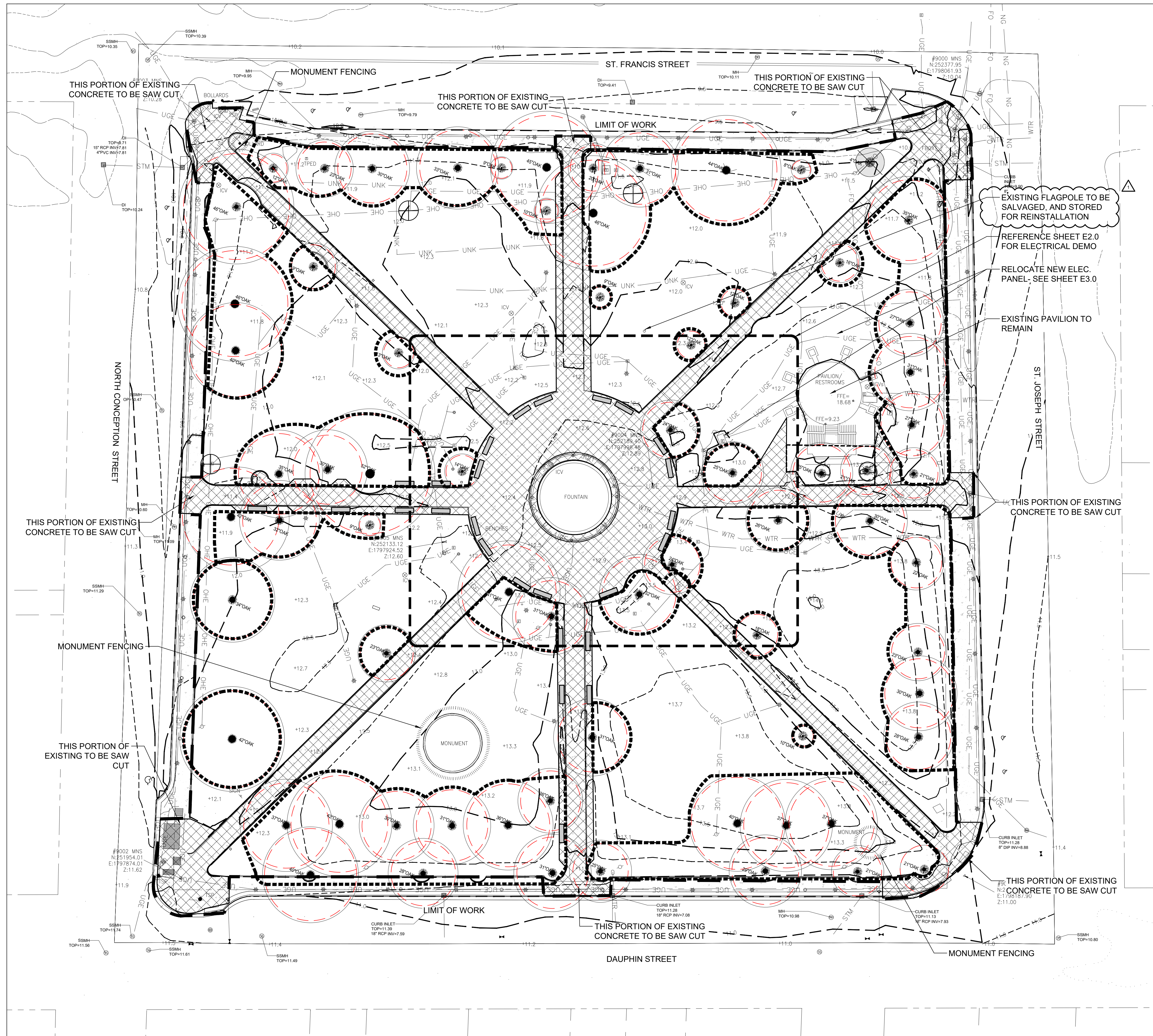
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**DEMO/TREE  
PROTECTION PLAN**

**L1.01**



EXISTING FLAGPOLE TO BE SALVAGED, AND STORED FOR REINSTALLATION

REFERENCE SHEET E2.0 FOR ELECTRICAL DEMO

RELOCATE NEW ELEC. PANEL- SEE SHEET E3.0

EXISTING PAVILION TO REMAIN

THIS PORTION OF EXISTING CONCRETE TO BE SAW CUT

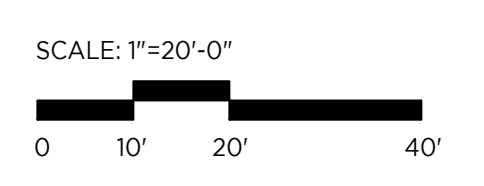
SEE SHEET E2.0 FOR ADDITIONAL DEMO INFO

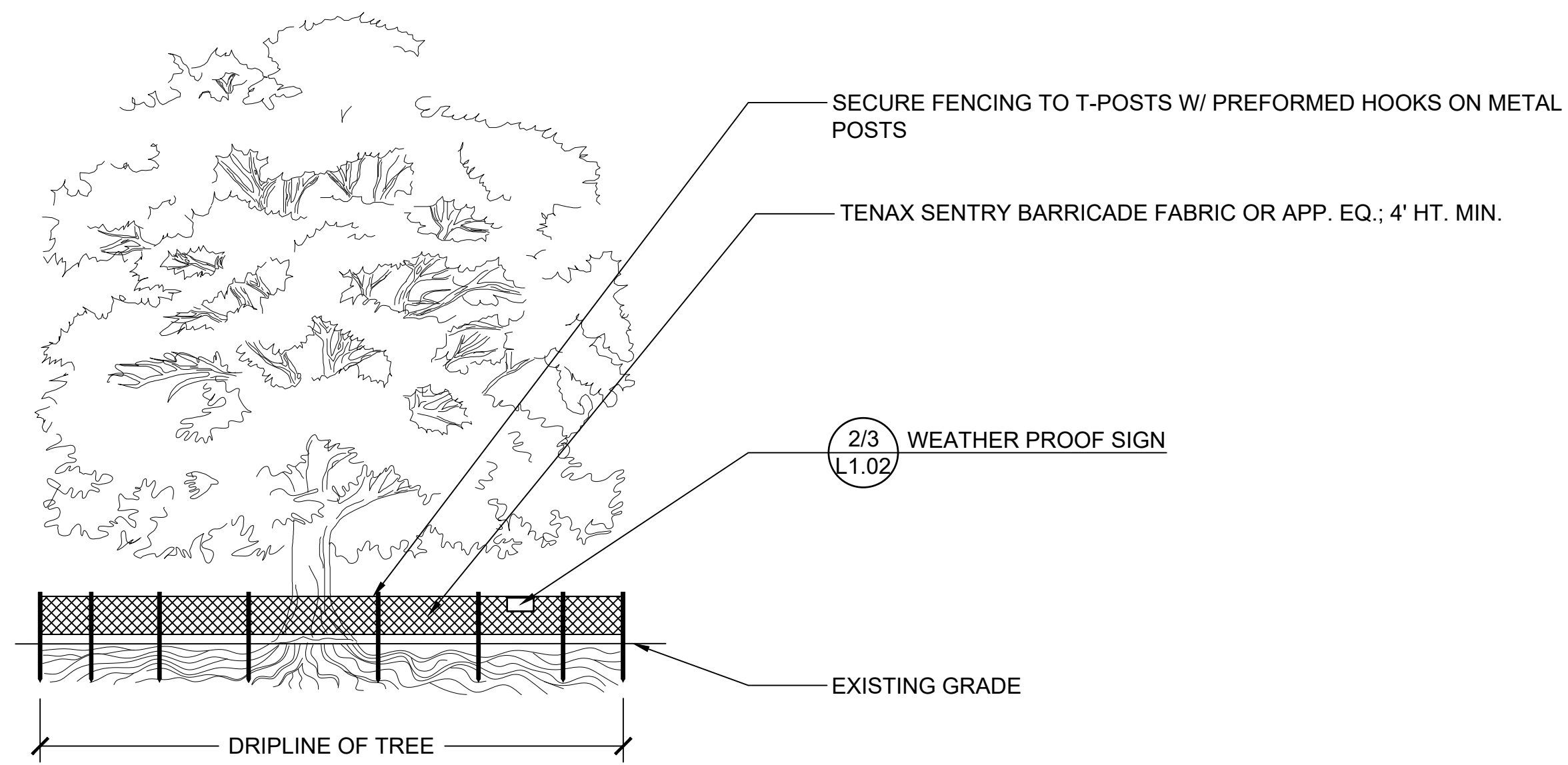
**LEGEND:**

- DEMOLITION AND REMOVAL, TO INCLUDE PEDESTRIAN PAVING AND CURBS
- EXISTING BENCHES, TO BE REMOVED AND STORED WITHOUT DAMAGING IN LOCATION SPECIFIED BY CITY OF MOBILE
- TREE TO BE REMOVED
- MONUMENT FENCING
- TREE FENCING - SEE GENERAL NOTE AND DETAIL 1/L1.01
- LIMIT OF WORK
- LIGHTY/POWER POLE TO BE REMOVED
- CRITICAL ROOT ZONE
- EXISTING FLAGPOLE

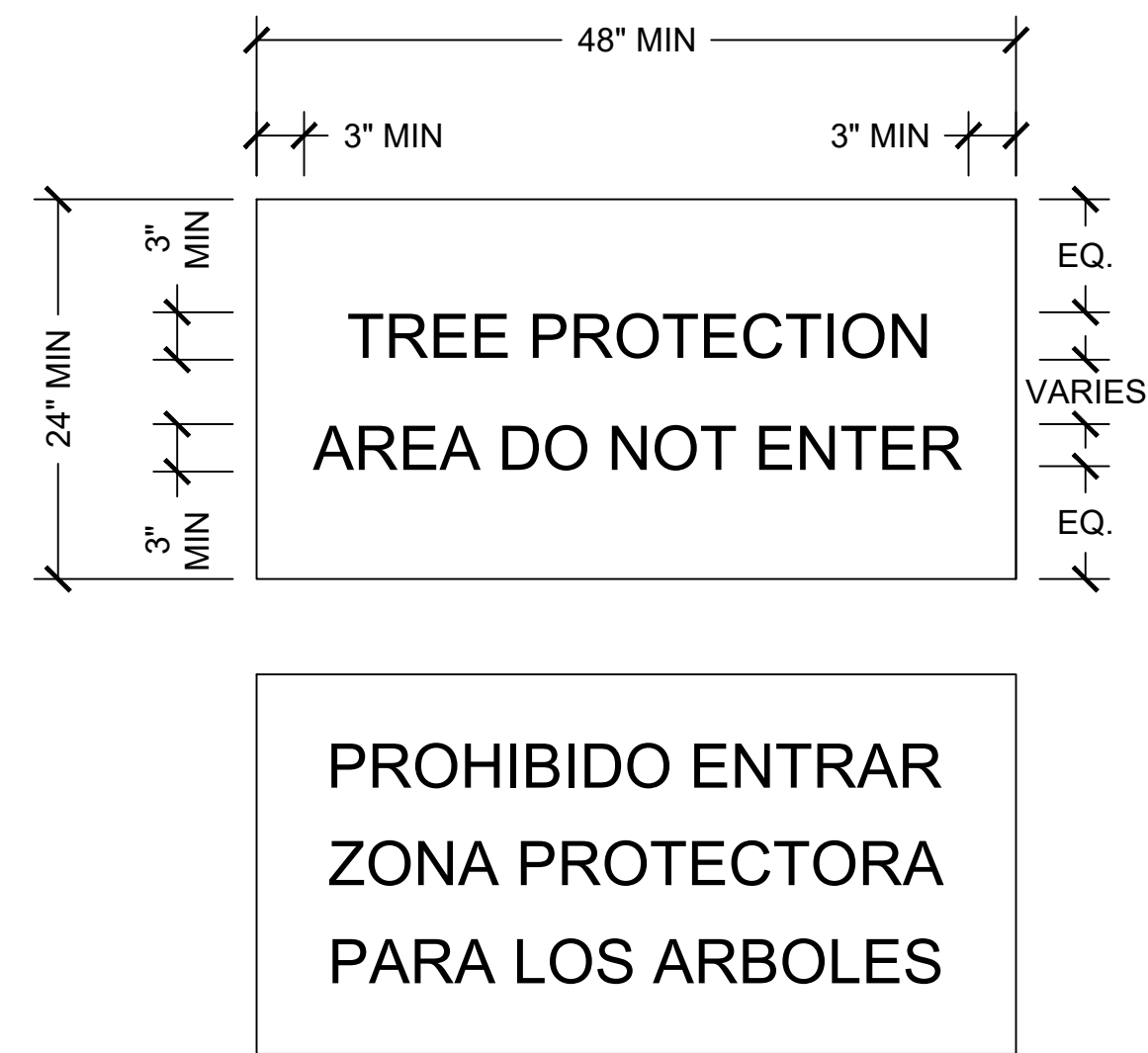
**NOTE:**

1. CONTRACTOR SHALL NOT STORE EQUIPMENT OR OTHER MATERIALS WITHIN THE DRIFLINE OF EXISTING TREES. CONTRACTOR SHALL COORDINATE MATERIAL STAGING WITH OWNER AND LANDSCAPE ARCHITECT.
2. ANY WORK THAT OCCURS WITHIN THE DRIFLINE OF ANY TREE SHALL BE DONE WITH THE DIRECTION OF A LICENSED ARBORIST. NO MECHANICAL TRENCHING WITHIN EXISTING TREE CANOPIES SHALL BE PERMITTED. ONLY HAND DIGGING & AIR SPADING SHALL BE PERMITTED IN THESE AREAS. AVOID SIGNIFICANT ROOTS.
3. ANY ADDITIONAL PRUNING NECESSARY TO COMPLETE THE CONSTRUCTION ACTIVITIES SHALL BE PERFORMED BY A LICENSED ARBORIST. ALL PRUNING SHALL BE APPROVED AND COORDINATED WITH THE CITY ARBORIST AND LANDSCAPE ARCHITECT WHILE ON SITE. CONTRACTOR SHALL HAVE WRITTEN APPROVAL PRIOR TO ANY ADDITIONAL PRUNING ACTIVITIES.
4. CONTRACTOR SHALL COMPLY WITH ALL LOCAL DESIGN STANDARDS AND SPECIFICATIONS FOR TREE PROTECTION AND MITIGATION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND SALVAGING THE EXISTING FLAGPOLE FOR REINSTALLATION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND SALVAGING THE EXISTING IRON FENCING AROUND THE FOUNTAIN.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND SALVAGING THE STONE VENEER ON THE EXISTING FOUNTAIN BASE FOR REINSTALLATION ON THE NEW FOUNTAIN BASE.
8. CONTRACTOR RESPONSIBLE TO COORDINATE WITH THE CITY OF MOBILE FOR THE STORAGE OF THE EXISTING FLAGPOLE, IRON FENCE, AND STONE VENEER.

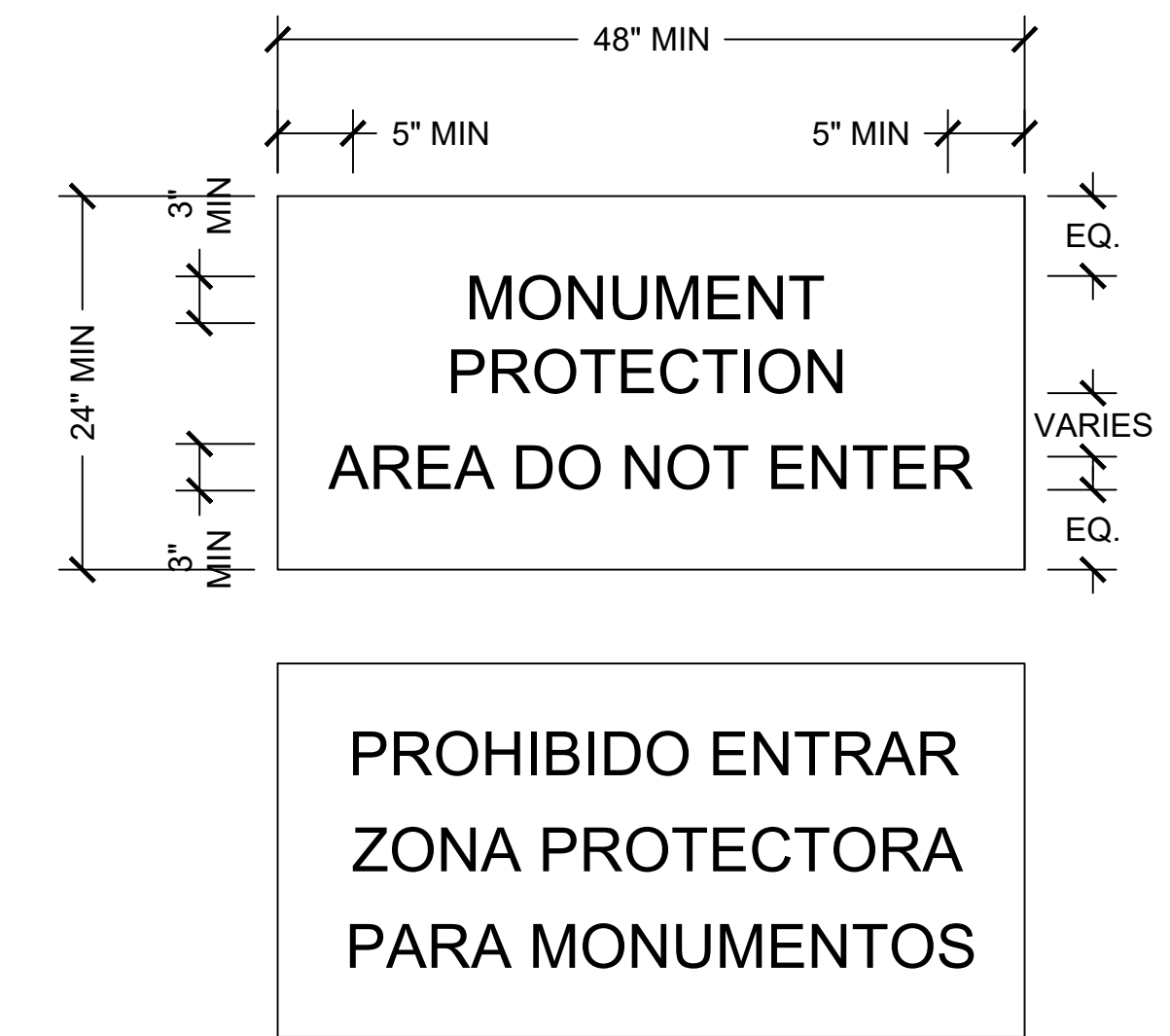




**1** TREE/ MONUMENT PROTECTION FENCE DETAIL  
SCALE: 1" = 1'-0"



**2** WEATHER PROOF TREE PROTECTION SIGN  
SCALE: 1" = 1'-0"



**3** WEATHER PROOF MONUMENT PROTECTION SIGN  
SCALE: 1" = 1'-0"

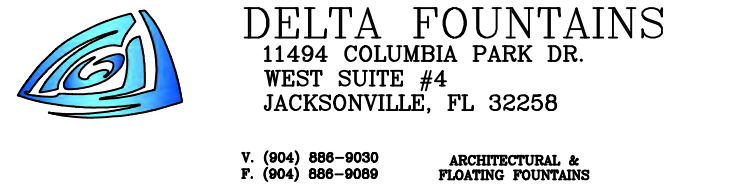
**BIENVILLE SQUARE**

FOUNTAIN & SITE AMENITIES  
IMPROVEMENTS - PR-021-22

MOBILE, ALABAMA



200 LAUREL ST. SUITE 100  
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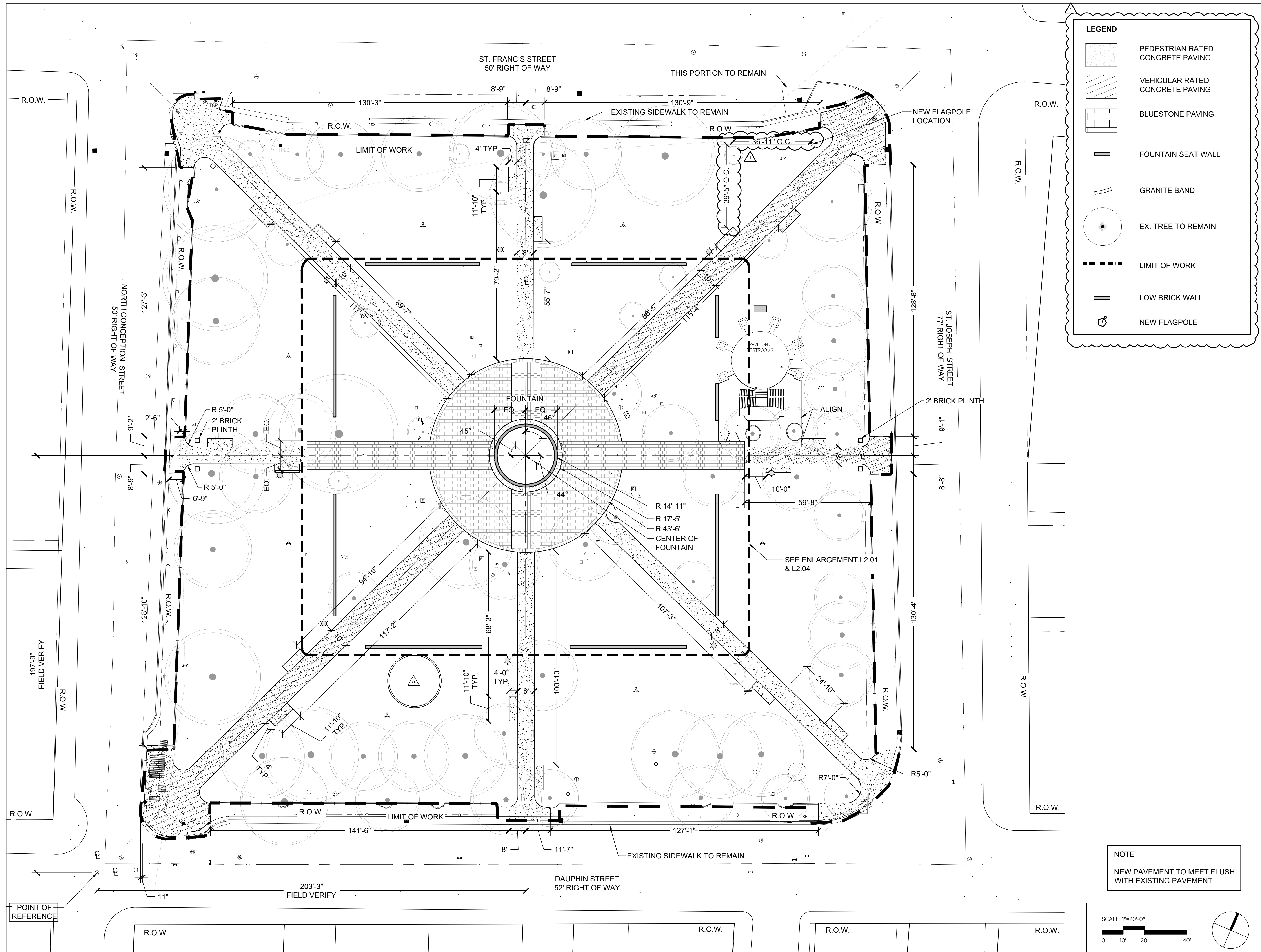
REVISIONS:

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DEMO/ TREE  
PROTECTION  
DETAILS  
**L1.02**



**LEGEND**

- PEDESTRIAN RATED CONCRETE PAVING
- VEHICULAR RATED CONCRETE PAVING
- BLUESTONE PAVING
- FOUNTAIN SEAT WALL
- GRANITE BAND
- EX. TREE TO REMAIN
- LIMIT OF WORK
- LOW BRICK WALL
- NEW FLAGPOLE

**BIENVILLE SQUARE**  
**FOUNTAIN & SITE AMENITIES**  
**IMPROVEMENTS - PR-021-22**

MOBILE, ALABAMA

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**STATE OF ALABAMA**  
**ZACHARY C. BROUSSARD**  
 REGISTERED LANDSCAPE ARCHITECT  
 NUMBER 919  
 4/5/23

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NOTE  
 NEW PAVEMENT TO MEET FLUSH WITH EXISTING PAVEMENT

**LAYOUT PLAN**

**L2.00**

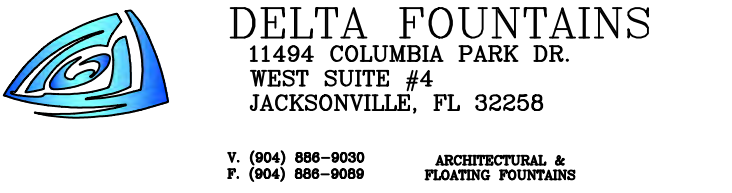
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 0 10' 20' 40'

**BIENVILLE SQUARE**  
**FOUNTAIN & SITE AMENITIES**  
**IMPROVEMENTS - PR-021-22**

MOBILE, ALABAMA



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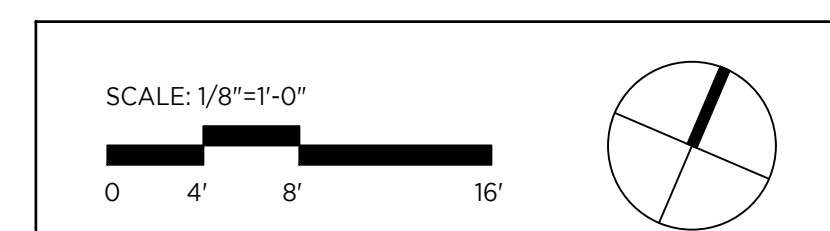
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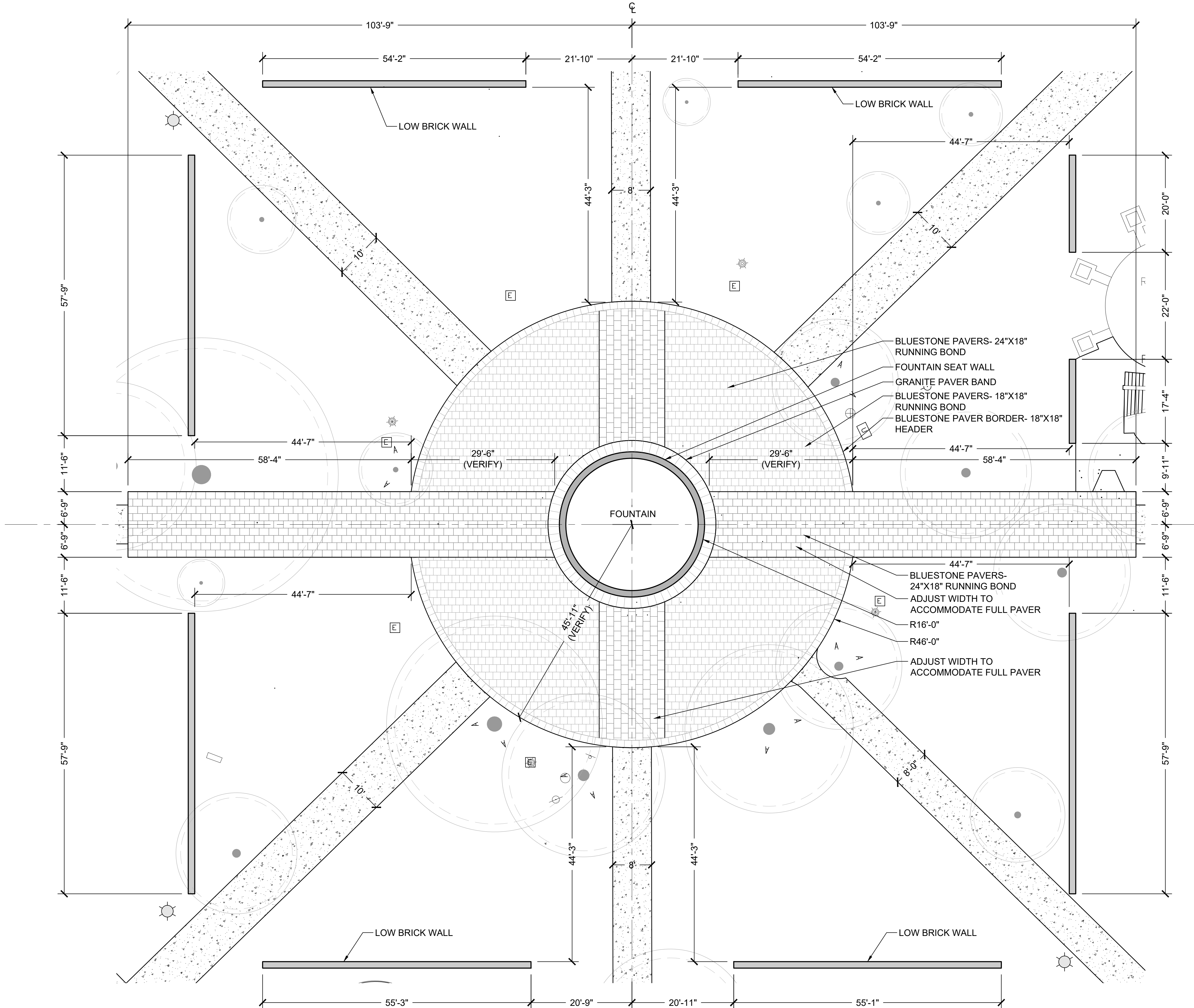
**LEGEND**

	PEDESTRIAN RATED CONCRETE PAVING
	BLUESTONE PAVING
	GRANITE BAND

**NOTE**  
 SEE SHEETS L4.03 FOR PAVER DIMENSIONS AND MATERIALS.



LAYOUT PLAN:  
 FOUNTAIN PLAZA  
 ENLARGEMENT  
**L2.01**



**BIENVILLE SQUARE**  
**FOUNTAIN & SITE AMENITIES**  
**IMPROVEMENTS - PR-021-22**

MOBILE, ALABAMA

**CIARBO** LANDSCAPE ARCHITECTURE

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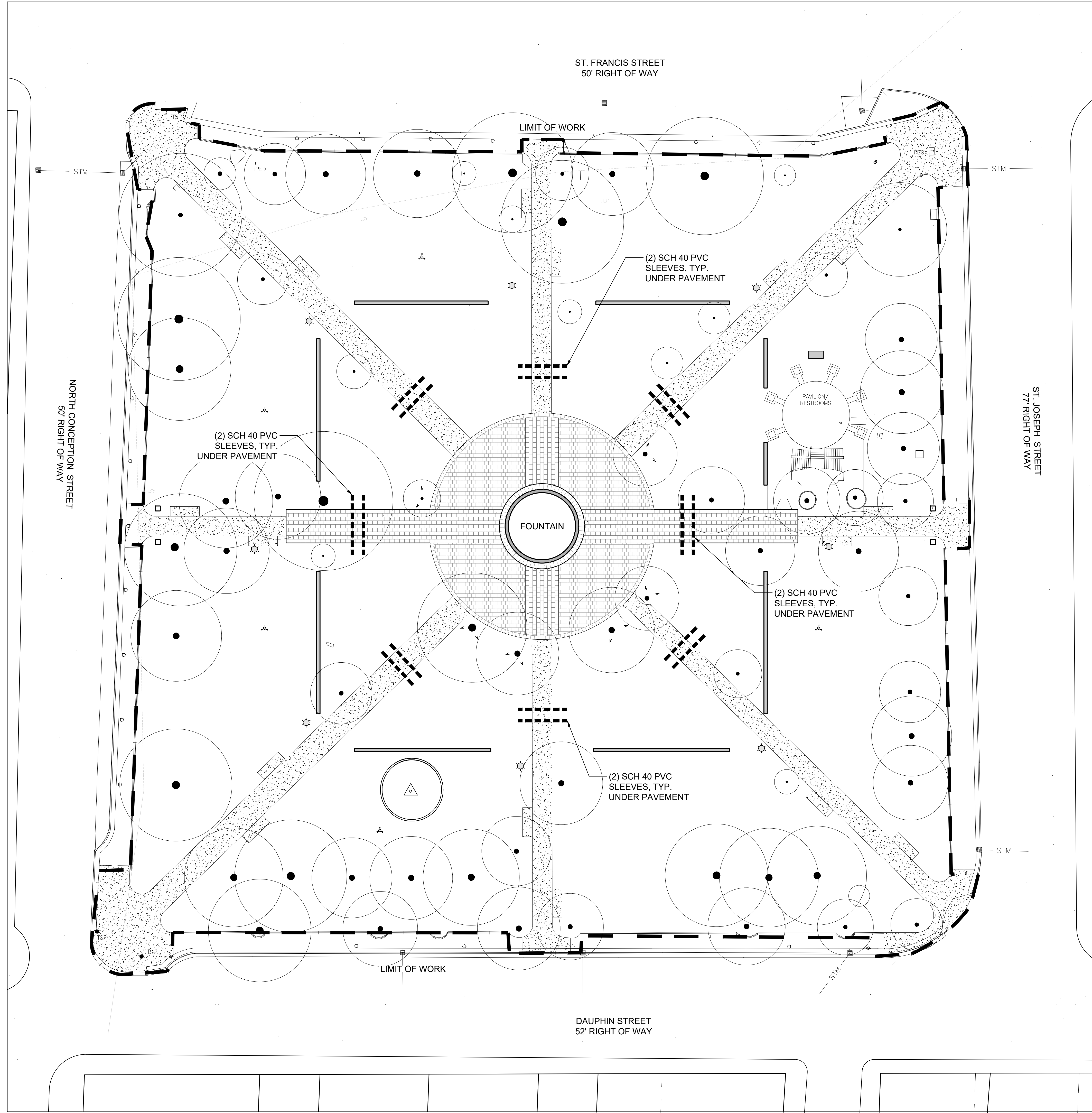
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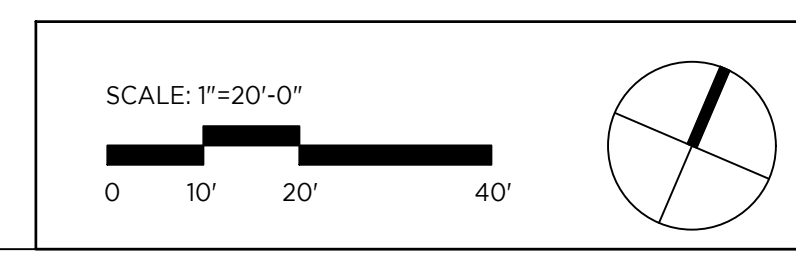
**SITE SLEEVING PLAN**

**L2.02**



**LEGEND**

	LIMIT OF WORK
	SCH 40 SLEEVING



**BIENVILLE SQUARE**  
**FOUNTAIN & SITE AMENITIES**  
**IMPROVEMENTS - PR-021-22**

MOBILE, ALABAMA

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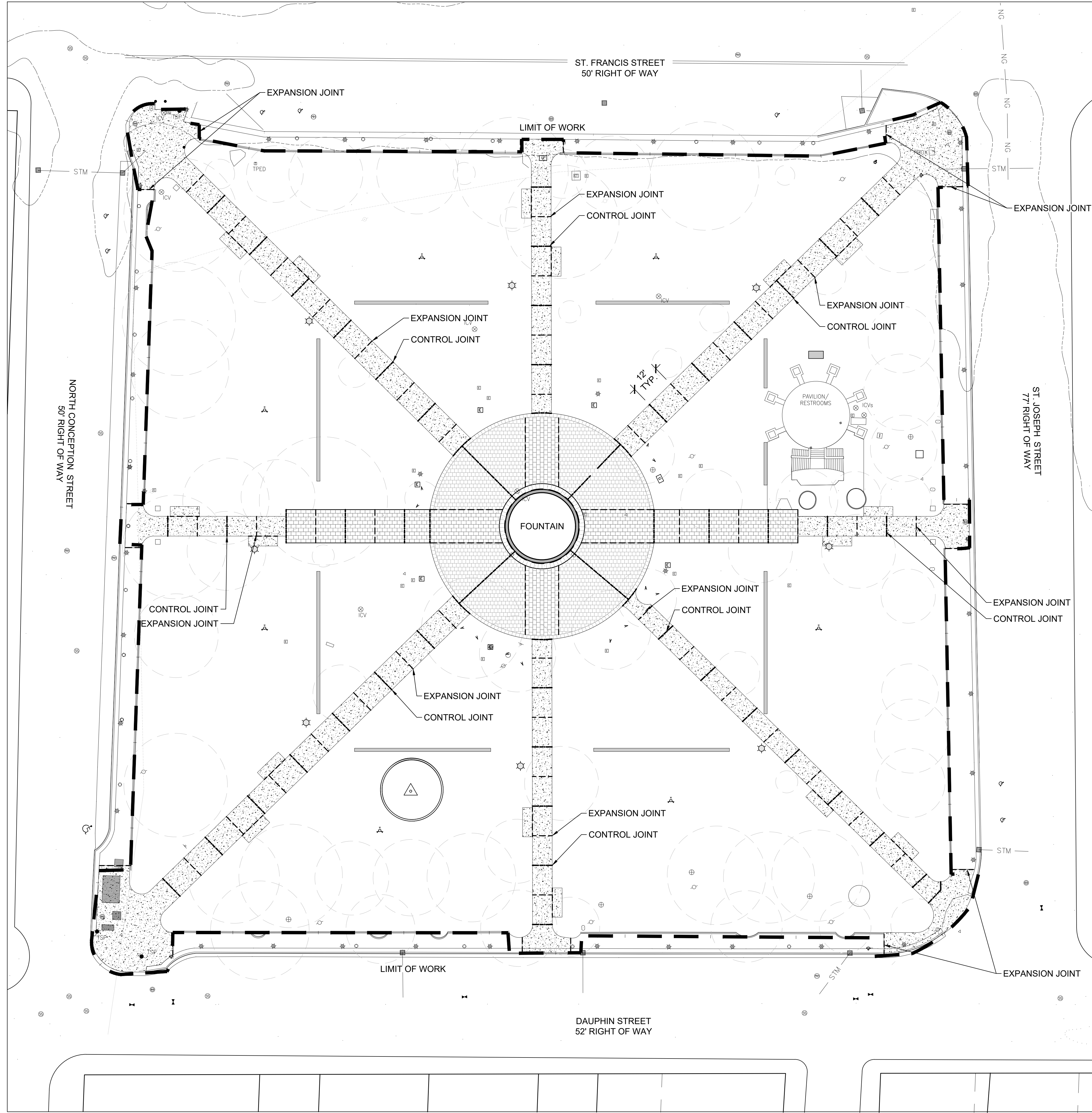
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**SITE JOINT PLAN**

**L2.03**



**LEGEND**

--- EXPANSION JOINT  
 -.- CONTROL JOINT

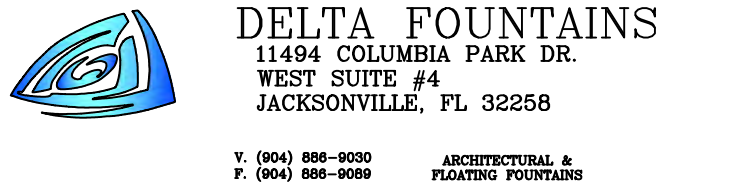
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**IMPROVEMENTS - PR-021-22**

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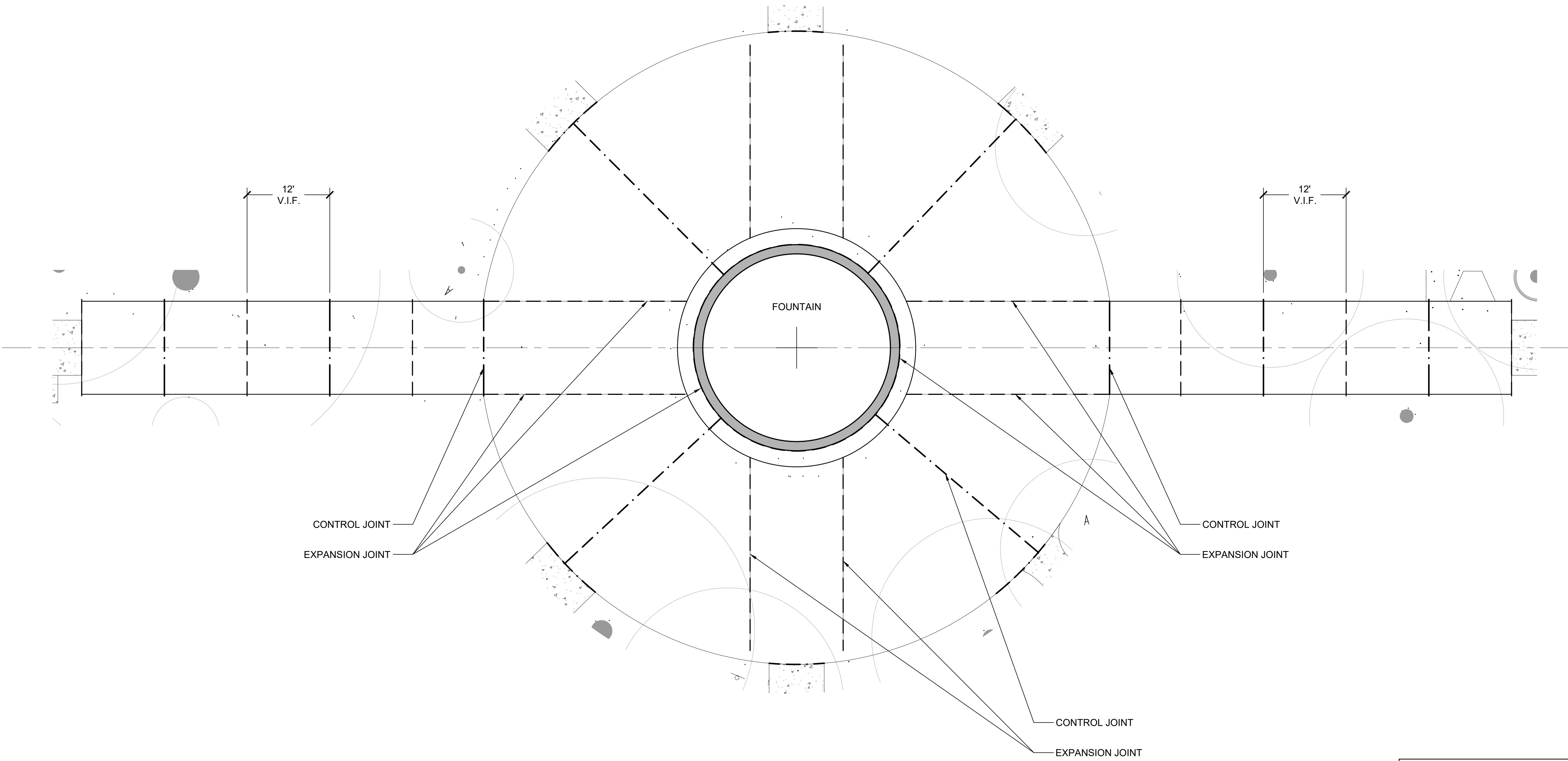
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**FOUNTAIN PLAZA**  
**CONCRETE BASE**  
**JOINT PLAN**  
**L2.04**



**NOTE**  
 ALL CONCRETE SHOWN HERE SHALL BE COVERED BY STONE PAVERS.

**LEGEND**

	CONTROL JOINT
	EXPANSION JOINT



**BIENVILLE SQUARE**  
**FOUNTAIN & SITE AMENITIES**  
**IMPROVEMENTS - PR-021-22**

MOBILE, ALABAMA

**CLARBO** LANDSCAPE ARCHITECTURE

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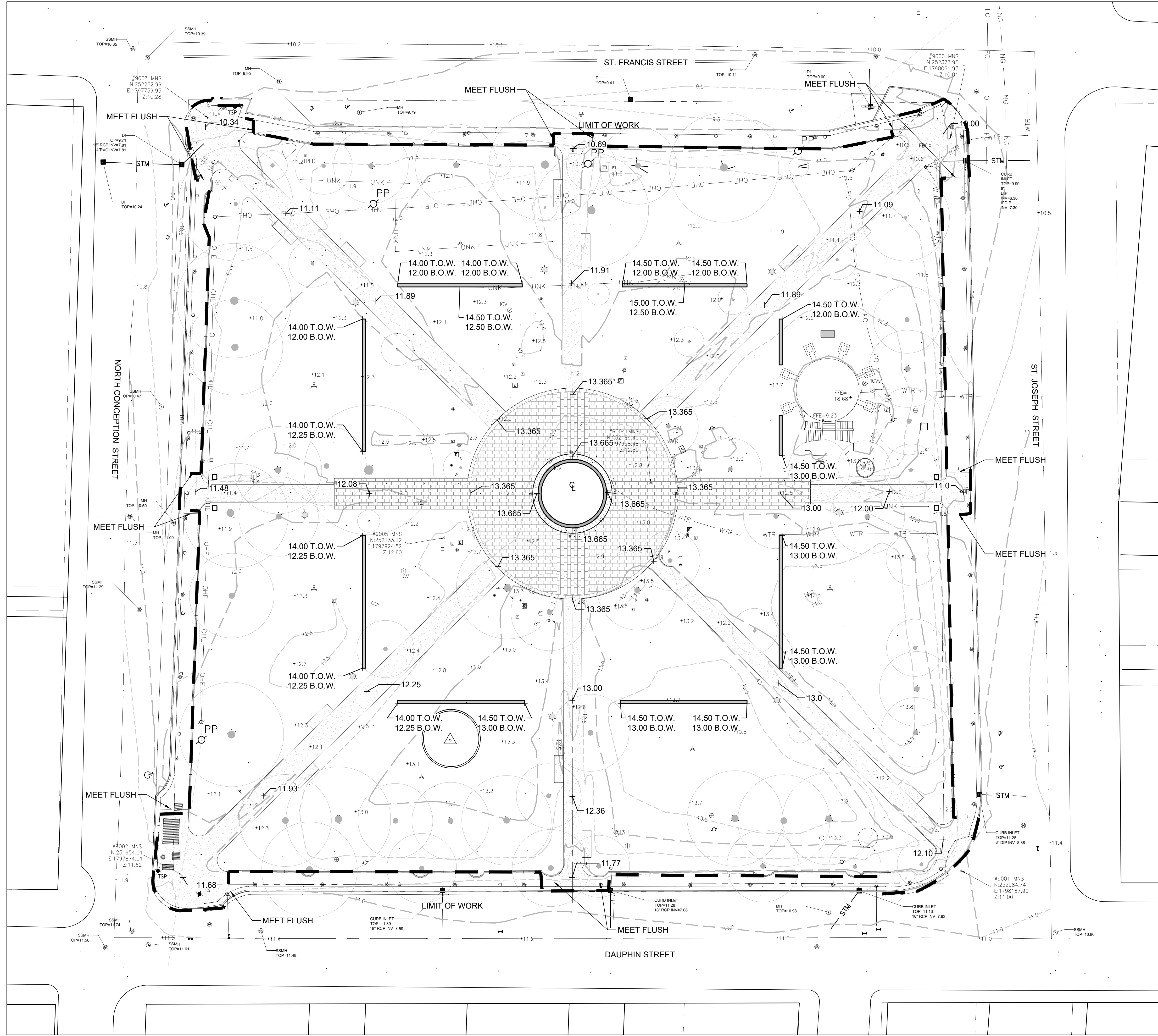
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**GRADING PLAN**

**L3.00**



**LEGEND**

xx.xx SPOT ELEVATION

CONTRACTOR RESPONSIBLE TO TIE NEW CONCRETE WITH EXISTING CONCRETE FLUSH.

SCALE: 1"=20'-0"



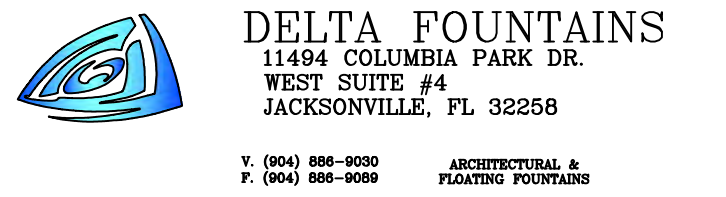
# BIENVILLE SQUARE

FOUNTAIN & SITE AMENITIES  
IMPROVEMENTS - PR-021-22

MOBILE, ALABAMA



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F. (904) 888-9099



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DATE: APRIL 05, 2023

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CHECKED BY: SB

SCALE: 1"=20'-0"

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## HARDSCAPE PLAN

# L4.00

**LEGEND**

- PEDESTRIAN RATED CONCRETE PAVING
- VEHICULAR RATED CONCRETE PAVING
- BLUESTONE PAVING
- FOUNTAIN SEAT WALL
- OUTER BLUESTONE BAND
- INNER GRANITE BAND
- EX. TREE TO REMAIN
- LIMIT OF WORK
- LOW BRICK WALL

CONTRACTOR RESPONSIBLE TO USE PNEUMATIC/ AIR-SPADE EQUIPMENT ANYTIME TRENCHING WITHIN 25' OF AN EXISTING TREE

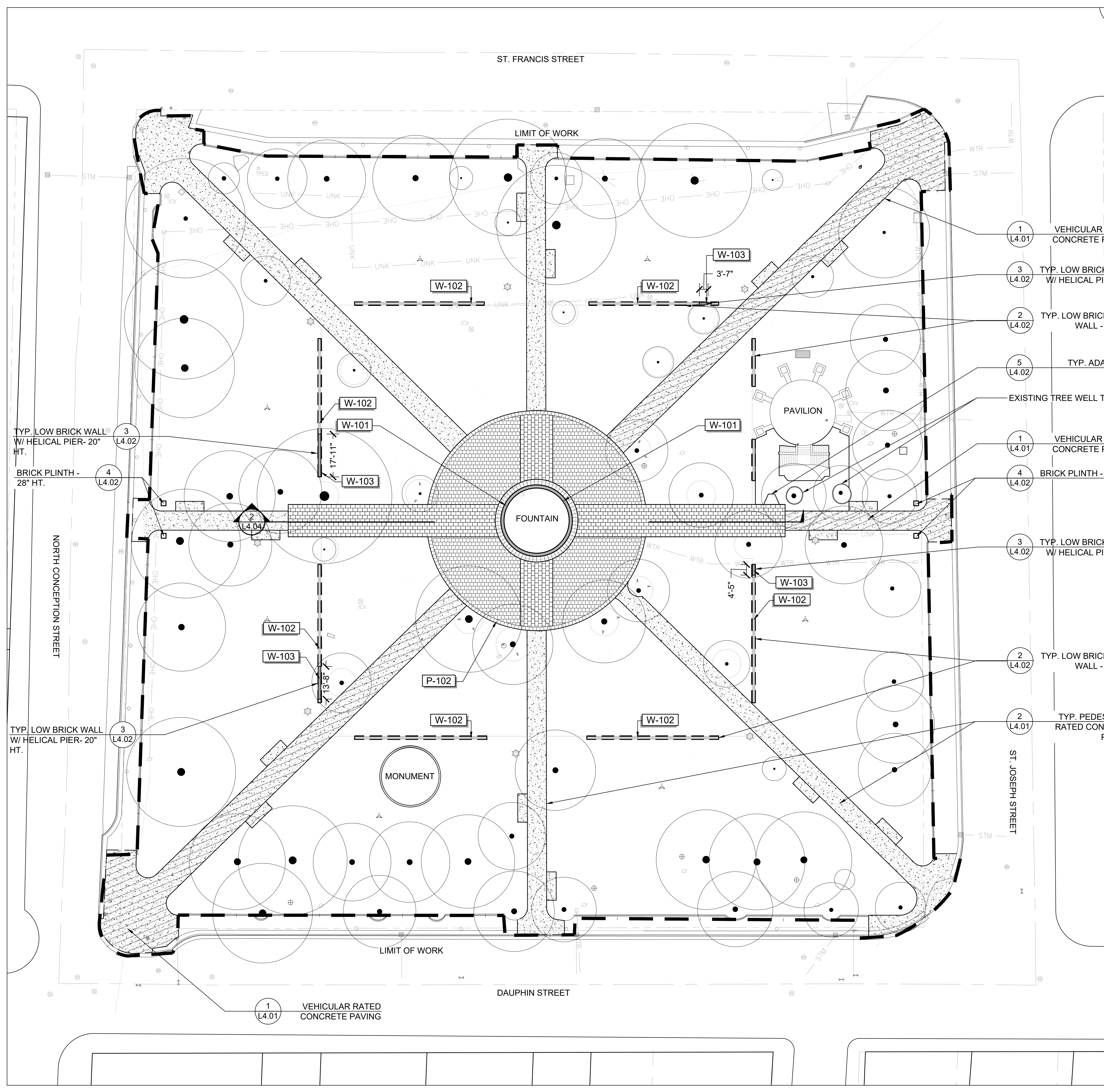
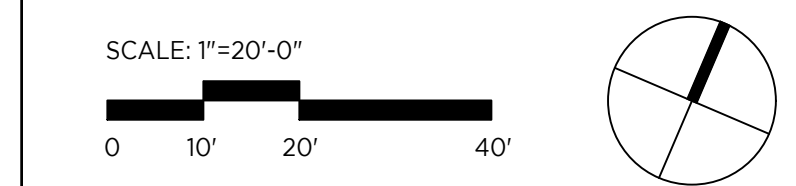
CONTRACTOR RESPONSIBLE FOR THE NUMBER OF HELICAL PIERS USED BASED ON HAVING ONE ON EACH END AND A MAXIMUM SPACING OF 10'-0" O.C.

**FOUNTAIN INSTALLATION REQUIREMENTS:**  
THE IRON FOUNTAIN BOWLS WILL BE PROVIDED, DELIVERED, AND INSTALLED BY ROBINSON IRON AND IS NOT THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE DELIVERY OF THE FOUNTAIN AS WELL AS PROVIDING A 25-TON CARRY DECK CRANE, OR APPROVED EQUAL, TO PLACE THE FOUNTAIN BOWLS ONTO THE FOUNTAIN BASE FOR INSTALLATION. THE CONTRACTOR SHALL INCLUDE THE COST OF CRANE RENTAL AND OPERATION TO PLACE AND INSTALL THE FOUNTAIN BOWLS IN THE BASE BID.

CONTRACTOR RESPONSIBLE FOR VERIFYING LINEAR FOOTAGE QUANTITIES, TAKEOFFS, AND SPACING.

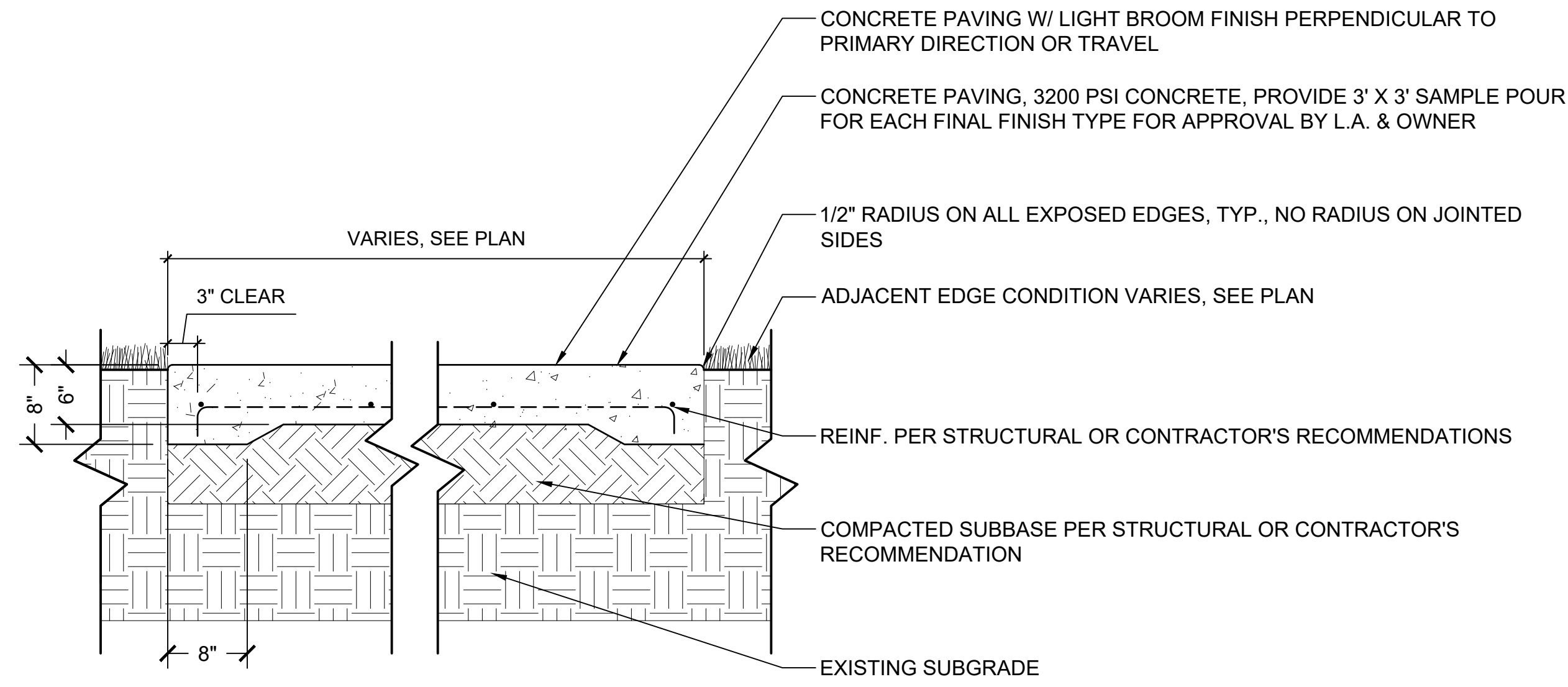
**WALL SCHEDULE**

SYMBOL	DESCRIPTION	QTY	DETAIL
W-101	FOUNTAIN SEAT WALL	90 LF	4/L4.05
W-102	LOW BRICK WALL- STANDARD DETAIL	390 LF	2/L4.02
W-103	LOW BRICK WALL- HELICAL PIER DETAIL (10'-0" O.C. MAX. SPACING)	40 LF	3/L4.02

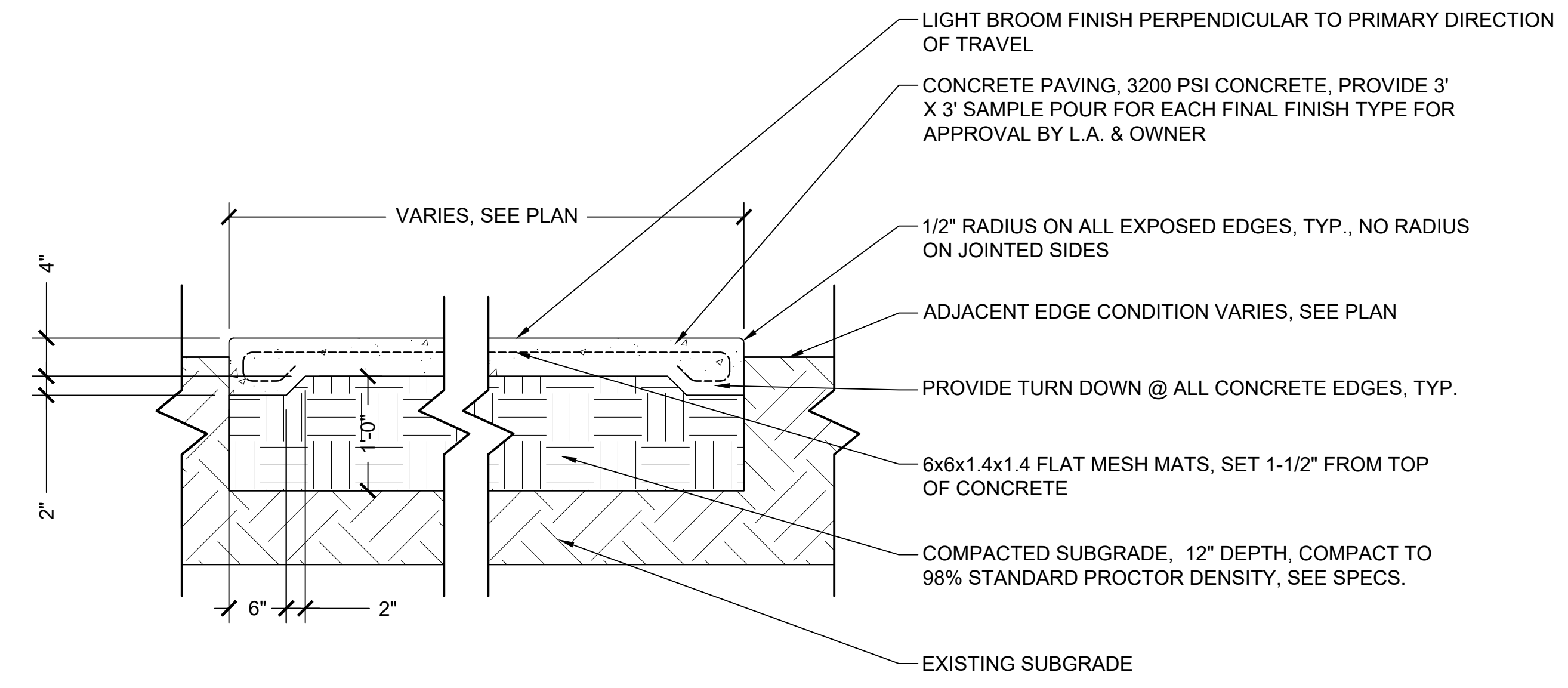


- 1 (L4.01) VEHICULAR RATED CONCRETE PAVING
- 3 (L4.02) TYP. LOW BRICK WALL W/ HELICAL PIER- 20" HT.
- 2 (L4.02) TYP. LOW BRICK SEAT WALL - 20" HT.
- 5 (L4.02) TYP. ADA RAMP
- EXISTING TREE WELL TO REMAIN
- 1 (L4.01) VEHICULAR RATED CONCRETE PAVING
- 4 (L4.02) BRICK PLINTH - 28" HT.
- 3 (L4.02) TYP. LOW BRICK WALL W/ HELICAL PIER- 20" HT.
- 2 (L4.02) TYP. LOW BRICK SEAT WALL - 20" HT.
- 2 (L4.01) TYP. PEDESTRIAN RATED CONCRETE PAVING

- 3 (L4.02) TYP. LOW BRICK WALL W/ HELICAL PIER- 20" HT.
- 4 (L4.02) BRICK PLINTH - 28" HT.
- 3 (L4.02) TYP. LOW BRICK WALL W/ HELICAL PIER- 20" HT.

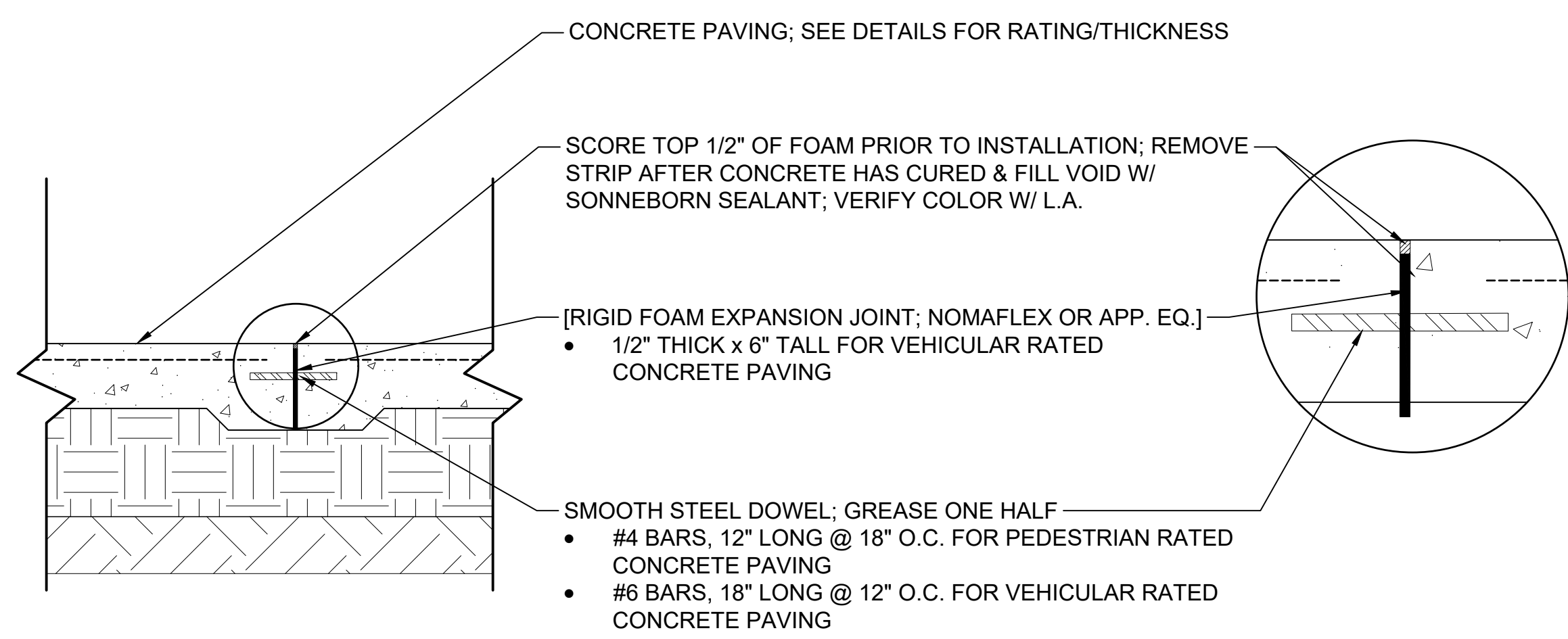


**1** VEHICULAR RATED CONCRETE PAVING  
SCALE: 1" = 1'-0"

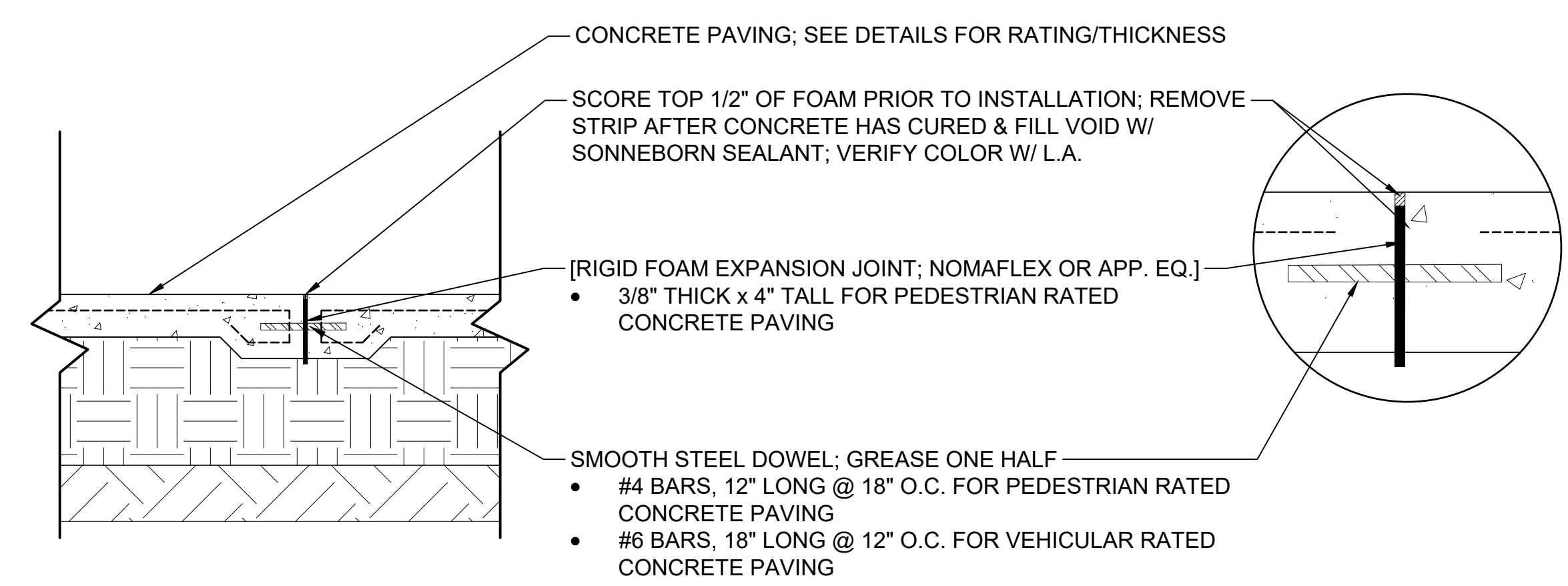


**2** TYP. PEDESTRIAN RATED CONCRETE PAVING  
SCALE: 1" = 1'-0"

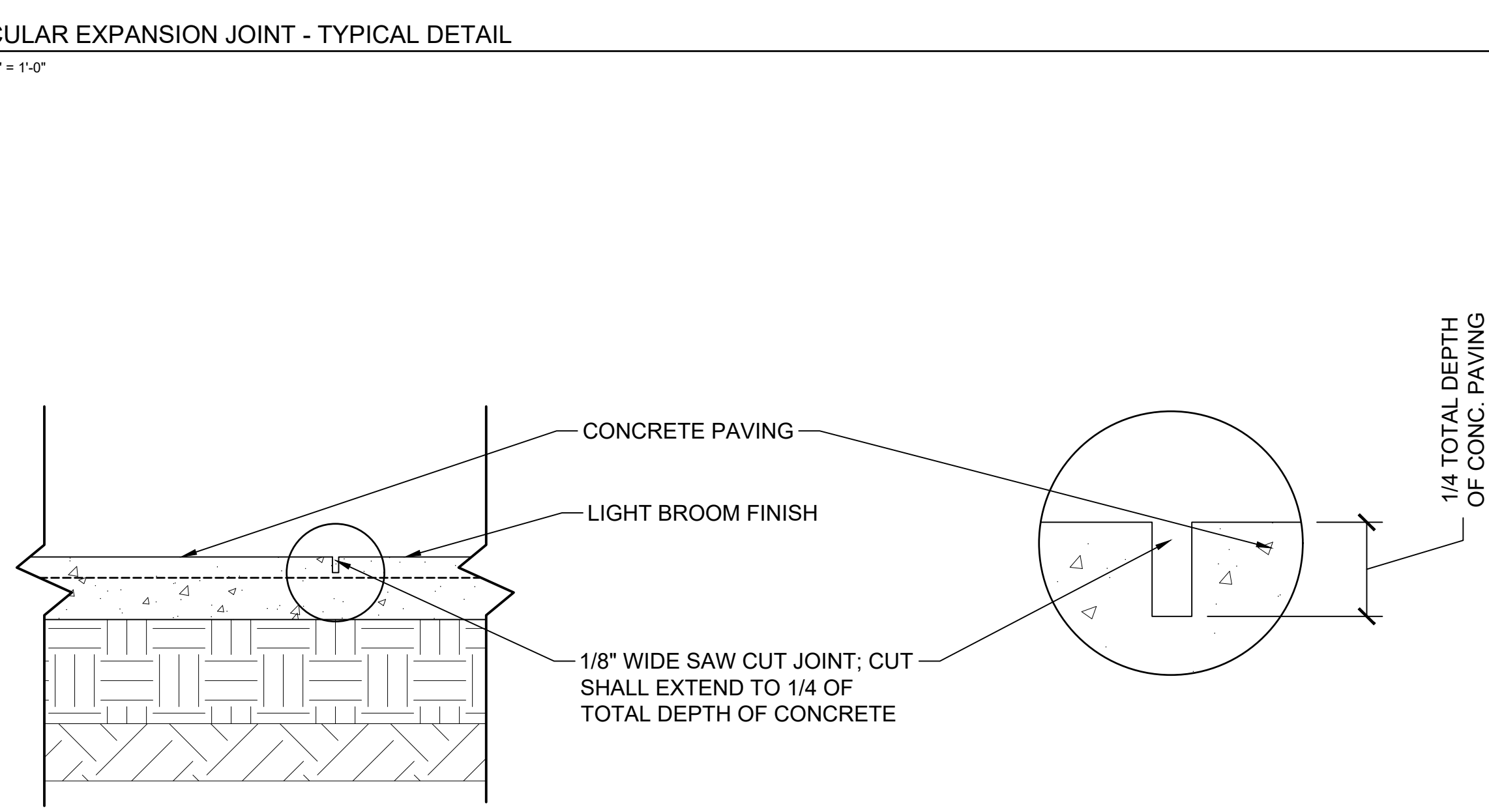
4" CONC. MIN NEED A TURNED DOWN EDGE AT EXPANSION JOINT TO ALLOW A MIN. OF 2" CLEAR FROM OUTSIDE EDGE OF REBAR



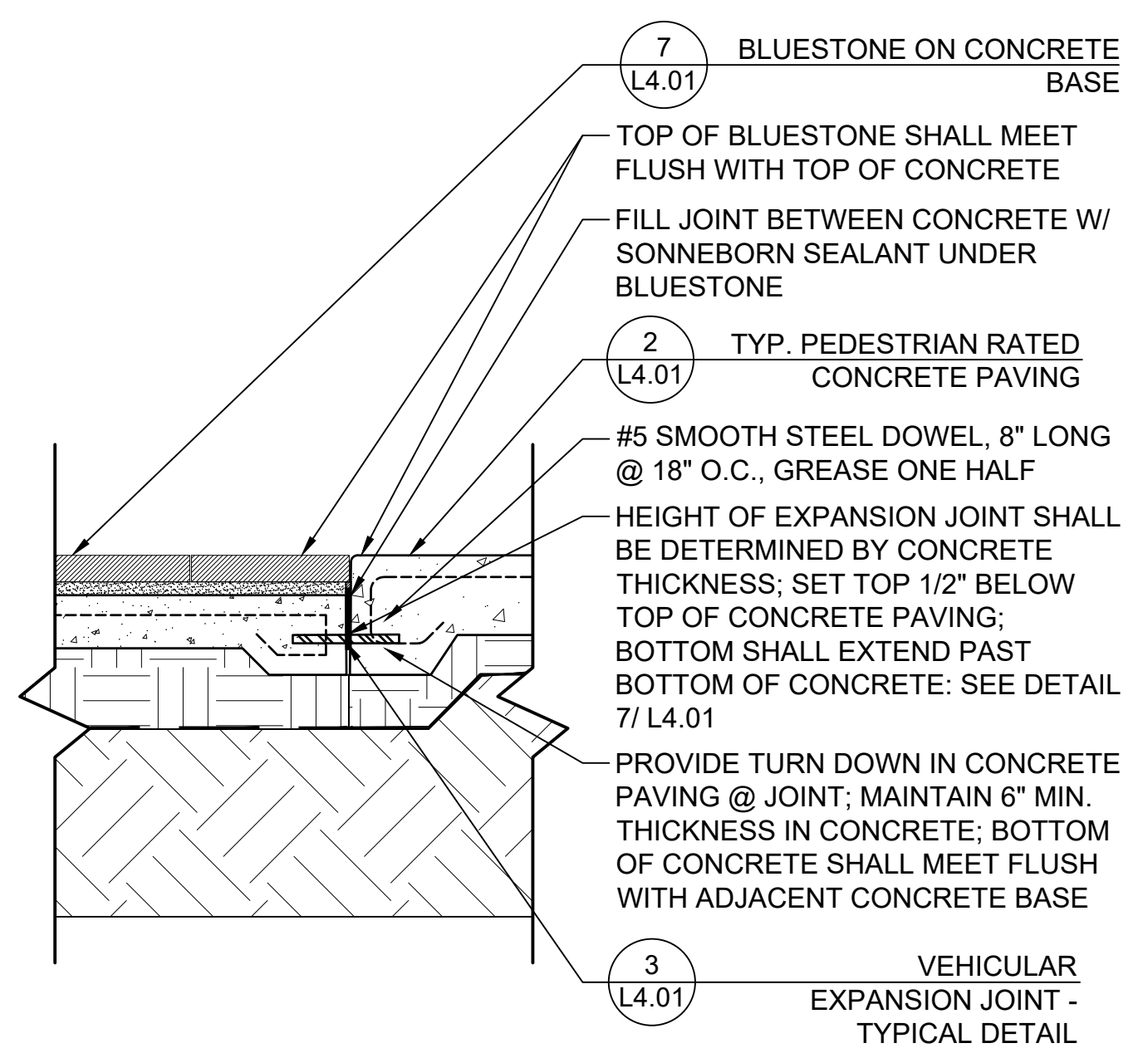
**3** VEHICULAR EXPANSION JOINT - TYPICAL DETAIL  
SCALE: 1" = 1'-0"



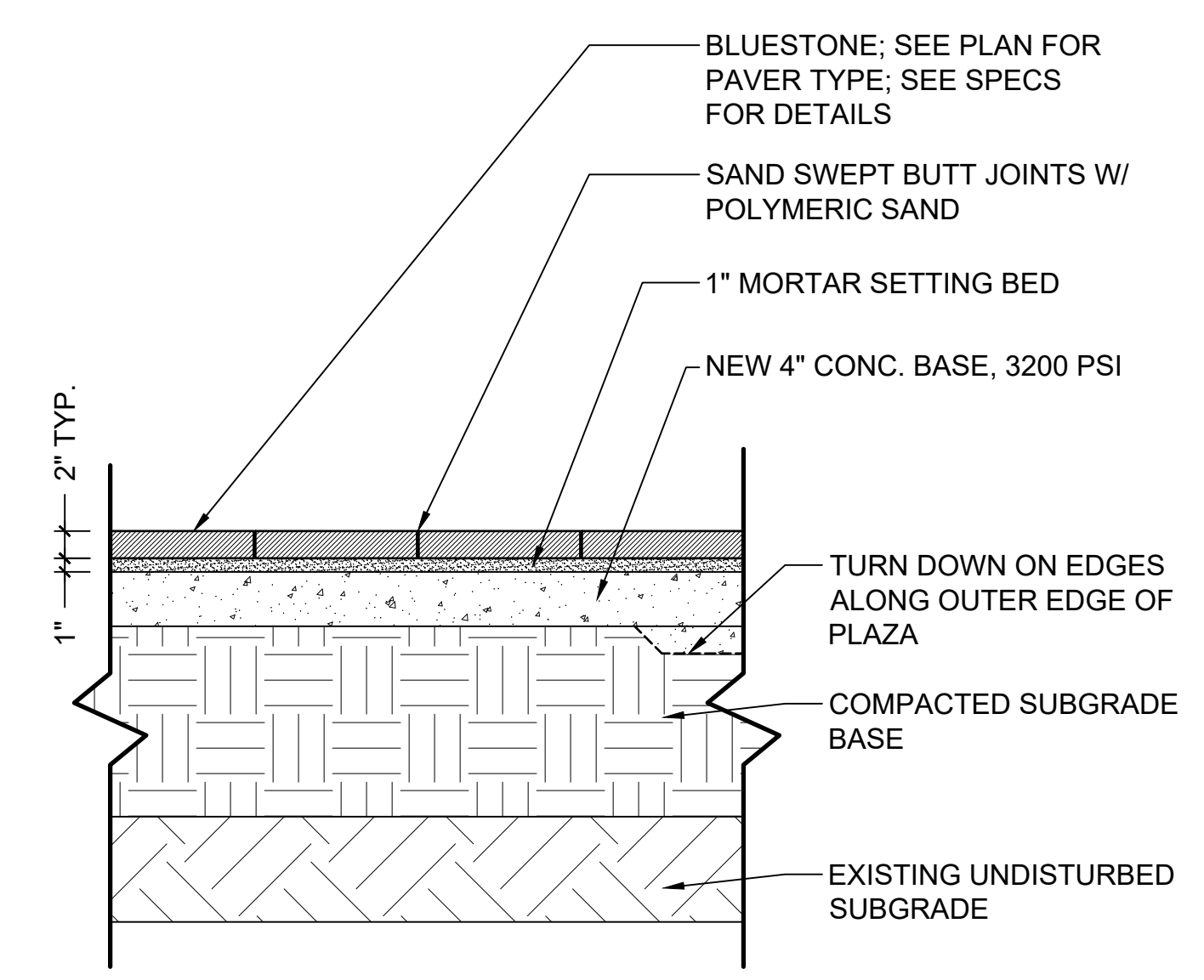
**4** PEDESTRIAN EXPANSION JOINT - TYPICAL DETAIL  
SCALE: 1" = 1'-0"



**5** CONTROL JOINT - TYPICAL DETAIL  
SCALE: 1" = 1'-0"



**6** TYP. CONCRETE PAVING @ BLUESTONE  
SCALE: 1" = 1'-0"



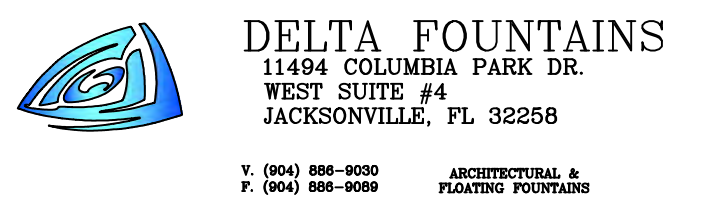
**7** STONE PAVING ON CONCRETE BASE  
SCALE: 1" = 1'-0"

**BIENVILLE SQUARE**  
FOUNTAIN & SITE AMENITIES  
IMPROVEMENTS - PR-021-22

MOBILE, ALABAMA



200 LAUREL ST. SUITE 100  
BATON ROUGE, LA 70801  
225 302 7452



11434 COLUMBIA PARK DR.  
WEST SUITE #4  
JACKSONVILLE, FL 32258

ARCHITECTURAL & PLANTING FOUNTAINS



Nimrod Long  
And Associates



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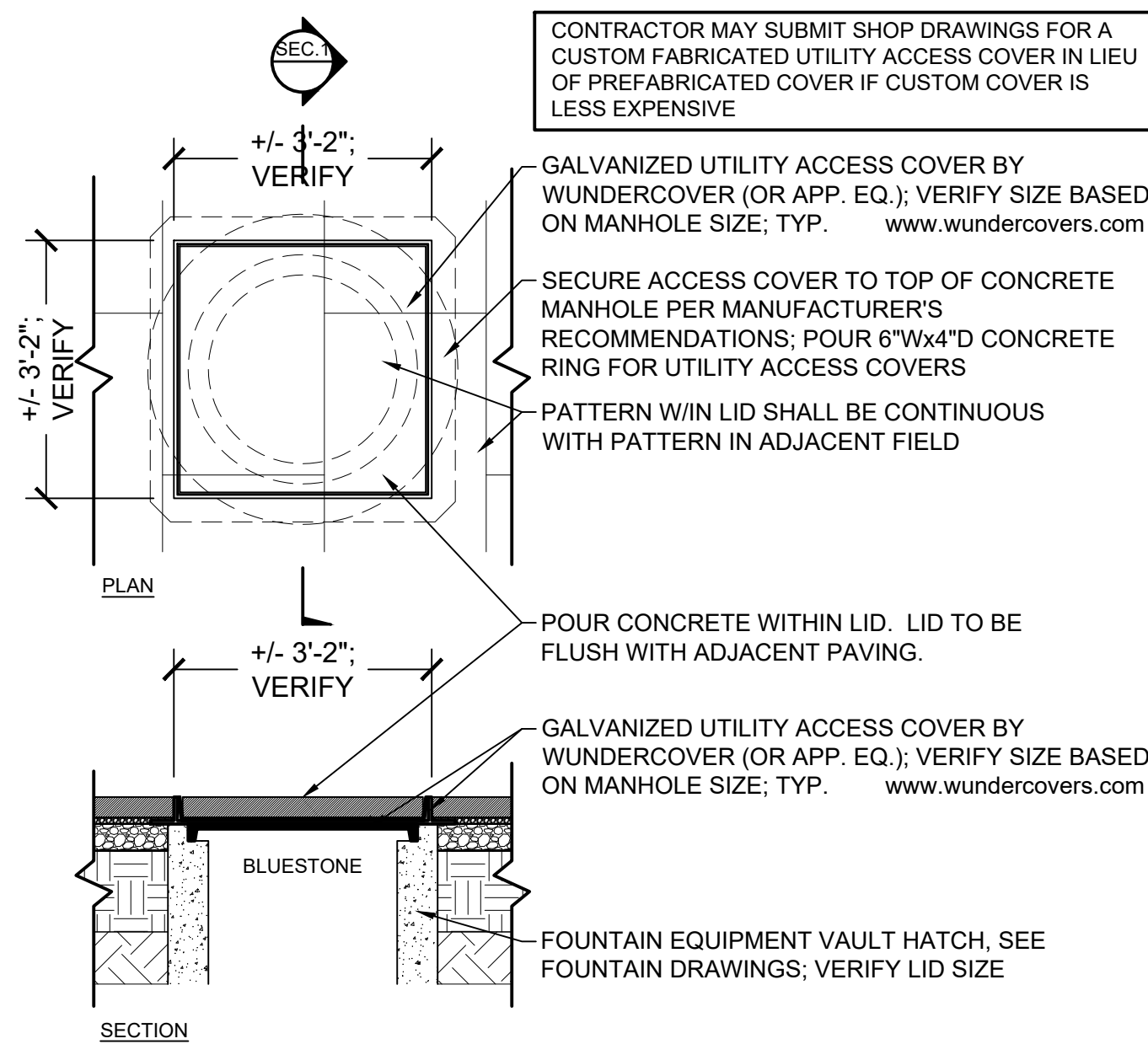
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DATE: APRIL 05, 2023  
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HARDSCAPE  
DETAILS I

L4.01



**1 UTILITY ACCESS COVER**  
SCALE: 1/2" = 1'-0"

CONTRACTOR MAY SUBMIT SHOP DRAWINGS FOR A CUSTOM FABRICATED UTILITY ACCESS COVER IN LIEU OF PREFABRICATED COVER IF CUSTOM COVER IS LESS EXPENSIVE

GALVANIZED UTILITY ACCESS COVER BY WUNDERCOVER (OR APP. EQ.); VERIFY SIZE BASED ON MANHOLE SIZE; TYP. [www.wundercovers.com](http://www.wundercovers.com)

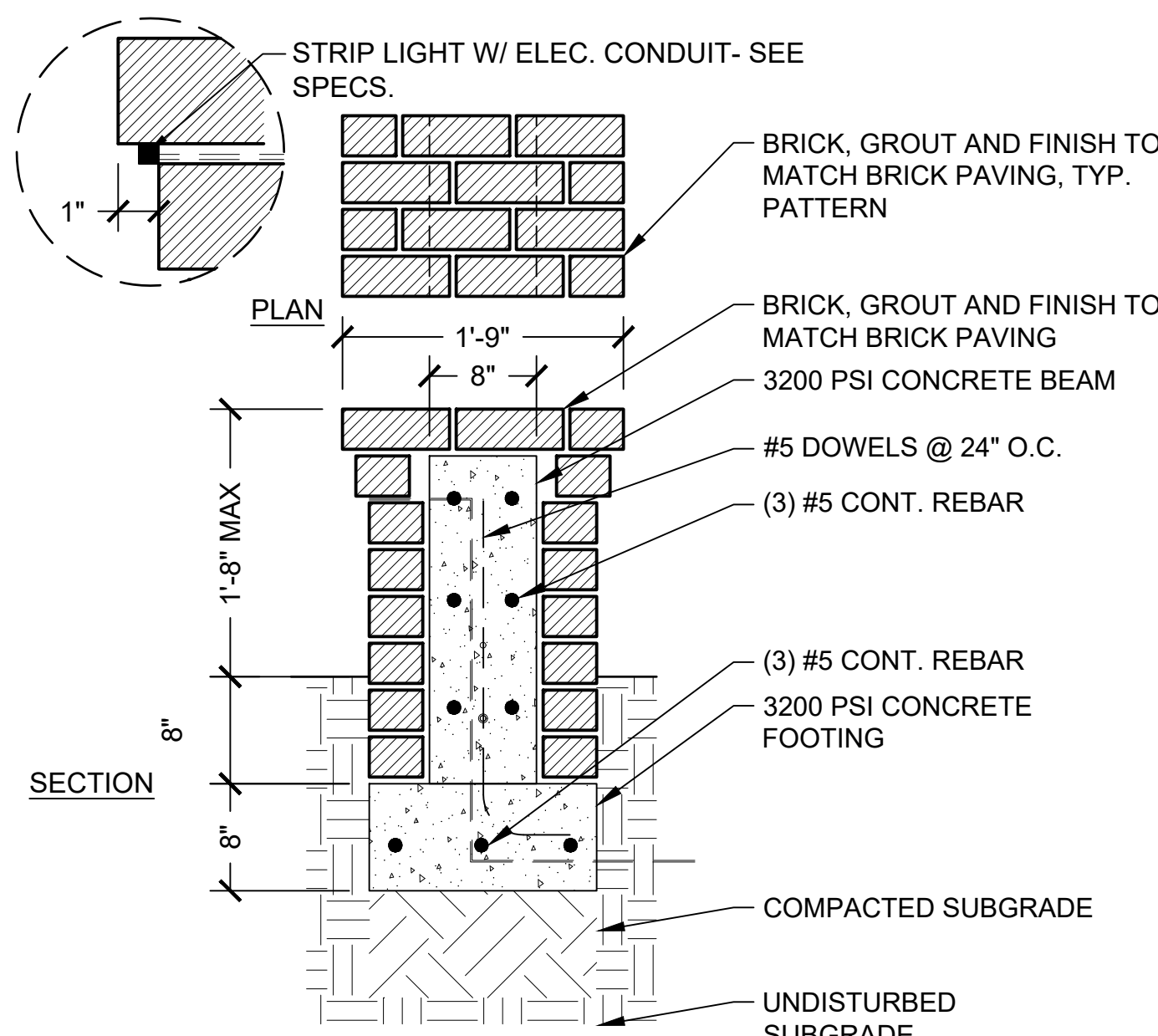
SECURE ACCESS COVER TO TOP OF CONCRETE MANHOLE PER MANUFACTURER'S RECOMMENDATIONS; POUR 6"Wx4"D CONCRETE RING FOR UTILITY ACCESS COVERS

PATTERN W/IN LID SHALL BE CONTINUOUS WITH PATTERN IN ADJACENT FIELD

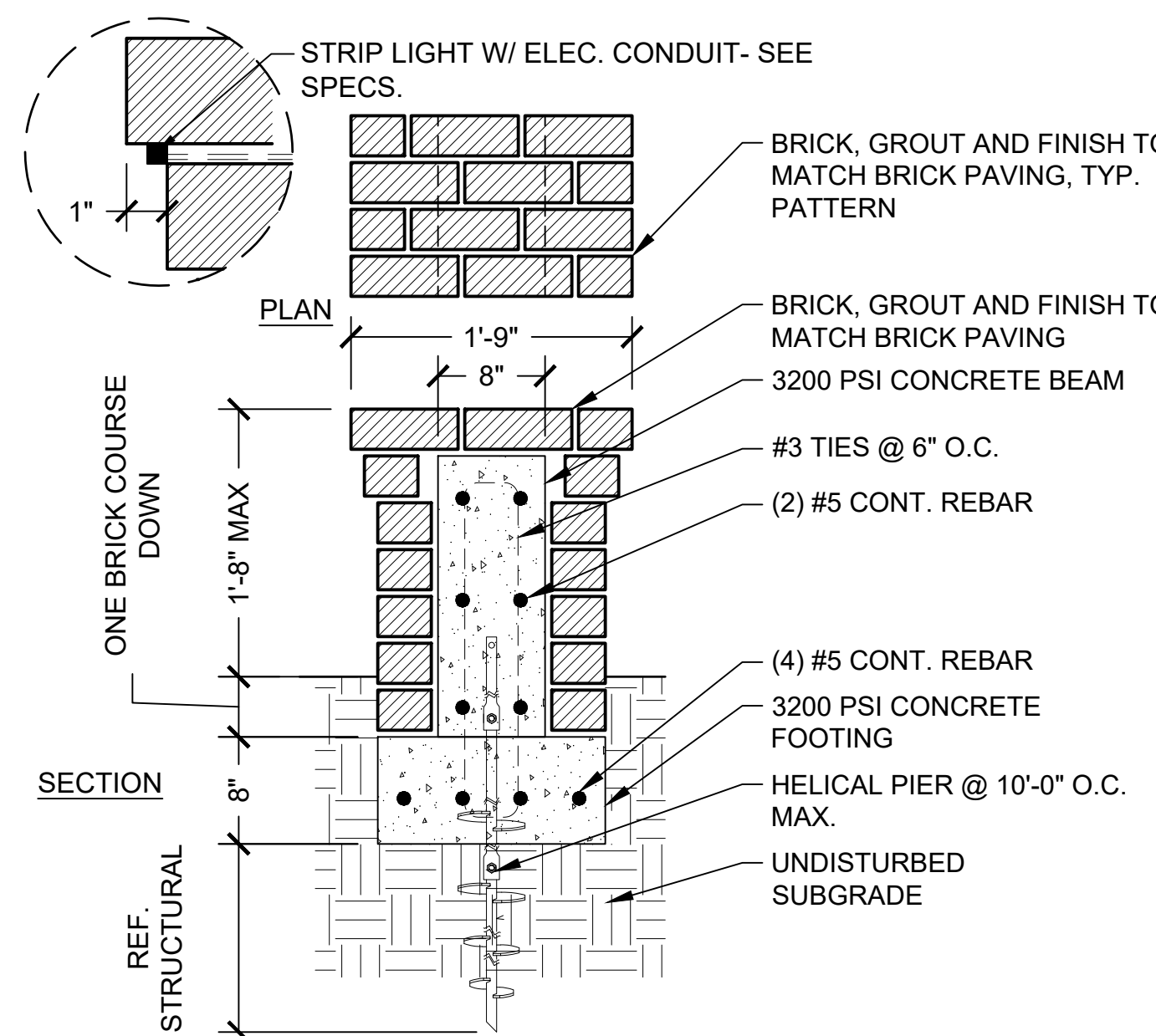
POUR CONCRETE WITHIN LID. LID TO BE FLUSH WITH ADJACENT PAVING.

GALVANIZED UTILITY ACCESS COVER BY WUNDERCOVER (OR APP. EQ.); VERIFY SIZE BASED ON MANHOLE SIZE; TYP. [www.wundercovers.com](http://www.wundercovers.com)

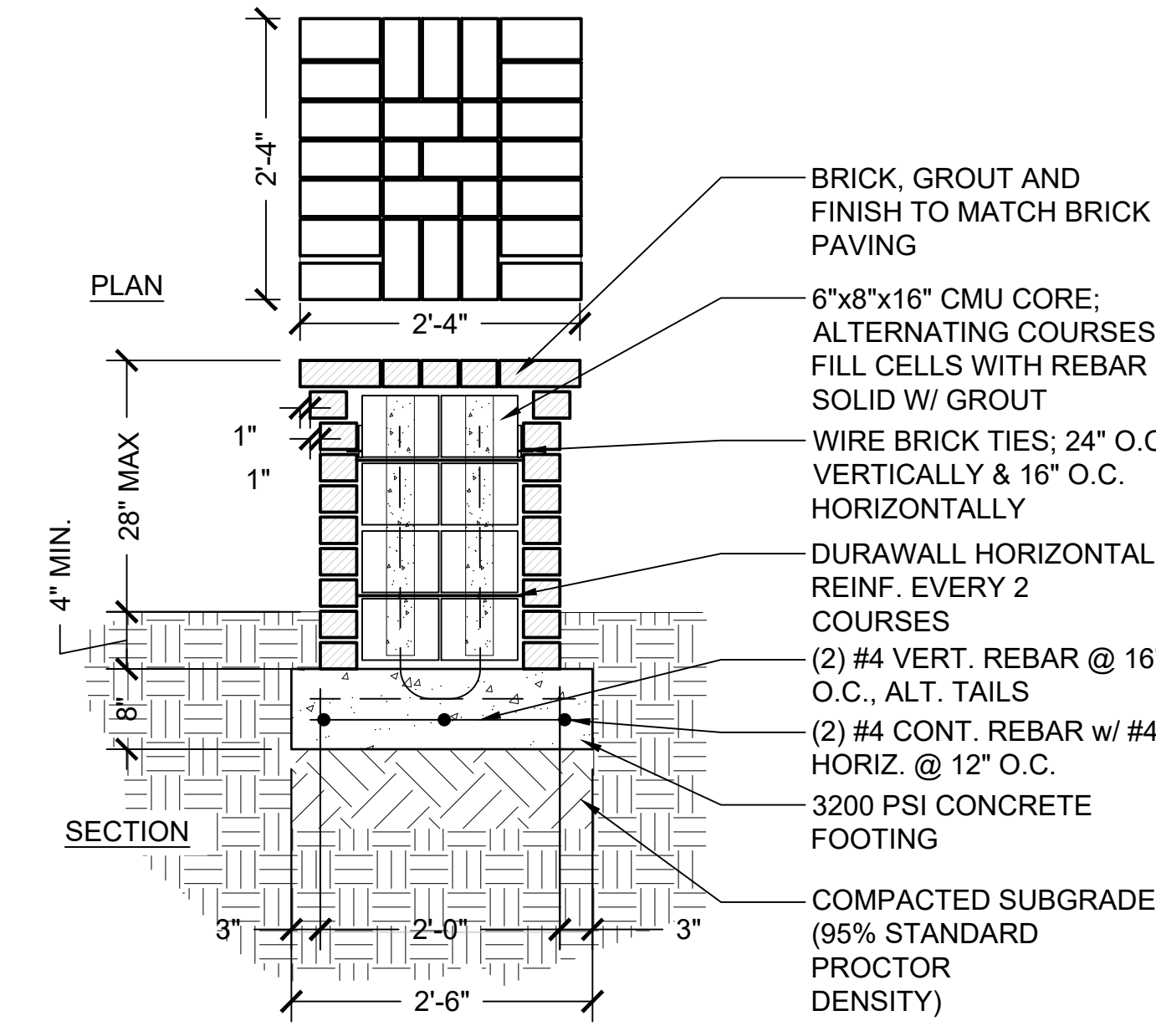
FOUNTAIN EQUIPMENT VAULT HATCH. SEE FOUNTAIN DRAWINGS; VERIFY LID SIZE



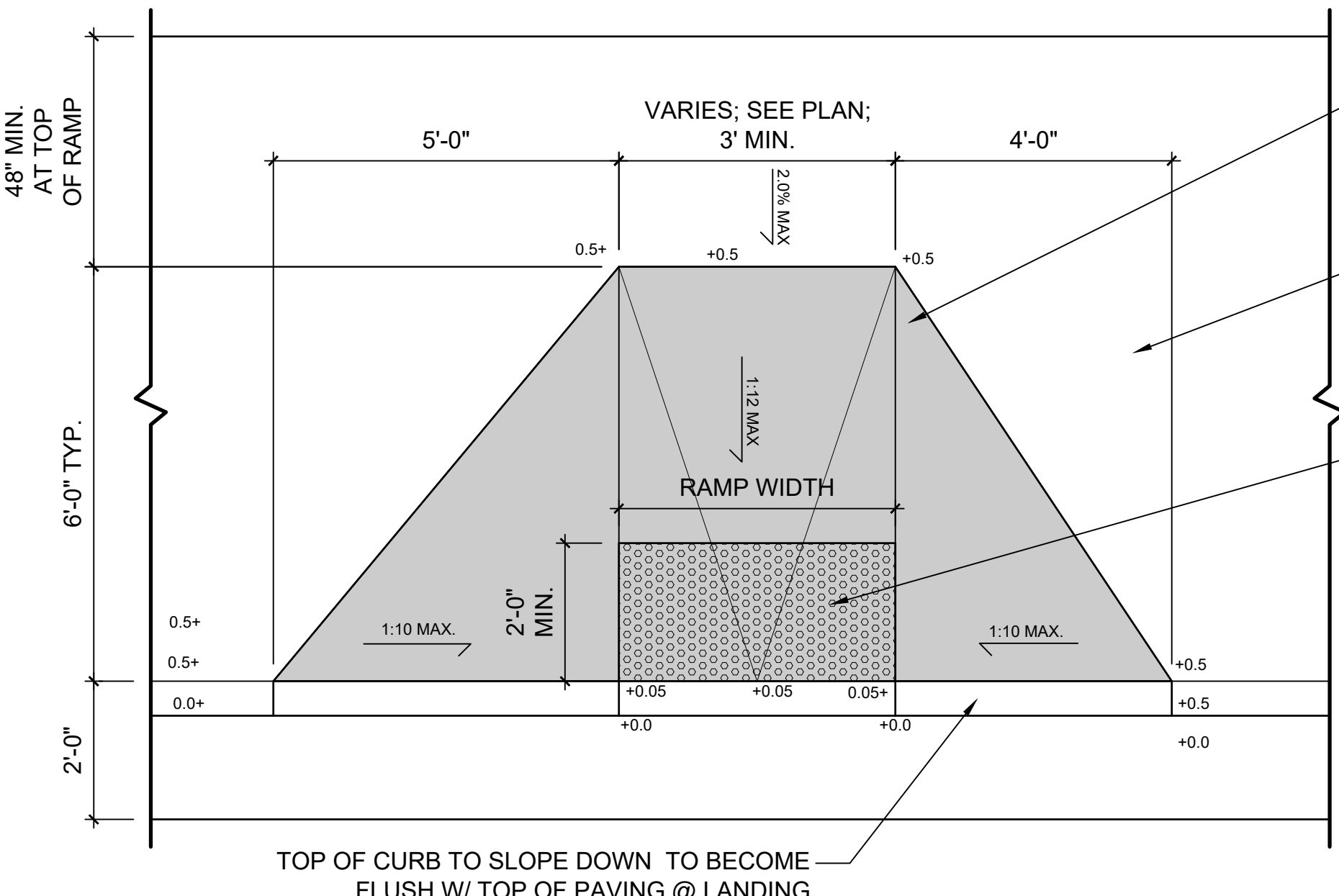
**2 TYP. LOW BRICK SEAT WALL- 20" HT.**  
SCALE: 1" = 1'-0"



**3 TYP. LOW BRICK WALL W/ HELICAL PIER- 20" HT.**  
SCALE: 1" = 1'-0"



**4 BRICK PLINTH - 28" HT.**  
SCALE: 3/4" = 1'-0"



**5 TYP. ADA RAMP**  
SCALE: 1/2" = 1'-0"

GRADES SHOWN ARE FOR REFERENCE ONLY, ACTUAL GRADES VARY, REFER TO GRADING PLANS

EXISTING WALKWAY

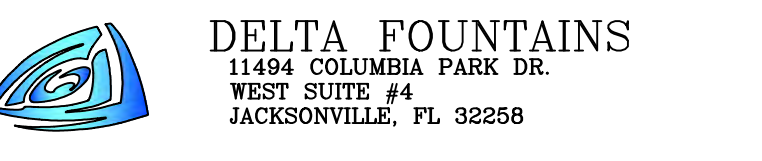
DETECTABLE WARNING PLATES PER CITY STANDARDS; EXTEND 24" MIN. FROM BACK OF CURB AND ACROSS ENTIRE LANDING WIDTH TO MEET ADA STANDARDS. CONFIRM REQ'D PLATE SIZE & TYPE, INSTALL PER MAN. SPECS.

**BIENVILLE SQUARE**  
FOUNTAIN & SITE AMENITIES  
IMPROVEMENTS - PR-021-22

MOBILE, ALABAMA



200 LAUREL ST. SUITE 100  
BATON ROUGE, LA 70801  
225 302 7452



DELTA FOUNTAINS  
11494 COLUMBIA PARK DR.  
WEST SUITE #4  
JACKSONVILLE, FL 32258  
P. (904) 888-9090 ARCHITECTURAL & FOUNTAIN  
F. (904) 888-9099 PLANTING



Nimrod Long  
And Associates



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HARDSCAPE  
DETAILS II

L4.02

**BIENVILLE SQUARE**  
**FOUNTAIN & SITE AMENITIES**  
**IMPROVEMENTS - PR-021-22**

MOBILE, ALABAMA

**CLARBO** LANDSCAPE ARCHITECTURE  
 200 LAUREL ST. SUITE 100  
 BATON ROUGE, LA 70801  
 225 302 7452

**DELTA FOUNTAINS**  
 11424 COLUMBIA PARK DR.  
 WEST SUITE #4  
 JACKSONVILLE, FL 32258  
 P. (904) 888-9030 ARCHITECTURAL & FOUNTAIN  
 F. (904) 888-9030

**hargrove**

Nimrod Long  
 And Associates

**30 CDC ENGINEERS**  
 1112 Oak Grove Street North • Mobile, AL 36687  
 Office (251) 662-5891 • Fax (251) 662-5892

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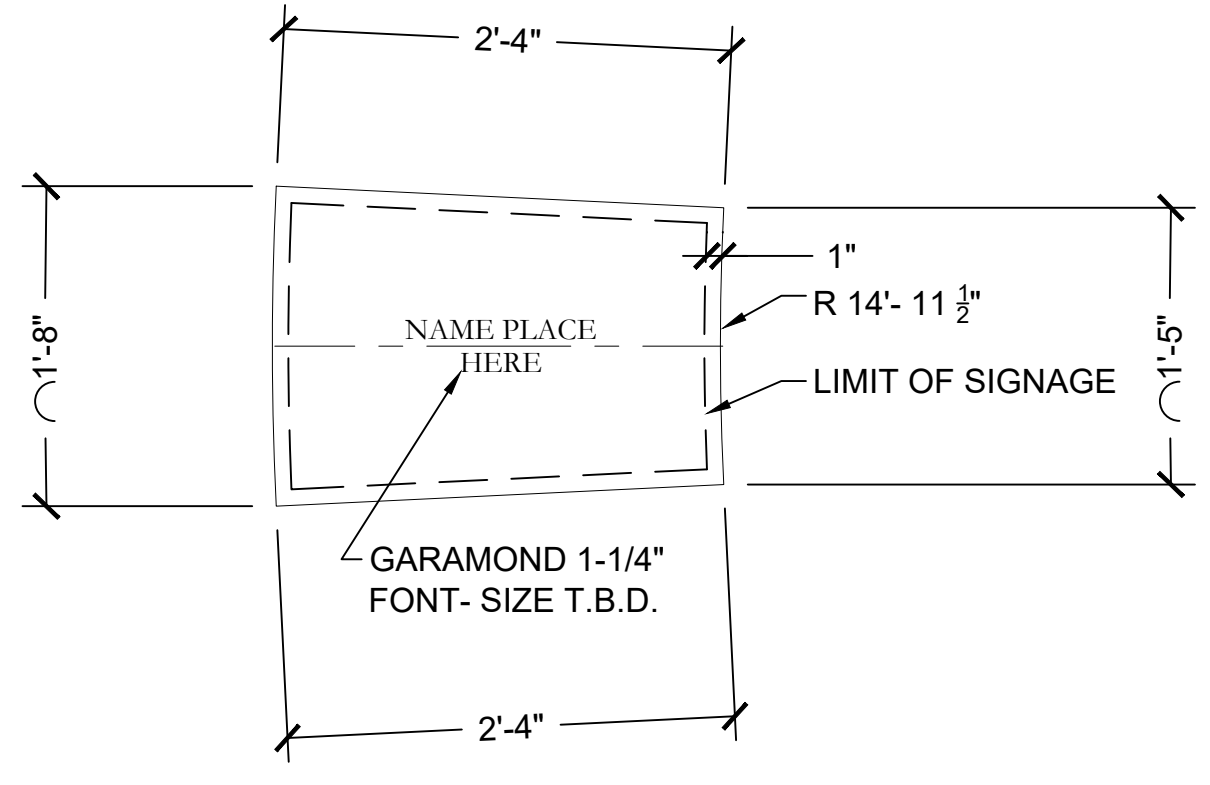
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**PAVING CUT SHEET DIAGRAM**

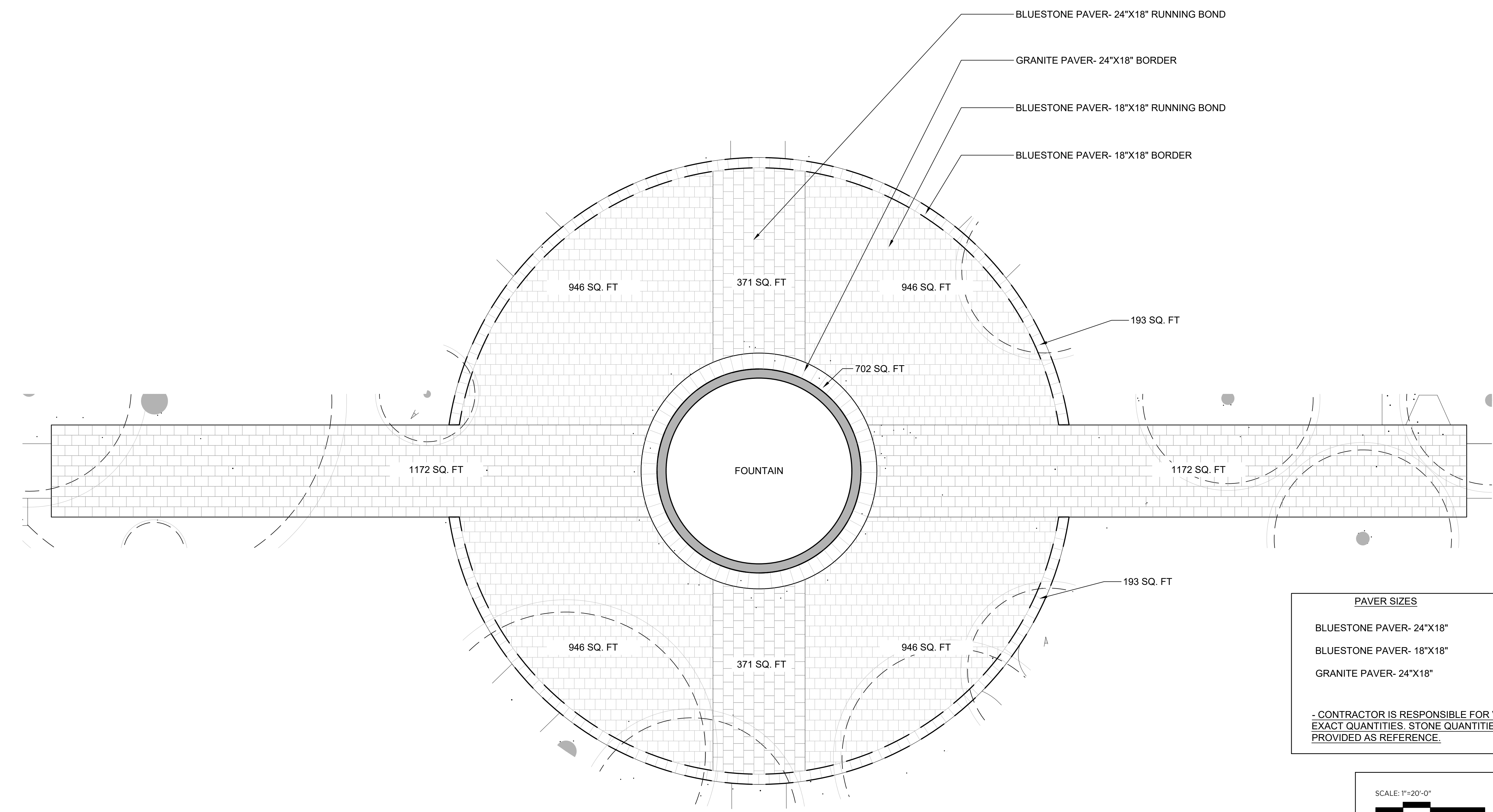
**L4.03**

NOTE:  
 CONTRACTOR SHALL NOT BE RESPONSIBLE FOR ENGRAVING DONOR(S) NAME.

144 LETTER MAX ON GARAMOND  
 1-1/4" FONT SIZE



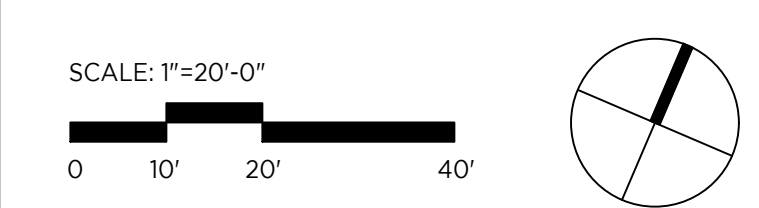
**1 INNER GRANITE PAVER BAND**  
 SCALE: 1" = 1'-0"



- BLUESTONE PAVER- 24"X18" RUNNING BOND
- GRANITE PAVER- 24"X18" BORDER
- BLUESTONE PAVER- 18"X18" RUNNING BOND
- BLUESTONE PAVER- 18"X18" BORDER

PAVER SIZES	QUANTITIES
BLUESTONE PAVER- 24"X18"	3086 SQ. FT
BLUESTONE PAVER- 18"X18"	5676 SQ. FT
GRANITE PAVER- 24"X18"	702 SQ. FT

- CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXACT QUANTITIES. STONE QUANTITIES PROVIDED AS REFERENCE.

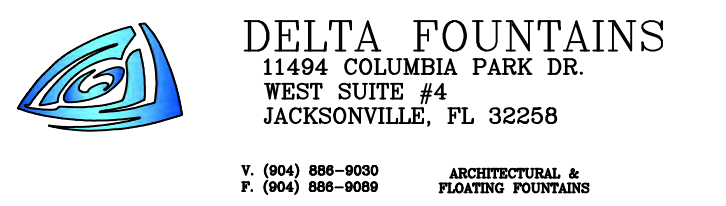


**BIENVILLE SQUARE**  
**FOUNTAIN & SITE AMENITIES**  
**IMPROVEMENTS - PR-021-22**

MOBILE, ALABAMA



200 LAUREL ST. SUITE 100  
 BATON ROUGE, LA 70801  
 225 302 7452



V. (904) 888-9030 ARCHITECTURAL &  
 F. (904) 888-9039 PLANNING FOUNTAINS



Nimrod Long  
 And Associates



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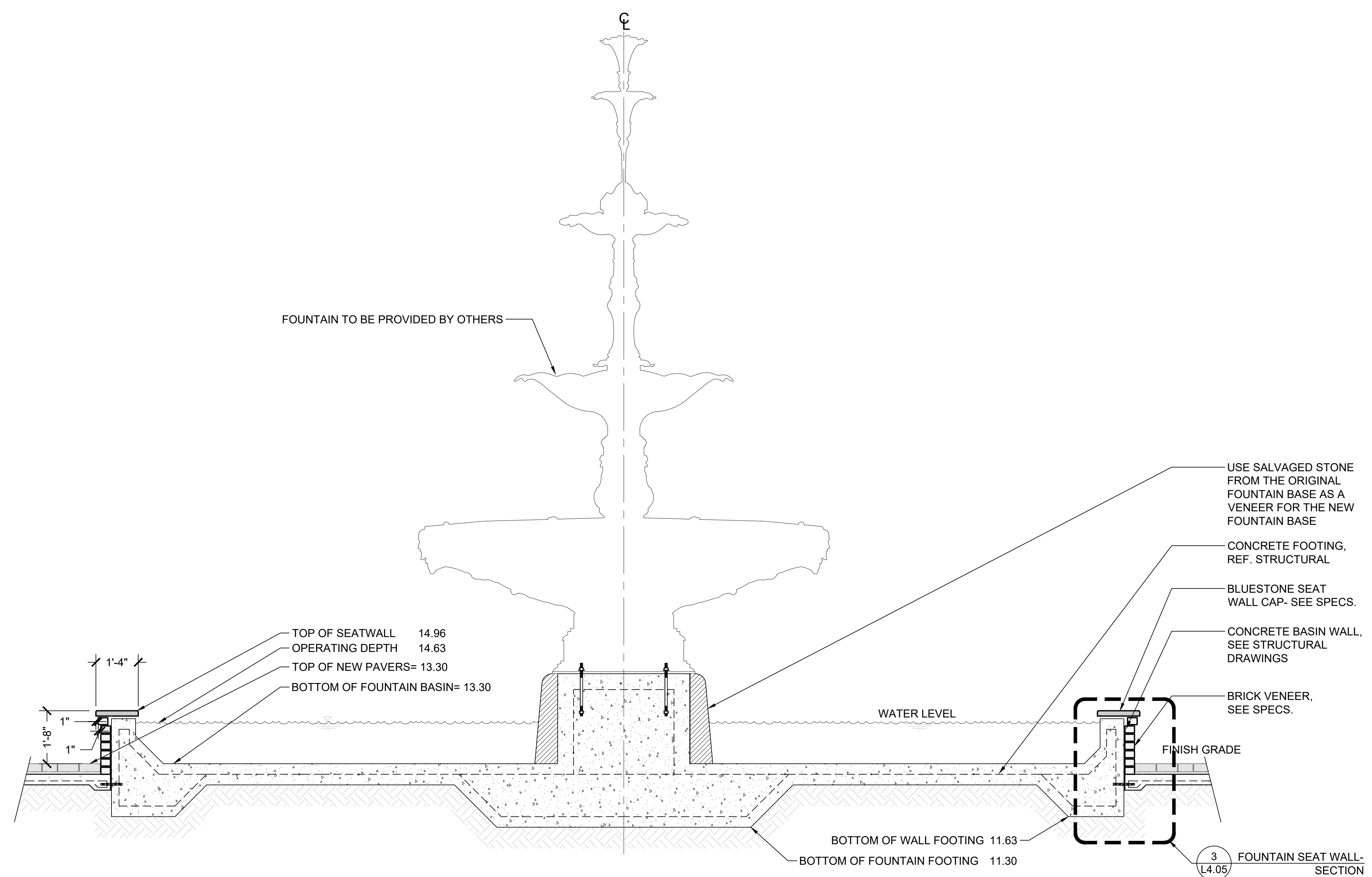
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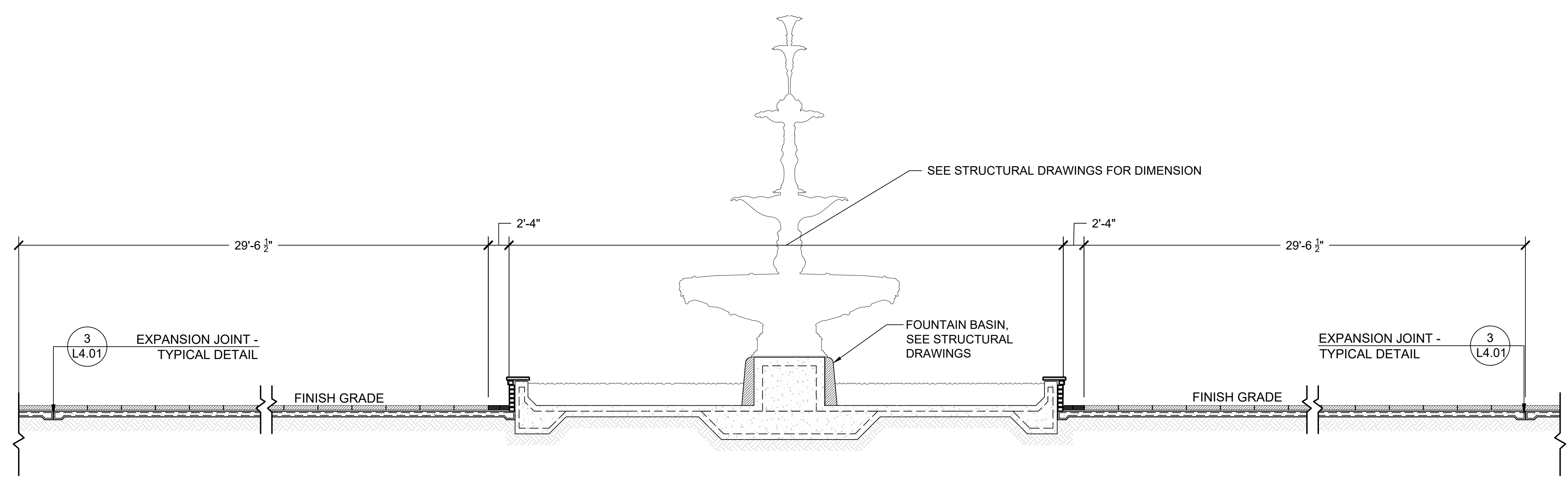
**FOUNTAIN PLAZA**  
**DETAIL I**

**L4.04**

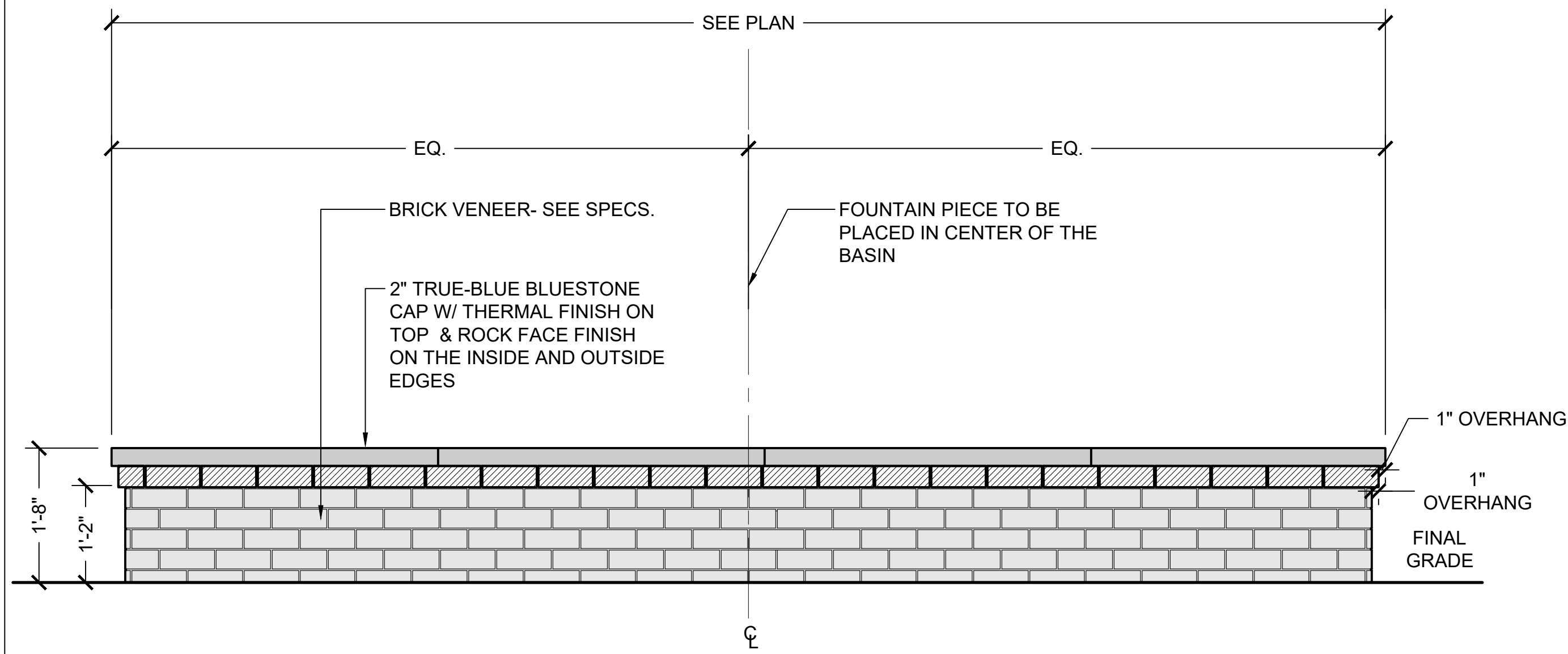


**1 FOUNTAIN BASIN**  
 SCALE: 1/2" = 1'-0"

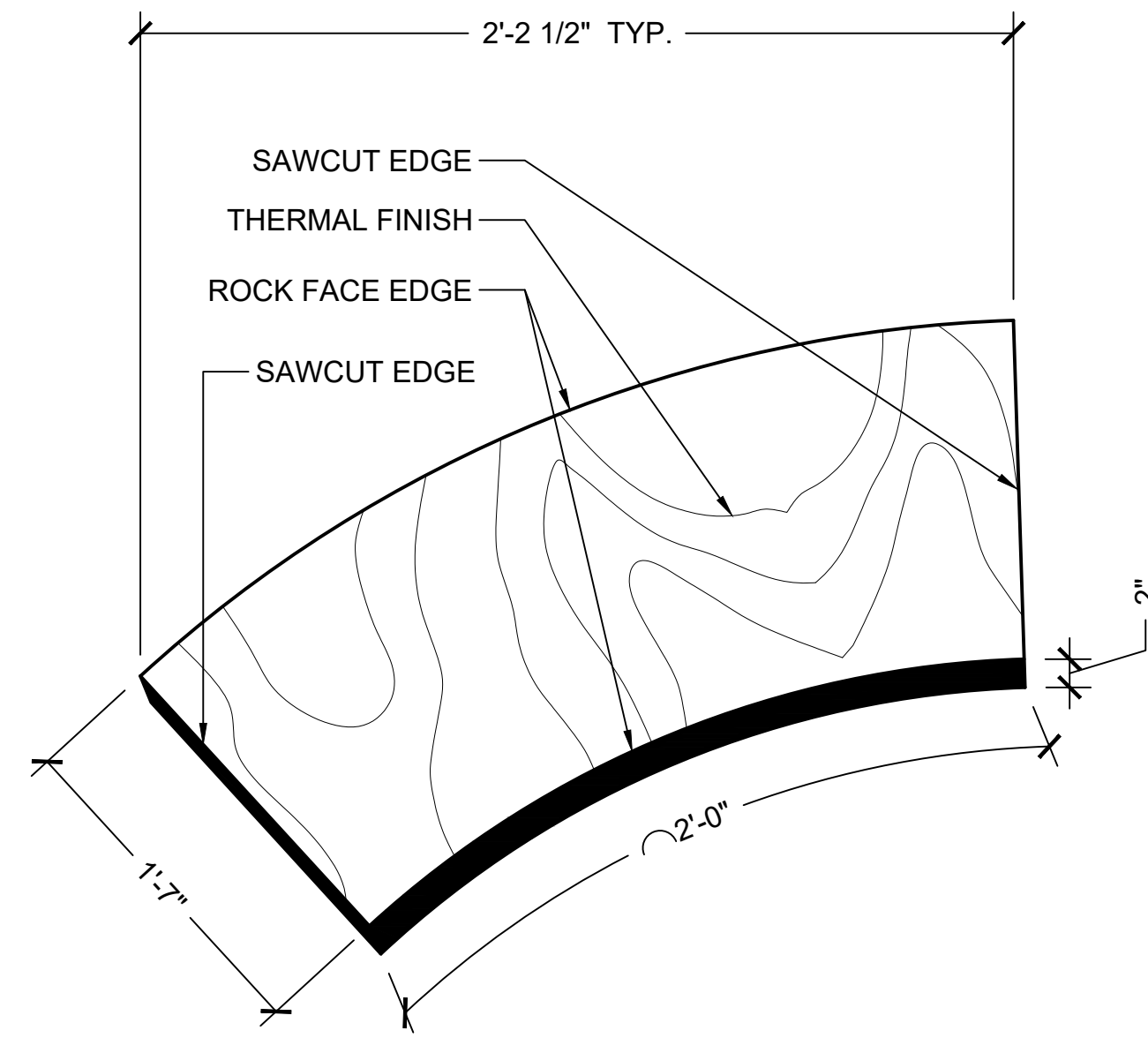
**FOUNTAIN INSTALLATION REQUIREMENTS:**  
 THE IRON FOUNTAIN BOWLS WILL BE PROVIDED, DELIVERED, AND INSTALLED BY ROBINSON IRON AND IS NOT THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE DELIVERY OF THE FOUNTAIN AS WELL AS PROVIDING A 25-TON CARRY DECK CRANE, OR APPROVED EQUAL, TO PLACE THE FOUNTAIN BOWLS ONTO THE FOUNTAIN BASE FOR INSTALLATION. THE CONTRACTOR SHALL INCLUDE THE COST OF CRANE RENTAL AND OPERATION TO PLACE AND INSTALL THE FOUNTAIN BOWLS IN THE BASE BID.



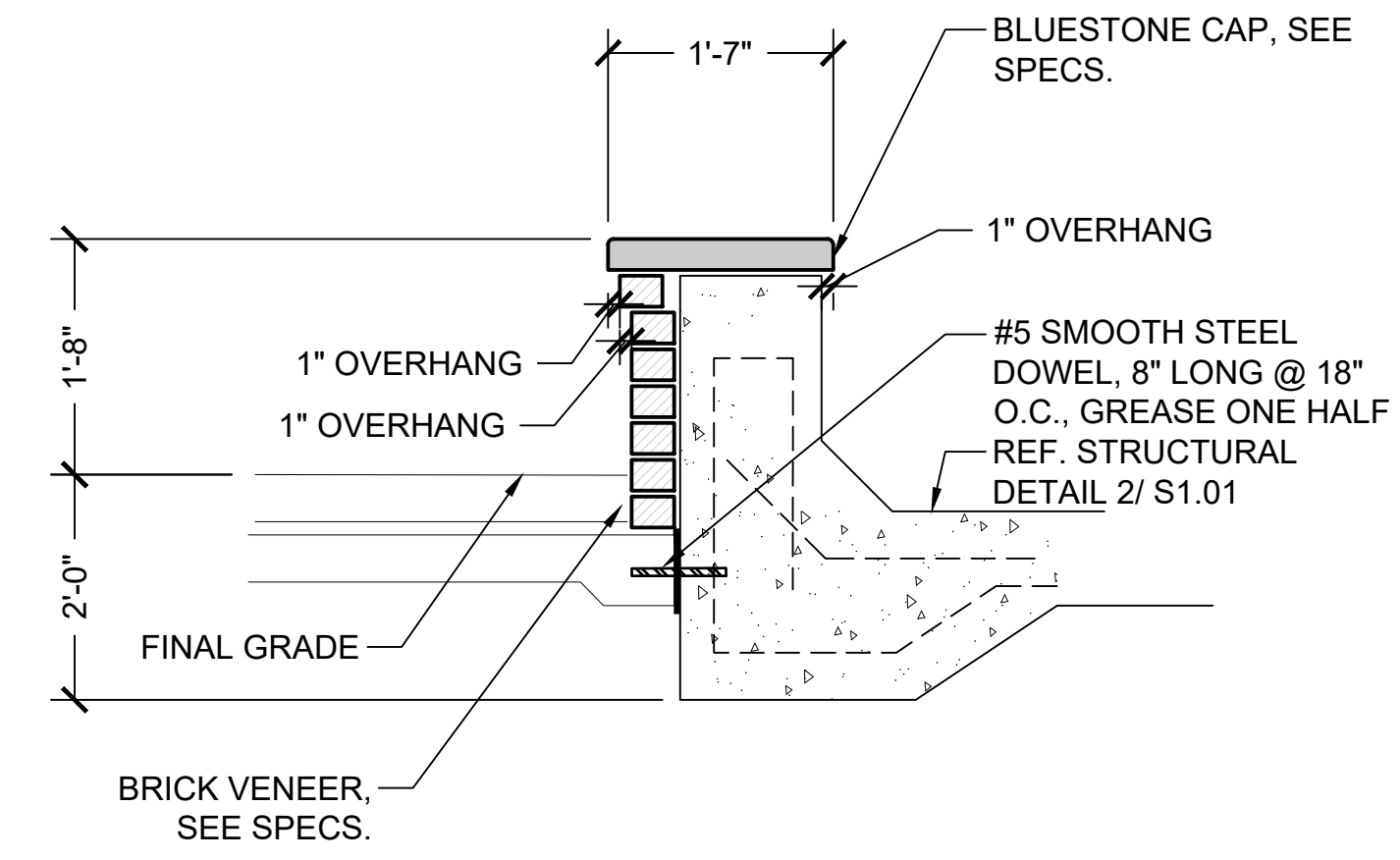
**2 FOUNTAIN BASIN- SECTION ELEVATION**  
 SCALE: 1/4" = 1'-0"



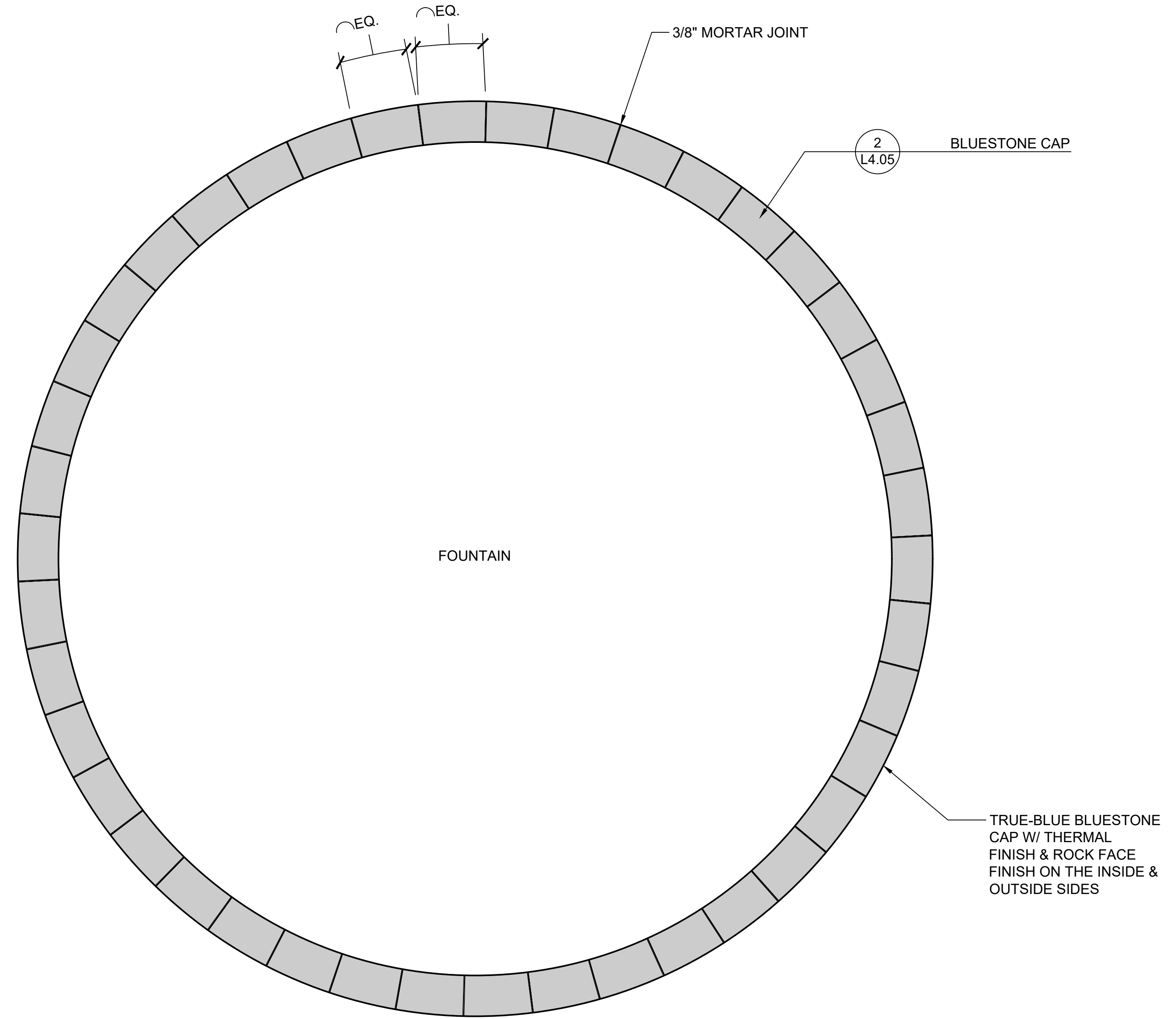
**1** FOUNTAIN BASIN- ELEVATION  
SCALE: 3/4" = 1'-0"



**2** BLUESTONE CAP  
SCALE: 1" = 1'-0"



**3** FOUNTAIN SEAT WALL- SECTION  
SCALE: 3/4" = 1'-0"



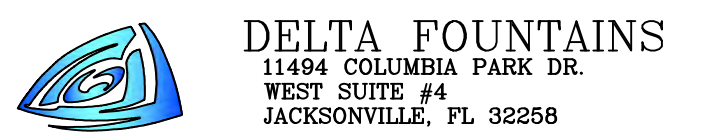
**4** FOUNTAIN SEAT WALL CUT SHEET  
SCALE: 3/8" = 1'-0"

**BIENVILLE SQUARE**  
FOUNTAIN & SITE AMENITIES  
IMPROVEMENTS - PR-021-22

MOBILE, ALABAMA



200 LAUREL ST. SUITE 100  
BATON ROUGE, LA 70801  
225 302 7452



DELTA FOUNTAINS  
11424 COLUMBIA PARK DR.  
WEST SUITE #4  
JACKSONVILLE, FL 32258  
P. (904) 888-9090 ARCHITECTURAL & FOUNTAIN SPECIALISTS  
F. (904) 888-9099



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FOUNTAIN PLAZA  
DETAIL II

L4.05

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# BIENVILLE SQUARE

FOUNTAIN & SITE AMENITIES  
IMPROVEMENTS - PR-021-22

MOBILE, ALABAMA

**CLARBO** LANDSCAPE ARCHITECTURE

200 LAUREL ST. SUITE 100  
BATON ROUGE, LA 70801  
225 302 7452

**DELTA FOUNTAINS**  
11494 COLUMBIA PARK DR.  
WEST SUITE #4  
JACKSONVILLE, FL 32258

T. (904) 888-9090 ARCHITECTURAL &  
F. (904) 888-9099 PLANNING FOUNTAINS

**hargrove**

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**CDC ENGINEERS**

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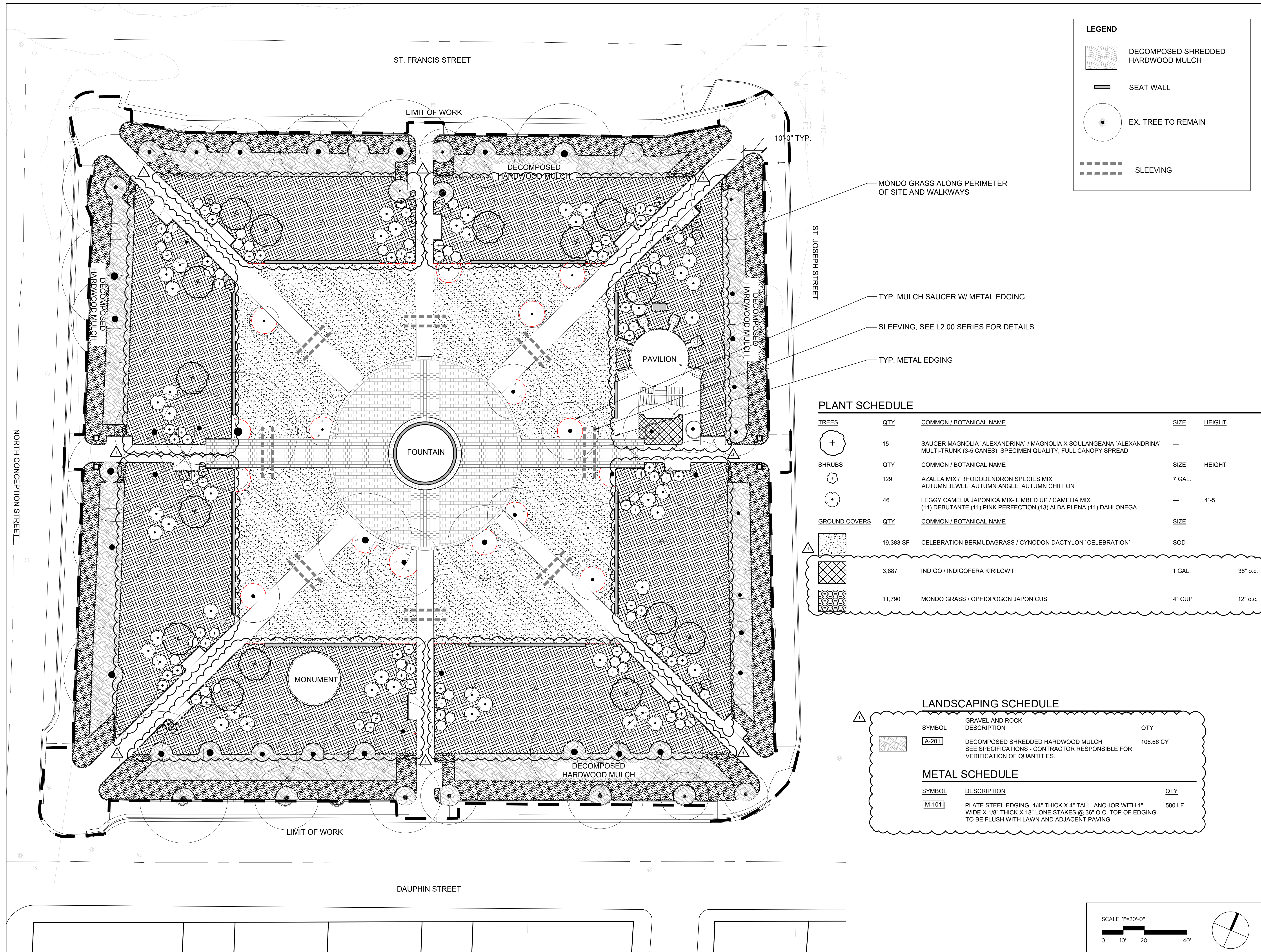
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SCALE: 1"=20'-0"

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PLANTING PLAN

L5.00



**LEGEND**

- DECOMPOSED SHREDDED HARDWOOD MULCH
- SEAT WALL
- EX. TREE TO REMAIN
- SLEEVING

- MONDO GRASS ALONG PERIMETER OF SITE AND WALKWAYS
- TYP. MULCH SAUCER W/ METAL EDGING
- SLEEVING, SEE L2.00 SERIES FOR DETAILS
- TYP. METAL EDGING

**PLANT SCHEDULE**

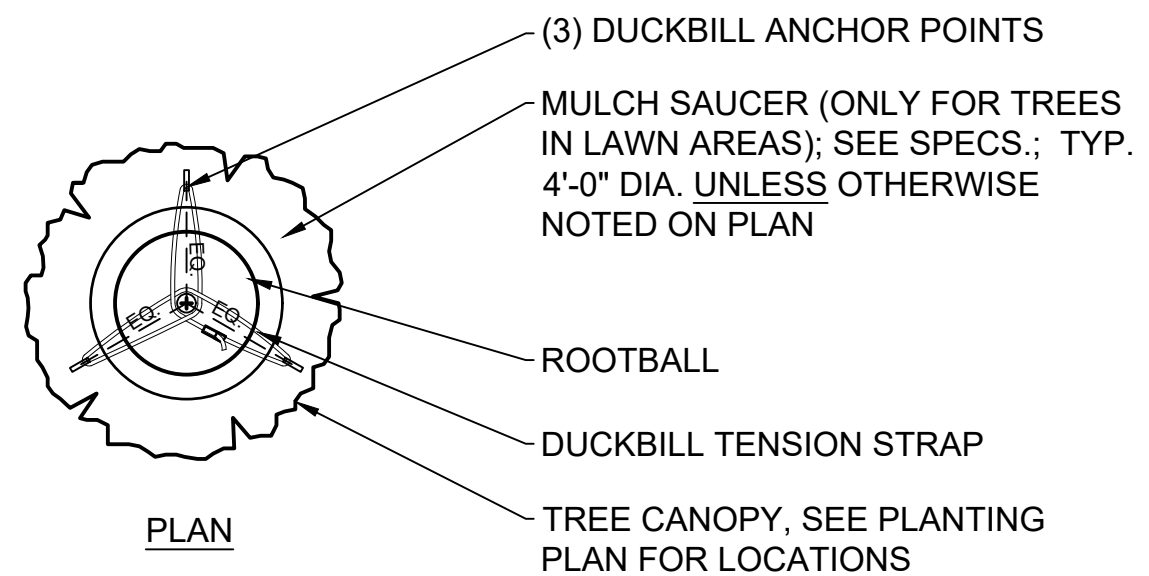
TREES	QTY	COMMON / BOTANICAL NAME	SIZE	HEIGHT
	15	SAUCER MAGNOLIA 'ALEXANDRINA' / MAGNOLIA X SOULANGEANA 'ALEXANDRINA' MULTI-TRUNK (3-5 CANES), SPECIMEN QUALITY, FULL CANOPY SPREAD	---	---
SHRUBS	QTY	COMMON / BOTANICAL NAME	SIZE	HEIGHT
	129	AZALEA MIX / RHODODENDRON SPECIES MIX AUTUMN JEWEL, AUTUMN ANGEL, AUTUMN CHIFFON	7 GAL.	---
	46	LEGGY CAMELIA JAPONICA MIX- LIMBED UP / CAMELIA MIX (11) DEBUTANTE, (11) PINK PERFECTION, (13) ALBA PLENA, (11) DAHLONEGA	---	4'-5'
GROUND COVERS	QTY	COMMON / BOTANICAL NAME	SIZE	
	19,383 SF	CELEBRATION BERMUDAGRASS / CYNODON DACTYLON 'CELEBRATION'	SOD	
	3,887	INDIGO / INDIGOFERA KIRILOWII	1 GAL.	36" o.c.
	11,790	MONDO GRASS / OPHIOPOGON JAPONICUS	4" CUP	12" o.c.

**LANDSCAPING SCHEDULE**

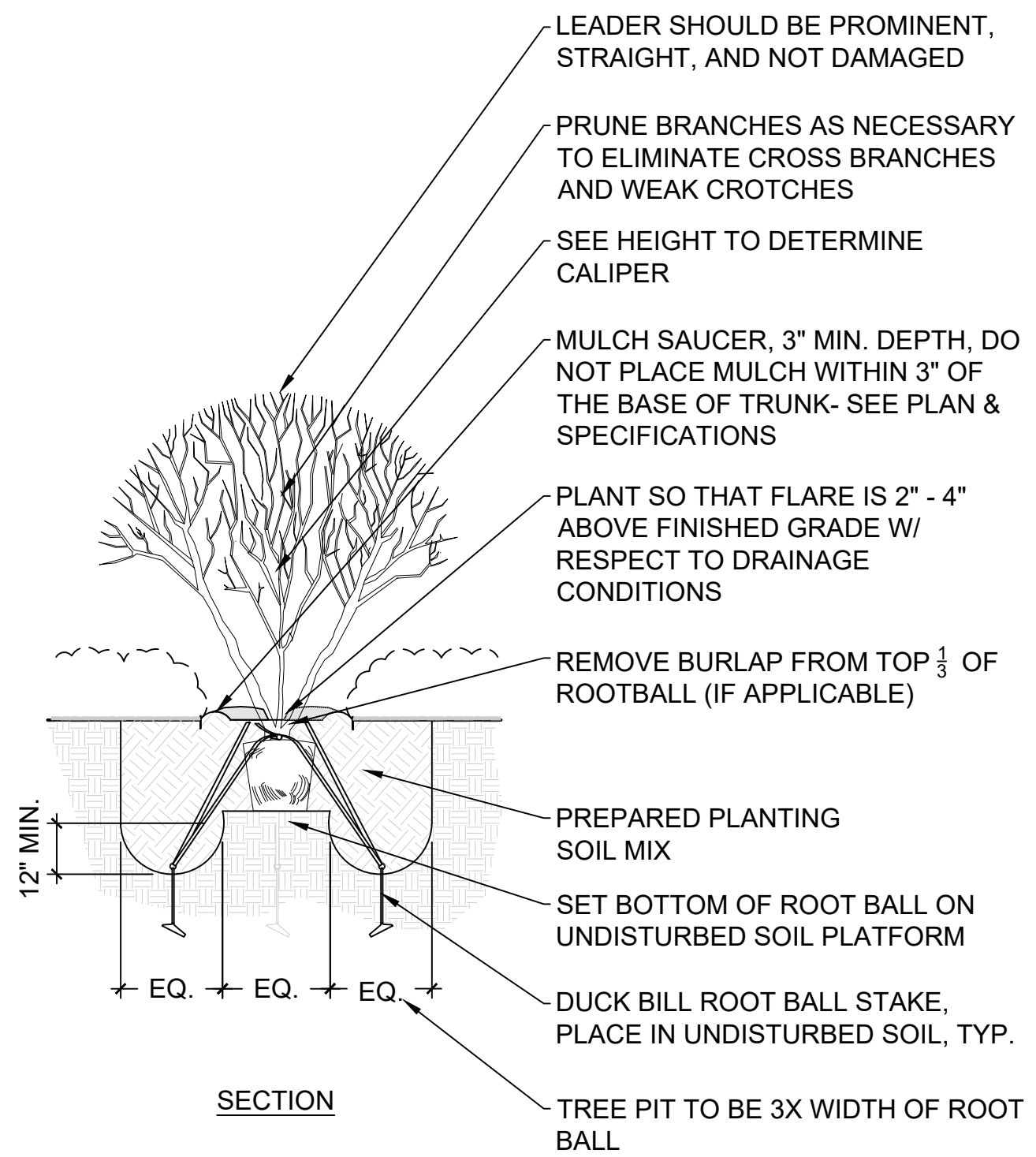
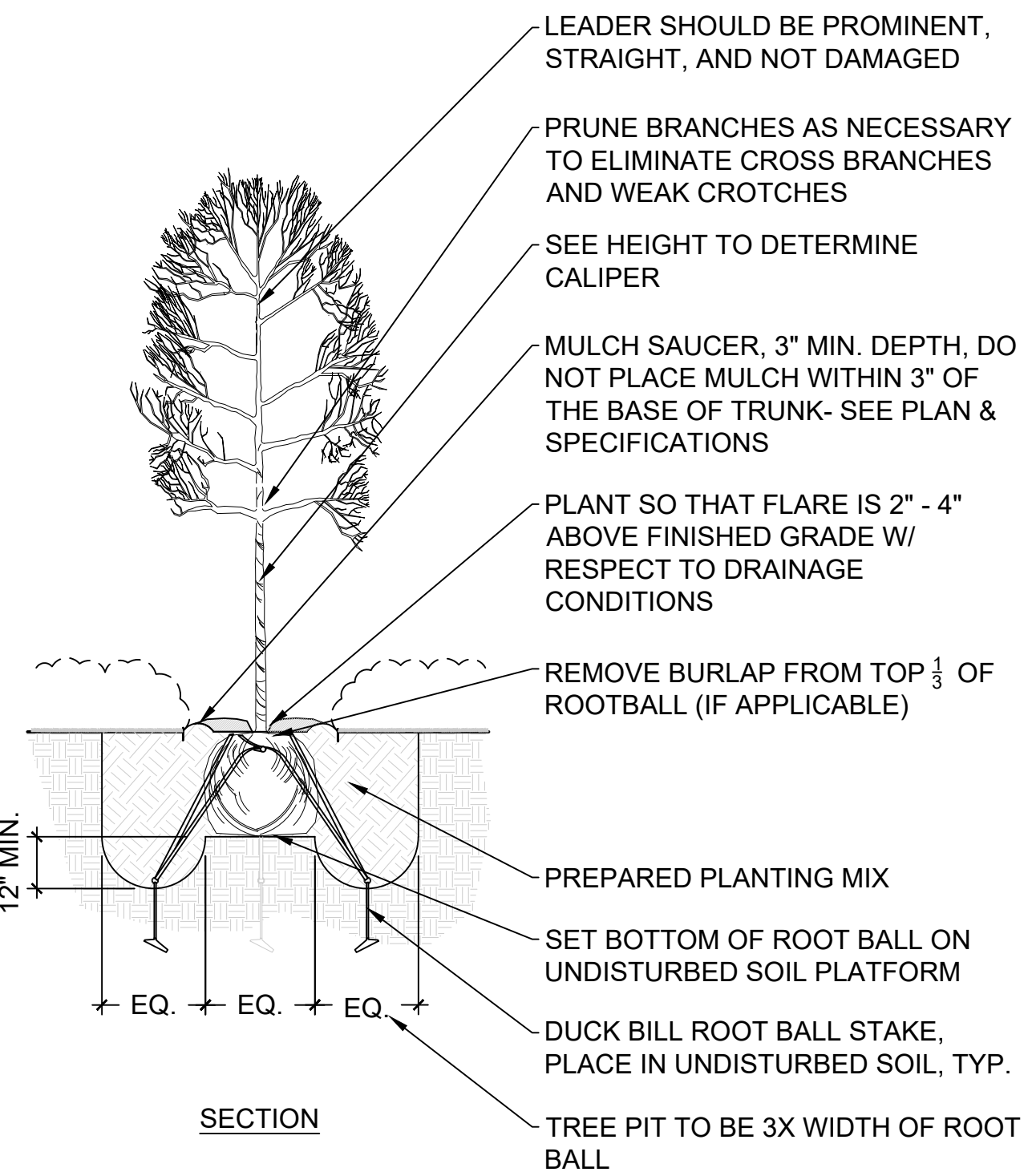
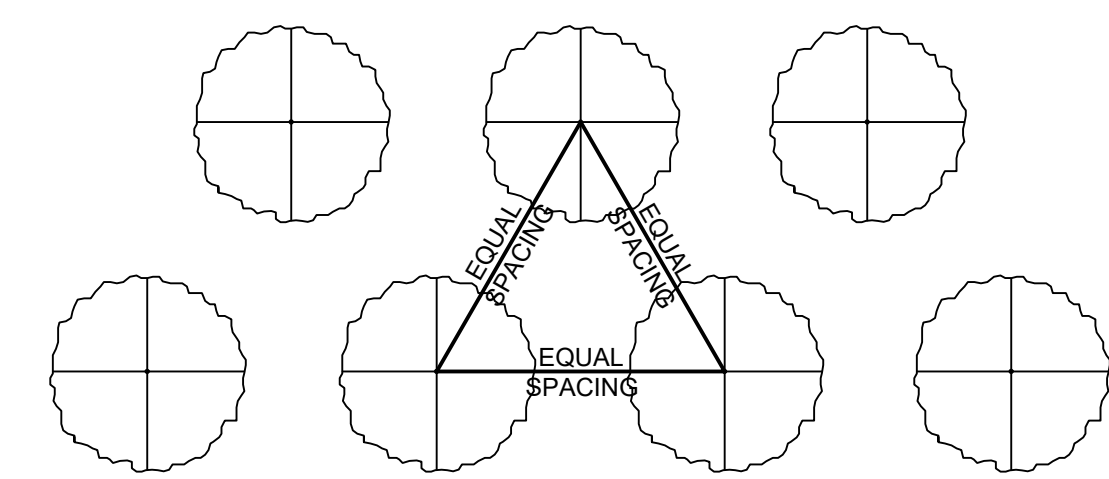
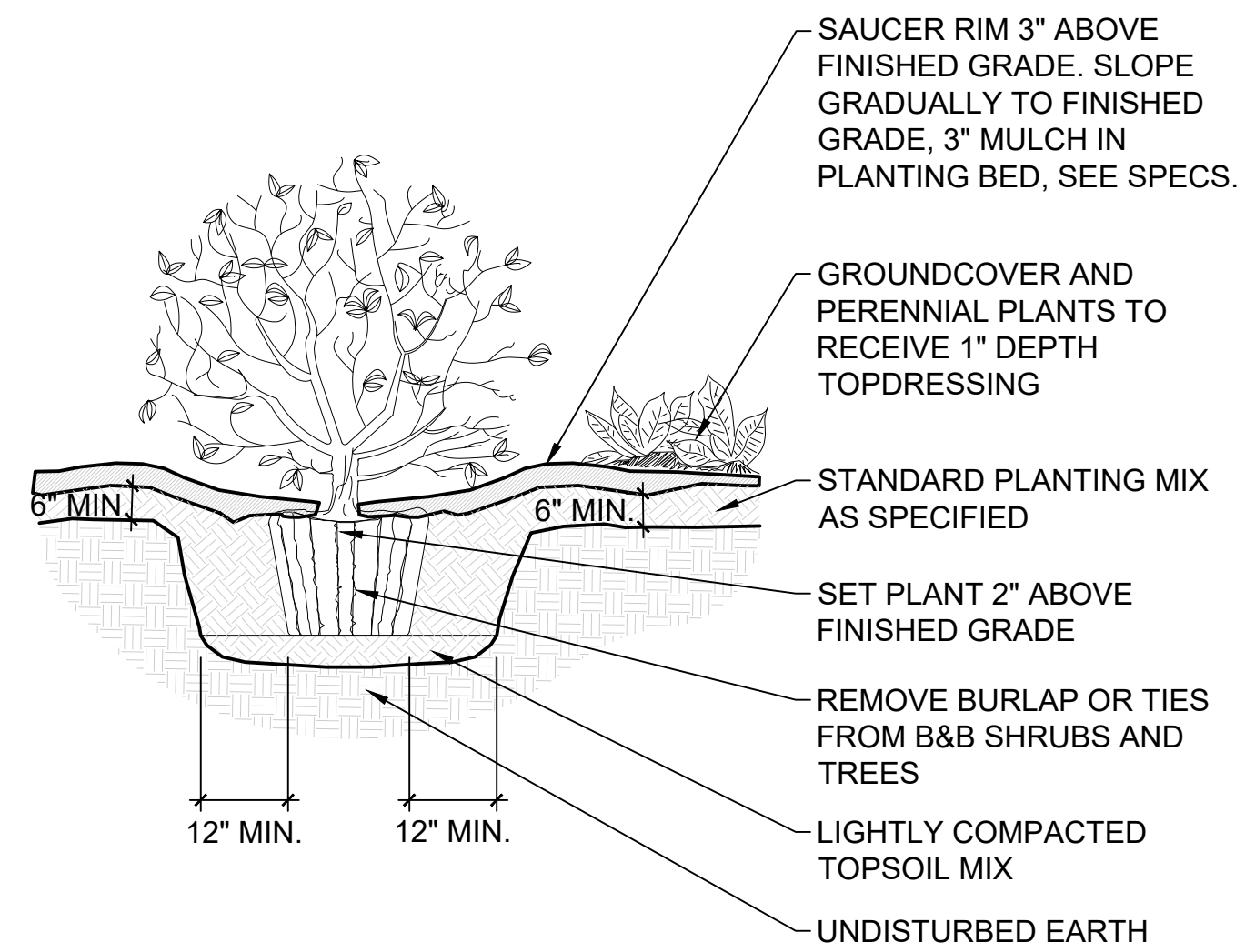
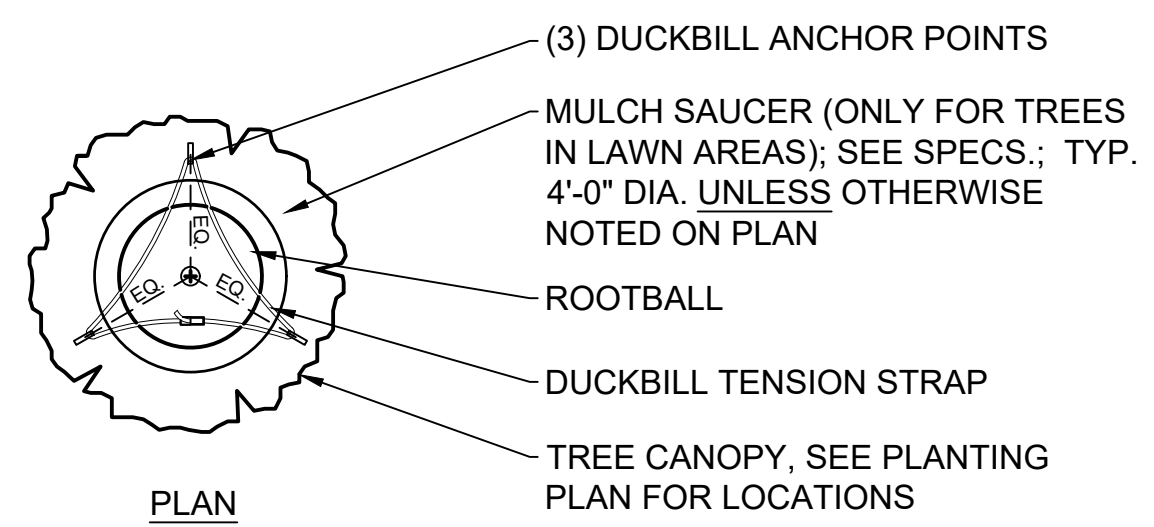
SYMBOL	GRAVEL AND ROCK DESCRIPTION	QTY
	DECOMPOSED SHREDDED HARDWOOD MULCH SEE SPECIFICATIONS - CONTRACTOR RESPONSIBLE FOR VERIFICATION OF QUANTITIES.	106.66 CY
<b>METAL SCHEDULE</b>		
SYMBOL	DESCRIPTION	QTY
	PLATE STEEL EDGING- 1/4" THICK X 4" TALL. ANCHOR WITH 1" WIDE X 1/8" THICK X 18" LONE STAKES @ 36" O.C. TOP OF EDGING TO BE FLUSH WITH LAWN AND ADJACENT PAVING	580 LF



NOTE: ANCHORS TO BE SPACED EQUALLY AT 120-DEGREES AROUND THE TREE. DUCKBILL MODEL #68-RBK, STRAP BY MACLEAN POWER SYSTEMS OR APPROVED EQUAL



NOTE: ANCHORS TO BE SPACED EQUALLY AT 120-DEGREES AROUND THE TREE. DUCKBILL MODEL #68-RBK, STRAP BY FORESIGHT PRODUCTS, LLC OR APPROVED EQUAL

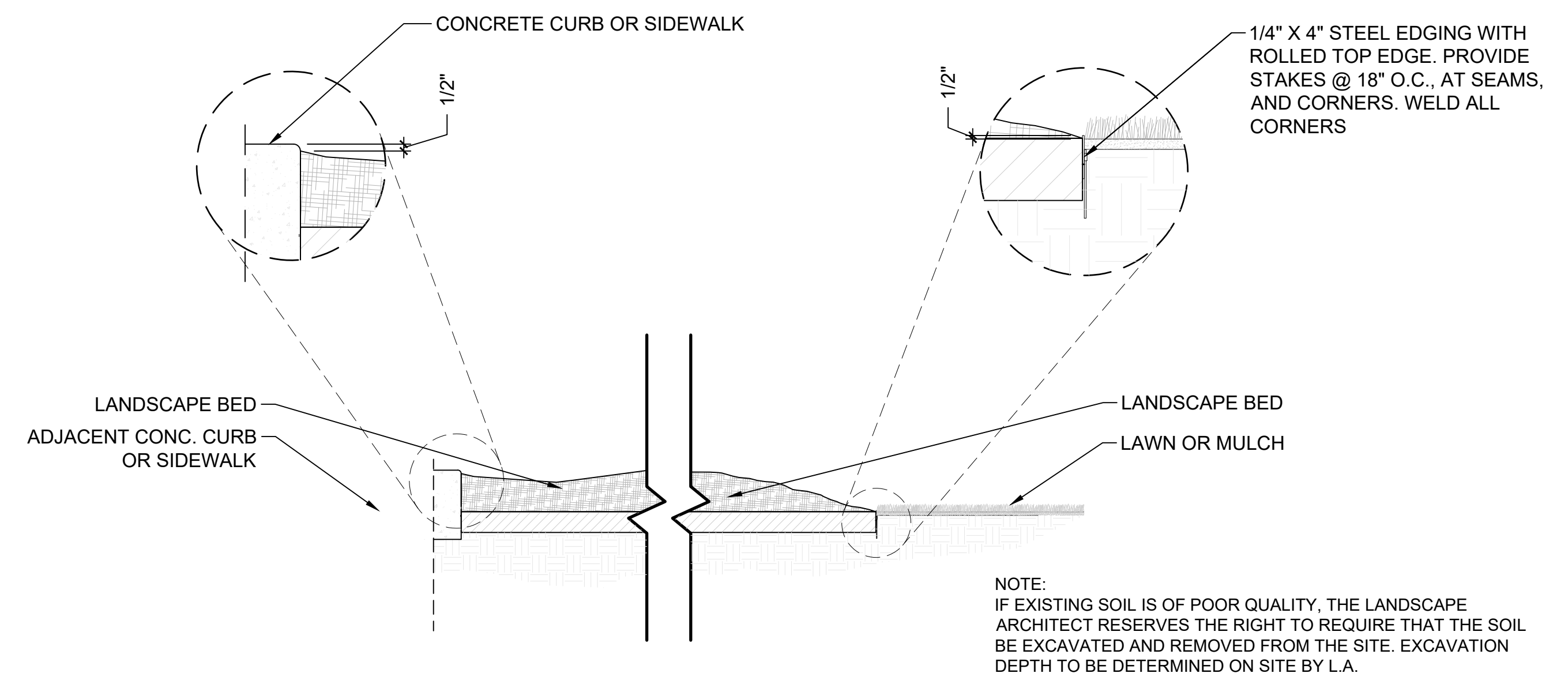


1 SINGLE TRUNK TREE PLANTING - ROOT BALL ANCHORS  
 SCALE: 1/4" = 1'-0"

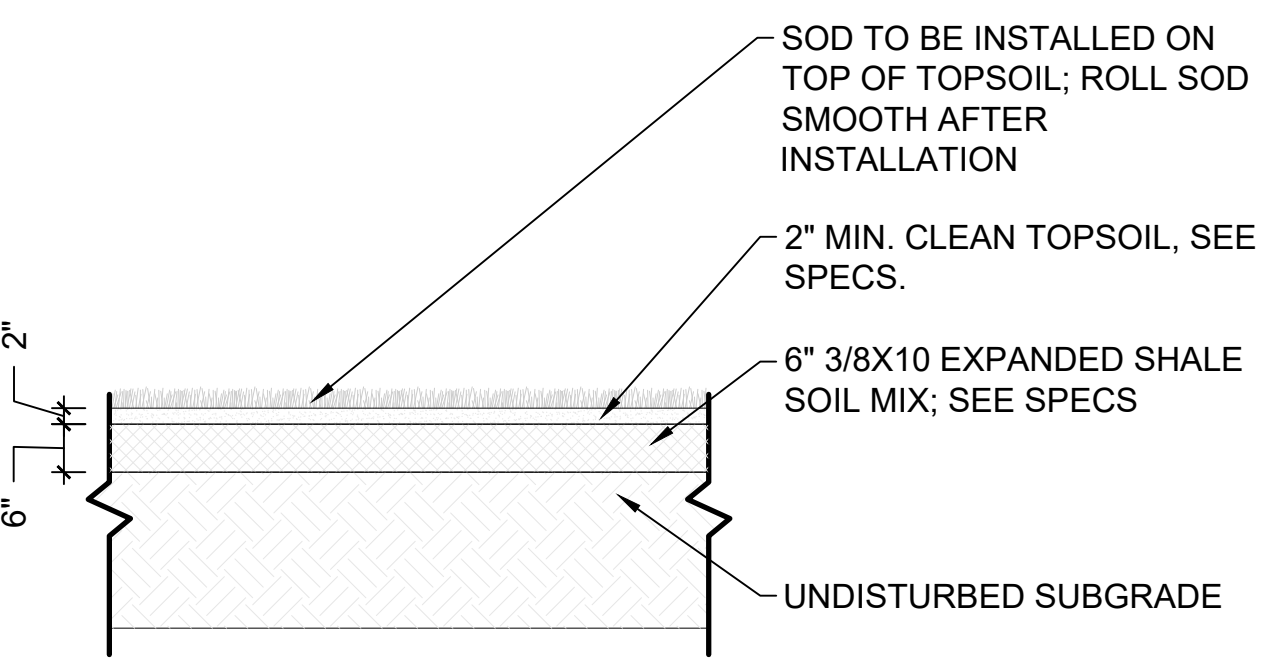
2 MULTI-TRUNK TREE PLANTING - ROOT BALL ANCHORS  
 SCALE: 1/4" = 1'-0"

3 SHRUB PLANTING  
 SCALE: 1/2" = 1'-0"

4 TYPICAL SHRUB & GROUNDCOVER LAYOUT  
 SCALE: 1/2" = 1'-0"



5 TYPICAL LANDSCAPE BED EDGE  
 SCALE: 3/4" = 1'-0"



6 SOD LAWN W/ REINFORCED SOIL  
 SCALE: 1/2" = 1'-0"

**BIENVILLE SQUARE**  
 FOUNTAIN & SITE AMENITIES  
 IMPROVEMENTS - PR-021-22

MOBILE, ALABAMA

**CLARBO** LANDSCAPE ARCHITECTURE  
 200 LAUREL ST. SUITE 100  
 BATON ROUGE, LA 70801  
 225 302 7452

**DELTA FOUNTAINS**  
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 WEST SUITE #4  
 JACKSONVILLE, FL 32258  
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 F. (904) 888-9039

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Nimrod Long  
 And Associates

**CDC ENGINEERS**  
 1172 Oak Grove Drive North • Mobile, AL 36689  
 Office (251) 662-5891 • Fax (251) 662-5892

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 CHECKED BY: SB  
 SCALE: AS SHOWN

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PLANTING DETAILS

L5.01



**BIENVILLE SQUARE**  
**FOUNTAIN & SITE AMENITIES**  
**IMPROVEMENTS - PR-021-22**

MOBILE, ALABAMA

**CIARBO** LANDSCAPE ARCHITECTURE

200 LAUREL ST. SUITE 100  
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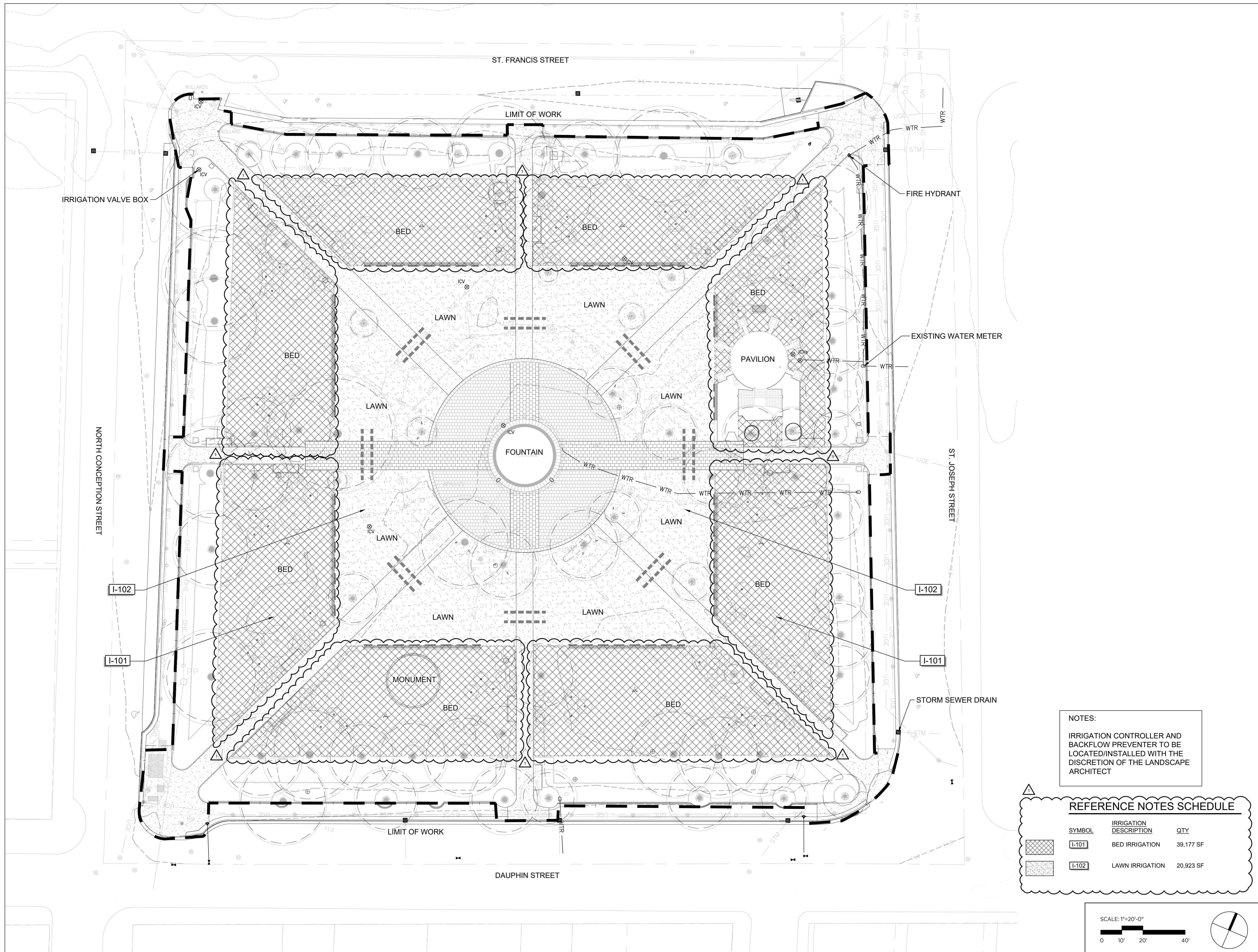
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SCALE: 1"=20'-0"

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**SCHEMATIC IRRIGATION DIAGRAM**  
**L6.00**

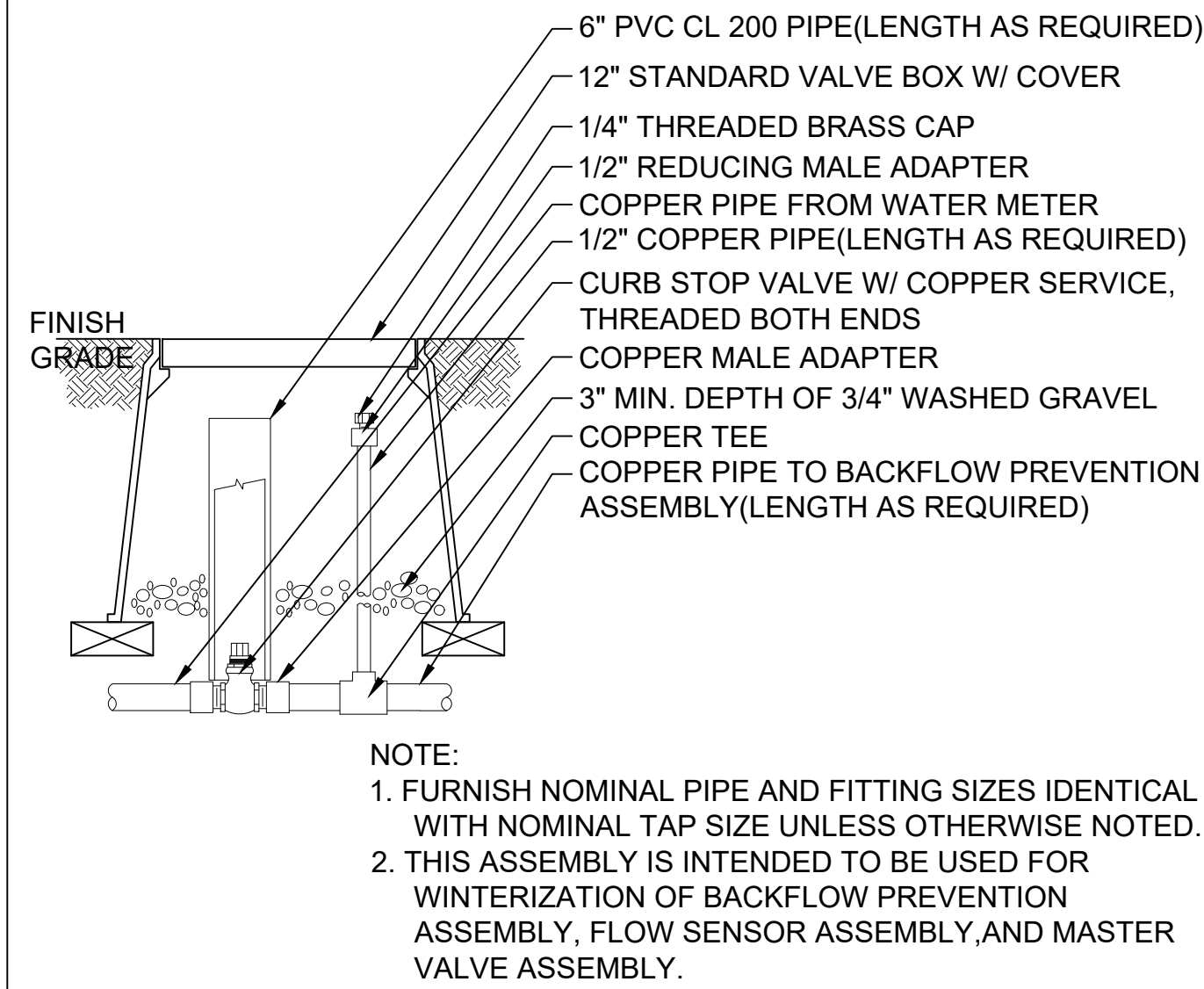


NOTES:  
 IRRIGATION CONTROLLER AND BACKFLOW PREVENTER TO BE LOCATED/INSTALLED WITH THE DISCRETION OF THE LANDSCAPE ARCHITECT

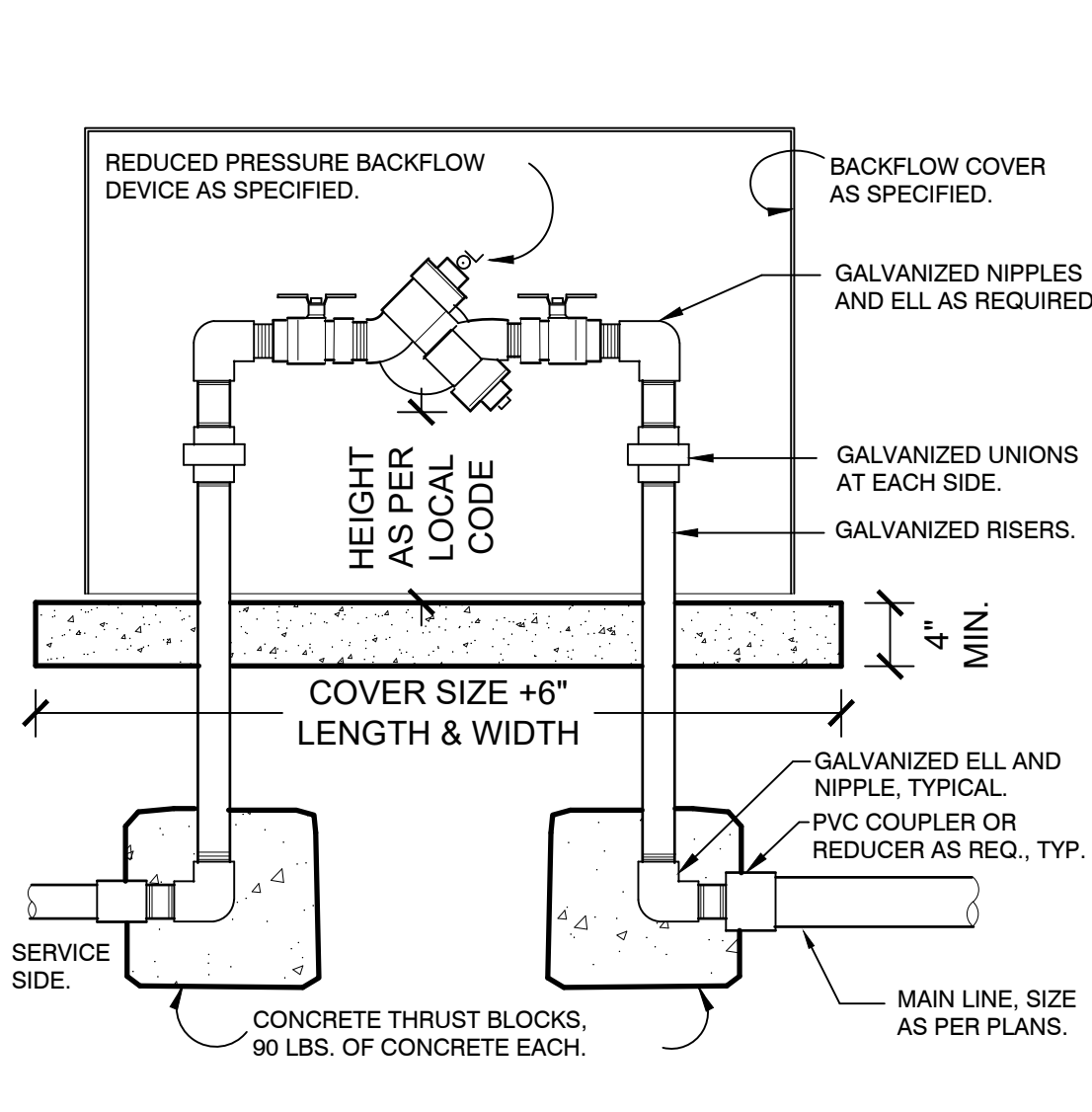
**REFERENCE NOTES SCHEDULE**

SYMBOL	IRRIGATION DESCRIPTION	QTY
[Cross-hatched box]	I-101 BED IRRIGATION	39,177 SF
[Dotted box]	I-102 LAWN IRRIGATION	20,923 SF

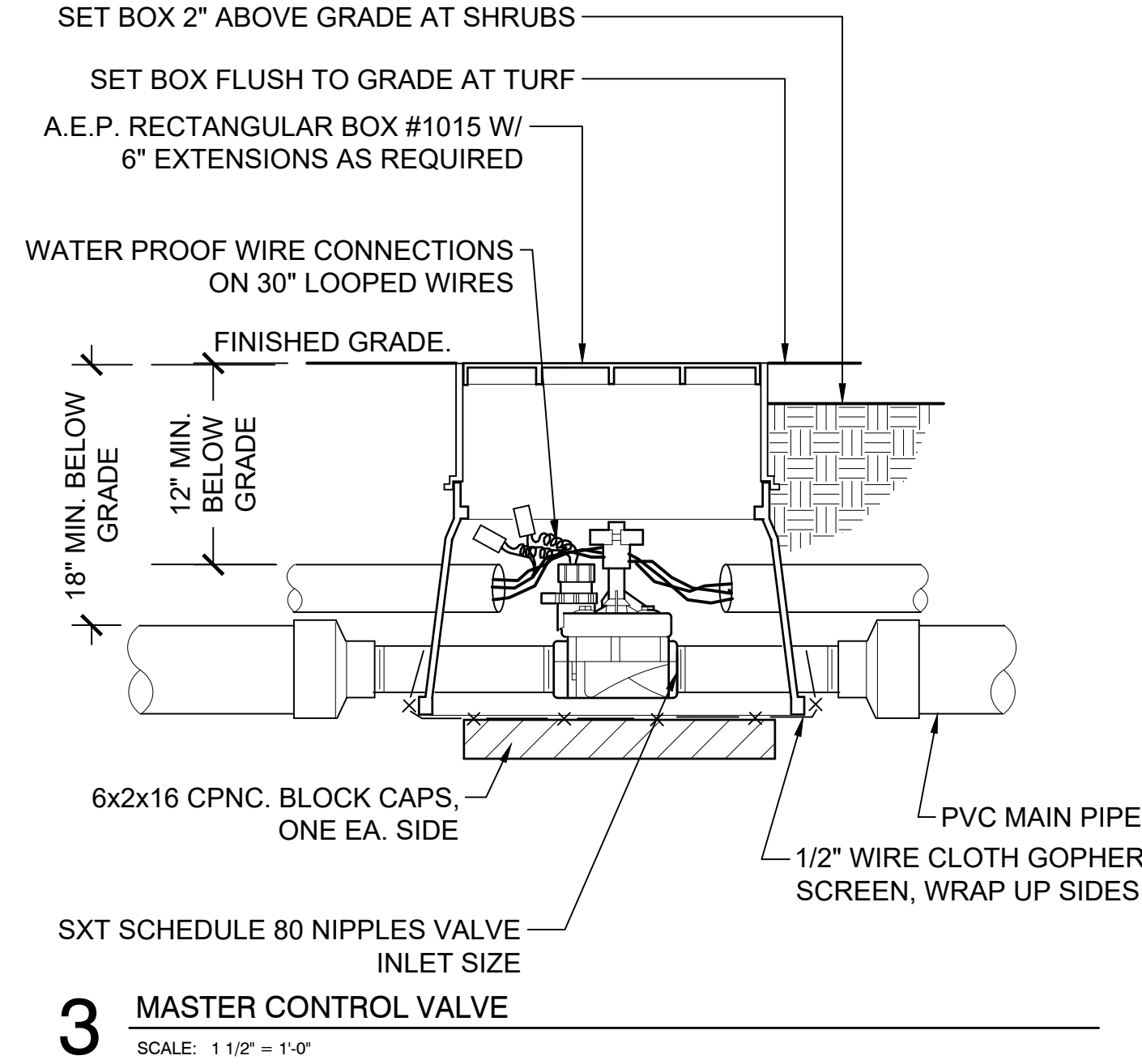




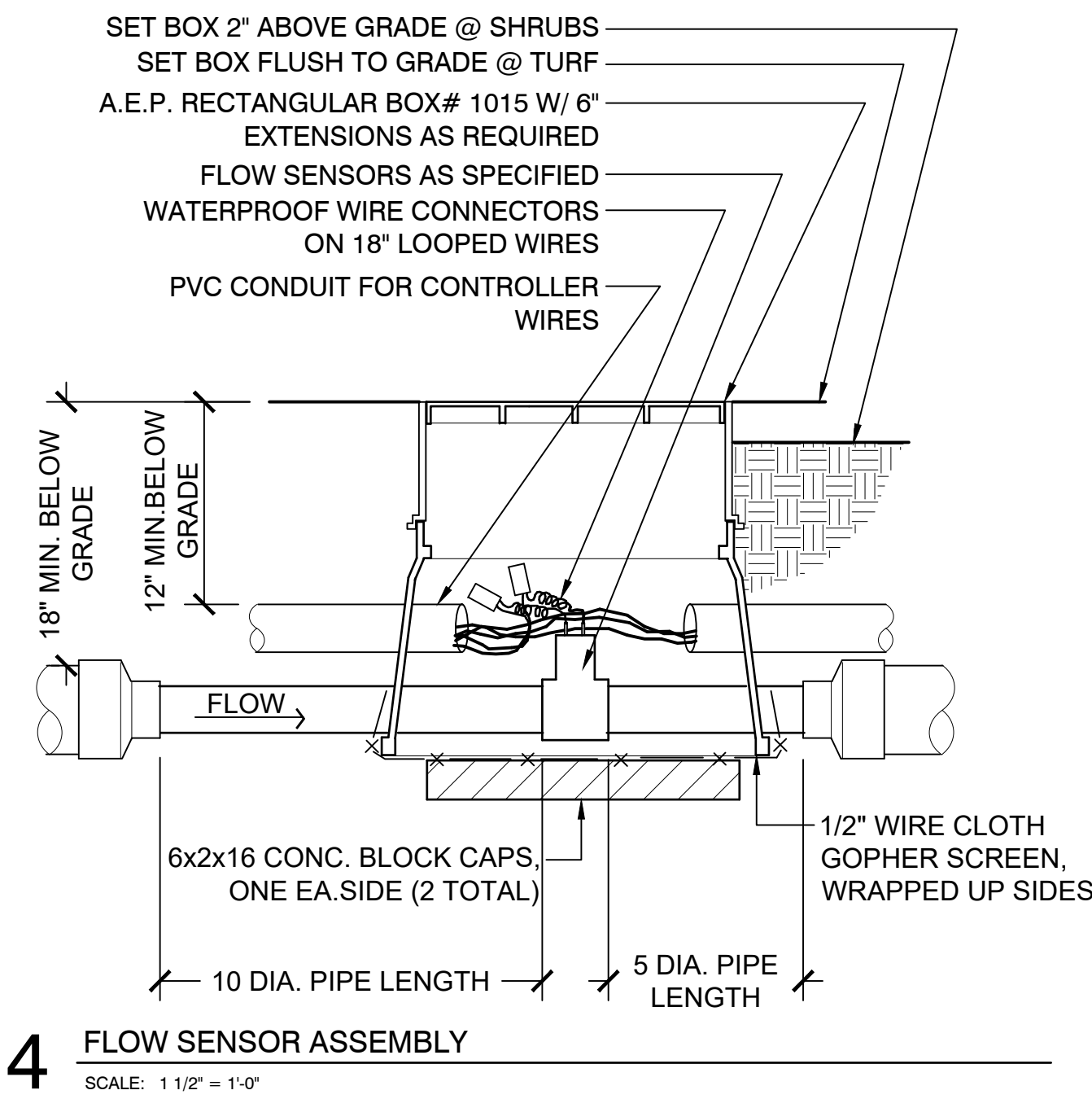
**1 WINTERIZATION ASSEMBLY**  
SCALE: 1 1/2" = 1'-0"



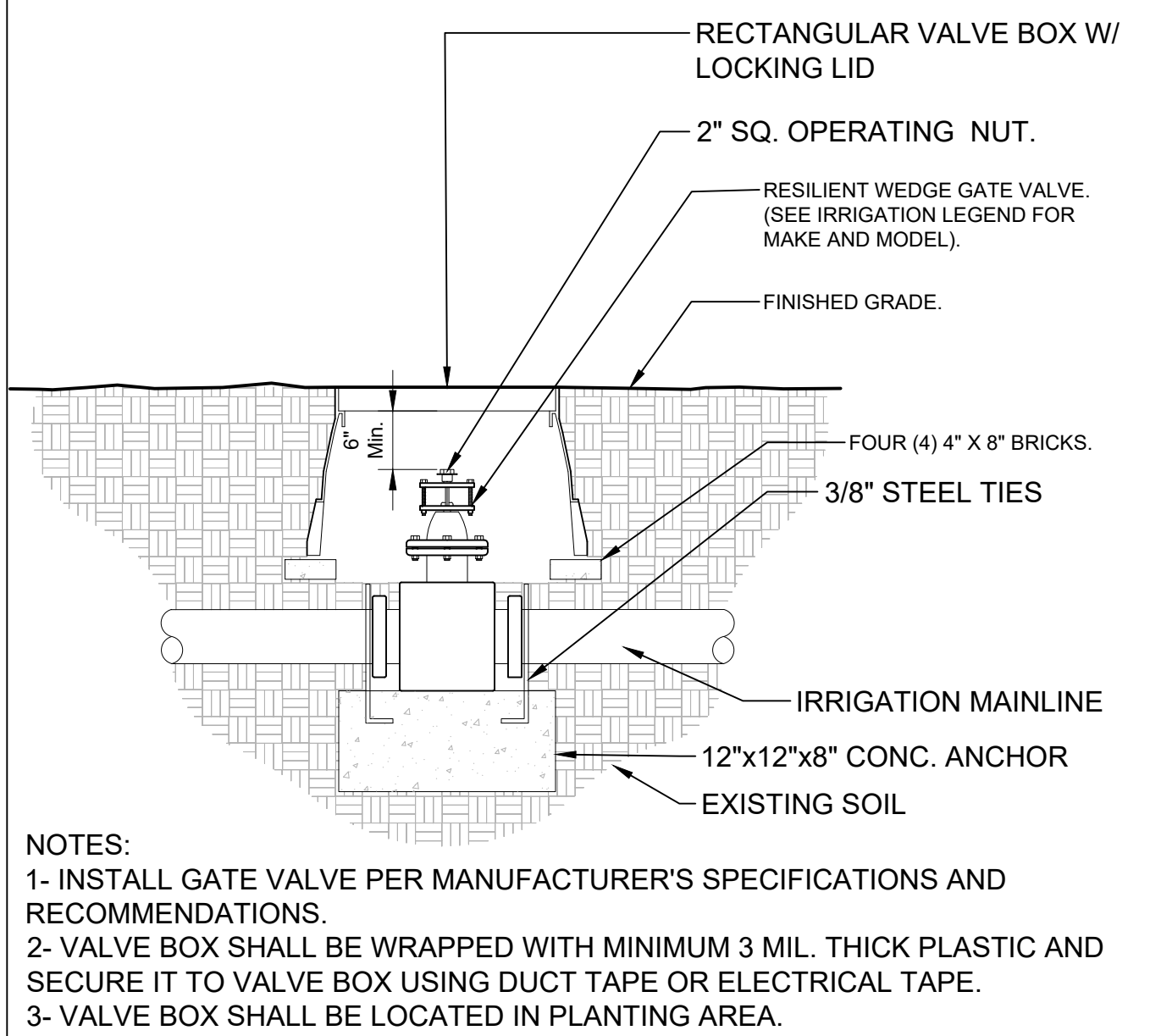
**2 RP BACKFLOW W/ENCLOSURE**  
SCALE: 1" = 1'-0"



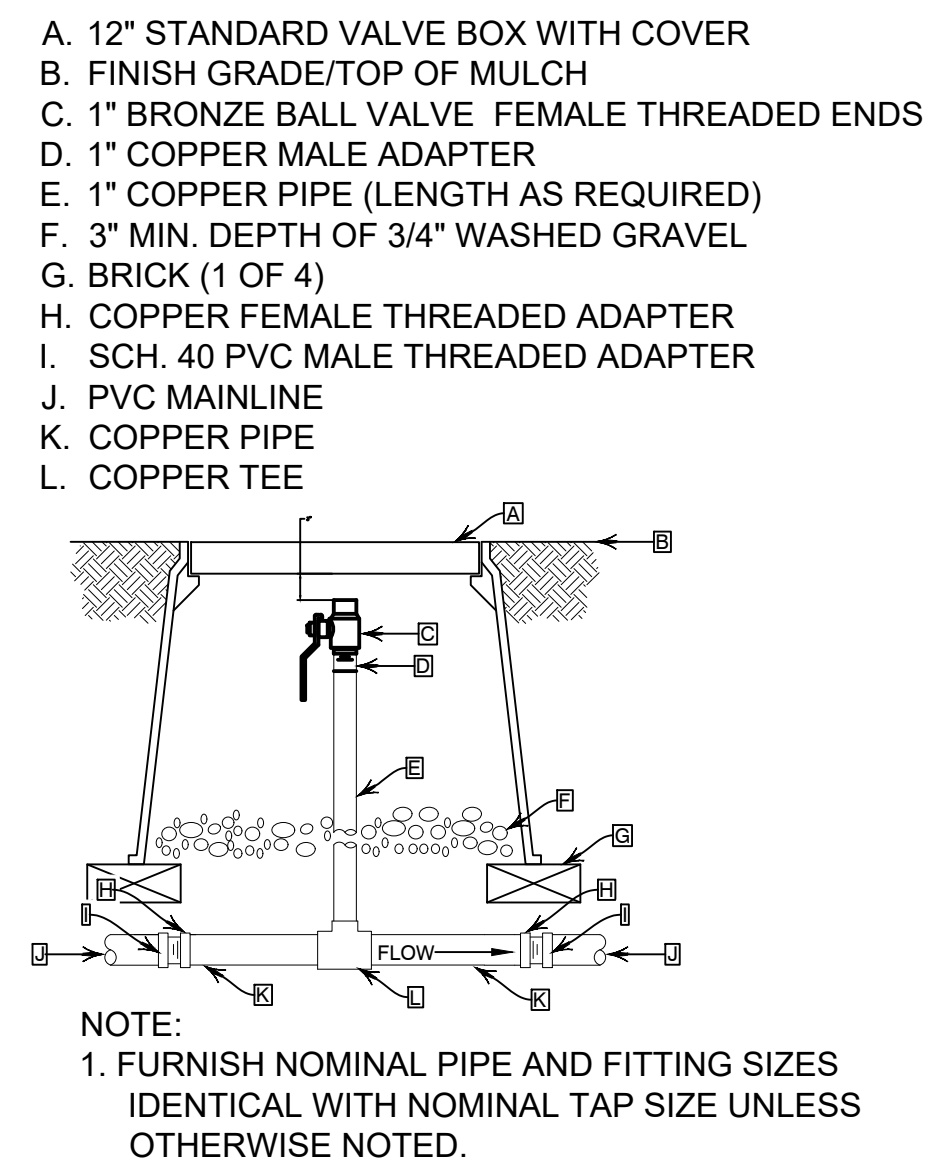
**3 MASTER CONTROL VALVE**  
SCALE: 1 1/2" = 1'-0"



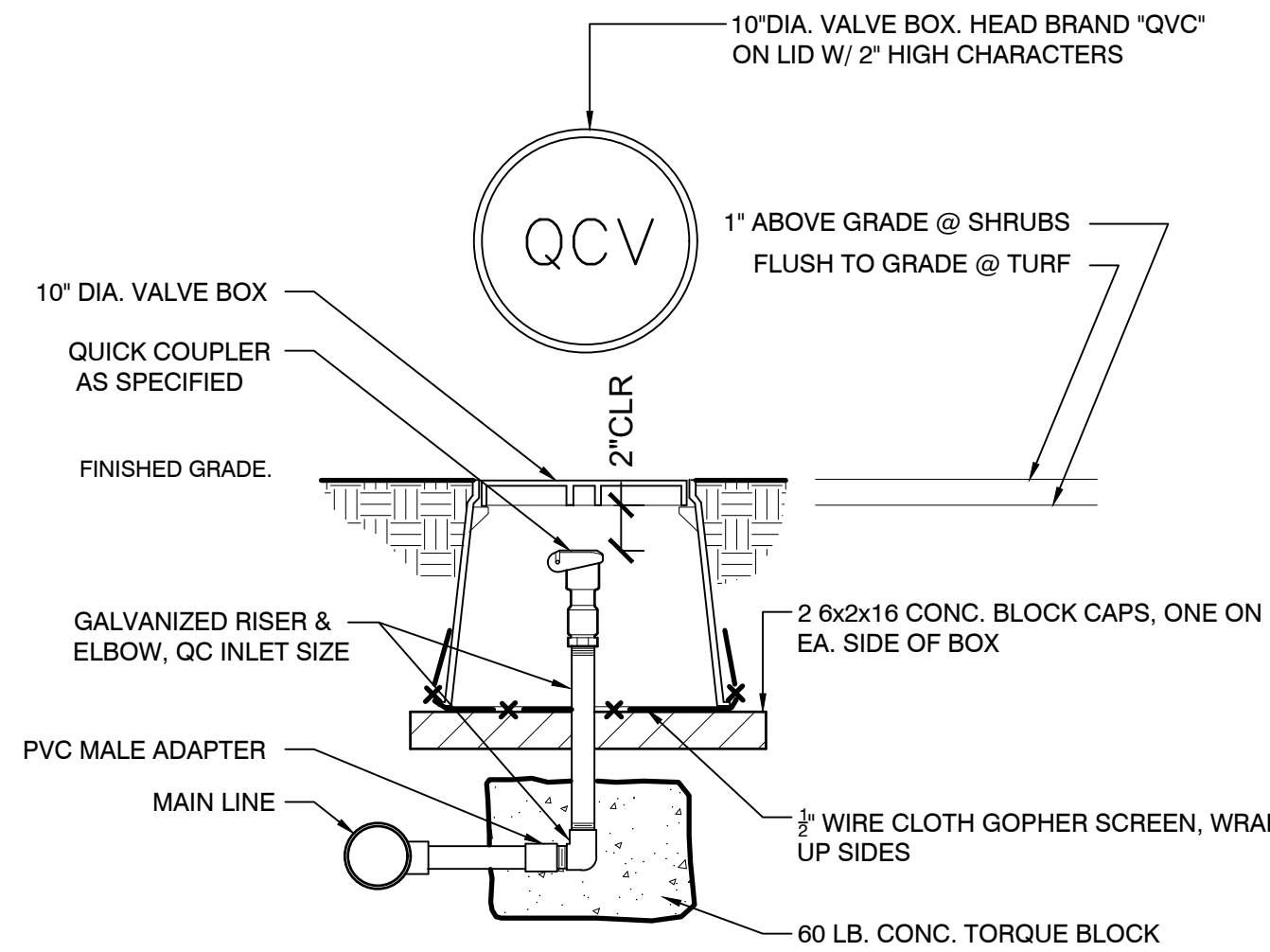
**4 FLOW SENSOR ASSEMBLY**  
SCALE: 1 1/2" = 1'-0"



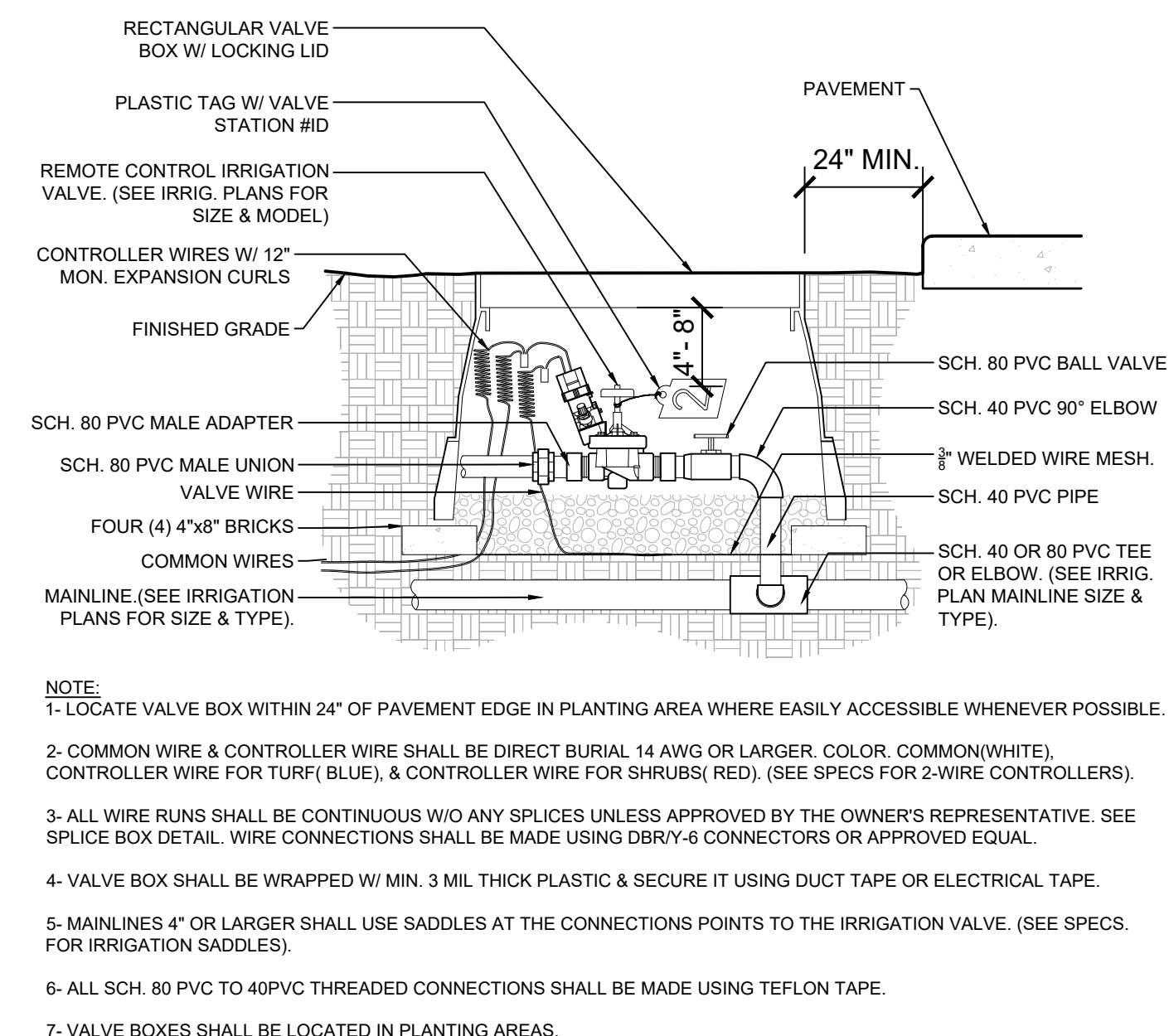
**5 GATE VALVE AND ANCHOR**  
SCALE: 1" = 1'-0"



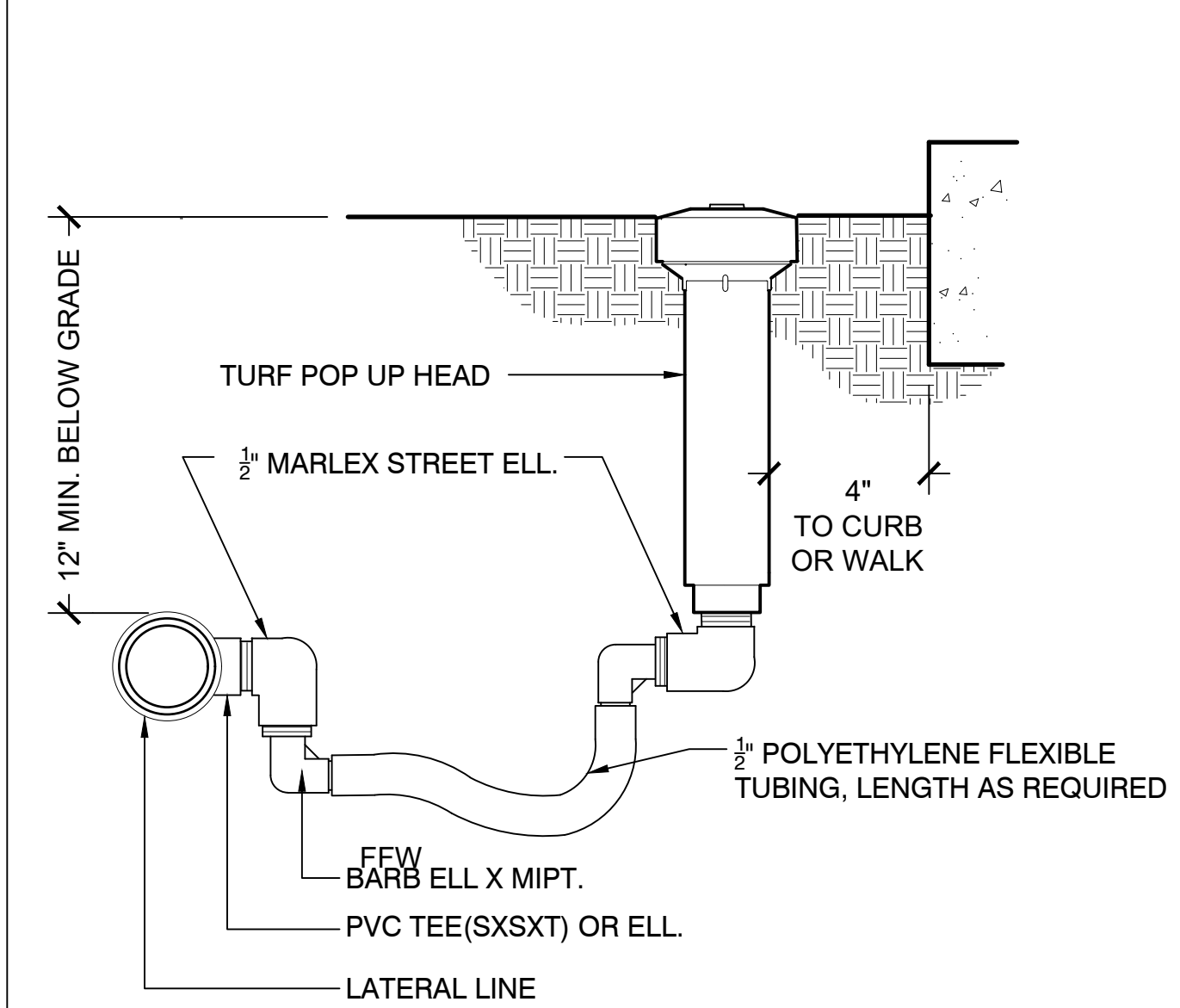
**6 BLOWOUT ASSEMBLY**  
SCALE: 1 1/2" = 1'-0"



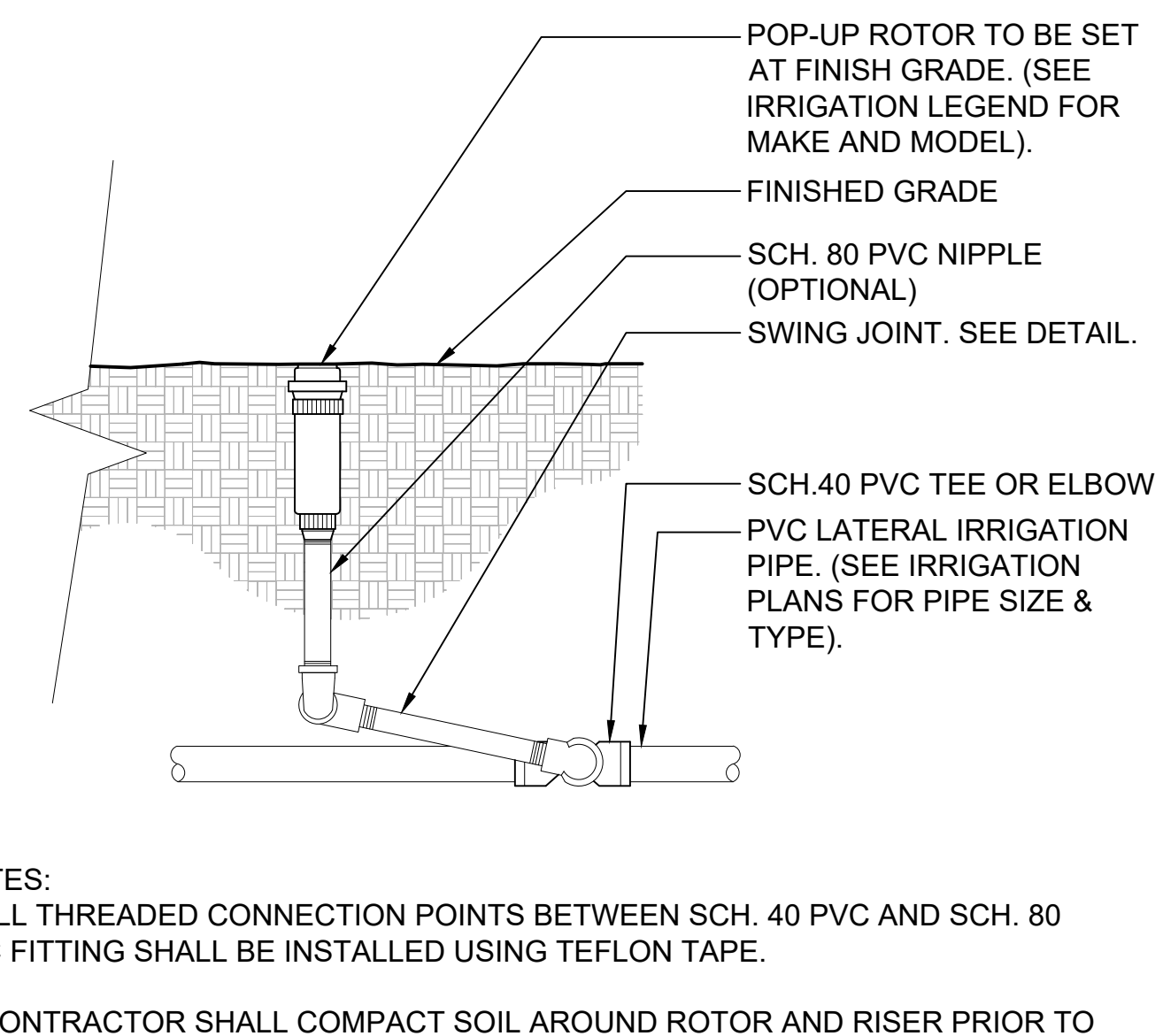
**7 QUICK COUPLER VALVE IN BOX**  
SCALE: 1 1/2" = 1'-0"



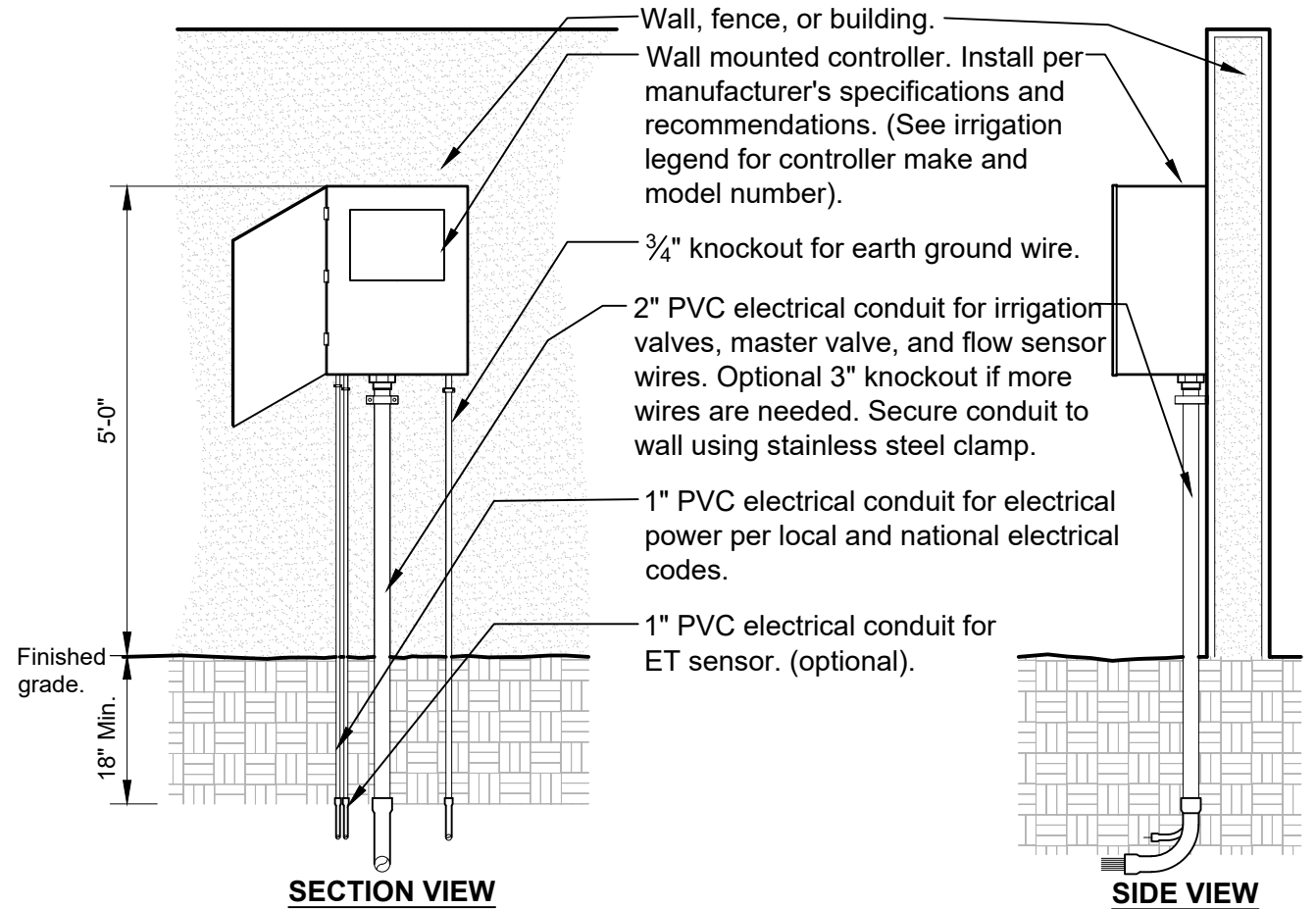
**8 REMOTE CONTROL IRRIGATION VALVE**  
SCALE: 1 1/2" = 1'-0"



**9 TURF SPRAY FLEX ASSEMBLY**  
SCALE: 3" = 1'-0"

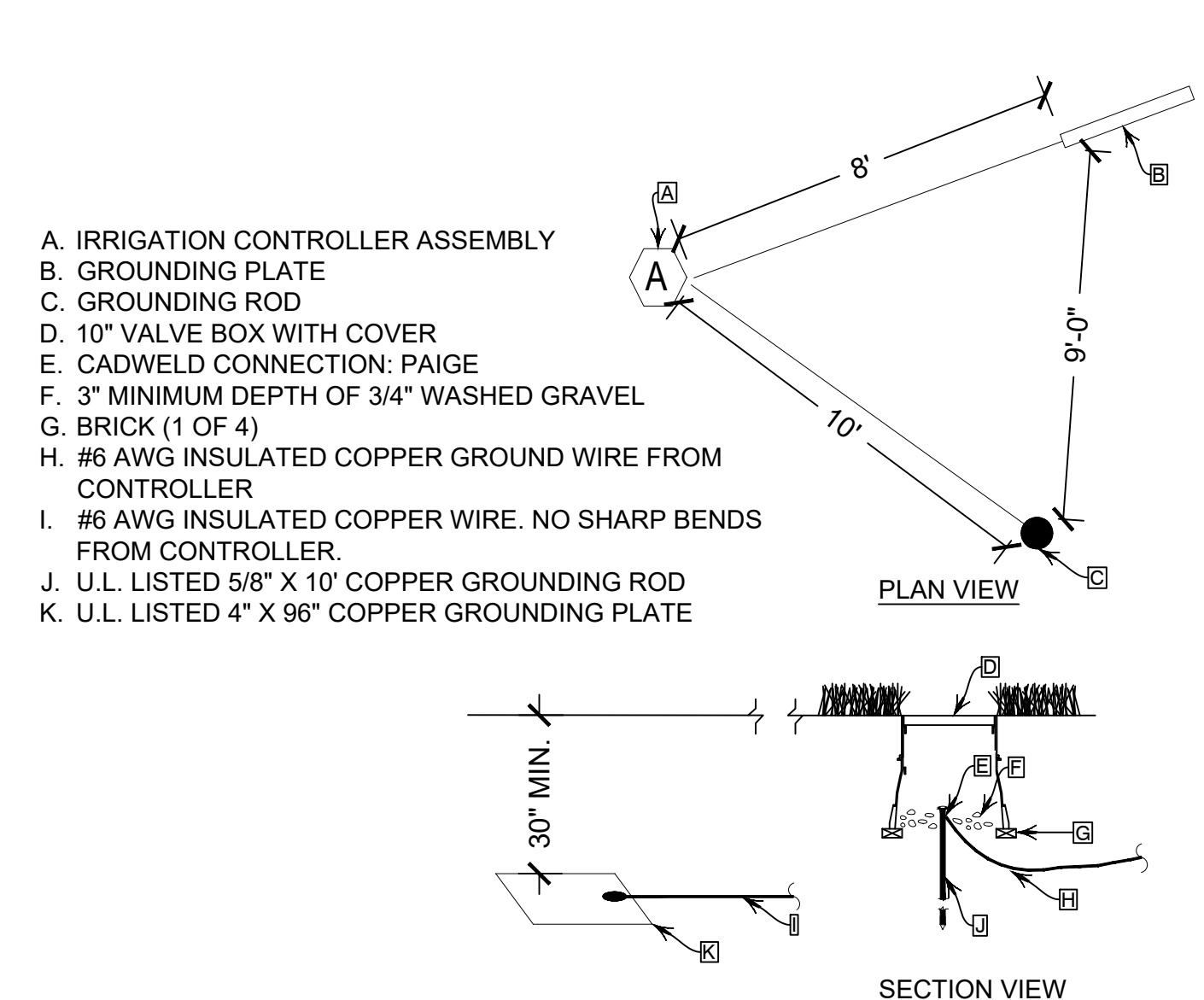


**10 ROTOR SPRAYHEAD**  
SCALE: 1 1/2" = 1'-0"



**NOTES:**  
1- Common and controller wire to be bundled using electrical tape at 10'-0" on center.  
2- Grounding rods shall be located between 8'-0" to 12'-0" away from the controller. Grounding rods shall be 3/8" in diameter x 8' in length. Connect the grounding rod to the controller using 6 gauge bare copper wire or per the manufacturer's specifications. See grounding rod detail.  
3- ET Station shall be installed no further than 90' away from the controller and a minimum of 15' off of the ground, out from under any overhead obstructions such as, but not limited to, building overhangs, trees, or utilities.

**11 WALL MOUNTED CONTROLLER**  
SCALE: 1/2" = 1'-0"



**12 CONTROLLER GROUNDING DETAIL**  
SCALE: 1/4" = 1'-0"

**BIENVILLE SQUARE**  
FOUNTAIN & SITE AMENITIES  
IMPROVEMENTS - PR-021-22

MOBILE, ALABAMA

**CLARBO** LANDSCAPE ARCHITECTURE  
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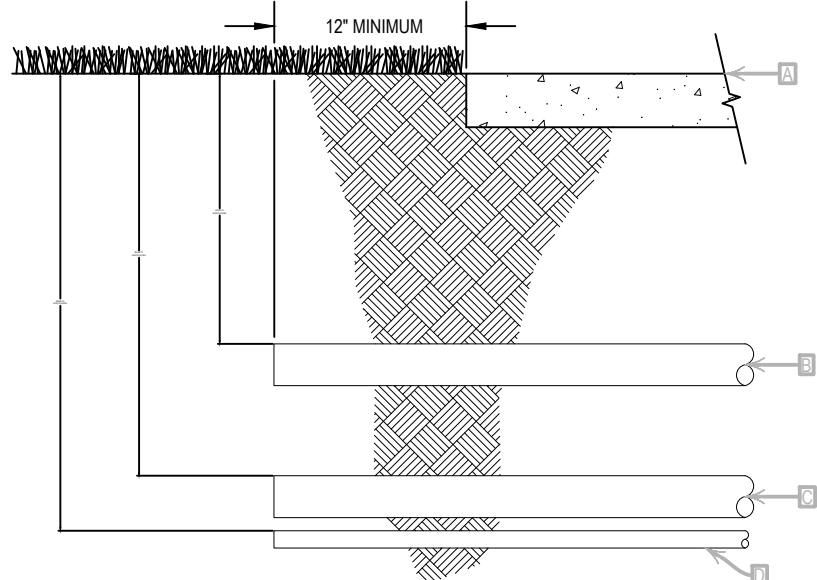
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**IRRIGATION DETAILS**

**L6.01**

SLEEVE SIZING SCHEDULE	
PIPE SIZE (INCHES)	MINIMUM SLEEVE SIZE (INCHES)
1	2
1.5	3
2	4
2.5	5

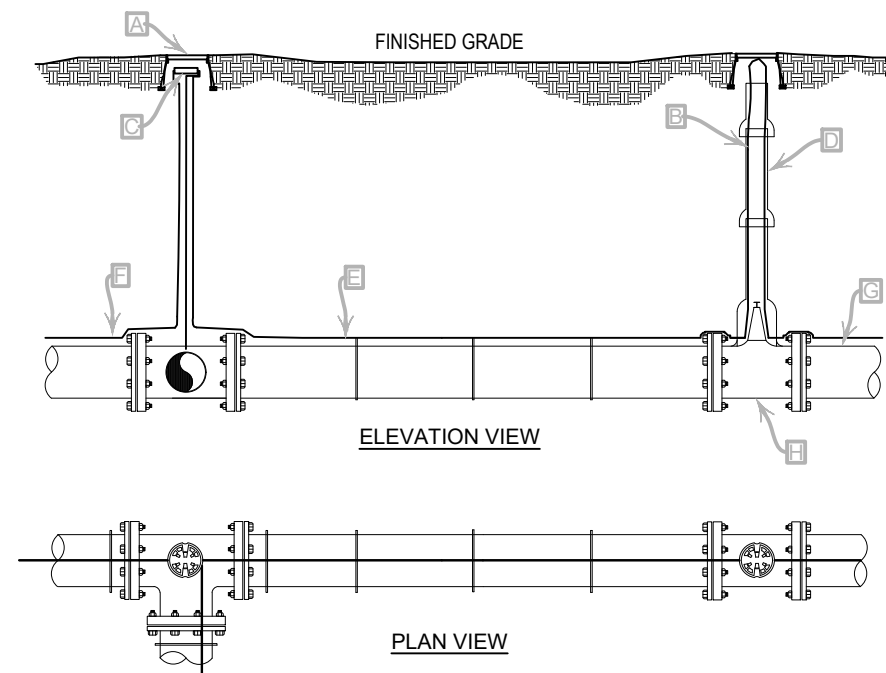
- A. FINISHED GRADE OF PAVED SURFACE
- B. SLEEVE FOR LATERAL PIPE
- C. SLEEVE FOR MAINLINE PIPE
- D. SLEEVE FOR TWO WIRE CABLE



- NOTES:
- INSTALL SLEEVE SO THAT ITS LOWEST ELEVATION OCCURS AT ONE OR BOTH ENDS - NOT ALONG ITS LENGTH.
  - MINIMUM TWO WIRE CABLE SLEEVE SIZE IS 2-INCHES.

### 1 SLEEVE DETAIL

SCALE: 1" = 1'-0"



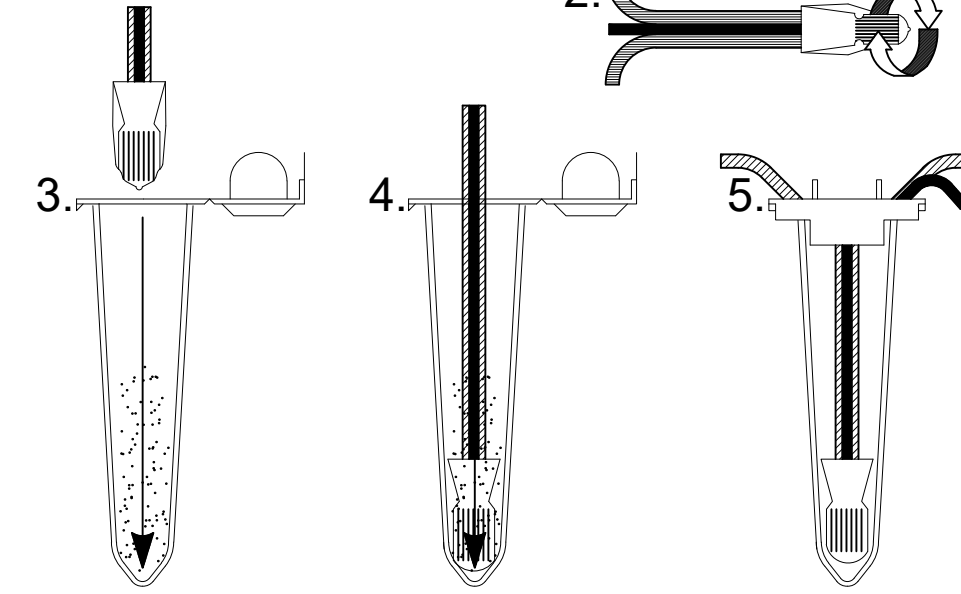
- A. 10" ROUND VALVE BOX
- B. INSTALL TRACING WIRE TO THE TOP OF VALVE BOX
- C. WATER PROOF CONNECTION (SEE SPECIFICATIONS)
- D. PIPE SLEEVE SEE VALVE DETAIL
- E. TAPE COPPER WIRE TO TOP OF PIPE EVERY 10 FT.
- F. CONTINUOUS LOOP COPPER TRACING WIRE (SEE SPECIFICATIONS)
- G. PVC PIPE
- H. TYP. VALVE

- NOTE:
- COPPER TRACING WIRE WILL START AT THE MASTER VALVE AND WILL BE ROUTED WITH ALL MAINLINE PIPE.
  - SPLICE TRACING WIRE IN IRRIGATION MAINLINE COMPONENT VALVE BOXES WHEN POSSIBLE. OTHERWISE, PLACE SPLICE IN SEPARATE VALVE BOX.

### 3 TRACING WIRE DETAIL

SCALE: 1/4" = 1'-0"

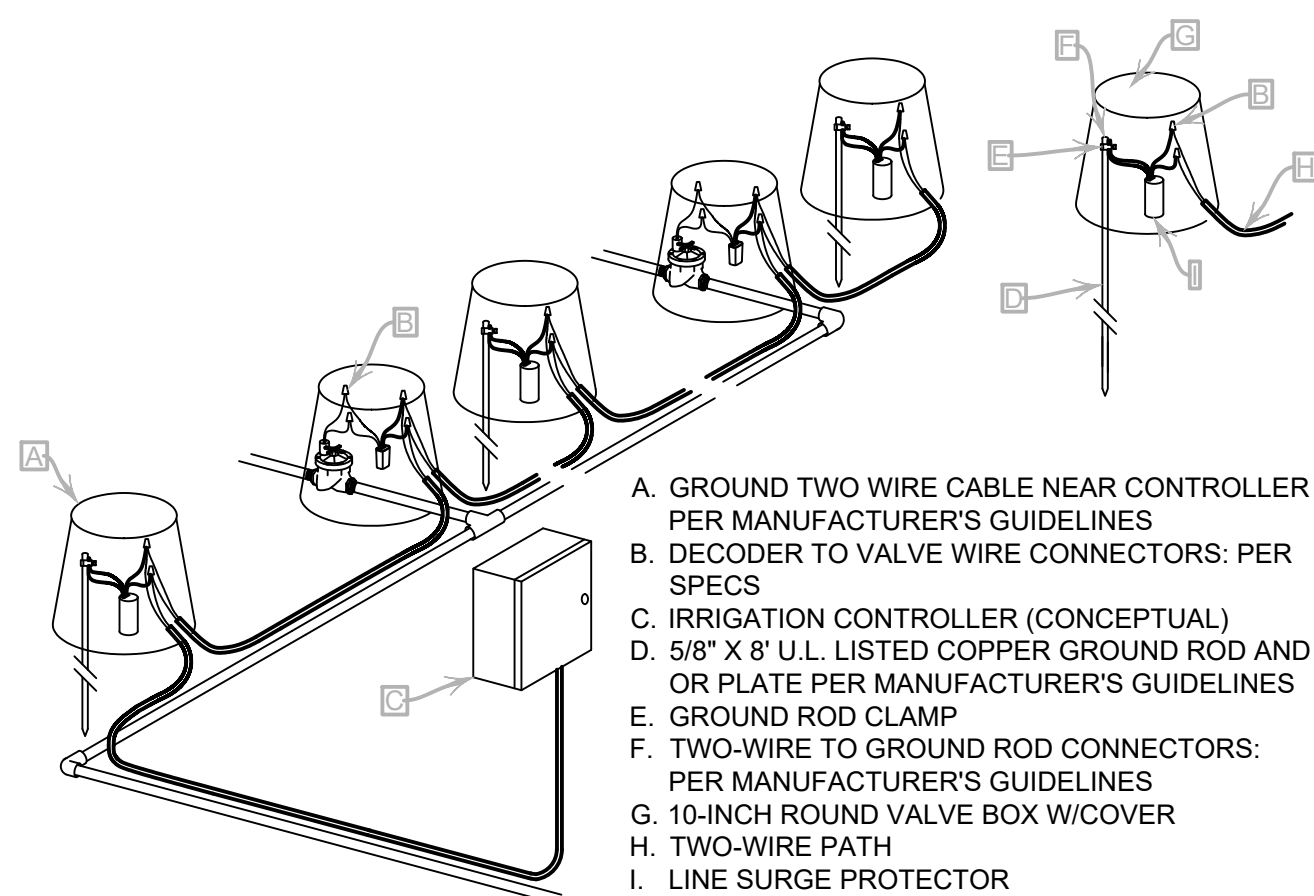
- STRIP ENDS OF WIRE
- SECURE WIRES INTO WIRE NUT
- INSERT WIRE NUT INTO GEL-FILLED TUBE
- POSITION WIRES INTO CHANNELS
- CLOSE SPLICE KIT FOR SECURED SEAL



- NOTE:
- VISUALLY CHECK THAT CONNECTOR IS BELOW LOCKING "FINGERS".

### 2 WIRE SPLICE DETAIL

SCALE: 6" = 1'-0"



- A. GROUND TWO WIRE CABLE NEAR CONTROLLER PER MANUFACTURER'S GUIDELINES
- B. DECODER TO VALVE WIRE CONNECTORS: PER SPECS
- C. IRRIGATION CONTROLLER (CONCEPTUAL)
- D. 5/8" X 8' U.L. LISTED COPPER GROUND ROD AND OR PLATE PER MANUFACTURER'S GUIDELINES
- E. GROUND ROD CLAMP
- F. TWO-WIRE TO GROUND ROD CONNECTORS: PER MANUFACTURER'S GUIDELINES
- G. 10-INCH ROUND VALVE BOX W/COVER
- H. TWO-WIRE PATH
- I. LINE SURGE PROTECTOR

- NOTES:
- ALL WIRE CONNECTION SHALL BE MADE WITH APPROVED CONNECTORS.
  - MAKE ALL WIRE SPLICES IN VALVE BOXES.
  - LEAVE A MINIMUM OF 36" EXTRA WIRE AT ALL SPLICE POINTS.
  - TEST EARTH TO GROUND RESISTANCE AT ALL GROUND POINTS.
  - EARTH TO GROUND RESISTANCE MUST MEET OR EXCEED MANUFACTURER REQUIREMENTS.
  - INSTALL ALL GROUND ASSEMBLIES IN VALVE BOXES.
  - INSTALL GROUNDING EQUIPMENT AS INDICATED ON THE IRRIGATION DOCUMENTS AND AS RECOMMENDED BY THE MANUFACTURER.

### 4 TWO WIRE SCHEMATIC

SCALE: 1" = 1'-0"

NOTE:

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ILLUSTRATE MAINLINE LAYOUT, HEAD LAYOUT, & LAYOUT OF OTHER MAJOR COMPONENTS.

- THE SYSTEM DESIGN ASSUMES A MINIMUM STATIC PRESSURE AND MINIMUM DISCHARGE AS INDICATED ON THE PLANS FOR EACH POINT-OF-CONNECTION. VERIFY PRESSURE AND FLOW ON SITE PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES WITH THE ASSUMPTIONS. IF WATER PRESSURE DOES NOT MEET MINIMUM REQUIREMENTS THEN INSTALL A BOOSTER PUMP FROM WATERTRONICS, RAINBIRD, OR OWNER APPROVED EQUAL. BOOSTER PUMP TO INCLUDE AIR COOLED ENCLOSURE AND VARIABLE FREQUENCY DRIVE. ALL ELECTRICAL INSTALLATION TO BE PER NEC AND LOCAL CODE. CONTRACTOR TO COORDINATE ELECTRICAL NEEDS WITH PUMP MANUFACTURER AND GENERAL CONTRACTOR. PROVIDE CUTSHEETS FOR REVIEW PRIOR TO ORDERING.

- COORDINATE UTILITY LOCATES ("CALL BEFORE YOU DIG") OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.

- DO NOT PROCEED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING, OR IF DISCREPANCIES IN CONSTRUCTION DETAILS, LEGEND, NOTES, OR SPECIFICATIONS ARE DISCOVERED. BRING ALL SUCH OBSTRUCTIONS OR DISCREPANCIES TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.

- THE DRAWINGS ARE DIAGRAMMATIC. THEREFORE, THE FOLLOWING SHOULD BE NOTED:

- A. IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE PLANTING AREAS FOR CLARITY. AVOID CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING MATERIALS, AND ARCHITECTURAL FEATURES. INSTALL IRRIGATION PIPE AND WIRING IN LANDSCAPED AREAS WHENEVER POSSIBLE.

- B. USE ONLY STANDARD TEES AND ELBOW FITTINGS. USE OF CROSS TYPE FITTINGS IS NOT PERMITTED.

- PROVIDE THE FOLLOWING COMPONENTS TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT:

- A. TWO OPERATING KEYS FOR EACH TYPE OF MANUALLY OPERATED VALVE.

- B. TWO OF EACH SERVICING WRENCH OR TOOL NEEDED FOR COMPLETE ACCESS, ADJUSTMENT, AND REPAIR OF ALL SPRAY SPRINKLERS.

- C. TWO QUICK COUPLING KEYS, EACH WITH ATTACHED SWIVEL HOSE EL FOR OPERATION OF THE QUICK COUPLING VALVES

- SELECT NOZZLES FOR SPRAY SPRINKLERS WITH ARCS WHICH PROVIDE COMPLETE AND ADEQUATE COVERAGE WITH MINIMUM OVERSPRAY FOR THE SITE CONDITIONS.

- THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF IRRIGATION SLEEVING. SLEEVES ARE TO BE INSTALLED FOR BOTH PIPING AND ELECTRICAL WIRING AT EACH HARDSCAPE CROSSING. COORDINATE INSTALLATION OF SLEEVING WITH OTHER TRADES. ANY PIPE OR WIRE WHICH PASSES BENEATH EXISTING HARDSCAPE REQUIRES HORIZONTAL BORING BY THE IRRIGATION CONTRACTOR.

- CONNECT ELECTRICAL POWER TO THE IRRIGATION CONTROL SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND ALL APPLICABLE LOCAL ELECTRIC UTILITY CODES.

- WITH REGARD TO PIPE SIZING, THE FOLLOWING SHOULD BE NOTED: IF A SECTION OF UNSIZED PIPE IS LOCATED BETWEEN TWO IDENTICALLY SIZED SECTIONS, THE UNSIZED PIPE IS THE SAME NOMINAL SIZE AS THE TWO SIZED SECTIONS. THE UNSIZED PIPE SHOULD NOT BE CONFUSED WITH THE DEFAULT PIPE SIZE NOTED IN THE LEGEND.

- INSTALL VAN NOZZLES WHERE SPRAY ANGLES ARE LESS OR GREATER THAN WHAT A FIXED SPRAY NOZZLE CAN IRRIGATE WITHOUT EXCESSIVE OVERSPRAY.

- CONTRACTOR TO INSTALL SPRINKLERS PERPENDICULAR TO GRADE AND FINE GRADING TECHNIQUES EMPLOYED TO REDUCE SEDIMENT, HEAD DAMAGE, AND RUNOFF TO HARD SURFACES.

- CONTRACTOR MUST USE CYCLE/SOAK PROGRAMMING TECHNIQUES TO MINIMIZE RUN OFF.

A FULLY AUTOMATED SPRINKLER IRRIGATION SYSTEM, CONSISTING OF POP UP SPRAYS AND ROTOR SPRINKLERS, WILL IRRIGATE TURF AND PLANTING BEDS. POP-UP BUBBLERS IRRIGATE ISOLATED TREES.

POTABLE WATER WILL BE USED FOR IRRIGATION FROM WATER METERS PROVIDED BY OTHERS. REFER TO PLANS.

A STAND ALONE, PEDESTAL MOUNTED, TWO WIRE IRRIGATION CONTROLLER WILL BE INSTALLED UNDER THIS CONTRACT. THE CONTROLLER WILL UTILIZE A RAIN SENSOR.

A MASTER VALVE AND FLOW SENSOR WILL BE INSTALLED TO SHUT DOWN THE IRRIGATION SYSTEM IN CASE OF MAINLINE PIPE FAILURE.

ISOLATION GATE VALVES PERMIT THE ISOLATION OF SECTIONS OF THE SYSTEM FOR REPAIRS OR MAINTENANCE. QUICK COUPLING VALVES HAVE BEEN PROVIDED THROUGHOUT THE SITE FOR INCIDENTAL WATERING.

## BIENVILLE SQUARE

FOUNTAIN & SITE AMENITIES  
IMPROVEMENTS - PR-021-22

MOBILE, ALABAMA

CLARBO | LANDSCAPE  
ARCHITECTURE

200 LAUREL ST. SUITE 100  
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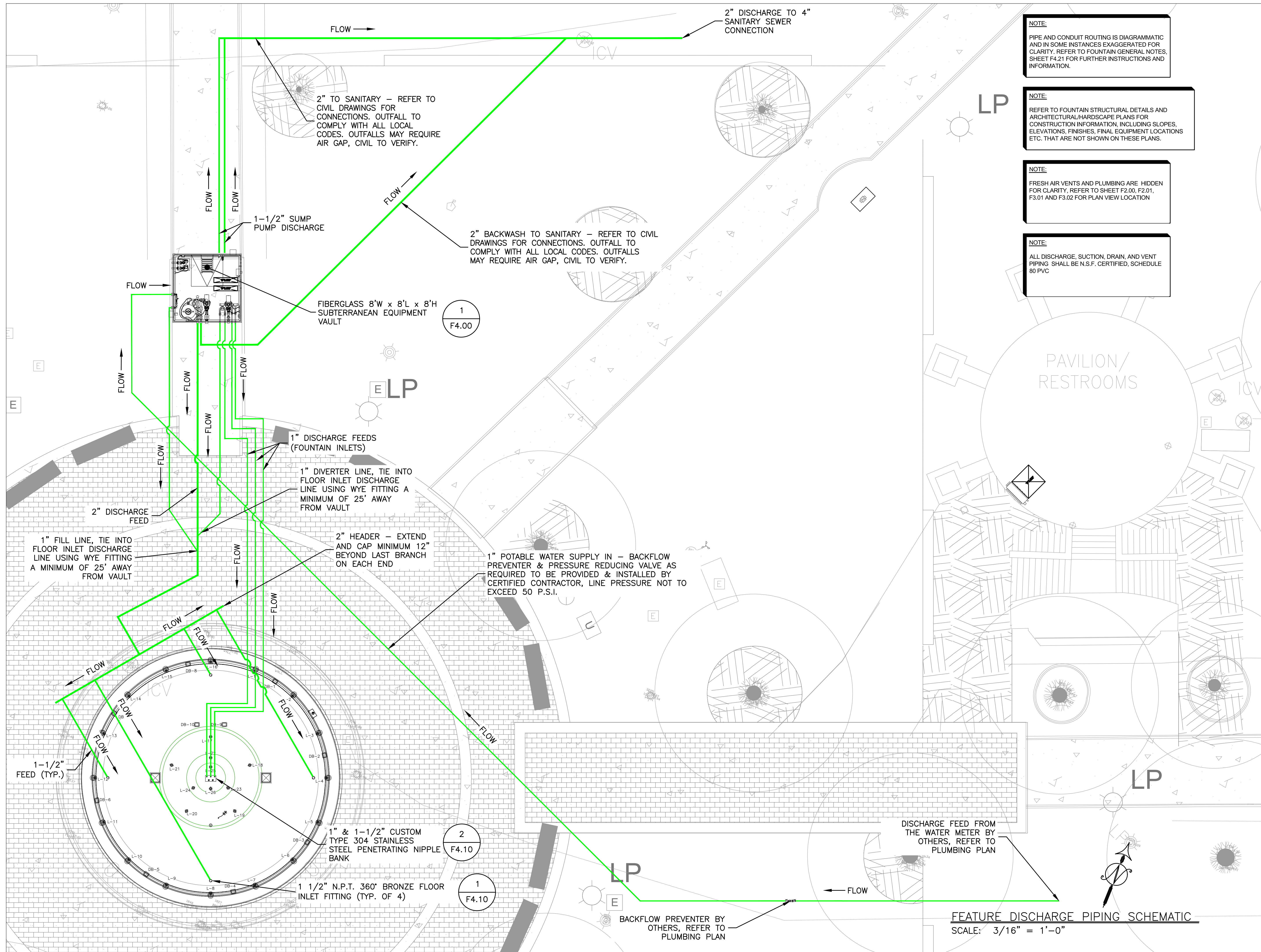
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IRRIGATION  
DETAILS II

L6.02



**NOTE:**  
PIPE AND CONDUIT ROUTING IS DIAGRAMMATIC AND IN SOME INSTANCES EXAGGERATED FOR CLARITY. REFER TO FOUNTAIN GENERAL NOTES, SHEET F4.21 FOR FURTHER INSTRUCTIONS AND INFORMATION.

**NOTE:**  
REFER TO FOUNTAIN STRUCTURAL DETAILS AND ARCHITECTURAL/HARDSCAPE PLANS FOR CONSTRUCTION INFORMATION, INCLUDING SLOPES, ELEVATIONS, FINISHES, FINAL EQUIPMENT LOCATIONS ETC. THAT ARE NOT SHOWN ON THESE PLANS.

**NOTE:**  
FRESH AIR VENTS AND PLUMBING ARE HIDDEN FOR CLARITY. REFER TO SHEET F2.00, F2.01, F3.01 AND F3.02 FOR PLAN VIEW LOCATION

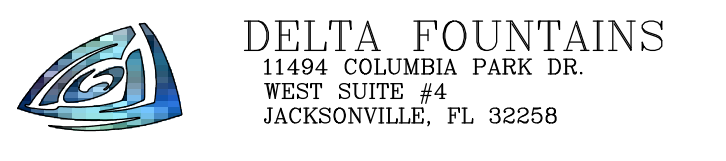
**NOTE:**  
ALL DISCHARGE, SUCTION, DRAIN, AND VENT PIPING SHALL BE N.S.F. CERTIFIED, SCHEDULE 80 PVC

# BIENVILLE SQUARE

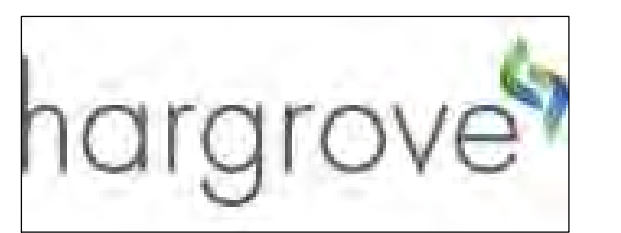
MOBILE, ALABAMA



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DATE: APRIL 05, 2023

DRAWN BY: KRC

CHECKED BY: DELTA

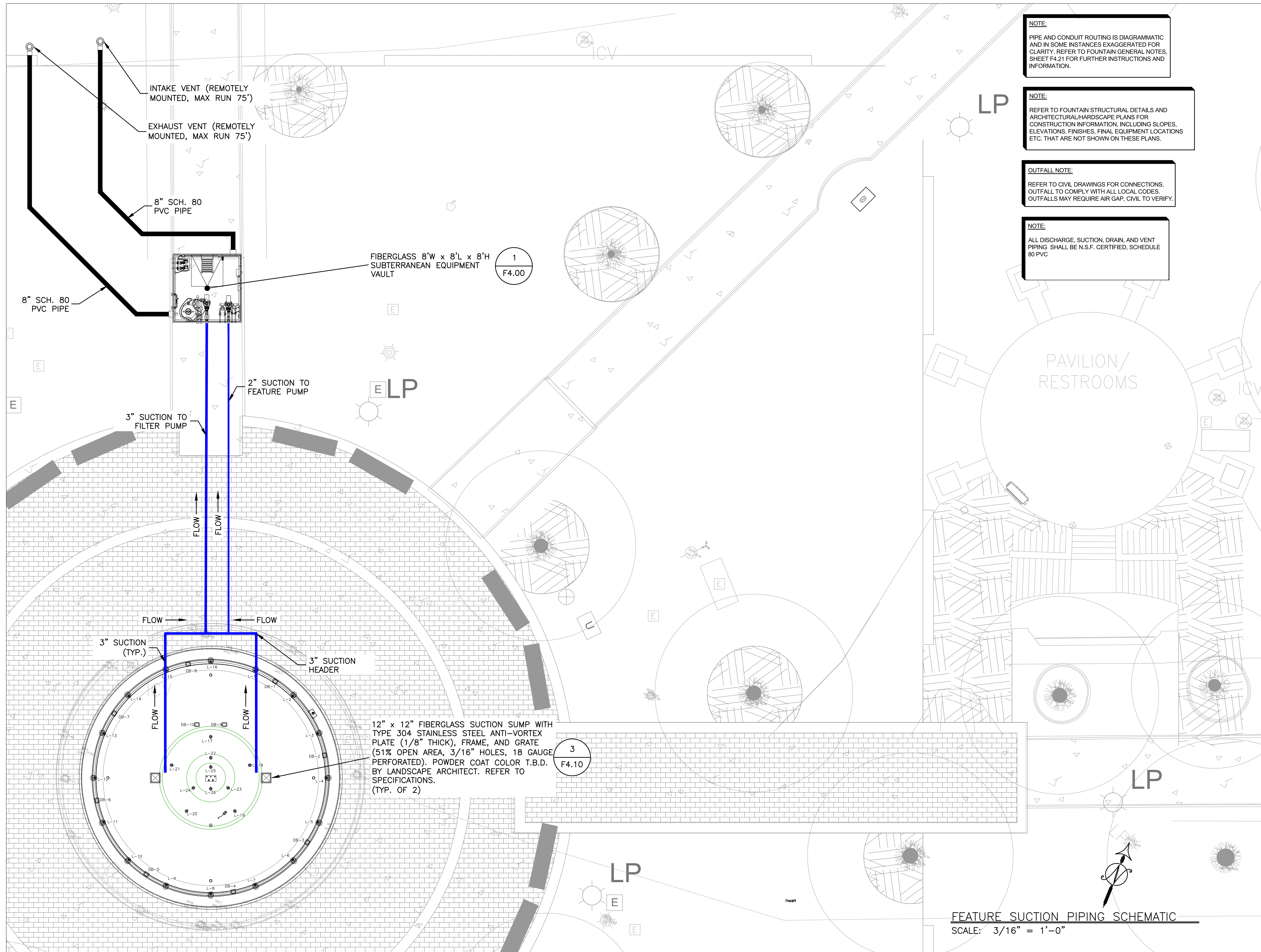
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## DISCHARGE PIPING SCHEMATIC

# F1.00

**FEATURE DISCHARGE PIPING SCHEMATIC**  
SCALE: 3/16" = 1'-0"

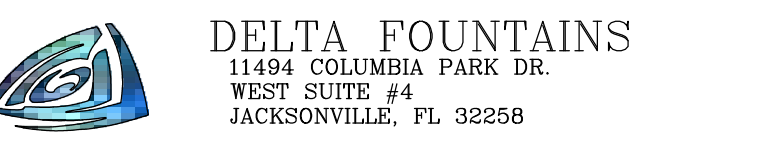


# BIENVILLE SQUARE

MOBILE, ALABAMA



200 LAUREL ST. SUITE 100  
BATON ROUGE, LA 70801  
225 302 7452



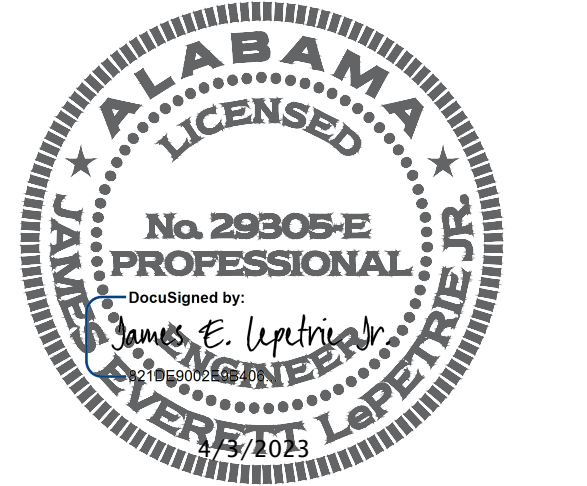
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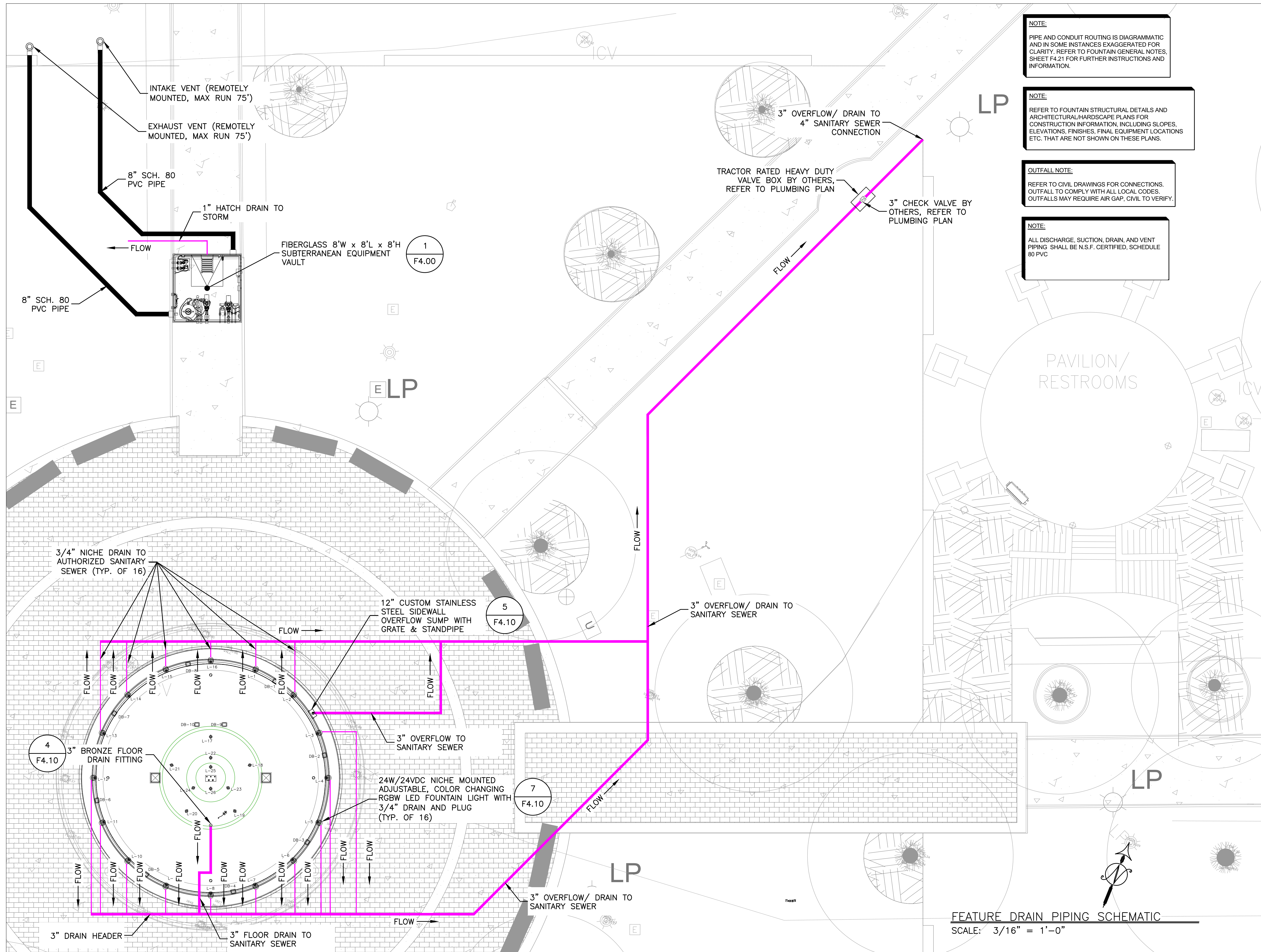
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## SUCTION PIPING SCHEMATIC

F2.00

FEATURE SUCTION PIPING SCHEMATIC  
SCALE: 3/16" = 1'-0"



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**OUTFALL NOTE:**  
REFER TO CIVIL DRAWINGS FOR CONNECTIONS. OUTFALL TO COMPLY WITH ALL LOCAL CODES. OUTFALLS MAY REQUIRE AIR GAP, CIVIL TO VERIFY.

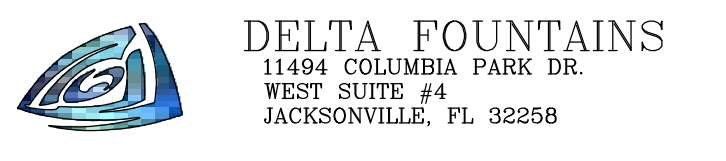
**NOTE:**  
ALL DISCHARGE, SUCTION, DRAIN, AND VENT PIPING SHALL BE N.S.F. CERTIFIED, SCHEDULE 80 PVC

# BIENVILLE SQUARE

MOBILE, ALABAMA



200 LAUREL ST. SUITE 100  
BATON ROUGE, LA 70801  
225 302 7452



11494 COLUMBIA PARK DR.  
WEST SUITE #4  
JACKSONVILLE, FL 32258

Y. (904) 886-9030 ARCHITECTURAL &  
F. (904) 886-9089 FLOATING FOUNTAINS



Nimrod Long  
And Associates



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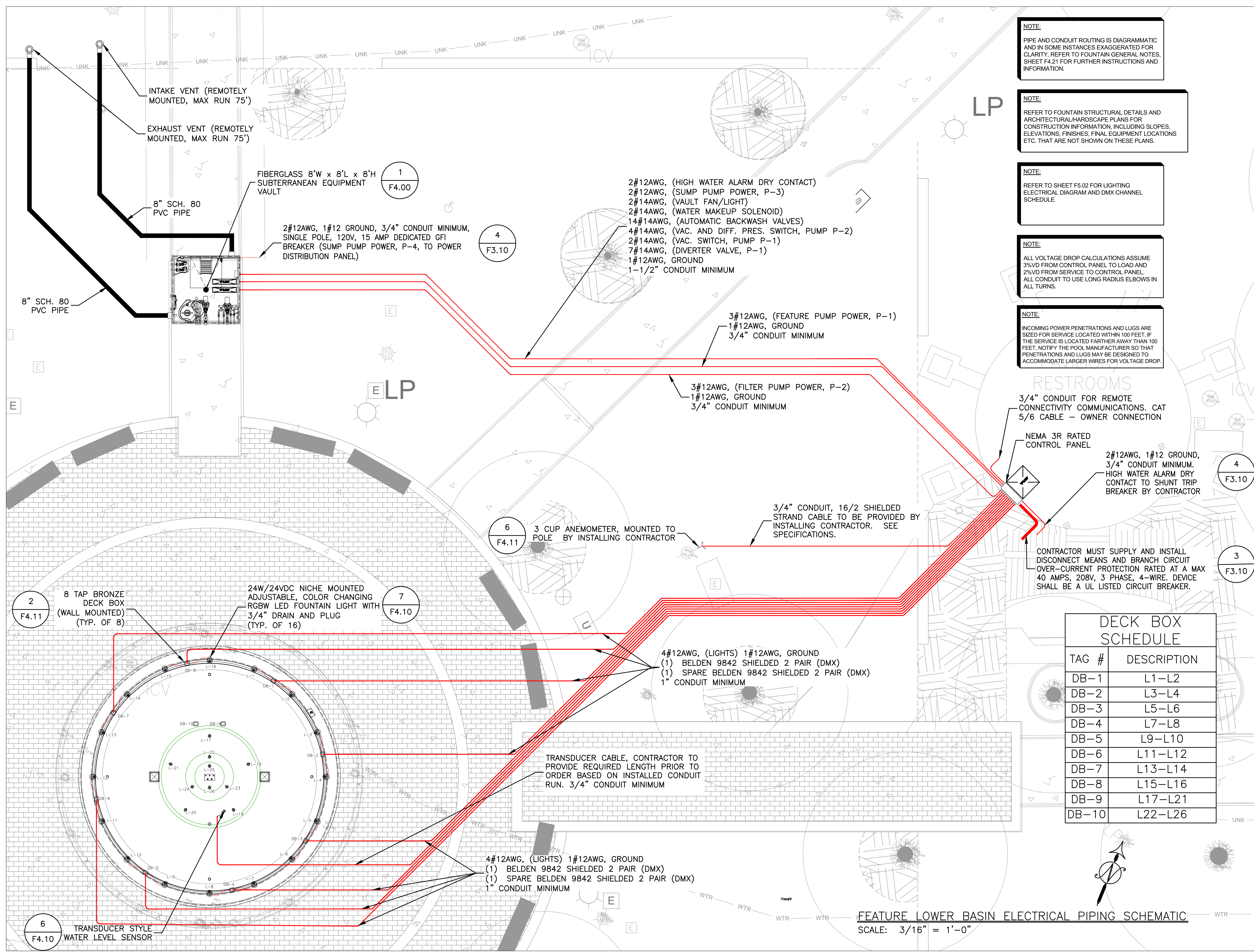
SCALE:

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## DRAIN PIPING SCHEMATIC

# F2.01

FEATURE DRAIN PIPING SCHEMATIC  
SCALE: 3/16" = 1'-0"



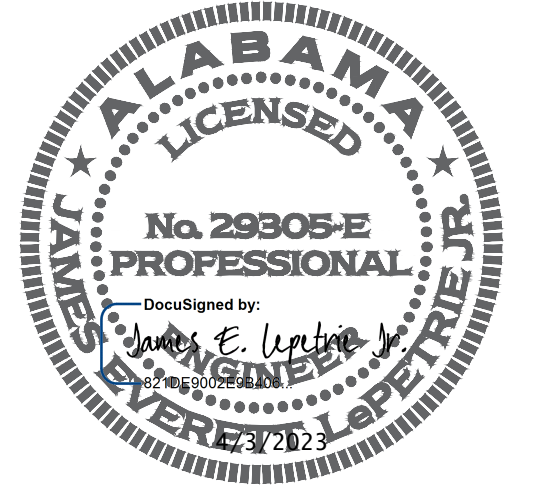
**NOTE:**  
PIPE AND CONDUIT ROUTING IS DIAGRAMMATIC AND IN SOME INSTANCES EXAGGERATED FOR CLARITY. REFER TO FOUNTAIN GENERAL NOTES, SHEET F4.21 FOR FURTHER INSTRUCTIONS AND INFORMATION.

**NOTE:**  
REFER TO FOUNTAIN STRUCTURAL DETAILS AND ARCHITECTURAL/HARDSCAPE PLANS FOR CONSTRUCTION INFORMATION, INCLUDING SLOPES, ELEVATIONS, FINISHES, FINAL EQUIPMENT LOCATIONS ETC. THAT ARE NOT SHOWN ON THESE PLANS.

**NOTE:**  
REFER TO SHEET F5.02 FOR LIGHTING ELECTRICAL DIAGRAM AND DMX CHANNEL SCHEDULE

**NOTE:**  
ALL VOLTAGE DROP CALCULATIONS ASSUME 3%VD FROM CONTROL PANEL TO LOAD AND 2%VD FROM SERVICE TO CONTROL PANEL. ALL CONDUIT TO USE LONG RADIUS ELBOWS IN ALL TURNS.

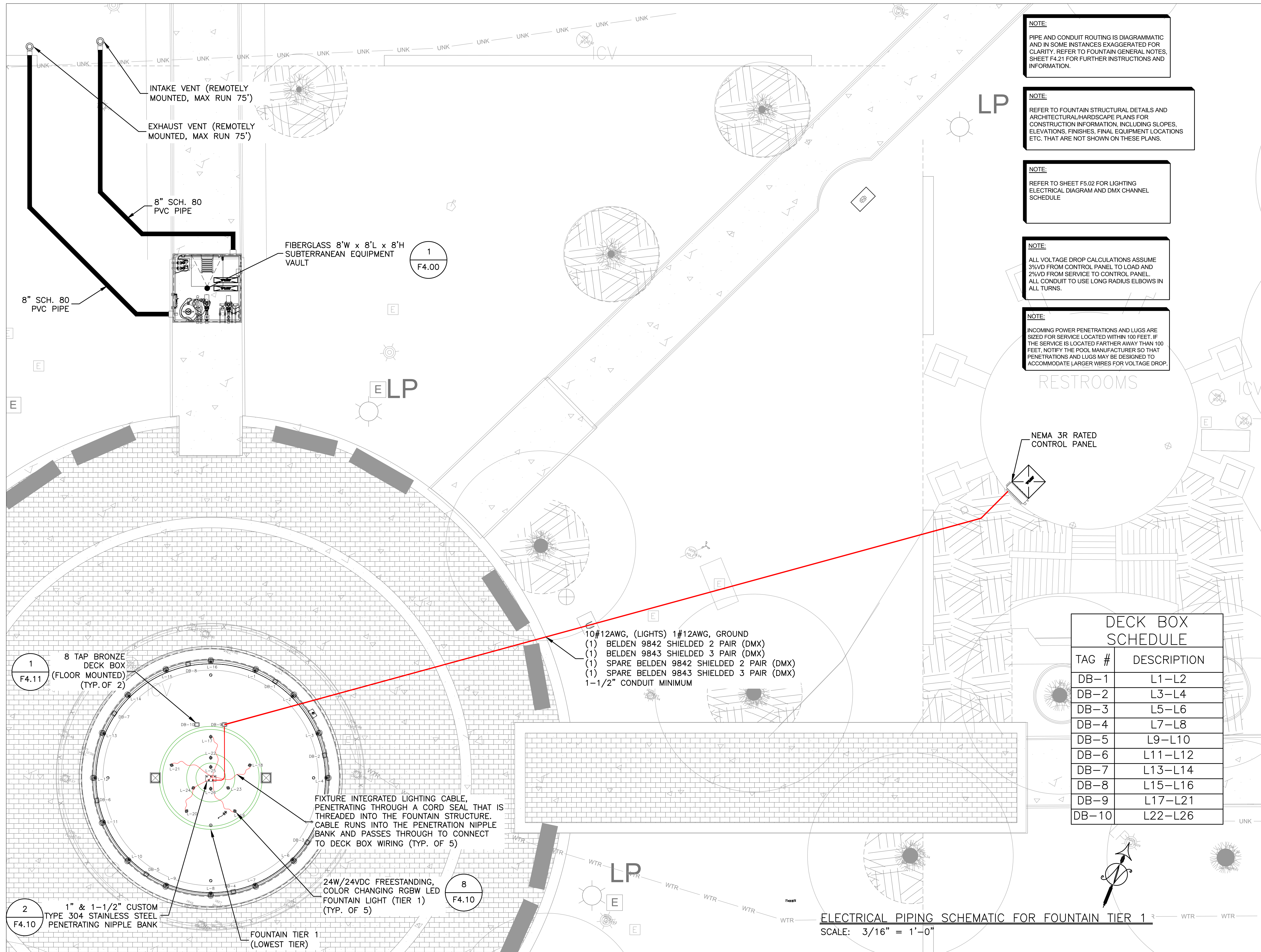
**NOTE:**  
INCOMING POWER PENETRATIONS AND LUGS ARE SIZED FOR SERVICE LOCATED WITHIN 100 FEET. IF THE SERVICE IS LOCATED FARTHER AWAY THAN 100 FEET, NOTIFY THE POOL MANUFACTURER SO THAT PENETRATIONS AND LUGS MAY BE DESIGNED TO ACCOMMODATE LARGER WIRES FOR VOLTAGE DROP.



**DECK BOX SCHEDULE**

TAG #	DESCRIPTION
DB-1	L1-L2
DB-2	L3-L4
DB-3	L5-L6
DB-4	L7-L8
DB-5	L9-L10
DB-6	L11-L12
DB-7	L13-L14
DB-8	L15-L16
DB-9	L17-L21
DB-10	L22-L26

**FEATURE LOWER BASIN ELECTRICAL PIPING SCHEMATIC**  
SCALE: 3/16" = 1'-0"



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**NOTE:**  
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**NOTE:**  
REFER TO SHEET F5.02 FOR LIGHTING ELECTRICAL DIAGRAM AND DMX CHANNEL SCHEDULE

**NOTE:**  
ALL VOLTAGE DROP CALCULATIONS ASSUME 3%VD FROM CONTROL PANEL TO LOAD AND 2%VD FROM SERVICE TO CONTROL PANEL. ALL CONDUIT TO USE LONG RADIUS ELBOWS IN ALL TURNS.

**NOTE:**  
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**DECK BOX SCHEDULE**

TAG #	DESCRIPTION
DB-1	L1-L2
DB-2	L3-L4
DB-3	L5-L6
DB-4	L7-L8
DB-5	L9-L10
DB-6	L11-L12
DB-7	L13-L14
DB-8	L15-L16
DB-9	L17-L21
DB-10	L22-L26

BIENVILLE SQUARE

MOBILE, ALABAMA

**CLARBO** LANDSCAPE ARCHITECTURE

200 LAUREL ST. SUITE 100  
BATON ROUGE, LA 70801  
225 302 7452

**DELTA FOUNTAINS**

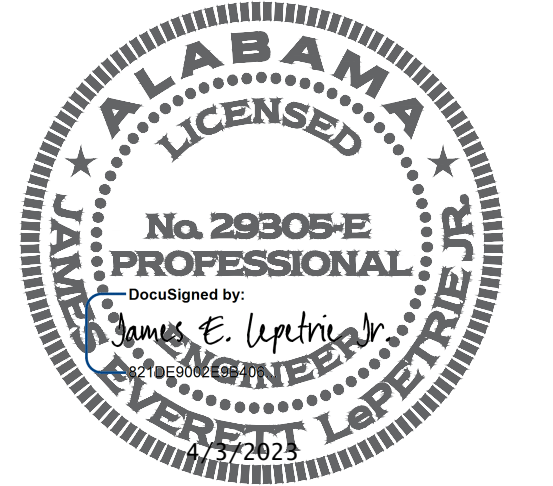
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WEST SUITE #4  
JACKSONVILLE, FL 32258

**hargrove**

Nimrod Long  
And Associates



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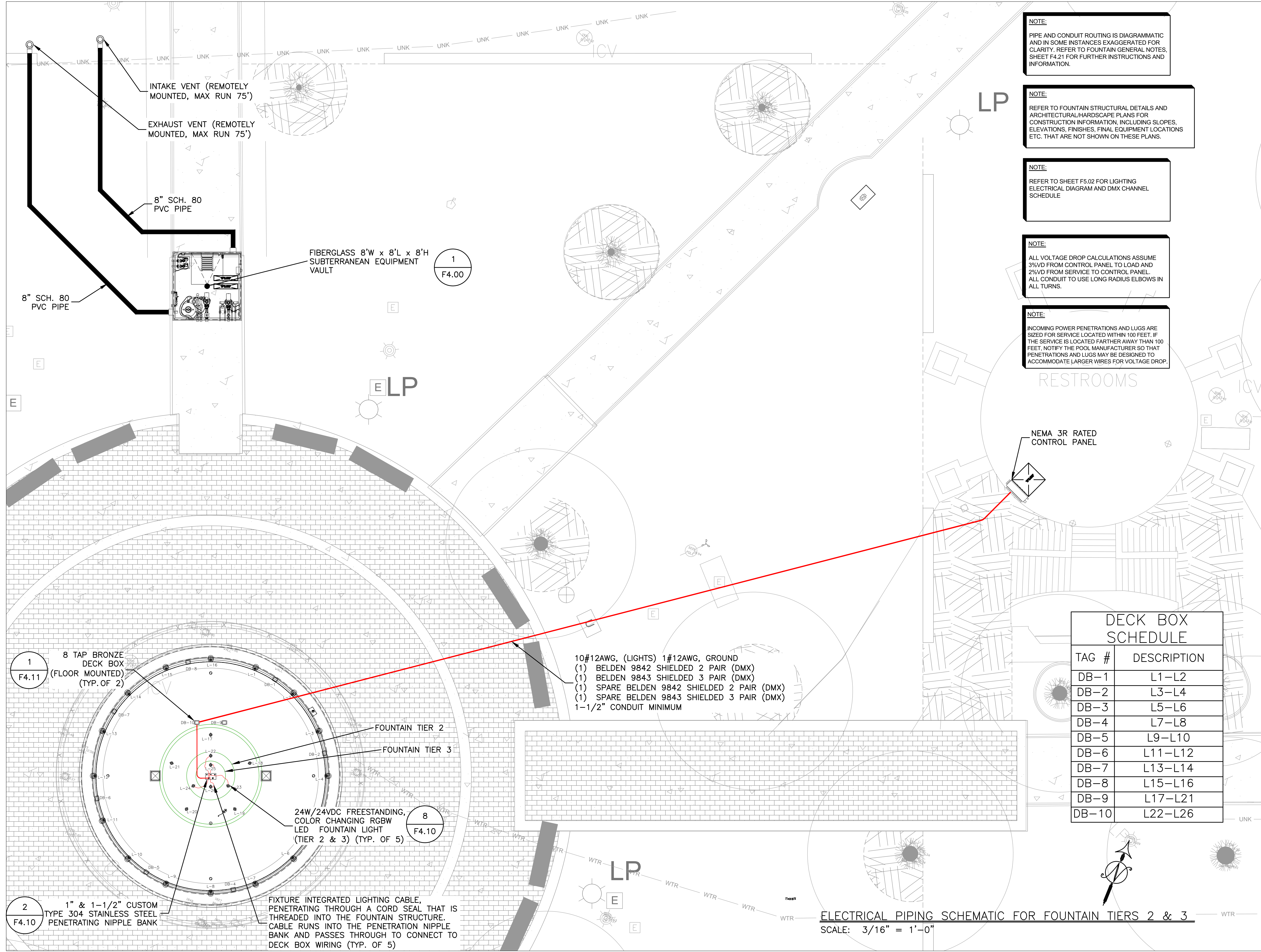
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ELECTRICAL SCHEMATIC

F3.01

**ELECTRICAL PIPING SCHEMATIC FOR FOUNTAIN TIER 1**  
SCALE: 3/16" = 1'-0"





**NOTE:**  
PIPE AND CONDUIT ROUTING IS DIAGRAMMATIC AND IN SOME INSTANCES EXAGGERATED FOR CLARITY. REFER TO FOUNTAIN GENERAL NOTES, SHEET F4.21 FOR FURTHER INSTRUCTIONS AND INFORMATION.

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**NOTE:**  
REFER TO SHEET F5.02 FOR LIGHTING ELECTRICAL DIAGRAM AND DMX CHANNEL SCHEDULE

**NOTE:**  
ALL VOLTAGE DROP CALCULATIONS ASSUME 3%VD FROM CONTROL PANEL TO LOAD AND 2%VD FROM SERVICE TO CONTROL PANEL. ALL CONDUIT TO USE LONG RADIUS ELBOWS IN ALL TURNS.

**NOTE:**  
INCOMING POWER PENETRATIONS AND LUGS ARE SIZED FOR SERVICE LOCATED WITHIN 100 FEET. IF THE SERVICE IS LOCATED FARTHER AWAY THAN 100 FEET, NOTIFY THE POOL MANUFACTURER SO THAT PENETRATIONS AND LUGS MAY BE DESIGNED TO ACCOMMODATE LARGER WIRES FOR VOLTAGE DROP.

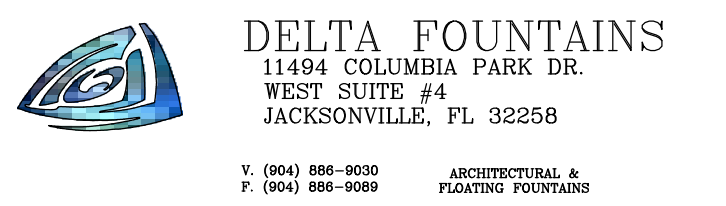
NEMA 3R RATED CONTROL PANEL

10#12AWG, (LIGHTS) 1#12AWG, GROUND  
(1) BELDEN 9842 SHIELDED 2 PAIR (DMX)  
(1) BELDEN 9843 SHIELDED 3 PAIR (DMX)  
(1) SPARE BELDEN 9842 SHIELDED 2 PAIR (DMX)  
(1) SPARE BELDEN 9843 SHIELDED 3 PAIR (DMX)  
1-1/2" CONDUIT MINIMUM

DECK BOX SCHEDULE	
TAG #	DESCRIPTION
DB-1	L1-L2
DB-2	L3-L4
DB-3	L5-L6
DB-4	L7-L8
DB-5	L9-L10
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DB-8	L15-L16
DB-9	L17-L21
DB-10	L22-L26



200 LAUREL ST. SUITE 100  
BATON ROUGE, LA 70801  
225 302 7452



ARCHITECTURAL & FLOATING FOUNTAINS



Nimrod Long  
And Associates



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ELECTRICAL SCHEMATIC

F3.02

ELECTRICAL PIPING SCHEMATIC FOR FOUNTAIN TIERS 2 & 3  
SCALE: 3/16" = 1'-0"

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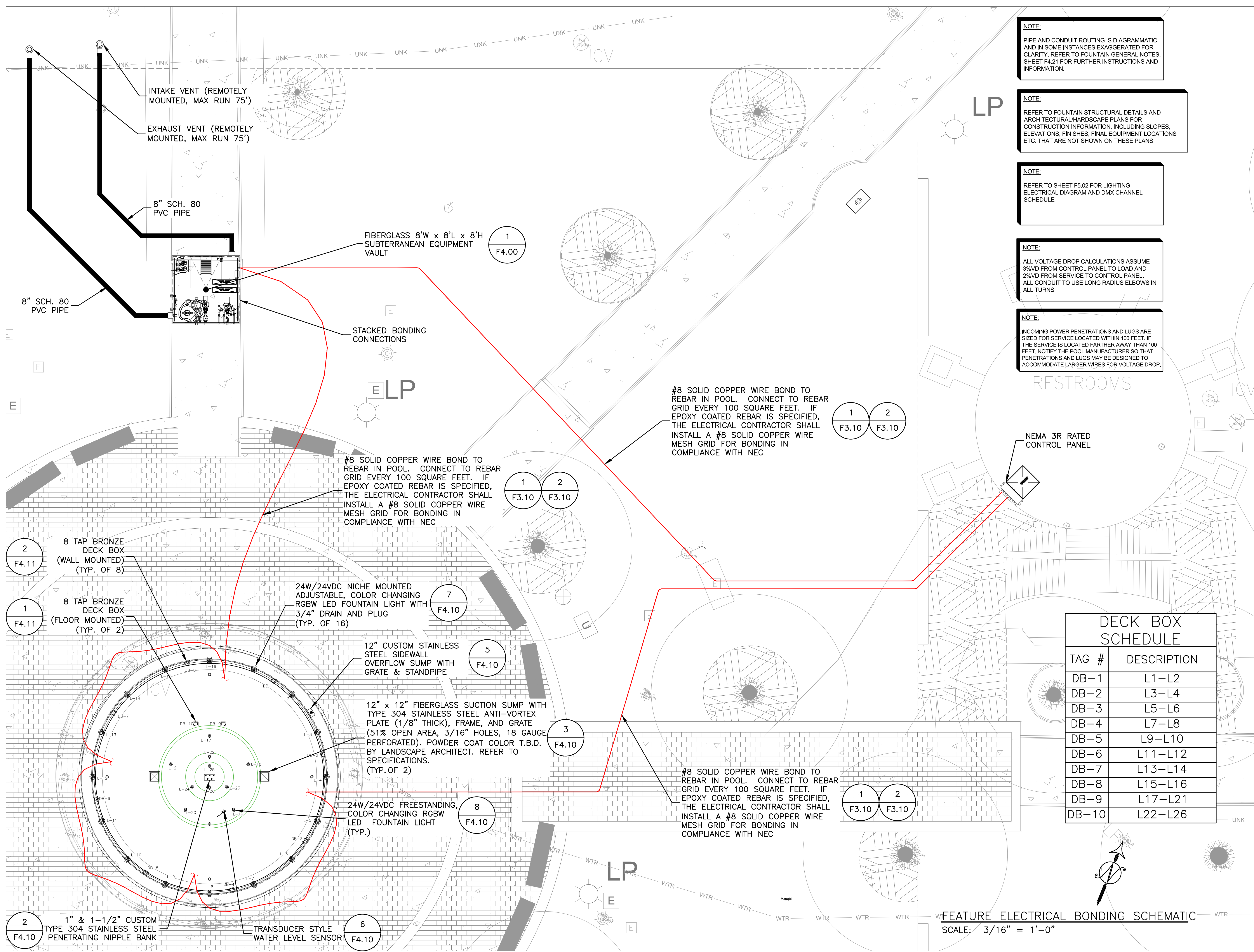
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**ELECTRICAL SCHEMATIC**

F3.03



**NOTE:**  
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**NOTE:**  
REFER TO SHEET F5.02 FOR LIGHTING ELECTRICAL DIAGRAM AND DMX CHANNEL SCHEDULE

**NOTE:**  
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**NOTE:**  
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**DECK BOX SCHEDULE**

TAG #	DESCRIPTION
DB-1	L1-L2
DB-2	L3-L4
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DB-5	L9-L10
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DB-8	L15-L16
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DB-10	L22-L26

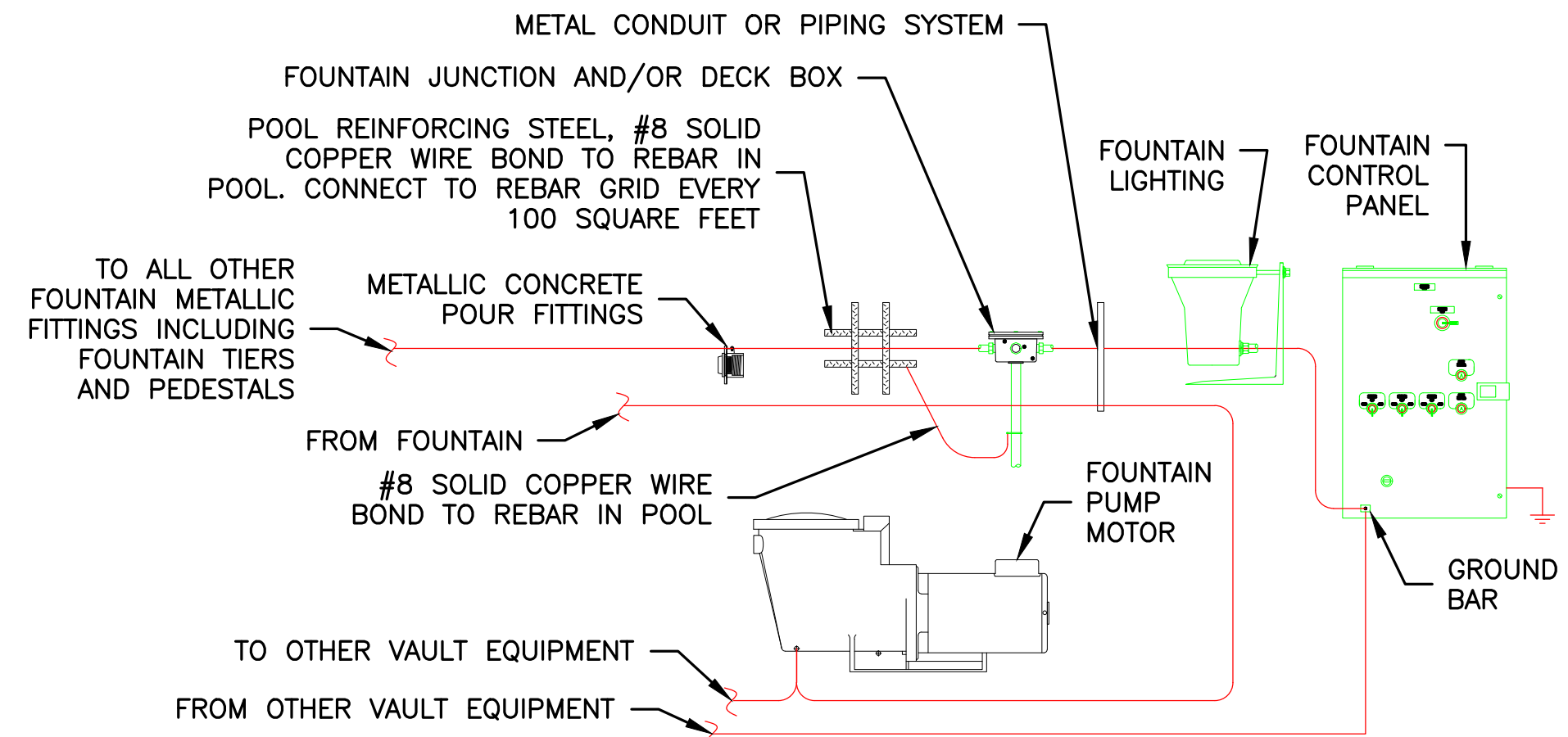
**FEATURE ELECTRICAL BONDING SCHEMATIC**  
SCALE: 3/16" = 1'-0"

GENERAL ELECTRICAL NOTES:

- 1. THE INSTALLATION OF ELECTRICAL EQUIPMENT AND WIRING IN WATER CAN PRODUCE EXTREME HAZARDS, IT IS THE RESPONSIBILITY OF THE INSTALLING ELECTRICAL CONTRACTOR TO CONSULT & COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (NEC) PUBLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION; MOBILE, ALABAMA AND SAFETY REGULATIONS PRIOR TO INSTALLATION OF ELECTRICAL EQUIPMENT. IN THE EVENT OF CONFLICTING REQUIREMENTS BETWEEN CONTRACT DOCUMENTS AND ANY LOCAL ELECTRIC CODE OR OTHER GOVERNING ORGANIZATIONS FOR THIS LOCATION, THE MOST STRINGENT SHALL GOVERN AND TAKE PRECEDENCE. IN THIS EVENT, THE ARCHITECT SHALL BE NOTIFIED IMMEDIATELY IN WRITING OF SUCH CONFLICT.
2. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL FIELD DIMENSIONS CRITICAL TO FOUNTAIN EQUIPMENT INSTALLATION AND PERFORMANCE AND REPORT ANY DISCREPANCIES, IN WRITING, TO THE FOUNTAIN MANUFACTURER AND THE ENGINEER UPON IMMEDIATE NOTICE.
3. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL ELECTRICAL EQUIPMENT IS INSTALLED AND WIRED WHETHER IT IS CALLED OUT WITHIN THE CONTRACT DOCUMENTS OR NOT, BY A QUALIFIED LICENSED ELECTRICIAN EXPERIENCED IN FOUNTAIN SYSTEM WIRING. THE FOUNTAIN MANUFACTURER ASSUMES NO RESPONSIBILITY OR LIABILITY WHATSOEVER FOR INSTALLATIONS NOT CARRIED OUT BY A QUALIFIED, LICENSED, ELECTRICIAN AND IN ACCORDANCE WITH OUR SHOP DRAWINGS, AND ALL PROVISIONS OF THE LATEST EDITION OF NEC IN GENERAL, ARTICLE 680 SPECIFICALLY, AND LOCAL SAFETY REGULATIONS. ALL FOUNTAIN MANUFACTURER'S ELECTRICAL CONTROL PANELS INCLUDE GFCI'S WHEN AND WHERE REQUIRED, WHEN FURNISHED.
4. A CLASS 'A' GROUND FAULT CIRCUIT INTERRUPTER (GFCI) MUST BE INSTALLED IN EACH BRANCH CIRCUIT SUPPLYING SUBMERSIBLE OR UNDERWATER FOUNTAIN EQUIPMENT. EQUIPMENT OPERATING AT 15 VOLTS OR LESS MUST BE PROTECTED BY SUITABLE TRANSFORMER U.L. LISTED AND MARKED FOR THE APPLICATION.
5. SUBMERSIBLE/UNDERWATER LIGHTING FIXTURES MUST BE INSTALLED FOR OPERATION AT 150 VOLTS LESS BETWEEN CONDUCTORS. SUBMERSIBLE PUMPS MUST OPERATE AT 300 VOLTS OR LESS BETWEEN CONDUCTORS.
6. WET/DRY LIGHTING FIXTURES MUST BE INSTALLED WITH THE TOP OF THE FIXTURE LENS BELOW THE GRATE AND MUST HAVE THE LENS ADEQUATELY GUARDED TO PREVENT CONTACT BY ANY PERSON.
7. SUBMERSIBLE LIGHTING FIXTURES MUST BE INSTALLED WITH THE TOP OF THE FIXTURE LENS A MINIMUM OF 2" BELOW THE NORMAL OPERATION WATER LEVEL.
8. ALL ELECTRICAL EQUIPMENT WHICH DEPENDS ON SUBMERSION FOR SAFE OPERATION MUST BE PROTECTED AGAINST OVERHEATING BY AN INDEPENDENT LOW WATER CUTOFF DEVICE IF THE WATER LEVEL DROPS BELOW NORMAL OPERATING LEVELS, OR CONTAIN AN INTERNAL THERMAL BIMETALLIC AMBIENT COMPENSATING OVERLOAD.
9. MAXIMUM LENGTH OF EXPOSED CORD IN FOUNTAIN IS LIMITED TO 9'. NO ADDITIONAL CORD OR SPLICES OTHER THAN THOSE MADE IN A WATERTIGHT JUNCTION BOX, ARE TO BE MADE IN THE FOUNTAIN. CORDS EXTENDING BEYOND FOUNTAIN PERIMETER MUST BE ENCLOSED IN APPROVED WIRING ENCLOSURES.
10. ALL SUBMERSIBLE LIGHTS AND PUMPS MUST HAVE SUFFICIENT CORD LENGTH TO ALLOW REMOVAL FROM THE WATER FOR RE-LAMPING AND NORMAL MAINTENANCE. FIXTURES CANNOT BE PERMANENTLY IMBEDDED IN THE FOUNTAIN STRUCTURE SO THAT THE WATER LEVEL MUST BE REDUCED OR THE FOUNTAIN DRAINED FOR RE-LAMPING, MAINTENANCE, OR INSPECTION.
11. SUBMERSIBLE EQUIPMENT MUST BE INHERENTLY STABLE OR BE SECURELY FASTENED IN PLACE WITH NON-CORROSIVE FASTENERS SUITABLE FOR THE PURPOSE.
12. UNDERWATER JUNCTION BOXES MUST BE FILLED WITH AN APPROVED RE-ENTERABLE ELECTRICAL POTTING COMPOUND (WAX OR PARAFFIN IS NOT ACCEPTABLE) PRIOR TO FILLING FOUNTAIN AND, AFTER ALL CIRCUITS HAVE BEEN CHECKED, TO PREVENT THE ENTRY OF MOISTURE, AND BE FIRMLY ATTACHED TO SUPPORTS OR DIRECTLY TO THE FOUNTAIN SURFACE AND BONDED AS REQUIRED. ALL CONDUIT STUBBED UP THROUGH THE FOUNTAIN FLOOR MUST BE STAINLESS STEEL. PVC, RED BRASS, AND EVERDUR ARE NOT ACCEPTABLE AS A CONDUIT SUPPORT STUB FOR SUBMERSIBLE JUNCTION BOXES. ALL CONDUIT ENTRIES MUST BE COMPLETELY SEALED PRIOR TO POTTING TO PREVENT COMPOUND FROM ENTERING CONDUIT SYSTEM. AFTER TESTING, JUNCTION BOXES SHALL BE SEALED WITH SCOTCH 3M RE-ENTERABLE COMPOUND OR OTHER APPROVED FILLING COMPOUND. CONFIRM POTTING COMPOUND HAS CURED BEFORE INSTALLING LID ON JUNCTION/DECK BOXES.
13. ALL ELECTRICAL CONDUIT AND CONDUIT FITTINGS BETWEEN SUBMERSIBLE LIGHT FIXTURE NICHES, JUNCTION BOXES AND CONTROL PANELS WILL BE U.L. LISTED RIGID, NONMETALLIC, PVC NEMA, TC-2 MAX. 90'C, SUNLIGHT RESISTANT FOR ABOVE AND BELOW GROUND USE. ALL CONDUITS SHALL BE PROTECTED AT ALL TIMES FROM POSSIBLE WATER INGRESS. USE ONLY APPROVED PRIMER AND PVC GLUE SUITABLE FOR JOINING ALL PVC CONDUITS AND FITTINGS PER MANUFACTURER'S INSTRUCTIONS.
14. ALL UNDERWATER JUNCTION BOXES MUST BE EQUIPPED WITH THREADED CONDUIT ENTRIES AND COMPRESSION TYPE CORD CONNECTORS FOR CORD ENTRY. STRAIN RELIEF CONNECTORS SERVING NICHE-MOUNTED UNDERWATER LIGHTS SHALL BE CAPABLE OF SEALING BOTH THE FIXTURE CORD AND AN AWG #8 BARE BONDING WIRE WHICH MAY BE REQUIRED BY SOME LOCAL CODES.
15. ALL ELECTRICAL EQUIPMENT MUST BE PROPERLY BONDED AND GROUNDING FOR SAFETY, PER THE LATEST NEC AND LOCAL CODE REQUIREMENTS. ALL BONDING LUGS SHALL BE PROVIDED BY INSTALLING ELECTRICAL CONTRACTOR. INSTALLING CONTRACTOR SHALL VERIFY ALL NECESSARY REQUIREMENTS OF LOCAL INSPECTOR BEFORE INSTALLING, AND NOTIFY THE FOUNTAIN MANUFACTURER OF ANY REQUIRED DEVIATIONS FROM SPECIFICATIONS OR PLANS AND NOTES, AND RESOLVE ALL CONFLICTS BEFORE INSTALLING EQUIPMENT. CONTRACTOR TO ENSURE THAT ALL BONDING CODES ARE COMPLIED WITH FOR EACH METAL FOUNTAIN EQUIPMENT COMPONENT.
16. ALL CONDUIT CONNECTIONS BETWEEN DISSIMILAR METALS MUST BE MADE WITH DIELECTRIC FITTINGS, AND SEALED WITH DIELECTRIC THREAD COMPOUND TO PREVENT GALVANIC DEGRADATION.
17. THE INSTALLING ELECTRICAL CONTRACTOR WILL VERIFY THAT ALL ELECTRICAL EQUIPMENT GROUNDS WILL HAVE THE SAME REFERENCE POTENTIAL AND WILL GIVE EVIDENCE OF SUCH TO THE FOUNTAIN MANUFACTURER BEFORE ANY EQUIPMENT IS INITIALLY ENERGIZED.
18. THE INSTALLING CONTRACTOR SHALL SIZE ALL FEED-WIRES LEADING TO FOUNTAIN CONTROL PANEL FOR NO MORE THAN 2% VOLTAGE DROP, AND SHALL NOTIFY THE FOUNTAIN MANUFACTURER BEFORE THE CONTROL PANEL IS FABRICATED IF WIRE IS UPSIZED SUCH THAT EXTRA LARGE WIRE LUGS ARE REQUIRED. IT IS THE RESPONSIBILITY OF ELECTRICAL CONTRACTOR TO PROVIDE ANY DISCONNECT REQUIRED BY LOCAL CODE REQUIREMENTS.
19. THE FOUNTAIN CONTROL PANEL SHALL BE ADEQUATELY PROTECTED FROM DEBRIS AND STORED PROPERLY DURING CONSTRUCTION AND PRIOR TO INITIAL OPERATION AND SHALL BE VACUUMED CLEAN AND ALL SCREWS FOR TERMINAL CONNECTIONS TIGHTENED.
20. THE ELECTRICAL CONTRACTOR SHALL ENSURE THAT SUPPLY VOLTAGE IS WITHIN 5% OF DESIGN VOLTAGE WHEN ALL EQUIPMENT IS IN OPERATION AND SHALL RE-TAP TRANSFORMER, UP SIZE WIRE, OR SUPPLY A BUCK AND BOOST TRANSFORMER TO GET SUPPLY VOLTAGE TO NECESSARY LEVEL, IF NECESSARY.
21. ANY AND ALL COSTS ASSOCIATED WITH THE ABOVE ARE THE RESPONSIBILITY OF INSTALLING CONTRACTOR.
22. CONDUITS ENTERING FOUNTAIN SYSTEM CONTROL PANELS SHALL BE INSTALLED INTO BOTTOM OF ENCLOSURE IN THE EVENT WATER ENTERS CONDUIT AND FLOWS INTO PANEL THROUGH CONDUIT OPENINGS. A DRAIN OPENING MUST BE MADE IN BOTTOM OF ENCLOSURE PAN TO ALLOW DRAINAGE OF WATER FROM ENCLOSURE IN THE EVENT OF WATER INGRESS. DO NOT MOUNT CONTROL PANEL WHERE IRRIGATION NOZZLES WILL SPRAY DIRECTLY AT PANEL.
23. PULL CORRECT QUANTITY AND SIZE WIRES WITH SEPARATE GROUND THROUGH CONDUIT INTO JUNCTION BOX. MAKE ALL SPLICES AND CONNECTIONS TIGHT AND WELL INSULATED. CONNECT GROUND WIRE TO GROUND LUGS IN JUNCTION BOX. ALL WIRING AND CONDUIT SHALL BE SIZED BY THE ELECTRICAL CONTRACTOR IN ACCORDANCE WITH THE LATEST EDITION OF THE NEC AND ALL ELECTRICAL CODES AND REGULATIONS. WHERE WIRED CONDUIT SIZES ARE SPECIFIED ON THE DRAWINGS, THEY SHALL BE INTERPRETED AS MINIMUM ALLOWABLE SIZES. ALL CONDUCTORS SHALL BE COPPER WITH INSULATION SUITABLE FOR THE PARTICULAR WIRING LOCATION. MINIMUM ACCEPTABLE INSULATION TYPE IS THWN OR BETTER, SUITABLE FOR BOTH DRY AND WET LOCATIONS. CONDUCTOR INSULATION SHALL BE MOISTURE RESISTANT, FLAME RETARDANT THERMOPLASTIC AS APPROVED BY THE NEC. CONDUCTOR SIZING SHALL BE BASED ON AN AMBIENT TEMPERATURE OF 30 DEGREES CELSIUS AND A CONDUCTOR TEMPERATURE RATING OF 75 DEGREES CELSIUS MAX. PER ARTICLE 310 OF THE NEC. ALL UNDERWATER ELECTRICAL CABLE SHALL EITHER BE ENCASED IN WATERPROOF, SEALED PVC CONDUIT OR SHALL BE RATED FOR CONTINUOUS OPERATION IN UNDERWATER, MARINE ENVIRONMENTS.
24. INSERT EACH SUBMERSIBLE CORD THROUGH THE BRASS/P.V.C. CORD SEALS PROVIDED ON THE JUNCTION BOX, AND TIGHTEN COMPLETELY. DO NOT OPERATE SUBMERSIBLE LIGHTS OR PUMPS MORE THAN 10 SECONDS UNLESS COMPLETELY SUBMERGED OR DAMAGE WILL RESULT AND WARRANTIES WILL BE VOIDED.
25. ALL CONDUCTORS FOR FEEDERS WHICH EXCEED 200 FEET IN LENGTH SHALL BE INCREASED 1 TRADE SIZE AND INCREASED AN ADDITIONAL 1 TRADE SIZE FOR EACH ADDITIONAL 100 FEET OF FEEDER CABLE LENGTH.
26. THE INFORMATION SUPPLIED IN THESE DRAWINGS SPECIFIES THE GENERAL REQUIREMENTS OF A COMPLETE FUNCTIONING ELECTRICAL POWER DISTRIBUTION AND CONTROL SYSTEM. THE ELECTRICAL SUBCONTRACTOR SHALL COORDINATE ALL ELECTRICAL INSTALLATION ACTIVITIES WITH THE CONSTRUCTION MANAGER, GENERAL CONTRACTOR, ARCHITECT AND (WITH RESPECT TO WORK PHASE) OTHER SEPARATE CONTRACTORS PERFORMING WORK RELATED TO THE FOUNTAIN INSTALLATION.
27. ALL CONDUCTORS SHALL BE RUN IN RIGID CONDUIT SIZED FOR THE NUMBER OF WIRES CONTAINED WITHIN PER NEC REQUIREMENTS. RIGID CONDUIT SHALL BE CORROSION RESISTANT AND EITHER GALVANIZED STEEL OR RIGID PVC. WHEN CONDUIT IS SUBMERGED OR IN OTHER WET LOCATIONS, RIGID PVC SHALL BE REQUIRED. CONDUCTOR SIZING SHALL BE CORRECTED FOR THE NUMBER OF WIRES TO BE RUN IN A SINGLE CONDUIT OR RACEWAY IN ACCORDANCE WITH THE NEC. ALL CONDUIT LOCATIONS AND ROUTING SHALL BE APPROVED BY THE ARCHITECT BEFORE INSTALLATION.
28. THE WORK TO COMPLETE THE INSTALLATION OF THE FOUNTAIN INCLUDES SUCH NECESSARY MATERIAL AND DEVICES OF A MINOR NATURE THAT MAY NOT BE INDICATED ON THE DRAWINGS OR MENTIONED IN THE SPECIFICATIONS, BUT WHICH ARE NECESSARY FOR THE COMPLIANCE WITH CODES AND FOR THE SUCCESSFUL OPERATION OF THE FEATURE. THE CONTRACTOR SHALL BE ALLOWED NO EXTRA COMPENSATION BECAUSE OF THIS REQUIREMENT.
29. THOROUGHLY TEST ALL FIXTURES, SERVICES AND ALL CIRCUITS FOR PROPER OPERATING CONDITIONS AND FREEDOM FROM GROUNDS AND SHORT CIRCUITS BEFORE ACCEPTANCE IS REQUESTED. ALL EQUIPMENT, APPLIANCES AND DEVICES SHALL BE OPERATED UNDER LOAD CONDITIONS. THERMAL OVERLOAD RELAYS SHALL BE SET AT NOT MORE THAN 115% OF MOTOR FULL LOAD CURRENT AND/OR IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
30. ALL CONNECTIONS MUST BE RECHECKED BEFORE START UP AND ONE MONTH AFTER STARTUP BY A QUALIFIED TECHNICIAN.
31. ALL G.F.C.I. PROTECTED CIRCUITS MUST HAVE A SEPARATE NEUTRAL SINGLE AND TWO POLE.
32. ALL G.F.C.I. BREAKERS HAVE PIGTAILS WIRED TO THE NEUTRAL BAR SINGLE AND TWO POLE.
33. CONTRACTOR TO ENSURE THAT ALL BONDING CODES ARE COMPLIED WITH FOR EACH METAL FOUNTAIN EQUIPMENT COMPONENT.
34. WIRES FOR WATER LEVEL SENSOR MUST BE RUN IN A SEPARATE CONDUIT FROM THE FOUNTAIN TO THE CONTROL PANEL.
35. ALL CONDUIT PENETRATIONS THROUGH STRUCTURE WALLS INTO OPEN AREAS BELOW FOUNTAIN STRUCTURE MUST HAVE ALLOWANCES MADE FOR SETTLEMENT.

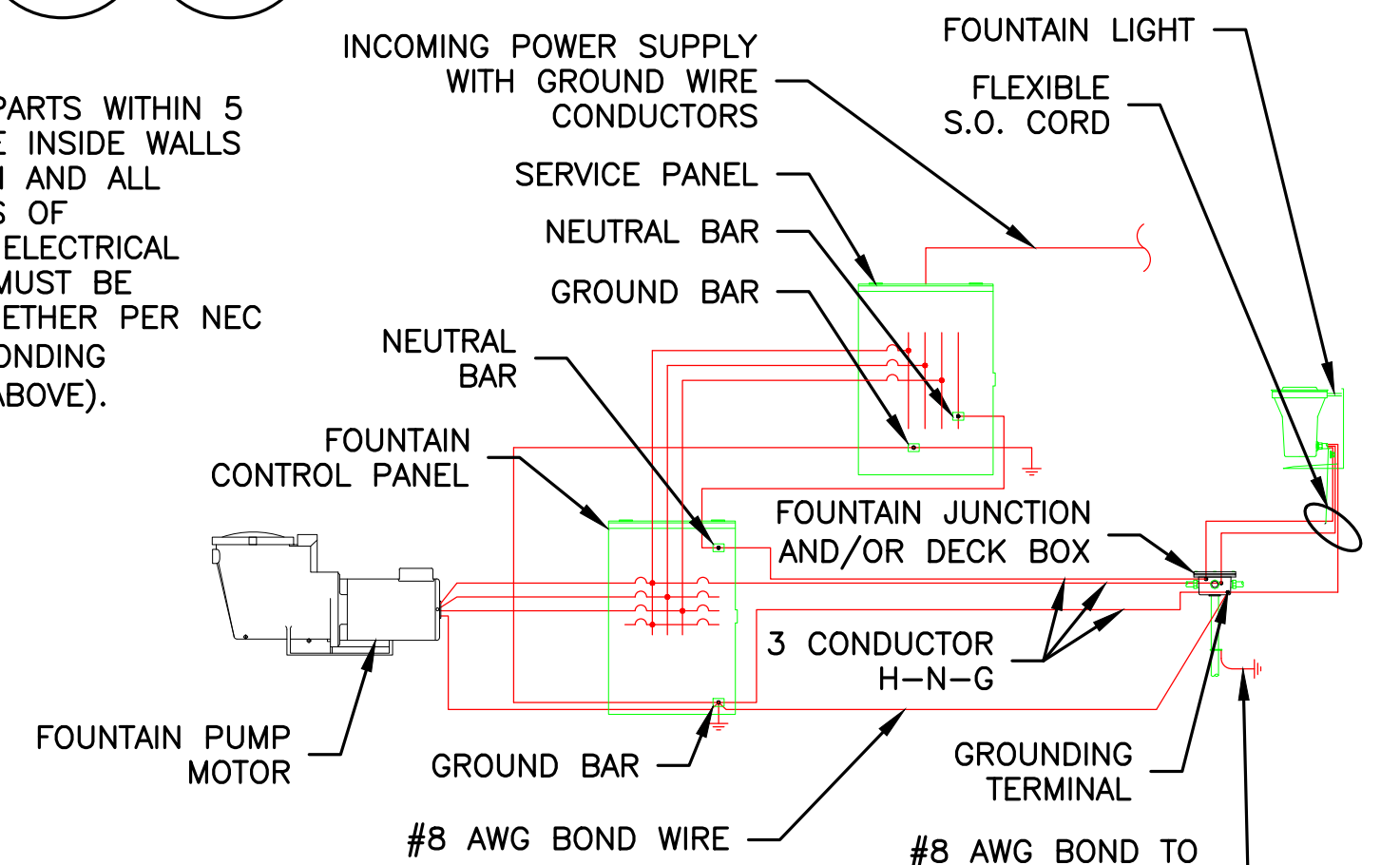
- 38. ALL CONDUIT INSTALLATION IN TRADE AREAS BELOW THE FOUNTAINS SHALL BE INSTALLED WITH E.M.T. AND IN THE LEVEL BELOW AND WITH E.M.T. STRAPS PER N.E.C. AND SPECIFICATIONS.
39. FLOOR MOUNTED CONTROL CENTERS AND TRANSFORMERS FOR FOUNTAIN RELATED EQUIPMENT SHALL BE INSTALLED ON A 4" CONCRETE HOUSEKEEPING PAD IF INSTALLED IN AN EQUIPMENT ROOM OR A PVC HOUSEKEEPING PAD IF INSTALLED IN A FIBERGLASS EQUIPMENT ROOM.
40. CONTRACTOR INSTALLING FOUNTAIN MANUFACTURER SUPPLIED DECK BOXES IN CONCRETE FOR FOUNTAIN NICHE LIGHTING IS TO ENSURE THAT ALL OPEN CONDUIT PORTS ARE PLUGGED AND ARE WATERTIGHT PRIOR TO SLAB POUR AROUND DECK BOXES.
41. ALL PENETRATIONS THROUGH OUTSIDE WALLS TO BELOW GRADE SHALL BE SEALED PER BUILDING SPECIFICATIONS. USING "EASY-LINK SEALS" IS RECOMMENDED.
42. ALL CONNECTIONS IN THE FOUNTAIN SHALL BE MADE WITH THE ASSISTANCE OF A PLUMBER, USING TEFLON TAPE OR TEFLON PASTE TO ELIMINATE ALL LEAKS. USE ONLY TAPERED (N.P.T.) BRASS OR STAINLESS STEEL FITTINGS OR NIPPLES. THE USE OF GALVANIZED, PVC OR BLACK STEEL IS UNACCEPTABLE.
43. CONDUITS ARE DRAWN FOR CLARITY AND DO NOT NECESSARILY SHOW EXACT ROUTING. CONTRACTOR SHALL INSTALL CONDUITS IN COMPLIANCE WITH NEC CODE, WHICH THERE SHALL BE NO MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL) BETWEEN PULL POINTS, E.G., CONDUIT BODIES AND BOXES.
44. CONTRACTOR SHALL OBTAIN ALL NECESSARY INSTALLATION PERMITS AND INSPECTIONS.
45. ALL COMPONENT ITEMS USED IN THE PRODUCTION OF THE FOUNTAIN MANUFACTURERS' PRODUCTS ARE U.L. LISTED WHENEVER SUCH LABELING IS AVAILABLE FROM THE SOURCE EQUIPMENT OR MATERIAL.
46. SHOULD ANY PRODUCT REQUIRE A "THIRD PARTY" LABEL OR CERTIFICATION AS AN ASSEMBLY (E.G., N.E.C., U.L. OR E.T.L. LISTING) SUCH REQUIREMENTS SHALL BE DETERMINED, CONTRACTED FOR, AND PAID BY OTHERS.
47. THE FOUNTAIN MANUFACTURERS SHALL NOT BE RESPONSIBLE OR LIABLE IN ANY MANNER WHATSOEVER FOR SPECIAL LABELING OR CERTIFICATION REQUIREMENTS, INCLUDING THIRD PARTY PRODUCT TESTING UNLESS SPECIFICALLY INCLUDED IN ITS PROPOSALS, QUOTATIONS, DRAWING DESCRIPTIONS AND DETAILS, REGARDLESS OF PROJECT SPECIFICATION OR CODE REQUIREMENTS.

- 1. ALL METAL PARTS WITHIN 5 FEET OF THE INSIDE WALLS OF FOUNTAIN AND ALL METAL PARTS OF ASSOCIATED ELECTRICAL EQUIPMENT MUST BE BONDED TOGETHER PER NEC 680.
2. ALL BONDING CONDUCTORS SHALL BE BARE #8 SOLID COPPER.
3. ALL BONDING SHALL BE CONTINUOUS WITHOUT SPLICES. ALL CONNECTIONS SHALL BE MADE BY EXOTHERMIC WELD OR FITTING APPROVED FOR SUCH USE IN FOUNTAINS AND POOLS.
4. IF EPOXY COATED REBAR IS SPECIFIED THE CONTRACTOR MUST USE A #8 SOLID COPPER WIRE GRID FOR BONDING IN THE CONCRETE OF ALL AREAS CONTAINING WATER OR COMING IN CONTACT WITH WATER IN THE FOUNTAIN. CONTRACTOR TO CONFORM TO NEC AND LOCAL JURISDICTIONAL CODE REQUIREMENTS FOR THE BONDING.



1 1 F3.00 F3.03 NTS TYPICAL FOUNTAIN "BONDING" SCHEMATIC

- 1. ALL METAL PARTS WITHIN 5 FEET OF THE INSIDE WALLS OF FOUNTAIN AND ALL METAL PARTS OF ASSOCIATED ELECTRICAL EQUIPMENT MUST BE BONDED TOGETHER PER NEC 680 (SEE BONDING SCHEMATIC ABOVE).

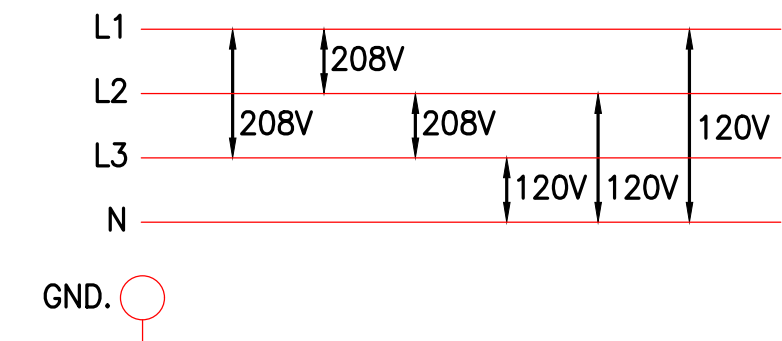


2 1 F3.00 F3.03 NTS TYPICAL FOUNTAIN "GROUNDING" SCHEMATIC

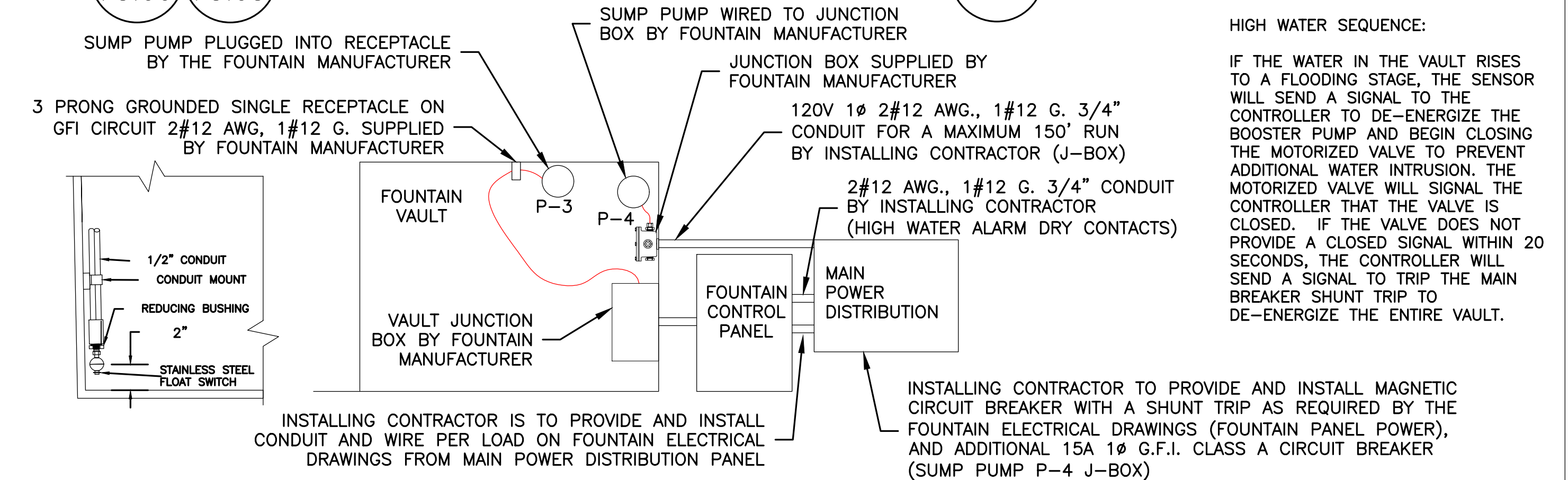
INCOMING VAULT PENETRATION SIZE: THE PENETRATION SIZES ARE BASED ON COPPER WIRE. IF SERVICE CONDUCTOR SIZE IS INCREASED DUE TO VOLTAGE DROP OR ALUMINUM WIRE, THE FOUNTAIN MANUFACTURER MUST BE NOTIFIED BEFORE PRODUCTION IN ORDER TO ACCOMMODATE THE INCREASED PENETRATION SIZE.

SERVICE OCPD RATING	VAULT PENETRATION SIZE
60A	1 1/2"
100A	2"
200A	3"
300A	4"

CONTROL SYSTEM POWER REQUIREMENT: 120/208 VOLT, THREE PHASE, 4-WIRE + GND.



3 F3.10 NTS ELECTRICAL POWER SUPPLY OPTIONS

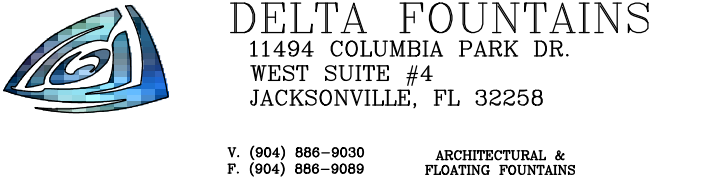


4 F3.10 NTS HIGH WATER ALARM AND DEDICATED SUMP PUMP POWER SCHEMATIC

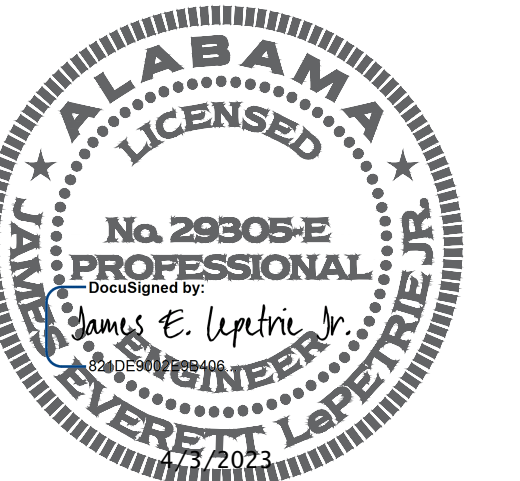
BIENVILLE SQUARE

MOBILE, ALABAMA

CLARBO LANDSCAPE ARCHITECTURE 200 LAUREL ST. SUITE 100 BATON ROUGE, LA 70801 225 302 7452



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REVISIONS:

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SCALE:

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POWER SUPPLY & BONDING DETAILS

F3.10

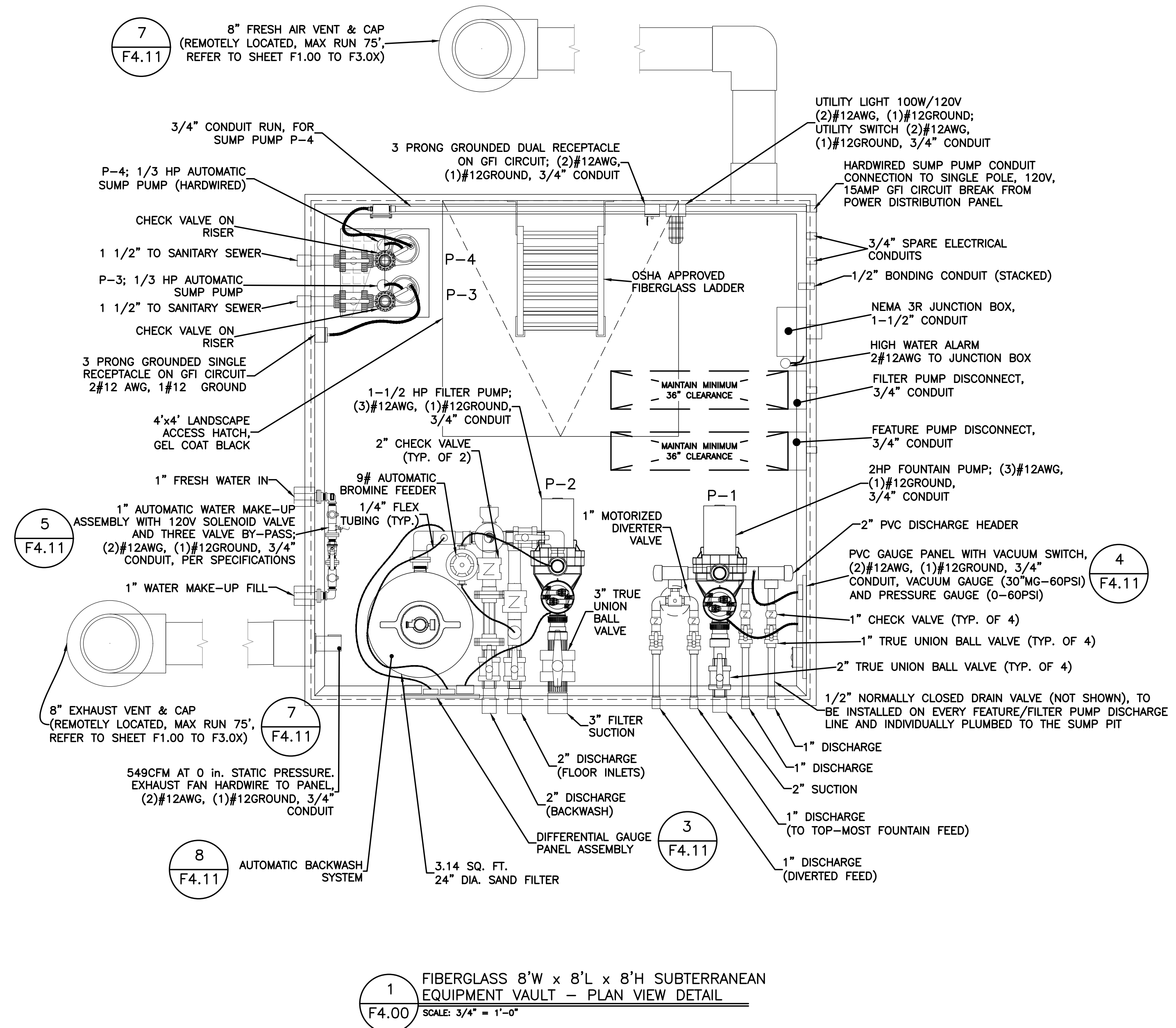
PUMP SCHEDULE

TAG	FEATURE	MODEL NO.	MANUFACTURER	HP	VOLTAGE	Ø	RPM	GPM	T.D.H.	F.L.A.
P-1	FEATURE	72-V	SPECK	2	208 V.	3	3450	35	83'	6.8
P-2	FILTER	72-IV	SPECK	1.5	208 V.	3	3450	63	73'	6.0
P-3	EQUIPMENT VAULT SUMP PUMP	SP33-VF	BARNES	1/3	120 V.	1	3450	20	12'	5.8
P-4	EQUIPMENT VAULT SUMP PUMP	SP33-VF	BARNES	1/3	120 V.	1	3450	20	12'	5.8

**NOTE:**  
PIPE AND CONDUIT ROUTING IS DIAGRAMMATIC AND IN SOME INSTANCES EXAGGERATED FOR CLARITY. REFER TO FOUNTAIN GENERAL NOTES, SHEET F4.21 FOR FURTHER INSTRUCTIONS AND INFORMATION.

**NOTE:**  
ALL STAINLESS STEEL FABRICATION SHALL BE:  
- TYPE 304, 3/16" PLATE  
- TYPE 304, SCH 40 THREADED PIPE  
- TYPE 304, SCH 10 WELDED PIPE  
- TOLERANCE +/- 1/8" UNLESS OTHERWISE NOTED.

**NOTE:**  
REFER TO FOUNTAIN STRUCTURAL DETAILS AND ARCHITECTURAL/HARDSCAPE PLANS FOR CONSTRUCTION INFORMATION, INCLUDING SLOPES, ELEVATIONS, FINISHES, FINAL EQUIPMENT LOCATIONS ETC. THAT ARE NOT SHOWN ON THESE PLANS.



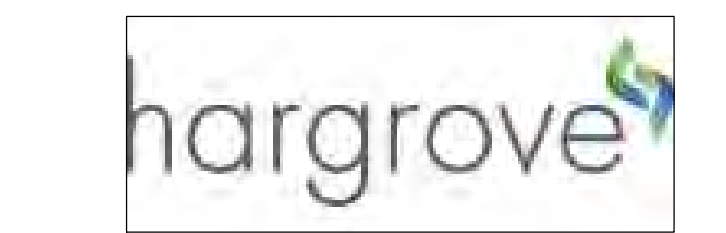
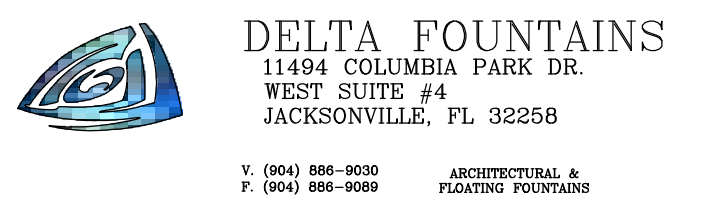
**1**  
F4.00 FIBERGLASS 8'W x 8'L x 8'H SUBTERRANEAN EQUIPMENT VAULT - PLAN VIEW DETAIL  
SCALE: 3/4" = 1'-0"

BIENVILLE SQUARE

MOBILE, ALABAMA



200 LAUREL ST. SUITE 100  
BATON ROUGE, LA 70801  
225 302 7452



Nimrod Long  
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VAULT AND MECHANICAL DETAILS

F4.00

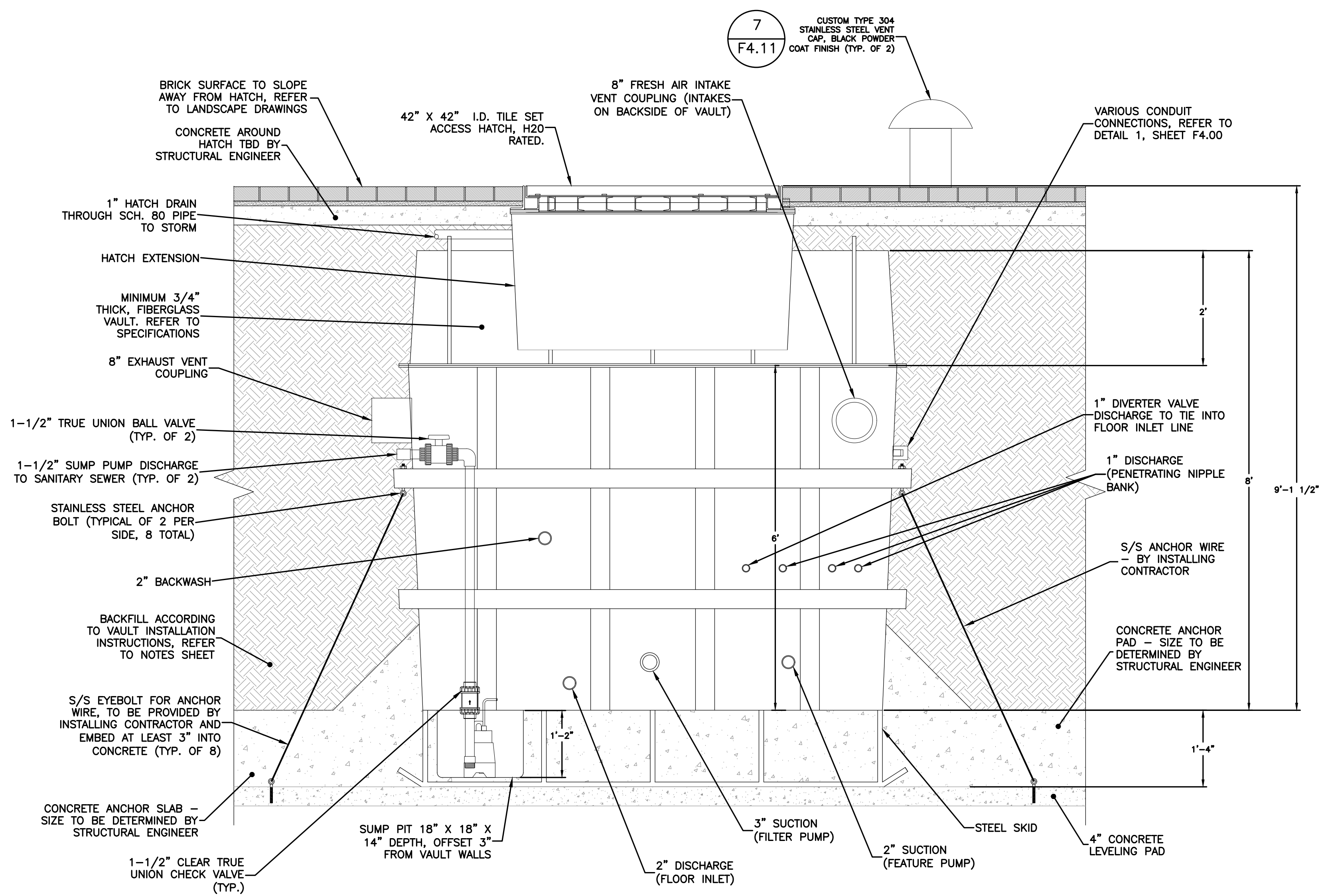
PUMP SCHEDULE

TAG	FEATURE	MODEL NO.	MANUFACTURER	HP	VOLTAGE	Ø	RPM	GPM	T.D.H.	F.L.A.
P-1	FEATURE	72-V	SPECK	2	208 V.	3	3450	35	83'	6.8
P-2	FILTER	72-IV	SPECK	1.5	208 V.	3	3450	63	73'	6.0
P-3	EQUIPMENT VAULT SUMP PUMP	SP33-VF	BARNES	1/3	120 V.	1	3450	20	12'	5.8
P-4	EQUIPMENT VAULT SUMP PUMP	SP33-VF	BARNES	1/3	120 V.	1	3450	20	12'	5.8

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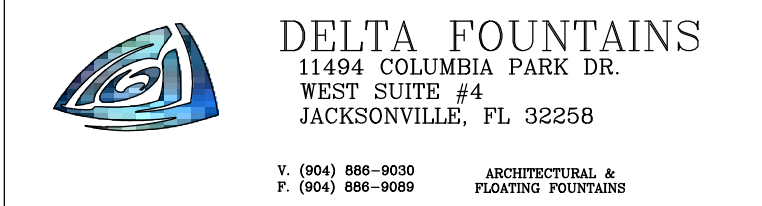
**2**  
**F4.00** FIBERGLASS 8'W x 8'L x 8'H SUBTERRANEAN EQUIPMENT VAULT - ELEVATION VIEW DETAIL  
SCALE: 3/4" = 1'-0"

BIENVILLE SQUARE

MOBILE, ALABAMA



200 LAUREL ST. SUITE 100  
BATON ROUGE, LA 70801  
225 302 7452



11494 COLUMBIA PARK DR.  
WEST SUITE #4  
JACKSONVILLE, FL 32258  
Y: (904) 886-9030 ARCHITECTURAL & FOUNTAIN  
F: (904) 886-9089 FLOATING FOUNTAINS



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And Associates



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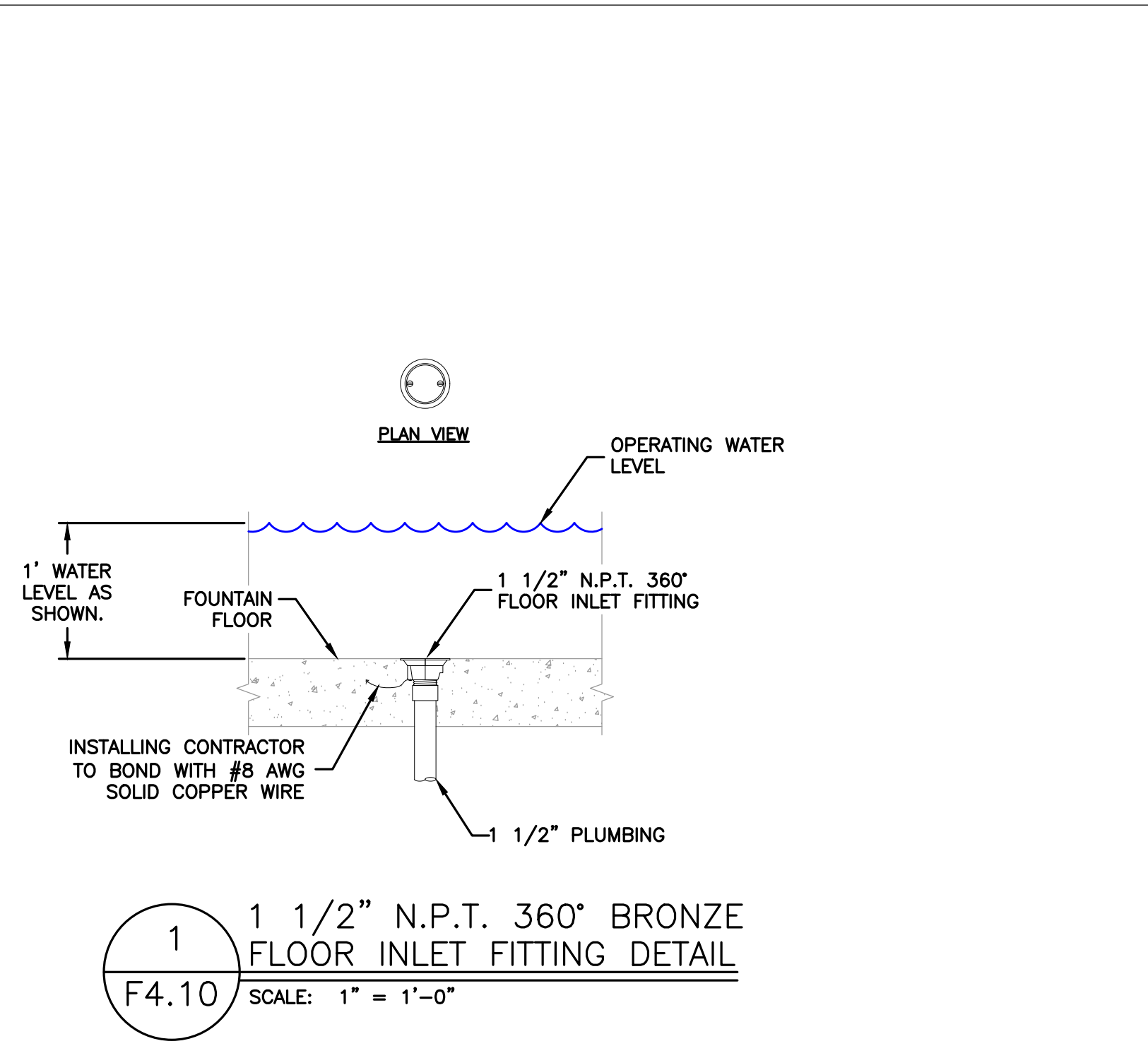
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SCALE:

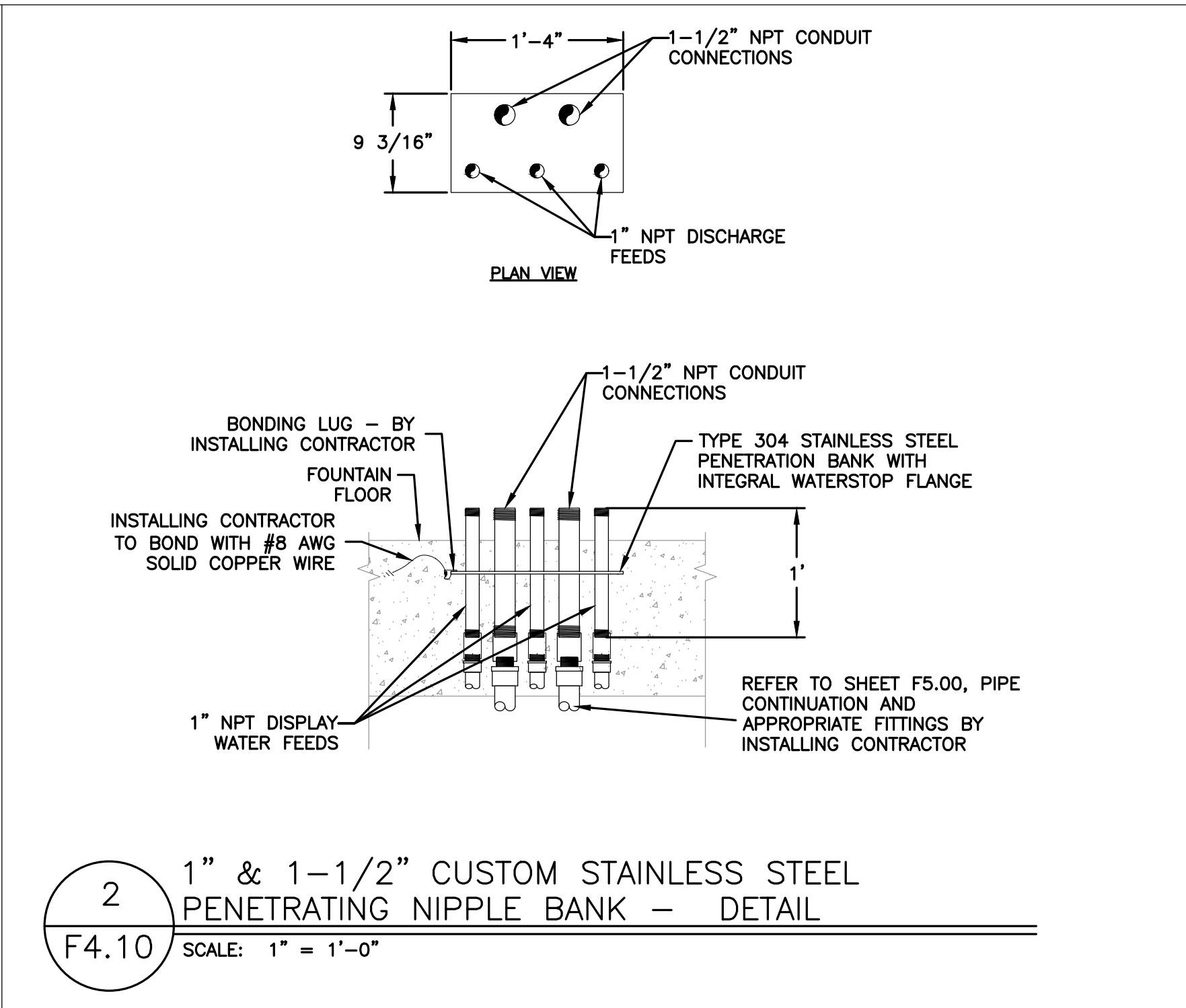
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VAULT AND MECHANICAL DETAILS

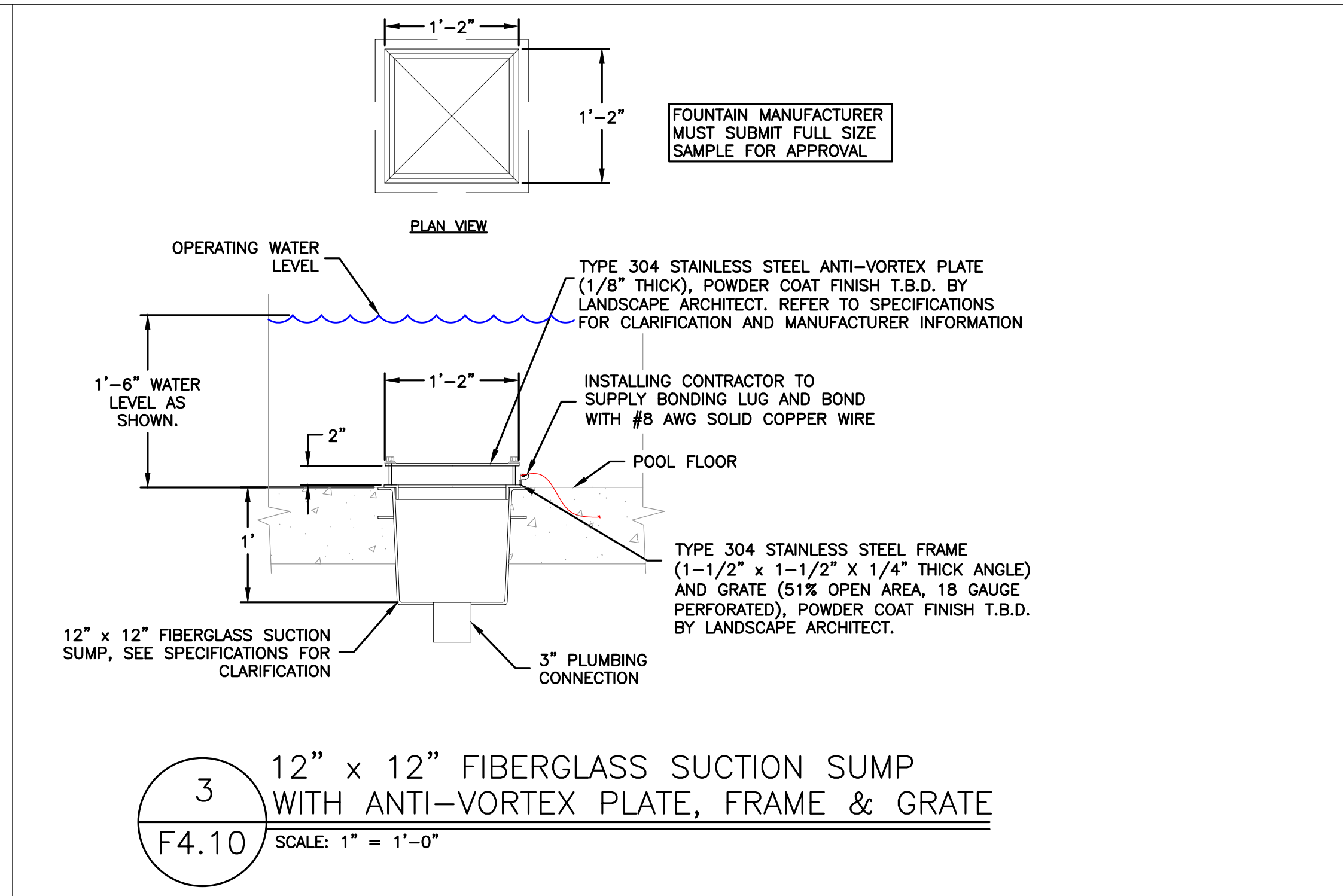
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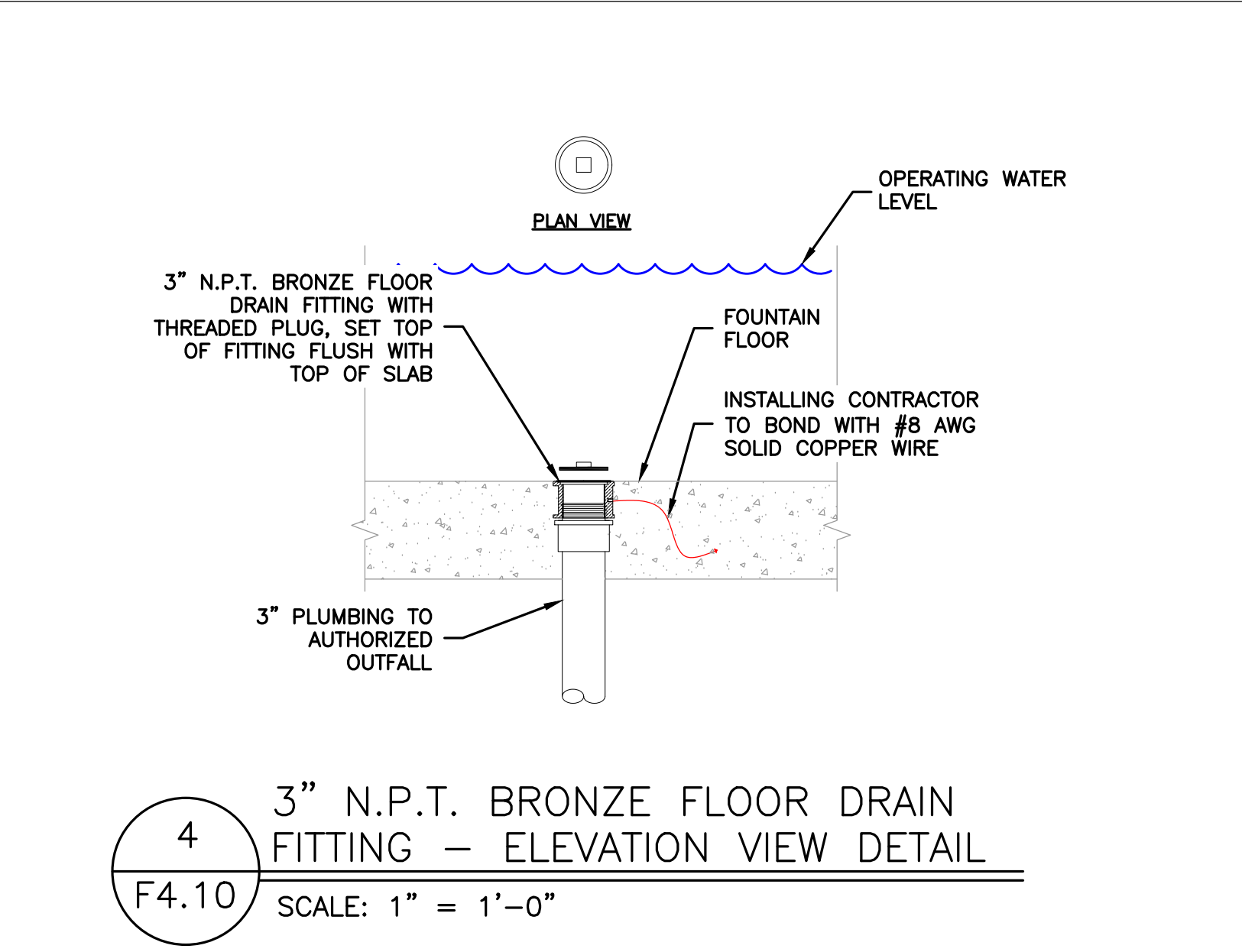
1 1 1/2" N.P.T. 360° BRONZE FLOOR INLET FITTING DETAIL  
F4.10 SCALE: 1" = 1'-0"



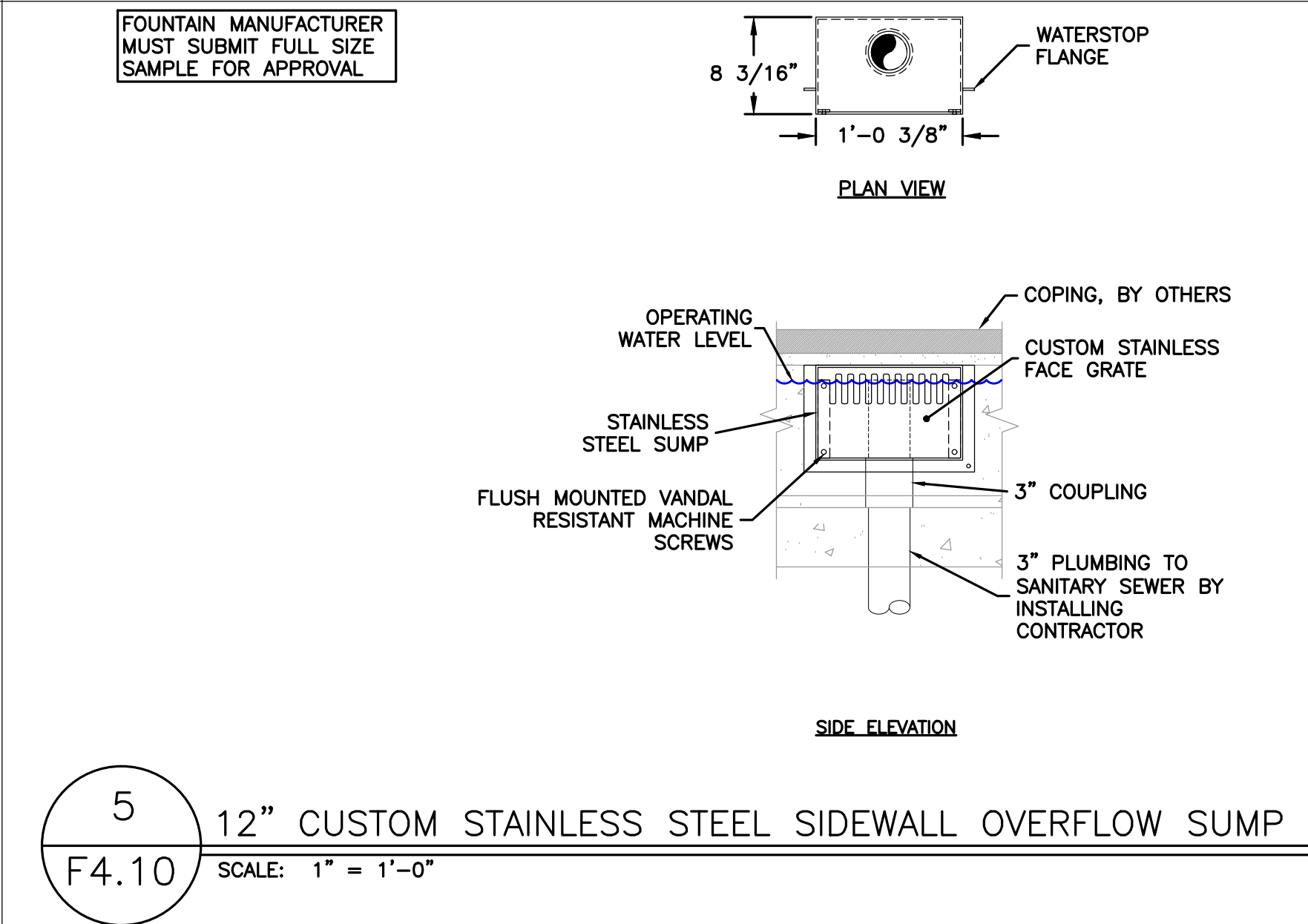
2 1" & 1-1/2" CUSTOM STAINLESS STEEL PENETRATING NIPPLE BANK - DETAIL  
F4.10 SCALE: 1" = 1'-0"



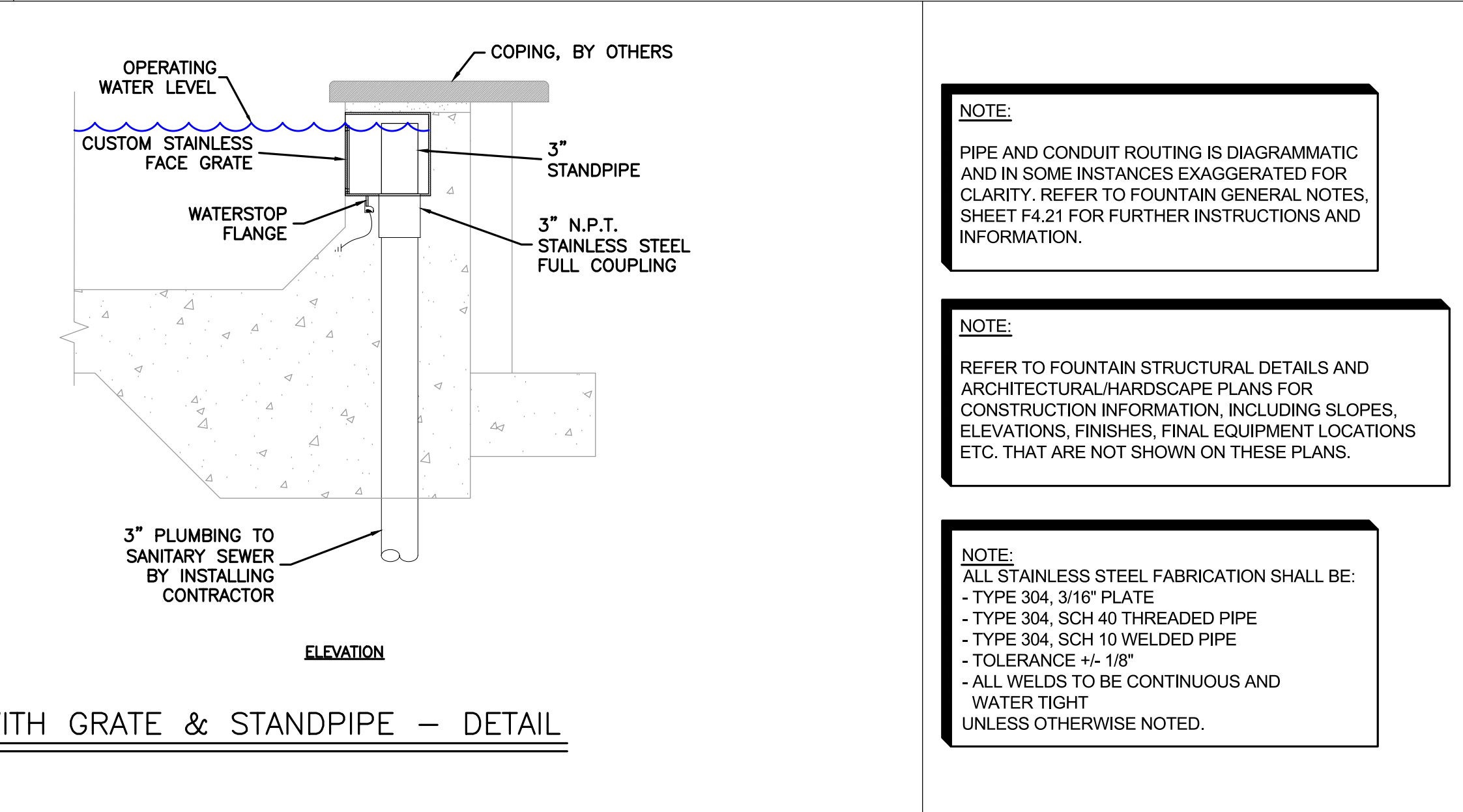
3 12" x 12" FIBERGLASS SUCTION SUMP WITH ANTI-VORTEX PLATE, FRAME & GRATE  
F4.10 SCALE: 1" = 1'-0"



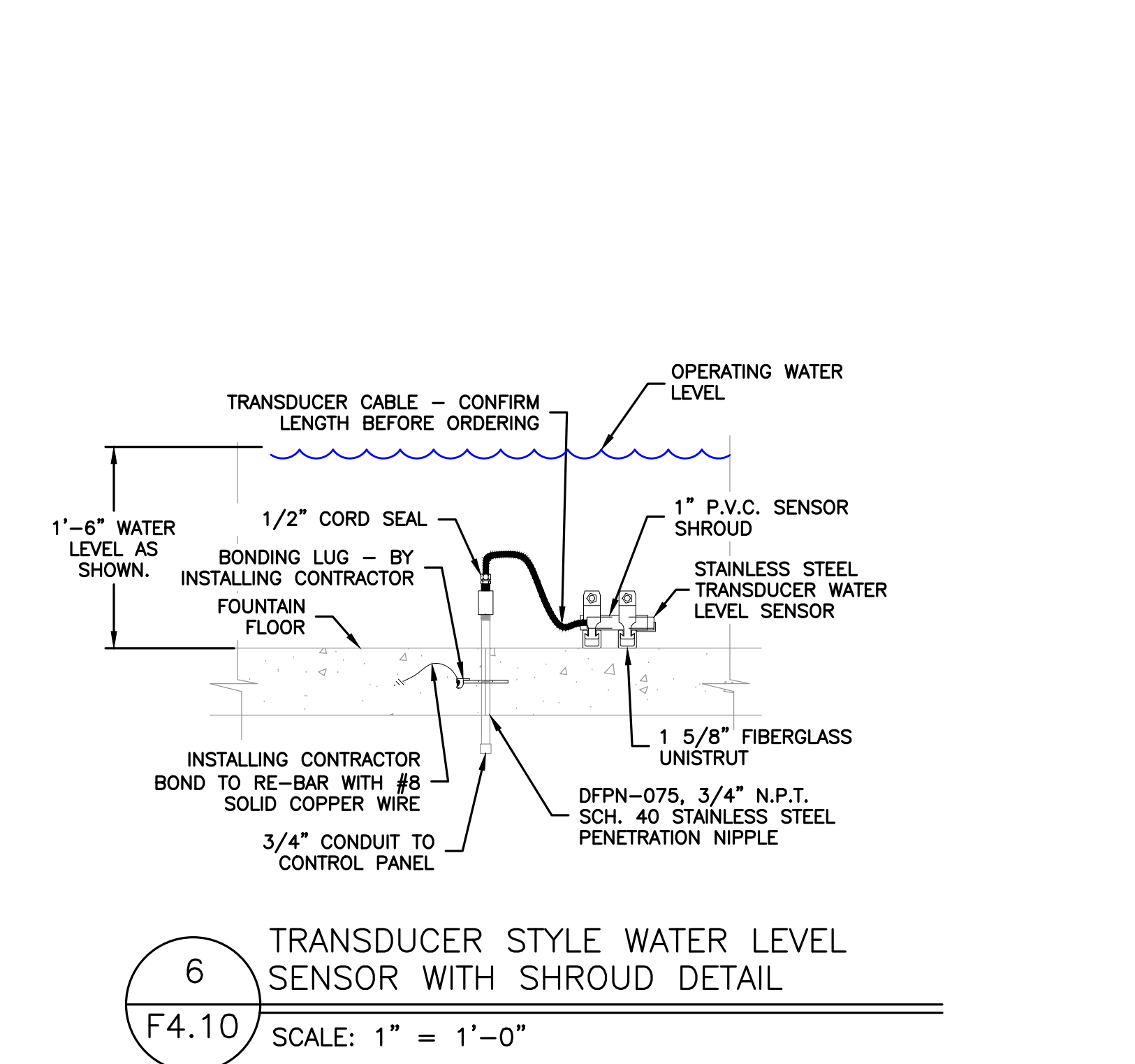
4 3" N.P.T. BRONZE FLOOR DRAIN FITTING - ELEVATION VIEW DETAIL  
F4.10 SCALE: 1" = 1'-0"



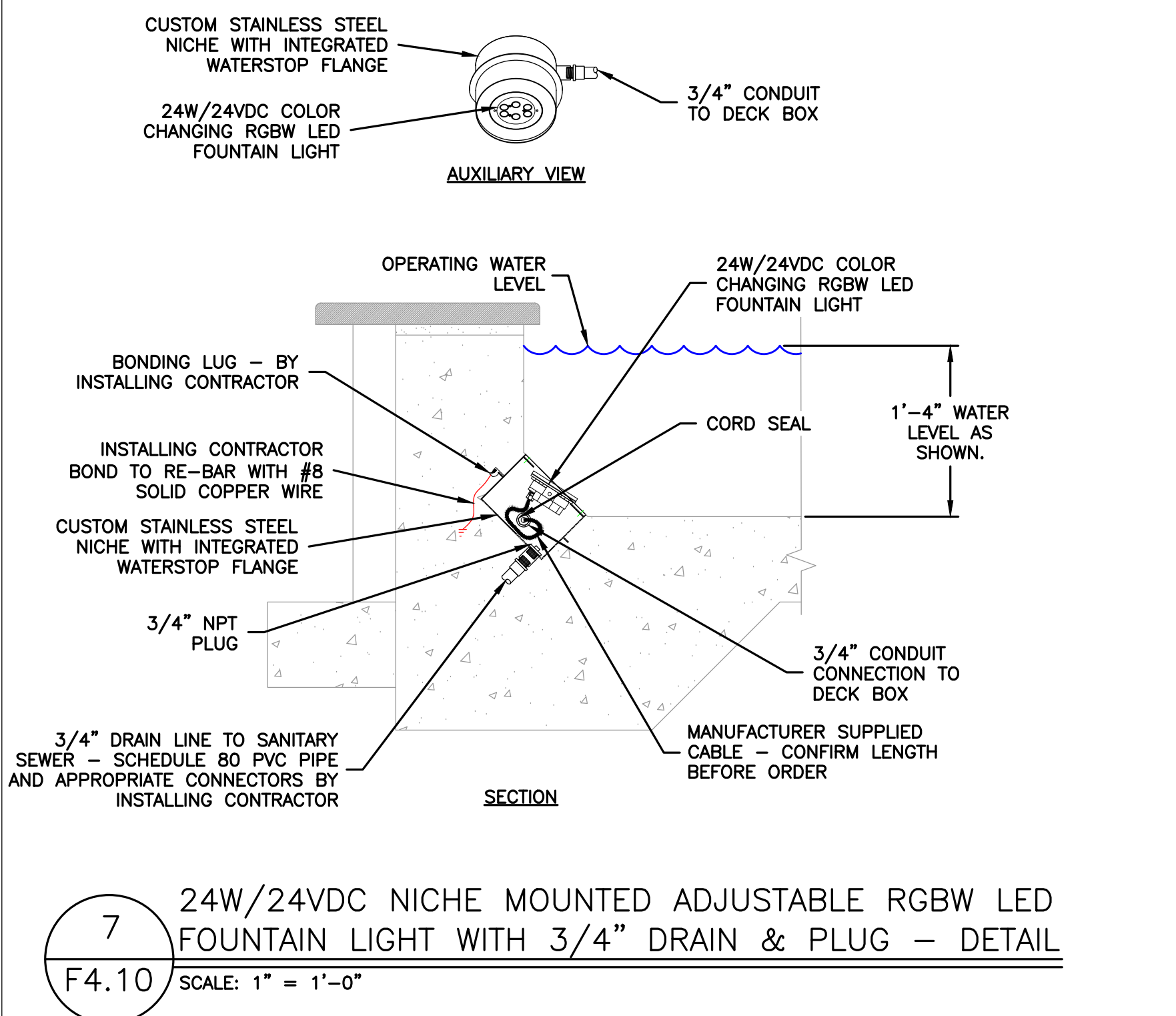
5 12" CUSTOM STAINLESS STEEL SIDEWALL OVERFLOW SUMP WITH GRATE & STANDPIPE - DETAIL  
F4.10 SCALE: 1" = 1'-0"



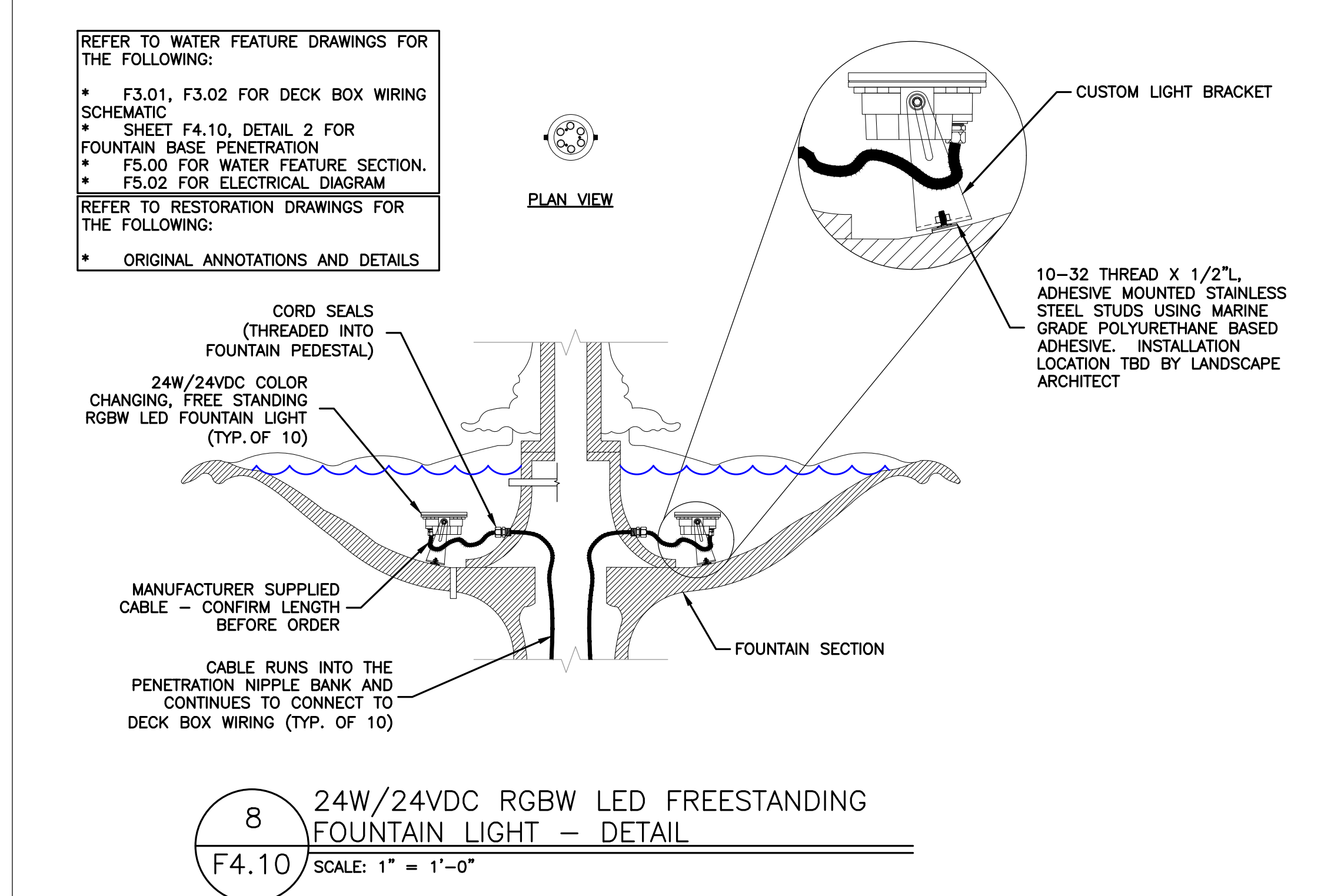
6 24W/24VDC RGBW LED FREESTANDING FOUNTAIN LIGHT - DETAIL  
F4.10 SCALE: 1" = 1'-0"



7 24W/24VDC NICHE MOUNTED ADJUSTABLE RGBW LED FOUNTAIN LIGHT WITH 3/4" DRAIN & PLUG - DETAIL  
F4.10 SCALE: 1" = 1'-0"



8 TRANSDUCER STYLE WATER LEVEL SENSOR WITH SHROUD DETAIL  
F4.10 SCALE: 1" = 1'-0"



9 12" CUSTOM STAINLESS STEEL SIDEWALL OVERFLOW SUMP WITH GRATE & STANDPIPE - DETAIL  
F4.10 SCALE: 1" = 1'-0"

BIENVILLE SQUARE

MOBILE, ALABAMA

CLARBO LANDSCAPE ARCHITECTURE

200 LAUREL ST. SUITE 100  
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DELTA FOUNTAINS  
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JACKSONVILLE, FL 32258

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CDC ENGINEERS

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EQUIPMENT INSTALLATION DETAILS

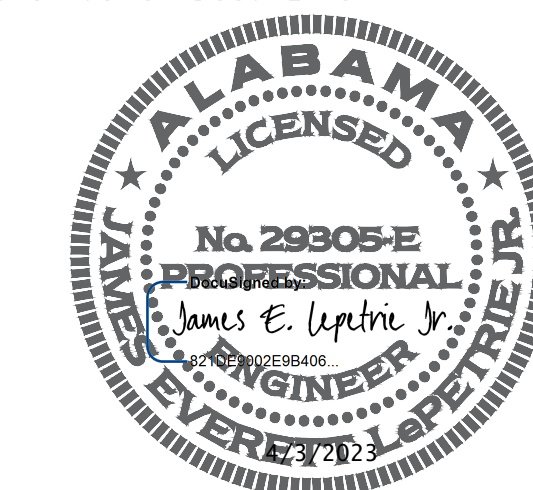
F4.10



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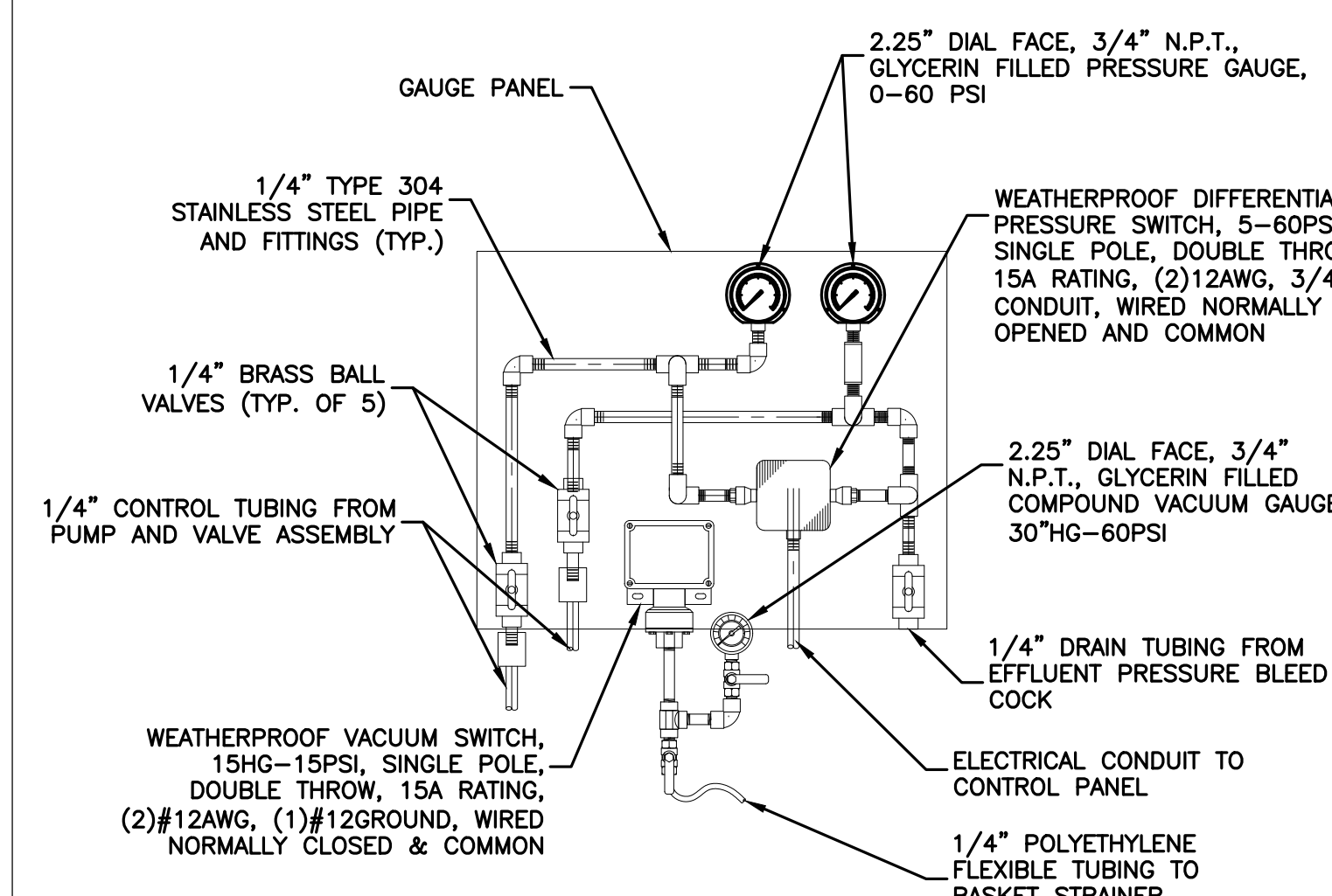
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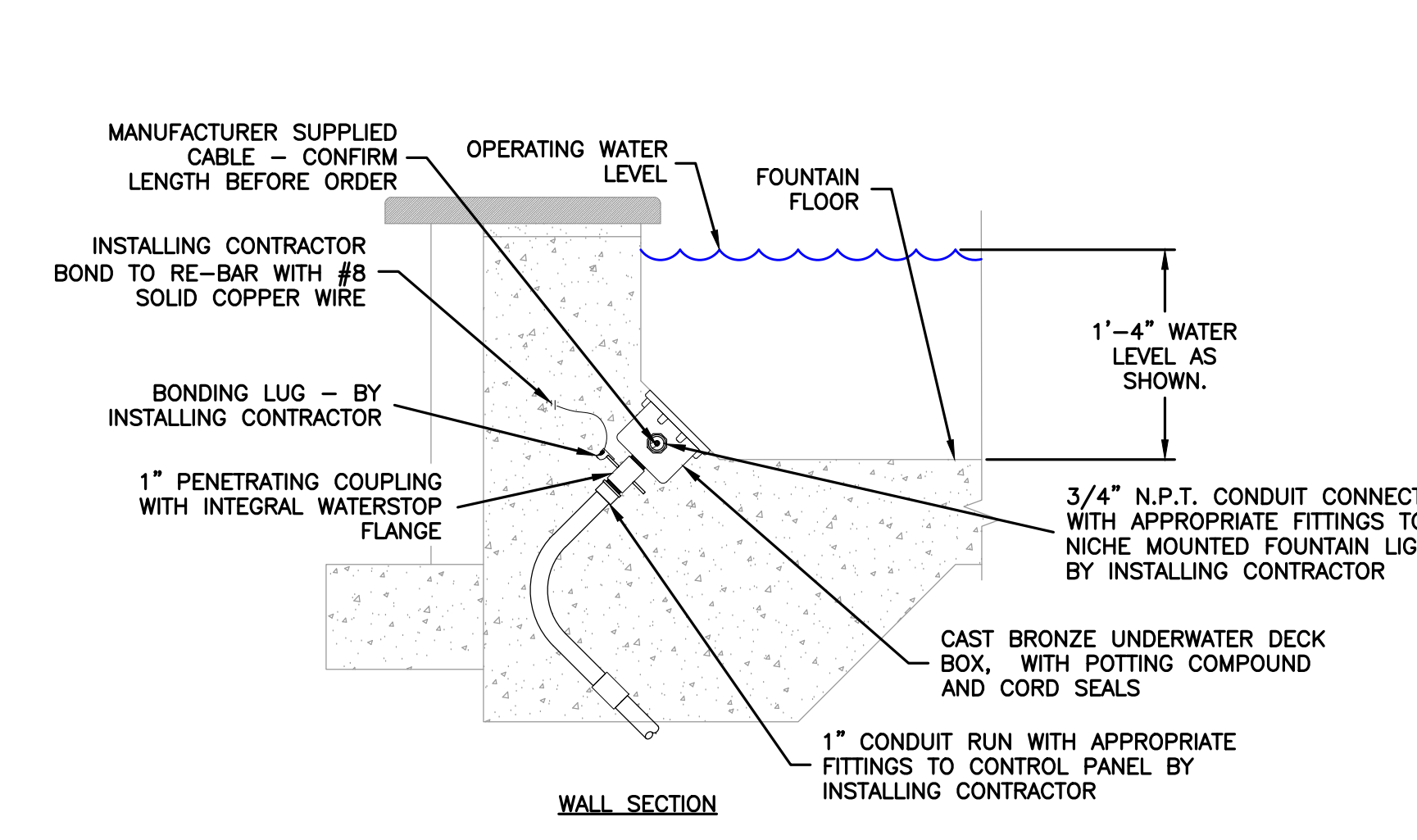
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EQUIPMENT  
INSTALLATION  
DETAILS

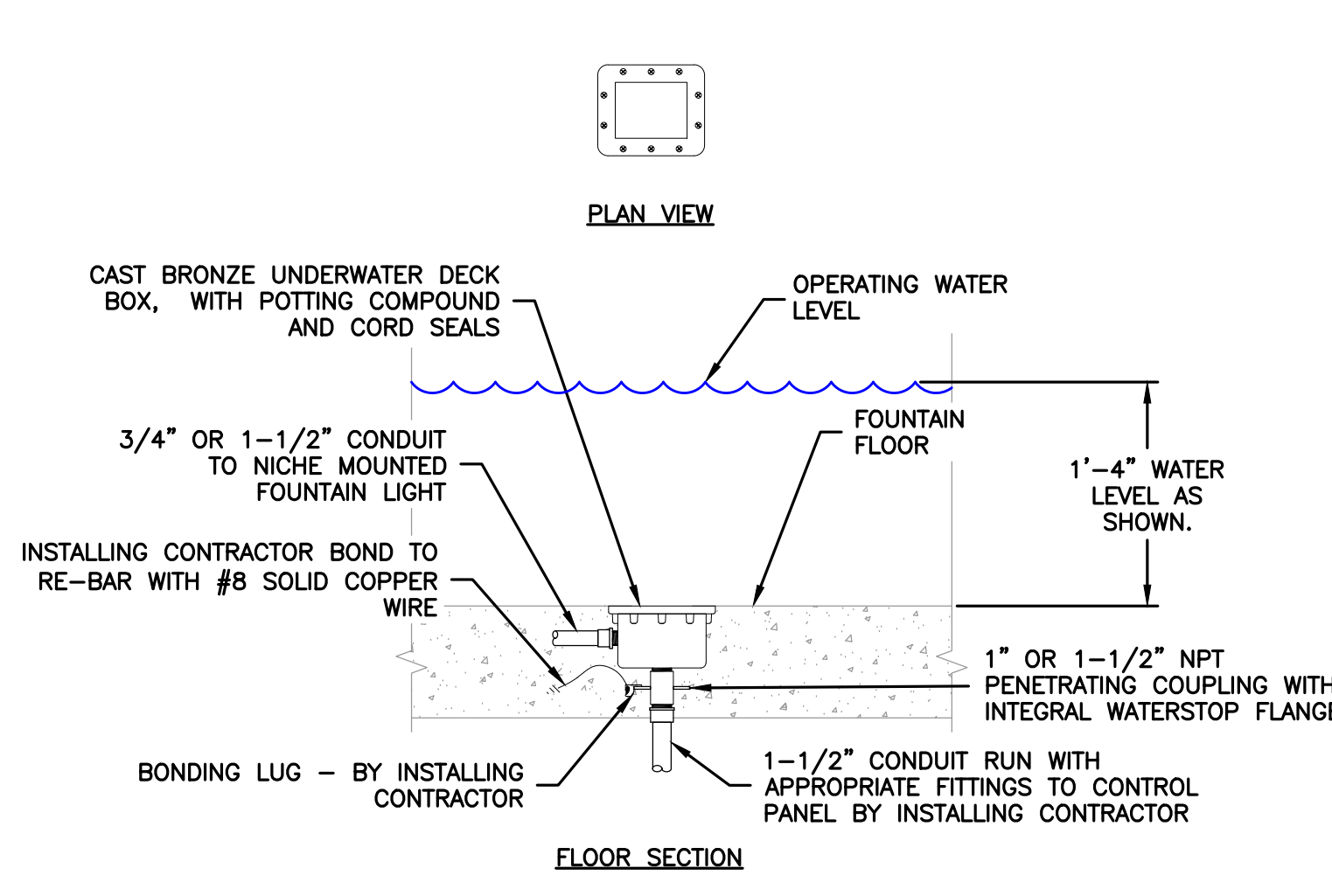
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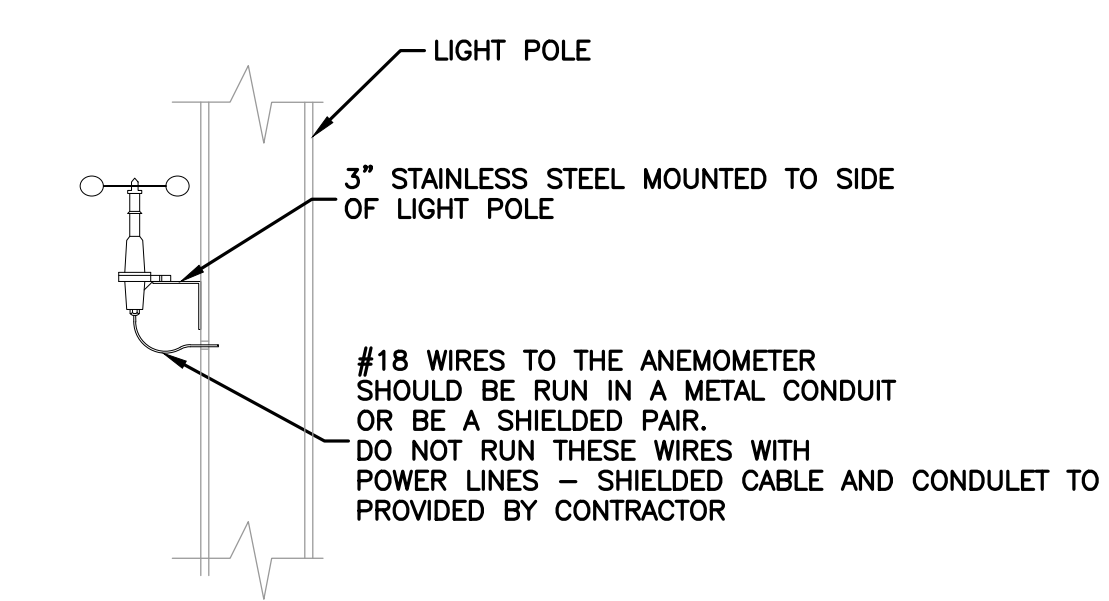
3 FILTER GAUGE PANEL ASSEMBLY  
F4.11 SCALE: 1 1/2" = 1'-0"



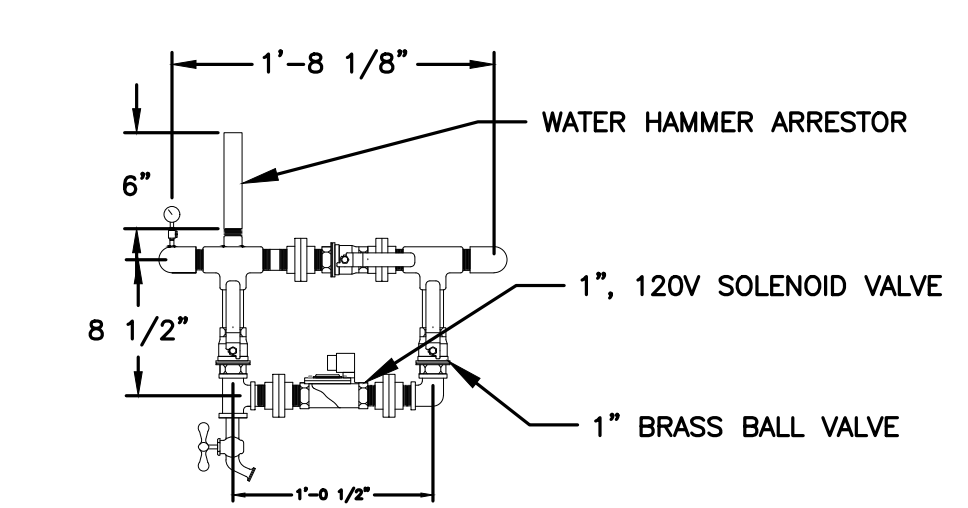
2 8 TAP BRONZE UNDERWATER DECK BOX - WALL MOUNTING DETAIL  
F4.11 SCALE: 1" = 1'-0"



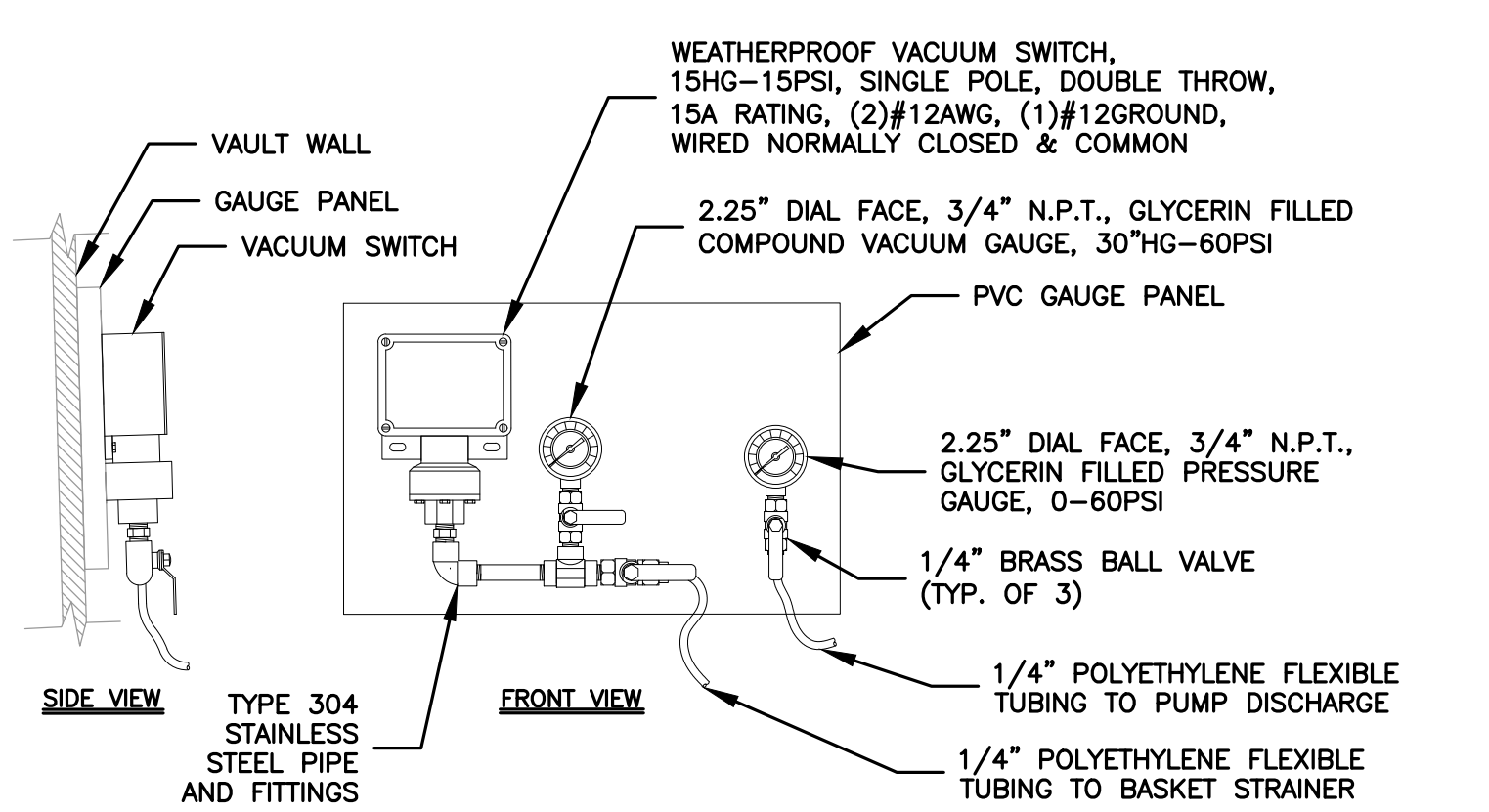
1 8 TAP BRONZE UNDERWATER DECK BOX - FLOOR MOUNTING DETAIL  
F4.11 SCALE: 1" = 1'-0"



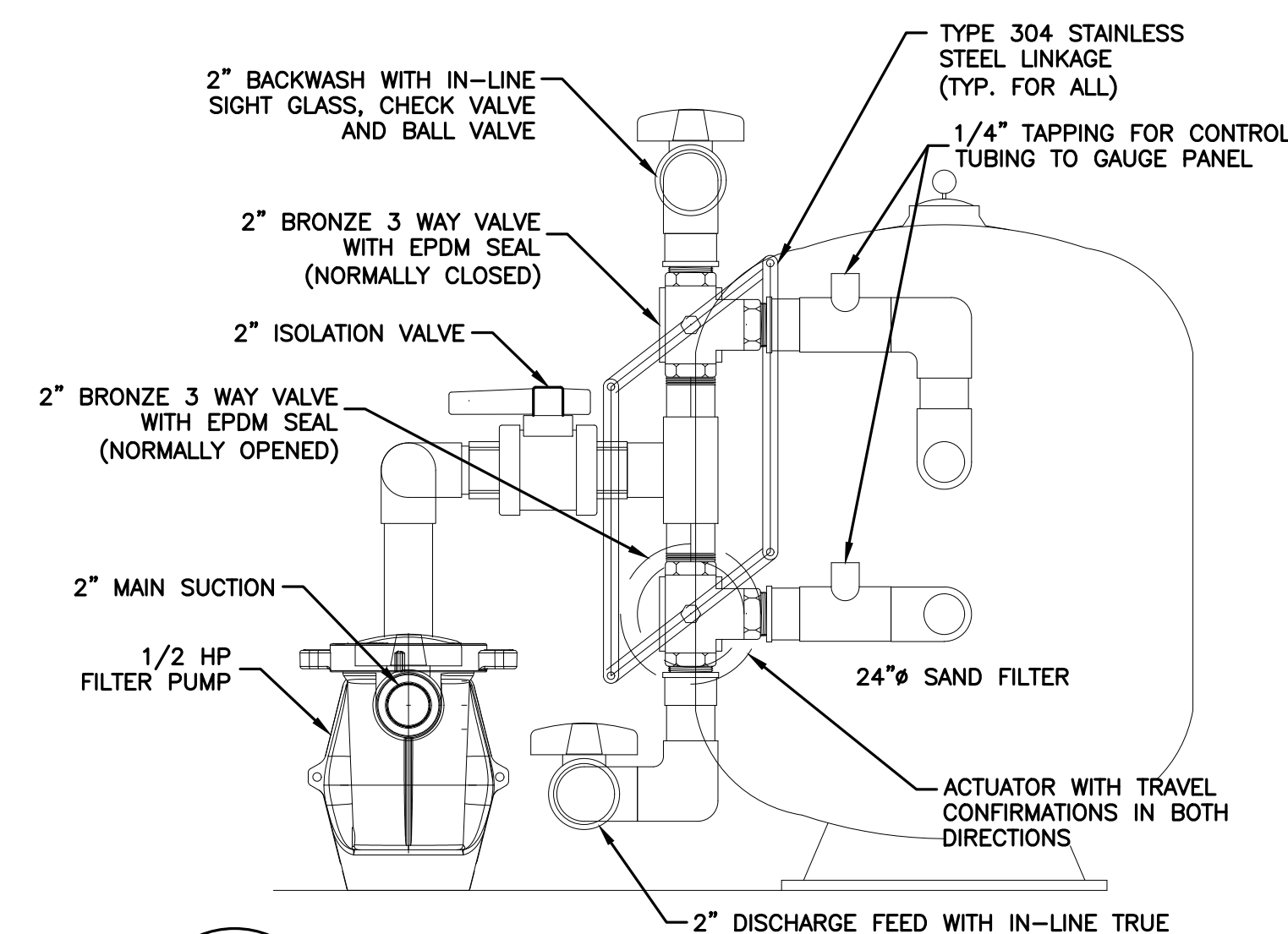
6 3-CUP ANEMOMETER DETAIL  
F4.11 SCALE: 1" = 1'-0"



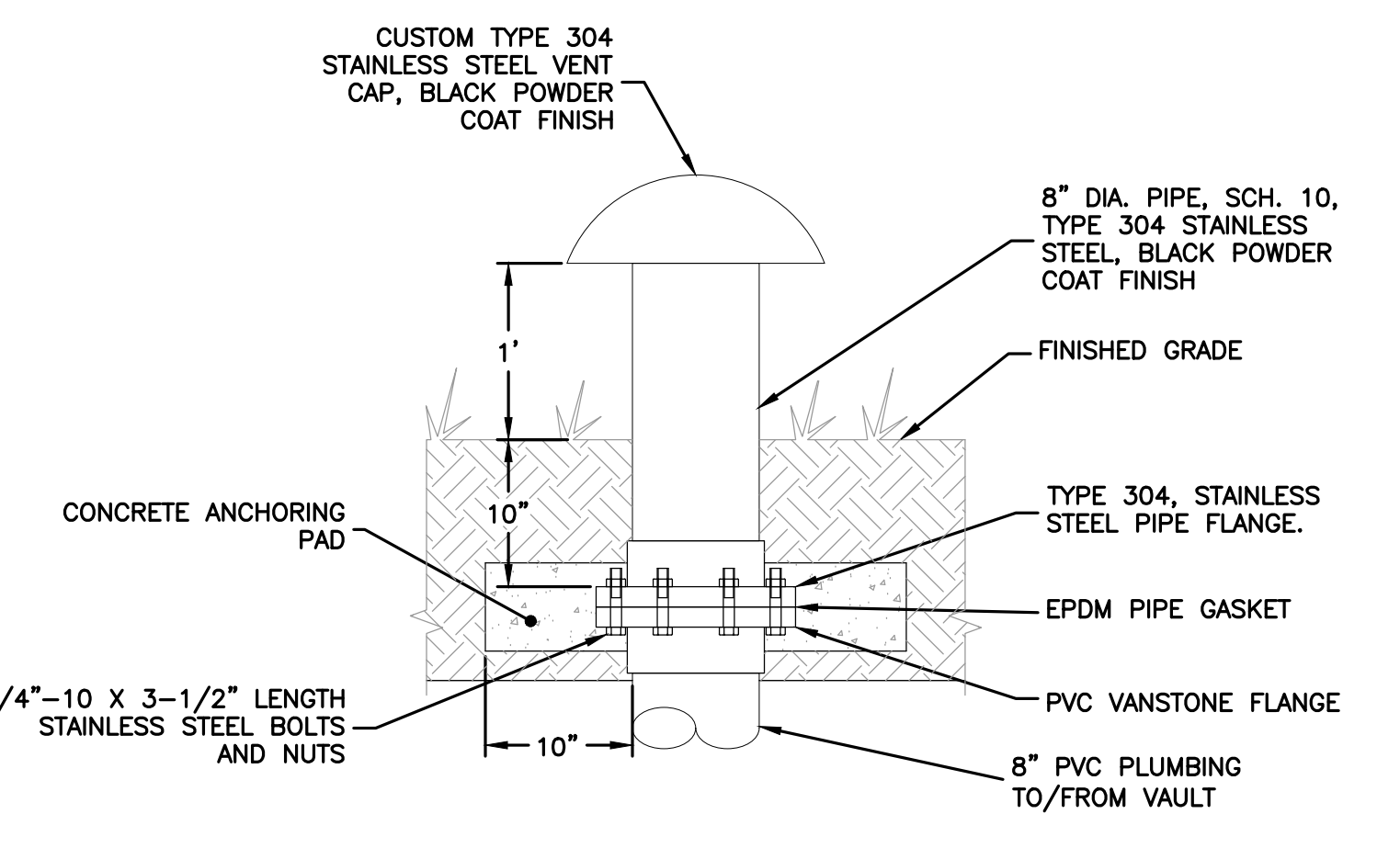
5 STANDARD FLOW WATER MAKE-UP ASSEMBLY - DETAIL  
F4.11 SCALE: 1" = 1'-0"



4 VACUUM SWITCH GAUGE PANEL ASSEMBLY - DETAIL  
F4.11 SCALE: NTS QTY. 1



8 TYPICAL SAND FILTER ELEVATION  
F4.11 SCALE: 1 1/2" = 1'-0"



7 CUSTOM VENT CAP WITH INTEGRAL PIPE FLANGE - DETAIL  
F4.11 SCALE: 1" = 1'-0"

NOTE:  
PIPE AND CONDUIT ROUTING IS DIAGRAMMATIC AND IN SOME INSTANCES EXAGGERATED FOR CLARITY. REFER TO FOUNTAIN GENERAL NOTES, SHEET F4.21 FOR FURTHER INSTRUCTIONS AND INFORMATION.

NOTE:  
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NOTE:  
ALL STAINLESS STEEL FABRICATION SHALL BE:  
- TYPE 304, 3/16\"/>

FIBERGLASS EQUIPMENT VAULT INSTALLATION INSTRUCTIONS:

1. RECEIVING THE VAULT

- A. UPON ARRIVAL OF THE VAULT, THE RECEIVING AGENT SHOULD INSPECT THE INTERIOR AND EXTERIOR FOR ANY VISIBLE DAMAGE THAT MAY HAVE OCCURRED DURING SHIPPING. IF ANY DAMAGE IS FOUND, ALL DAMAGES AND SHORTAGES SHALL BE CLEARLY DOCUMENTED ON THE BILL OF LADING AND PACKING SLIP BEFORE THE DELIVERY DRIVER LEAVES THE PREMISES. THE RECEIVING AGENT SHOULD IMMEDIATELY NOTIFY THE FREIGHT LINE, NOTE THE BILL OF LADING AND CONTACT DELTA FOUNTAINS. IF THE FIBERGLASS EQUIPMENT VAULT IS NOT GOING TO BE INSTALLED AT THE TIME OF DELIVERY, THE VAULT SHOULD BE STORED IN A COVERED AREA SAFE FROM FLOODING. CONFLICT WITH SITE CONDITIONS. ANY ROUTING WHICH CREATES A TRAPPED CONDITION IN THE PIPING MUST BE CALLED TO THE ATTENTION OF THE FOUNTAIN CONSULTANT BEFORE THE PIPE IS INSTALLED.
B. CONTRACTOR SHALL STORE ALL COMPONENTS IN THEIR ORIGINAL PACKAGES AND PROTECT ALL ITEMS FROM DAMAGE UNTIL FINAL PLACEMENT OCCURS. CONTRACTOR SHALL ROTATE ALL MOTOR SHAFTS 1/4 TURN EACH AND EVERY MONTH DURING STORAGE UP TO THE TIME OF FIRST PERFORMANCE TO ENSURE MOTOR SHAFT INTEGRITY. TIGHTEN ALL PLUGS, BOLTS, NUTS, AND UNION TYPE FITTINGS AND CLOSE ALL VALVES UNTIL SYSTEM IS READY FOR STARTUP.
C. FIELD VERIFY ALL EQUIPMENT DIMENSIONS PRIOR TO EXCAVATION. DIMENSIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. ANY DISCREPANCIES SHOULD BE REPORTED, IN WRITING, IMMEDIATELY TO DELTA FOUNTAINS. DELTA FOUNTAINS IS NOT RESPONSIBLE FOR ANY DIMENSIONAL DISCREPANCIES IF THE CONTRACTOR FAILS TO NOTIFY DELTA FOUNTAINS IN A TIMELY MANNER BEFORE INSTALLATION OF THE FIBERGLASS EQUIPMENT VAULT.

2. EXCAVATION

- A. EXCAVATE TO PROPER DEPTH TO RECEIVE THE VAULT AND A MINIMUM CLEAR AREA OF 3'-0" AROUND THE PERIMETER OF THE VAULT.
B. FIELD VERIFY EQUIPMENT DIMENSIONS AND REPORT ANY DISCREPANCIES IN WRITING TO DELTA FOUNTAINS.
C. ALLOW FOR TAPERING OF THE SOIL TO PREVENT CAVE IN AND/OR PROVIDE SOIL SUPPORT PER OSHA GUIDELINES.
D. POUR 4" -6" LEVELING SLAB AND INSTALL ANCHOR BOLTS IN LEVELING SLAB. POUR THE CONCRETE ANCHOR SLAB AS INDICATED ON THE DRAWINGS. THE ANCHOR SLAB IS TO BE REINFORCED WITH GRID USING #4 REBAR ON 12" CENTERS.
E. ONE PIECE MOLDED STAINLESS STEEL ANCHOR BOLTS AND 1/2" DIAMETER STAINLESS STEEL ANCHOR WIRE ARE TO BE PROVIDED AND INSTALLED BY THE FOUNTAIN CONTRACTOR. THE ANCHOR BOLTS SHOULD BE TIED TO THE REINFORCING GRID.

3. INSTALLING THE VAULT

- \*\*ALL OF THE FOLLOWING SHALL BE COMPLETED WITHOUT FAIL ON THE SAME DAY THE PUMP VAULT IS LOWERED DOWN INTO THE DESIGNATED SPACE:
A. CHECK FOR FAVORABLE AND DRY METEOROLOGICAL FORECAST PRIOR TO BEGINNING INSTALLATION OF PUMP VAULT.
B. THE VAULT SHOULD BE RIGGED WITH STRAPS, LIFTING FROM THE BOTTOM OF THE VAULT, NOT THE STEEL SKID SUPPORT. CARE SHOULD BE TAKEN TO POSITION THE STRAPS AWAY FROM ANY PLUMBING CONNECTIONS ON THE SIDE OF THE VAULT. DO NOT USE CHAINS OR CABLES TO LIFT THE VAULT. DO NOT USE THE ANCHOR BOLTS ON THE SIDE OF THE VAULT FOR LIFTING.
C. LOWER THE VAULT ON TO THE ANCHOR SLAB AND ADJUST THE POSITION AS NECESSARY.
D. THE FOUNTAIN CONTRACTOR IS TO SUPPLY AND INSTALL THE STAINLESS STEEL ANCHOR CABLES (1/2" DIAMETER MIN. BY CONTRACTOR) FROM THE VAULT EYEHOOKS TO THE ANCHOR BOLTS IN THE SLAB (ANCHOR BOLTS BY CONTRACTOR). REMOVE SLACK FROM THE CABLES AND TIGHTEN. DO NOT OVER TIGHTEN THE CABLE.
E. ONCE THE VAULT IS IN PLACE, IMMEDIATELY CONNECT THE TWO VENTILATION LINES AND ROUTE THEM TO THEIR DESIGNATED LOCATION.
F. PERMANENT POWER IS TO BE PROVIDED TO THE SUMP PUMP IN THE VAULT BY A 24 HOUR/DAY OPERATIONAL 120VAC, 60 HZ, 20A POWER SUPPLY TO THE SUMP PUMP(S). THIS SERVICE CAN BE RIGGED TEMPORARILY THROUGH THE VENTILATION SYSTEM (AIR SUPPLY) CLOSEST LINE TO THE FLOOR.
G. CONNECT THE 1 1/2" OR 2" BACKWASH/SUMP PUMP DISCHARGE LINES TO THE SEWER SYSTEM, EITHER SANITARY OR STORM, PER LOCAL CODES OR AS DESIGNATED ON THE CIVIL/MEP DRAWINGS. CHECK THE BALL VALVE ON THE SUMP PUMP DISCHARGE LINE AND MAKE SURE IT IS OPEN.
H. LIFT THE FLOAT ON THE SUMP PUMP (ONCE POWER CONNECTION IS MADE) TO MAKE SURE THE PUMP OR PUMPS ARE WORKING.
I. WHILE OPERATING UNDER TEMPORARY POWER IN AN UNFINISHED STATE, CHECK THE VAULT DAILY ESPECIALLY BEFORE AND AFTER RAIN.
J. PIPING AND CONDUIT CONNECTIONS MUST BE MADE AS SOON AS POSSIBLE TO PREVENT FLOODING OF THE VAULT. IF PIPING CANNOT BE CONNECTED AT THE TIME OF THE INSTALLATION, THE FOUNTAIN CONTRACTOR MUST CHECK TO MAKE SURE THAT ALL INTERIOR VALVES ARE CLOSED AND ALL CONDUIT CONNECTIONS ARE PLUGGED OR SEALED.
K. POUR ANCHOR SLAB. REFER TO INSTALLATION DETAIL DRAWINGS.
L. INSTALL ADDITIONAL TEMPORARY AUTOMATIC SUMP PUMP OF SUITABLE SIZE OUTSIDE OF THE VAULT IF THE HOLE HAS TO BE LEFT OPEN OVERNIGHT. CONTRACTOR IS RESPONSIBLE TO KEEP THE EXCAVATION AREA AROUND THE VAULT RESISTANT TO WATER PENETRATION AT ALL TIMES WHILE UNATTENDED DURING THE INSTALLATION PERIOD.

\*\*WARNING\*\*

FLOODING OF THE VAULT THRU THE NEGLIGENCE OF THE CONTRACTOR TO ADHERE TO THESE INSTALLATION SPECIFICATIONS VOIDS THE WARRANTY ON ALL EQUIPMENT IN THE VAULT. REPLACEMENT OF DAMAGED EQUIPMENT WILL BE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR. THE GUIDELINES OUTLINED ABOVE WILL AID IN THE PREVENTION OF FLOODING. IN ADDITION, CONSULT ALL INSTALLATION DETAILS IN THE CONSTRUCTION DOCUMENTS PROVIDED BY DELTA FOUNTAINS.

4. CONCRETE ANCHOR SLAB

- A. POUR 4" -6" CONCRETE LEVELING SLAB. STAINLESS STEEL ANCHOR BOLTS SHOULD BE INSERTED IN THE LEVELING SLAB.
B. LEVELING SLAB SHOULD BE SLOPED SLIGHTLY TO THE CORNER OF THE VAULT WHERE THE SUMP PUMP/GRAVITY DRAIN SUMP IS LOCATED.
C. POUR ANCHOR SLAB IN ACCORDANCE WITH DETAILS ON CONTRACT DOCUMENTS. THE CONCRETE SHOULD BE POURED WITH A MIN. 8" SLUMP TO ENSURE THE CONCRETE ADEQUATELY COVERS THE MOUNTING SKID AND FILLS THE ENTIRE VOID UNDER THE VAULT BETWEEN LEVELING SLAB AND BOTTOM OF VAULT.

5. PIPING AND CONDUIT CONNECTIONS

- A. CONNECT ALL PIPING AND CONDUIT AS INDICATED ON THE CONSTRUCTION DOCUMENTS. DO NOT EXTERNALLY LOAD THE VAULT CONNECTIONS OR ALLOW THE CONNECTIONS TO SUPPORT THE WEIGHT OF THE CONNECTED PIPING. IF THE PIPING IS NOT SUPPORTED PROPERLY, SOIL SETTLING CAN RESULT IN EXCESSIVE LOADING ON THE PIPING. THIS CAN RESULT IN BROKEN PIPING AND MISALIGNED CONNECTIONS IN THE VAULT.
B. ALL OPEN CONDUITS CONNECTED TO THE VAULT SHOULD BE SEALED OR PLUGGED TO PREVENT WATER INTRUSION.
C. AFTER ANCHOR SLAB IS POURED, PLACE A 4" OR 6" PERFORATED PIPE LOOP AROUND THE BOTTOM PERIMETER OF THE VAULT AND PIPE TO STORM DRAIN.
D. THE FIBERGLASS EQUIPMENT VAULT IS PRE-WIRED AT THE FACTORY FOR TESTING PURPOSES. IN THE EVENT THE LOCAL AUTHORITY, HAVING JURISDICTION OVER THE INSTALLATION OF THE VAULT AND FINAL PASS/FAIL INSPECTION, REQUIRES ANY MODIFICATIONS TO THE CONDUIT OR WIRING AS INSTALLED, THE CONTRACTOR WILL BE RESPONSIBLE FOR MAKING THE CHANGES OR MODIFICATIONS AS REQUIRED TO CONFORM TO ALL LOCAL CODES.

\*\*WARNING\*\*

IF ALL DISCHARGE/SUCTION PIPING, ELECTRICAL CONDUIT CONNECTIONS AND AIR VENTS ARE NOT ROUTED ABOVE GRADE AND CAPPED, FLOODING WILL OCCUR DURING ADVERSE WEATHER CONDITIONS. DELTA RECOMMENDS A ONE DAY INSTALLATION.

6. PRESSURE TESTING

- A. PRESSURE TEST ALL PIPING CONNECTED TO THE VAULT TO ENSURE THERE ARE NO LEAKS IN THE SYSTEM. REFER TO THE FOUNTAIN EQUIPMENT SPECIFICATIONS FOR PRESSURE TESTING PROCEDURES OR INSTRUCTIONS BELOW.

7. INTAKE AND EXHAUST VENTS

- A. INSTALL AIR INTAKE AND EXHAUST VENTS AS SUPPLIED AND IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS. THE VENT CAPS AS PROVIDED SHOULD BE INSTALLED IMMEDIATELY TO PREVENT WATER INTRUSION.

8. BACKFILLING AND COMPACTION

- A. PROVIDE ADEQUATE INTERIOR BRACING DURING BACKFILLING TO PREVENT DAMAGE TO THE FIBERGLASS SHELL.
B. ALL OPEN PIPING AND CONDUIT SHOULD BE PROTECTED DURING THE BACKFILL PROCESS. BACKFILL MATERIAL TO BE #57 CRUSHED STONE OR ROUNDED GRAVEL, 3/4" MAX. AND LESS THAN 5% FINES. BACKFILLING AND COMPACTION SHOULD OCCUR IN 6" LIFTS. EACH LIFT IS TO BE HAND TAMPED. DO NOT USE POWER OPERATED COMPACTION. A MIN. OF 2' OF BACKFILL MATERIAL SHOULD BE PLACED BETWEEN THE VAULT WALLS AND SURROUNDING EARTH. IN SOME GEOGRAPHIC LOCATIONS IT MAY BE NECESSARY TO PROVIDE ADDITIONAL DRAINAGE AROUND THE VAULT.
C. FOR VAULTS IN AREAS OF HIGH GROUND WATER TABLES IT IS RECOMMENDED TO ENCASE THE VAULT IN CONCRETE:
1. BRACE INTERIOR WALLS, IF NECESSARY, WITH 4 EA. 4" X 4" LUMBER AND 2 EA. CROSS MEMBERS.
2. BRACE INSIDE CEILING, IF NECESSARY, WITH 4 EA. 4" X 4" LUMBER AND 2 EA. CROSS MEMBERS.
3. FORM THE OUTER SHELL BY CONVENTIONAL MEANS. THE FIBERGLASS VAULT WILL BE USED AS THE INSIDE FORM.
4. POUR THE CONCRETE IN FOUR SEPARATE AND EQUAL LIFTS.

\*\*WARNING\*\*

DO NOT USE SAND, CLAY OR DIRT FOR BACKFILL.
\*\*WARNING\*\* GUARD THE VAULT AT ALL TIMES AGAINST CROSSING BY ANY HEAVY MACHINERY OR CONCRETE TRUCKS.

PRESSURE TESTING

- 1. PERFORM TESTS IN THE PRESENCE OF THE OWNER, ARCHITECT, OR AUTHORIZED REPRESENTATIVE FOR DESIGNATED DURATION WITH NO PRESSURE LOSS OR NOTICEABLE LEAKS.
2. DO NOT INCLUDE EQUIPMENT IN TESTS WHICH COULD BE DAMAGED BY HIGH PRESSURE.
3. FLUSH OUT ALL PIPES WITH CLEAN WATER PRIOR TO PERFORMING LEAK TESTS.
4. PERFORM TESTS AS FOLLOWS:
SYSTEM TEST PRESSURE MEDIUM DURATION
WATER 150% OF OPERATING PRESSURE WATER 8 HOURS
DRAINAGE 10FT. OVER HIGHEST PIPE INVERT WATER 24 HOURS

5. AUTOMATIC MAKE-UP WATER SYSTEMS SHALL BE THOROUGHLY TESTED AND OPERATIVE AT THE TIME OF FINAL OBSERVATION.
6. AFTER THE SYSTEM HAS OPERATED FOR ONE WEEK, CONTRACTOR AND OWNER'S REPRESENTATIVE SHALL INSPECT WATER MAKE-UP RATES AND AGREE THAT WATER USAGE IS APPROPRIATE FOR A SYSTEM OF THIS TYPE, ARE WITHIN LOCAL ORDINANCES OR CODES, AND THAT SUCH RATES ARE NOT INDICATIVE OF EXCESSIVE LEAKAGE FROM SYSTEM. A WATER METER SHALL BE PLACED ON THE FILL LINE FOR THIS PURPOSE, IF NECESSARY TO DOCUMENT PRECISE WATER USAGE.

PVC INSTALLATION NOTES

- 1. UNLESS ARCHITECT'S SPECIFICATIONS INDICATE OTHERWISE, THE SUGGESTED MINIMUM PIPING AND FITTING STANDARD RECOMMENDED FOR THIS INSTALLATION IS TYPE 1. PVC TYPE 1 CELL CLASSIFICATION 12454, CONFORMING TO ASTM STANDARD 1784.
2. USE ONLY PURPLE PVC PRIMER MEETING NSF, UPC, AND ASTM #F-656 STANDARDS FOR SOFTENING AND PREPARING FIELD PIPE AND FITTING SURFACES FOR SOLVENT CEMENTING (IPS CORPORATION "WELD-ON TYPE P-70 OR EQUIVALENT). WELD-ON P-70 PRIMER IS A PURPLE COLORED, NON-BODIED, VERY FAST ACTING, WATER THIN SOLVENT SYSTEM. WHEN USED IN CONJUNCTION WITH APPROPRIATE WELD-ON CEMENTS, WILL MAKE CONSISTENTLY STRONG, WELL-FUSED JOINTS. IT IS ESSENTIAL THAT THE JOINING SURFACES OF PIPE AND FITTINGS BE SOFTENED PRIOR TO ASSEMBLY. THE MAIN FUNCTION OF THIS PRIMER IS TO EXPEDITE THE PENETRATION AND SOFTENING OF THESE SURFACES. ITS RATE OF PENETRATION INTO THE JOINING SURFACES IS MUCH MORE RAPID THAN THAT OF CEMENT ALONE. IT IS SUITABLE FOR USE WITH ALL TYPES, SCHEDULES AND CLASSES OF PVC AND CPVC PIPE AND FITTINGS. FOLLOW ALL DIRECTIONS AND INSTRUCTIONS APPEARING ON PRODUCT LABEL.
3. USE ONLY GREY, HEAVY BODIED, MEDIUM SETTING PVC CEMENT MEETING NSF, UPC, AND ASTM #D-2584, STANDARDS FOR SOLVENT CEMENTING PVC PLASTIC PIPE AND FITTINGS (IPS CORPORATION "WELD-ON" TYPE 711 OR EQUIVALENT). WELD-ON 711 GREY, HEAVY BODIED, MEDIUM SET, HIGH STRENGTH SOLVENT CEMENT FOR CEMENTING ALL SCHEDULES AND CLASSES OF PVC PIPE AND FITTINGS THROUGHOUT 12" INCLUDING SCHEDULE 80. WELD-ON 719 GREY OR WHITE, EXTRA HEAVY BODIED, THIXOTROPIC (PASTE-LIKE), HIGH STRENGTH SOLVENT CEMENT FOR CEMENTING ALL SCHEDULES AND CLASSES OF PVC PIPE AND FITTINGS 4" THROUGH 30" INCLUDING SCHEDULE 80. WELD-ON 711 AND 719 FOR USE ON ALL TYPES OF PVC PLASTIC PIPE APPLICATIONS, TYPE I AND TYPE II. IT IS APPROVED FOR USE WITH POTABLE WATER PRESSURE SYSTEMS, IRRIGATION, TURF IRRIGATION, GAS, CONDUIT, INDUSTRIAL PIPE APPLICATIONS, SEWER AND DRAIN, WASTE AND VENT SYSTEMS. FOLLOW ALL DIRECTIONS AND INSTRUCTIONS ON PRODUCT LABEL.
4. PRESSURE TEST ALL WATER PIPING PRIOR TO COMMENCING BACKFILL OPERATIONS. (SEE #4 IN "PRESSURE TESTING" SECTION ABOVE). HYDROSTATIC (WATER) TESTING SHALL BE THE ONLY APPROVED METHOD. DO NOT PRESSURE TEST WITH COMPRESSED AIR AS SEVERE PIPE DAMAGE AND BODILY INJURY CAN OCCUR. DO NOT EXCEED THE RATED OPERATIONAL PRESSURE OF THE PIPING AND/OR FITTINGS CARRYING THE LOWEST PRESSURE RATING. LOCATE AND REPAIR ANY LEAKS AND REDDIT (PER #4 IN "PRESSURE TESTING" SECTION ABOVE) PRIOR TO COMPLETION OF BACKFILL OPERATIONS.
5. CONCRETE "THRUST" BLOCKING IS RECOMMENDED AT ALL DIRECTIONAL CHANGES (TEES, ELBOWS, ETC.), REDUCER FITTINGS AND LINE TERMINATIONS (BUSHINGS, END CAPS, PLUGS, ETC.) IN FOUNTAIN DISCHARGE PIPING 6" AND LARGER.
6. PERFORM ADEQUATE TRENCHING AND BACKFILL OPERATIONS WHEN INSTALLING PVC PIPING BELOW GRADE. TRENCH WIDTH SHOULD BE MINIMUM OF "PIPE O.D. PLUS 12 INCHES" AND DEEP ENOUGH TO ALLOW PIPING TO BE BURIED A MINIMUM OF 12" BELOW THE MAXIMUM EXPECTED FROST PENETRATION LINE TO AVOID FREEZE DAMAGE. LAY PIPING IN HORIZONTAL, PARALLEL, AND PERPENDICULAR MANNER. AVOID VERTICAL STACKING OF PIPES. SPACE MINIMUM OF 3" APART ON ALL PARALLEL RUNS.
7. USE ONLY CLEAN, FREE-FLOWING, NON-EXPANSIVE BACKFILL MATERIAL (NATURALLY ROUNDED 1/4" PEA GRAVEL, 57 STONE, OR SAND) AND BACKFILL IN 6" LIFTS WITH ADEQUATE AND COMPLETE COMPACTION BETWEEN LIFTS TO 90% OF MAXIMUM DENSITY PER ASTM 1557-70. COMPACTION TO EXCESSIVE LOADS SHALL NOT BE PERMITTED. A SECOND PRESSURE TEST ON THE PIPING SYSTEM MUST BE MADE AT THIS TIME TO ENSURE THAT PIPING HAS NOT BEEN DAMAGED DURING BACKFILL OPERATIONS (SEE #4 IN "PRESSURE TESTING" SECTION ABOVE).
8. AVOID LAYING SUCTION PIPING IN A MANNER THAT COULD RESULT IN A SUCTION LOOP BEFORE, DURING, OR AFTER BACKFILLING AND COMPACTION. ALWAYS PITCH PIPE IN A DOWNWARD DIRECTION TO AVOID A SUCTION LOOP THAT WILL CAUSE AIR TO BE PERMANENTLY TRAPPED, CAUSING LOSS IN PERFORMANCE OF THE PIPING SYSTEM DUE TO INCREASED FRICTION AND WORK LOAD DEMAND.
9. ANY AND ALL COSTS ASSOCIATED WITH ABOVE ARE RESPONSIBILITY OF INSTALLER.
10. INTERCONNECTING PIPING AND FITTINGS INSIDE FIBERGLASS EQUIPMENT VAULT IS SCHEDULE 80 P.V.C.

GENERAL NOTES

- 1. FINAL NOZZLE INSTALLATION AND ADJUSTMENT FOR POSITIONING AND THROTTLING TO ACHIEVED SPECIFIED PERFORMANCES FOR ALL DISPLAY DISCHARGE POINTS TO BE PERFORMED BY INSTALLING CONTRACTOR.
2. THE FIBERGLASS EQUIPMENT VAULT LOCATION IS SHOWN IN GENERAL VICINITY ONLY. VERIFY WITH THE ARCHITECTURAL DRAWINGS FOR THE EXACT LOCATION OF THE FIBERGLASS EQUIPMENT VAULT AND PROPER ELEVATION.
3. PIPE ROUTING ON THE DRAWINGS IS DIAGRAMMATIC AND IN SOME INSTANCES EXAGGERATED FOR CLARITY. THE CONTRACTOR SHALL DETERMINE THE EXACT ROUTING AT THE SITE TO AVOID CONFLICT WITH SITE CONDITIONS. ANY ROUTING WHICH CREATES A TRAPPED CONDITION IN THE PIPING MUST BE CALLED TO THE ATTENTION OF THE FOUNTAIN CONSULTANT BEFORE THE PIPE IS INSTALLED.
4. ALL PIPING SHALL BE INSTALLED TO PREVENT FREEZING. SYSTEM TO BE DRAINED AND WINTERIZED DURING WINTER MONTHS IF FOUNTAIN IS NOT IN OPERATION.
5. ALL PIPING BETWEEN THE WATER FEATURES AND FIBERGLASS EQUIPMENT VAULT SHALL BE INSTALLED SLOPED TOWARD THE FIBERGLASS EQUIPMENT VAULT A MINIMUM OF 2% UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
6. THE WORK TO COMPLETE THE INSTALLATION OF THE FOUNTAIN INCLUDES SUCH NECESSARY MATERIAL AND DEVICES OF A MINOR NATURE THAT MAY NOT BE INDICATED ON THE DRAWINGS OR MENTIONED IN THE SPECIFICATIONS, BUT WHICH ARE NECESSARY FOR THE COMPLIANCE WITH CODES AND FOR THE SUCCESSFUL OPERATION OF THE FEATURE. THE CONTRACTOR SHALL BE ALLOWED NO EXTRA COMPENSATION BECAUSE OF THIS REQUIREMENT.
7. THOROUGHLY TEST ALL FIXTURES, SERVICES AND ALL CIRCUITS FOR PROPER OPERATING CONDITIONS AND FREEDOM FROM GROUNDS AND SHORT CIRCUITS BEFORE ACCEPTANCE IS REQUESTED. ALL EQUIPMENT, APPLIANCES AND DEVICES SHALL BE OPERATED UNDER LOAD CONDITIONS.
8. CONTRACTOR SHALL ENSURE THAT INSTALLATION COMPLIES WITH ALL APPLICABLE NATIONAL, LOCAL CODES AND INTERNATIONAL CODES AND PROJECT SPECIFICATIONS.
9. PRIOR TO ANY FINISHING MATERIALS (I.E. LIGHTS, JETS, COVER PLATES ETC.) BEING INSTALLED, ALL FOUNTAINS SHALL BE TESTED FOR LEAKS FOR A MINIMUM OF 72 HOURS AND ALL WATERPROOFING AND TILE WORK SHALL BE COMPLETED.
10. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
11. CONSULT ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL DETAILS NOT SHOWN ON THESE DRAWINGS.
12. WHERE APPLICABLE, ALL WEIRS SHALL BE INSTALLED WITH AN ACCURACY OF "+ or -" 1/16" OVER THE ENTIRE WEIR LENGTH. UNLESS OTHERWISE NOTED, REFER TO THE ARCHITECTURE DRAWINGS FOR WEIR DETAILS.
13. CONTRACTOR SHALL PROVIDE ALL CONCRETE WORK AS REQUIRED BY ALL MECHANICAL AND ELECTRICAL FOUNTAIN EQUIPMENT REQUIREMENTS INCLUDING, BUT NOT LIMITED TO, HOUSEKEEPING PADS, LOCK-DOWN SLABS, AND THRUST BLOCKS WHERE INDICATED.
14. CONTRACTOR SHALL PROVIDE ALL UTILITIES SUCH AS POWER SUPPLIES, WATER SUPPLIES, AND SEWER CONNECTIONS UNDER THE BUILDING CONTRACT UP TO THE FOUNTAIN CONTROLS, EQUIPMENT AND/OR FOUNTAIN FITTINGS WHERE INDICATED.
15. CONTRACTOR SHALL PROVIDE AND IS RESPONSIBLE FOR ALL ELEVATION AND X-Y COORDINATES RELATING TO ALL FOUNTAIN EQUIPMENT INCLUDING VAULTS, FOUNTAIN FLOORS, AND PUMPS. CONTRACTOR/INSTALLER IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL DIMENSIONS AT JOBSITE. DELTA FOUNTAINS IS NOT RESPONSIBLE FOR CONSTRUCTION/INSTALLATION MEANS, METHODS, TECHNIQUES, SEQUENCES, STEPS, OR PROCEDURES, OR FOR ANY SAFETY REQUIREMENTS, CODES, PRECAUTIONS, RULES, REGULATIONS, OR PROGRAMS PERTAINING TO THE CONSTRUCTION PROJECT, INCLUDING, BUT NOT LIMITED TO OSHA CONFINED SPACE REQUIREMENTS FOR FIBERGLASS EQUIPMENT VAULTS.
17. ALL COMPONENT ITEMS USED IN THE PRODUCTION OF OUR PRODUCTS ARE U.L. LISTED WHENEVER SUCH LABELING IS AVAILABLE FROM THE SOURCE EQUIPMENT OR MATERIAL.
18. SHOULD ANY PRODUCT REQUIRE A "THIRD PARTY" LABEL OR CERTIFICATION AS AN ASSEMBLY (E.G., N.E.C., U.L. OR E.T.L. LISTING) SUCH REQUIREMENTS SHALL BE DETERMINED, CONTRACTED FOR, AND PAID BY OTHERS.
19. DELTA FOUNTAINS SHALL NOT BE RESPONSIBLE OR LIABLE IN ANY MANNER WHATSOEVER FOR SPECIAL LABELING OR CERTIFICATION REQUIREMENTS, INCLUDING THIRD PARTY PRODUCT TESTING UNLESS SPECIFICALLY INCLUDED IN ITS PROPOSALS, QUOTATIONS, DRAWING DESCRIPTIONS AND DETAILS, REGARDLESS OF PROJECT SPECIFICATION OR CODE REQUIREMENTS.
20. EQUIPMENT MANUFACTURED, SUPPLIED AND OTHERWISE FURNISHED BY DELTA FOUNTAINS IS PRIMARILY DESIGNED FOR EMBEDDED OR CASTING DIRECTLY INTO CONCRETE OR GUNITE STRUCTURAL MATERIAL. IT IS NOT DESIGNED FOR NATURAL OR SYNTHETIC LINER OR MEMBRANE INSTALLATION INCLUDING FIBERGLASS OR METAL LINERS, SHELLS, COVERS, OR CLADDING. ANY SUCH REQUIREMENT FOR LINER OR MEMBRANE INSTALLATION OR ADAPTATION IS THE RESPONSIBILITY OF THE SPECIFIER, PURCHASER AND INSTALLER, INCLUDING BUT NOT LIMITED TO FLANGES, CLAMPING DEVICES, GASKETS, FASTENING DEVICES, COATINGS, ADHESIVES OR BONDING AGENTS.
21. FATAL SUCTION ENTRAPMENT CAN OCCUR IF FOUNTAIN MECHANICAL EQUIPMENT AND PIPING IS NOT INSTALLED CORRECTLY AS SHOWN. ANTI-VORTEX PLATES MUST BE SECURELY FASTENED TO SUMPS AND/OR FOUNTAIN FLOOR USING AN ANTI-VORTEX RESISTANT FASTENER AND ANCHORS AT ALL TIMES DURING OPERATION OF FOUNTAIN SYSTEM.
22. NOTWITHSTANDING THE CONTRACT DOCUMENTS, INCLUDING ARCHITECT'S FINAL "FOR CONSTRUCTION" PLANS AND SPECIFICATION DATA, THE FOUNTAIN SYSTEM MUST BE INSTALLED IN ACCORDANCE WITH DELTA FOUNTAINS FINAL AND APPROVED SET OF SHOP/INSTALLATION DRAWINGS AND DETAILS OR FOUNTAIN PRODUCT WARRANTY AND SYSTEM PERFORMANCE GUARANTEE IS VOID.
23. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED MEASUREMENTS.
24. DELTA FOUNTAINS RECOMMENDS ALL FOUNTAINS BE PROPERLY WATERPROOFED BY SPECIFIED APPROVED MEANS AND ALL FOUNTAIN COMPONENTS BE PROPERLY SEALED WITH A SUITABLE WATERPROOF CAULKING COMPOUND TO ENSURE A WATER-TIGHT FOUNTAIN INSTALLATION.
25. ANY WATERPROOFING DETAILS OR SPECIFICATIONS THAT MAY APPEAR ON DELTA FOUNTAINS PLANS OR EQUIPMENT DETAILS ARE FOR GENERAL REFERENCE ONLY AND SHALL NOT BE INTERPRETED OR RELIED UPON AS A FORMAL SPECIFICATION OR RECOMMENDATION. CONVERSELY, THE ABSENCE OF WATERPROOFING DETAILS OR SPECIFICATION ON DELTA FOUNTAINS PLANS, DETAILS OR PRODUCT SHEETS DO NOT IMPLY THAT WATERPROOFING IS NOT A PROJECT REQUIREMENT.
26. IT IS THE RESPONSIBILITY OF THE PROJECT ARCHITECT/ENGINEER TO SPECIFY ANY AND ALL WATERPROOFING REQUIREMENTS, PRODUCTS, INSTALLATION/APPLICATION MEANS, PROCEDURES, AND OTHER DETAILS AS MAY BE NECESSARY AND REQUIRED FOR THE FOUNTAIN STRUCTURE AND FOUNTAIN COMPONENTS.
27. IT IS THE RESPONSIBILITY OF THE WATERPROOFING CONTRACTOR TO REVIEW THE PROJECT SPECIFICATIONS FOR WATERPROOFING REQUIREMENTS FOR THE FOUNTAIN AND RELATED COMPONENTS AND PROVIDE THE SPECIFIED WATERPROOFING PRODUCTS AND SYSTEMS TO ENSURE WATERPROOF INTEGRITY OF THE FOUNTAIN SYSTEM.
28. IT IS THE RESPONSIBILITY OF THE FOUNTAIN EQUIPMENT INSTALLER TO COORDINATE ALL WATERPROOFING MATERIALS, SYSTEMS, APPLICATIONS, PROCEDURES, MEANS AND METHODS WITH THE WATERPROOFING CONTRACTOR, IN STRICT ACCORDANCE WITH THE WATERPROOFING CONTRACTOR, IN STRICT ACCORDANCE WITH THE WATERPROOFING CONTRACTOR, IN STRICT ACCORDANCE WITH THE WATERPROOFING CONTRACTOR.
29. DELTA FOUNTAINS ASSUMES NO RESPONSIBILITY OR LIABILITY WHATSOEVER FOR ANY WATERPROOFING ISSUES RELATED TO ITS DESIGN PACKAGE, SCOPE OF WORK, OR EQUIPMENT SUPPLY UNDER ANY CIRCUMSTANCES. IF THE FOUNTAINS CONTRACTOR/WATERPROOFER HAS QUESTIONS PERTAINING TO WATERPROOFING, THEY SHALL BE DIRECTED TO THE PROJECT ARCHITECT/ENGINEER WHO IS SOLELY RESPONSIBLE FOR SUCH MATTERS.
30. ALL FOUNTAIN SYSTEM EQUIPMENT COMPONENTS FURNISHED BY DELTA FOUNTAINS IS DESIGNED AND MANUFACTURED FOR USE IN FRESH WATER APPLICATIONS ONLY. DO NOT INSTALL OR OPERATE ANY EQUIPMENT IN SALT, BRINE, OR BRACKISH WATER OF ANY KIND OR WARRANTY IS VOID.
31. DUE TO OUR CONTINUING PRODUCT IMPROVEMENT, DELTA FOUNTAINS RESERVES THE RIGHT TO CHANGE PRODUCT AND SYSTEM SPECIFICATIONS WITHOUT NOTICE.
32. DELTA FOUNTAINS SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY CIVIL OR STRUCTURAL DESIGN DRAWINGS, DETAILS, NOTATIONS, OR ANY OTHER ASPECTS OF THE PROJECT REGARDING FOUNTAIN LAYOUT, STRUCTURE OR CONSTRUCTION/BUILDING PRACTICES, INCLUDING, BUT NOT LIMITED TO, SOIL INTEGRITY, CONCRETE DESIGN, SPECIFICATIONS, AND SLAB POUR METHODS, CONCRETE STRUCTURAL WATERPROOFING SPECIFICATIONS, MATERIALS, AND METHODS, ETC. UNLESS OTHERWISE SPECIFICALLY STATED.
33. ANY STRUCTURE DEPICTED OR APPEARING ON OUR PLANS SHALL BE SHOWN SOLELY FOR DIMENSIONAL REFERENCE AND GENERAL STRUCTURAL ORIENTATION IN ORDER TO ADEQUATELY IDENTIFY, COORDINATE, ORIENT, LOCATE AND INSTALL OUR EQUIPMENT PACKAGE, AND SHALL NOT BE RELIED ON FOR ANY OTHER PURPOSES.
34. CLIENT IS ADVISED TO ENLIST THE SERVICES OF A LICENSED PROFESSIONAL ENGINEER FAMILIAR AND EXPERIENCED WITH SUCH WORK WHEN DESIGNING/CONSTRUCTING ANY FOUNTAIN OR FIBERGLASS EQUIPMENT VAULT STRUCTURE, WHO SHALL ACCEPT COMPLETE RESPONSIBILITY AND LIABILITY FOR ALL STRUCTURAL, GEOTECHNICAL, AND CIVIL ENGINEERING DETAILS PERTAINING TO THE PROJECT.
35. CONTRACTOR IS ADVISED TO ENLIST THE SERVICES OF A LICENSED PROFESSIONAL LANDSCAPE ARCHITECT TO COORDINATE LANDSCAPE, HARDSCAPE, AND TOPOGRAPHICAL ENVIRONMENT SURROUNDING THE FOUNTAIN AREA SO THAT PROPER PLANT MATERIAL AND GROUND COVER IS SPECIFIED TO ENSURE EXCESS DEBRIS WILL BE KEPT AWAY FROM, AND OUT OF THE FOUNTAIN SYSTEM. PROPER SLOPE OF GRADE IS MANDATORY TO KEEP RAIN WATER AND IRRIGATION WATER FROM ENTERING INTO THE FOUNTAIN BASIN AND FIBERGLASS EQUIPMENT VAULT OR ENCLOSURE.
36. REFER TO MECHANICAL AND ELECTRICAL NOTES ON DRAWINGS FOR FURTHER INFORMATION.

GENERAL PIPING NOTES

- 1. IT IS THE INSTALLING CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL FIELD DIMENSIONS CRITICAL TO FOUNTAIN EQUIPMENT INSTALLATION AND PERFORMANCE AND REPORT ANY DISCREPANCIES, IN WRITING TO DELTA FOUNTAINS AND THE ARCHITECT UPON DISCOVERY. REFER TO SPECIFICATION SECTION 3.1 "EXAMINATION" FOR FURTHER INSTRUCTION AND CLARIFICATION.
2. IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO CHECK AND COMPLY WITH ALL APPLICABLE NATIONAL AND LOCAL PLUMBING CODES PRIOR TO INSTALLATION OF EQUIPMENT. LOCAL CODES TAKE PRECEDENCE OVER GENERAL NOTES WHERE DISCREPANCIES OR CONFLICTS EXIST.
3. ALL FOUNTAIN PIPING PENETRATIONS THROUGH ANY CONCRETE WALL OR FLOOR MUST BE MADE WITH STAINLESS STEEL PIPE APPROPRIATE FOR THE APPLICATION, AND MUST BE FLASHED OR FITTED WITH A WATERSTOP FLANGE TO PREVENT LEAKAGE. FOR PIPE PENETRATIONS OVER 4" PIPE SIZE USE BACK TO BACK P.V.C. FLANGES WITH STAINLESS STEEL BOLTS AND HARDWARE FOR WATERSTOP.
4. INTERCONNECTING PIPING AND FITTINGS INSIDE FIBERGLASS EQUIPMENT VAULT IS SCHEDULE 80 P.V.C.
5. INTERCONNECTING PIPING AND FITTINGS BETWEEN THE FEATURE AND FIBERGLASS EQUIPMENT VAULT IS SCHEDULE 80 P.V.C. OR COPPER AS SUITABLE FOR THE WORKING PRESSURE OF THE SYSTEM SPECIFICATION REQUIREMENTS AND LOCAL CODES. IF STEEL OR CAST IRON PIPING IS SPECIFIED, IT MUST HAVE HOT-DIPPED GALVANIZED OR COAL TAR EPOXY COATING. REFER TO PROJECT SPECIFICATIONS FOR EXCEPTIONS.
6. ALL PIPE CONNECTIONS BETWEEN DISSIMILAR METALS MUST BE MADE WITH DIELECTRIC FITTINGS AND DIELECTRIC THREAD SEALING COMPOUND TO PREVENT GALVANIC DEGRADATION.
7. SUCTION EYE OF PUMP MUST BE LOCATED BELOW FOUNTAIN FLOOR ELEVATION IF FLOODED-END-SUCTION TYPE, AND NOT MORE THAN 4' ABOVE FOUNTAIN FLOOR ELEVATION IF SELF-PRIMING TYPE. ALL REDUCING FITTINGS MUST BE CONCENTRIC TYPE ON DISCHARGE LINE AND ECCENTRIC TYPE ON SUCTION LINE..
8. SUCTION LINE MUST BE A STRAIGHT RUN INTO THE PUMP EYE OF AT LEAST 8 PIPE DIAMETERS WITH NO LOOPS, HIGH POINTS, OR TRAPS.
9. USE LONG RADIUS ELBOWS ON ALL DIRECTIONAL CHANGES ON SUCTION AND DISCHARGE LINES, IN SOME INSTANCES, PIPING DIAGRAMS ARE EXAGGERATED FOR PURPOSES OF CLARITY. MAKE ALL SUCTION AND DISCHARGE LINE USING THE MOST DIRECT ROUTES POSSIBLE AND USING THE MINIMUM NUMBER OF FITTINGS POSSIBLE. SLOPE ALL LINES DOWN TO PUMP, IN ALL CASES, WITH NO LOOPS, TRAPS, OR HIGH POINTS.
10. ON SUCTION LINES USE ONLY LUG TYPE BUTTERFLY VALVES, FULL-PORT, OR GATE TYPE VALVES. DO NOT REGULATE OR ADJUST FLOW FROM SUCTION SIDE OF PUMP. USE SUCTION VALVES FOR EQUIPMENT ISOLATION PURPOSES ONLY.
11. ON DISCHARGE LINES USE ONLY LUG TYPE BUTTERFLY, GLOBE, BALL, PLUG OR OTHER LOW LOSS INFINITELY ADJUSTABLE VALVES FOR ISOLATION AND FLOW REGULATION.
12. AN IN-LINE BASKET STRAINER IS RECOMMENDED ON THE SUCTION SIDE OF PUMPS, WITH BASKET PERFORATIONS PROPERLY SIZED TO PROTECT THE PUMP IMPELLER, AND FOUNTAIN NOZZLE/JET ORIFICES.
13. PROVIDE ADEQUATE OVERFLOW DRAIN AND FILL LINE CAPACITY FOR THE FOUNTAIN SYSTEM.
14. THE PIPING SYSTEM SHALL BE WATER PRESSURE TESTED FOR 24 HOURS PRIOR TO BACKFILLING AND SHALL THEN BE BURIED AND/OR SUPPORTED AS REQUIRED TO PROTECT THE INTEGRITY OF MECHANICAL SYSTEM. (REFER TO PVC INSTALLATION NOTES).
15. INSTALLING CONTRACTOR TO INSTALL THRUST BLOCKS AT ALL PIPING INTERSECTIONS ON SUBTERRANEAN PIPING RUNS.
16. INSTALLING CONTRACTOR IS RESPONSIBLE FOR ALL PIPE SUPPORTS AND HANGERS AS REQUIRED. ALL PIPING IN OPEN AREAS BELOW THE FOUNTAIN SHALL BE INSTALLED FREEHANGING FROM THE CEILING IN THE LEVEL BELOW WITH PIPE HANGERS PER LOCAL CODE AND SPECIFICATIONS.
17. INSTALLER SHALL PROVIDE ADEQUATE ACCESS, LIGHTING, DRAINAGE AND VENTILATION IN FIBERGLASS EQUIPMENT VAULT TO PREVENT FLOODING, CONDENSATION OR OVERHEATING OF EQUIPMENT, AND COMPLY WITH ALL OSHA CONFINED SPACE REGULATIONS AND REQUIREMENTS, BEFORE, DURING AND AFTER SYSTEM INSTALLATION.
18. ANY PRESSURIZED CITY WATER LINES SUPPLYING THE FOUNTAIN SYSTEM SHALL BE OF TYPE K COPPER AND SHALL BE PROTECTED BY AN APPROVED BACKFLOW PREVENTION DEVICE AND PRESSURE REDUCING VALVE. SET AT 50 PSI MAXIMUM PRESSURE AND MINIMUM OF 40 PSI.
19. THE INCOMING WATER SUPPLY LINE PRESSURE MUST NOT EXCEED 50 PSI AND IS PART OF THE BUILDING CONTRACT, NOT THE FOUNTAIN.
20. 'P' TRAPS AND VENTS SHALL BE INSTALLED ON ANY DRAIN LINE CONNECTED TO A SANITARY SEWER SYSTEM, WHERE AND WHEN REQUIRED BY PLUMBING CODE, REGARDLESS OF WHETHER SHOWN ON INSTALLATION DRAWINGS.
21. SOIL COMPACTION AROUND SUBTERRANEAN PIPING TO BE COMPACTED IN 6" LIFTS.
22. ALL PIPING TO HAVE MINIMUM 2% SLOPE DOWN FROM FOUNTAIN TO FIBERGLASS EQUIPMENT VAULT/FIBERGLASS EQUIPMENT VAULT UNLESS OTHERWISE SPECIFIED ON THE CONTRACT DOCUMENTS.
23. PRESSURE TESTING ON ALL PIPE RUNS BETWEEN THE PUMPING EQUIPMENT AND THE FOUNTAIN BASIN SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR AFTER "ROUGH-IN" (PIPES INSTALLED AND STUBBED UP) ARE COMPLETE AND AGAIN BEFORE ANY CONCRETE IS POURED. IT IS RECOMMEND TO MAINTAIN ALL PIPING UNDER PRESSURE DURING THE CONSTRUCTION PHASE TO DETECT ANY DAMAGE EARLY ON. ALL TESTS SHALL USE WATER, NOT AIR FOR PRESSURE TESTING.
24. ALL PENETRATIONS THROUGH OUTSIDE WALLS TO BELOW GRADE SHALL BE SEALED PER BUILDING SPECIFICATIONS. USING "EASY-LINK SEALS" IS RECOMMENDED.
25. ALL PIPING PENETRATIONS THROUGH STRUCTURE WALLS INTO OPEN AREAS BELOW FOUNTAIN STRUCTURE MUST HAVE ALLOWANCES MADE FOR SETTLEMENT.
26. PRESSURE TESTING ON ALL PIPE RUNS BETWEEN THE PUMPING EQUIPMENT AND THE FOUNTAIN BASIN SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR AFTER "ROUGH-IN" (PIPES INSTALLED AND STUBBED UP) ARE COMPLETE AND AGAIN BEFORE ANY CONCRETE IS POURED. IT IS RECOMMEND TO MAINTAIN ALL PIPING UNDER PRESSURE DURING THE CONSTRUCTION PHASE TO DETECT ANY DAMAGE EARLY ON. ALL TESTS SHALL USE WATER, NOT AIR FOR PRESSURE TESTING.
27. ALL PIPING IS ASSUMED TO BE BURIED BELOW GROUND IN ALL CASES, AND NOT INSTALLED ON OR ABOVE GRADE WHERE AN AIR TRAP, LOOP, OR HIGHPOINT COULD BE CREATED.
28. CONTRACTOR SHALL OBTAIN ALL NECESSARY INSTALLATION PERMITS AND INSPECTIONS.
29. ALL WELDED PVC FITTINGS ABOVE 6" DIAMETER SHALL BE FIBERGLASS REINFORCED AND USED ONLY ON NON-PRESSURIZED LINES.



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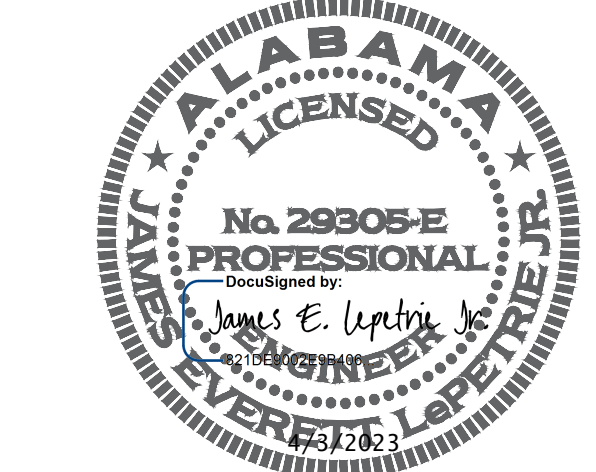
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CONSTRUCTION DOCUMENTS



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REVISIONS:

Table with columns for DATE, NAME, and SCALE. Includes entries for APRIL 05, 2023 and KRC.

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NOTES

F4.21



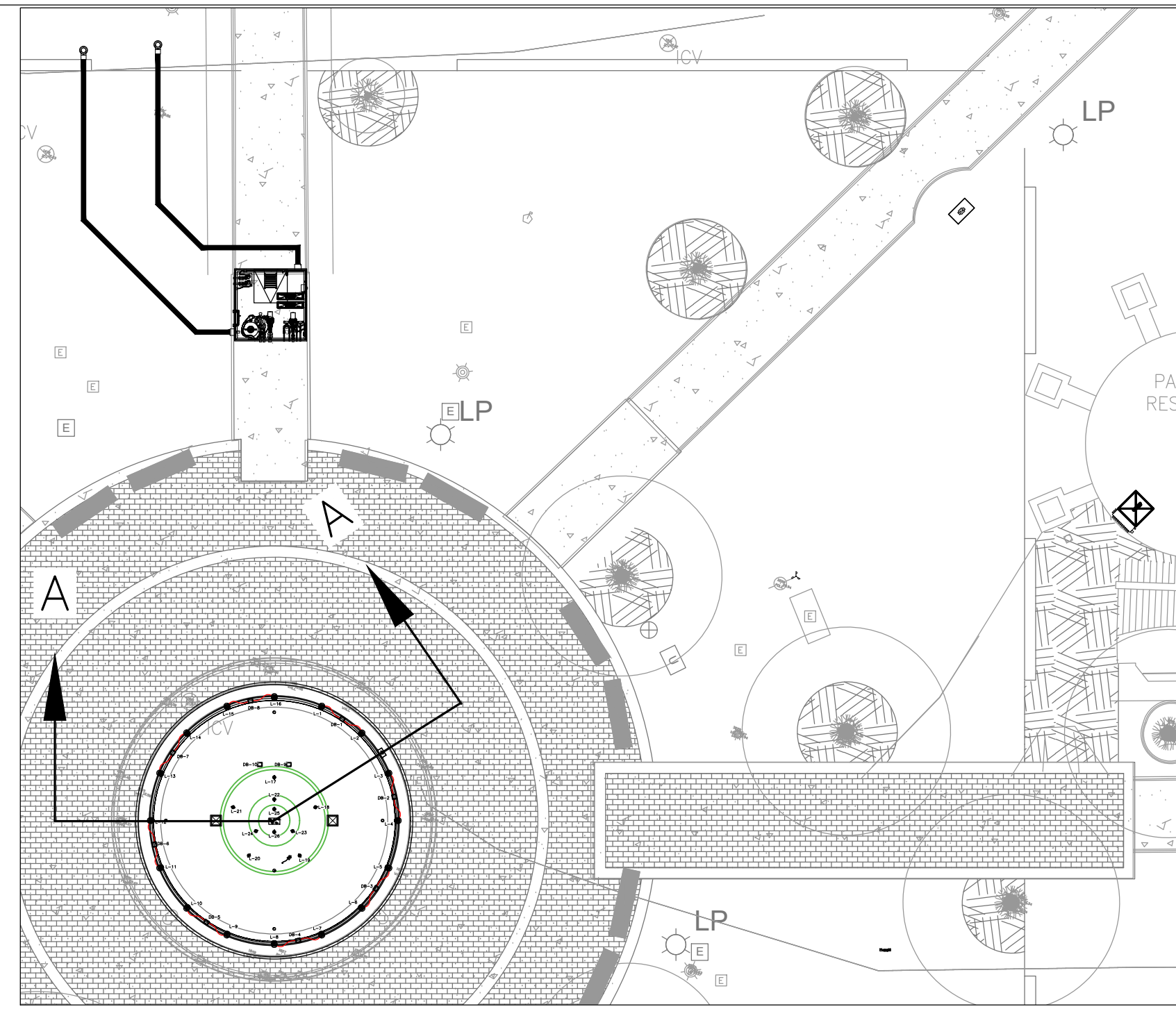
**NOTE:**  
PIPE AND CONDUIT ROUTING IS DIAGRAMMATIC AND IN SOME INSTANCES EXAGGERATED FOR CLARITY. REFER TO FOUNTAIN GENERAL NOTES, SHEET F4.21 FOR FURTHER INSTRUCTIONS AND INFORMATION.

**NOTE:**  
REFER TO FOUNTAIN STRUCTURAL DETAILS AND ARCHITECTURAL/HARDSCAPE PLANS FOR CONSTRUCTION INFORMATION, INCLUDING SLOPES, ELEVATIONS, FINISHES, FINAL EQUIPMENT LOCATIONS ETC. THAT ARE NOT SHOWN ON THESE PLANS.

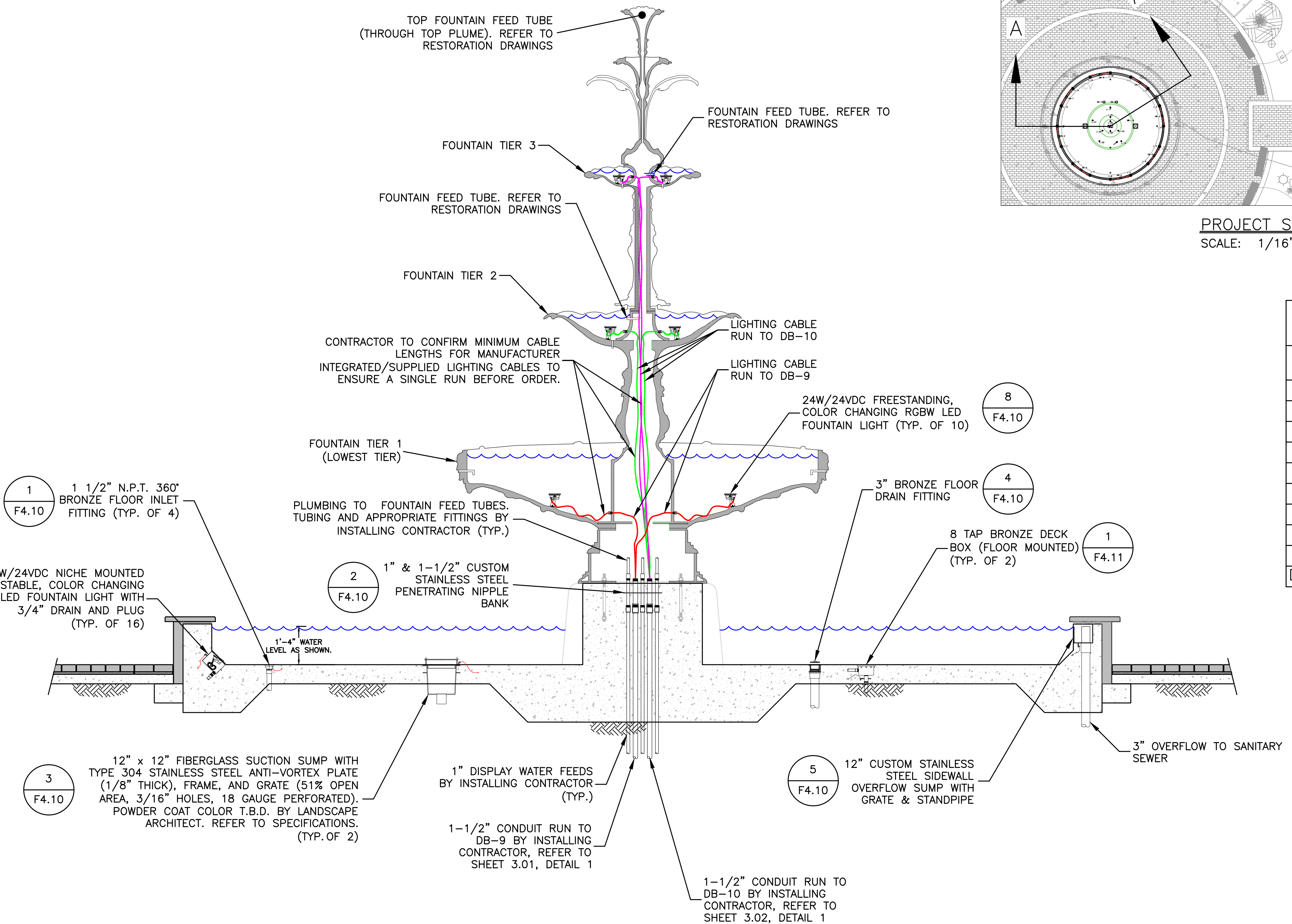
**NOTE:**  
NOT SHOWN FOR CLARITY:  
• TRANSDUCER STYLE WATER LEVEL SENSOR  
• 8 TAP UNDERWATER DECK BOX (WALL MOUNTED)

**NOTE:**  
• REFER TO SHEET F3.00 FOR ELECTRICAL SCHEMATIC.  
• REFER TO SHEET F3.01 AND F3.02 FOR DECK BOX WIRING SCHEMATIC.  
• REFER TO SHEET F3.03 FOR BONDING WIRING SCHEMATIC

**NOTE:**  
REFER TO RESTORATION DRAWINGS FOR ORIGINAL ANNOTATIONS AND DETAILS.



**PROJECT SITE PLAN**  
SCALE: 1/16" = 1'-0"



DECK BOX SCHEDULE	
TAG #	DESCRIPTION
DB-1	L1-L2
DB-2	L3-L4
DB-3	L5-L6
DB-4	L7-L8
DB-5	L9-L10
DB-6	L11-L12
DB-7	L13-L14
DB-8	L15-L16
DB-9	L17-L21
DB-10	L22-L26

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MOBILE, ALABAMA

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ENLARGED PLANS AND SECTIONS

F5.00

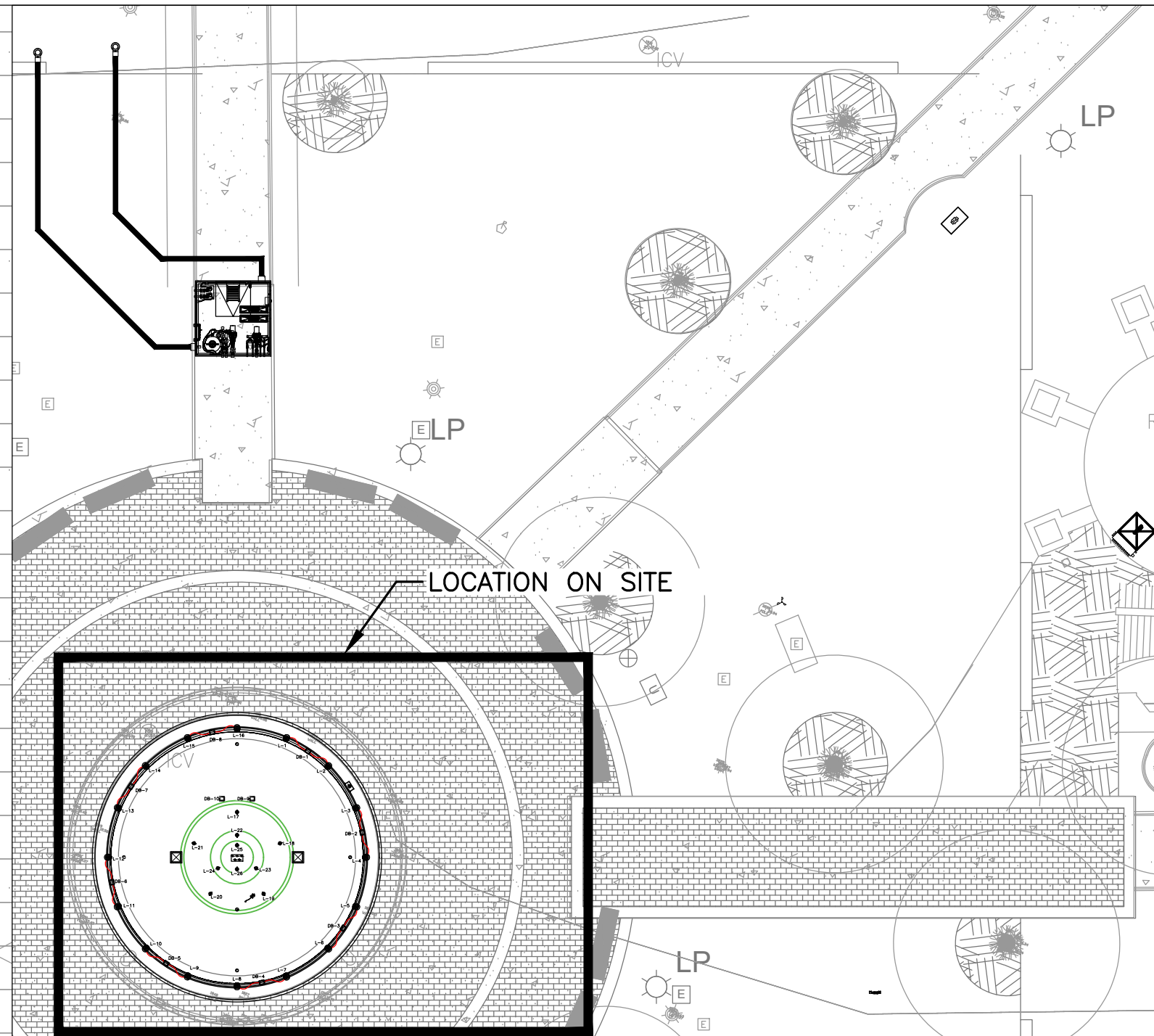
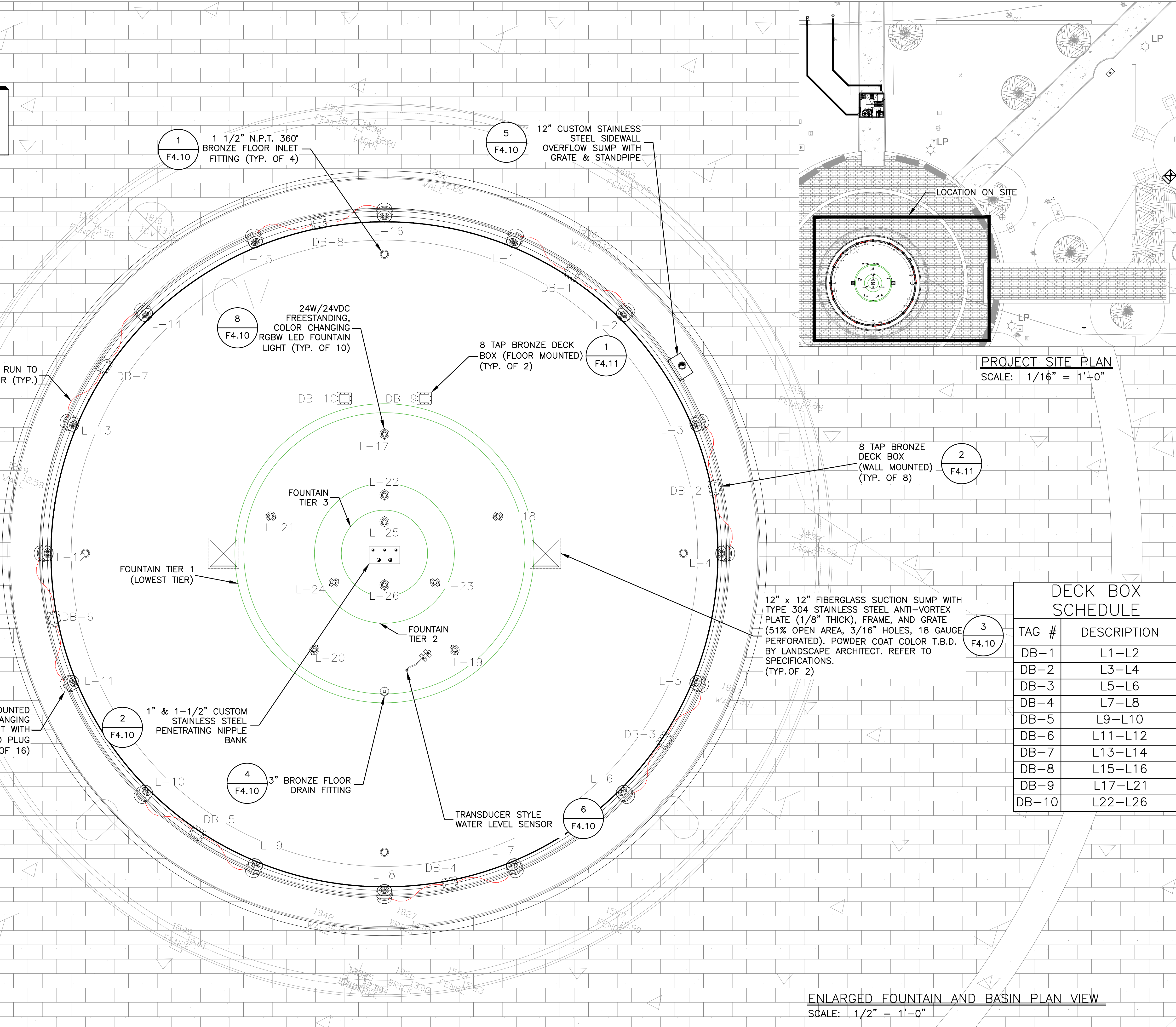
**SECTION A-A - FOUNTAIN AND BASIN NORTH SECTION VIEW**  
SCALE: 1/2" = 1'-0"

**NOTE:**  
PIPE AND CONDUIT ROUTING IS DIAGRAMMATIC AND IN SOME INSTANCES EXAGGERATED FOR CLARITY. REFER TO FOUNTAIN GENERAL NOTES, SHEET F4.21 FOR FURTHER INSTRUCTIONS AND INFORMATION.

**NOTE:**  
REFER TO FOUNTAIN STRUCTURAL DETAILS AND ARCHITECTURAL/HARDSCAPE PLANS FOR CONSTRUCTION INFORMATION, INCLUDING SLOPES, ELEVATIONS, FINISHES, FINAL EQUIPMENT LOCATIONS ETC. THAT ARE NOT SHOWN ON THESE PLANS.

**NOTE:**  
• REFER TO SHEET F3.00 FOR ELECTRICAL SCHEMATIC.  
• REFER TO SHEET F3.01 AND F3.02 FOR DECK BOX WIRING SCHEMATIC.  
• REFER TO SHEET F3.03 FOR BONDING WIRING SCHEMATIC

**NOTE:**  
REFER TO RESTORATION DRAWINGS FOR ORIGINAL ANNOTATIONS AND DETAILS.



**PROJECT SITE PLAN**  
SCALE: 1/16" = 1'-0"

12" x 12" FIBERGLASS SUCTION SUMP WITH TYPE 304 STAINLESS STEEL ANTI-VORTEX PLATE (1/8" THICK), FRAME, AND GRATE (51% OPEN AREA, 3/16" HOLES, 18 GAUGE PERFORATED). POWDER COAT COLOR T.B.D. BY LANDSCAPE ARCHITECT. REFER TO SPECIFICATIONS. (TYP. OF 2)

DECK BOX SCHEDULE	
TAG #	DESCRIPTION
DB-1	L1-L2
DB-2	L3-L4
DB-3	L5-L6
DB-4	L7-L8
DB-5	L9-L10
DB-6	L11-L12
DB-7	L13-L14
DB-8	L15-L16
DB-9	L17-L21
DB-10	L22-L26

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**ENLARGED PLANS AND SECTIONS**

F5.01

**ENLARGED FOUNTAIN AND BASIN PLAN VIEW**  
SCALE: 1/2" = 1'-0"

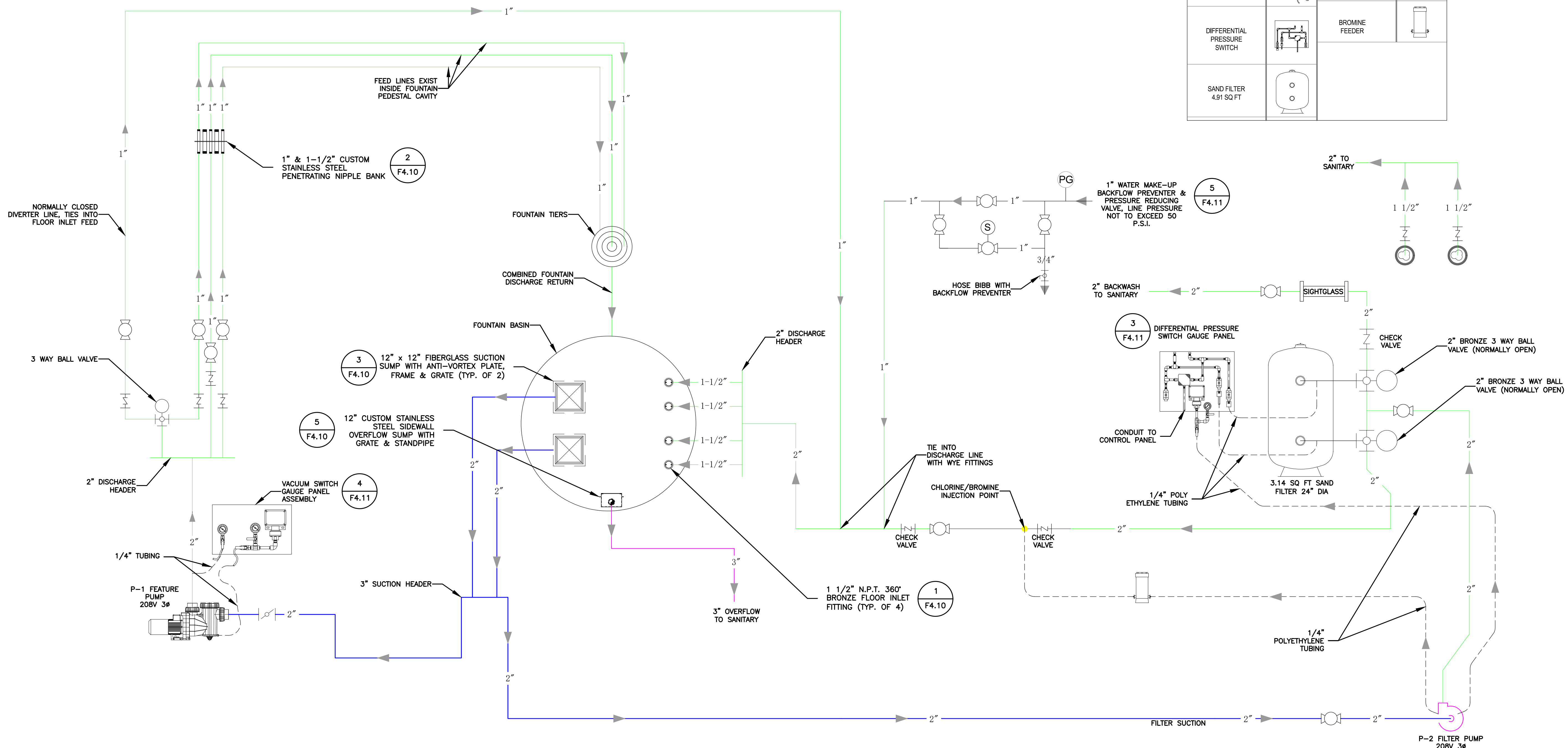
**NOTE:**  
PIPE AND CONDUIT ROUTING IS DIAGRAMMATIC AND IN SOME INSTANCES EXAGGERATED FOR CLARITY. REFER TO FOUNTAIN GENERAL NOTES, SHEET F4.21 FOR FURTHER INSTRUCTIONS AND INFORMATION.

**NOTE:**  
REFER TO FOUNTAIN STRUCTURAL DETAILS AND ARCHITECTURAL/HARDSCAPE PLANS FOR CONSTRUCTION INFORMATION, INCLUDING SLOPES, ELEVATIONS, FINISHES, FINAL EQUIPMENT LOCATIONS ETC. THAT ARE NOT SHOWN ON THESE PLANS.

**OUTFALL NOTE:**  
REFER TO CIVIL DRAWINGS FOR CONNECTIONS. OUTFALL TO COMPLY WITH ALL LOCAL CODES. OUTFALLS MAY REQUIRE AIR GAP, CIVIL TO VERIFY.

**NOTE:**  
ALL DISCHARGE, SUCTION, DRAIN, AND VENT PIPING SHALL BE N.S.F. CERTIFIED, SCHEDULE 80 PVC

SYMBOL KEY		LEGEND	
SYMBOL DESCRIPTION	SYMBOL	SYMBOL DESCRIPTION	SYMBOL
BALL VALVE		PRESSURE GAUGE	
BUTTERFLY VALVE		FLOW SWITCH	
CHECK VALVE		EYEBALL FITTING	
REDUCER		SOLENOID VALVE	
3 WAY BALL VALVE		SIGHTGLASS	
WATER FLOW ARROW		FLOOR INLET	
FILTER PUMP		SIDEWALL OVERFLOW	
FEATURE PUMP		CUSTOM PENETRATION NIPPLE BANK	
SUMP PUMP		SUCTION SUMP	
VACUUM SWITCH		BROMINE FEEDER	
DIFFERENTIAL PRESSURE SWITCH		SAND FILTER 4.91 SQ FT	

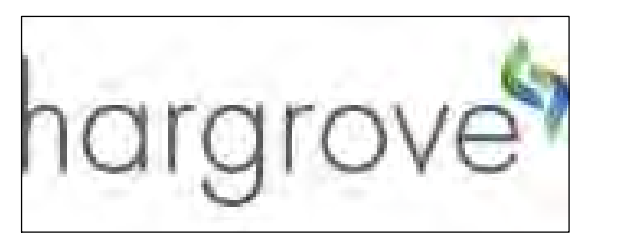


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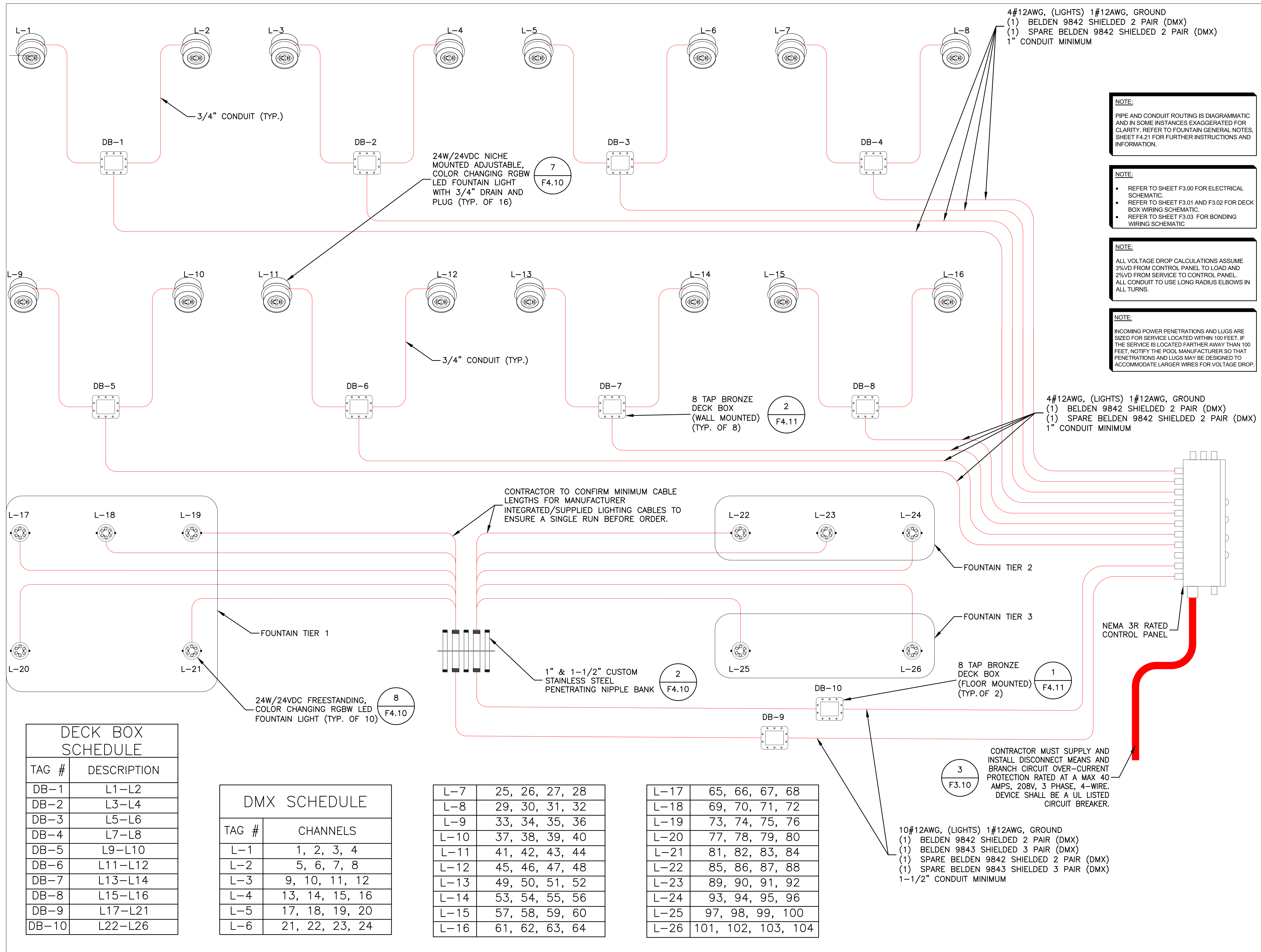
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FEATURE FLOW DIAGRAM

F5.02

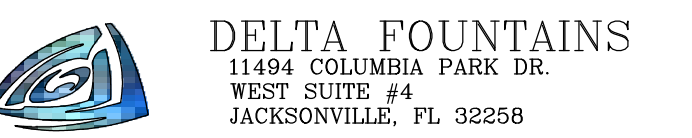


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## FEATURE LIGHTING ELECTRICAL DIAGRAM

# F5.03

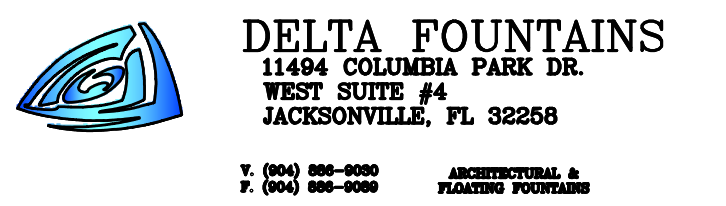
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**FOUNTAIN & SITE AMENITIES  
IMPROVEMENTS - PR-021-22**

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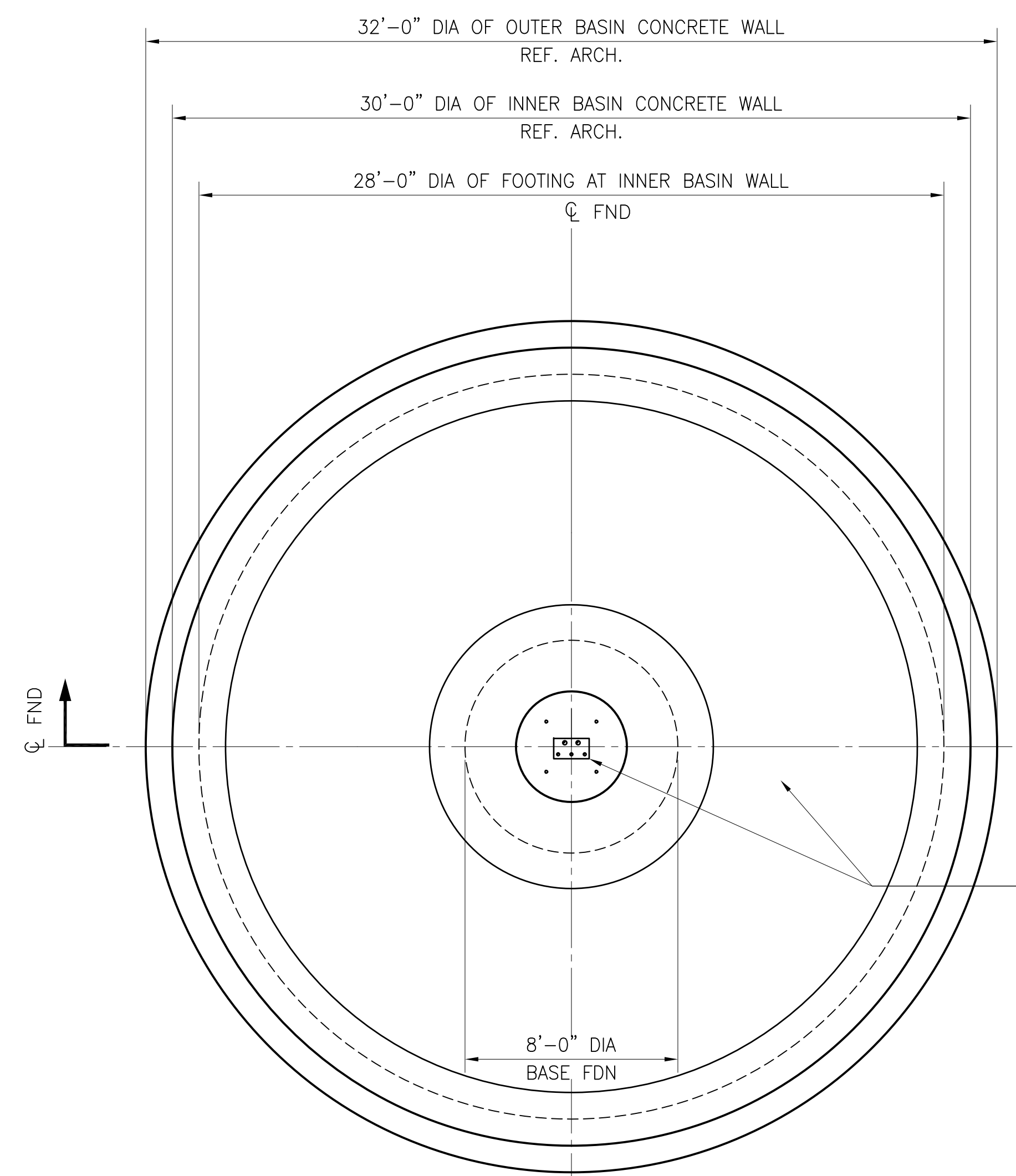
DATE: APRIL 5, 2023  
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SCALE: \_\_\_\_\_

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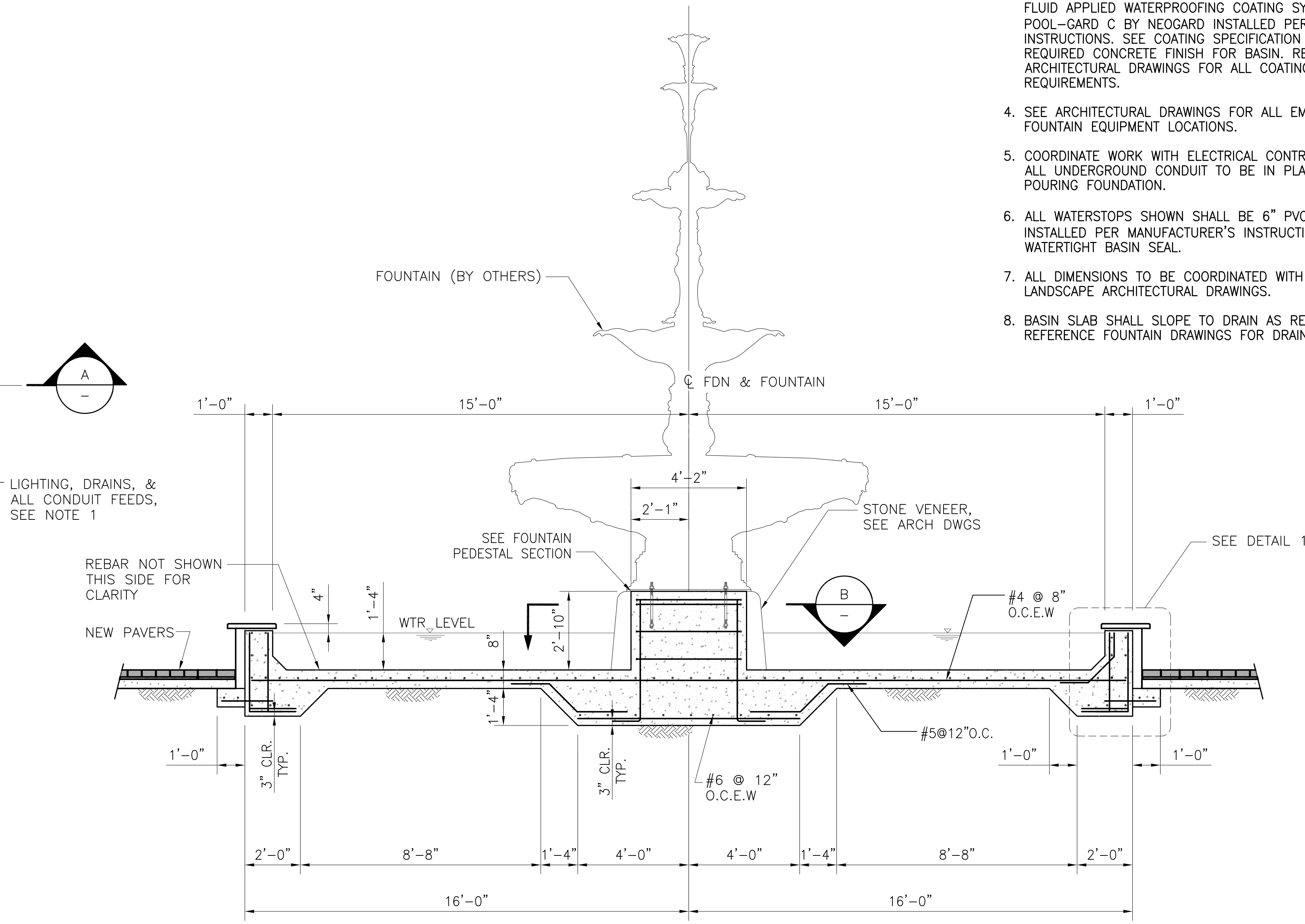
**FOUNTAIN FDN  
PLAN, SECTIONS  
AND DETAILS**  
**S1.01**

**NOTES:**

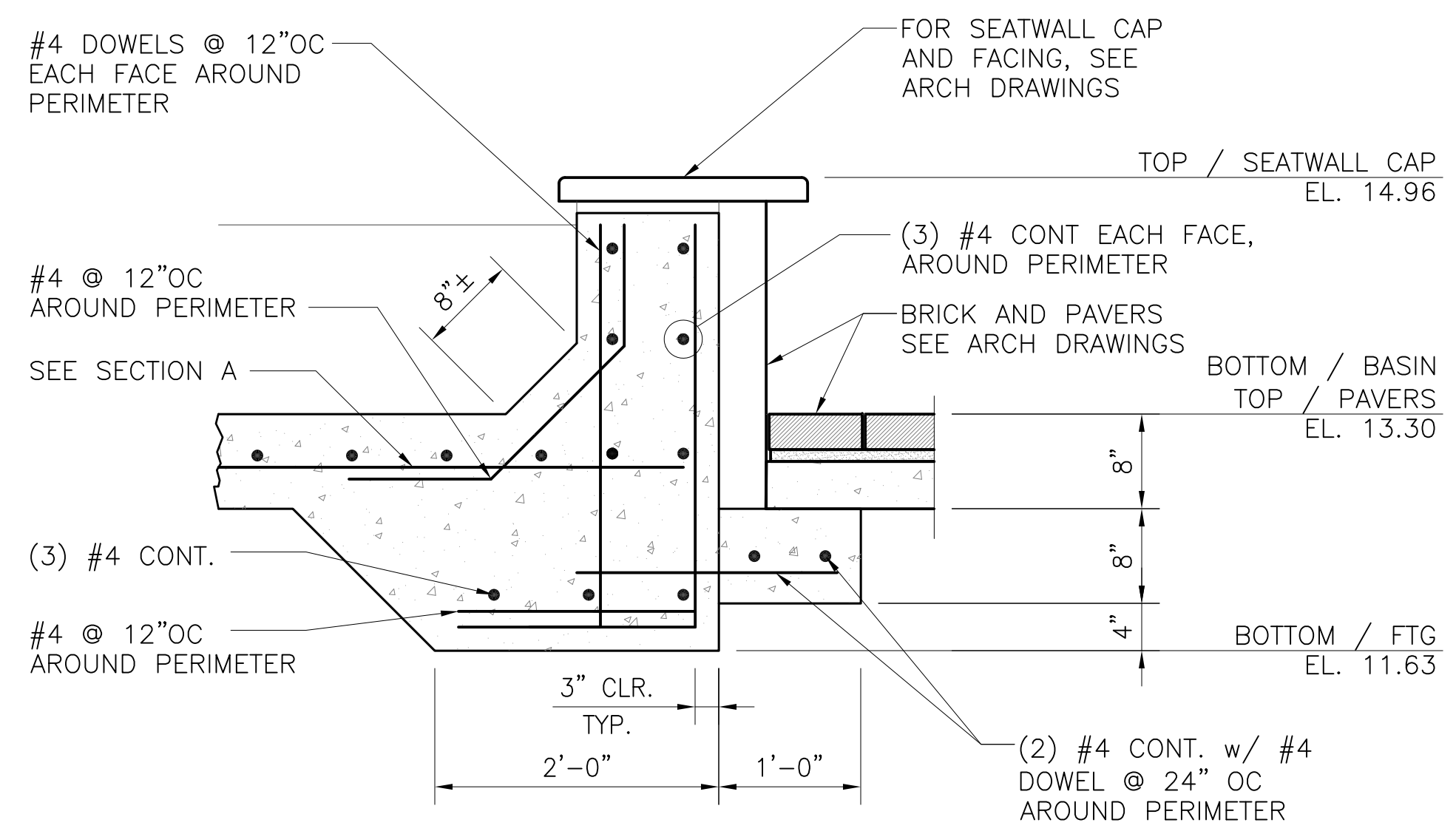
1. WORK THIS DRAWING WITH CARBO LANDSCAPE ARCHITECTURAL & DELTA FOUNTAINS DRAWINGS SHOWING ALL ELECTRICAL, LIGHTING AND OTHER FOUNTAIN AMENITIES.
2. ALL CONCRETE SHALL BE 4000 PSI WITH XYPEX ADMIX UNLESS NOTED OTHERWISE.
3. WET SURFACES OF CONCRETE BASIN SHALL RECEIVE FLUID APPLIED WATERPROOFING COATING SYSTEM POOL-GARD C BY NEOGARD INSTALLED PER MFGR'S INSTRUCTIONS. SEE COATING SPECIFICATION FOR REQUIRED CONCRETE FINISH FOR BASIN. REFERENCE ARCHITECTURAL DRAWINGS FOR ALL COATING REQUIREMENTS.
4. SEE ARCHITECTURAL DRAWINGS FOR ALL EMBEDDED FOUNTAIN EQUIPMENT LOCATIONS.
5. COORDINATE WORK WITH ELECTRICAL CONTRACTOR FOR ALL UNDERGROUND CONDUIT TO BE IN PLACE PRIOR TO POURING FOUNDATION.
6. ALL WATERSTOPS SHOWN SHALL BE 6" PVC AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS FOR WATERTIGHT BASIN SEAL.
7. ALL DIMENSIONS TO BE COORDINATED WITH THE CARBO LANDSCAPE ARCHITECTURAL DRAWINGS.
8. BASIN SLAB SHALL SLOPE TO DRAIN AS REQUIRED. REFERENCE FOUNTAIN DRAWINGS FOR DRAIN LOCATION.



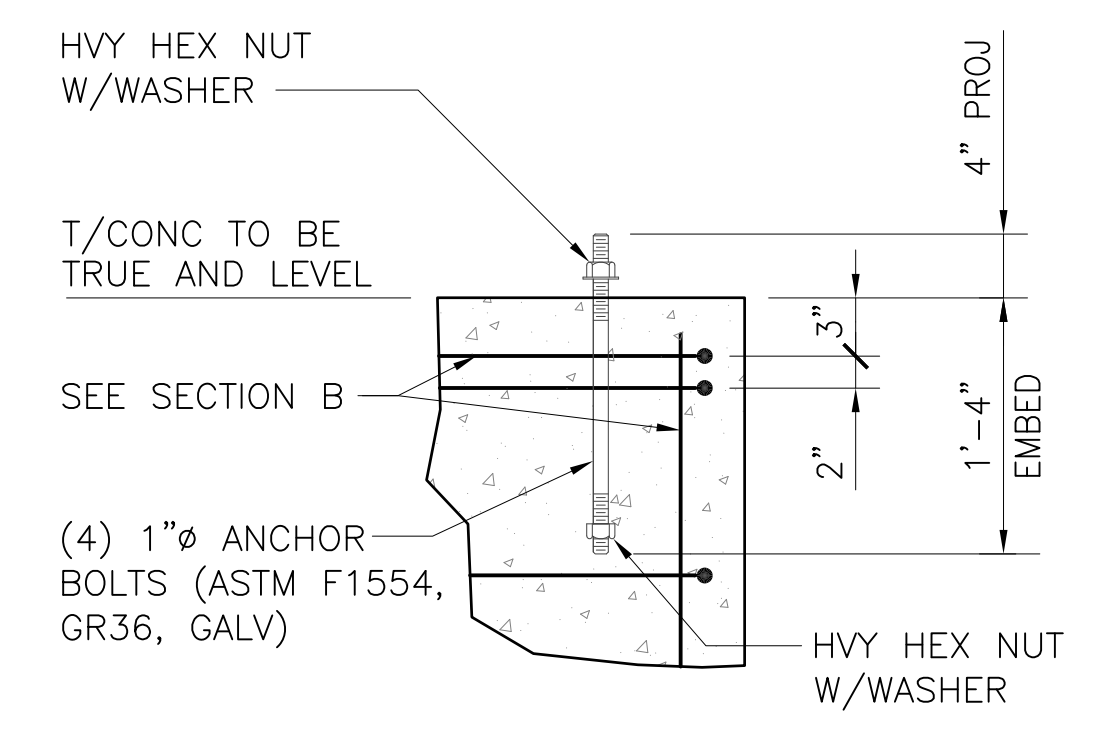
**FOUNTAIN FOUNDATION PLAN**  
SCALE: 1/4"=1'-0"



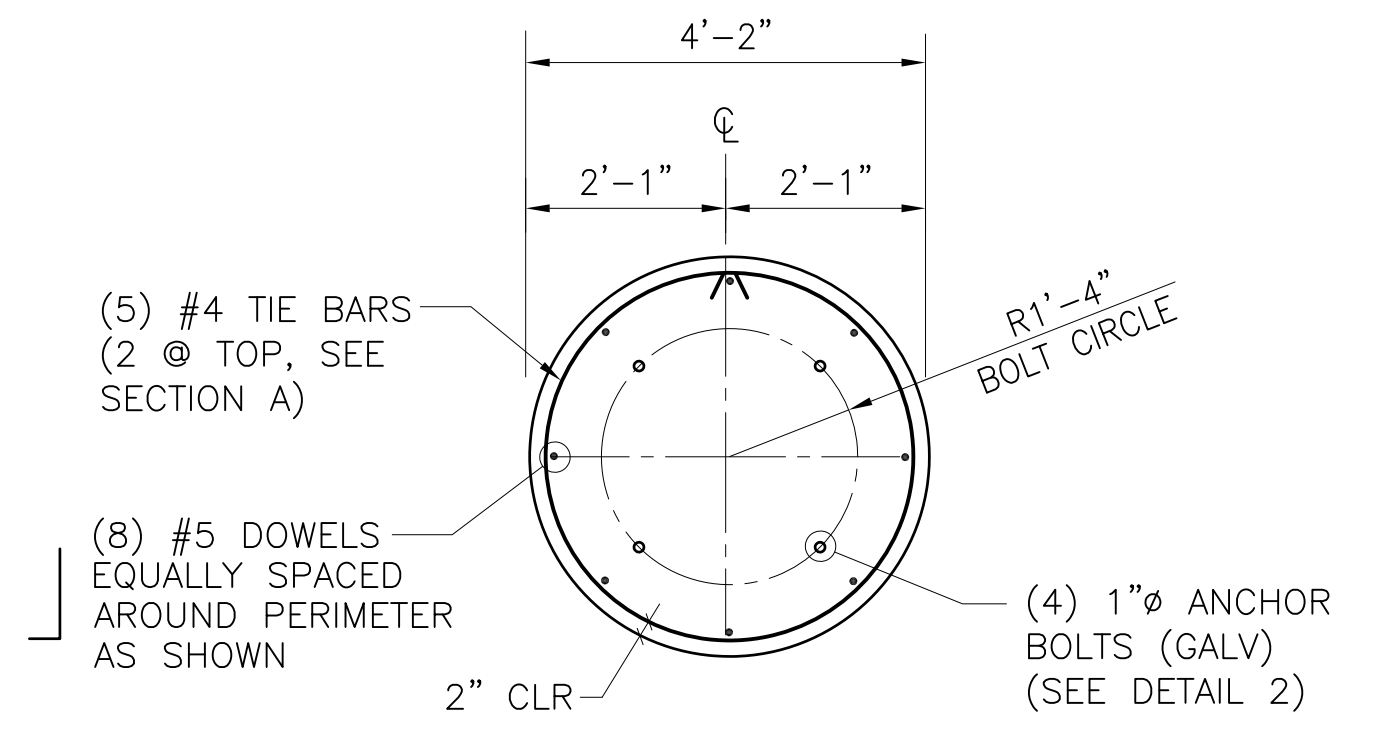
**FOUNTAIN FOUNDATION SECTION**  
SCALE: 3/8"=1'-0"



**SEATWALL DETAIL**  
SCALE: 1"=1'-0"



**ANCHOR BOLT DETAIL**  
SCALE: 1"=1'-0"



**FOUNTAIN PEDESTAL SECTION**  
SCALE: 1/2"=1'-0"  
NOTE: ANCHOR RODS SHALL BE PLACED USING TEMPLATE MATCHING FOUNTAIN BASE PLATE.

**BIENVILLE SQUARE**

**FOUNTAIN & SITE AMENITIES  
IMPROVEMENTS - PR-021-22**

MOBILE, ALABAMA

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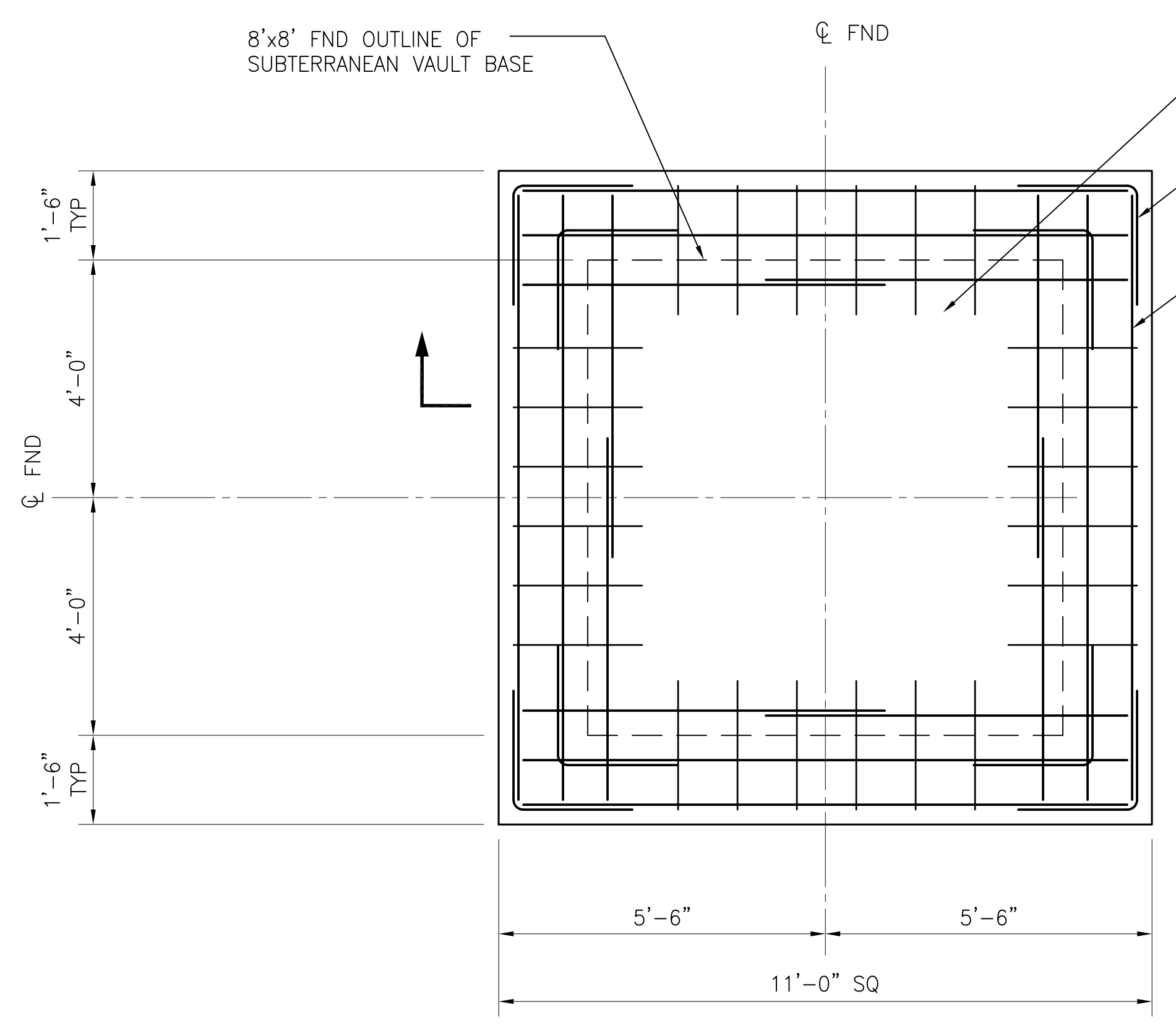
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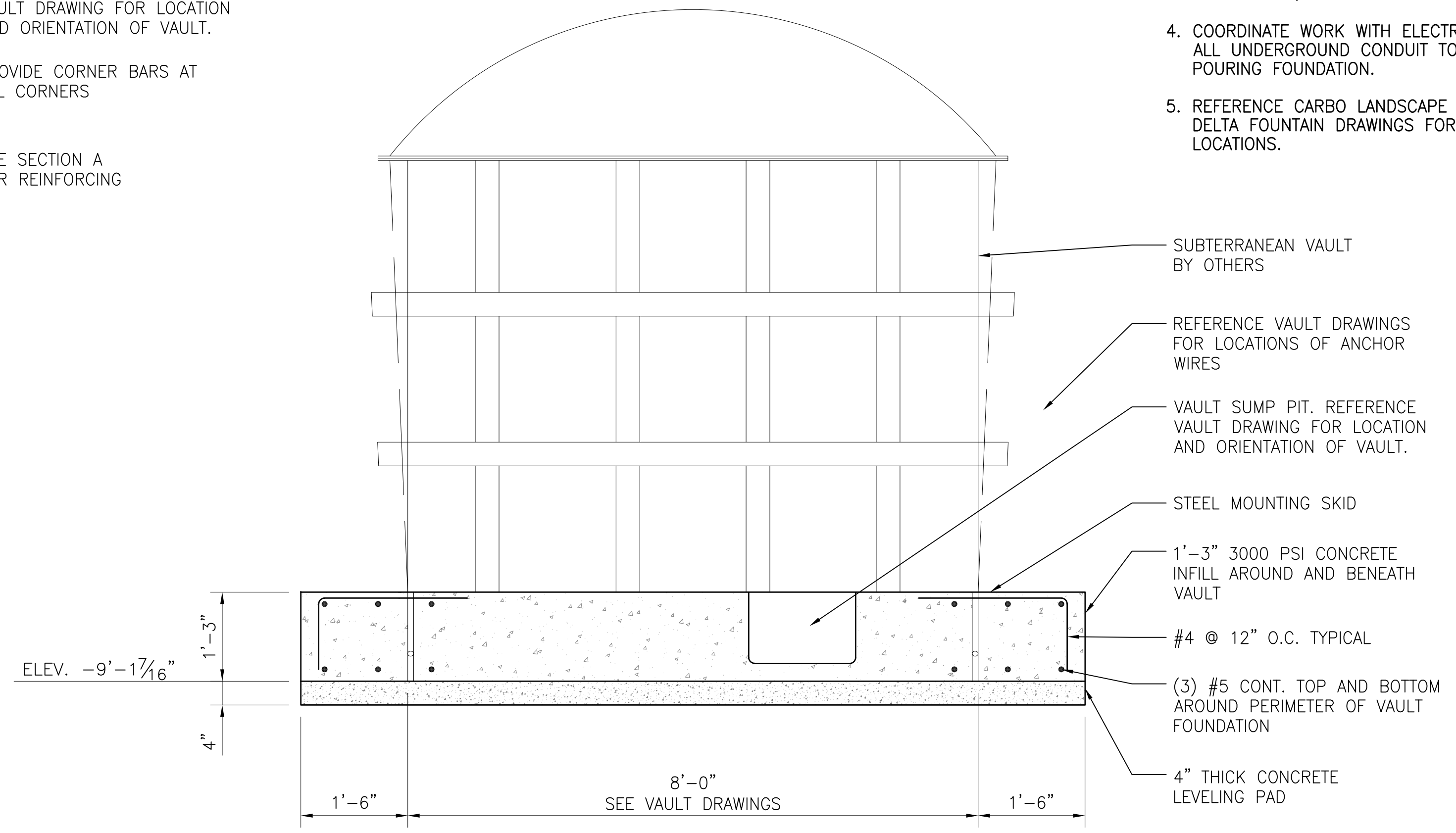
**EQUIPMENT VAULT  
FDN PLAN AND  
SECTIONS  
S1.02**

**NOTES:**

1. REFERENCE VAULT INSTALLATION NOTES ON F4.21.
2. WORK THIS DRAWING WITH CARBO LANDSCAPE ARCHITECTURAL & DELTA FOUNTAINS DRAWINGS SHOWING ALL ELECTRICAL, LIGHTING AND OTHER FOUNTAIN AMENITIES.
3. SEE ARCHITECTURAL DRAWINGS FOR ALL EMBEDDED FOUNTAIN EQUIPMENT.
4. COORDINATE WORK WITH ELECTRICAL CONTRACTOR FOR ALL UNDERGROUND CONDUIT TO BE IN PLACE PRIOR TO POURING FOUNDATION.
5. REFERENCE CARBO LANDSCAPE ARCHITECTURAL AND DELTA FOUNTAIN DRAWINGS FOR EQUIPMENT VAULT LOCATIONS.



**EQUIPMENT VAULT FOUNDATION PLAN**  
SCALE: 1/2"=1'-0"



**EQUIPMENT VAULT SECTION**  
SCALE: 3/4"=1'-0"

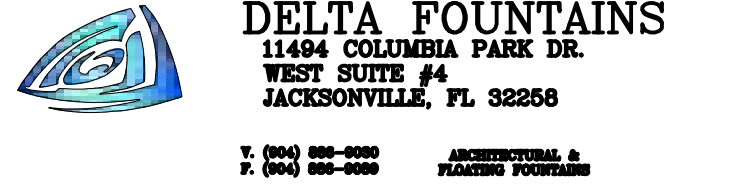


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**FOUNTAIN & SITE AMENITIES**  
**IMPROVEMENTS - PR-021-22**

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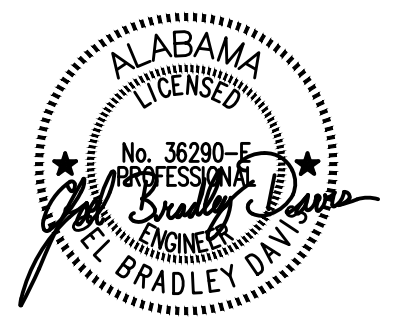
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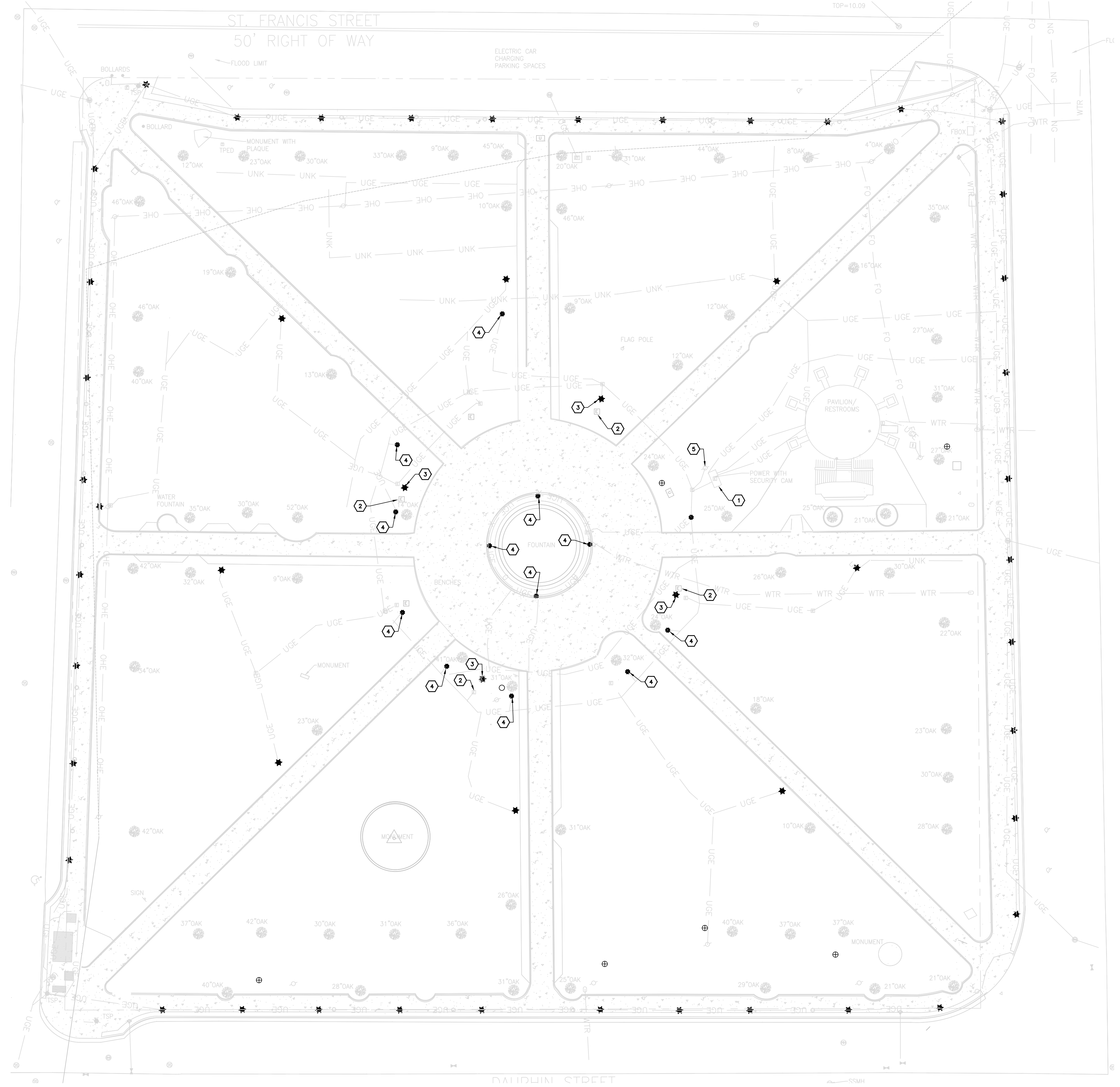
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E2.0



- 1 EXISTING LOCATION ELECTRICAL SERVICE ENCLOSURE CONTAINING EXISTING ELECTRICAL PANEL "WP" AND "A". REFER TO ELECTRICAL RISER DIAGRAM SHEET E1. ELECTRICAL SERVICE ENCLOSURE TO BE RELOCATED TO NEW LOCATION SHOWN ON SHEET E3. KEYNOTE #1. ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR RELOCATING EXISTING ENCLOSURE. RELOCATING ALL EXISTING SERVICE CONDUIT, ALL EXISTING LOAD SIDE FEEDERS, BRANCH CIRCUITS AND SERVICE GROUND. CONTRACTOR TO PROVIDE CONCRETE PAD FOR ENCLOSURE.
- 2 EXISTING LOCATION OF EXISTING ELECTRICAL ENCLOSURE WITH EXTERIOR MOUNTED DUPLEX RECEPTACLES. ELECTRICAL CONTRACTOR TO RELOCATE ALL EXISTING ELECTRICAL ENCLOSURES, ALL FEEDER AND BRANCH CIRCUIT TO NEW LOCATION SHOWN ON SHEET E3 KEYNOTE #30. MATCH.
- 3 EXISTING LIGHT POLE AND LIGHT FIXTURE TO BE REMOVED. PROVIDE IN-GRADE J-BOX TO SPLICE EXISTING WIRING SO THAT POWER TO EXISTING LIGHTS ON SAME CIRCUIT ARE NOT AFFECTED BY REMOVAL OF LIGHT FIXTURE. EXISTING LIGHT POLE AND LIGHT FIXTURE TO BE GIVEN TO CITY ELECTRICAL DEPARTMENT. COORDINATE WITH CITY ELECTRICAL DEPARTMENT.
- 4 EXISTING GROUND MOUNTED FLOOD LIGHT FIXTURE TO BE REMOVED. PROVIDE IN-GRADE J-BOX TO SPLICE EXISTING WIRING SO THAT POWER TO EXISTING LIGHTS ON SAME CIRCUIT ARE NOT AFFECTED BY REMOVAL OF LIGHT FIXTURE. IF FIELD VERIFIED AND NO EXISTING LIGHT FIXTURE TO REMAIN ARE POWERED FROM FLOOD LIGHT CIRCUIT, THEN CIRCUIT CAN BE REMOVED. EXISTING GROUND MOUNTED LIGHT FIXTURE TO BE GIVEN TO CITY ELECTRICAL DEPARTMENT. COORDINATE WITH CITY ELECTRICAL DEPARTMENT.
- 5 EXISTING POLE WITH SECURITY CAMERA TO BE RELOCATED. CONTRACTOR TO FIELD VERIFY NEW LOCATION OF EXISTING POLE AND SECURITY CAMERA WITH PROJECT ARCHITECT AND CITY OF MOBILE. CONTRACTOR WILL BE RESPONSIBLE FOR RELOCATING ANY EXISTING ELECTRICAL FROM EXISTING LOCATION TO NEW POLE AND SECURITY CAMERA LOCATION.

**ELECTRICAL EXISTING SITE PLAN (DEMO)**  
 SCALE: 1" = 20'-0"



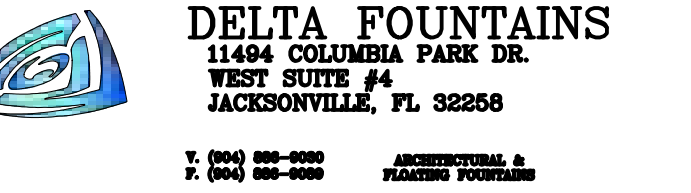
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FOUNTAIN & SITE AMENITIES  
IMPROVEMENTS - PR-021-22

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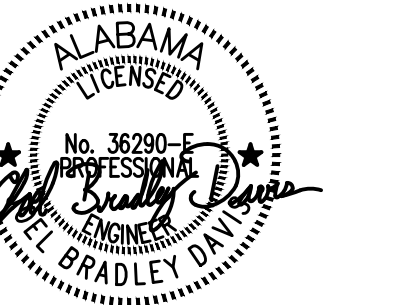
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And Associates



CONSTRUCTION DOCUMENTS

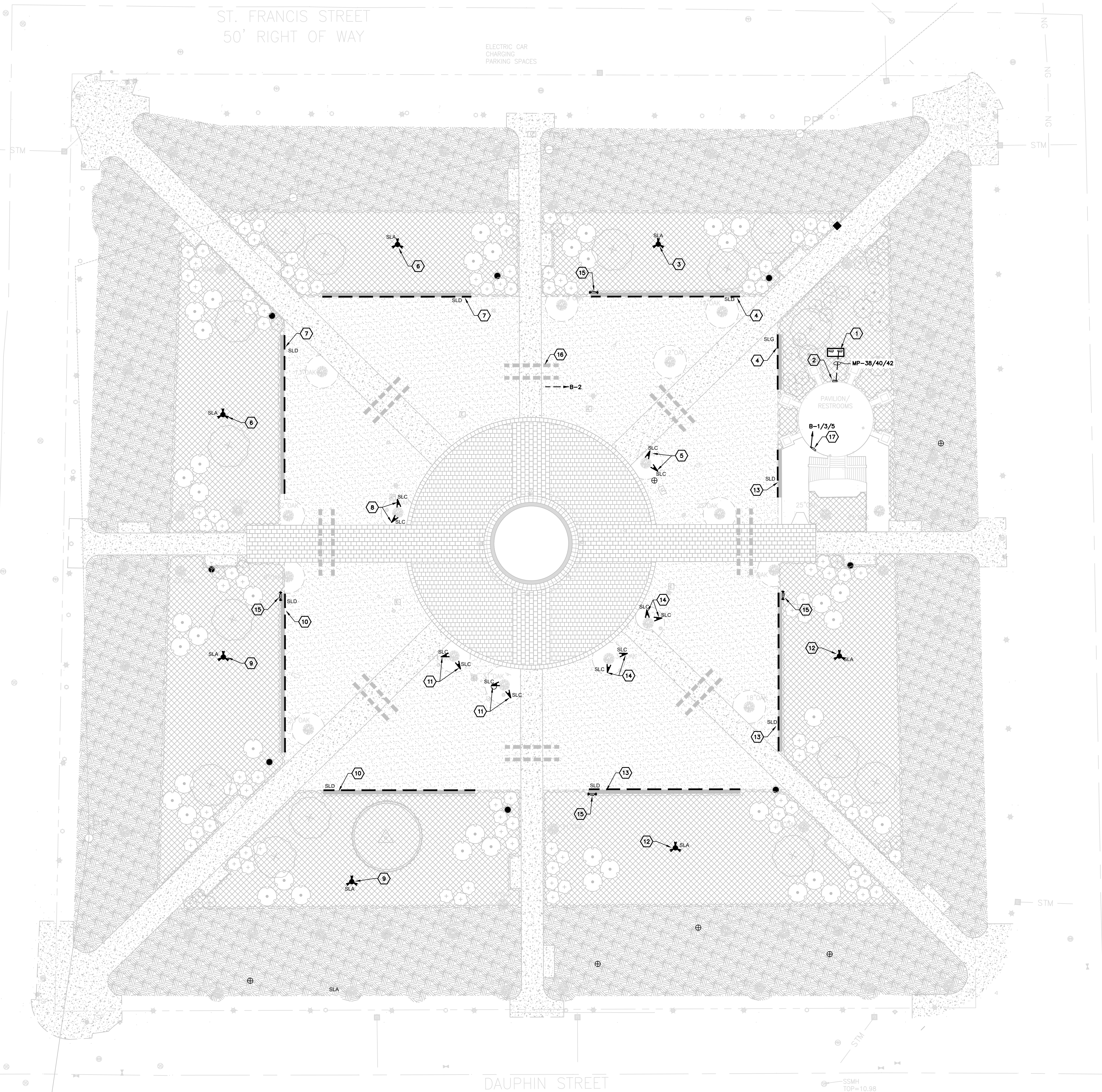


REVISIONS:

#	DATE	NAME

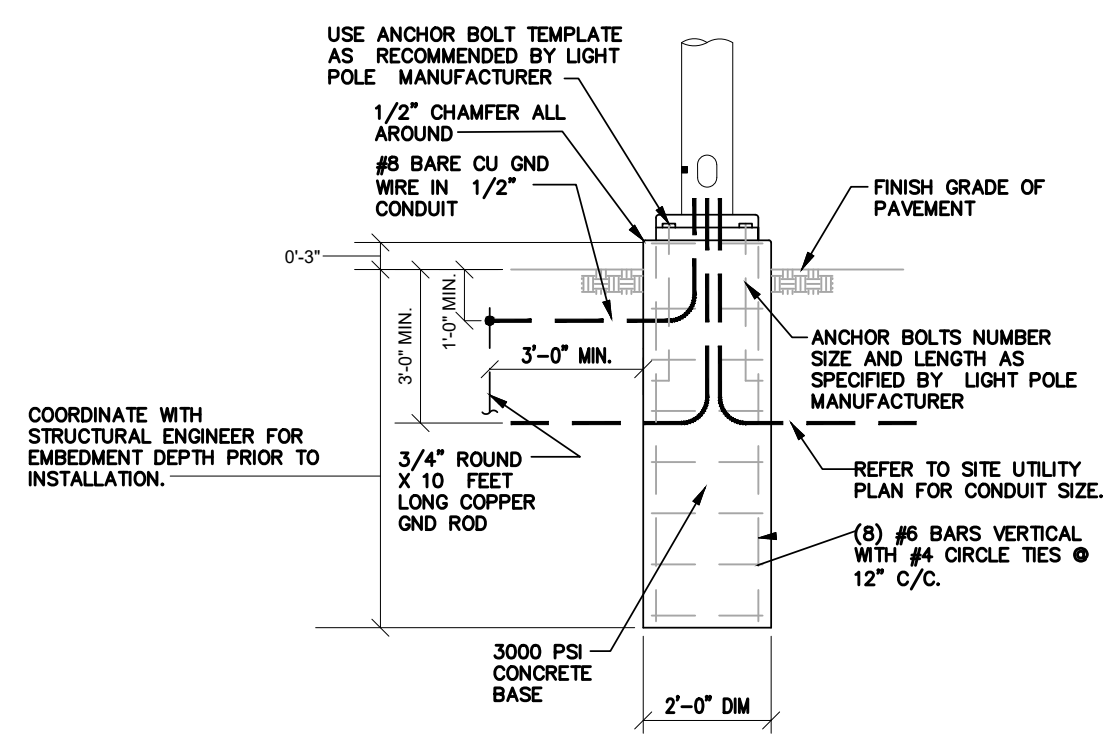
DATE: APRIL 05, 2023  
DRAWN BY: AA  
CHECKED BY: SB  
SCALE: \_\_\_\_\_

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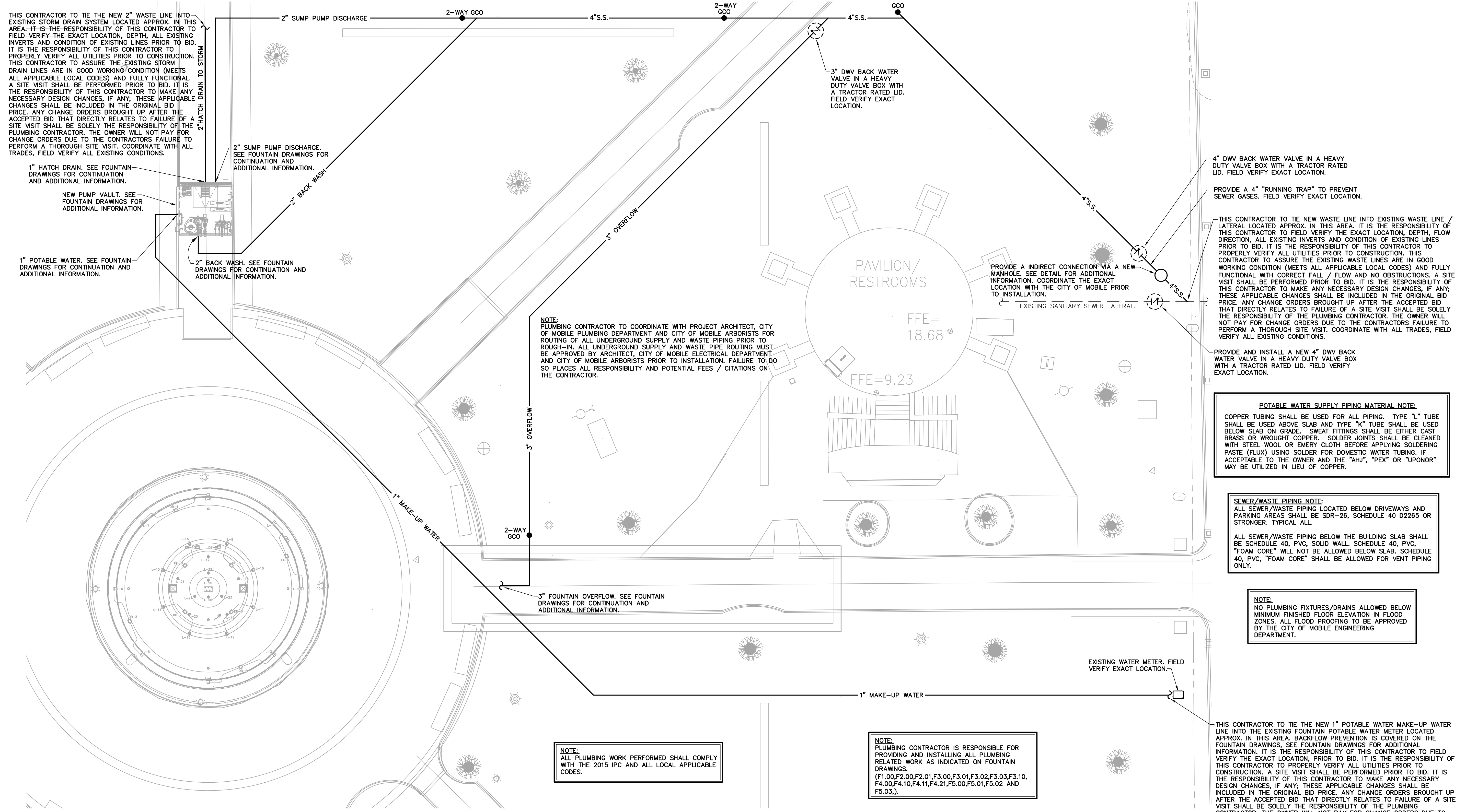
- 1 NEW LOCATION OF EXISTING ELECTRICAL SERVICE ENCLOSURE.
- 2 LOCATION OF NEW SUB-PANEL "B". FIELD VERIFY FINAL LOCATION WITH PROJECT ARCHITECT PRIOR TO ROUGH-IN.
- 3 NEW LIGHT FIXTURE "SLA", CIRCUIT TO NEW LIGHT CIRCUIT B-6. FIELD VERIFY AIMING OF FIXTURE WITH PROJECT ARCHITECT.
- 4 NEW LIGHT FIXTURE "SLC", CIRCUIT TO NEW LIGHT CIRCUIT B-6. REFER TO ARCHITECTURAL PLANS FOR MOUNTING LOCATION OF LIGHT FIXTURE TO NEW WALL.
- 5 NEW LIGHT FIXTURE "SLC", CIRCUIT TO NEW LIGHT CIRCUIT B-8. FIELD VERIFY AIMING OF FIXTURE WITH PROJECT ARCHITECT.
- 6 NEW LIGHT FIXTURE "SLA", CIRCUIT TO NEW LIGHT CIRCUIT B-8. FIELD VERIFY AIMING OF FIXTURE WITH PROJECT ARCHITECT.
- 7 NEW LIGHT FIXTURE "SLC", CIRCUIT TO NEW LIGHT CIRCUIT B-8. REFER TO ARCHITECTURAL PLANS FOR MOUNTING LOCATION OF LIGHT FIXTURE TO NEW WALL.
- 8 NEW LIGHT FIXTURE "SLC", CIRCUIT TO NEW LIGHT CIRCUIT B-8. FIELD VERIFY AIMING OF FIXTURE WITH PROJECT ARCHITECT.
- 9 NEW LIGHT FIXTURE "SLA", CIRCUIT TO NEW LIGHT CIRCUIT B-10. FIELD VERIFY AIMING OF FIXTURE WITH PROJECT ARCHITECT.
- 10 NEW LIGHT FIXTURE "SLC", CIRCUIT TO NEW LIGHT CIRCUIT B-10. REFER TO ARCHITECTURAL PLANS FOR MOUNTING LOCATION OF LIGHT FIXTURE TO NEW WALL.
- 11 NEW LIGHT FIXTURE "SLC", CIRCUIT TO NEW LIGHT CIRCUIT B-10. FIELD VERIFY AIMING OF FIXTURE WITH PROJECT ARCHITECT.
- 12 NEW LIGHT FIXTURE "SLA", CIRCUIT TO NEW LIGHT CIRCUIT B-10. FIELD VERIFY AIMING OF FIXTURE WITH PROJECT ARCHITECT.
- 13 NEW LIGHT FIXTURE "SLC", CIRCUIT TO NEW LIGHT CIRCUIT B-10. REFER TO ARCHITECTURAL PLANS FOR MOUNTING LOCATION OF LIGHT FIXTURE TO NEW WALL.
- 14 NEW LIGHT FIXTURE "SLC", CIRCUIT TO NEW LIGHT CIRCUIT B-10. FIELD VERIFY AIMING OF FIXTURE WITH PROJECT ARCHITECT.
- 15 NEW LOCATION OF EXISTING ELECTRICAL ENCLOSURE WITH EXTERIOR RECEPTACLE MOUNTED TO ENCLOSURE.
- 16 NEW FOUNTAIN UNDERGROUND VAULT.
- 17 NEW FOUNTAIN CONTROLLER AND FEEDER DISCONNECT SWITCH LOCATION. REFER TO RISER DIAGRAM SHEET E1.0. FIELD VERIFY FINAL LOCATION OF FOUNTAIN CONTROLLER LOCATION WITH PROJECT ARCHITECT PRIOR TO ROUGH-IN.

NOTE:  
• ELECTRICAL CONTRACTOR TO COORDINATE WITH PROJECT ARCHITECT, CITY OF MOBILE ELECTRICAL DEPARTMENT AND CITY OF MOBILE ARBORISTS FOR ROUTING OF ALL UNDERGROUND CONDUIT PRIOR TO ROUGH-IN. ALL UNDERGROUND CONDUIT ROUTING MUST BE APPROVED BY ARCHITECT, CITY OF MOBILE ELECTRICAL DEPARTMENT AND CITY OF MOBILE ARBORISTS PRIOR TO INSTALLATION.  
• ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL ELECTRICAL WORK INDICATED ON FOUNTAIN DRAWINGS (F1.00,F2.00,F2.01,F3.00,F3.01,F3.02,F3.03,F3.10,F4.00,F4.10,F4.11,F4.21,F5.00,F5.01,F5.02 AND F5.03).



POLE BASE DETAIL  
SCALE: NOT TO SCALE

ELECTRICAL SITE PLAN (REMODEL)  
SCALE: 1" = 20'-0"



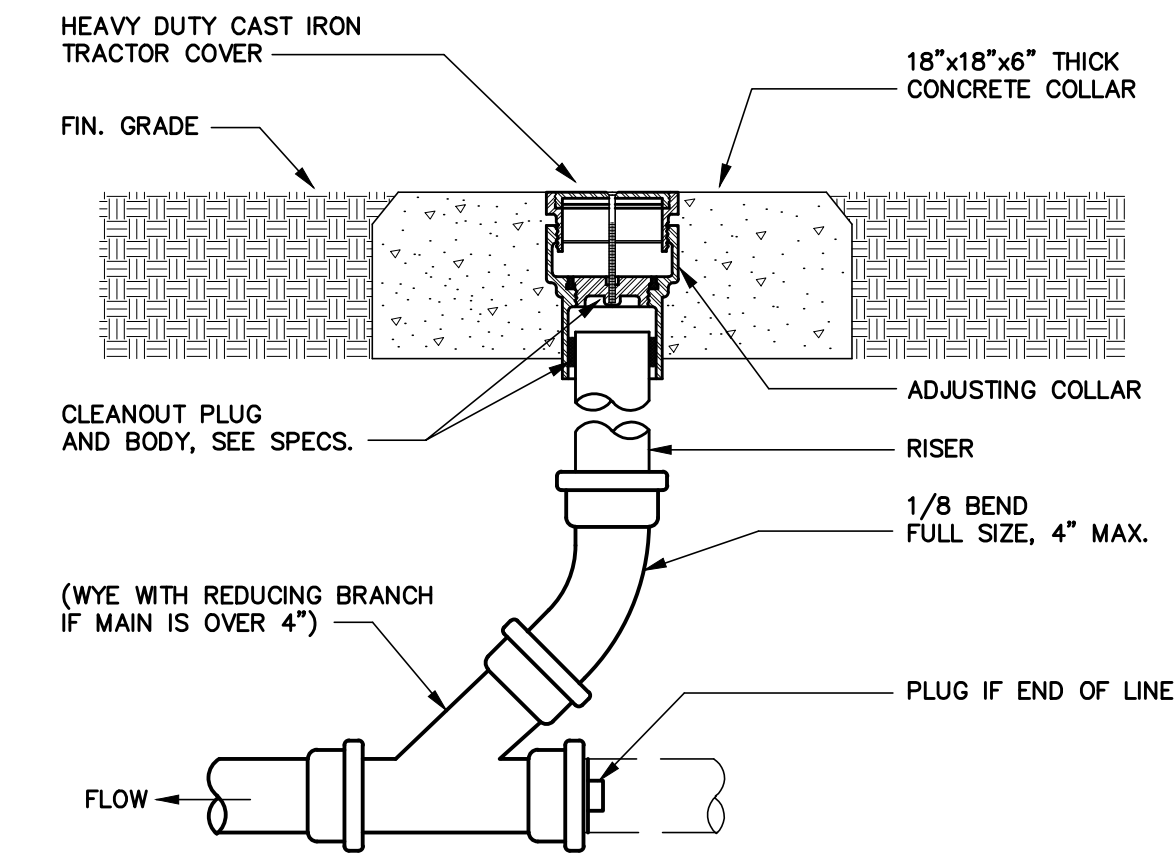
# PLUMBING WASTE AND WATER PLAN

SCALE: 1/8" = 1'-0"

1. THIS CONTRACTOR SHALL EXECUTE ALL WORK SO THAT IT PROCEEDS WITH A MINIMUM OF INTERFERENCE WITH OTHER TRADES AND NORMAL FUNCTIONING OF EXISTING FACILITIES AND SERVICES.
2. VERIFY EXACT ROUGH-IN AND FINAL EQUIPMENT REQUIREMENTS IN FIELD.
3. THE CONTRACTOR SHALL VERIFY THAT ALL PIPING, AS SHOWN ON THESE DRAWINGS WILL NOT CONFLICT WITH ANY DRAINS, SCUTTLINGS, JOINTS, VENTS, EQUIPMENT, EXISTING UTILITIES, ETC.
4. COORDINATE ROUTING AND LOCATIONS OF WASTE AND WATER PIPING WITH ALL OTHER TRADES PRIOR TO STARTING WORK.
5. THE PLUMBING CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR AND OTHER TRADES, ALL REQUIRED OPENINGS AND EXCAVATIONS, ALL REQUIRED OPENINGS IN FOUNDATIONS, FLOORS, WALLS, AND ROOFS SHALL BE DESIGNED INTO THE STRUCTURE INITIALLY BY THE USE OF SLEEVES, CURBS, ETC. CUTTING AND PATCHING SHALL BE HELD TO A MINIMUM.
6. PROVIDE APPROVAL BACKFLOW PREVENTION AT ALL EQUIPMENT DIRECTLY CONNECTED TO WATER SYSTEM.
7. PROVIDE CLEANOUTS EVERY 75' OR AT EACH CHANGE IN DIRECTION MORE THAN 45' AS REQUIRED BY CODE.
8. PROVIDE A PRESSURE REDUCING VALVE IF THE INCOMING PRESSURE EXCEEDS 50 PSI. IF A PRV IS UTILIZED THEN IT SHALL BE SET TO 50 PSI. IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO DETERMINE IF REQUIRED.

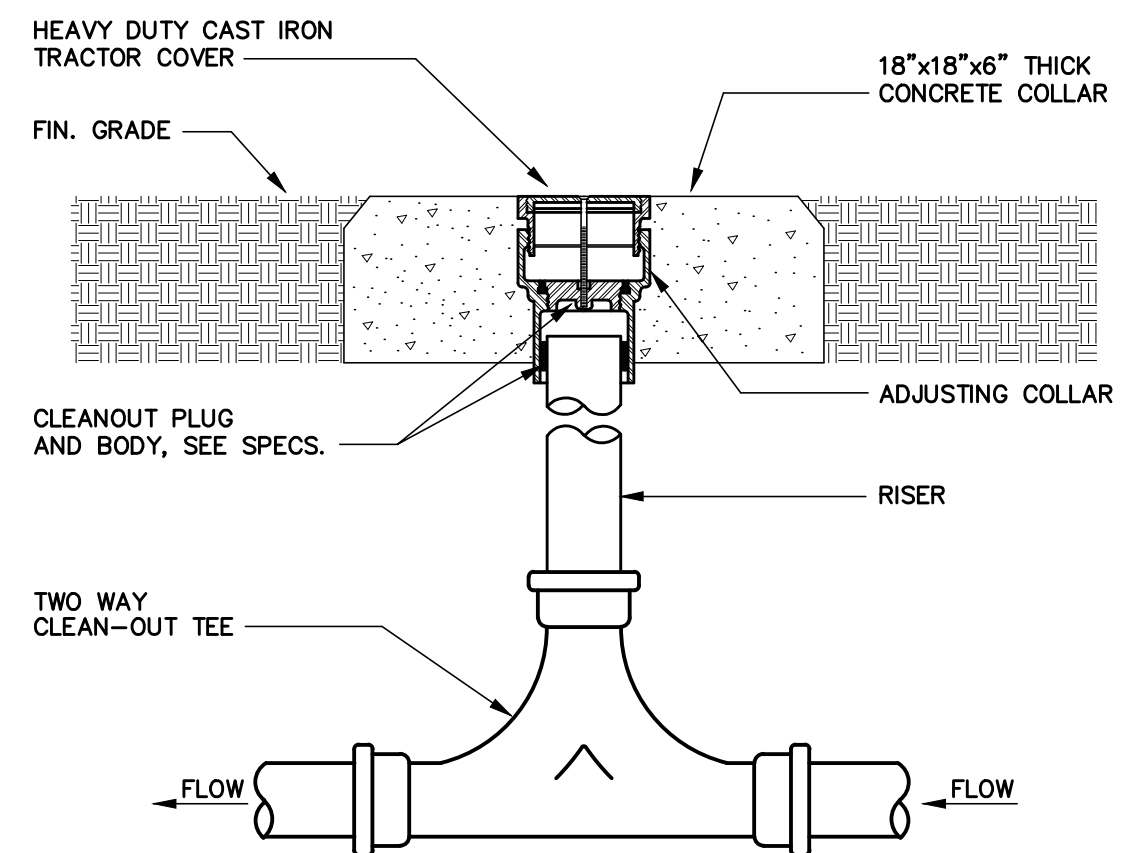
## GENERAL PLUMBING NOTES

NOT TO SCALE



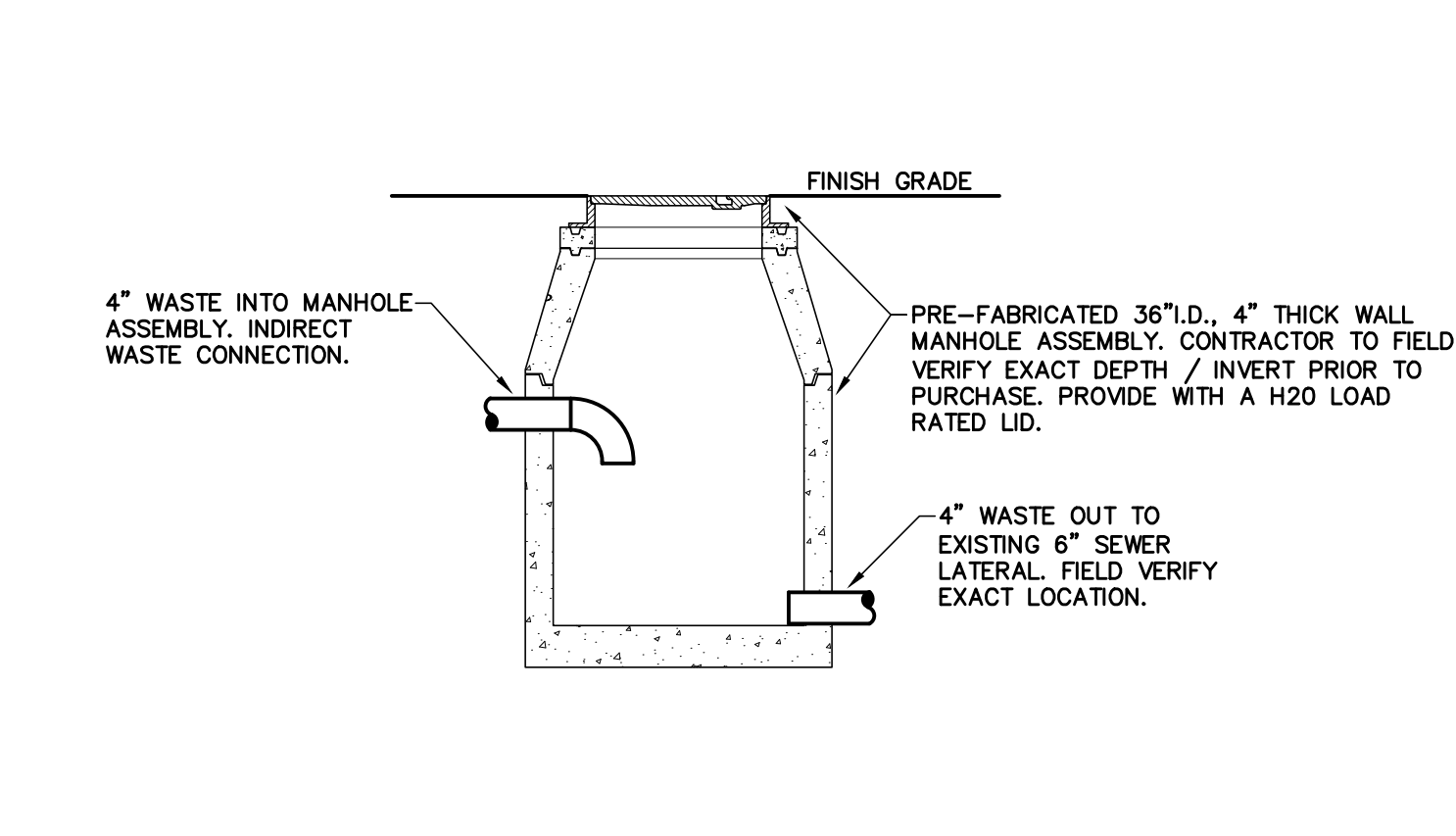
## GRADE CLEANOUT

NOT TO SCALE



## TWO WAY GRADE CLEANOUT

NOT TO SCALE



## INDIRECT WASTE CONNECTION DETAIL

NOT TO SCALE

**NOTE:**  
ALL PLUMBING WORK PERFORMED SHALL COMPLY WITH THE 2015 IPC AND ALL LOCAL APPLICABLE CODES.

**NOTE:**  
PLUMBING CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL PLUMBING RELATED WORK AS INDICATED ON FOUNTAIN DRAWINGS.  
(F1.00,F2.00,F2.01,F3.00,F3.01,F3.02,F3.03,F3.10,F4.00,F4.10,F4.11,F4.21,F5.00,F5.01,F5.02 AND F5.03.)

**POTABLE WATER SUPPLY PIPING MATERIAL NOTE:**  
COPPER TUBING SHALL BE USED FOR ALL PIPING. TYPE "L" TUBE SHALL BE USED ABOVE SLAB AND TYPE "K" TUBE SHALL BE USED BELOW SLAB ON GRADE. SWEAT FITTINGS SHALL BE EITHER CAST BRASS OR WROUGHT COPPER. SOLDER JOINTS SHALL BE CLEANED WITH STEEL WOOL OR EMERY CLOTH BEFORE APPLYING SOLDERING PASTE (FLUX) USING SOLDER FOR DOMESTIC WATER TUBING. IF ACCEPTABLE TO THE OWNER AND THE "AHJ", "PEX" OR "UPONOR" MAY BE UTILIZED IN LIEU OF COPPER.

**SEWER/WASTE PIPING NOTE:**  
ALL SEWER/WASTE PIPING LOCATED BELOW DRIVEWAYS AND PARKING AREAS SHALL BE SDR-26, SCHEDULE 40 D2265 OR STRONGER. TYPICAL ALL.  
ALL SEWER/WASTE PIPING BELOW THE BUILDING SLAB SHALL BE SCHEDULE 40, PVC, SOLID WALL. SCHEDULE 40, PVC, "FOAM CORE" WILL NOT BE ALLOWED BELOW SLAB. SCHEDULE 40, PVC, "FOAM CORE" SHALL BE ALLOWED FOR VENT PIPING ONLY.

**NOTE:**  
NO PLUMBING FIXTURES/DRAINS ALLOWED BELOW MINIMUM FINISHED FLOOR ELEVATION IN FLOOD ZONES. ALL FLOOD PROOFING TO BE APPROVED BY THE CITY OF MOBILE ENGINEERING DEPARTMENT.

THIS CONTRACTOR TO TIE THE NEW 1" POTABLE WATER MAKE-UP WATER LINE INTO THE EXISTING FOUNTAIN POTABLE WATER METER LOCATED APPROX. IN THIS AREA. BACKFLOW PREVENTION IS COVERED ON THE FOUNTAIN DRAWINGS, SEE FOUNTAIN DRAWINGS FOR ADDITIONAL INFORMATION. IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION, PRIOR TO BID. IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO PROPERLY VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION. A SITE VISIT SHALL BE PERFORMED PRIOR TO BID. IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO MAKE ANY NECESSARY DESIGN CHANGES, IF ANY; THESE APPLICABLE CHANGES SHALL BE INCLUDED IN THE ORIGINAL BID PRICE. ANY CHANGE ORDERS BROUGHT UP AFTER THE ACCEPTED BID THAT DIRECTLY RELATES TO FAILURE OF A SITE VISIT SHALL BE SOLELY THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR. THE OWNER WILL NOT PAY FOR CHANGE ORDERS DUE TO THE CONTRACTORS FAILURE TO PERFORM A THOROUGH SITE VISIT. COORDINATE WITH ALL TRADES, FIELD VERIFY ALL EXISTING CONDITIONS.

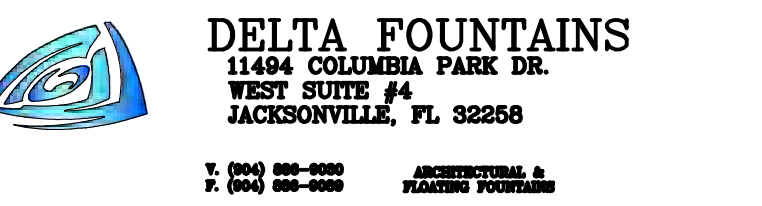
# BIENVILLE SQUARE

## FOUNTAIN & SITE AMENITIES IMPROVEMENTS - PR-021-22

MOBILE, ALABAMA



200 LAUREL ST. SUITE 100  
BATON ROUGE, LA 70801  
225 302 7452



Nimrod Long  
And Associates



### CONSTRUCTION DOCUMENTS



04-03-2023

### REVISIONS:

#	DATE	NAME

DATE: APRIL 05, 2023  
DRAWN BY: AA  
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