

# EXPRESS OIL CHANGE & TIRE ENGINEERS

## SINGLE BUILDING / RIGHT HAND OIL CHANGE /

## FRONT ENTER / SIDE TIRE STORAGE

21270 MIFLIN ROAD  
FOLEY, ALABAMA 36535

ATTENTION AUTHORITY HAVING JURISDICTION

Notice is hereby given that Aho Architects, LLC, the Architect of Record on the above referenced project, will be providing construction administration services on a limited basis, supplemented by a third-party independent engineering consulting service as described below.

This project has been designed by the Architect and Engineers ("Design Team") for its specific location, or adapted from prototypical designs, to comply with the following codes, ordinances, and similar requirements adopted by the Authority Having Jurisdiction ("AHJ"):

- See codes listed on Sheet LS100.

During the Construction Administration Phase of the Project:

- General: The Design Team will respond to inquiries or requests from the Owner or Contractor, specifically related to documents prepared by the Design Team. As is standard in Construction Law and Professional Service Agreements, the Design Team shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Project(s), nor shall the Architect be responsible for the Owner's or Contractor's failure to perform the work in accordance with the requirements of the Permit Set Documents. The Architect shall be responsible for the Architect's negligent acts or omissions, but shall not have control over or charge of, and shall not be responsible for, acts or omissions of the Owner, Contractor, or of any other persons or entities performing portions of the work.
- Experienced Contractor: The Owner will use experienced and licensed Contractors familiar with the construction of Projects of this type and in similar locations, and experienced with the applicable building codes, selection of materials and systems, and methods of installation and construction; and able to implement the Permit Set Documents through completion of the Project(s).
- Submittals: The Design Team's Basic Construction Administration Services include review of critical submittals (e.g. shop drawings) by engineering disciplines (Structural). The Design Team shall also review, approve or take other appropriate action on any submittal for which the AHJ requires approval by the Architect/Engineer, as Additional Services.
- Site Visits: The Architect and Design Engineers typically will not be making any site visits unless specifically required to do so.
  - The Owner has been advised and acknowledges that some States and AHJs require the Architect to perform at least some site visits or provide a notice such as this statement.
  - In consideration of this, the Owner will provide site visits, observation, testing, and related work by a third party independent engineering consulting service:
    - The Owner has an agreement with Terracon, a provider of geotechnical, environmental, construction materials and facilities engineering
    - Experienced Professional Engineers or field technicians under the responsible control of a Professional Engineer will perform site observation, construction materials testing, and required Special Inspections (per IBC Chapter 17; see Schedule of Special Inspections on structural drawings provided) including review of construction for conformance with the permit drawings, supplemental drawings, shop drawings/submittals, and similar relevant documents. Written reports shall be provided, with the Design Team included on the distribution list and involved in resolving any deficiencies noted or other items requiring the Design Team's input.
  - If the above provisions are not acceptable to the AHJ and the AHJ gives notice requiring the Architect to make site visit(s), the Owner has agreed to authorize the Architect's Additional Services and Reimbursable Expenses to comply with the AHJ's requirements.

If you have any questions, or if there is anything else we can do for you, please do not hesitate to contact April Cain, the project manager or Tim Aho, Architect at the address/phone listed below, or by email at HYPERLINK "mailto:acain@ahoarch.com" acain@ahoarch.com or HYPERLINK "mailto:taho@ahoarch.com" taho@ahoarch.com . Thank you very much, and we appreciate the opportunity to be involved in this project in your jurisdiction.



\*Image above is generic. See Civil for actual site conditions

ARCHITECT

AHO ARCHITECTS, LLC  
1855 DATA DRIVE, SUITE 150  
HOOVER, ALABAMA 35244  
205-983-6000

CIVIL ENGINEER

BOHLER ENGINEERING  
209 10TH AVENUE S  
NASHVILLE, TN 37203  
629-235-4040

STRUCTURAL ENGINEER

BARNETT-JONES-WILSON, LLC  
125 18TH STREET NORTH  
PELL CITY, ALABAMA 35125  
205-884-5334

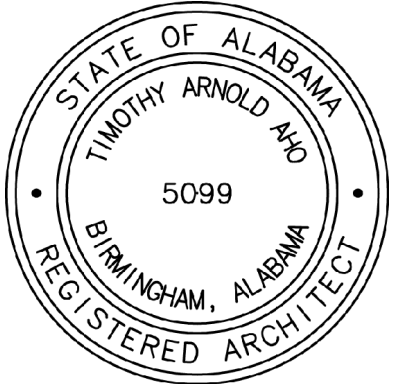
MECHANICAL / PLUMBING ENGINEER

PINNACLE ENGINEERING, INC.  
2111 PARKWAY OFFICE CIRCLE, SUITE 125  
BIRMINGHAM, ALABAMA 35244  
205-733-6912

ELECTRICAL ENGINEER

GW ENGINEERING, LLC  
4120 OVERLOOK CIRCLE  
TRUSSVILLE, ALABAMA 35173  
205-413-4112

FINAL



Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL

No.	Description	Date

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Title Sheet

Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A
T100	
Scale	12" = 1'-0"



GENERAL PROJECT NOTES

1. These documents are considered accurate and true to the best knowledge of the Architect at this time, but do not necessarily represent, nor are they intended to represent, actual existing conditions, dimensions, and tolerances. Contractor shall field-verify existing conditions including, but not limited to materials, construction, elevations, and dimensions prior to bidding and undertaking the work. Items of concern shall be brought to the attention of the Architect. Submittal of a proposal (bid) by a Contractor and their Subcontractors shall constitute an acknowledgement and confirmation of having complied with these requirements.
2. All work shall comply with all applicable local, state, and national codes, rules, ordinances and regulations and authorities having jurisdiction.
3. The Contractor shall comply with all applicable provisions of the specifications, including, but not limited to all general conditions, supplementary general conditions, special conditions, and material and construction provisions, which apply to materials or construction methods required by this project.
4. Where warranties are concerned, Contractor shall follow manufacturer's standards and recommendations unless specifically directed otherwise. Any conditions which might negatively affect the warranty shall be brought to the attention of the Architect in advance.
5. The Owner and Contractor shall promptly report to the Architect any defects, suspected defects, or discrepancies in the Architect's work or services of which the Owner or Contractor may become aware, so that the Architect may take measures to minimize the consequences of such a defect. Failure to notify the Architect shall relieve the Architect of costs of remedying the defects above the sum such remedy would have cost had prompt notification been given.
6. Neither the professional activities of the Architect, nor the presence of the Architect or its employees and consultants at a construction site shall relieve the Contractor or others of their obligations, duties, and responsibilities including, but not limited to: construction means and methods, sequence, techniques, or procedures necessary for performing, superintending, or coordinating all portions of the work in accordance with the contract documents and any health and safety precautions required by agencies having jurisdictional authority over the project. The Architect and its personnel have no authority to exercise control over any Contractor or other entity or their employees in connection with their means, methods, or safety precautions. The Contractor is solely responsible for jobsite safety. The Owner, Architect, and their Consultants shall be indemnified and shall be made additional insureds under the Contractor's general liability insurance policy.
7. All work, unless specifically indicated otherwise, shall be the responsibility of the General Contractor and shall be performed by the tradesmen skilled in the required field.
8. "Provide" shall mean to furnish and install, complete and ready for intended use.
9. Provide pressure treated wood where in contact with concrete or masonry.
10. The Contractor shall be responsible for all cutting, fitting, and patching that may be required to complete the work.
11. Dimensions of existing construction and repetitive dimensions are sometimes omitted. Detailed dimensions not indicated may be found on large-scale drawings of the same areas. Drawings are intended to reflect the existing conditions as closely as possible, however, the Contractor shall field verify and accept all existing conditions and dimensions. Notify Architect of any discrepancies affecting the work.
12. Provide all temporary services required to facilitate the work indicated, including but not limited to the following: power, lighting, heat, and water.
13. The Contractor(s) shall provide all barriers, shoring, warning lights, etc. as required to conduct the work and maintain the site in a safe condition consistent with good construction practices and with all applicable rules and regulations.
14. All exist. utility services including domestic water, sanitary sewer, electricity, fuel oil and/or gas shall be disconnected and made safe prior to any demolition work. Any work which might require interruption of utility services to Owner or other tenants, shall be approved and coordinated beforehand with the Owner.
15. It is the intent of the bid and construction documents to indicate complete and fully operational systems (i.e. structural, HVAC, plumbing, electrical, roofing, etc.). The Contractor shall provide operational systems and testing which comply with applicable codes, regulations, and requirements of authorities having jurisdiction.
16. Any work or utility outages which might disrupt the operations of the Owner or others shall be approved and coordinated in advance with the Owner and the Architect. The Contractor shall give the Owner and Architect at least three days advance notice prior to undertaking work which might cause disruption. Activities which produce utility outages, excessive noise, dust and other disruption shall be coordinated with the Owner and Architect. Some of these activities may need to occur at "off hours" to minimize disruption of the Owner's operations.
17. All wood blocking, trim, decking, etc. shall be decay-resistant treated, or as specified.
18. To prepare substrate for all wall mounted items, wall fixture, toilet accessories, etc. - fill all voids in the CMU surface to provide a sound base (provide blocking in stud walls) for all new wall mounted items, fixtures, etc. Install per manufacturer's specifications and recommendations.
19. Do not paint any caulking or sealants which are subject to movement. Control joints shall be caulked after paint and special coating applications. Provide caulking or sealants in colors which match adjacent finished surface as approved by the Architect.
20. Bidders shall be responsible for obtaining a copy of the Geotech Report from the Owner.
21. The project may include some items that are delegated design. Bidders shall ensure these items are covered in their base bid.
22. All questions that affect cost, time, etc. shall be presented in the form of RFI's to the Architect prior to bid.

ENERGY CODE EXEMPTION

Per 2018 International Energy Conservation Code:

C402.1.1 Low Energy Buildings. The following low-energy buildings, or portions thereof, separated from the remainder of the building by building thermal envelope assemblies complying with this section, shall be exempt from the building thermal envelope provisions of Section C402:

1. Those with a peak design rate of energy usage less than 3.4 Btu/h x ft2 or 1.0 watt/ft2 of floor area for space conditioning purposes.
2. Those that do not contain "conditioned space".
3. Greenhouses

Per Chapter 2:

Definition of Conditioned Space: An area, room or space that is **enclosed** within the building thermal envelope and is directly or indirectly heated or cooled. Spaces are indirectly heated or cooled where they communicate through openings with conditioned spaces, where they are separated from conditioned spaces by uninsulated walls, floors, or ceilings, or where they contain uninsulated ducts, piping or other sources of heating or cooling.

While the Oil Change & Service areas do have radiant heaters, during normal operations, the Oil Change, Service, and Pit areas are **not enclosed** and are outside the building thermal envelope assembly. These areas are separated from the remainder of the building by building thermal envelope assemblies complying with this code. Section C403.12.1 allows radiant heating outside the building. Therefore, these areas shall be exempt from the building thermal envelope provisions of this code.

GENERAL ACCESSIBILITY NOTES

1. All door hardware shall be accessible type per section 404 of the 2017 ICC A117.1 / 2010 ADA Standards.
2. All walking surfaces shall have a maximum slope of 1:20 per section 405 of the 2017 ICC A117.1 / 2010 ADA Standards
3. All floor or ground surfaces shall be stable, firm, and slip resistant per section 302 of the 2017 ICC A117.1 / 2010 ADA Standards
4. Changes in level of 1/4" high maximum shall be permitted to be vertical per section 303 of the 2017 ICC A117.1 / 2010 ADA Standards
5. Provide maneuvering clearances at manual swinging doors per section 404 of the 2017 ICC A117.1 / 2010 ADA Standards
6. ADA mounting heights, dimensions, tolerances, etc. shall apply to all construction and the location of all fixtures, etc. unless specifically noted otherwise.

GENERAL INTERIOR NOTES

1. Quantities (area, perimeter, etc.) shown on finish schedule are approximate and are provided as a convenience to the Contractor. Actual quantities may vary and it is the responsibility of the Contractor to field verify.
2. Anything specified with a directional pattern (e.g. brushed aluminum, wood grain laminate, etc.) the pattern shall go in the same direction as directed by Architect.
3. The Contractor shall provide all necessary blocking in walls for support of all equipment, shelving, accessories, grab bars, and other required elements.
4. Provide pressure treated wood where in contact with concrete or masonry.
5. Ease all edges on casework to prevent sharp corners.
6. Paint all HVAC wall grilles to match adjacent surface color unless otherwise noted or instructed by the Architect.
7. Use moisture resistant gypsum board at all walls subject to moisture unless wall will be subject to standing water or frequent wetting in which case you shall use cementitious backer.
8. Provide thresholds where required. All shall be ADA compliant.
9. All gypsum board to have a level 4 finish unless otherwise indicated.
10. All toilet walls to have moisture resistant paint.

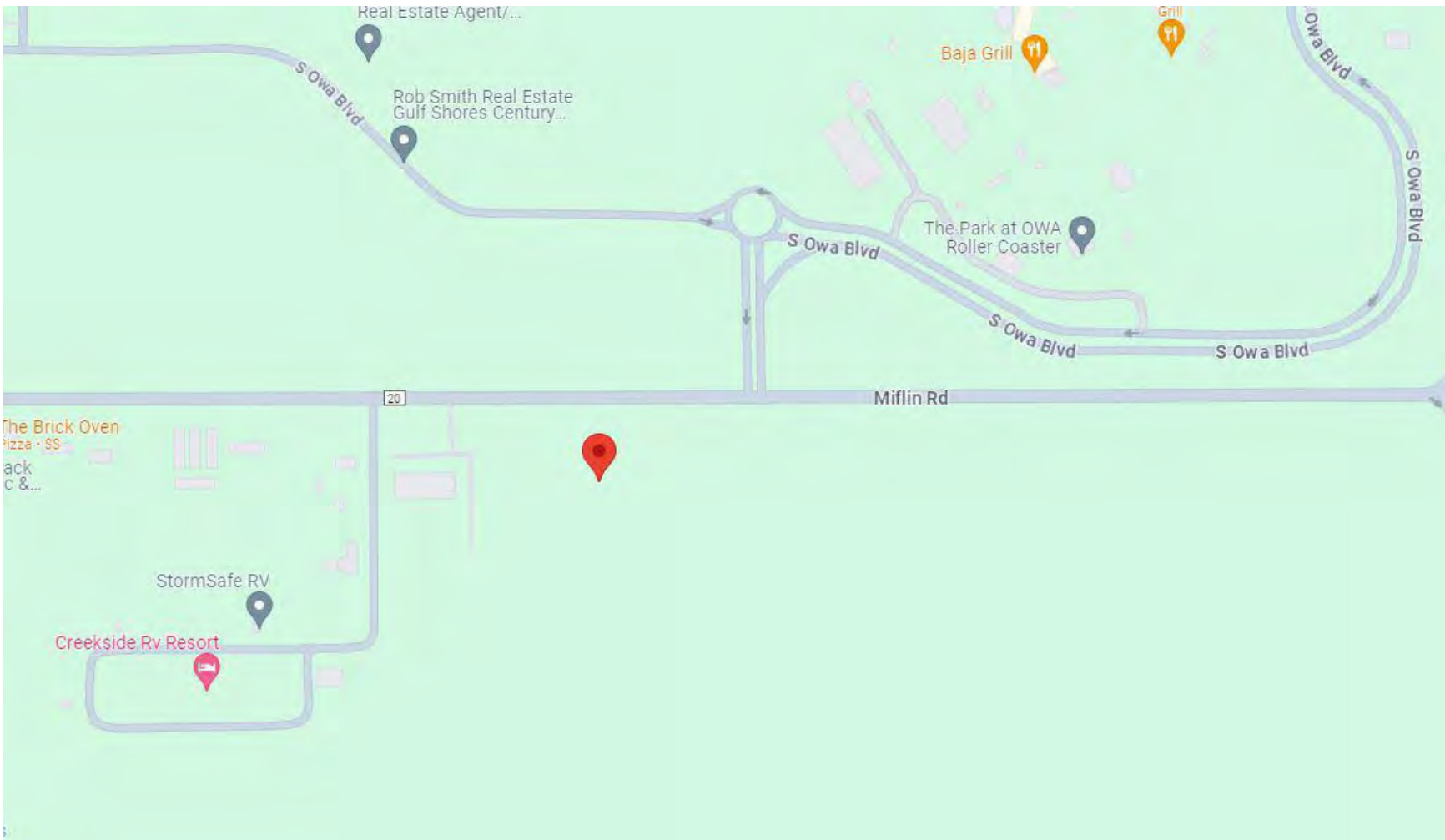
BIDDING INQUIRES

Company:  
Contact:  
E-Mail:  
Phone:

Express Oil Change  
John Davis  
jdavis@expressoil.com  
205-945-1771

Note:

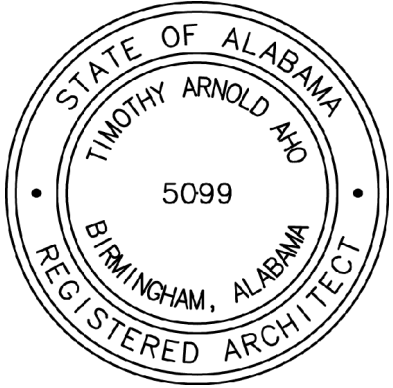
Sub-contractors to call bidding General Contractor for questions



Express Oil Change & Tire Engineers  
21270 Miflin Road  
Foley, AL, 36535



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Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

FINAL

No.	Description	Date

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General Information

Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A

G100

Scale 12" = 1'-0"



**GENERAL NOTES**

1. **GENERAL CONTRACTOR SHALL ENSURE EACH OF THE FOLLOWING HAVE BEEN REVIEWED BY THE MANUFACTURER FOR COMPLIANCE WITH LOCAL CONDITIONS/REQUIREMENTS PRIOR TO BIDDING/ORDERING/INSTALLING: ROOFING, DOORS, WINDOWS/STOREFRONT, GLAZING, DOOR HARDWARE, PAINT, AND FIRE EXTINGUISHERS.**

2. **GENERAL CONTRACTOR SHALL PROVIDE SUBMITTALS / SHOP DRAWINGS FOR EACH PRODUCT LISTED UNDER ARCHITECTURAL SPECIFICATIONS. ALL SUBMITTALS / SHOP DRAWINGS ARE TO BE APPROVED BY THE OWNER AND/OR THE A/E PRIOR TO ORDERING.**

3. **PROVIDE MANUFACTURER'S STANDARD WARRANTY FOR ALL SPECIFIED PRODUCTS.**

4. **ALL EXTERIOR SIGNAGE, LIGHT BARS, AND SCONCES BY OTHERS.**

5. **ALL FURNITURE AND EQUIPMENT BY OTHERS. COORDINATE PLACEMENT WITH OWNER PRIOR TO ROUGHING IN REQUIRED UTILITIES.**

6. **ALL COMPARABLE PRODUCTS TO BE REVIEWED AND APPROVED BY THE OWNER PRIOR TO BID.**

7. **GC SHALL BE RESPONSIBLE FOR CHECKING WITH THE LOCAL AHJ ON ANY DEFERRED SUBMITTALS THAT MAY BE REQUIRED TO BE APPROVED BY THE AHJ PRIOR TO CONSTRUCTION.**

**DIVISION 4 - MASONRY**

**042200 - Concrete Unit Masonry**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Block USA or a comparable product by an approved manufacturer.

**Products:**

A. Concrete Masonry Units

1. Finish: Smooth and split-face

2. Min. Compressive Strength: See Structural

3. Density Classification: See Structural

4. Provide types, shapes and sizes as indicated

5. Integral Water Repellent: Provide RainBloc 80 by ACM Chemistries or a comparable product by an approved manufacturer.

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Concrete Products Group or Echelon Masonry or approved comparable product by an approved manufacturer.

**Products:**

B. Structural Half-Highs

1. Spec-Brik (CPG) or Quik-Brik (Echelon)

2. Size: 8x4x16

3. Color: Stanton Blend (CPG) or Richfield Blend (Echelon) with flash.

\*Provide full mock-up for Owner's Approval prior to ordering.

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Argos or an approved comparable product by an approved manufacturer.

**Products:**

C. Mortar

1. Type: See Structural

2. Color: Argos Magnolia Dark at cmu and structural half-highs

3. Liquid Mortar Additive: Provide RainBloc for Mortar or a comparable product by an approved manufacturer.

Subject to compliance with requirements, provide products indicated below:

**Products:**

D. Joint Reinforcement

1. Type: Hot dipped galvanized, carbon steel (truss)

2. Size: 0.187" diameter

3. Length: Not less than 10'

**DIVISION 5 - METALS**

**055000- Metal Fabrications**

**Products:**

A. Concrete-filled Steel Pipe Bollards

1. Material: Schedule 40 steel pipe

2. Height: 3'-6"

3. Diameter: 4"

4. Finish: Painted (See Finish Schedule)

**Installation:**  
See drawings for installation details.

**055113- Metal Pan Stairs**

Delegated Design: Engage a qualified professional engineer to design stairs and railings and provide sealed calculations and drawings.

**Products:**

A. Metal Pan Stairs

1. Steel Sheet Thickness: 0.067" minimum

2. Uniform Load: 100 lbf/sf

3. Concentrated Load: 300 lbf applied on an area of 4 sq. in.

4. Finish: Painted (See Finish Schedule)

5. Uniform and concentrated loads need not be assumed to act concurrently.

6. Stair Framing: Capable of withstanding stresses resulting from railing loads in addition to loads specified above.

B. Stair Railings

1. Rails and Posts: 1 5/8" diameter

2. Picket Infill: 1/2" round pickets spaced less than 4 inches clear.

C. Installation: Install per manufacturer's standard written instructions.

D. Warranty: Provide manufacturer's standard material warranty.

**055213- Pipe and Tube Railings**

Delegated Design: Engage a qualified professional engineer to design stairs and railings and provide sealed calculations and drawings.

A. Handrails & Top Rails of Guards

1. Rails and Posts: 1 1/2" diameter

2. Uniform Load: 50lb/ft in any direction.

**055213- Pipe and Tube Railings**

4. Uniform and concentrated loads need not be assumed to act concurrently.

5. Type: F or S

6. Material: Schedule 40

7. Finish: Painted (See Finish Schedule)

8. Seismic Performance: See Structural

B. Infill of Guards

1. Concentrated Load: 50 lbf applied horizontally on an area of 1 SF.

2. Infill load and other loads need not be assumed to act concurrently.

**Installation:**  
Install stairs and railings according to manufacturers' written instructions and with welded connections.

**DIVISION 6 - WOOD, PLASTICS AND COMPOSITES**

**061000- Rough Carpentry**

**Products:**

A. Framing with Dimensional Lumber (Interior Non-Load-Bearing)

1. Thoroughly Dried

2. No. 2 Southern Yellow Pine or No. 2 Douglas Fir

3. Of sizes, shapes, and lengths required.

4. Moisture content shall not exceed 19% at time of installation

B. Miscellaneous Lumber (e.g. Blocking, Furring, etc.)

1. Thoroughly Dried

2. No. 2 Southern Yellow Pine or No. 2 Douglas Fir

3. Of sizes, shapes, and lengths required.

4. Moisture content shall not exceed 19% at time of installation

C. Temporary Bracing, Shoring, etc. as required

1. Thoroughly Dried

2. No. 2 Southern Yellow Pine or No. 2 Douglas Fir

3. Of sizes, shapes, and lengths required.

4. Moisture content shall not exceed 19% at time of installation

D. Wood Fascia Board (inc. frieze board)

1. Thoroughly Dried

2. No. 2 Southern Yellow Pine or No. 2 Douglas Fir

3. Of sizes, shapes, and lengths required.

4. Moisture content shall not exceed 19% at time of installation

5. Painted (See Finish Schedule)

E. Plywood (Ceilings)

1. Plywood Type: Exposure 1

2. Plywood Grade: BC

3. Thickness: As indicated on drawings

4. Square Edge

5. Provide batten strips as indicated on drawings

6. Painted (See Finish Schedule)

7. Class: C Fire Rating

8. Flame Spread Rating 76-200 / Smoke Developed Index <450

F. Plywood decking (roof)

1. Plywood Type: Exposure 1

2. Plywood Grade: BC

3. Thickness: As indicated on drawings

4. Square Edge

Note:

1. All plywood which has any edge or surface permanently exposed to the weather shall be of the exterior type.

2. All wood exposed to weather and/or in contact with masonry or concrete shall be pressure-treated lumber.

**061533- Composite Decking**

**Products:**

A. Plastic Decking for Dumpster Enclosure Doors

1. Composite plastic lumber

2. Solid shapes made from a mixture of cellulose fiber and polyethylene or polypropylene.

3. Surface Texture: Smooth.

4. Color: See Finish Schedule.

5. Size: See dumpster details.

**Installation:**  
Install plastic decking according to manufacturers' written instructions.

**Warranty:**  
Provide manufacturer's standard material warranty.

**064116- Plastic-Laminate-Faced Architectural Cabinets**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by DBIW, LLC or a comparable product by an approved manufacturer.

**Products:**

A. Plastic-Laminate Faced Architectural Cabinets

1. See details on Sheet G301.

**Installation:**  
Install plastic laminate according to manufacturers' written instructions.

B. Cabinet Hardware

1. See details on Sheet G301.

**Installation:**  
Install cabinet hardware according to manufacturers' written instructions.

C. Warranty

1. Provide manufacturer's standard material warranty.

**066400 Plastic Paneling (Fiberglass Reinforced Panels)**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Marlite Wall Systems, or a comparable product by one of the following:

1. Kal-Lite

2. Crane Composites

3. Panolam

**Product Requirements:**

A. Provide standard FRP (Fiber Reinforced Plastic) panels in 4' x 8' textured panels.

B. Color to be selected by Architect from Manufacturer's full range.

C. Conform to all building code requirements for interior finish for smoke and flame spread requirements tested in accordance with ASTM 84

D. Wall required Rating - Class A

**Submittals:**  
Submit shop drawings (elevations of each wall) showing location of paneling and trim members.

**Installation:**  
A. Install per manufacturer's written standards.

**Warranty:**  
A. Furnish one-year guarantee against defects in material and workmanship.

**DIVISION 7 - THERMAL AND MOISTURE PROTECTION**

**071900- Water Repellents**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Ghostshield or a comparable product from an approved manufacturer.

**Products:**

A. Water Repellent

1. ISO-Tek 8540

2. Color: Clear

**Installation:**  
Install water repellents according to manufacturers' written instructions.

**Warranty:**  
Provide manufacturers' standard product warranty.

**072100- Thermal Insulation**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Owens Corning, or a comparable product by one of the following:

1. Johns Manville

2. CertainTeed

**Products:**

A. Kraft Faced (Vapor Retarder) Batt Insulation:

1. EcoTouch PINK Fiberglass Insulation

2. R-13 & R-20; where indicated

B. Unfaced Batt Insulation:

1. EcoTouch PINK Fiberglass Insulation

3. R-38; where indicated

C. Eave Ventilation Troughs:

1. Preformed, rigid fiberboard or plastic sheets designed and sized to fit between roof framing members and to provide ventilation between insulated attic space and vented eaves.

**Installation:**  
Install insulation and accessories according to manufacturers' written instructions.

**Warranty:**  
Provide manufacturers' standard material warranty.

**072600 Vapor Retarders**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Reef Industries, or a comparable product by an approved manufacturer.

**Products:**

A. Reinforced Under Slab Vapor Retarder:

1. Griffolyn 10 Mil Green

2. Thickness: 10 mil

3. Max Perm Rating: 0.1 perm

4. Lap: 12" and tape with manufacturer recommended tape

**Installation:**  
Install vapor retarders according to manufacturers' written instructions.

**Warranty:**  
Provide manufacturers' standard product warranty.

**072726- Fluid-Applied Membrane Air Barrier**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by W.R. Meadows, or a comparable product by an approved manufacturer.

**Products:**

A. Liquid Membrane Air/Vapor & Liquid Moisture Barrier

1. Air-Shield LMP

**Installation:**  
Install fluid applied membrane air barriers according to manufacturers' written instructions.

**Warranty:**  
Provide manufacturer's standard product warranty.

**074113.16- Standing-Seam Metal Roof Panels (Hurricane Zone / Wind Borne Debris Region)**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Berridge Manufacturing Co. or comparable product by an approved manufacturer.

**Products:**

A. Metal Panel: Cee-Lock (Florida Product Approval FL #11269 / TDI # RC-209)

1. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 1592.

a. Wind Loads: See Structural.

b. Other Design Loads: See Structural.

c. Deflection Limits: See Structural.

2. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft when tested according to ASTM E 1680 and ASTM E 283 at the following test-pressure difference:

a. Test-Pressure Difference: 6.24 lbf/sq.ft.

3. Water Penetration Under Static Pressure: No water penetration when tested according to ASTM E 1646 and ASTM E 331 at the following test-pressure difference:

a. Test-Pressure Difference: 15 lbf/sq.ft.

4. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.

a. Uplift Rating: UL 90.

5. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects.

6. Material: Metallic Steel

7. Nominal Thickness: 20 gauge

8. Finish: Two-coat fluoropolymer.

9. Color: See Finish Schedule (verify sample with Owner prior to ordering)

10. Panel Coverage: 16.5 inches

11. Panel Height: 1.5 inches

12. Slope: As indicated on roof plan

B. Underlayment

1. Two layers of 15# felt.

C. Snowguards

1. Provide snowguards if required by AHJ.

D. Ridge/Hip Cap

1. Provide preformed ridge/hip cap by roofing manufacturer.

2. Color: Match Roof Color.

3. Material: Match Roof.

E. Roof Vents

1. Provide roof mounted REBE downblast propeller exhaust ventilator by Cook. (See Mech.).

2. CFM: As indicated on the mechanical plans.

3. Color: Match Roof Color.

**Installation:**  
Install metal panels, underlayment, vents, and accessories according to manufacturers' written instructions.

**Warranty:**  
Provide manufacturers' standard material and product warranties.

**074293 Soffit Panels (Hurricane Zone)**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by James Hardie Building Products, Inc. or a comparable product by an approved manufacturer.

**Products:**

A. Smooth Vented Soffits (Florida Product Approval: FL #13265)

1. Structural Performance: Provide soffit systems capable of withstanding the effects of the following loads:

a. Wind Loads: See Structural.

b. Deflection Limits: See Structural.

2. Net Free Area: 5 sq. in. per linear foot.

3. Width: 12"

4. Thickness: 0.25"

5. Color: Painted, (See Finish Schedule)

6. Jointing: Provide paintable PVC "H" Jointer between panels.

**Installation:**  
Install soffit panels and accessories according to manufacturers' written instructions.

**Warranty:**  
Provide manufacturers' standard material warranty.

**077100- Roof Specialties (Hurricane Zone)**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Roof Drainage Components & Accessories, Inc. or a comparable product by an approved manufacturer.

**Products:**

A. Gutters (alum.):

1. Style: Smooth Box Gutter - "F" Style

2. Size: 5"

3. Color: Match Roof Color

B. Downspouts (alum.):

1. Style: Smooth Box Downspout

2. Size: 3"x4"

3. Color: Match Roof Color

C. Downspout boot - Match downspout color - See Civil.

D. Straps

1. Smooth Box Downspout Strap.

2. Color: Match Roof Color.

E. Gutter Guard

1. Continuous screened leaf guard w/ frame.

2. Material: Stainless Steel

**Installation:**  
Install roof specialties according to manufacturers' written instructions.

**Warranty:**  
Provide manufacturers' standard material warranty.

**077100- Roof Specialties (Hurricane Zone)**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by OMG Roofing Products or comparable product by an approved manufacturer.

A. Coping Cap

1. Hurricane Product: Permasnap 2 Plus (Florida Product Approval: FL #28790.1)

2. 16 gauge w/ kynar finish

3. Color to match roof

4. Face & Back Dimension: 4 inches minimum (Dumpster / HVAC Enclosure)

5. Face & Back Dimension: 8 inches minimum (Building)

**Installation:**  
Install roof specialties according to manufacturers' written instructions.

**Warranty:**  
Provide manufacturers' standard material warranty.

**078443 - Joint Firestopping**

Basis-of-Design Product: For joints in or between Fire-Resistance-Rated Construction: Subject to compliance with requirements, provide products indicated below by Tremco, or a comparable product by one of the following:

1. 3M Fire Protection Products

2. Owens Corning

3. Hilti, Inc.

**Product Requirements:**

A. Provide joint firestopping systems with ratings determined per ASTM E1966 or UL 2079

B. Provide products that upon curing, do not re-emulsify, dissolve, leach, breakdown or otherwise deteriorate over time from exposure to atmospheric moisture, sweating pipes, ponding water or other forms of moisture

C. Provide firestop products that do not contain ethylene glycol.

D. Fire resistance rating must be equal to or exceed the fire resistance rating of the wall, floor or roof in or between which it is installed.

E. Exposed Joint firestopping systems must have a flame-spread and smoke-developed index of less than 25 and 450, respectively, as determined per ASTM E84

**Accessories:**

A. Provide components of joint firestopping systems, including primers and forming materials, that are needed to install elastomeric fill materials and to maintain ratings required. Use only components specified by joint firestopping system manufacturer and approved by the qualified testing agency for conditions indicated.

**Installation:**

A. Examine substrates and conditions, with Installer present, for compliance with requirements for joint configurations, substrates, and other conditions affecting performance of the Work.

B. Install sealants and proper backing according to manufacturers' written instructions.

C. Identify joint firestopping systems with legible metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches of joint edge so labels are visible to anyone seeking ot remove joint firestopping system. Include the following on the labels:

1. "Warning - Joint Firestopping - Do NOT Disturb. Notify Building Management of Any Damage."

2. Contractor's name, address and phone number.

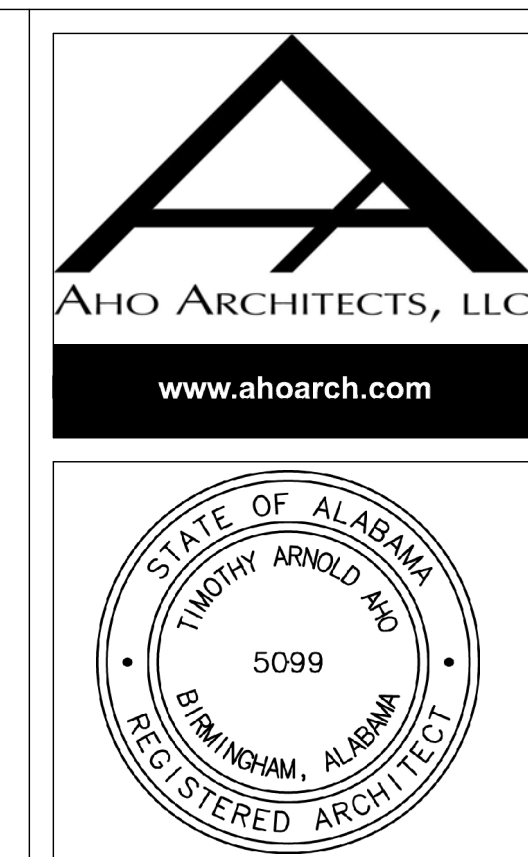
3. Designation of applicable testing agency

4. Date of Installation

5. Manufacturer's name

6. Installer's name

**Warranty:**  
Provide manufacturers' standard product warranty.



Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

FINAL		
No.	Description	Date
© 2024 Aho Architects, LLC. All Rights Reserved.		
Architectural Specifications		
Project number	24004	
Date	04/08/2024	
Drawn by	ARC	
Checked by	N/A	
G200		
Scale	12" = 1'-0"	



<b>079200- Joint Sealants</b>
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by <u>Tremco</u> , or a comparable product by one of the following:
1. BASF Building Systems
2. Pecora Corporation
3. Dow Corning Corp.
<b>Products:</b>
A. Silicone (for use around plumbing fixtures and around glazing):
1. Spectrem 2
2. Color: Clear
B. Urethane (for use at masonry, control joints, and rough openings)
1. Dymonic 100
2. Color: To match adjacent material color (color and paintable)
C. Joint Sealant Backing:
1. Closed cell material with a surface skin or as approved by sealant manufacturer
<b>Installation:</b>
Install sealants and proper backing according to manufacturers' written instructions.
<b>Warranty:</b>
Provide manufacturers' standard product warranty.

<b>079219- Acoustical Joint Sealants</b>
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by <u>USG</u> or a comparable product by an approved manufacturer.
<b>Products:</b>
A. Acoustical Joint Sealant
1. USG Sheetrock Brand Acoustical Sealant
<b>Installation:</b>
Install sealants according to manufacturers' written instructions.
<b>Warranty:</b>
Provide manufacturer's standard warranty.

<b>DIVISION 08 - OPENINGS</b>
<b>081113 - Hollow Metal Doors and Frames (Hurricane Zone)</b>
<b>Manufacturers:</b>
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by <u>CECO Door Products</u> , or a comparable product by one of the following:
1. Curries Company
2. Steelcraft
3. Or Approved equal
<b>Products:</b>
<b>Materials</b>
A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
B. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.
C. Frame Anchors: ASTM A 653/A 653M, Commercial Steel (CS), Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.
<b>Hollow Metal Doors</b>
A. General: Provide 1-3/4 inch doors of design indicated, not less than thickness indicated; fabricated with smooth surfaces, without visible joints or seams on exposed faces unless otherwise indicated. Comply with ANSI/SDI A250.8 and ANSI/NAAMM HMMMA 867.
B. Exterior Doors (Energy Efficient): Face sheets fabricated of commercial quality hot-dipped zinc coated steel that complies with ASTM A924 A60. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model, ANSI/SDI A250.4 for physical performance level, and HMMMA 867 for door construction. (Florida Product Approval: FL #4553 / Texas Dept. of Insurance: TDI #DR-292)
1. Design: Flush panel.
2. Core Construction: Foamed in place polyurethane and steel stiffened laminated core with no stiffener face welds, in compliance with HMMMA 867 "Laminated Core".
a. Provide 22 gauge steel stiffeners at 6 inches on-center internally welded at 5" on-center to integral core assembly, foamed in place polyurethane core chemically bonded to all interior surfaces. No stiffener face welding is permitted.
b. Thermal properties to rate at a fully operable minimum U-Factor 0.29 and R-Value 3.4, including insulated door, thermal-break frame and threshold.
c. Kerf Type Frames: Thermal properties to rate at a fully operable minimum U-Factor 0.36 and R-Value 2.7, including insulated door, kerf type frame, and threshold.
3. Level/Model: Level 3 and Physical Performance Level A (Extra Heavy Duty), Minimum 16 gauge (0.053 inch - 1.3-mm) thick steel, Model 2.
4. Vertical Edges: Vertical edges to be mechanically interlocked with hairline seam. Beveled Lock Edge, 1/8 inch in 2 inches (3 mm in 50 mm).
5. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet. Doors with an inverted top channel to include a steel closure channel, screw attached, with the web of the channel flush with the face sheets of the door. Plastic or composite channel fillers are not acceptable.
6. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9" or minimum 14 gauge continuous channel with pierced holes, drilled and tapped.
7. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.
C. Exterior Doors: Face sheets fabricated of commercial quality hot-dipped zinc coated steel that complies with ASTM A 653/A 653M, Coating Designation A60. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level.
Florida Product Approval: FL#4553 Texas Dept. of Insurance: TDI # DR-292
1. Design: Flush panel.
2. Level/Model: Level 2 and Physical Performance Level B (Heavy Duty), Minimum 18 gauge (0.042-inch - 1.0-mm) thick steel, Model 2.
3. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet. Doors with an inverted top channel to include a steel closure channel, screw attached, with the web of the channel flush with the face sheets of the door. Plastic or composite channel fillers are not acceptable.
4. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9" or minimum 14 gauge continuous channel with pierced holes, drilled and tapped.
5. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.
D. Interior Doors (Energy Efficient): Face sheets fabricated of commercial quality cold rolled steel that complies with ASTM A366 or 620. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level.
1. Design: Flush panel.
2. Core Construction: Steel stiffened laminated core with fiberglass filler with no stiffener face welds, in compliance with HMMMA 867 "Laminated Core".
a. Provide 22 gauge steel-stiffeners at 6 inches on-center internally welded at 5" on-center to integral core assembly. No stiffener face welding is permitted.
b. Acoustical sound transmission rating shall be no less than STC 38 complying with ASTM E 90 and must be visible on factory applied labels.


<b>081113 - Hollow Metal Doors and Frames (Hurricane Zone)</b>
D. Interior Doors (Energy Efficient) (continued):
3. Level/Model: Level 2 and Physical Performance Level A (Heavy Duty), Minimum 18 gauge (0.042 inch - 1.1-mm) thick steel, Model 2.
4. Vertical Edges: Vertical edges to be mechanically interlocked with hairline seam. Beveled Lock Edge, 1/8 inch in 2 inches (3 mm in 50 mm).
5. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet. Doors with an inverted top channel to include a steel closure channel, screw attached, with the web of the channel flush with the face sheets of the door. Plastic or composite channel fillers are not acceptable.
6. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9".
7. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.
E. Interior Doors: Face sheets fabricated of commercial quality cold rolled steel that complies with ASTM A 1008/A 1008M. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:
1. Design: Flush panel.
a. Fire Door Core: As required to provide fire-protection and temperature-rise ratings indicated.
2. Level/Model: Level 2 and Physical Performance Level B (Heavy Duty), Minimum 18 gauge (0.042-inch - 1.0-mm) thick steel, Model 2.
3. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet.
4. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9" or minimum 14 gauge continuous channel with pierced holes, drilled and tapped.
5. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.
F. Manufacturers Basis of Design:
1. CECO Door Products (C) Honeycomb Core - Regent Series.
<b>Hollow Metal Frames</b>
A. General: Comply with ANSI/SDI A250.8 and with details indicated for type and profile.
B. Exterior Frames: Fabricated of hot-dipped zinc coated steel that complies with ASTM A 653/A 653M, Coating Designation A60.
1. Fabricate frames with mitered or coped corners. Profile as indicated on drawings.
2. Manufacturers Basis of Design:
a. CECO Door Products (C) – SQSeries.
b. Curries Company (CU) – M Series.
C. Interior Frames: Fabricated from cold-rolled steel sheet that complies with ASTM A 1008/A 1008M.
1. Fabricate frames with mitered or coped corners. Profile as indicated on drawings.
2. Manufacturers Basis of Design:
a. CECO Door Products (C) - SQ Series.
b. Curries Company (CU) - M Series.
D. Fire rated frames: Fabricate frames in accordance with NFPA 80, listed and labeled by a qualified testing agency, for fire-protection ratings indicated.
E. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 Table 4 with reinforcement plates from same material as frames.
<b>Frame Anchors</b>
A. Jamb Anchors:
1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, formed from A60 metallic coated material, not less than 0.042 inch thick, with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.177 inch thick.
2. Stud Wall Type: Designed to engage stud and not less than 0.042 inch thick.
3. Compression Type for Drywall Slip-on (Knock-Down) Frames: Adjustable compression anchors.
4. Windstorm Opening Anchors: Types as tested and required for indicated wall types to meet specified wind load design criteria.
B. Floor Anchors: Floor anchors to be provided at each jamb, formed from A60 metallic coated material, not less than 0.042 inches thick.
C. Mortar Guards: Formed from same material as frames, not less than 0.016 inches thick.
<b>Installation:</b>
Install hollow metal doors and frames according to manufacturers' written instructions.
<b>Warranty:</b>
Provide manufacturers' standard product warranty.

<b>081416- Flush Interior Wood Doors</b>
<b>Door Construction - General</b>
A. WDMA I.3.1-A Performance Grade: Extra Heavy Duty; Aesthetic Grade: Premium.
B. U-Factor: 0.50
<b>Core Construction</b>
A. Particleboard Core Doors:
1. Particleboard: Wood fiber based materials complying with ANSI A208.1 Particleboard standard. Grade LD-2.
2. Adhesive: Fully bonded construction using Polyurethane (PUR) glue.
3. Blocking: As indicated under article "Blocking".
<b>Veneered Doors for Painted Finish</b>
A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. ASSA ABLOY Wood Doors (GR): GPD Series.
2. Eggers Industries (EG): Premium Series.
3. Marshfield-Algoma (MF): Signature Series.
4. VT Industries (VT): Artistry Series.
B. Interior Solid Core Doors:
1. Grade: Custom.
2. Faces: Veneer grades as noted below; veneer minimum 1/50-inch (0.5mm) thickness at moisture content of 12% or less.
a. Rotary Sliced Natural Birch, A grade faces.
3. Match between Veneer Leaves: Book match.
4. Assembly of Veneer Leaves on Door Faces:
a. Running Match.
5. Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.
6. Transom Match: Continuous match.
7. Vertical Edges: Matching same species as faces. Wood or composite material, one piece, laminated, or veneered. Minimum requirements per WDMA section P-1, Performance Standards for Architectural Wood Flush Doors.
8. Horizontal Edges: Solid wood or structural composite material meeting the minimum requirements per WDMA section P-1, Performance Standards for Architectural Wood Flush Doors
9. Construction: Five plies. Stiles and rails are bonded to core, then entire unit sanded before applying face veneers.
10. At doors over 40% of the face cut-out for lights and or louvers, furnish engineered composite lumber core.
<b>Light Frames and Glazing</b>
A. Metal Frames for Light Openings in doors with up to 1-inch thick insulated glazing.
1. Low profile beveled vision lite frame
2. Color: Gray
3. 20 gauge cold rolled steel
4. Mitered and welded corners with counter sunk mounting holes
5. Size as indicated on plans.
B. Glazing: Comply with installation requirements in Division 08 Section "Glazing" and with the flush wood door manufacturer's written instructions.
<b>Fabrication</b>
A. Factory fit doors to suit frame opening sizes indicated.
1. Comply with requirements in NFPA 80 for fire rated doors.
2. Undercut: As required per manufacturer's templates and sill condition.
B. Factory machine doors for hardware that is not surface applied. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates.
1. Coordinate with hardware mortises in metal frames to verify dimensions and alignment before factory machining.
2. Metal Astragals: Factory machine astragals and formed steel edges for hardware for pairs of fire rated doors.
C. Openings: Cut and trim openings through doors in factory.
1. Light Openings: Trim openings with moldings of material and profile indicated.
2. Glazing: Comply with applicable requirements in Division 08 Section "Glazing."

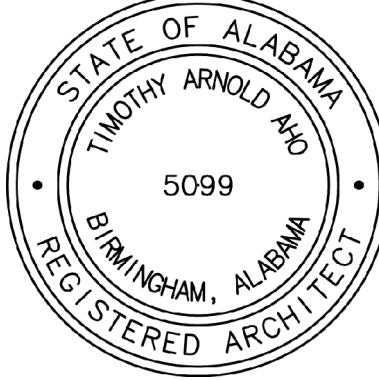
<b>081416- Flush Interior Wood Doors (continued):</b>
<b>Installation</b>
A. Install per manufacturers' standard written instructions.
<b>Warranty</b>
A. Provide manufacturers' standard material warranty.
<b>083113- Access Doors and Frames</b>
<b>Manufacturers:</b>
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by <u>Williams Brothers</u> , or a comparable product by an approved manufacturer.
<b>Products:</b>
A. Attic Ladder: Super Simplex Disappearing Stairway
i. Opening Size: 30 inches x 54 inches
ii. Floor to Mezzanine Height: 8' - 10 1/2"
iii. Floor to Ceiling Height: 8' - 0"
iv. Ladder width: 18 inches min.
<b>Installation:</b>
1. Install attic access according to manufacturer's written instructions.
<b>Warranty:</b>
1. Provide manufacturers' standard product warranty.

<b>083613- Sectional Doors (Standard with 2 Rows of Glazed Panels - Impact Rated):</b>
<b>Manufacturers:</b>
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by <u>Raynor Garage Doors</u> , or a comparable product by an approved manufacturer.
Please note: Overhead Door Company is <u>not</u> an approved manufacturer.
<b>Products:</b>
<b>Notes:</b>
1) All glazing to have proper labels as required by local AHJ and building codes.
2) All glazing shall be reviewed and approved by the local distributor to meet the requirements for the region in which the glazing is being installed. Any issues with items specified shall be brought to the attention of the Architect prior to bid.
3) Cornell is NOT an approved manufacturer in Hurricane Prone Regions.
1.1 MANUFACTURERS
A. Acceptable Manufacturer: Raynor, which is located at: 1101 East River Rd. P. O. Box 448; Dixon, IL 61021-0448; Toll Free Tel: 800-4-RAYNOR; Tel: 815-288-1431; Fax: 888-598-4790; Email: HYPERLINK "https://admin.arcat.com/users.pl?action=UserEmail&company=Raynor&coid=35092&rep=&fax=888-598-4790&message=RE:%20Spec%20Question%20(08360rgd):%20%20&mf= request info. (architectsupport@raynor.com)"; Web:http://www.raynor.com
B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
1.2 SECTIONAL RIBBED PAN DOOR (Impact Rated)
(Florida Product Approval: FL #14092.12)
A. SteelForm as manufactured by Raynor Garage Doors:
1. Doors:
a. Operation:
1) Provide doors designed for manual operation.
b. Jamb Construction:
1) Steel jambs with self-tapping fasteners.
c. Structural Performance Requirements:
1) Wind Loads: See Structural.
2. Sections:
a. SteelForm S24 (Impact Rated):
1) Section end stiles and center stiles to be a minimum 16 gauge galvanized steel. End stiles and center stiles to be riveted to outside face with stainless steel rivets and resistance welded to interior rail.
2) Material: Steel pan construction, 2 inches thick, roll formed from 24 gauge embossed thickness, commercial quality, hot-dipped galvanized (G40) steel complying with ASTM A 653. Exterior of door to have two deep ribs, four pencil grooves, and roll-formed tongue-and-groove joints for weathertight closure.
3) Finish: Exterior skin to have two coats of paint, one primer coat and one finish coat.
a. Color: White polyester paint.
b. Seals: Bottom of door to have flexible U-shaped vinyl seal retained in aluminum rail. Optional blade seal on top section to prevent airflow above header
c. Trussing: Doors designed to withstand specified windload. Deflection of door in horizontal position to be maximum of 1/120th of door width.
3. Windows: Locations to comply with door elevation drawings.
a. Full-view window consisting of aluminum stile and rail construction and color matched to door exterior with powdercoat paint in door sections 3, and 4.
b. Impact Rated Glazing: 11/32" clear impact glazing at sections 3 and 4 only.
4. Mounting: Sections mounted in door opening using:
a. Lap Jamb Angle Mounting: section overlap door jambs by 1 inch on each side of door opening.
5. Track:
a. Material: Hot-dipped galvanized steel (ASTM A 653), fully adjustable for adequate sealing of door to jamb or weatherseal.
b. Track Size: 2 inches.
1) Jamb Type: Steel.
a) Mounting: Floor-to-shaft angles, 13 gauge (2.2 mm) minimum continuous angles from floor, past header, up to door shaft. Angle Size: 2-5/16 x 4 inches (59 x 102 mm).
6. Counterbalance:
a. Counterbalance System: Provided with aircraft-type, galvanized steel lifting cables with minimum safety factor of 5. Torsion Springs consisting of heavy-duty oil-tempered wire torsion springs on a continuous ball-bearing cross-header shaft.
1) Spring Cycle Requirements: High cycle: 50,000 cycles.
7. Hardware:
a. Hinges and Brackets: Fabricated from galvanized steel.
b. Perimeter Seal: Provide complete weather stripping system to reduce air infiltration. Weather stripping shall be replaceable.
1) For angle mounted doors provide angle clip-on seal.
c. Furnish door system with locks: Two Interior side locks with dead bolt provided with hole to receive padlock provided by Owner.
d. Provide leaf spring bumpers.
8. SteelForm Limited Warranty: Raynor warrants the door sections against defects in material and workmanship, and deterioration due to rust-through for ten years from date of delivery to the original purchaser. Window components are warranted against defects in material and workmanship for one year from date of delivery to the original purchaser. Raynor warrants all hardware and spring components against defects in material and workmanship for one year (or cycle life of the springs) from date of delivery to the original purchaser. Additional Limited Warranty requirements in accordance with manufacturer's full standard limited warranty documentation.
9. Configuration Type: Vertical Lift Clearance: Track must provide 35" available headroom, which will maintain 14'-0" minimum clearance from finish floor to underside of lift equipment, follow manufacturer's instructions for installation. Support tracks are to be adequately reinforced with continuous angle attached to structure.
10.
PART 2 EXECUTION
2.1 EXAMINATION
A. Do not begin installation until substrates have been properly prepared. Verify that site conditions are acceptable for installation of doors, operators, controls and accessories. Ensure that openings are square, flush and plumb.
B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
2.2 PREPARATION
A. Clean surfaces thoroughly prior to installation.
B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

<b>083613- Sectional Doors (Standard with 2 Rows of Glazed Panels - Impact Rated):</b>
PART 2 EXECUTION (continued):
2.3 INSTALLATION
A. General: Install door, track and operating equipment complete with all necessary accessories and hardware according to shop drawings, manufacturer's instructions.
B. Lubricate bearings and sliding parts, and adjust doors for proper operation, balance, clearance and similar requirements.
2.4 PROTECTION
A. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove and legally dispose of construction debris from project site.
B. Remove temporary coverings and protection of adjacent work areas. Repair or replace installed products damaged prior to or during installation.
C. Lubricate bearings and sliding parts, assure weather tight fit around door perimeter and adjust doors for proper operation, balance, clearance and similar requirements. Protect installed products until completion of project.
D. Touch-up, repair or replace damaged products before Substantial Completion.
<b>Installation:</b>
Install sectional doors according to manufacturers' written instructions.
<b>Warranty:</b>
Provide manufacturers' standard product warranty.
<b>084113- Aluminum-Framed Entrances and Storefronts (Hurricane Zone Impact)</b>
<b>Manufacturers:</b>
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by <u>YKK AP America Inc.</u> , or a comparable product by one of the following:
1. Kawneer
2. Or Approved equal
<b>Products:</b>
A. Exterior Storefront System
(Florida Product Approval: FL#14218.13) (Texas Dept. of Insurance: TDI #CWSF-51)
1. YHS 50 TU Thermally Broken Impact Resistant and Blast Mitigating Storefront System for Insulating Glass
2. Center set.
3. Thermal Barrier: Provide continuous thermal barrier by means of a poured and debridged pocket consisting of a two part, chemically curing high density polyurethane which is bonded to the aluminum by YKK ThermoBond Plus.
4. Materials: Anodized Aluminum; 0.050" minimum thickness.
5. Accessories: As recommended by the manufacturer.
6. Components: Manufacturer's standard extruded aluminum mullions, entrance doors, framing, and indicated shapes, perimeter anchor fillers and steel reinforcing as required.
7. Glazing Stops: Manufacturer's standard glazing stops with EPDM glazing gaskets to prevent water infiltration at the exterior and Dow Corning 995 Structural Silicone Sealant with fixed stops at the interior. Color to match storefront.
8. Finish: See finish schedule.
9. Wind Load: See Structural for design pressures.
10. Door: 35H Medium Stile (Hurricane Rated)
Florida Product Approval: FL #16554.1 Texas Department of Insurance: TDI #DR-822
a. Material: 0.050" aluminum min. thickness
b. Finish: See finish schedule.
c. Hardware: See Division 8 Door Hardware
d. Accessories: Manufacturer's standard
e. Glass: See Division 8 Glazing
f. Glazing Stops: Manufacturer's standard
g. Weather-stripping: Manufacturer's standard
B. Interior Storefront System
1. YES 45 FS
2. Center set.
3. Materials: Anodized Aluminum; 0.050" minimum thickness.
4. Accessories: As recommended by the manufacturer.
5. Finish: See finish schedule.
C. Storefront Glazing
1. Glazing: Comply with Division 08 "Glazing"
2. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of light gray resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.
3. Glazing Sealants: As recommended by the manufacturer.
<b>Installation:</b>
Install aluminum-framed entrances and storefronts according to manufacturers' written instructions.
<b>Warranty:</b>
Provide manufacturers' standard product warranty.
<b>087100- Door Hardware (Standard Single Bldg. w/ Side Tire Storage)</b>
<b>Manufacturers:</b>
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by the following manufacturers, or approved equal:
1. MK- McKinney
2. AD- Adams Rite
3. YA- Yale
4. RO-Rockwood
5. NO-Norton
6. PE- Pemko
<b>General Notes:</b>
1. Hardware listed for design criteria, confirm with specific door manufacturer.
2. Door hardware must meet specified windstorm rating (Florida Approval Number / Texas Department of Insurance Approval) This is to be provided by door supplier, if applicable.
3. Finishes for all door hardware are to be as indicated on Finish Schedule.



www.ahoarch.com



Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

FINAL

No.	Description	Date

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Architectural Specifications

Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A
Scale	12" = 1'-0"

4/19/2024 11:45:39 AM



087100- Door Hardware (Standard Single Bldg. w/ Side Tire Storage)			
<b>Hardware Sets:</b>			
Set: 1.0 Doors: 1 Description: EXT - ALUM			
1	Continuous Hinge	MCK-25HD	MK
1	Deadlatch	4900 x 4591	AD
1	Cylinder	Mort / Cyl as required	YA
2	Pull	BF168	RO
1	Surface Closer	CLP8501	NO
1	Mtg Plate	as required	NO
1	Threshold	271A Pemkote MSES25SS	PE
1	Gasketing	by door / frame mfg	
1	Sweep	315CN	PE
Set: 2.0 Doors: 2, 3, 21, 22 Description: BAYS			
4	Hinge	TA2714 4-1/2" x 4-1/2"	MK
1	Cylindrical Lock (classroom)	PB 5408LN	YA
1	Surface Closer	8501 Reg / PA	NO
1	Kick Plate	K1050 8" X 2" LDW 4BE CSK	RO
1	Door Stop	409 / 446 [as required]	RO
1	Gasketing	S773D	PE
Set: 3.0 Doors: 4 Description: WAITING - ALUM			
1	Continuous Hinge	MCK-25HD	MK
2	Door Pull	BF168	RO
1	Surface Closer	8501 Reg / PA	NO
1	Door Stop	409 / 446 [as required]	RO
1	Gasketing	by door / frame mfg	
Set: 3.1 Doors: 9, 19, 20, 23 Description: EXT - BAYS			
4	Hinge (heavy weight)	T4A3386 NRP 4-1/2" x 4-1/2"	MK
1	Exit Device (rim, nightlatch)	7150 WS PB627F	YA
1	Cylinder	Mort / Cyl as required	YA
1	Surface Closer	CLP8501	NO
1	Threshold	271A Pemkote MSES25SS	PE
1	Gasketing	S773D	PE
1	Rain Guard	349C x LAR	PE
1	Sweep	315CN	PE
Set: 4.0 Doors: 5 Description: TOILET			
4	Hinge	TA2714 4-1/2" x 4-1/2"	MK
1	Cylindrical Lock (privacy)	PB 5402LN	YA
1	Mop Plate	K1050 4" X 1" LDW 4BE CSK	RO
1	Door Stop	409 / 446 [as required]	RO
1	Gasketing	S773D	PE
1	Surface Closer	8501 Reg / PA	NO
Set: 5.0 Doors: 13 Description: OFFICE			
4	Hinge	TA2714 4-1/2" x 4-1/2"	MK
1	Cylindrical Lock (entry)	PB 5407LN	YA
1	Door Stop	409 / 446 [as required]	RO
1	Threshold	271A Pemkote MSES25SS	PE
1	Gasketing	S773D	PE
1	Sweep	315CN	PE
1	Surface Closer	8501 Reg / PA	NO
Set: 6.0 Doors: 14 Description: BREAK			
4	Hinge	TA2714 4-1/2" x 4-1/2"	MK
1	Passage Set	PB 5401LN	YA
1	Surface Closer	8501 Reg / PA	NO
1	Mop Plate	K1050 4" X 1" LDW 4BE CSK	RO
1	Kick Plate	K1050 8" X 2" LDW 4BE CSK	RO
1	Door Stop	409 / 446 [as required]	RO
1	Gasketing	S773D	PE
Set: 7.0 Doors: 15 Description: SHOP TOILET			
4	Hinge	TA2714 4-1/2" x 4-1/2"	MK
1	Cylindrical Lock (privacy)	PB 5402LN	YA
1	Mop Plate	K1050 4" X 1" LDW 4BE CSK	RO
1	Door Stop	409 / 446 [as required]	RO
1	Threshold	271A Pemkote MSES25SS	PE
1	Gasketing	S773D	PE
1	Sweep	315CN	PE
1	Surface Closer	8501 Reg / PA	NO
Set: 8.0 Doors: 6, 7, 8, 10, 11, 12, 16, 17, 18, 24, 25, 26 Description: OH DOOR			
1	Hardware	By door mfg	
<b>Installation:</b> Install door hardware according to manufacturers' written instructions. All door hardware (Interior and Exterior) to be keyed alike.			
<b>Warranty:</b> Provide manufacturers' standard product warranty.			

088000- Glazing (IGU) Hurricane Zone Impact			
<b>Manufacturers:</b>			
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by <u>Vitro</u> , or a comparable product by one of the following:			
1.	Guardian Industries Corp.		
2.	Or Approved equal		
<b>Notes:</b>			
1.)	All glazing to have proper labels as required by local AHJ and building codes.		
2.)	All glazing shall be reviewed and approved by the local distributor to meet the requirements for the region in which the glazing is being installed. Any issues with items specified shall be brought to the attention of the Architect prior to bid.		
3.)	In wind-borne debris regions, glazed opening in buildings shall be impact resistant or protected with an impact resistant covering.		
A.	GL-1 Insulating Glass Unit: Double Glazed Clear Solar Control Laminated Insulating Glass Unit [6mmSB90(2)Clear_090PVB_6mmClear   Air 1/2" (12.7mm)   Clear 6mm ] 1. Conformance: ASTM C 1172 and complying with testing requirements 2. Outdoor Lite: Laminated		

088000- Glazing (IGU) Hurricane Zone Impact			
a. Conformance: ASTM C1172 and complying with testing requirements			
3.	Laminate Outboard Lite: Clear float glass as manufactured by Vitro Architectural Glass . a. Conformance: ASTM C 1036, Type I, Class 1, Quality q3 b. Thickness: 6mm (1/4") c. Heat-Treatment: Tempered; ASTM C 1048, Kind FT; Safety Glazing meets ANSI Z97.1 and CPSC 16CFR-1201 d. Magnetic Sputter Vacuum Deposition Coating (MSVD): ASTM C 1376. e. Coating: Solarban® 90 on Surface # 2		
4.	Interlayer: 1) Type: PVB 2) Thickness: 0.090" (2.29 mm) 3) Color: Clear		
5.	Laminate Inboard Lite: Clear float glass as manufactured by Vitro Architectural Glass a. Conformance: ASTM C 1036, Type I, Class 1, Quality q3 b. Thickness: 6mm (1/4") c. Heat-Treatment: Tempered; ASTM C 1048, Kind FT; Safety Glazing meets ANSI Z97.1 and CPSC 16CFR-1201		
6.	Interspace Content: Air 1/2" (12.7mm)		
7.	Indoor Lite: Clear float glass as manufactured by Vitro Architectural Glass a. Conformance: ASTM C 1036, Type 1, Class 1, Quality q3. b. Heat-Treatment: Tempered; ASTM C 1048, Kind FT; Safety Glazing meets ANSI Z97.1 and CPSC 16CFR-1201 c. Glass Thickness: 6mm (1/4")		
8.	Performance Requirements: a. Visible Light Transmittance: 41 percent minimum. b. Winter Nighttime U-Factor: 0.45 (Btu/hr*ft²*°F) maximum. c. Summer daytime U-Factor: 0.47 (Btu/hr*ft²*°F) maximum. d. Shading Coefficient: 0.27 maximum. e. Solar Heat Gain Coefficient: 0.23 maximum. f. Outdoor Visible Light Reflectance: 16 percent maximum.		
B.	GL-2 Monolithic Single-Glaze Float-Glass: Monolithic Clear Glass Clear 6mm 1. Clear float glass as manufactured by Vitro Architectural Glass a. Conformance: ASTM C 1036, Type 1, Class 1, Quality q3. b. Heat-Treatment: Tempered; ASTM C 1048, Kind FT; Safety Glazing meets ANSI Z97.1 and CPSC 16CFR-1201 c. Glass Thickness: 6mm (1/4") 2. Performance Requirements: a. Visible Light Transmittance: 89 percent minimum. b. Winter Nighttime U-Factor: 1.02 (Btu/hr*ft²*°F) maximum. c. Summer daytime U-Factor: 0.92 (Btu/hr*ft²*°F) maximum. d. Shading Coefficient: 0.94 maximum. e. Solar Heat Gain Coefficient: 0.82 maximum. f. Outdoor Visible Light Reflectance: 8 percent maximum.		
C.	Glazing Installation 1. Install per manufacturers' standard written instructions.		
D.	Glazing warranty 1. Provide manufacturers' standard product warranty.		

**DIVISION 9 - FINISHES**

**092900- Gypsum Board**

**Manufacturers:.**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Lafarge unless otherwise indicated, or a comparable product by one of the following:

1. Georgia-Pacific
2. USG
3. National Gypsum

**Products:**

A. Moisture and Mold-Resistant Type: Mold Defense

1. Thickness: 1/2 inch
2. Long Edges: Tapered
3. Finish: Level 4 in areas exposed to view. Level 1 in concealed areas.

B. Water-resistant Type: Watercheck ( @ Toilet Rooms and behind plumbing fixtures)

1. Thickness: 1/2 inch
2. Long Edges: Tapered
3. Finish: Level 4
4. Cuts: All cuts in board shall be covered with special waterproofing sealant as recommended by the manufacturer.

C. Type X: Firecheck (As Required)

1. Thickness: 5/8"
2. Long Edges: Tapered
3. Finish: Level 4
4. All penetrations and joints to be sealed with fire caulk as recommended by the manufacturer.

**Installation:**

Install gypsum board and accessories according to manufacturers' written instructions.

**Warranty:**

Provide manufacturers' standard product warranty.

093013- Ceramic Tiling	
<u>Manufacturer:</u>	
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below:	
<u>Products:</u>	
A.	Ceramic Tile: Volume 1.0 by Daltile 1. Size: 12"x12" 2. Color: Intensity Pebble VL72
B.	Epoxy Grout: Kerapoxy by MAPEI 1. Color: 47 Charcoal
C.	Transition Strip: RENO-U 3/8" /10 mm by Schluter Systems 1. Type: ADA Compliant 2. Finish: Satin Anodized Aluminum
<u>Installation:</u> Install ceramic tile and accessories according to manufacturers' written instructions.	
<u>Warranty:</u> Provide manufacturers' standard product warranty.	

096513- Resilient Base and Accessories			
<b>Manufacturers:</b>			
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by <u>Roppe</u> , or a comparable product by one of the following:			
1.	Johnsonite, a Tarkett Company		
2.	Armstrong World Industries		
3.	Or Approved equal		
<b>Products:</b>			
A.	Rubber Base: Pinnacle Rubber by Roppe		
1.	Height: 4"		
2.	Length: Coils in manufacturer's standard length		
3.	Outside Corners: Job formed		
4.	Inside Corners: Job formed		
5.	Color as indicated on finish schedule.		
B.	Adhesives: As recommended by the manufacturer		
<b>Installation:</b>			
Install resilient base according to manufacturers' written instructions.			
<b>Warranty:</b>			
Provide manufacturers' standard product warranty.			

099113- Exterior Painting

Manufacturer:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Sherwin Williams.

Products:

A. Masonry: Pro Industrial Urethane Alkyd Enamel Gloss, B54-150 Series

B. Steel: Pro Industrial Urethane Alkyd Enamel Gloss, B54-150 Series

C. Wood: Pro Industrial Urethane Alkyd Enamel Gloss, B54-150 Series

D. Aluminum: Pro Industrial Urethane Alkyd Enamel Gloss, B54-150 Series

Note: Use 1 coat primer as recommended by manufacturer and 2 finish coats unless otherwise recommended by the manufacturer.

Installation:

Install exterior paint according to manufacturers' written instructions.

Warranty:

Provide manufacturers' standard product warranty.

## 099123- Interior Painting

**Manufacturer:**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Sherwin Williams.

**Products:**

- A. Masonry: Pro Industrial Pre-Catalyzed Water Based Epoxy Semi-Gloss, K46W151 Series
- B. Steel: Pro Industrial Urethane Alkyd Enamel Gloss, B54-150 Series
- C. Wood: Pro Industrial Urethane Alkyd Enamel Gloss, B54-150 Series
- D. Gypsum Board in Office Area: ProMar 200 Zero VOC Interior Latex Egshel, B20W2600 Series. Use extreme bond primer at vinyl graphics.
- E. Gypsum Board in Bay Area: ProMar 200 Zero VOC Interior Latex Egshel, B20W2600 Series. Use extreme bond primer at vinyl graphics.
- F. Gypsum Board Ceilings: ProMar 200 Zero VOC Interior Latex Flat, B30W2650 Series
- G. Plywood Ceilings: ProMar 200 Zero VOC Interior Latex Flat, B30W2650 Series
- H. Sealed Concrete Floors: ArmorSeal Rextthane I Floor Coating + Shark Grip (1000 HS primer)

Note: Use 1 coat primer as recommended by manufacturer and 2 finish coats unless otherwise recommended by the manufacturer.

**Installation:**  
Install interior paint according to manufacturers' written instructions.

**Warranty:**  
Provide manufacturers' standard product warranty.

DIVISION 10 - SPECIALTIES			
101419- Dimensional Letter Signage - By others.			
101423.13 Room-Identification Signage			
See drawing on A602.			

102600 - Wall and Door Protection			
<b>Manufacturer:</b>			
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by <u>InPro Corporation</u> .			
<b>Products:</b>			
A.	Stainless Steel Flush Mount Corner Guards		
B.	Corner Radius:1/8"		
C.	Height: 4'-0"		
D.	Width: 1'1/2"		
E.	Materials: Stainless Steel: Type 430, 16 gauge		
F.	Attachment: Pre-drilled beveled holes and phillips head screws.		
G.	Finish: Stainless Steel No. 4 satin finish.		
H.	Location: As indicated on drawings.		
J.	Installation: Install per manufacturer's standard written instructions.		
K.	Warranty: Provide manufacturers' standard product warranty.		

## **102800- Toilet, Bath, and Laundry Accessories**

The following list of accessories is essentially complete; however, the Contractor shall examine the drawings carefully and shall supply such items not specifically called for to provide a complete installation.

**Manufacturers:**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Bradley Corporation or a comparable product by one of the following:

1. Bobrick Washroom Equipment, Inc.
2. American Specialties, Inc.
3. Or Approved Equal

**Products:**

A. Robe Hook: Bradley Model 915.

B. Grab Bars: Bradley Model 8120-00142, Model 8120-00136, and Model 8120-00124

C. Toilet Tissue Dispenser: Bradley Model 5425 (**By Others**)

D. Mirror: Bradley Model 780-02436

E. Soap Dispenser: Bradley Model 6563 (**By Others**)

F. Paper Towel Dispenser: Bradley Model 2494 (**By Others**)

G. Under Lavatory Guard: Truebro Lav Guard 2 by IPS Corporation

H. Baby Changing Station: Bradley Model 9631 (Light Gray)

**Installation:**

1. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and heights indicated.
2. Install grab bars to withstand a downward load of at least 250 lbf, when tested according to ASTM F 446.

**Warranty:**  
Provide manufacturers' standard product warranty.

104413- Fire Department Lock Box			
<u>Manufacturers:</u>			
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by <u>Knox</u> , or a comparable product by one of the following:			
1.	Kidde		
2.	Or Approved Equal		
<u>Products:</u>			
A.	Lock Box: 3200 Series Hinged Door Surface Mount		
	i.	Color: As indicated on Finish Schedule	
<u>Installation:</u>			
1. Install fire department lock box in location and height as required by the authorities having jurisdiction.			
2. Install per manufacturer's written installation instructions.			
<u>Warranty:</u>			
Provide manufacturers' standard product warranty.			

**104416- Fire Extinguishers**

**Manufacturers:**

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Amerex Corporation, or a comparable product by one of the following:

1. Larsens Manufacturing Company
2. JL Industries
3. Or Approved Equal

**Products:**

- A. ABC Dry Chemical Extinguisher: Amerex Model B456
- B. Wall Bracket: Amerex Model 0546 Wall
- C. UL and ULC Rating: 4A-80BC

**Installation:**

1. Install fire extinguishers in locations and heights indicated and in compliance with requirements of authorities having jurisdiction.
2. Install fire extinguishers and brackets according to manufacturers' written instructions.

**Warranty:**  
Provide manufacturers' standard product warranty.

DIVISION 12- FURNISHINGS

123623.13 Plastic-Laminate-Clad Countertops

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Wilsonart.

Products:

A. Plastic Laminate #1

- High pressure decorative laminate: NEMA LD3
- Grade: HGS
- Color: 4880-38 Carbon Mesh

B. Adhesives: as recommended by the manufacturer

Installation:  
Install plastic laminate according to manufacturers' written instructions.

Warranty:  
Provide manufacturers' standard product warranty.



EXPRESS OIL CHANGE & TIRE ENGINEER STANDARDS - EXTERIOR

EXTERIOR

RED BRICK

On newer prototype buildings, the red brick is left unpainted. The Blue Blood stripe extends all the way up to the flashing on the roof down to the top of the bay doors and all the way around the building(s). On Peak buildings, the peak is painted summit gray.

The Bay Doors are painted a bright white. The bollards that protect the bay doors are painted Safety Field. Downspouts and gutters to be painted Blue Blood.

If the building does not have a Peak, you must use the GRAY BRICK color scheme.

Must have a Gray, Black, or Blue Roof



3

PAINTED GRAY BRICK

Painted buildings include all of the same specs as the RED BRICK buildings except the red brick is painted Summit Gray. Downspouts are painted to match the background of the building.

If the building does not have a Peak, the blue stripe will go all the way around the building.

Must have a Gray, Black, or Blue Roof



4

EXTERIOR

EOC & TE SIGN FOR PEAK BUILDINGS



5



Signage by Others

EXTERIOR

CUSTOM LIGHTBAR (OPTIONAL)

The new lightbar sits underneath the letters and is an aesthetic architectural complement during the day and catches the viewers attention at night.

The lightbar is to sit even with the top of the bay doors and span across all bay doors.



7

Lightbar by Others

CHANNEL LETTERS

White channel letters with 3" depth. Channel letter sizing is dictated by space and also may change due to the local sign regulations. In most cases, these letters are treated as directional signage. In most cases, signs vary from 18" to 24".

FONT

Interstate Bold Condensed - 50pt tracking

LETTERING FOR FRONT BUILDING

10 MINUTE OIL CHANGE

FULL SERVICE AUTO CARE

TIRE CENTER

LETTERING FOR BACK BUILDINGS

TIRES ALIGNMENT ROTATE & BALANCE

DIAGNOSTICS A/C BRAKES

8

Letters by Others

EXTERIOR

AWNING

The new metal awning adds a nice modern, industrial look to the buildings and features built-in lighting for customers entering and exiting in late afternoons. Standard size is 12' for most buildings.



9

Awnings by General Contractor. See Details on Sheet A303

BRANDED SCONCES

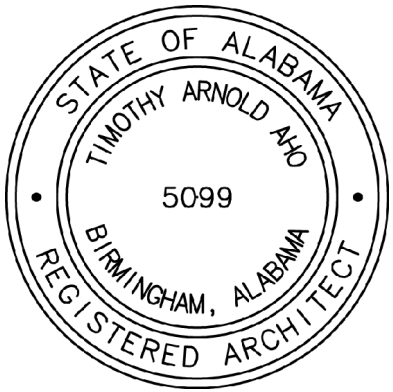
40"x28" aluminum sconces light up your building from top to bottom with a glowing logo in center. E sconces are to be placed on oil change side. TE sconces are to be placed on mechanical side. Sconces to be evenly spaced between the bay doors, and vertically centered with the bay doors.



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Branded Sconces by Others

Note: Items shown on this page are EOC standards. See Finish Schedule for actual materials to be used on this project.



Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

FINAL

No.	Description	Date

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EOC Standards - Exterior

Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A

G300

Scale 12" = 1'-0"



EXPRESS OIL CHANGE & TIRE ENGINEERS STANDARDS - INTERIOR

INTERIOR

**INTERIOR PAINT**  
Adding two-level blue walls to the interior creates a bold look that is consistent with EOC&TE branding. The vinyl graphics add an extra communication element.



13

**IN-BAY MEDIA** (OPTIONAL)  
In-Bay Media plays all EOC&TE services to the customer with powerful animated, custom messages. The video is currently over 7 minutes long, allowing some messages to be viewed more than once.

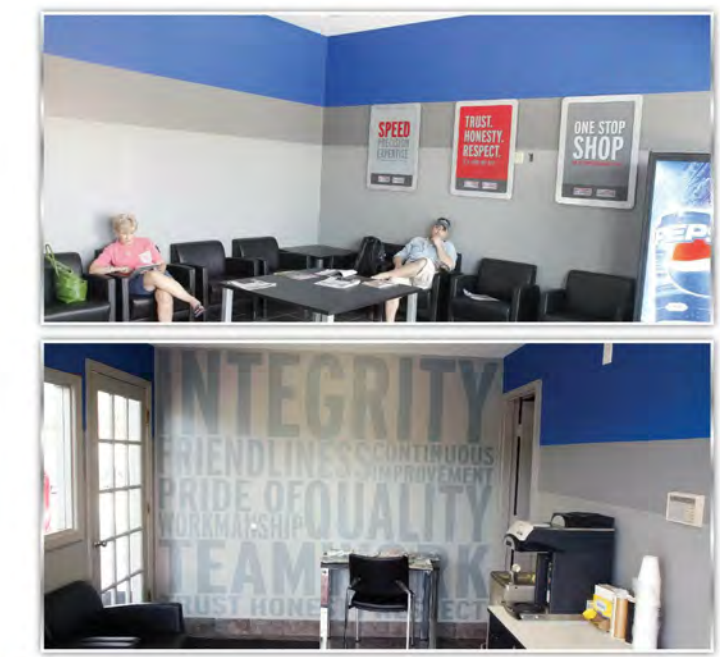


14

In Bay Media by Others

LOBBY

**PAINT SCHEME**  
Paint 3 color stripe on all walls, except the "Word Wall". The "Word Wall" will be painted Summit Gray and the vinyl words will be applied to it. For the "Word Wall", see note on enlarged plan A103 for wall location.



15

LOBBY

**CHAIRS**  
There are two options for chairs. Global Lounge large chairs for larger spaces and Europa Guest Chairs for smaller spaces. These chairs are heavy duty and come with a warranty. They are both black leather with metal accents.



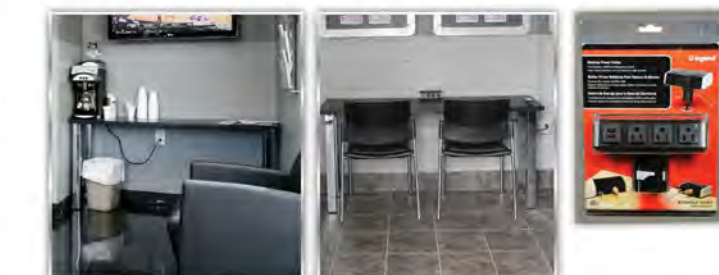
**TILE**  
All tile must be replaced unless it is in good shape and is a gray color. Replacement is Dap-Tile Heatboard H-05 Ashland with 6" wall base and Dark Grout.



17

Furniture by Others

**TABLES & LAPTOP STATION**  
These tables have a heavy duty laminate top with chrome accent legs to match the chairs. They are fully customizable, in shape and size, to fit your space. Typically we use these tables for laptop workstations and for coffee tables. If you do not have space for both, choose which one you would like to have (coffee or laptop stations). We also place power outlets on top of tables that screw on the back. These can be purchased at Home Depot or online (search Wireworld Desktop Power Center or WSP300-S).



**CHAIRS FOR LAPTOP WORKSTATION**  
Small, armless chairs with leather cushion seat.



18

Furniture by Others

VINYL SCHEDULE

The vinyl is fully customizable as far as size and layout. Each location is different. It is best to send the vendor clear measurements of the lobby wall and of the bay walls so they can size appropriately. Please be aware of piping or shelving, or anything else that may be in the way. PLEASE ALLOW 1 WEEK FOR PAINT TO CURE BEFORE APPLYING VINYL.

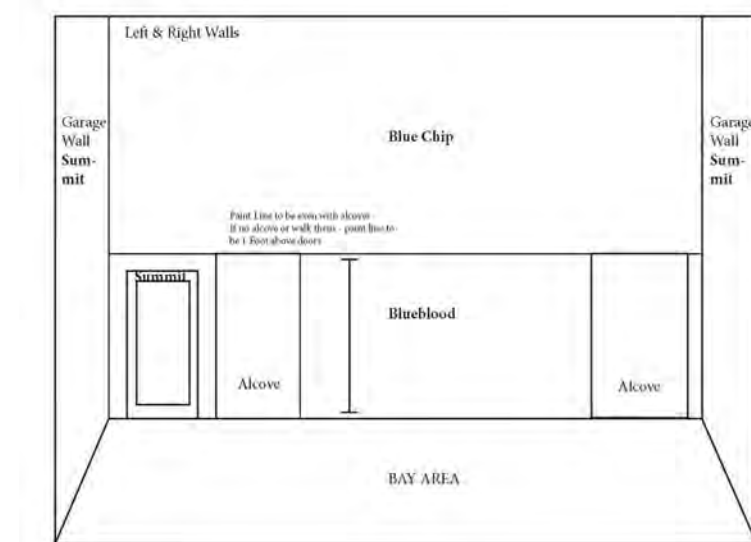


23

Wall Graphics by Others

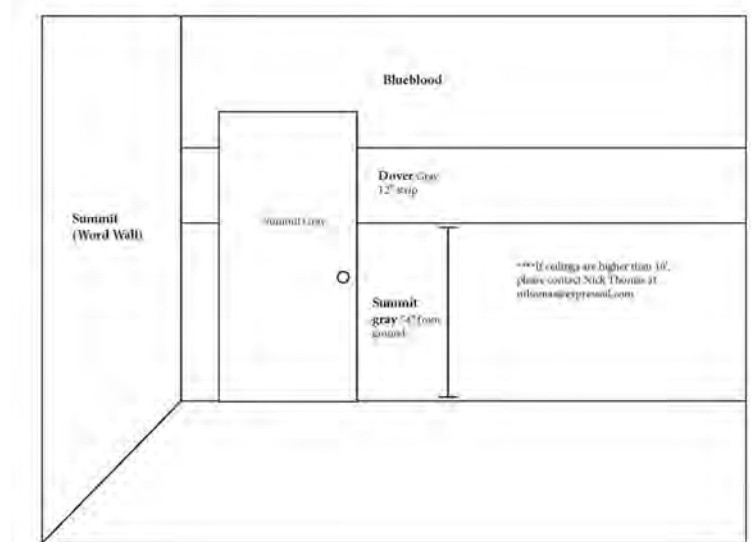
PAINT SCHEDULE

BAY AREA



25

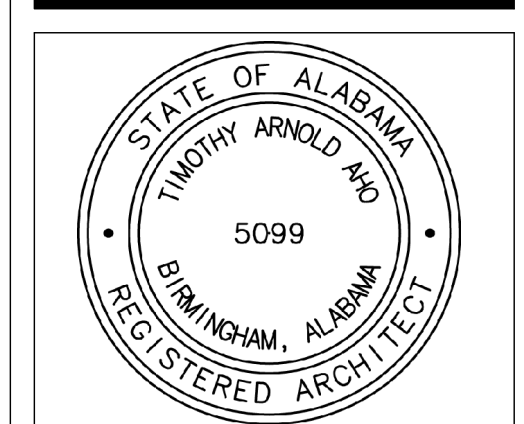
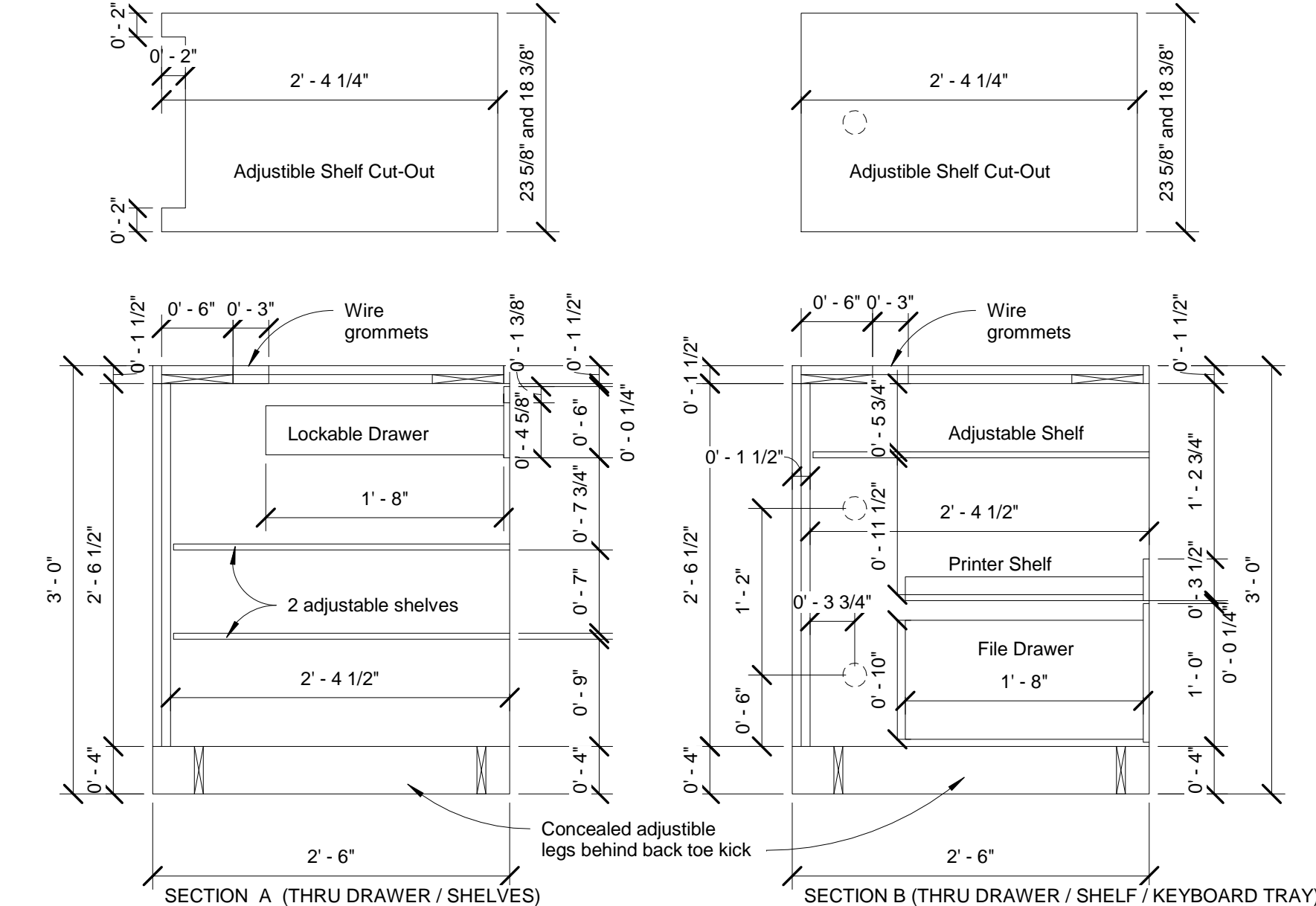
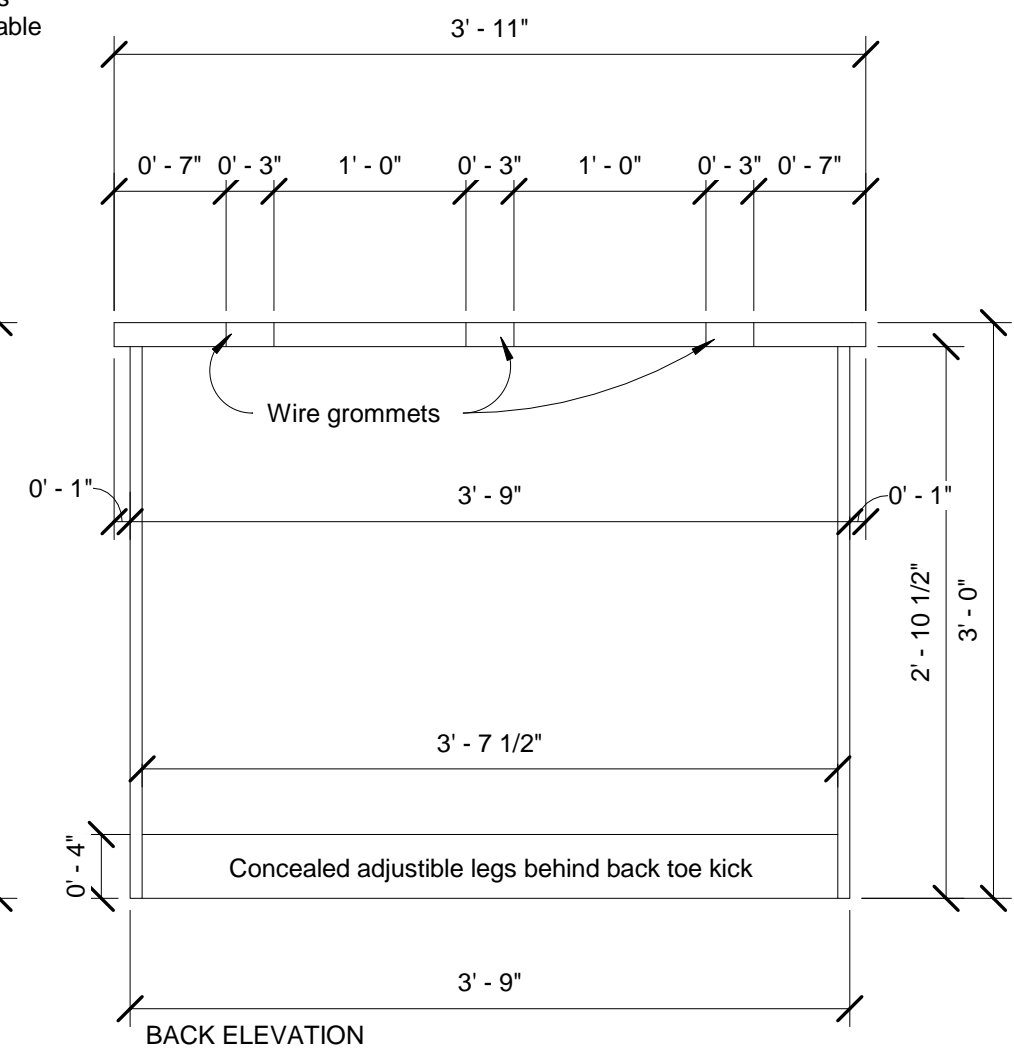
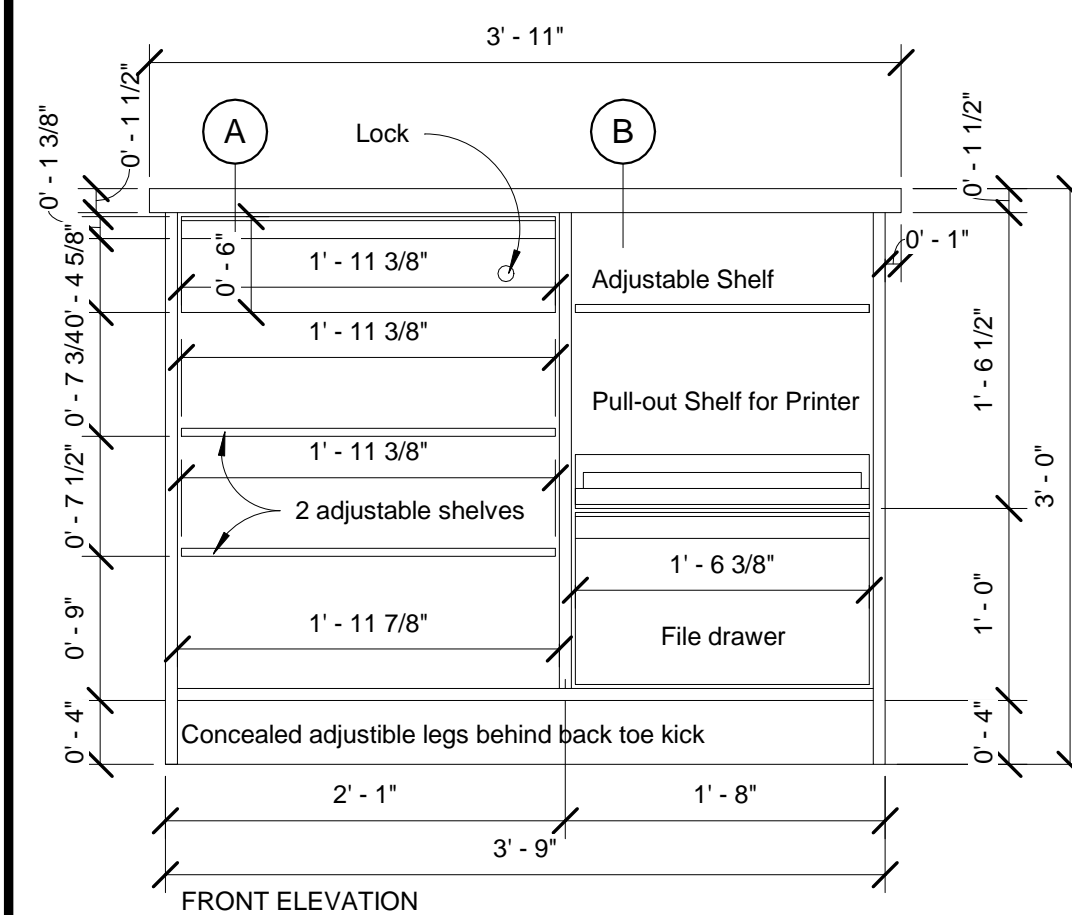
LOBBY



26

See Finish Schedule for Paint Selections

- CONSTRUCTION AND MATERIAL NOTES:**
- 1.) Cabinets - Plastic Laminate at Exposed Surfaces & Gray/Black Melamine Semi-Exposed Surfaces with 3MM PVC Edgbanding
  - 2.) Doors and Drawers - Plastic Laminate on 3/4" Gray/Black Melamine 3MM PVC Edgbanding
  - 3.) Counter Tops - Plastic Laminate on 1 1/2" Plywood with 3MM PVC Edgbanding
  - 4.) Adjustable Shelf Supports - Standard Euro Style 5MM Pin System.
  - 5.) Hinges - European 120 Degree Concealed / Supports - 90 Degree Angle Brackets
  - 6.) Legs - 1" - 2" Concealed Adjustable. / Legs - 5" to 6" Aluminum or Chrome Adjustable
  - 7.) Finger Pulls - Hafele #126-27-036-005
  - 8.) Counter Tops - Wilsonart 4830K-18 Satin Stainless
  - 9.) Cabinets - Wilsonart 4880-38 Carbon Mesh



Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL		
No.	Description	Date

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EOC Standards - Interior	
Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A
G301	
Scale	As indicated



COMcheck Software Version COMcheckWeb  
Envelope Compliance Certificate

Project Information

2018 IECC

24004\_EOC Foley, Alabama

Foley, Alabama

Climate Zone: 6B

Project Type: New Construction

Vertical Glazing / Wall Area: 28%

Construction Site:

Miflin Road  
Foley, Alabama 36535

Client/Agent:

John Davis  
Express Oil Change & Tire  
Engineers  
1685 Southpark Drive  
Birmingham, Alabama 35244  
2059832771  
john@expressoil.com

Designer/Contractor:

Maria Sumner  
Aho Architects, LLC  
1855 Data Drive, Suite 150  
Birmingham, Alabama 35244  
2059836200  
mhsunne@aearch.com

Additional Efficiency Package(s)

Options: 1.0 Required 1.0.0 Proposed  
Indoor Lighting Power, 1.0 credit

Building Area

Floor Area

1-Automotive Facility, Nonresidential

658

Envelope Assemblies					
Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U- Factor
Roof: Ritec Roof, Wood Joist, [Bldg. Use 1 - Automotive Facility]	658	38.0	0.0	0.027	0.027
Floor: Universal Sub-On-Grade, Vertical 2 R., [Bldg. Use 1 - Automotive Facility] (c)	137	---	13.0	0.520	0.520
NORTH					
Ext. Wall: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Automotive Facility]	288	20.0	0.0	0.064	0.064
Storefront: Metal Frame with Thermal Break, Fixed, Perf. Specs., Product ID Solarban 90 on Clear, SHGC 0.23, PF 0.63, [Bldg. Use 1 - Automotive Facility] (b)	65	---	---	0.270	0.500
Door #1: Glass (over 50% glazing) Metal Frame, Entrance Door Part Specs., Product ID Solarban 90 on Clear, SHGC 0.23, PF 0.63, [Bldg. Use 2 - Automotive Facility] (d)	21	---	---	0.270	0.830
Ext. Wall: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Automotive Facility]	109	20.0	0.0	0.064	0.064
Door #14: Wood, Swinging, [Bldg. Use 1 - Automotive Facility]	21	---	---	0.900	0.610
EAST					
Ext. Wall: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Automotive Facility]	618	20.0	0.0	0.064	0.064
Door #3: Wood, Swinging, [Bldg. Use 1 - Automotive Facility]	21	---	---	0.900	0.610
Door #15: Wood, Swinging, [Bldg. Use 1 - Automotive Facility]	21	---	---	0.500	0.610
SOUTH					
Ext. Wall @ Corridor: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Automotive Facility]	60	20.0	0.0	0.064	0.064
Project Title: 24004_EOC Foley, Alabama					
Data Filename: Report date: 04/02/24					
Page 1 of 9					

Section & Req. ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.5.6 (M33)	Size and elevator shaft vents have motorized dampers that automatically close. Reference section C403.7.7 for operational details.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
Additional Comments/Assumptions:			

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

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Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U- Factor
Automotive Facility) Ext. Wall @ Storage 10: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Automotive Facility]	224	20.0	0.0	0.064	0.064
WEST Ext. Wall: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Automotive Facility] Window 4: Metal Frame, Fixed, Perf. Specs., Product ID Solarban 90 on Clear, SHGC 0.23, PF 3.67, [Bldg. Use 1 - Automotive Facility] (b)	617	20.0	0.0	0.064	0.064
Window 10 on Clear, SHGC 0.23, PF 3.67, [Bldg. Use 1 - Automotive Facility] (b)	8	---	---	0.270	0.500
Automotive Facility (b) Door #2: Wood, Swinging, [Bldg. Use 1 - Automotive Facility]	21	---	---	0.900	0.610
Door #13: Wood, Swinging, [Bldg. Use 1 - Automotive Facility]	21	---	---	0.900	0.610
(a) Budget U-factors are used for software baseline calculations DNEI, and are not code requirements. (b) Fire-rated product performance must be certified in accordance with NFRC and require supporting documentation. (c) Sub-On-Grade proposed and budget U-factors shown in table are F-factors.					
Envelope Passes! Design 1.3 is better than code					
Envelope Compliance Statement					
Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2018 IECC requirements in COMcheck version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.					
Name: Maria Sumner, Project Coordinator					
Name - Title Signature Date					

Section & Req. ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C403.5.6 (M36)	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C403.6.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C403.7 (M37)	Electric motors meet the minimum efficiency requirements of Tables C403.7.1 (1) through C403.7.1(4). Efficiency verified through certification under an approved certification program or the minimum efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C403.8.2 (M38)	Elevators and moving walks comply with ASME A17.1-2013 B4 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1-2013 B4 or applicable local code when not conveying passengers.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C403.9 (M39)	Total voltage drop across the combination of feeders and branch circuits <= 3%.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
Additional Comments/Assumptions:			

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

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COMcheck Software Version COMcheckWeb  
Inspection Checklist  
Energy Code: 2018 IECC

Requirements: 4.0% were addressed directly in the COMcheck software. Test in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is in question in a separate table, a reference to that table is provided.

Section & Req. ID	Plan Review	Complies?	Comments/Assumptions
C103.2 (M1)	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C402.1.1 (M10)	The vertical fenestration area <= 30 percent of the gross above-grade wall area.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C402.4.1 (M11)	The skylight area <= 3 percent of the gross roof area.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C402.4.3 (M14)	In enclosed spaces > 3,500 R2 directly under a roof with ceiling heights > 3.5 ft. and used as an office, lobby, atrium, concourse, corridor, storage, dormitory, warehouse, center, convention center, automotive service, manufacturing, non-refrigerated warehouse, retail store, distribution/loading area, transportation, or warehouse, the following requirements apply: (a) the skylight area under skylight is >= half the floor area; (b) the skylight area to skylight zone is <= 3 percent with a skylight U >= 0.60; or (c) minimum skylight effective aperture >= 1 percent.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C406 (M19)	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package actions.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
Additional Comments/Assumptions:			

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

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Section & Req. ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C303.2 (M2)	Slab edge insulation installed per manufacturer's instructions.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C303.2.1 (M2)	Exterior insulation protected against damage, weather, moisture, wind, landscaping and equipment maintenance activities.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C303 (M3)	Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	See the Envelope Assemblies table for values.
C402.2.4 (M7)	Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or >= 10 inches of soil.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	See the Envelope Assemblies table for values.
Additional Comments/Assumptions:			

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

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Section & Req. ID	Framing / Rough-In Inspection	Complies?	Comments/Assumptions
C303.1.3 (M13)	Fenestration products rated in accordance with NFRC.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C303.1.3 (M13)	Fenestration products are certified as to performance labels or certificates provided.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C402.4.3 (M10)	Vertical fenestration SHGC value.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	See the Envelope Assemblies table for values.
C402.4.3 (M10)	Insulated vertical fenestration U-factor and SHGC consistent with label specifications and as reported in plans and COMcheck reports.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	See the Envelope Assemblies table for values.
C402.5.1 (M16)	The building envelope contains a continuous air barrier that is sealed in an approved manner and either constructed or tested in an approved manner. Air barrier penetrations are sealed in an approved manner.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C402.5.2 (M16)	Factory-built fenestrations and doors are labeled as meeting air leakage requirements.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
Additional Comments/Assumptions:			

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

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Section & Req. ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.5.6 (M33)	Size and elevator shaft vents have motorized dampers that automatically close. Reference section C403.7.7 for operational details.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
Additional Comments/Assumptions:			

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

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Section & Req. ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C403.5.6 (M36)	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C403.6.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C403.7 (M37)	Electric motors meet the minimum efficiency requirements of Tables C403.7.1 (1) through C403.7.1(4). Efficiency verified through certification under an approved certification program or the minimum efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C403.8.2 (M38)	Elevators and moving walks comply with ASME A17.1-2013 B4 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1-2013 B4 or applicable local code when not conveying passengers.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C403.9 (M39)	Total voltage drop across the combination of feeders and branch circuits <= 3%.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
Additional Comments/Assumptions:			

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

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Section & Req. ID	Insulation Inspection	Complies?	Comments/Assumptions
C303.1 (M2)	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <= 1:12.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C402.1.1 (M10)	Insulation installed on a suspended ceiling having ceiling tiles is not being specified for reroofing assemblies. Continuous insulation board installed in 2" more layers with edge joints offset between bays.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C303.1 (M2)	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C303.2 (M2)	Above-grade wall insulation installed per manufacturer's instructions.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C303 (M3)	Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	See the Envelope Assemblies table for values.
C402.2.3 (M7)	Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	See the Envelope Assemblies table for values.
C402.2.6 (M12)	Radiant panels and associated components, designed for heat transfer from the panel surface to the occupants or indoor space are insulated with a minimum of R-3.5.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C402.3 (M5)	High-solar heat gain glazing is one of the following: 3-year-aged solar reflectance >= 0.35 and thermal emittance >= 0.75 or 3-year-aged solar reflectance index >= 64.0.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C303 (M3)	Installed roof insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. For some ceiling systems, verification may need to occur during framing inspection.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	See the Envelope Assemblies table for values.
C402.5.1 (M16)	All sources of air leakage in the building thermal envelope are sealed, caulked gasketed, weather striped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
Additional Comments/Assumptions:			

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

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Section & Req. ID	Final Inspection	Complies?	Comments/Assumptions
C402.5.6 (M16)	Weatherheads installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C402.5.6 (M16)	Recessed luminaires in thermal envelope to limit infiltration and be IC rated and labeled. Seal between interior finish and luminaire housing.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
C406.1.1 (M17)	Building operations and maintenance documents will be provided to the owner. Documents will cover procedures and means of diagnosing specifications, programming procedures and means of diagnosing to owner how building equipment and systems are intended to be installed, maintained, and operated.	<div><input type="checkbox"/> Complies</div> <div><input type="checkbox"/> Does Not</div> <div><input type="checkbox"/> Not Observable</div> <div><input type="checkbox"/> Not Applicable</div>	
Additional Comments/Assumptions:			

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

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Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL		
No.	Description	Date

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Building  
COMCheck

Project number 24004  
Date 04/08/2024  
Drawn by ARC  
Checked by N/A  
G400  
Scale



# 1 General Information

PROJECT INFORMATION

Name of Project:

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage.

Client:

Express Oil Change & Tire Engineers

Location:

Foley, AL

City: Foley

County: N/A

State: N/A

Square Footage / Stories / Height:

Main Level G.S.F. = 5,654

Stories = 1 + Pit

Height = 34'- 11 5/8"

Pit Level G.S.F. = 1,340

Total G.S.F. = 6,994

PROJECT TYPE

☒ New Construction

☐ Addition

☐ Other

☐ Alteration

☐ Change of Occupancy

BUILDING USE

☐ Single Use

☐ Mixed Use (Separated)

☒ Mixed Use (Non-Separated)

■ Description: Automotive repair garage used for general service on automobiles.

SPRINKLERED

☐ Yes

☐ Partial

☒ No

# 4 Special Detailed Requirements Based On Use and Occupancy (2018 IBC)

406.8 Repair Garages

■ Project complies with 406.8 through 406.8.3

413 Combustible Storage

413.1 High-piled storage of combustible materials over 12'-0" or high-hazard commodities over 6'-0"

■ Yes

☐ No

413.2 Storage of combustible materials in attics, under-floor, and concealed spaces

☐ Yes

☒ No

414 Hazardous Materials

■ Project complies with 414.2.1 through 414.2.5 (IFC)Control Areas

■ Number of Control Areas Provided: Entire Building is one control area

Location

☒ Inside

☐ Outside

Use

☒ Open

☐ Closed

☒ Storage Only

Types of Hazardous Materials (Table 307.1.1(1) of IBC and 3206.2 of IFC)

■ Class IIIB Liquids

■ Actual Storage per control area: 4040.13 gallons

■ Class IA Flammable Liquids

■ Actual Storage per control area: 0.94 gallons

■ Class IB Flammable Liquids

■ Actual Storage per control area: 3.25 gallons

■ High-Hazard Commodities per IFC 2018 3203.6 / 3206.2 (Rubber Tires)

■ Allowable Quantity: 0-500 s.f.

■ Actual Quantity: X≤500 s.f.

# 2 Codes

■ 2018 International Building Code

■ 2018 International Plumbing Code

■ 2018 International Energy Conservation Code

■ 2017 ANSI A117.1

■ 2021 International Fire Code

■ 2017 National Electrical Code

■ 2018 International Fuel Gas Code

■ 2018 International Mechanical Code

# 5 General Building Heights and Areas (2018 IBC)

504 Building Height and Areas and 506 Building Area (Per Table 504.3, 504.4, and 506.2)

☐ Allowable Building Height = 40'-0"

☒ Actual Building Height = 34'- 11 5/8"

☐ Allowable Number of Stories Above Grade Plane = 1

☒ Actual Number of Stories Above Grade Plane = 1

☐ Allowable Area Factor = 9,000 s.f.

☒ Actual Area = 6,994 s.f. (5654 Main Level + 1340 Pit)

505.3 Equipment Platforms

■ Project complies with 505.3 through 505.3.3

508 Mixed Use and Occupancy

☐ Mixed Use Occupancy (Separated)

☒ Mixed Use Occupancy (Non-Separated)

☐ Does not apply

No separation required between Group B and Group S-1 Occupancies

# 3 Use and Occupancy Classification(s) (2018 IBC)

☐ Assembly Group A-1

☐ Assembly Group A-2

☐ Assembly Group A-3

☐ Assembly Group A-4

☐ Assembly Group A-5

☒ Business Group B

☐ Educational Group E

☐ Factory Group F-1

☐ Factory Group F-2

☐ High-Hazard Group H-1

☐ High-Hazard Group H-2

☐ High-Hazard Group H-3

☐ High-Hazard Group H-4

☐ High-Hazard Group H-5

☐ Institutional Group I-1

☐ Institutional Group I-2

☐ Institutional Group I-3

☐ Institutional Group I-4

☐ Mercantile Group M

☐ Residential Group R-1

☐ Residential Group R-2

☐ Residential Group R-3

☐ Residential Group R-4

☒ Storage Group S-1

☐ Storage Group S-2

☐ Utility & Misc Group U

# 6 Types of Construction (2018 IBC)

601 General and 602 Construction Classification

☐ Type IA

☐ Type IB

☐ Type IIA

☐ Type IIB

☐ Type IIIA

☐ Type IIIB

☐ Type IV

☐ Type VA

☒ Type VB

Table 601 Fire Resistance Rating Requirements for Building Elements

Building Elements	Hours Required	Hours Provided
Primary Structural Frame	0	0
Bearing Walls (Exterior)	0	0
Bearing Walls (Interior)	0	N/A
Nonbearing Walls & Partitions (Exterior)	0	0
Nonbearing Walls & Partitions (Interior)	0	0
Floor Construction & Associated Secondary Members	0	0
Roof Construction & Associated Secondary Members	0	0

Table 602 Fire Resistance Requirements for Exterior Walls Based on Fire Separation Distance

Fire Separation Distance	Rear (South)	Right (West)	Front (Front)	Left (East)
X < 5				
5 ≤ X < 10		= 7'		
10 ≤ X < 30				
X ≥ 30	>30'		>30'	>30'

X≥30' for Group B and S-1 = 0 hours

10≤X<30' for Group B and S-1 = 0 hours

5≤X<10' for Group B and S-1 = 1 hour

\* Fire separation distanccoe based on Code Section 705.3

# 7 Fire And Smoke Protection Systems (2018 IBC)

718.4 Draftstopping in Attics

☒ Yes

☐ No

☐ Not Required

■ Openings in the partitions shall be protected by self-closing doors with automatic latches constructed as required for the partitions.

■ Installed in attics and concealed roof spaces such that any horizontal area does not exceed 3,000 s.f.

# 8 Interior Finishes (2018 IBC)

Table 803.13 Interior Wall and Ceiling Finish Requirements by Occupancy

Group	Exit Enclosures and Exit Passageways	Corridors	Rooms and Enclosed Spaces
S-1	B	B	C
B	A	B	C

804.4.2 Minimum Critical Radiant Flux

☐ Class I

☒ Class II

# 9 Fire Protection Systems (2018 IBC)

903 Automatic Sprinkler Systems

903.2.9.1 Repair Garages

☐ Yes

☐ Partial

☒ Not Required

906 Portable Fire Extinguishers

☒ Yes

☐ No

■ Project complies with 906.1 through 906.10

■ Project complies NFPA 10

907 Fire Alarm and Detection System

☐ Yes

☒ Not Required

# 10 Means of Egress (2018 IBC)

DT\_2018 IBC Table 1004.5 Maximum Floor Area Allowance Per Occupant (Group S-1)

Occupancy Classification	Name	Number	Area	S.F. Per Occupants	No. of Occupants
S-1	Oil Change	5	1271 SF	200	6.36
S-1	Corridor	6	94 SF	200	0.47
S-1	Service	9	2485 SF	200	12.42
S-1	Storage	10	220 SF	300	0.73
S-1	Pit	11	1218 SF	200	6.09
S-1	Storage	12	500 SF	300	1.67
S-1	Storage	13	258 SF	300	0.86
Subtotal			6047 SF		28.60

Note: 200 square foot occupancy factor is for manufacturing function of space.

DT\_2018 IBC Table 1004.5 Maximum Floor Area Allowance Per Occupant (Group B)

Occupancy Classification	Name	Number	Area	S.F. Per Occupants	No. of Occupants
B	Service Writing	1	144 SF	150	0.96
B	Waiting Room	2	130 SF	150	0.86
B	Toilet	3	43 SF	150	0.29
B	Manager	4	51 SF	150	0.34
B	Break Room	7	65 SF	150	0.43
B	Toilet	8	43 SF	150	0.29
Subtotal			477 SF		3.18

# 10 Means of Egress (2018 IBC)

DT\_2018 IBC Sections 1005.3.1 & 1005.3.2 Egress width Stairways and Other Egress Components (Group S-1)

Occupancy Classification	Name	Number	No. of Occupants	Egress - Stairways	Required Stairway Width	Other Egress Components	Required Capacity in Inches
S-1	Oil Change	5	6.36			0.2	1.27
S-1	Corridor	6	0.47			0.2	0.09
S-1	Service	9	12.42			0.2	2.48
S-1	Storage	10	0.73			0.2	0.15
S-1	Pit	11	6.09	0.3	1.83		
S-1	Storage	12	1.67			0.2	0.33
S-1	Storage	13	0.86			0.2	0.17
Subtotal			28.60		1.83		4.50

DT\_2018 IBC Table 1005.3.2 Egress width Other Egress Components (Group B)

Occupancy Classification	Name	Number	No. of Occupants	Other Egress Components	Required Capacity in Inches
B	Service Writing	1	0.96	0.2	0.19
B	Waiting Room	2	0.86	0.2	0.17
B	Toilet	3	0.29	0.2	0.06
B	Manager	4	0.34	0.2	0.07
B	Break Room	7	0.43	0.2	0.09
B	Toilet	8	0.29	0.2	0.06
Subtotal			3.18		0.64

Tables 1006.2.1 Spaces with One Exit or Exit Access Doorway

Occupancy	Max Occupant Load	Max Occupant Load Provided	Number of Exits Required	Number of Exits Provided	Max. Common Path of Travel Allowable (Nonsprinkled)	Max. Provided Common Path of Travel (Nonsprinkled)
S-1	29	28.60	1	4	100'-0"	< 100'-0"
B	49	3.18	1	1	100'-0"	< 100'-0"

Table 1006.3.2 Minimum Number of Exits or Access to Exits Per Story

Occupant Load Per Story	Minimum Number of Exits or Access to Exits from Story	Number of Exits or Access to Exits from Story Provided
1-500	2	5

Table 1017.2 Exit Access Travel Distance

Occupancy	Without Sprinkler System (Feet)	With Sprinkler System	Max Travel Distance Provided (Feet)
S-1	200	N/A	71'-1"
B	200	N/A	87'-10"

# 12 Interior Environment (2018 IBC)

1207.1 Minimum Room Widths

Habitable spaces are not less than 7 feet in any plan dimension

☒ Yes

☐ No

1207.2 Minimum Ceiling Heights

Occupiable spaces, habitable spaces, and corridors have a ceiling height of not less than 7 feet 6 inches. Bathrooms, toilet rooms, kitchens, storage rooms, and laundry rooms have a ceiling height of not less than 7 feet.

☒ Yes

☐ No

1208.2 Attic spaces

Opening not less than 20 inches by 30 inches is provided for attic area with clear height over 30 inches. 30" headroom provided at or above access opening

☒ Yes

☐ Not Required

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Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

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Life Safety / Code Summary

Project number

24004

Date

04/08/2024

Drawn by

ARC

Checked by

N/A

LS100

Scale

12" = 1'-0"

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29 Plumbing Systems (2018 IBC)

Table 2902.1 Minimum Number of Required Plumbing Fixtures

DT_Plumbing Fixture_Group S-1												
Total Occupant Load	Male	Female	Required Water Closets		Water Closets Provided	Required Lavatories		Lavatories Provided	Required Drinking Fountains	Drinking Fountains Provided	Required Service Sinks	Service Sinks Provided
			Male	Female		Male	Female					
28.60	14.3	14.3	0.14	0.14	1	0.14	0.14	1	0.03	1	1	1

DT_Plumbing Fixture_Group B												
Total Occupant Load	Male	Female	Required Water Closets		Water Closets Provided	Required Lavatories		Lavatories Provided	Required Drinking Fountains	Drinking Fountains Provided	Required Service Sinks	Service Sinks Provided
			Male	Female		Male	Female					
3.18	1.59	1.59	0.06	0.06	1	0.04	0.04	1	0.03	1	1	1

2902.2 Separate Facilities

Separate facilities provided for each sex

☐ Yes ☒ Not Required per 2902.2 Exception 2

Plumbing Fixture Notes:

(1) High / Low drinking fountain provided for the entire building.  
(1) Service Sink provided for the entire building.  
(2) Family Assisted-Use Toilet Rooms serving as separate facilities each containing (1) lavatory and (1) water closet provided for the entire building.

2902.2.1 Family or assisted use toilet facilities serving as separate facilities

☒ Yes ☐ No ☐ Not Required

2902.3 Employee and public toilet facilities

☒ Employee toilet combined with public toilet facilities

2902.3.1 Access

Route to public toilet facilities does not pass through kitchens, storage rooms, or closets and is accessible.

☒ Yes ☐ No

2902.3.3 Location of toilet facilities in occupancies other than covered mall buildings

Located not more than one story above or below the space required to be provided with toilet facilities

☒ Yes ☐ No

Path of travel to such facilities does not exceed 500 feet

☒ Yes ☐ No

2902.4 Signage

☒ Yes ☐ No

Legible sign designating the sex provided in visible location near entrance to toilet facility

☐ Yes ☒ Not Required per 2902.2.1

5 Fire Service Features (2018 IFC)

505.1 Address Identification

☒ Yes ☐ No ☐ Not Required

☒ Project complies 505.1 Address Identification

506 Key Boxes

☒ Yes ☐ No ☐ Not Required

☒ Project complies 506.1 Where Required

23 Motor Fuel-Dispensing Facilities and Repair Garages (2018 IFC)

2311.2.2 Waste oil, motor oil and other Class IIIB Liquids

☒ Project complies with 2311.2.2 Waste oil, motor oil and other Class IIIB liquids.

2311.2.2.1 Tank Location

☒ Project complies with 2311.2.2.1 tank location ☐ Not Applicable

2311.2.3 Drainage and disposal of liquid and oil-soaked waste

☐ Yes ☐ No ☒ Not Required

☒ Garage floors do not contain floor drains.

2311.4 Below-grade areas

☒ Project complies with 2311.4.1 through 2311.4.3 ☐ Not Applicable

2311.7 Fire Extinguishers

☒ Project complies with 2311.7 fire extinguishers (See Section 9 Fire Protection Systems)

32 High Piled Combustible Storage (2018 IFC)

3203.6 High-hazard commodities

☒ Yes ☐ No

☒ Project does contain high-hazard commodities (Rubber Tires)

Definitions per Chapter 2 of the International Fire Code

High-piled Combustible Storage. Storage of combustible materials in closely packed piles or combustible materials on pallets, in racks or on shelves where the top of storage is greater than 12'-0" in height. When required by the fire code official, high-piled combustible storage also includes certain high-hazard commodities, such as rubber tires, Group A plastics, flammable liquids, idle pallets, and similar commodities, where the top of storage is greater than 6'-0" in height.

☒ Project does contain high piled combustible storage over 6'-0" (<500 s.f. of rubber tire storage over 6 feet high).

Table 3206.2 General Fire Protection and Life Safety Requirements

Commodity Class	Size of High Piled Storage Area	All Storage Areas			
		Automatic Fire Extinguishing System	Fire Detection System	Building Access	Smoke and Heat Removal
High Hazard	0-500 s.f.	Not Required	Not Required	Not Required	Not Required

Solid-Piled Storage, Shelf Storage and Palletized Storage			
Max. Pile Dimension (Feet)	Max. Permissible Storage Height (Feet)	Max. Pile Volume (Cubic Feet)	
60 feet	Not Required	Not Required	

34 Tire Rebuilding and Tire Storage (2018 IFC)

3409 Indoor Storage Arrangement

☒ Project complies with 3409.1 Pile Dimensions

☒ Pile dimension less than 50'-0" in direction of wheel hole.

☒ Tires stored adjacent to or along one wall shall not extend more than 25'-0" from that wall.

50 Hazardous Materials - General Provisions (2018 IFC)

Table 5003.1.1 (1) Maximum Allowable Quantity Per Control Area of Hazardous Materials Posing a Physical Hazard

☒ Project complies with Table 5003.1.1 (1).

☒ Project contains Class IIIB Liquid Storage that does not exceed 13,200 liquid gallons per control area.

☒ Project contains Class IIIB Liquid Open-System that does not exceed 3,300 liquid gallons per control area.

☒ Project contains Flammable Liquid IA Storage that does not exceed 30 liquid gallons per control area.

☒ Project contains Flammable Liquid IA Open System that does not exceed 10 liquid gallons per control area.

☒ Project contains Flammable Liquid IB Storage that does not exceed 120 liquid gallons per control area.

☒ Project contains Flammable Liquid IB Open System that does not exceed 30 liquid gallons per control area.

☒ Project complies 5003.8.3.1 through 5003.8.3.4

☒ Entire building is one single control area.

57 Flammable and Combustible Liquids (2018 IFC)

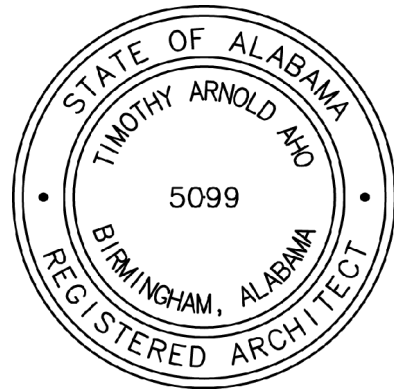
5703.2 Fire Protection

☒ Project complies with 5703.2.1 portable fire extinguishers an hose lines. (See Section 9 Fire Protection Systems).

5703.4 Spill Control and Secondary Containment

☒ Not required. Project does not exceed maximum allowable quantity per control area.

☒ Though not required, the pit itself acts as a secondary containment. There are no drains in the pit.



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Project number	24004
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LIFE SAFETY SYMBOL LEGEND

Exit Sign

HC EXIT 32"

32"

Handicap Accessible Egress Width

Exit from room (# = minimum clear width in inches)

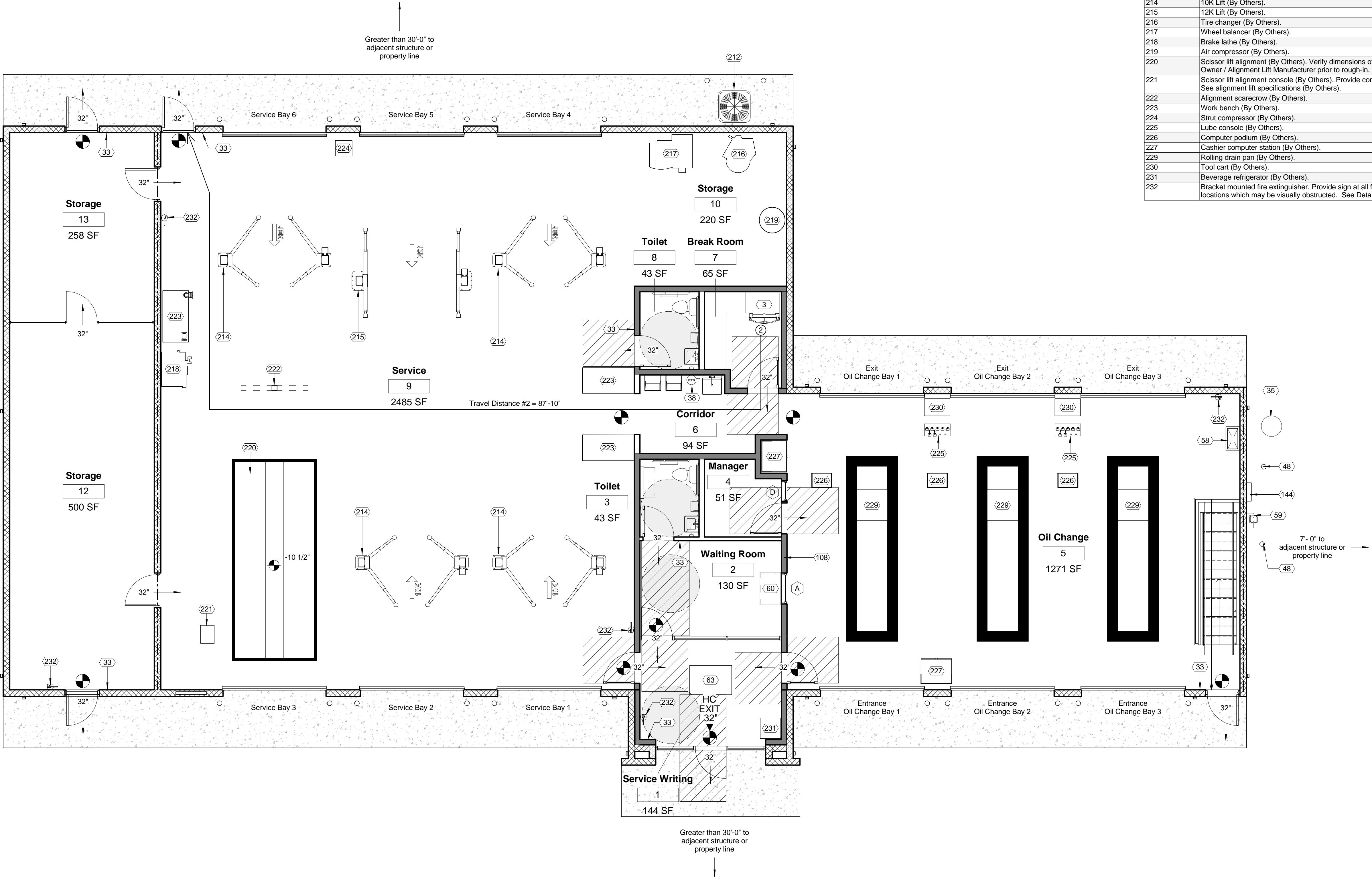
Maneuvering clearances at manual swinging doors

Travel Distance

1 Hour Rated

Greater than 30'-0" to adjacent structure or property line

Greater than 30'-0" to adjacent structure or property line



11 Life Safety Plan\_Main  
3/16" = 1'-0"

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STATE OF ALABAMA

TIMOTHY ARNOLD AHO

5099

BIRMINGHAM, ALABAMA

REGISTERED ARCHITECT

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Life Safety Plan - Main


Project number 24004  
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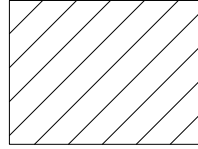


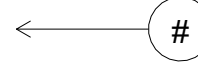
LIFE SAFETY SYMBOL LEGEND


 Exit Sign

 HC EXIT 32"

 32" Exit from room (# = minimum clear width in inches)

 Handicap Accessible Egress Width

 Travel Distance (# = minimum clear width in inches)

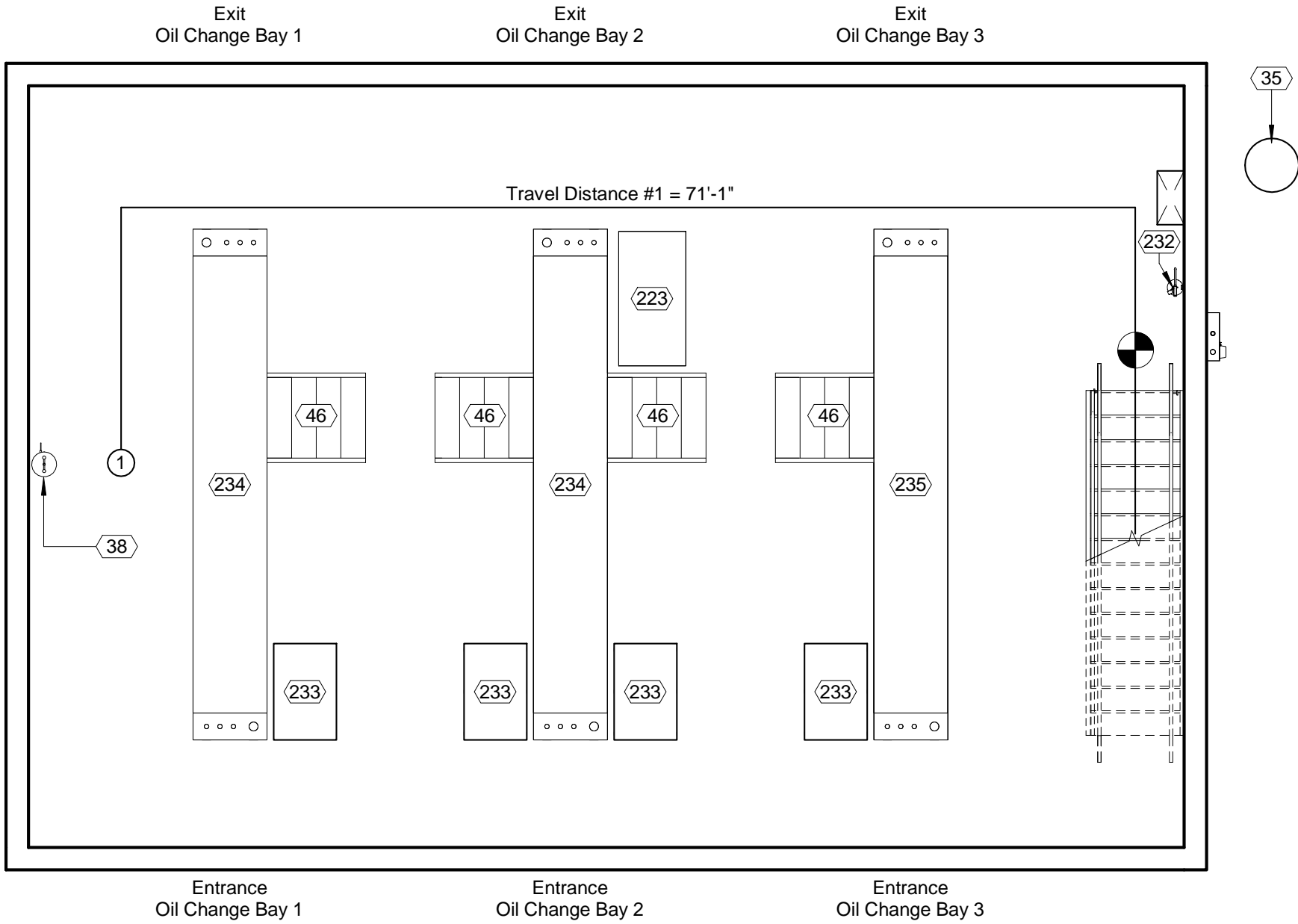
 1 Hour Rated

LIFE SAFETY NOTES

Notes:

1. Tanks by others contain 928 gallons and 275 gallons each of Class IIIB Liquids (motor oil). See Chapter 50 on Sheet LS101.
2. All equipment by others unless otherwise noted.

Keynote Schedule	
Tag	Text
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
38	Eyewash station. See Plumbing.
46	Oil tank stairs (By Others).
223	Work bench (By Others).
232	Bracket mounted fire extinguisher. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details on Sheet A602.
233	275-gallon Class IIIB new oil tank (By Others).
234	928-gallon Class IIIB new oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation.
235	928-gallon Class IIB waste oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation.



1 10\_Life Safety Plan\_Pit  
3/16" = 1'-0"



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Life Safety - Pit

Project number24004

Date04/08/2024

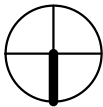
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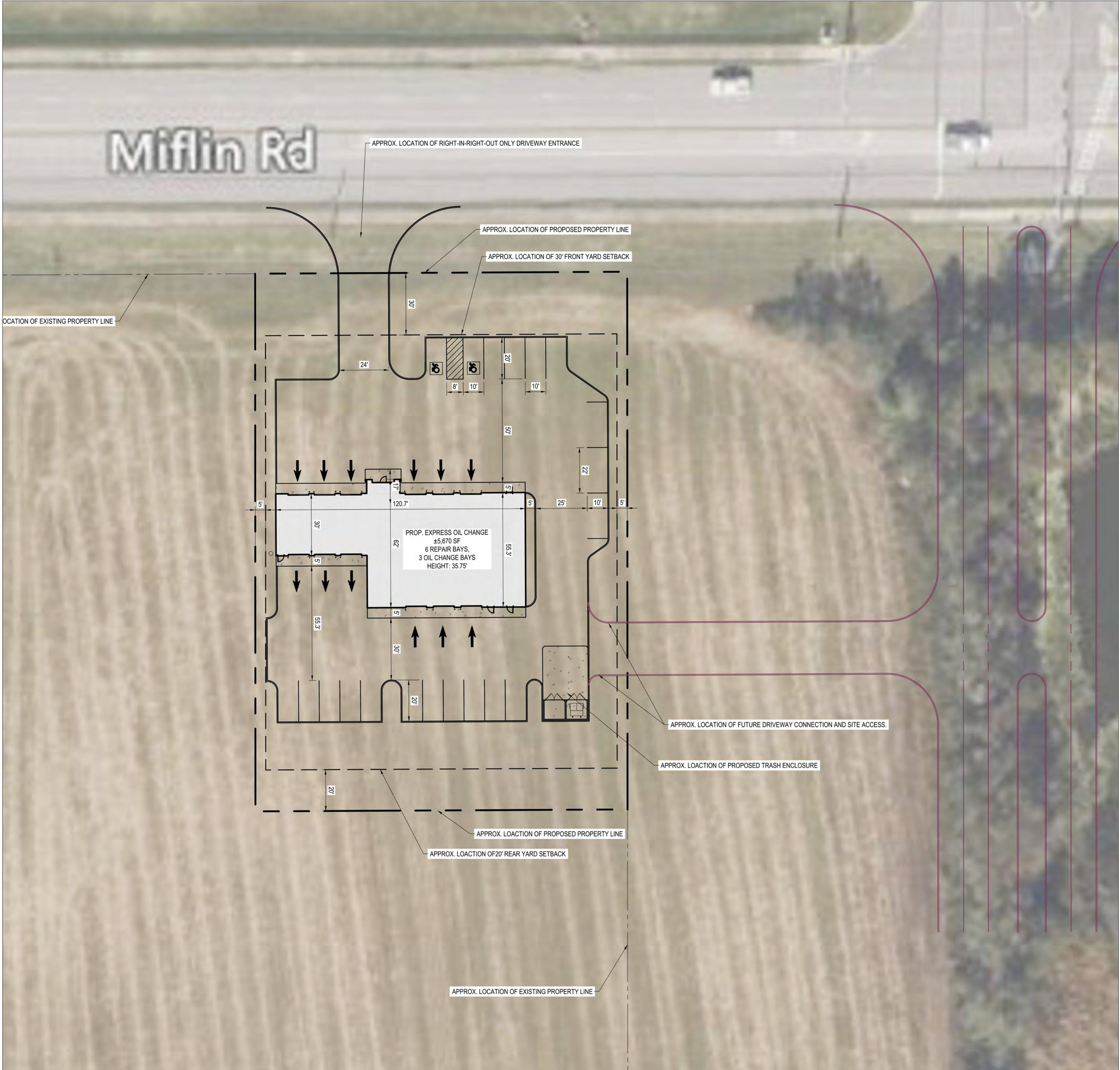
LS103

Scale

As indicated







NOTE: THIS PLAN IS TO SHOW THE BUILDING AS IT RELATES TO THE SITE. A COMPLETE SET OF CIVIL DRAWINGS ARE TO BE SUBMITTED TO THE AHJ INDEPENDENT OF THIS SUBMITTAL. REFER TO THOSE DRAWINGS FOR ACTUAL INFORMATION.



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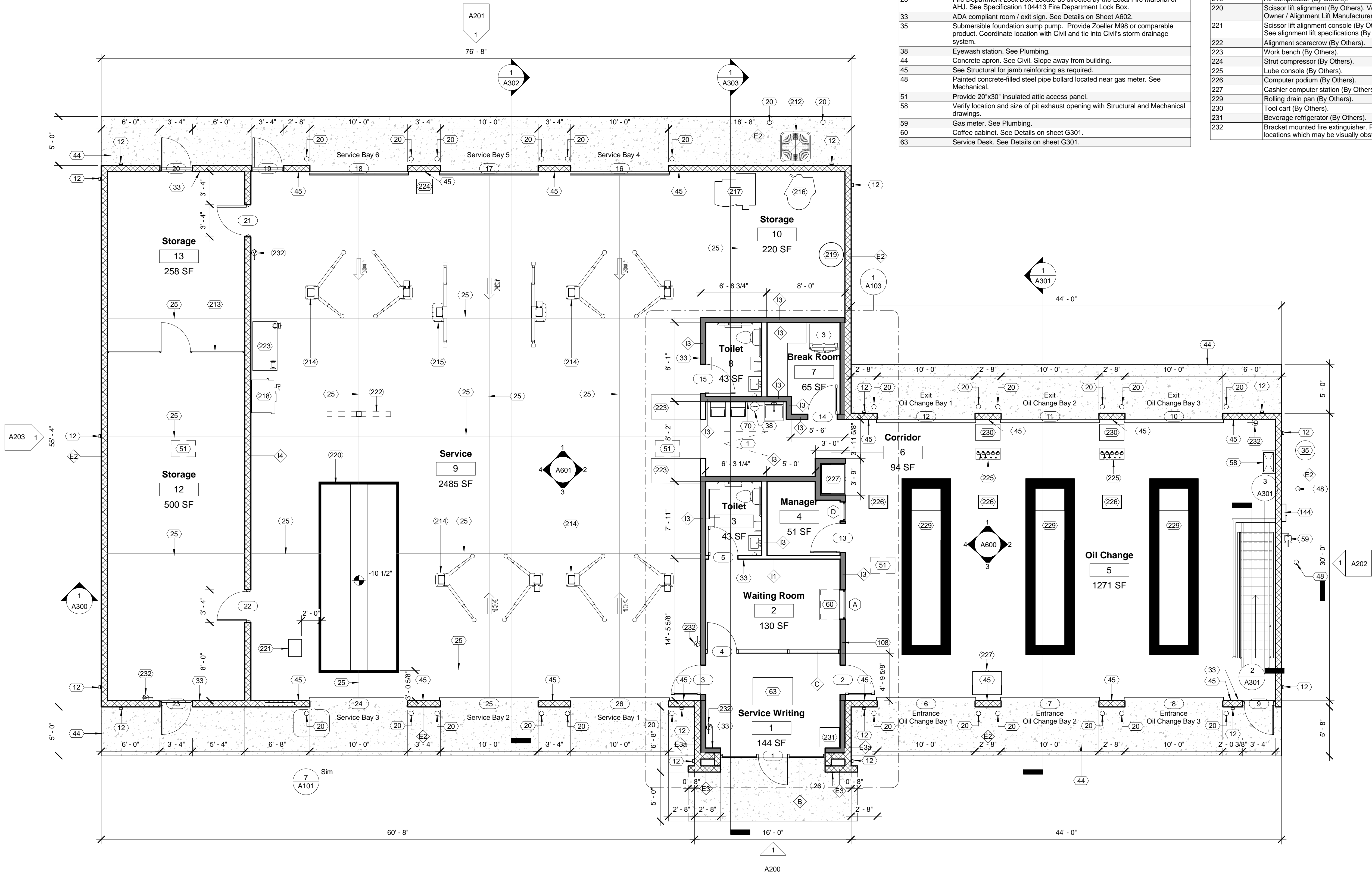
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Architectural Site Plan

Project number	24004
Date	04/08/2024
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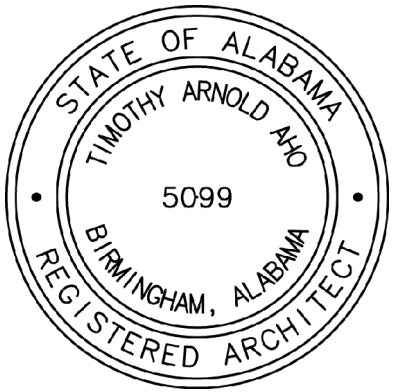
Keynote Schedule	
Tag	Text
1	Pull down attic access and ladder. See Specification 083113 Access Doors and Frames.
3	Location of 30" wide refrigerator (By Others).
12	Pre-finished metal downspout and boot piped to storm drainage system. See Civil for tie-in. See Specification 077100 Roof Specialties.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details on sheet A101. See Specification 055000 Metal Fabrications.
25	Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0".
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
33	ADA compliant room / exit sign. See Details on Sheet A602.
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
38	Eyewash station. See Plumbing.
44	Concrete apron. See Civil. Slope away from building.
45	See Structural for jamb reinforcing as required.
48	Painted concrete-filled steel pipe bollard located near gas meter. See Mechanical.
51	Provide 20"x30" insulated attic access panel.
58	Verify location and size of pit exhaust opening with Structural and Mechanical drawings.
59	Gas meter. See Plumbing.
60	Coffee cabinet. See Details on sheet G301.
63	Service Desk. See Details on sheet G301.

Keynote Schedule	
Tag	Text
70	4'-0" high FRP on wet wall. See Specification 066400 Plastic Paneling (Fiberglass Reinforced Panels).
108	Gray shading indicates these walls are the boundaries for the building thermal envelope assembly.
144	Electrical meter. See Electrical.
212	HVAC condensing unit. See Mechanical.
213	Full height chain-link fence with 3'-0" x 7'-0" gate.
214	10K Lift (By Others).
215	12K Lift (By Others).
216	Tire changer (By Others).
217	Wheel balancer (By Others).
218	Brake lathe (By Others).
219	Air compressor (By Others).
220	Scissor lift alignment (By Others). Verify dimensions of alignment pit with Owner / Alignment Lift Manufacturer prior to rough-in.
221	Scissor lift alignment console (By Others). Provide conduit in slab as required. See alignment lift specifications (By Others).
222	Alignment scarecrow (By Others).
223	Work bench (By Others).
224	Strut compressor (By Others).
225	Lube console (By Others).
226	Computer podium (By Others).
227	Cashier computer station (By Others).
229	Rolling drain pan (By Others).
230	Tool cart (By Others).
231	Beverage refrigerator (By Others).
232	Bracket mounted fire extinguisher. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details on Sheet A602.

1 01\_Floor Plan\_Main  
3/16" = 1'-0"



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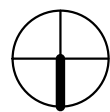
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Floor Plan - Main

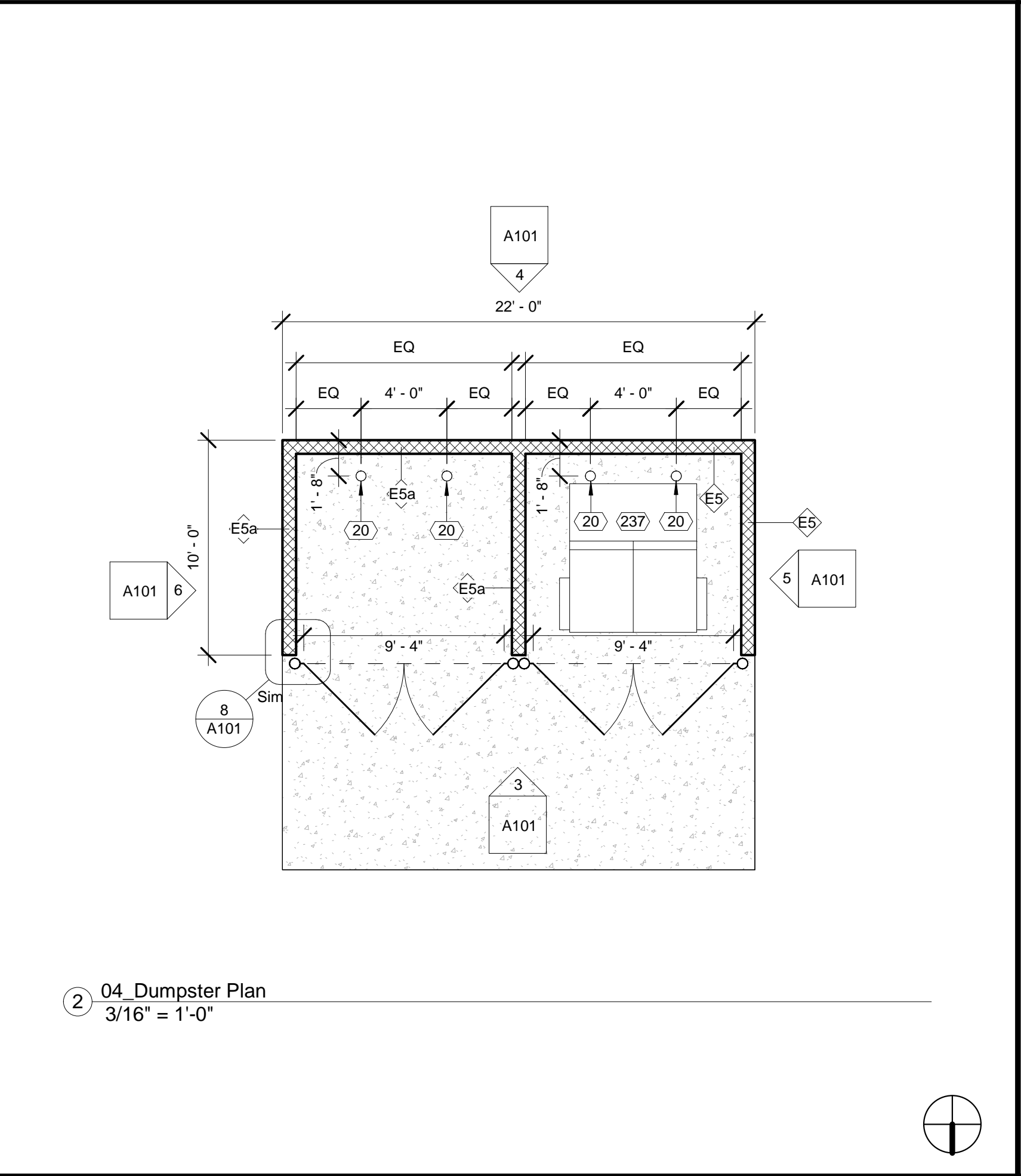
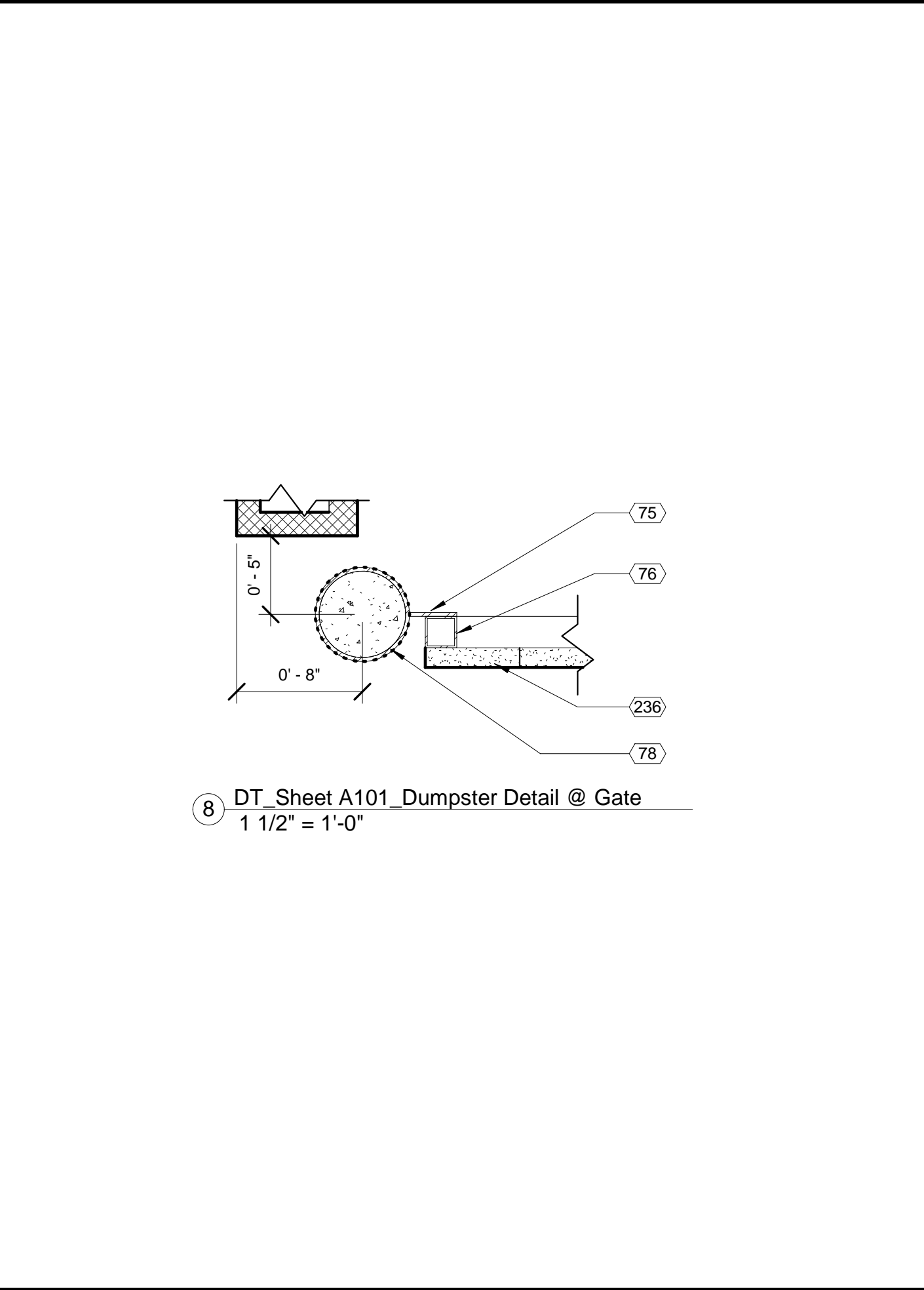
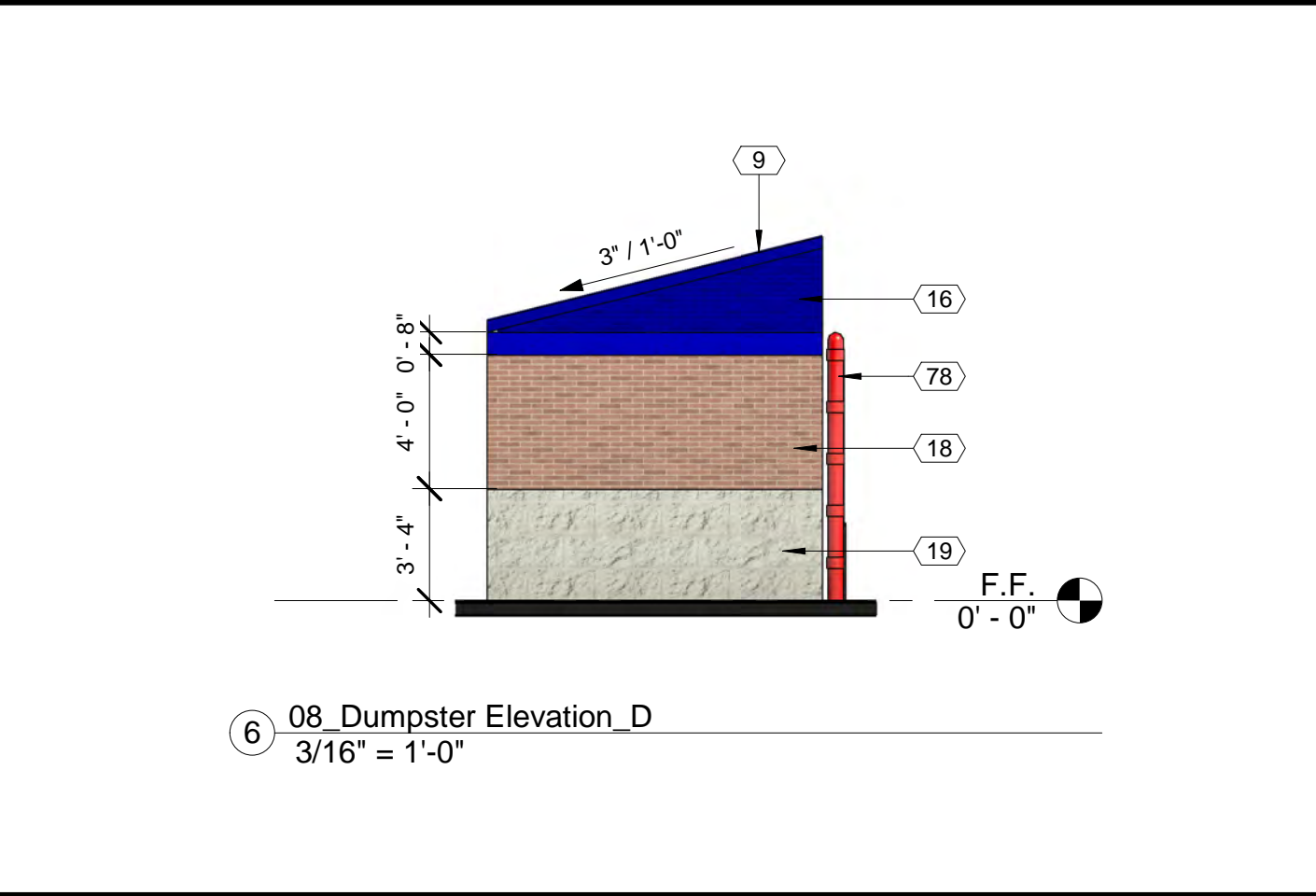
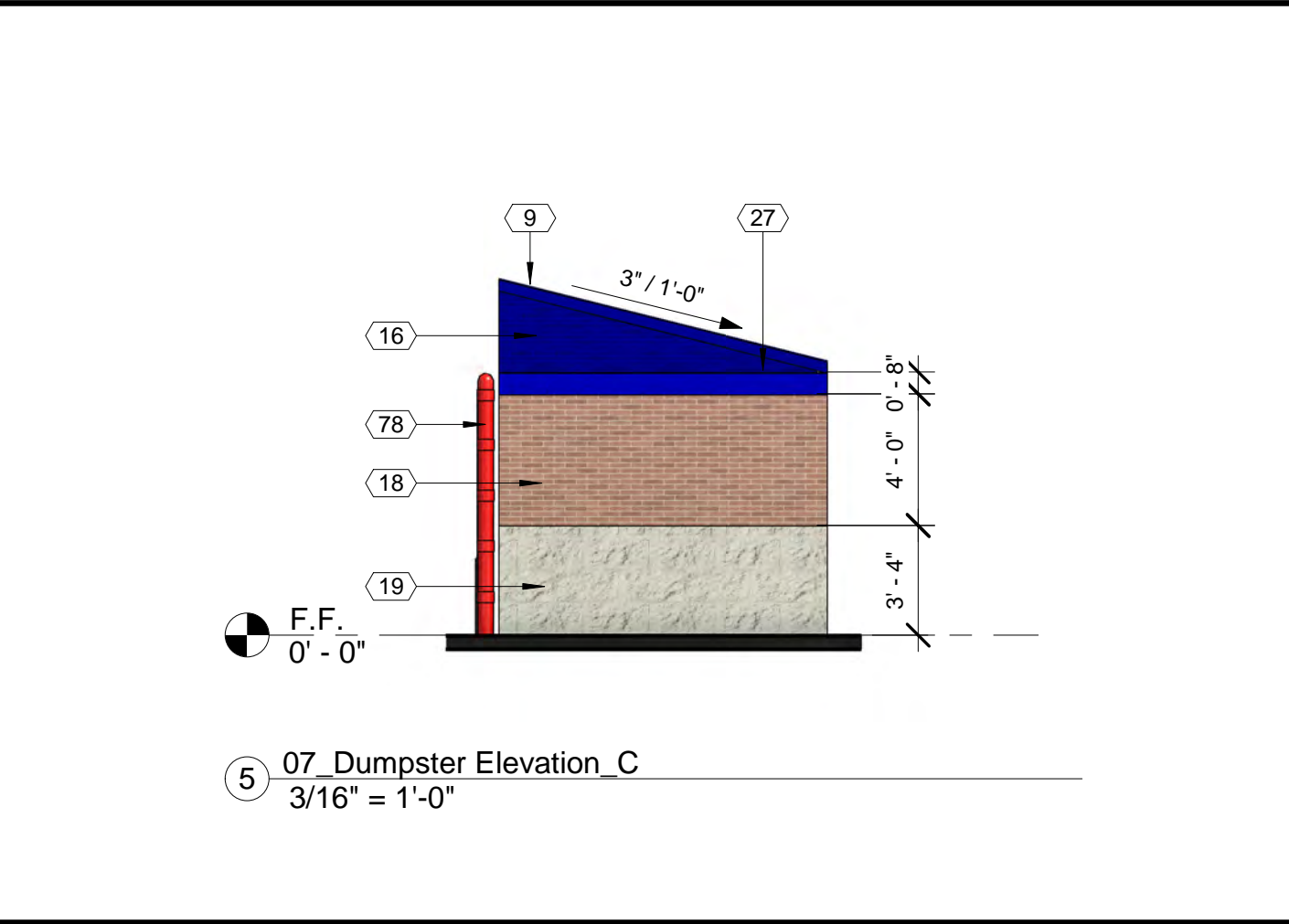
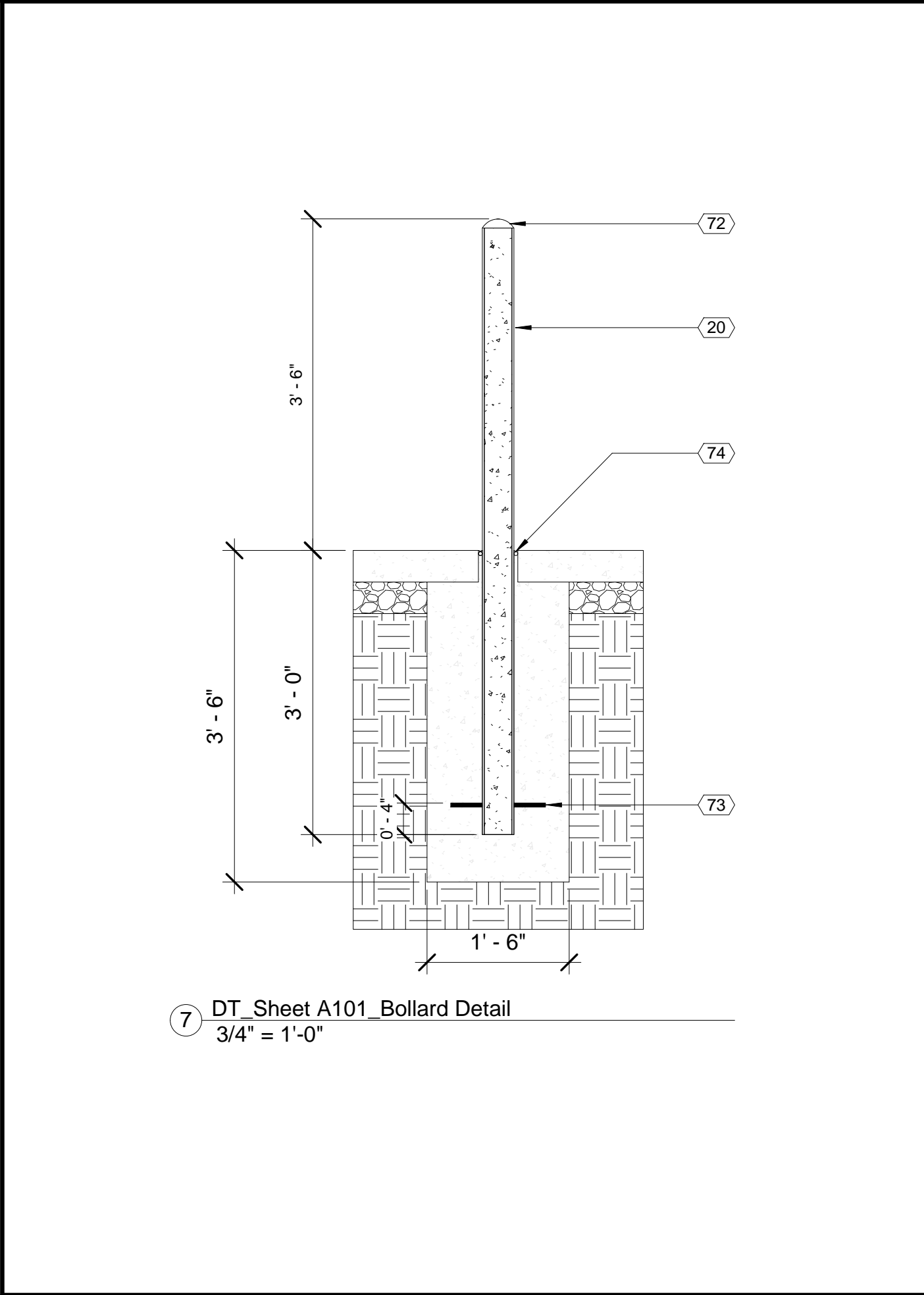
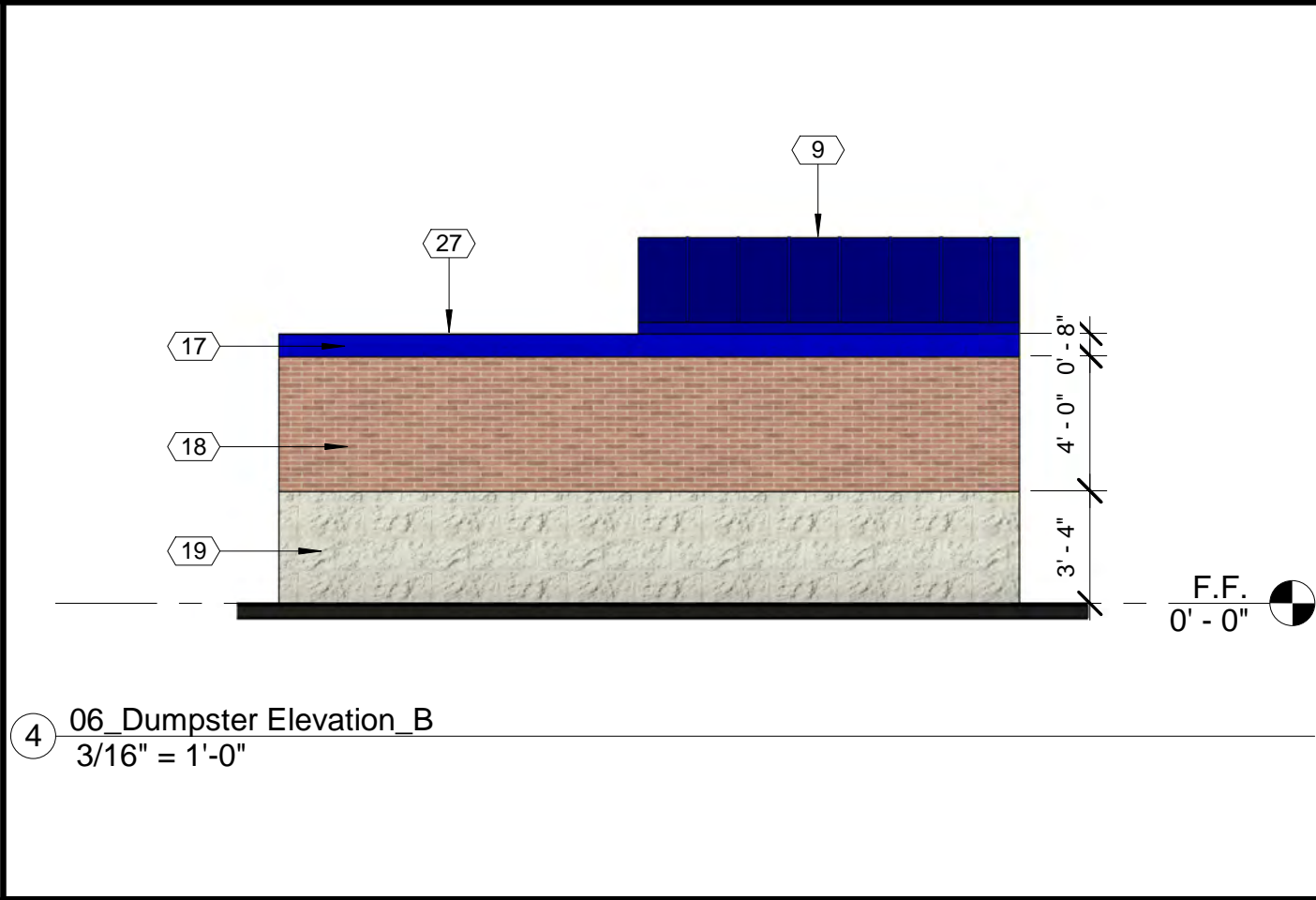
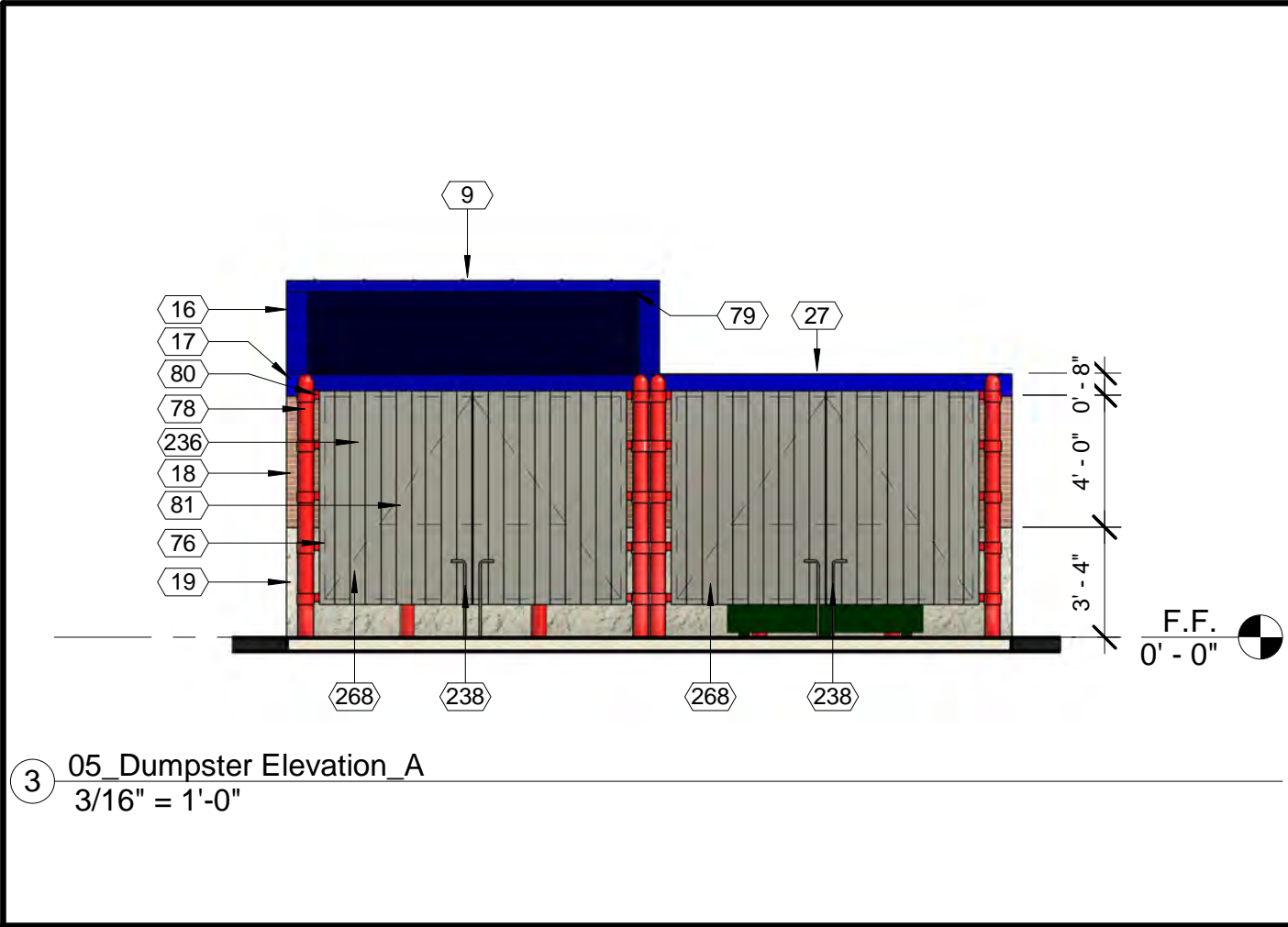
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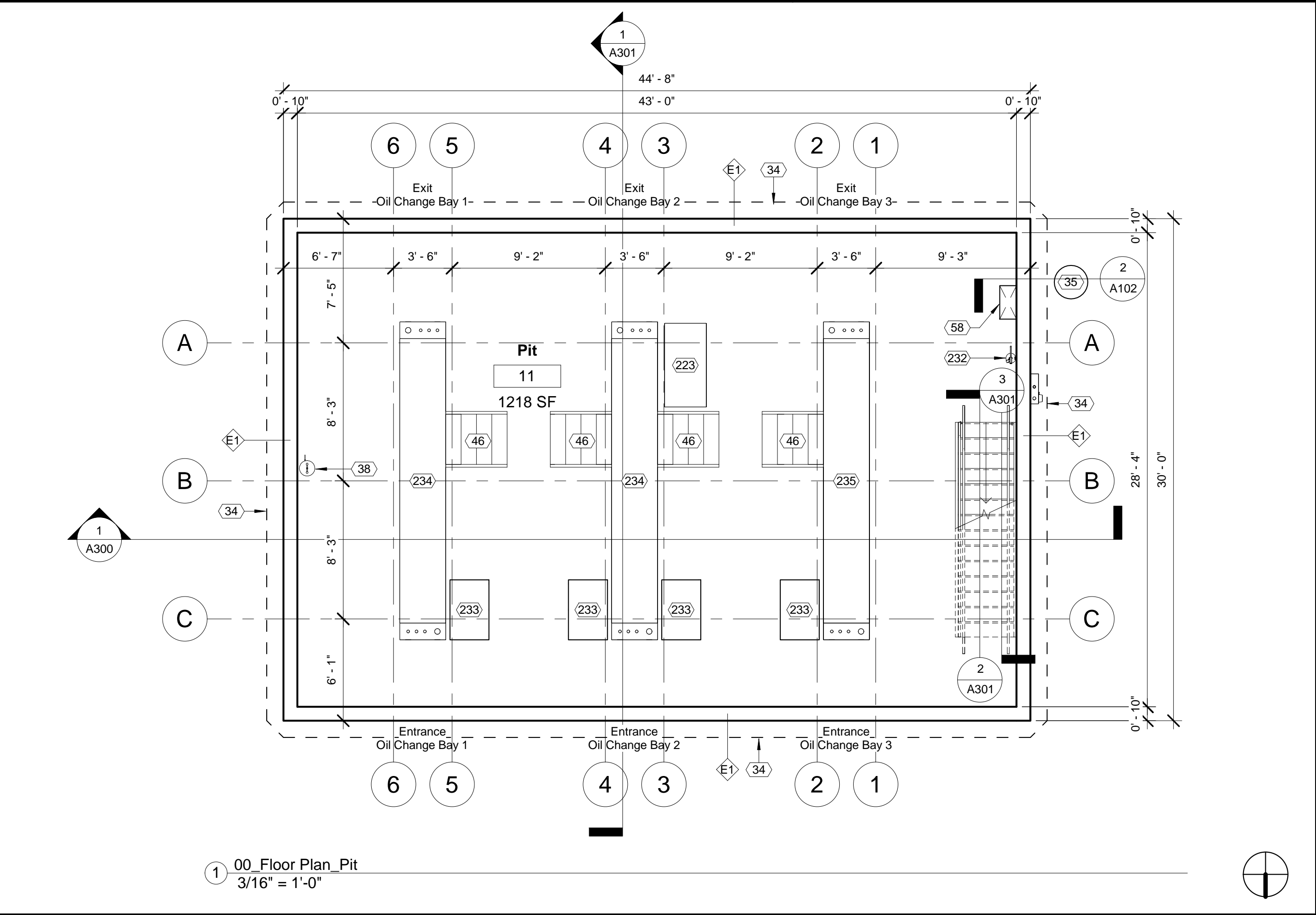
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Keynote Schedule	
Tag	Text
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
16	Painted structural half-highs. See Specification 042200 Concrete Unit Masonry.
17	Painted 8" split-face CMU (bond beam where indicated, see Structural). As required, provide painted smooth-face, grout filled "U" block bond beam at lightbars only. As required, paint CMU lintel above OH doors as indicated on finish schedule. See Structural. See Specification 042200 Concrete Unit Masonry.
18	Unpainted structural half-highs. See Specification 042200 Concrete Unit Masonry.
19	Painted 8" split-face CMU (bond beam where indicated, see Structural). See Specification 042200 Concrete Unit Masonry.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details on sheet A101. See Specification 055000 Metal Fabrications.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking Slope to drain. Color to match roof.
34	4" perforated perimeter drain with silt filtration fabric. See Details on Sheet A102.
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
38	Eyewash station. See Plumbing.
46	Oil tank stairs (By Others).
58	Verify location and size of pit exhaust opening with Structural and Mechanical drawings.
72	Painted concrete cap for pipe bollard. Color as indicated on Finish Schedule.
73	1/2" diameter x 4" long metal studs. Provide a total of 4.
74	1/2" expansion joint with backer rod and sealant.
75	1/4"x6" painted steel bracket with continuous fillet weld to painted steel collar hinge and frame.
76	2"x2"x1/4" painted steel gate frame with welded connections.
78	6" diameter painted steel dumpster post. See Finish Schedule for color.
79	Wrap front face and underside of dumpster roof joists with metal panels to match standing seam metal roof.
80	Hinge collar with grease fitting. Collar welded all around to post. Typical.
81	2"x2"x1/4" painted steel cross bracing with horizontal bracing in thirds (beyond).
223	Work bench (By Others).
232	Bracket mounted fire extinguisher. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details on Sheet A602.
233	275-gallon Class IIB new oil tank (By Others).
234	928-gallon Class IIB new oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation.
235	928-gallon Class IIB waste oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation.
236	1x6 painted Trex slats secured to frame. See Finish Schedule for color.
237	Dumpster (By Others).
238	Cane bolts with stops.
268	Hold bottom of gate above grade as necessary to clear adjacent curb height to ensure gates can swing 180 degrees. Coordinate with Civil drawings for clearance needed.



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Pit Floor Plan and Site Details

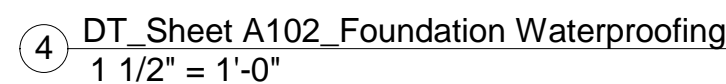
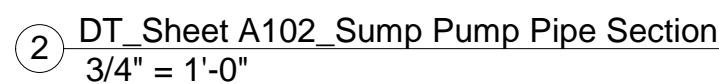
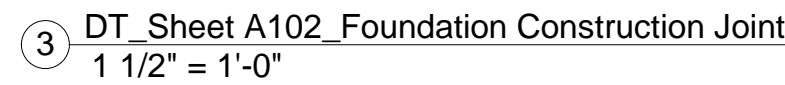
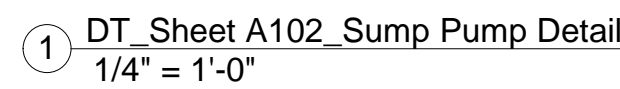
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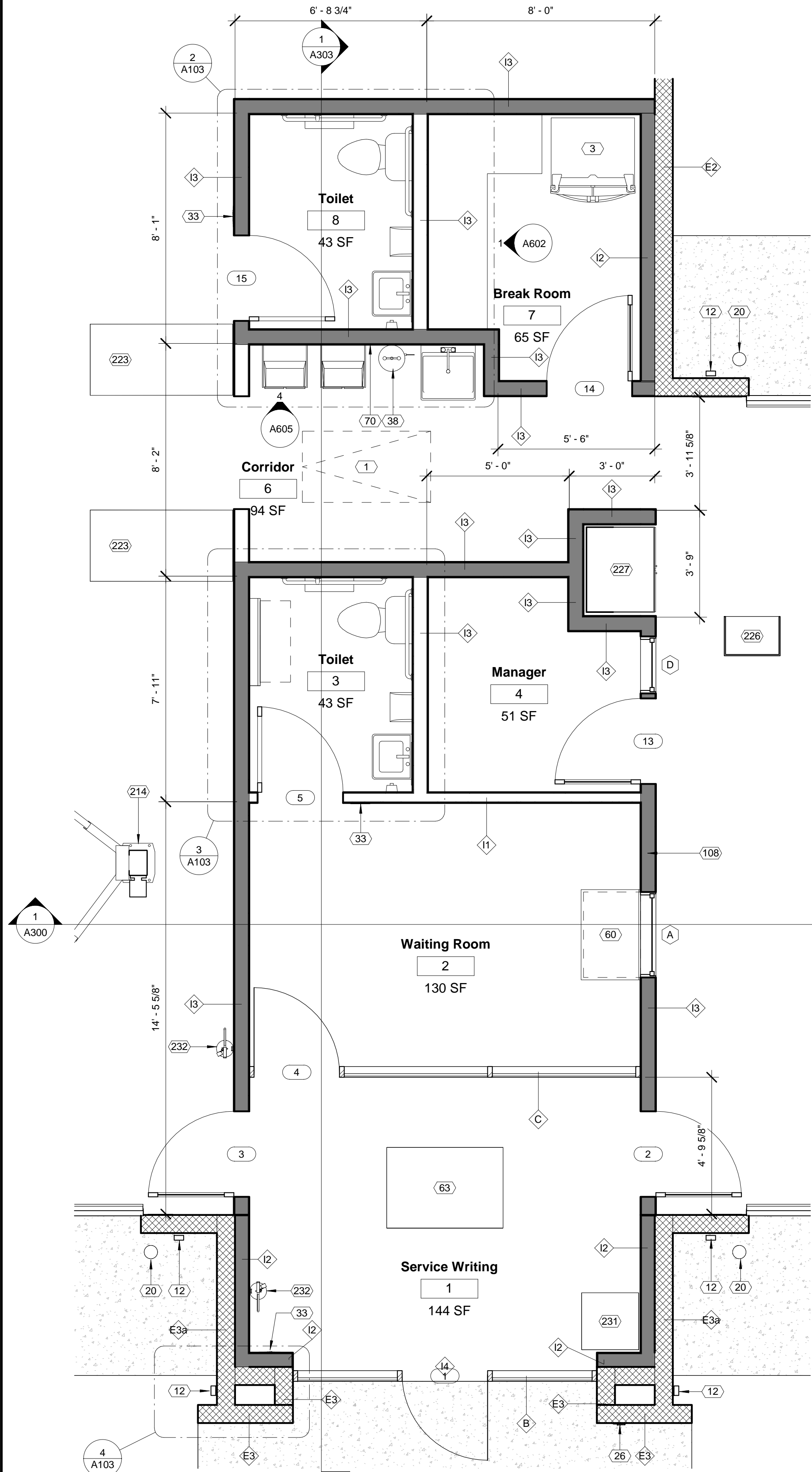
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## Foundation Details

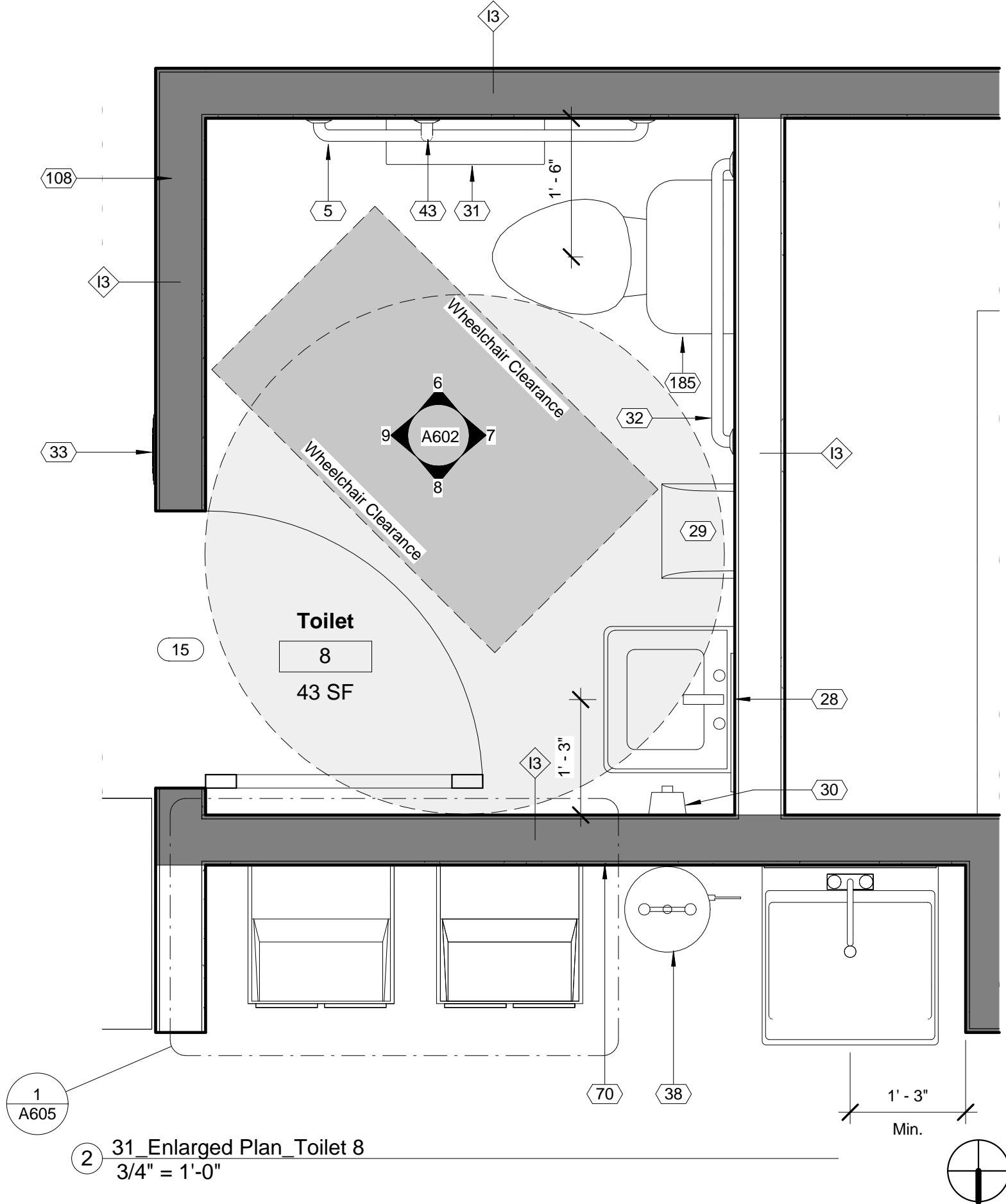
A102

Scale	As indicated
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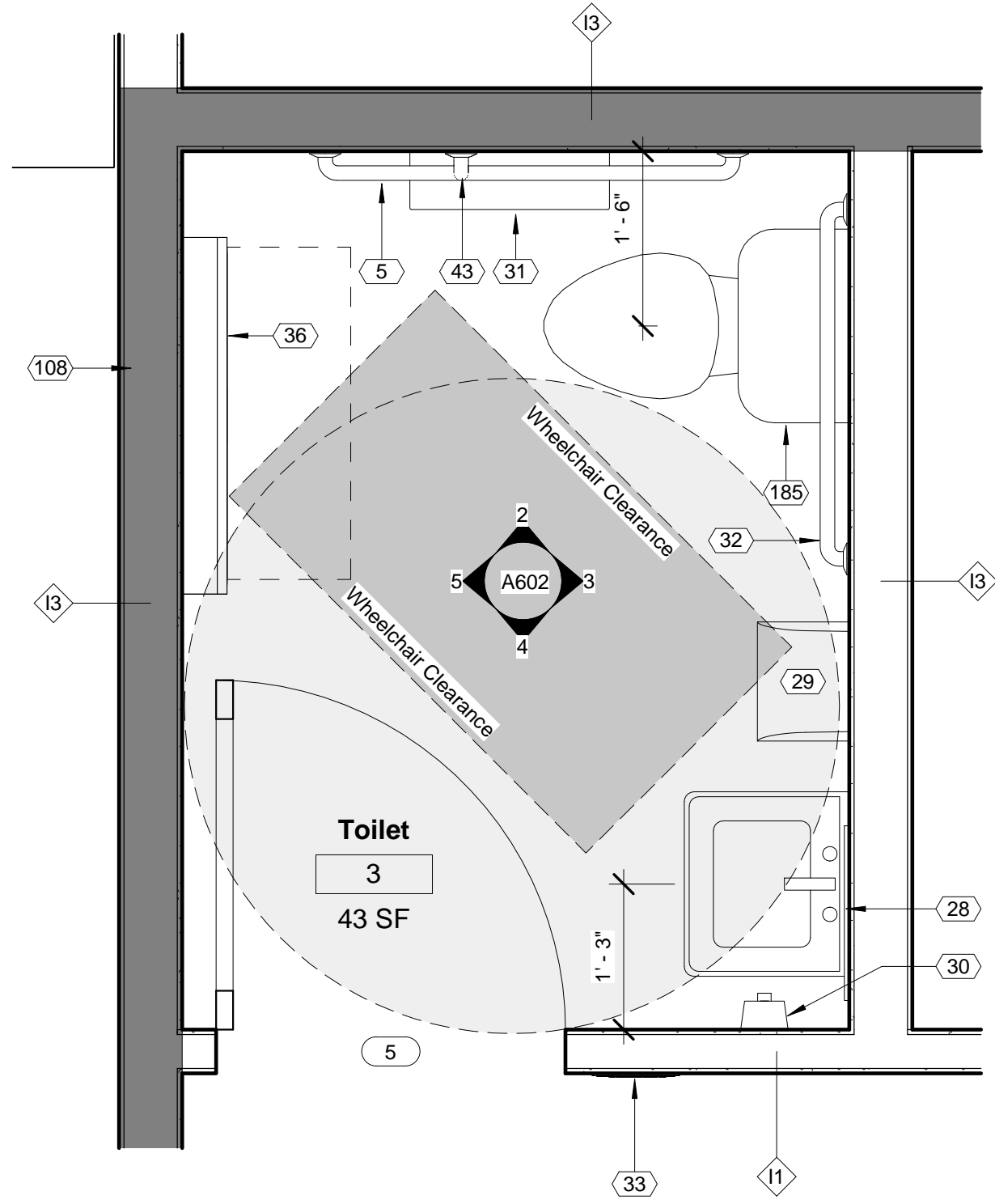




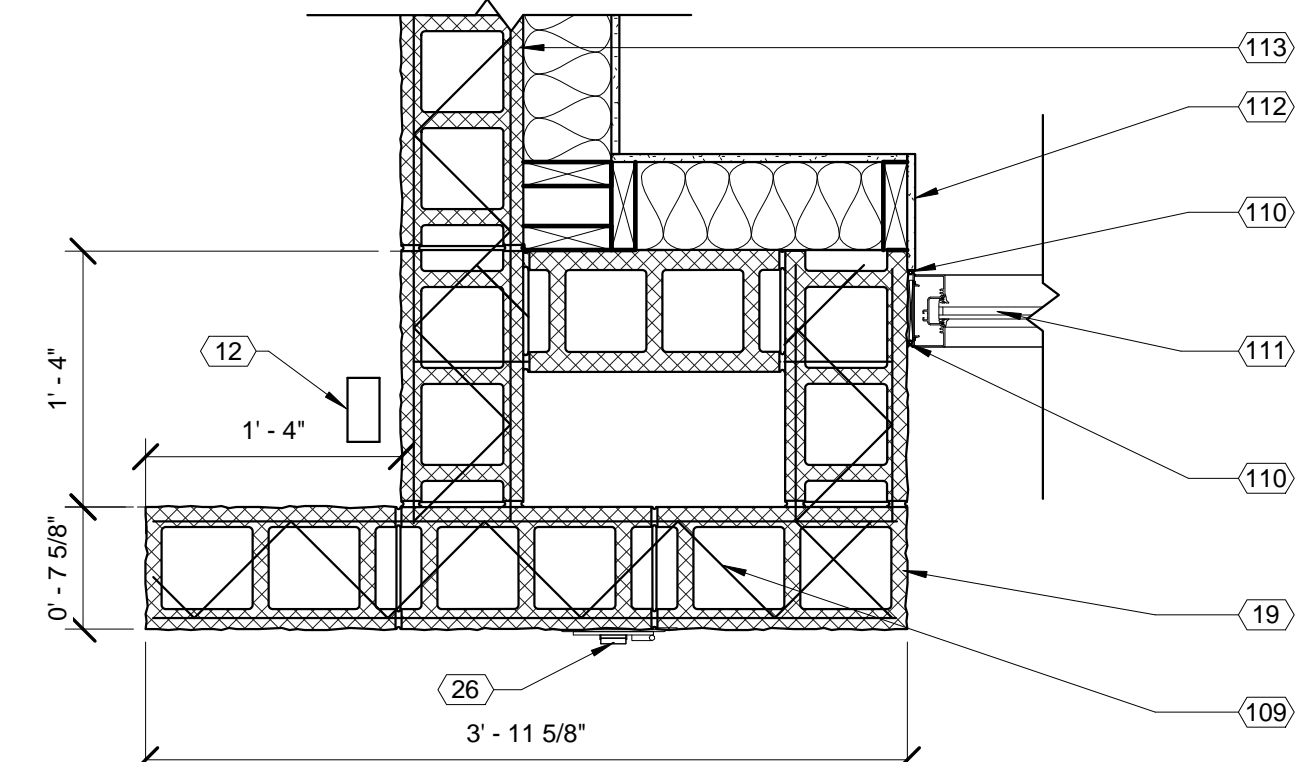
30\_Enlarged Plan\_Main  
3/8" = 1'-0"



31\_Enlarged Plan\_Toilet 8  
3/4" = 1'-0"



32\_Enlarged Plan\_Toilet 3  
3/4" = 1'-0"



DT\_Sheet A103\_Detail @ Pilaster  
1" = 1'-0"

Keynote Schedule	
Tag	Text
1	Pull down attic access and ladder. See Specification 083113 Access Doors and Frames.
3	Location of 30" wide refrigerator (By Others).
5	42" grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
12	Pre-finished metal downspout and boot piped to storm drainage system. See Civil for tie-in. See Specification 077100 Roof Specialties.
19	Painted 8" split-face CMU (bond beam where indicated, see Structural). See Specification 042200 Concrete Unit Masonry.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details on sheet A101. See Specification 055000 Metal Fabrications.
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
28	Framed mirror. See Specification 102800 Toilet, Bath, and Laundry Accessories.
29	Automatic Towel Dispenser (By others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
30	Wall mounted soap dispenser (By Others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
31	Jumbo Dual Roll Toilet Tissue dispenser (By Others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
32	36" grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
33	ADA compliant room / exit sign. See Details on Sheet A602.
36	Surface mounted baby changing station with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
38	Eyewash station. See Plumbing.
43	24" vertical grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
60	Coffee cabinet. See Details on sheet G301.
63	Service Desk. See Details on sheet G301.
70	4'-0" high FRP on wet wall. See Specification 066400 Plastic Paneling (Fiberglass Reinforced Panels).
108	Gray shading indicates these walls are the boundaries for the building thermal envelope assembly.
109	Horizontal joint reinforcement at 16" o.c. vertical.
110	Sealant with backer rod.
111	Aluminum storefront with insulated glazing. See Details on sheet A620.
112	Painted 1/2" gypsum board on 2x6 wood studs at 16" o.c. with kraft-face R-20 batt insulation (kraft in contact with gypsum board). See Details on sheet A400.
113	Fluid applied vapor permeable air barrier. See Specification 072726 Fluid Applied Membrane Air Barrier.
185	Flush valve on transfer side of water closet.
214	10K Lift (By Others).
223	Work bench (By Others).
226	Computer podium (By Others).
227	Cashier computer station (By Others).
231	Beverage refrigerator (By Others).
232	Bracket mounted fire extinguisher. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details on Sheet A602.

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Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

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No.	Description	Date

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Enlarged Floor Plans and Details

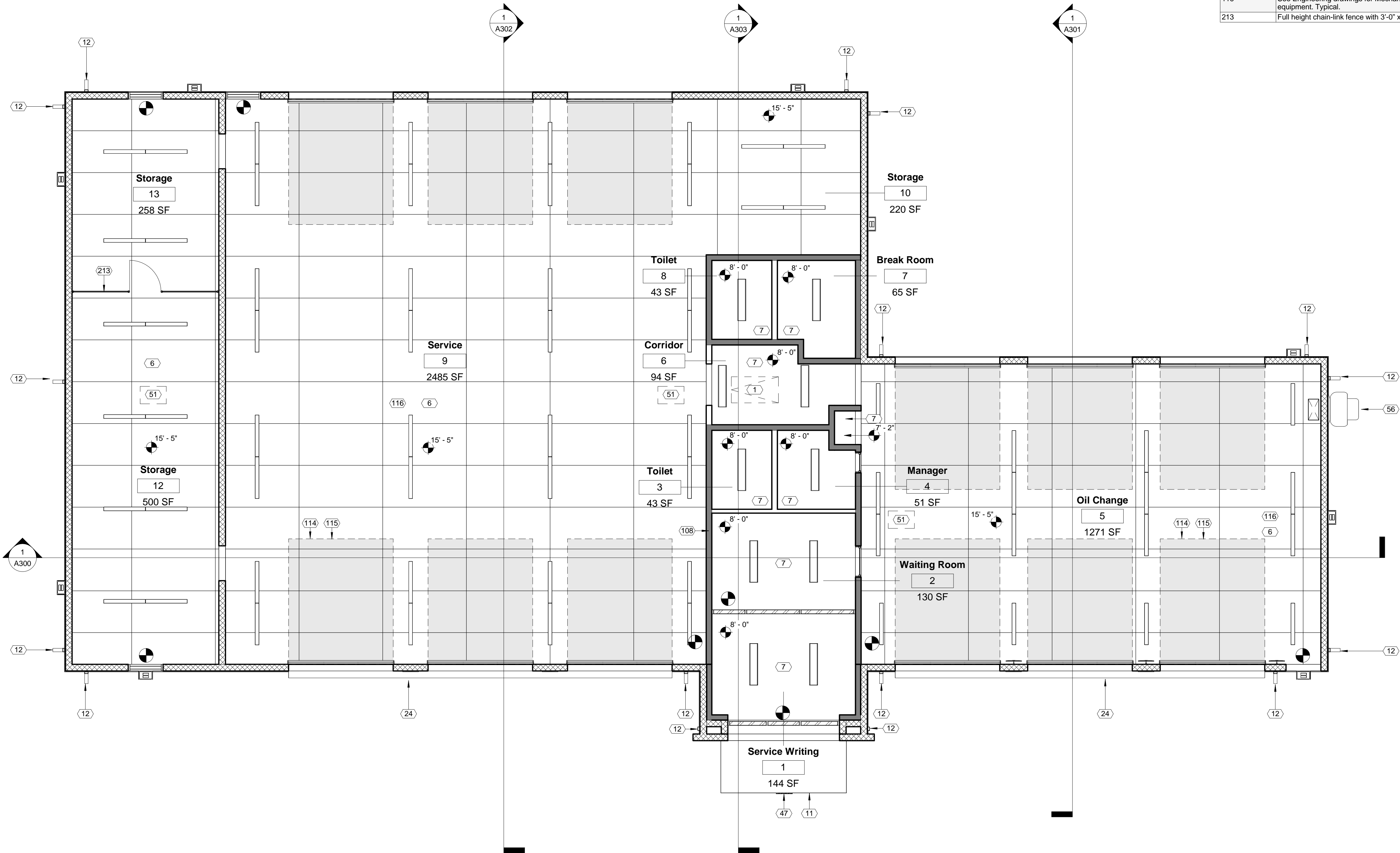
Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A

A103

Scale As indicated

4/18/2024 11:39:59 AM





Keynote Schedule	
Tag	Text
1	Pull down attic access and ladder. See Specification 083113 Access Doors and Frames.
6	Painted 1/2" thick fire-rated plywood with 1/4" x 1 1/4" fire-rated painted wood batten strips at seams, secured to underside of roof trusses. Provide painted 1"x4" fire-rated wood trim at perimeter.
7	Painted 1/2" gypsum board ceiling. 5/8" Type X where indicated.
11	Pre-finished metal canopy. See Details on sheet A303 (A302 for OC Building Only).
12	Pre-finished metal downspout and boot piped to storm drainage system. See Civil for tie-in. See Specification 077100 Roof Specialties.
24	Lightbar (By Others). Provide blocking as required. See Electrical.
47	Provide address identification as directed by the Local Fire Marshal or AHJ.
51	Provide 20"x30" insulated attic access panel.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
108	Gray shading indicates these walls are the boundaries for the building thermal envelope assembly.
114	Contractor to ensure overhead door, track, etc. meets the minimum vertical clearance required for equipment (By Others). Typical.
115	Dashed line indicates extent of overhead doors. Typical.
116	See Engineering drawings for Mechanical/Electrical/Plumbing fixtures and equipment. Typical.
213	Full height chain-link fence with 3'-0" x 7'-0" gate.



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Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL

No.	Description	Date

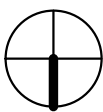
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Reflected Ceiling  
Plan - Main

Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A

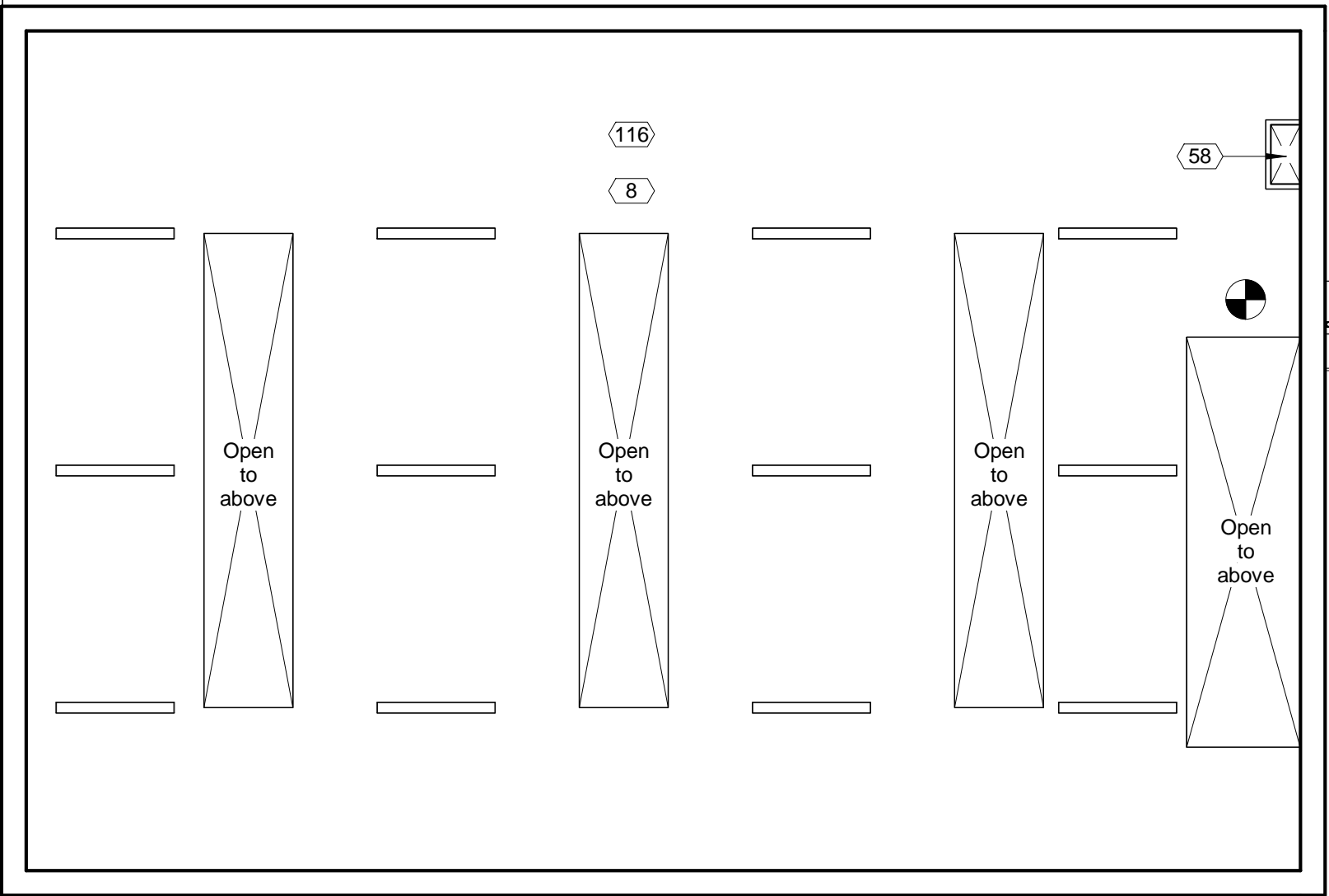
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Scale 3/16" = 1'-0"

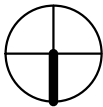




Keynote Schedule	
Tag	Text
8	Exposed to structure above.
58	Verify location and size of pit exhaust opening with Structural and Mechanical drawings.
116	See Engineering drawings for Mechanical/Electrical/Plumbing fixtures and equipment. Typical.



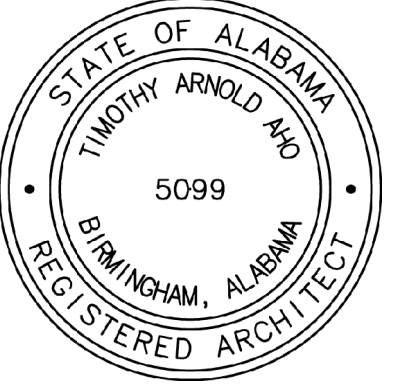
① 00\_RCP\_Pit  
3/16" = 1'-0"





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Reflected Ceiling  
Plan - Pit

Project number24004

Date04/08/2024

Drawn byARC

Checked byN/A

A105

Scale

3/16" = 1'-0"



- NOTES:**
- Equipment platform is designed for mechanical equipment only. This space is not intended for occupants other than during general maintenance.

Keynote Schedule	
Tag	Text
1	Pull down attic access and ladder. See Specification 083113 Access Doors and Frames.
11	Pre-finished metal canopy. See Details on sheet A303 (A302 for OC Building Only).
24	Lightbar (By Others). Provide blocking as required. See Electrical.
51	Provide 20"x30" insulated attic access panel.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
108	Gray shading indicates these walls are the boundaries for the building thermal envelope assembly.
116	See Engineering drawings for Mechanical/Electrical/Plumbing fixtures and equipment. Typical.
232	Bracket mounted fire extinguisher. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details on Sheet A602.



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No.	Description	Date

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Floor Plan -  
Equipment  
Platform

Project number

24004

Date

04/08/2024

Drawn by

ARC

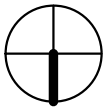
Checked by

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A106

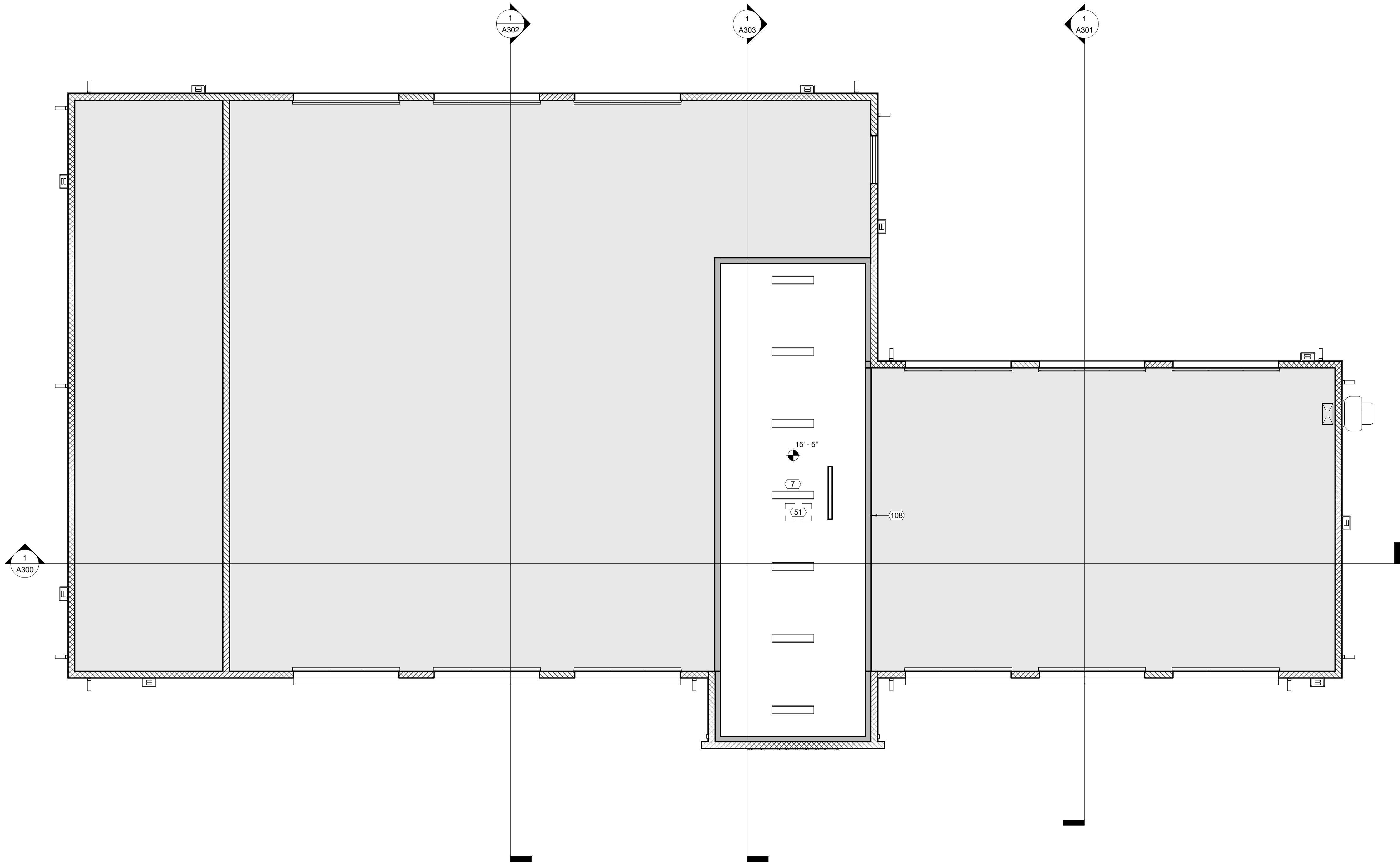
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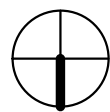




Keynote Schedule	
Tag	Text
7	Painted 1/2" gypsum board ceiling. 5/8" Type X where indicated.
51	Provide 20"x30" insulated attic access panel.
108	Gray shading indicates these walls are the boundaries for the building thermal envelope assembly.



① 02\_RCP\_Equip. Platform  
3/16" = 1'-0"





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No.	Description	Date

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Reflected Ceiling  
Plan - Equipment  
Platform

Project number

24004

Date

04/08/2024

Drawn by

ARC

Checked by

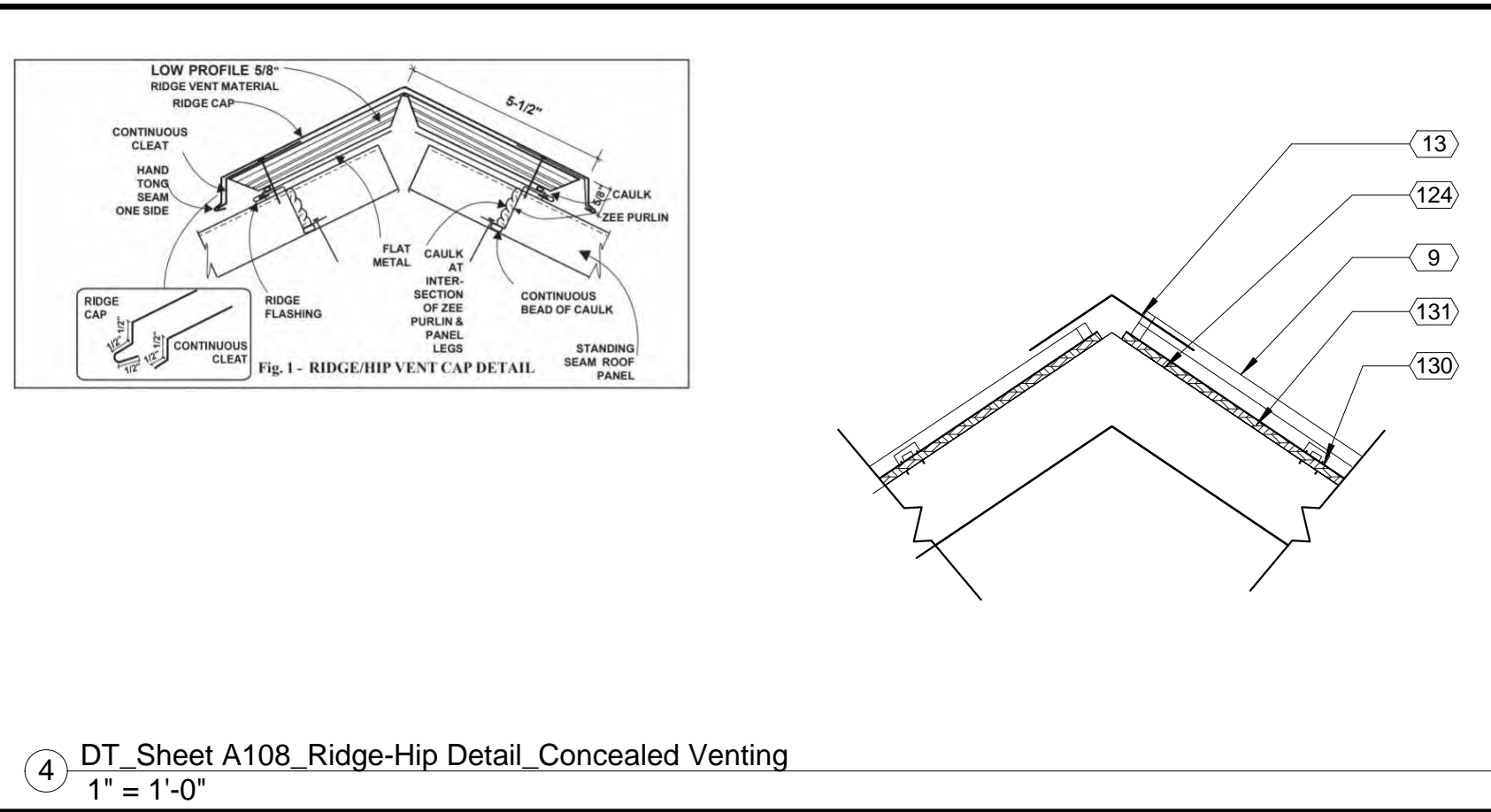
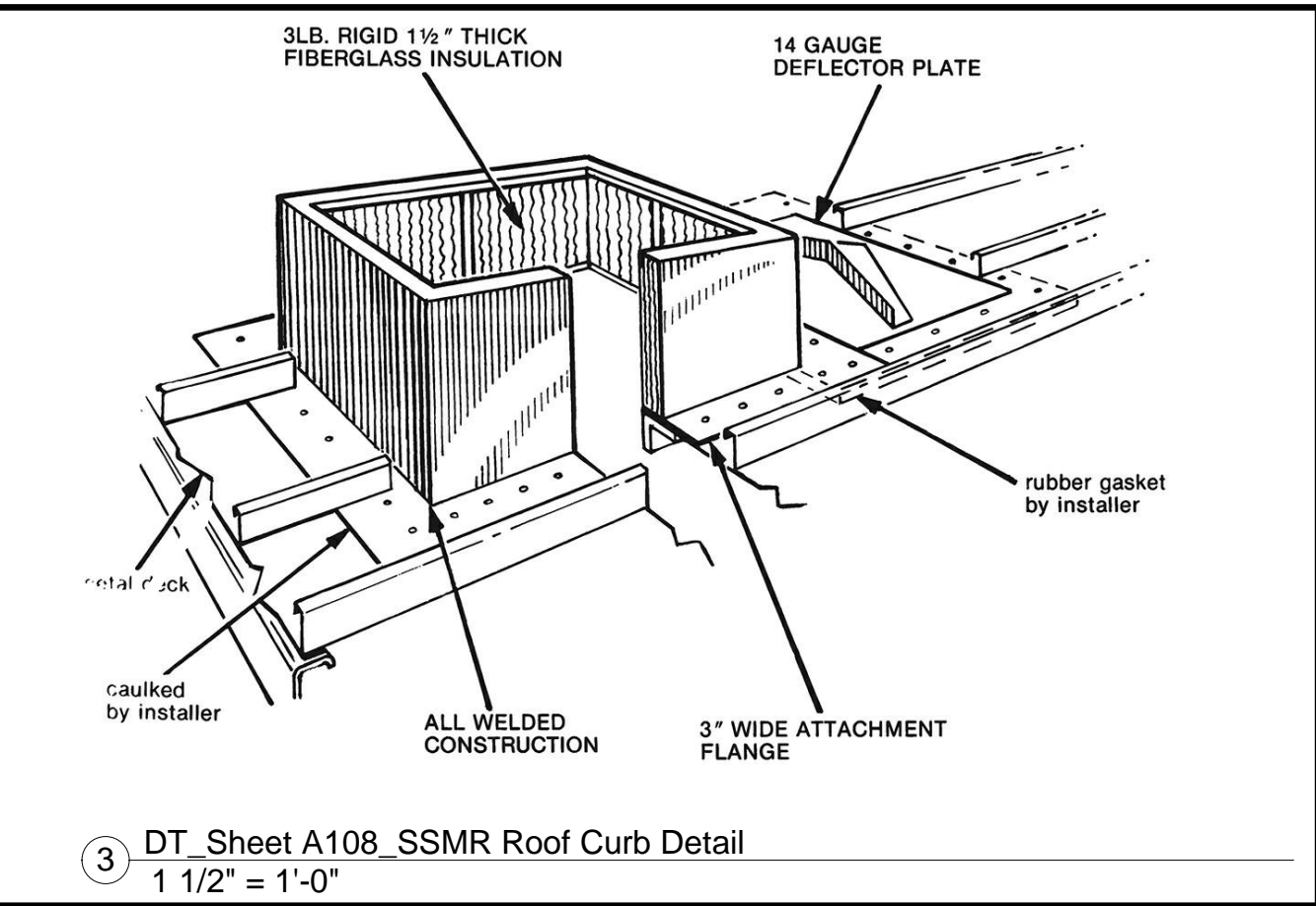
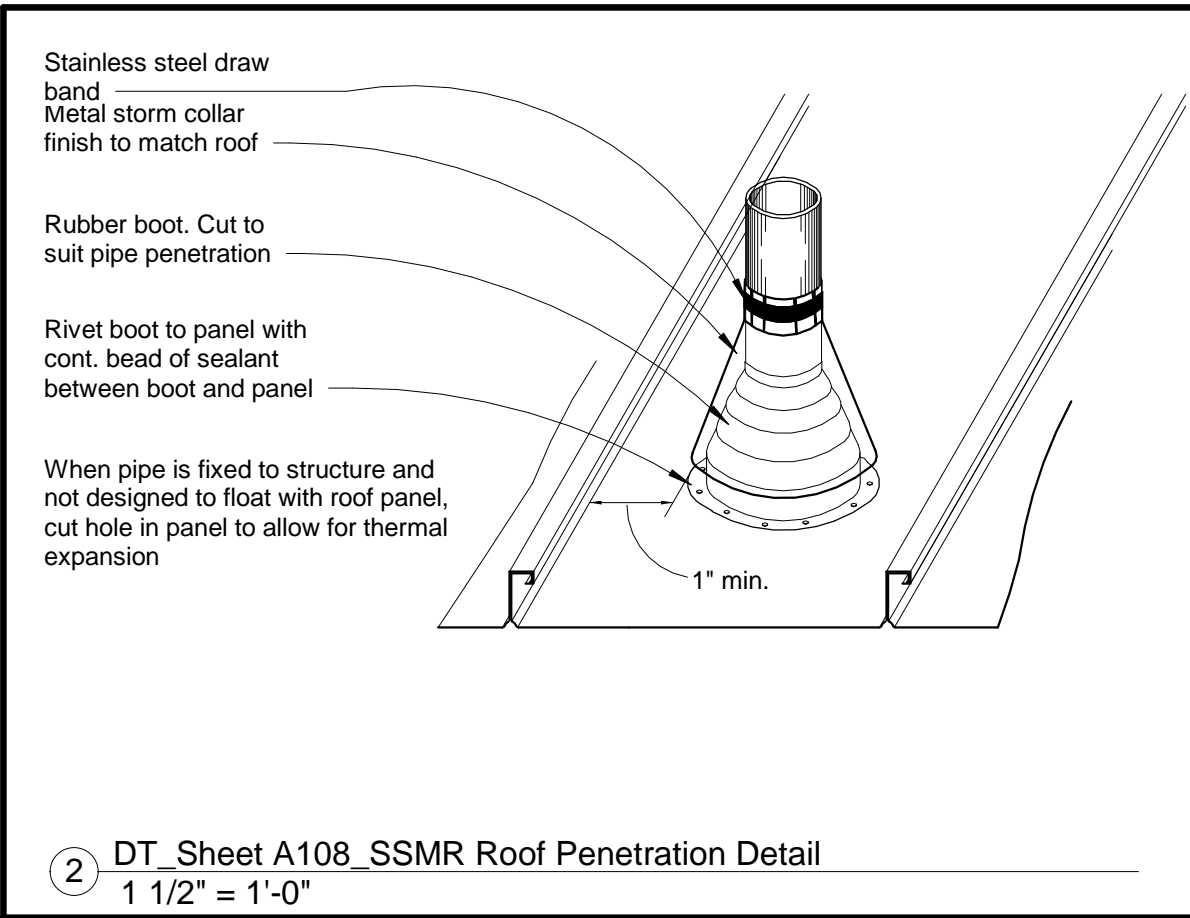
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A107

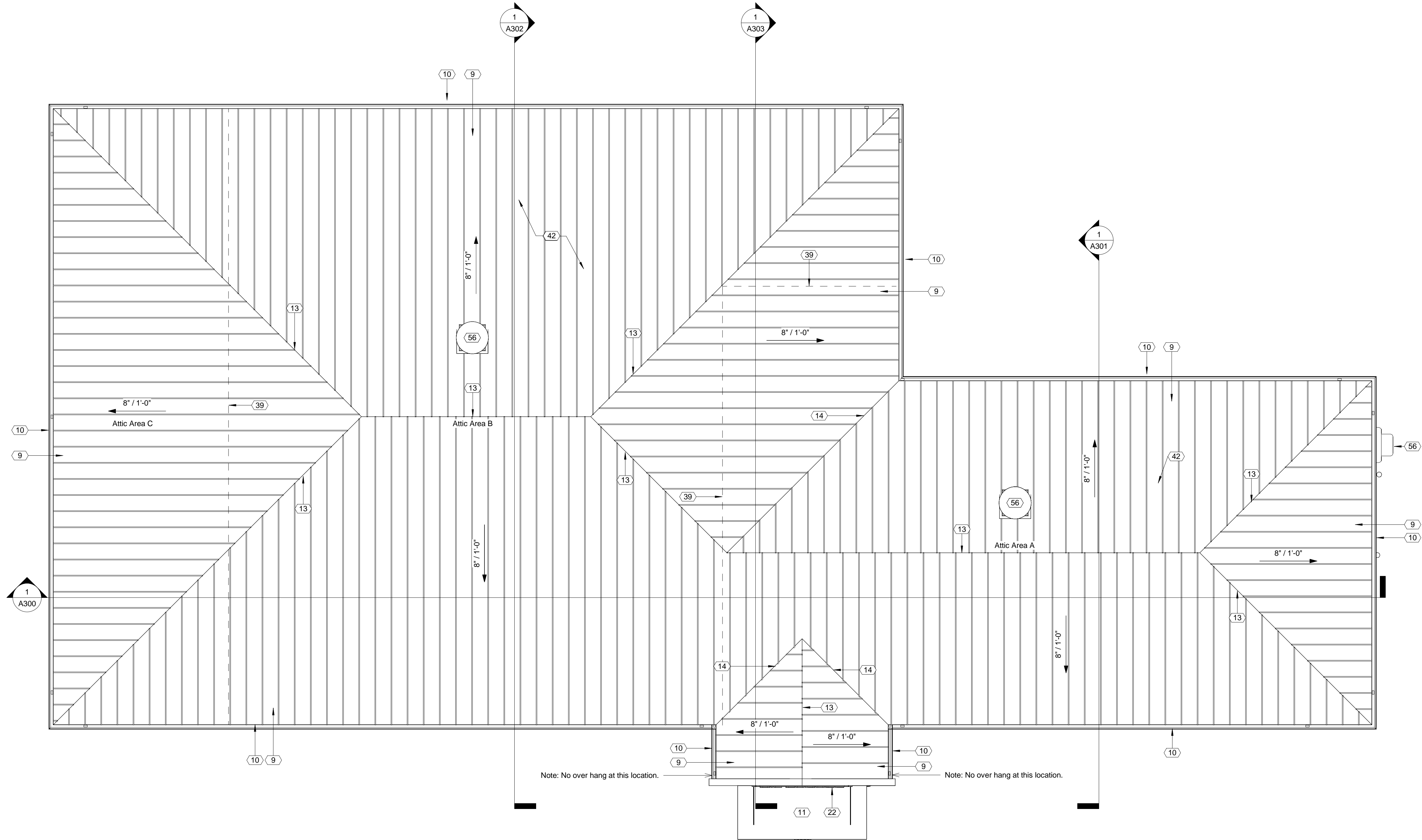
Scale

3/16" = 1'-0"

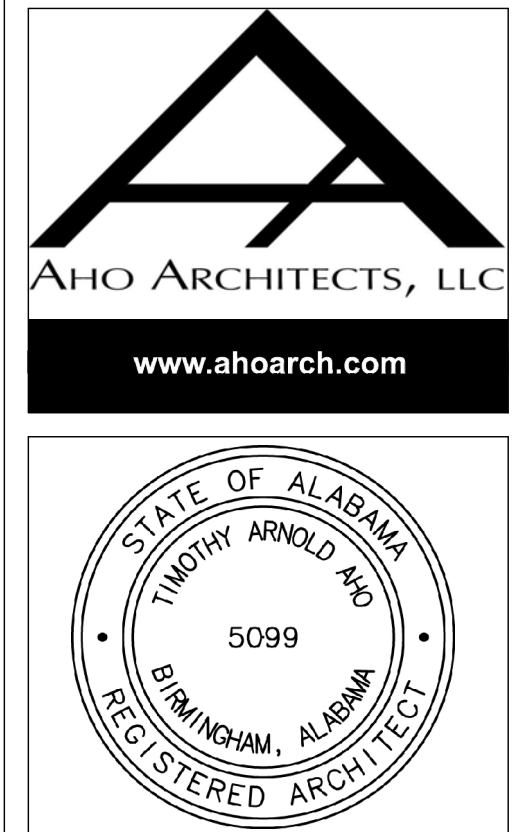
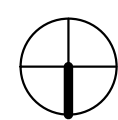




Keynote Schedule	
Tag	Text
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
10	Pre-finished metal gutter system. See Specification 077100 Roof Specialties.
11	Pre-finished metal canopy. See Details on sheet A303 (A302 for OC Building Only).
13	Pre-finished metal hip and ridge cap by metal roofing manufacturer. Provide concealed ridge venting if indicated. Color to match roof. See Specification 074113.16 Standing Seam Metal Roof Panels.
14	Pre-finished metal valley flashing. Color to match roof.
22	Signage (By Others). Provide blocking as required. See Electrical.
39	Provide attic draftstop partition and access door per IBC. Wall shall read "Seal All Penetrations" every 25'-0" o.c. Attic "Floor" area within draftstop areas shall not exceed 3,000 s.f. Draftstop materials shall not be less than 1/2" gypsum board adequately supported. The integrity of draftstop shall be maintained. Provide 1 opening per partition, protected by a self-closing door constructed as required for the partition with automatic latch. Door shall not be less than 20"x30" which is required for attic access specified in Section 1209.2 of the IBC. Provided max. 3,000 s.f. area is not exceeded, draftstop locations shall align with structural supports.39
42	Paint all roof penetrations to match roof color.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
124	Pre-engineered wood roof truss. See Structural.
130	2 layers of #15 roofing felt.
131	5/8" pressure treated plywood decking. See Structural.



1 03\_Roof Plan  
3/16" = 1'-0"



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Foley, Alabama

FINAL		
No.	Description	Date

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Roof Plan	
Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A
A108	
Scale	As indicated

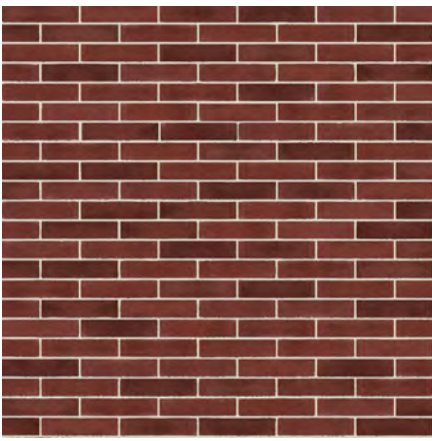


EXTERIOR FINISH MATERIAL LEGEND



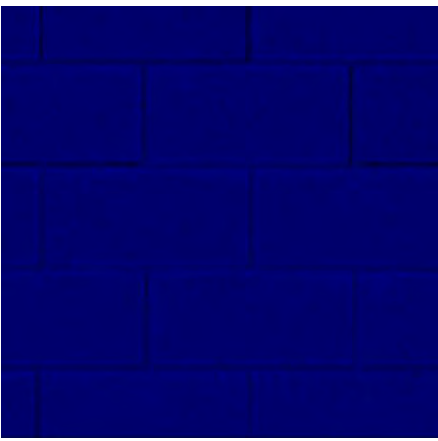
PAINTED SPLIT-FACE CMU

Color: SW7669 Summit Gray  
Manuf: Sherwin Williams



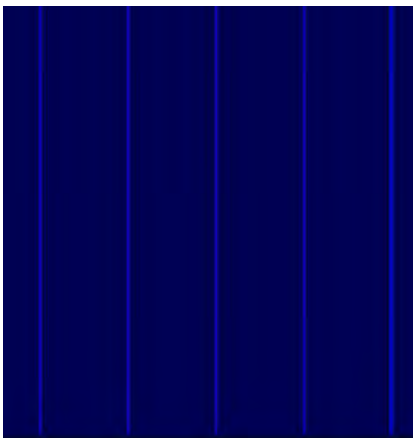
STRUCTURAL HALF-HIGHS

Color: Richfield Blend  
Manuf: Echelon



EXTERIOR PAINT

Color: SW6966 Blueblood  
Manuf: Sherwin Williams



ROOF

Color: Royal Blue  
Manuf: Berridge



HM DOORS

Color: SW7669 Summit Gray  
Manuf: Sherwin Williams



STOREFRONT DOORS

Color: Clear Anodized Aluminum  
Manuf: YKK

NOTE:

Align top of exterior wall packs with bottom of banding at 12'-0" a.f.f. Do not locate exterior wall packs on side of building that contains illuminated lightbars or sconces by others, unless at exit doors as indicated on the Electrical Drawings.

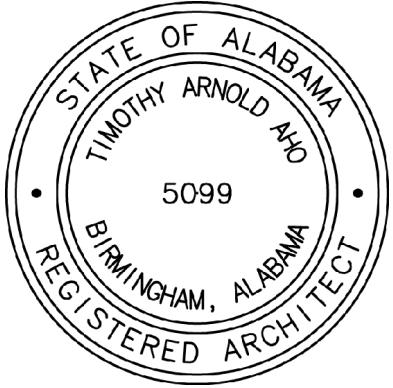


01\_ Exterior Elevation\_Front (North)  
3/16" = 1'-0"

Keynote Schedule	
Tag	Text
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
10	Pre-finished metal gutter system. See Specification 077100 Roof Specialties.
11	Pre-finished metal canopy. See Details on sheet A303 (A302 for OC Building Only).
12	Pre-finished metal downspout and boot piped to storm drainage system. See Civil for tie-in. See Specification 077100 Roof Specialties.
13	Pre-finished metal hip and ridge cap by metal roofing manufacturer. Provide concealed ridge venting if indicated. Color to match roof. See Specification 074113.16 Standing Seam Metal Roof Panels.
15	1x pressure treated painted fascia board, continuous.
16	Painted structural half-highs. See Specification 042200 Concrete Unit Masonry.
17	Painted 8" split-face CMU (bond beam where indicated, see Structural). As required, provide painted smooth-face, grout filled "U" block bond beam at lightbars only. As required, paint CMU lintel above OH doors as indicated on finish schedule. See Structural. See Specification 042200 Concrete Unit Masonry.
18	Unpainted structural half-highs. See Specification 042200 Concrete Unit Masonry.
19	Painted 8" split-face CMU (bond beam where indicated, see Structural). See Specification 042200 Concrete Unit Masonry.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details on sheet A101. See Specification 055000 Metal Fabrications.
21	10" Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
22	Signage (By Others). Provide blocking as required. See Electrical.
23	Wall sconce (By Others). Provide blocking as required. See Electrical. Locate junction box for sconces 5'-0" a.f.f. vertically and 4" from center horizontally. Verify with sign company prior to rough-in.
24	Lightbar (By Others). Provide blocking as required. See Electrical.
25	Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0".
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking Slope to drain. Color to match roof.
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
47	Provide address identification as directed by the Local Fire Marshal or AHJ.
53	Conduit to be centered horizontally for lights in canopy. Verify with sign company prior to rough-in.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
68	1x pressure treated painted frieze board, continuous.



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FINAL

No.	Description	Date

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Exterior Elevation -  
Front (North)

Project number 24004  
Date 04/08/2024  
Drawn by ARC  
Checked by N/A

A200

Scale 3/16" = 1'-0"

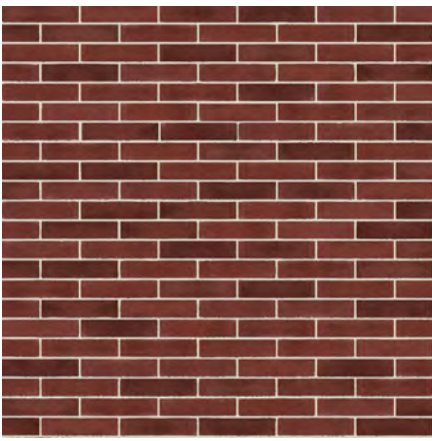


EXTERIOR FINISH MATERIAL LEGEND



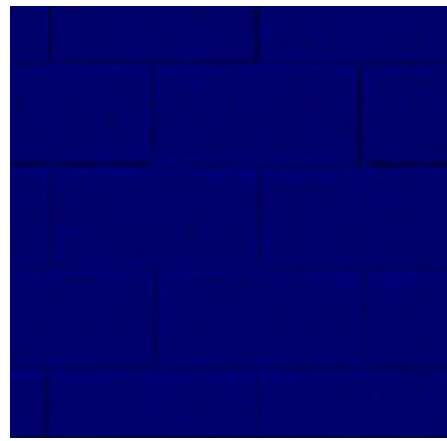
PAINTED SPLIT-FACE CMU

Color: SW7669 Summit Gray  
Manuf: Sherwin Williams



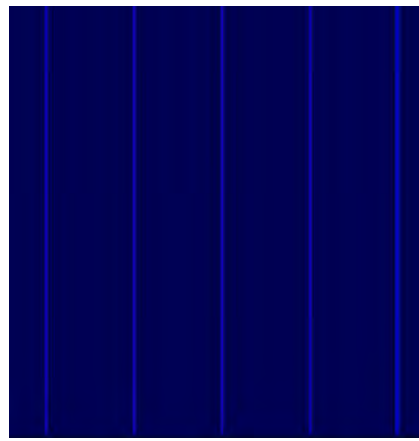
STRUCTURAL HALF-HIGHS

Color: Richfield Blend  
Manuf: Echelon



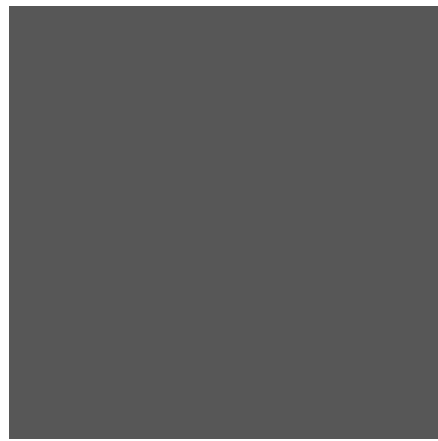
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Color: SW6966 Blueblood  
Manuf: Sherwin Williams



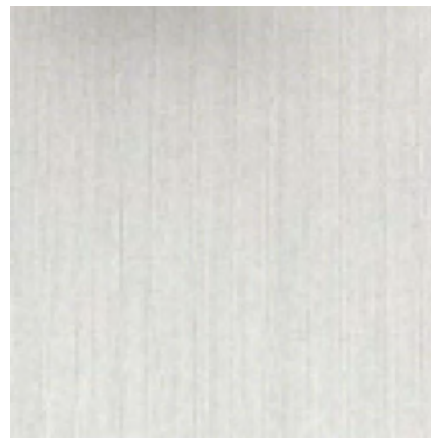
ROOF

Color: Royal Blue  
Manuf: Berridge



HM DOORS

Color: SW7669 Summit Gray  
Manuf: Sherwin Williams



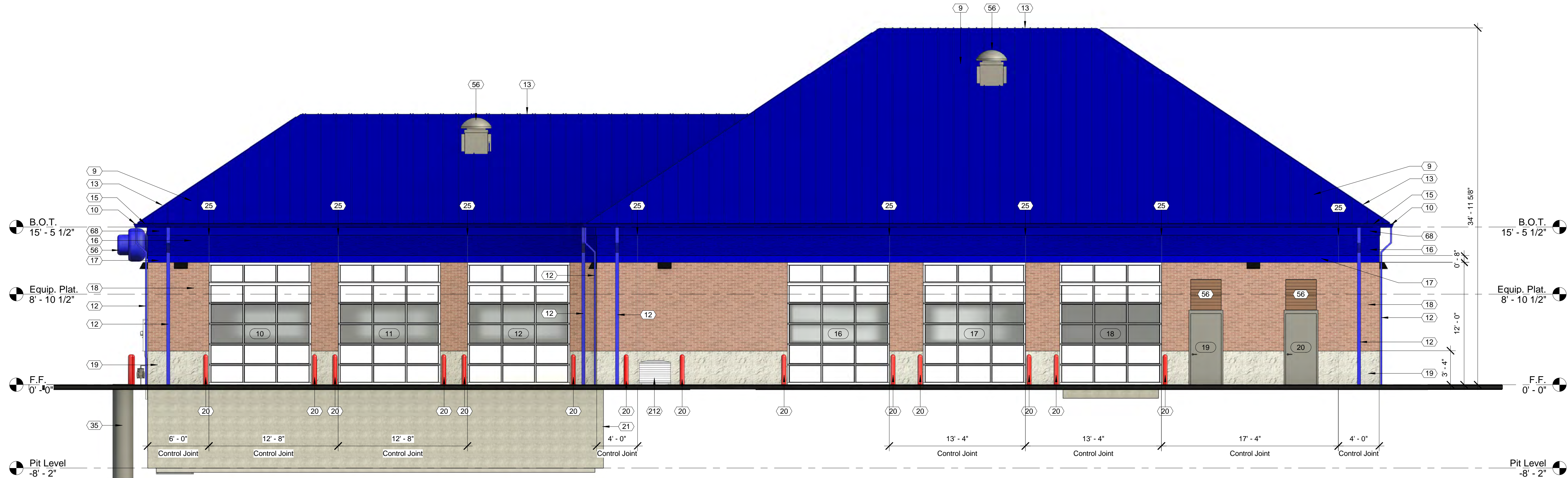
STOREFRONT DOORS

Color: Clear Anodized Aluminum  
Manuf: YKK

Keynote Schedule	
Tag	Text
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
10	Pre-finished metal gutter system. See Specification 077100 Roof Specialties.
12	Pre-finished metal downspout and boot piped to storm drainage system. See Civil for tie-in. See Specification 077100 Roof Specialties.
13	Pre-finished metal hip and ridge cap by metal roofing manufacturer. Provide concealed ridge venting if indicated. Color to match roof. See Specification 074113.16 Standing Seam Metal Roof Panels.
15	1x pressure treated painted fascia board, continuous.
16	Painted structural half-highs. See Specification 042200 Concrete Unit Masonry.
17	Painted 8" split-face CMU (bond beam where indicated, see Structural). As required, provide painted smooth-face, grout filled "U" block bond beam at lightbars only. As required, paint CMU lintel above OH doors as indicated on finish schedule. See Structural. See Specification 042200 Concrete Unit Masonry.
18	Unpainted structural half-highs. See Specification 042200 Concrete Unit Masonry.
19	Painted 8" split-face CMU (bond beam where indicated, see Structural). See Specification 042200 Concrete Unit Masonry.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details on sheet A101. See Specification 055000 Metal Fabrications.
21	10" Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
25	Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0".
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
68	1x pressure treated painted frieze board, continuous.
212	HVAC condensing unit. See Mechanical.

NOTE:

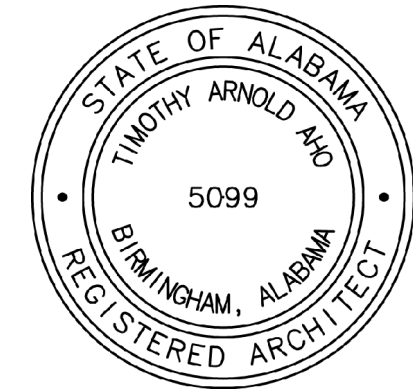
Align top of exterior wall packs with bottom of banding at 12'-0" a.f.f. Do not locate exterior wall packs on side of building that contains illuminated lightbars or sconces by others, unless at exit doors as indicated on the Electrical Drawings.



02\_Exterior Elevation\_Rear (South)  
3/16" = 1'-0"



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Foley, Alabama

FINAL

No.	Description	Date

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Exterior Elevation -  
Rear (South)

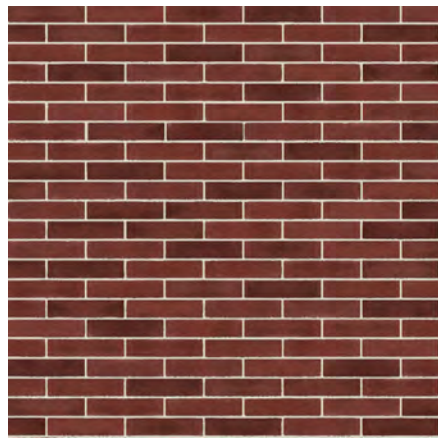
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Date	04/08/2024
Drawn by	ARC
Checked by	N/A

A201

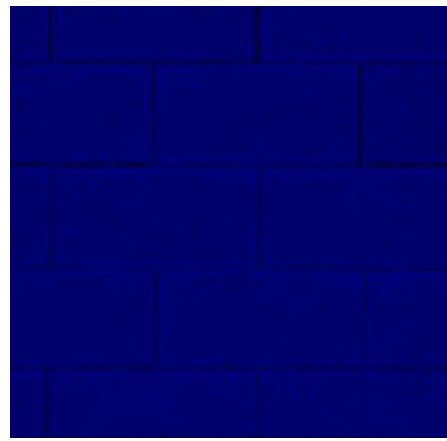
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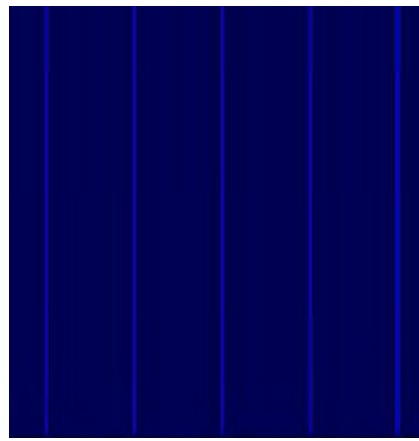
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Manuf: Sherwin Williams



Color: Richfield Blend  
Manuf: Echelon



Color: SW6966 Blueblood  
Manuf: Sherwin Williams



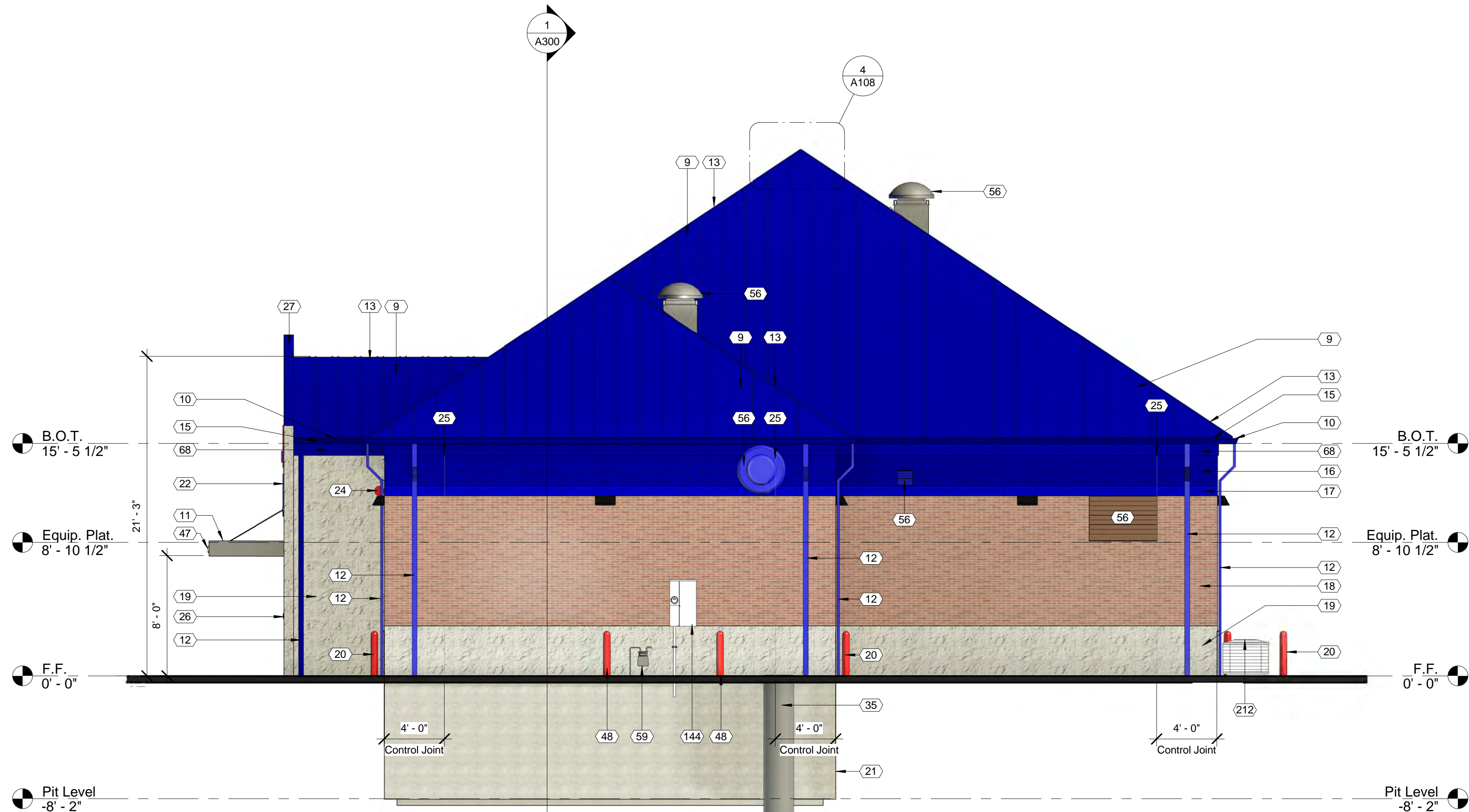
Color: Royal Blue  
Manuf: Berridge



Color: SW7669 Summit Gray  
Manuf: Sherwin Williams

Color: Clear Anodized Aluminum  
Manuf: YKK

Align top of exterior wall packs with bottom of banding at 12'-0" a.f.f. Do not locate exterior wall packs on side of building that contains illuminated lightbars or sconces by others, unless at exit doors as indicated on the Electrical Drawings.



Keynote Schedule	
Tag	Text
9	Pre-finished standing seam metal roof system. See Specification 074113.16
10	Standing Seam Metal Roof Panels. See Finish Schedule for color.
11	Pre-finished metal gutter system. See Specification 077100 Roof Specialties.
11	Pre-finished metal canopy. See Details on sheet A303 (A302 for OC Building Only).
12	Pre-finished metal downspout and boot piped to storm drainage system. See Civil for tie-in. See Specification 077100 Roof Specialties.
13	Pre-finished metal hip and ridge cap by metal roofing manufacturer. Provide concealed ridge venting if indicated. Color to match roof. See Specification 074113.16 Standing Seam Metal Roof Panels.
15	1x pressure treated painted fascia board, continuous.
16	Painted structural half-highs. See Specification 042200 Concrete Unit Masonry.
17	Painted 8" split-face CMU (bond beam where indicated, see Structural). As required, provide painted smooth-face, grout filled "U" block bond beam at lightbars only. As required, paint CMU intel above OH doors as indicated on finish schedule. See Structural. See Specification 042200 Concrete Unit Masonry.
18	Unpainted structural half-highs. See Specification 042200 Concrete Unit Masonry.
19	Painted 8" split-face CMU (bond beam where indicated, see Structural). See Specification 042200 Concrete Unit Masonry.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details on sheet A101. See Specification 055000 Metal Fabrications.
21	10" Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
22	Signage (By Others). Provide blocking as required. See Electrical.
24	Lightbar (By Others). Provide blocking as required. See Electrical.
25	Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0".
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking slope to drain. Color to match roof.
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
47	Provide address identification as directed by the Local Fire Marshal or AHJ.
48	Painted concrete-filled steel pipe bollard located near gas meter. See Mechanical.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
59	Gas meter. See Plumbing.
68	1x pressure treated painted frieze board, continuous.
144	Electrical meter. See Electrical.
212	HVAC condensing unit. See Mechanical.



**Express Oil Change & Tire Engineers**  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

[illegible]

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Exterior Elevation -  
Right (West)

Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A

# A202

Scale  $3/16" = 1'-0"$

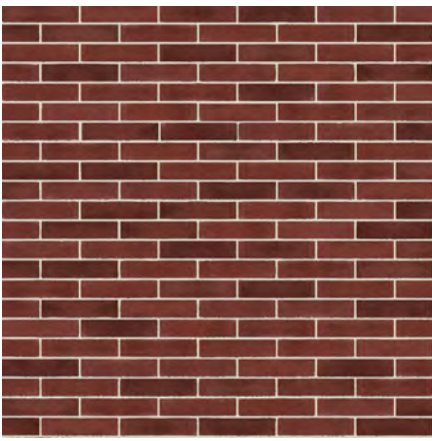


EXTERIOR FINISH MATERIAL LEGEND



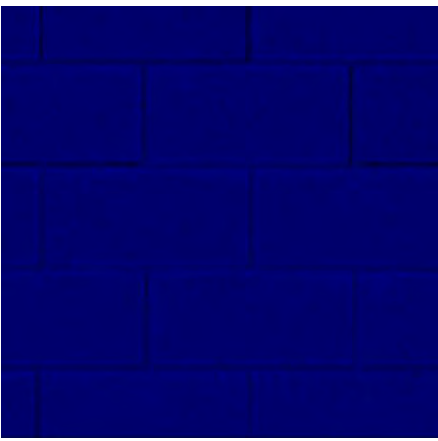
PAINTED SPLIT-FACE CMU

Color: SW7669 Summit Gray  
Manuf: Sherwin Williams



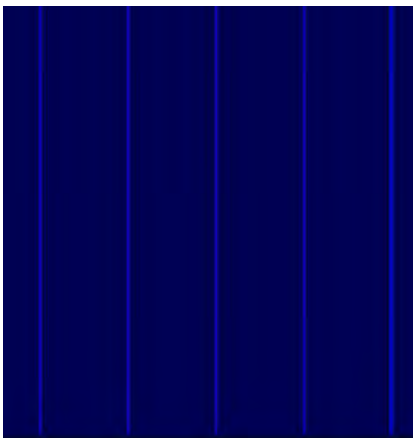
STRUCTURAL HALF-HIGHS

Color: Richfield Blend  
Manuf: Echelon



EXTERIOR PAINT

Color: SW6966 Blueblood  
Manuf: Sherwin Williams



ROOF

Color: Royal Blue  
Manuf: Berridge



HM DOORS

Color: SW7669 Summit Gray  
Manuf: Sherwin Williams

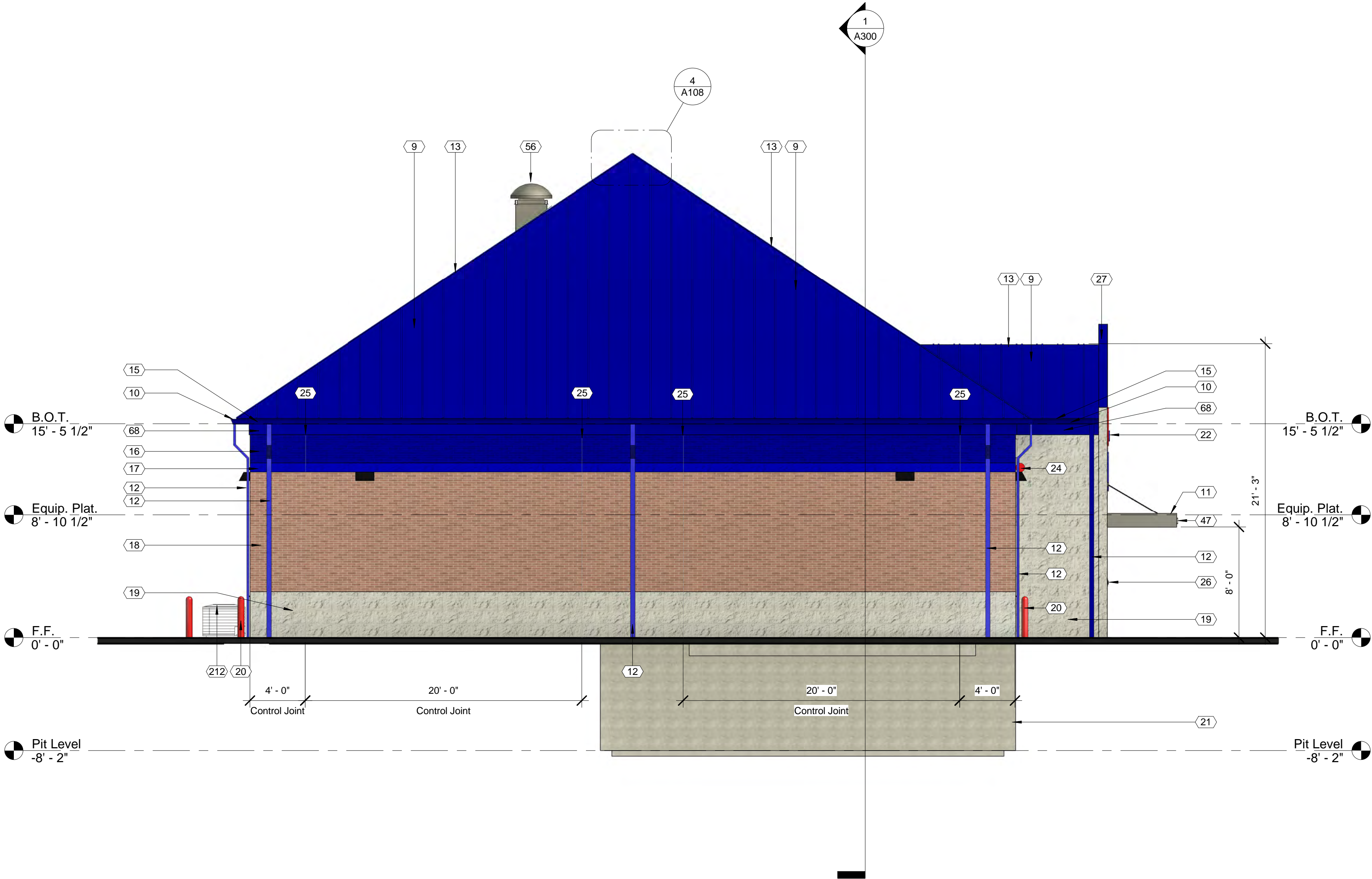


STOREFRONT DOORS

Color: Clear Anodized Aluminum  
Manuf: YKK

NOTE:

Align top of exterior wall packs with bottom of banding at 12'-0" a.f.f. Do not locate exterior wall packs on side of building that contains illuminated lightbars or sconces by others, unless at exit doors as indicated on the Electrical Drawings.



04\_ Exterior Elevation\_Left (East)  
3/16" = 1'-0"

Keynote Schedule	
Tag	Text
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
10	Pre-finished metal gutter system. See Specification 077100 Roof Specialties.
11	Pre-finished metal canopy. See Details on sheet A303 (A302 for OC Building Only).
12	Pre-finished metal downspout and boot piped to storm drainage system. See Civil for tie-in. See Specification 077100 Roof Specialties.
13	Pre-finished metal hip and ridge cap by metal roofing manufacturer. Provide concealed ridge venting if indicated. Color to match roof. See Specification 074113.16 Standing Seam Metal Roof Panels.
15	1x pressure treated painted fascia board, continuous.
16	Painted structural half-highs. See Specification 042200 Concrete Unit Masonry.
17	Painted 8" split-face CMU (bond beam where indicated, see Structural). As required, provide painted smooth-face, grout filled "U" block bond beam at lightbars only. As required, paint CMU lintel above OH doors as indicated on finish schedule. See Structural. See Specification 042200 Concrete Unit Masonry.
18	Unpainted structural half-highs. See Specification 042200 Concrete Unit Masonry.
19	Painted 8" split-face CMU (bond beam where indicated, see Structural). See Specification 042200 Concrete Unit Masonry.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details on sheet A101. See Specification 055000 Metal Fabrications.
21	10" Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
22	Signage (By Others). Provide blocking as required. See Electrical.
24	Lightbar (By Others). Provide blocking as required. See Electrical.
25	Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0".
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking Slope to drain. Color to match roof.
47	Provide address identification as directed by the Local Fire Marshal or AHJ.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
68	1x pressure treated painted frieze board, continuous.
212	HVAC condensing unit. See Mechanical.



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Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL

No.	Description	Date

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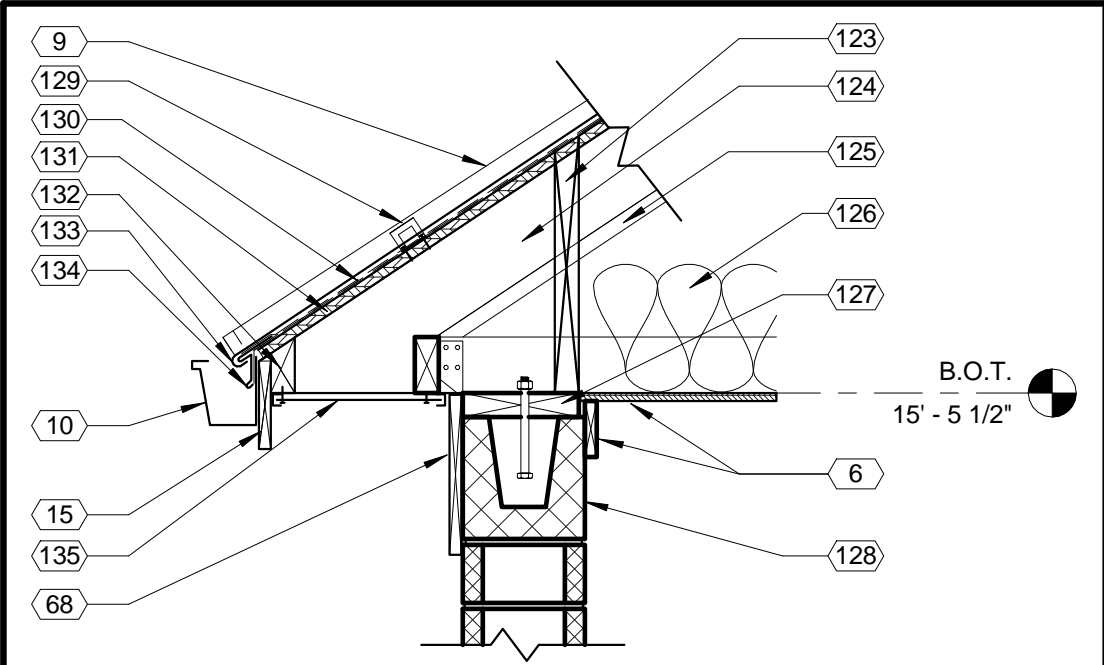
Exterior Elevation -  
Left (East)

Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A

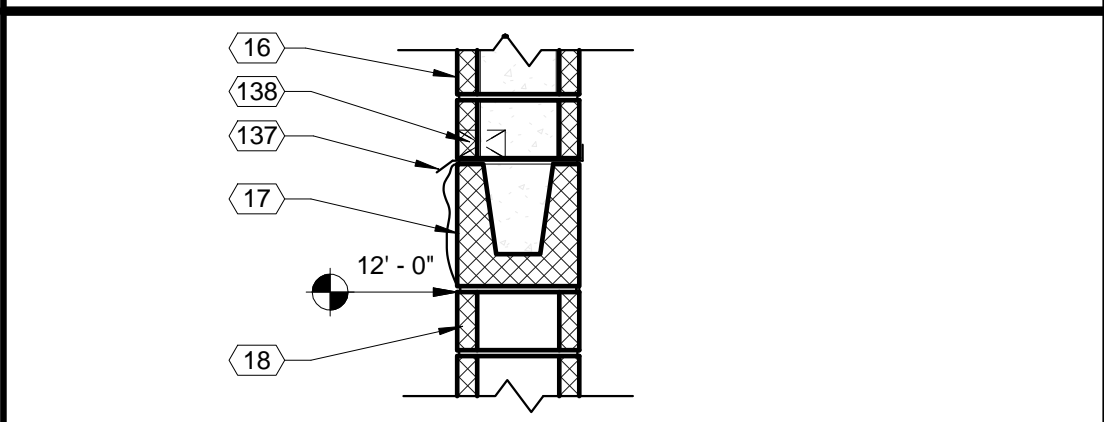
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Scale 3/16" = 1'-0"

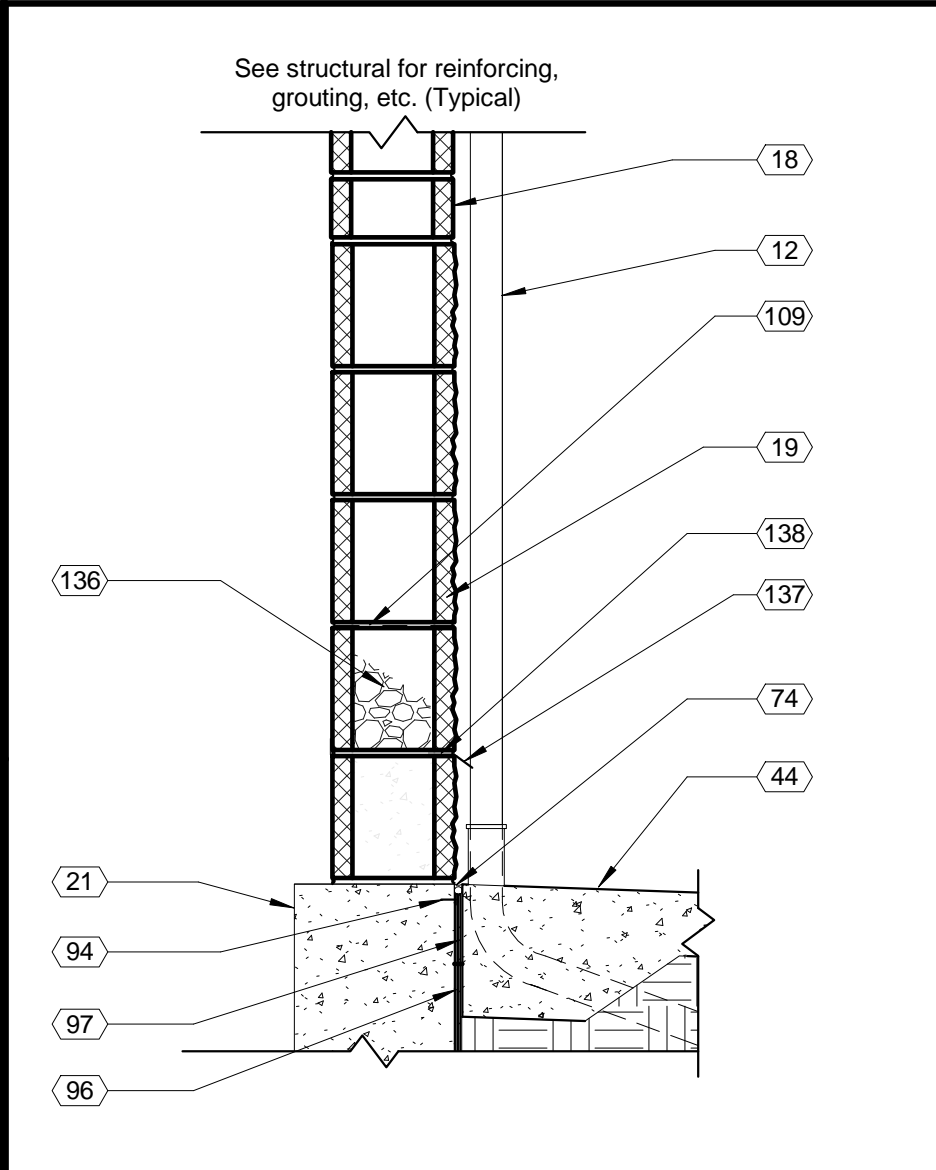




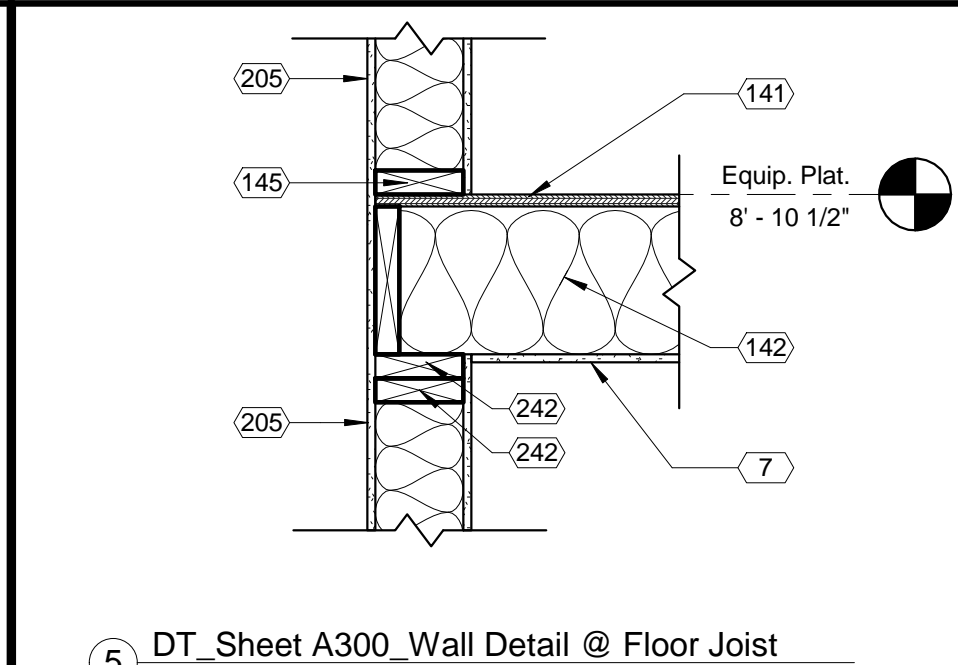
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1" = 1'-0"



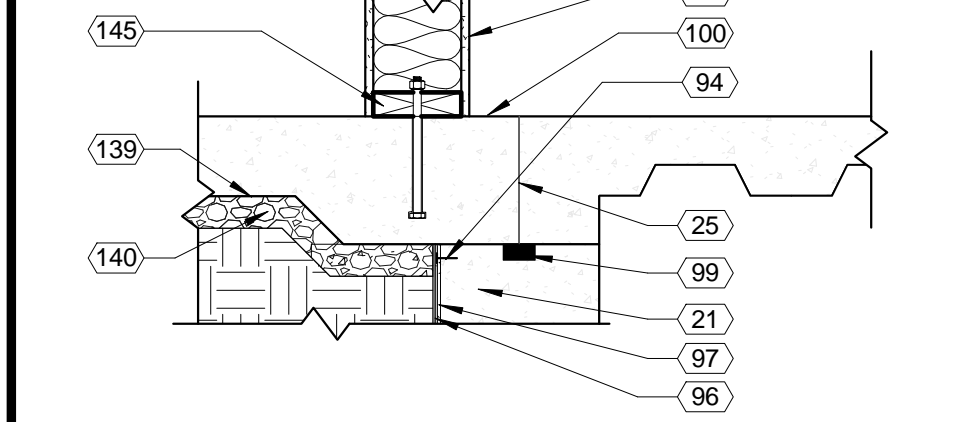
3 DT\_Sheet A300. Accent Course  
1" = 1'-0"



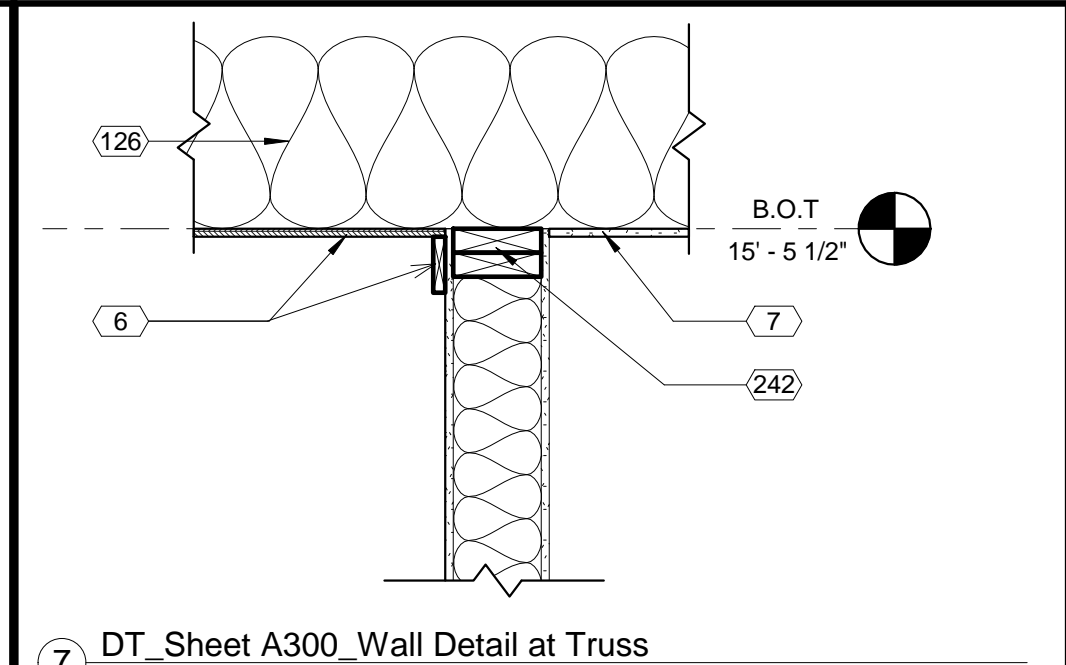
4 DT\_Sheet A300. Water Table Detail @ Pit Wall  
1" = 1'-0"



5 DT\_Sheet A300. Wall Detail @ Floor Joist  
1" = 1'-0"



6 DT\_Sheet A300. Slab On Grade - Pit Wall Transition  
1" = 1'-0"



7 DT\_Sheet A300. Wall Detail at Truss  
1" = 1'-0"

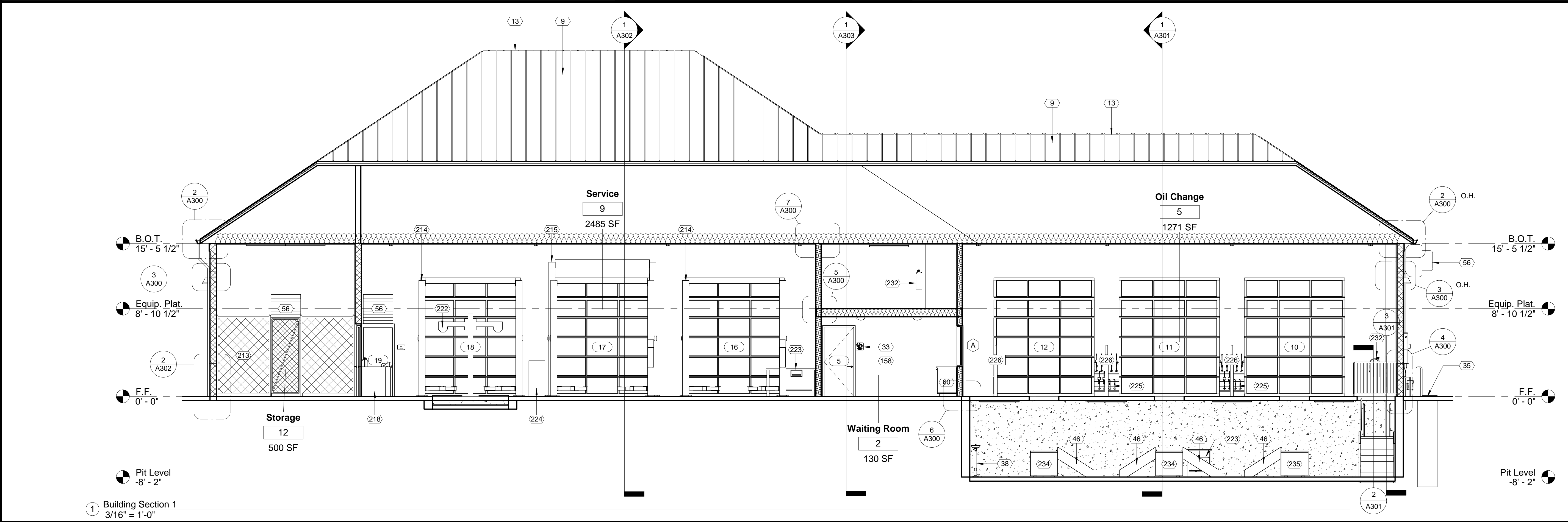
Keynote Schedule	
Tag	Text
6	Painted 1/2" thick fire-rated plywood with 1/4" x 1 1/4" fire-rated painted wood batten strips at seams, secured to underside of roof trusses. Provide painted 1"x4" fire-rated wood trim at perimeter.
7	Painted 1/2" gypsum board ceiling. 5/8" Type X where indicated.
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
10	Pre-finished metal gutter system. See Specification 077100 Roof Specialties.
12	Pre-finished metal downspout and boot piped to storm drainage system. See Civil for tie-in. See Specification 077100 Roof Specialties.
13	Pre-finished metal hip and ridge cap by metal roofing manufacturer. Provide concealed ridge venting if indicated. Color to match roof. See Specification 074113.16 Standing Seam Metal Roof Panels.
15	1x pressure treated painted fascia board, continuous.
16	Painted structural half-highs. See Specification 042200 Concrete Unit Masonry.
17	Painted 8" split-face CMU (bond beam where indicated, see Structural). As required, provide painted smooth-face, grout filled "U" block bond beam at lightbars only. As required, paint CMU lintel above OH doors as indicated on finish schedule. See Structural. See Specification 042200 Concrete Unit Masonry.

Keynote Schedule	
Tag	Text
18	Unpainted structural half-highs. See Specification 042200 Concrete Unit Masonry.
19	Painted 8" split-face CMU (bond beam where indicated, see Structural). See Specification 042200 Concrete Unit Masonry.
21	10' Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
25	Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0".
33	ADA compliant room / exit sign. See Details on Sheet A602.
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
38	Eyewash station. See Plumbing.
44	Concrete apron. See Civil. Slope away from building.
46	Oil tank stairs (By Others).
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
60	Coffee cabinet. See Details on sheet G301.

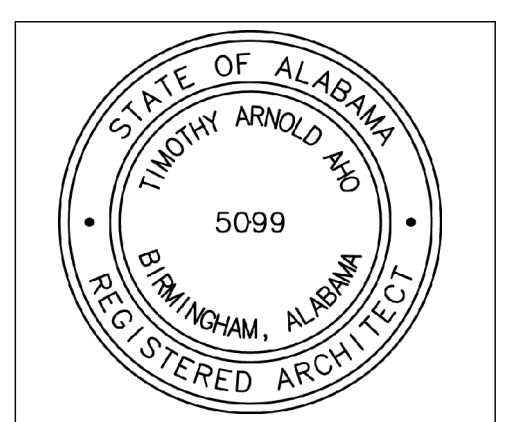
Keynote Schedule	
Tag	Text
68	1x pressure treated painted frieze board, continuous.
74	1/2" expansion joint with backer rod and sealant.
94	Fasteners at 12" max o.c. for securing subdrainage to pit wall. Follow manufacturer's installation instructions.
96	CCW MiraClay woven geotextile against wall/slab.
97	CCW MiraDrain 6200.
99	CCW MiraStop.
100	Concrete slab. See Structural.
109	Horizontal joint reinforcement at 16" o.c. vertical.
123	Blocking. See Structural.
124	Pre-engineered wood roof truss. See Structural.
125	Insulation baffle.
126	Unfaced R-38 batt insulation. See Specification 072100 Thermal Insulation.
127	2x pressure treated wood nailer.
128	Painted smooth-face 8" concrete-filled "U" block bond beam. Condition varies. See Structural.
129	"H" clips at mid-span on standing seam metal roof.
130	2 layers of #15 roofing felt.
131	5/8" pressure treated plywood decking. See Structural.

Keynote Schedule	
Tag	Text
132	2x wood sub-fascia, continuous.
133	Field cut seam and form pan around eave flashing.
134	Eave flashing with drip edge.
135	Painted vented soffit with paintable PVC "H" jointers between panels, fastened to pressure treated 2"x4" wood blocking. See Specification Section 074293 Soffit Panels.
136	Pea gravel above aluminum through wall flashing.
137	Aluminum through wall flashing.
138	Drainable weeps at every third mortar joint.
139	10 mil vapor barrier. See Specification 072600 Vapor Retarders.
140	4" porous fill. See Geotechnical Report.
141	3/4" tongue and groove plywood on wood joists. See Structural.
142	Unfaced R-30 batt insulation. See Specification 072100 Thermal Insulation.
145	2x pressure treated wood sill plate.
158	Vinyl letters (By Others).
205	1 layer of 1/2" painted gypsum board on both sides of 2"x6" wood studs at 16" o.c. Infill with kraft-faced R-20 batt insulation. Kraft in contact with gypsum board.
213	Full height chain-link fence with 3'-0" x 7'-0" gate.

Keynote Schedule	
Tag	Text
214	10K Lift (By Others).
215	12K Lift (By Others).
218	Brake lathe (By Others).
222	Alignment scarecrow (By Others).
223	Work bench (By Others).
224	Strut compressor (By Others).
225	Lube console (By Others).
226	Computer podium (By Others).
232	Bracket mounted fire extinguisher. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details on Sheet A602.
234	928-gallon Class IIIB new oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation.
235	928-gallon Class IIB waste oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation.
242	2x pressure treated wood top plate.



1 Building Section 1  
3/16" = 1'-0"



# Express Oil Change & Tire Engineers

## Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

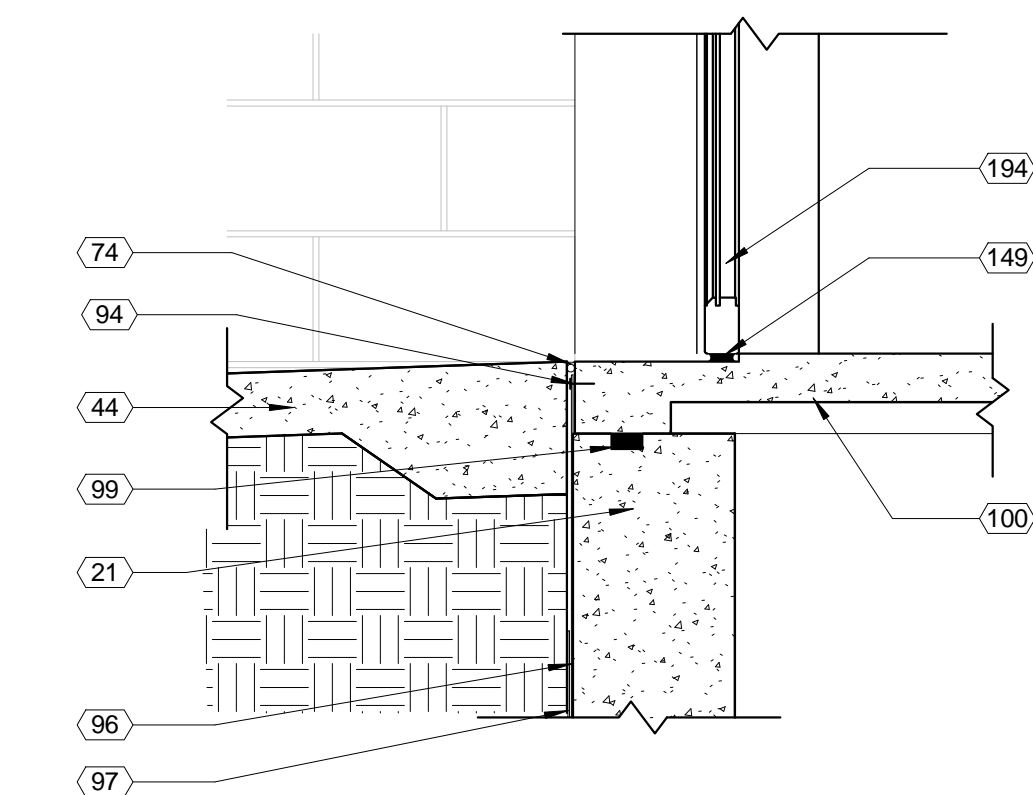
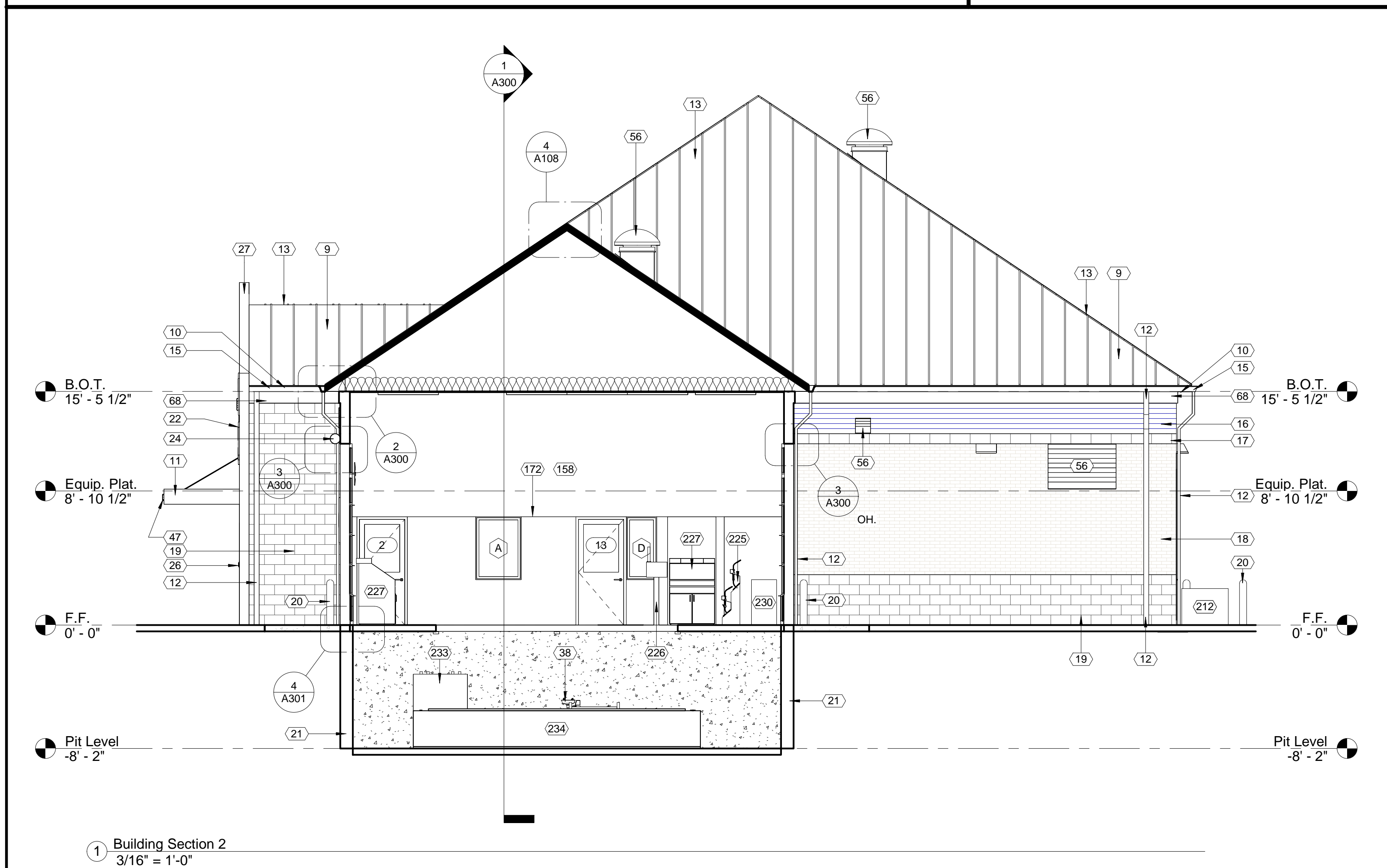
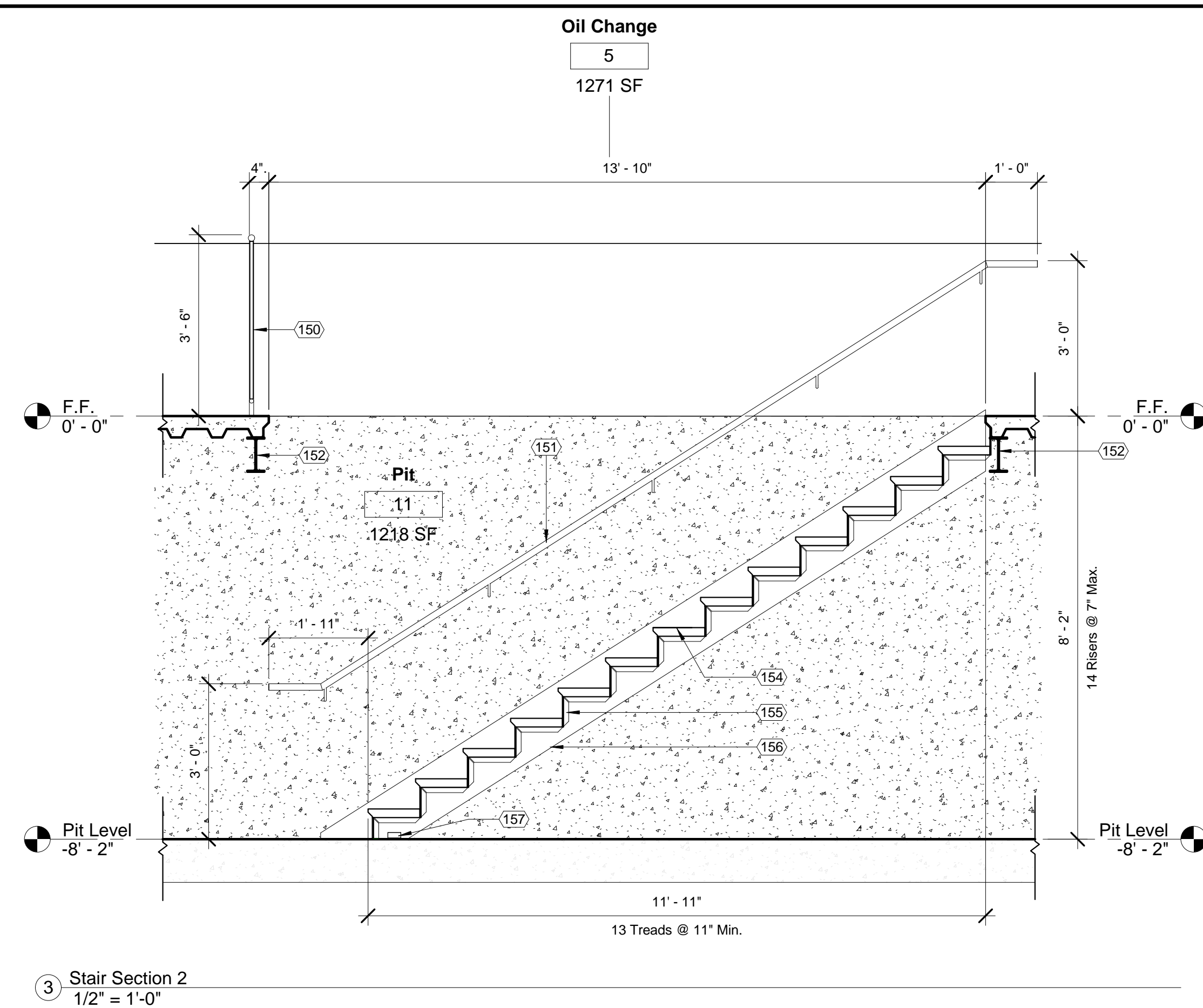
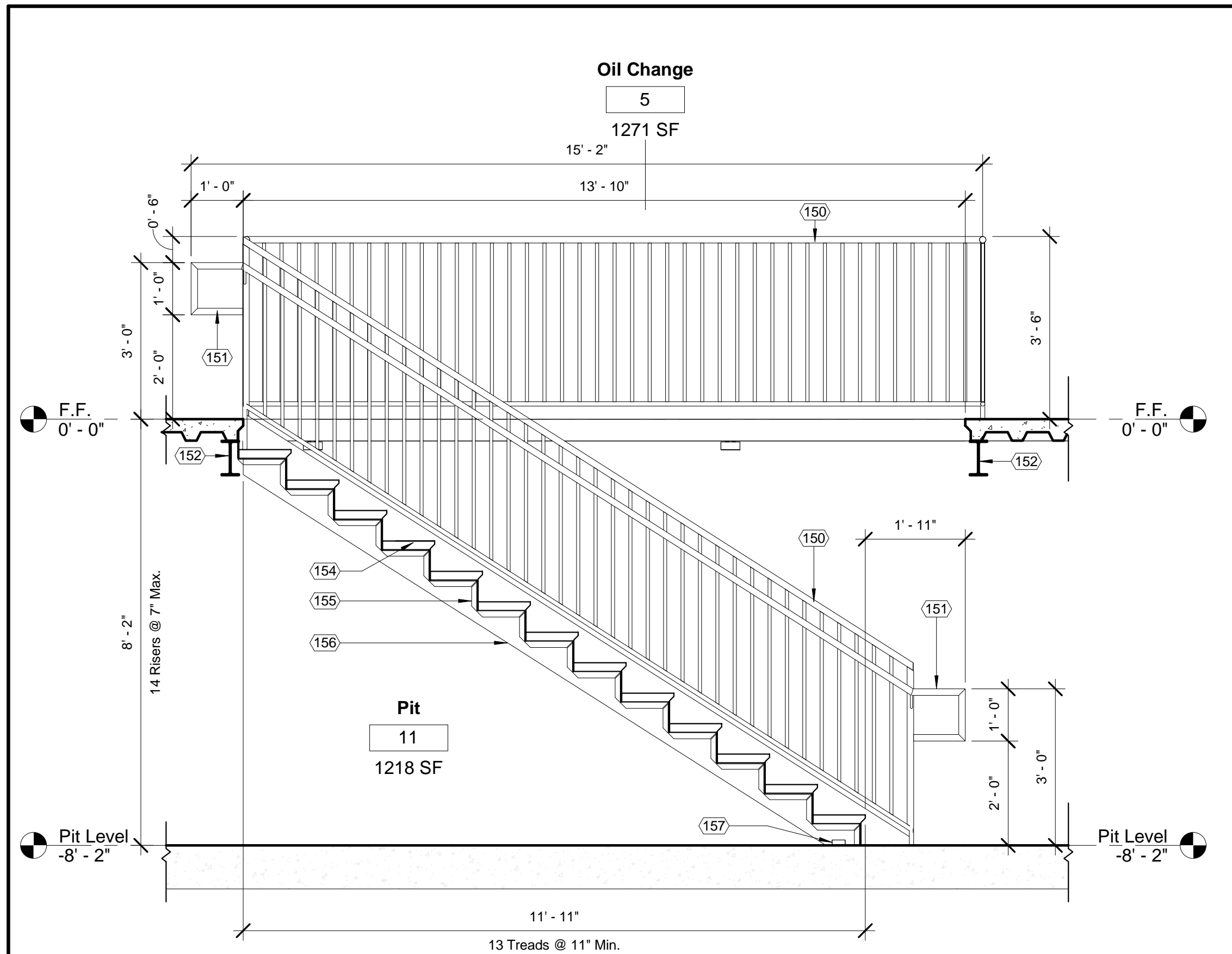
Foley, Alabama

FINAL		
No.	Description	Date

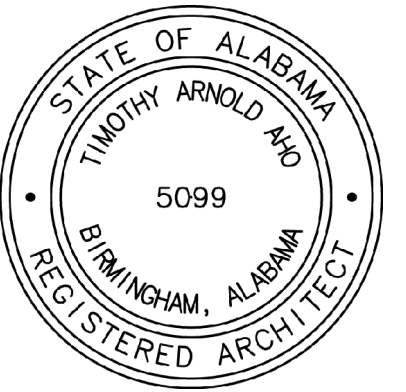
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Building Sections	
Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A
A300	
Scale	As indicated





Keynote Schedule	
Tag	Text
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
10	Pre-finished metal gutter system. See Specification 077100 Roof Specialties.
11	Pre-finished metal canopy. See Details on sheet A303 (A302 for OC Building Only).
12	Pre-finished metal downspout and boot piped to storm drainage system. See Civil for tie-in. See Specification 077100 Roof Specialties.
13	Pre-finished metal hip and ridge cap by metal roofing manufacturer. Provide concealed ridge venting if indicated. Color to match roof. See Specification 074113.16 Standing Seam Metal Roof Panels.
15	1x pressure treated painted fascia board, continuous.
16	Painted structural half-highs. See Specification 042200 Concrete Unit Masonry.
17	Painted 8" split-face CMU (bond beam where indicated, see Structural). As required, provide painted smooth-face, grout filled "U" block bond beam at lightbars only. As required, paint CMU lintel above OH doors as indicated on finish schedule. See Structural. See Specification 042200 Concrete Unit Masonry.
18	Unpainted structural half-highs. See Specification 042200 Concrete Unit Masonry.
19	Painted 8" split-face CMU (bond beam where indicated, see Structural). See Specification 042200 Concrete Unit Masonry.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details on sheet A101. See Specification 055000 Metal Fabrications.
21	10" Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
22	Signage (By Others). Provide blocking as required. See Electrical.
24	Lightbar (By Others). Provide blocking as required. See Electrical.
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking Slope to drain. Color to match roof.
38	Eyewash station. See Plumbing.
44	Concrete apron. See Civil. Slope away from building.
47	Provide address identification as directed by the Local Fire Marshal or AHJ.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
68	1x pressure treated painted frieze board, continuous.
74	1/2" expansion joint with backer rod and sealant.
94	Fasteners at 12" max o.c. for securing subdrainage to pit wall. Follow manufacturer's installation instructions.
96	CCW MiraClay woven geotextile against wall/slab.
97	CCW MiraDrain 6200.
99	CCW MiraStop.
100	Concrete slab. See Structural.
149	1/2" recess at scheduled door. See Structural.
150	Painted guardrail with painted 1/2" round pickets at 4" max o.c. See Finish Schedule for color. See Specification 055213 Pipe and Tube Railings.
151	Painted 1-1/2" outside diameter pipe handrail. Return handrail to guard/wall. Typical. See Finish Schedule for color. See Specification 055213 Pipe and Tube Railings.
152	Paint all structural steel P-5 Safety Yellow.
154	Concrete filled pre-fabricated metal pan stair treads with safety yellow abrasive nosing, full grit, full length, adhered and fastened. Typical. See Finish Schedule for color. See Specification 055113 Metal Pan Stairs.
155	1" - 1/4" steel angle clips.
156	10" steel channel stringer. See Finish Schedule for color. See Specification 055113 Metal Pan Stairs.
157	3"x3"x3-1/4" angle floor clip.
158	Vinyl letters (By Others).
172	Ensure paint line occurs at top of door and window frames. Ensure all openings, alcoves and windows align with top of door frame. Typical in Oil and Service Bays.
194	Scheduled door. See plans for details.
212	HVAC condensing unit. See Mechanical.
225	Lube console (By Others).
226	Computer podium (By Others).
227	Cashier computer station (By Others).
230	Tool cart (By Others).
233	275-gallon Class IIIB new oil tank (By Others).
234	928-gallon Class IIIB new oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation.



Express Oil Change & Tire Engineers

FINAL

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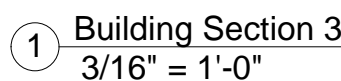
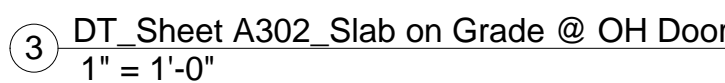
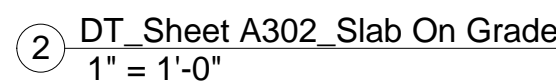
## Building Sections

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Date	04/08/2024
Drawn by	ARC
Checked by	N/A

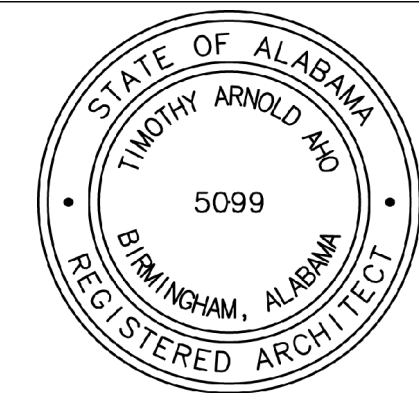
# A301

Scale	As indicated
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Keynote Schedule	
Tag	Text
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
10	Pre-finished metal gutter system. See Specification 077100 Roof Specialties.
11	Pre-finished metal canopy. See Details on sheet A302 (A302 for OC Building Only).
12	Pre-finished metal downspout and boot piped to storm drainage system. See Civil for tie-in. See Specification 077100 Roof Specialties.
13	Pre-finished metal hip and ridge cap by metal roofing manufacturer. Provide concealed ridge venting if indicated. Color to match roof. See Specification 074113.16 Standing Seam Metal Roof Panels.
15	1/2 pressure treated painted fascia board, continuous.
18	Unpainted structural half-highs. See Specification 042200 Concrete Unit Masonry.
19	Painted 8" split-face CMU (bond beam where indicated, see Structural). See Specification 042200 Concrete Unit Masonry.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details on sheet A101. See Specification 055000 Metal Fabrications.
21	10" Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
22	Signage (By Others). Provide blocking as required. See Electrical.
24	Lightbar (By Others). Provide blocking as required. See Electrical.
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking Slope to drain. Color to match roof.
33	ADA compliant room / exit sign. See Details on Sheet A602.
39	Provide attic draftstop partition and access door per IBC. Wall shall read "Seal All Penetrations" every 25'-0" o.c. Attic "Floor" area within draftstop areas shall not exceed 3,000 s.f. Draftstop materials shall not be less than 1/2" gypsum board adequately supported. The integrity of draftstop shall be maintained. Provide 1 opening per partition, protected by a self-closing door constructed as required for the partition with automatic latch. Door shall not be less than 20"x30" which is required for attic access specified in Section 1209.2 of the IBC. Provided max. 3,000 s.f. area is not exceeded, draftstop locations shall align with structural supports.39
44	Concrete apron. See Civil. Slope away from building.
47	Provide address identification as directed by the Local Fire Marshal or AHJ.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
68	1/2 pressure treated painted frieze board, continuous.
74	1/2" expansion joint with backer rod and sealant.
89	Concrete foundation. See Structural.
100	Concrete slab. See Structural.
109	Horizontal joint reinforcement at 16" o.c. vertical.
136	Pea gravel above aluminum through wall flashing.
137	Aluminum through wall flashing.
138	Drainable weeps at every third mortar joint.
139	10 mil vapor barrier. See Specification 072600 Vapor Retarders.
140	4" porous fill. See Geotechnical Report.
149	1/2" recess at scheduled door. See Structural.
158	Vinyl letters (By Others).
170	Fill first course of CMU with grout.
172	Ensure paint line occurs at top of door and window frames. Ensure all openings, alcoves and windows align with top of door frame. Typical in Oil and Service Bays.
194	Scheduled door. See plans for details.
212	HVAC condensing unit. See Mechanical.
214	10K Lift (By Others).
215	12K Lift (By Others).
217	Wheel balancer (By Others).
219	Air compressor (By Others).
223	Work bench (By Others).
232	Bracket mounted fire extinguisher. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details on Sheet A602.



## Express Oil Change & Tire Engineers

Foley, Alabama

FINAL

[illegible]

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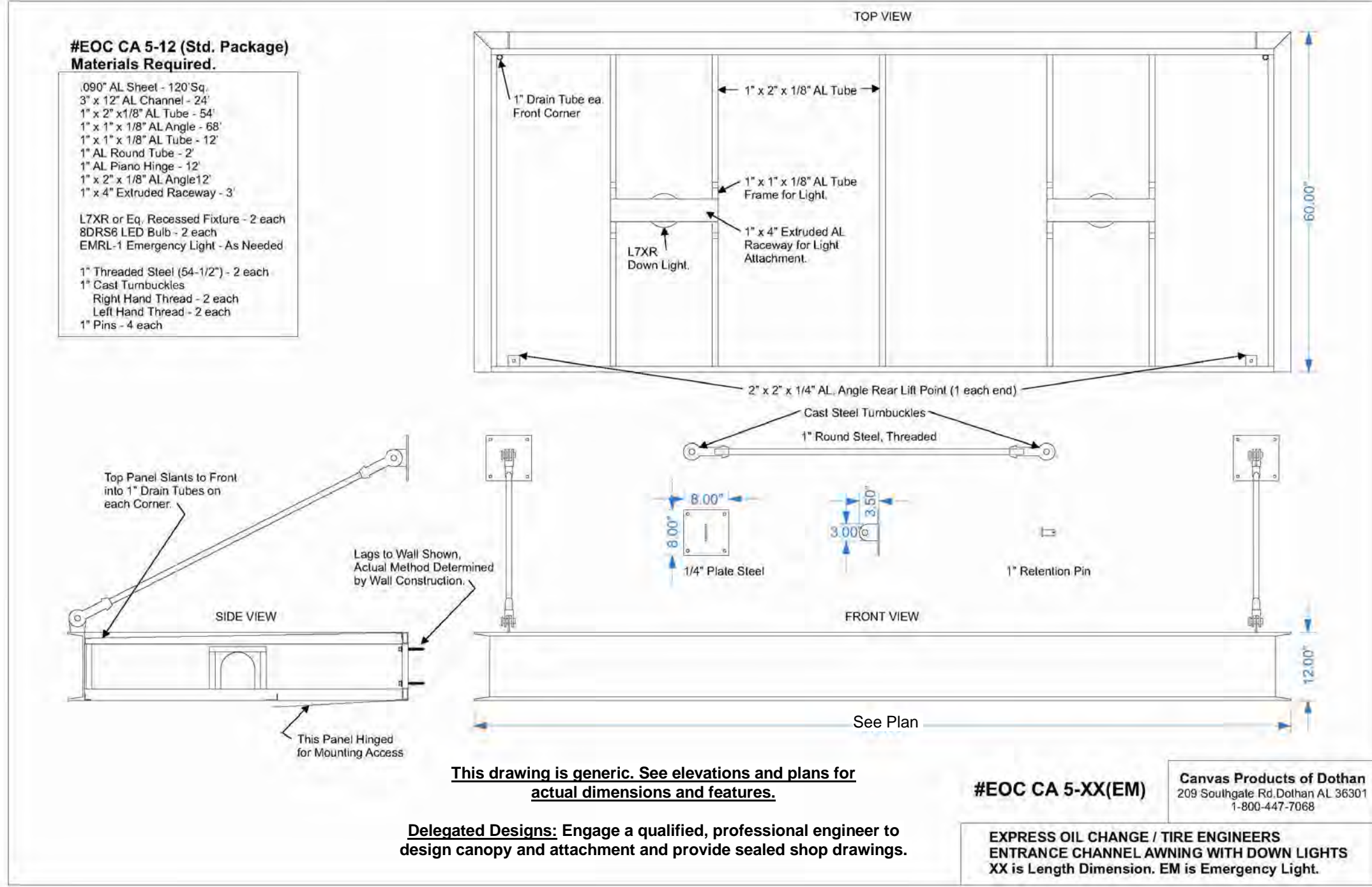
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Date	04/08/2024
Drawn by	ARC
Checked by	N/A

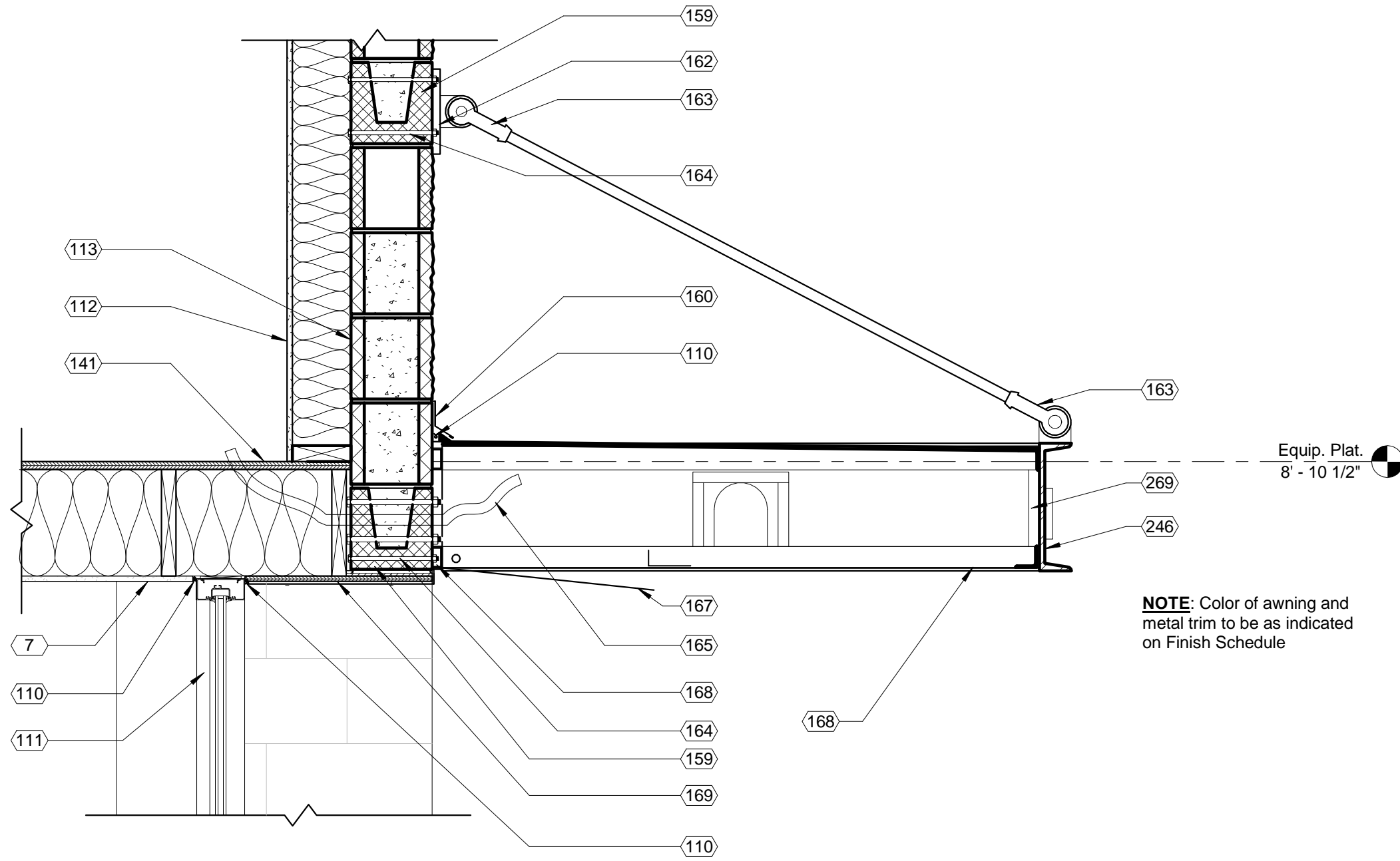
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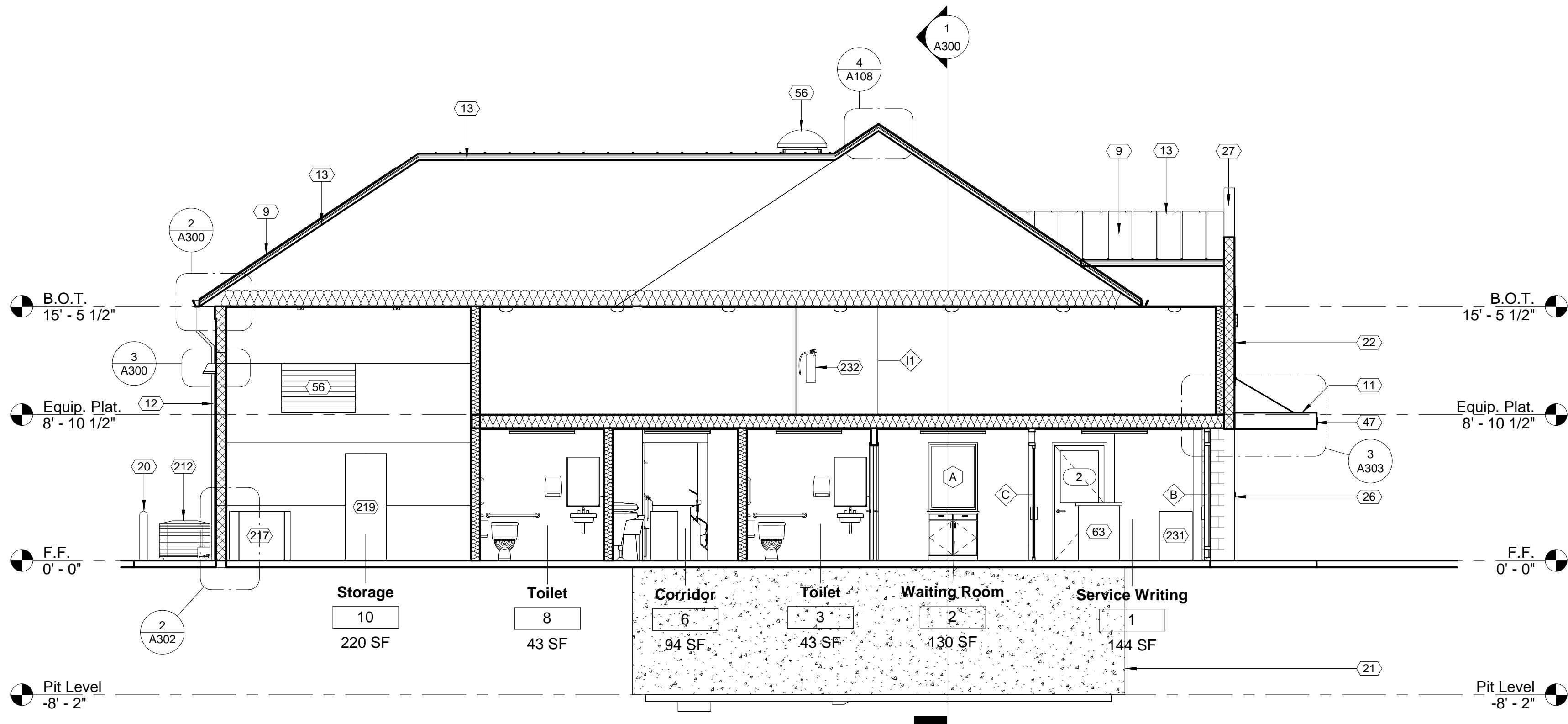




2 DT\_Sheet A303\_Awning Details  
N.T.S.



3 DT\_Sheet A303\_Awning Section  
1" = 1'-0"



1 Building Section 4  
3/16" = 1'-0"

Keynote Schedule	
Tag	Text
7	Painted 1/2" gypsum board ceiling. 5/8" Type X where indicated.
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
11	Pre-finished metal canopy. See Details on sheet A303 (A302 for OC Building Only).
12	Pre-finished metal downspout and boot piped to storm drainage system. See Civil for tie-in. See Specification 077100 Roof Specialties.
13	Pre-finished metal hip and ridge cap by metal roofing manufacturer. Provide concealed ridge venting if indicated. Color to match roof. See Specification 074113.16 Standing Seam Metal Roof Panels.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details on sheet A101. See Specification 055000 Metal Fabrications.
21	10" Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
22	Signage (By Others). Provide blocking as required. See Electrical.
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking Slope to drain. Color to match roof.
47	Provide address identification as directed by the Local Fire Marshal or AHJ.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
63	Service Desk. See Details on sheet G301.
110	Sealant with backer rod.
111	Aluminum storefront with insulated glazing. See Details on sheet A620.
112	Painted 1/2" gypsum board on 2x6 wood studs at 16" o.c. with kraft-face R-20 batt insulation (kraft in contact with gypsum board). See Details on sheet A400.
113	Fluid applied vapor permeable air barrier. See Specification 072726 Fluid Applied Membrane Air Barrier.
141	3/4" tongue and groove plywood on wood joists. See Structural.
159	Painted smooth-face grout-filled CMU where canopy attaches to wall construction. See Structural.
160	Pre-finished aluminum flashing to match color of canopy. Turn out onto canopy.
162	Pre-finished 8"x8"x1/4" steel plate anchored to wall using through wall fasteners by Canopy manufacturer's designated design.
163	Pre-finished 1" cast steel turnbuckle with 1" threaded steel rod and 1" pins.
164	Anchor canopy to wall using through wall fasteners by Canopy manufacturer's designated design.
165	Provide a 1" flexible conduit extending 12" beyond the face of the wall for canopy lighting. See Electrical.
167	Pre-finished hinged panel for mounting access. Color to match canopy.
168	1"x2" aluminum tube. Typical.
169	Pre-finished metal over 1/2" pressure treated plywood. Terminate at aluminum storefront. Turn up pre-finished metal 1" at edge where metal meets canopy. Secure panel to plywood with fasteners compatible with type and color of metal being used.
212	HVAC condensing unit. See Mechanical.
217	Wheel balancer (By Others).
219	Air compressor (By Others).
231	Beverage refrigerator (By Others).
232	Bracket mounted fire extinguisher. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details on Sheet A602.
246	3"x12" aluminum channel.
269	1" drain tube beyond. Slope top panel of canopy toward the drain tube at the front of the canopy.



Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

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No.	Description	Date

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### Building Sections

Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A

A303

Scale As indicated



E1

Refer to structural drawings for reinforcing and other information

Install all waterproofing per manufacturer's recommendations.

Diagram showing a cross-section of a wall with exterior and interior faces. Key components labeled include: 94 (Exterior face), 96 (Exterior face), 97 (Exterior face), 21 (Interior face), and Width.

Wall Type No.	Description	Width	Ref Test
E1	As shown	10"	-

E2

Install siloxane on the exterior side of wall construction

Refer to structural drawings for reinforcing, grouting, and other information

Diagram showing a cross-section of a wall with structural half-highs and split-face CMU. Key components labeled include: 242 (Smooth CMU), 68 (Smooth CMU), 16 (Split-Face CMU), 17 (Split-Face CMU), 109 (Split-Face CMU), 18 (Split-Face CMU), 19 (Split-Face CMU), 136 (Split-Face CMU), 138 (Split-Face CMU), 137 (Split-Face CMU), 170 (Split-Face CMU), 2'-0" Structural Half-Highs, 8'-3" Structural Half-Highs, 0'-8" Split-Face CMU, 3'-4" Split-Face CMU, and Painted.

Wall Type No.	Description	Width	Ref Test
E2	As shown	7 5/8"	-

E3

Install siloxane on the exterior side of wall construction

Refer to structural drawings for reinforcing and other information

Diagram showing a cross-section of a wall with width dimension. Key components labeled include: Width, 242 (Smooth CMU), 109 (Split-Face CMU), 19 (Split-Face CMU), 136 (Split-Face CMU), 138 (Split-Face CMU), 137 (Split-Face CMU), and 170 (Split-Face CMU).

Wall Type No.	Description	Width	Ref Test
E3	As shown	7 5/8"	-
E3a	As shown, except with 1x8 painted frieze board at top	7 5/8"	-

E5

Refer to structural drawings for reinforcing, grouting, and other information

Diagram showing a cross-section of a wall with structural half-highs and split-face CMU. Key components labeled include: 27 (Smooth CMU), 109 (Split-Face CMU), 18 (Split-Face CMU), 19 (Split-Face CMU), 136 (Split-Face CMU), 138 (Split-Face CMU), 137 (Split-Face CMU), 170 (Split-Face CMU), 4'-0" Structural Half-Highs, 3'-4" Split-Face CMU, 0'-8" Painted Split Face CMU, and Painted.

Wall Type No.	Description	Width
E5	As shown	7 5/8"
E5a	As shown, except without coping and painted structural half-highs to roof. See Elevations on A101.	7 5/8"

I1

Note: Stagger electrical outlet boxes, switches, etc. Seal around all penetrations in wall with acoustical sealant.

Diagram showing a cross-section of a wall with bottom of structure above and finish floor. Key components labeled include: Width, 242 (Smooth CMU), 203 (Split-Face CMU), 202 (Split-Face CMU), 145 (Split-Face CMU), Bottom of structure above, and Finish floor.

Wall Type No.	Description	Width	Ref Test
I1	As shown	4 1/2"	-

I2

Masonry construction

Bottom of structure above

Diagram showing a cross-section of a wall with masonry construction and bottom of structure above. Key components labeled include: Width, 242 (Smooth CMU), 203 (Split-Face CMU), 113 (Split-Face CMU), 112 (Split-Face CMU), 145 (Split-Face CMU), Bottom of structure above, and Finish floor.

Wall Type No.	Description	Width	Ref Test
I2	As shown	6"	-

I3

Note: Stagger electrical outlet boxes, switches, etc. Seal around all penetrations in wall with acoustical sealant.

Diagram showing a cross-section of a wall with bottom of structure above and finish floor. Key components labeled include: Width, 242 (Smooth CMU), 203 (Split-Face CMU), 205 (Split-Face CMU), 145 (Split-Face CMU), Bottom of structure above, and Finish floor.

Wall Type No.	Description	Width	Ref Test
I3	As shown	6 1/2"	-

I4

Refer to structural drawings for reinforcing and other information

Seal all penetrations with fire caulk

Diagram showing a cross-section of a wall with bottom of roof structure and finish floor. Key components labeled include: Width, 206 (Split-Face CMU), 242 (Smooth CMU), 208 (Split-Face CMU), 124 (Split-Face CMU), 109 (Split-Face CMU), 207 (Split-Face CMU), Bottom of roof structure, and Finish Floor.

Wall Type No.	Description	Width	Ref Test
I4	As shown - Full Height	7 5/8"	U905/U305

Diagram showing a cross-section of a wall with control joint needed where length of drywall is >30 feet. Key components labeled include: 2 1/4" wide drywall control joint deep "v" trim, 1/2" gypsum board, 2x wood framing, and 1/2" gypsum board.

DT\_Sheet A400\_Gypsum Board Control Joint  
1 1/2" = 1'-0"

Diagram showing a cross-section of a wall with CMU shear block, shear block, sealant on bond breaker tape on foam backer rod at both sides of CMU partition, and break horizontal joint reinforcement at joint.

DT\_Sheet A400\_Masonry Control Joint  
1 1/2" = 1'-0"

Diagram showing a cross-section of a wall with foam backer rod with bond breaker tape, tooled joints, and outside face of masonry.

DT\_Sheet A400\_Sealant Detail  
6" = 1'-0"

Keynote Schedule	
Tag	Text
16	Painted structural half-highs. See Specification 042200 Concrete Unit Masonry.
17	Painted 8" split-face CMU (bond beam where indicated, see Structural). As required, provide painted smooth-face, grout filled "U" block bond beam at lightbars only. As required, paint CMU lintel above OH doors as indicated on finish schedule. See Structural. See Specification 042200 Concrete Unit Masonry.
18	Unpainted structural half-highs. See Specification 042200 Concrete Unit Masonry.
19	Painted 8" split-face CMU (bond beam where indicated, see Structural). See Specification 042200 Concrete Unit Masonry.
21	10" Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking Slope to drain. Color to match roof.
68	1x pressure treated painted frieze board, continuous.
94	Fasteners at 12" max o.c. for securing subdrainage to pit wall. Follow manufacturer's installation instructions.
96	CCW MiraClay woven geotextile against wall/slab.
97	CCW MiraDrain 6200.
109	Horizontal joint reinforcement at 16" o.c. vertical.

Keynote Schedule	
Tag	Text
112	Painted 1/2" gypsum board on 2x6 wood studs at 16" o.c. with kraft-face R-20 batt insulation (kraft in contact with gypsum board). See Details on sheet A400.
113	Fluid applied vapor permeable air barrier. See Specification 072726 Fluid Applied Membrane Air Barrier.
124	Pre-engineered wood roof truss. See Structural.
136	Pea gravel above aluminum through wall flashing.
137	Aluminum through wall flashing.
138	Drainable weeps at every third mortar joint.
145	2x pressure treated wood sill plate.
170	Fill first course of CMU with grout.
202	1 layer of 1/2" painted gypsum board on both sides of 2"x4" wood studs at 16" o.c. Infill with kraft-face R-13 batt insulation. Kraft in contact with gypsum board.
203	Acoustical sealant and backer rod. See Specification 079219 Acoustical Joint Sealants.
205	1 layer of 1/2" painted gypsum board on both sides of 2"x6" wood studs at 16" o.c. Infill with kraft-faced R-20 batt insulation. Kraft in contact with gypsum board.
206	Fire caulk both sides. Typical. See Specification 078443 Joint Firestopping.
207	Painted 8" smooth face CMU.
208	5/8" Type X gypsum board each side of 2"x4" wood studs at 16" o.c. Typical.
242	2x pressure treated wood top plate.

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Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

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Wall Types

Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A

A400

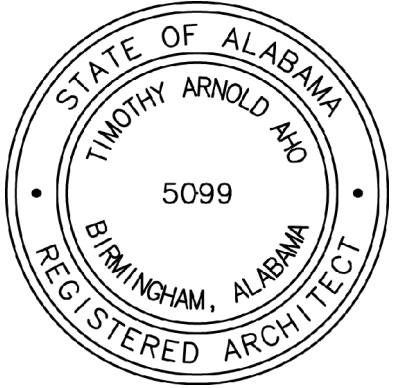
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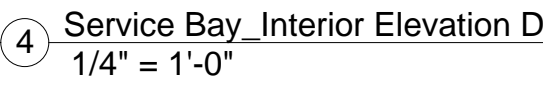
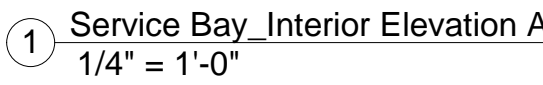
Foley, Alabama

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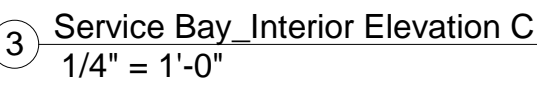
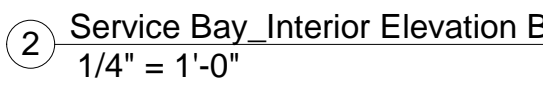
## Interior Elevations

# A601

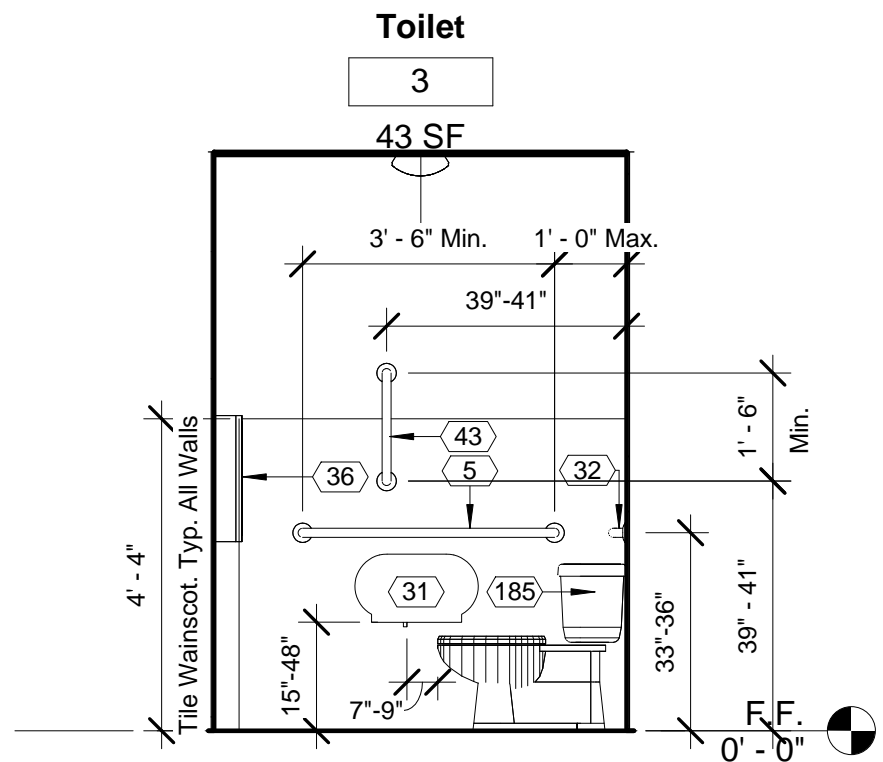
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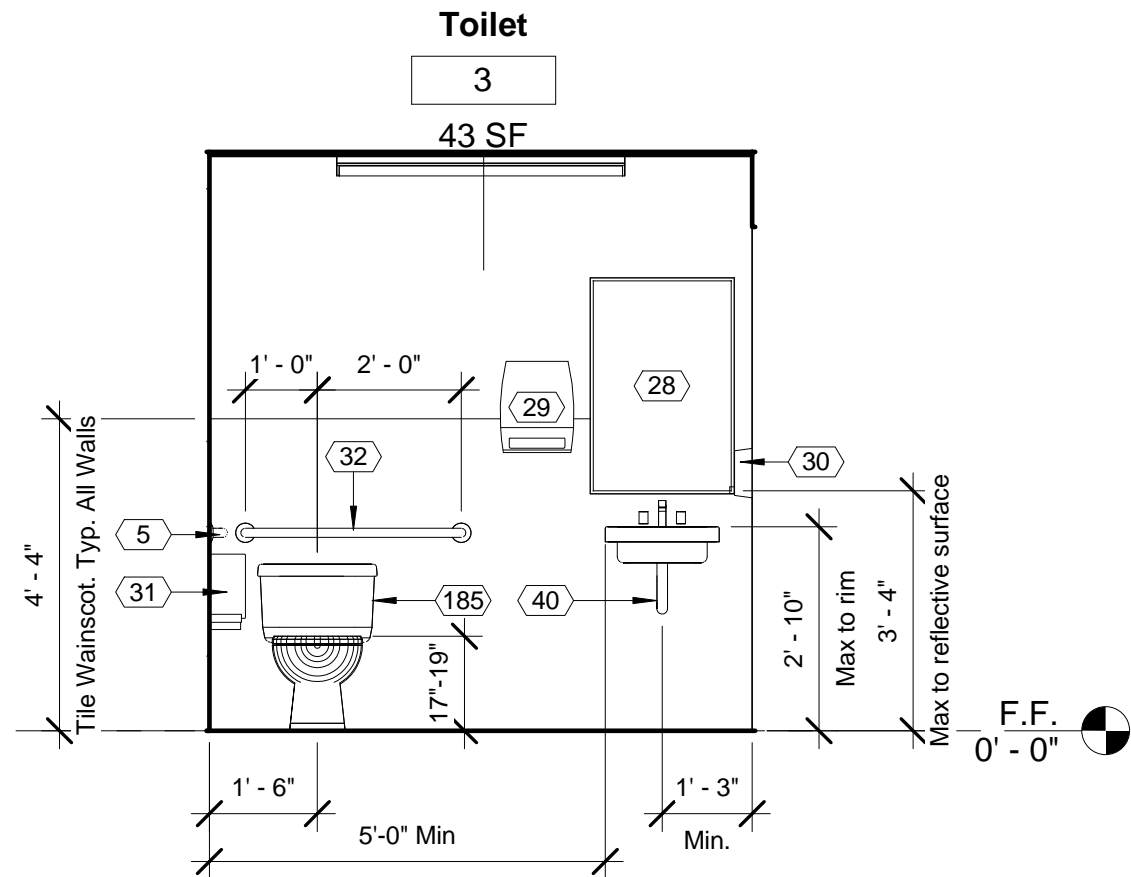
Keynote Schedule	
Tag	Text
33	ADA compliant room / exit sign. See Details on Sheet A602.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
158	Vinyl letters (By Others).
172	Ensure paint line occurs at top of door and window frames. Ensure all openings, alcoves and windows align with top of door frame. Typical in Oil and Service Bays.
214	10K Lift (By Others).
215	12K Lift (By Others).
217	Wheel balancer (By Others).
218	Brake lathe (By Others).
220	Scissor lift alignment (By Others). Verify dimensions of alignment pit with Owner / Alignment Lift Manufacturer prior to rough-in.
221	Scissor lift alignment console (By Others). Provide conduit in slab as required. See alignment lift specifications (By Others).
222	Alignment scarecrow (By Others).
223	Work bench (By Others).
224	Strut compressor (By Others).
232	Bracket mounted fire extinguisher. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details on Sheet A602.



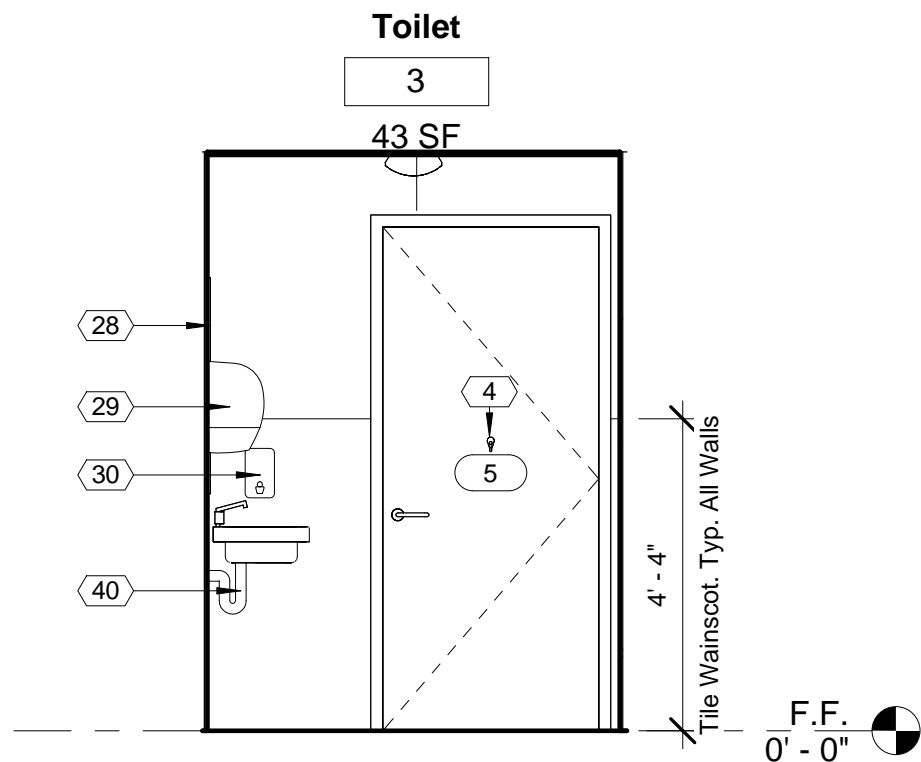




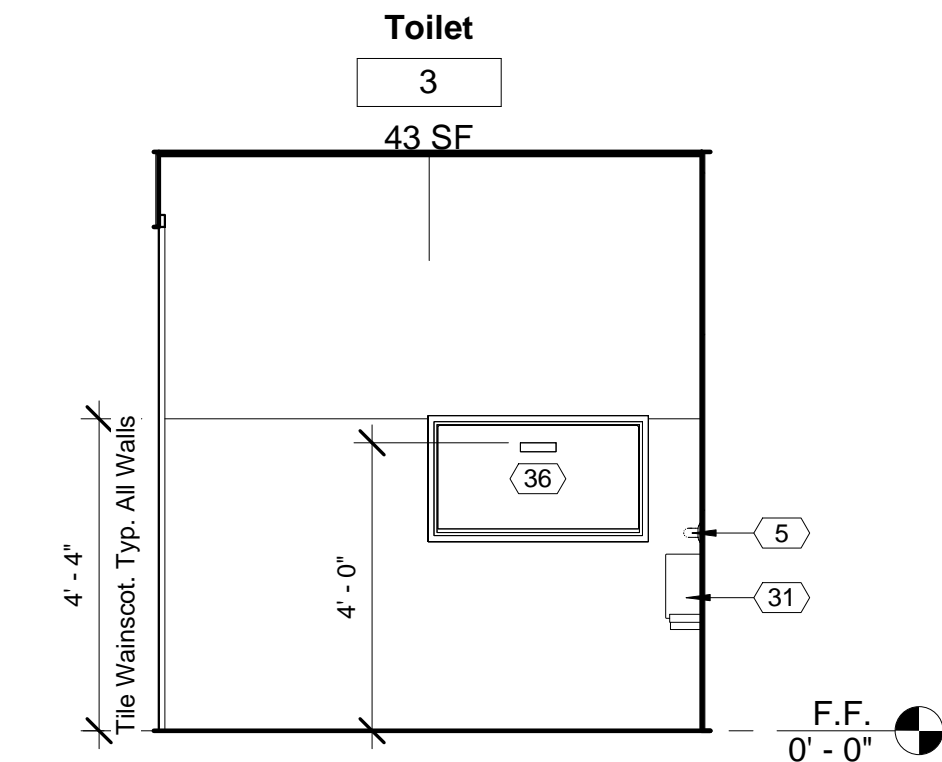
② Toilet #3\_ Interior Elevation A  
3/8" = 1'-0"



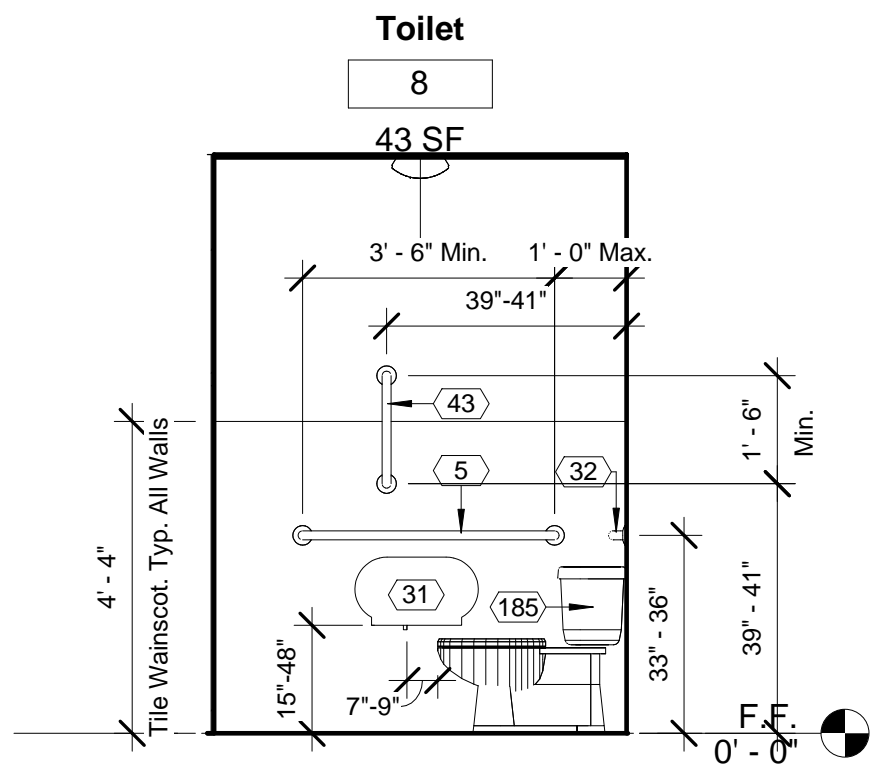
③ Toilet #3\_ Interior Elevation B  
3/8" = 1'-0"



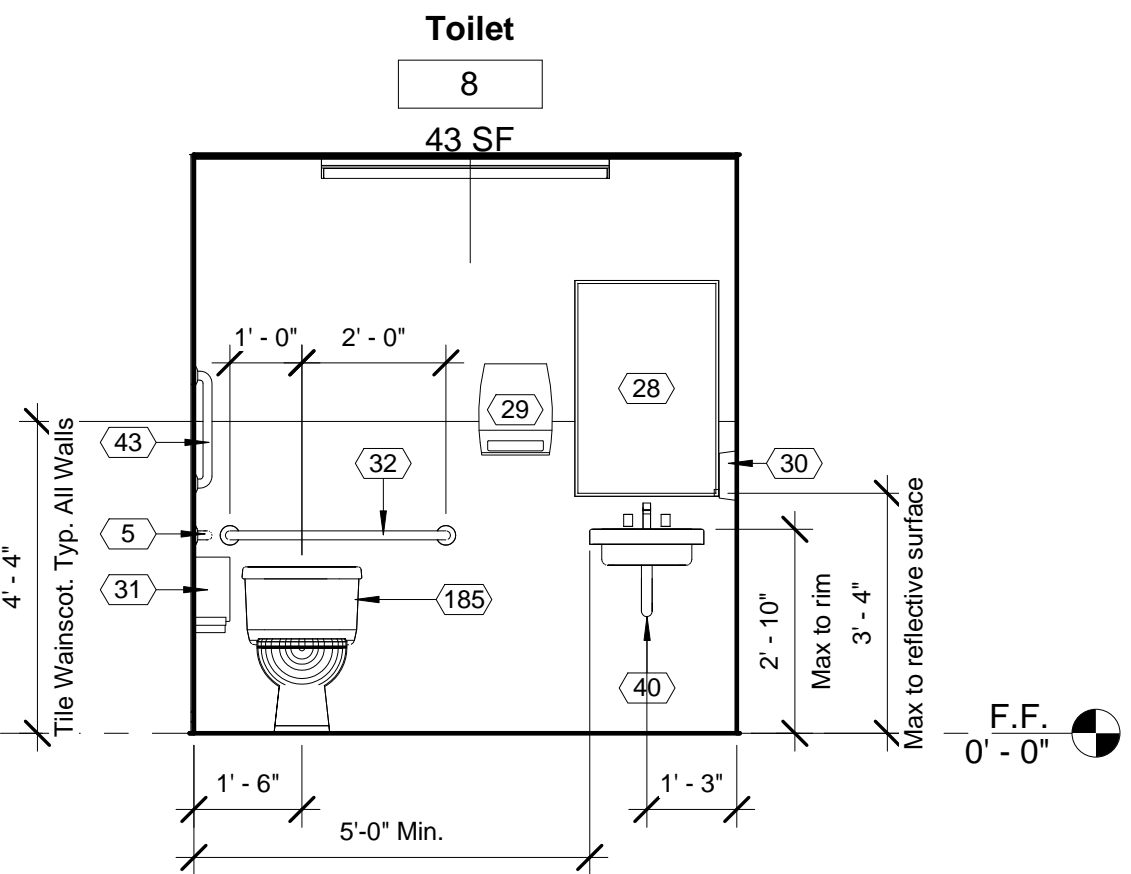
④ Toilet #3\_ Interior Elevation C  
3/8" = 1'-0"



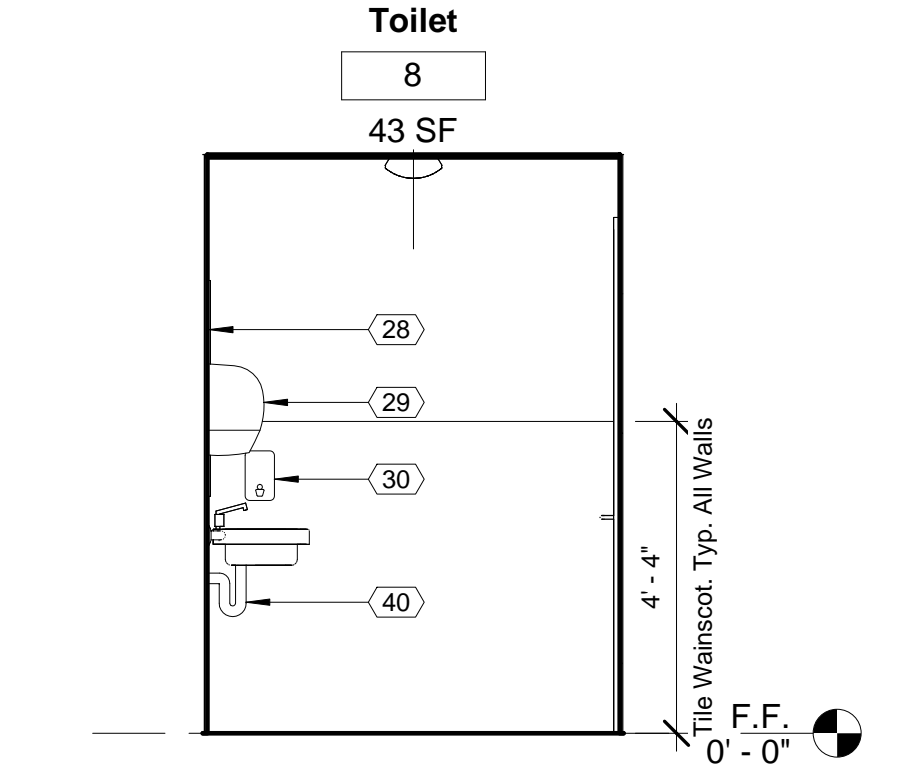
⑤ Toilet #3\_ Interior Elevation D  
3/8" = 1'-0"



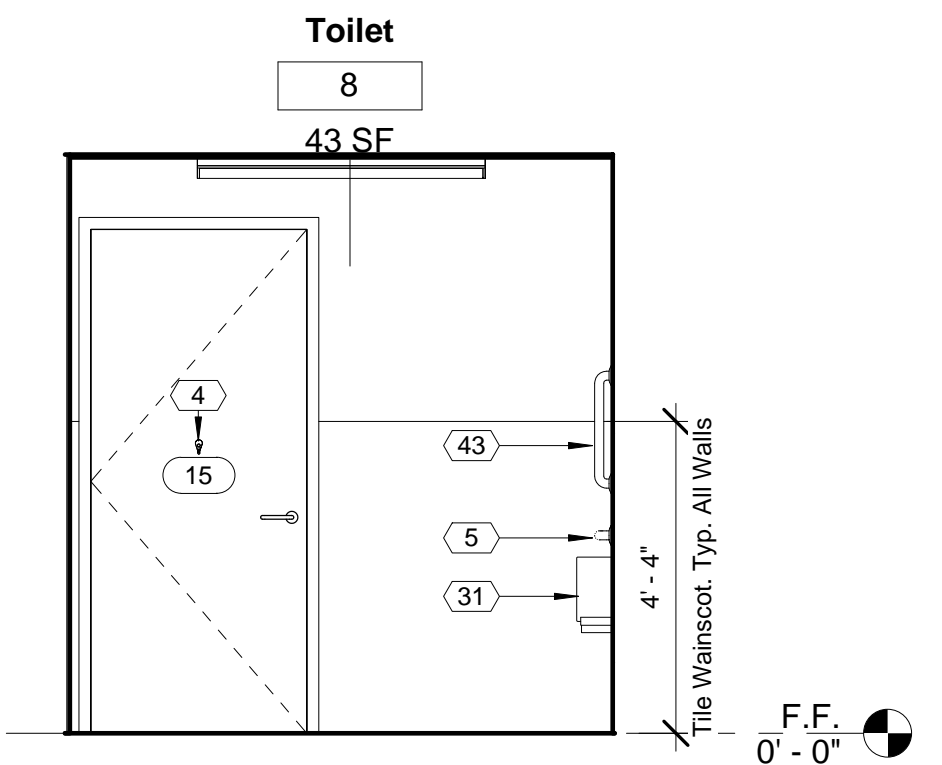
⑥ Toilet #8\_ Interior Elevation A  
3/8" = 1'-0"



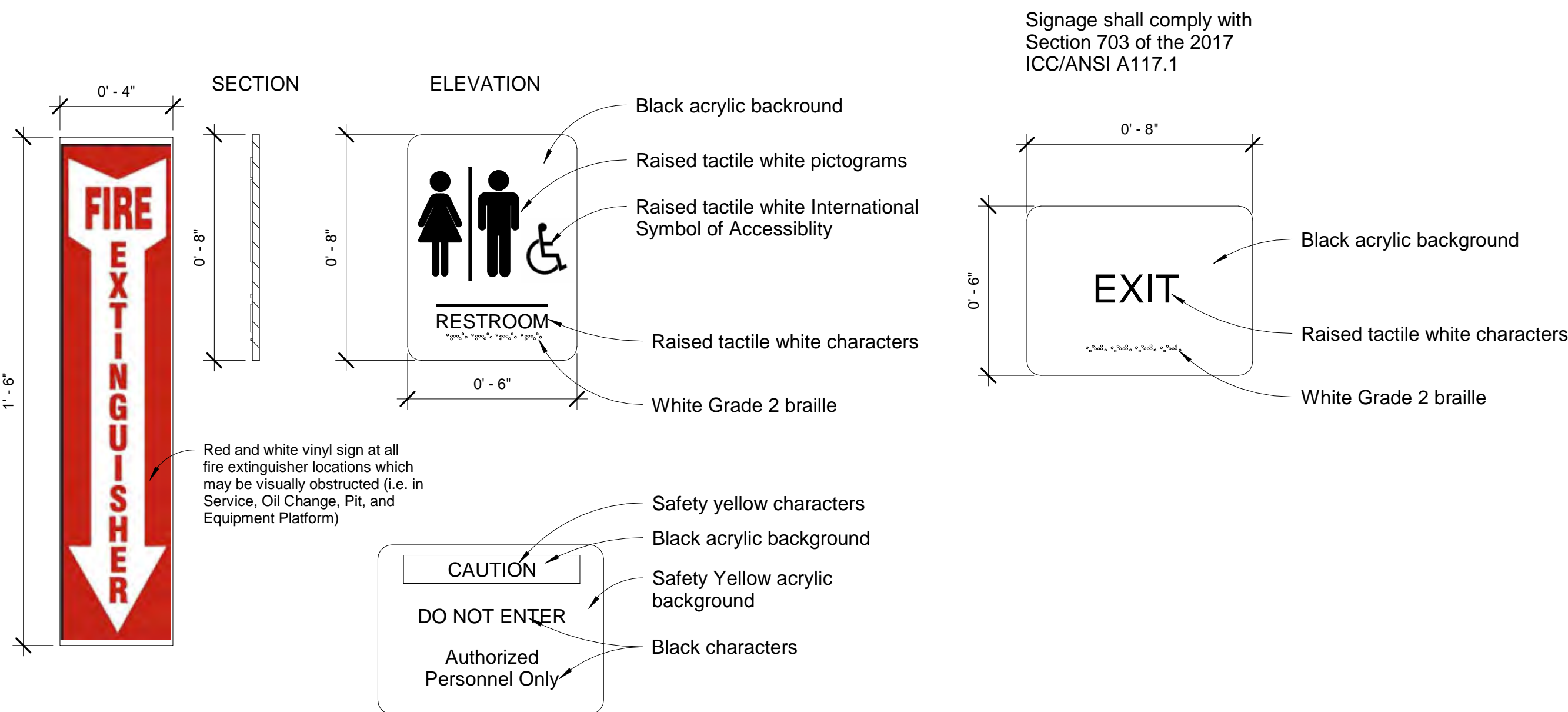
⑦ Toilet #8\_ Interior Elevation B  
3/8" = 1'-0"



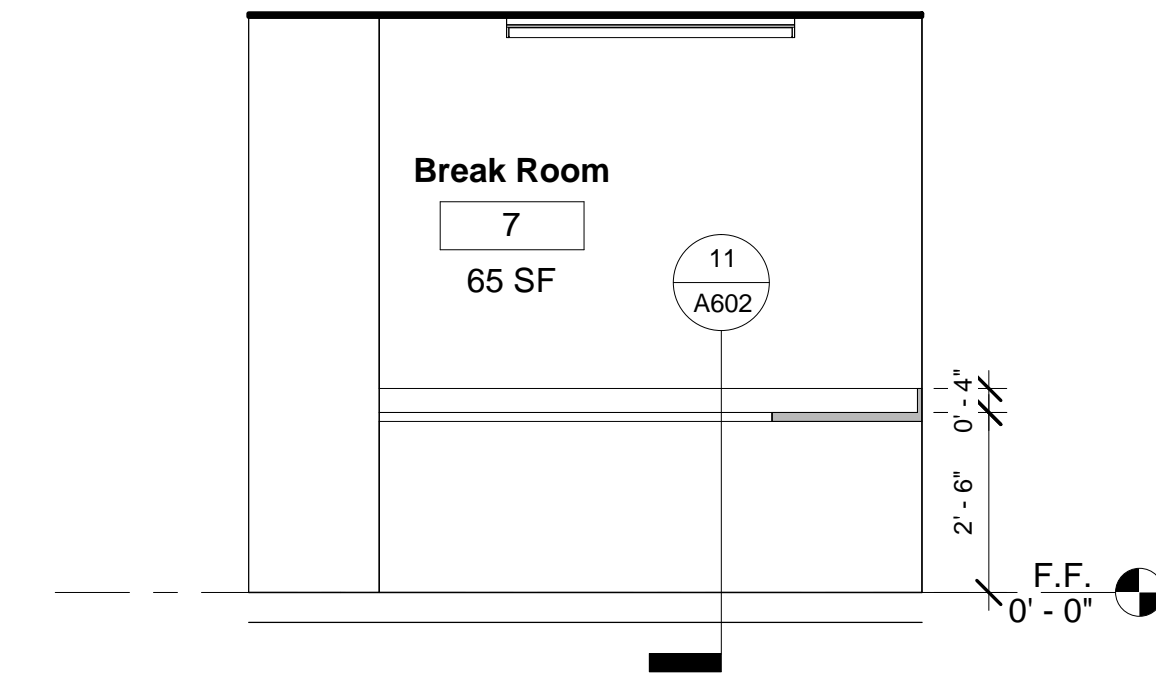
⑧ Toilet #8\_ Interior Elevation C  
3/8" = 1'-0"



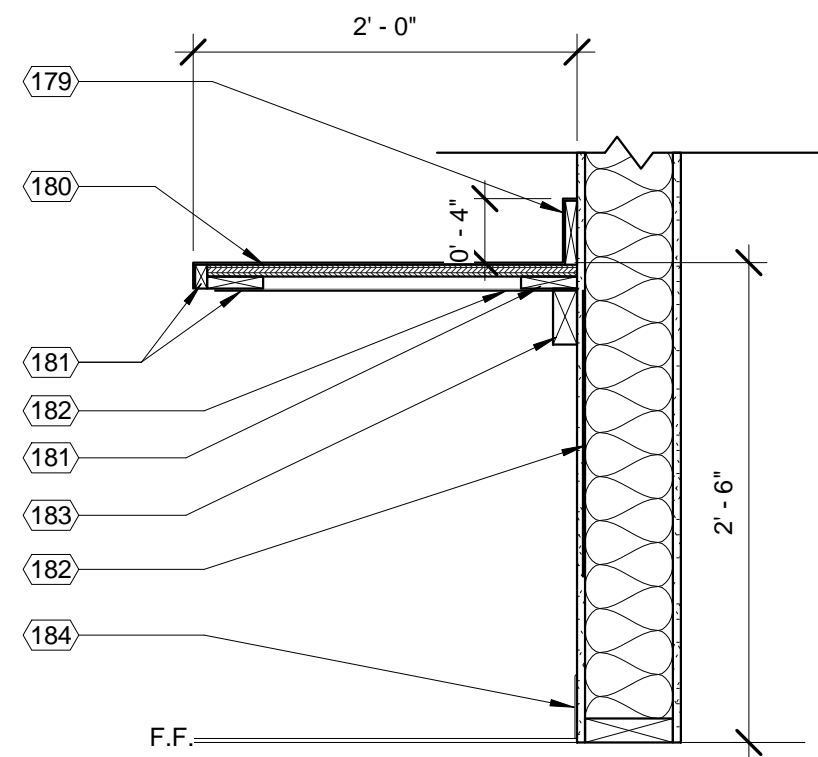
⑨ Toilet #8\_ Interior Elevation D  
3/8" = 1'-0"



⑩ DT\_Sheet A602\_Signage @ OC Building  
3" = 1'-0"

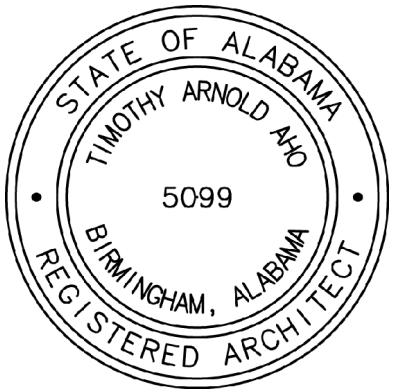


⑪ Break Room\_ Interior Elevation  
3/8" = 1'-0"



⑪ DT\_Sheet A602\_Countertop Section  
1" = 1'-0"

Keynote Schedule	
Tag	Text
4	Robe hook mounted at 48" A.F.F. See Specification 102800 Toilet, Bath, and Laundry Accessories.
5	42" grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
28	Framed mirror. See Specification 102800 Toilet, Bath, and Laundry Accessories.
29	Automatic Towel Dispenser (By others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
30	Wall mounted soap dispenser (By Others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
31	Jumbo Dual Roll Toilet Tissue dispenser (By Others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
32	36" grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
36	Surface mounted baby changing station with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
40	Under lavatory guard. See Specification 102800 Toilet, Bath, and Laundry Accessories.
43	24" vertical grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
179	Plastic laminate over 1x wood blocking. See Specification 123623.13 Plastic-Laminate-Clad Countertops. See Finish Schedule for color.
180	Plastic laminate over 3/4" plywood. See Specification 123623.13 Plastic-Laminate-Clad Countertops. See Finish Schedule for color.
181	1x wood blocking.
182	Concealed countertop bracket.
183	2x wood cleat.
184	Finish base. See Specification Section 096513 Resilient Base Accessories. See Finish Schedule for color.
185	Flush valve on transfer side of water closet.



Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
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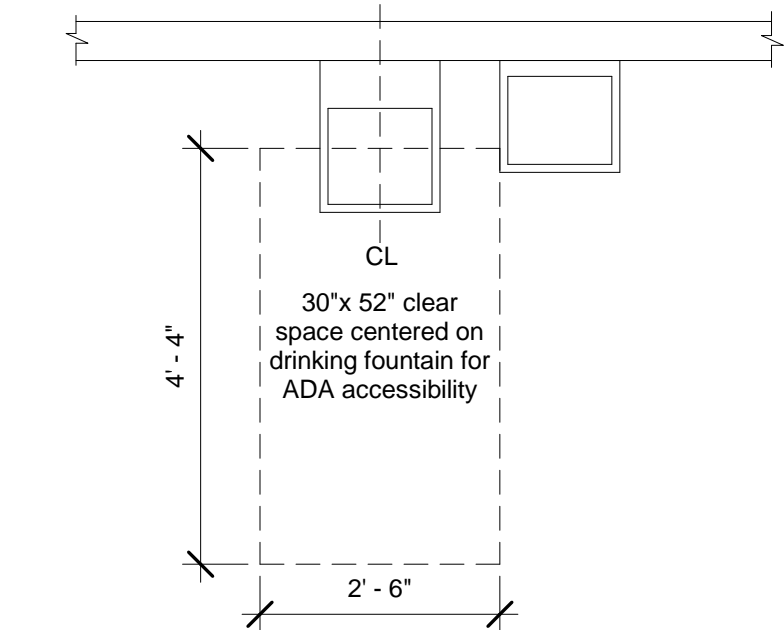
Interior Elevations

Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A

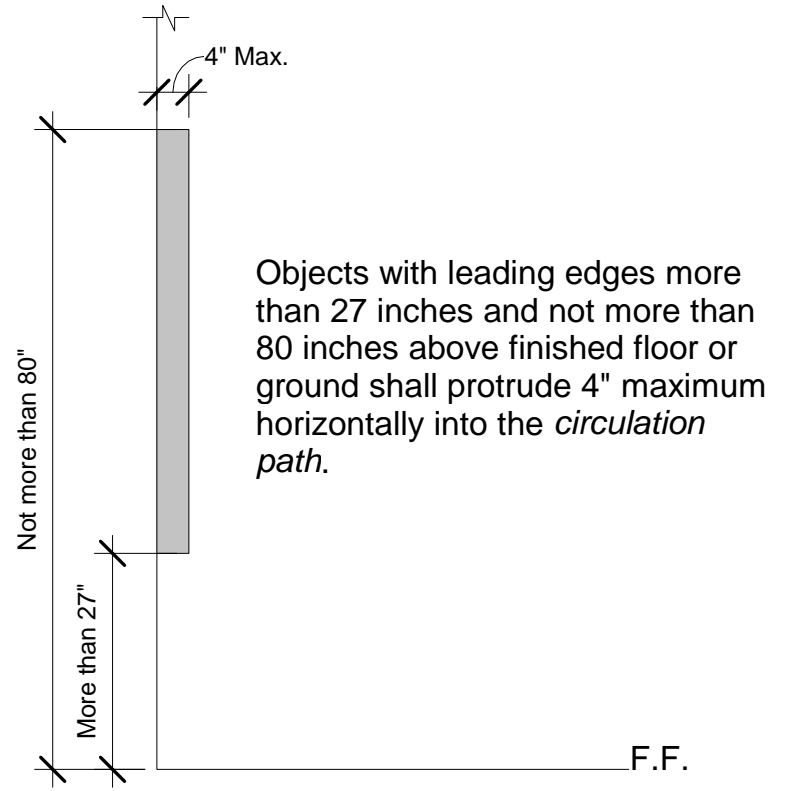
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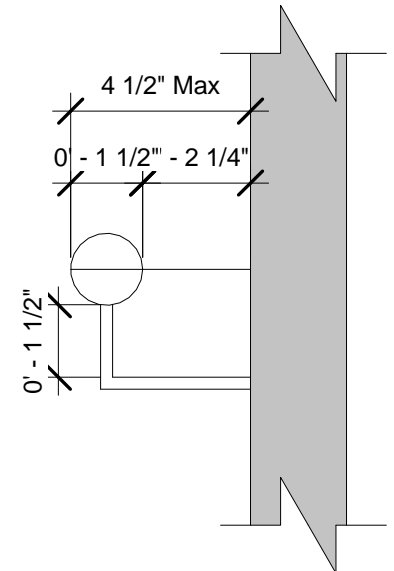




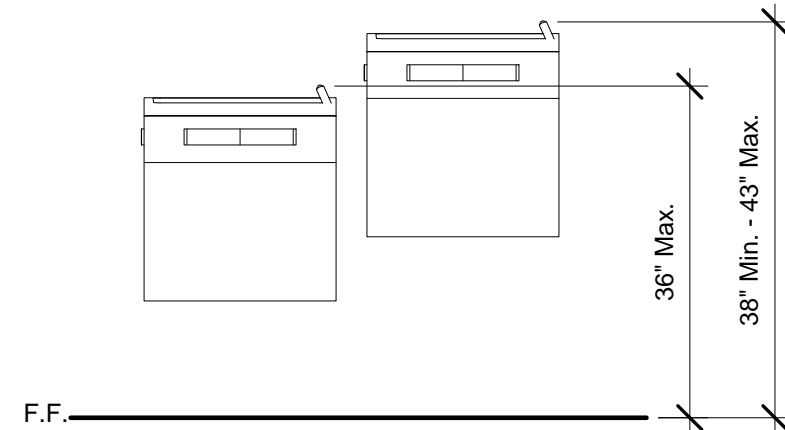
DT-Sheet A605\_Drinking Fountain\_Plan View  
1/2" = 1'-0"



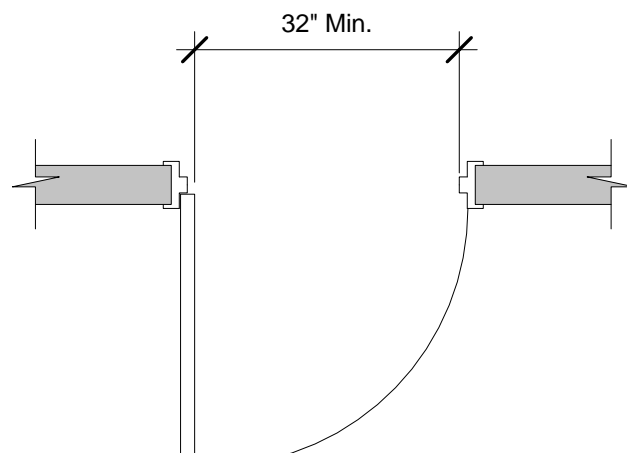
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1/2" = 1'-0"



DT\_Sheet A605\_Handrail Detail  
3" = 1'-0"

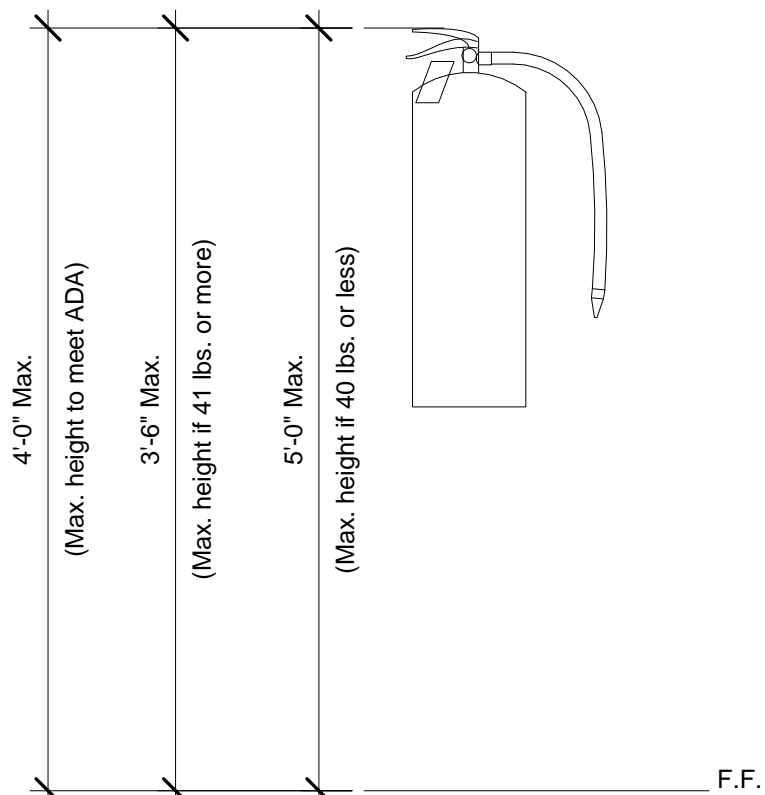


DT\_Sheet A605\_Drinking Fountain\_Front View  
1/2" = 1'-0"

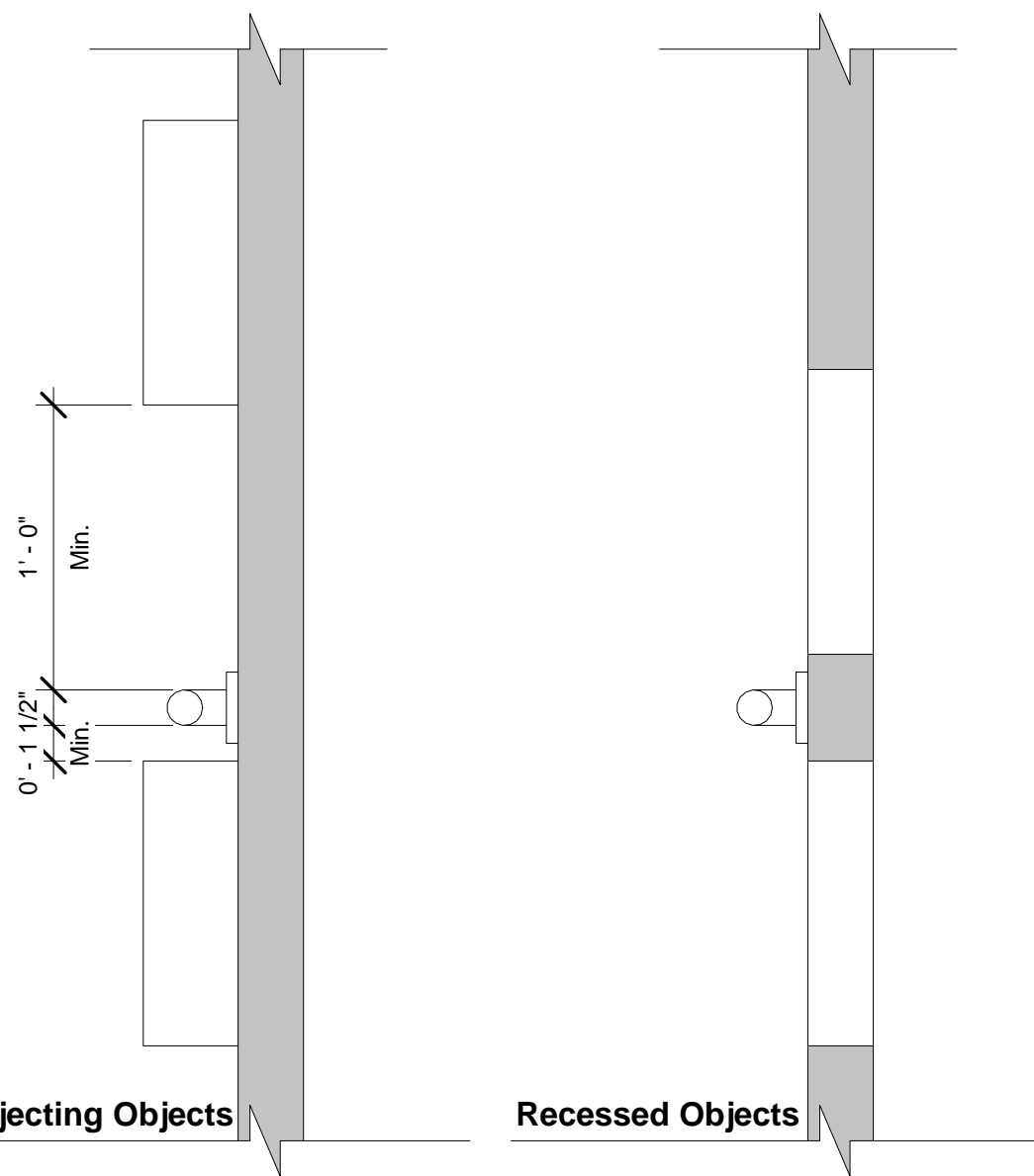


DT\_Sheet A605\_Clear Width @ Doorways  
1/2" = 1'-0"

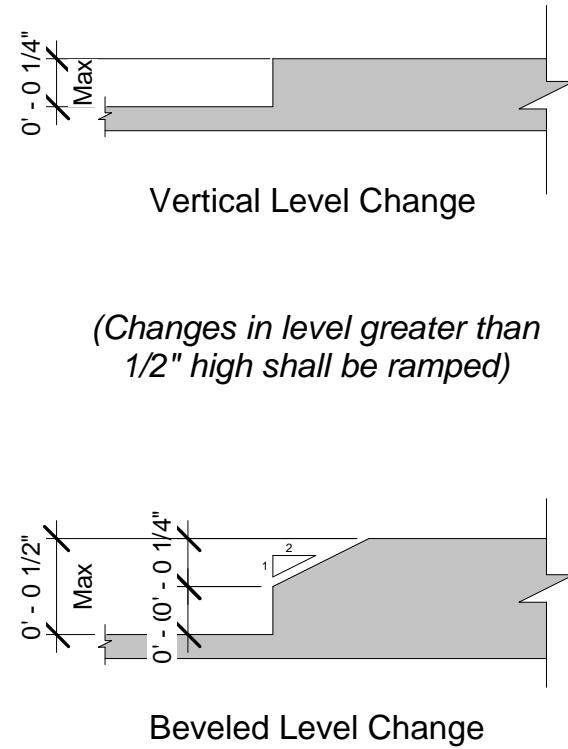
Mounting heights for portable fire extinguishers  
(cabinet and bracket mounted) per  
IBC Chapter 9)



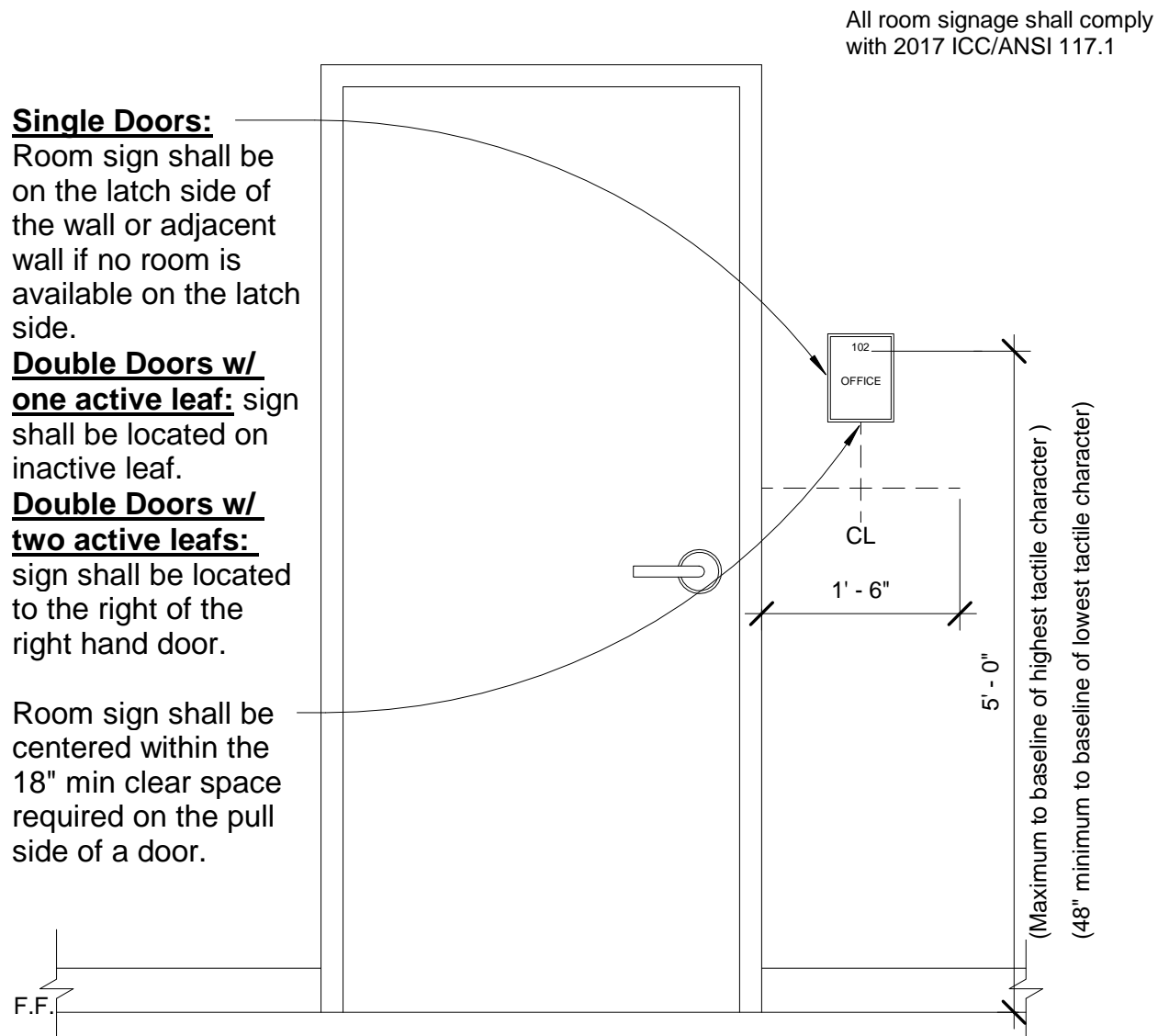
DT\_Sheet A605\_Fire Extinguisher Mounting Heights  
1" = 1'-0"



DT\_Sheet A605\_Spacing of Grab Bars  
1 1/2" = 1'-0"



DT\_Sheet A605\_Level Change  
12" = 1'-0"



DT\_Sheet A605\_Signage Mounting Heights  
3/4" = 1'-0"

No.	Description	Date

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Interior  
Dimensional Info.

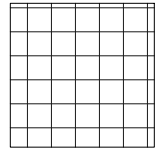
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Date	04/08/2024
Drawn by	ARC
Checked by	N/A

A605

Scale As indicated



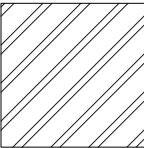
FLOOR FINISH LEGEND



Tile



Sealed  
Concrete



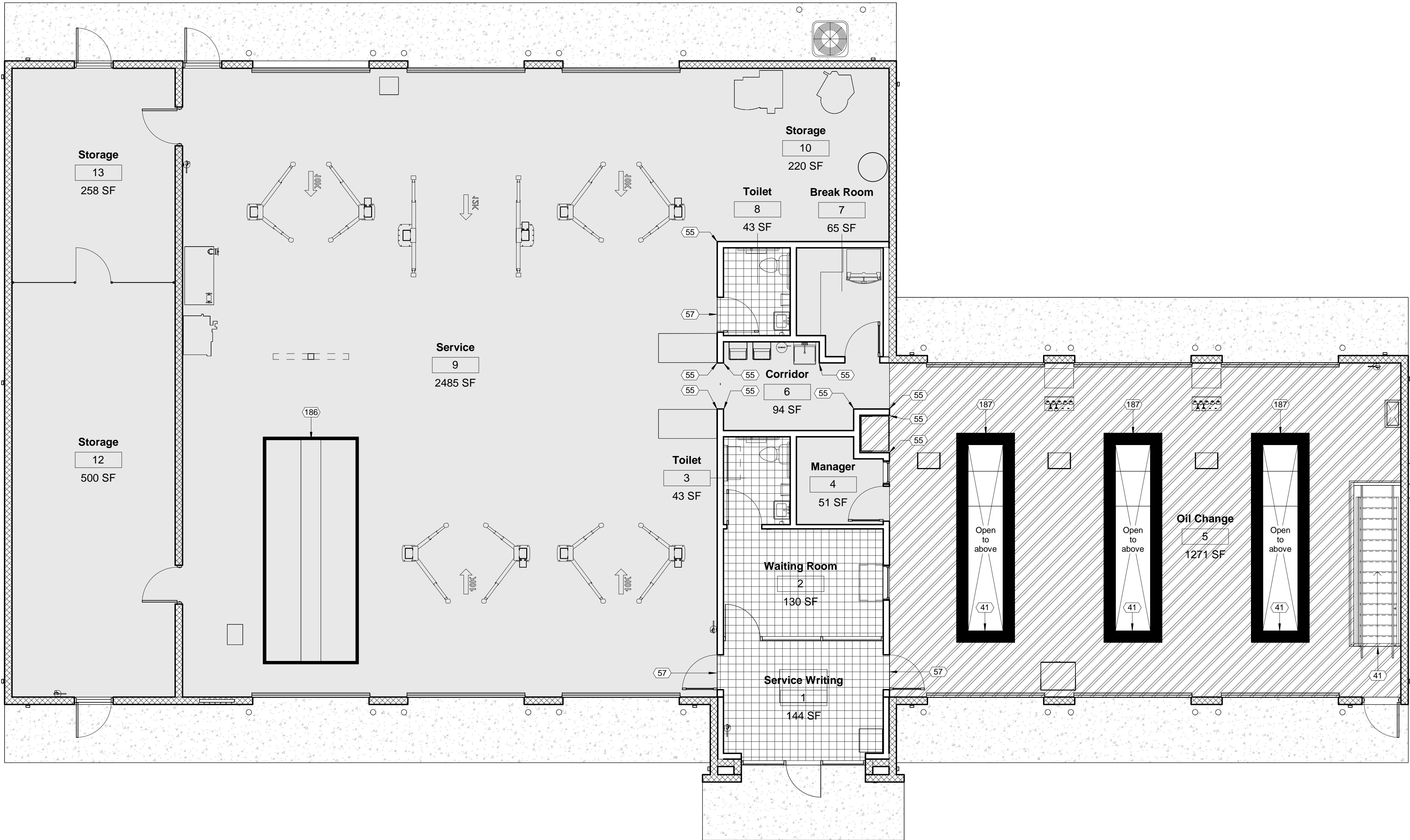
Stonehard  
Flooring (By  
Others)



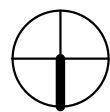
Safety Yellow Paint.  
See notes below.

Keynote Schedule

Tag	Text
41	Paint structural steel at openings P-5 Safety Yellow. Typical for all pit and stairwell openings.
55	Stainless steel corner guard. See Specification 102600 Wall and Door Protection.
57	Transition strip. See Specification 093013 Ceramic Tiling.
186	Paint 3" P-5 Safety Yellow around alignment pit. Verify paint is compatible with floor finish.
187	Paint 12" P-5 Safety Yellow around pit openings. Verify paint is compatible with floor finish.

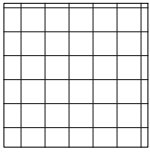


No.	Description	Date





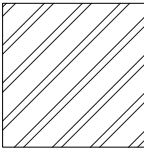
FLOOR FINISH LEGEND



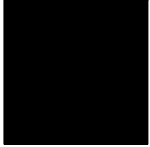
Tile



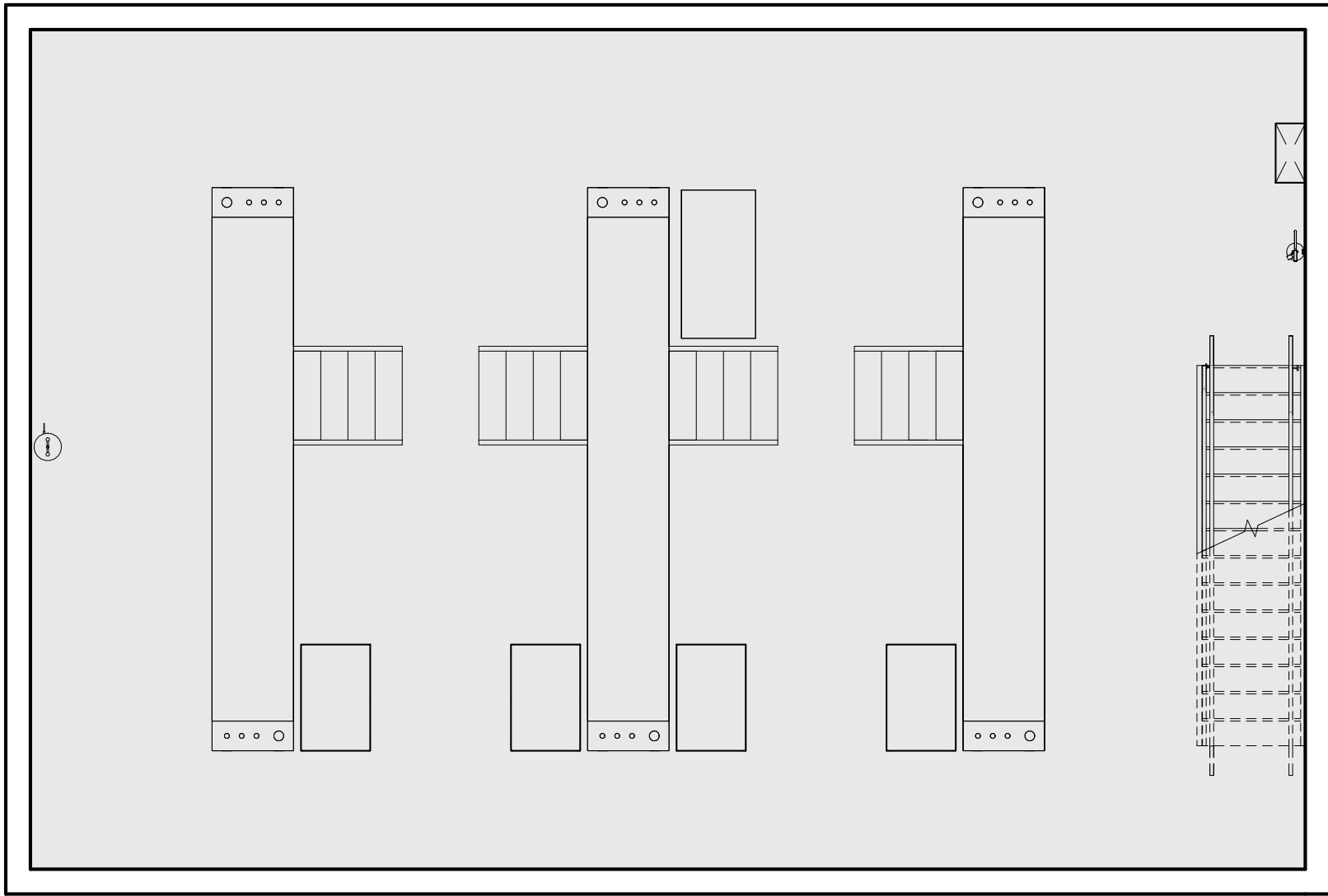
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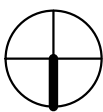
Stonehard  
Flooring (By  
Others)



Safety Yellow Paint.  
See notes below.



1 20\_Floor Finish Plan\_Pit  
3/16" = 1'-0"





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Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
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Floor Finishes - Pit

Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A

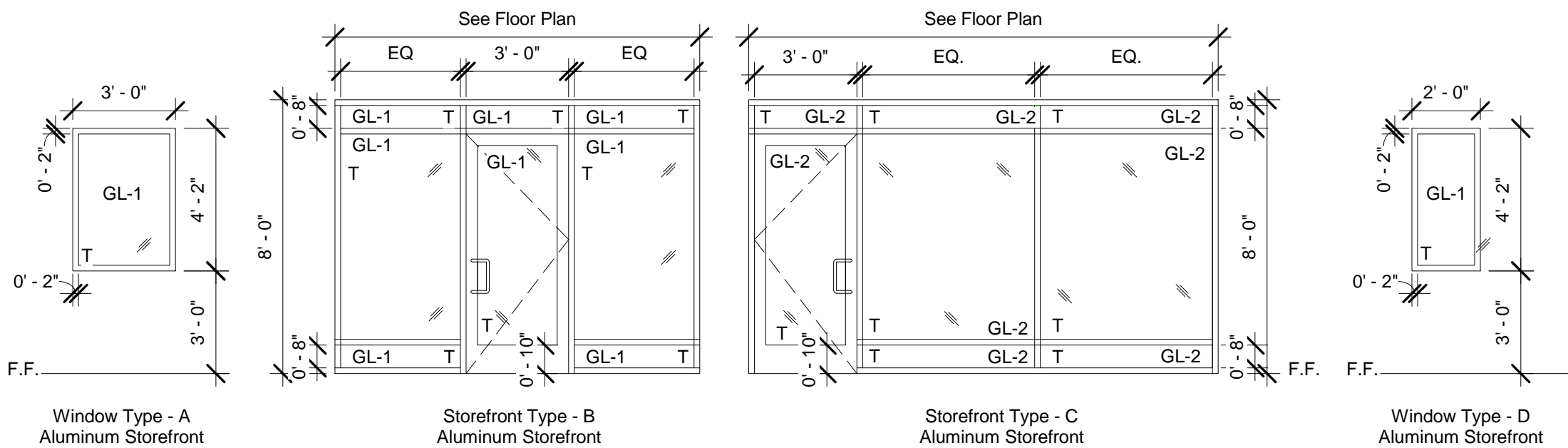
A611

Scale As indicated



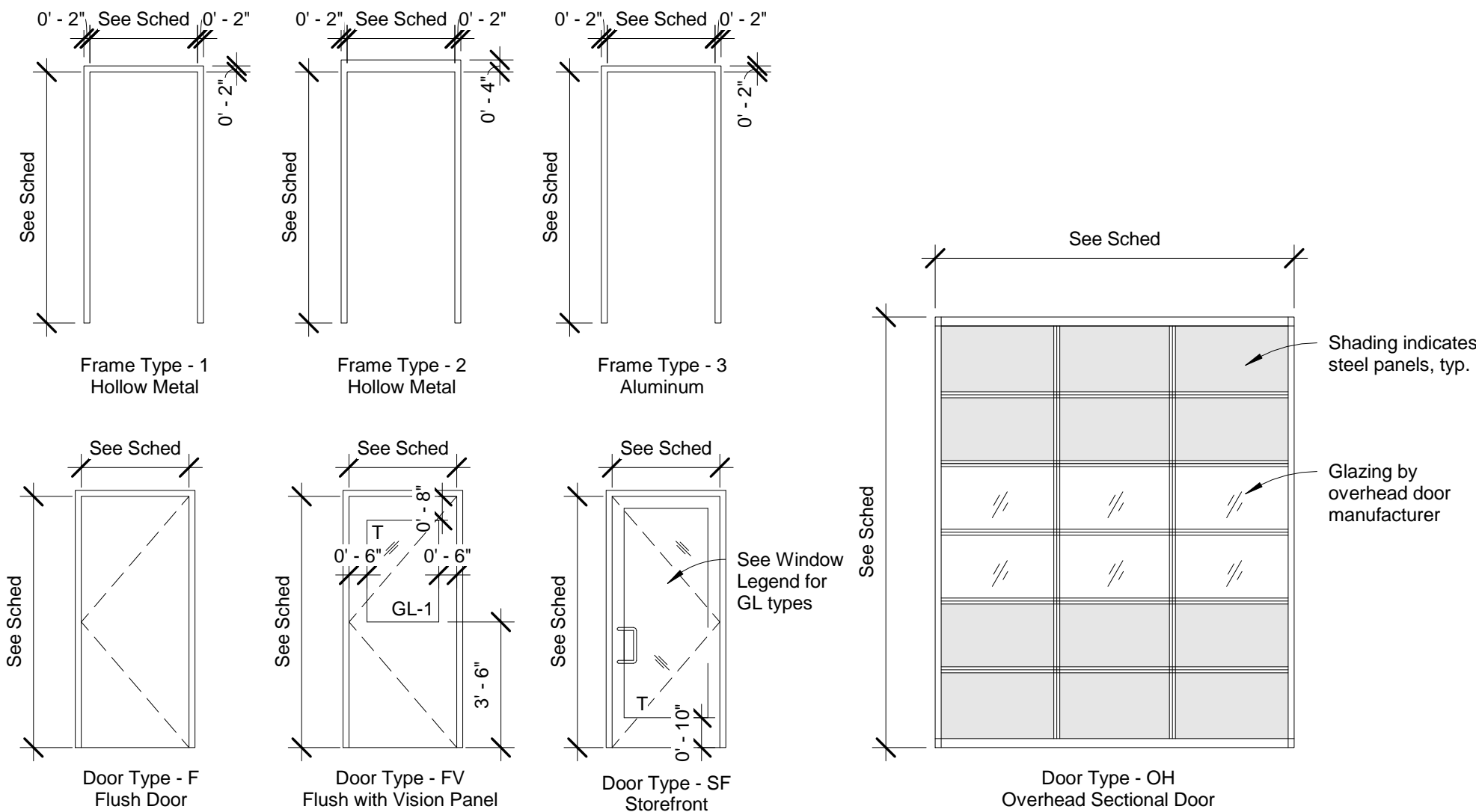
Door and Frame Schedule												
Number	Door						Frame			Glass	UL Label	Notes
	Width	Height	Thickness	Door Type	Door Material	Door Finish	Frame Type	Frame Material	Frame Finish			
1	3' - 0"	7' - 0"	0' - 1 3/4"	SF	Aluminum / Glass	Factory Finish	3	Aluminum	Factory Finish	Tempered		If required by the Fire Marshal or AHJ, add lettering that reads "This door must remain unlocked when business is occupied."
2	3' - 0"	7' - 0"	0' - 1 3/4"	FV	Wood / Glass	Painted	1	Hollow Metal	Painted	Tempered		
3	3' - 0"	7' - 0"	0' - 1 3/4"	FV	Wood / Glass	Painted	1	Hollow Metal	Painted	Tempered		
4	3' - 0"	7' - 0"	0' - 1 3/4"	SF	Aluminum / Glass	Factory Finish	3	Aluminum	Factory Finish	Tempered		
5	3' - 0"	7' - 0"	0' - 1 3/4"	F	Wood	Painted	1	Hollow Metal	Painted	N/A		
6	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
7	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
8	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
9	3' - 0"	7' - 0"	0' - 1 3/4"	F	Hollow Metal	Painted	2	Hollow Metal	Painted	N/A		
10	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
11	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
12	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
13	3' - 0"	7' - 0"	0' - 1 3/4"	FV	Wood / Glass	Painted	1	Hollow Metal	Painted	Tempered		
14	3' - 0"	7' - 0"	0' - 1 3/4"	FV	Wood / Glass	Painted	1	Hollow Metal	Painted	Tempered		
15	3' - 0"	7' - 0"	0' - 1 3/4"	F	Wood	Painted	1	Hollow Metal	Painted	N/A		
16	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
17	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
18	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
19	3' - 0"	7' - 0"	0' - 1 3/4"	F	Hollow Metal	Painted	2	Hollow Metal	Painted	N/A		
20	3' - 0"	7' - 0"	0' - 1 3/4"	F	Hollow Metal	Painted	2	Hollow Metal	Painted	N/A		
21	3' - 0"	7' - 0"	0' - 1 3/4"	F	Hollow Metal	Painted	2	Hollow Metal	Painted	N/A	45 Min.	Provide Fire Rated label on Door and Frame
22	3' - 0"	7' - 0"	0' - 1 3/4"	F	Hollow Metal	Painted	2	Hollow Metal	Painted	N/A	45 Min.	Provide Fire Rated label on Door and Frame
23	3' - 0"	7' - 0"	0' - 1 3/4"	F	Hollow Metal	Painted	2	Hollow Metal	Painted	N/A		
24	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
25	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
26	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		

WINDOW LEGEND



1 DT\_Sheet A620\_Window Legend\_Single Front Enter  
1/4" = 1'-0"

DOOR AND FRAME LEGEND



NOTE: Refer to floor plan for direction of door swing.

2 DT\_Sheet A620\_Door & Frame Legend  
1/4" = 1'-0"



Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL

No.	Description	Date

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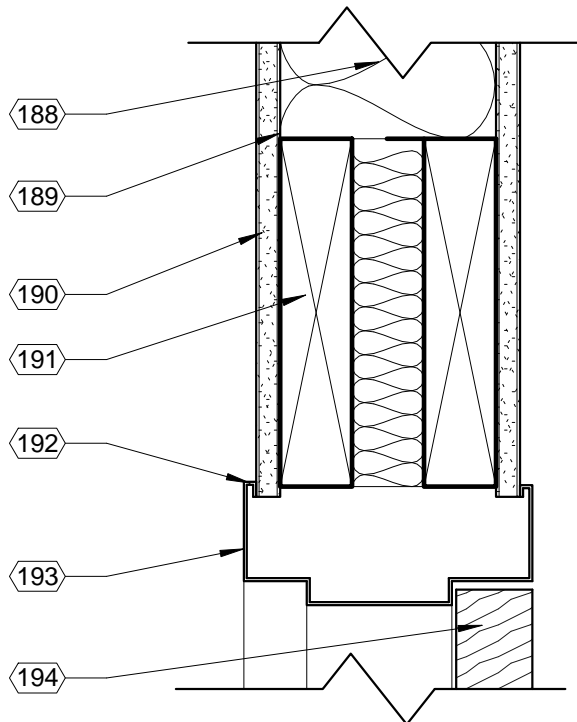
Schedules

Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A

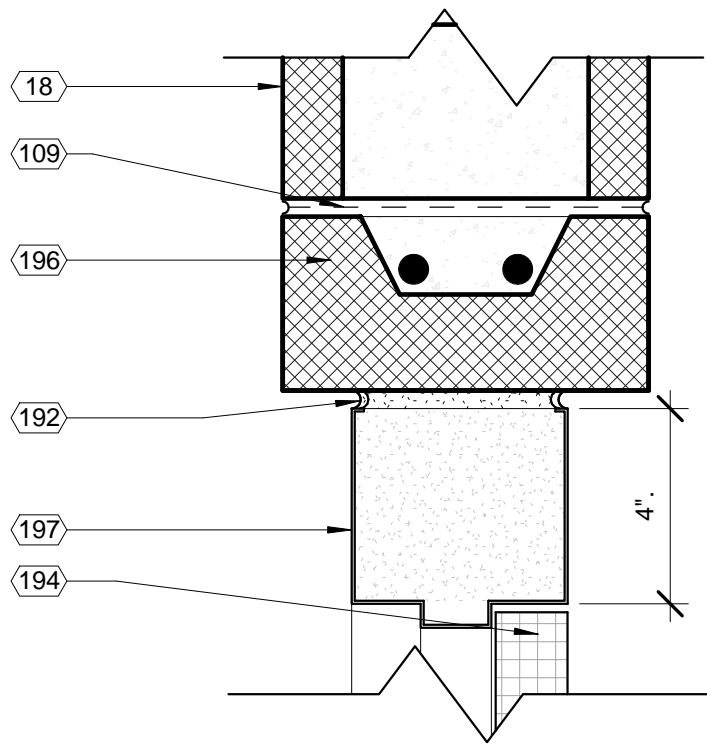
A620

Scale 1/4" = 1'-0"

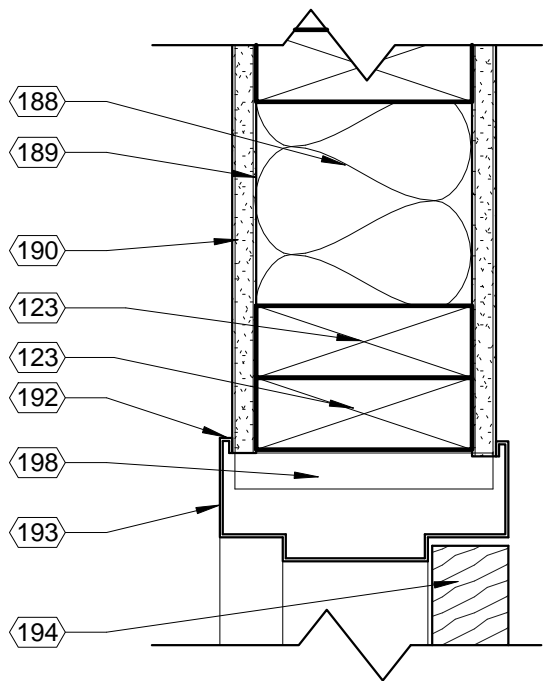




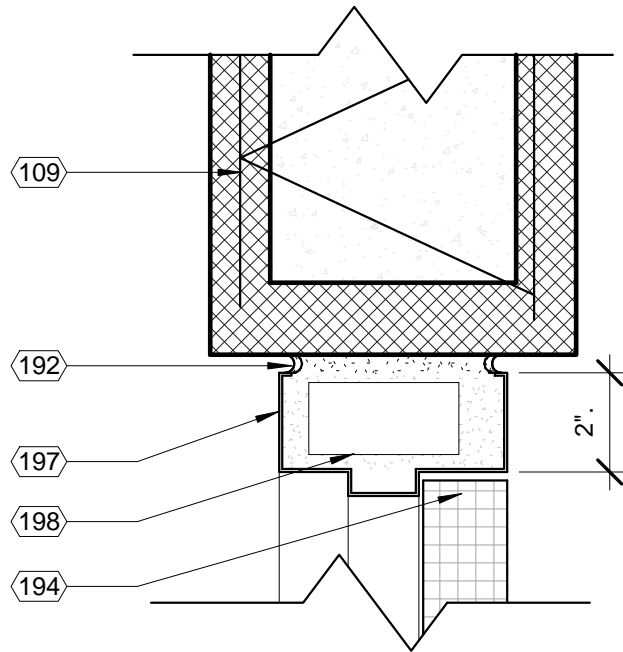
1 DT\_Sheet A621\_Door Head Detail\_Wood  
3" = 1'-0"



3 DT\_Sheet A621\_Door Head Detail\_Masonry  
3" = 1'-0"



2 DT\_Sheet A621\_Door Jamb Detail\_Wood  
3" = 1'-0"




4 DT\_Sheet A621\_Door Jamb Detail\_Masonry  
3" = 1'-0"

Keynote Schedule	
Tag	Text
18	Unpainted structural half-highs. See Specification 042200 Concrete Unit Masonry.
109	Horizontal joint reinforcement at 16" o.c. vertical.
123	Blocking. See Structural.
188	Kraft-faced batt insulation. Kraft in contact with gypsum board.
189	2x wood studs at 16" o.c.
190	1/2" painted gypsum board.
191	Double 2"x8" wood header.
192	Caulk all around on both sides.
193	Painted hollow metal frame with returns. See Finish Schedule for color.
194	Scheduled door. See plans for details.
196	Closed bottom structural half-high bond beam. See Structural.
197	Painted hollow metal frame, grouted solid.
198	Jamb anchors. Provide 3 per jamb.

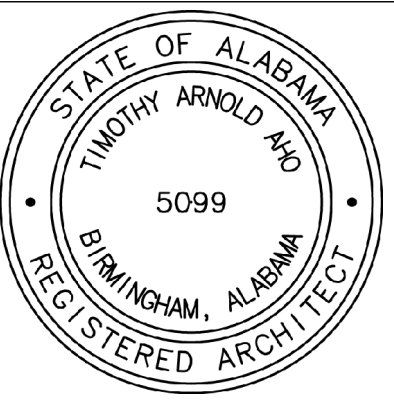
Material Schedule							
Abbreviation	Material Discription	Manufacturer	Style Name or Number	Color (Description)	Size	Finish	Material Notes
CT	Ceramic Tile	Dal-Tile	Volume 1.0	VL72 Intensity Pebble	12"x12"	N/A	Use MAPEI 47 Epoxy Grout
P-1	Paint - Color 1	Sherwin Williams	See Paint Schedule on G202	SW6966 Blueblood	N/A	See Paint Schedule on G202	
P-2	Paint - Color 2	Sherwin Williams	See Paint Schedule on G202	Custom Color (Dover Gray)	N/A	See Paint Schedule on G202	
P-3	Paint - Color 3	Sherwin Williams	See Paint Schedule on G202	SW7669 Summit Gray	N/A	See Paint Schedule on G202	
P-4	Paint - Color 4	Sherwin Williams	See Paint Schedule on G202	SW6959 Bluechip	N/A	See Paint Schedule on G202	
P-5	Paint - Color 5	Sherwin Williams	See Paint Schedule on G202	Safety Yellow	N/A	See Paint Schedule on G202	
P-6	Paint - Color 6	Sherwin Williams	See Paint Schedule on G202	Safety Red	N/A	See Paint Schedule on G202	
P-7	Paint - Color 7	Sherwin Williams	See Paint Schedule on G202	SW7006 Extra White	N/A	See Paint Schedule on G202	
PL-1	Plastic Laminate - Color 1	Wilsonart	4880-38	Carbon Mesh	N/A	N/A	
RB	Rubber Base	Ropee	Pinnacle	175 Slate	4"	N/A	
SC	Sealed Concrete	Sherwin Williams	See Paint Schedule on G202	Haze Gray	N/A	See Paint Schedule on G202	Add SharkGrip for added slip resistance
SH	StonHard Flooring	StonHard	N/A	N/A	N/A	N/A	Provided and installed by (Others)

Finish Schedule for Additional Items							
1.	Doors & Frames: Paint P-3	8.	Stairs & Railings & Swing Gates (if required): P-5	15.	Coping Cap: Match roof color	22.	Chair Rail: Stainless Steel by others
2.	Bollards & Dumpster Posts: P-6	9.	Keynote 16 & 17: P-1	16.	Door Hardware: Satin Chrome	23.	Word Wall: P-3
3.	Exterior Pole Sign: By others.	10.	Keynote 19: P-3	17.	Window Gaskets: Light Gray	24.	Canopy: Pantone 425C
4.	Downspouts/Gutters: Match Roof Color	11.	Keynote 15: P-1	18.	Exterior Aluminum Storefront & Door: Clear Anodized	25.	Dumpster Gate / Frame: P-3
5.	Electrical covers to be brushed aluminum	12.	Knox Box: Aluminum	19.	Abrasive Nosing: Safety Yellow	26.	Frieze Board: P-1
6.	Paint all louvers to match adjacent finish	13.	Roof: Royal Blue (Berridge)	20.	Overhead Door: White	27.	Steel Lintel at OH Doors: P-1
7.	Epoxy Floor Grout used with CT: MAPEI 47 Charcoal	14.	Soffit: P-1	21.	Interior Aluminum Storefront & Door: Clear Anodized		

Finish Schedule										
Number	Name	Area	Floor Finish	Base Finish	Walls				Ceiling Finish	Remarks
					Rear (South)	Right (West)	Front (North)	Left (East)		
1	Service Writing	144 SF	CT	CT	Storefront	P-1, P-2, P-3	Storefront & P-1, P-2, P-3	P-1, P-2, P-3	P-7	See G301 for paint patterns
2	Waiting Room	130 SF	CT	CT	P-3 & Vinyl Graphics (By Others)	P-1, P-2, P-3	Storefront	P-1, P-2, P-3	P-7	See G301 for paint patterns. Word Wall (with Vinyl Graphics (By Others) to be painted P-3
3	Toilet	43 SF	CT	CT	CT & P-3	CT & P-3	CT & P-3	CT & P-3	P-7	Ceramic tile wainscot 4'-4" high.
4	Manager	51 SF	SC	RB	P-3	P-3	P-3	P-3	P-7	
5	Oil Change	1271 SF	SH	None / RB	P-3	P-1, P-4	P-3	P-1, P-4 & Vinyl Graphics (By Others)	P-7	Rubber base on gypsum board walls only. See G301 for paint patterns.
6	Corridor	94 SF	SC	RB	P-1	P-1	P-1	P-1	P-7	
7	Break Room	65 SF	SC	RB	P-3	P-3	P-3	P-3	P-7	
8	Toilet	43 SF	CT	CT	CT & P-3	CT & P-3	CT & P-3	CT & P-3	P-7	Ceramic tile wainscot 4'-4" high.
9	Service	2485 SF	SC	None / RB	P-3	P-1, P-4 & Vinyl Graphics (By Others)	P-3	P-1, P-4	P-7	Rubber base on gypsum board walls only. See G301 for paint patterns.
10	Storage	220 SF	SC	None / RB	P-3	P-1, P-4	P-1, P-4	None	P-7	
11	Pit	1218 SF	SC	None	None	None	None	None	P-7	Paint all strutural steel in Pit P-5 Saftey Yellow
12	Storage	500 SF	SC	None	Fence	P-3	P-3	P-3	P-7	
13	Storage	258 SF	SC	None	P-3	P-3	Fence	P-3	P-7	



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Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

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No.	Description	Date

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Finish Schedules & Head, Jamb, and Sill Details

Project number24004

Date04/08/2024

Drawn byARC

Checked byN/A

A621

ScaleAs indicated

4/18/2024 11:45:07 AM





1 02\_3D View\_Front (North)

\*See Civil for actual site conditions, including dumpster enclosure location.



2 03\_3D View\_Rear (South)

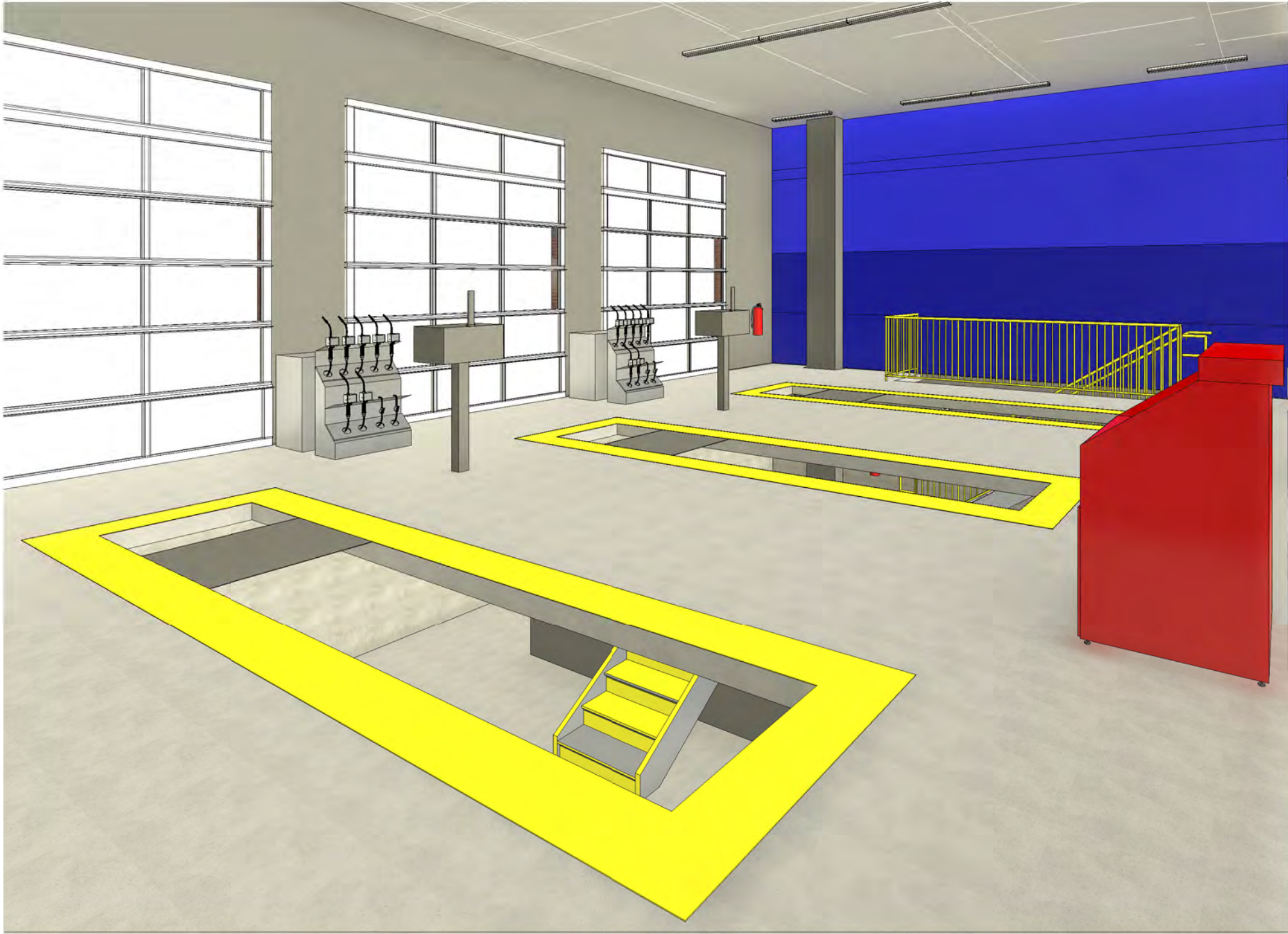
\*See Civil for actual site conditions, including dumpster enclosure location.

FINAL		
No.	Description	Date

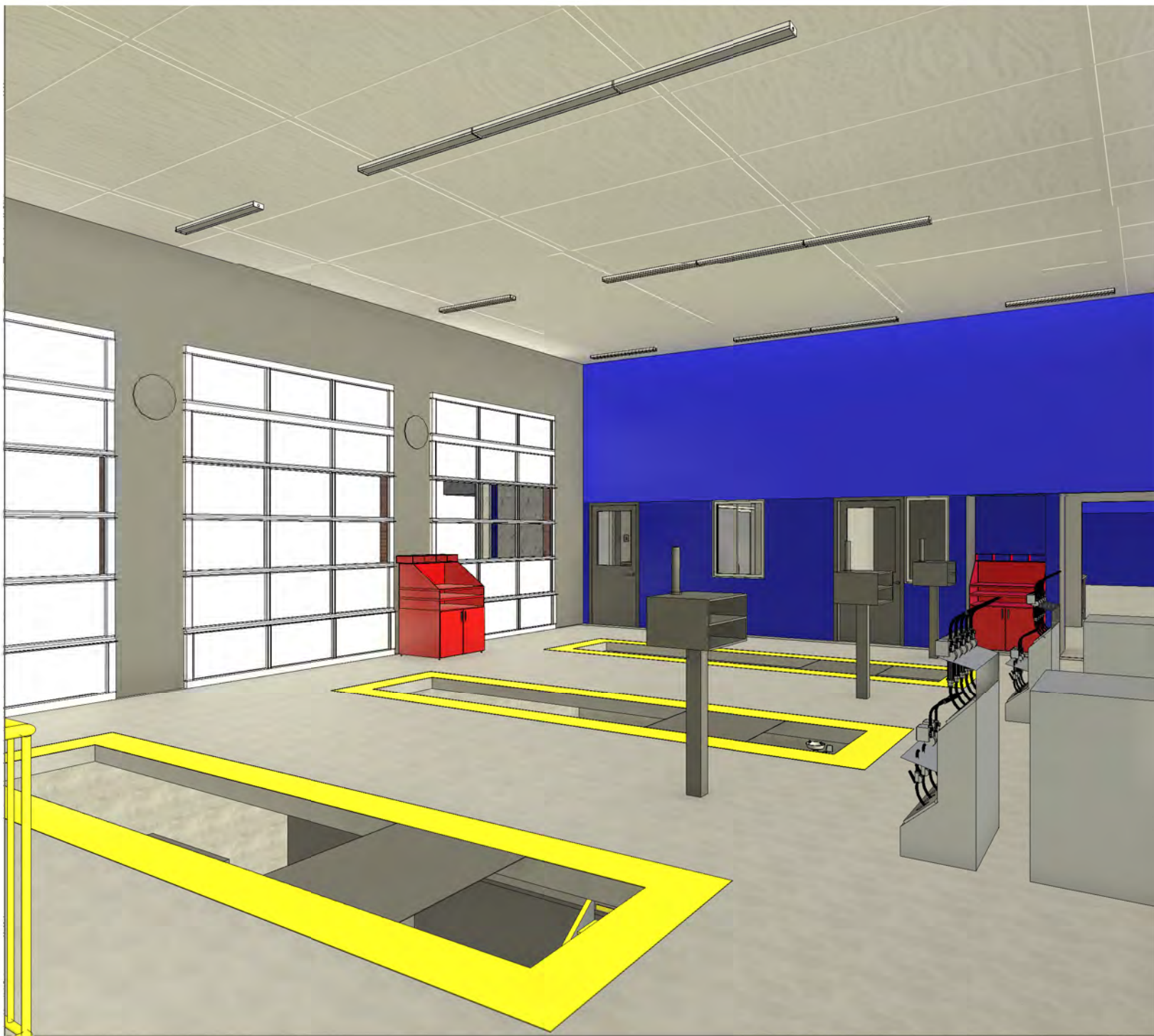
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3D Views	
Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A
R100	
Scale	

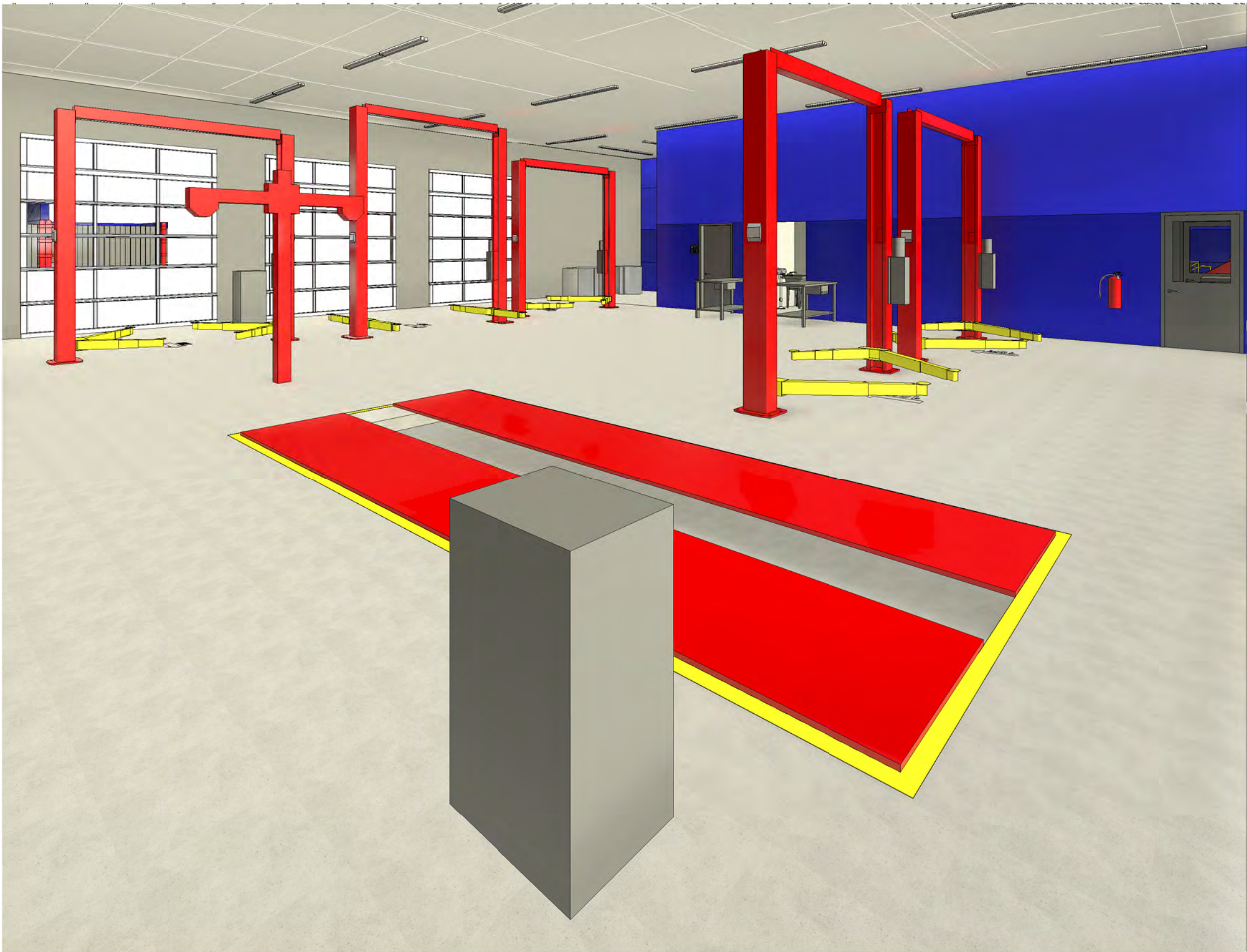




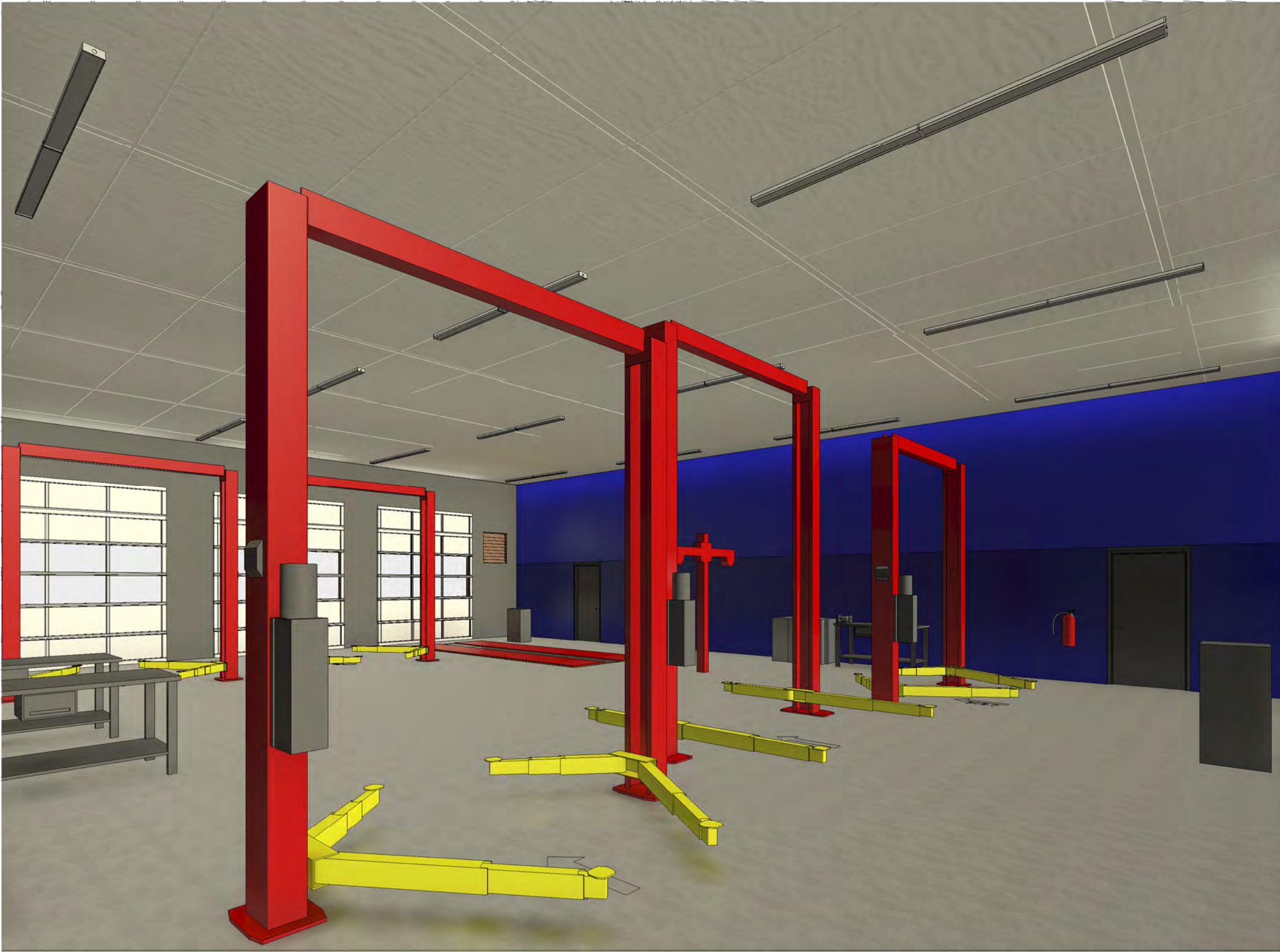
04\_3D View\_Oil Change A



05\_3D View\_Oil Change B



06\_3D View\_Service Bay A



07\_3D View\_Service Bay B

No.	Description	Date

Project number	24004
Date	04/08/2024
Drawn by	ARC
Checked by	N/A



SCHEDULE OF SPECIAL INSPECTIONS				
IBC Code Section	Item	Inspection/Test/Certification	C or P	Extent/Comments
	1000.00	General Conditions		
	1000.01	Review of Structural Documents and Shop Drawings to determine differences not approved by Architect or Engineer of Record	Continuous	Structural Documents should take precedence over any shop drawings. Special Inspector should use the Architectural and Structural Documents as the primary documents for review of construction. Shop drawing should be used as secondary document to review details not shown on the Architectural and Structural Documents. Any discrepancy between the two documents should be resolved by the Architect or Engineer of Record before proceeding with construction.
	1000.02	The Special Inspector duties for missing details, conflicting details or coordination issues.	Continuous	Reasonable attempts have been made on the part of the design team to properly coordinate drawings. However in the event that a question arises on the project the Special Inspector shall obtain clarification from the Architect on all items. No changes shall be made to the drawings or construction without written conformation.
	1400.00	Fabricators		
1704.02.01	1400.01	Review the quality control procedures of the following fabricators for completeness and adequacy relative to the fabricator's scope of work: steel fabricator, lightgage truss fabricator, wood truss fabricator.	Periodic	
1704.02.02	1400.02	The following fabricators, if registered and approved by the building official, may submit "Certificates of Compliance" at the completion of their scope of work that their fabricated items were constructed in accordance with the approved construction documents: steel fabricator, lightgage truss fabricator, wood truss fabricator. Fabricators having successfully completed no fewer than 5 similar projects may also submit for approval with documentation of similar projects.	Periodic	
	2300.00	Soils and Deep Foundations		
1704.07	2300.01	Verify bearing capacities of soils beneath footings.	Periodic	As recommended in approved soils report and specified in earthwork specifications.
1704.07	2300.02	Verify assumed bearing capacities and determine settlements of soils beneath footings and building pad.	Periodic	As noted on the drawings, recommended by the geotechnical engineer, and specified in earthwork specifications.
1704.07.01	2300.03	Verify site preparation prior to beginning fill placement. Verify fill material type, placement method, lift thickness, and compaction of fill material. Verify in-place density of compacted fill.	Periodic	As recommended in approved soils report and specified in earthwork specifications.
1704.08	2300.04	Inspect installation of pile foundations including installation of test piles.	Continuous	As recommended in approved soils report and specified in pile specifications.
1704.09	2300.05	Inspect installation of drilled pier foundations and installation of test piers. Inspect reinforcing in each pier and test concrete.	Continuous	As recommended in approved soils report and specified in pile specifications.
1705.9	2300.06	Inspect helical pile installation.	Continuous	Record installation equipment used, pile dimensions, tip elevations, final depth, final installation torque.
	3300.00	Concrete Construction		
None	3300.06	Inspect concrete formwork except as noted above for proper dimensions. Verify that construction joints are properly keyed. Verify that slab recesses, if any, have been installed.	Periodic	Prior to each pour.
1704.04	3300.07	Inspect reinforcing steel except as noted above for installation including size, spacing and bar clearances. Verify that lap splices and embedment lengths are per the construction documents. Verify that dowels for work above are properly aligned and spaced to match other work.	Periodic	Prior to each pour.
None	3300.13	Inspect bolts	Periodic	
1704.04	3300.15	Verify each proposed concrete mix for the project.	Periodic	For each proposed mix
1704.04	3300.16	Sample all concrete for strength tests and test concrete for slump, air content, temperature, and other tests.	Continuous	During placement operations. Reference concrete specifications for specific tests and frequencies.
1704.04	3300.17	Inspect concrete placement except as noted above.	Continuous	
1704.04	3300.18	Inspect all concrete curing operations as noted in the extents column.	Periodic	Monitor during hot, cold and windy conditions. Reference concrete specifications.
	3300.25	Verify sawed joints in slabs on grade are comleted within 4 hours of the final set of the concrete	Continuous	
	4810.00	Masonry Construction		
1704.05.01 and .02	4810.03	Inspect proportions of site prepared mortar and grout. Inspect construction of mortar joints. Inspect reinforcement for correct size and spacing. Inspect work for correct location and type of embeds and anchor bolts. Inspect work for size and location of structural elements.	Periodic	At beginning of masonry construction and every _____ square feet of masonry thereafter.
1704.05.01 and .02	4810.05	Inspect masonry cells and cleanouts prior to placement of grout. Inspect grout proportions. Inspect placement of reinforcement.	Periodic	Prior to grouting of masonry.
1704.05.01 and .02	4810.06	Inspect grouting operations to ensure compliance with code and construction documents.	Continuous	During grouting.
1704.05.01, .02 and .03	4810.12	Inspect protection of masonry during cold weather and hot weather.	Periodic	During periods with temperatures below 40 degrees or above 90 degrees.
1704.05.01 and .02	4810.13	Inspect preparation of grout specimens, mortar specimens and / or prisms.	Continuous	During preparation of all specimens.
1704.05.01, .02 and .03	4810.14	Verify compliance with all required inspection provisions of the construction documents and approved submittals.	Periodic	As required for duration of project.
	5120.00	Steel Construction		
1704.03	5120.01	Inspection of the steel pieces		
1704.03.02	5120.02	Inspection of frame		
1704.03.03	5120.03			
1704.03	5120.04	Inspect high-strength bolts, nuts and washers: a. Identify markings to conform to ASTM standards specified in the construction documents. b. Inspect manufacturer's certificate of compliance.	Periodic	Reference project specifications and ASTM material specifications; AISC 335, (Sect A3.4); AISC LRFD (Sect A3.3).
1704.03	5120.05	Inspect high-strength bolting: Bearing-type connections.	Periodic	
1704.03	5120.07	Inspect and verify structural steel material: a. Identification markings to conform to ASTM standards specified in the approved construction documents. b. Manufacturers' certified mill test reports.	Periodic	Confirm that materials meet applicable ASTM specifications noted in construction documents.
1704.03	5120.08	Inspect and verify weld filler materials: a. Identification markings to conform to AWS specification in the approved construction documents. b. Manufacturer's certificate of compliance required.	Periodic	Confirm that materials meet applicable ASTM specifications noted in construction documents.
1704.03	5120.09	"Inspect welding: Structural Steel: 1) Complete and partial penetration groove 2) Multipass fillet welds. 3) Single-pass fillet welds > 5/16" "	Continuous	Per specifications and AWS D1.1
1704.03	5120.10	"Inspect welding: Structural Steel: 1) Single-pass fillet welds ≤ 5/16" 2) Floor and deck welds. "	Periodic	Per specifications and AWS D1.1
1704.03	5120.11			
1704.03	5120.12	"6. Inspect steel frame joint details for compliance with approved construction documents: a. Details such as bracing and stiffening. b. Member locations. c. Application of joint details at each connection."	Periodic	Inspect complete frame.
	5301.03	Verify deck support angles are provided for all opening greater than 100 square inches.	Periodic	
	5310.00	Metal Deck		
	5310.01	Verify depth and gauge of all deck elements	Periodic	
	5310.02	Verify adequate bearing of ends of decking	Periodic	
	6000.00	Wood		
1704.06	6000.01	Inspect fabricated wood trusses and shop built components.	Periodic	Inspect truss production in shop unless fabricator is approved by building official and submits certification of compliance at end of scope of work. Inspect ____% of trusses. Inspect 100% of trusses if discrepancies are observed.
1704.06	6000.02	Inspect site-built assemblies including site built trusses. Inspect erected trusses including bridging and attachments.	Periodic	Inspect all site-built trusses. Inspect erected trusses and installation of bridging.
1706.01	8000.00	Special Inspections for Wind Resistance		
1706.01.02	8000.01	Roof Cladding and Roof Framing Connections	Periodic	
1706.01.02	8000.02	Wall Connections to Roof and Floor Diaphragms and Framing	Periodic	
1706.01.02	8000.03	Roof and Floor Diaphragm Systems, including Collectors, Drag Struts, and Boundary Elements.	Periodic	
1706.01.02	8000.04	Vertical Windforce-Resisting Systems, including Braced Frames, Moment Frames, and Shearwalls	Periodic	
1706.01.02	8000.05	Windforce-Resisting System Connections to the Foundation.	Periodic	
1706.01.02	8000.06	Fabrication and installation of components and assemblies required to meet the impact-resistance requirements of Section 1609.1.4.	Periodic	

GENERAL NOTES

- Contractor shall compare structural drawings and architectural drawings. Any omissions or discrepancies between plans, details, and specifications shall be brought to the attention of the Architect or Engineer before bidding. In all cases, more stringent requirement governs. Architectural dimensions and elevations will control.
- Structural drawings or parts of the structural drawings may not be used as shop drawings without prior written approval.
- All or parts of these drawings were produced with computer aided drafting. Drawings are available from the Engineer in DWG format on request.
- Contractor proposed changes to details must be clearly noted on the first sheet of all shop drawings.
- Construction shown is stable after the building is complete including interior and exterior finishes. The Contractor is responsible for temporary bracing of the structure during construction.
- Review of submittal information shall be for general compliance with the contract documents and shall not include checking of detailed dimensions or detailed quantities.

DESIGN LOADS

- Reference code for loading 2018 IBC.
  - Building Classification II
  - Wind Load
    - Basic Wind Speed (3 sec gust) 157 mph
    - Wind Exposure C
    - Internal Pressure Coefficient +/- 0.18
    - Velocity Pressure (qz) 53.6 psf
  - Roof Snow Load
    - Flat Roof Snow Load (Pf) 0 psf
    - Snow Exposure (Ce) 1.0
    - Importance Factor 1.0
    - Thermal Factor (Ct) 1.0
  - Seismic Load
    - Importance Factor 1.0
    - Mapped Spectral Response Accelerations
      - Ss 0.085
      - S1 0.056
    - Site Class D
    - Spectral Response Coefficients
      - Sds 0.091
      - Sd1 0.089
    - Seismic Design Category B
    - Base Seismic-Force-Resisting System(s) and Response Modification Factor
      - Intermediate Reinforced Masonry Shear Walls 3.5
    - Analysis Procedure = Equivalent Lateral Force
  - Live Load
    - Roof Load 20 psf
    - Service Bay and slabs on grade 100 psf
    - Mezzanine 50 psf

FOUNDATIONS

- Foundation design for this project was based on soils information provided by Terracon
- Bearing capacity----- 2000 psf
- All footings are to bear on engineered fill.
- Install corner bars at all footing intersections and corners (Provide lap length e.w.)
- All footing elevations are given to the top of the footings.
- Footing steps shown on the plans are furnished as a guide for estimating quantities. Final elevations are to be set in the field. Bearing elevations must be approved by a Soils Engineer before any concrete is placed.
- Coordinate foundation elevations with plumbing requirements. Step footings as required to clear plumbing lines.
- Provide drainage for all retaining walls, see architectural for notes and details.

MASONRY

- All masonry work to be in accordance with "Building Code Requirements for Concrete Masonry Structures" TMS 402-2016 and "Specifications for Masonry Structures" TMS 602-2016.
- Fill all concrete masonry units with concrete or grout from the top of the footing to the finish floor or to 8" above finish grade whichever is higher.
- Use ladder type joint reinforcement (Dur-O-Wall SW DA3100 or better) at 16" on center in all cavity walls where brick is used for one or more of the wythes.
- Use truss type joint reinforcement (Dur-O-Wall SW DA3100 or better) at 16" o/c. in all other masonry walls.
- Provide joint reinforcement at 8" o/c. for all walls constructed with stack bond.
- Use Type "M" or Type "S" mortar in accordance with IBC Table 2103.7(1).
- Minimum compressive strength of concrete masonry f'm = 2500 psi. Submit for review test data on strength of units before starting any masonry work.
- Minimum compressive strength of grout f'm = 2500 psi. Use 3/8" max size aggregate. See Special Inspection Schedule for any testing requirements. Grout slump shall be 8" to 11".
- Use "Fine" grout for all reinforced piers and reinforced wall in accordance with ASTM C 476.
- Each grout lift shall not exceed 5'-0" unless cleanouts are provided in the bottom course.
- Fill cells under all lintels with grout.
- Provide lintels over all openings through wall. See lintel details for reinforcement.
- Unless otherwise noted provide control joints in all walls 4'-0" from wall intersections or corners and at 20' 0"
- Extend all horizontal steel and bond beams thru control joints.
- Vertical Reinforcement shall extend into the bond beam.
- Unless noted, all bars are to be located at the center of cell. Where bars are specified at each face, provide minimum ¾" clear space between reinforcement and CMU face shell.
- Anchor bolt into grouted cell locations only, unless noted otherwise.

REINFORCING STEEL AND CONCRETE

- All concrete work is to be in accordance with the "Building Code Requirements for Reinforced Concrete" (ACI 318-14).
- All detailing is to be in accordance with "ACI Detailing Manual" SP-66
- Use of Calcium Chloride, Chloride Ions, or other salts in concrete are prohibited.
- Concrete Properties: See Schedule
  - All concrete must obtain 7 day strength of 70% of design strength.
  - Concrete mixes may use up to 25% of cementious weight as fly ash.
  - Concrete mixes may use water reducers, accelerators or retarders with prior approval.
  - Do not provide air entrainment in concrete mixes for interior slabs.
- All steel reinforcement shall be of deformed bars of billet steel conforming to ASTM A615, Grade 60 in all concrete.
- Welded wire fabric shall be ASTM 185 and shall lap 2 cross wires or 6" whichever is greater on all sides. All laps shall be wired together.
- Provide (2) #4 bars x 4'-0" at re-entrant corner locations Typical. Locate 3" away from corner and space 1'-0" apart.
- All slabs on grade are 6", unless noted. Slabs are to be placed on 10 Mil, PVC vapor barrier over 4" of porous fill. Reinforce slabs with 6x6 W2.9 x W2.9 WWF placed 1" from top of slab. Unless otherwise noted slabs shall have joints placed a 12'-0" on centers. Joints may be control joints or construction joints. See Architectural Plans for floor slopes and recesses for hard tile.
- Minimum concrete cover for reinforcement:
  - Footings 3" bottom, 2" sides
  - Cast-In-Place Walls Surfaces exposed to weather or soil 2" - #6 and greater, 1-1/2" - #5 and smaller Other surfaces 3/4"
- Provide corner bars at all wall and footing intersections.
- No openings shall be allowed to penetrate any concrete work, unless it is shown on the structural framing plans without prior written approval. Contractor shall submit for review locations of proposed openings not shown 30 days prior to pouring any concrete.
- Provide a continuous water bar at all wall construction joints below ground level.
- Use 3/4" chamfer for all exposed corners unless noted.
- Testing samples for preparing strength test specimens of each concrete mixture placed each day shall be taken in accordance with (1) through (3).
  - At least once a day
  - At least once for each 150yd^3 of concrete
  - At least once for each 5000ft^2 of surface area for walls or slabs.

STRUCTURAL STEEL

- All detailing, fabricating, and erection of structural steel shall be in accordance with the AISC 360-10 "Specifications for Structural Steel Buildings". All reactions shown are ASD loads.
- All connections are to be detailed as Type 2 "simple frame connections".
- All structural steel W shapes shall be ASTM A992.
- All structural steel Tube sections shall be ASTM A500 Grade B.
- All structural steel Pipe sections shall be ASTM A501.
- All structural steel channels, angles and other sections shall be ASTM A36, unless noted.
- Headed Studs shall be Type B Shear Connectors.
- Shop and field connections shall be welded with E-70XX electrodes or bolted with 3/4" dia. A-325N or A-325F bolts, unless noted.
- Use 3/4" cap and bearing plates, unless noted.
- Use 3/4" dia x 1'-0" long ASTM 1554 Grade 36 anchor bolts, unless noted. In lieu of cast bolts, 3/4"x1'-0" long HAS rods epoxied with Hilti HVA epoxy, or equal, may be used with prior approval.
- Grout under baseplates with ASTM C 1107 cementitious 6000 psi Non-Shrink Grout.
- Structural steel shall be shop primed per SSPC paint system No. 7. Primer shall be SSPC paint with a minimum thickness of 2.0 MILS. Omit Paint at surfaces to be fireproofed.
- Provide L 3"x3"x1/4" frames around all roof opening through metal decking.

WOOD (STRUCTURAL)

- All floor framing and roof framing shall be #2KD SYP or approved equal.
- All floor framing shall be horizontally braced/blocked at midspan unless noted otherwise.
- All vertical framing shall be Spurce-Pine-Fir, #2.
- All wood exposed to weather or in contact with CMU or concrete shall be pressure treated in accordance with American Wood Preservers Association Manual of Recommended Practice
- All Fasteners and Nails in contact with pressure treated lumber shall be stainless steel Type 304. Submit all alternates for approval.
- Furnish design calculations sealed by a Professional Engineer licensed in the State of Project for all truss members.
- Truss connections to walls and framing shall be Designed and Specified by Truss Supplier.
- Field Modification or Fabrication of trusses is not allowed unless written approval is provided by Truss Supplier.
- Provide (4) studs at all beam and girder truss bearing locations.
- Roof decking shall be 5/8" APA rated sheathing, Exposure 1 with 32/16 span rating. Provide plyclips at all roof sheathing connections, unless noted otherwise.
- Floor and roof sheathing shall be nailed with 8d rinkshank nails at 6" o.c.
- All bolts connecting continuous horizontal sill plates to concrete, masonry, or steel shall have 3" flat washers.

CONCRETE SCHEDULE

Concrete Use	Design Strength	Max W/C Ratio	Slump Limits	Entrained Air Range	Weight	Notes
Basement Walls	4000 psi	n/a	6" to 8"	3% to 5%	150 pcf	Use HRWR
Slabs on Composite Metal Deck	4000 psi	n/a	6" to 8"	---	150 pcf	Use HRWR
Slabs on Grade/Grade Beams	4000 psi	n/a	6" to 8"	---	150 pcf	Use HRWR

BJW

STRUCTURAL  
ENGINEERS

BARNETT JONES WILSON, LLC • FELL CITY • TUSCALOOSA • CHATTANOOGA • WWW.STRUCTENGS.COM

AHO ARCHITECTS, LLC

www.ahoarch.com

ALABAMA

REGISTERED

No. 22742

PROFESSIONAL

ENGINEER

JOHN C. AHO

4/08/24

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

FINAL		
No.	Description	Date

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General Notes

Project number

24004

Date

4/08/24

Drawn by

jcj

Checked by

jd

S0.1

Scale

3/4" = 1'-0"



Shear Plate Connection Schedule

Length	# of bolts	End reaction	Min plate thickness
6"	2	8.2k	1/4"
9"	3	16.3k	1/4"
12"	4	26.1k	1/4"
15"	5	36.3k	1/4"
18"	6	46.3k	1/4"
21"	7	56.4k	1/4"

Reinforcing Steel Lap Splice & Development Length for Concrete Masonry

Bar Size	Bar in center of wall			Bar in each face of wall
	6" CMU	8" CMU	12" CMU	
#3	16"	16"	16"	16"
#4	21"	21"	21"	30"
#5	32"	26"	26"	46"
#6	61"	43"	40"	85"
#7	NA	60"	46"	115"
#8	NA	NA	61"	NA

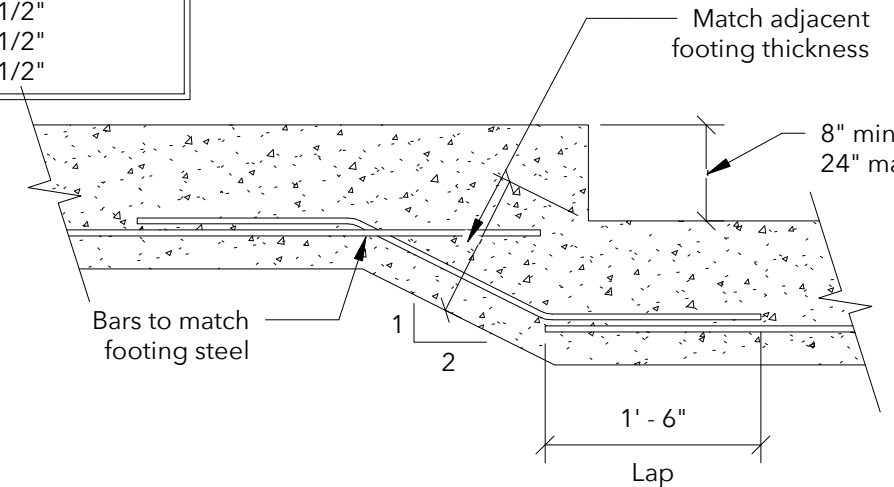
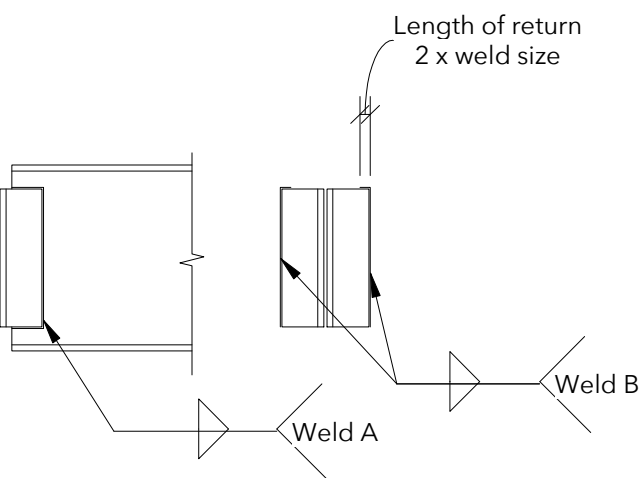
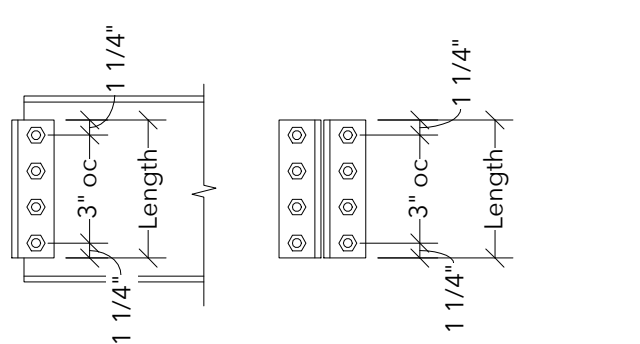
- Notes:
- Lengths are for vertical splices in walls.
  - Bar length for center of wall are based on f'm of 1500 psi or greater.
  - Bar length for face of wall are based on f'm of 2000 psi or greater.
  - Refer to General Notes and details for masonry strength.

Components and Cladding Schedule a = 5.5'

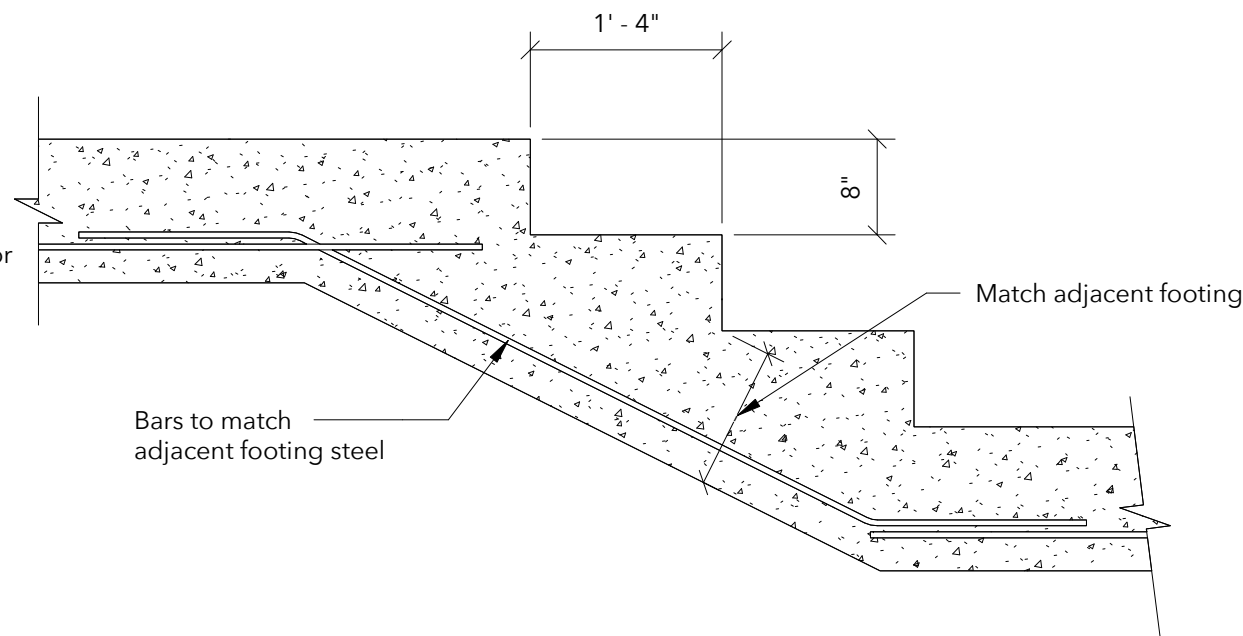
Area(sf)	Zone 1,2,3 (+)(psf)	Zone 1 (-)(psf)	Zone 2,3 (-)(psf)	Zone 4,5 (+)(psf)	Zone 4 (-)(psf)	Zone 5 (-)(psf)
10	55.0	-60.1	-70.3	60.1	-65.2	-80.4
50	51.4	-53.0	-63.3	53.8	-59.9	-67.9
100	49.9	-49.9	-60.1	51.1	-56.2	-62.5

Frame Connection Schedule

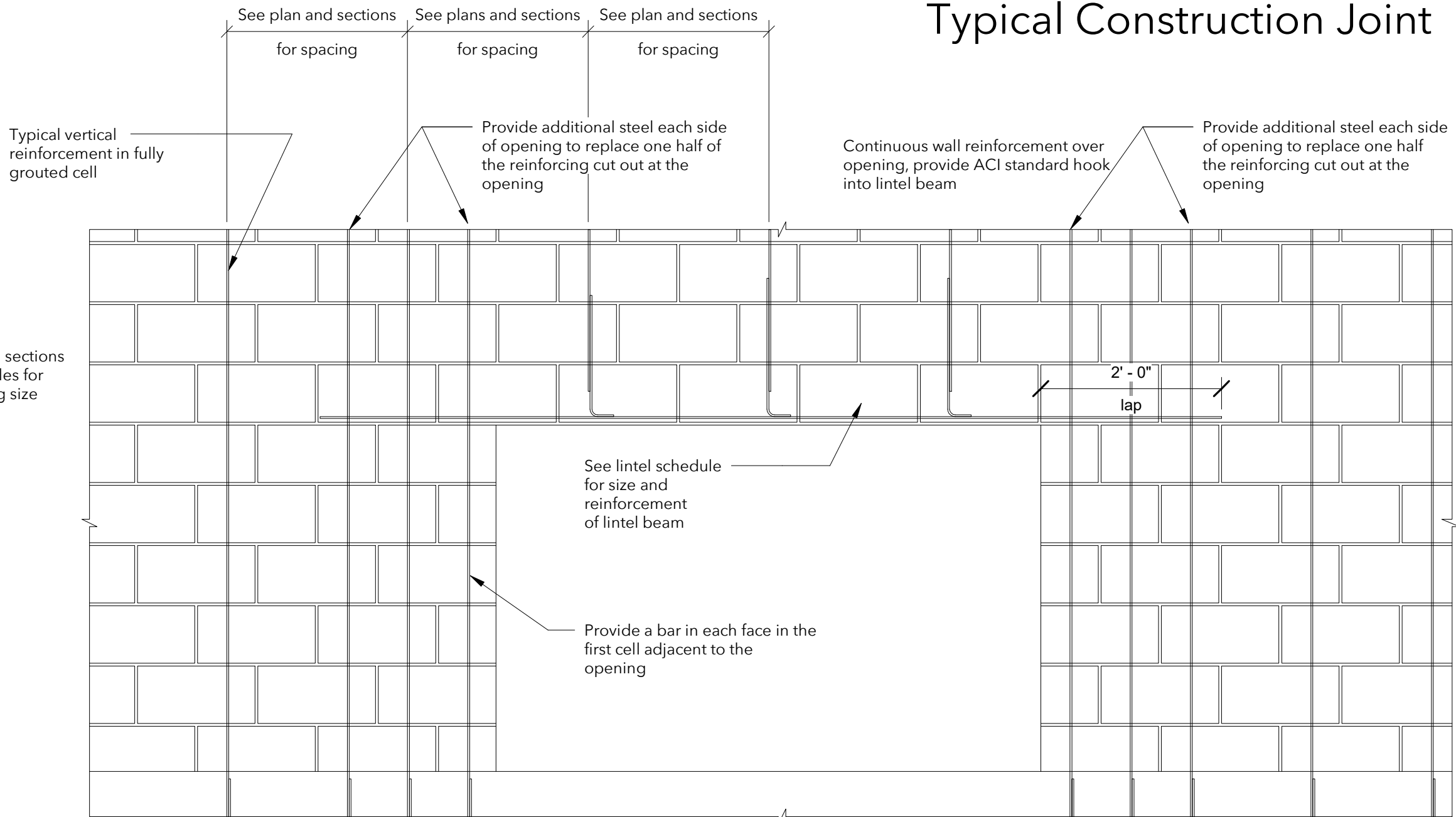
Length	# of bolts	End reaction	Min angle thickness
5-1/2"	2	37.1k	5/16"
8-1/2"	3	55.3k	5/16"
11-1/2"	4	72.7k	5/16"
14-1/2"	5	88.7k	5/16"
17-1/2"	6	104.0k	5/16"
Length	Size of Weld A	End reaction	Min angle thickness
5-1/2"	3/16"	37.1k	5/16"
8-1/2"	3/16"	55.3k	5/16"
11-1/2"	3/16"	72.7k	5/16"
14-1/2"	3/16"	88.7k	5/16"
17-1/2"	3/16"	104.0k	5/16"
Length	Size of Weld B	End reaction	Min angle thickness
5-1/2"	1/4"	14.6k	5/16"
8-1/2"	1/4"	32.2k	5/16"
11-1/2"	1/4"	53.4k	5/16"
14-1/2"	1/4"	76.6k	5/16"
17-1/2"	1/4"	101.0k	5/16"
Depth of beam	Min length of angle	Depth of beam	Min Length of angle
W12	5-1/2"	W24	11-1/2"
W14	5-1/2"	W27	11-1/2"
W16	5-1/2"	W30	14-1/2"
W18	8-1/2"	W33	14-1/2"
W21	8-1/2"	W36	17-1/2"



Single Footing Step

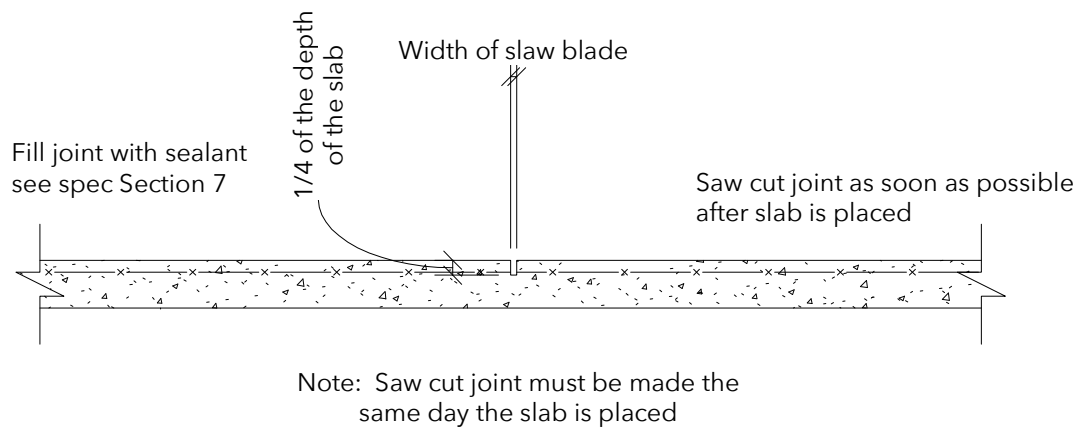


Multiple Footing Step

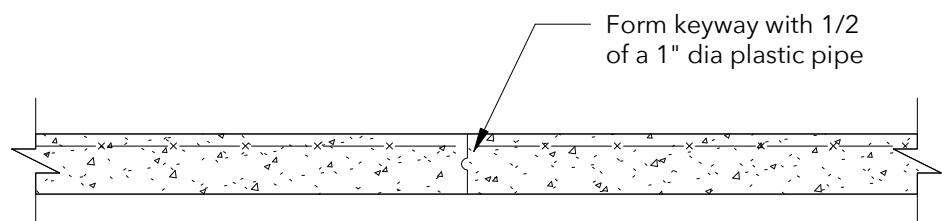


CMU Lintel Elevation

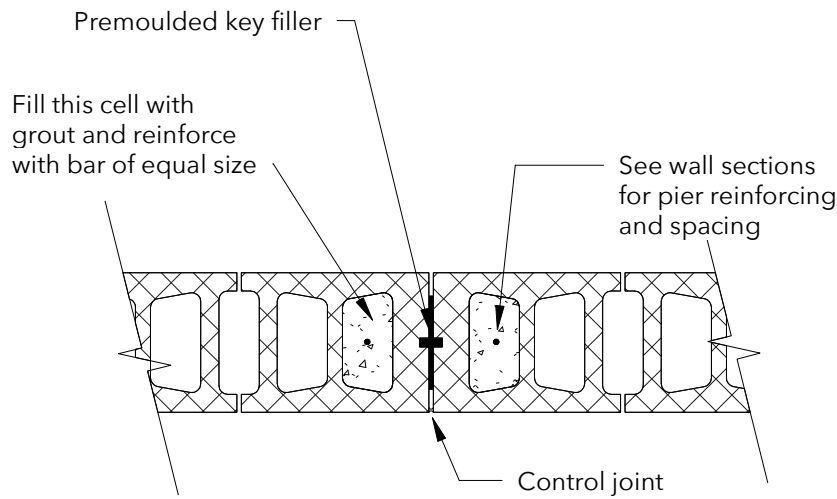
Typical Anchor Bolt Detail Typical Base Plate



Typical Control Joint

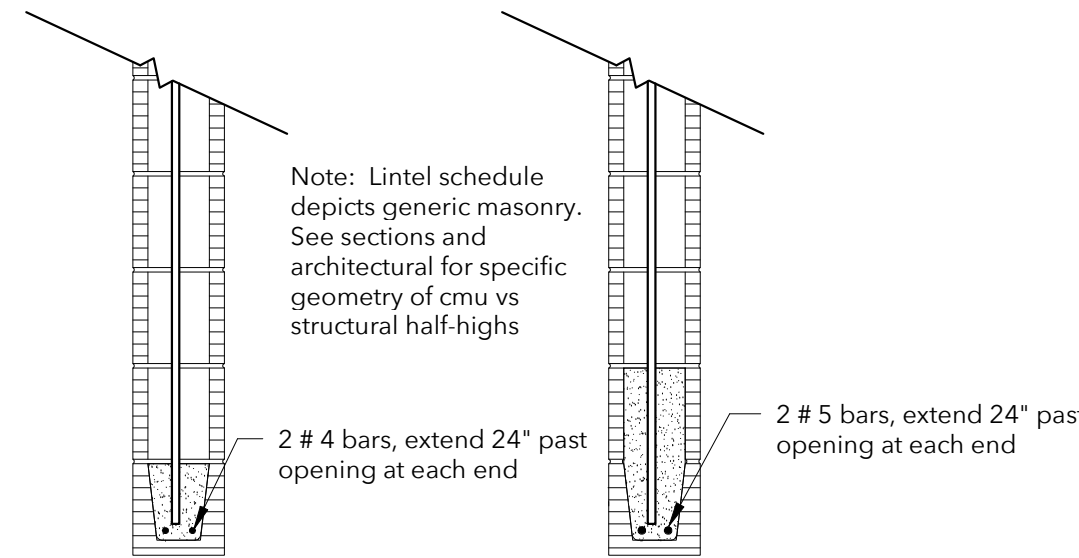


Typical Construction Joint



- Note:
- See architectural plan for spacing. If spacing is not shown place joints at 3 times the wall height but not greater than 20'-0" o.c., and at 4'-0" from corners
  - Extend all horizontal reinforcing including bond beam steel thru control joints.

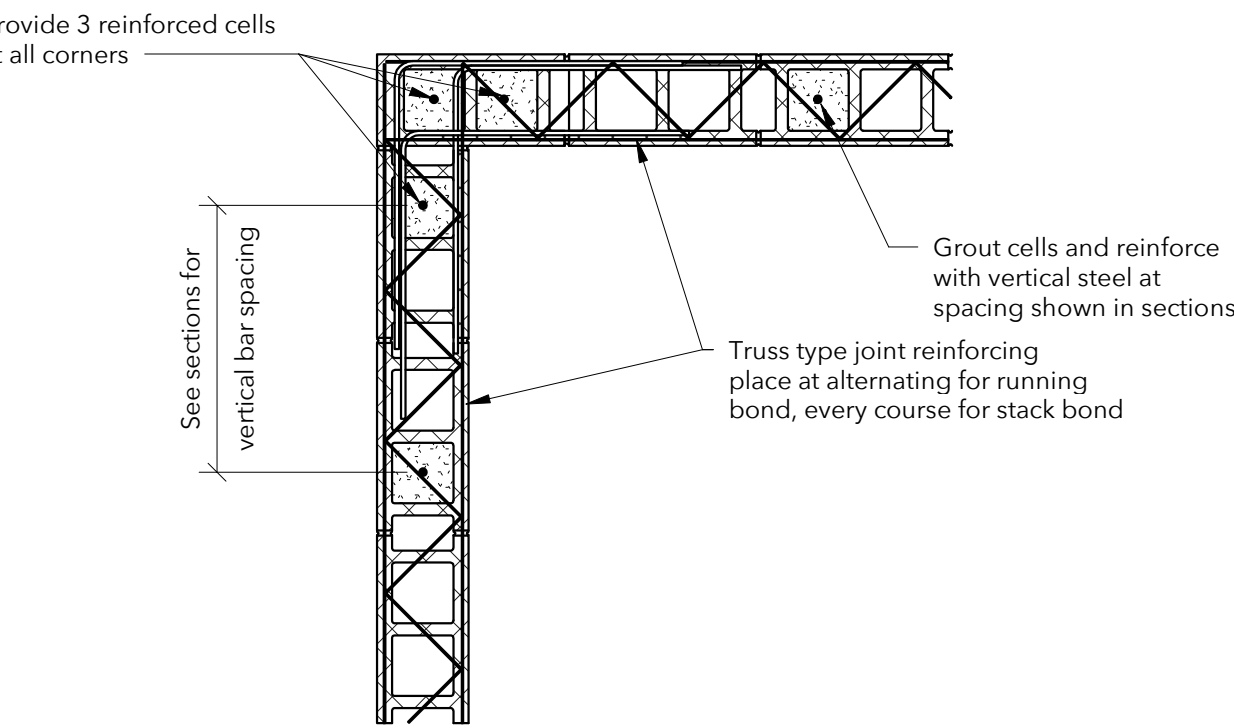
Typical MasonryWall Control Joint



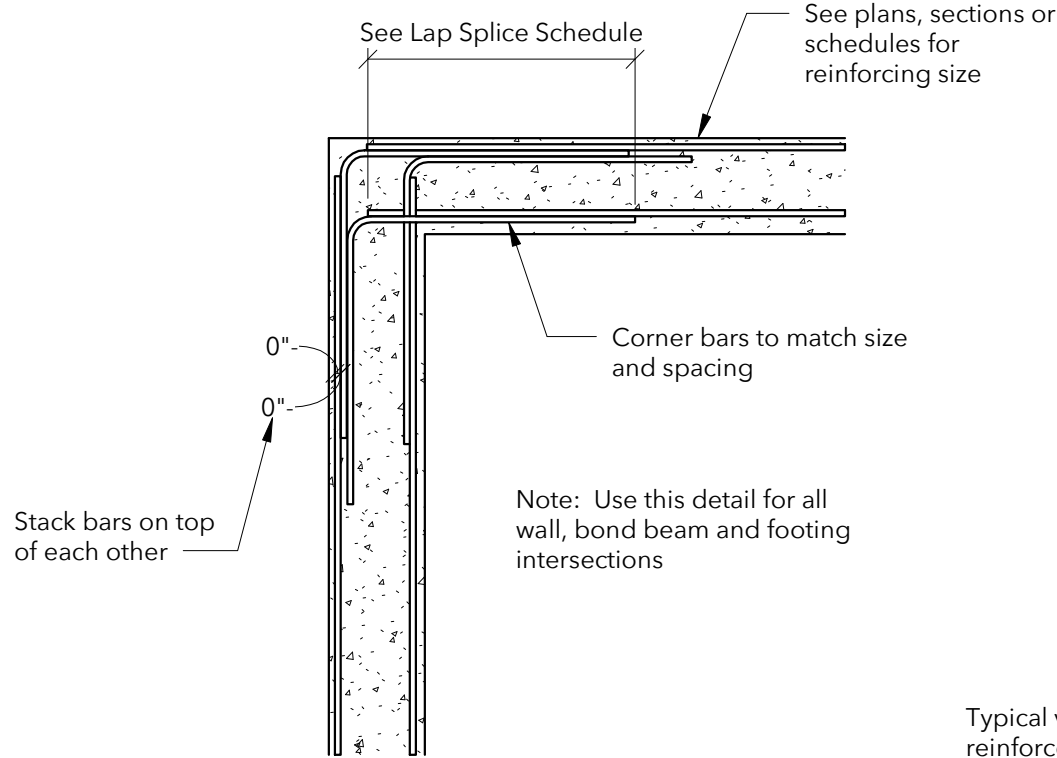
Less than 4'-0" Less than 8'-0

CMU Lintel Schedule

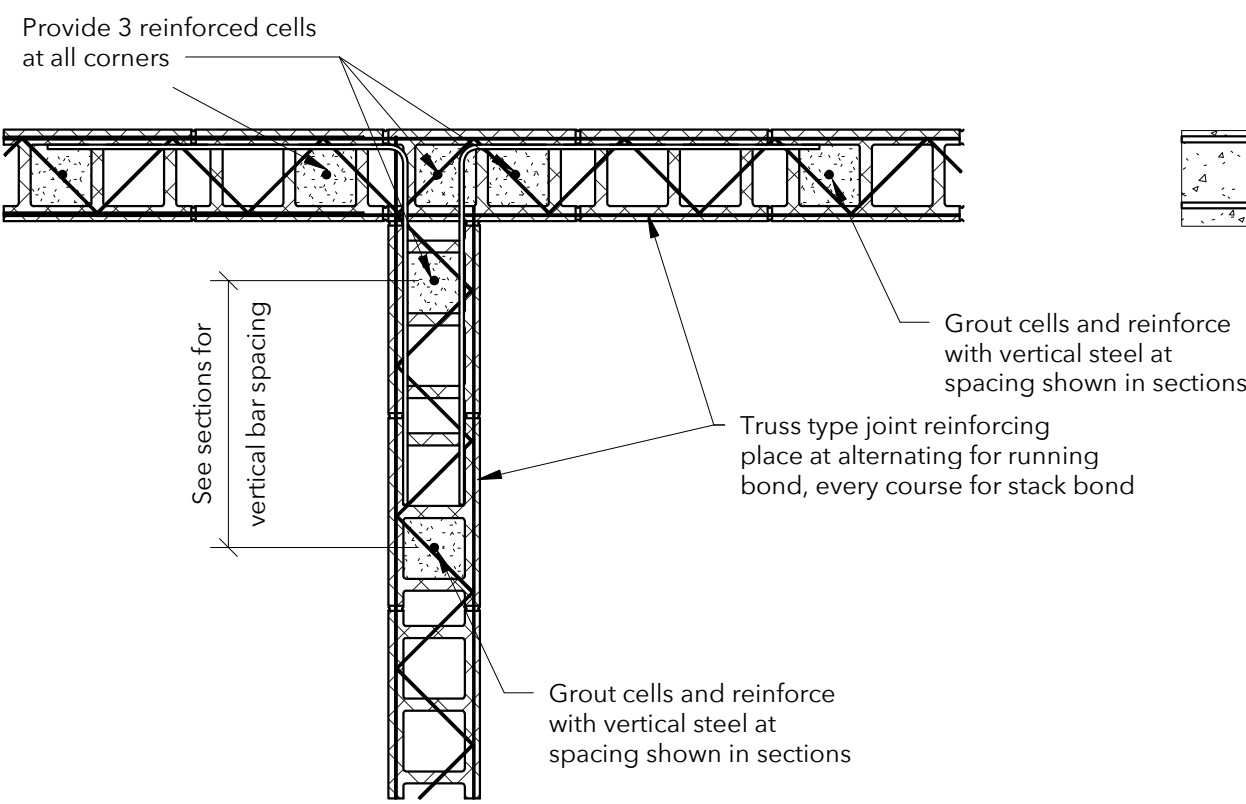
See sections on S5.1 for overhead door lintel



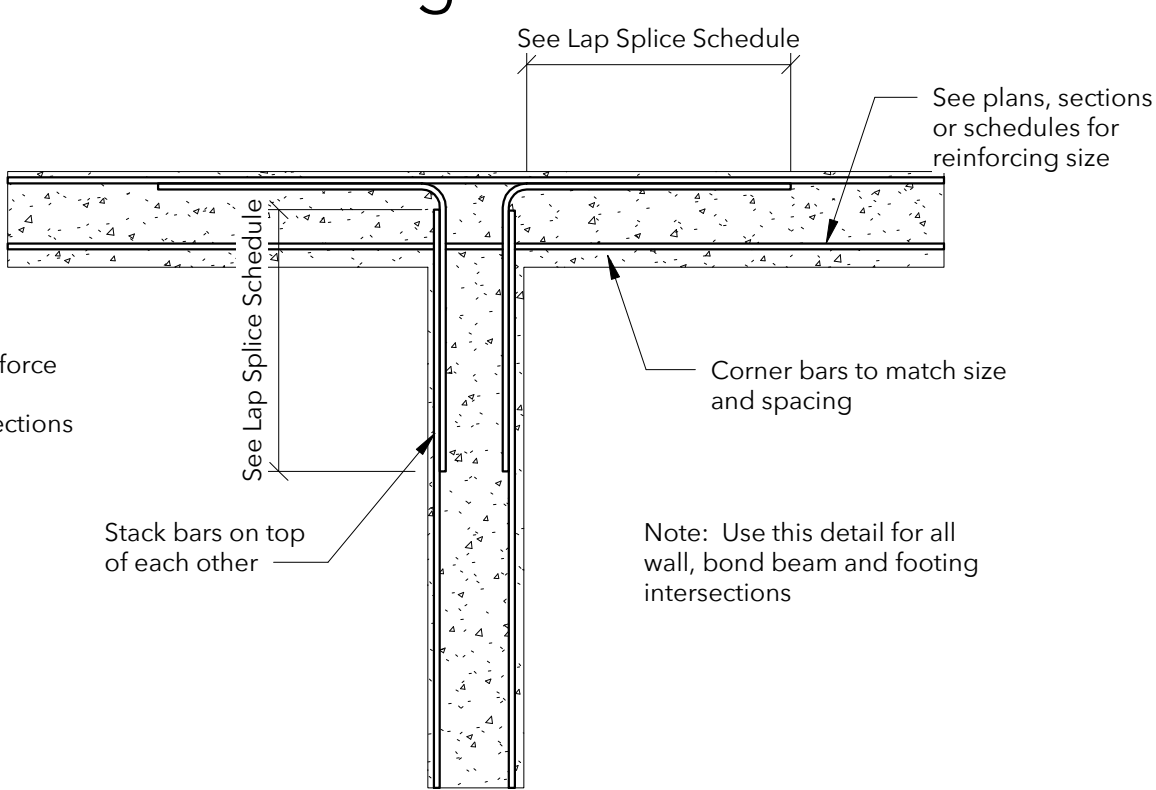
Typical Joint Reinforcing at Corner



Typical Beam, Wall or Footing Reinforcing at Corners



Typical Joint Reinforcing at Intersection



Typical Beam, Wall or Footing Reinforcing at Interseptions

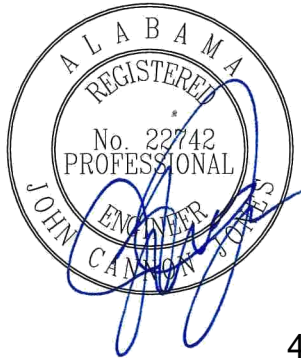
No.	Description	Date

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Typical Details

Project number	24004
Date	4/08/24
Drawn by	jcj
Checked by	jd
S0.2	
Scale	3/4" = 1'-0"





4/08/24

Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL

No.	Description	Date

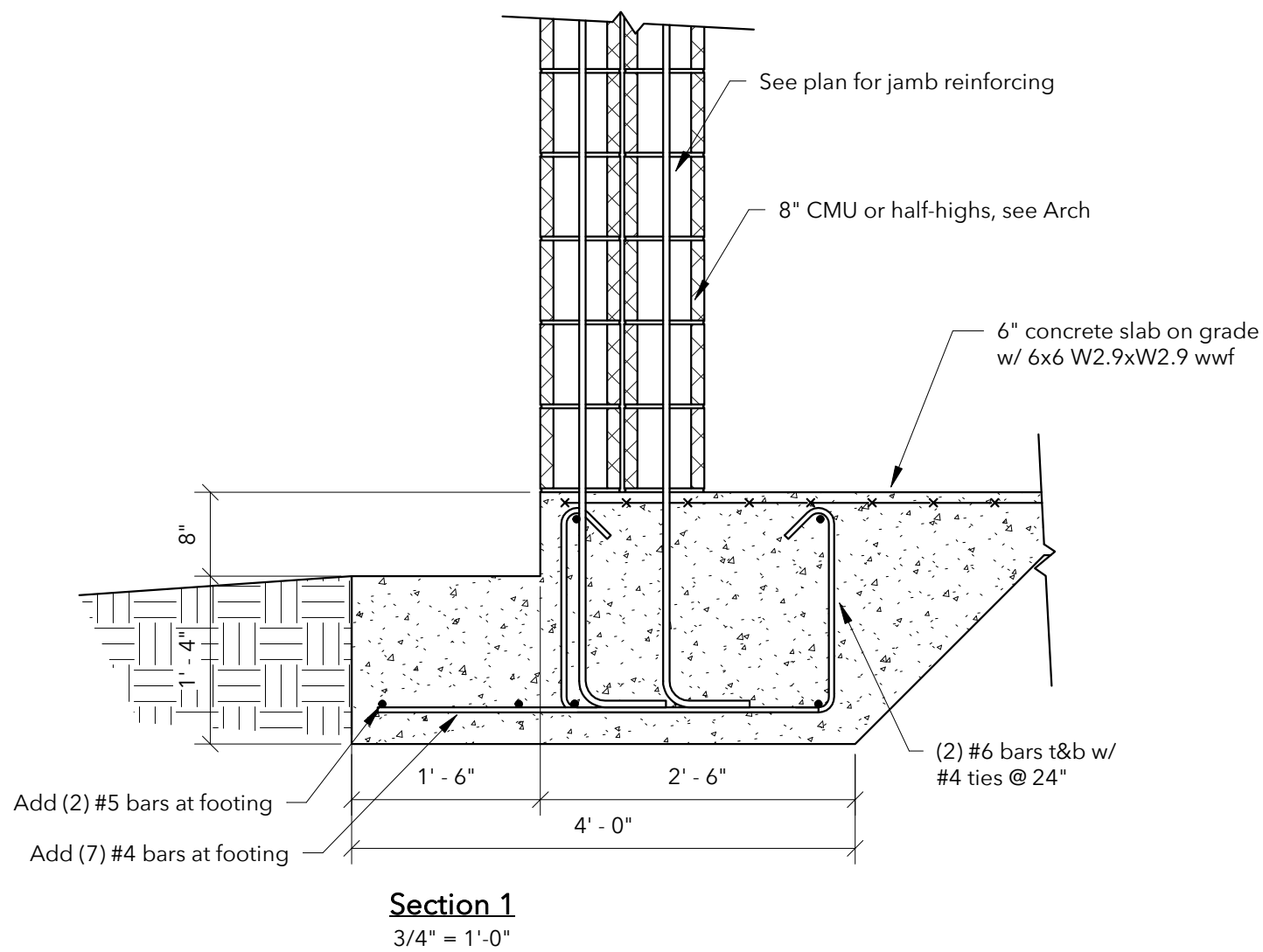
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Foundation Plan

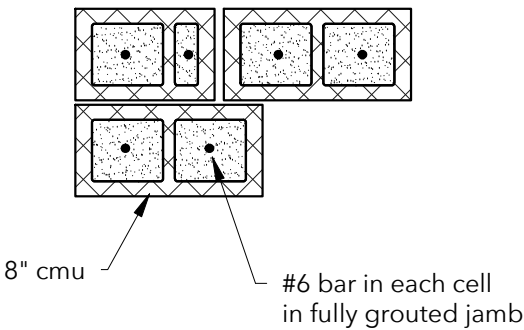
Project number	24004
Date	4/08/24
Drawn by	jcj
Checked by	jd

S1.1

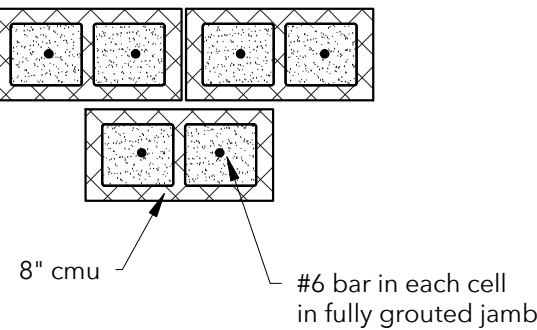
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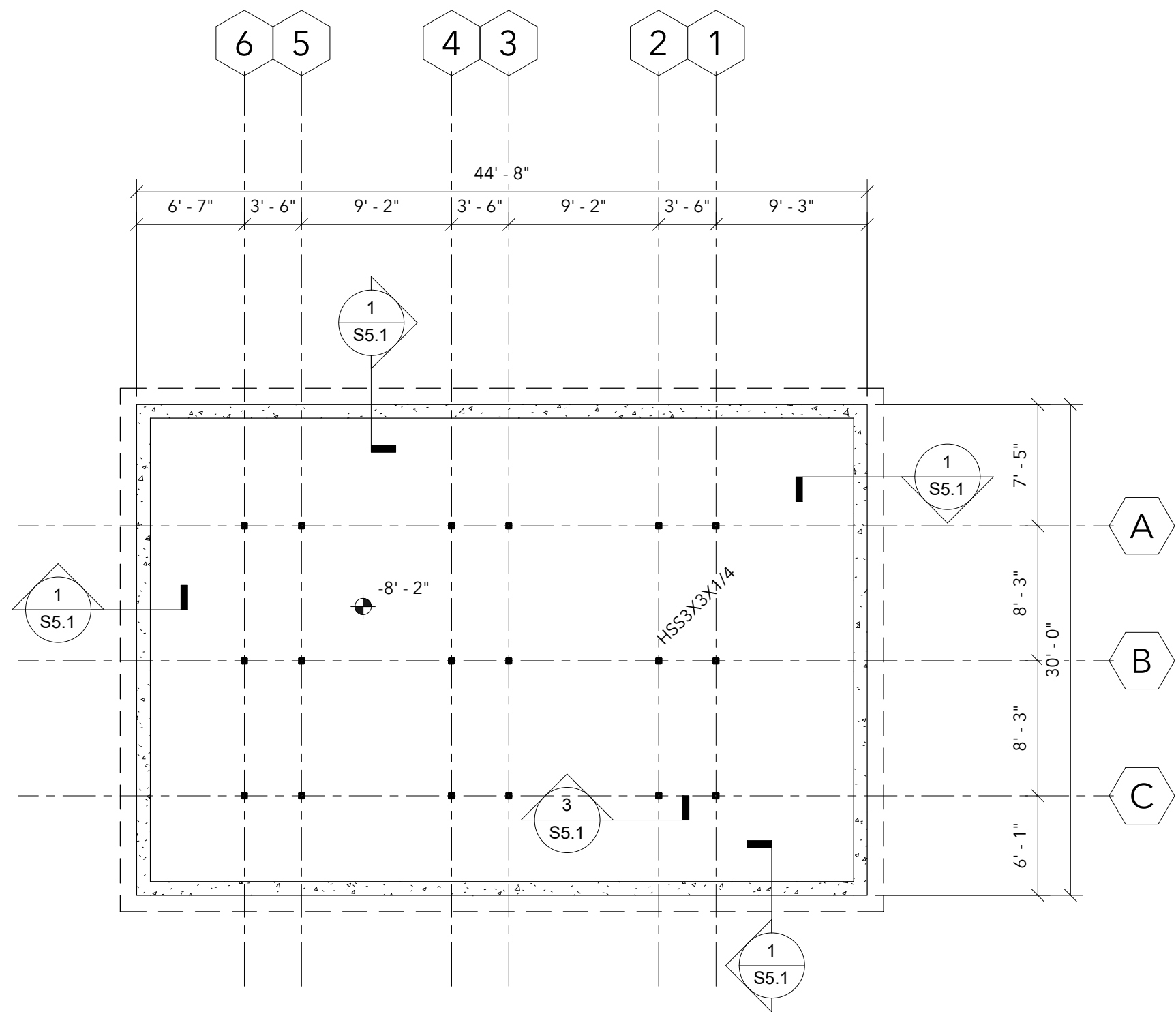
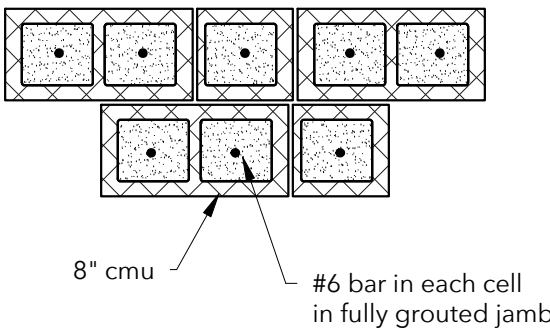
16" Jamb  
Reinforcing



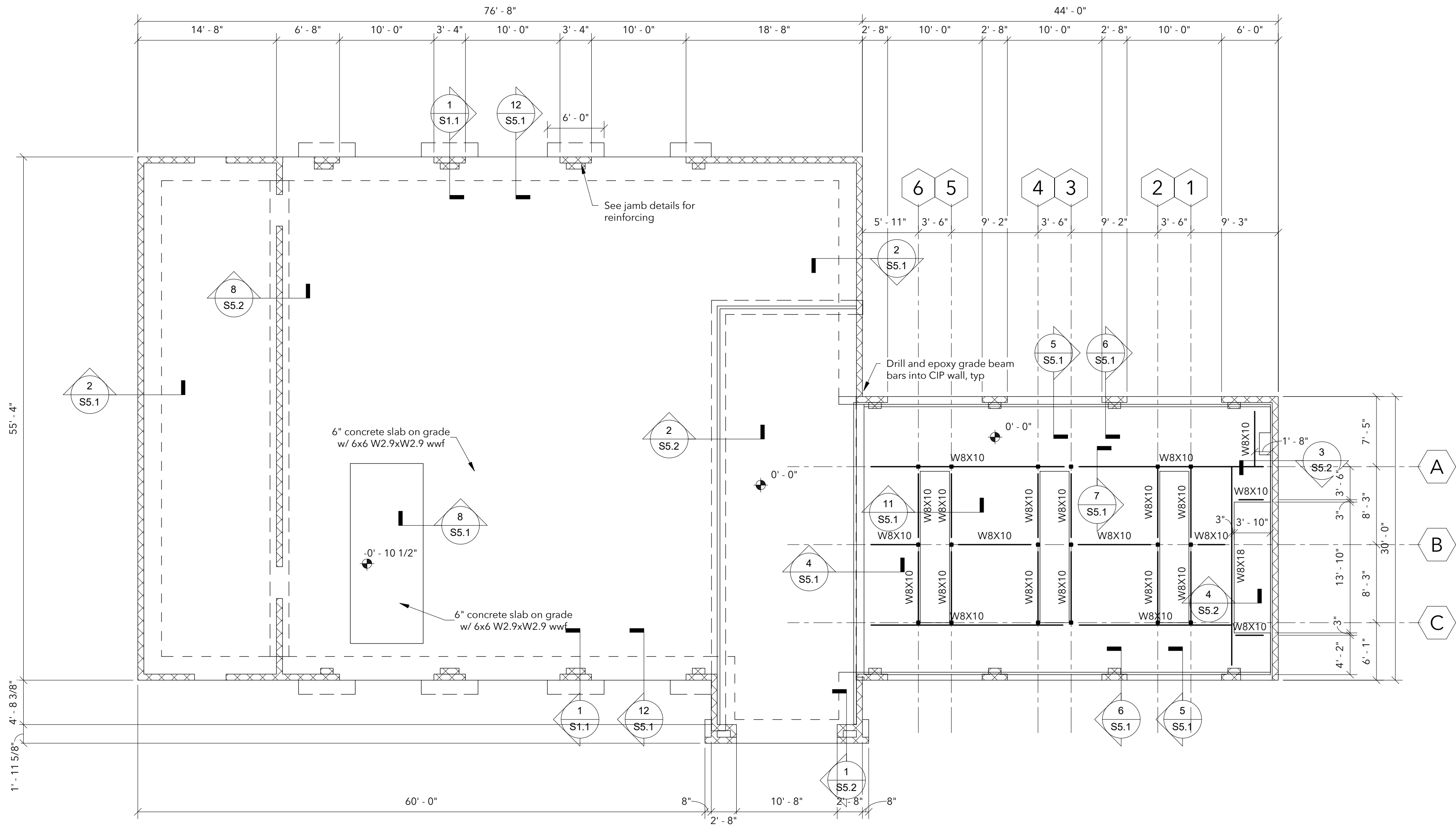
32" Jamb  
Reinforcing



40" Jamb  
Reinforcing



PIT FOUNDATION PLAN  
1/8" = 1'-0"



FOUNDATION PLAN

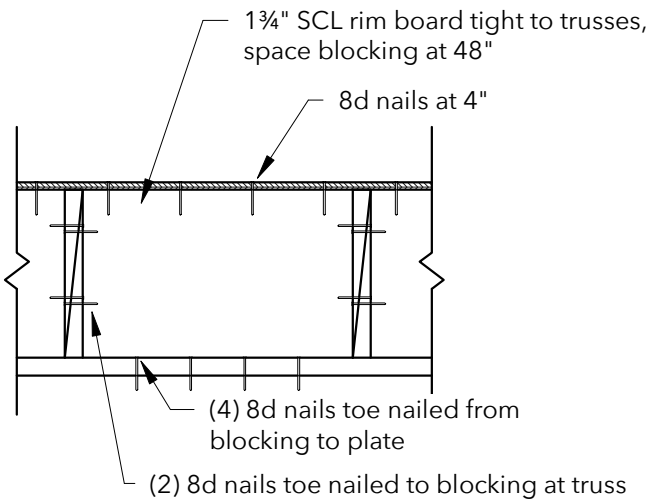
1/8" = 1'-0"

Sheet Notes:

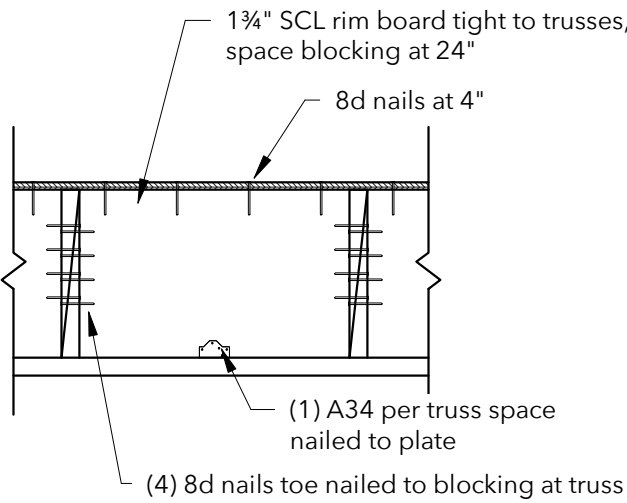
- See Sheet No S0 for typical details and general notes.
- Reference all elevations to finish floor elevation (+)0'-0".
- Floor construction 3" concrete slab with 6x6 W2.9xW2.9 wwf over 2" x 20 ga. galvanized composite metal deck. Total slab thickness = 5". Provide 5/8" dia puddle welds on 36/4 pattern w/ (3) #12 TEK screw sidelap fasteners per span.
- All steel beam reactions shall be designed for 10 kips (ASD) unless noted otherwise.
- Refer to architectural for all dimensions, slopes, elevations, etc. not illustrated on this plan. Coordinate all final dimensions and elevations with architectural.



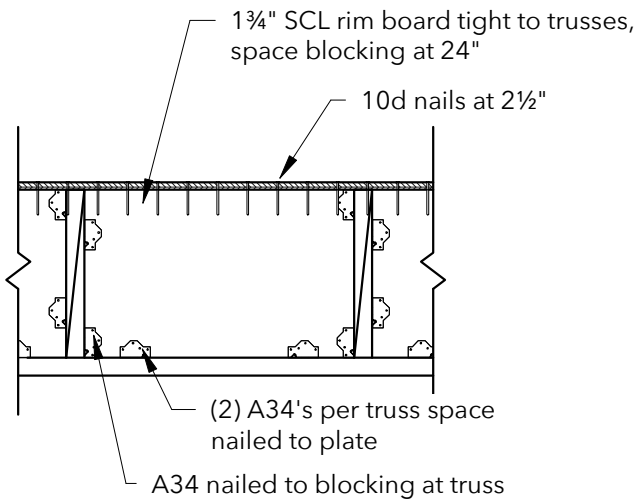
See roof plan for location/extents of blocking conditions



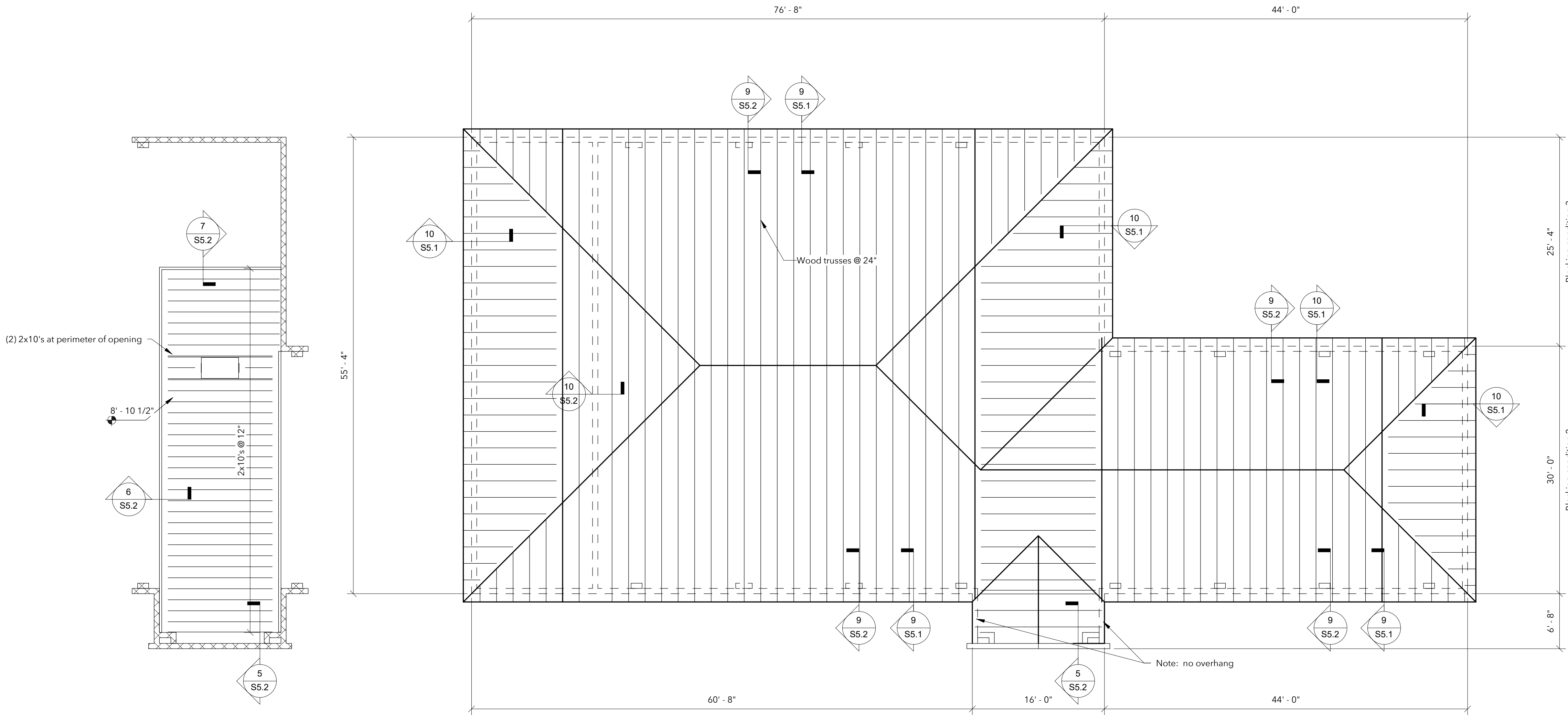
Condition 1  
Typical applies everywhere except where condition 2 and 3 are noted in plan



Condition 2



Condition 3



EQUIPMENT PLATFORM FRAMING PLAN  
1/8" = 1'-0"

ROOF FRAMING PLAN  
1/8" = 1'-0"

- Sheet Notes:**
- See Sheet No S0.x for typical details and general notes.
  - Reference all elevations to finish floor elevation (+) 0'-0"
  - Truss bearing elevation = (+) 15'-5 1/2"
  - Roof slope = 8"/12", unless noted
  - Roof construction 5/8" plywood deck with H-clips. Attach with 8d nails @ 4" o.c..
  - Refer to architectural drawings for all dimensions, slopes, elevations, etc... not illustrated on this plan. Coordinate all final dimensions and elevations with architectural.
  - Truss loading: Top Chord Dead Load = 10 psf, Bottom Chord Dead Load = 10 psf, use Total dead load = 10psf for wind load calculations.
  - Truss requirements: (note that all of these requirements must be included in the truss submittal prior to receiving approval)
    - Furnish design calculations sealed by a Professional Engineer licensed in the state of that the project is located for all truss members.
    - Truss manufacturer shall specify and provide all truss to truss and truss bearing connections, and not contain mention of "by others" in relation to design.
    - Truss manufacturer shall be responsible for providing and illustrating all temporary and permanent bracing required.

Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL

No.	Description	Date

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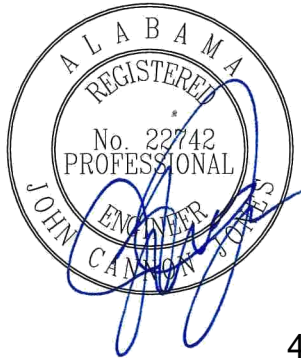
Roof Framing Plan

Project number	24004
Date	4/08/24
Drawn by	jcj
Checked by	jd

S3.1

Scale As indicated





4/08/24

Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL

No.	Description	Date

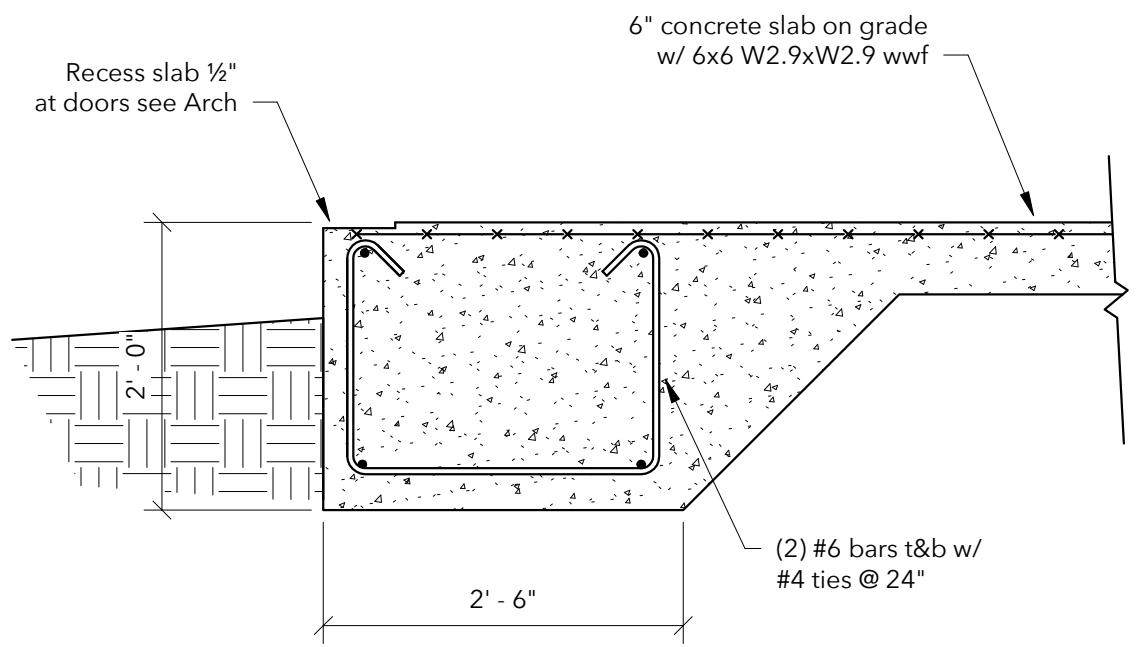
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Sections and  
Details

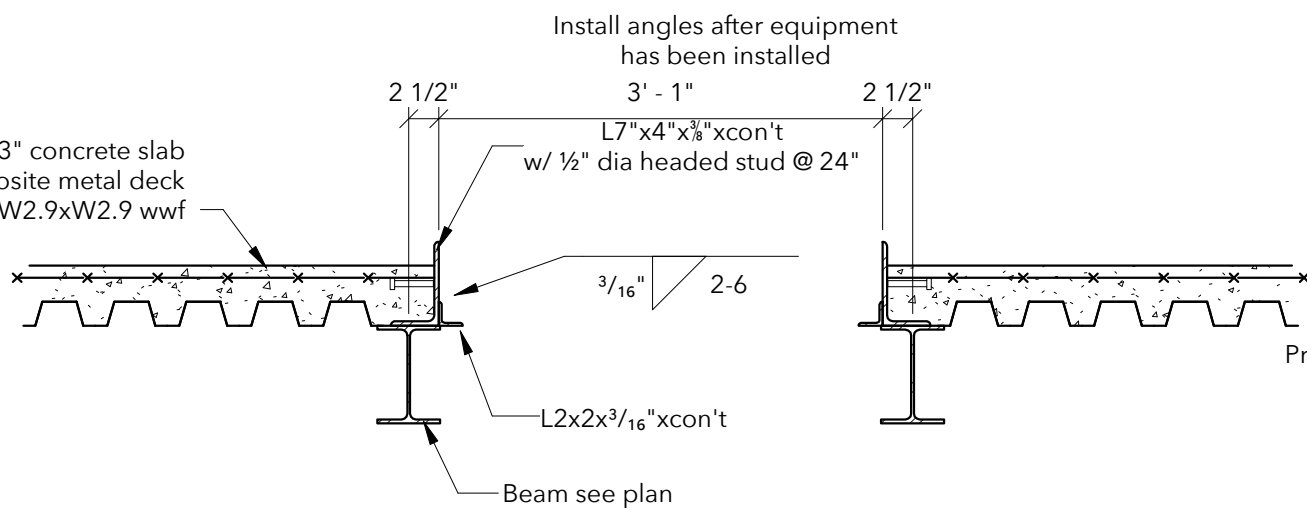
Project number	24004
Date	4/08/24
Drawn by	jcj
Checked by	jd

S5.1

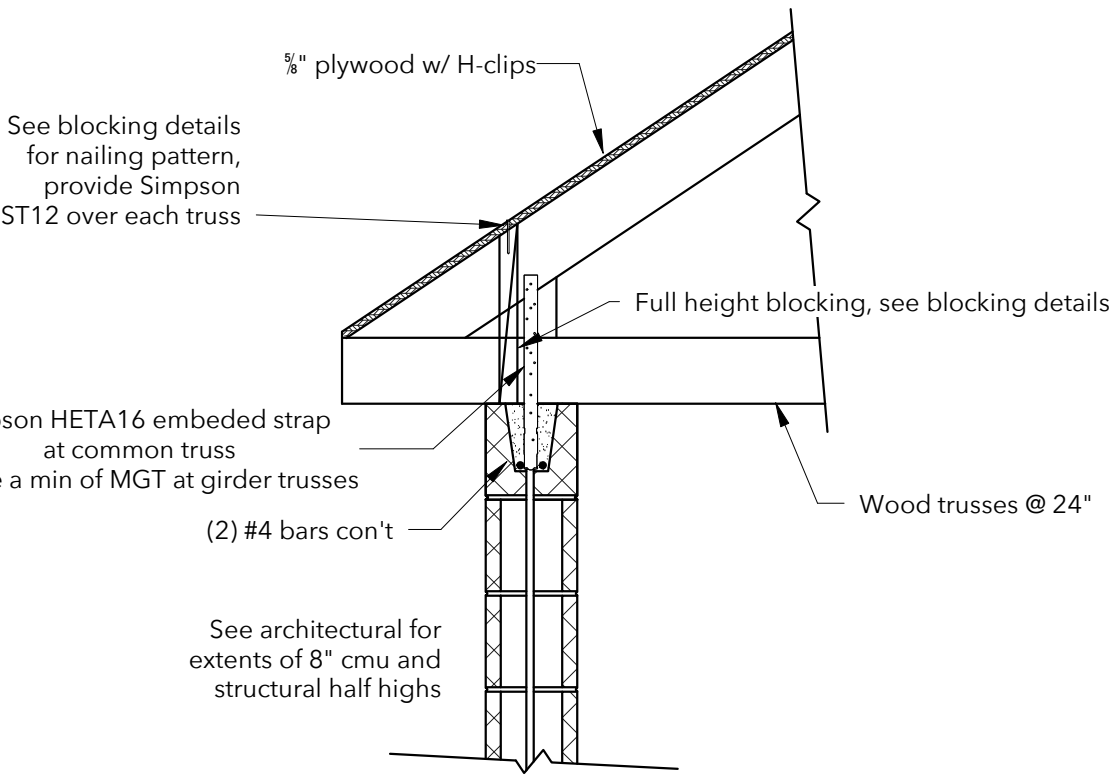
Scale 3/4" = 1'-0"



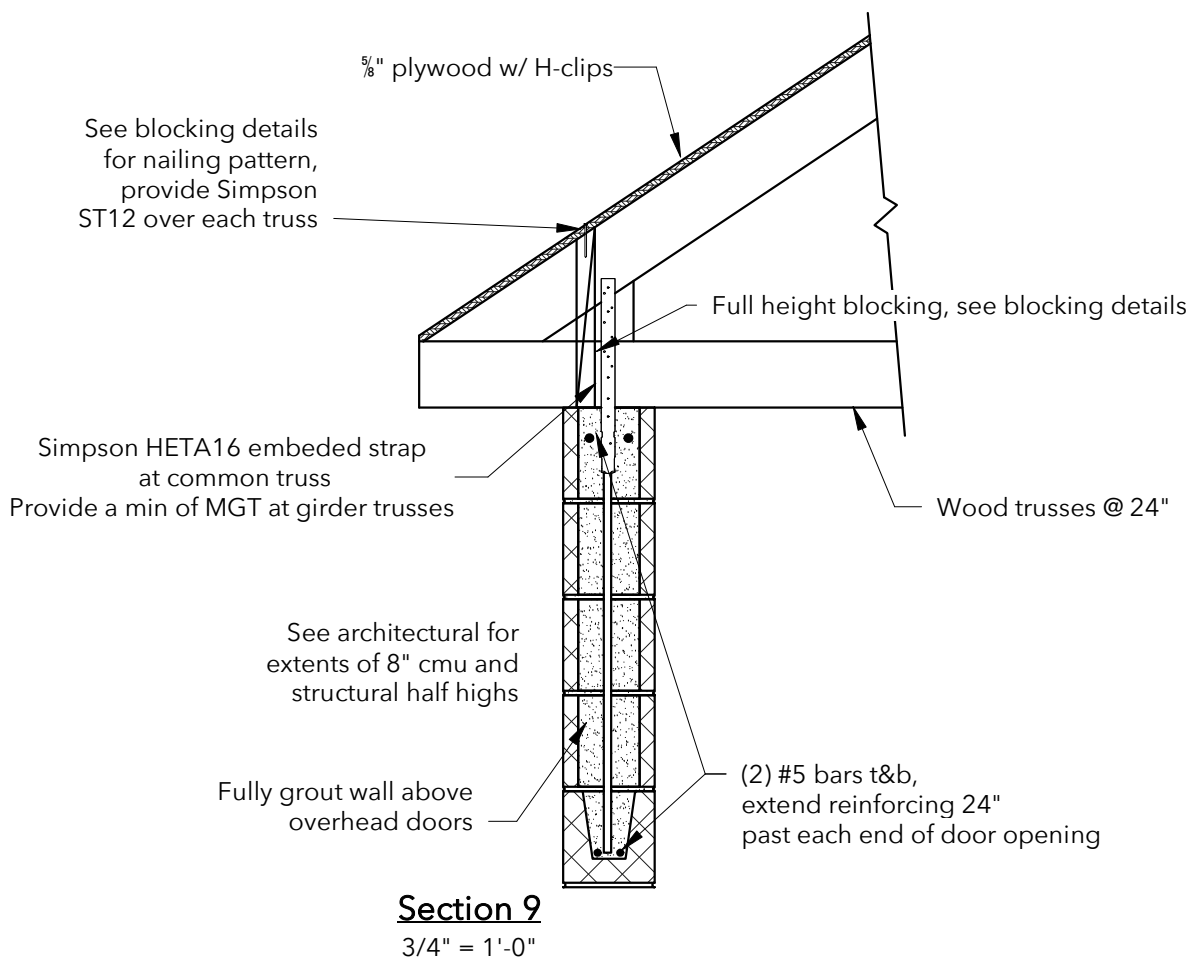
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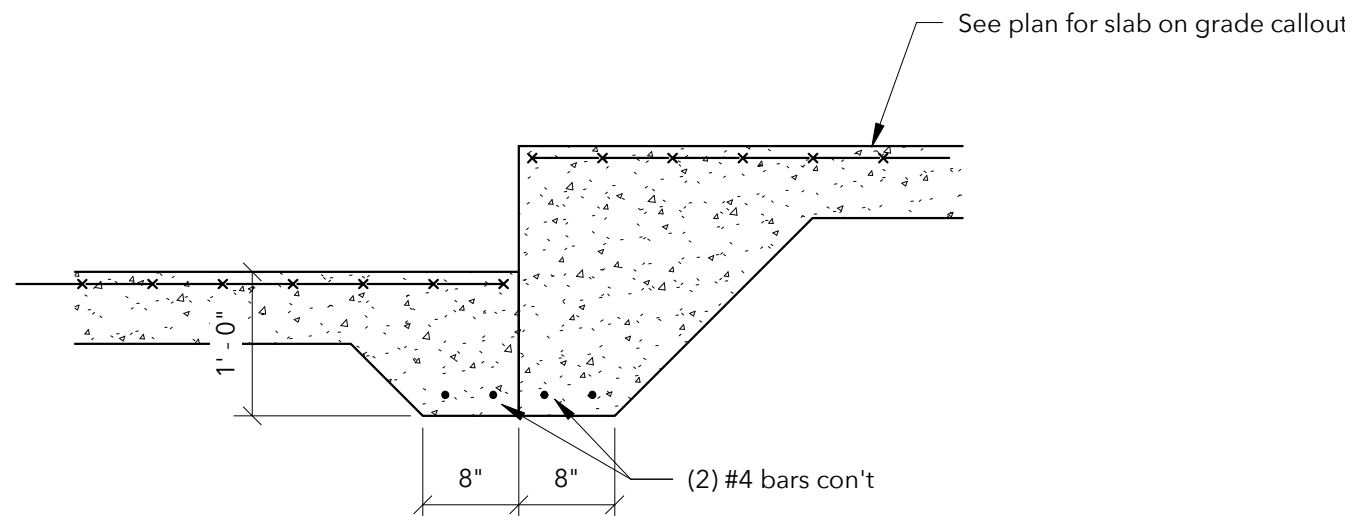
Section 11  
3/4" = 1'-0"



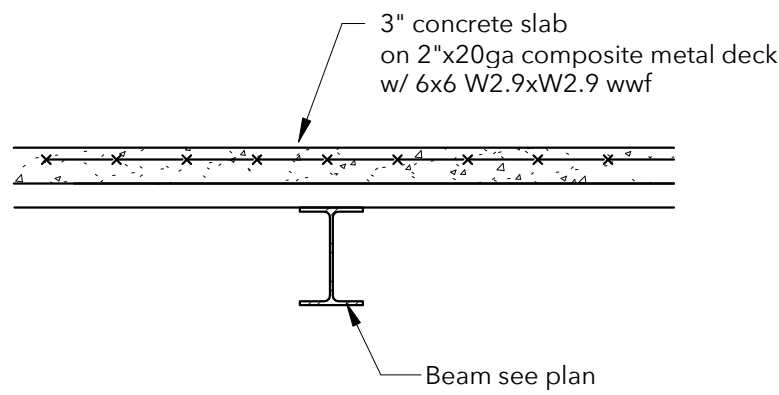
Section 10  
3/4" = 1'-0"



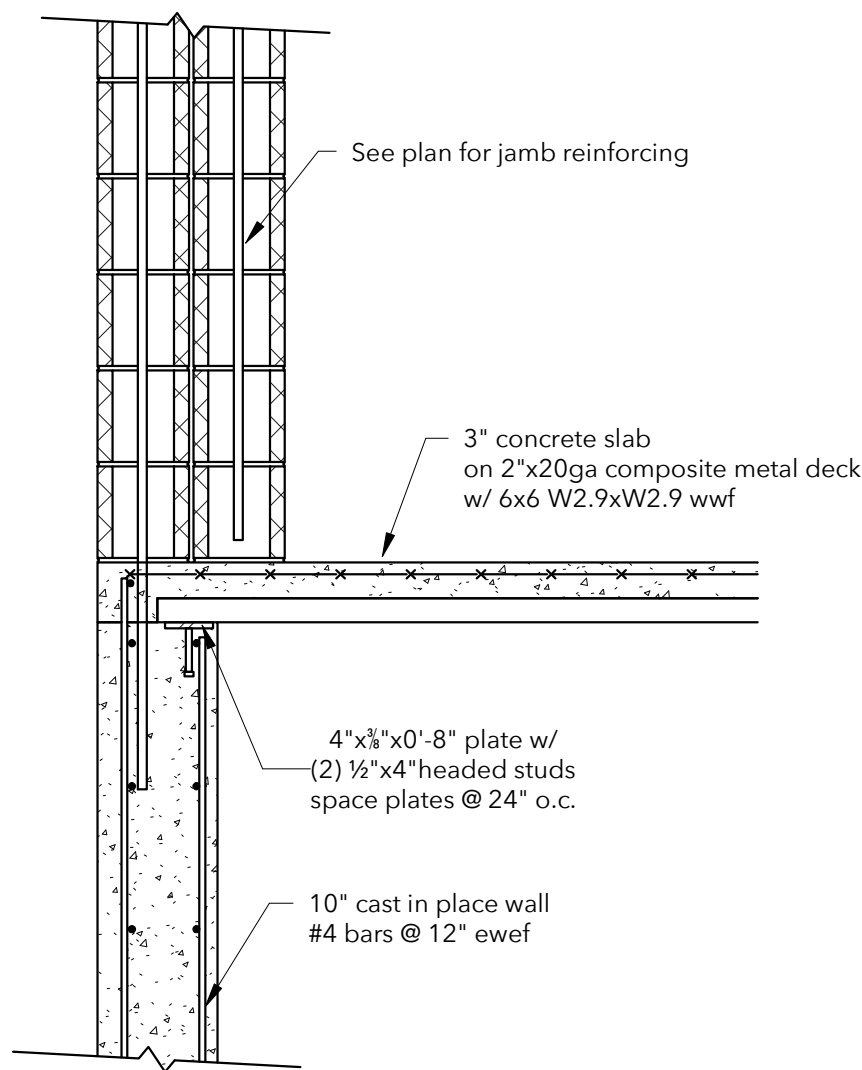
Section 9  
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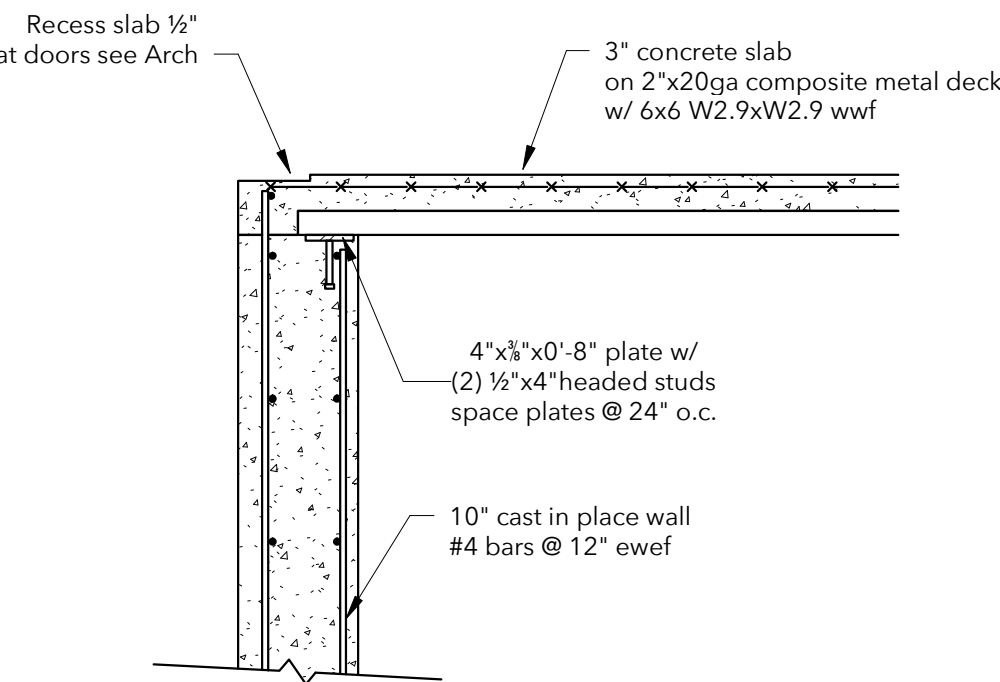
Section 8  
3/4" = 1'-0"



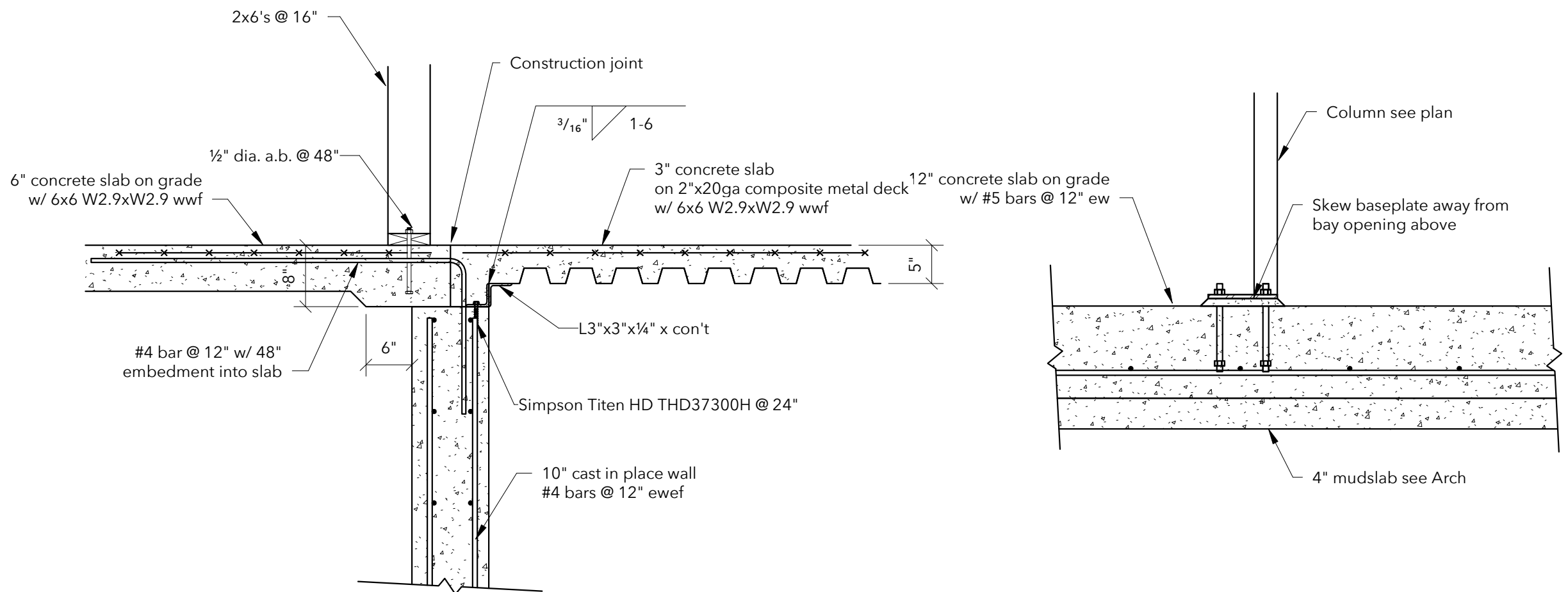
Section 7  
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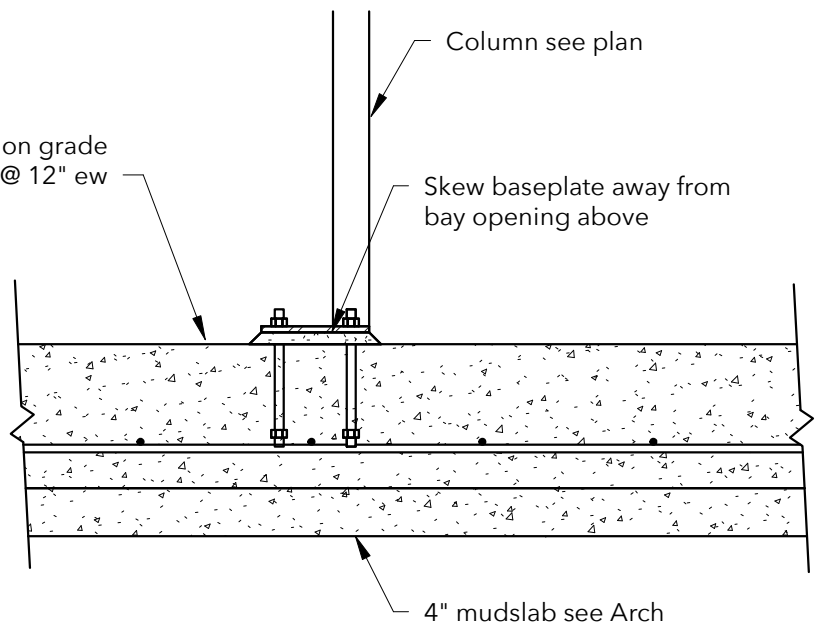
Section 6  
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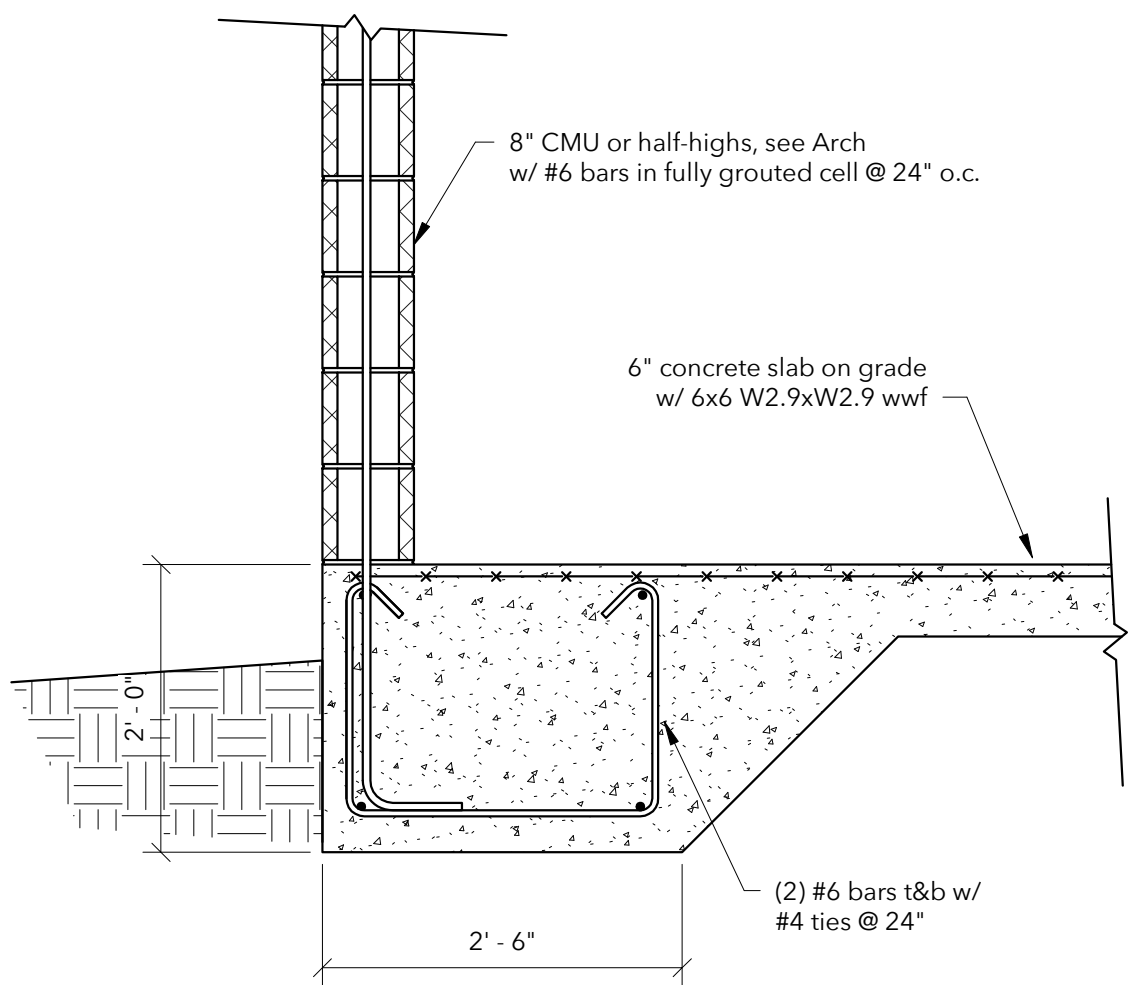
Section 5  
3/4" = 1'-0"



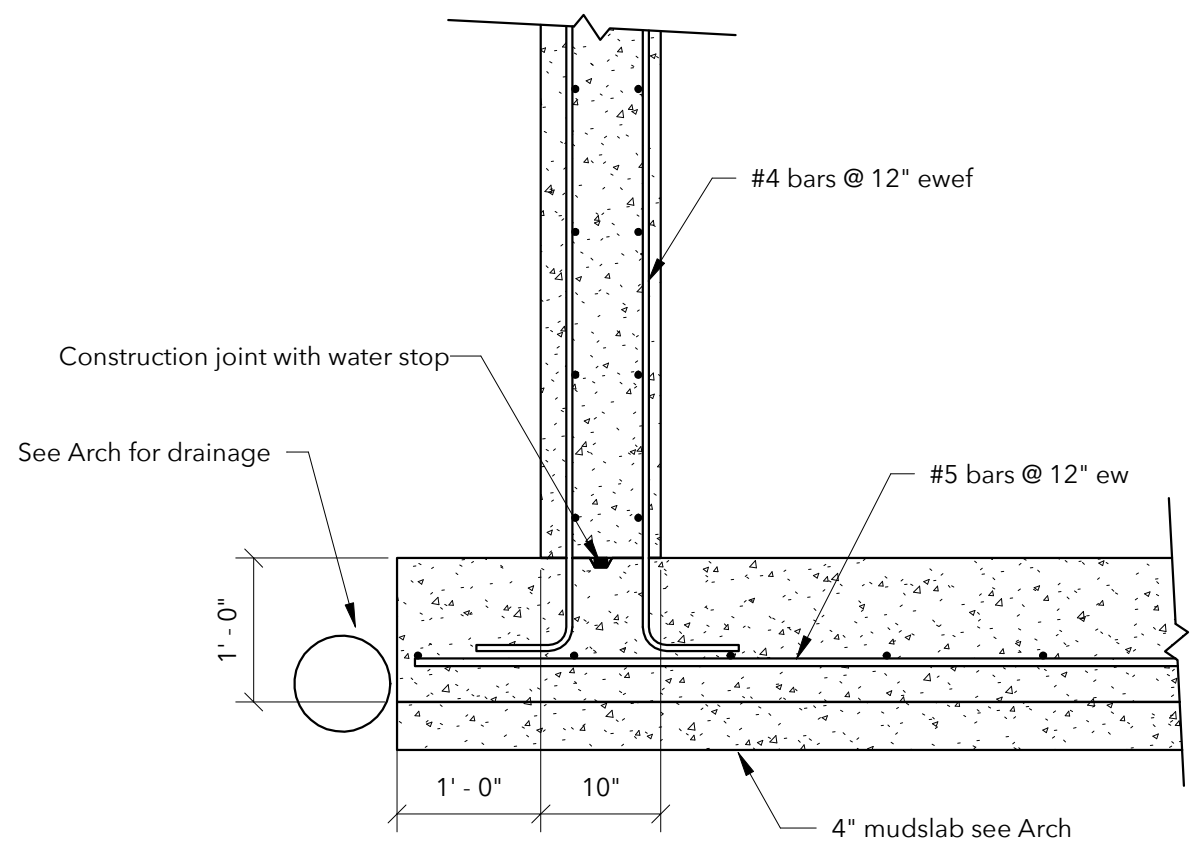
Section 4  
3/4" = 1'-0"



Section 3  
3/4" = 1'-0"

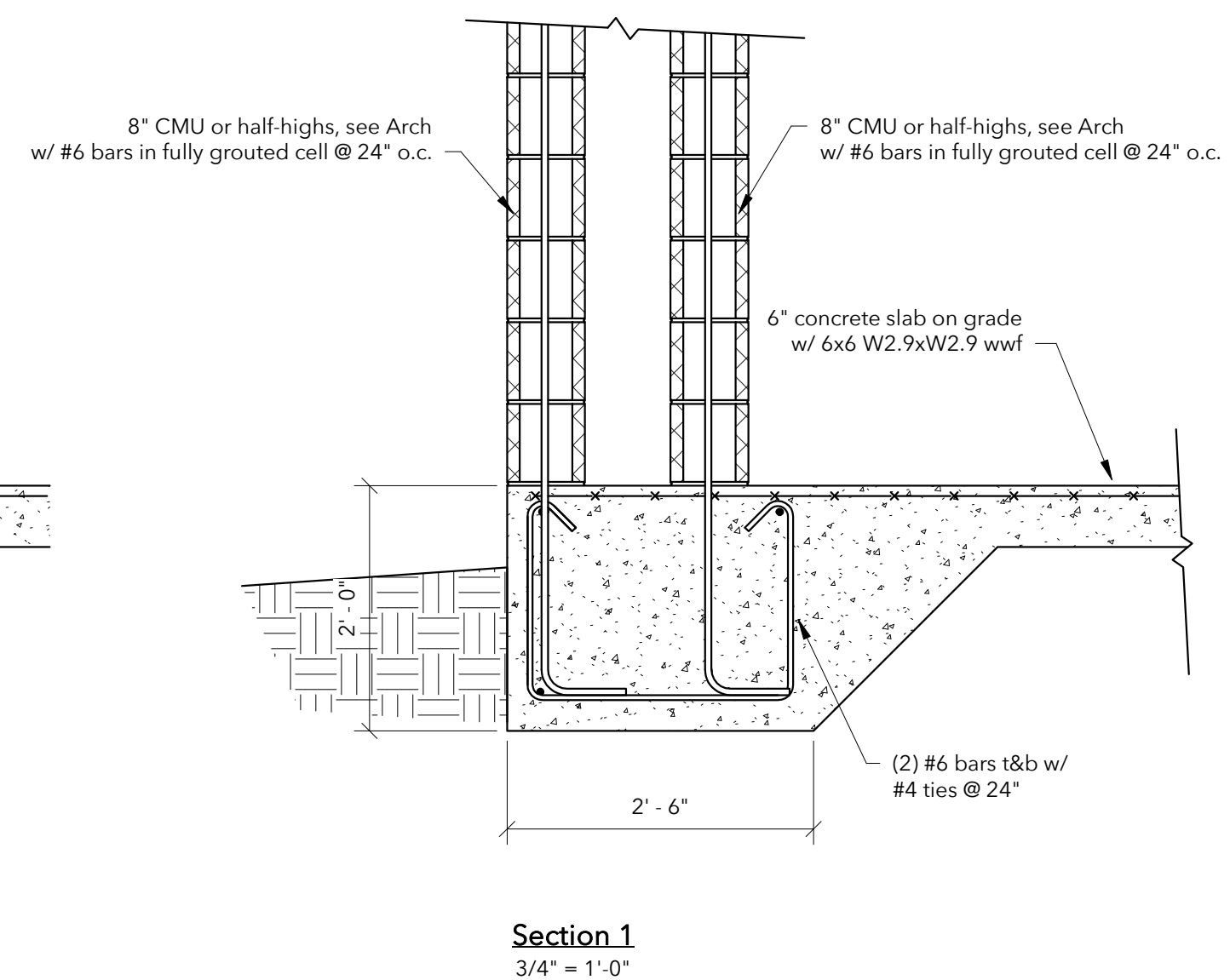
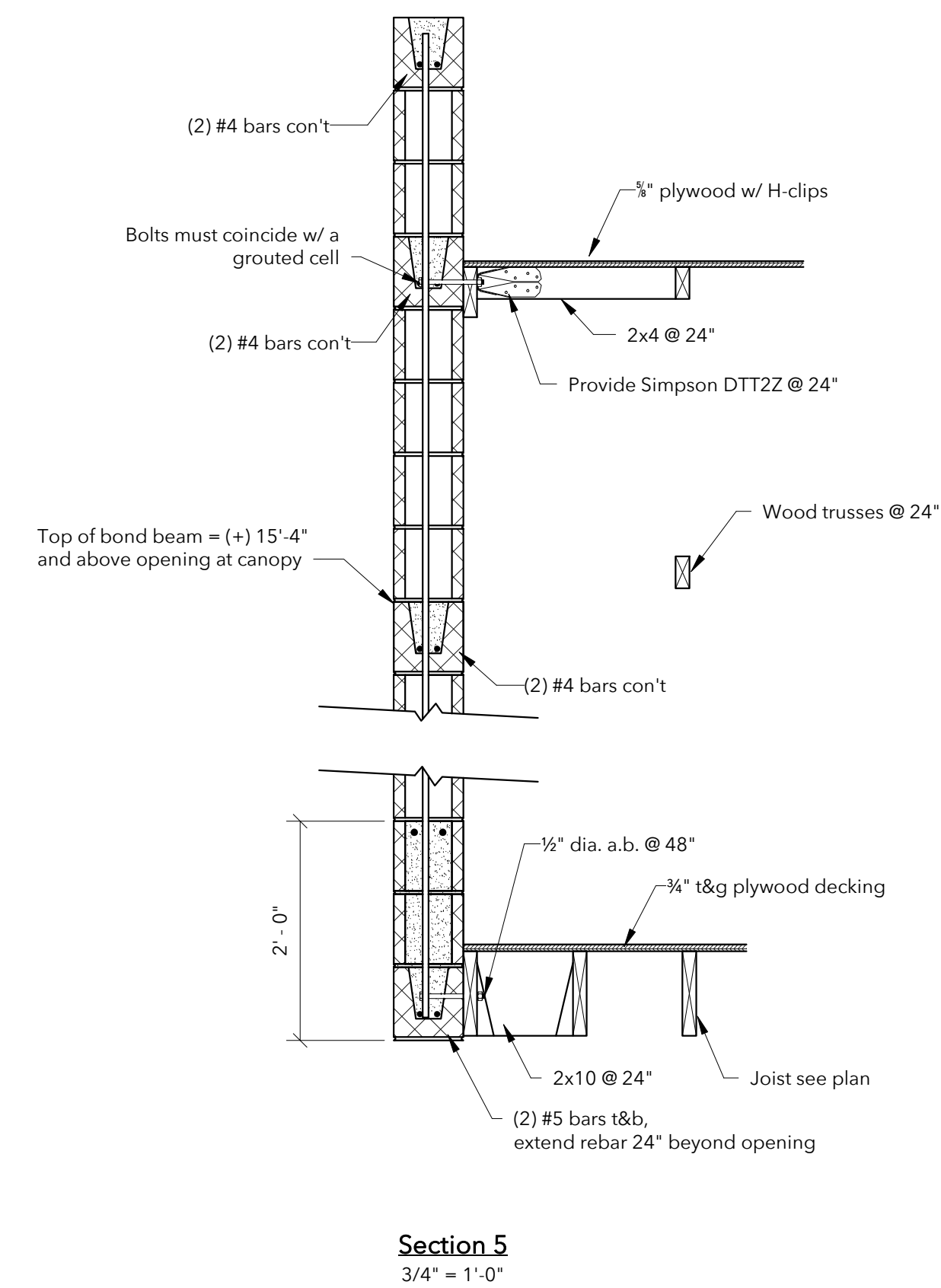
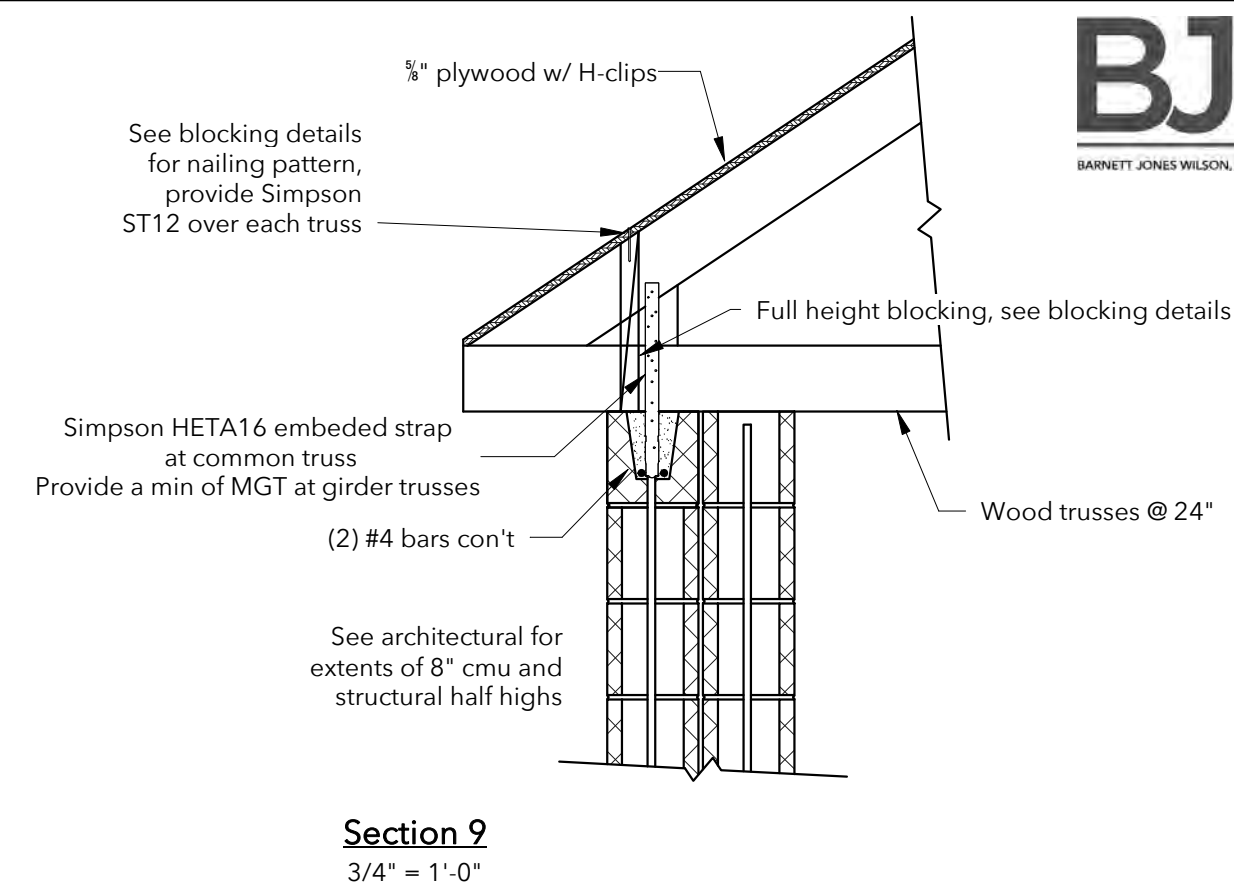
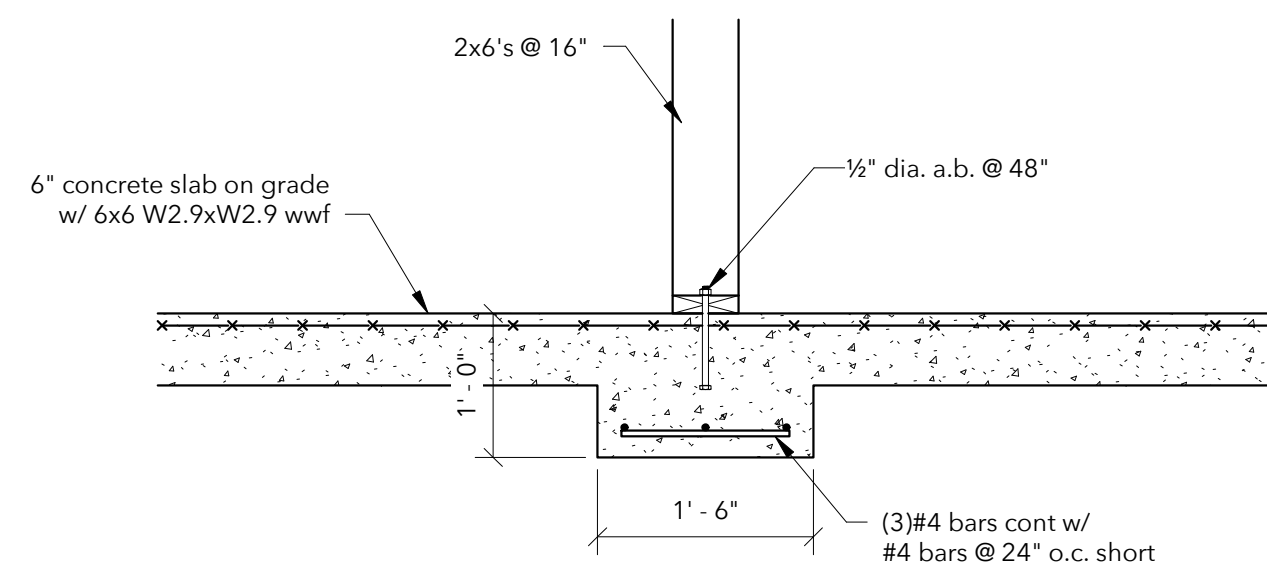
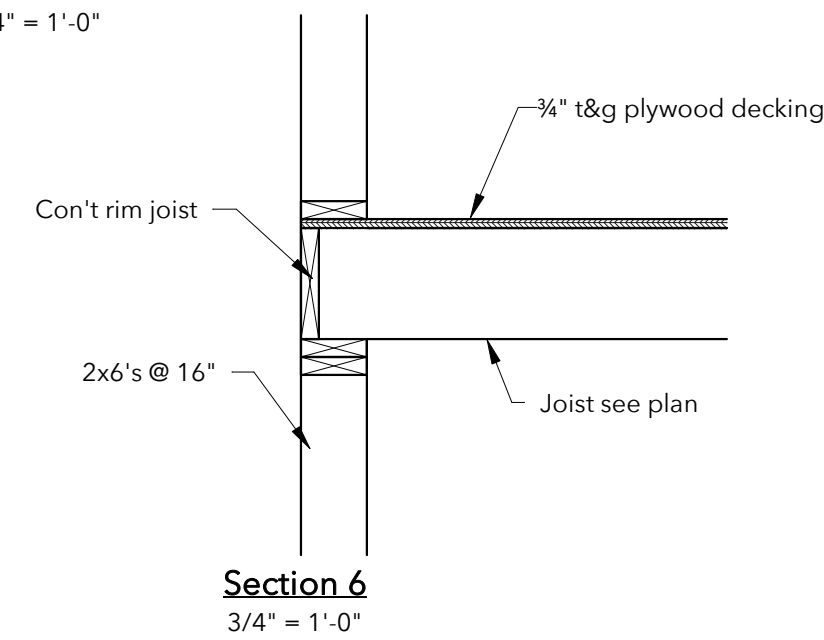
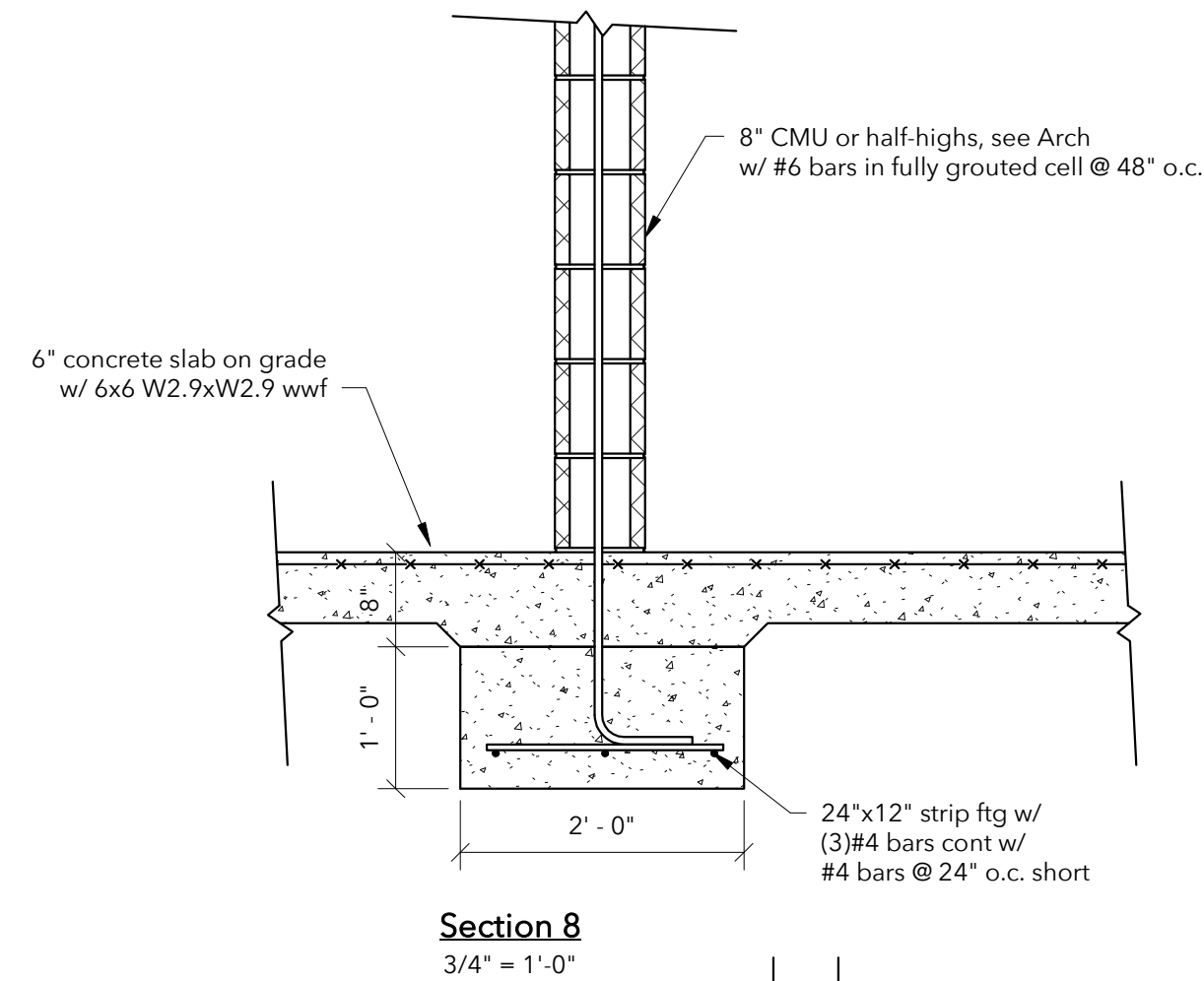
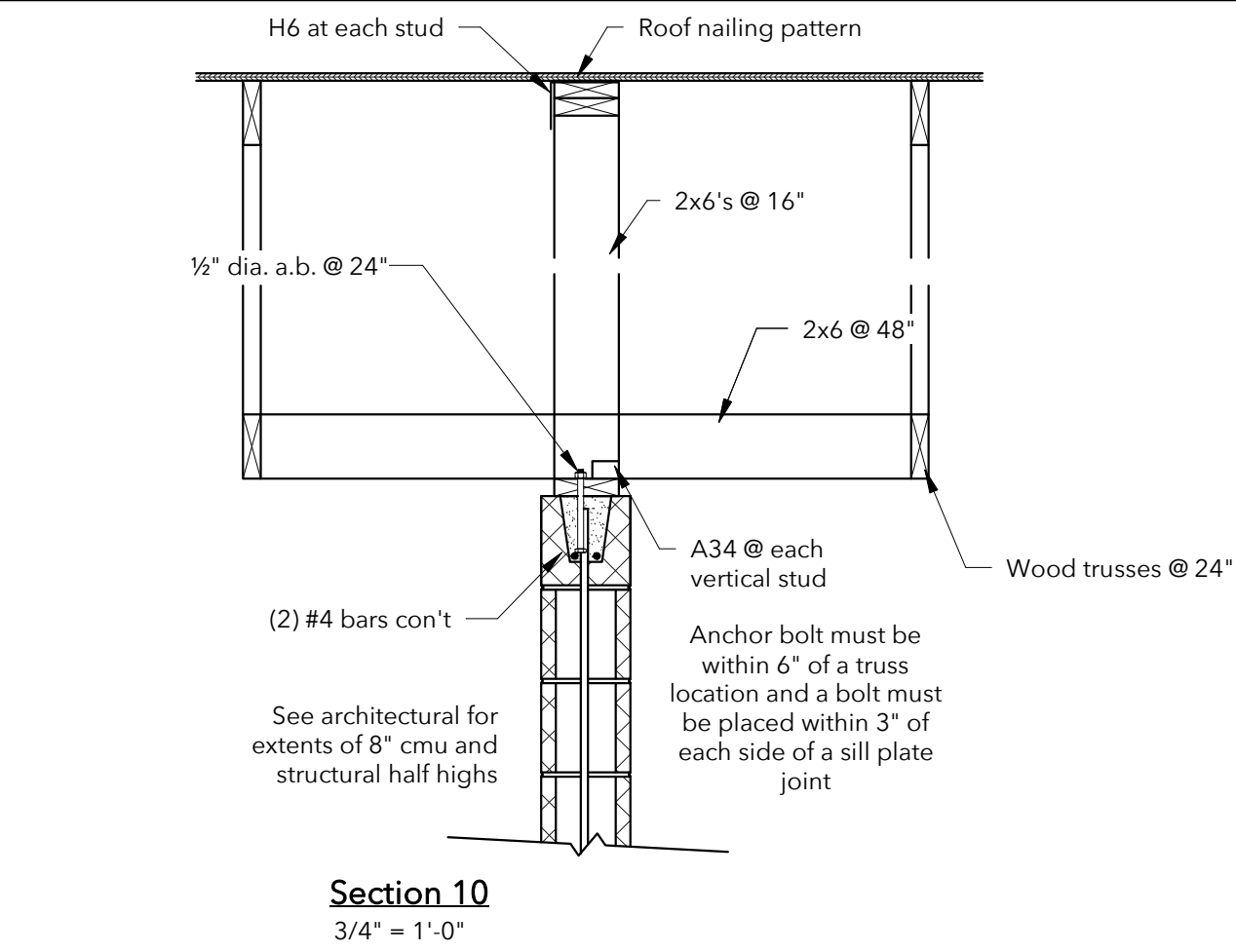
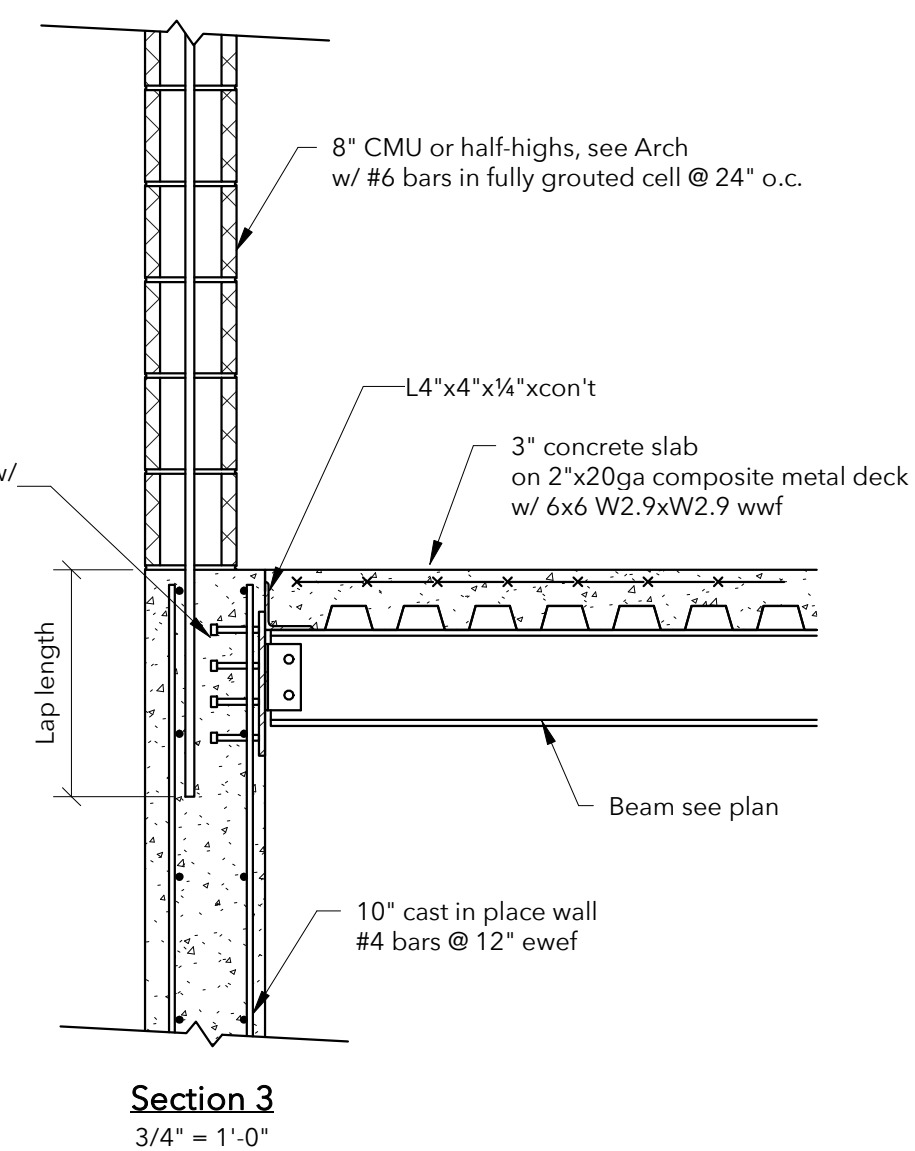
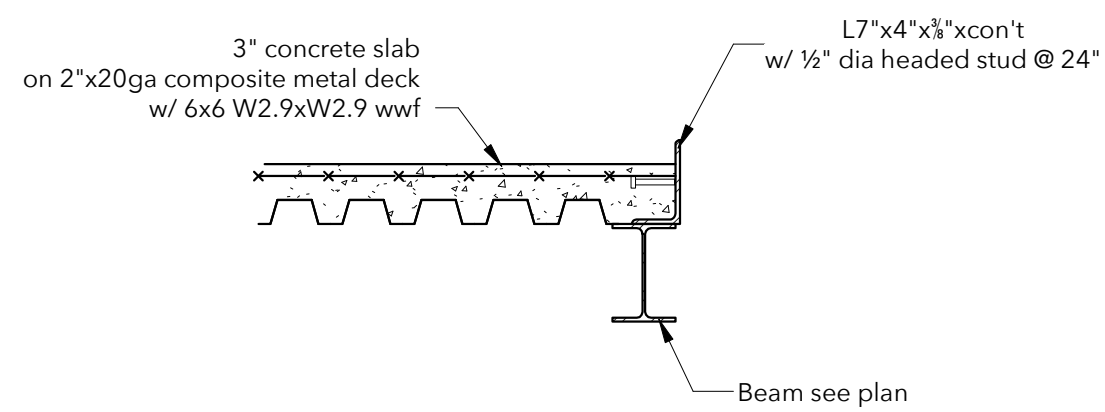
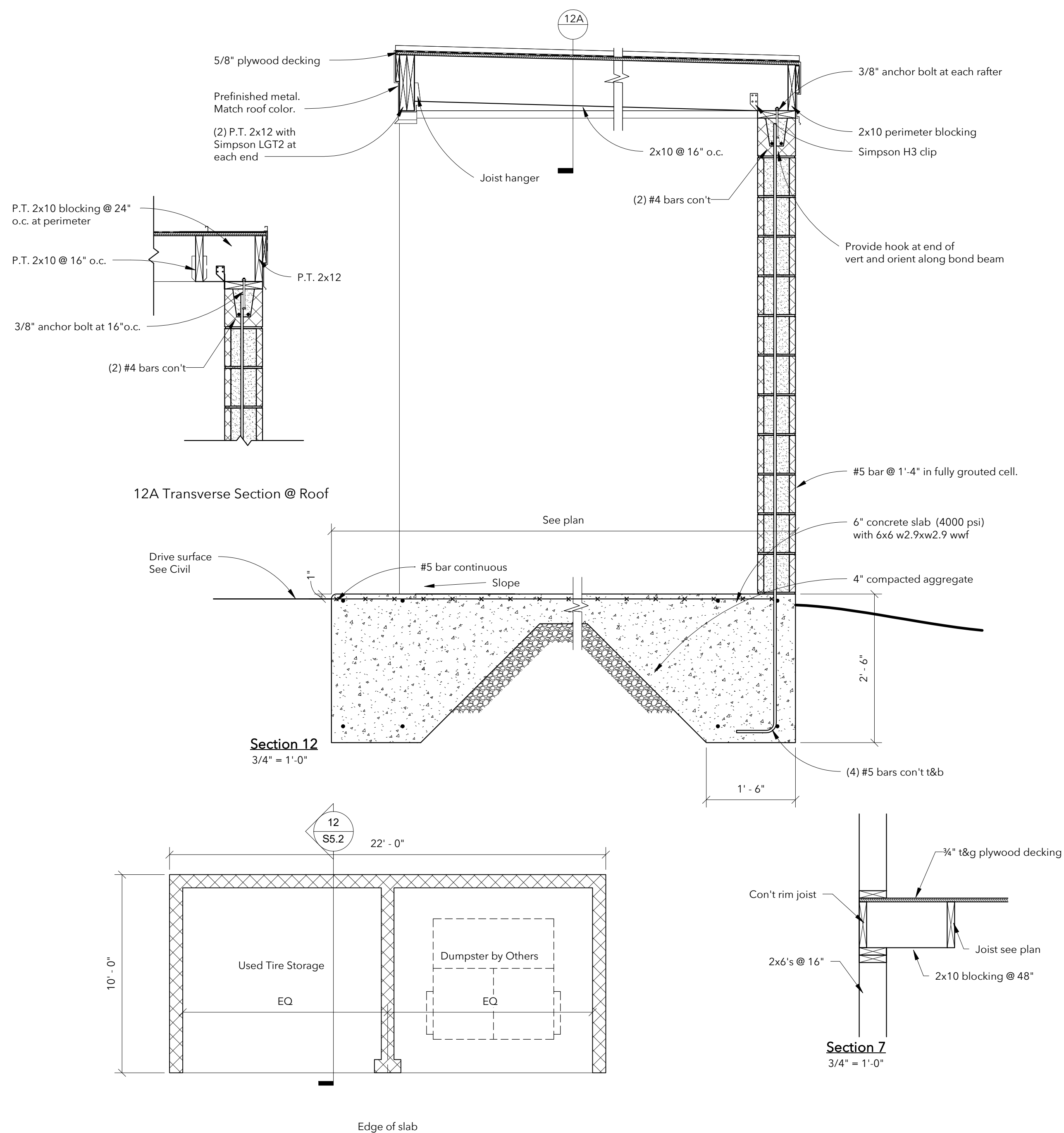


Section 2  
3/4" = 1'-0"



Section 1  
3/4" = 1'-0"



[illegible]

## Sections and Details

Project number	24004
Date	4/08/24
Drawn by	jcj
Checked by	jd

## S5.2

Scale	As indicated
-------	--------------



12x20

DUCT SIZE, FIRST FIGURE IS SIDE SHOWN  
INSIDE CLEAR DIMENSION UNLESS NOTED OTHERWISE

24x12

LOW PRESSURE, RECTANGULAR (GALVANIZED STEEL)

20"ø

ROUND (GALVANIZED STEEL)

FLEXIBLE DUCT

R

DUCT RISE

D

DUCT DROP

EXISTING DUCTWORK TO REMAIN

DUCT TRANSITION

RECTANGULAR TO ROUND DUCT TRANSITION

TURNING VANES

FD

FIRE DAMPER AND SLEEVE, PROVIDE ACCESS DOOR

SD

SMOKE DAMPER AND SLEEVE, PROVIDE ACCESS DOOR

SDFD

COMBINATION FIRE/SMOKE DAMPER, PROVIDE ACCESS DOOR

MANUAL VOLUME DAMPER

STANDARD 45° BRANCH, SUPPLY OR RETURN, NO SPLITTER

STANDARD 45° BRANCH, SUPPLY OR RETURN, NO SPLITTER,  
WITH MANUAL VOLUME DAMPER

CONICAL SPIN-IN FITTING WITH BUTTERFLY DAMPER

GRILLE OR REGISTER, CEILING

A

ACCESS DOOR

D

CONDENSATE DRAIN PIPING

AD

AUXILIARY CONDENSATE DRAIN PIPING

R

REFRIGERANT PIPING (2 LINES TOTAL)

ELBOW, 90° (LONG RADIUS)

TEE

TEE, TURNED UP

TEE TURNED DOWN

ELBOW, TURNED DOWN

ELBOW, TURNED UP

①

WALL MOUNTED THERMOSTAT

②

WALL MOUNTED HUMIDISTAT

③

WALL MOUNTED TEMPERATURE SENSOR

SMOKE DETECTOR

TIE NEW INTO EXISTING

UC

UNDERCUT DOOR 3/4 INCHES

SUPPLY AIR FLOW

RETURN OR EXHAUST AIR FLOW

ABBREVIATIONS

AB, CL'G

ABOVE CEILING

ABV.

ABOVE

AC

ALTERNATING CURRENT

A/C

AIR COMPRESSOR

AFF

ABOVE FINISHED FLOOR

AHU

AIR HANDLING UNIT

AI

ANALOG INPUT

ALT.

ALTERNATE

AMP

AMPERE

AO

ANALOG OUTPUT

APPROX.

APPROXIMATELY

ARCH.

ARCHITECTURAL

AVG

AVERAGE

B

BOILER

BTU

BRITISH THERMAL UNIT

CFM

CUBIC FEET PER MINUTE

CH

CHILLER

CHWP

CHILLED WATER PUMP

CLS

CEILING

CT

COOLING TOWER

CU

CONDENSING UNIT

CWP

CONDENSER WATER PUMP

DEFL

DEFLECTION

DET

DETAIL

DI

DIGITAL INPUT

DIA

DIAMETER

Ø

DIAMETER

DO

DIGITAL OUTPUT

EDB

ENTERING DRY BULB

ELEC.

ELECTRICAL

ELEV.

ELEVATION

EWB

ENTERING WET BULB

EWT

ENTERING WATER TEMPERATURE

EXH

EXHAUST

EXIST.

EXISTING

°F

DEGREES FAHRENHEIT

GFF

GAS FIRED FURNACE

GPM

GALLONS PER MINUTE

FPM

FEET PER MINUTE

FPS

FEET PER SECOND

FT

FOOT OR FEET

HD.

HEAD

HP

HORSE POWER

HR

HOURS(S)

HT

HEIGHT

HTR

HEATER

HVAC

HEATING, VENTILATION AND AIR CONDITIONING

HWP

HOT WATER PUMP

HX

HEAT EXCHANGER

HZ

FREQUENCY (HERTZ)

ID

INSIDE DIAMETER

IN.

INCHES

KW

KILOWATT

KWH

KILOWATT HOUR

MAX

MAXIMUM

MBH.

1000 BTU PER HOUR

MECH.

MECHANICAL

MFR.

MANUFACTURER

MIN

MINIMUM

NO.

NUMBER

N/A

NOT APPLICABLE

NC

NOISE CRITERIA

O.D.

OUTSIDE DIAMETER

OA

OUTSIDE AIR

Ø

OVAL DUCTWORK

ORIG.

ORIGINAL

PH

PHASE

PIU

POWERED INDUCTION UNIT

PRESS

PRESSURE

RTN

RETURN AIR

RTU

ROOFTOP AIR HANDLING UNIT

SDC

STAND ALONE DIGITAL CONTROLLER

SENS

SENSIBLE

SQ.

SQUARE

SPLY

SUPPLY

TEMP

TEMPERATURE

VAV

VARIABLE AIR VOLUME

W

WATT

W/

WITH

W.P.D.

WATER PRESSURE DROP

NUMBER OF DUPLICATE  
AIR DEVICES DESIGNATED  
BY THIS SYMBOL (3)

NECK SIZE IN INCHES  
(12"x12")

AIR QUANTITY DELIVERED BY  
DEVICE IN CFM (250 CFM)

CDAA4

12x12

250

FIRST THREE LETTERS  
REFERENCE AIR DEVICE  
TYPE IN SPECIFICATIONS  
(CDA)

FOURTH CHARACTER INDICATES  
BLOW PATTERN (4-WAY).

NOTE: THIS LEGEND IS FOR REFERENCE ONLY.  
ALL SYMBOLS WHICH APPEAR WITHIN THE  
LEGEND MAY NOT APPLY TO THIS PROJECT.

1

MEP##

AIR DEVICE LEGEND  
NO SCALE

AIR HANDLING UNIT SCHEDULE																									
EQUIPMENT NO.	MANUFACTURER/ MODEL NO.	CFM	OA CFM	E.S.P. (IN. W.C.)	FAN		COOLING CAPACITY				ELECTRIC HEAT			DISCONNECT	ELECTRICAL				MOUNTING	WEIGHT (LBS.)	REMARKS				
					H.P.	DRIVE	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	TOTAL (KW) (208v)	TOTAL (KW) (240v)	STAGES		VOLTS/PH./HZ. 208/1/60		VOLTS/PH./HZ. 240/1/60								
															UNIT MCA	UNIT MOCP	UNIT MCA	UNIT MOCP							
AHU-1	TRANE TEMA0B30	975	150	0.50	0.5	--	80	67	58.6	57.7	10.8	14.4	1	BY DIV. 26	73	80	83	90	HORIZONTAL	150	1), 2), 3)				

REMARKS:  
1) SUSPEND UNIT FROM STRUCTURE PER DETAIL.  
2) PROVIDE UNIT WITH SINGLE POINT POWER CONNECTION.  
3) PROVIDE WITH 1" THROWAWAY FILTERS.

OUTDOOR HEAT PUMP SCHEDULE																			
EQUIPMENT NO.	MANUFACTURER/ MODEL NO.	SERVICE	COOLING CAPACITY NOMINAL (TONS)	AMBIENT TEMP. (F)	HEATING CAPACITY MBH	AMBIENT TEMP. (F)	DISCONNECT	ELECTRICAL				SEER	HSPF	WEIGHT (LBS.)	REMARKS				
								VOLTS/PH./HZ. 208/1/60	VOLTS/PH./HZ. 240/1/60	UNIT MCA	UNIT MOCP								
HP-1	TRANE 4TWR4030	AHU-1	2.5	95	28	47	BY DIV. 26	17	25	17	25	14.5	8.2	--	1), 2)				

REMARKS:  
1) PROVIDE WITH LOW AMBIENT CONTROLS.  
2) LOCATE UNIT ON HOUSEKEEPING PAD. ANCHOR UNIT TO PAD WITH EXPANSION BOLTS.

POWER VENTILATOR SCHEDULE																		
EQUIPMENT NO.	MANUFACTURER/ MODEL NO.	CFM	E.S.P. (IN. W.C.)	RPM	MAX. SONES	ELECTRICAL			LOCATION	TYPE	DRIVE	WGT (LBS.)	REMARKS					
						DISCONNECT	MOTOR STARTER	WATTS										
EF-1	COOK GC-146	70	0.35	849	1.5	BY DIV. 26	BY DIV. 23	32	115/1/60	CEILING	CENTRIFUGAL	DIRECT	1), 3), 5)					
EF-2	COOK GC-146	70	0.35	849	1.5	BY DIV. 26	BY DIV. 23	32	115/1/60	CEILING	CENTRIFUGAL	DIRECT	1), 3), 5)					
EF-3	COOK 180W10D	3000	0.25	1058	13.5	BY DIV. 26	BY DIV. 23	3/4 HP	115/1/60	WALL	CENTRIFUGAL	DIRECT	2), 3)					
EF-4	COOK 24XP28D102	4200	0.25	971	15.8	BY DIV. 26	BY DIV. 23	3/4 HP	115/1/60	WALL	PROPELLER	DIRECT	2), 4)					
VF-1	COOK REBE	150	0.25	864	3.3	BY DIV. 26	BY DIV. 23	1/8 HP	115/1/60	ROOF	PROPELLER	DIRECT	6)					
VF-2	COOK REBE	150	0.25	864	3.3	BY DIV. 26	BY DIV. 23	1/8 HP	115/1/60	ROOF	PROPELLER	DIRECT	6)					

REMARKS:  
1) PROVIDE OCCUPANCY SENSOR FOR FAN OPERATION IN EACH RESTROOM.  
2) FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS.  
3) PROVIDE WITH FAN SPEED CONTROLLER.  
4) PROVIDE WITH FAN INLET GUARDS.  
5) PROVIDE WITH BACKDRAFT DAMPER.  
6) PROVIDE FAN WITH FAN SPEED CONTROLLER AND LINE VOLTAGE HUMIDISTAT.  
7) INTERLOCK WITH LOCAL TSTAT AND MANUAL SWITCH.  
8) PROVIDE FAN RATED FOR SMOKE CONTROL. PROVIDE HEAT SHIELD, ENCLOSED BELT TUNNEL, ISOLATION RAIL AND COPPER LUBE LINES.

GAS RADIANT HEATER SCHEDULE								
EQUIPMENT NO.	MANUFACTURER/ MODEL NO.	HEATING CAPACITY (MBH)	AMPS	ELECTRICAL		WEIGHT (LBS)	MOUNTING HEIGHT	REMARKS
				DISCONNECT	VOLTS/PH./HZ.			
RH-1	RE-VERBER-RAY DX3L-30-100	100	0.1	BY DIV. 26	115/1/60	160	13"ø	1), 2), 4), 5)
RH-2	RE-VERBER-RAY DR-50	50	0.1	BY DIV. 26	115/1/60	50	11"ø"	1), 2), 3), 4)
RH-3	RE-VERBER-RAY DR-50	50	0.1	BY DIV. 26	115/1/60	50	11"ø"	1), 2), 3), 4)

REMARKS:  
1) MAINTAIN DISTANCES FROM COMBUSTIBLES PER MANUFACTURERS INSTALLATION DETAILS.  
2) PROVIDE WITH 24V TRANSFORMER AND LOW VOLTAGE THERMOSTAT.  
3) ANGLE UNITS AT 30 DEGREES FROM HORIZONTAL. SUSPEND UNITS FROM STRUCTURE WITH 3/8" THREADED RODS.  
4) HEIGHT SHOWN MEASURED FROM BOTTOM OF HEATING RAY HEAD/TUBE.  
5) PROVIDE HEATER WITH SIDE SHIELDS TO DIRECT HEAT DOWNWARD.

OUTSIDE AIR CALCULATIONS																	
2018 MECHANICAL CODE OUTSIDE AIR REQUIREMENT																	
		Supply	Area	Occupancy	Max Number of	Number of	O.A. Area	O.A. People	O.A. Area				MAX OA REQUIRED				
		Air (cfm)	(sq. ft)	Classification	Occupants/SF	Occupants	Air Rate (cfm / sq. ft)	Air Rate (cfm/person)	Air Rate (cfm)	O.A. People (cfm)	O.A. (cfm)	Zone Effectiveness	Corrected CFM		Primary O.A. Fraction	Ventilation Effectiveness	Remarks
Served By	Space Name	Vpz (Max)	Az		(per 1000 SF)	Rp	Ra	Pz		(cfm)	Vbz	Ez	Voz	Vot	Zp	Ev	
AHU-1	1 Service Writing	275	144	Lobbies	--	1	0.06	5	9	5	14	0.80	17	17	0.06	1	
	2 Waiting Room	250	130	Lobbies	--	15	0.06	5	8	75	83	0.80	104	104	0.41	0.736	
	4 Manager	100	51	Office	5	1	0.06	5	3	5	8	0.80	10	10	0.10	1	
	7 Break Room	275	65	Break Room	35	1	0.06	10	4	10	14	1.80	8	8	0.03	1	
															OA	Lowest Ev	
															138.35	1.00	

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FINAL		
No.	Description	Date

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Mechanical Legend, Abbreviations and Schedules

Project number 24004  
Date 4/8/24  
Drawn by CA  
Checked by JB

M0.01

Scale 12" = 1'-0"

4/9/2024 8:42:36 AM



SECTION 15010 - MECHANICAL GENERAL

- A. PROVIDE EQUIPMENT, LABOR, MATERIAL, ETC., REQUIRED TO MAKE A COMPLETE WORKING INSTALLATION. INSTALL THE WORK IN ACCORDANCE WITH DRAWINGS, SPECIFICATIONS AND THE STANDARDS AND CODES (LATEST EDITION) THAT APPLY TO THIS WORK. IN THE EVENT OF A CONFLICT, INSTALL WORK IN ACCORDANCE WITH THE MOST STRINGENT CODE REQUIREMENTS DEVELOPED BY THE ENGINEER.
- B. OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS INCLUDING: BUILDING PERMITS, HEALTH DEPARTMENT PERMITS AND SEWER TAP PERMITS. DELIVER TO ENGINEER CERTIFICATES OF INSPECTION AND APPROVAL ISSUED BY AUTHORITIES.
- C. ALL EQUIPMENT AND METHOD SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH THE BEST ENGINEERING PRACTICES AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- D. DISCONNECT, REMOVE AND RE-INSTALL MECHANICAL SERVICES LOCATED ON OR CROSSING THROUGH CONTRACT LIMITS, ABOVE OR BELOW GRADE, OBSTRUCTING CONSTRUCTION OF PROJECT OR CONFLICTING WITH COMPLETE PROJECT OR ANY APPLICABLE CODES.
- E. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. WORK CALLED FOR BY ONE IS BINDING AS IF CALLED FOR BY BOTH.
- F. DRAWINGS ARE DRAIN TO A SMALL SCALE AND ARE DIAGRAMMATIC ONLY. THE DRAWINGS INDICATE SIZE AND GENERAL ARRANGEMENT OF EQUIPMENT. DO NOT SCALE DRAWINGS FOR EXACT LOCATIONS. FIELD MEASUREMENTS TAKE PRECEDENCE.
- G. PROVIDE NECESSARY OFFSETS, ELBOWS AND FITTINGS AS REQUIRED TO AVOID CONFLICT WITH EQUIPMENT OF OTHER DIVISIONS AND TO OBTAIN PROPER HEADROOM AND CLEAR PASSAGEWAYS. THIS SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
- H. WORK UNDER THIS DIVISION SHALL BE FIRST CLASS WITH EMPHASIS ON NEATNESS AND WORKMANSHIP. INSTALL WORK USING COMPETENT MECHANICS, UNDER SUPERVISION OF FOREMAN, ALL DULY CERTIFIED BY LOCAL AUTHORITIES.
- I. INSTALLATION SUBJECT TO ENGINEER'SOBSERVATION, FINAL APPROVAL, AND ACCEPTANCE. ENGINEER MAY REJECT UNSUITABLE WORK.
- J. ALL MATERIALS SHALL BE NEW, ALL MATERIALS AND EQUIPMENT FOR WHICH A UL STANDARD, AN AGA APPROVAL, AN AWWA STANDARD, FM LISTING OR ASME REQUIREMENTS IS ESTABLISHED, SHALL BE SO APPROVED AND LABELED OR STAMPED.

L. THE DRAWINGS ARE BASED ON THE USE OF PRODUCTS SPECIFIED AND LISTED FIRST. IF ANY REVISION IN PIPING, CONDUIT WORK, FOUNDATIONS, ANCHOR BOLTS, CONNECTIONS, ETC., IS REQUIRED BY OTHER NAMED PRODUCTS OR APPROVED SUBSTITUTIONS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE SUCH REVISIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.

M. SUBMIT SIX (6) ORIGINAL COPIES OF COMPLETE SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT FURNISHED UNDER DIVISION 15 OF SPECIFICATIONS TO ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL BEAR THE STAMP OF APPROVAL OF THE CONTRACTOR AS EVIDENCE THAT THE DRAWINGS HAVE BEEN CHECKED BY HIM. DRAWING SUBMITTED WITHOUT THIS STAMP OF APPROVAL WILL NOT BE CONSIDERED AND WILL BE RETURNED FOR PROPER RESUBMISSION.

N. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE CONTRACTOR OF RESPONSIBILITY FOR ERRORS AND OMISSIONS IN SHOP DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS AND SIZES OF EQUIPMENT. INFORM ENGINEER IN WRITING OF EQUIPMENT DIFFERING FROM THAT SHOWN.

O. PROVIDE MAINTENANCE AND OPERATING MANUALS BOUND IN 8-1/2" X 11" HARDBACK, THREE-POST BINDERS. MANUALS SHALL CONTAIN WRITTEN INSTRUCTIONS FOR EACH SYSTEM, SHOP DRAWINGS, SCHEMATIC DRAWINGS, EQUIPMENT CATALOG CUTS, MANUFACTURER'S INSTRUCTIONS, MANUFACTURERS WARRANTIES, AND VALVE TAG LIST.

P. PROVIDE AS-BUILT PRINTS AT THE COMPLETION OF JOB. KEEP ONE SET OF PRINTS ON JOB AND RECORD DAY TO DAY CHANGES TO CONTRACT DRAWINGS WITH RED PENCIL. INDICATE ACTUAL LOCATION OF PIPING, DUCTWORK, VALVES, DAMPERS, AND EQUIPMENT. TURN OVER PRINTS TO ENGINEER AT FINAL OBSERVATION. FURNISH ONE SET OF PRINTS WITHIN 15 DAYS OF COMPLETION OF PROJECT. IF WORK IS DEFECTIVE, EQUIPMENT UNDER THIS DIVISION IS PROVEN DEFECTIVE WITHIN ONE (1) YEAR AFTER FINAL ACCEPTANCE, SUCH DEFECTS AND OTHER WORK DAMAGED WILL BE REPAIRED AND/OR REPLACED.

SECTION 15050 - BASIC MATERIALS AND METHODS

- A. CONCRETE HOUSEKEEPING PADS:
1. PROVIDE CONCRETE HOUSEKEEPING PADS UNDER ALL FLOOR MOUNTED EQUIPMENT, PIPE SUPPORT AND DUCT SUPPORTS AND WHERE INDICATED. CONCRETE SHALL BE 3000 PSI AT 28 DAYS MINIMUM.
  2. PADS SHALL BE DOWELED TO FLOOR WITH NOT LESS THAN 4 NO. 4 BARS GROUTED IN PLACE. ANCHOR BOLT SHALL BE POURED INTO PLACE INTEGRAL WITH THE PAD. PADS SHALL BE REINFORCED WITH AT LEAST ONE NO. 4 BAR (STIRRUPS). PADS SHALL HAVE CHAMFERED EDGES AND A BROOM FINISH.
  3. HOUSEKEEPING PADS SHALL BE NOT LESS THAN 3-1/2 IN. THICK, SIZED AT LEAST 8 IN. LARGER THAN THE EQUIPMENT.
- B. ACCESS PANELS:
1. ACCESS PANELS SHALL HAVE WELDED STEEL FRAME, ONE PIECE DOORS, AND SELF LATCHING DOOR LOCKS. LOCKS SHALL BE SCREW DRIVER OPERATED WITH CASE HARDENED STEEL CAM. PANELS SHALL BE MILCOR, CESCO, KARP OR EQUAL.
  2. PROVIDE ACCESS PANELS IN WALLS AND CEILINGS AS NEEDED TO ALLOW ACCESS TO VALVES, EQUIPMENT, SHOCK ABSORBERS, TRAP PRIMERS, ETC. AND WHERE NOTED.
- C. FIRESTOPPING AND SOUNDSTOPPING:
1. PENETRATIONS THROUGH FLOORS AND FIRE RESISTANT WALLS SHALL BE SEALED TO THE RATED FIRE RESISTANCE EQUAL TO THE WALL. INSTALLATION SHALL BE DONE BY A QUALIFIED INSTALLER, APPROVED BY THE MANUFACTURER.
  2. IN AN EXISTING BUILDING ALL PENETRATIONS THROUGH FLOORS AND FIRE RESISTANT WALLS SHALL BE SEALED AT THE END OF EACH WORKING DAY. THESE CLOSURES SHALL HAVE AN EQUAL FIRE RESISTANCE RATING TO THE FLOOR OR WALL.
  3. PROVIDE SOUND PROOFING THROUGH NON-RATED WALLS.
- D. PIPING SEALS:
1. PROVIDE MODULAR, RESILIENT SEALS AROUND PIPES PENETRATING ALL EXTERIOR WALLS, AND FLOORS BELOW GRADE. PIPING SEALS SHALL BE THUNDERLINE CORP. "LINK SEAL" LS SERIES.
- E. CUTTING AND PATCHING:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING. CUT WALLS, FLOORS, CEILINGS, PARTITIONS, ETC., REQUIRED FOR THE INSTALLATION OF THIS WORK IN A NEAT AND CAREFUL MANNER. CORE DRILL FOR PIPE SLEEVES AND OTHER OPENINGS THROUGH FLOORS AND WALLS, SAWING LARGER OPENINGS. CUTTING SHALL BE KEPT TO A MINIMUM.
  2. REPLACE OR REPAIR DUCTWORK, CONDUIT, PIPING, ETC., THAT IS CUT, PATCH AROUND OPENING CUT BY THIS CONTRACTOR OR PROVIDED BY OTHERS FOR HIM. PATCHING SHALL BE DONE BY AN APPROVED QUALIFIED CONTRACTOR, BUT SHALL BE PAID FOR BY THIS CONTRACTOR. FINISHED PATCHING SHALL MEET FIRE AND SMOKE RATINGS OF THE ASSEMBLY AND SHALL MATCH SURROUNDING FINISH.
- F. ANCHORS:
1. MOUNT ALL EQUIPMENT, BRACKETS, HANGERS, ANCHORS, ETC. TO SAFELY RESIST THE VIBRATION OR THRUST FORCES AND SUPPORT THE UNITS WEIGHT.
  2. FLOOR MOUNTED ROTATING OR VIBRATING EQUIPMENT SHALL BE ANCHORED TO THE FLOOR USING GROUTED-IN-PLACE OR CAST-IN-PLACE ANCHOR BOLTS WITH THREE INCH HOOK AND SLEEVE. ANCHOR BOLTS SHALL BE OF THE SIZE RECOMMENDED BY THE MANUFACTURER.
  3. FLOOR MOUNTED STATIC EQUIPMENT, WALL AND CEILING MOUNTED EQUIPMENT AND HANGERS SHALL BE INSTALLED USING DRILLED ANCHORS. ANCHORS SHALL BE PHILLIPS DRILL COMPANY "RED HEAD" OR MULTI-SET II. SIZE ANCHORS FOR FOUR TIMES THE APPLIED LOAD. BOLTS USED OUTDOORS OR IN A WET ENVIRONMENT SHALL BE HOT DIP GALVANIZED.
- G. PIPE IDENTIFICATION:
1. IDENTIFICATION SHALL BE IN ACCORDANCE WITH ANSI-A13.1. PIPE MARKERS SHALL BE SETON'S WEATHER-CODE OR EQUAL.
  2. PROVIDE PIPE MARKERS AND DIRECTIONAL ARROWS ON PIPES AT BOTH SIDES OF PARTITIONS AND FLOORS SLABS, AT BRANCH LINE TAKE-OFFS, AT VALVES, AT INTERMEDIATE INTERVALS NOT IN EXCESS OF 20 FT. AND AT CONNECTIONS TO EQUIPMENT.
  3. TAPE COLOR BAND IDENTIFYING MARKERS AND ARROWS ON EACH PIPE, BOTH INSULATED AND BARE PIPES. PIPE MARKERS AND ARROWS SHALL BE LOCATED WHERE READILY VISIBLE AND ON LOWER QUADRANTS OF OVERHEAD PIPES.
- H. VALVE TAG AND CHART:
1. VALVE TAGS SHALL BE SETON M4506, BLACK FILLED LETTERS WITH BRASS JACK CHAIN. ONE VALVE NUMBER SHALL BE STAMPED ON EACH TAG. IDENTIFY EACH VALVE TAG FOR THE UTILITY IT SERVES, SUCH AS "CW" FOR COLD WATER, HW FOR HOT WATER, ETC. VALVE CHARTS SHALL BE SETON. ATTACH A NUMBERED VALVE TAG TO EACH VALVE.
  2. PROVIDE A TYPE WRITTEN CHART IN FRAME UNDER GLASS COVER, GIVING THE FULL LIST OF ALL VALVES INSTALLED UNDER THIS CONTRACT. CHART SHALL LIST VALVE NUMBER, TYPE OF UTILITY, AND LOCATION. MOUNT CHART WHERE DIRECTED BY OWNER. PROVIDE ONE ADDITIONAL COPY TO OWNER.
- I. EQUIPMENT IDENTIFICATION:
1. IDENTIFY EACH PIECE OF EQUIPMENT WITH A 1/8 INCH THICK ENGRAVED MELAMINE PLASTIC LAMINATE NAMEPLATE. LETTERS SHALL BE 1/12 INCH HIGH STANDARD STYLE. NAMEPLATE ABBREVIATIONS AND NUMBERING SHALL AGREE WITH THE CORRESPONDING EQUIPMENT DESIGNATIONS SHOWN ON THE DRAWINGS. USE BLACK LETTERS CUT IN A WHITE BACKGROUND FOR ALL EQUIPMENT ON STANDARD ELECTRICAL POWER.
  2. FASTEN NAMEPLATES TO EQUIPMENT IN A CONSPICUOUS LOCATION USING SELF-TAPPING STAINLESS STEEL SCREWS. EXCEPT USE CONTACT EPOXY ADHESIVE WHERE SCREWS CANNOT OR SHOULD NOT PENETRATE SUBSTRATE.
- J. PIPE SLEEVES:
1. PROVIDE PIPE SLEEVES WHERE PIPES PASS THROUGH FLOORS AND WALLS ABOVE OR BELOW CEILINGS. PROVIDE PIPE SLEEVES IN NEW WALLS AND FLOORS AS THE WORK PROGRESSES. PROVIDE SPLIT PIPE SLEEVES IN NEW WALLS BUILT UP AROUND EXISTING PIPES. TACK WELD SPLIT SLEEVES TOGETHER.
  2. SIZE PIPE SLEEVES TO ALLOW CONTINUOUS INSULATION, BUT NOT LESS THAN TWO PIPE SIZES LARGER THAN PIPE. SLEEVES IN WALLS SHALL BE FLUSH WITH WALL, SLEEVES IN FLOORS SHALL EXTEND 3/4 INCHES ABOVE FLOOR AND BE FLUSH WITH STRUCTURE BELOW.
  3. SLEEVES IN CONCRETE WALLS, FLOORS OR MASONRY SHALL BE SCH 40 STEEL PIPE, MACHINE CUT. SLEEVES IN GYPSUM BOARD OR PLASTER WALLS SHALL BE 14 GAUGE, ROLLED GALVANIZED SHEET METAL TACK WELDED ON THE LONGITUDINAL SEAM.
  4. PROVIDE PLATES AROUND PIPES EXTENDING INTO EXPOSED AREAS WHERE THEY PASS THROUGH WALLS, FLOORS AND CEILINGS. SIZE PLATES TO COMPLETELY COVER PIPE SLEEVES. PLATES SHALL BE BEATON AND CADWELL, KEENEY OR GRINNELL, NICKEL PLATED STEEL, SPLIT PLATES WITH SET SCREW. CONCRETE FLOOR PLATE SHALL BE GRINNELL FIGURE 400.
- K. FLASHING:
1. PROVIDE FLASHING AT PIPING AND DUCT PENETRATIONS THROUGH ROOF AND ROOF MOUNTED STRUCTURES FURNISHED UNDER THIS DIVISION. FLASH IN ACCORDANCE WITH ROOFING MANUFACTURERS DETAILS. FLASHING MATERIALS SHALL BE IN ACCORDANCE WITH THE ROOFING MANUFACTURERS SYSTEM.
  2. PROVIDE FLASHING AT PIPES PASSING THROUGH FLOORS WITH WATERPROOF MEMBRANE. FLASHING SHALL BE IN ACCORDANCE WITH WATERPROOFING MANUFACTURERS DETAILS.

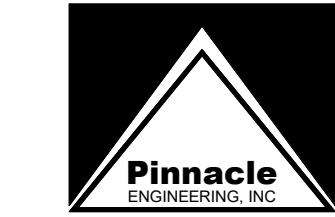
SECTION 15260 - HVAC INSULATION

- A. GENERAL:
1. ALL INSULATION, JACKETING, AND ADHESIVE SHALL HAVE COMPOSITE SURFACE BURNING CHARACTERISTIC RATING AS TESTED BY ASTM E 84, UL 723, OR NFPA 255 NOT EXCEEDING A FLAME SPREAD OF 25 OR SMOKE DEVELOPED OF 50.
  2. SUBMITTALS SHALL USE PAGES FROM MIDWEST INSULATION CONTRACTORS ASSOCIATION - COMMERCIAL AND INDUSTRIAL INSULATION STANDARDS@ FOR DEFINING HOW INSULATION MATERIALS WILL BE APPLIED.
  3. ALL PIPE OR DUCT INSULATION SHALL BE CONTINUOUS THROUGH WALLS, CEILING OR FLOOR OPENINGS, OR SLEEVES; EXCEPT WHERE FIRESTOP OR FIRESAFING MATERIALS ARE REQUIRED.
  4. INSULATE ITEMS MOUNTED IN DUCTWORK WITH THE SAME THICKNESS OF INSULATION AS SPECIFIED FOR DUCTWORK. INCLUDING AIR MEASURING STATIONS, SMOKE DAMPERS, AND AUTOMATIC DAMPERS.
  5. REPAIR INSULATION DAMAGED BY WORK UNDER THIS CONTRACT TO MATCH EXISTING WORK OR REPLACE DAMAGED PORTION WITH INSULATION SPECIFIED FOR NEW WORK.
- B. ELASTOMERIC CLOSED CELL INSULATION:
1. INSULATION SHALL BE RUBATX OR ARMSTRONG. SECURE INSULATION WITH CONTACT ADHESIVE IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. EXPOSED OR EXTERIOR INSTALLATIONS SHALL BE PAINTED WITH TWO COATS OF WATER BASE LATEX ENAMEL.
  2. PROVIDE 1 IN. THICK INSULATION ON DX REFRIGERANT PIPING, COOLING COIL, CONDENSATE PIPING, CHILLED WATER RUN-OUTS TO TERMINAL DEVICES, COVERS AND CAPS FOR ALL VALVE STEMS AND OPERATORS, GAUGE COCKS, THERMOMETER WELLS AND OTHER APPURTENANCES SUBJECT TO SWEATING.
- C. CONCEALED DUCTWORK:
1. DUCT WRAP SHALL BE 2 IN. THICK, 1.0 PCF WITH ALUMINUM OR FRK FACING, HAVING A MAXIMUM VAPOR TRANSMISSION OF .02 PERMS. MINIMUM INSTALLED "R" VALUE SHALL BE 5.6 WITH 25% COMPRESSION. INSULATION SHALL BE 250 DEG. F RATED AS MANUFACTURED BY OWENS CORNING, MANVILLE, KNAUF, OR CERTAINTED.
  2. APPLY JACKETED DUCTWRAP TO ALL CONCEALED DUCTWORK PROVIDING CONDITIONED AIR, OR OUTSIDE AIR. ONLY INSULATE RETURN DUCTWORK IN NON-CONDITIONED SPACES AND IN CEILING SPACES BELOW A ROOF. PULL INSULATION SNUG, BUT DO NOT COMPRESS INSULATION MORE THAN 1/4 INCH.
  3. SECURE DUCTWRAP INSULATION TO DUCTWORK USING ADHESIVE. SECURE INSULATION ON BOTTOM ON SIDES OF HORIZONTAL DUCTWORK AND ALL SIDES OF VERTICAL DUCTWORK WITH INSULPINS WELDED TO DUCT ON 12 TO 18 INCH CENTERS AND WITH CLIPS SLIPPED OVER THE PINS. APPLY CLIPS WITHOUT COMPRESSING INSULATION. MAKE JOINTS BY LAPPING THE FACING A MINIMUM OF 2 INCH AND STAPLING WITH T-5 FLARED STAPLES. VAPOR - SEAL WITH CHILDERS CP-30 LOW ODOR AT ALL STAPLES, CLIP LOCATIONS AND OTHER PENETRATIONS. SEAL JOINTS WITH 3 INCH WIDE FSK TAPE.
  4. FOR DUCTWORK INSIDE THERMAL ENVELOPE, INSULATION SHALL BE 2 IN. THICK. FOR DUCTWORK OUTSIDE THE THERMAL ENVELOPE, ALL DUCTWORK EXCEPT EXHAUST SHALL BE 4 IN. THICK (2 LAYERS).
- D. EXPOSED DUCTWORK:
1. INSULATION BOARD SHALL BE 2 IN. THICK 3 PCF WITH FRK FACING. MINIMUM INSTALLED "R" VALUE 6. INSULATION SHALL BE 250 DEG. F RATED AS MANUFACTURED BY OWENS CORNING, MANVILLE, KNAUF, OR CERTAINTED.
  2. APPLY 2 IN. THICK INSULATION BOARD WITH FRK FACING TO ALL EXPOSED DUCTWORK PROVIDING CONDITIONED AIR, OR OUTSIDE AIR. INSULATE RETURN DUCTWORK IN NON-CONDITIONED SPACES. SECURE INSULATION WITH INSULPINS (ALL SURFACES) WELDED TO DUCT ON 12 TO 18 IN. CENTERS WITH CLIPS SLIPPED OVER PINS. SEAMS AND JOINTS SHALL BE VAPOR SEALED WITH 3 IN. WIDE FSK TAPE. CORNERS AND EDGES OF DUCTWORK SHALL BE REINFORCED WITH ROLL-ON CORNER BEAD. SEAL ALL BREAK AND PUNCTURES WITH VAPOR BARRIER SEALANT AND FSK TAPE.
- E. PIPING FINISHES:
1. METAL JACKETING SHALL BE SMOOTH. 016 IN. THICK, TYPE T 3003 ALUMINUM WITH POLYURETHANE MOISTURE BARRIER. JACKETING SHALL BE CHILDERS, ALUMINUM ROLL JACKETING WITH POLYKRAFT MOISTURE BARRIER. COVER THE FOLLOWING INSULATED SYSTEMS WITH METAL JACKETING: PIPING INSTALLED OUTDOORS. METAL FITTING COVERS SHALL BE TWO PIECE ALUMINUM. COVERS SHALL BE ELL-JAC.
  2. CONCEALED PIPING FINISH COVERING SHALL BE THE ALL SERVICE JACKET. FITTINGS SHALL BE COVERED BY WRAPPING THE FITTING WITH FIBER REINFORCED TAPE, WITH A 5 PERCENT OVERLAP. FITTING COVERS SHALL BE ONE PIECE 20 MIL PVC. COVERS SHALL BE CEEL-TITE 550 PVC-UIR BY CEEL-CO OR EQUALS.
- A. DUCTWORK FINISHES:
1. INSULATED DUCTWORK INSTALLED OUTDOORS, INSULATED DUCTWORK WITHIN 8 FT. OF THE FINISHED FLOOR IN A MECHANICAL ROOM SHALL BE COVERED WITH 30 GAUGE GALVANIZED STEEL. COVERING SHALL BE HEMMED, AND FLANGED. SECURE WITH SELF TAPPING SCREWS ON EIGHT INCH CENTERS. DO NOT PUNCTURE VAPOR BARRIER.

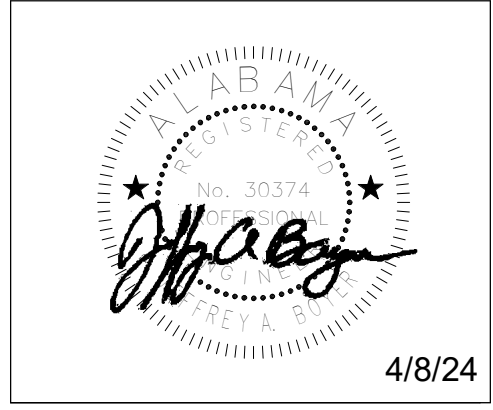
- SECTION 15535 - REFRIGERATION PIPING SYSTEMS
- A. REFRIGERANT PIPING SHALL BE TYPE L, HARD DRAWN COPPER TUBING CONFORMING TO ASTM SPECIFICATION B-280, CLEANED AND CAPPED AND MARKED "ACR". FITTINGS FOR REFRIGERANT LINES SHALL BE AS WROUGHT COPPER OR FORGED BRASS CONFORMING TO ANSIAISME STANDARD B16.22. JOINTS IN REFRIGERANT LINES SHALL BE BRAZED IN ACCORDANCE WITH ANSI B89.1. KEEP REFRIGERATION PIPING SEALED UNTIL IT IS USED. CAP OPEN ENDS OF INSTALLED PIPING UNTIL READY FOR FINAL CONNECTION.
- B. THE REFRIGERATION SYSTEM PIPING AND ACCESSORIES SHALL BE INSTALLED IN ACCORDANCE WITH THE SAFETY CODE FOR MECHANICAL REFRIGERATION ANSIAISHRAE 15-92 AND THE REFRIGERATION PIPING CODE ANSIAISME B31.5. THE REFRIGERANT TUBE SIZES, AND INSTALLATION OF TUBING SHALL BE IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
- C. REFRIGERANT SUCTION LINE SIZE SHALL LIMIT THE TEMPERATURE RISE TO TWO DEGREES F AT FULL LOAD AND HOLD THE REFRIGERANT GAS VELOCITY TO NOT LESS THAN 500 FT. PER MIN. (FPM) IN THE HORIZONTAL NOR LESS THAN 1000 FPM IN THE VERTICAL AT MINIMUM LOAD. REFRIGERANT LIQUID LINE SIZE SHALL LIMIT THE PRESSURE DROP BETWEEN 4 AND 6 PSI AT FULL LOAD.
- D. PITCH HOT GAS LINES AND SUCTION LINES APPROXIMATELY 1/8 INCH PER 10 FT. HOT GAS LINES AND SUCTION LINES EXCEEDING 30 FT. VERTICAL LIFT SHALL BE TRAPPED EVERY 20 FT. VERTICAL REFRIGERANT LINES SHALL BE RUN PLUMB. HORIZONTAL LINES SHALL RUN PARALLEL WITH BUILDING WALLS. REFRIGERANT LINES SHALL NOT CONTACT BUILDING STRUCTURE. ISOLATE PIPING WITH RESILIENT LINER IN PIPE SUPPORT OR ELASTOMERIC INSULATION.
- E. TEST FOR LEAKS WITH AN ELECTRONIC LEAK DETECTOR. REPAIR LEAKS, REFILL, REPRESSURIZE, AND RETEST. FOLLOW STANDARD CHARGING AND DEHYDRATION PROCEDURES. CHARGE THROUGH THE SYSTEM FILTER DRIER. CHANGE FILTER DRIERS AFTER 40 HOURS OF OPERATION.
- F. PROVIDE A LINE SIZE FILTER-DRIER IN EACH LIQUID REFRIGERANT LINE BETWEEN THE CONDENSER AND THE EXPANSION VALVE. FILTER-DRIER SHALL BE A HENRY VALVE CO., SPORLAN OR ALCO.
- G. SERVICE VALVES SHALL BE BACK SEATING TYPE, STEEL OR IRON BODY. PROVIDE SERVICE VALVES AT "CONDENSING UNIT". SERVICE VALVES SHALL BE LINE SIZE. VALVES SHALL BE HENRY VALVE CO., COMPRESSOR VALVES, SPORLAN OR ALCO.
- H. PROVIDE ISOLATION VALVES AROUND THE FILTER-DRIER TO PERMIT SERVICING THE DRIER WITHOUT LOSS OF REFRIGERANT. ISOLATION VALVES SHALL BE HENRY VALVE CO., 900 SERIES BALL VALVES. SPORLAN AND ALCO ARE APPROVED EQUAL.
- I. CHARGING VALVE SHALL BE INSTALLED IN EACH LIQUID REFRIGERANT LINE BETWEEN THE CONDENSER AND THE FILTER DRIER. CHARGING VALVE SHALL BE A HENRY VALVE CO. TYPE 927 OR APPROVED EQUAL. SPORLAN AND ALCO ARE APPROVED EQUAL.
- J. SIGHT GLASS SHALL BE INSTALLED IN EACH LIQUID REFRIGERANT LINE AT THE EVAPORATOR COIL. SIGHT GLASS SHALL BE HENRY VALVE CO. MI 31 SERIES DOUBLE PORT STYLE WITH EXTENDED ENDS FOR SOLDERING FOR LINES 5/8 INCH OR LARGER. USE MI 30 SERIES SINGLE PORT SOLDERING FOR LINES 5/8 INCH OR LARGER. USE MI 30 SERIES SINGLE PORT FOR LINES 1/2 INCH OD AND SMALLER. SPORLAN AND ALCO ARE APPROVED EQUAL.
- K. PROVIDE BALANCED EXTERNALLY EQUALIZED THERMOSTATIC EXPANSION VALVE. DISTRIBUTORS SHALL BE MATCHED WITH THERMOSTATIC EXPANSION VALVES AND DIRECT EXPANSION COIL FOR PROPER PERFORMANCE. THERMOSTATIC EXPANSION VALVE (TXV) SHALL BE BALANCED EXTERNALLY EQUALIZED TYPE. DISTRIBUTIONS SHALL BE MATCHED WITH THERMOSTATIC EXPANSION VALVES AND DIRECT EXPANSION COIL FOR PROPER PERFORMANCE. DISTRIBUTORS SHALL BE ALCO OR APPROVED EQUAL. LOCATE BULB IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. CONNECT THE EQUALIZING LINE TO THE TXV DOWN STREAM OF THE BULB. PROVIDE TRAPPED DOUBLE SUCTION RISERS ON SYSTEMS WITH UNLOADING CAPABILITY, WHEN REQUIRED FOR PROPER OIL RETURN.
- L. PROVIDE FLEXIBLE CONNECTORS ON LIQUID LINE, AND SUCTION LINE AT THE CONDENSING UNIT. FLEXIBLE CONNECTORS SHALL BE BRAIDED BRONZE COVERING ON A BRONZE HOSE. END CONNECTORS SHALL BE FEMALE COPPER TUBE TYPE. UNITS SHALL BE RATED NOT LESS THAN 270 PSI AT 250 DEGREES F. UNITS SHALL BE SOUTHEASTERN HOSE, INC., SUPERIOR OR ANACONDA.

SECTION 15671 - AIR COOLED CONDENSING UNITS

- A. UNITS SHALL BE ASSEMBLED ON MINIMUM 10 GAUGE STEEL MOUNTING/LIFTING RAILS AND SHALL BE WEATHER PROOFED. UNIT SHALL INCLUDE HERMETIC OR SEMI-HERMETIC RECIPROCATING COMPRESSOR(S), PLATE FIN CONDENSER COIL, FANS AND MOTORS, CONTROLS AND HOLDING CHARGE OF R-22. UNITS SHALL BE UL LISTED, AND RATED IN ACCORDANCE WITH ARI STANDARD 240 AND 270.
- B. UNIT CASING SHALL BE CONSTRUCTED OF MINIMUM 18 GAUGE G-20 HEAVY GALVANIZED STEEL. EXTERIOR SURFACES SHALL BE FINISHED WITH A WEATHER-RESISTANT BAKED ENAMEL FINISH. COATING SYSTEM SHALL HAVE BEEN TESTED 500 HOURS IN SALT SPRAY TEST (ASTM B117). UNITS SHALL HAVE REMOVABLE PANELS THAT ALLOW ACCESS TO ALL MAJOR COMPONENTS AND CONTROLS.
- C. SINGLE COMPRESSOR UNITS LESS THAN 7-1/2 TONS:
1. COMPRESSOR SHALL BE HERMETICALLY SEALED AND MOUNTED ON RUBBER VIBRATION ISOLATORS. COMPRESSOR SHALL INCLUDE INTERNAL OVER TEMPERATURE AND PRESSURE PROTECTION, THERMOSTATICALLY CONTROLLED SUMP HEATER, AND INTERNAL SPRING MOTORS. REFRIGERATION CIRCUIT SHALL INCLUDE LIQUID LINE DRIER, LOW PRESSURE SWITCH, LIQUID LINE AND SUCTION LINE SERVICE VALVE WITH GAUGE PORT.
- D. CONDENSER SHALL BE INTERNALLY FINNED OR SMOOTH BORE 3/8 INCH COPPER TUBES MECHANICALLY BONDED TO CONFIGURED ALUMINUM PLATE FIN AS STANDARD. COIL SHALL BE FACTORY PRESSURED AND LEAK TESTED TO 375 PSIG AIR PRESSURE. PROVIDE CONDENSER COIL GUARD CONSISTING OF METAL GRILLE WITH PVC COATING.
- E. CONDENSER FAN AND MOTOR(S) SHALL HAVE DIRECT-DRIVE, STATICALLY AND DYNAMICALLY BALANCED FAN(S) WITH ALUMINUM BLADES AND ELECTRO-COATED STEEL HUBS. FANS SHALL BE MOUNTED IN DRAW THROUGH VERTICAL DISCHARGE POSITION. PERMANENTLY LUBRICATED TOTALLY ENCLOSED TYPE MOTORS SHALL BE PROVIDED AND SHALL HAVE BUILT IN CURRENT AND THERMAL OVERLOAD PROTECTION. MOTOR(S) SHALL BE BALL BEARING TYPE.
- F. UNITS SHALL BE COMPLETELY FACTORY WIRED WITH NECESSARY CONTROLS AND CONTACTOR WITH PRESSURE LUGS OR TERMINAL BLOCK FOR POWER WIRING. CONTROL WIRING SHALL BE 24-VOLT CONTROL CIRCUIT WHICH INCLUDES FUSING AND CONTROL TRANSFORMER.
- G. DEFROST CONTROLS SHALL INCLUDE ELECTRONIC TIME INITIATED, TEMPERATURE TERMINATED DEFROST SYSTEM. TIMED OVERRIDE LIMITS DEFROST CYCLE TO 10 MINUTES.
- H. LOW AMBIENT HEATERS SHALL BE PROVIDED TO MODULATE THE RPM OF UNIT OUTDOOR FAN MOTOR IN RESPONSE TO OUTDOOR AMBIENT TEMPERATURES AND UNIT HEAD PRESSURE. PROVIDE UNIT COOLING OPERATION TO OUTDOOR TEMPERATURE 0 DEGREES F.
- I. PROVIDE ANTI-SHORT-CYCLE TIMER TO PREVENT RAPID ON-OFF COMPRESSOR CYCLING IN LIGHT LOAD CONDITIONS BY NOT ALLOWING COMPRESSOR TO OPERATE FOR 5-7 MINUTES UPON SHUTDOWN. TIMER SHALL CONSIST OF A SOLID STATE TIMING DEVICE, 24-VOLT, 60 CYCLE.
- J. WARRANTY:
1. PROVIDE A WRITTEN WARRANTY AGREEING TO REPLACE COMPONENTS THAT FAIL IN MATERIALS AND WORKMANSHIP WITHIN THE SPECIFIED WARRANTY PERIOD, PROVIDED MANUFACTURER'S WRITTEN INSTRUCTION FOR REPAIR, OPERATION, AND MAINTENANCE HAVE BEEN FOLLOWED.
  2. WARRANTY PERIOD: MANUFACTURERS STANDARD, BUT NOT LESS THAN FIVE (5) YEARS FROM DATE OF SUBSTANTIAL COMPLETION FOR COMPRESSOR(S) AND ONE (1) YEAR FOR ALL OTHER COMPONENTS.
- K. UNITS SHALL BE JOI, CARRIER OR APPROVED EQUAL. INSTALL UNIT IN ACCORDANCE WITH MANUFACTURER-S INSTRUCTIONS.
- SECTION 15855 - SPLIT SYSTEM DX AIR HANDLING UNITS
- A. AIR HANDLING UNITS SHALL BE COMPLETELY FACTORY ASSEMBLED INCLUDING COIL, CONDENSATE DRAIN PAN, FAN MOTOR(S), FILTER, AND CONTROL. UNITS SHALL BE RATED AND TESTED IN ACCORDANCE WITH ARI STANDARD. UNITS SHALL BE UL LISTED AND LABELED IN ACCORDANCE WITH UL 465 AND UL 1995 FOR INDOOR BLOWER COIL UNITS.
- B. UNIT CASING SHALL BE CONSTRUCTED OF ZINC COATED, MINIMUM 20 GAUGE, G-90 GALVANIZED STEEL. CASING SHALL BE COMPLETELY INSULATED WITH FIRE-RETARDANT, PERMANENT, ODORLESS GLASS FIBER MATERIAL WITH R-VALUE NOT LESS THAN 4. KNOCKOUTS SHALL BE PROVIDED FOR UNIT ELECTRIC POWER AND REFRIGERANT PIPING CONNECTIONS. CAPTIVE SCREWS SHALL BE STANDARD ON ALL ACCESS PANELS.
- C. DIRECT EXPANSION COIL SHALL BE ALUMINUM FIN SURFACE MECHANICALLY BONDED TO 3/8 INCH INTERNALLY ENHANCED COPPER TUBING. COIL SHALL BE ELL-JAC.
- D. CONDENSATE DRAIN PAN SHALL BE ONE-PIECE, CORROSION RESISTANT, AND FULLY DRAINABLE. COIL SHALL BE MOUNTED ABOVE, NOT IN, THE DRAIN PAN TO ALLOW FULL INSPECTION OR CLEANING OF DRAIN PAN. UNIT SHALL CONTAIN CONDENSATE DRAIN PANS FOR BOTH HORIZONTAL AND VERTICAL APPLICATIONS. DRAIN PANS SHALL HAVE CONNECTIONS ON BOTH SIDES OF THE DRAIN PAN. FULL SIZE CONDENSATE DRAIN PIPING FROM UNIT TO LOCATION INDICATED ON PLAN. DRAIN LINE SHALL BE INSTALLED WITH A SLOPE OF NOT LESS THAN 1/8 INCH PER FOOT DOWN IN THE DIRECTION OF FLOW.
- E. BLOWER FAN SHALL BE DOUBLE INLET, DOUBLE WIDTH, FORWARD CURVED, CENTRIFUGAL-TYPE FAN(S) WITH ADJUSTABLE BELT DRIVE UNIVERSAL MOTOR. THERMAL OVERLOAD PROTECTION SHALL BE STANDARD ON MOTOR. FAN AND MOTOR BEARINGS SHALL BE PERMANENTLY LUBRICATED.
- F. MAGNETIC MOTOR STARTER, LOW VOLTAGE TERMINAL STRIP, AND SINGLE POINT POWER ENTRY SHALL BE INCLUDED. ALL NECESSARY CONTROLS SHALL BE FACTORY-INSULATED AND WIRED. EVAPORATOR DEFROST CONTROL SHALL BE INCLUDED TO PREVENT COMPRESSOR SLUGGING BY TEMPORARILY INTERRUPTING COMPRESSOR OPERATION WHEN LOW EVAPORATOR COIL TEMPERATURES ARE ENCOUNTERED.
- G. FILTERS SHALL BE ONEINCH, THROW-AWAY TYPE FILTERS FILTERS SHALL BE ACCESSIBLE FROM EITHER SIDE THROUGH THE COIL ACCESS PANEL.
- H. PROVIDE UNIT MOUNTED ELECTRIC HEATERS AS SCHEDULED. ELECTRIC HEAT ASSEMBLY SHALL BE UL, ETL, AND CSA APPROVED FOR DIRECT INSTALLATION ON FAN DISCHARGE. HEATER ASSEMBLY SHALL HAVE SINGLE-POINT POWER WIRING AND INCLUDE CONTACTORS WITH 24 VOLT COILS. POWER WIRING, 24 VOLT CONTROL WIRING TERMINAL BLOCKS, AND A HANGING ACCESS PANEL. ELECTRIC HEATER ELEMENTS SHALL BE CONSTRUCTED OF HEAVY-DUTY NICKEL CHROMIUM ELEMENTS.
- I. UNITS SHALL BE YORK, CARRIER OR APPROVED EQUAL. INSTALL UNIT IN ACCORDANCE WITH MANUFACTURER-S INSTRUCTIONS.
- SECTION 15930 - GAS FIRED RADIANT HEATERS
- A. HIGH-INTENSITY INFRARED HEATER (GAS-FIRED)
1. GAS-FIRED HIGH-INTENSITY INFRARED HEATERS SHALL COMPLY WITH ANSI Z83.19, SECTION 2.10 RADIANT COEFFICIENT AND CONSTRUCTION OF A SECONDARY RE-RADIATING SURFACE OF EITHER RODS OR SCREEN. THE CERAMIC RADIANT SURFACE SHALL BE HORIZONTAL WHEN HEATER IS INSTALLED AT 0 DEGREES. HEATERS SHALL BE CAPABLE OF ANGLE MOUNTING FROM 5 TO 30 DEGREES.
  2. WITHOUT THE USE OF AN ADDITIONAL REFLECTOR, HEATERS SHALL BE FULLY TESTED AND READY TO INSTALL. PIPE AND WIRE OPERATION ON NATURAL OR LIPIPROPANE GAS. HEATERS SHALL BE DESIGNED TO SATISFACTORILY OPERATE AT A MINIMUM SUPPLY.
  3. INLET GAS PRESSURE OF 7 INCHES WATER COLUMN (W.C.) WHEN SPECIFIED FOR NATURAL GAS OR 11 INCHES W.C. WHEN SPECIFIED FOR LIPIPROPANE GAS AND AT A MAXIMUM SUPPLY INLET GAS PRESSURE OF 14 INCHES W.C. F. THE HEATER SHALL BE ADAPTED WITHOUT ADJUSTMENTS WITH A SPECIFIC GRAVITY OF .65.
  4. HEATERS SHALL BE EQUIPPED WITH ONE OF THE FOLLOWING CONTROLS: 1. SINGLE-STAGE, 120 VAC DIRECT SPARK IGNITION CONTROL, HAVING: 100% SAFETY SHUT OFF WITH FLAME MONITORING AND 10.8 VA MAXIMUM POWER CONSUMPTION. CONTROL SHALL OPERATE WITH NO EXTERNAL ELECTRICAL POWER, BUT INSTEAD USE MILLI-VOLTAGE GENERATED BY THE PILOT FLAME. THE HEATER'S CONTROLS SHALL BE EASILY ACCESSIBLE THE DIRECT SPARK IGNITOR OR MANUAL PILOT SHALL BE DURABLE TO RESIST BREAKAGE. THE HEATER IS FITTED WITH A GAS ORIFICE FOR EACH BURNER FOR PROPER AIR TO GAS MIXTURE FOR SEA LEVEL. HEATERS CAN BE ORDERED OR CONVERTED FOR USE AT HIGH ALTITUDES, OR WITH EITHER LIPIPROPANE OR NATURAL GAS.
  5. THE HEATER SHALL BE OF MODULAR DESIGN EMPLOYING MULTIPLE BURNERS TO ACHIEVE THE SPECIFIED INPUT. THE BURNER(S) SHALL INCLUDE A CERAMIC COMBUSTION SURFACE, A PLENUM CHAMBER AND A VENTURI MIXER AND SHALL BE REMOVABLE WITH A SINGLE SCREWFOR CLEANING OR REPAIR WITHOUT DISCONNECTING ANY GAS, ELECTRICAL OR HANGING DEVICE. THE CERAMIC COMBUSTION SURFACE SHALL BE CAPABLE OF REACHING TEMPERATURES UP TO 1850 DEGREES F (AN INCANDESCENT APPEARANCE) AND WITHSTAND THERMAL SHOCK WHEN WATER QUENCHED. THE COMBUSTION SURFACE SHALL BE A CORDIERITE-BASED GROOVED CERAMIC OF AN EXCLUSIVE PERMEABLE DESIGN. TERMINATE ROWS OF 230 PERFORATIONS PER SQUARE INCH TERMINATE AT THE BOTTOM OF SLOTS MAKING ONE HALF OF THE FLAME BELOW THE TOP SURFACE OF THE CERAMIC AND CREATING A MORE INTIMATE CONTACT BETWEEN FLAME AND SURFACE. THE BURNER'S PLENUM CHAMBER SHALL BE OF 20 GA. (.035) CORROSION-FREE ALUMINIZED STEEL, ONE-PIECE FABRICATION WITHOUT WELDING OR CONSTRUCTION. THE PLENUM CHAMBER SHALL UTILIZE A ONE-PIECE STAINLESS STEEL RETAINER TO HOLD THE CERAMIC SURFACE IN PLACE AROUND ITS ENTIRE PERIMETER AND A 14 GA. (.083) ALUMINIZED STEEL BACK BRACKET FOR HOLDING THE BURNER ASSEMBLY IN PLACE TO ACHIEVE PROPER ALIGNMENT OF THE SURFACE, VENTURI AND ORIFICE. THE VENTURI SHALL BE MADE OF ALUMINIZED STEEL. THE HEATER'S MAIN FRAME SHALL BE 16 GA. (.065) CORROSION-FREE ALUMINIZED STEEL AND OF NO-WELD CONSTRUCTION. THE MAIN FRAME SHALL HAVE A DOUBLE TURNED UPPER EDGE AND TWO (2) CORNER REINFORCEMENT BRACKETS FOR RIGIDITY. THE SIDE FRAMES SHALL HAVE FOUR (4) 3/8" DIAMETER HOLES FOR EASY MOUNTING WITH S-HOOKS AND CHAIN. REFLECTORS SHALL BE OF 21 GA. (.032) HIGHLY POLISHED MIRROR BRIST ALUMINUM WITH A REFLECTIVITY OF NOT LESS THAN 98%. STANDARD REFLECTOR DESIGN (SHAPE) SHALL HAVE .352 SQUARE FEET OF REFLECTIVE AREA PER LINEAR FOOT, WITH A DOUBLE TURNED EDGE FOR RIGIDITY AND BE MOUNTED TO THE HEATER AT THE FACTORY.
  6. UNITS SHALL BE DETROIT RADIANT/REVERBERRAY.
- B. TUBULAR INFRARED HEATERS
1. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
  2. DESCRIPTION: FACTORY ASSEMBLED, PIPED, AND WIRED, AND COMPLYING WITH ANSI Z83.20/CSA 2.34. FUEL TYPE: DESIGN BURNER FOR NATURAL GAS HAVING CHARACTERISTICS SAME AS THOSE OF GAS AVAILABLE AT PROJECT SITE.
  4. COMBUSTION TUBING: 4-INCH- DIAMETER ALUMINIZED STEEL WITH HIGH-EMISSIVITY, HIGH-TEMPERATURE, CORROSION-RESISTANT EXTERNAL FINISH.
  5. TUBING CONNECTIONS: STAINLESS-STEEL COUPLINGS OR FLARED JOINTS WITH STAINLESS-STEEL DRAW BOLTS.
  6. REFLECTOR: POLISHED ALUMINUM, 97 PERCENT MINIMUM REFLECTIVITY, WITH END CAPS. SHAPE TO CONTROL RADIATION FROM TUBING FOR UNIFORM INTENSITY AT FLOOR LEVEL WITH 100 PERCENT CUTOFF ABOVE CENTERLINE OF TUBING. PROVIDE REFLECTOR FOR ROTATING REFLECTOR OR HEATER AROUND A HORIZONTAL AXIS FOR MINIMUM 30-DEGREE TILT FROM VERTICAL.
  7. REFLECTOR EXTENSION SHIELDS: SAME MATERIAL AS REFLECTORS, ARRANGED FOR FIXED CONNECTION TO LOWER REFLECTOR LIP AND PROVIDE SUPPORT TO PROVIDE 100 PERCENT CUTOFF OF DIRECT RADIATION FROM TUBING AT ANGLES GREATER THAN 30 FROM VERTICAL.
  8. INCLUDE HANGER KIT AND BURNER SAFETY CONTROLS:
  9. GAS CONTROL VALVE: SINGLE-STAGE, REGULATED REDUNDANT 24-V AC GAS VALVE CONTAINING PILOT SOLENOID VALVE, ELECTRIC GAS VALVE, PILOT FILER, PRESSURE REGULATOR, PILOT SHUT-OFF AND MANUAL SHUT-OFF ALL IN ONE BODY, BLOCKED VENT SAFETY. DIFFERENTIAL PRESSURE SWITCH IN BURNER SAFETY CIRCUIT TO STOP BURNER OPERATION WITH HIGH DISCHARGE OR SUCTION PRESSURE. CONTROL PANEL, INTERLOCK: STOPS BURNER IF PANEL IS OPEN. INDICATOR LIGHTS: BURNER-ON INDICATOR LIGHT.
  11. BURNER AND EMITTER TYPE: GRAVITY-VENTED POWER BURNER, WITH THE FOLLOWING FEATURES:
  12. EMITTER TUBE: 4-INCH- DIAMETER, ALUMINIZED STEEL TUBING WITH SIGHT GLASS FOR BURNER AND PILOT FLAME OBSERVATION.
  13. VENTING: CONNECTOR AT EXIT END OF EMITTER TUBING FOR VENT-PIPE CONNECTION. VENT TERMINAL: HORIZONTAL.
  14. BURNER/IGNITION: POWER GAS BURNER WITH ELECTRONIC SPARK AND ELECTRONIC FLAME SAFETY. COMBUSTION CHAMBER, FUEL CONNECTION FOR COMBUSTION AIR TO BE DRAWN DIRECTLY FROM OUTDOORS BY BURNER FAN.



Engineering & Design Consultants  
2111 Parkway Office Circle, Suite 125  
Birmingham, AL 35244  
(205) 733-6912 FAX: (205) 733-6913  
Job No. 24067



4/8/24

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

FINAL

No.	Description	Date

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Mechanical Specifications

Project number	24004
Date	4/8/24
Drawn by	CA
Checked by	JB
Scale	12" = 1'-0"

M0.02



SECTION 15870 - POWER VENTILATORS

- A. POWER VENTILATORS WHICH ARE SCHEDULED OR REFERRED TO BY MODEL NUMBER OR CATALOGUE NUMBER ARE INTENDED TO INCLUDE ALL MATERIALS COVERED BY SUCH NUMBER. ANY REQUIRED ACCESSORIES FOR THE INSTALLATION OF THE FAN ARE TO BE BY THE SAME MANUFACTURER UNLESS OTHERWISE NOTED.
- B. ALL WIRING AND ELECTRICAL COMPONENTS SHALL COMPLY WITH THE NATIONAL ELECTRIC CODES (NEC). ALL MATERIALS SHALL BE UL LISTED. FANS SHALL BE UL 705. FANS SHALL BEAR THE AMCA CERTIFIED RATINGS SEAL FOR SOUND AND AIR PERFORMANCE. FAN ASSEMBLY SHALL BEAR AN ENGRAVED ALUMINUM NAMEPLATE. FANS WHEELS SHALL BE BALANCED IN ACCORDANCE WITH AMCA STANDARD 204-96.
- C. EACH UNIT SHALL HAVE A BIRDSCREEN CONSTRUCTED OF GALVANIZED WIRE MESH WITH 2 IN. OPENINGS MOUNTED VERTICALLY IN THE UNIT DISCHARGE. THE BIRDSCREEN SHALL PRODUCE MINIMAL EFFECT ON AIR AND SOUND PERFORMANCE.
- D. INSTALL FAN IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALL FANS WITH CLEARANCES FOR SERVICE AND MAINTENANCE. MAKE FINAL DUCT CONNECTIONS TO FANS WITH FLEXIBLE CONNECTORS.
- E. BACK DRAFT DAMPER SHALL BE 6063T5 EXTRUDED ALUMINUM FRAME, .025 IN THICK FORMED ALUMINUM BLADES, EXTRUDED VINYL EDGE SEALS, SYNTHETIC BEARINGS, MILL FINISH.
- F. COOK IS BASIS OF DESIGN. APPROVED MANUFACTURERS ARE GREENHECK, PENN AND ACME.
- G. INLINE CABINET EXHAUST FAN - DIRECT DRIVE:
- GN 100 SERIES: THE FAN WHEEL HOUSING AND INTEGRAL OUTLET DUCT SHALL BE INJECTION MOLDED FROM A SPECIALLY ENGINEERED RESIN EXCEEDING UL REQUIREMENTS FOR SMOKE AND HEAT GENERATION. THE OUTLET DUCT SHALL HAVE PROVISION FOR AN ALUMINUM BACKDRAFT DAMPER WITH CONTINUOUS ALUMINUM HINGE ROD. THE INLET BOX SHALL BE MINIMUM 22 GAUGE GALVANIZED STEEL. MOTOR SHALL BE ISOLATION MOUNTED TO A ONE PIECE GALVANIZED STAMPED STEEL INTEGRAL MOTOR MOUNTING LIFT. A FIELD WIRING COMPARTMENT WITH RECEPTACLE SHALL BE STANDARD. WHEEL SHALL BE CENTRIFUGAL FORWARD CURVED TYPE, INJECTION MOLDED OF POLYPROPYLENE RESIN.
  - GN 200-900 SERIES: THE FAN HOUSING SHALL BE MINIMUM 20 GAUGE GALVANIZED STEEL, AND ACoustically INSULATED. SLOWER AND MOTOR ASSEMBLY SHALL BE MOUNTED TO A MINIMUM 14 GAUGE REINFORCING CHANNEL AND SHALL BE EASILY REMOVABLE FROM THE HOUSING. MOTOR SHALL BE MOUNTED ON RUBBER-IN-SHEAR VIBRATION ISOLATORS. UNIT SHALL BE SUPPLIED WITH INTEGRAL WIRING BOX AND RECEPTACLE. DISCHARGE POSITION SHALL BE CONVERTIBLE FROM RIGHT ANGLE TO STRAIGHT THROUGH BY MOVING INTERCHANGEABLE PANELS. THE OUTLET DUCT COLLAR SHALL INCLUDE A REINFORCED ALUMINUM DAMPER WITH CONTINUOUS ALUMINUM HINGE ROD AND BRASS BUSHINGS. WHEEL SHALL BE CENTRIFUGAL FORWARD CURVED TYPE, CONSTRUCTED OF GALVANIZED STEEL.
  - MOTOR SHALL BE OPEN DRIP PROOF TYPE WITH PERMANENTLY LUBRICATED SEALED BEARINGS AND INCLUDE IMPEDANCE OR THERMAL OVERLOAD PROTECTION AND DISCONNECT PLUG. MOTOR SHALL BE FURNISHED AT THE SPECIFIED VOLTAGE AND PHASE.
  - FAN SHALL BE NEMA DESIGN GN AS MANUFACTURED BY LOREN COOK COMPANY. GREENHECK, ACME AND PENN VENTILATOR ARE APPROVED EQUAL.
- H. WALL MOUNTED PROPELLER FAN
- THE FAN SHALL BE OF BOLTED AND WELDED CONSTRUCTION UTILIZING CORROSION RESISTANT FASTENERS. THE MOTOR, BEARINGS AND DRIVES SHALL BE MOUNTED ON A TUBULAR STEEL POWER ASSEMBLY. THE POWER ASSEMBLY SHALL BE BOLTED TO A MINIMUM 14 GAUGE WALL PANEL WITH CONTINUOUSLY WELDED CORNERS AND AN INTEGRAL VENTURI. FAN SHALL BE ENCLOSED IN MINIMUM 18 GAUGE GALVANIZED STEEL WALL HOUSING WITH FACTORY INSTALLED SHUTTER AND INLET GUARD. ALL NON-GALVANIZED STEEL FAN COMPONENTS SHALL BE LORENIZED WITH AN ELECTROSTATICALLY APPLIED, BAKED POLYESTER POWDER COATING. EACH COMPONENT SHALL BE SUBJECT TO A FIVE STAGE ENVIRONMENTALLY FRIENDLY WASH SYSTEM, FOLLOWED BY A MINIMUM 2 MIL THICK BAKED POWDER FINISH. PAINT MUST EXCEED 1,000 HOUR SALT SPRAY UNDER ASTM B117 TEST METHOD.
  - PROPELLER: PROPELLER SHALL BE A HIGH-EFFICIENCY FABRICATED STEEL DESIGN WITH BLADES SECURELY FASTENED TO A MINIMUM 7 GAUGE HUB. THE HUB SHALL BE KEVED AND LOCKED TO THE FAN SHAFT UTILIZING TWO SETSCREWS.
  - MOTOR SHALL BE NEMA DESIGN B WITH CLASS B INSULATION RATED FOR CONTINUOUS DUTY AND FURNISHED AT THE SPECIFIED VOLTAGE, PHASE AND ENCLOSURE. BEARINGS SHALL BE DESIGNED AND TESTED SPECIFICALLY FOR USE IN AIR HANDLING APPLICATIONS. CONSTRUCTION SHALL BE HEAVY DUTY REGREASABLE BALL TYPE IN A CAST IRON PILLLOW BLOCK HOUSING SELECTED FOR A MINIMUM L50 LIFE IN EXCESS OF 200,000 HOURS AT MAXIMUM CATALOGED OPERATING SPEED.
  - BELTS AND DRIVES: BELTS SHALL BE OIL AND HEAT RESISTANT, STATIC CONDUCTING. DRIVES SHALL BE PRECISION MACHINED CAST IRON TYPE, KEVED AND SECURELY ATTACHED TO THE WHEEL AND MOTOR SHAFTS. DRIVES SHALL BE SIZED FOR 150% OF THE INSTALLED MOTOR HORSEPOWER. THE VARIABLE PITCH MOTOR DRIVE MUST BE FACTORY SET TO THE SPECIFIED FAN RPM.
  - FAN SHALL BE THE XLPH AS MANUFACTURED BY LOREN COOK COMPANY OR APPROVED EQUAL.
- I. WALL MOUNTED CETRIFUGAL EXHAUSTER - DIRECT DRIVE:
- FAN SHALL BE OF BOLTED AND WELDED CONSTRUCTION UTILIZING CORROSION RESISTANT FASTENERS. THE SPUN ALUMINUM STRUCTURAL COMPONENTS SHALL BE CONSTRUCTED OF MINIMUM 16 GAUGE MARINE ALLOY ALUMINUM, BOLTED TO A RIGID ALUMINUM SUPPORT STRUCTURE. THE SPUN ALUMINUM WALL FLANGE SHALL HAVE PRE-PUNCHED KEY SLOT HOLES AND A MOUNTING TEMPLATE WITH WALL OPENING LOCATION FOR EASE OF INSTALLATION. THE WINDBAND SHALL HAVE A ROLLED BEAD FOR ADDED STRENGTH. AN INTEGRAL CONDUIT CHASE SHALL BE PROVIDED INTO THE MOTOR COMPARTMENT TO FACILITATE WIRING CONNECTIONS.
  - THE MOTOR SHALL BE ENCLOSED IN A WEATHER-TIGHT COMPARTMENT, SEPARATED FROM THE EXHAUST AIRSTREAM.
  - WHEEL: WHEEL SHALL BE CENTRIFUGAL BACKWARD INCLINED, CONSTRUCTED OF 100% ALUMINUM, INCLUDING A PRECISION MACHINED CAST ALUMINUM HUB. AN AERODYNAMIC ALUMINUM INLET CONE SHALL BE PROVIDED FOR MAXIMUM PERFORMANCE AND EFFICIENCY. MOTOR (ACWD). MOTOR SHALL BE NEMA DESIGN B WITH A MINIMUM OF CLASS B INSULATION RATED FOR CONTINUOUS DUTY AND FURNISHED AT THE SPECIFIED VOLTAGE, PHASE AND ENCLOSURE.
  - MOTOR (ACWD-EC)MOTOR SHALL BE AN ELECTRONICALLY COMMUTATED MOTOR RATED FOR CONTINUOUS DUTY AND FURNISHED EITHER WITH INTERNALLY MOUNTED POTENTIOMETER SPEED CONTROLLER OR WITH LEADS FOR CONNECTION TO 0-10 VDC EXTERNAL CONTROLLER.
  - FAN SHALL BE MODEL ACW-D AS MANUFACTURED BY LOREN COOK COMPANY OR APPROVED EQUAL.

SECTION 15892 - LOW PRESSURE DUCTWORK

- A. GENERAL:
- DUCT SYSTEM SHALL BE FABRICATED WITH SHEET METAL THICKNESSES AND REINFORCED IN ACCORDANCE WITH SECTION 15.870 ON THE DRAWINGS AND AS DESCRIBED HEREIN. DUCTS 18 INCHES AND LARGER ON ANY SIDE SHALL BE STIFFENED BY BEADING ON NOT TO EXCEED 12 INCH CENTERS, UNLESS NOTED OTHERWISE THE MINIMUM PRESSURE/VELOCITY CLASSIFICATION SHALL BE 2 INCH W.G. PLUS OR MINUS, AT 2500 FT. PER MINUTE, DUCT SEAL CLASS "A". DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS.
  - DUCTWORK HANGERS SHALL BE SUPPORTED BY FASTENERS ATTACHED TO STRUCTURAL STEEL. REPAIR FIRE PROOFING WHICH WAS REMOVED FOR DUCTWORK INSTALLATION. INSTALLATION TO BE DONE BY AN APPROVED QUALIFIED TRADESMAN.
  - INSTALL IN THE DUCTWORK DEVICES FURNISHED BY THE TEMPERATURE CONTROLS SUB-CONTRACTOR. INSTALL SMOKE DETECTORS IN DUCTWORK FURNISHED BY THE DIVISION 16 CONTRACTOR.
  - WATER AND OTHER PIPES SHALL NOT BE ALLOWED TO PASS THROUGH AIR RISERS OR DUCTS, UNLESS APPROVED BY THE ENGINEERS, AND WHEN THIS OCCURS, THE SIZE OF SAID DUCT OR RISER SHALL BE PROPORTIONATELY INCREASED. SANITARY WASTE AND VENT PIPING SHALL NOT PENETRATE ANY DUCTWORK.
- B. GALVANIZED STEEL DUCTWORK:
- GALVANIZED STEEL DUCTWORK SHALL CONFORM TO ASTM A653 (G60). ALL LONGITUDINAL SEAMS SHALL BE GROOVED, DOUBLE OR PITTSBURGH TYPE.
- C. DUCTWORK FITTINGS:
- FOR RECTANGULAR DUCTWORK, VANES SHALL BE PROVIDED IN ELBOWS WITH 90 DEGREE THROATS AND THROAT RADII LESS THAN 1-1/2 TIMES DUCT WIDTH. VANES SHALL BE LOCATED IN ACCORDANCE WITH ASHRAE STANDARDS. DOUBLE-VANE AIRFOIL-TYPE TURNING VANES SHALL BE PROVIDED FOR ALL SQUARE TURNS.
- D. HANGERS AND SUPPORTS:
- PROVIDE CONCRETE INSERTS OR STRUCTURAL STEEL FASTENERS APPROPRIATE FOR BUILDING MATERIALS. PROVIDE TRAPEZE AND RISER SUPPORTS AS REQUIRED. SUPPORT MATERIALS SHALL BE THE SAME AS DUCTWORK SUPPORTING.
  - HANGER, STRAPS AND RODS SHALL WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE" STANDARDS.
  - DUCT ATTACHMENTS: SHEET METAL SCREWS, BLIND RIVETS OR SELF-TAPPING METAL SCREWS, COMPATIBLE WITH DUCT MATERIALS.
- E. SEALANT MATERIAL:
- SEALANTS SHALL BE SOLVENT OR WATER BASED TYPE U.L. CLASSIFIED MEETING NFPA 90A CLASS 1 WITH ZERO FIRE AND SMOKE DEVELOPMENT RATING. SEALER SHALL BE UNITED SHEET METAL UNITED DUCT SEALER, OR HARDCAST IRON GRIP NO. 601.
- F. FLEXIBLE CONNECTORS:
- IF WALL FLEXIBLE CONNECTORS AT ALL SUPPLY AND EXHAUST FANS AND OTHER AIR HANDLING UNITS WITH INLET AND OUTLET DUCT OR CASING CONNECTIONS. CONNECTORS SHALL NOT BE PAINTED. CONNECTORS SHALL NOT BE USED AS TRANSITION PIECES BETWEEN FAN AND DUCTWORK.
  - CONNECTORS SHALL NOT BE LESS THAN 4 INCHES LONG (IN CLEAR) AND PROPERLY ATTACHED TO DUCT AND FAN CONNECTION COLLAR BY 1 X 1/8 INCH DRAW BAR (FABRICATED OF THE SAME MATERIAL AS ADJACENT DUCTWORK) FIRMLY CLAMPED AROUND COLLARS IN SUCH A MANNER AS TO BE AIRTIGHT AND SECURED TO COLLARS WITH SHEET METAL SCREWS.
  - FLEXIBLE CONNECTORS SHALL BE U.L. LISTED, NEOPRENE COATED HEAVY GLASS FABRIC. FABRIC SHALL BE VENTGLAS, MANUFACTURED BY VENTFABRICS, INC.
- G. FLEXIBLE DUCTWORK:
- FLEXIBLE DUCTS SHALL BE USED FOR STRAIGHT RUNS OF DUCT OR OFFSETS UP TO 45 DEGREES, BUT NOT EXCEEDING 48 INCHES IN LENGTH. THE USE OF FLEXIBLE DUCTS AS ELBOWS WITH MORE THAN A 45 DEGREE BEND WILL NOT BE PERMITTED.
  - FLEXIBLE DUCT SHALL BE UL LISTED AND LABELED AS CLASS 1, AIR DUCT CONNECTOR, IN ACCORDANCE WITH U.L. STANDARD 181 AND SHALL MEET THE REQUIREMENTS OF THE LATEST NFPA BULLETTIN, NO. 90A AND NO. 90B FOR FLAME SPREAD AND SMOKE DEVELOPMENT RATING.
  - FLEXIBLE DUCT SHALL BE RATED FOR A MAXIMUM PRESSURE OF 6 INCH POSITIVE AND 3/4 INCH NEGATIVE AND 4000 FPM MAXIMUM VELOCITY. AIR DUCT SHALL CONSIST OF: OPE LINER, COATED SPRING STEEL WIRE HELIX; FIBERGLASS INSULATING BLANKET, FIBERGLASS SCRIM AND REINFORCED ALUMINUM VAPOR BARRIER. THERMAL CONDUCTANCE SHALL BE .23 OR LESS.
  - DUCT SHALL BE FLEXMASTER TYPE 8M OR PRIOR APPROVED EQUAL.
- A. VOLUME DAMPERS:
- SINGLE BLADE DAMPERS SHALL BE CONSTRUCTED OF 22 GAUGE GALVANIZED STEEL (BLADE AND FRAME). SINGLE BLADE DAMPERS SHALL BE LIMITED TO A 12 INCH HIGH BLADE. BLADE EDGES SHALL BE CRIMPED OR REINFORCED. DAMPER LEVERS SHALL INDICATE POSITIVELY THE OPEN AND CLOSED POSITION. END BEARINGS SHALL BE MOLDED SYNTHETIC. DAMPERS SHALL BE RUSKIN MD25 OR APPROVED EQUAL (RUSKIN MDRS25 FOR ROUND DUCTS).
  - MULTIBLADE DAMPERS SHALL BE CONSTRUCTED OF SHEET METAL THE SAME MATERIAL AS THE ADJACENT DUCTWORK. DAMPER FRAME SHALL BE NOT LESS THAN 16 GA. DAMPER BLADES NOT WIDER THAN 6 INCHES CRIMPED OR REINFORCED. DAMPER LEVERS SHALL INDICATE POSITIVELY THE OPEN AND CLOSED POSITION. END BEARINGS SHALL BE MOLDED SYNTHETIC. DAMPER SHALL BE RUSKIN MD35 OR APPROVED EQUAL.
- B. FIRE DAMPERS:
- FIRE DAMPERS SHALL BE UNDERWRITERS APPROVED AND LABELED (UL555). DAMPERS SHALL BE FABRICATED OF GALVANIZED STEEL AND SHALL BE OF SUCH A DESIGN AND LENGTH AS TO FUNCTION AS A WALL MOUNTING SLEEVE, WHICH SHALL BE A PART OF THE FIRE DAMPER. SLEEVES SHALL BE OF WELDED OR BOLTED CONSTRUCTION, CRIMPING OR TABS WILL NOT BE ACCEPTABLE SUBSTITUTES FOR WELDING OR BOLTING.
  - FIRE DAMPERS SHALL BE RUSKIN DDB2 SERIES FOR 12 HOUR RATING. FIRE DAMPERS SHALL BE RUSKIN DDB23 SERIES FOR 3 HOUR RATING. INSTALL STYLE A FIRE DAMPERS BEHIND DUCTED GRILLES AND REGISTERS IN RATED WALLS. INSTALL STYLE B OR C FIRE DAMPERS IN DUCTED OPENINGS IN RATED WALLS. AIR BALANCE AND PREFCO ARE APPROVED EQUAL.
- C. DAMPER HARDWARE:
- ALL HARDWARE SHALL BE SMACNA ACCEPTED. INSULATED DUCTWORK (CONCEALED) - VENTLOK 638 ELEVATED DIAL REGULATOR. INSULATED DUCTWORK (EXPOSED) - VENTLOK 644 - SELF LOCKING REGULATOR. UNINSULATED DUCTWORK - VENTLOK 555 OR 560 QUADRANTS.
- D. DUCT ACCESS DOORS:
- ACCESS DOORS SHALL BE HINGED, CONSTRUCTED OF THE SAME MATERIAL AS THE DUCTWORK. DOOR EDGES SHALL BE SEALED WITH 3/4 INCH WIDE X 1/8 INCH THICK NEOPRENE SPONGE GASKETING. DOOR HARDWARE SHALL BE VENTLOK #100 LATCHES. ACCESS DOORS ON INSULATED DUCTWORK SHALL BE DOUBLE WALL CONSTRUCTION WITH 1 INCH OF RIGID 3 PCF FIBERGLASS INSULATION.
  - PROVIDE DUCT ACCESS DOORS AT ALL DUCT MOUNTED DEVICES REQUIRING ADJUSTMENT OR RESETTING. ACCESS DOORS SHALL BE APPROXIMATELY 18 INCHES HIGH BY 24 INCHES WIDE. IN SMALLER DUCTWORK, THE HEIGHT SHALL BE REDUCED TO BE 2 INCHES LESS THAN THAT OF THE DUCTWORK.

SECTION 15906 - TEMPERATURE CONTROLS

- A. GENERAL:
- FURNISH AND INSTALL AN ELECTRIC SYSTEM OF AUTOMATIC TEMPERATURE CONTROL AS SPECIFIED HEREIN AND AS SHOWN ON THE DRAWINGS AND AS MANUFACTURED BY HONEYWELL, JOHNSON CONTROLS, INVENSYS, OR APPROVED EQUAL.
  - EXTRA COSTS INCURRED BY USE OF OTHER THAN BASE BID CONTROL SYSTEM, SUCH AS WIRING, CONTRACT DRAWINGS CHANGES, CHANGES IN DESIGN, ADDED SUPERVISION, ETC., SHALL BE THE RESPONSIBILITY OF THE TEMPERATURE CONTROL SUBCONTRACTOR (TCSC).
  - SYSTEM DOCUMENTATION SHALL INCLUDE THE FOLLOWING: MANUFACTURER'S DATA SHEETS OF ALL PRODUCTS (ORIGINAL COPIES), COMPLETE DESCRIPTION OF OPERATION OF ALL CONTROL LOOPS, INCLUDING RECOMMENDED SETPOINTS AND RANGES OF ADJUSTMENT; FULLY LABELED ELEMENTARY DIAGRAM (ELECTRICAL LADDER DIAGRAM), AND LISTS OF ALL PROPOSED DEVICES AND EQUIPMENT.
- B. MOTOR OPERATORS: MOTOR OPERATOR SHALL BE SPRING RETURN TYPE, WHICH RETURNS MOTOR ACTUATOR SHAFT TO ITS FULL NORMAL MECHANICAL TRAVEL UPON POWER FAILURE. DAMPER MOTOR DRIVE MECHANISM WILL INCLUDE HOLDING BRAKE TO KEEP THE RETURN SPRING FROM DRAWING THE ACTUATOR FROM DRIVING TOWARD ITS NORMAL POSITION UNLESS POWER IS INTERRUPTED. SUPPLY AND INSTALL ELECTRIC MOTOR OPERATORS FOR ALL DAMPERS. UNIT SHALL BE HONEYWELL MS8105A SERIES OR APPROVED EQUAL.
- C. AUTOMATIC DAMPERS: ALL CONTROL DAMPERS SHALL BE STANDARD PRODUCTS OF DAMPER OR TEMPERATURE CONTROL MANUFACTURERS UNLESS NOTED OTHERWISE. LOCAL FABRICATION OF DAMPERS IS NOT ALLOWED. DAMPERS SHALL BE OPPOSED BLADE TYPE. FURNISH FOR INSTALLATION BY THE MECHANICAL CONTRACTOR ALL MOTOR OPERATED DAMPERS. DAMPERS SHALL BE RUSKIN MODEL CD50. GREENHECK IN AN APPROVED EQUAL.
- D. THERMOSTATS:
- PROVIDE HVAC THERMOSTAT WITH THE FOLLOWING FEATURES: SEVEN DAY PROGRAMMING, TWO OCCUPIED/TWO UNOCCUPIED PERIODS PER DAY, AUTOMATIC HEAT/COOL CHANGEOVER WITH A MINIMUM DEAD BAND, TWO STAGES HEATING, TWO STAGE COOLING, TOUCHSCREEN DISPLAY, AUXILIARY CONTROL, AND TEMPERATURE OVERRIDE. THERMOSTAT SHALL BE HONEYWELL VISIONPRO 8000 OR EQUAL.
  - PROVIDE HEATER AND VENTILATION THERMOSTAT WITH THE FOLLOWING FEATURES: SINGLE STAGE CONTROL, ON/OFF/AUTO SWITCHING, AND ADJUSTABLE SETPOINT CONTROL.
- E. TEMPERATURE CONTROL WIRING:
- ALL CONTROL WIRING AND CONDUIT REQUIRED TO COMPLETE THE TEMPERATURE CONTROL SYSTEM SHALL BE PROVIDED BY THE TEMPERATURE CONTROL SUB-CONTRACTOR. ALL WIRING SHALL CONFORM TO STANDARDS AND SPECIFICATIONS OUTLINED IN DIVISION 16. WIRE SIZE SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND NATIONAL ELECTRIC CODE. MINIMUM CONDUIT SHALL BE 1/2 INCH DIAMETER. TCSC SHALL COORDINATE ALL CONTROL POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO BID.
  - ELECTRIC CONNECTIONS BETWEEN THE VARIOUS UNIT CONTROL CABINETS SHALL BE MADE BY THE TCSC. ALL WIRING MUST BE TAGGED ON BOTH ENDS WITH PANEL NUMBER AND TERMINAL NUMBER.
  - THE TCSC IS RESPONSIBLE FOR ALL REQUIRED PROCESS AND ELECTRICAL CONNECTIONS TO ALL EQUIPMENT, CONTROL DEVICES, AND FIELD INSTRUMENTS. TCSC SHALL FURNISH AND INSTALL ALL CONDUITS, RACEWAYS, ETC., REQUIRED. TCSC SHALL FURNISH AND INSTALL ALL CONTROL AND INTERLOCK WIRING. TCSC SHALL FURNISH AND INSTALL ALL REQUIRED AUXILIARY STARTER CONTACTS OR RELAYS, ETC., FOR A COMPLETE ELECTRICAL INTERLOCK AND CONTROL WIRING SYSTEM.
- F. INSTALLATION:
- THE ENTIRE CONTROL SYSTEM, INCLUDING LOW VOLTAGE WIRING, WITH THE EXCEPTION OF DUCT MOUNTED AUTOMATIC DAMPERS AND SMOKE DETECTORS, SHALL BE INSTALLED BY THE TEMPERATURE CONTROL CONTRACTOR, WHO SHALL MAKE ALL TESTS AND ADJUSTMENTS. ALL CONTROLS SHALL BE FIELD-TESTED AND FIELD-CALIBRATED.
  - SET POINTS OF ALL CONTROLLING INSTRUMENTS ARE INDICATED AT A SPECIFIC POINT; HOWEVER, ALL SET POINTS SHALL BE ADJUSTABLE UP AND DOWN FROM THE POINT INDICATED.
  - CONTRACTOR SHALL SUBMIT TENTATIVE LOCATIONS OF ALL CONTROL DEVICES AND COMPONENTS (INCLUDING TEMPERATURE SENSORS) TO THE ARCHITECT FOR WRITTEN APPROVAL PRIOR TO INSTALLATION. CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO LOCATION OF CONTROL DEVICES AND COMPONENTS TO LOCATION OF CONTROL DEVICES AND COMPONENTS. EFFECTS OF DRAFTS, RADIANT HEAT, VIBRATION, ETC ARE TO BE CONSIDERED WHEN INSTALLING CONTROL DEVICES AND COMPONENTS.
  - PRIOR TO ORDERING FACTORY ASSEMBLED EQUIPMENT WHICH CONTAINS INTEGRAL CONTROL DEVICES AND COMPONENTS, THE CONTRACTOR SHALL OBTAIN A WRITTEN STATEMENT FROM BOTH THE MANUFACTURER AND THE INSTALLING CONTRACTOR THAT THEY HAVE REVIEWED THE APPROPRIATE SUBMITTAL DATA AND ARE AWARE OF THE MAKE, MODEL, TYPE, SIZE, CHARACTERISTICS, ETC. OF THE FACTORY ASSEMBLED CONTROL DEVICES AND COMPONENTS WHICH THEY SHALL BE REQUIRED TO INTERFACE TO AND/OR CONTROL.
  - ALL CONTROL DEVICES (BOTH FIELD AND PANEL MOUNTED) SHALL BE LABELED TO INDICATE BOTH THEIR CONTROL SYSTEMS DESIGNATION, E.G., RTU-1, THERMOSTAT, UNLESS INDICATED OTHERWISE. ABBREVIATIONS AND ACRONYMS FOR ALL ID TAGS AND PANEL FACEPLATES SHALL BE APPROVED BY THE ENGINEER.
  - ALL CONTROL DEVICES ARE TO BE MOUNTED IN ACCESSIBLE LOCATIONS. ALL DEVICES EXPOSED TO THE WEATHER SHALL BE HOUSED IN WEATHERPROOF ENCLOSURES AT THE COMPLETION OF THE JOB. TCSC SHALL CORRECT HIS DRAWINGS TO INCLUDE ANY CHANGES MADE DURING CONSTRUCTION. TCSC SHALL PROVIDE COLOR-CODED DRAWINGS INDICATED ALL TEMPERATURE ZONES AND EQUIPMENT (3 COPIES).
- G. OPERATION TEST AND OWNERS INSTRUCTION:
- AT COMPLETION, TCSC SHALL OPERATE THE SYSTEM FOR A PERIOD OF AT LEAST THREE DAYS OF EIGHT HOURS EACH ON THE NEW SYSTEMS TO DEMONSTRATE FULFILLMENT OF THE REQUIREMENTS OF THE CONTRACT. DURING THIS TIME, ALL ADJUSTMENTS SHALL BE MADE TO THE EQUIPMENT SO THAT IT IS IN FIRST-CLASS OPERATING CONDITION. THE ENTIRE SYSTEM IS TO BE LEFT IN OPERATING CONDITION ACCEPTABLE TO THE ENGINEER.
  - UPON COMPLETION OF THE WORK AND ACCEPTANCE BY THE OWNER, TCSC SHALL PROVIDE ONE SCHEDULED FOUR-HOUR PERIOD OF FORMAL INSTRUCTION TO THE OWNER'S OPERATING PERSONNEL WHO HAVE RESPONSIBILITY FOR THE MECHANICAL SYSTEM.
- H. SEQUENCE OF OPERATIONS:
- HVAC UNITS:
    - NORMAL OPERATION:
      - UNITS SHALL BE CONTROLLED BY SPACE THERMOSTAT. FAN SHALL OPERATE CONTINUOUSLY DURING OCCUPIED MODE AND INTERMITTENTLY DURING UNOCCUPIED MODE.
      - HEATING AND COOLING SHALL BE ENABLED BY THERMOSTAT.
      - COOLING SETPOINT SHALL BE 73°F (ADJUSTABLE).
      - HEATING SETPOINT SHALL BE 68°F (ADJUSTABLE).
      - OUTSIDE AIR DAMPER SHALL OPEN DURING OCCUPIED MODE AND CLOSE DURING UNOCCUPIED MODE. OUTSIDE AIR DAMPER SHALL BE NORMALLY CLOSED AND RETURN TO NORMAL POSITION UPON LOSS OF POWER.    - EXHAUST FANS:
      - INTERLOCK EXHAUST FANS AS NOTED ON SCHEDULE.



Engineering & Design Consultants  
2111 Parkway Office Circle, Suite 125  
Birmingham, AL 35244  
(205) 733-6912 FAX: (205) 733-6913  
Job No.24067



4/8/24

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

FINAL

No.	Description	Date

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Mechanical Specifications

Project number	24004
Date	4/8/24
Drawn by	CA
Checked by	JB

M0.03

Scale 12" = 1'-0"









Engineering & Design Consultants  
2111 Parkway Office Circle, Suite 125  
Birmingham, AL 35244  
(205) 733-6912 FAX: (205) 733-6913  
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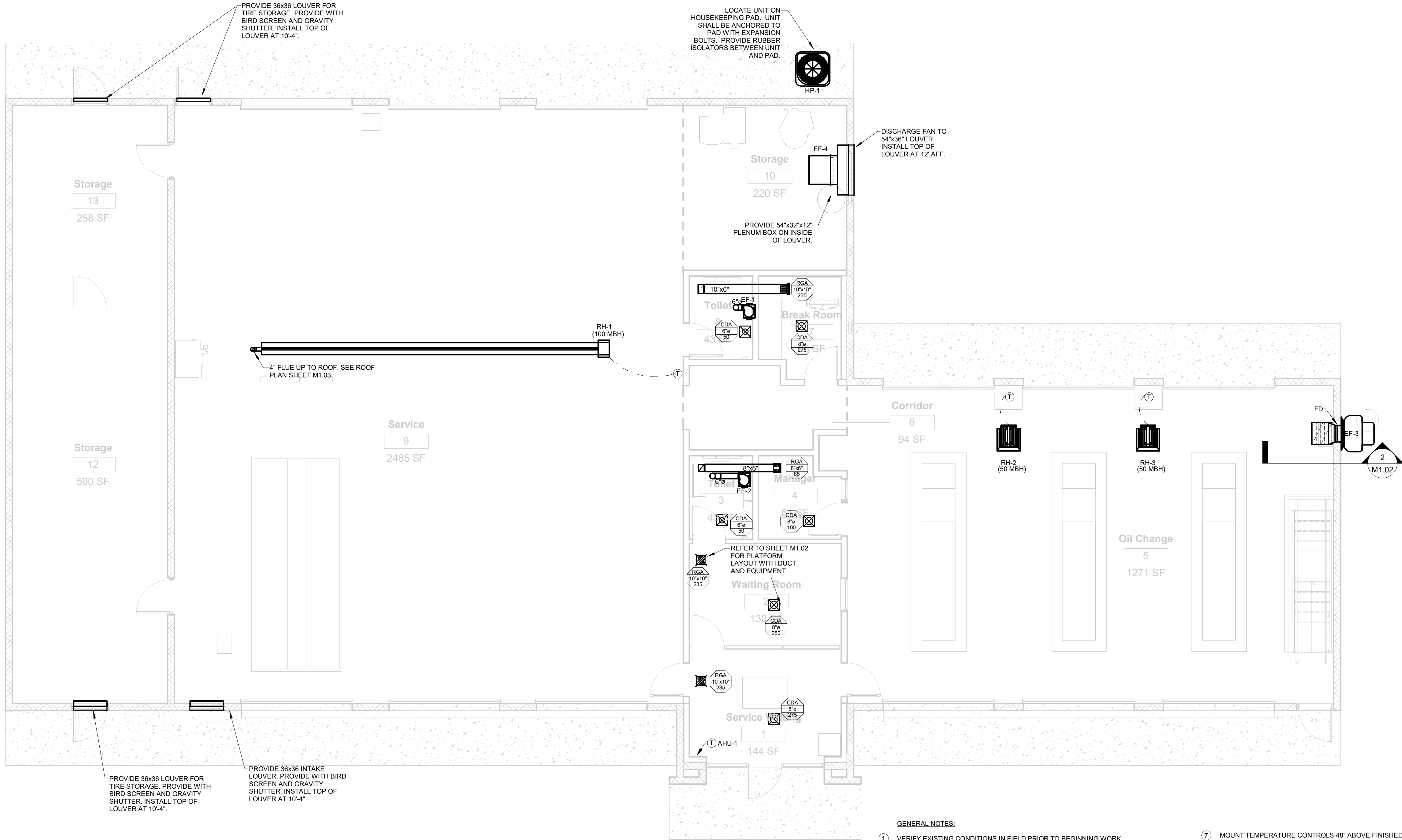
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### Mechanical Floor Plan

Project number	24004
Date	4/8/24
Drawn by	CA
Checked by	JB

M1.01

Scale As indicated

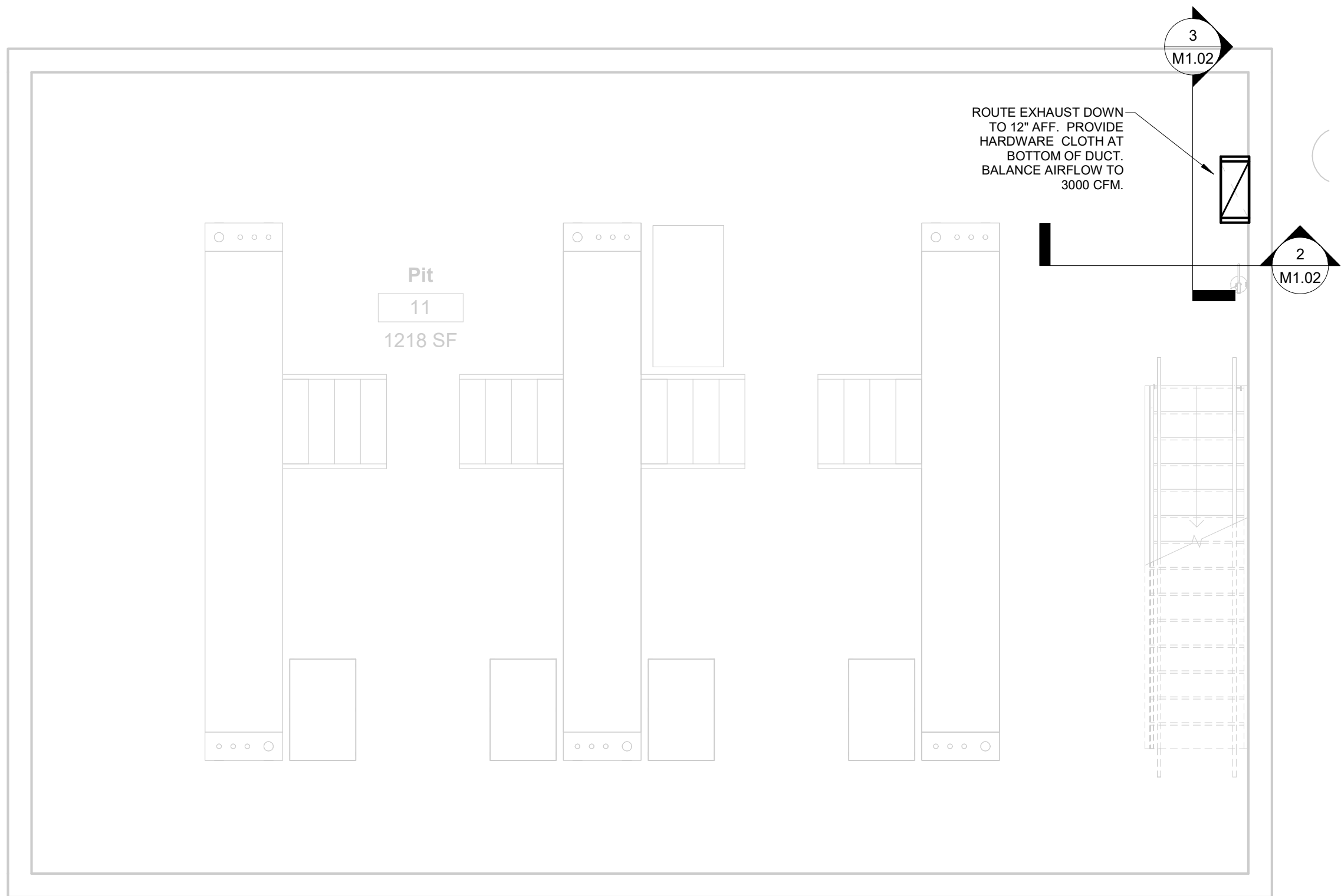


MAIN FLOOR PLAN  
MECHANICAL  
3/16" = 1'-0"

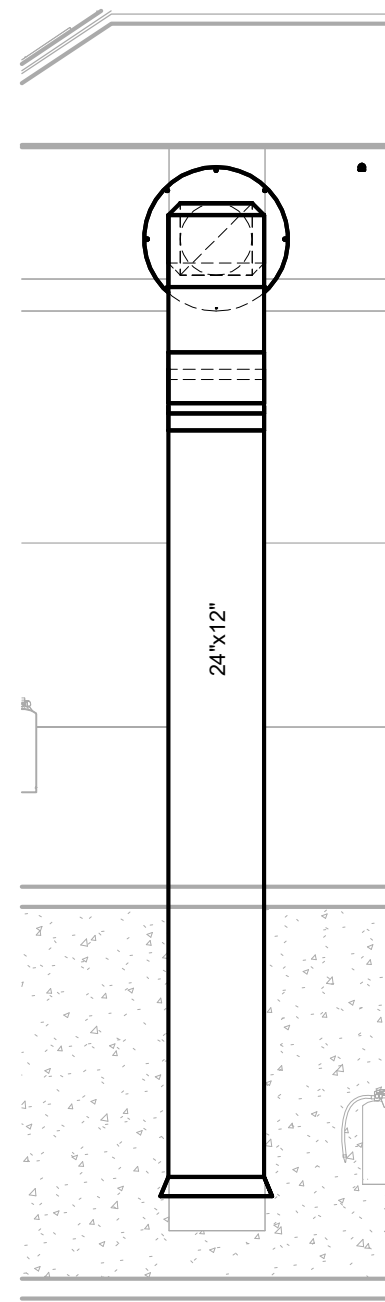
#### GENERAL NOTES:

- VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.
- SPACE ABOVE CEILING IS LIMITED. CAREFUL COORDINATION WITH LIGHTING, ELECTRICAL, PLUMBING, STRUCTURAL, AND ARCHITECTURAL WORK IS CRITICAL TO DUCTWORK INSTALLATION.
- PROVIDE NECESSARY OFFSETS IN PIPING, ELECTRICAL CONDUIT, AND DUCTWORK AS REQUIRED TO ACCOMMODATE NEW WORK. DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL DETAILS NOR CHANGES IN DUCTWORK ELEVATIONS NECESSARY FOR COMPLETE INSTALLATION.
- COORDINATE CEILING AIR DEVICE LOCATIONS WITH LIGHTING PLAN AND ARCHITECT'S REFLECTED CEILING PLAN.
- DUCTWORK SHALL BE RUN TIGHT TO STRUCTURE. AVOID CROSSING OVER LIGHTS AND OTHER DUCTS DUE TO TIGHT CLEARANCES.
- LOUVERS SHALL BE RUSKIN EME520DD OR APPROVED EQUAL. PROVIDE UNIT WITH BIRDSCREEN AND MILL ALUMINUM FINISH. COORDINATE EXACT HEIGHT AND COLOR OF LOUVER WITH ARCHITECT PRIOR TO ORDERING.
- MOUNT TEMPERATURE CONTROLS 48" ABOVE FINISHED FLOOR. COORDINATE EXACT LOCATION WITH ARCHITECT.
- SPILL CONDENSATE FROM AHUS INTO NEAREST FLOOR DRAIN.
- PROVIDE ENGRAVED PLASTIC LABEL AT TERMINATION OF EACH AUXILIARY CONDENSATE DRAIN LINE READING AS FOLLOWS:  
"AHU-### AUXILIARY DRAIN LINE."  
\*NOTIFY MAINTENANCE PERSONNEL WHEN WATER IS FLOWING\*
- CONNECT CONDENSATE DRAIN PIPING TO AIR HANDLING UNITS IN ACCORDANCE WITH DETAILS.
- OUTSIDE AIR VENTILATION INTAKES FOR OIL CHANGE AND SERVICE AREAS WILL BE PROVIDED BY OPEN ROLL-UP DOORS. DOORS SHALL BE OPEN WHILE VENTILATION SYSTEM IS ENABLED.

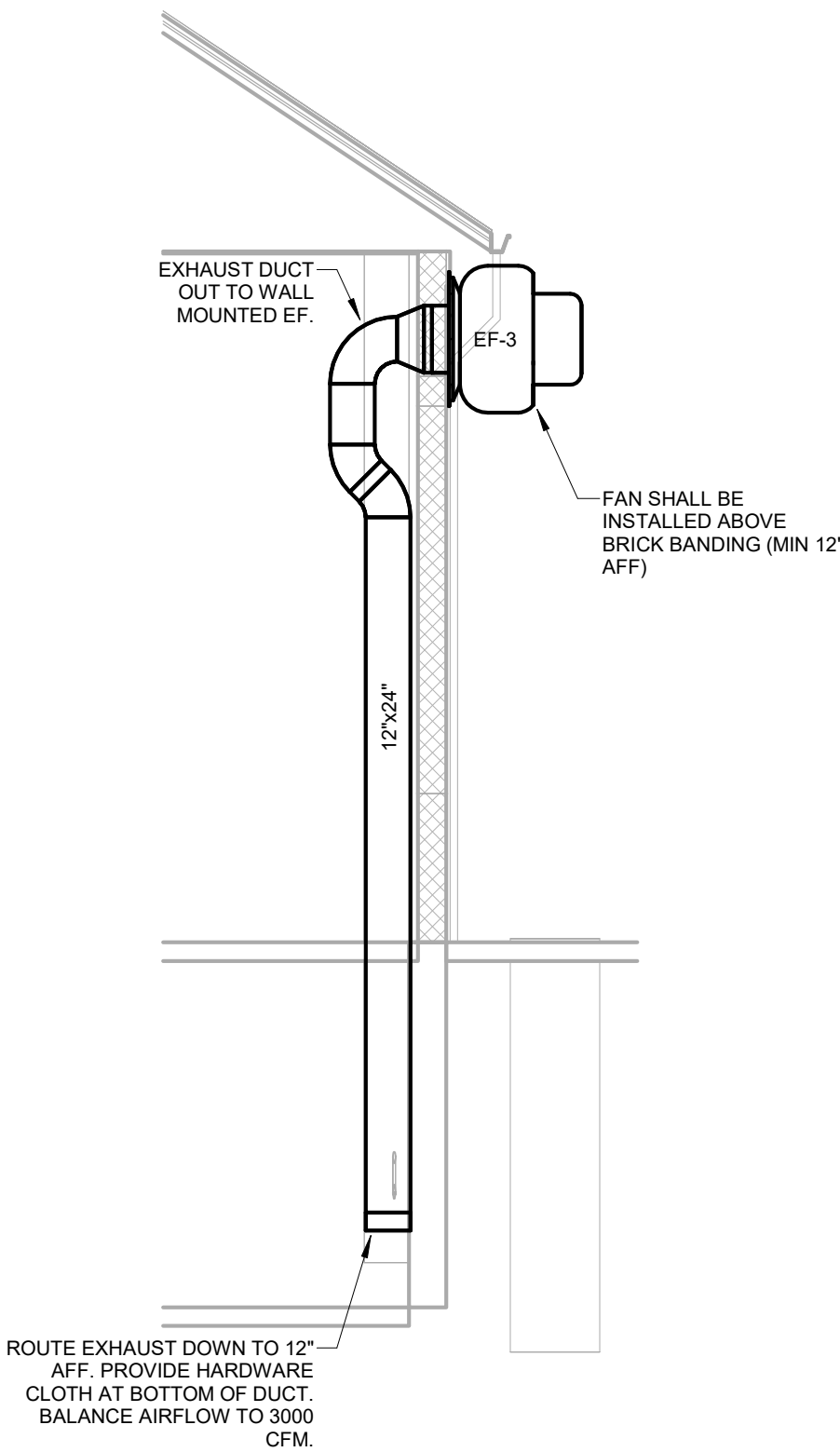




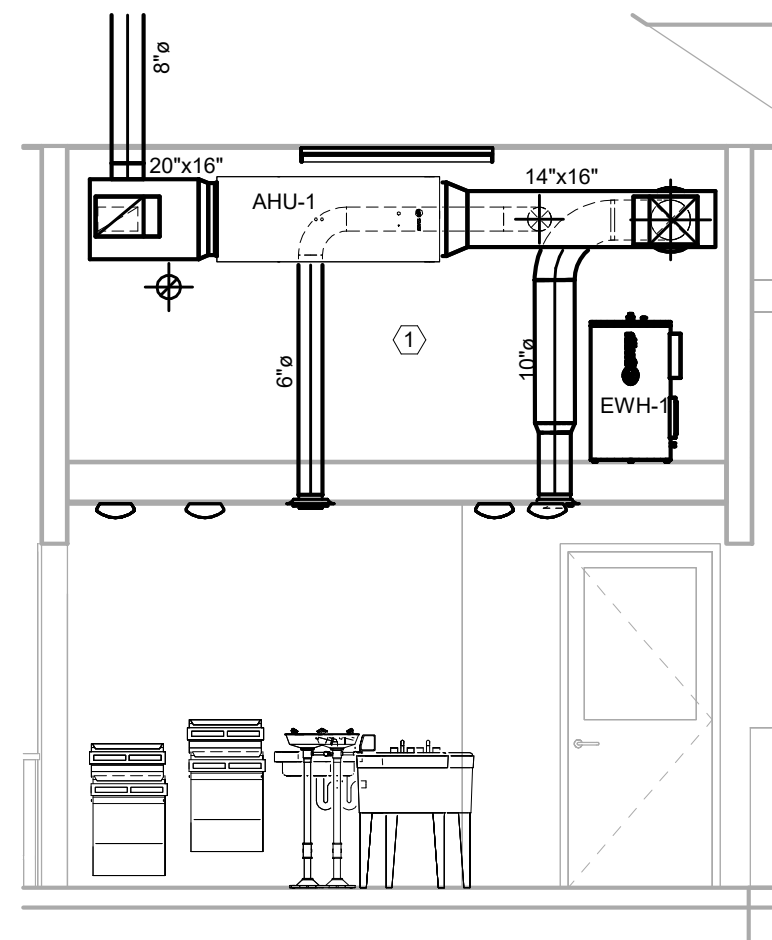
PIT FLOOR PLAN  
MECHANICAL  
NORTH 1/4" = 1'-0"



3 Section 2  
M1.02 1/4" = 1'-0"

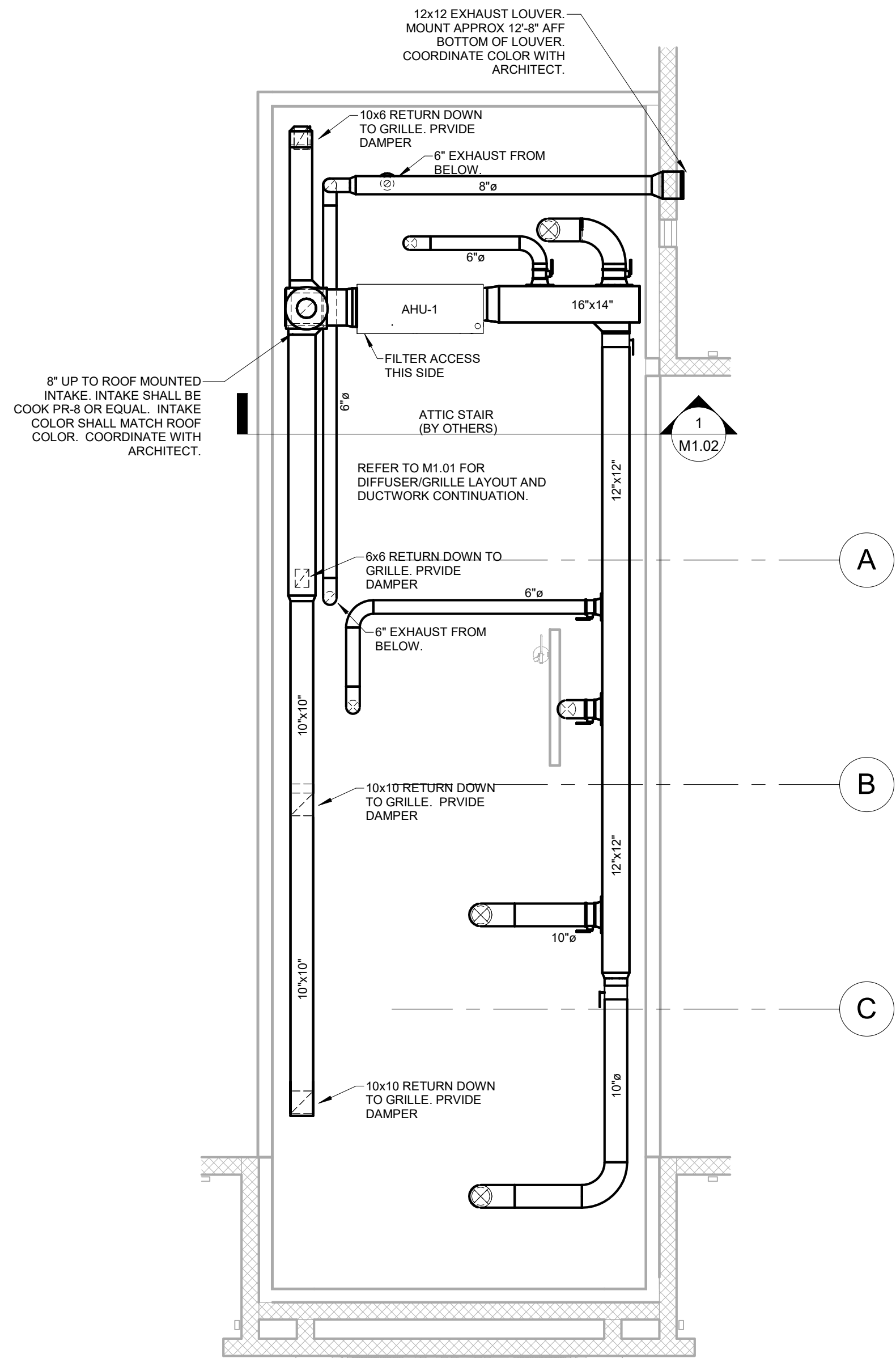


2 Section Through Pit Exhaust1  
M1.02 1/4" = 1'-0"



DRAWING NOTES:  
1 INSTALL DUCTWORK AND EQUIPMENT IN EQUIPMENT PLATFORM SPACE TO ALLOW FOR MAXIMUM USE OF FLOOR AREA. EQUIPMENT SHALL BE HUNG FROM STRUCTURE ABOVE AND DUCTS ROUTED DOWN VERTICALLY THROUGH FLOOR.

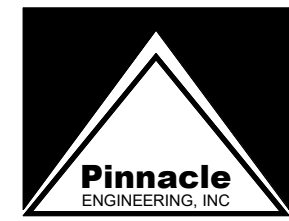
1 Section 6  
M1.02 1/4" = 1'-0"



EQUIPMENT PLATFORM  
MECHANICAL  
NORTH 1/4" = 1'-0"

GENERAL NOTES:

- 1 VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.
- 2 SPACE ABOVE CEILING IS LIMITED. CAREFUL COORDINATION WITH LIGHTING, ELECTRICAL, PLUMBING, STRUCTURAL, AND ARCHITECTURAL WORK IS CRITICAL TO DUCTWORK INSTALLATION.
- 3 PROVIDE NECESSARY OFFSETS IN PIPING, ELECTRICAL CONDUIT, AND DUCTWORK AS REQUIRED TO ACCOMMODATE NEW WORK. DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL DETAILS NOR CHANGES IN DUCTWORK ELEVATIONS NECESSARY FOR COMPLETE INSTALLATION.
- 4 COORDINATE CEILING AIR DEVICE LOCATIONS WITH LIGHTING PLAN AND ARCHITECT'S REFLECTED CEILING PLAN.
- 5 DUCTWORK SHALL BE RUN TIGHT TO STRUCTURE. AVOID CROSSING OVER LIGHTS AND OTHER DUCTS DUE TO TIGHT CLEARANCES.
- 6 LOUVERS SHALL BE RUSKIN EME320DD OR APPROVED EQUAL. PROVIDE UNIT WITH BIRDSCREEN AND MILL ALUMINUM FINISH. COORDINATE EXACT HEIGHT AND COLOR OF LOUVER WITH ARCHITECT PRIOR TO ORDERING.
- 7 MOUNT TEMPERATURE CONTROLS 48" ABOVE FINISHED FLOOR. COORDINATE EXACT LOCATION WITH ARCHITECT.
- 8 SPILL CONDENSATE FROM AHUS INTO NEAREST FLOOR DRAIN.
- 9 PROVIDE ENGRAVED PLASTIC LABEL AT TERMINATION OF EACH AUXILIARY CONDENSATE DRAIN LINE READING AS FOLLOWS:  
"AHU-### AUXILIARY DRAIN LINE."  
"NOTIFY MAINTENANCE PERSONNEL WHEN WATER IS FLOWING"
- 10 CONNECT CONDENSATE DRAIN PIPING TO AHU IN ACCORDANCE WITH DETAILS.



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4/8/24

Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL

No.	Description	Date

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Partial Mechanical  
Floor Plans - Pit  
and Platform

Project number	24004
Date	4/8/24
Drawn by	CA
Checked by	JB

M1.02

Scale As indicated





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No.	Description	Date

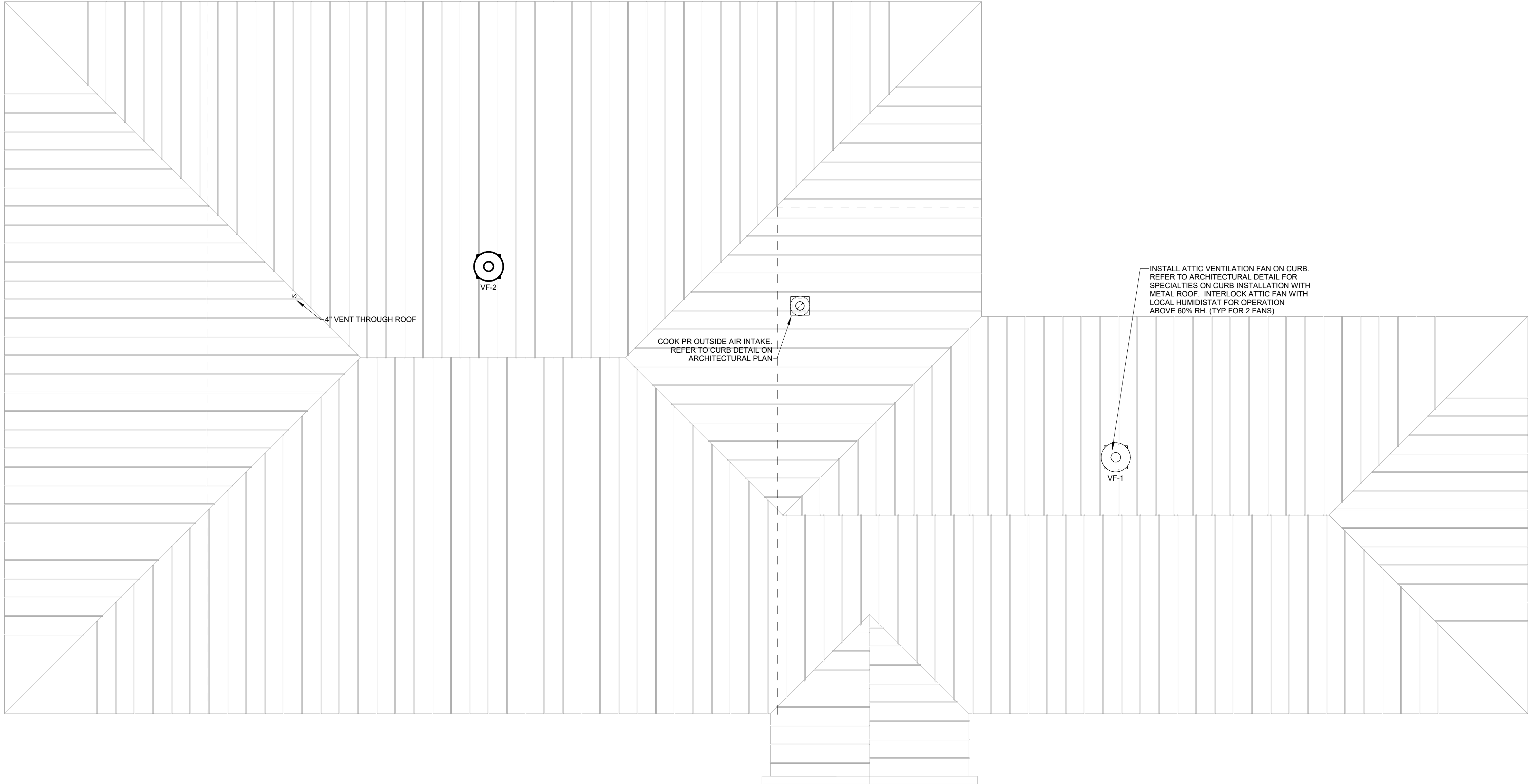
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Mechanical Roof  
Plan

Project number	24004
Date	4/8/24
Drawn by	CRA
Checked by	JAB

M1.03

Scale As indicated

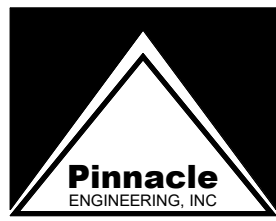


MECHANICAL ROOF PLAN  
3/16" = 1'-0"  
NORTH

GENERAL NOTES:

- 1. VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.
- 2. INTAKE FOR ATTIC VENTILATION TO BE PROVIDED AT SOFFIT. SEE ARCHITECTURAL PLANS.





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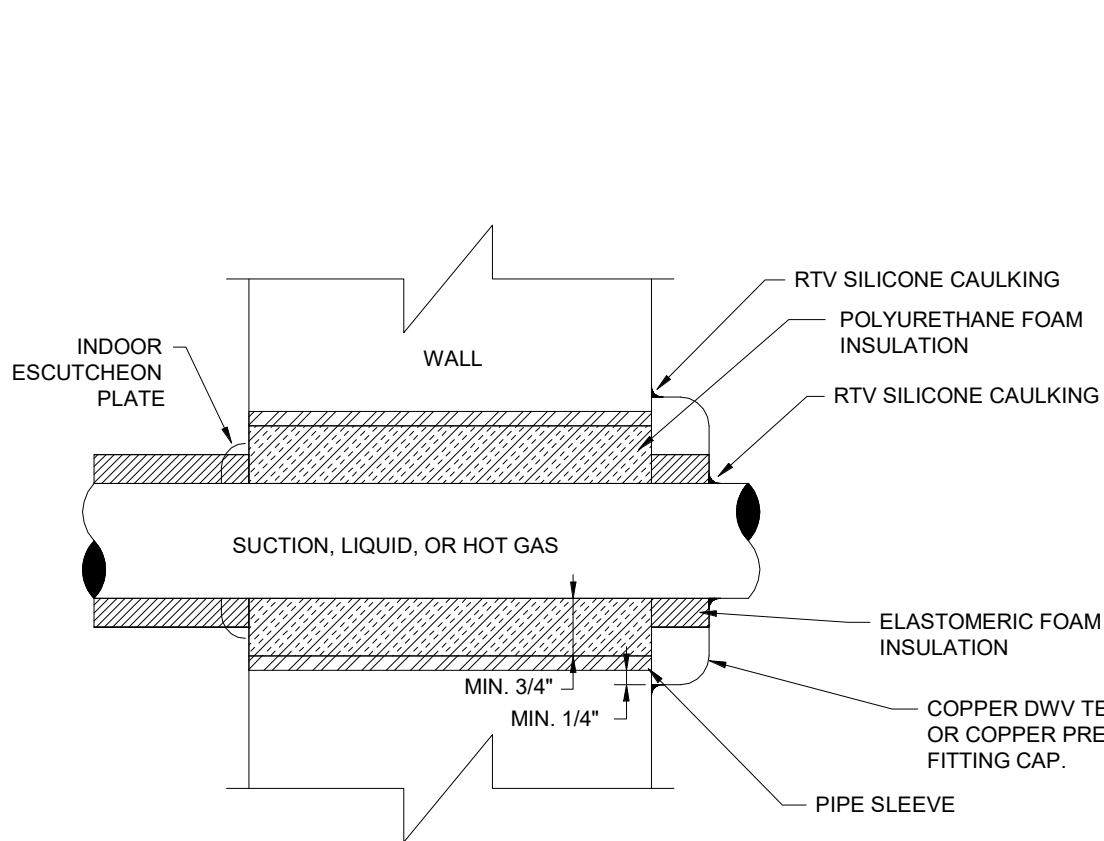
Mechanical Details

Project number	24004
Date	4/8/24
Drawn by	CA
Checked by	JB

M2.01

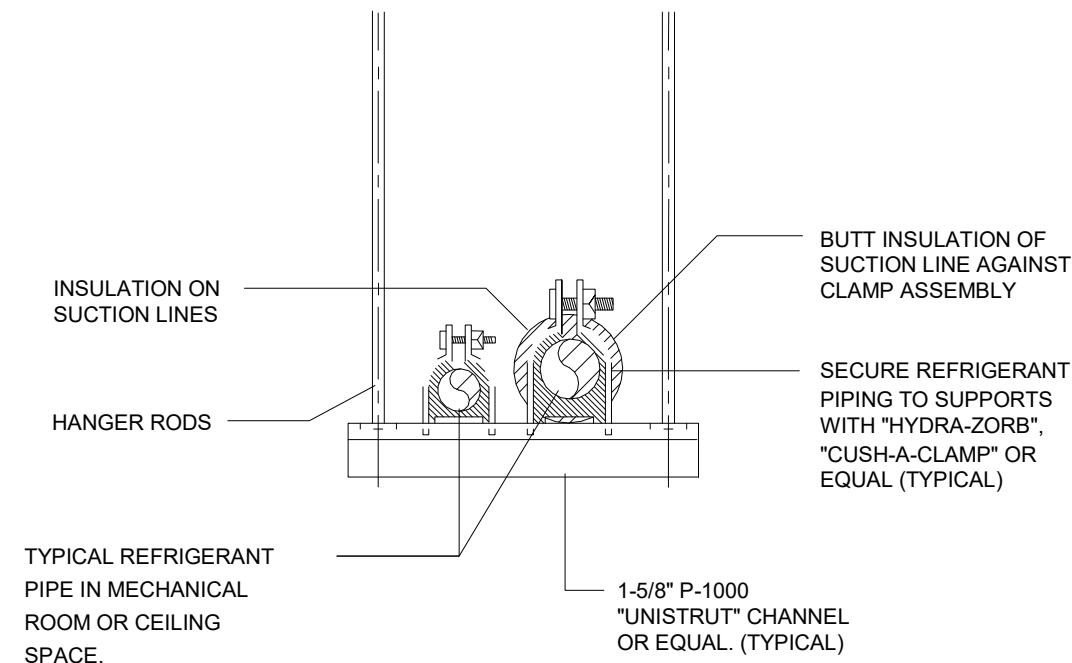
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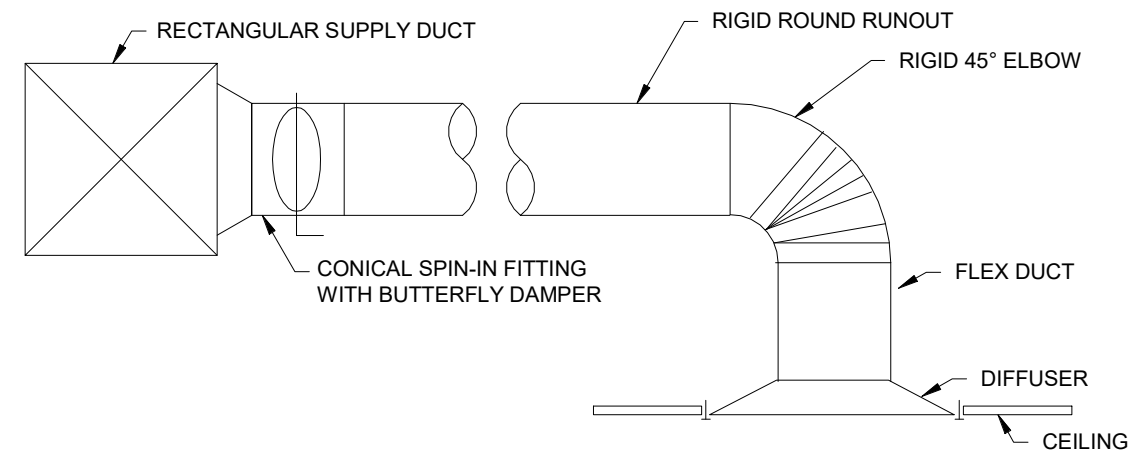


NOTES:

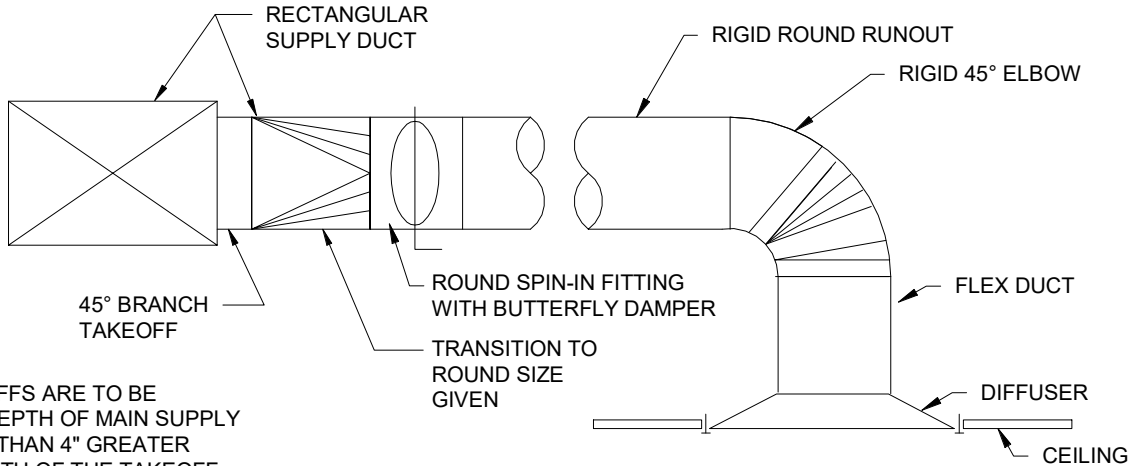
1. SEAL OPENING WITH POLYURETHANE FOAM, EQUAL TO VERSI-FOAM TRIM OFF EXCESS FOAM.
2. PROVIDE INTERMEDIATE SUPPORTS AS REQUIRED.
3. OMIT ELASTOMERIC INSULATION ON LIQUID LINE.



7 **REFRIGERANT PIPING SUPPORT DETAIL**  
TYPICAL FOR PIPING SUSPENDED FROM STRUCTURE  
NO SCALE



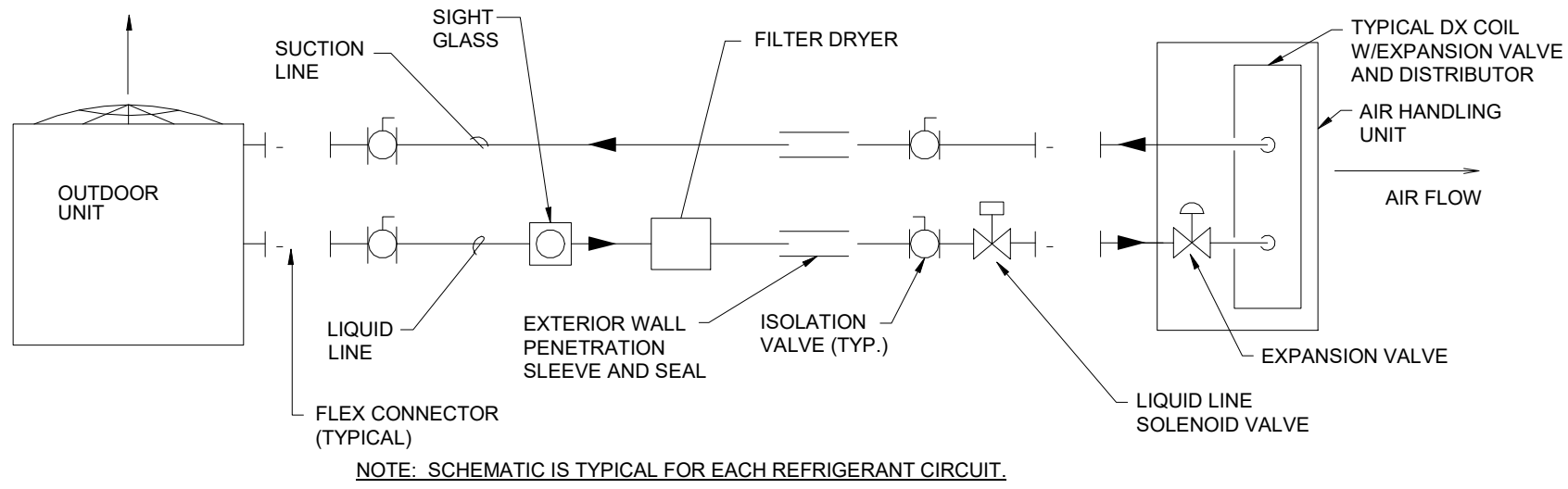
TYPE 1



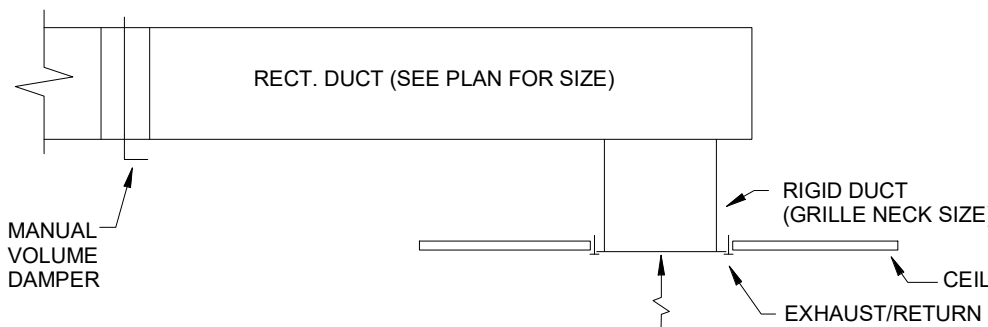
TYPE 2

NOTE:  
TYPE 2 TAKEOFFS ARE TO BE USED WHEN DEPTH OF MAIN SUPPLY DUCT IS LESS THAN 4\"/>

4 **TYPICAL DIFFUSER RUN-OUT DETAIL**  
NO SCALE

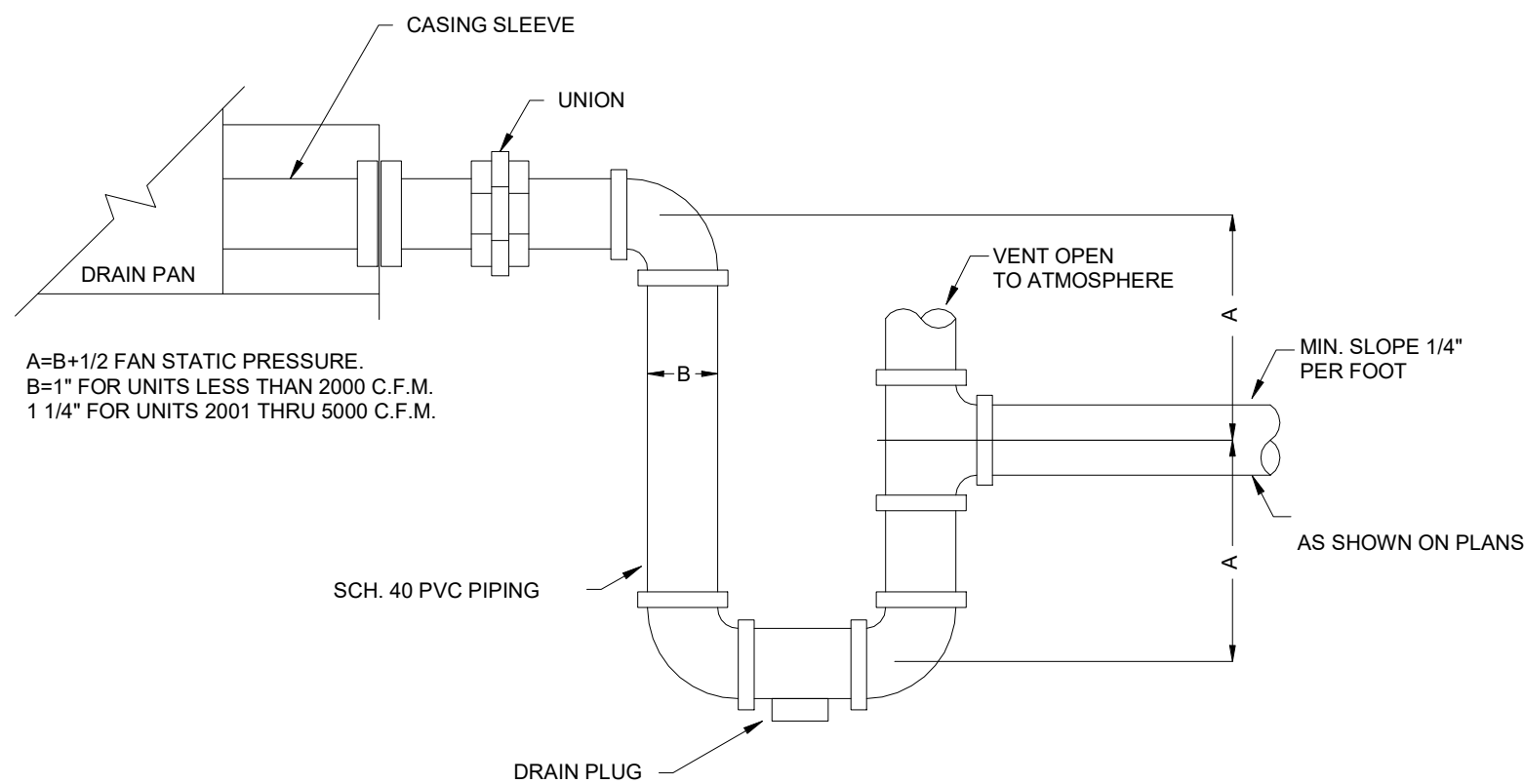


8 **REFRIGERANT PIPING DETAIL**  
NO SCALE

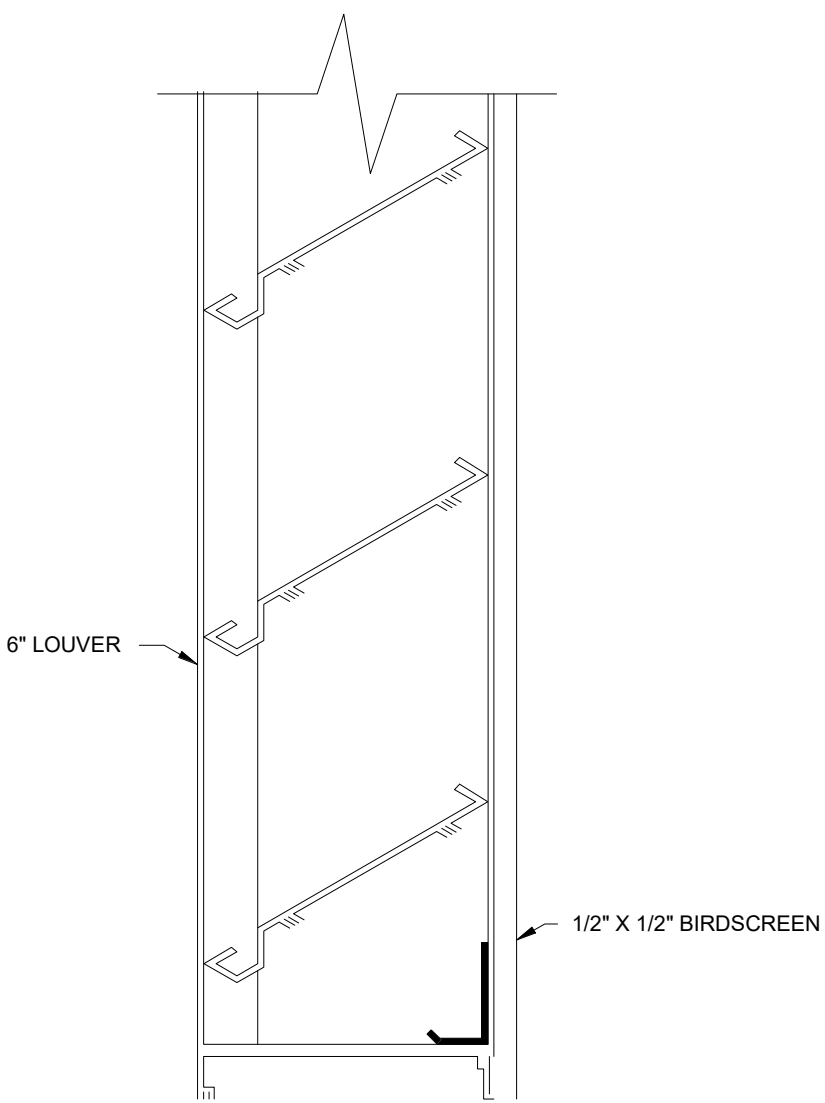


NOTE: TYPICAL FOR RECTANGULAR RUNOUTS

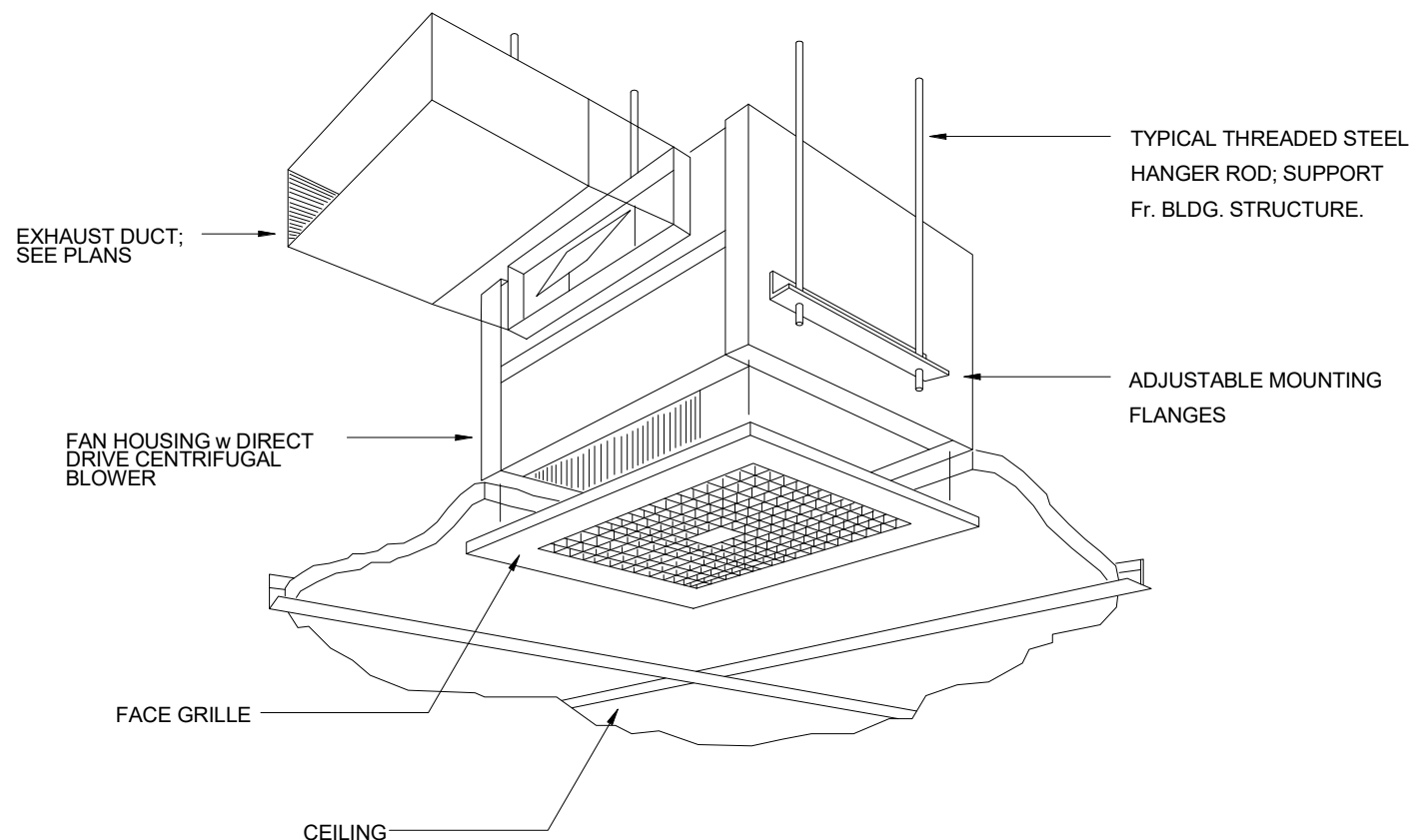
5 **TYPICAL RETURN AND EXHAUST RUN-OUT DETAIL**  
NO SCALE



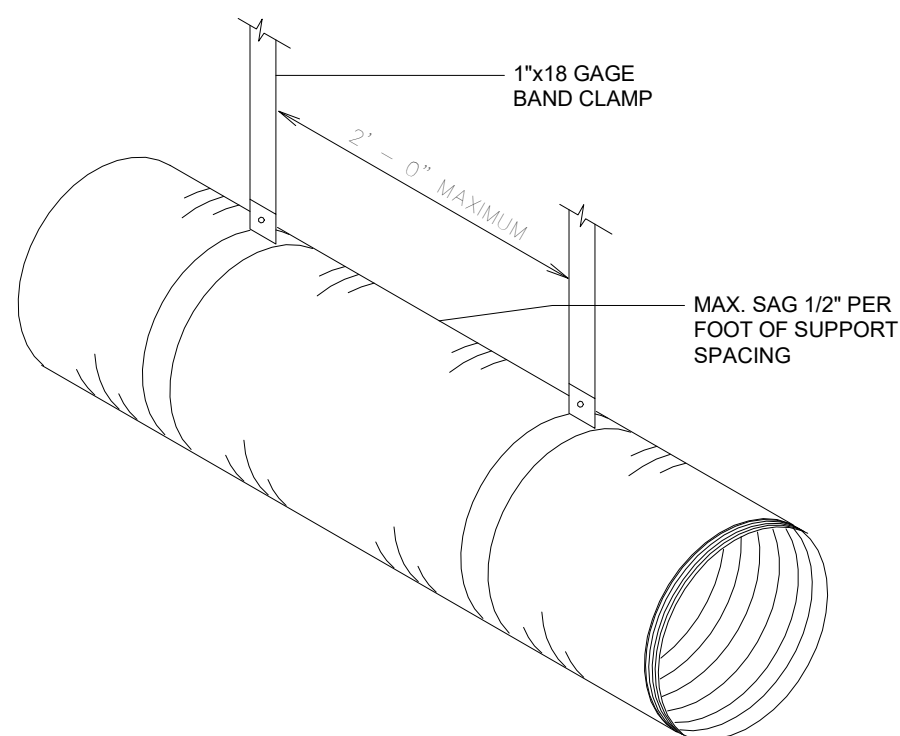
1 **SIDEWALL EXHAUST FAN DETAIL**  
NO SCALE



9 **LOUVER DETAIL**  
NO SCALE



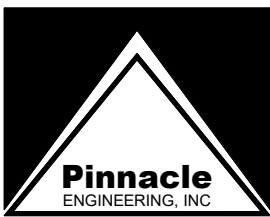
6 **EXHAUST FAN INSTALLATION DETAIL(CEILING)**  
NO SCALE



3 **FLEXIBLE DUCT SUPPORT DETAIL**  
NO SCALE

2 **CONDENSATE DRAIN TRAP DETAIL**  
NO SCALE





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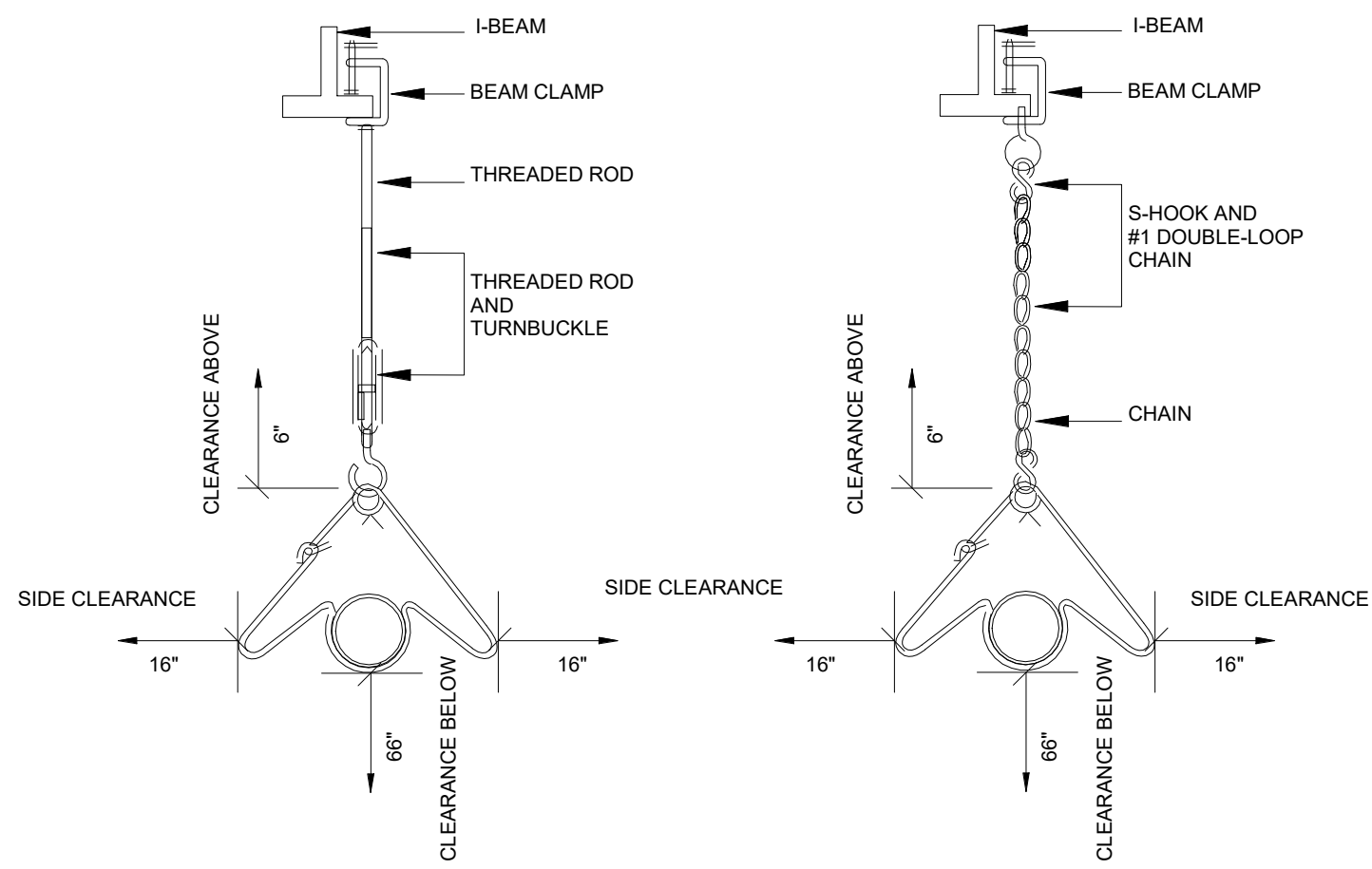
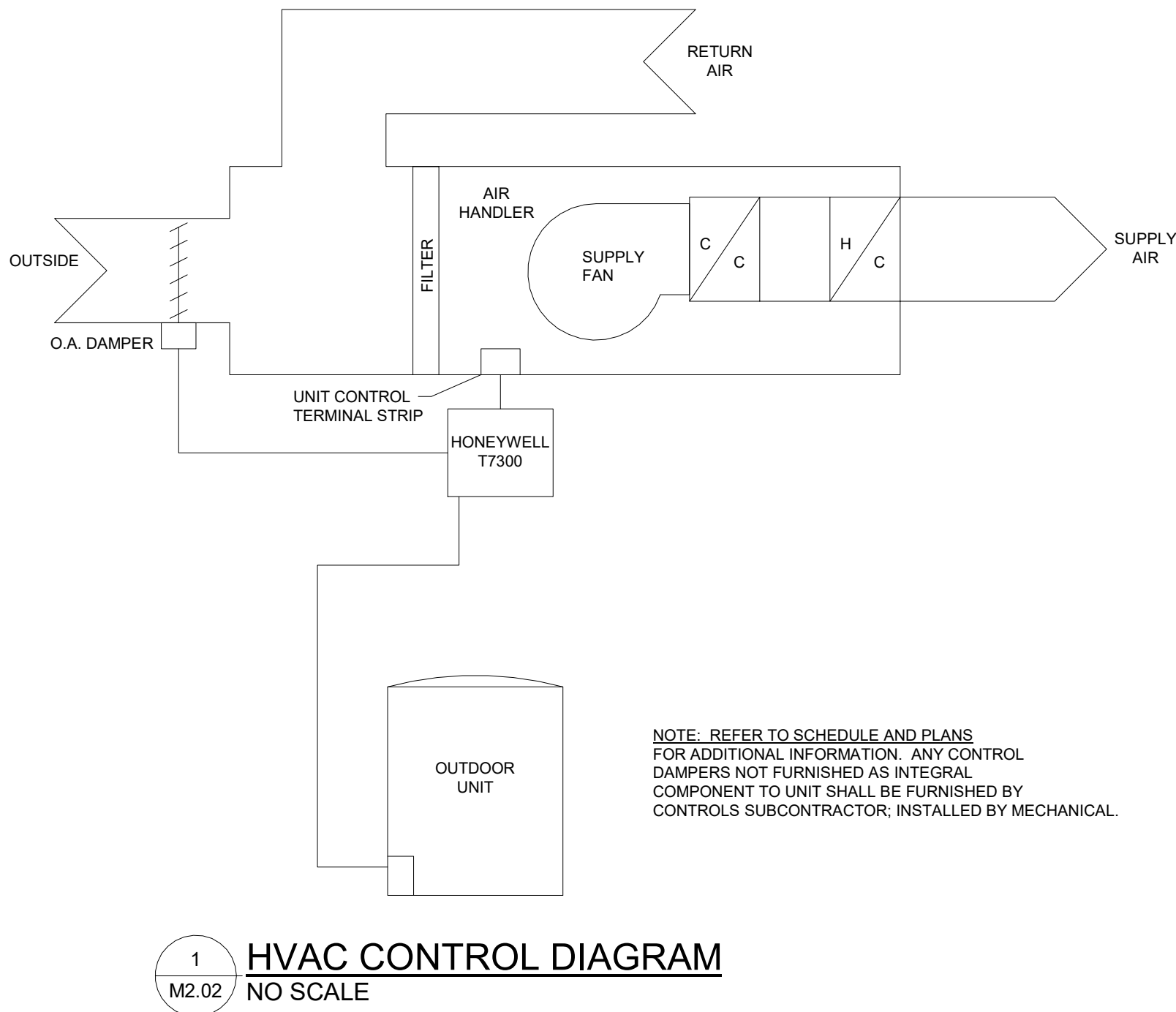
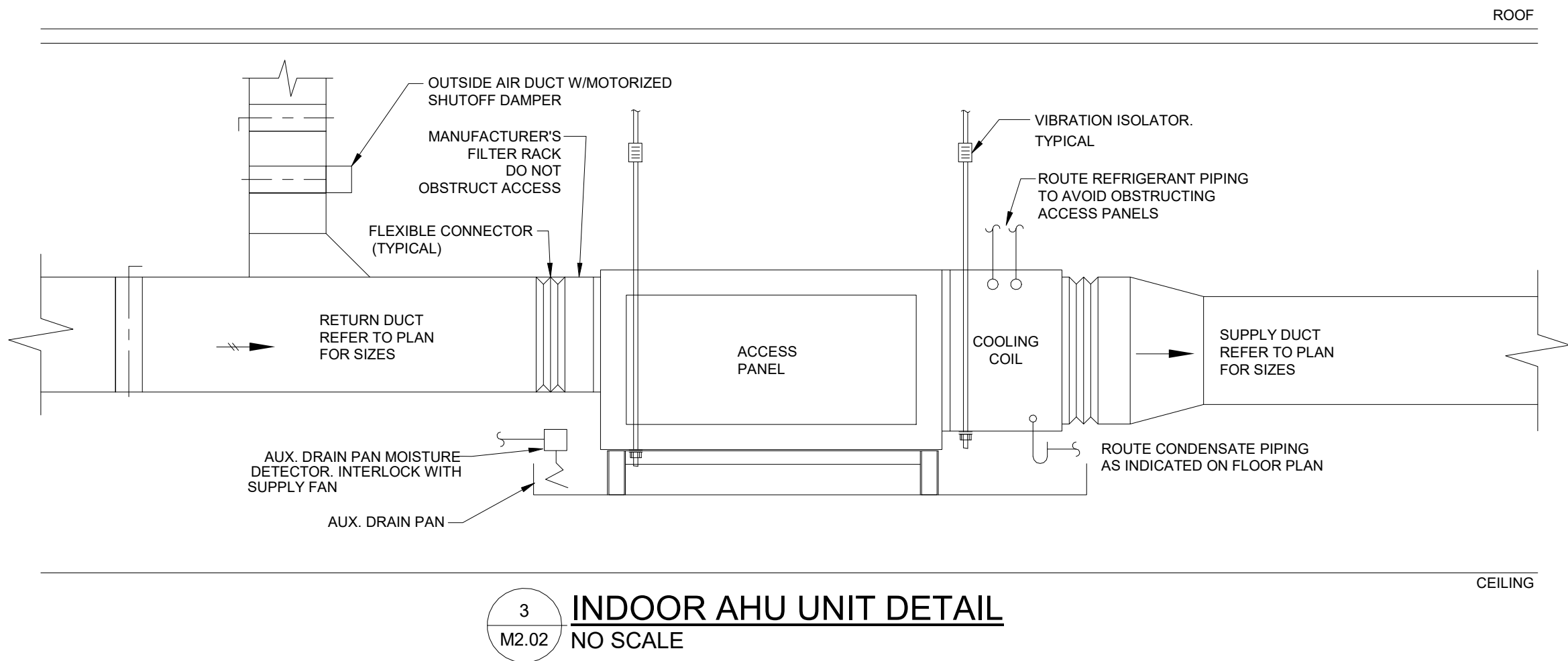
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Mechanical Details

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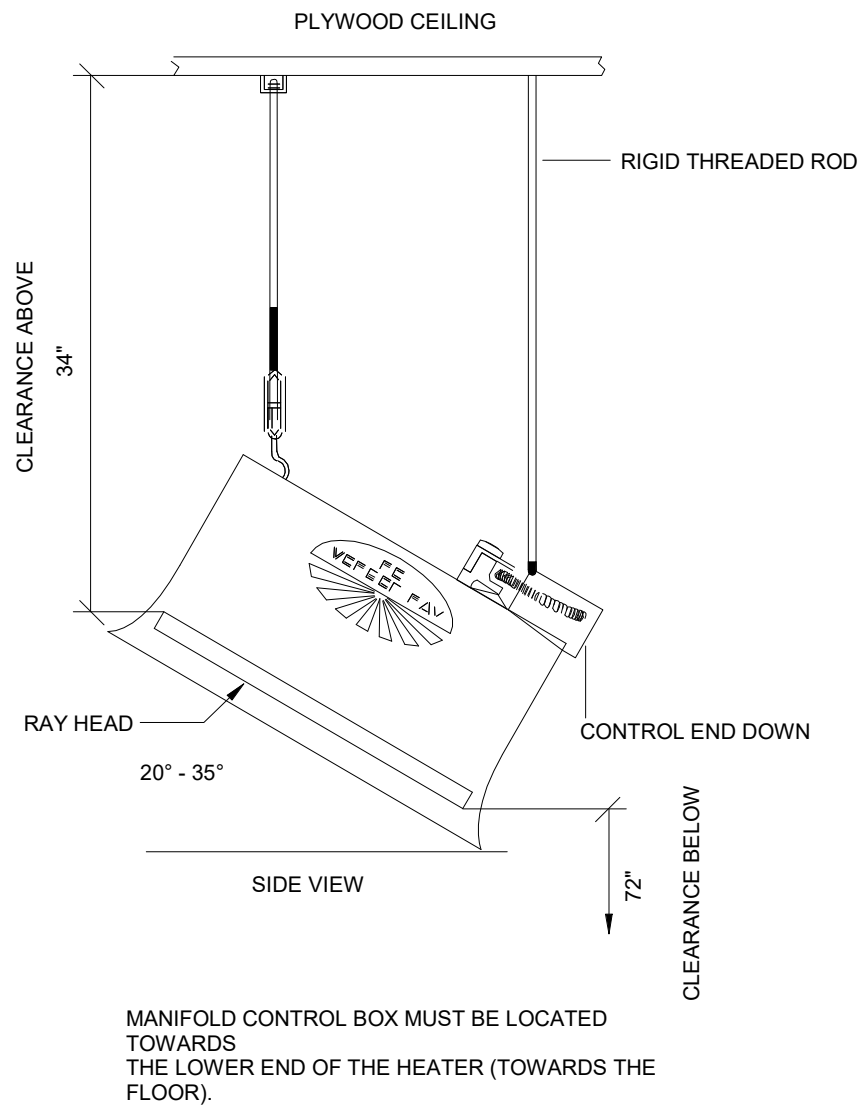
M2.02

Scale 12" = 1'-0"



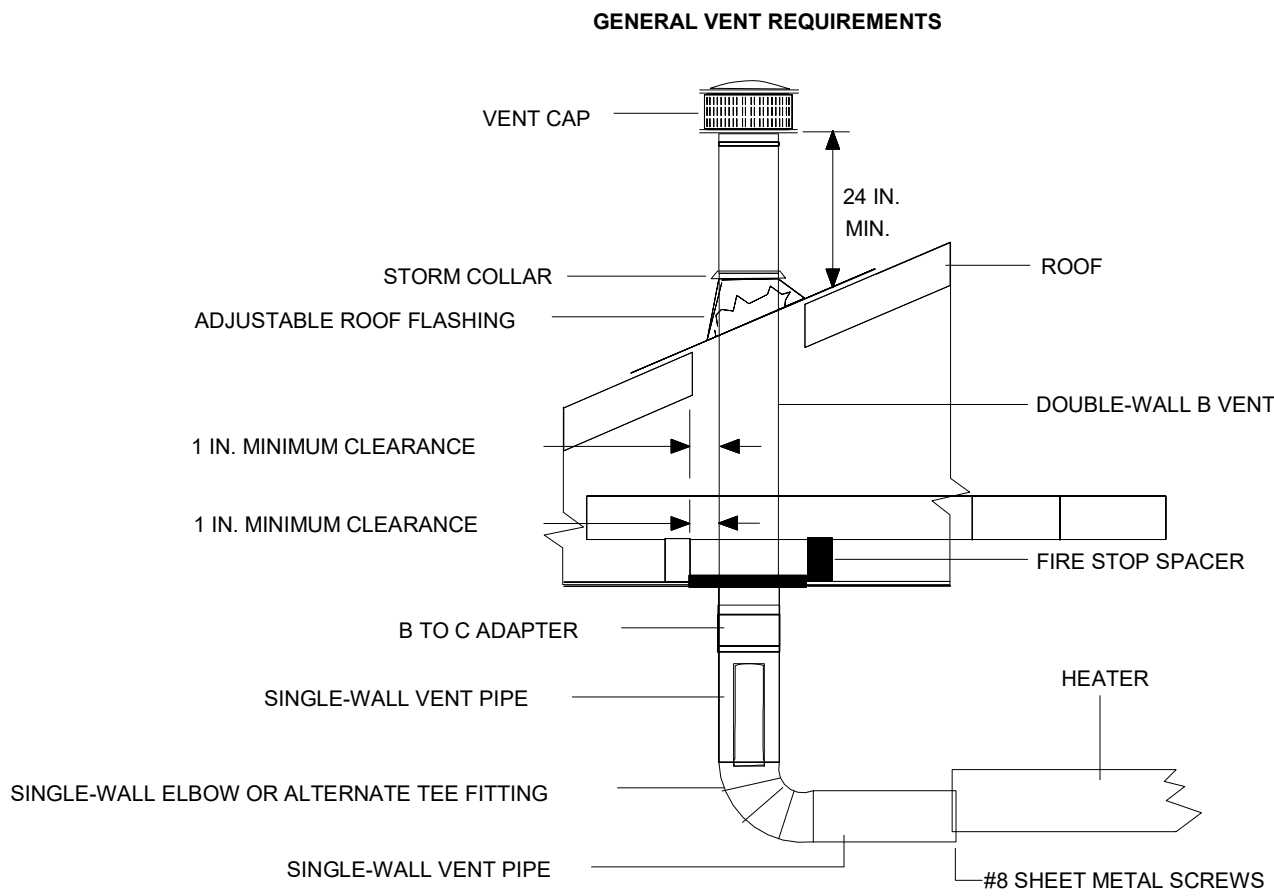
DISTANCE TO COMBUSTIBLES					
MODEL NO.	# OF SIDE SHIELDS	MOUNTING ANGLE	SIDES	TOP	BELOW
DX3L-30	2	0°	16"	6"	66"

\*MAINTAIN PER MANUFACTURER'S INSTALLATION REQUIREMENTS. DISTANCES MEASURED ABOVE/BELOW RAY HEAD SURFACE.



DISTANCE TO COMBUSTIBLES				
MODEL NO.	SIDES	BACK	TOP	BELOW/ FRONT
DR 50	30	18	34	72

\*MAINTAIN PER MANUFACTURER'S INSTALLATION REQUIREMENTS. DISTANCES MEASURED ABOVE/BELOW RAY HEAD SURFACE.





PLUMBING LEGEND, SYMBOLS AND ABBREVIATIONS					
	DOMESTIC COLD WATER		BALL VALVE	ABV	ABOVE
	DOMESTIC HOT WATER		VALVE IN VERTICAL	AFF	ABOVE FINISHED FLOOR
	DOMESTIC HOT WATER RETURN		CAP ON END OF PIPE	INV	INVERT
	SANITARY VENT		CLEANOUT - FLOOR TYPE	BFF	BELOW FINISHED FLOOR
	SANITARY WASTE		CLEANOUT - WALL TYPE	CW	COLD WATER
			P-TRAP	DN	DOWN
			PIPE TURNING DOWN	EX	EXISTING
			PIPE TURNING UP	HW	HOT WATER
			TEE DOWN	WS	WASTE STACK
			TEE UP	VS	VENT STACK
			TIE NEW INTO EXISTING	AC	ABOVE CEILING
			PLUMBING FIXTURE NUMBER	WHA	WATER HAMMER ARRESTOR
			RISER NUMBER	BFG	BELOW FINISHED GRADE
			WATER HAMMER ARRESTOR	TMV	THERMOSTATIC MIXING VALVE
			PLUG TYPE CLEANOUT	TP	TRAP PRIMER
			BALANCING VALVE	DS	DOWNSPOUT
			CHECK VALVE	UG	UNDER GROUND
			GATE VALVE		
			REDUCED PRESSURE ZONE BFP		
			THERMOSTATIC MIXING VALVE		
			FLOOR SINK		
			FLOOR DRAIN		
			ROOF DRAIN/OVERFLOW DRAIN		
			FOOD SERVICE EQUIPMENT		

PLUMBING FIXTURE CONNECTION SCHEDULE						
Equipment No.	Description	Hot Water	Cold Water	Waste	Vent	Remarks
WC-1	WATER CLOSET - ADA COMPLIANT		1/2"	4"	2"	PRESSURE ASSIST TANK TYPE
EW-1	EYEWASH	1/2"	1/2"	2"	1 1/2"	PROVIDE WITH MIXING VALVE
EW-C-1	ELECTRIC WATER COOLER		1/2"	2"	1 1/2"	WALL MOUNT ADA WITH BOTTLE FILLER
HD-1	CONDENSATE FUNNEL HUB DRAIN			2"	1 1/2"	PROVIDE WITH TRAP GUARD
LAV-1	LAVATORY - ADA COMPLIANT	1/2"	1/2"	2"	1 1/2"	PROVIDE WITH TRAP WRAP AND MIXING VALVE
SK-1	SERVICE SINK	1/2"	1/2"	2"	1 1/2"	ROUTE TO INTERCEPTOR
WH-1	WALL HYDRANT - FREEZE PROOF		3/4"			

ELECTRIC WATER HEATER SCHEDULE												
EQUIPMENT NO.	MANUFACTURER	MODEL	SERVICE	ENTERING WATER TEMP (F)	LEAVING WATER TEMP (F)	RECOVERY RATE (GPH)	STORAGE CAPACITY	TANK DIMENSIONS		ELECTRICAL		COMMENTS
								DIAMETER	HEIGHT	WATER HEATER WATTAGE	NUMBER OF ELEMENTS	
EWH-1	A. O. Smith	ECS-30X	BATHROOMS/EYEWASH	60 °F	120 °F	21	30.0 gal	1' - 8"	3' - 3"	4500 W	1	240/1/60

INTERCEPTOR SCHEDULE									
EQUIPMENT NO.	MANUFACTURER	MODEL	FLOW RATE - INT	LIQUID HOLD CAPCACITY	INLET/OUTLET	VENT	LENGTH	WIDTH	DEPTH
OS-1	STRIEM	OS-25	25 GPM	21.0 gal	3	3"	2' - 3"	1' - 11"	1' - 3"

NOTES:  
1. PROVIDE EXTRUSION TO MATCH GRADE.


PUMP SCHEDULE												
MARK	MANUFACTURER	MODEL	SERVICE	PUMP TYPE	FLOW RATE	PUMP HEAD (FT)	RATED SPEED (RPM)	DISCONNECT	MOTOR STARTER	HP	VOLTAGE	COMMENTS
REC-1	TACO	2400-10S-3P	HW RETURN	In-Line	2 GPM	10	3450	BY ELEC	INTEGRAL	.01	120 V	1, 2

NOTES:  
1. PROVIDE WITH AQUASTAT FOR OPERATION WITH ASHRAE 90.1.  
2. PUMP SHALL BE STAINLESS STEEL BODY FOR DOMESTIC USE.

WATER METER SIZING	
TOTAL LOAD (FIXTURE UNITS)	GPM
16	18



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4/8/24

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Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

FINAL

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Plumbing Legend, Abbreviations, and Schedules

Project number	24004
Date	4/8/24
Drawn by	CA
Checked by	JB

P0.01

Scale	12" = 1'-0"
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SECTION 15011 - PLUMBING GENERAL

- A. PROVIDE EQUIPMENT, LABOR, MATERIAL, ETC., REQUIRED TO MAKE A COMPLETE WORKING INSTALLATION.
- B. INSTALL THE WORK IN ACCORDANCE WITH DRAWINGS, SPECIFICATIONS AND THE STANDARDS AND CODES (LATEST EDITION) THAT APPLY TO THIS WORK. IN THE EVENT OF A CONFLICT, INSTALL WORK IN ACCORDANCE WITH THE MOST STRINGENT CODE REQUIREMENTS DETERMINED BY THE ENGINEER.
- C. OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS INCLUDING: BUILDING PERMITS, HEALTH DEPARTMENT PERMITS AND SEWER TAP PERMITS. DELIVER TO ENGINEER CERTIFICATES OF INSPECTION AND APPROVAL ISSUED BY AUTHORITIES.
- D. ALL EQUIPMENT AND METHOD SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH THE BEST ENGINEERING PRACTICES AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- E. DISCONNECT, REMOVE AND RE-INSTALL PLUMBING SERVICES LOCATED ON OR CROSSING THROUGH CONTRACT LIMITS, ABOVE OR BELOW GRADE, OBSTRUCTING CONSTRUCTION OF PROJECT OR CONFLICTING WITH COMPLETED PROJECT OR ANY APPLICABLE CODES.
- F. PROVIDE CUTTING OF PAVEMENT, SIDEWALKS, DRIVEWAYS, ETC., EXCAVATING, TRENCHING, SHORING AND DE-WATERING, PREREPAIR MATERIAL AND PERFORM BACKFILLING.
- G. RESTORE SITE TO ORIGINAL CONDITION OR NEW FINAL GRADES. PROVIDE PAVING, CONCRETE, SEED, OR SOD.
- H. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. WORK CALLED FOR BY ONE IS BINDING AS IF CALLED FOR BY BOTH.
- I. DRAWINGS ARE DRAWN TO A SMALL SCALE AND ARE DIAGRAMMATIC ONLY. THE DRAWINGS INDICATE SIZE AND GENERAL ARRANGEMENT OF EQUIPMENT. DO NOT SCALE DRAWINGS FOR EXACT LOCATIONS. FIELD MEASUREMENTS TAKE PRECEDENCE.
- J. PROVIDE NECESSARY OFFSETS, ELBOWS AND FITTINGS AS REQUIRED TO AVOID CONFLICT WITH EQUIPMENT OF OTHER DIVISIONS AND TO OBTAIN PROPER HEADROOM AND CLEAR PASSAGEWAYS. THIS SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
- K. WORK UNDER THIS DIVISION SHALL BE FIRST CLASS WITH EMPHASIS ON NEATNESS AND WORKMANSHIP. INSTALL WORK USING COMPETENT MECHANICS, UNDER SUPERVISION OF FOREMAN, ALL DULY CERTIFIED BY LOCAL AUTHORITIES.
- L. INSTALLATION SUBJECT TO ENGINEER'S OBSERVATION, FINAL APPROVAL, AND ACCEPTANCE. ENGINEER MAY REJECT UNSUITABLE WORK.
- M. ALL MATERIALS SHALL BE NEW. ALL MATERIALS AND EQUIPMENT FOR WHICH A UL STANDARD, AN AGA APPROVAL, AN AWWA STANDARD, FM LISTING OR ASME REQUIREMENTS IS ESTABLISHED, SHALL BE SO APPROVED AND LABELED OR STAMPED.
- N. THE DRAWINGS ARE BASED ON THE USE OF PRODUCTS SPECIFIED AND LISTED FIRST. IF ANY REVISION IN PIPING, CONDUIT WORK, FOUNDATIONS, ANCHOR BOLTS, CONNECTIONS, ETC., IS REQUIRED BY OTHER NAMED PRODUCTS OR APPROVED SUBSTITUTIONS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE SUCH REVISIONS AT NO ADDITIONAL CHARGE TO THE OWNER.
- O. SUBMIT SIX (6) ORIGINAL COPIES OF COMPLETE SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT FURNISHED UNDER DIVISION 15 OF SPECIFICATIONS TO ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL BEAR THE STAMP OF APPROVAL OF THE CONTRACTOR AS EVIDENCE THAT THE DRAWINGS HAVE BEEN CHECKED BY HIM. DRAWING SUBMITTED WITHOUT THIS STAMP OF APPROVAL WILL NOT BE CONSIDERED AND WILL BE RETURNED FOR PROPER RESUBMISSION.
- P. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE CONTRACTOR OF RESPONSIBILITY FOR ERRORS AND OMISSIONS IN SHOP DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS AND SIZES OF EQUIPMENT. INFORM ENGINEER IN WRITING OF EQUIPMENT DIFFERING FROM THAT SHOWN.
- Q. PROVIDE MAINTENANCE AND OPERATING MANUALS BOUND IN 8-1/2" X 11" HARDBACK, THREE-POST BINDERS. MANUALS SHALL CONTAIN WRITTEN INSTRUCTIONS FOR EACH SYSTEM, SHOP DRAWINGS, SCHEMATIC DRAWINGS, EQUIPMENT CATALOG CUTS, MANUFACTURER'S INSTRUCTIONS, MANUFACTURER'S WARRANTIES, AND VALVE TAG LIST.
- R. PROVIDE AS-BUILT PRINTS AT THE COMPLETION OF JOB. KEEP ONE SET OF PRINTS ON JOB AND RECORD DAY TO DAY CHANGES TO CONTRACT DRAWINGS WITH RED PENCIL. INDICATE ACTUAL LOCATION OF PIPING, VALVES, AND EQUIPMENT. TURN OVER PRINTS TO ENGINEER AT FINAL OBSERVATION.
- S. FURNISH ENGINEER WARRANTY, STATING THAT IF WORKMANSHIP AND/OR MATERIALS EXECUTED UNDER THIS DIVISION IS PROVEN DEFECTIVE WITHIN ONE (1) YEAR AFTER FINAL ACCEPTANCE, SUCH DEFECTS AND OTHER WORK DAMAGED WILL BE REPAIRED AND/OR REPLACED.

SECTION 15051 - BASIC MATERIALS AND METHODS

- A. ACCESS PANELS:
- ACCESS PANELS SHALL HAVE WELDED STEEL FRAME, ONE PIECE DOORS, AND SELF LATCHING DOOR LOCKS. LOCKS SHALL BE SCREW DRIVER OPERATED WITH CASE HARDENED STEEL CAM. PANELS SHALL BE MILCOR, CESCO, KARP OR EQUAL.
  - PROVIDE ACCESS PANELS IN WALLS AND CEILINGS AS NEEDED TO ALLOW ACCESS TO VALVES, EQUIPMENT, SHOCK ABSORBERS, TRAP PRIMERS, ETC. AND WHERE NOTED.
- B. FIRESTOPPING AND SOUNDSTOPPING:
- PENETRATIONS THROUGH FLOORS AND FIRE RESISTANT WALLS SHALL BE SEALED TO THE RATED FIRE RESISTANCE EQUAL TO THE WALL. INSTALLATION SHALL BE DONE BY A QUALIFIED INSTALLER, APPROVED BY THE MANUFACTURER OF THE MANUFACTURER OF THE OTHER PENETRATING FLOORS AND WALLS. SAWCUT LARGER OPENINGS. CUTTING SHALL BE KEPT TO A MINIMUM.
  - REPLACE OR REPAIR DUCTWORK, CONDUIT, PIPING, ETC., THAT IS CUT. PATCH AROUND OPENING CUT BY THIS CONTRACTOR OR PROVIDED BY OTHERS FOR HIM. PATCHING SHALL BE DONE BY AN APPROVED QUALIFIED CONTRACTOR, BUT SHALL BE PAID FOR BY THIS CONTRACTOR. FINISHED PATCHING SHALL RETAIN FIRE AND SMOKE RATINGS OF THE ASSEMBLY AND SHALL MATCH SURROUNDING FINISH.
- E. ANCHORS:
- MOUNT ALL EQUIPMENT, BRACKETS, HANGERS, ANCHORS, ETC. TO SAFELY RESIST THE VIBRATION OR THRUST FORCES AND SUPPORT THE UNIT'S WEIGHT.
  - FLOOR MOUNTED ROTATING OR VIBRATING EQUIPMENT SHALL BE ANCHORED TO THE FLOOR USING GROUTED-IN PLACE OR CAST-IN PLACE ANCHOR BOLTS WITH THREE INCH HOOK AND SLEEVE. ANCHOR BOLTS SHALL BE OF THE SIZE RECOMMENDED BY THE MANUFACTURER.
  - FLOOR MOUNTED STATIC ITEMS, WALL AND CEILING MOUNTED EQUIPMENT BRACKET AND HANGERS SHALL BE INSTALLED USING DRILLED ANCHORS (OR CAST IN PLACE INSERTS). ANCHORS SHALL BE PHILLIPS DRILL COMPANY "RED HEAD" OR MULTI-SET II. SIZE ANCHORS (AND INSERTS) FOR FOUR TIMES THE APPLIED LOAD. BOLTS USED OUTDOORS OR IN A WET ENVIRONMENT SHALL BE HOT DIP GALVANIZED.
- A. PIPE IDENTIFICATION:
- IDENTIFICATION SHALL BE IN ACCORDANCE WITH ANSI-A13.1. PIPE MARKERS SHALL BE SETON'S WEATHER-CODE OR EQUAL.
  - PROVIDE PIPE MARKERS AND DIRECTIONAL ARROWS ON PIPES AT BOTH SIDES OF PARTITIONS AND FLOORS SLABS, AT BRANCH LINE TAKE-OFFS, AT VALVES, AT INTERMEDIATE INTERVALS NOT IN EXCESS OF 20 FT. AND AT CONNECTIONS TO EQUIPMENT.
  - TAPE COLOR BAND IDENTIFYING MARKERS AND ARROWS ON EACH PIPE, BOTH INSULATED AND BARE PIPES. PIPE MARKERS AND ARROWS SHALL BE LOCATED WHERE READILY VISIBLE AND ON LOWER QUADRANTS OF OVERHEAD PIPES.
- B. VALVE TAG AND CHART:
- VALVE TAGS SHALL BE SETON M4506. BLACK FILLED LETTERS WITH BRASS JACK CHAIN. ONE VALVE NUMBER SHALL BE STAMPED ON EACH TAG. IDENTIFY EACH VALVE TAG FOR THE UTILITY IT SERVES, SUCH AS "CW" FOR COLD WATER, "HW" FOR HOT WATER, ETC. VALVE CHARTS SHALL BE SETON. ATTACH A NUMBERED VALVE TAG TO EACH VALVE.
  - PROVIDE A TYPE WRITTEN CHART IN FRAME UNDER GLASS COVER, GIVING THE FULL LIST OF ALL VALVES INSTALLED UNDER THIS CONTRACT. CHART SHALL LIST VALVE NUMBER, TYPE OF UTILITY, AND LOCATION. MOUNT CHART WHERE DIRECTED BY OWNER. PROVIDE ONE ADDITIONAL COPY TO OWNER.
- A. EQUIPMENT IDENTIFICATION:
- IDENTIFY EACH PIECE OF EQUIPMENT WITH A 1/8 INCH THICK ENGRAVED MELAMINE PLASTIC LAMINATE NAMEPLATE. LETTERS SHALL BE 1/2 INCH HIGH STANDARD STYLE. NAMES, ABBREVIATIONS, AND NUMBERING SHALL AGREE WITH THE CORRESPONDING EQUIPMENT DESIGNATIONS SHOWN ON THE DRAWINGS. USE BLACK LETTERS CUT IN A WHITE BACKGROUND FOR ALL EQUIPMENT ON STANDARD ELECTRICAL POWER.
  - FASTEN NAMEPLATES TO EQUIPMENT IN A CONSPICUOUS LOCATION USING SELF-TAPPING STAINLESS STEEL SCREWS. EXCEPT USE CONTACT EPOXY ADHESIVE WHERE SCREWS CANNOT OR SHOULD NOT PENETRATE SUBSTRATE.
- B. PIPE SLEEVES:
- PROVIDE PIPE SLEEVES WHERE PIPES PASS THROUGH FLOORS AND WALLS ABOVE OR BELOW CEILINGS. PROVIDE PIPE SLEEVES IN NEW WALLS AND FLOORS AS THE WORK PROGRESSES. PROVIDE SPLIT PIPE SLEEVES IN NEW WALLS BUILT UP AROUND EXISTING PIPES. TACK WELD SPLIT SLEEVES TOGETHER.
  - SIZE PIPE SLEEVES TO ALLOW CONTINUOUS INSULATION, BUT NOT LESS THAN TWO PIPE SIZES LARGER THAN PIPE. SLEEVES IN WALLS SHALL BE FLUSH WITH WALL. SLEEVES IN FLOORS SHALL EXTEND 3/4 INCHES ABOVE FLOOR AND BE FLUSH WITH STRUCTURE BELOW.
  - SLEEVES IN CONCRETE WALLS, FLOORS OR MASONRY SHALL BE SCH 40 STEEL PIPE, MACHINE CUT. SLEEVES IN GYPSUM BOARD OR PLASTER WALLS SHALL BE 14 GAUGE, ROLLED GALVANIZED SHEET METAL TACK WELDED ON THE LONGITUDINAL SEAM.
  - PROVIDE PLATES AROUND PIPES EXTENDING INTO EXPOSED AREAS WHERE THEY PASS THROUGH WALLS, FLOORS AND CEILINGS. SIZE PLATES TO COMPLETELY COVER PIPE SLEEVES. PLATES SHALL BE BEATON AND CADWELL, KEENEY OR GRINNELL. NICKEL PLATED STEEL, SPLIT PLATES WITH SET SCREW. CONCRETE FLOOR PLATE SHALL BE GRINNELL FIGURE 400.
- C. FLASHING:
- PROVIDE FLASHING AT PIPING AND DUCT PENETRATIONS THROUGH ROOF AND ROOF MOUNTED STRUCTURES FURNISHED UNDER THIS DIVISION. FLASH IN ACCORDANCE WITH ROOFING MANUFACTURERS DETAILS. FLASHING MATERIALS SHALL BE IN ACCORDANCE WITH THE ROOFING MANUFACTURERS SYSTEM.
  - PROVIDE FLASHING AT PIPES PASSING THROUGH FLOORS WITH WATERPROOF MEMBRANE. FLASHING SHALL BE IN ACCORDANCE WITH WATERPROOFING MANUFACTURERS DETAILS.

SECTION 15261 - PLUMBING INSULATION

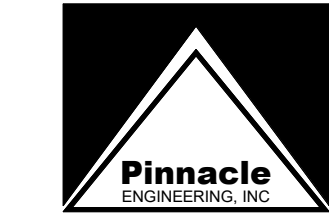
- A. GENERAL:
- ALL INSULATION, JACKETING, AND ADHESIVE SHALL HAVE COMPOSITE SURFACE BURNING CHARACTERISTIC RATINGS AS TESTED BY ASTM E 84, UL 723, OR NFPA 255 NOT EXCEEDING A FLAME SPREAD OF 25 OR SMOKE DEVELOPED OF 50.
  - SUBMITTALS SHALL USE PAGES FROM MIDWEST INSULATION CONTRACTORS ASSOCIATION -- "COMMERCIAL AND INDUSTRIAL INSULATION STANDARDS" FOR DEFINING HOW INSULATION MATERIALS WILL BE APPLIED.
  - ALL PIPE INSULATION SHALL BE CONTINUOUS THROUGH WALLS, CEILING OR FLOOR OPENINGS, OR SLEEVES, EXCEPT WHERE FIRESTOP OR FIRESAFING MATERIALS ARE REQUIRED.
  - INSULATE ITEMS MOUNTED IN PIPING WITH THE SAME THICKNESS OF INSULATION AS SPECIFIED FOR PIPING.
  - REPAIR INSULATION DAMAGED BY WORK UNDER THIS CONTRACT TO MATCH EXISTING WORK OR REPLACE DAMAGED PORTION WITH INSULATION SPECIFIED FOR NEW WORK.
  - DOMESTIC WATER PIPING:
    - INSULATION SHALL BE 850 DEG. F RATED AS MANUFACTURED BY OWENS CORNING, MANVILLE OR KNAUF. ROUTED OR MOLDED FITTING INSULATION SHALL BE HAMFAB.
    - INSULATION SHALL HAVE FACTORY-APPLIED, REINFORCED, FLAME RETARDANT, VAPOR BARRIER JACKET EQUAL TO OWENS-CORNING ASJ WITH SELF-SEALING LAP. BUTT JOINTS SHALL BE TAPED WITH FIELD-APPLIED ASJ TAPE 3 IN. WIDE.
    - INSULATION THICKNESSES SHALL BE IN ACCORDANCE WITH INTERNATIONAL ENERGY CONSERVATION CODE FOR PIPE SIZES NOTED ON PLAN.
    - ALL FITTINGS AND VALVES SHALL BE INSULATED WITH PREFORMED FIBER GLASS FITTINGS OR MITERED SECTIONS OF PIPE INSULATION. INSULATION SHALL BE OF EQUAL THICKNESS TO THE ADJACENT PIPE. INSULATION, METAL SHIELDS SHALL BE INSTALLED BETWEEN HANGERS OR SUPPORTS AND THE PIPING INSULATION. RIGID INSULATION INSERTS SHALL BE INSTALLED AS REQUIRED BETWEEN THE PIPE AND THE INSULATION SHIELDS. INSERTS SHALL BE OF EQUAL THICKNESS TO THE ADJACENT INSULATION AND SHALL BE VAPOR SEALED AS REQUIRED.
  - ELASTOMERIC CLOSED CELL INSULATION:
    - INSULATION SHALL BE RUBATEX OR ARMSTRONG. SECURE INSULATION WITH CONTACT ADHESIVE IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. EXPOSED OR EXTERIOR INSTALLATIONS SHALL BE PAINTED WITH TWO COATS OF WATER BASE LATEX ENAMEL.
    - PROVIDE 1 IN. THICK INSULATION ON DX REFRIGERANT PIPING, COOLING COIL CONDENSATE PIPING, AND CAPS FOR ALL VALVE STEMS AND OPERATORS, GAUGE COCKS, THERMOMETER WELLS AND OTHER APPURTENANCES SUBJECT TO SWEATING.
    - PIPING FINISHES:
      - METAL JACKETING SHALL BE, SMOOTH .016 IN. THICK, TYPE T 3003 ALUMINUM WITH LAMINATED MOISTURE BARRIER. JACKETING SHALL BE CHILDERS, ALUMINUM ROLL JACKETING WITH POLYKRAFT MOISTURE BARRIER. COVER THE FOLLOWING INSULATED SYSTEMS WITH METAL JACKETING: PIPING INSTALLED OUTDOORS AND EXPOSED PIPING INDOORS WITHIN 8 FT. OF FINISHED FLOOR. METAL FITTING COVERS SHALL BE TWO PIECE ALUMINUM. COVERS SHALL BE ELL-JAC.
      - CONCEALED PIPING FINISH COVERING SHALL BE THE ALL SERVICE JACKET. FITTINGS SHALL BE COVERED BY WRAPPING THE FITTING WITH FIBER REINFORCED TAPE, WITH A 5 PERCENT OVERLAP. FITTINGS COVERS SHALL BE ONE PIECE 20 MIL PVC. COVERS SHALL BE CEEL-TITE 550 PVC-UVR BY CEEL-CO OR EQUALS.

SECTION 15410 - PLUMBING PIPING

- A. THE WORK REQUIRED UNDER THIS SECTION INCLUDES ALL WORK NECESSARY FOR A COMPLETE INSTALLATION OF SANITARY WASTE PIPING, STORM PIPING AND DOMESTIC WATER PIPING INSIDE THE BUILDING TO 5 FEET OUTSIDE THE BUILDING. SUBMIT SCHEDULE OF PIPE AND FITTINGS FOR EACH SERVICE.
- B. DOMESTIC WATER PIPING: WATER PIPING WITHIN THE BUILDING SHALL BE COPPER TUBE, TYPE "L" HARD TEMPER, ASTM B-88. PIPING BELOW GROUND SHALL BE COPPER TUBE, TYPE "K" SOFT TEMPER, ASTM B-88. FITTINGS SHALL BE WROUGHT COPPER, SOLDER TYPE, ASTM B-75, ANSI B16.22. SOLDER UNIONS SHALL BE WROT COPPER, WITH COPPER GROUND JOINT. ASTM B75, ANSI B16.22. DI-ELECTRIC, EPSO, 250 LB. WOG. SOLDER METAL SHALL CONFORM TO ASTM B32. LEAD-FREE.
- C. STORM, SANITARY WASTE, ABOVE GROUND: SCHEDULE 40 PVC-DWV ASTM D-2685 USING SOLVENT CEMENT ASTM D02565. HORIZONTAL PIPING FOR FIXTURE ROUGH-INS MAY BE DWV COPPER, ASTM B-306. BELOW GROUND: SCHEDULE 40 PVC-DWV ASTM D-2685 USING SOLVENT CEMENT ASTM D-2564.
- D. STORM, SANITARY WASTE AND VENT FITTINGS: ABOVE GROUND: 1/20 HUB CAST IRON SOIL PIPE FITTINGS WITH COUPLING ASSEMBLY CISPI STANDARD 310.1 SCHEDULE 40 PVC-DWV, ASTM D-2855 USING SOLVENT CEMENT ASTM D-2564. BELOW GROUND: SCHEDULE 40 PVC-DWV, ASTM D-2855 USING SOLVENT CEMENT ASTM D-2564.
- E. BALL VALVES: VALVES SHALL BE NIBCO T-585-70, FULL PORT BALL TYPE WITH BRONZE BODY, CHROME PLATED BALL AND BRONZE THREADED ENDS, 600 PSI WOG OR NIBCO S-585-70 IN COPPER LINES. HAMMOND, CRANE, APOLLO, MILWAUKEE, OR APPROVED EQUAL.
- F. ALL PIPING SHALL BE ROUTED TO TO CONSERVE BUILDING SPACE, BE COORDINATED WITH ITEMS INSTALLED BY OTHER TRADES AND NOT INTERFERE WITH ACCESS TO OR OPERATION OF THE FACILITY.
- G. PROVIDE ROOF FLASHINGS FOR PIPE PENETRATIONS THROUGH ROOF, TO BE INSTALLED BY ROOFING CONTRACTOR.
- H. WATER PIPING WITHIN BUILDING SHALL BE SIZE INDICATED ON PLANS AND RISERS. IN THE EVENT NO SIZE IS SHOWN, PIPE SIZE OR SIZE REQUIRED BY THE PLUMBING CODE. PIPING SHALL BE SLOPED TOWARD A SYSTEM DRAIN AND TOWARD OUTLETS, TO PROVIDE FOR SYSTEM DRAIN-DOWN. IF INSTALLED NEAR EXTERIOR WALLS, PIPING SHALL BE LOCATED ON THE INTERIOR SIDE OF INSULATION. INSTALL PIPING TO PREVENT DIRECT CONTACT BETWEEN FERROUS AND NON-FERROUS MATERIALS. ALLOW FLEXIBILITY FOR EXPANSION IN PIPING.
- I. DOMESTIC WATER PIPING SYSTEM SHALL BE TESTED WITH POTABLE WATER AT A PRESSURE OF 125 PSIG OR 25 PSIG ABOVE DESIGN WORKING PRESSURE, WHICHEVER IS GREATER FOR 12 HOURS. TEST SHALL BE CONDUCTED WITH PLUMBING INSPECTOR UNLESS APPROVED OTHERWISE IN WRITING.
- J. WATER DISTRIBUTION PIPING SHALL BE DISINFECTED PRIOR TO OCCUPANCY OR SYSTEM START-UP WITH A CHLORINE SOLUTION 50 PPM. ALLOW SYSTEM TO STAND FOR SIX HOURS MINIMUM, THEN EXERCISE ALL VALVES TO ENSURE TREATMENT OF ALL BRANCHES AND COMPONENTS. SYSTEM SHALL BE FLUSHED WITH POTABLE WATER AFTER DISINFECTION AND PRIOR TO PLACEMENT INTO SERVICE.
- K. STORM, SANITARY WASTE AND VENT PIPING SHALL BE TESTED IN ACCORDANCE WITH WATER TEST AS SPECIFIED IN THE INTERNATIONAL PLUMBING CODE, IN ADDITION TO ANY TESTS REQUIRED BY THE LOCAL PLUMBING OFFICIAL. (10 FEET OF HEAD WITH NO APPARENT LEAKS. HOLD FOR 30 MINUTES MINIMUM). FLUSH ALL GRAVITY PIPING INCLUDING FLOOR DRAINS AND ROOF DRAINS PRIOR TO TURNING OVER TO THE OWNER.
- L. ALL PIPE SHALL BE CUT SQUARE. REAM PIPE AND TUBE ENDS AND REMOVE BURRS. CLEAN THE ENDS OF PIPES TO REMOVE OIL, GREASE AND OXIDES. PREPARE PIPING CONNECTIONS TO EQUIPMENT WITH FLANGES OR UNIONS.
- M. ALL SOLDERED PIPING AND EQUIPMENT CONNECTIONS SHALL BE PROPERLY PREPARED IN ACCORDANCE WITH GOOD PIPING PRACTICE. APPLY A THIN LAYER OF FLUX TO ONLY THE MALE TUBING. ROTATE INTO THE FITTING WITH ONE OR TWO REVOLUTIONS.
- N. DOMESTIC WATER PIPING: ROUTE PIPING IN ORDERLY MANNER. PLUMB AND PARALLEL TO BUILDING STRUCTURE, AND MAINTAIN GRADIENT. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT. PROVIDE CLEARANCE FOR INSTALLATION OF INSULATION AND ACCESS TO VALVES AND FITTINGS. PROVIDE ACCESS WHERE VALVES AND FITTINGS ARE NOT EXPOSED. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL. PROVIDE DRAIN VALVES AT LOW POINTS IN SYSTEMS. TEST WATER PIPING BEFORE BEING INSULATED OR CONCEALED IN WALLS OR CEILING.
- O. STORM, SANITARY WASTE, AND VENT PIPING: HORIZONTAL SOIL, WASTE AND DRAINAGE LINES WITHIN BUILDING SHALL HAVE A MINIMUM UNIFORM SLOPE OF 1/8 INCH PER FOOT ON 3 INCH AND LARGER, AND 1/4 INCH PER FOOT ON LINES 2 INCH AND SMALLER. TURNS IN SANITARY, SOIL, AND DRAIN PIPING SHALL BE MADE USING 45 DEGREE ELBOWS, WYES, QUARTER, EIGHTH, SIXTEENTH BENDS, OR OTHER BENDS APPROVED BY THE PLUMBING CODE. DO NOT USE SANITARY TEES OR CROSSES EXCEPT WHERE DISCHARGING FROM HORIZONTAL TO VERTICAL. MAKE CHANGES IN PIPE SIZES WITH REDUCING FITTINGS AND RECESSED REDUCERS. DO NOT REDUCE LINE SIZE IN DIRECTION OF FLOW. PROVIDE CLEANOUTS IN ALL HORIZONTAL TURNS IN WASTE PIPING GREATER THAN 45 DEGREES. PROVIDE DEEP SEAL TRAPS ON ALL FLOOR DRAINS, AND TRAP PRIMERS/SEAL WHERE REQUIRED BY CODE OR AS INDICATED ON DRAWINGS. INDIRECT WASTE LINES DUMPING INTO FLOOR OR HUB DRAINS SHALL MAINTAIN A 2-INCH AIR GAP BETWEEN THE END OF THE WASTE LINE AND THE RIM OF THE FLOOR OR HUB DRAIN.

SECTION 15416 - GAS PIPING SYSTEMS

- A. PROVIDE COMPLETE INSTALLATION OF GAS PIPING FROM THE "POINT OF DELIVERY" UP TO AND INCLUDING CONNECTION TO ALL GAS-FIRED EQUIPMENT. CONNECT EQUIPMENT ITEMS FURNISHED UNDER OTHER SECTIONS OF SPECIFICATIONS. TEST IN ACCORDANCE WITH A.G.A., STANDARD GAS CODE, N.F.P.A. 54, AND APPLICABLE STATE AND LOCAL CODES.
- B. ROUTE GAS SERVICE ENTRANCE PIPING INTO BUILDING TO AVOID INTERFERENCE AND DAMAGE. PROVIDE MANUAL SHUTOFF VALVE, GAS COCK AND GAUGE. VALVES SHALL BE LABELED.
- C. PROVIDE ACCESS PANELS FOR VALVES AND OTHER ITEMS REQUIRING MAINTENANCE IN ENCLOSED SPACES. AVOID INSTALLING GAS APPURTENANCES IN ENCLOSED SPACES WHERE POSSIBLE. INSTALL IN ENCLOSED SPACES ONLY AS ALLOWED BY APPLICABLE CODES.
- D. SUBMIT MANUFACTURER'S LITERATURE ON ALL MATERIALS AND EQUIPMENT INCLUDING: PIPE, PIPE COATING, ANODES, VALVES, FLEXIBLE CONNECTORS, FITTINGS, REGULATORS, RELIEF VALVES, GAUGES, GAS SERVICE:
- COORDINATE INSTALLATION OF GAS SERVICE LINE WITH LOCAL GAS COMPANY. PAY ALL FEES.
  - PROVIDE 12 INCH ELEVATED METER MOUNTING PADS ON TOP OF A 4 INCH THICK CONCRETE PAD FOR SUPPORT OF GAS METER AND PIPING.
  - PROVIDE (TWO) 8 INCH DIAMETER PIPE BOLLARDS FOR GAS METER PROTECTION. BOLLARDS SHALL BE SIX FEET LONG (3 FEET BELOW GRADE), MOUNTED IN A 24 INCH DIAMETER HOLE, FILLED WITH 3,000 PSI CONCRETE.
- F. INTERIOR PIPING: CONNECT TO ENTERING LINE AND DISTRIBUTE GAS TO EQUIPMENT ITEMS REQUIRING GAS AND AS INDICATED. PERFORM WORK IN ACCORD WITH APPLICABLE A.G.A., N.F.P.A. 54, STATE AND LOCAL CODES. INSTALL GAS STOP VALVES AND DRIP LEGS AT EACH EQUIPMENT ITEM. PIPING SHALL BE ADEQUATELY DRAINED WITH A MINIMUM SLOPE OF 1/4 INCH PER 15 FEET AND DRIP LEGS (FULL SIZE OF PIPE) INSTALLED AT ADDITIONAL POINTS WHERE CONDENSATE MAY COLLECT. INSTALL PRESSURE REDUCING VALVES AS REQUIRED TO PROVIDE PRESSURE WITHIN EQUIPMENT MANUFACTURER'S REQUIREMENTS.
- G. EXTERIOR PIPING: EXTERIOR PIPING SHALL BE SCHEDULE 40 CARBON STEEL. PIPING 2 INCH AND SMALLER MAY USE THREADED FITTINGS. PIPING 2 1/2 INCH AND LARGER SHALL USE WELDED FITTINGS AND FLANGED VALVES. EXTERIOR PIPING SHALL BE COATED WITH AN ALKYD ENAMEL PRIMER (MINIMUM DRY THICKNESS 3 MILS). EXPOSED PIPING SHALL BE SUPPORTED ON GALVANIZED 8-LINE CHANNELS AND PIPE CLAMPS.
- H. UNDERGROUND PIPING:
- UNDERGROUND PIPING SHALL BE CARBON STEEL - A53A106-WELDED OR POLYETHYLENE. UNDERGROUND STEEL PIPING SHALL HAVE AT LEAST 18 INCH OF PROPER BACKFILL COVER.
  - PROTECT UNDERGROUND PIPING FROM CORROSION. PROVIDE COATED PIPING AND FITTINGS. REPAIR DAMAGED COATING AT WELDS. INSTALL SACRIFICIAL ANODES ON STEEL PIPING INTERVALS NOT EXCEEDING 100 FT.
  - WHERE PIPES PENETRATE BASEMENT WALLS AND FOUNDATIONS INSTALL THUNDERLINE LINK SEAL.
  - GAS LINES ROUTED UNDER A BUILDING SHALL BE STEEL AND SHALL BE ENCASED IN A SCH 40 OUTER CONDUIT (AT LEAST 3 PIPE SIZES LARGER THAN THE GAS LINE). CONDUIT SHALL BE SEAL WELDED TO THE GAS PIPE INSIDE THE BUILDING. CONDUIT SHALL BE VENTED TO OUTDOORS. CONDUIT SHALL BE PROTECTED FROM CORROSION SIMILARLY TO UNDERGROUND PIPING.
- I. PIPE/TUBING:
- STEEL PIPE: ASTM A53 GRADE A OR B, TYPE F, ERW OR SEAMLESS. SCHEDULE 40.
  - ASTM A106 SEAMLESS, SCHEDULE 40.
  - TUBING (STEEL) ASTM A539.
  - PLASTIC PIPE ASTM D2513 POLYETHYLENE. DRISCO PIPE 6500 OR PRIOR APPROVED EQUAL.
- J. FITTINGS:
- WELDED (STEEL): WELDING FITTINGS SHALL BE CARBON STEEL BUTT WELDING TYPE CONFORMING TO ASTM-234. ELBOWS SHALL BE LONG RADIUS TYPE. WELDING TEES SHALL BE USED ON BRANCH CONNECTIONS EQUAL TO OR GREATER THAN 2 THE DIAMETER OF THE MAIN RUN. FITTINGS SHALL BE LADISH, TUBE-TURN OR WELDBAND. CARBON STEEL REINFORCED BRANCH, WELDING FITTINGS UP TO 3 INCHES, BUT NOT GREATER THAN 2 THE DIAMETER OF THE MAIN RUN MAY BE USED. FITTINGS SHALL BE BONNEY FORGE OR PHOENIX FORGING.
  - THREADED (MALLEABLE, IRON): SCREWED FITTINGS SHALL BE MALLEABLE IRON ASTM A-197 CLASS 150 CONFORMING TO ANSI B16.3. DIMENSIONS CONFORMING TO FEDERAL SPEC WW-P-521. FITTINGS SHALL BE GRINNELL, FLAGG OR STOCKHAM.
  - HEAT FUSION/COMPRESSION (POLYETHYLENE): SOCKET TYPE FUSION SHALL MEET THE REQUIREMENTS OF ASTM D2633. FITTINGS SHALL BE LISTED AND MARKED ASTM D2513. BUTT TYPE FUSION FITTING SHALL MEET THE REQUIREMENTS OF ASTM D3261.
- K. UNIONS (DIELECTRIC): CLASS 250 MALLEABLE, SCREWED ASTM A-197.
- L. VALVES:
- 1 INCH AND SMALLER: BALL VALVE - CLASS 125 BRASS FULL PART, 2 PIECE BODY, CHROME PLATED BALL, BLOWOUT PROOF STEAM, TFE SEATS.
  - 2 INCHES AND SMALLER: PLUG COCK - CLASS 125 CAST IRON, SCREWED, FULL PORT AGA LISTED, ANSI B16.33 HOMESTEAD FIGURE 601.
  - 2 1/2 INCHES AND LARGER: PLUG VALVE - CLASS 125 FLANGED CAST IRON ASTM A126 CONFORMING TO ANSI B16.1.
- M. PIPE COATING: X-TRU COAT OR PRIOR APPROVED EQUAL INCLUDING JOINTS AND FITTINGS.
- N. PRESSURE REGULATORS: CAST IRON OR ALUMINUM BODY AND SPRING CASE WITH STAINLESS STEEL VALVE STEAM, SEAT RING AND VALVE PLUG, PLATED STEEL SPRINGS, NEOPRENE DIAPHRAGM AND GASKETS AND TFE DISC. REGULATING VALVES SHALL BE SIZED FOR THE FLOW INDICATED AND FOR INLET AND OUTLET PRESSURES INDICATED. OUTLET PRESSURE SHALL BE MAINTAINED UNDER THE DESIGN FLOW CONDITION AND AT NO FLOW. REGULATING VALVES TWO PSI AND BELOW SHALL HAVE LEAK LIMITING DEVICES. REGULATING VALVES OVER TWO PSI SHALL BE VENTED FULL SIZE TO OUTSIDE OF THE BUILDING. OTHER REGULATING VALVES REQUIRING ACCESS TO THE ATMOSPHERE SHALL BE EQUIPPED WITH VENT PIPING LEADING TO OUTSIDE. PROVIDE A PRESSURE RELIEF VALVE IF THE REGULATOR CONNECTION SIZE EXCEEDS TWO INCHES. REGULATING VALVES SHALL BE FISHER, MAXITROL OR PRIOR APPROVED EQUAL MEETING ANSI Z21.18.
- O. PRESSURE GAGE: FOR MEDIUM PRESSURE GAS; 0-5 PSI RANGE. FOR LOW PRESSURE GAS: 0-30 INCH W.C. RANGE. USE LOW PRESSURE TYPE 2-1/2 INCH DIAL. PRESSURE GAGE WITH APPROPRIATE RANGE, OCI MODEL CO 34, TRENC, WENSLER OR APPROVED EQUAL.



Engineering & Design Consultants  
2111 Parkway Office Circle, Suite 125  
Birmingham, AL 35244  
(205) 733-6912 FAX: (205) 733-6913  
Job No.24067



4/8/24

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

FINAL

No.	Description	Date

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Plumbing  
Specifications

Project number	24004
Date	4/8/24
Drawn by	CA
Checked by	JB

P0.02

Scale 12" = 1'-0"



SECTION 15430 - PLUMBING SPECIALTIES

- A. THIS SPECIFICATION DESCRIBES THE REQUIREMENTS FOR LABOR AND MATERIALS REQUIRED FOR THE INSTALLATION OF PLUMBING SPECIALTIES INCLUDED AS PART OF THE BUILDING PLUMBING SYSTEM.
- B. MANUFACTURER'S LITERATURE INDICATING MODEL NUMBERS AND OPTIONS SHALL BE SUBMITTED FOR ALL FIXTURES AND EQUIPMENT. FORMAT SHALL INCLUDE A SCHEDULE OF THE SPECIALTIES SUBMITTED AND INCLUDE IDENTIFICATION NUMBER OF EACH ITEM, SUCH AS "FD-1 FLOOR DRAIN," A LIST OF EACH COMPONENT, ACCESSORY, AND OPTION OF THE ITEM BEING SUBMITTED. THIS SCHEDULE MUST BE INCLUDED IN THE FRONT OF THE SUBMITTAL PAGE.
- C. CLEANOUTS SHALL CONSIST OF A COATED CAST IRON BODY WITH THREADED TOP WITH SPIGOT OR NO-HUB CONNECTION AND GASKETED BRONZE CLOSURE PLUG WITH COUNTERSUNK SLOT. HEAD SHALL BE ADJUSTABLE IN HEIGHT; PROVIDE NON-SKID COVERS FOR FLOOR CLEANOUTS. PROVIDE THREAD SHIELD TO PROTECT ADJUSTMENT THREADS FROM CONCRETE AS REQUIRED. CLEANOUTS SHALL BE INSTALLED IN HORIZONTAL RUNS AT SPACING OF NO MORE THAN 75 FEET. INSTALL CLEANOUTS AT THE BASE OF EVERY SOIL AND WASTE STACK, AND AT EACH 90 DEGREE CHANGE IN DIRECTION. INSTALL CLEANOUTS WHICH ARE NOT EASILY ACCESSIBLE UP THROUGH FLOOR OR WALL AND PROVIDE APPLICABLE COVERS. INSTALL CLEANOUTS TO ALLOW AT LEAST 18" FOR RODDING.
- D. WATER HAMMER ARRESTORS SHALL BE CONSTRUCTED OF A STAINLESS STEEL OR COPPER SHELL, STAINLESS STEEL OR ELASTOMER BELLOWS, WITH PRECHARGE OF AIR, NITROGEN, OR ARGON. ARRESTERS SHALL CONFORM TO ASSE STD. 1010, AND SHALL BE ZURN "SHOCKTROL", JOSAM "ABSORBOTRON", WADE "SHOCKSTOP", OR PRECISION PLUMBING PRODUCTS "SHOCK ARRESTOR". UNIT SHALL BE SIZED IN ACCORDANCE WITH TO PSI STANDARDS. WATER HAMMER ARRESTORS SHALL BE SIZED TO ACTUAL PIPE SIZE AND INSTALLED AS NEAR THE SHOCK SOURCE AS PRACTICAL. INSTALL TO ALLOW UNOBSTRUCTED PATH FROM SHOCK SOURCE TO ARRESTOR.
- E. BALANCING VALVES (DOMESTIC HOT WATER RETURN): VALVES SHALL BE BELL AND GOSSETT CB SERIES CIRCUIT SETTER, PRESETTABLE BALANCE VALVE, VARIABLE ORIFICE FLOW METER AND POSITIVE SHUT-OFF SERVICE VALVE. EQUIPMENT WITH CAPPED READOUT VALVES FITTED WITH INTERNAL CHECK VALVES, 1/4" INCH NPT TAPPED AND PLUGGED DRAIN PORT. BRONZE BODY/BRASS BALL CONSTRUCTION WITH GLASS AND CARBON FILLED FLOW SEAT RINGS, SOLDER CONNECTIONS. VALVES TO HAVE DIFFERENTIAL PRESSURE READ-OUT PORTS ACROSS VALVE SEAT AREA. FURNISH WITH PREFORMED INSULATION TO PERMIT ACCESS FOR BALANCE AND READ-OUT. TACO IS AN APPROVED EQUAL.
- F. PRESSURE REDUCING VALVES: VALVES SHALL BE EQUAL TO WATTS SERIES U6B-GG BRONZE BODY SINGLE SEATED WITH COMPOSITION DIAPHRAGM AND STAINLESS STEEL SPRING, DIRECT ACTING WITH STRAINER ON INLET SIDE, INTEGRAL BY-PASS CHECK VALVE, GAUGE, AND THREADED ENDS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- G. TRAP GUARD SEALS: PROVIDE AN ELASTOMERIC, NORMALLY CLOSED TRAP GUARD DEVICE TO PREVENT EVAPORATION OF THE TRAP SEAL AND TO PROTECT AGAINST SEWER GASES FROM BACKING UP INTO HABITABLE AREAS. DEVICE SHALL OPEN WITH FLUID AND ALLOWS LIQUID DRAINAGE TO FLOW THROUGH INTO THE BUILDING DRAIN. TRAP SEAL SHALL BE TRAP GUARD BY PRO-VENT SYSTEMS OR APPROVED EQUAL.
- H. FLOOR DRAINS (FD-1): DRAIN SHALL INCLUDE COATED CAST IRON BODY WITH BOTTOM OUTLET, 1/2" TRAP PRIMER CONNECTION, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH TYPE "B" ROUND POLISHED NICKEL-BRONZE LIGHT DUTY STRAINER TOP WITH SQUARE HEELPROOF OPENINGS AND SECURED GRATE. DRAIN SHALL BE ZURN ZN415-P-NH OR EQUAL BY JAY R. SMITH, WADE, OR JOSAM. PROVIDE 3 FT. SQ. 6 MIL BUTYL MEMBRANE, AT EACH FLOOR DRAIN. CLAMP MEMBRANE. MEMBRANE SHALL BE RECESSED IN THE FLOOR SLAB WITH TOPPING POURED OVER IT. DRAINS INSTALLED IN ELEVATED BUILDING FLOORS SHALL BE SEALED IN SUCH A MANNER AS TO PREVENT LEAKAGE OF WATER AROUND TRAP AND BODY TO CEILING BELOW.
- I. FLOOR DRAIN (FD-2): DRAIN SHALL INCLUDE SUR-SET BUCKET, 9" DIAMETER MEDIUM DUTY CAST IRON GRATE, COATED CAST IRON BODY, 1/2" TRAP PRIMER CONNECTION, BOTTOM OUTLET, SEEPAGE PAN, AND COMBINATION MEMBRANE CLAMP. DRAIN SHALL BE ZURN Z-554-P-NH OR EQUAL BY JAY R. SMITH, WADE, OR JOSAM. PROVIDE 3 FT. SQ. 6 MIL BUTYL MEMBRANE, AT EACH FLOOR DRAIN. CLAMP MEMBRANE. MEMBRANE SHALL BE RECESSED IN THE FLOOR SLAB WITH TOPPING POURED OVER IT. DRAINS INSTALLED IN ELEVATED BUILDING FLOORS SHALL BE SEALED IN SUCH A MANNER AS TO PREVENT LEAKAGE OF WATER AROUND TRAP AND BODY TO CEILING BELOW.
- J. HUB DRAIN (HD): DRAIN SHALL INCLUDE CAST IRON DEEP SEAL, 1" TRAP WITH INDIRECT WASTE FUNNEL INLET AND SIDE OUTLET THREADED AND WITH 1/2 INCH THREADED FLUSH CONNECTION. DRAIN SHALL BE JOSAM 8821-051 OR EQUAL BY ZURN, JAY R. SMITH, OR WADE.
- K. REDUCED PRESSURE ZONE BACKFLOW PREVENTER (ASSE 1015): BACKFLOW PREVENTER SHALL INCLUDE NPT BODY CONNECTIONS, QUARTER TURN, FULL PORT, RESILIENT SEATED BRONZE BALL VALVE, AND STRAINER. UNIT SHALL BE WATTS SERIES 909 QT OR EQUAL BY WILKINS, OR CONBRACO. BACKFLOW PREVENTERS SHALL BE INSTALLED IN ACCORDANCE WITH PER MANUFACTURER'S INSTRUCTIONS. AFTER INSTALLATION, BUT BEFORE SYSTEM IS PUT INTO SERVICE, TEST BACKFLOW PREVENTER FOR FUNCTIONALITY WITH TEST KIT AS RECOMMENDED BY MANUFACTURER. PIPE DISCHARGE FROM BACKFLOW PREVENTER VENT WITH CONNECTION-SIZE COPPER TUBING TO NEAREST FLOOR DRAIN. ENSURE AIR GAP IS PROVIDED IN RELIEF LINE EITHER BY AIR GAP FITTING OR ELEVATED DISCHARGE ABOVE DRAINS. BACKFLOW PREVENTER PIPING SHALL BE INSTALLED WITH UNIONS FOR REMOVAL.
- L. WALL HYDRANTS (WH-1): WALL HYDRANTS SHALL BE NICKEL BRONZE PLATED, INTEGRAL VACUUM BREAKER, 3/4 INCH HOSE THREAD, KEY OPERATOR, NON-FREEZE TYPE, HOUSED IN A RECESSED STAINLESS STEEL BOX WITH HINGED LOCKING COVER. HYDRANT SHALL BE JAY R. SMITH 5503 QT OR EQUAL BY WADE, JOSAM OR ZURN. INSTALL WALL HYDRANTS AS INDICATED ON DRAWINGS, MINIMUM HEIGHT 18" A.F.F. UNLESS OTHERWISE INDICATED.
- M. HOSE BIBB (HB-1): CHROME PLATED, 1/2 INCH HOSE THREAD OUTLET, LOCK SHIELD CAP WITH INTEGRAL VACUUM BREAKER. CHICAGO FAUCET NO. 932 OR T&S BRASS.
- N. OIL SEPARATOR: MIFAB® SERIES MI-O-PL HDPE INJECTION MOLDED OIL INTERCEPTOR WITH FLOW RATING OF 20 GPM AND OIL STORAGE HOLDING CAPACITY OF 20 GALLONS. UNIT SHALL INCLUDE: SEDIMENT BUCKET (1/4" DIAMETER HOLES) WITH PERFORATED BAFFLE (3/8" X 1 1/4" SLOTS) NEAR INLET, DEEP SEAL TRAP COVERED BY LID, SEWER GAS STOPPER, SECURING LATCHES, STAINLESS STEEL CALIBRATED ORIFICE PLATE, INTERNAL AIR RELIEF BY-PASS, ADJUSTABLE AUTOMATIC DRAW-OFF ASSEMBLY, DOUBLE VENT CONNECTION ON EACH SIDE, AND HDPE INJECTION MOLDED, NON SKID, RECTANGULAR GASKETED LIDS). PROVIDE WITH EXTENSIONS FOR LIDS AS REQUIRED TO MEET SLAB LEVEL.

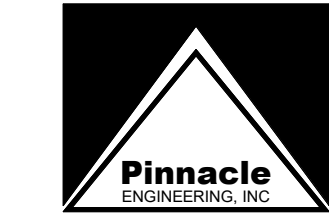
SECTION 15440 - PLUMBING FIXTURES

- A. THIS SPECIFICATION DESCRIBES THE REQUIREMENTS FOR PLUMBING FIXTURES AND THEIR INSTALLATION. SUBMITTALS SHALL INCLUDE MANUFACTURER'S DATA SHEETS AND DIMENSIONAL INFORMATION ON ALL FIXTURES AND ACCESSORIES. FORMAT SHALL INCLUDE A SCHEDULE OF THE FIXTURES SUBMITTED AND INCLUDE IDENTIFICATION NUMBER OF EACH ITEM, SUCH AS "P-1 WATER CLOSET", AND LIST OF EACH COMPONENT AND ACCESSORY OF THE FIXTURE, INCLUDING MANUFACTURER'S MODEL NUMBER. THIS SCHEDULE MUST BE INCLUDED IN THE FRONT OF THE SUBMITTAL BOOKLET.
- C. VITREOUS WARE SHALL BE WHITE, REGULAR SECTION, OF WEIGHT REQUIRED, FREE FROM CRACKS, FLAWS, BUSTERS, CRAZES OR OTHER DEFECTS. PROVIDE WITH MOUNTING BRACKETS FOR WALL MOUNTED FIXTURES UNLESS FLOOR CARRIERS ARE INDICATED.
- D. STAINLESS STEEL SHALL HAVE MACHINE GROUND FINISH. DECKS AND SINK COMPARTMENT SIDES SHALL BE BUFFED. EXPOSED SURFACES SHALL HAVE NO. 4 SATIN FINISH. INTERIOR SURFACES SHALL BE DEADENED. EXPOSED METAL PARTS SHALL BE CHROMIUM PLATED AND PROTECTED DURING CONSTRUCTION BY A COAT OF GREASE.
- E. WATER CLOSET AND URINAL CARRIERS SHALL HAVE TAPERED THREAD FACE PLATE, PLASTIC COUPLING WITH TEST CAP, AND NEOPRENE RUBBER GASKET. LAVATORY, SINK AND URINAL CARRIERS SHALL HAVE RECTANGULAR STRUCTURAL STEEL UPRIGHTS. CARRIERS SHALL HAVE NECESSARY ACCESSORIES FOR PROPER INSTALLATION. CARRIERS SHALL BE ACCORDING TO ANSI A112.6.1M.
- F. WATER CLOSETS AND URINALS SHALL HAVE BOLT CAPS.
- G. SEATS SHALL BE WHITE, SOLID PLASTIC, WITH INTERNAL CHECK AND MOLDED STAINLESS STEEL HINGE WITHOUT VISIBLE METAL PARTS, EXCEPT AS HEREINAFTER SPECIFIED.
- H. CHROMIUM PLATED TRAPS SHALL BE BRASS WITH CHROMIUM PLATED NIPPLE TO WALL AND ESCUTCHEON.
- I. FITTINGS AND ACCESSORIES SPECIFIED DESIGNATE TYPE ONLY; PROVIDE MODIFICATIONS TO MAKE FITTINGS WORK PROPERLY WITH FIXTURE AND PIPING. PROVIDE NECESSARY TAILPIECE AND SHANKS.
- J. INSTALL EYEWASH STATION WITHIN 10 FEET OF HAZARD AREA, COMPLETELY UNOBSTRUCTED FROM VIEW OR ACCESS, ANCHOR TO FLOOR IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. PROVIDE AND INSTALL STRAINER AT DOMESTIC WATER INLET TO STATION. PROVIDE AND INSTALL ON WALL ABOVE STATION, A PLASTIC ENGRAVED SIGN READING "EMERGENCY USE ONLY", WHITE LETTERS ON RED BACKGROUND. PROVIDE MINIMUM 5 GALLON CONTAINER AND PROVIDE TIMED FLOW TEST FOR ALL EYEWASHES AND EMERGENCY SHOWERS. SUBMIT REPORT TO ARCHITECT OR ENGINEER PRIOR TO FINAL INSPECTION.
- K. FIXTURES
- WC-1 WATER CLOSET (17-1/2" HIGH, FLOOR MOUNT, TANK TYPE):
1. KOHLER K-3493 VITREOUS CHINA, 1.4 GALLON FLUSH; PRESSURE ASSISTED CLOSE COUPLED TANK WITH ELONGATED BOWL.
  2. KOHLER K-7637 3/8" POLISHED CHROME ANGLE SUPPLY WITH STOP.
  3. BENEKE 82/SS ELONGATED SELF-SUSTAINING WITH CHECK HINGES, OPEN FRONT, HEAVY DUTY SOLID PLASTIC SEAT.
- LAV-1 LAVATORY (ADA COMPLIANT, WALL HUNG):
1. KOHLER K-2005 WALL MOUNTED LAVATORY, VITREOUS CHINA, WITH OVER FLOW AND 4" FAUCET CENTERS, DRILLED FOR CONCEALED ARM CARRIER.
  2. ZURN Z-7443-V/P SINGLE CONTROL FAUCET, LEVER HANDLE, 4" CENTER MOUNT, 1-1/4" GRID STRAINER.
  3. MCGUIRE 170 1/2" X 3/8" SWEAT LAVATORY SUPPLIES WITH WHEEL HANDLE STOPS.
  4. MCGUIRE 8902, 1-1/4 INCH X 1-1/2 INCH P-TRAP WITH ESCUTCHEON; ZURN GH, 1-1/4" OFFSET HANDICAP GRID DRAIN.
  5. TRAP AND SUPPLIES COVERED WITH TRAP WRAP EQUAL TO BROCHAR INDUSTRIES.
  6. ZURN Z-1231 LAVATORY CONCEALED ARM CARRIER.
- EW-1 EYE/FACE WASH (PEDESTAL MOUNT):
1. STAINLESS STEEL BOWL WITH TWIN EYEWASH HEADS WITH FLIP TOP COVERS, CHROME PLATED WATER EYEWASH ASSEMBLY.
  2. INCLUDE UNIVERSAL EMERGENCY SIGN CONFORMING TO ANSI Z358.1.
  3. INCLUDE MIXING VALVE/TEMPERED WATER BLENDING SYSTEM.
  4. EQUAL TO GUARDIAN G1825. CONFORM TO ANSI Z358.1.
- EW-1 WATER COOLER (WALL MOUNT, BOTTLE FILLING STATION, ADA):
1. ELKAY LZSTL8WSVRSK. HANDS FREE, ADA COMPLIANT DUAL STATION WITH BOTTLE FILLING STATION.
  2. MCGUIRE 8902 P-TRAP WITH ESCUTCHEON.
  3. MCGUIRE 170 STOP AND SUPPLY.
- SK-1 LAUNDRY TUB (SINGLE COMPARTMENT):
1. FIAT MODEL NO. FL-1 SINGLE MOLDED STONE LAUNDRY TUB WITH FREE DRAINING SOAP TRAY ON BACK LEDGE. INCLUDE FOUR WHITE BAKELITE ENAMEL ANGLE LEGS THAT SLIP INTO MOLDED SOCKETS. SELF-LEVELING LEGS WITH FLOOR ANCHORS.
  2. FIAT MODEL A-1 BRASS FAUCET WITH SWING SPOUT.
  3. MCGUIRE 170 1/2" X 3/8" SWEAT LAVATORY SUPPLIES WITH WHEEL HANDLE STOPS.
  4. MCGUIRE #150 TRAY PLUG WITH RUBBER STOPPER (1-1/2").
  5. MCGUIRE #8912 1-1/2" X 1-1/2", 17 GAUGE BRASS P-TRAP.
- L. ACCEPTABLE MANUFACTURERS: FIXTURES: VITREOUS CHINA - AMERICAN STANDARD, CRANE, ELJER, KOHLER. FIXTURES, STAINLESS STEEL - JUST, ELKAY. FLUSH VALVES - SLOAN, DELANEY. ZURN. TOILET SEATS - OLSONITE, SPERZEL, CHURCH, BENEKE, BEMIS. FAUCETS - T&S BRASS, SPEAKMAN, CHICAGO, SYMMONS, ELJER. TERRAZZO - FIAT, CUTLER, FLORESTONE, STERN-WILLIAMS. TRIM, CHROMED BRASS - MCGUIRE, SANITARY DASH, BRIDGEPORT. SHOWER MIXING VALVES - POWERS, LEONARD, LAWLER, SYMMONS. SPEAKMAN, ZURN. SHOWER HEADS - SYMMONS, SPEAKMAN, ZURN. ELECTRIC WATER COOLERS - ELKAY, HALSEY TAYLOR, SUNROC, OASIS, HAWS. USE ONLY WATER COOLERS WHICH DO NOT USE CFC'S FOR REFRIGERATION. SCRUB SINKS - ELJER, AMERICAN STANDARD, KOHLER, CRANE CARRIERS - J. R. SMITH, JOSAM, ZURN, WADE. EMERGENCY EQUIPMENT - GUARDIAN, HAWS, WESTERN, SPEAKMAN.

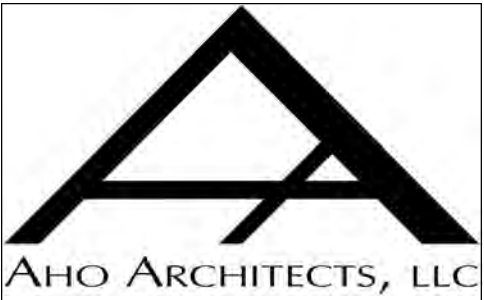
- M. INSTALL PLUMBING FIXTURE LEVEL AND PLUMB, IN ACCORDANCE WITH FIXTURE MANUFACTURER'S PUBLISHED LITERATURE, ROUGH-IN DRAWINGS, CODES REGULATIONS, AND REFERENCE STANDARDS. FASTEN PLUMBING FIXTURES SECURELY TO SUPPORTS OR BUILDING STRUCTURE. RIGIDLY SUPPORT WATER SUPPLIES BEHIND OR WITHIN WALL CONSTRUCTION. PROVIDE STOP VALVE IN THE WATER SUPPLY TO EACH FIXTURE IN AN ACCESSIBLE LOCATION. CONNECT WALLS AND BRINGS TO WASTE PIPING WITH RED BRASS NIPPLES. CONNECT FIXTURES TO WATER SUPPLY WITH COPPER OR BRASS (NO STEEL). EACH FIXTURE, FLOOR DRAIN AND PIECE OF EQUIPMENT REQUIRING CONNECTION TO DRAINAGE SYSTEM TO HAVE SEPARATE TRAPS INSTALLED AS CLOSE TO FIXTURE AS POSSIBLE. PROVIDE IRON OR STEEL BACKING FOR ALL WALL MOUNTED FIXTURES (OR WOOD BACKING ONLY IF BUILDING STRUCTURE IS WOOD). PROVIDE ESCUTCHEONS AT EACH WALL, FLOOR AND CEILING PENETRATION IN EXPOSED FINISHED LOCATIONS AND WITHIN CABINETS AND MILLWORK. APPLY SCP3154 PRIMER AND GENERAL ELECTRIC CO.'S NO. 1702 SILICONE SANITARY SEALANT AROUND PLUMBING FIXTURES TO CONCEAL VOIDS AT WALL AND CONTACT POINTS OF FIXTURE AFTER WALLS HAVE BEEN PAINTED. APPLY SCP3154 PRIMER AND GENERAL ELECTRIC CO.'S SILPRUF SEALANT ON PLAIN CONCRETE WALLS.

SECTION 15450 - PLUMBING EQUIPMENT

- A. ELECTRIC WATER HEATERS:
1. WATER HEATER SHALL COMPLY WITH UL 1453.
  2. STORAGE TANK CONSTRUCTION: ASME-CODE STEEL WITH 150 PSIG WORKING-PRESSURE RATING. STEEL JACKET WITH ENAMELED FINISH.
  3. TAPPINGS: FACTORY FABRICATED OF MATERIALS COMPATIBLE WITH TANK FOR PIPING CONNECTIONS, RELIEF VALVE, PRESSURE GAGE, THERMOMETER, DRAIN, ANODE RODS, AND CONTROLS AS REQUIRED. ATTACH TAPPINGS TO TANK SHELL BEFORE TESTING AND LABELING. TAPPINGS SHALL HAVE THREADED ENDS ACCORDING TO ASME B1.20.1, PIPE THREADS.
  4. INTERIOR FINISH: MATERIALS AND THICKNESSES COMPLYING WITH NSF 61, BARRIER MATERIALS FOR POTABLE-WATER TANK LININGS. EXTEND FINISH INTO AND THROUGH TANK FITTINGS AND OUTLETS.
  5. INSULATION: COMPLY WITH ASHRAE 90.1. SURROUND ENTIRE STORAGE TANK EXCEPT CONNECTIONS AND CONTROLS.
  6. HEATING ELEMENTS: ELECTRIC, SCREW-IN OR BOLT-ON, IMMERSION TYPE. STAGING AS NOTED IN SCHEDULE.
  7. TEMPERATURE CONTROL: ADJUSTABLE IMMERSION THERMOSTAT.
  8. SAFETY CONTROLS: AUTOMATIC, HIGH-TEMPERATURE-LIMIT AND LOW-WATER CUTOFF DEVICES OR SYSTEMS.
  9. DRAIN VALVE: ASSE 1005, CORROSION-RESISTANT METAL, FACTORY INSTALLED.
  10. ANODE RODS: FACTORY INSTALLED, MAGNESIUM.
  11. DIP TUBE: FACTORY INSTALLED. NOT REQUIRED IF COLD-WATER INLET IS NEAR BOTTOM OF STORAGE TANK.
  12. SPECIAL REQUIREMENT: NSF 5 CONSTRUCTION.
  13. ACCEPTABLE MANUFACTURERS ARE LOCHINVAR, A. O. SMITH, OR PRIOR APPROVAL EQUAL.
- B. THERMAL EXPANSION TANK (DOMESTIC WATER):
1. PRE-CHARGED HYDROPNEUMATIC STEEL EXPANSION TANK, CONSTRUCTED IN ACCORDANCE WITH SECTION VIII OF ASME BOILER AND PRESSURE CODE, WITH ALL WELDS CONFORMING TO ASME SECTION IX. TANK MUST BE STAMPED WITH A MAXIMUM WORKING PRESSURE OF 125 PSI, AND A MAXIMUM WORKING TEMPERATURE OF 200 DEGREES F. ALL INTERNAL WETTED PARTS MUST COMPLY WITH FDA REGULATIONS AND APPROVALS. AN INTERNAL BUTYL DIAPHRAGM WILL BE USED TO ISOLATE AIR FROM WATER. AITROL OR APPROVED EQUAL ASI SERIES.



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4/8/24

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

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No.	Description	Date

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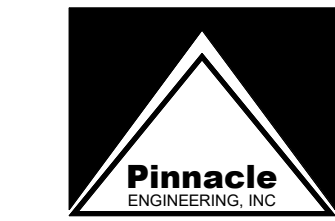
Plumbing  
Specifications

Project number	24004
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P0.03

Scale 12" = 1'-0"





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Plumbing Floor  
Plan Gravity

Project number	24004
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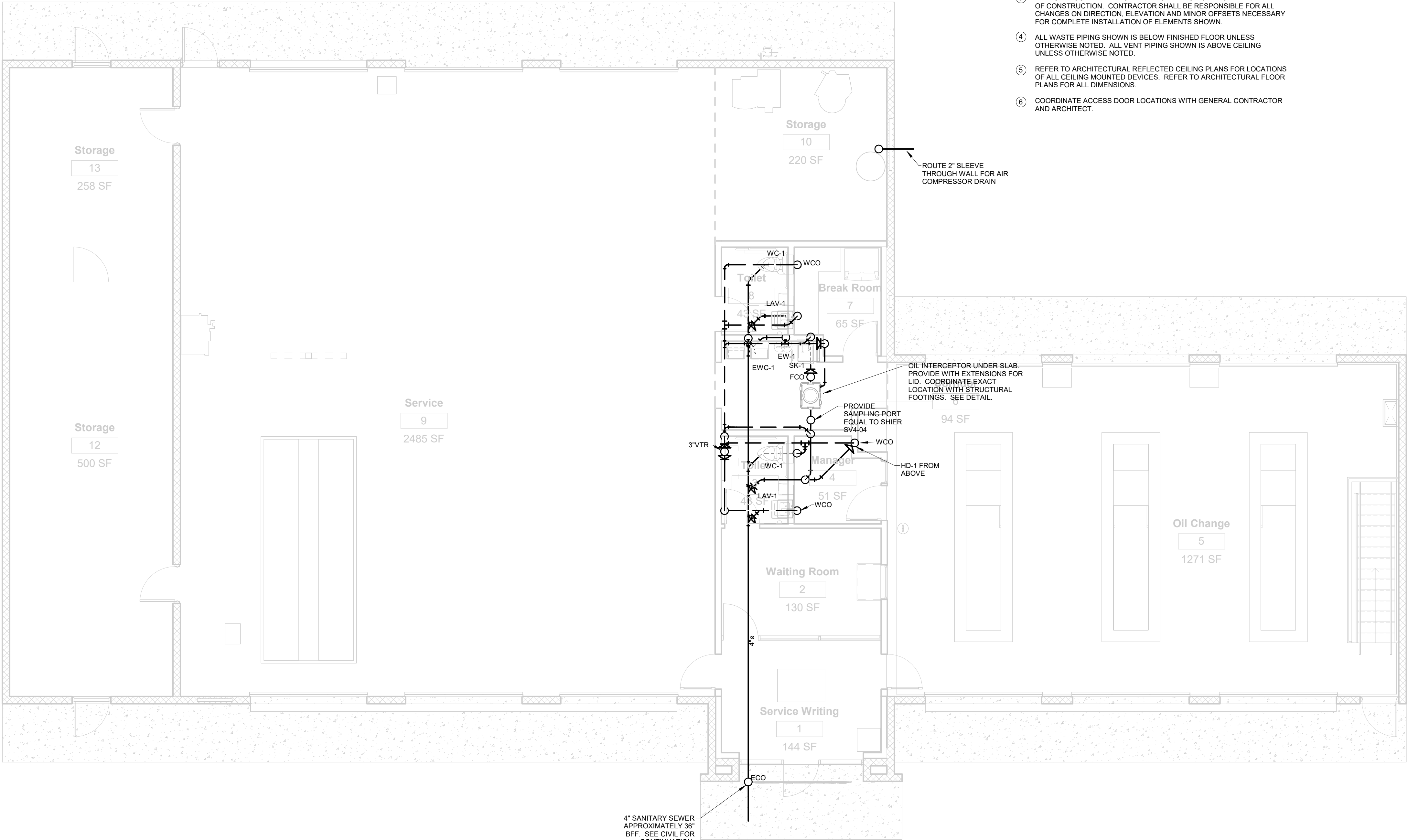
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Scale As indicated

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GENERAL NOTES:

- CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.
- SPACE ABOVE CEILING IS LIMITED. CAREFUL COORDINATION WITH LIGHTING, ELECTRICAL, MECHANICAL, FIRE PROTECTION, STRUCTURAL AND ARCHITECTURAL WORK IS CRITICAL FOR COMPLETE PIPING INSTALLATION. CONTRACTOR SHALL PROVIDE NECESSARY OFFSETS IN NEW AND EXISTING PIPING AND ELECTRICAL CONDUIT AS REQUIRED TO ACCOMMODATE NEW WORK, CONTRACTOR SHALL ALLOW FOR ANY CONFLICTS ENCOUNTERED.
- PIPING LAYOUTS ARE DIAGRAMMATIC AND DO NOT SHOW ALL ELEMENTS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CHANGES ON DIRECTION, ELEVATION AND MINOR OFFSETS NECESSARY FOR COMPLETE INSTALLATION OF ELEMENTS SHOWN.
- ALL WASTE PIPING SHOWN IS BELOW FINISHED FLOOR UNLESS OTHERWISE NOTED. ALL VENT PIPING SHOWN IS ABOVE CEILING UNLESS OTHERWISE NOTED.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF ALL CEILING MOUNTED DEVICES. REFER TO ARCHITECTURAL FLOOR PLANS FOR ALL DIMENSIONS.
- COORDINATE ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR AND ARCHITECT.



4" SANITARY SEWER  
APPROXIMATELY 36"  
BFF. SEE CIVIL FOR  
CONTINUATION.



MAIN FLOOR PLAN  
PLUMBING - GRAVITY  
3/16" = 1'-0"





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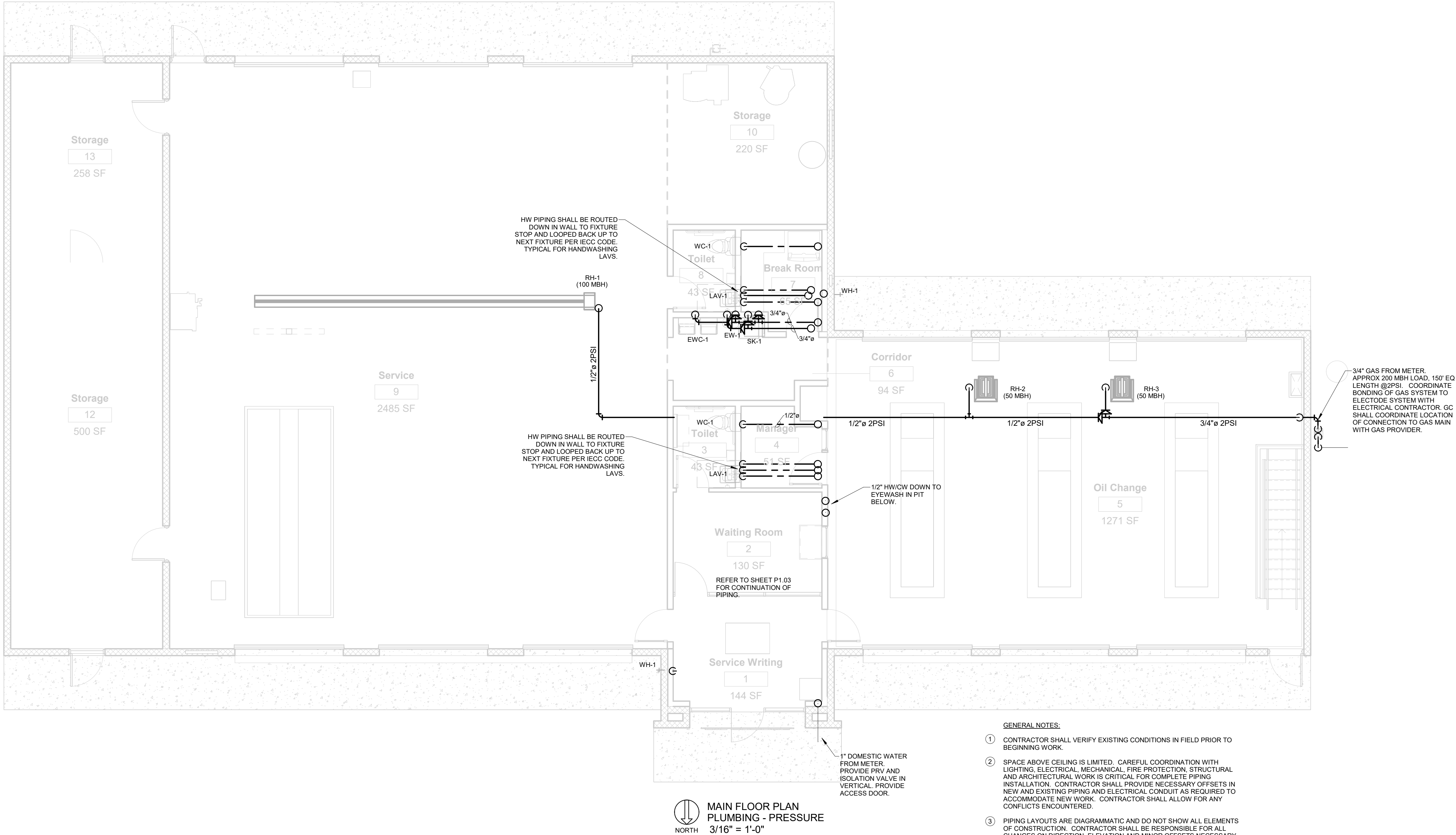
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Plumbing Floor  
Plan Pressure

Project number	24004
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P1.02

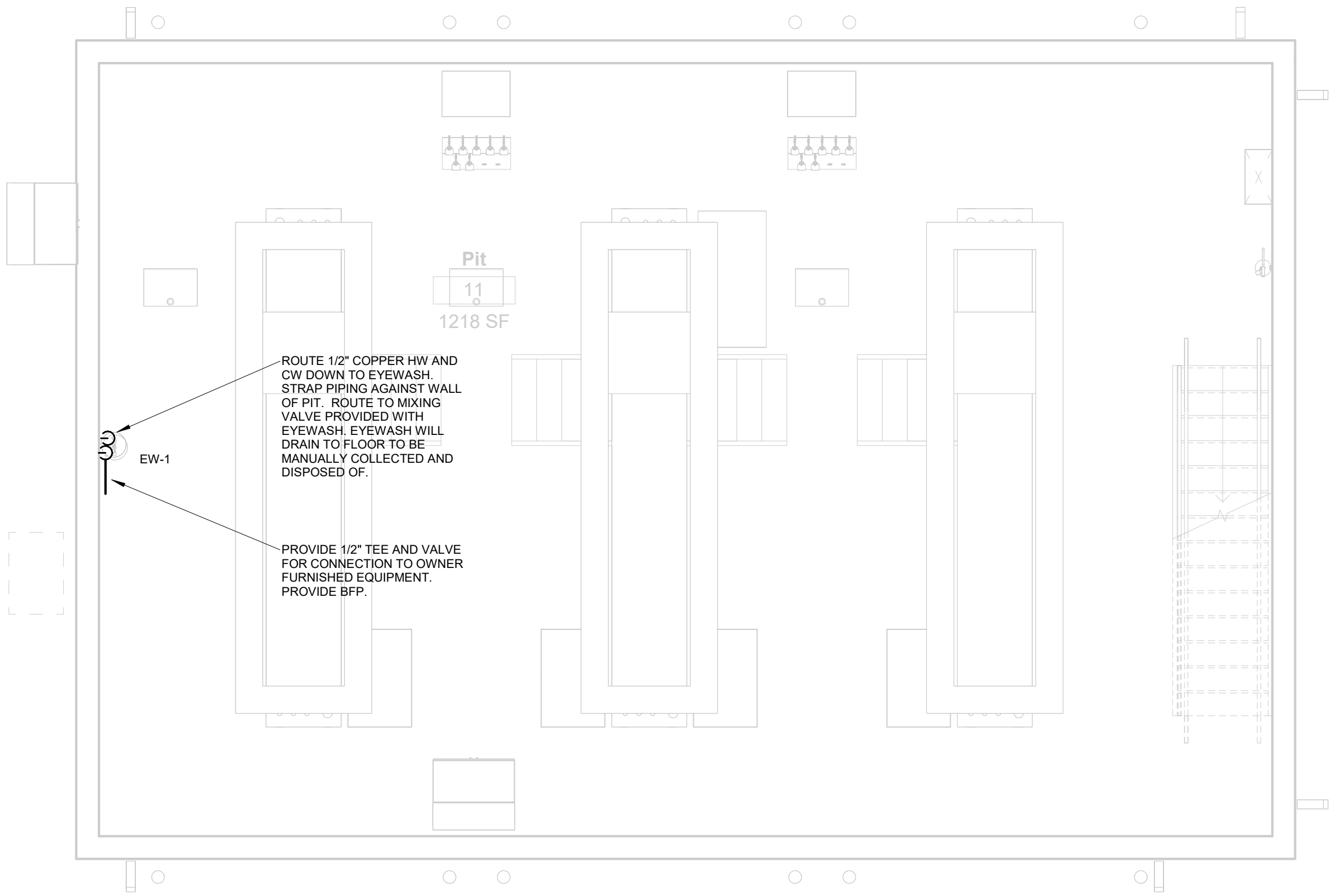
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- ALL PRESSURE PIPING SHOWN IS ABOVE THE CEILING UNLESS OTHERWISE NOTED. CONCEALED PIPING SHALL BE PEX OR COPPER. EXPOSED PIPING IN PUBLIC SPACES SHALL BE COPPER.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF ALL CEILING MOUNTED DEVICES. REFER TO ARCHITECTURAL FLOOR PLANS FOR ALL DIMENSIONS.
- COORDINATE ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR AND ARCHITECT.

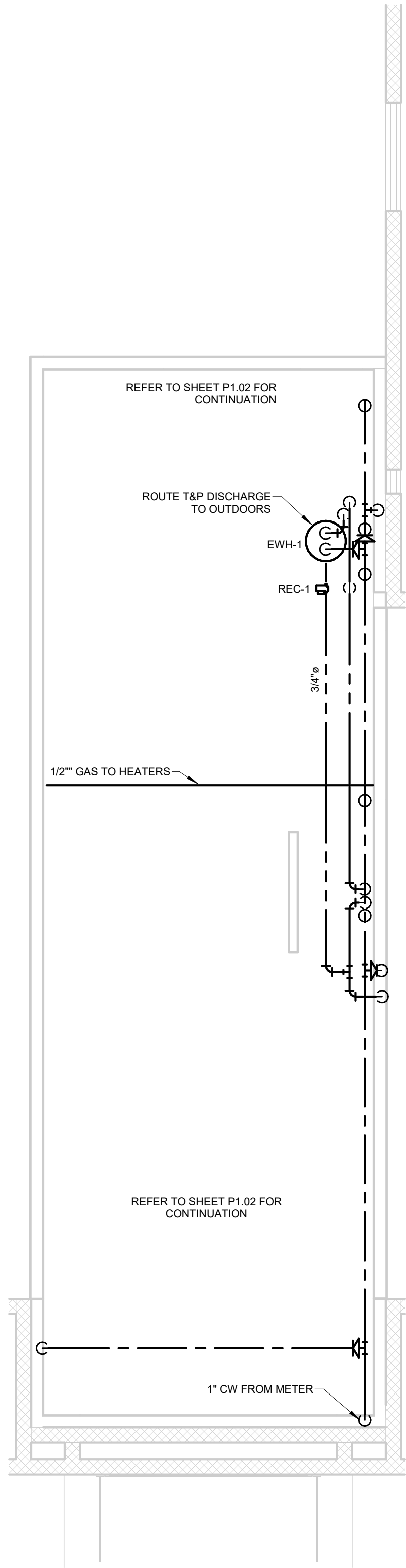





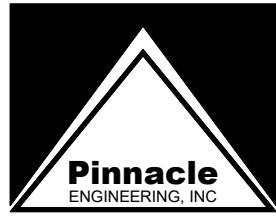
 PIT FLOOR PLAN PLUMBING  
1/4" = 1'-0"

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- ALL PRESSURE PIPING SHOWN IS ABOVE THE CEILING UNLESS OTHERWISE NOTED. ALL TRAP PRIMER LINES AND HOT WATER RETURN LINES SHALL BE 1/2" UNLESS OTHERWISE NOTED.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF ALL CEILING MOUNTED DEVICES. REFER TO ARCHITECTURAL FLOOR PLANS FOR ALL DIMENSIONS.
- COORDINATE ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR AND ARCHITECT.



 EQUIPMENT PLATFORM -  
PLUMBING  
1/4" = 1'-0"



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**Partial Plumbing  
Floor Plans - Pit  
and Platform**

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**P1.03**

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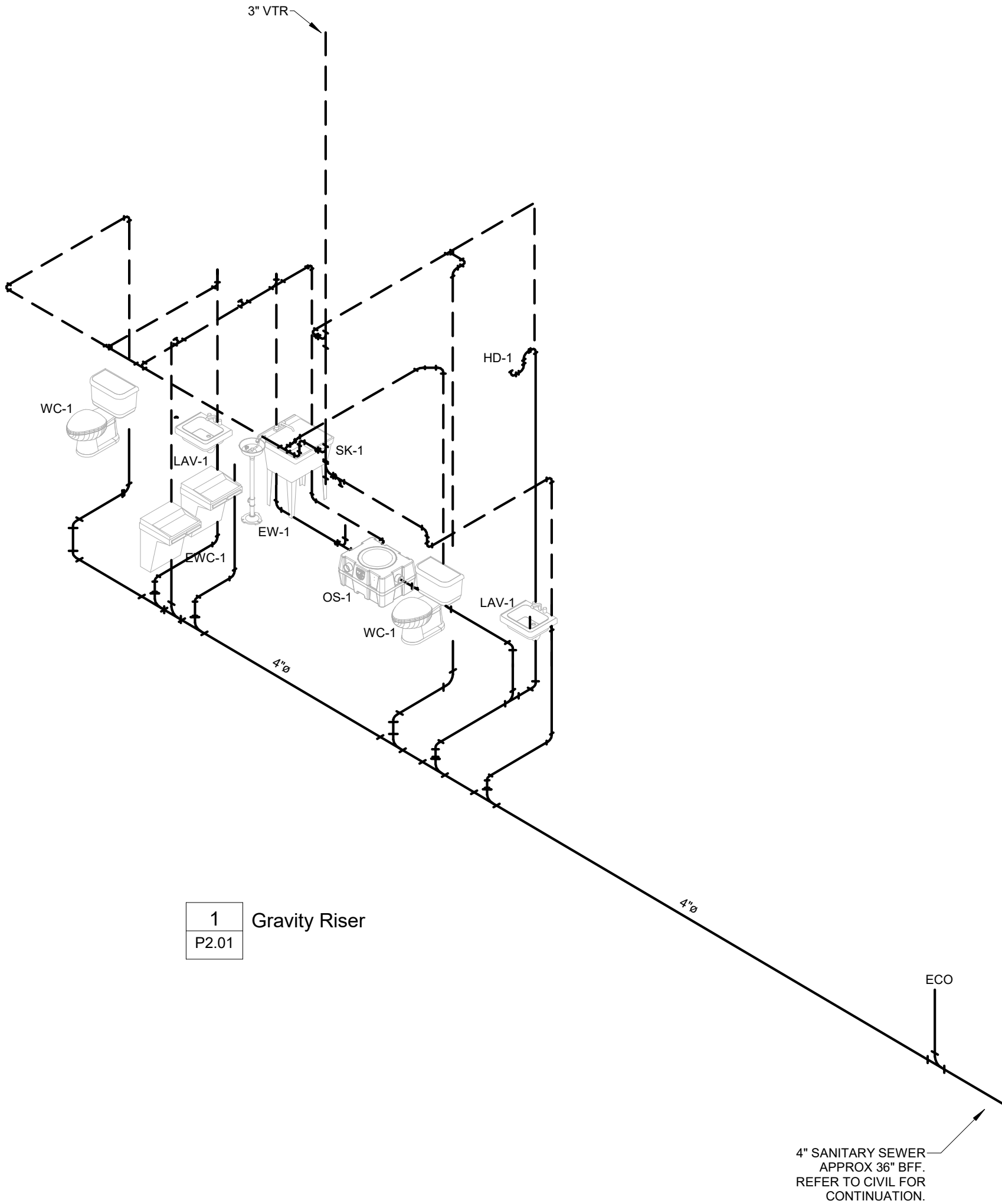
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Plumbing Riser - Gravity

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Scale





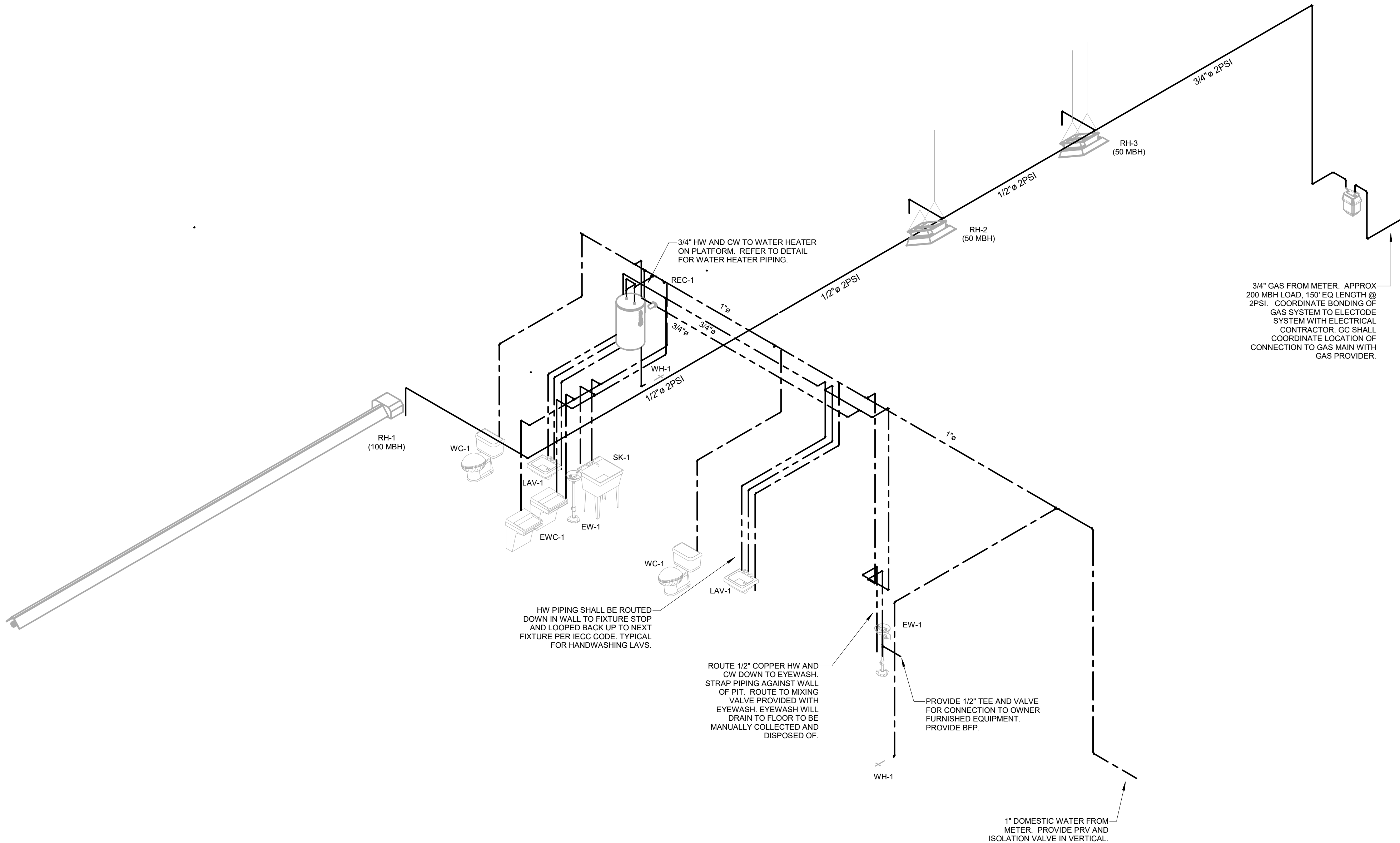
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2 Pressure Riser  
P2.02

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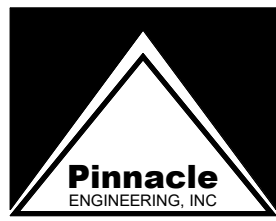
Plumbing Riser -  
Pressure

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P2.02

Scale





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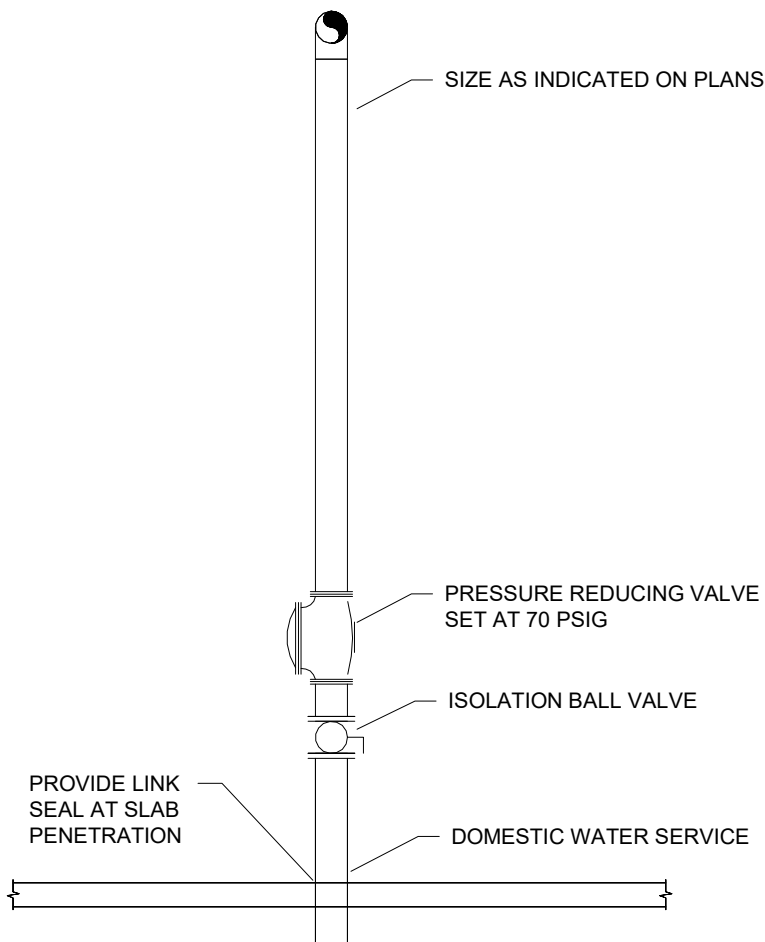
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Plumbing Details

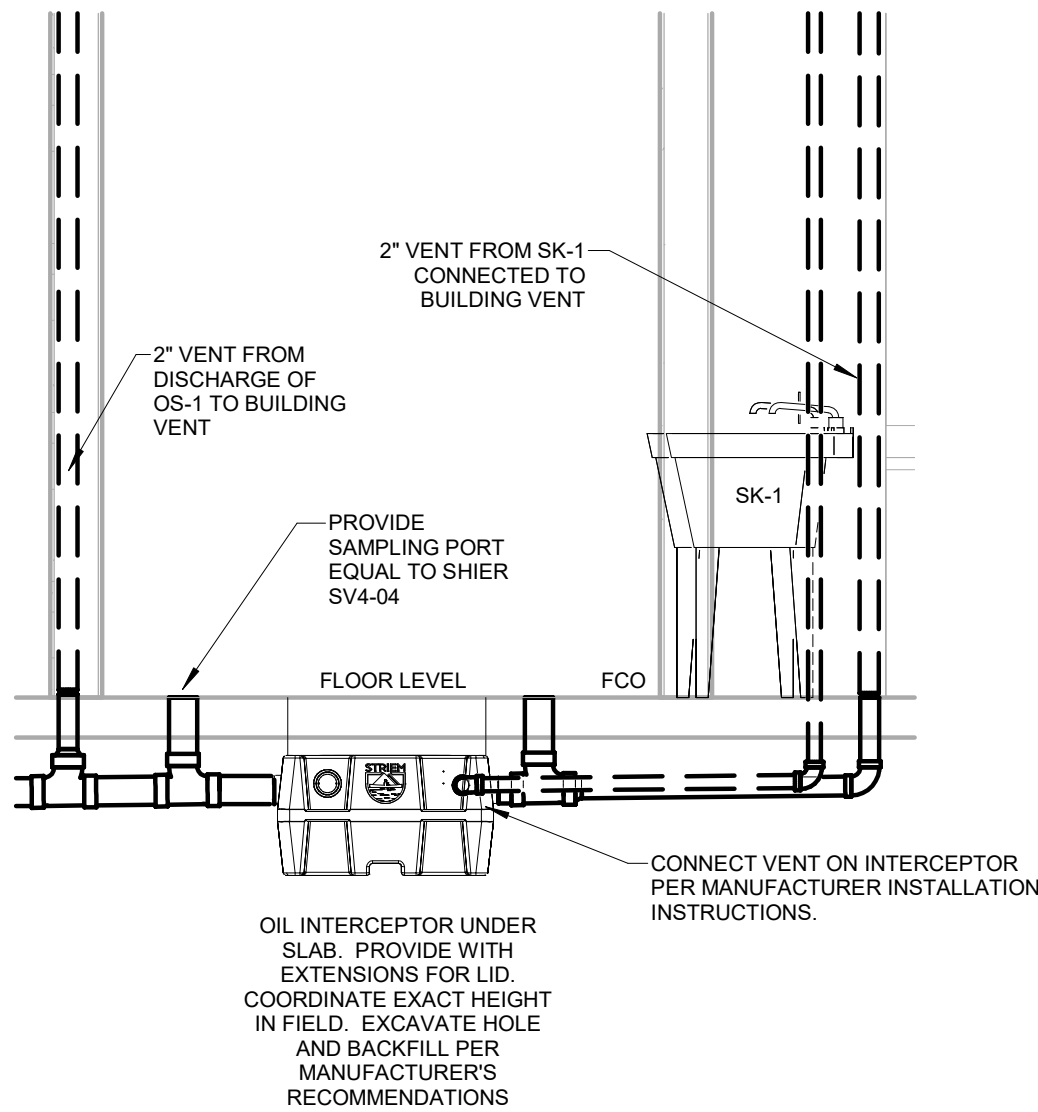
Project number	24004
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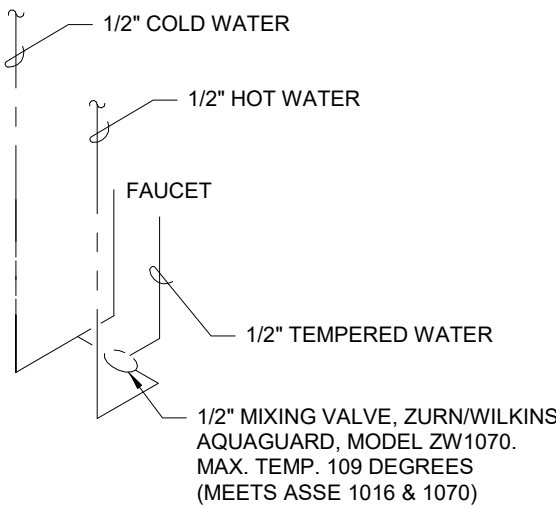
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6 DOMESTIC WATER ENTRANCE DETAIL  
P2.02 NO SCALE

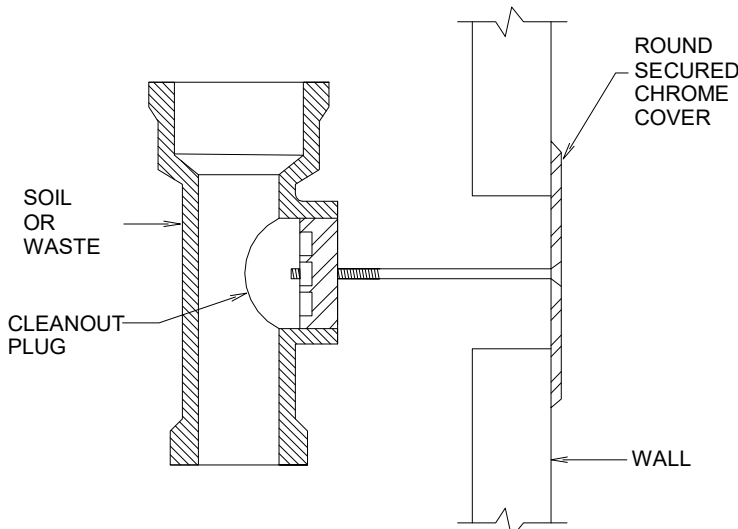


7 OIL INTERCEPTOR DETAIL  
P2.03 1/2" = 1'-0"

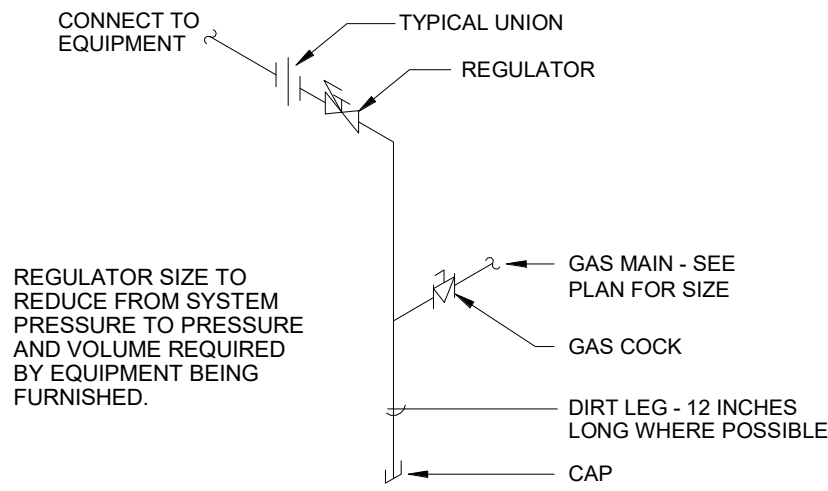


SINGLE

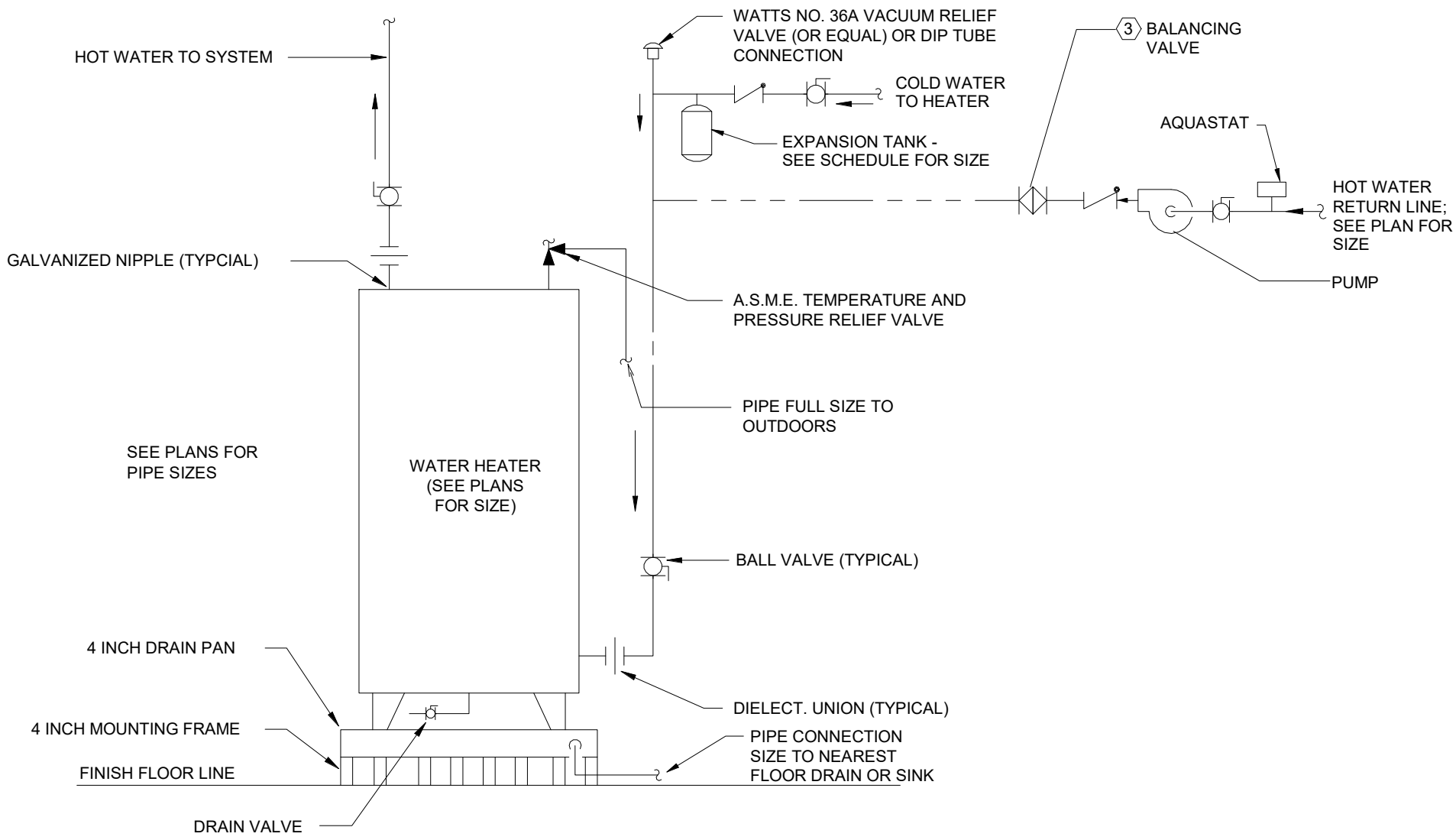
4 TYPICAL LAVATORY MIXING VALVE  
P2.02 SCALE: NONE



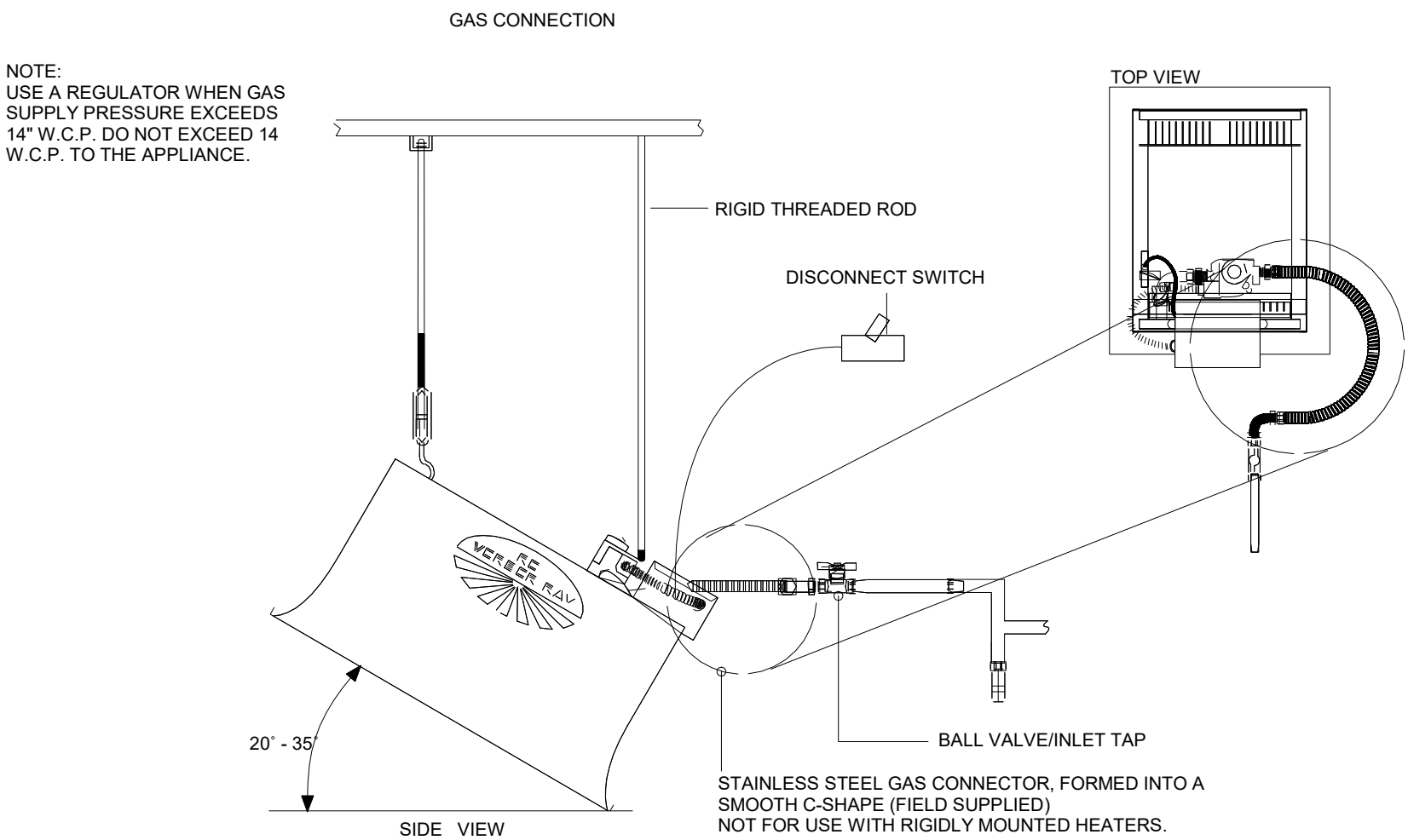
5 WALL CLEANOUT  
P2.02 NO SCALE



1 TYPICAL GAS CONNECTION  
P2.02 NO SCALE



2 ELECTRIC WATER HEATER (FLOOR MOUNTED)  
P2.02 NO SCALE



3 RADIANT HEATER GAS CONNECTION DETAIL  
P2.02 NO SCALE



LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	LAMPS			MTG. TYPE	MTG. HT.	REC. DEPTH	DESCRIPTION
			QUANTITY	WATTS	TYPE				
L1	MAXLITE	(2)VT-4850U-40, VT-CONKIT, VT-ENDBRKT	28	100	LED	S	C	-	CONTINUOUS RUN OF (2) 4' LONG LINEAR LED FIXTURES WITH ALUMINUM VAPOR TIGHT HOUSING, 7600 LUMEN OUTPUT, 4000K COLOR TEMPERATURE. NOTE 1.
	APPROVED EQUAL								
L2	MAXLITE	VT-4850U-40	20	50	LED	S	C	-	4' LONG LINEAR LED FIXTURE WITH ALUMINUM VAPOR TIGHT HOUSING, 5700 LUMEN OUTPUT, 4000K COLOR TEMPERATURE. NOTE 1.
	APPROVED EQUAL								
L3	MAXLITE	LSU4U23WCSCR	8	35	LED	S	C	-	4' SURFACE MOUNTED LED WRAPAROUND FIXTURE WITH CURVED PRISMATIC LENS, STEEL HOUSING, 4000K COLOR TEMPERATURE, 4253 LUMEN OUTPUT.
	APPROVED EQUAL								
L3E	MAXLITE	LSU4U23WCSCREM	9	35	LED	S	C	-	4' SURFACE MOUNTED LED WRAPAROUND FIXTURE WITH CURVED PRISMATIC LENS, STEEL HOUSING, 4000K COLOR TEMPERATURE, 4253 LUMEN OUTPUT, AND EMERGENCY BATTERY PACK.
	APPROVED EQUAL								
L4	MAXLITE	MP-SM28UT5-VC840S	6	38	LED	W	12'AFF	-	FIXED WALL MOUNTED LED FIXTURE WITH BLACK FINISH, DIE-CAST ALUMINUM HOUSING, SELECTABLE COLOR TEMPERATURE, 3512 LUMEN OUTPUT, WIDE DISTRIBUTION. UL LISTED FOR WET LOCATION. NOTE 4.
	APPROVED EQUAL								
L4E	MAXLITE	MP-SM28UT5-VC840SEMO	3	38	LED	W	12'AFF	-	FIXED WALL MOUNTED LED FIXTURE WITH BLACK FINISH, DIE-CAST ALUMINUM HOUSING, SELECTABLE COLOR TEMPERATURE, 3512 LUMEN OUTPUT, WIDE DISTRIBUTION, ELECTRONIC DRIVER, AND EMERGENCY BATTERY PACK. UL LISTED FOR WET LOCATION. NOTE 4.
	APPROVED EQUAL								
L5	PROVIDED BY GENERAL CONTRACTOR		FURNISHED WITH UNIT			R	C	-	RECESSED LED DOWNLIGHT WITH 4000K COLOR TEMPERATURE, 3000 LUMEN OUTPUT, AND EMERGENCY BATTERY PACK. UL LISTED FOR WET LOCATION. FIXTURES ARE PROVIDED BY GENERAL CONTRACTOR AS PART OF THE METAL AWNING SYSTEM.
	PROVIDED BY GENERAL CONTRACTOR								
	PROVIDED BY GENERAL CONTRACTOR								
S1	PROVIDED BY SIGN MANUFACTURER		FURNISHED WITH UNIT			W	NOTE 3	-	WALL MOUNTED LED SIGN LIGHTING FIXTURE. NOTE 2.
	PROVIDED BY SIGN MANUFACTURER								
	PROVIDED BY SIGN MANUFACTURER								
S2	PROVIDED BY SIGN MANUFACTURER		FURNISHED WITH UNIT			W	NOTE 3	-	WALL MOUNTED LED LIGHT FIXTURE. NOTE 2.
	PROVIDED BY SIGN MANUFACTURER								
	PROVIDED BY SIGN MANUFACTURER								
S3	PROVIDED BY SIGN MANUFACTURER		FURNISHED WITH UNIT			W	NOTE 3	-	LED LIGHT BAR. NOTE 2.
	PROVIDED BY SIGN MANUFACTURER								
	PROVIDED BY SIGN MANUFACTURER								
BL	LITHONIA	ELM6L	FURNISHED WITH UNIT			W	9'AFF	-	WALL MOUNTED TWO HEAD LED EMERGENCY FIXTURE WITH WHITE THERMOPLASTIC HOUSING, 1100 LUMEN OUTPUT, SELF DIAGNOSTICS, AND EMERGENCY BATTERY PACK.
	APPROVED EQUAL								
XL	MAXLITE	EX-GW	FURNISHED WITH UNIT			W	AD	-	WHITE THERMOPLASTIC LED EXIT SIGN WITH SINGLE FACE, GREEN LETTERS, UNIVERSAL MOUNTING, SELF DIAGNOSTICS, AND EMERGENCY BATTERY PACK.
	APPROVED EQUAL								

ABBREVIATIONS: LI-LAY-IN C-CEILING LG-LENS GASKETING GMF-INTERNAL SLOW BLOW FUSE FL-FLUORESCENT MH-METAL HALIDE HO-HIGH OUTPUT  
AFF-ABOVE FINISH FLOOR P-PENDANT FC-FROM CEILING R-RECESSED AM-ABOVE MIRROR W-WALL AD-ABOVE DOOR  
S-SURFACE DTT-DOUBLE TWIN TUBE FLUORESCENT CA-CANOPY TC-TOP OF METAL CANOPY AW-ABOVE WINDOW VA-VERIFY WITH ARCHITECT

LIGHTING FIXTURE SCHEDULE GENERAL NOTES:

- FIXTURE OUTLET BOX LOCATIONS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND APPROXIMATE IN LOCATION. EXACT POSITION OF THE OUTLET BOX SHALL DEPEND ON THE FIXTURE AND THE MOUNTING DETAIL.
- MOUNTING AND SUPPORT DETAILS FOR LIGHTING FIXTURES SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER BEFORE THE FIXTURES ARE INSTALLED. NO COMBUSTIBLE MATERIALS SHALL BE USED.
- WET LOCATION FIXTURES SHALL BE MOUNTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION SO AS TO ENSURE THE PREVENTION OF MOISTURE FROM ENTERING THE FIXTURE. IN ADDITION, EACH CONDUIT ENTRY WILL BE SEALED BY USE OF AN APPROVED SWEDGE FITTING WITH A NEOPRENE SEAL, AS MANUFACTURED BY JOHN REMKE COMPANY OR APPROVED EQUAL.
- OUTLET BOXES SERVING WET LOCATION FIXTURE SHALL BE CODE SIZE, WITH A WATERTIGHT SOLID CAST TOP. CONDUIT ENTRIES SHALL BE THREADED.
- FIXTURE MOUNTING HEIGHTS IN SCHEDULE ARE TYPICAL UNLESS NOTED OTHERWISE ON DRAWINGS.
- FOR LIGHTING PACKAGE PRICING, CONTACT THE FOLLOWING:

MIKE MCMAKEN  
REXEL ENERGY SOLUTIONS  
(M) 906-235-2979  
MIKE.MCMAKEN@REXELENERGY.COM

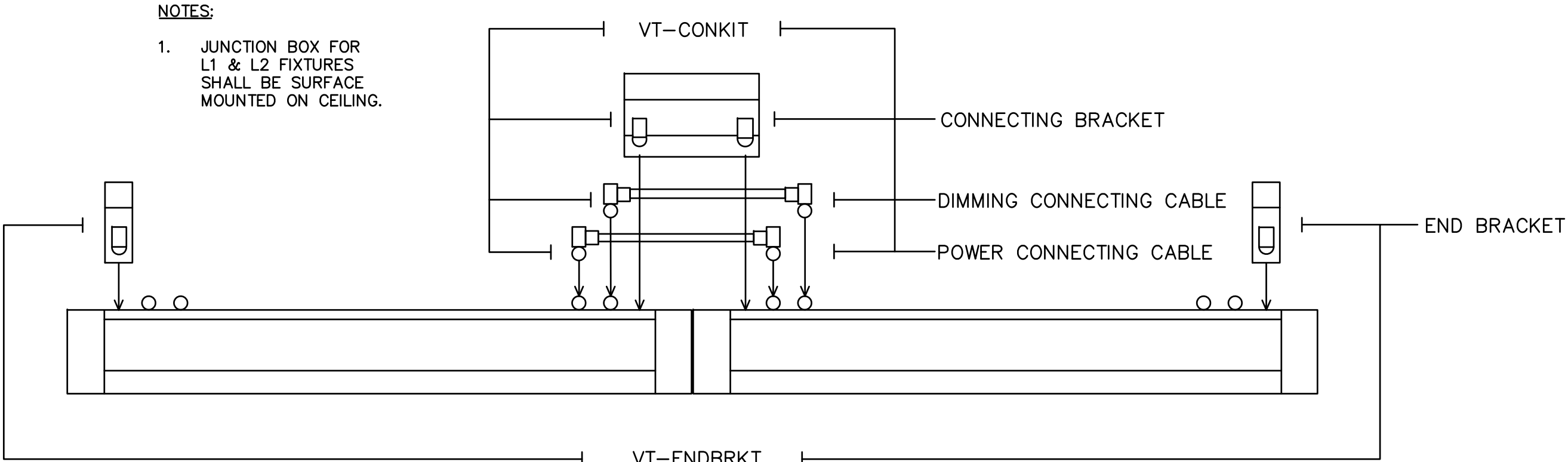
STEPHEN MITCHELL  
MAXLITE  
(M) 908-256-3115  
SMITCHELL@MAXLITE.COM

LIGHTING FIXTURE SCHEDULE NOTES:

- SEE MOUNTING DETAIL ON THIS SHEET FOR MORE INFORMATION.
- INSTALLED BY SIGN COMPANY.
- VERIFY MOUNTING HEIGHT WITH SIGN COMPANY BEFORE ROUGHING IN.
- FIXTURE SHALL BE MOUNTED SO THAT THE TOP OF THE FIXTURE IS AT 12' AFF TO ALIGN WITH BANDING ON EXTERIOR OF BUILDING.

GENERAL NOTES:

- VERIFY ALL DOOR SWINGS WITH ARCHITECTURAL BEFORE ROUGHING IN. LIGHT SWITCHES TO ENSURE PROPER SWITCH LOCATION. VERIFY ALL CASEWORK DETAILS TO ENSURE THAT ALL OUTLETS ABOVE CASEWORK ARE AT THE PROPER HEIGHT.
- SERVICE TO THE BUILDING SHALL BE 120/240 VOLTS, 1PHASE, 3WIRE.
- ALL CONDUIT SHALL BE RUN CONCEALED UNLESS SPECIFICALLY SHOWN EXPOSED, OR INSTALLED IN EXPOSED CEILING.
- THE CONTRACTOR SHALL CHECK ALL LIGHTING FIXTURES FOR EXACT TYPE MOUNTING AND SPACE REQUIRED BEFORE ROUGHING IN.
- THE CONTRACTOR SHALL WORK CLOSELY WITH THE GENERAL CONTRACTOR AND VERIFY EXACT TYPE OF EQUIPMENT TO BE INSTALLED AND THE DIMENSIONS WHICH MAY AFFECT THE EXACT PLACEMENT OF ELECTRICAL WORK.
- VERIFY THE EXACT LOCATION OF ALL MOTORS AND EQUIPMENT BEFORE ROUGHING IN. LIKEWISE APPRAISE ALL TRADES OF THE LOCATIONS OF ELECTRICAL WORK THAT AFFECTS WALL THICKNESS, PLUMBING, MECHANICAL, ETC.
- ALL CONDUIT STUBBED OUT FOR FUTURE SHALL BE CAPPED AND HAVE LOCATION MARKED WITH A 2" SQUARE, PAINTED RED, WITH CONDUIT NAME AND SIZE SHOWN IN WHITE.
- ALL BRANCH CIRCUITS AND FEEDERS SHALL HAVE AN INSULATED GROUND WIRE PULLED IN THE CONDUIT WITH CURRENT CONDUCTOR UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE GROUNDING CONDUCTOR SHALL BE SIZED ACCORDING TO TABLE 250-122 OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE UNLESS INDICATED TO BE LARGER IN THE SPECIFICATIONS OR PLANS.
- DO ALL WORK IN COMPLIANCE WITH ALL APPLICABLE CODES, LAWS AND ORDINANCES, THE NATIONAL ELECTRICAL CODE (HEREINAFTER REFERRED TO AS "CODE" OR "NEC"), THE AMERICANS WITH DISABILITIES ACT, AND THE REGULATIONS OF THE LOCAL AUTHORITIES HAVING JURISDICTION AND, WHERE APPLICABLE, UTILITY COMPANIES. OBTAIN AND PAY FOR ANY AND ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES OF INSPECTIONS AND APPROVAL, AND THE LIKE, AND DELIVER SUCH CERTIFICATES TO THE OWNER.
- THE MAIN SERVICE SHALL HAVE THE GROUNDING CONDUCTOR (NEUTRAL) GROUNDED TO THE GROUNDING ELECTRODE SYSTEM AT THE SUPPLY SIDE OF THE SERVICE DISCONNECTING MEANS BY A GROUNDING ELECTRODE CONDUCTOR NOT SMALLER THAN THAT SHOWN IN TABLE 250-66 OF THE NEC. THE GROUNDING CONDUCTOR (NEUTRAL), THE GROUNDING ELECTRODE CONDUCTOR, AND THE EQUIPMENT GROUNDING CONDUCTOR CONNECTIONS SHALL BE MADE INSIDE THE SERVICE ENTRANCE EQUIPMENT.
- ALL CONDUCTORS SHALL BE COPPER, EXCEPT AS SHOWN ON DRAWINGS.
- MINIMUM CONDUCTOR SIZE SHALL BE #12.
- ALL CONDUIT INSTALLED INDOORS SHALL BE EMT, OTHERWISE SHALL BE IMC.
- SWITCH AND RECEPTACLE COVER PLATES SHALL BE STAINLESS STEEL.
- ALL DEVICES SHALL BE GRAY.
- ALL FUSES SHALL BE DUAL ELEMENT, TIME DELAY, RATED 100,000 AIC.
- ALL DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE.
- ALL CONDUCTORS SHALL BE DUAL RATED THHN/THWN TYPE INSULATION.
- GUTTERS (WIREWAYS) SHALL BE SIZED AS SHOWN OR AS REQUIRED BY CODE. ALL GUTTERS SHALL HAVE HINGED COVERS WITH APPROVED FASTENING DEVICES & SHALL BE A STANDARD MANUFACTURED ITEM WITH U.L. LABEL. GUTTERS FROM AC DUCT MATERIAL ARE NOT ACCEPTABLE. GUTTERS SHALL BE AS MANUFACTURED BY HOFFMAN, SQUARE "D", B & C OR APPROVED EQUAL. GUTTER TAPS SHALL BE ILSCO TYPE GTA OF PTA WITH GTC OR PTC INSULATING COVERS.
- IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR, PRIOR TO BID, TO REAFFIRM WITH THE UTILITY COMPANIES INVOLVED, THAT THE LOCATION, ARRANGEMENT (AND THE POWER COMPANY: VOLTAGE, PHASE & METERING REQUIRED) AND CONNECTIONS AT THE UTILITY SERVICE ARE IN ACCORDANCE WITH THEIR REGULATIONS & REQUIREMENTS. IF THEIR REQUIREMENTS ARE AT A VARIANCE WITH THESE DRAWINGS & SPECIFICATIONS, THE CONTRACT PRICE SHALL INCLUDE ANY ADDITIONAL COST NECESSARY TO MEET THOSE REQUIREMENTS WITHOUT EXTRA COST TO THE OWNER AFTER A CONTRACT HAS BEEN ENTERED INTO.
- ON MANY PROJECTS, THE UTILITY COMPANY MAY LEVY CHARGES DUE TO LOCATION, SIZE OR TYPE OF SERVICE INVOLVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THESE CHARGES, UNLESS SUCH CHARGES ARE NOT AVAILABLE PRIOR TO BID & CONTRACTOR SO DOCUMENTS AT BID OPENING. SHOULD THE THE COST NOT BE AVAILABLE, PRIOR TO BID, THE CONTRACTOR SHALL SUBMIT A LETTER SO STATING WITH HIS BID.
- ARRANGE WITH UTILITY COMPANIES FOR SUCH SERVICE AS SHOWN OR HEREIN SPECIFIED & INSTALLATION OF METER WHERE SHOWN. FURNISH WITH SHOP DRAWINGS, A SIGNED DOCUMENT FROM UTILITY COMPANIES DESCRIBING THE LOCATION & TYPE OF SERVICES TO BE FURNISHED AND ANY REQUIREMENTS THEY MAY HAVE. THIS DOCUMENT SHALL BE SIGNED FOR EACH UTILITY COMPANY BY A PERSON RESPONSIBLE FOR GRANTING SUCH SERVICES.
- PAY ALL CHARGES (IF ANY) IN CONNECTION THEREWITH, INCLUDING PERMANENT METER DEPOSIT. METER DEPOSIT WILL BE REFUNDED TO THE CONTRACTOR AT TIME OF OWNER'S ACCEPTANCE.



DETAIL  
FIXTURE "L1" MOUNTING  
NOT TO SCALE

GW ENGINEERING, LLC

4120 OVERLOOK CIRCLE, TRUSSVILLE, AL 35173  
GWMAE@GW-ENG.COM | 205.413.4112  
THWGNBOTHAM@GW-ENG.COM | 205.317.3869



Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL

No.	Description	Date
1	Revision #1	09-16-2024

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General Notes &  
Fixture Schedules

Project number 24004  
Date 04/08/24

Drawn by TH  
Checked by GW

E100

Scale NO SCALE



GRAPHICAL ELECTRICAL SYMBOLS

BRANCH CIRCUIT SYMBOLS		
	BRANCH CIRCUIT	HOMERUN TO 20A, 1POLE CIRCUIT BREAKER IN PANELBOARD OR DEVICE NOTED. WIRE SIZE IS 2#12&1#12GRD-3/4"C.
	BRANCH CIRCUIT	CONCEALED IN CEILING OR WALL.
	BRANCH CIRCUIT	CONCEALED IN FLOOR.
	BRANCH CIRCUIT	EXISTING CONDUIT BARS DENOTE NEW CONDUCTORS.
	BRANCH CIRCUIT	EXPOSED.
	BRANCH CIRCUIT	RISER UP.
	BRANCH CIRCUIT	RISER DOWN.
BRANCH CIRCUIT NOTES		
	BRANCH CIRCUIT	3#12&1#12GRD-3/4"C
	BRANCH CIRCUIT	4#12&1#12GRD-3/4"C
	BRANCH CIRCUIT	2#10&1#10GRD-3/4"C
	BRANCH CIRCUIT	3#10&1#10GRD-3/4"C
SIZE CONDUIT PER NEC FOR GREATER NUMBER OF CONDUCTORS OR AS NOTED. THE NUMBER IN THE CIRCUIT INDICATES AWG WIRE SIZE AND THE HASHMARKS INDICATE THE NUMBER OF WIRES REQUIRED. EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH NEC TABLE 250-122. THE NUMBER OF HASH MARKS DO NOT INCLUDE EQUIPMENT GROUNDING CONDUCTOR.		

GENERAL SYMBOLS	
	JUNCTION BOX.
	WALL MOUNTED JUNCTION BOX.
	WALL MOUNTED JUNCTION BOX WITH FLEXIBLE CONNECTION TO EQUIPMENT.
	ONE GANG BOX WITH 3/4"C. STUB UP ABOVE ACCESSIBLE CEILING WITH COAXIAL CABLE AND TV JACKS.
	MANUAL MOTOR STARTER WITH THERMAL PROTECTION.
	SAFETY SWITCH, NON-FUSED.
	SAFETY SWITCH, FUSED.
	CIRCUIT BREAKER MOUNTED IN NEMA 1 ENCLOSURE UNLESS NOTED OTHERWISE
	LIGHTING PANEL AND/OR RECEPTACLE PANEL.
	POWER PANEL.
	TRANSFORMER.
	GROUND.

GENERAL ABBREVIATIONS	
H	MOUNTING HEIGHT ABOVE FINISHED FLOOR.
AF	ABOVE FINISHED FLOOR.
WP	WEATHER PROOF - NEMA 3R
RT	RAIN TIGHT - NEMA 4.
EP	EXPLOSION PROOF.
TP	TAMPER PROOF.
A	MOUNT ABOVE COUNTER.
BC	MOUNT BELOW COUNTER.
F	FLUSH MOUNTED.
SLD	SEE SINGLE LINE DIAGRAM.
GFI	GROUND FAULT INTERRUPTING.
C	CONDUIT.
EC	EMPTY CONDUIT.
CC	FLEXIBLE CONDUIT.
SFC	SEALTITE FLEXIBLE CONDUIT.
EMT	ELECTRICAL METALLIC TUBING.
IMC	INTERMEDIATE METALLIC CONDUIT.
RG	RIGID CONDUIT.
PVC	NONMETALLIC RIGID CONDUIT.
EX	EXISTING.
XR	EXISTING TO BE REMOVED
RL	EXISTING TO BE REMOVED AND RELOCATED.
RQ	EXISTING TO BE REMOVED. EXTEND CIRCUIT CONDUCTORS AS REQUIRED AND INSTALL FINISHED BLANK COVER.
RR	EXISTING TO BE REMOVED AND REPLACED WITH NEW.
RL'D	RELOCATED POSITION.
EM	EMERGENCY BATTERY PACK

LIGHTING FIXTURE & CONTROL SYMBOLS		
	CEILING OUTLET	FIXTURE TYPE "A" CIRCUIT #1.
	CEILING OUTLET	EXISTING.
	CEILING OUTLET	FLUORESCENT FIXTURE, SINGLE OR CONTINUOUS, LENGTHS AS SHOWN.
	CEILING OUTLET	FLUORESCENT STRIP.
	WALL OUTLET	BRACKET TYPE FIXTURE.
	WALL OUTLET	FLUORESCENT BRACKET TYPE FIXTURE.
	SWITCH OUTLET	A.C. TYPE, SINGLE POLE, 20A, 125/277V.
	SWITCH OUTLET	A.C. TYPE, THREE WAY, 20A, 125/277V.
	SWITCH OUTLET	A.C. TYPE, FOUR WAY, 20A, 125/277V.
	SWITCH OUTLET	180° DUAL TECH SENSOR LIGHTING MOTION DETECTOR, WALL MOUNTED. WATT STOPPER #DW-100.
	SWITCH OUTLET	LIGHTING MOTION DETECTOR POWER PACK. INSTALL ABOVE ACCESSIBLE CEILING.
	SWITCH OUTLET	LIGHTING MOTION DETECTOR, CEILING MOUNTED.
SWITCH OUTLET NOTES		
"a" "b" ETC.	FIXTURE CORRESPONDS TO A SWITCH DENOTED WITH THE SAME LOWER CASE LETTER.	

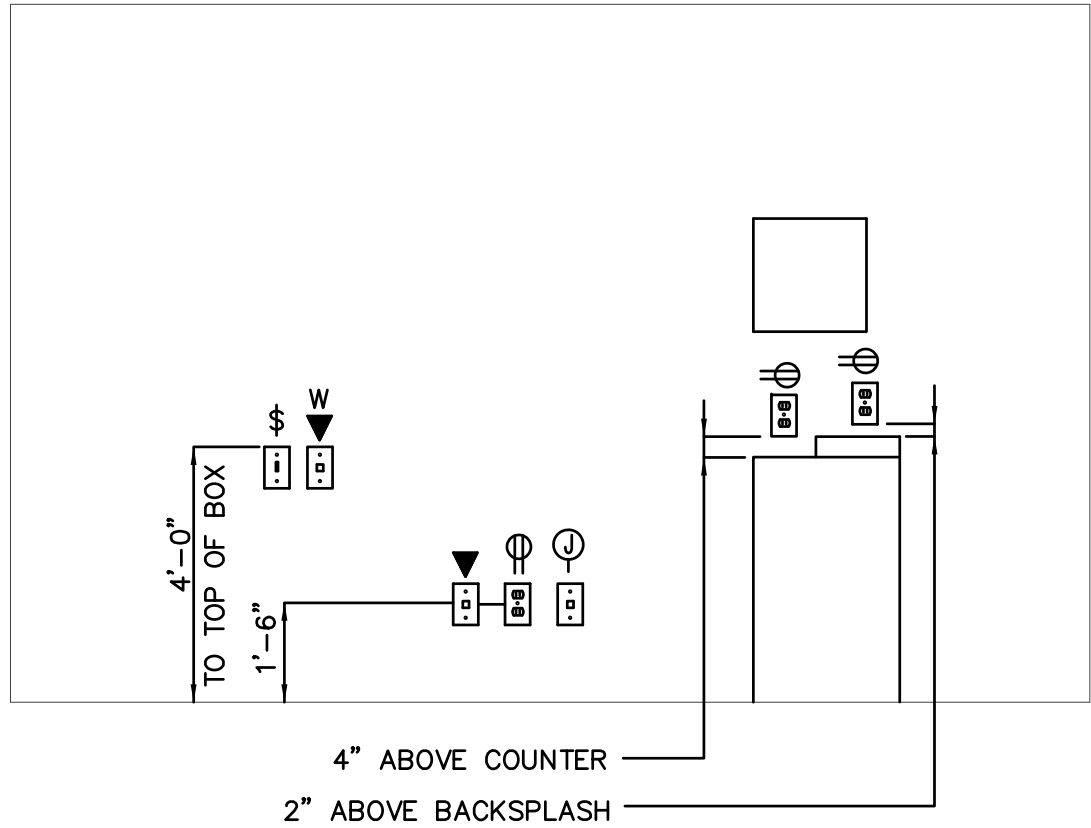
EXIT LIGHT SYMBOLS	
	WALL OR CEILING MOUNTED, SINGLE FACE, NO ARROW.
	CEILING MOUNTED, DOUBLE FACE, LEFT OR RIGHT ARROWS.
	WALL OR CEILING MOUNTED, SINGLE FACE, LEFT OR RIGHT ARROW.
	WALL OR CEILING MOUNTED, SINGLE FACE, LEFT AND RIGHT ARROWS.
	CEILING MOUNTED, DOUBLE FACE, LEFT AND RIGHT ARROWS.

RECEPTACLE OUTLET SYMBOLS		
	WALL OUTLET	DUPLEX RECEPTACLE, 20A, 125V, 3WIRE, NEMA 5-20R.
	WALL OUTLET	DOUBLE DUPLEX RECEPTACLE, 20A, 125V, 3WIRE, NEMA 5-20R, SINGLE PLATE.
	WALL OUTLET	DUPLEX RECEPTACLE, 20A, 125V, NEMA 5-20R, GFCI, WEATHER-RESISTANT, WITH EXTRA DUTY IN-USE WEATHERPROOF COVER. HUBBELL CATALOG #GFR5362SGGY/MP8M
	WALL OUTLET	SINGLE RECEPTACLE, 20A, 250V, 3WIRE, NEMA 6-20R.
	WALL OUTLET	SINGLE RECEPTACLE, 20A, 250V, 3WIRE, NEMA L6-20R.
	FLOOR OUTLET	FLUSH MOUNTED IN-GRADE WITH DOUBLE DUPLEX RECEPTACLE, 20A, 125V, 3WIRE, NEMA 5-20R, FOUR SPACES FOR KEYSTONE CONNECTORS, AND BRUSHED BRASS COVER LEGRAND RFB4E OR EQUAL.
	CEILING OUTLET	DUPLEX RECEPTACLE, 20A, 125V, 3WIRE, NEMA 5-20R.
RECEPTACLE OUTLET NOTES		
"G"	GROUND FAULT INTERRUPTER.	
"GA"	GROUND FAULT INTERRUPTER, MOUNTED ABOVE COUNTER.	
"A"	MOUNTED ABOVE COUNTER.	
"BC"	MOUNTED BELOW COUNTER.	
"DF"	FOR DRINKING FOUNTAIN.	

VOICE/DATA OUTLET & CONDUIT SYMBOLS		
	VOICE/DATA OUTLET	WALL MOUNTED, WITH 3/4" CONDUIT HOMERUN TO NEAREST TELEPHONE CABINET OR BACKBOARD UNLESS NOTED OTHERWISE.
	VOICE/DATA OUTLET	TELEPHONE BACKBOARD - 3/4" PLYWOOD PAINTED WITH TWO COATS OF FIRE RETARDANT PAINT, 48"x96" HIGH, UNLESS SHOWN OTHERWISE.
VOICE/DATA OUTLET NOTES		
"A"	MOUNTED ABOVE COUNTER.	
"BC"	MOUNTED BELOW COUNTER.	

NOTES:

- INDICATED MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTERLINE OF OUTLET BOX, UNLESS OTHERWISE NOTED.
- REFER TO ARCHITECTURAL DETAILS FOR ADDITIONAL REQUIREMENTS.
- INSTALL OUTLETS THAT ARE IN CLOSE PROXIMITY ON THE SAME CENTERLINE.
- MOUNTING HEIGHTS SHOWN HERE ARE TYPICAL UNLESS NOTED OTHERWISE ON DRAWINGS.



DETAIL  
TYPICAL MOUNTING  
HEIGHTS  
NOT TO SCALE



Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL

No.	Description	Date

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Symbol Legends  
and Details

Project number	24004
Date	04/08/24
Drawn by	TH
Checked by	GW

E101

Scale NO SCALE

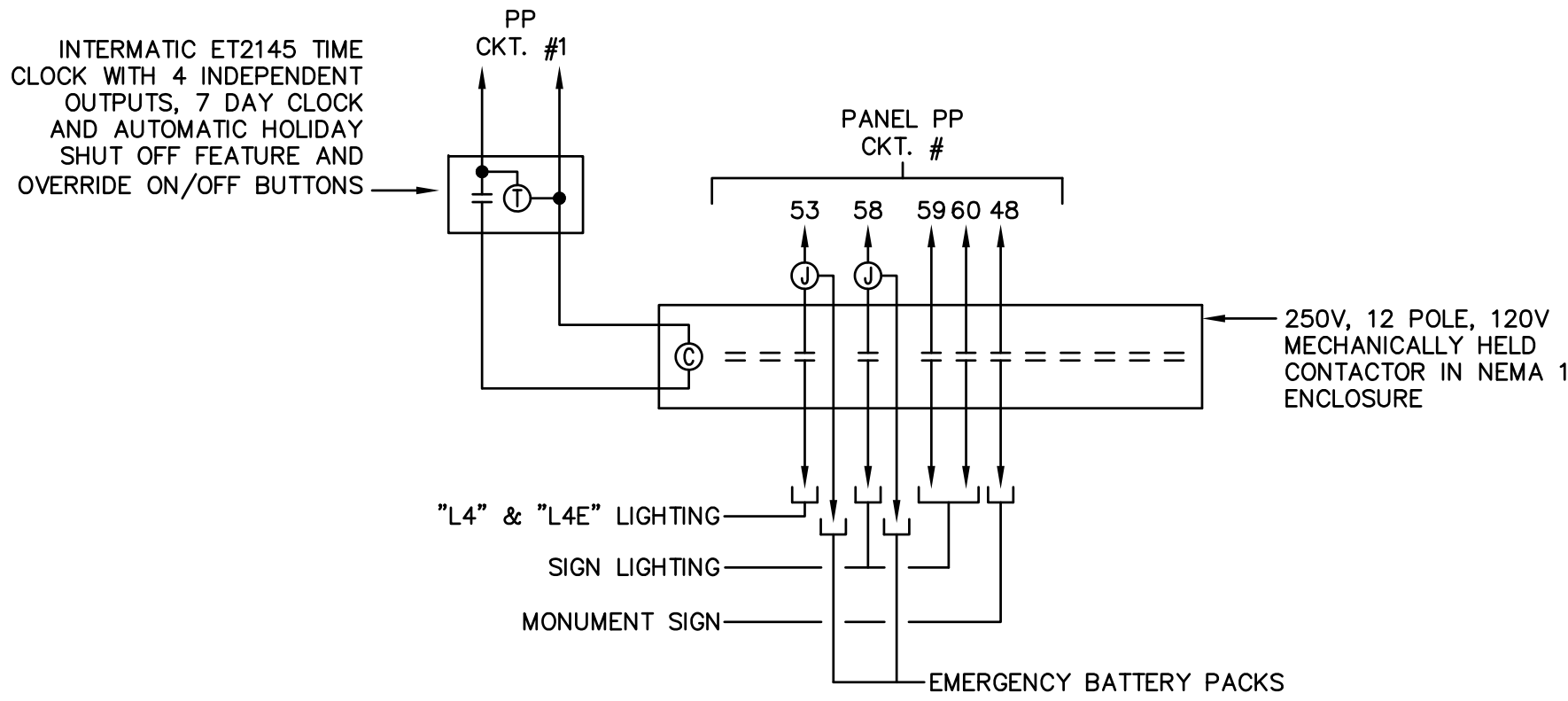
GW ENGINEERING, LLC

4120 OVERLOOK CIRCLE, TRUSSVILLE, AL 35173  
GWMAAE@GW-ENG.COM | 205.413.4112  
THGONBOTHAM@GW-ENG.COM | 205.317.3869

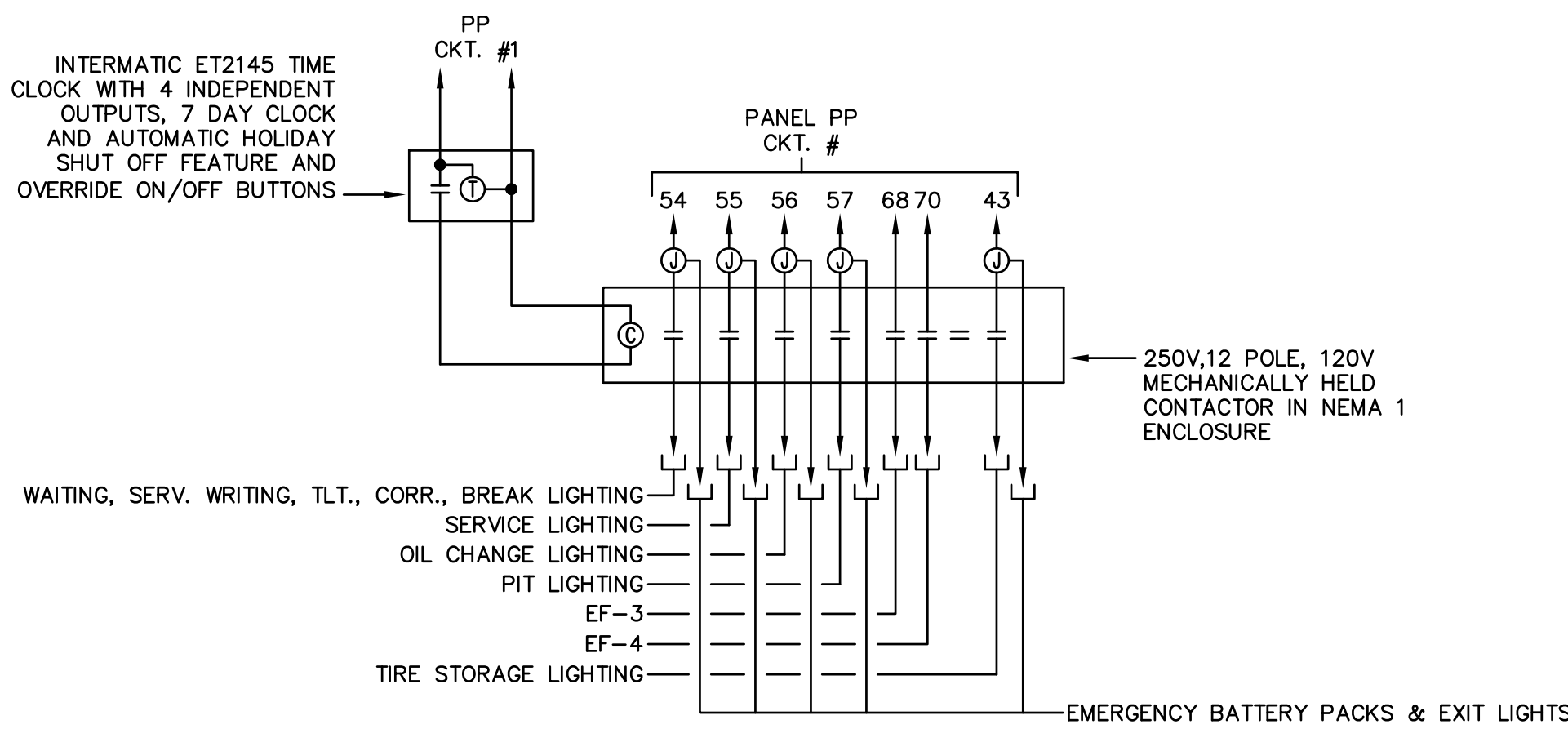




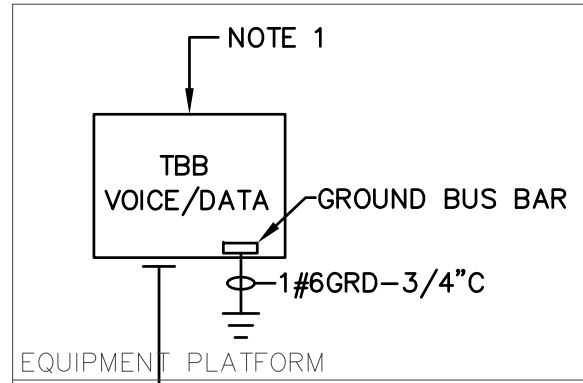
DETAIL  
ARC FLASH HAZARD WARNING LABEL  
NOT TO SCALE



WIRING DIAGRAM  
CONTACTOR C-2  
NOT TO SCALE



WIRING DIAGRAM  
CONTACTOR C-1  
NOT TO SCALE



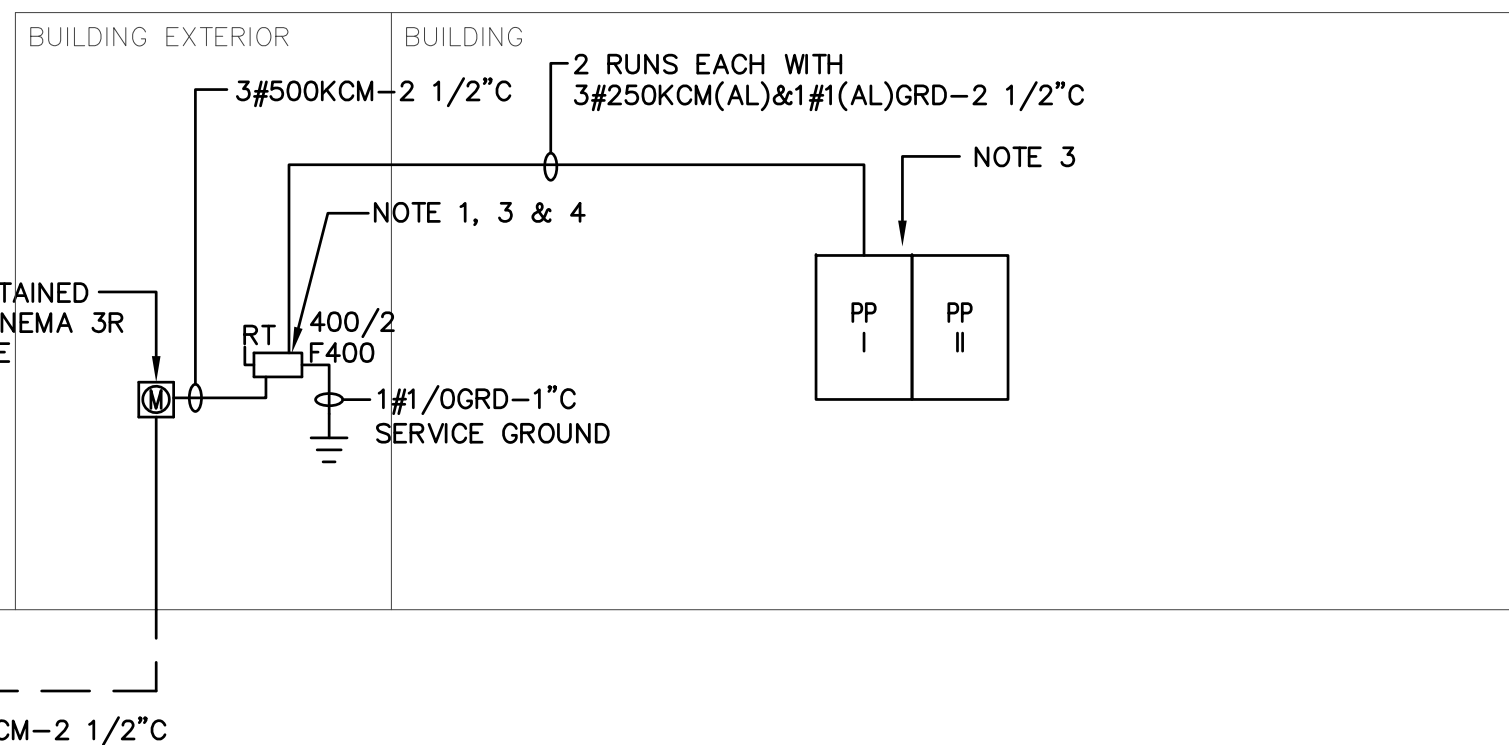
SINGLE LINE DIAGRAM  
AUXILIARY  
NOT TO SCALE

GENERAL NOTES:

- COORDINATE SERVICE SECONDARY FROM UTILITY TRANSFORMER TO METER WITH POWER COMPANY BEFORE BID AND PRICING. PROVIDE PER POWER COMPANY REQUIREMENTS.
- EQUIPMENT WITH ALUMINUM FEEDERS SHALL BE PROVIDED WITH DUAL RATED TERMINALS.

NOTES:

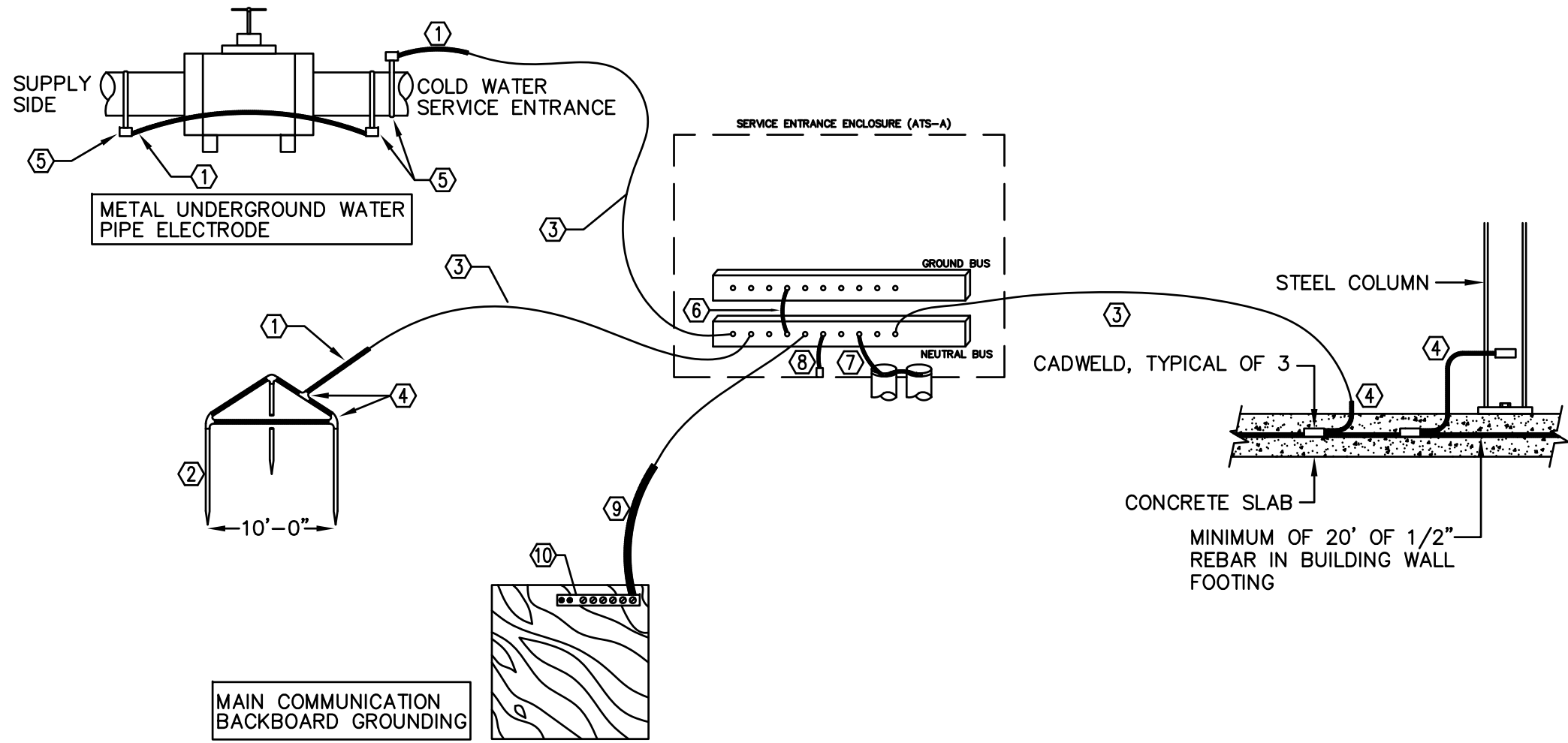
- SERVICE ENTRANCE RATED DISCONNECT SWITCH, NEMA 3R ENCLOSURE
- COORDINATE METERING WITH POWER COMPANY BEFORE ROUGHING IN.



SINGLE LINE DIAGRAM  
POWER  
NOT TO SCALE

PANEL LOAD SUMMARY													
Panel: PP (SECTION I)													
Equipment	LIGHTS/CONT	RCPT	O/M	CB SIZE	CIRCUIT #	PHASE A	PHASE B	CIRCUIT #	CB SIZE	LIGHTS/CONT	RCPT	O/M	Equipment
CONTACTOR C-1 & C-2			100	20/1	1	100		2	20/1				SPARE
OUTDOOR RECEPTACLE		200		20/1	3		800	4	20/1		600		SERVICE WRITING RECP.
WAITING ROOM RECP.	800			20/1	5	1600		6	20/1	800			MANAGER RECEPTACLE
TLT/CORR/BREAK RECP.	800			20/1	7		1000	8	20/1	200			BREAK RECEPTACLE
SERVICE RECEPTACLE	400			20/1	9	600		10	20/1	200			BREAK RECEPTACLE
SERVICE RECEPTACLE	400			20/1	11		600	12	20/1	200			BREAK FRIDGE RECEPTACLE
SPARE				20/1	13	400		14	20/1	400			SERVICE RECEPTACLE
SERVICE RECEPTACLE	400			20/1	15		400	16	20/1				SPARE
TIRE CHANGER		900	20/2	17	3900			18	30/2			3000	ALIGNMENT LIFT
		900		19			3900	20				3000	
10K LIFT		1440	20/2	21	2880			22	20/2			1440	10K LIFT
		1440		23			2880	24				1440	
10K LIFT		1440	20/2	25	2880			26	20/2			1440	10K LIFT
		1440		27			2880	28				1440	
12K LIFT		1440	20/2	29	2640			30	20/2			1200	WHEEL BALANCER
		1440		31			2640	32				1200	
AIR COMPRESSOR		3360	60/2	33	3360			34	20/1	200			EQUIPMENT PLATFORM RECP.
		3360		35			3760	36	20/1	400			SERVICE DESK RECEPT.
IRRIGATION CONTROLLER	200			20/1	37	400		38	20/1	200			BRAKE LATHE RECEPTACLE
OIL CHANGE RECEPTACLE	600			20/1	39		1200	40	20/1	600			OIL CHANGE RECEPTACLE
PIT SUMP PUMP	200			20/1	41	400		42	20/1	200			OIL CHANGE DESK RECP.
Sub-Total	0	4000	17260			19360	20060			0	4000	14160	Sub-Total
TOTAL CONNECTED LOAD PER PHASE													
				Phase A		Phase B				ENCLOSURE			
LOAD TYPE										NEMA 1			
LIGHTING & CONTINUOUS LOADS				0.00		0.00				MOUNTING			
RECEPTACLES				3600.00		4400.00				MAIN TYPE			
MOTORS/OTHER				15660.00		15660.00				SIZE			
TOTAL				19360.00		20060.00				FEED THRU			
TOTAL CONNECTED LIGHTING LOAD						0.00 KVA				FEED			
TOTAL CONNECTED RECEPTACLE LOAD						8.00 KVA				BUS RATING			
TOTAL CONNECTED MOTOR/OTHER LOAD						31.42 KVA				SERVICE RATED			
TOTAL CONNECTED LOAD						39.42 KVA				MIN FULL EQUIP KVA RATING			
										TYPE			
										MANUFACTURER			
										OTHER			

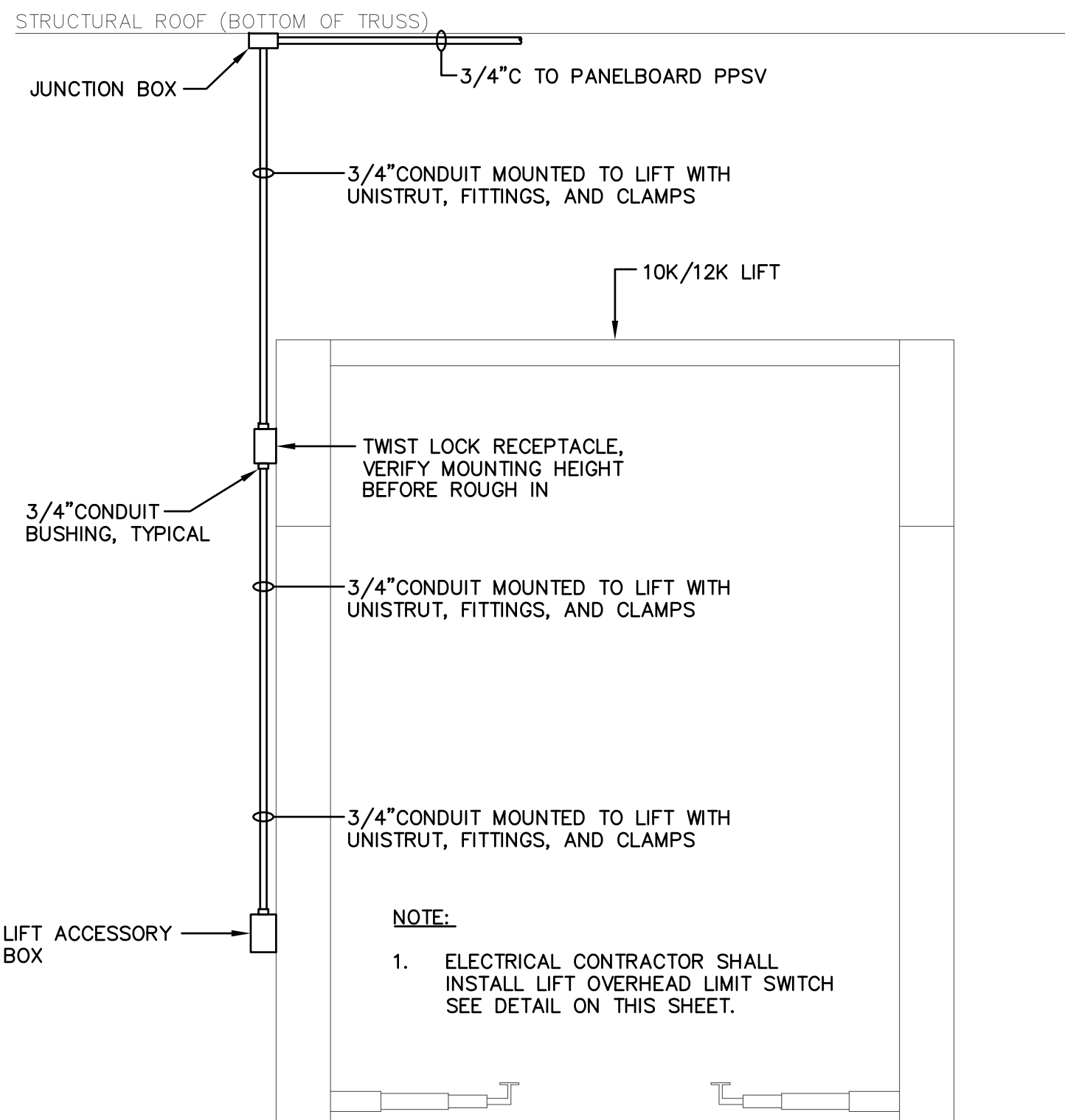




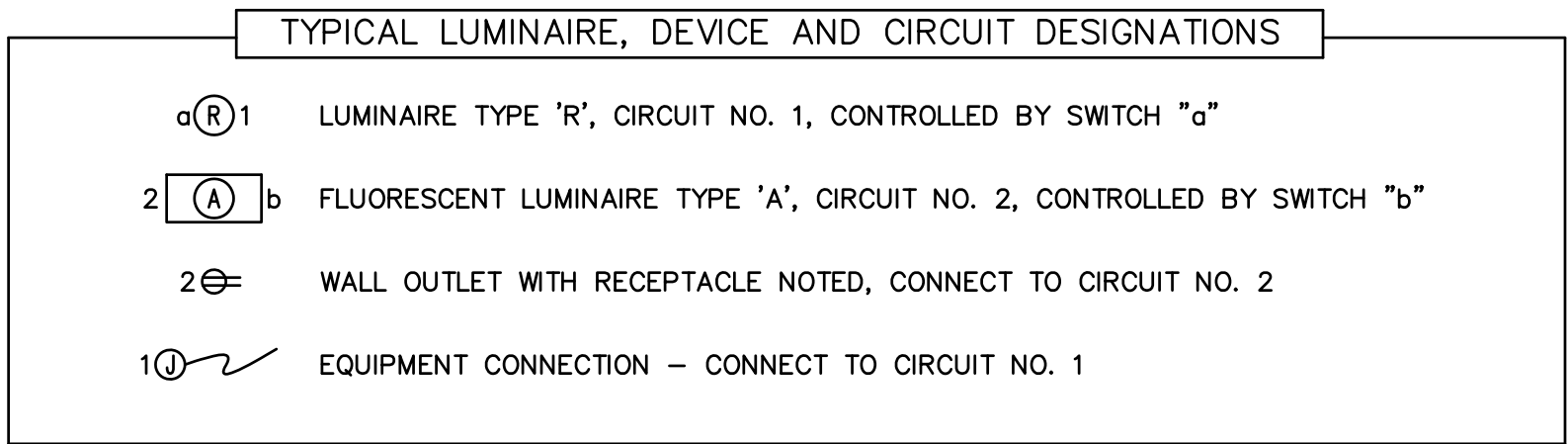
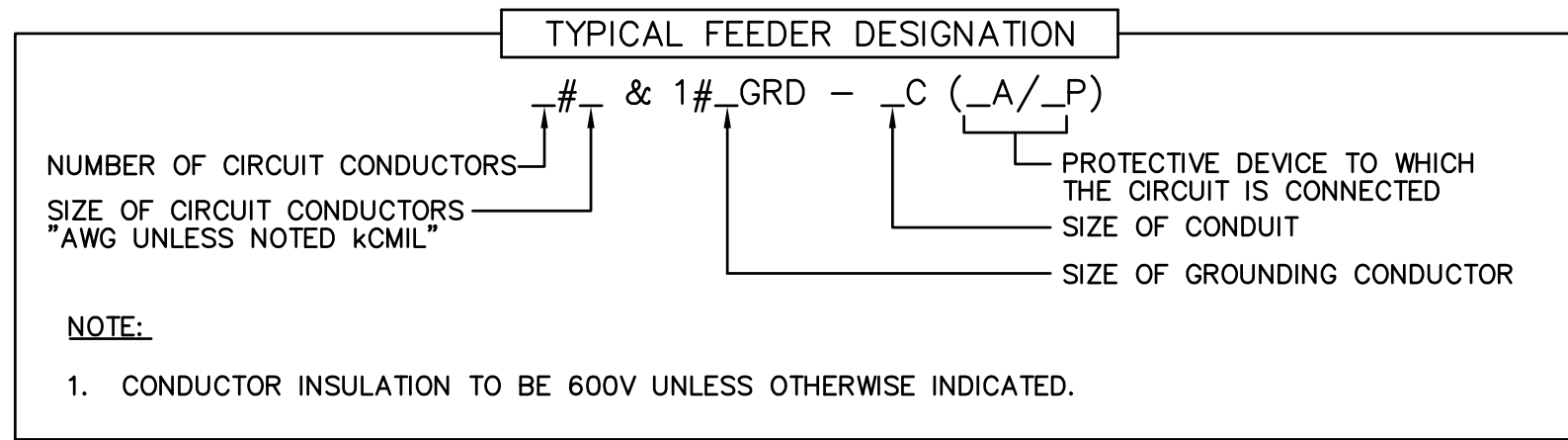
GROUNDING SYSTEM DETAIL  
NOT TO SCALE

GROUNDING SYSTEM DETAIL — KEY NOTES

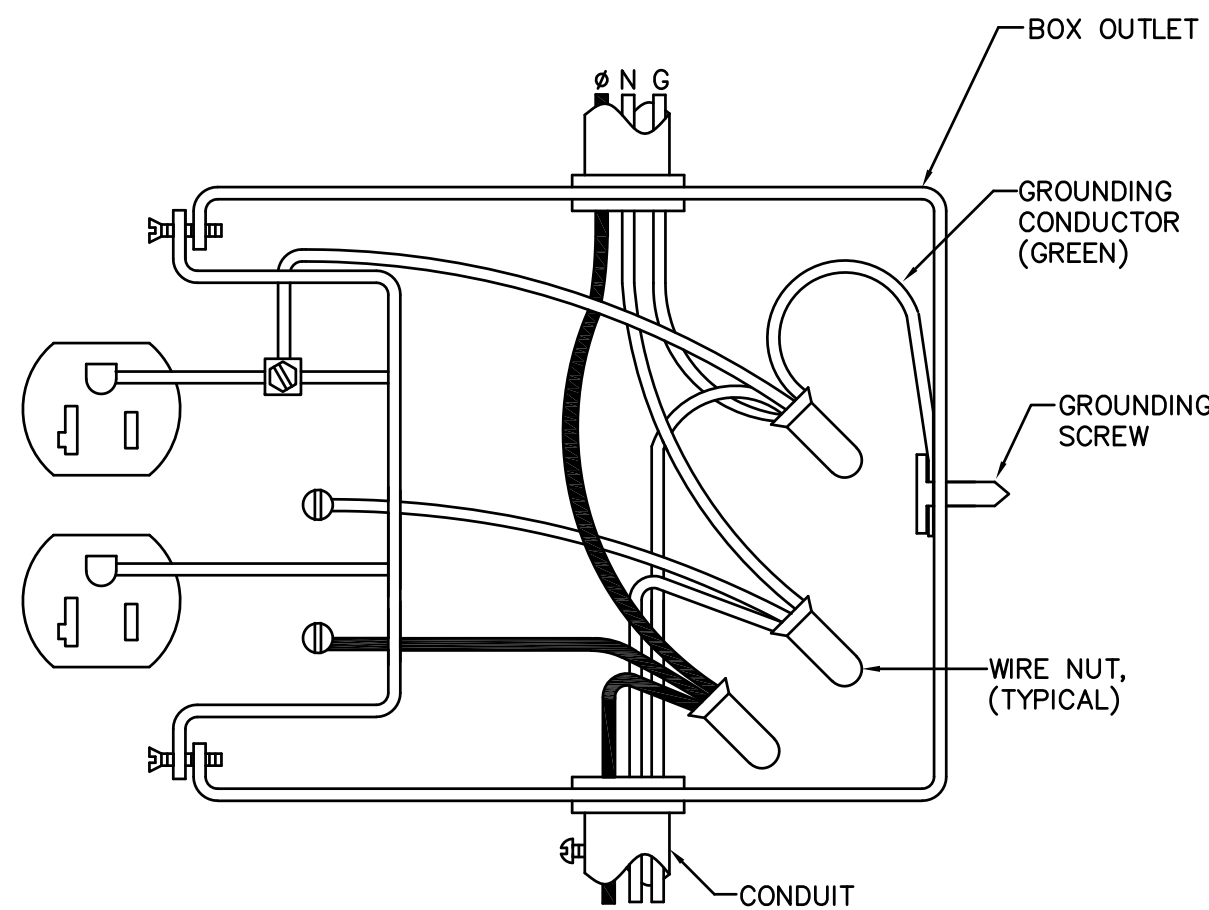
- 1/0 BARE GROUNDING ELCTRODE CONDUCTOR.
- 3/4"x10'-0" CLAD STEEL GROUND ROD, DRIVEN 24" BELOW GRADE, MINIMUM.
- 1/0 BARE GROUNDING ELECTRODE CONDUCTOR IN 2"PVC-40.
- EXOTHERMIC WELD CONNECTOR:  
TWO CABLES TO GROUND ROD, CADWELD #GT OR #GY  
CABLE TO CABLE TEE, CADWELD #TA  
ONE CABLE TO GROUND ROD, CADWELD #GR
- CAST BRONZE, UL LISTED GROUND CLAMP, O-Z/GEDNEY TYPE-G.
- BONDING JUMPER, SIZED BY EQUIPMENT MANUFACTURER PER NEC 250-66.
- BONDING JUMPER TO GROUNDING BUSHING. AND BONDING JUMPERS FROM CONDUIT TO CONDUIT. ALL CONDUIT CONNECTED TO THE SERVICE ENTRANCE ENCLOSURE SHALL BE BONDED, SIZED PER NEC 250.
- MAIN BONDING JUMPER, SIZED BY MANUFACTURER PER 250-66.
- 1/0 BARE BONDING JUMPER.
- 6 CONDUCTOR GROUND BUS, COPPER OR ALUMINUM RATED, ILSCO #PDE.



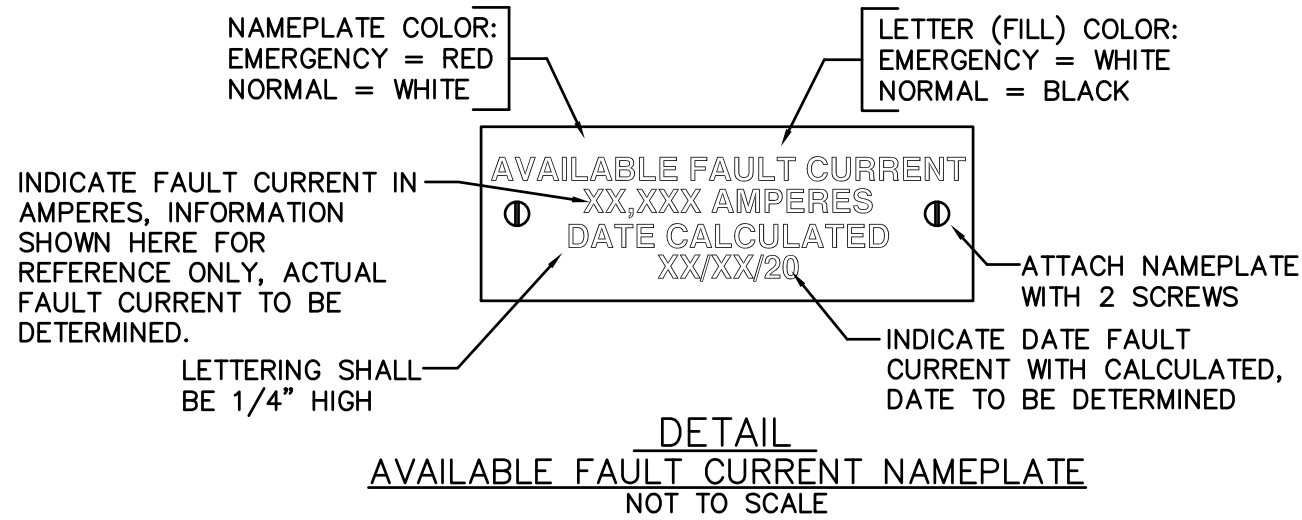
ELEVATION  
LIFT POWER DETAIL  
NOT TO SCALE



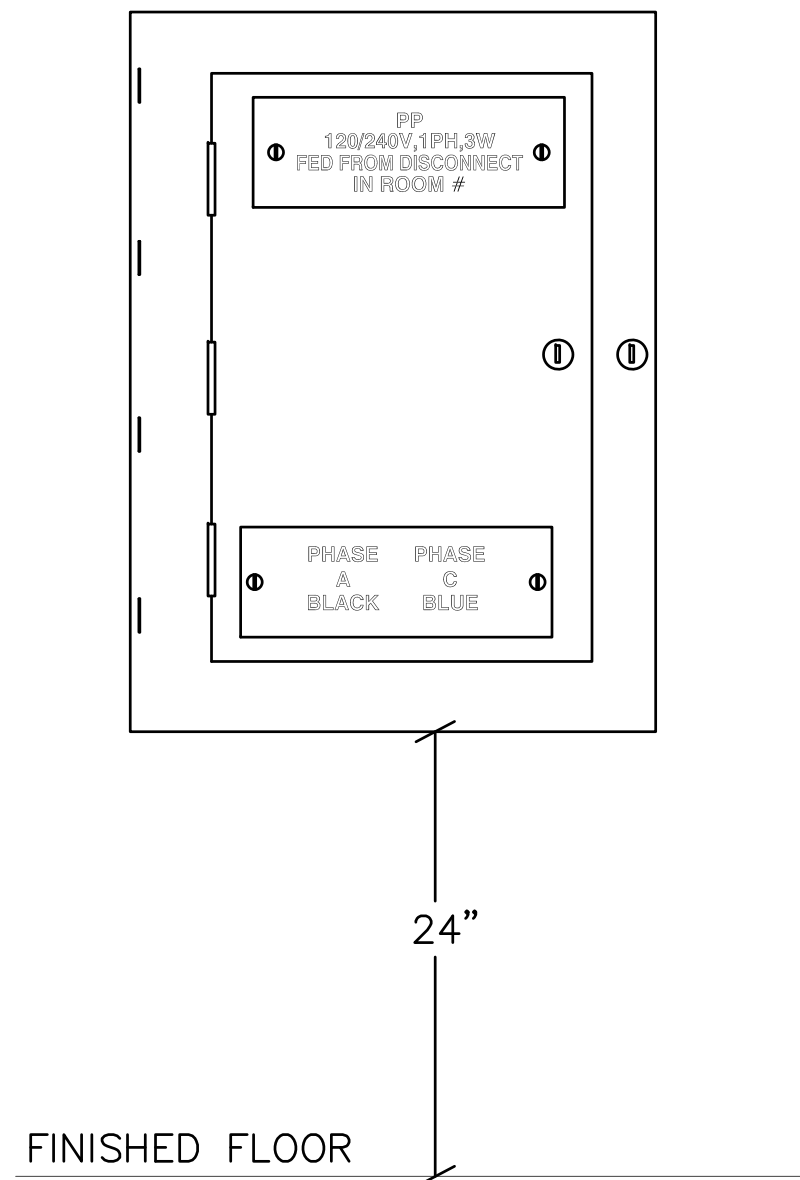
DETAIL  
WIRING DESIGNATION  
NOT TO SCALE



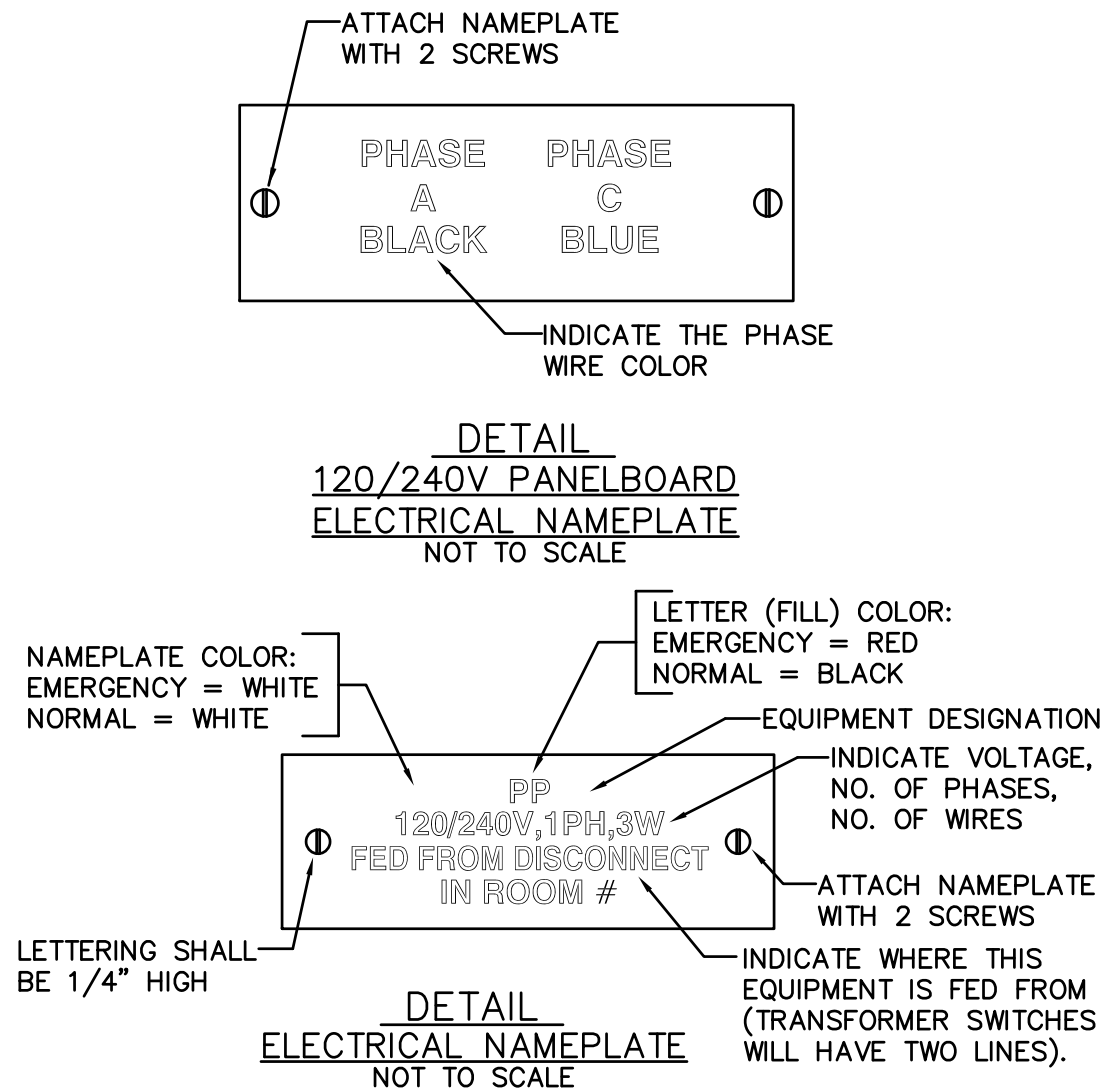
DETAIL  
RECEPTACLE INSTALLATION  
NOT TO SCALE



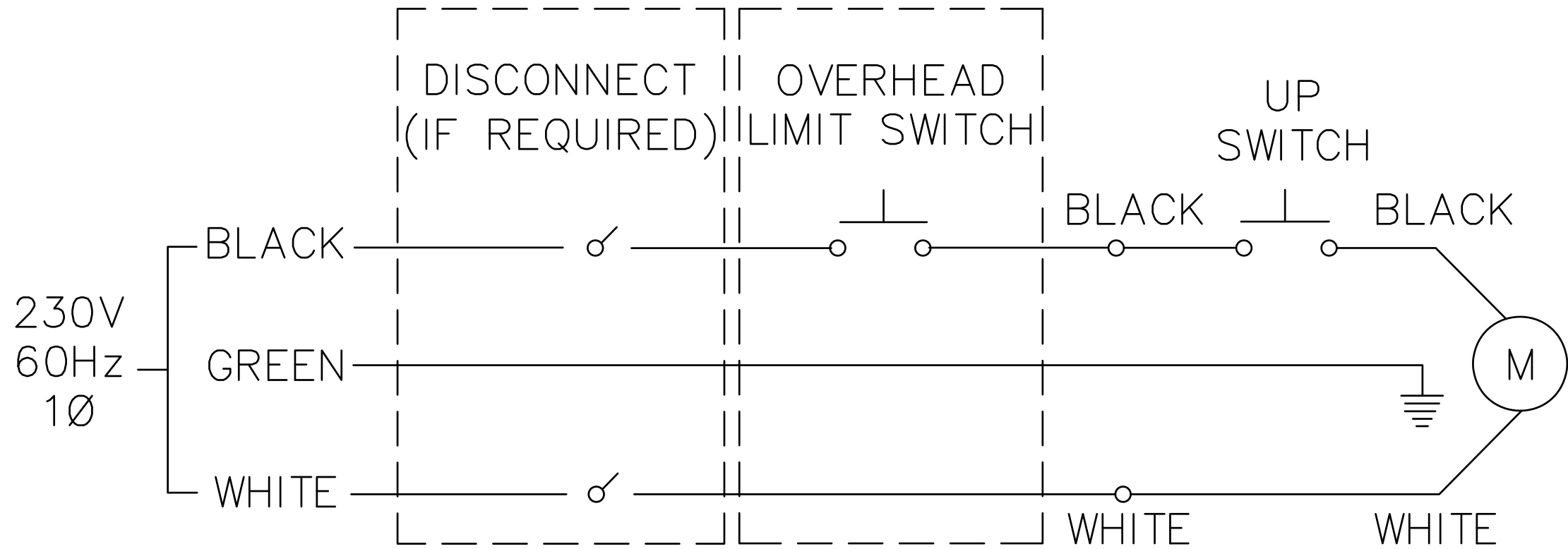
DETAIL  
AVAILABLE FAULT CURRENT NAMEPLATE  
NOT TO SCALE



DETAIL  
120/240V PANELBOARD INSTALLATION  
& NAMEPLATE DETAIL  
NOT TO SCALE



DETAIL  
ELECTRICAL NAMEPLATE  
NOT TO SCALE



LIFT LIMIT SWITCH  
WIRING DETAIL  
NOT TO SCALE



Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL

No.	Description	Date
1	AHJ Comments	10-23-2023

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Details

Project number	24004
Date	04/08/24
Drawn by	TH
Checked by	GW

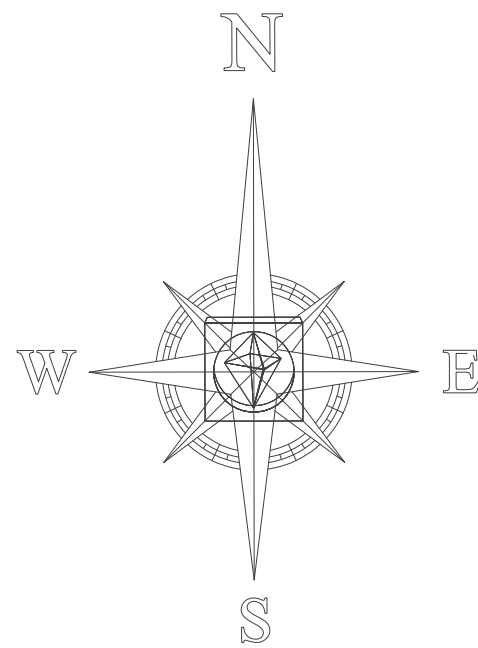
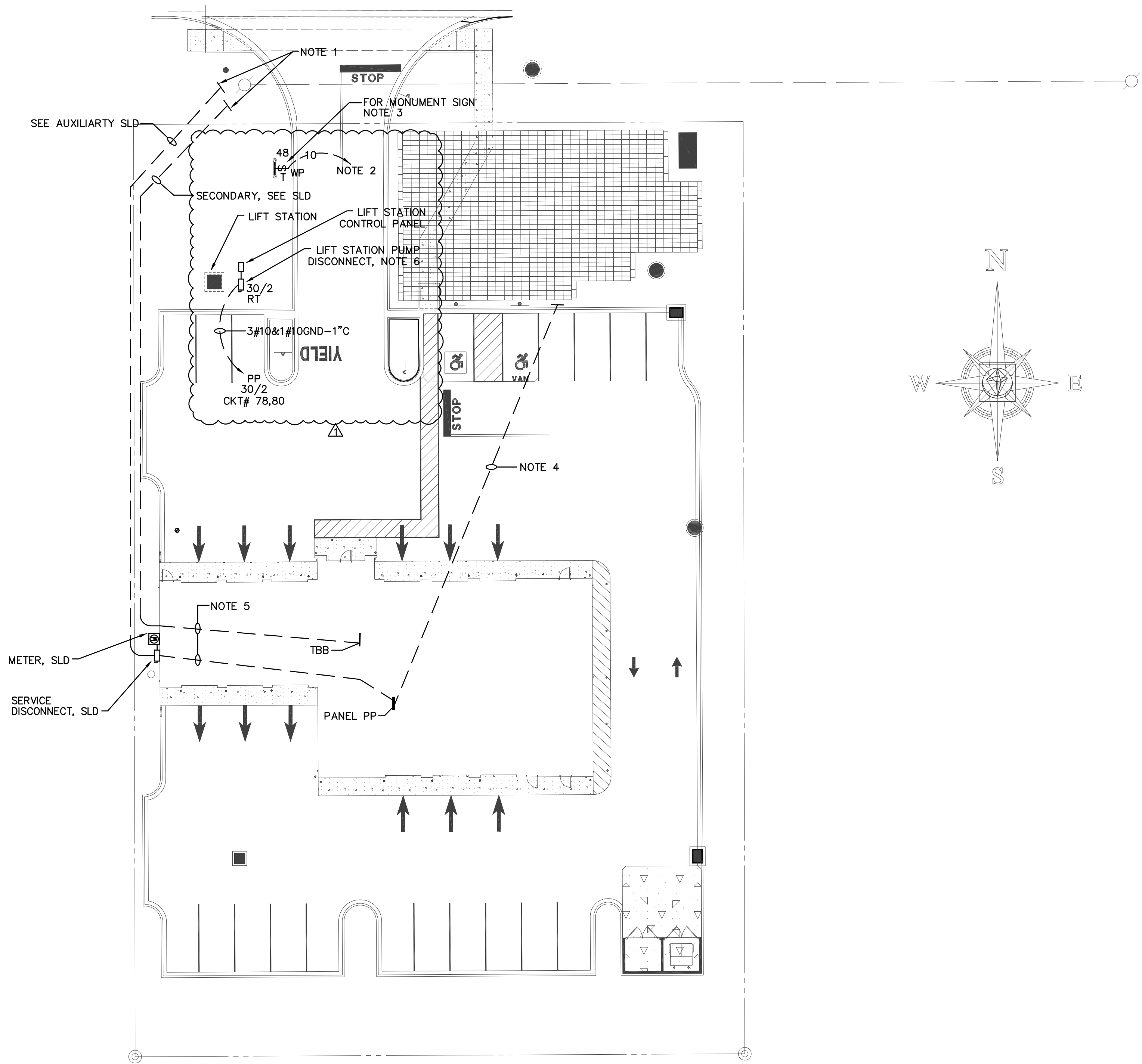
E103

Scale NO SCALE

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4120 OVERLOOK CIRCLE, TRUSSVILLE, AL 35173  
GWMAAE@GW-ENG.COM | 205.413.4112  
TH@GNBOTHAM@GW-ENG.COM | 205.317.3869





NOTES:

1. VERIFY EXACT LOCATION OF STUB UP BEFORE ROUGH IN.
2. HOMERUN TO PANELBOARD PP THROUGH LIGHTING CONTACTOR C-2.
3. LOCATION OF MONUMENT SIGN SHOWN HERE IS FOR REFERENCE ONLY. VERIFY EXACT LOCATION OF MONUMENT SIGN WITH CIVIL PRIOR TO ROUGH IN.
4. PROVIDE 1-1" EMPTY CONDUIT. HOMERUN TO PANEL PP FOR FUTURE EV CHARGING STATION. VERIFY EXACT LOCATION OF STUB UP WITH ARCHITECT AND CIVIL PRIOR TO INSTALLATION.
5. ROUTE CONDUIT IN ATTIC SPACE.
6. CONTRACTOR SHALL MAKE FINAL ELECTRICAL CONNECTIONS TO LIFT STATION CONTROL PANEL AND PUMPS. SEE CIVIL PLANS FOR PUMP SPECIFICATION. INSTALL PER MANUFACTURERS REQUIREMENTS. VERIFY INSTALLATION REQUIREMENTS WITH PUMP SUBMITTALS PRIOR TO ROUGH IN. PROVIDE UNISTRUT FOR MOUNTING OF DISCONNECT AND CONTROL PANEL.

1 Site Plan - Electrical  
1" = 20'-0"



Express Oil Change & Tire Engineers  
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Foley, Alabama

FINAL

No.	Description	Date
1	Revision #1	09-16-2024

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Site Plan - Electrical

Project number	24004
Date	04/08/24
Drawn by	TH
Checked by	GW

E104

Scale 1" = 20'-0"

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GWAMAE@GW-ENG.COM | 205.413.4112  
TH@GNBOTHAM@GW-ENG.COM | 205.317.3869





Express Oil Change & Tire Engineers  
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Foley, Alabama

FINAL

No.	Description	Date

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Main Level Plan -  
Lighting

Project number	24004
Date	04/08/24
Drawn by	TH
Checked by	GW

E200

Scale 3/16" = 1'-0"

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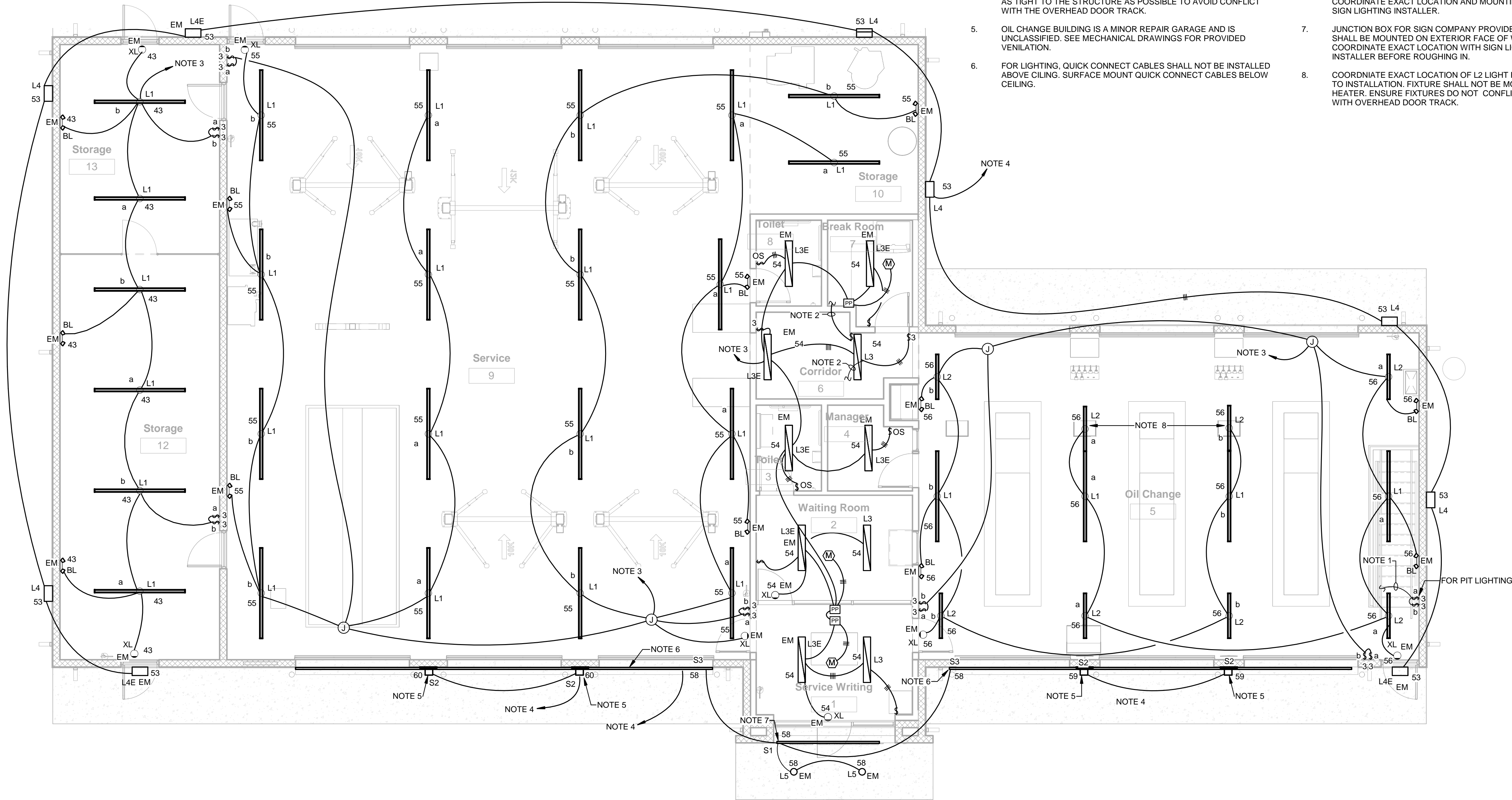
4120 OVERLOOK CIRCLE, TRUSSVILLE, AL 35173  
GWAMAE@GW-ENG.COM | 205.413.4112  
TH@GIBOTHAM@GW-ENG.COM | 205.317.3969

GENERAL NOTES:

- CONNECT ALL "BL", "XL" AND EMERGENCY BATTERY PACKS IN FIXTURES MARKED "EM" TO UNSWITCHED HOT LEG OF CIRCUIT.
- ENSURE LIGHTING FIXTURES L1 AND L2 DO NOT CONFLICT WITH OVERHEAD DOORS.
- FOR THE LIGHTING PACKAGE PRICING CONTACT THE FOLLOWING:  
  
MIKE MCMAKEN  
REXEL ENERGY SOLUTIONS  
(M) 906 - 235 - 2979  
MIKE.MCMAKEN@REXELENERGY.COM  
  
STEPHEN MITCHELL  
MAXLITE  
(M) 908-256-3115  
SMITCHELL@MAXLITE.COM
- ALL CONDUIT CROSSING OVERHEAD DOORS SHALL BE MOUNTED AS TIGHT TO THE STRUCTURE AS POSSIBLE TO AVOID CONFLICT WITH THE OVERHEAD DOOR TRACK.
- OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENTILATION.
- FOR LIGHTING, QUICK CONNECT CABLES SHALL NOT BE INSTALLED ABOVE CILING. SURFACE MOUNT QUICK CONNECT CABLES BELOW CEILING.

NOTES:

- CONNECT TO PIT LIGHTING. SEE SHEET E201 FOR CONTINUATION.
- CONNECT TO EQUIPMENT PLATFORM LIGHTING. SEE SHEET E202 FOR CONTINUATION.
- HOMERUN TO 20A, 1POLE CIRCUIT BREAKER IN PANELBOARD PP THROUGH LIGHTING CONTACTOR C-1. SEE DETAIL ON SHEET E102.
- HOMERUN TO 20A, 1POLE CIRCUIT BREAKER IN PANELBOARD PP THROUGH LIGHTING CONTACTOR C-2. SEE DETAIL ON SHEET E102.
- JUNCTION BOX FOR SIGN COMPANY PROVIDED FIXTURE SHALL BE MOUNTED FLUSH WITH EXTERIOR FACE OF WALL AT 60" ABOVE GRADE ON CENTER.
- JUNCTION BOX FOR DIMENSIONAL LETTERS/LIGHT BAR. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH SIGN LIGHTING INSTALLER.
- JUNCTION BOX FOR SIGN COMPANY PROVIDED FIXTURE SHALL BE MOUNTED ON EXTERIOR FACE OF WALL AT 17' AFF. COORDINATE EXACT LOCATION WITH SIGN LIGHTING INSTALLER BEFORE ROUGHING IN.
- COORDINATE EXACT LOCATION OF L2 LIGHT FIXTURES PRIOR TO INSTALLATION. FIXTURE SHALL NOT BE MOUNTED ABOVE HEATER. ENSURE FIXTURES DO NOT CONFLICT WITH OVERHEAD DOOR TRACK.



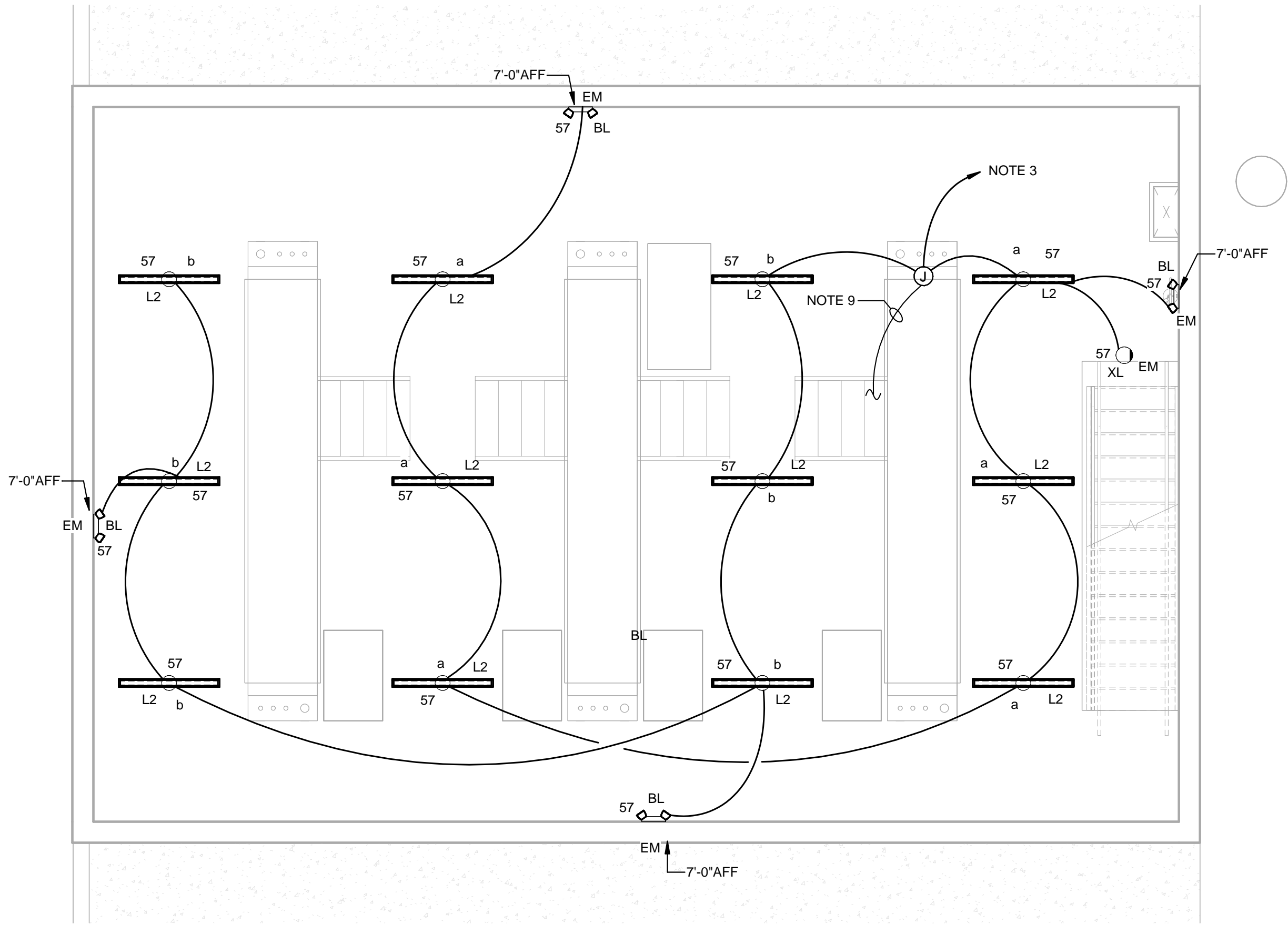
1 Main Level Plan - Lighting  
3/16" = 1'-0"



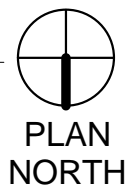


- GENERAL NOTES:
- CONNECT ALL "BL", "XL" AND EMERGENCY BATTERY PACKS IN FIXTURES MARKED "EM" TO UNSWITCHED HOT LEG OF CIRCUIT.
  - FOR THE LIGHTING PACKAGE PRICING CONTACT THE FOLLOWING:  
  
MIKE MCMAKEN  
REXEL ENERGY SOLUTIONS  
(M) 906 - 235 - 2979  
MIKE.MCMAKEN@REXELENERGY.COM  
  
STEPHEN MITCHELL  
MAXLITE  
(M) 908-256-3115  
SMITCHELL@MAXLITE.COM
  - OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENTILATION.
  - ADJUST LIGHT FIXTURES AS NEEDED TO AVOID CONFLICT WITH STRUCTURAL STEEL.

- NOTES:
- CONNECT TO LIGHT SWITCH ON FIRST FLOOR. SEE SHEET E200 FOR CONTINUATION.
  - HOMERUN TO 20A, 1POLE CIRCUIT BREAKER IN PANELBOARD PP THROUGH LIGHTING CONTACTOR C-1.



1 Pit Level Plan - Lighting  
1/4" = 1'-0"



Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL

No.	Description	Date

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Pit Level Plan -  
Lighting

Project number	24004
Date	04/08/24
Drawn by	TH
Checked by	GW

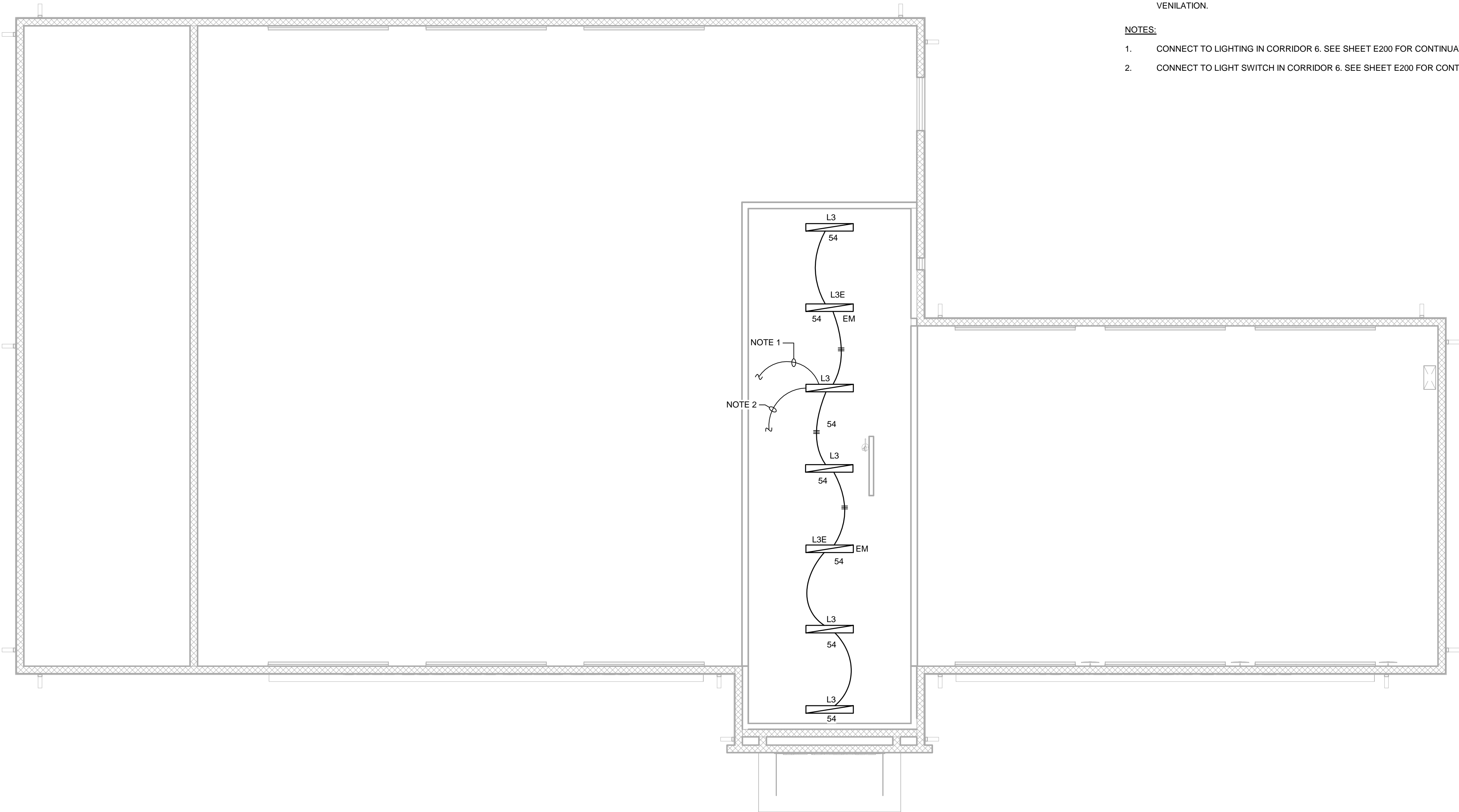
E201

Scale 1/4" = 1'-0"

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GWAMAE@GW-ENG.COM | 205.413.4112  
TH@GIBOTHAM@GW-ENG.COM | 205.317.3969





- GENERAL NOTES:**
- CONNECT ALL "BL", "XL" AND EMERGENCY BATTERY PACKS IN FIXTURES MARKED "EM" TO UNSWITCHED HOT LEG OF CIRCUIT.
  - FOR THE LIGHTING PACKAGE PRICING CONTACT THE FOLLOWING:  
  
MIKE MCMAKEN  
REXEL ENERGY SOLUTIONS  
(M) 906 - 235 - 2979  
MIKE.MCMAKEN@REXELENERGY.COM  
  
STEPHEN MITCHELL  
MAXLITE  
(M) 908-256-3115  
SMITCHELL@MAXLITE.COM
  - OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENILATION.
- NOTES:**
- CONNECT TO LIGHTING IN CORRIDOR 6. SEE SHEET E200 FOR CONTINUATION.
  - CONNECT TO LIGHT SWITCH IN CORRIDOR 6. SEE SHEET E200 FOR CONTINUATION.

① Equipment Platform Plan - Lighting  
3/16" = 1'-0"



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GWAMAE@GW-ENG.COM | 205.413.4112  
THIGONBOTHAMS@GW-ENG.COM | 205.317.3969



**Express Oil Change & Tire Engineers**  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL		
No.	Description	Date

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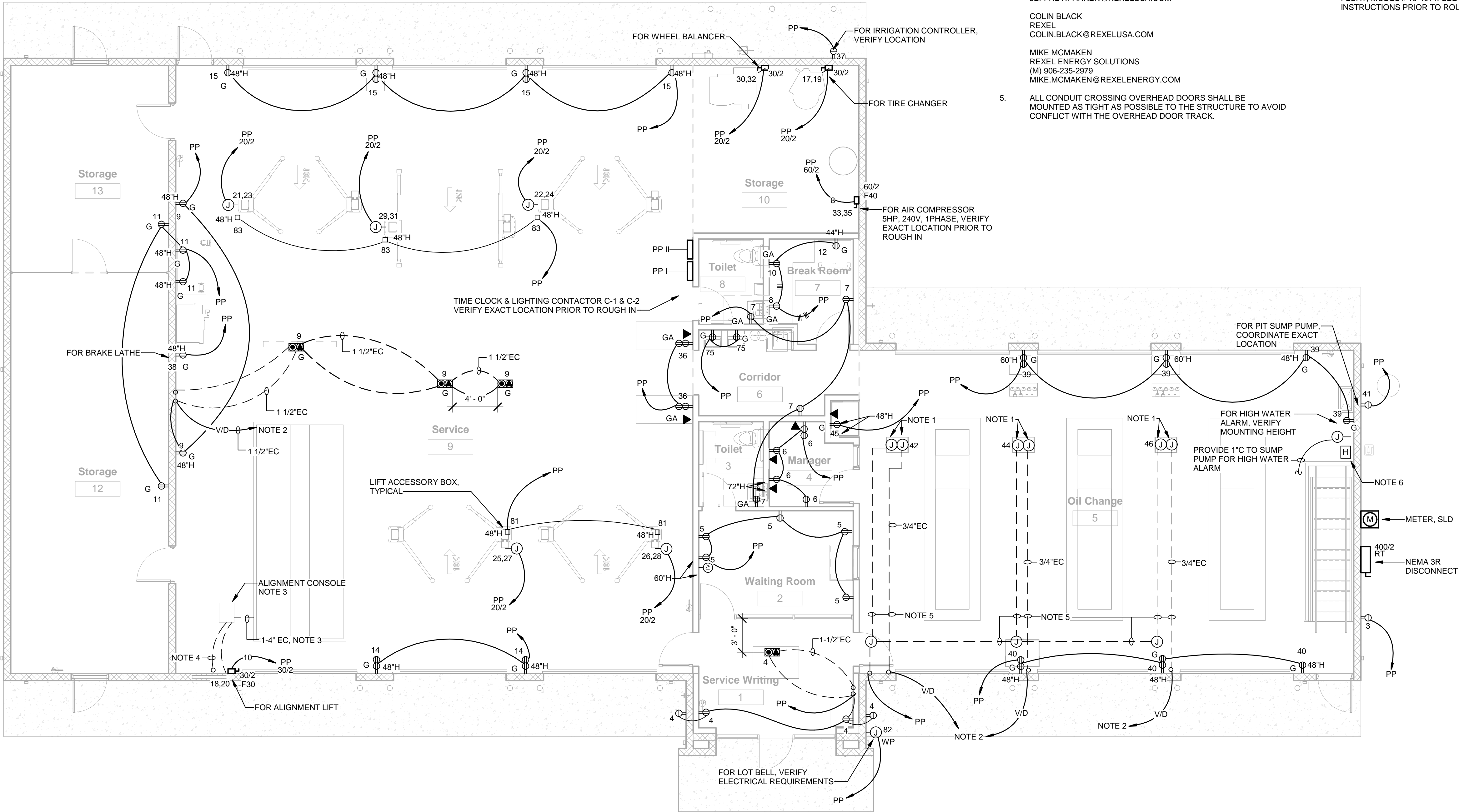
Equipment Platform Plan - Lighting

Project number24004  
Date04/08/24  
Drawn byTH  
Checked byGW

E202

Scale3/16" = 1'-0"





GENERAL NOTES:

- CONTRACTOR SHALL VERIFY/COORDINATE LOCATION OF ALL POWER & DATA OUTLETS FOR EQUIPMENT. OBTAIN OWNER'S APPROVAL BEFORE ROUGH IN. NO EXCEPTIONS. NO ADDITIONAL COMPENSATION SHALL BE AWARDED FOR ANY ADDITIONAL WORK REQUIRED TO RELOCATE OUTLETS DUE TO CONTRACTOR'S FAILURE TO COORDINATE WITH OWNER.
- ALL HORIZONTAL CONDUIT RUNS SHALL BE A MINIMUM OF 8" ABOVE FINISHED FLOOR EXCEPT FOR DROPS. ENSURE CONDUIT DOES NOT CONFLICT WITH OVERHEAD DOOR.
- OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENTILATION.
- EXPRESS OIL CHANGE HAS OBTAINED EQUIPMENT AVAILABILITY AND SPECIAL VOLUME PRICING ON POWER EQUIPMENT AND LIGHTING CONTROL PACKAGES FROM REXEL. SEE CONTACTS BELOW FOR PRICING AND INFORMATION.  
  
JEFFREY PARKER  
REXEL  
(M) 508-916-7758  
JEFFREY.PARKER@REXELUSA.COM  
  
COLIN BLACK  
REXEL  
COLIN.BLACK@REXELUSA.COM  
  
MIKE MCMAKEN  
REXEL ENERGY SOLUTIONS  
(M) 906-235-2979  
MIKE.MCMAKEN@REXELENERGY.COM
- ALL CONDUIT CROSSING OVERHEAD DOORS SHALL BE MOUNTED AS TIGHT AS POSSIBLE TO THE STRUCTURE TO AVOID CONFLICT WITH THE OVERHEAD DOOR TRACK.

NOTES:

- 3/4" CONDUIT STUBBED UP 18" INTO WORK PEDESTAL BASE POST. PROVIDE FLEXIBLE CONDUIT INTO WORK PEDESTAL CABINET. COORDINATE OUTLET REQUIREMENTS PRIOR TO ROUGH IN.
- HOMERUN 3/4"EC TO TELEPHONE BACKBOARD ON EQUIPMENT PLATFORM.
- LOCATIONS SHOWN HERE ARE APPROXIMATE. FIELD COORDINATE EXACT LOCATION OF CONSOLE & CONDUIT WITH OWNER & ALIGNMENT LIFT SHOP DRAWINGS BEFORE ROUGH-IN. CONDUIT FROM ALIGNMENT PIT TO CONSOLE SHALL BE 32" FROM EDGE OF PIT TO CENTERLINE OF CONDUIT.
- PROVIDE 1 1/2" EMPTY CONDUIT FROM CONSOLE, STUBBED 8" UP ON INSIDE FACE OF EXTERIOR WALL.
- CONDUIT FOR WORK PEDESTALS IN OIL CHANGE AREA SHALL BE MOUNTED/ROUTED ON THE CEILING OF THE PIT IN LIEU OF IN THE SLAB.
- ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ZOELLER - Z CONTROL APAK INDOOR ALARM WITH MECHANICAL FLOAT, MODEL # 10-4014. SEE MANUFACTURERS INSTALLATION INSTRUCTIONS PRIOR TO ROUGH IN. PROVIDE BATTERIES.

1 Main Level Plan - Power & Voice/Data  
3/16" = 1'-0"



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4120 OVERLOOK CIRCLE, TRUSSVILLE, AL 35173  
GWAMAE@GW-ENG.COM | 205.413.4112  
TH@GWBOTHAMS@GW-ENG.COM | 205.317.3969



Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL		
No.	Description	Date
1		

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Main Level Plan - Power & Voice/Data	
Project number	24004
Date	04/08/24
Drawn by	TH
Checked by	GW
E300	
Scale	3/16" = 1'-0"

GENERAL NOTES:

- OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENILATION.
- EXPRESS OIL CHANGE HAS OBTAINED EQUIPMENT AVAILABILITY AND SPECIAL VOLUME PRICING ON POWER EQUIPMENT AND LIGHTING CONTROL PACKAGES FROM REXEL. SEE CONTACTS BELOW FOR PRICING AND INFORMATION:

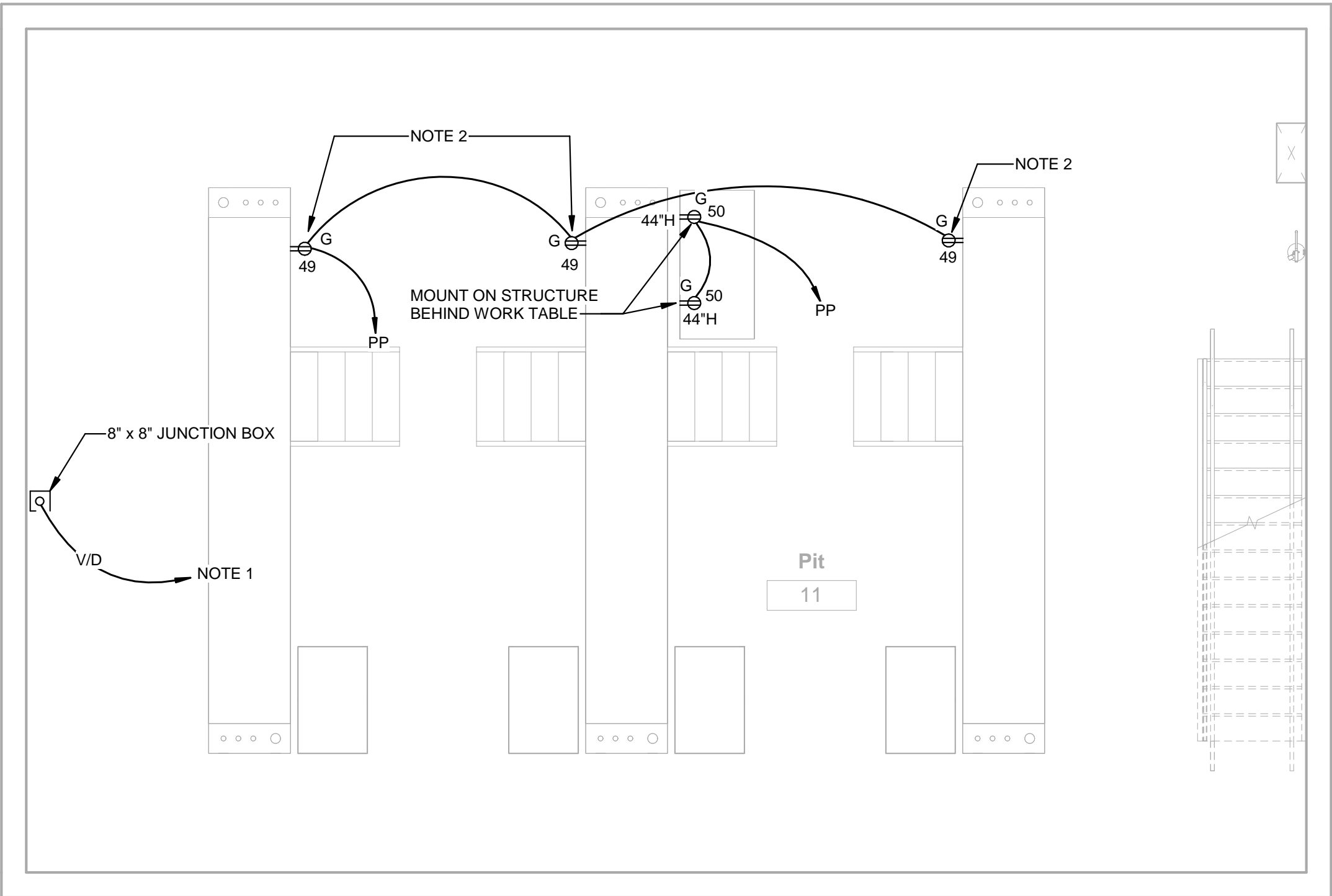
JEFFREY PARKER  
REXEL  
(M) 508-916-7758  
JEFFREY.PARKER@REXELUSA.COM

COLIN BLACK  
REXEL  
COLIN.BLACK@REXELUSA.COM

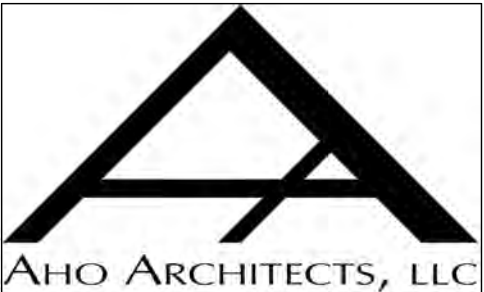
MIKE MCMAKEN  
REXEL ENERGY SOLUTIONS  
(M) 906-235-2979  
MIKE.MCMAKEN@REXELENERGY.COM

NOTES:

- 2"EC HOMERUN TO TELEPHONE BACKBOARD ON EQUIPMENT PLATFORM.
- MOUNT RECEPTACLES ONTO STRUCTURAL COLUMN.



① Pit Level Plan - Power & Voice/Data  
1/4" = 1'-0"



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Express Oil Change & Tire Engineers  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL

No.	Description	Date

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Pit Level Plan -  
Power &  
Voice/Data

Project number 24004  
Date 04/08/24  
Drawn by TH  
Checked by GW

E301

Scale 1/4" = 1'-0"

GW ENGINEERING, LLC

4120 OVERLOOK CIRCLE, TRUSSVILLE, AL 35173  
GWAMAE@GW-ENG.COM | 205.413.4112  
TH@GIBOTHAM@GW-ENG.COM | 205.317.3969





Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

FINAL

No.	Description	Date

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Equipment Platform Plan - Power & Voice/Data

Project number24004

Date04/08/24

Drawn byTH

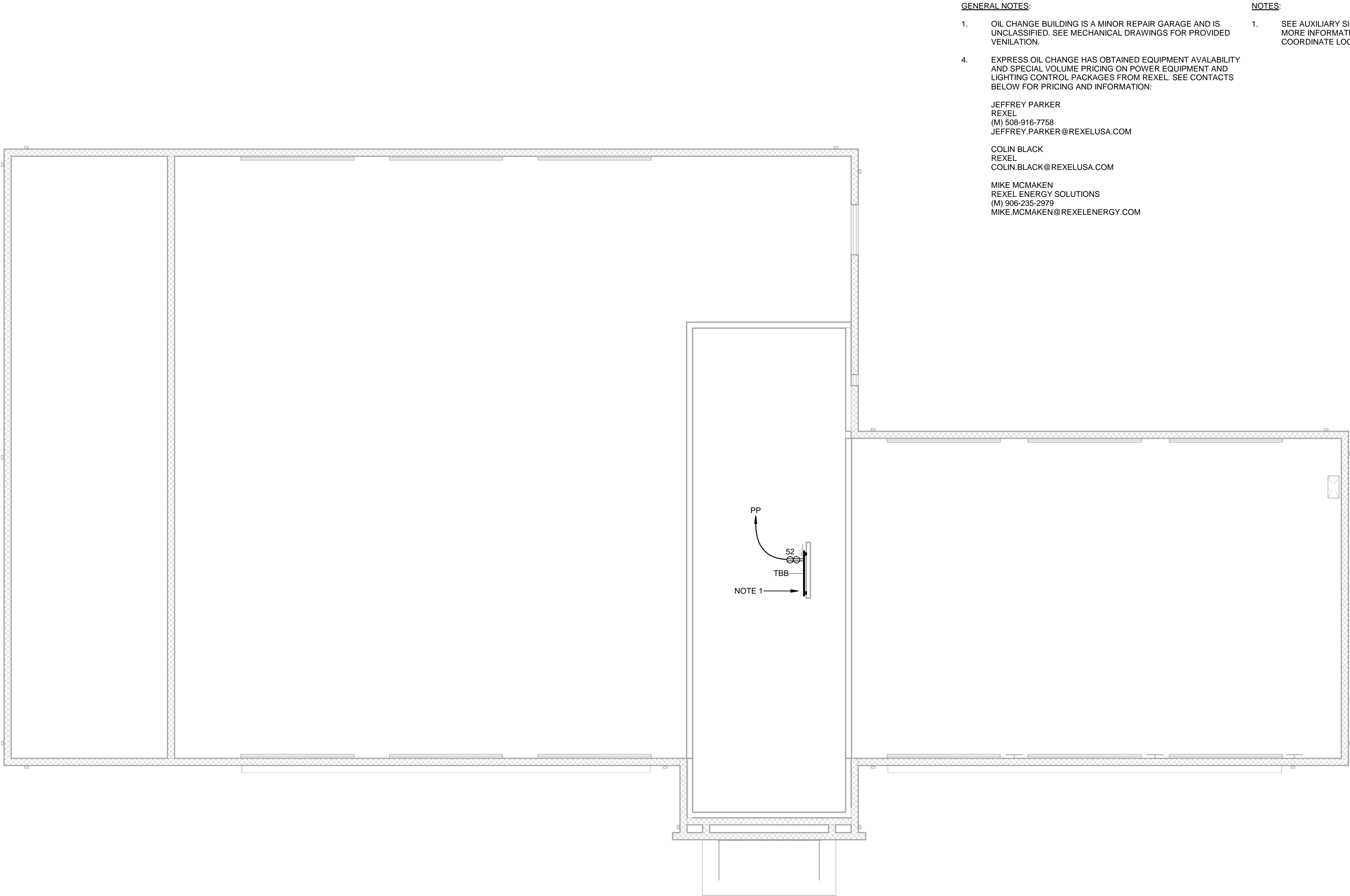
Checked byGW

E302

Scale3/16" = 1'-0"

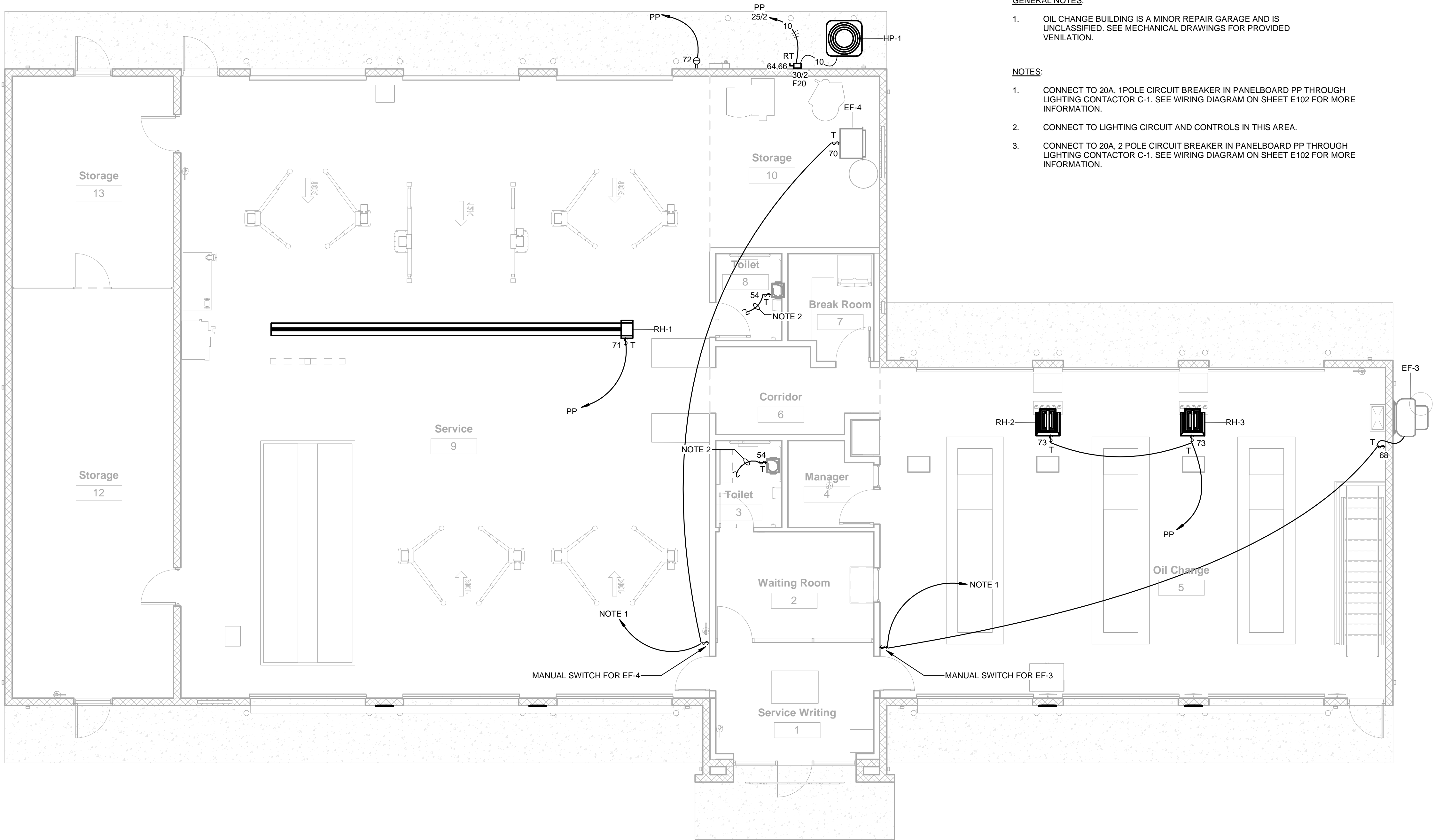
GW ENGINEERING, LLC

4120 OVERLOOK CIRCLE, TRUSSVILLE, AL 35173  
GWAMAE@GW-ENG.COM | 205.413.4112  
TH@GONBOTHAMS@GW-ENG.COM | 205.317.3969



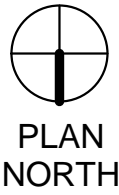
Equipment Platform Plan - Power & Voice/Data  
3/16" = 1'-0"





- GENERAL NOTES:**
- OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENTILATION.
- NOTES:**
- CONNECT TO 20A, 1POLE CIRCUIT BREAKER IN PANELBOARD PP THROUGH LIGHTING CONTACTOR C-1. SEE WIRING DIAGRAM ON SHEET E102 FOR MORE INFORMATION.
  - CONNECT TO LIGHTING CIRCUIT AND CONTROLS IN THIS AREA.
  - CONNECT TO 20A, 2 POLE CIRCUIT BREAKER IN PANELBOARD PP THROUGH LIGHTING CONTACTOR C-1. SEE WIRING DIAGRAM ON SHEET E102 FOR MORE INFORMATION.

1 Main Level Plan - Electrical Connection to Mechanical  
3/16" = 1'-0"



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GWAMAE@GW-ENG.COM | 205.413.4112  
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**Express Oil Change & Tire Engineers**

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

FINAL		
No.	Description	Date

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**Main Level Plan - Elec. Conn. to Mech.**

Project number	24004
Date	04/08/24
Drawn by	TH
Checked by	GW

**E400**

Scale	3/16" = 1'-0"
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FINAL		
No.	Description	Date

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Equipment Platform Plan -  
Elec. Conn. to Mech.

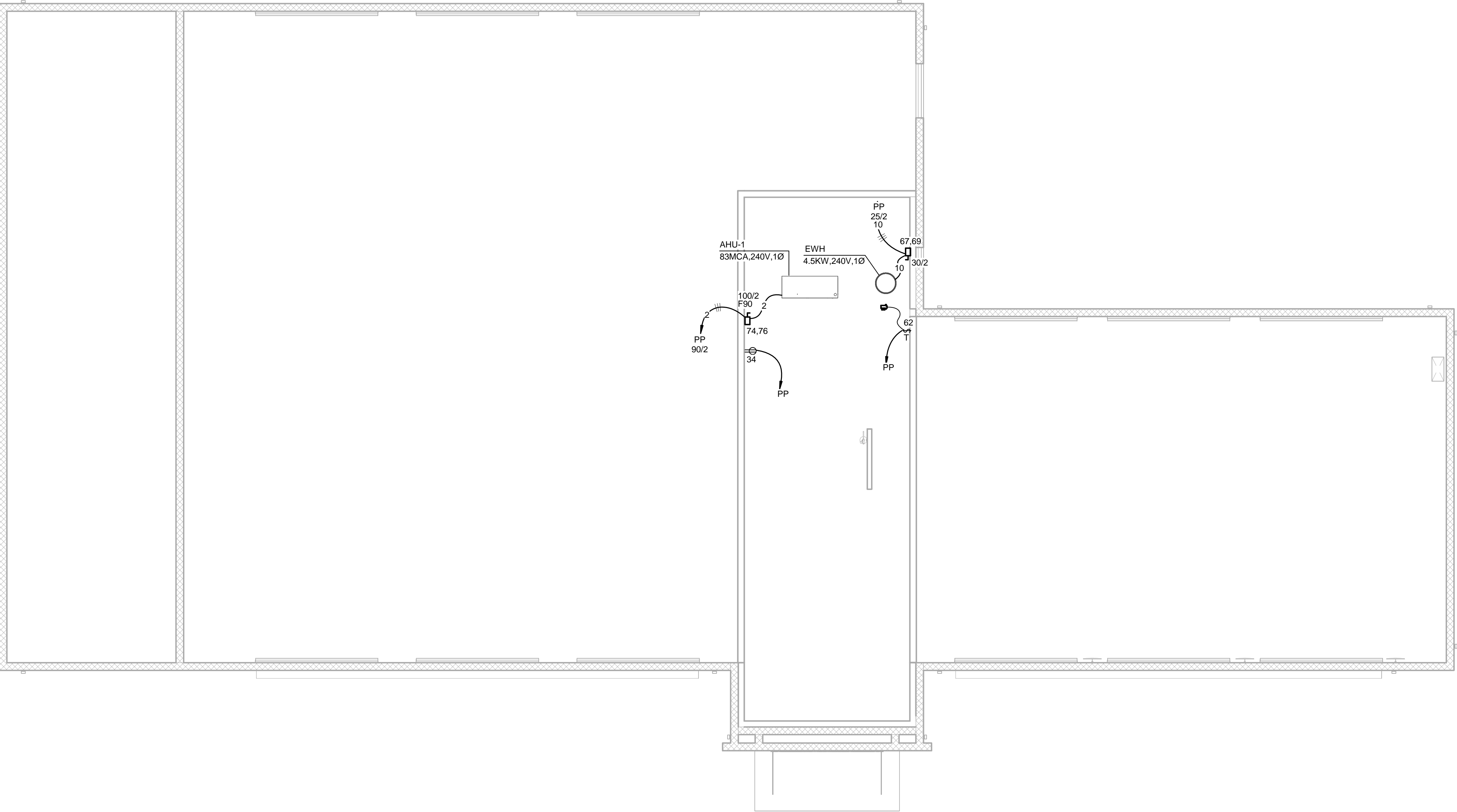
Project number	24004
Date	04/08/24
Drawn by	TH
Checked by	GW

E401

Scale	3/16" = 1'-0"
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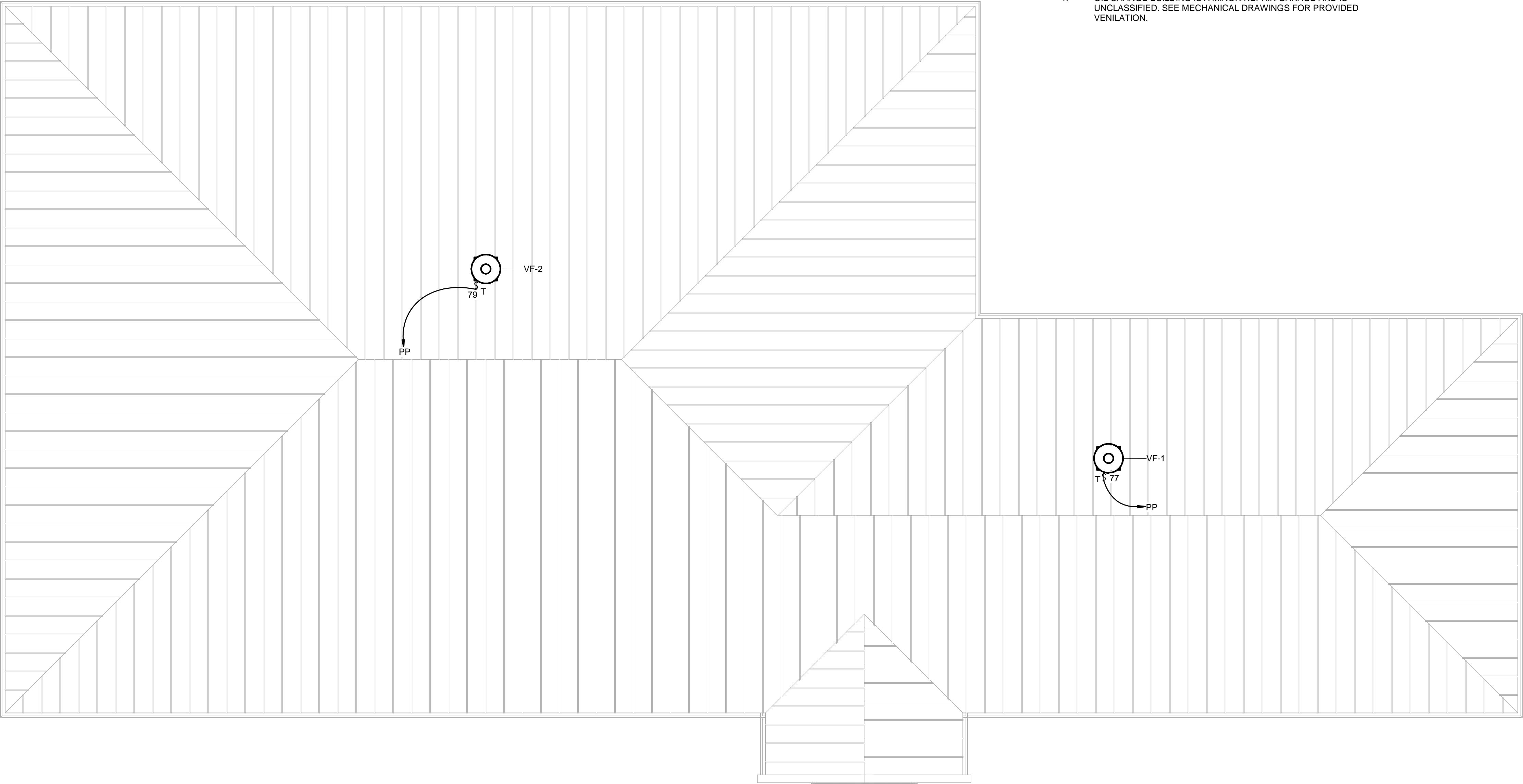
GW ENGINEERING, LLC

4120 OVERLOOK CIRCLE, TRUSSVILLE, AL 35173  
GWAMAE@GW-ENG.COM | 205.413.4112  
TH@GONBOTHAMS@GW-ENG.COM | 205.317.3969



① Equipment Platform Plan - Electrical  
Connection to Mechanical  
3/16" = 1'-0"





- GENERAL NOTES:**
- OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENTILATION.

1 Roof Plan - Electrical Connection to Mechanical  
3/16" = 1'-0"



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4120 OVERLOOK CIRCLE, TRUSSVILLE, AL 35173  
GWAMAE@GW-ENG.COM | 205.413.4112  
TH@GONBOTHAMS@GW-ENG.COM | 205.317.3969



**Express Oil Change & Tire Engineers**  
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage  
Foley, Alabama

FINAL		
No.	Description	Date

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**Roof Plan -  
Electrical  
Connection to  
Mechanical**

Project number	24004
Date	04/08/24
Drawn by	TH
Checked by	GW

**E402**

Scale 3/16" = 1'-0"







AHO ARCHITECTS, LLC

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ALABAMA  
LICENSED  
No. 38353  
PROFESSIONAL  
ENGINEER  
TAYLOR M. HIGGINBOTHAM  
4/8/24

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Foley, Alabama

FINAL

No.	Description	Date

COMcheck

Project number24004

Date04/08/24

Drawn byTH

Checked byGW

E600

ScaleNO SCALE

GW ENGINEERING, LLC

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THHIGBOTHAM@GW-ENG.COM | 205.317.3969

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COMcheck Software Version 4.1.5.5

Interior Lighting Compliance Certificate

Project Information

Energy Code:2018 IECC

Project Title:Express Oil Change & Tire Engineers

Project Type:New Construction

Construction Site:  
Foley, AL

Owner/Agent:  
Express Oil Change & Tire  
Engineers  
Hoover, AL

Designer/Contractor:  
Gibson Wamsee  
GW Engineering  
4120 Overlook Circle  
Trussville, AL 35173  
205-413-4112  
gwamsee@gw-eng.com

Additional Efficiency Package(s)

Credits: 1.0 Required, 1.0 Proposed  
Reduced Lighting Power, 1.0 credit

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft²)	C Allowed Watts / ft²	D Allowed Watts (B X C)
1-Automotive Facility	7229	0.64	4619
Total Allowed Watts = 4619			

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-Automotive Facility	1	28	100	2800
LED 4: Other:	1	20	60	1000
LED 6: Other:	1	17	35	595
Total Proposed Watts = 4395				

Interior Lighting PASSES: Design 5% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Taylor Higginbotham

Taylor Higginbotham

Signature

04/05/2024

Date

Project Title:Express Oil Change & Tire Engineers

Report date: 04/05/24

Data filename: C:\Users\TaylorHigginbotham\Documents\CAC\Docs\GW Engineering\2024 - AHJ - EDC Spanish Fort, AL\Project Files\08 - Lighting Calculations & Cutsheets\Comcheck - EDC Spanish Fort, AL.cck

Page: 1 of 7

COMcheck Software Version 4.1.5.5

Exterior Lighting Compliance Certificate

Project Information

Energy Code:2018 IECC

Project Title:Express Oil Change & Tire Engineers

Project Type:New Construction

Exterior Lighting Zone:2 (Residential mixed use area (LZ2))

Construction Site:  
Foley, AL

Owner/Agent:  
Express Oil Change & Tire  
Engineers  
Hoover, AL

Designer/Contractor:  
Gibson Wamsee  
GW Engineering  
4120 Overlook Circle  
Trussville, AL 35173  
205-413-4112  
gwamsee@gw-eng.com

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
Entry canopy	9 R2	0.25	Yes	2
Illuminated area of facade wall or surface	1700 R2	0.07	No	128
Total Tradable Watts (a) = 2				
Total Allowed Watts = 130				
Total Allowed Supplemental Watts (b) = 400				

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.  
(b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Entry canopy (9 R2): Tradable Wattage	1	5	25	140
LED 1: LSLAC: Other:	1	6	25	168
Illuminated area of facade wall or surface (1700 R2): Non-tradable Wattage	1	6	25	168
LED 2: L4: Other:	1	6	25	168
Total Tradable Proposed Watts = 140				

Exterior Lighting PASSES: Design 61% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Taylor Higginbotham

Taylor Higginbotham

Signature

04/05/2024

Date

Project Title:Express Oil Change & Tire Engineers

Report date: 04/05/24

Data filename: C:\Users\TaylorHigginbotham\Documents\CAC\Docs\GW Engineering\2024 - AHJ - EDC Spanish Fort, AL\Project Files\08 - Lighting Calculations & Cutsheets\Comcheck - EDC Spanish Fort, AL.cck

Page: 2 of 7

GW ENGINEERING, LLC

4120 OVERLOOK CIRCLE, TRUSSVILLE, AL 35173  
GWAMAE@GW-ENG.COM | 205.413.4112  
THHIGBOTHAM@GW-ENG.COM | 205.317.3969

3/15/2024 3:50:49 PM



No.	Description	Date
1	Revision #1	09-16-2024

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Site Plan -  
Photometrics

Project number 24004  
Date 04/08/24

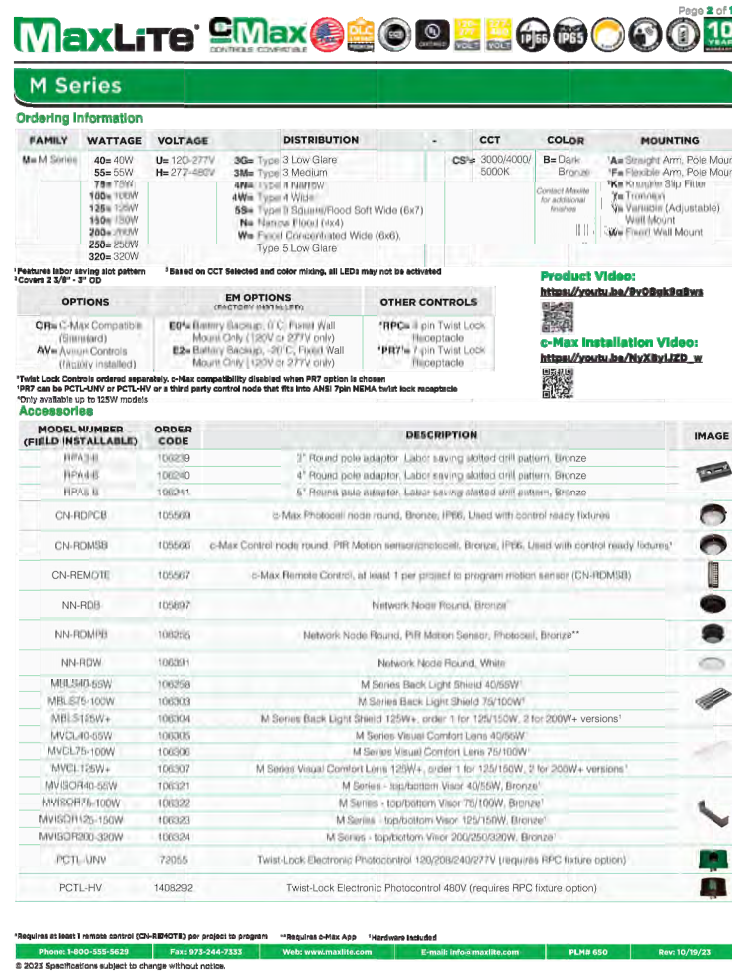
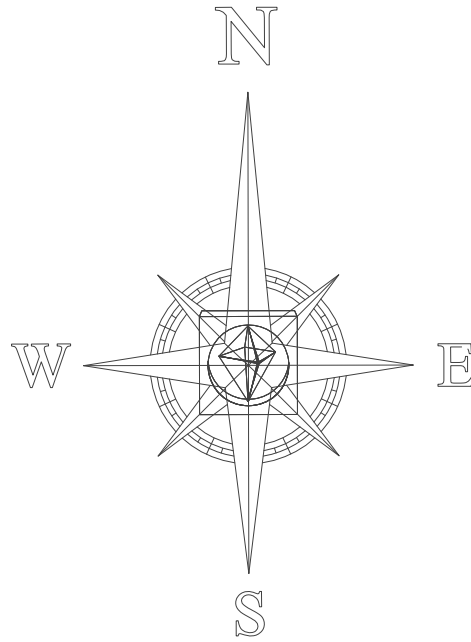
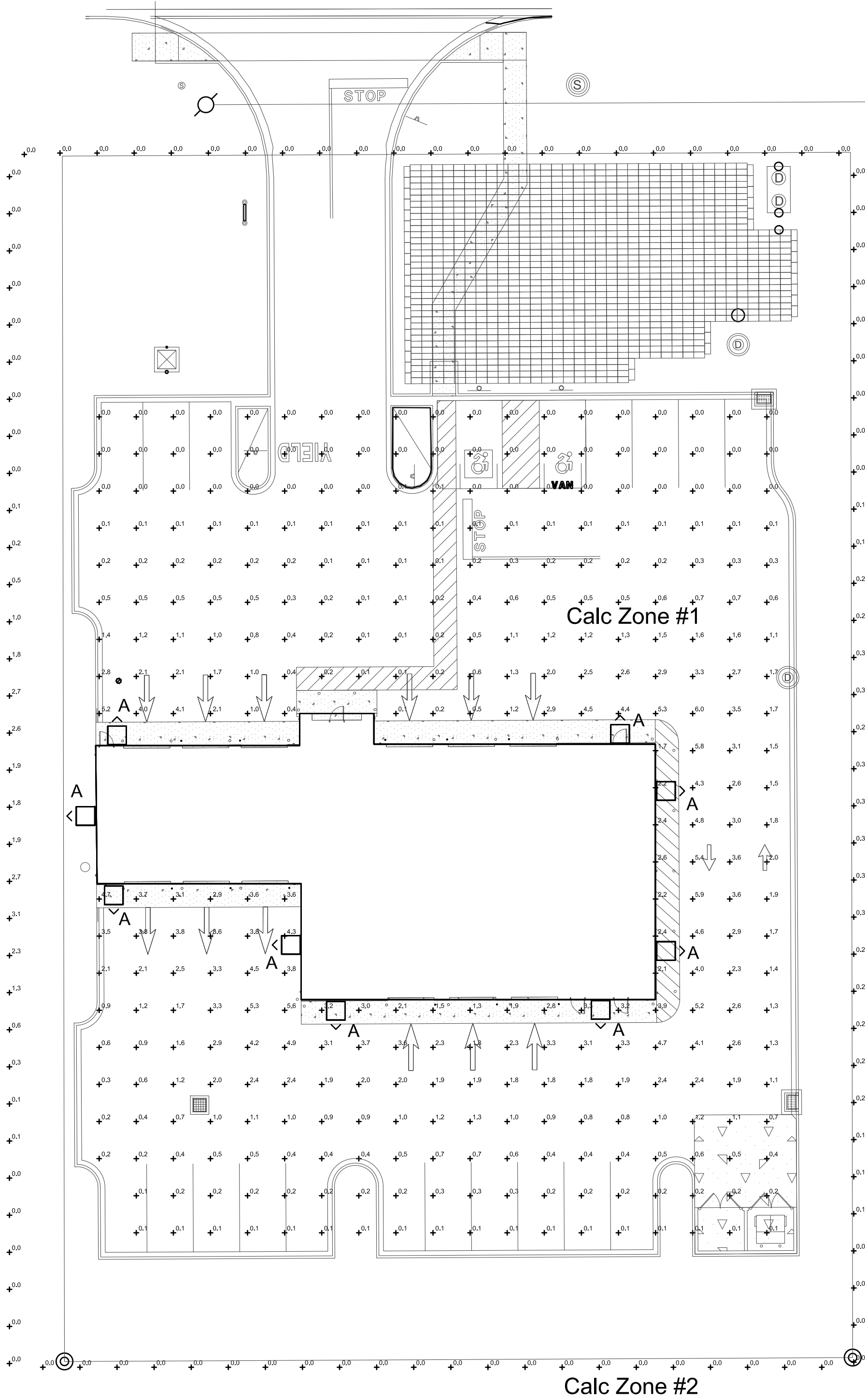
Drawn by TH  
Checked by GW

E700

Scale 1" = 20'-0"

GW ENGINEERING, LLC

4120 OVERLOOK CIRCLE, TRUSSVILLE, AL 35173  
GW@GMAIL.COM | 205.413.4112  
TH@GMAIL.COM | 205.317.3969



Light Fixture Cutsheets  
N.T.S.

Symbol	Label	Image	QTY	Manufacturer	Catalog	Mounting Height	Number Lamps	Lamp Output	LLF	Input Power
	A		9	MaxLite	M40U4W-CS8KCR	12'AFF	1	5128	0.9	38,17

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	1.2 fc	6.0 fc	0.0 fc	N/A	N/A
Calc Zone #2	+	0.3 fc	3.1 fc	0.0 fc	N/A	N/A

Site Plan - Photometrics  
1" = 20'-0"

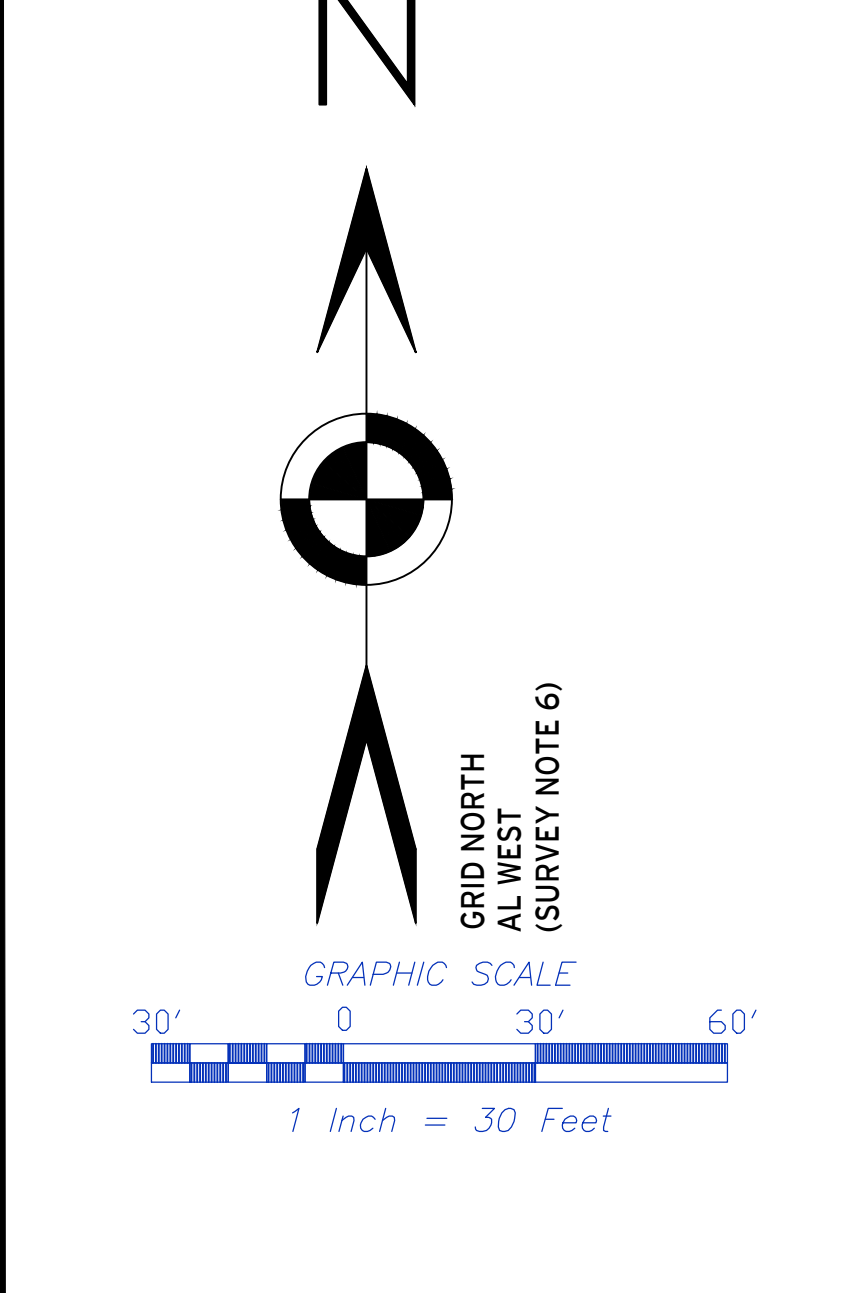
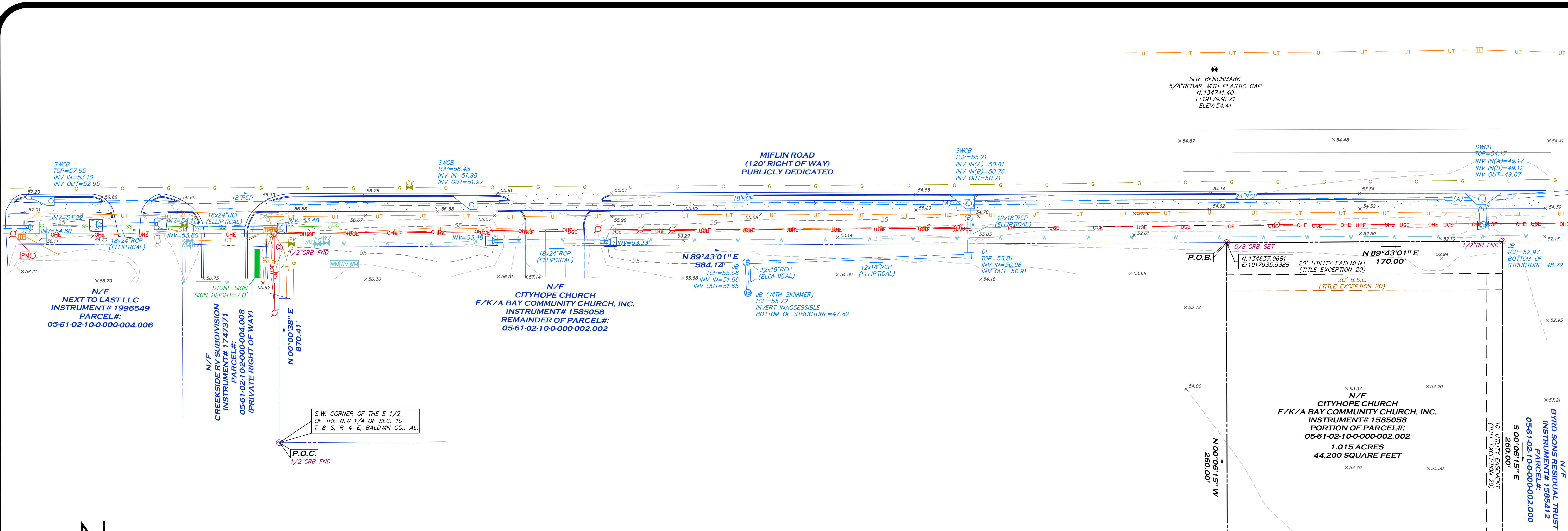












**SURVEYOR'S CERTIFICATION**

I HEREBY CERTIFY (OR STATE) THAT ALL PARTS OF THIS SURVEY AND DRAWING HAVE BEEN COMPLETED IN ACCORDANCE WITH THE CURRENT REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR SURVEYING IN THE STATE OF ALABAMA TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

TO EXPRESS OIL CHANGE, LLC, A DELAWARE LIMITED LIABILITY COMPANY AND FIRST AMERICAN TITLE INSURANCE COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1-5, 6(A)(B), 7(A)(B)(C), 8, 9, 11(A)(B), 13, 14, AND 16-20 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON DECEMBER 27, 2023.

**ALABAMA**  
LICENSED  
No. 30188  
PROFESSIONAL  
LAND SURVEYOR  
MITCHELL LOWERY

DATE OF PLAT OR MAP: JANUARY 16, 2024

**TITLE EXCEPTIONS**

FIRST AMERICAN TITLE INSURANCE COMPANY  
COMMENT NO. 23-002007  
EFFECTIVE DATE: DECEMBER 1, 2023 AT 8:00 AM

11. MINERAL DEED FROM BOBBY L. FAUST AND BERTIE S. FAUST TO TANEY A. BRAZEL, DATED APRIL 11, 1978 AND RECORDED IN REAL PROPERTY BOOK 15, PAGE 945. (NE 1/4 OF NW 1/4)  
SAID DOCUMENT DESCRIBES AN INTEREST IN OIL AND MINERAL RIGHTS, SAID RIGHT DO AFFECT SUBJECT PROPERTY; BLANKET IN NATURE; UNABLE TO PLOT.

12. RESERVATION OF 1/2 INTEREST IN AND TO ALL OIL, GAS AND MINERALS AND RIGHTS IN CONNECTION THEREWITH AS CONTAINED IN DEED FROM BOBBY L. FAUST AND BERTIE S. FAUST TO GULF FARMS, INC., DATED FEBRUARY 6, 1978 AND RECORDED IN REAL PROPERTY BOOK 5, PAGE 8. (E 1/2 OF NW 1/4)  
SAID DOCUMENT DESCRIBES AN INTEREST IN OIL AND MINERAL RIGHTS, SAID RIGHT DO AFFECT SUBJECT PROPERTY; BLANKET IN NATURE; UNABLE TO PLOT.

13. RESERVATION OF 1/2 INTEREST IN AND TO ALL OIL, GAS AND MINERALS AND RIGHTS IN CONNECTION THEREWITH AS CONTAINED IN DEED FROM ANNIE COOK TO HOYT JAMES AND DOROTHY JAMES, DATED JANUARY 8, 1952 AND RECORDED IN DEED BOOK 173, PAGE 327. (N 1/2 OF NW 1/4 AND NW 1/4 OF NE 1/4)  
SAID DOCUMENT DESCRIBES AN INTEREST IN OIL AND MINERAL RIGHTS, SAID RIGHT DO AFFECT SUBJECT PROPERTY; BLANKET IN NATURE; UNABLE TO PLOT.

14. RESERVATION OF 1/2 INTEREST IN AND TO ALL OIL, GAS AND MINERALS AND RIGHTS IN CONNECTION THEREWITH AS CONTAINED IN DEED FROM ANNIE COOK TO ROBERT D. JAMES AND FLOSSY JAMES, DATED JANUARY 8, 1952 AND RECORDED IN DEED BOOK 173, PAGE 328. (N 1/2 OF NW 1/4 AND NW 1/4 OF NE 1/4)  
SAID DOCUMENT DESCRIBES AN INTEREST IN OIL AND MINERAL RIGHTS, SAID RIGHT DO AFFECT SUBJECT PROPERTY; BLANKET IN NATURE; UNABLE TO PLOT.

15. OIL, GAS AND MINERAL LEASE—FROM HOYT JAMES, ROBERT D. JAMES AND FLOSSIE JAMES TO JOE D. EDWARDS, DATED NOVEMBER 7, 1968 AND RECORDED IN DEED BOOK 380, PAGE NS. (N 1/2 OF NW 1/4, NW 1/4 OF NE 1/4 AND SE 1/4 OF NW 1/4)  
SAID DOCUMENT DESCRIBES AN INTEREST IN OIL AND MINERAL RIGHTS, SAID RIGHT DO AFFECT SUBJECT PROPERTY; BLANKET IN NATURE; UNABLE TO PLOT.

16. RESERVATION OF 1/16TH INTEREST IN AND TO ALL OIL, GAS AND MINERALS AND RIGHTS IN CONNECTION THEREWITH AS CONTAINED IN DEED FROM WILLIAM H. JAMES TO BOBBY L. FAUST AND BERTIE S. FAUST, DATED JUNE 5, 1978 AND RECORDED IN DEED BOOK 495 PAGE 78. (NE 1/4 OF NW 1/4 AND SE 1/4 OF NW 1/4)  
SAID DOCUMENT DESCRIBES AN INTEREST IN OIL AND MINERAL RIGHTS, SAID RIGHT DO AFFECT SUBJECT PROPERTY; BLANKET IN NATURE; UNABLE TO PLOT.

17. RIGHTS OF WAY FOR PUBLIC ROADS OR PUBLIC UTILITIES NOW OF RECORD OR VISIBLE ON THE SURFACE OF SAID PROPERTY.

18. OIL, GAS AND MINERAL LEASE FROM BOBBY L. FAUST AND BERTIE S. FAUST TO CLAYTON W. WILLIAMS, JR., DATED JUNE 6, 1981 AND RECORDED IN REAL PROPERTY BOOK 94, PAGE 1541. (E 1/2 OF NW 1/4)  
SAID DOCUMENT DESCRIBES AN INTEREST IN OIL AND MINERAL RIGHTS, SAID RIGHT DO AFFECT SUBJECT PROPERTY; BLANKET IN NATURE; UNABLE TO PLOT.

19. LICENSE AGREEMENT BY AND BETWEEN ALABAMA ELECTRIC COOPERATIVE, INC., AND FOLEY THREESOME, LLC, DATED NOVEMBER 3, 2006, FILED FOR RECORD APRIL 26, 2007 AS INSTRUMENT NUMBER 1045910.  
SAID DOCUMENT DESCRIBES AN EASEMENT FOR AN ELECTRIC LINE, SAID EASEMENT AND RIGHTS DO NOT AFFECT THE SUBJECT PROPERTY.

20. BUILDING SETBACK LINES, DRAINAGE AND UTILITY EASEMENTS, TERMS, CONDITIONS AND RESTRICTIONS AS SET OUT ON RECORDED PLAT OF SAID SUBDIVISION ON SLIDE NO. 2483-C.

21. ELECTRIC LINE RIGHT OF WAY EASEMENT FROM CITY HOPE CHURCH F/K/A BAY COMMUNITY CHURCH, INC., TO BALDWIN COUNTY ELECTRIC MEMBERSHIP CORPORATION DATED 10/14/2016 FILED FOR RECORD ON 12/16/2016 AS INSTRUMENT NUMBER 1608278.

SAID DOCUMENT DESCRIBES AN EASEMENT FOR AN ELECTRIC LINE, ALSO INCLUDES THE RIGHT OF ENTRY TO ACCESS SAID LINE AND THE RIGHT TO CLEAR ANY OBSTRUCTIONS THAT MIGHT INTERFERE WITH SAID LINE. SAID EASEMENT AND RIGHTS DO AFFECT THE SUBJECT PROPERTY AND ARE BLANKET IN NATURE; UNABLE TO PLOT.

**SURVEY NOTES**

1) PROPERTY SHOWN HEREON WAS SURVEYED DECEMBER 27, 2023.

2) THE FIELD DATA UPON WHICH THIS PLAT IS BASED HAS A CLOSURE OF 1' IN 36,918' WITH AN ANGULAR ERROR OF 3.54 SECONDS PER ANGLE POINT AND WAS ADJUSTED USING THE LEAST SQUARES METHOD.

3) A SOKKIA IX SERIES ROBOTIC TOTAL STATION, CARLSON BRX7 GPS RECEIVER, AND CARLSON SURVEYOR+ DATA COLLECTOR WERE USED FOR FIELD SURVEY MEASUREMENTS.

4) THIS PLAT HAS A MAP CLOSURE OF 1' IN 860,000,000'.

5) SAID DESCRIBED PROPERTY IS LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION X ON FLOOD INSURANCE RATE MAP NO. 01003C0931M, WITH A DATE OF IDENTIFICATION OF APRIL 19, 2019 FOR COMMUNITY NUMBER 010007, IN BALDWIN COUNTY, STATE OF ALABAMA, WHICH IS THE CURRENT FLOOD INSURANCE RATE MAP FOR THE COMMUNITY IN WHICH SAID PROPERTY IS SITUATED.

6) BEARING BASIS (NAD83(2011) AL WEST) AND VERTICAL DATUM (NAVD88, GEOID18) FOR THIS SURVEY WERE ESTABLISHED USING A CARLSON BRX7 GPS RECEIVER UTILIZING OPUS-S FOR POST PROCESSING. THE RELATIVE POSITIONAL ACCURACY, AS CALCULATED ACCORDING TO THE FEDERAL GEOGRAPHIC DATA COMMITTEE PART 3: NATIONAL STANDARD FOR SPATIAL DATA ACCURACY, IS .03 FEET HORIZONTAL AND .06 FEET VERTICAL AT THE 95% CONFIDENCE LEVEL.

7) UTILITIES SHOWN PER MARKINGS PLACED BY MC UTILITY SURVEYING, LLC. UTILITIES OTHER THAN THOSE SHOWN HEREON MAY EXIST. PROFESSIONAL LAND SURVEYORS MAKES NO GUARANTEE AS TO THE EXISTENCE OR NON-EXISTENCE OF SAID UTILITIES.

8) NO OBSERVED EVIDENCE OF CEMETERIES, GRAVESITES, AND/OR BURIAL GROUNDS AT TIME OF SURVEY.

9) PROPERTY SHOWN HEREON LIES WITHIN THE RECORD DESCRIPTION AS STATED IN GENERAL WARRANTY DEED RECORDED IN INSTRUMENT NUMBER 1585058, BALDWIN COUNTY RECORDS.

10) THIS DESCRIBES THE SAME PROPERTY AS DESCRIBED IN FIRST AMERICAN TITLE INSURANCE COMPANY COMMITMENT NO:23-002007, DATED DECEMBER 1, 2023 AT 8:00AM.

11) NO ENCROACHMENTS OTHER THAN THOSE SHOWN HEREON WERE OBSERVABLE AT TIME OF SURVEY.

12) AT THE TIME OF THE SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS.

13) AT THE TIME OF THE SURVEY THERE WERE NO PROPOSED CHANGES IN STREET RIGHT OF WAY LINES OR OBSERVABLE EVIDENCE OF STREET OR SIDEWALK REPAIRS.

14) AT THE TIME OF THE SURVEY, THERE WAS NO OBSERVABLE EVIDENCE OF THE SITE BEING USED AS A SOLID WASTE DUMP, SUMP OR SANITARY LANDFILL.

15) SUBJECT PROPERTY HAS DIRECT ACCESS TO MIFLIN ROAD, BEING A PUBLICLY DEDICATED RIGHT OF WAY.

16) SUBJECT PROPERTY IS CONTIGUOUS TO ADJACENT PROPERTIES AND RIGHTS OF WAY. NO GAPS, GORES, OR OVERLAPS ARE KNOWN TO EXIST.

**LEGAL DESCRIPTION**

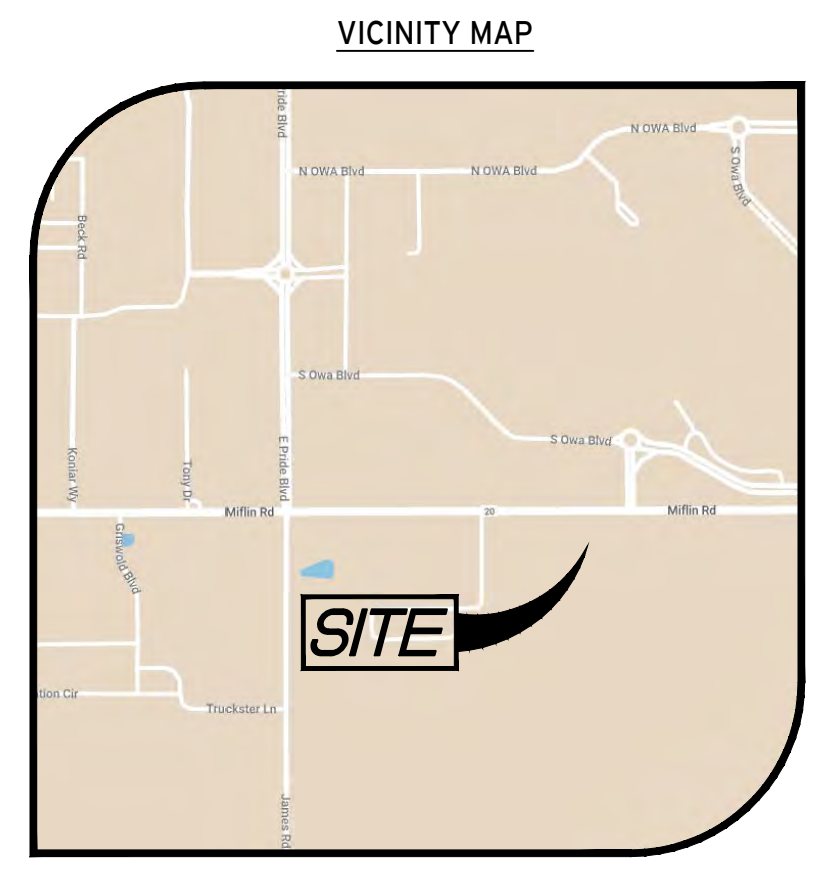
ALL THAT TRACT OR PARCEL OF LAND LYING IN AND BEING IN SECTION 10, TOWNSHIP 8 SOUTH, RANGE 4 EAST, BALDWIN COUNTY, ALABAMA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A 1/2 INCH CAPPED REBAR FOUND AT THE SOUTHWEST CORNER OF THE EAST 1/2 OF THE NORTHWEST 1/4 OF SECTION 10; THENCE NORTH 00 DEGREES 00 MINUTES 38 SECONDS EAST A DISTANCE OF 870.41 FEET TO A 1/2 INCH CAPPED REBAR FOUND ON THE SOUTHERLY RIGHT OF WAY OF MIFLIN ROAD (HAVING A 120 FOOT, PUBLICLY DEDICATED RIGHT OF WAY); THENCE CONTINUING ALONG SAID RIGHT OF WAY NORTH 89 DEGREES 43 MINUTES 01 SECOND EAST A DISTANCE OF 584.14 FEET TO A 5/8 INCH CAPPED REBAR SET, SAID 5/8 INCH CAPPED REBAR BEING THE TRUE POINT OF BEGINNING.

THENCE CONTINUING ALONG SAID RIGHT OF WAY NORTH 89 DEGREES 43 MINUTES 01 SECONDS EAST A DISTANCE OF 170.00 FEET TO A 1/2 INCH CAPPED REBAR FOUND; THENCE LEAVING SAID RIGHT OF WAY SOUTH 00 DEGREES 06 MINUTES 15 SECONDS EAST A DISTANCE OF 260.00 FEET TO A 5/8 INCH CAPPED REBAR SET; THENCE SOUTH 89 DEGREES 43 MINUTES 01 SECOND WEST A DISTANCE OF 170.00 FEET TO A 5/8 INCH CAPPED REBAR SET; THENCE NORTH 00 DEGREES 06 MINUTES 15 SECONDS WEST A DISTANCE OF 260.00 FEET TO A 5/8 INCH CAPPED REBAR FOUND ON THE SOUTHERLY RIGHT OF WAY OF MIFLIN ROAD, SAID 5/8 INCH CAPPED REBAR BEING THE TRUE POINT OF BEGINNING.

SAID TRACT OF LAND CONTAINS 1.015 ACRES (44,200 SQUARE FEET).

LEGEND	
---	PROPERTY LINE
---	OVERHANG/awning
(BEARING/DISTANCE)	RECORD CALLS
---	BUILDING SETBACK LINE
---	BUILDING SETBACK LINE
---	INDEX CONTOUR
---	MINOR CONTOUR
X	SPOT ELEVATION
W	WATER LINE
OHE	OVERHEAD UTILITY LINE
G	GAS LINE
SS	SANITARY SEWER LINE
UGE	UNDERGROUND ELECTRIC LINE
UT	UNDERGROUND TELEPHONE LINE
X	FENCE LINE
---	STORM DRAIN PIPE
TV	TELEPHONE PEDESTAL
WV	WATER VALVE
WM	WATER METER
FDH	FIRE HYDRANT
GM	GAS METER
GV	GAS VALVE
PM	POWER METER
DI	DROP INLET
SWCB	SINGLE-WING CATCH BASIN
DWCB	DOUBLE-WING CATCH BASIN
JB	JUNCTION BOX
CRB	REBAR
FND	FOUND
LP	LIGHT POLE
O	SIGN



**PROFESSIONAL LAND SURVEYORS, LLC**  
317 GRASSDALE ROAD  
CARTERSVILLE, GA 30121  
770-334-8186  
WWW.PLS.US  
INFO@PLS.US  
ALABAMA C.O.A.: LSCA50158

PREPARED FOR:  
EXPRESS OIL CHANGE, LLC, A DELAWARE LIMITED LIABILITY COMPANY  
AND FIRST AMERICAN TITLE INSURANCE COMPANY

ALTA/NSPS LAND TITLE SURVEY OF:  
A PORTION OF PARCEL# 05-61-02-10-0-000-002.002  
FOLEY, AL 36535  
(CITY OF FOLEY)

STATE: ALABAMA  
COUNTY: BALDWIN  
SECTION: 10  
TOWNSHIP: 8 SOUTH  
RANGE: 4 EAST

REVISIONS  
DATE: DESCRIPTION

DATE: JANUARY 16, 2024  
JOB #: 244618  
SCALE: 1"=30'  
DRAWN BY: D. HALL

**PROFESSIONAL LAND SURVEYORS**





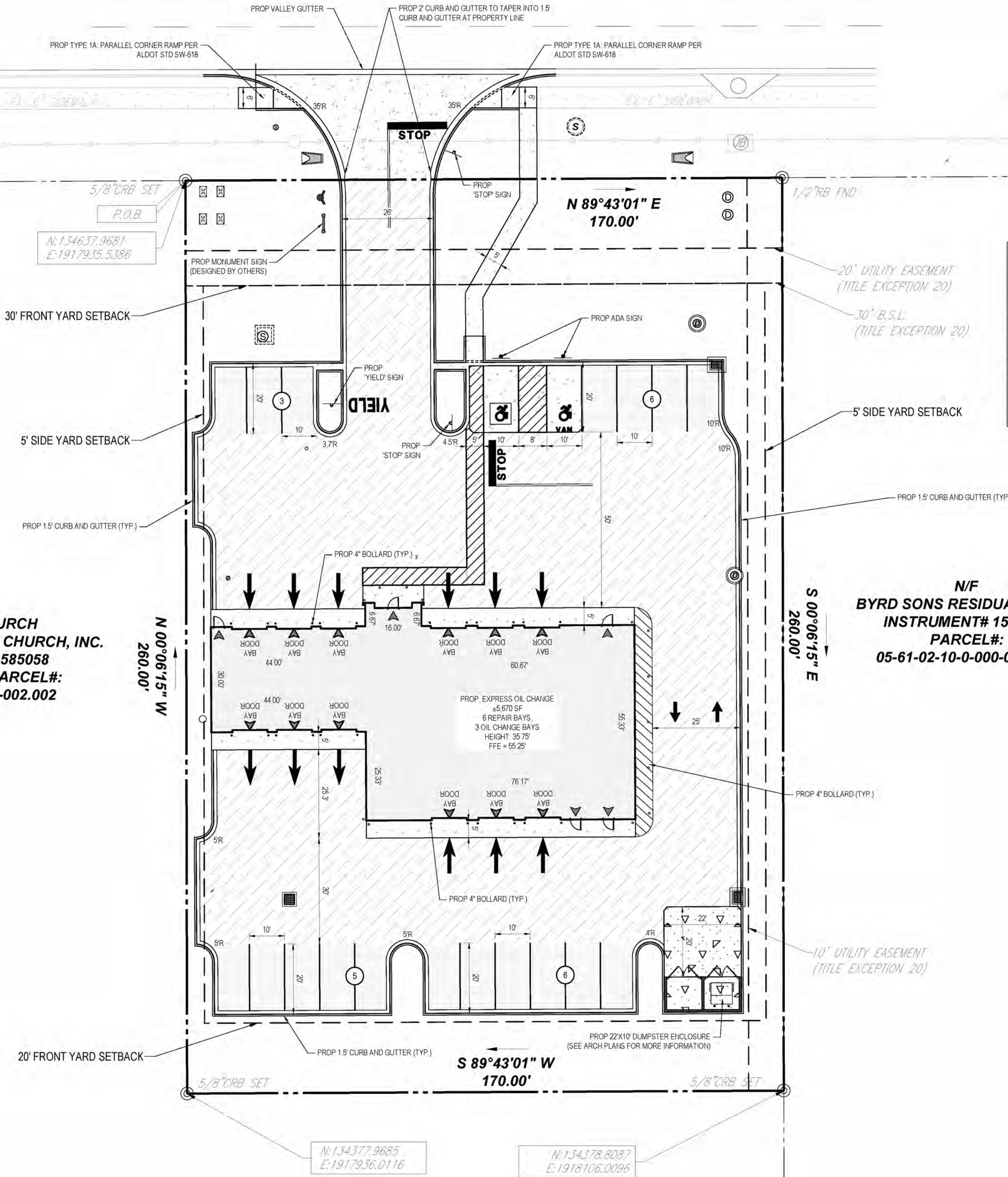




SITE BENCHMARK  
5/8" REBAR WITH PLASTIC CAP  
N: 134741.40  
E: 1917936.71  
ELEV: 54.41

# MIFLIN ROAD

(120' RIGHT OF WAY)  
PUBLICLY DEDICATED



N/F  
CITYHOPE CHURCH  
F/K/A BAY COMMUNITY CHURCH, INC.  
INSTRUMENT# 1585058  
REMAINDER OF PARCEL#:  
05-61-02-10-0-000-002.002

N/F  
BYRD SONS RESIDUAL TRUST  
INSTRUMENT# 1585412  
PARCEL#:  
05-61-02-10-0-000-002.000

LAND DISTURBANCE		
ITEM	ACRES	SQUARE FEET
TOTAL PARCEL AREA	1.015	44,200
ON-SITE DISTURBED AREA	1.015	44,200
OFF-SITE DISTURBED AREA	0.20	8,712
TOTAL DISTURBED AREA	1.22	53,142
EXISTING IMPERVIOUS AREA	0.00	0.00
PROPOSED IMPERVIOUS AREA	0.67	28,966.07
TOTAL IMPERVIOUS AREA	0.67	28,966.07

PARKING REQUIREMENTS				
ITEM	CODE	PERMITTED	EXISTING	PROPOSED
MIN STALL LENGTH	§ 2.1	20.0'	NONE	20.0'
MIN STALL WIDTH	§ 2.1	10'	NONE	10'
LOADING REQUIREMENTS	§ 000-000	N/A	NONE	NONE
MIN LOADING SIZE	§ 000-000	N/A	NONE	NONE
MIN NUMBER OF STALLS	§ 18.1.2	15 SPACES	NONE	20 SPACES

AUTOMOBILE SALES AND REPAIR GARAGES:  
1 SPACE PER 400 SF OF HABITABLE FLOOR AREA  
5,610 SF / 400 SF OF HABITABLE FLOOR AREA = 14.175 = 15 SPACES

ADA:  
1 ADA SPACE PER 0 TO 25 REGULAR PARKING SPACES REQUIRED = 1 ADA SPACES PER 15 REGULAR PARKING SPACES.  
TOTAL REQUIRED:  
15 SPACES (1 ADA SPACES WITH 1 BEING VAN ACCESSIBLE INCLUDED)

TOTAL PROVIDED:  
20 SPACES (2 ADA SPACES WITH 1 BEING VAN ACCESSIBLE INCLUDED)

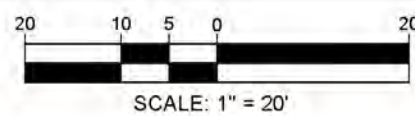
KEY = VARIANCE REQUIRED

## GENERAL SITE PLAN NOTES

- REFER TO GEOTECHNICAL REPORT FOR MORE INFORMATION ON PAVEMENT SPECIFICATIONS.

LEGEND	
PROPOSED PAVEMENT	
STANDARD ASPHALT PAVEMENT	
HEAVY ASPHALT PAVEMENT	
CONCRETE SIDEWALK	
STANDARD DUTY CONCRETE PAVEMENT	
HEAVY DUTY CONCRETE PAVEMENT	

THIS PLAN TO BE UTILIZED FOR SITE LAYOUT PURPOSES ONLY



BOHLER

SITE CIVIL AND CONSULTING ENGINEERING  
PROGRAM MANAGEMENT  
LANDSCAPE ARCHITECTURE  
SUSTAINABLE DESIGN  
PERMITTING SERVICES  
TRANSPORTATION SERVICES

REVISIONS				
REV	DATE	COMMENT	BY	CHKD BY
1	09/09/2024	PER CITY/UTILITY PROVIDER COMMENTS	JDA	BSKE

811

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ALWAYS CALL 811  
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## ISSUED FOR MUNICIPAL & AGENCY REVIEW & APPROVAL

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.: TNA230034-00-0A  
DRAWN BY: JDA  
CHECKED BY: KE/MT  
DATE: 12/31/1999  
CAD ID: P-CIVL-SITE

## PROP. CIVIL SITE PLAN

EXPRESS OIL CHANGE  
TIRE ENGINEERS

21270 MIFLIN RD.  
COUNTY BALDWIN  
FOLEY, AL  
PARCEL I.D.: 05-61-02-10-0-000-002.002

BOHLER

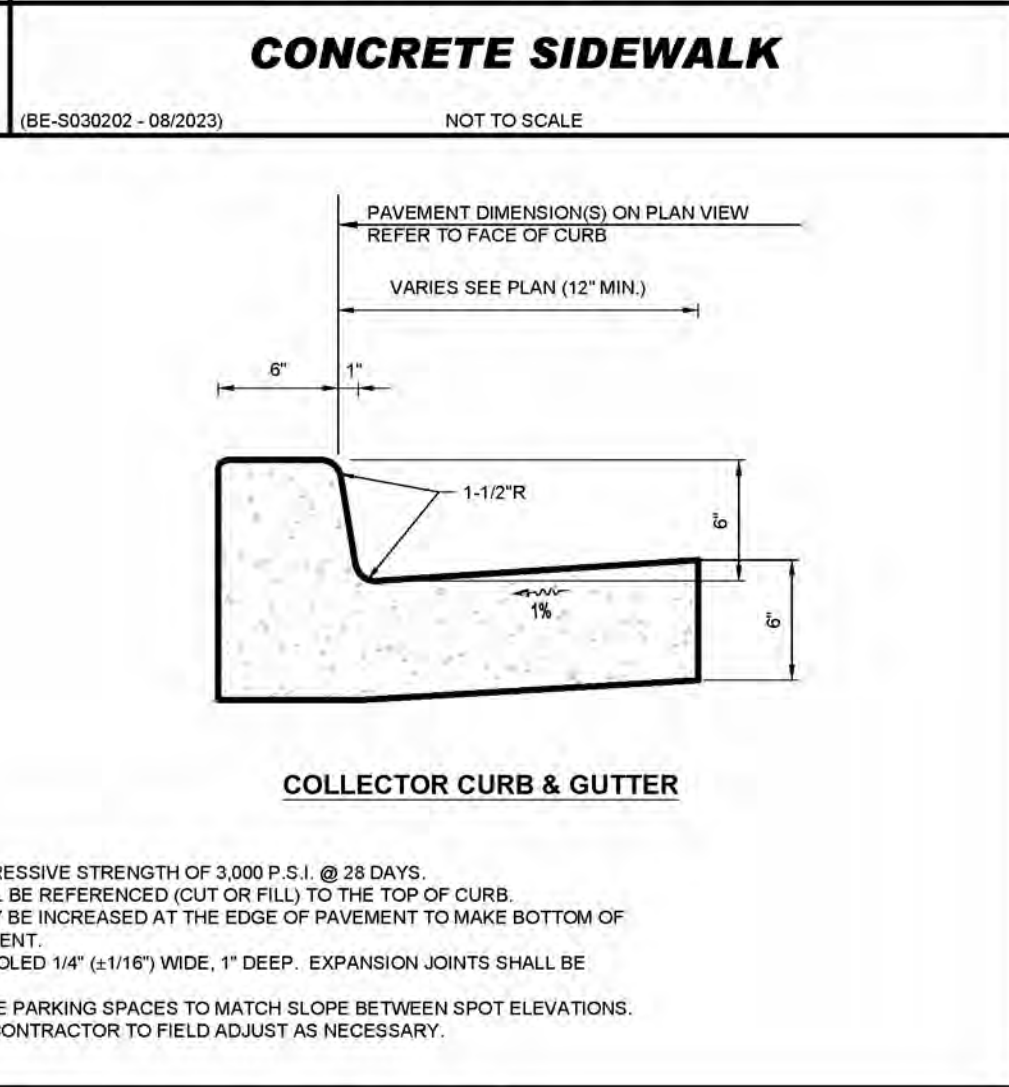
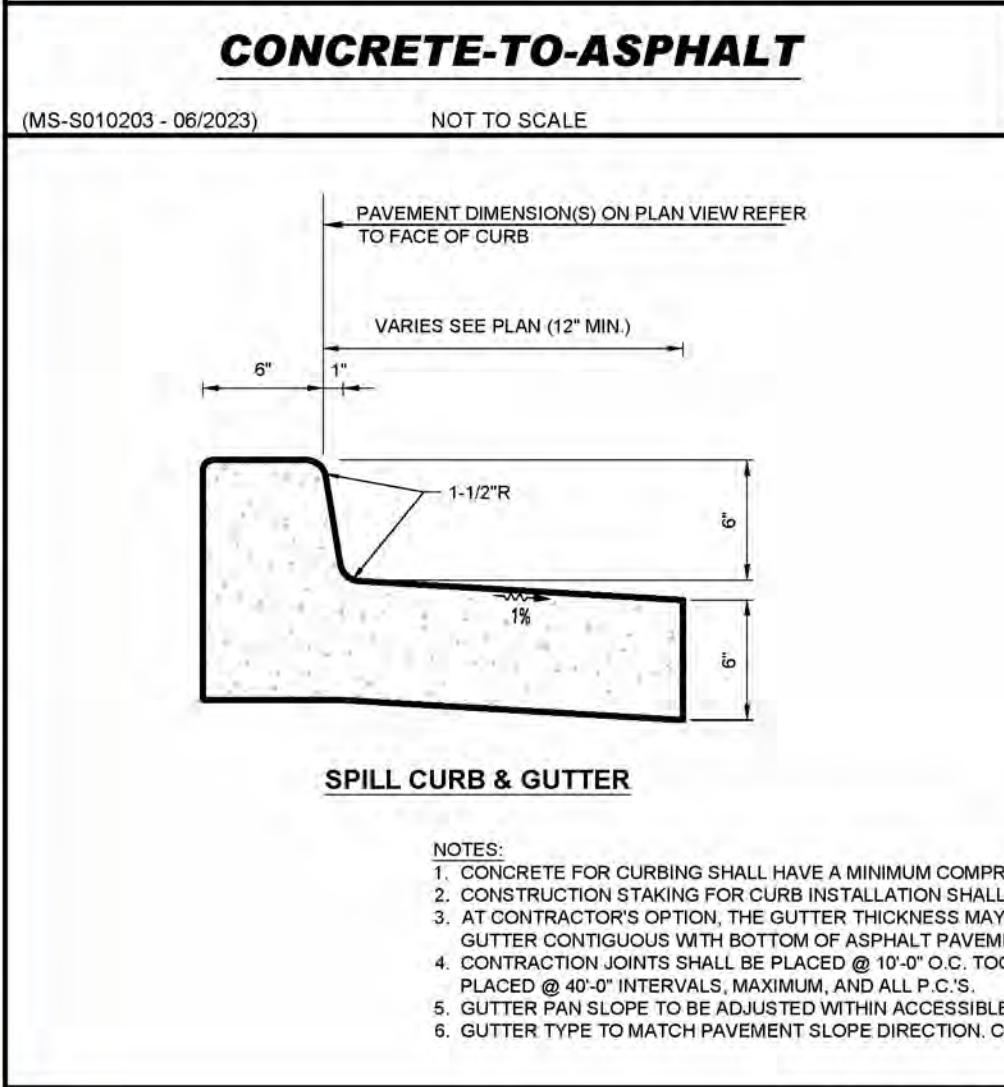
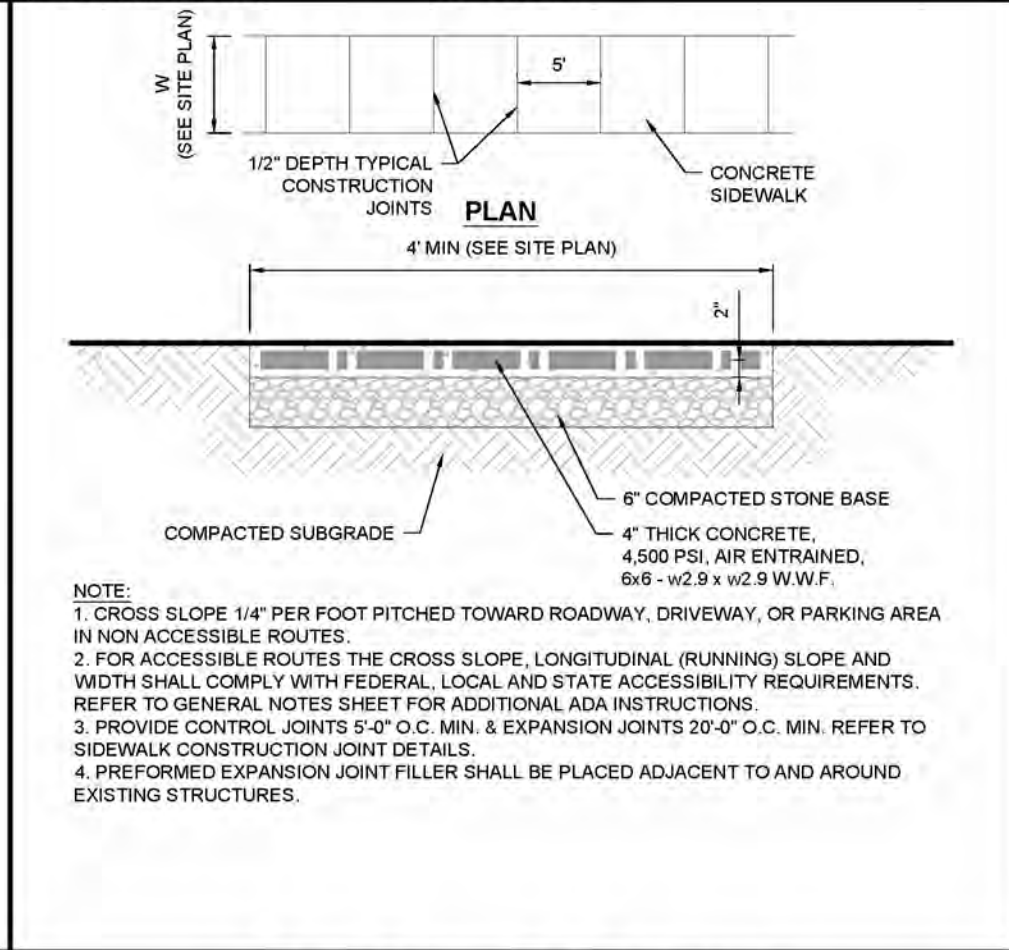
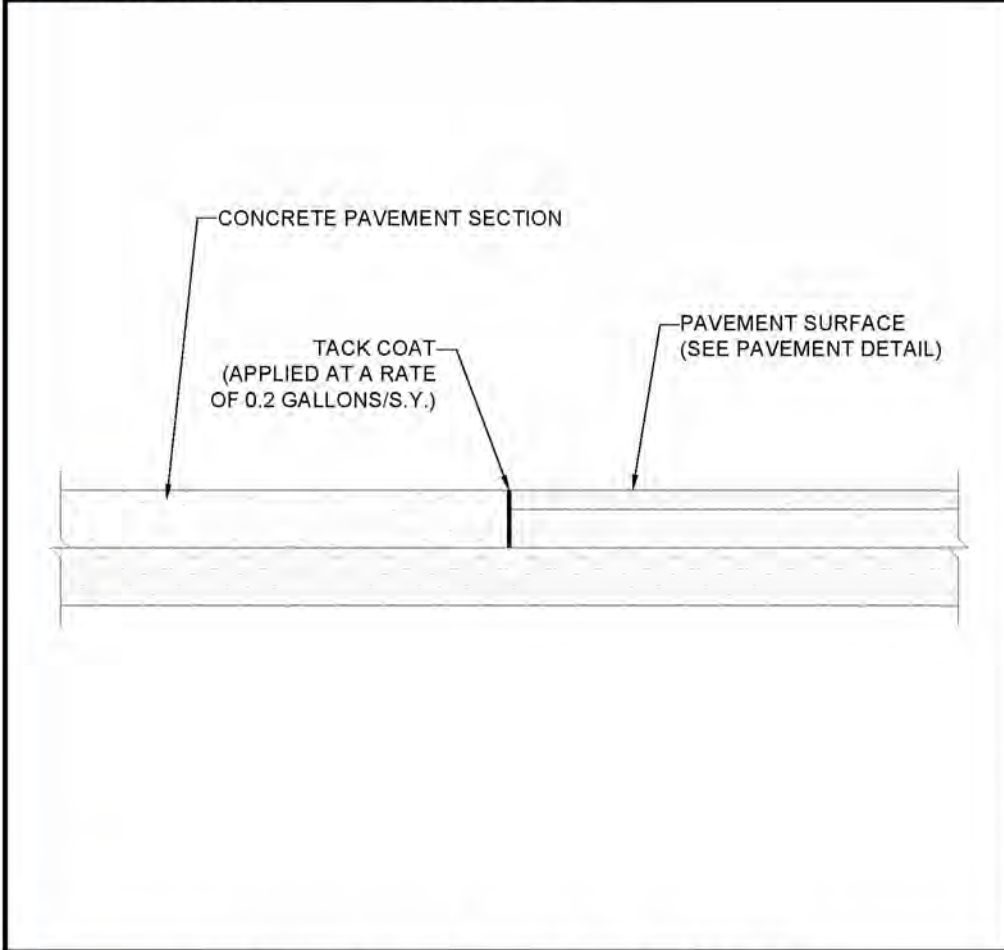
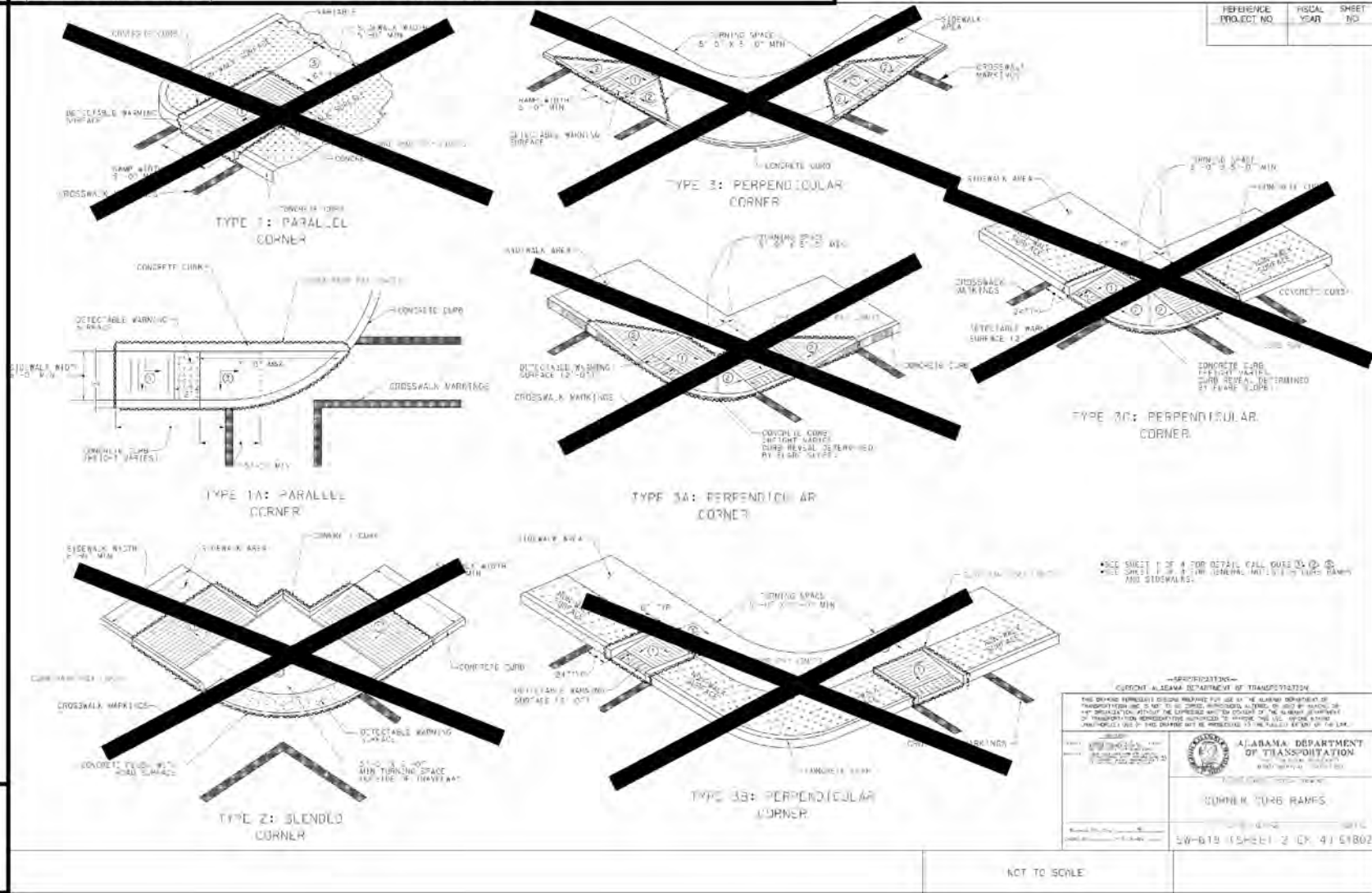
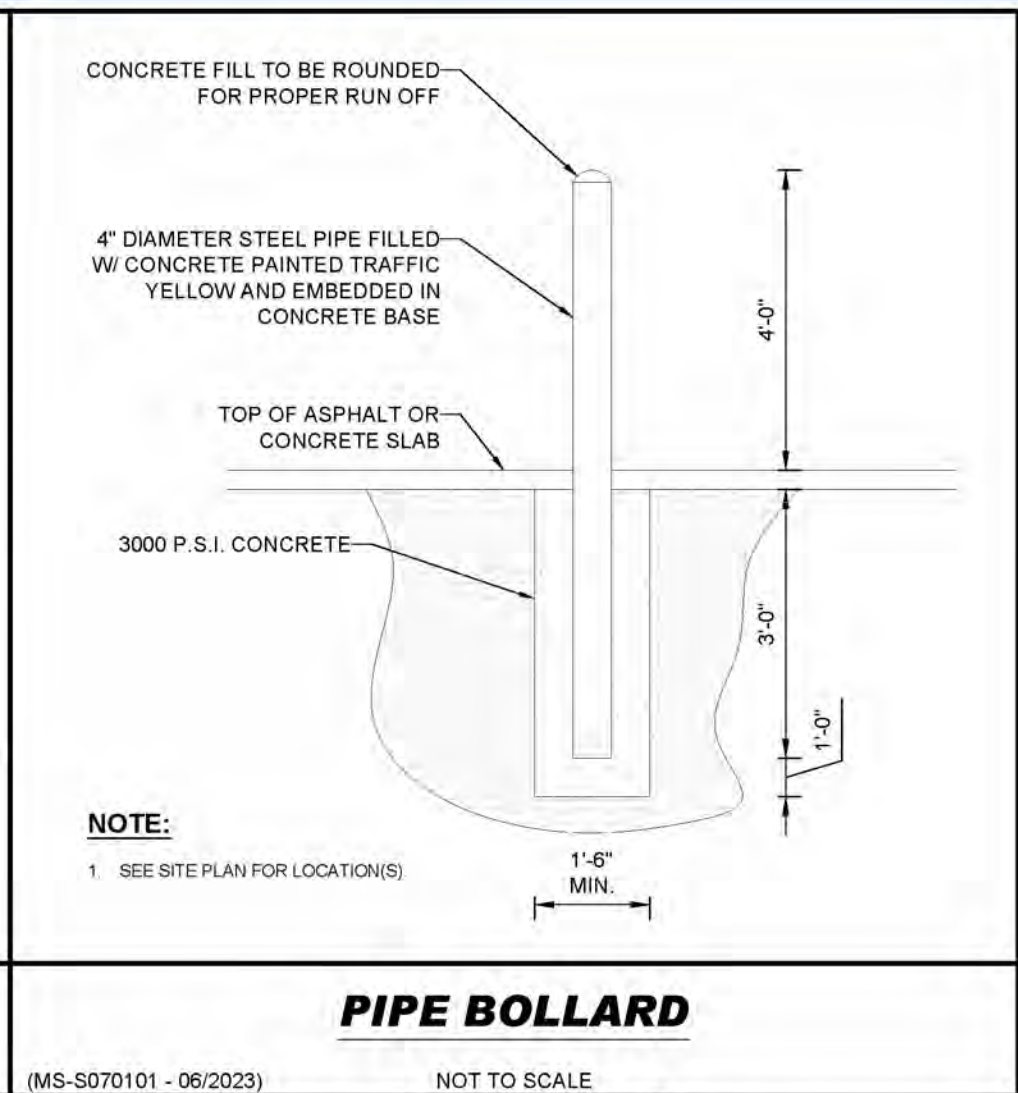
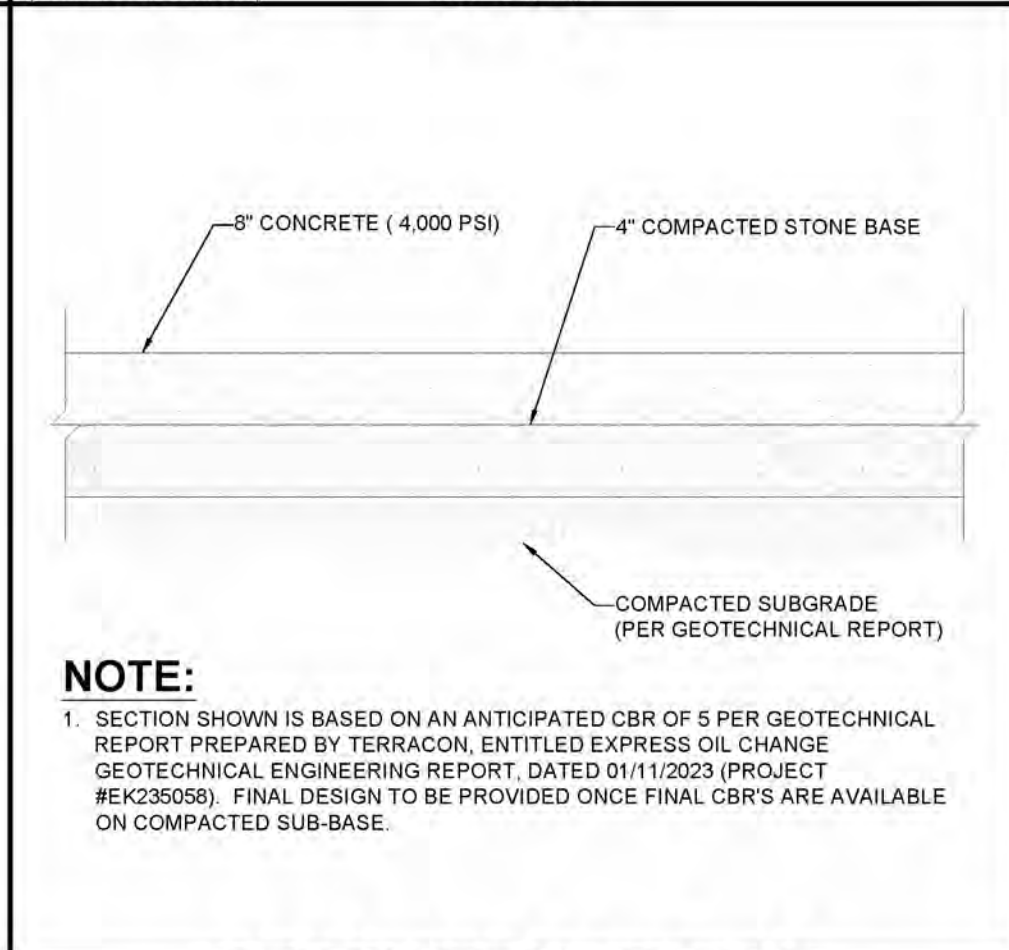
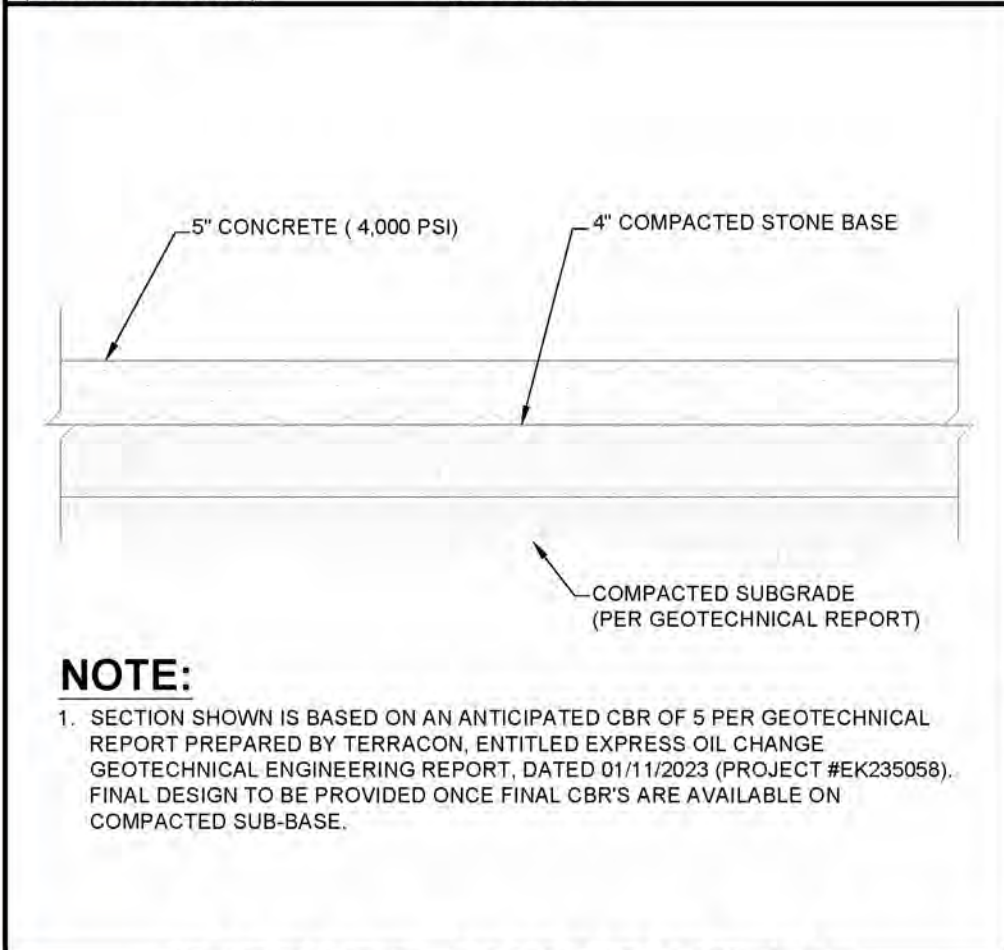
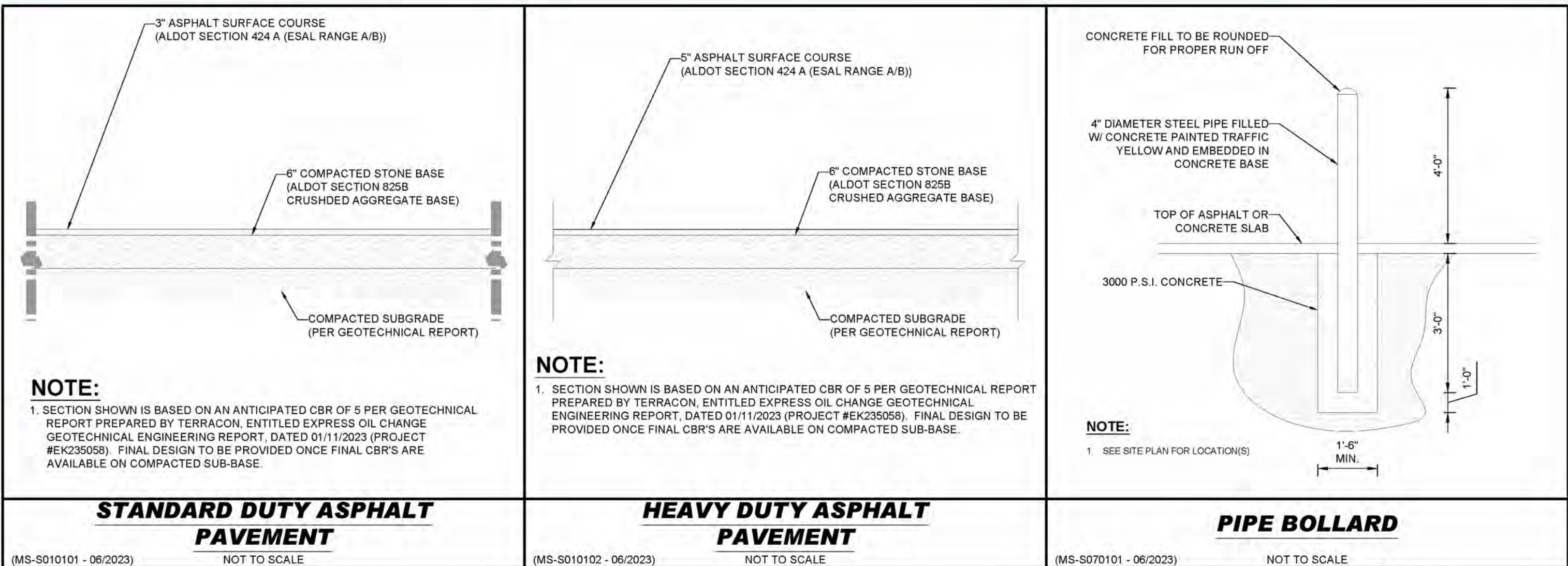
209 10TH AVENUE S, SUITE 534  
NASHVILLE, TN 37203  
Phone: (629) 235-4040  
www.BohlerEngineering.com

SHEET TITLE:  
SITE PLAN

SHEET NUMBER:  
C-301

REVISION 1 - 09/09/2024





REVISIONS				
REV	DATE	COMMENT	DRAWN BY	
1	09/09/2024	PER CITY/UTILITY PROVIDER COMMENTS	JDA	BS/KE

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Call before you dig.  
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**ISSUED FOR MUNICIPAL & AGENCY REVIEW & APPROVAL**

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PROJECT No.: TNA230034.00-0A  
DRAWN BY: JDA  
CHECKED BY: KE/MT  
DATE: 12/31/1999  
CAD I.D.: P-CIVIL-CNDS

PROJECT:

**PROP. CIVIL SITE PLAN**

FOR



EXPRESS OIL CHANGE  
21270 MIFLIN RD.  
COUNTY BALDWIN  
FOLEY, AL  
PARCEL I.D.: 05-61-02-10-0-000-002.002

**BOHLER**  
209 10TH AVENUE S, SUITE 534  
NASHVILLE, TN 37203  
Phone: (629) 235-4040  
www.BohlerEngineering.com

SHEET TITLE:

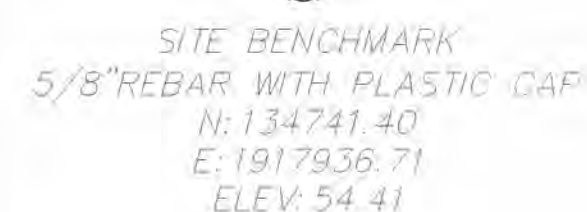
**SITE DETAILS**

SHEET NUMBER:

**C-302**

REVISION 1 - 09/09/2024





(120' RIGHT OF WAY)  
PUBLICLY DEDICATED

<b>LAND DISTURBANCE</b>		
<b>ITEM</b>	<b>ACRES</b>	<b>SQUARE FEET</b>
TOTAL PARCEL AREA	1.015	44,200
ON-SITE DISTURBED AREA	1.015	44,200
OFF-SITE DISTURBED AREA	0.20	8,712
TOTAL DISTURBED AREA	1.22	53,142
EXISTING IMPERVIOUS AREA	0.00	0.00
PROPOSED IMPERVIOUS AREA	0.67	28,986.07
TOTAL IMPERVIOUS AREA	0.67	28,986.07

### GENERAL GRADING PLAN NOTES

1. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
2. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
3. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3:1 V OR STEEPER. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
4. CONTRACTOR TO ADJUST ANY EXISTING STRUCTURES TO PROPOSED GRADE IN ANY AREA OF PROPOSED GRADING.

## REVISIONS

[illegible]

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PROJECT No.:	TNA230034.00-
DRAWN BY:	JL
CHECKED BY:	KE/
DATE:	12/31/19
CAD I.D.:	P-CIVL-SI

PROJECT:

**PROP.  
CIVIL SITE PLAN**

— FOR —



**EXPRESS OIL CHANGE**

21270 MIFLIN RD.  
COUNTY BALDWIN  
FOLEY, AL  
PARCEL I.D.: 05-61-02-10-0-000-002.002

BOHLER //

**209 10TH AVENUE S, SUITE 534  
NASHVILLE, TN 37203  
Phone: (629) 235-4040**

**[www.BohlerEngineering.com](http://www.BohlerEngineering.com)**

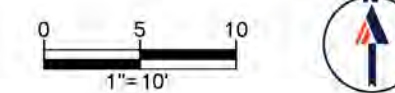
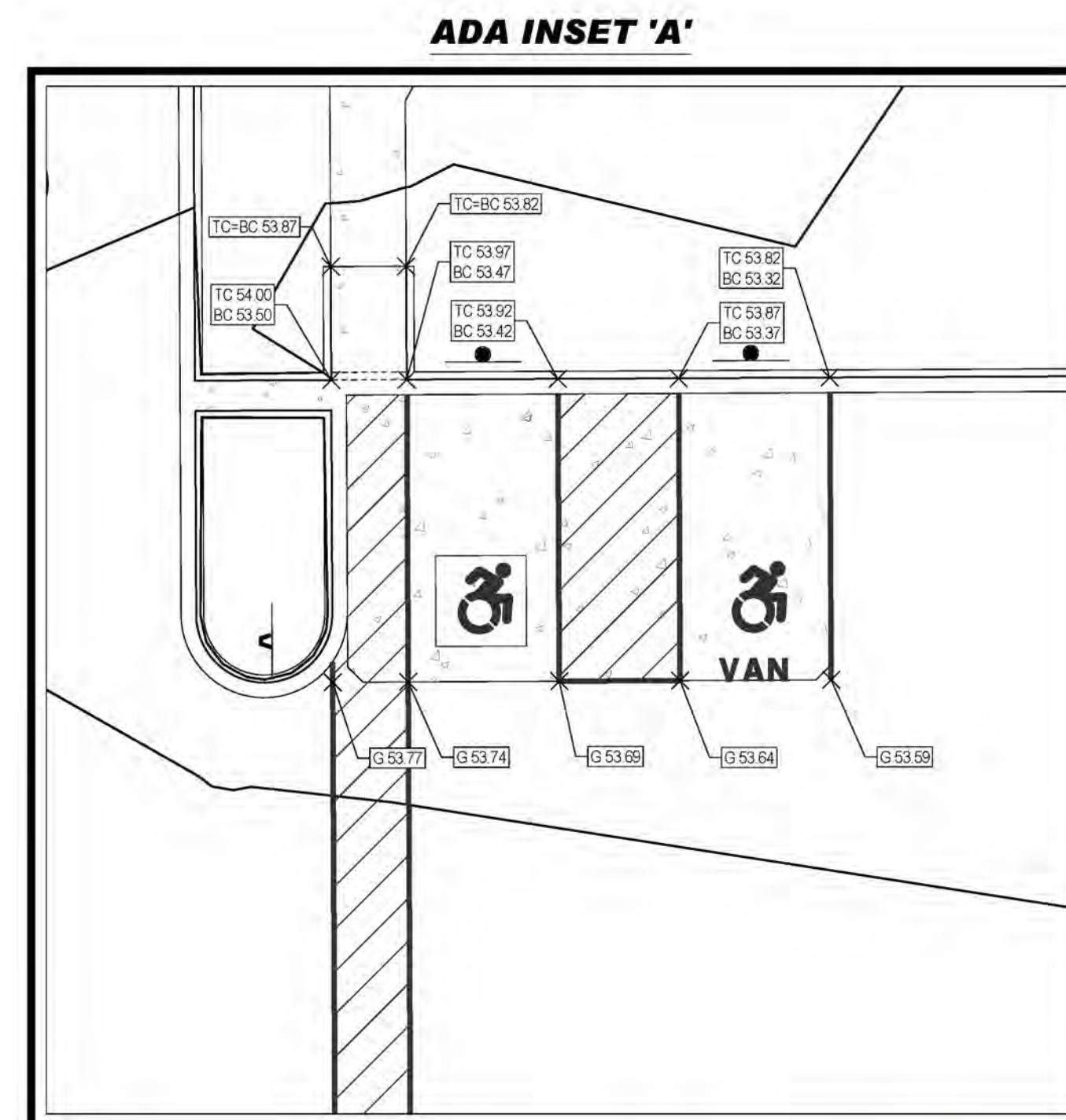
SHEET TITLE:

## GRADING PLAN

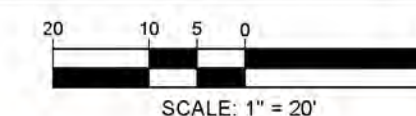
SHEET NUMBER:

**C-401**

REVISION 1 - 09/09/2024



**THIS PLAN TO BE UTILIZED FOR SITE  
GRADING PURPOSES ONLY**







SITE BOUNDARY  
SHOWN WITH NAD83  
SPR 14-24 P.01  
515.5544

# MIFLIN ROAD

(120' RIGHT OF WAY)  
PUBLICLY DEDICATED

## LAND DISTURBANCE

ITEM	ACRES	SQUARE FEET
TOTAL PARCEL AREA	1.015	44,200
ON-SITE DISTURBED AREA	1.015	44,200
OFF-SITE DISTURBED AREA	0.20	8,712
TOTAL DISTURBED AREA	1.22	53,143.2
EXISTING IMPERVIOUS AREA	0.00	0.00
PROPOSED IMPERVIOUS AREA	0.67	28,986.07
TOTAL IMPERVIOUS AREA	0.67	28,986.07

## STORM STRUCTURE SCHEDULE

STRUCTURE #	TYPE	RIM	INV IN	INV OUT
A-10 IN	OUTLET CONTROL STRUCTURE	53.12	INV IN = 49.35' (15')	
A-10 OUT	OUTLET CONTROL STRUCTURE	53.07		INV OUT = 49.25' (15')
A-20 IN	UNDERGROUND DETENTION INLET	N/A	INV IN = 49.63' (24')	
A-20 OUT	UNDERGROUND DETENTION OUTLET	N/A		INV OUT = 49.44' (15')
A-30	OLDCASTLE WQU	53.71	INV IN = 49.77' (24')	INV OUT = 49.67' (24')
A-40	NYLOPLAST 30" DRAIN BASIN	53.13	INV IN = 50.08' (18')	INV OUT = 49.83' (24')
A-50	NYLOPLAST 30" DRAIN BASIN	54.27	INV IN = 50.85' (15')	INV OUT = 50.39' (18')
A-51	CLEANOUTS	55.05		INV OUT = 51.64' (15')
A-60	NYLOPLAST 18" DRAIN BASIN	54.74	INV IN = 51.04' (15')	INV OUT = 50.94' (15')
A-70	NYLOPLAST 3FT X 3FT ROAD AND HIGHWAY STRUCTURE	54.18		INV OUT = 51.68' (15')
B-10	CONCRETE FLARED END SECTION	N/A		INV OUT = 52.47' (14" x 23") 18" EQ.
B-20	CONCRETE FLARED END SECTION	N/A	INV IN = 51.97' (14" x 23") 18" EQ.	
EX. INLET	TIE-IN TO EXISTING STRUCTURE	50.69	INV IN = 49.17' (15')	

## STORM SEWER PIPE SCHEDULE

FROM	FROM INV	TO	TO INV	PIPE LENGTH	SLOPE (%)	DIAMETER (IN.)	MATERIAL
A-10 IN	49.35'	A-20 OUT	49.44'	4'	2.43%	15"	RCP
A-20 IN	49.63'	A-30	49.67'	6'	0.60%	24"	RCP
A-30	49.77'	A-40	49.83'	13'	0.50%	24"	HP Storm
A-40	50.08'	A-50	50.39'	60'	0.50%	18"	HDPE
A-50	50.85'	A-51	51.64'	144'	0.55%	15"	HDPE
A-50	50.49'	A-60	50.94'	92'	0.50%	15"	HDPE
A-60	51.04'	A-70	51.68'	128'	0.50%	15"	HP Storm
B-20	51.97'	B-10	52.47'	101'	0.50%	(14" x 23") 18" EQ.	RCP
EX. INLET	49.17'	A-10 OUT	49.25'	14'	0.59%	15"	RCP

## GENERAL DRAINAGE PLAN NOTES

- CONTRACTOR TO FIELD VERIFY THE INVERTS OF THE OPENINGS INTO THE EXISTING JUNCTION BOX AT THE NORTH EAST CORNER OF THE PROPERTY BEFORE ANY CONSTRUCTION ACTIVITIES MAY BEGIN.
- ROOF DRAINS TO BE PIPED USING 8" PVC PIPING AND HAVE A MINIMUM OF 1 FOOT OF COVER WHILE RUNNING AT A MINIMUM 1% SLOPE.



## REVISIONS

REV	DATE	COMMENT	BY
1	09/09/2024	PER CITY/UTILITY PROVIDER COMMENTS	JDA



## ISSUED FOR MUNICIPAL & AGENCY REVIEW & APPROVAL

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PROJECT No.: TNA230034-00-0A  
DRAWN BY: JDA  
CHECKED BY: KE/MT  
DATE: 12/31/1999  
CAD I.D.: P-CIVL-SITE

PROJECT:

## PROP. CIVIL SITE PLAN

FOR



EXPRESS OIL CHANGE

21270 MIFLIN RD.  
COUNTY BALDWIN  
FOLEY, AL  
PARCEL I.D.: 05-61-02-10-0-000-002.002



209 10TH AVENUE S, SUITE 534  
NASHVILLE, TN 37203  
Phone: (629) 235-4040

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SHEET TITLE:

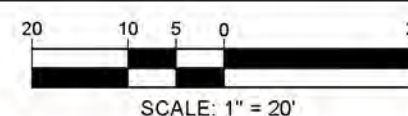
## DRAINAGE PLAN

SHEET NUMBER:



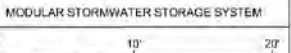
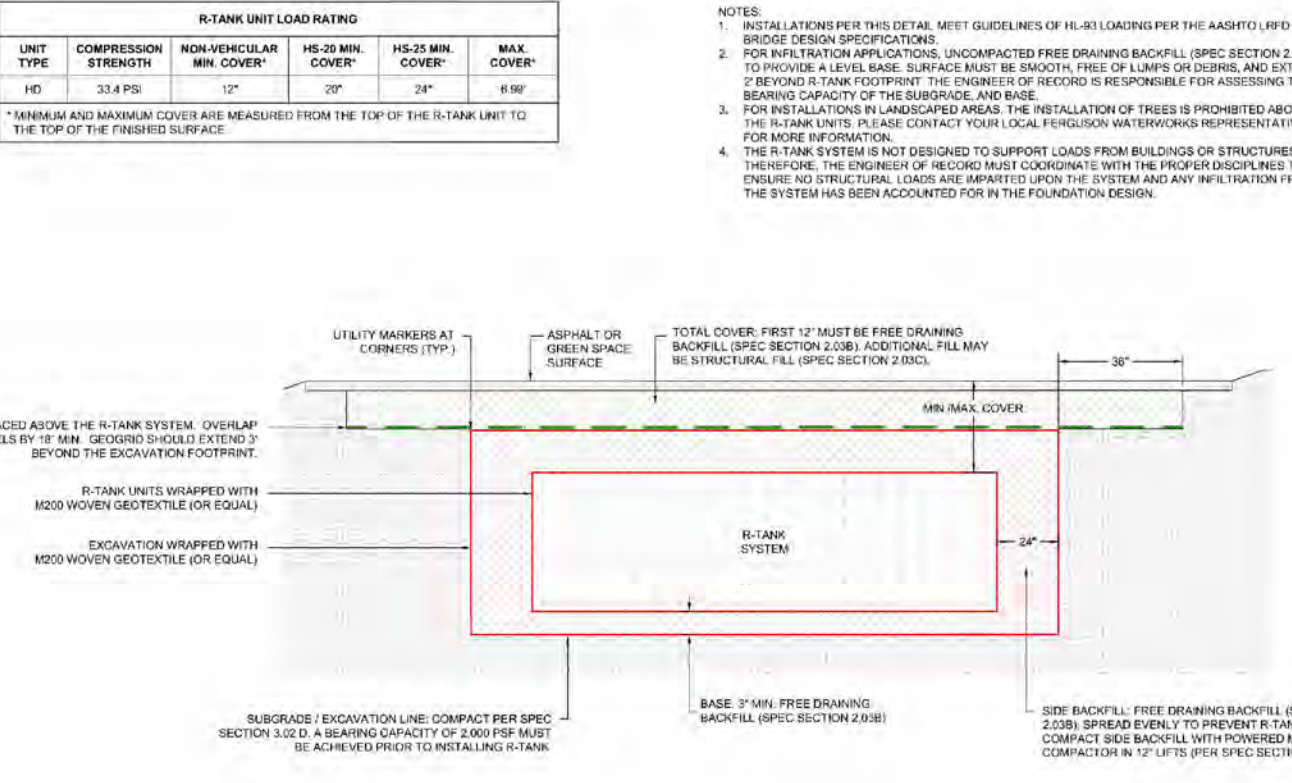
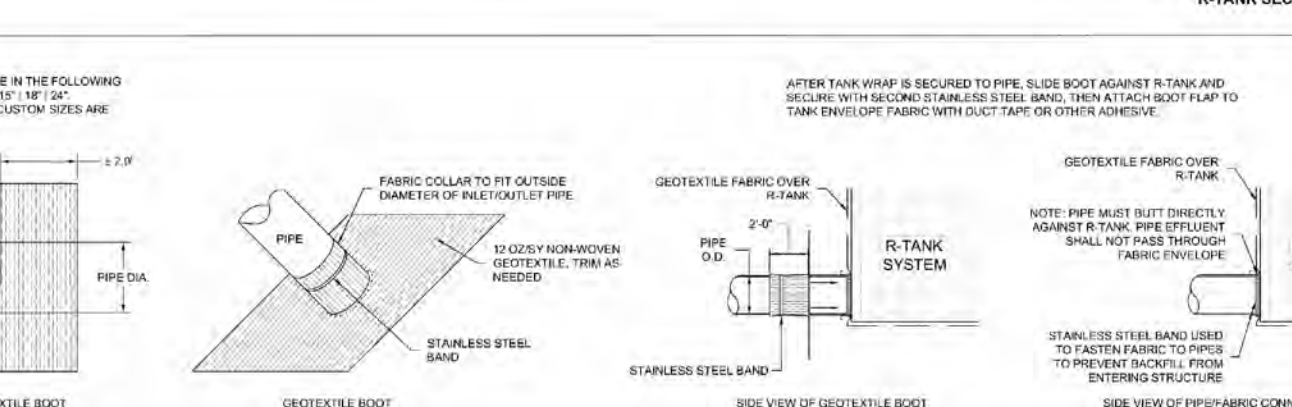
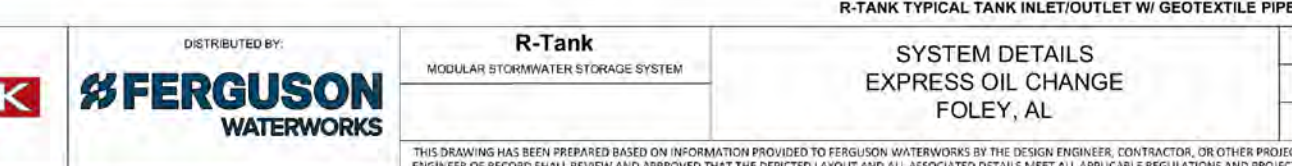
C-402

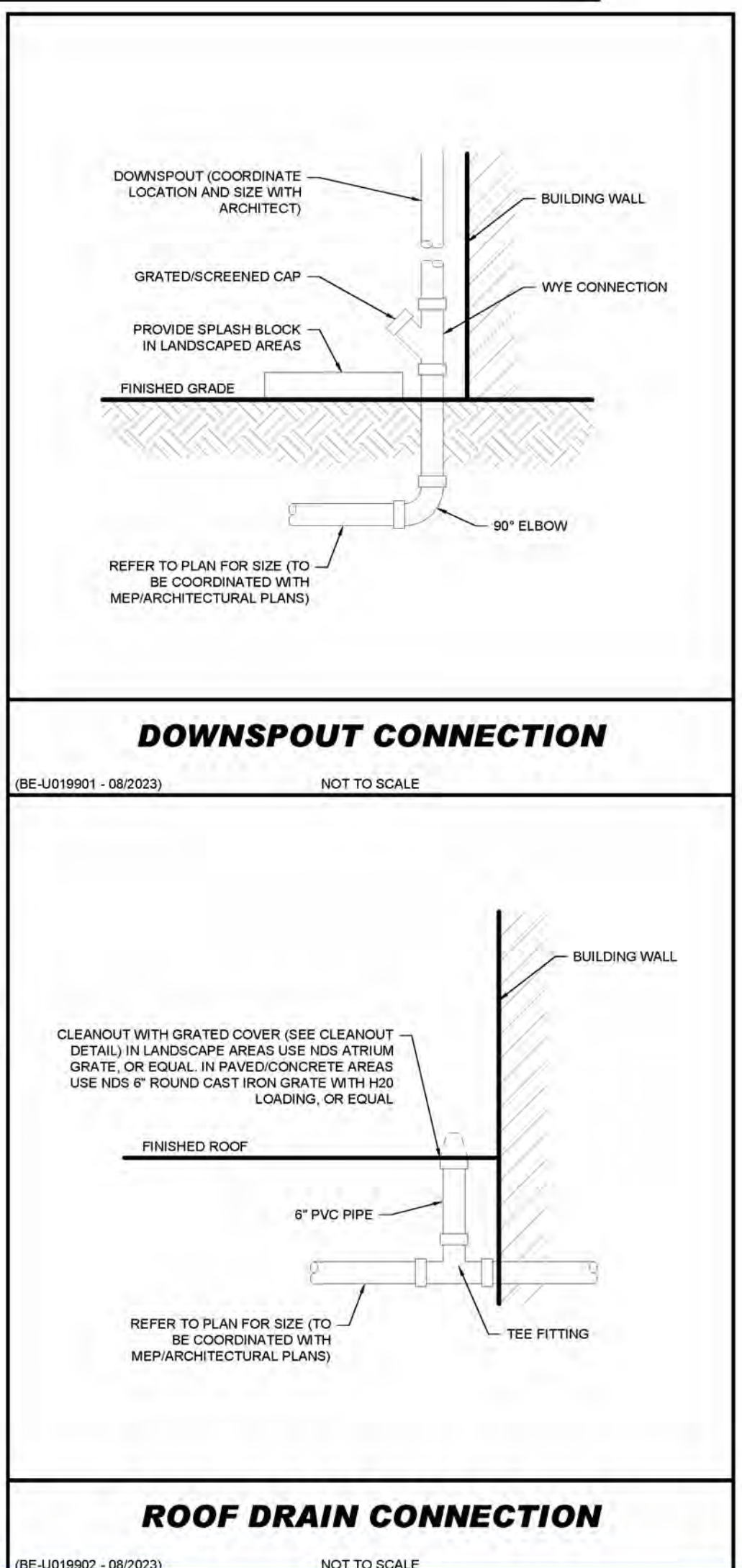
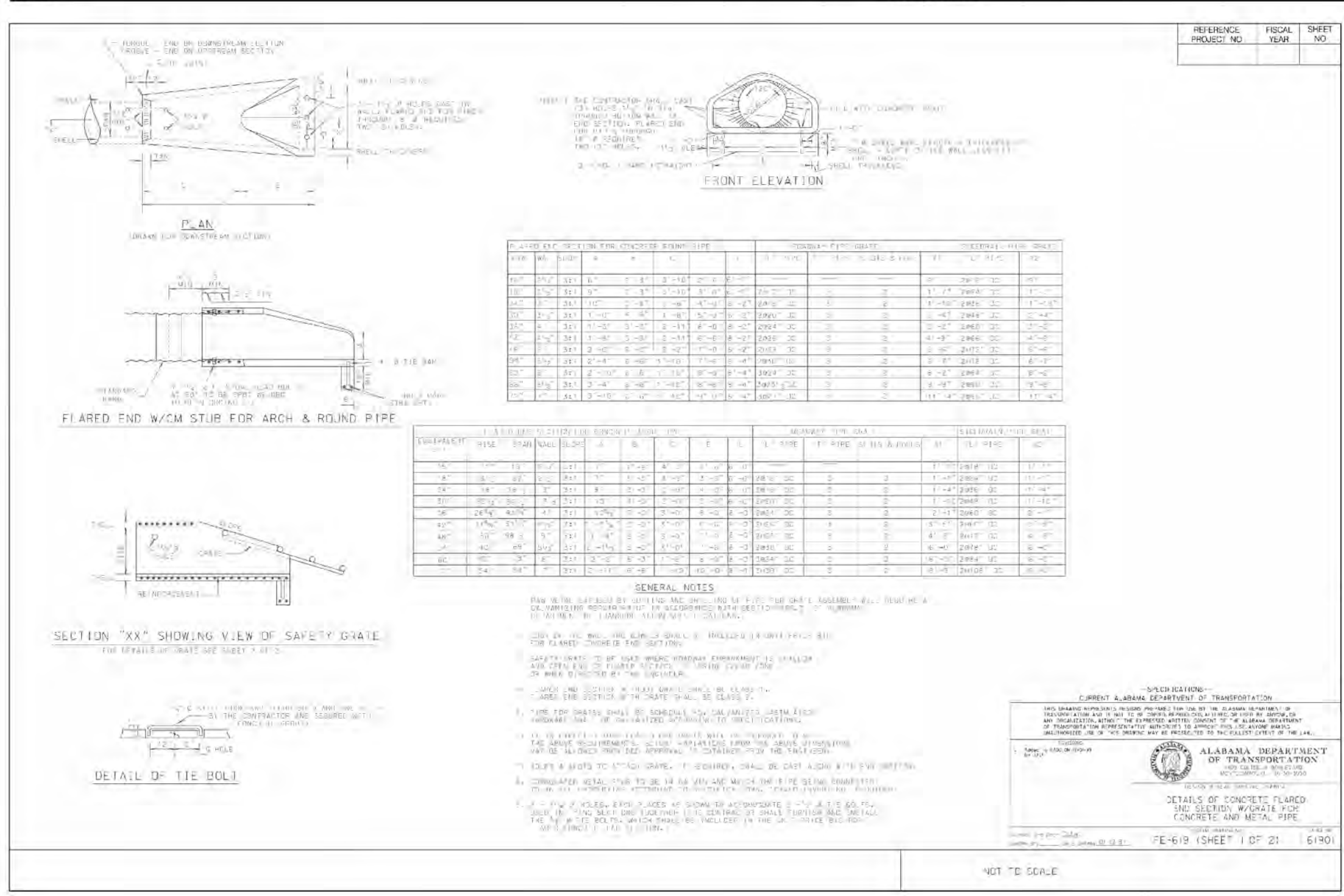
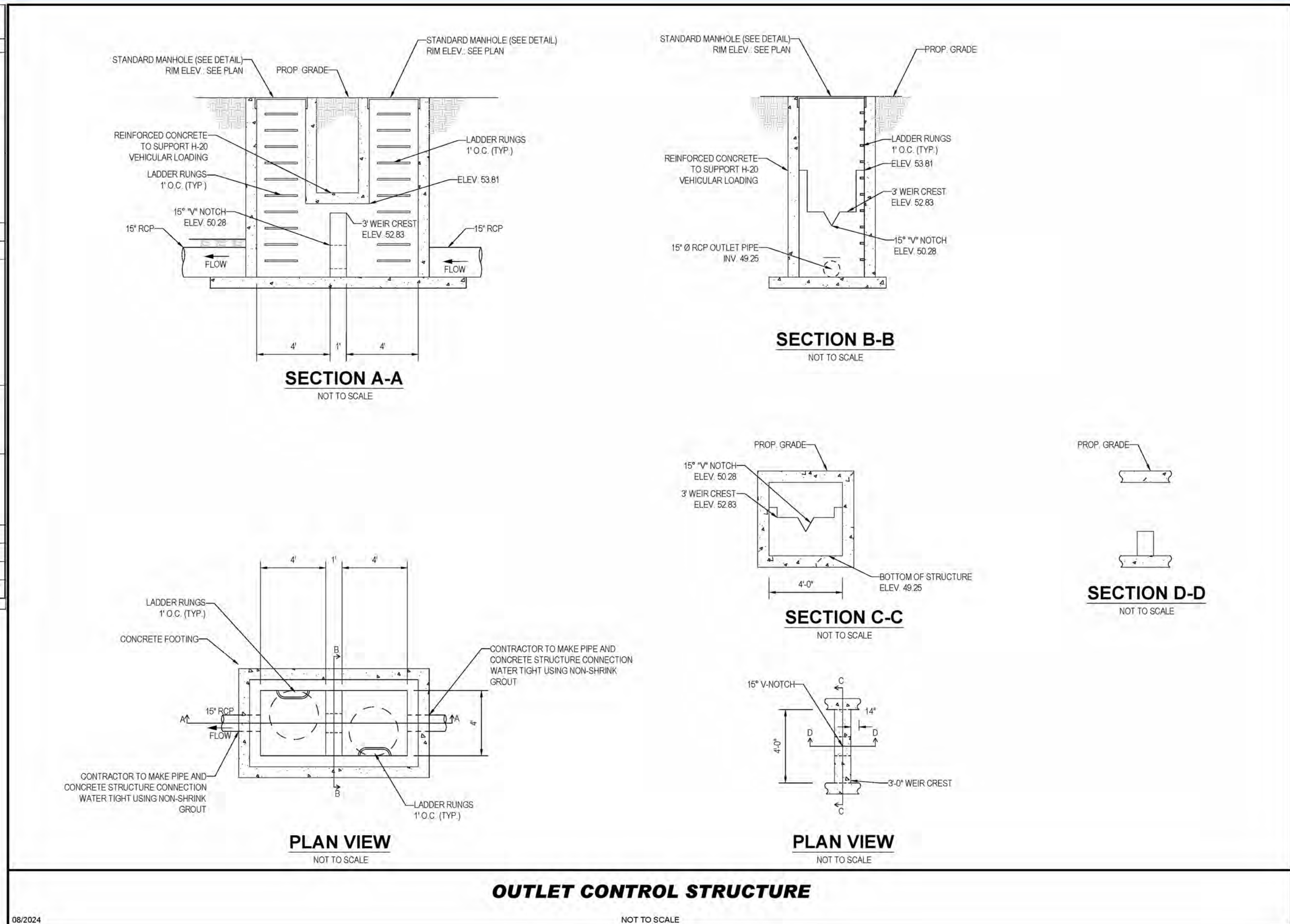
REVISION 1 - 09/09/2024

THIS PLAN TO BE UTILIZED FOR  
GRADING, DRAINAGE AND UTILITIES  
PURPOSES ONLY

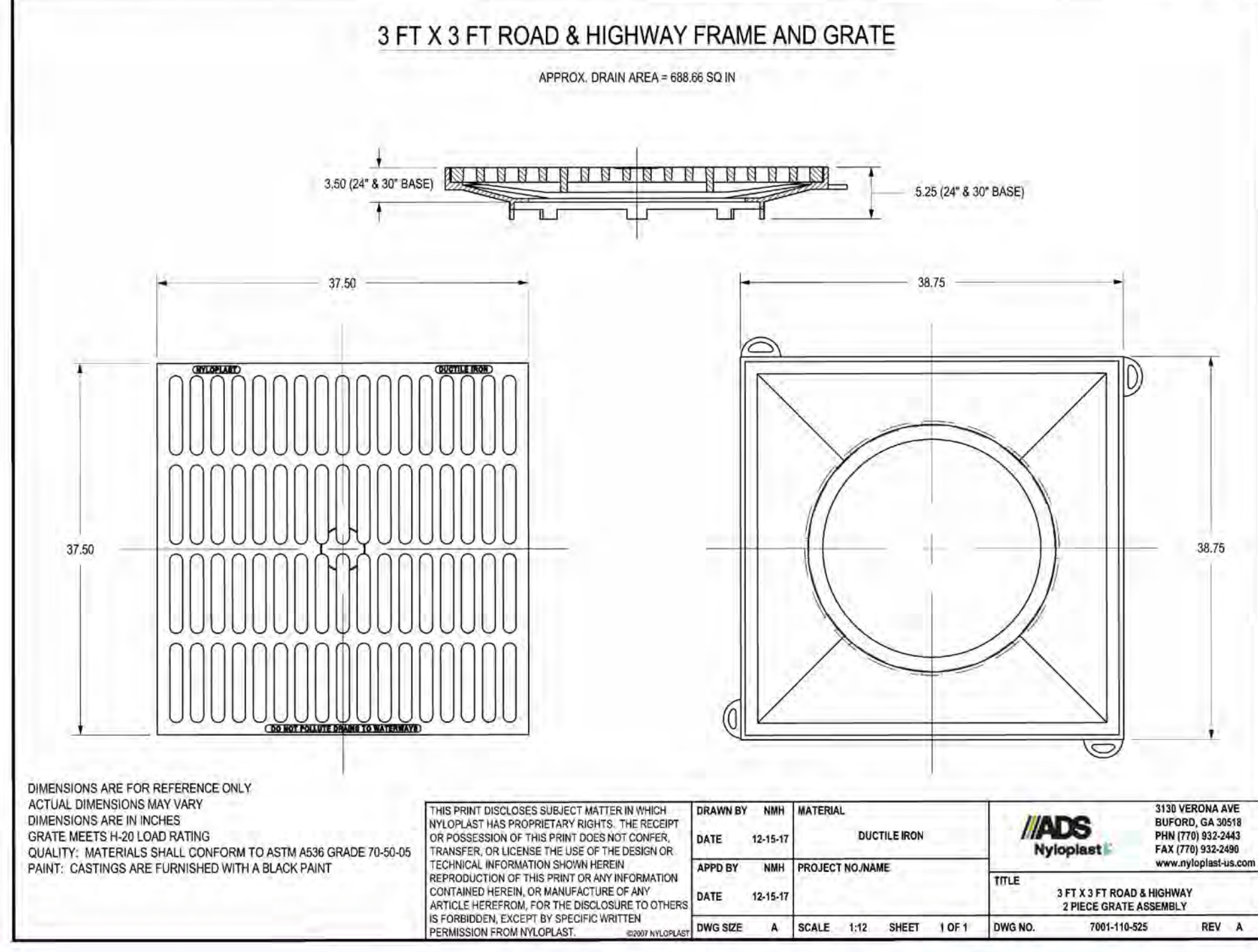
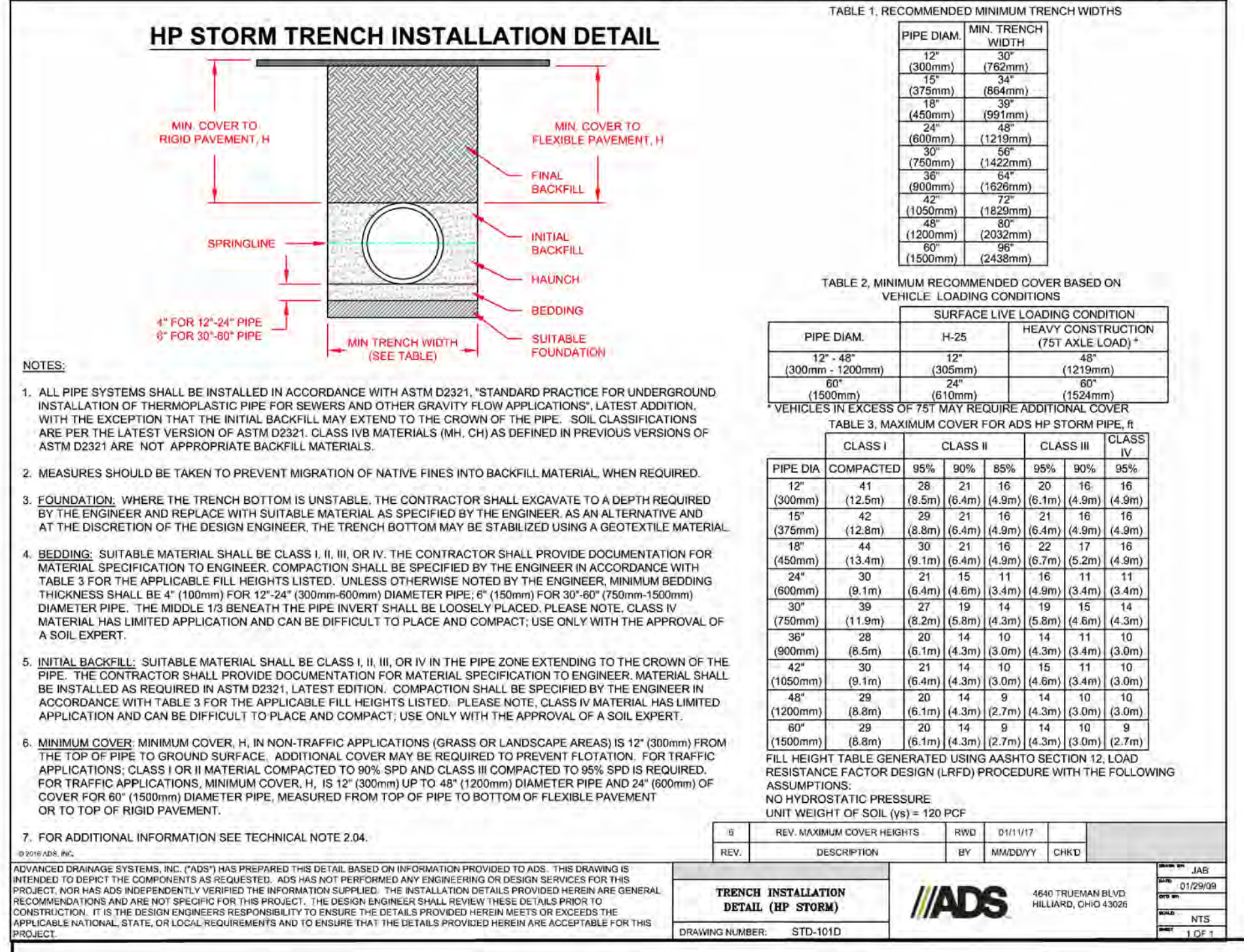
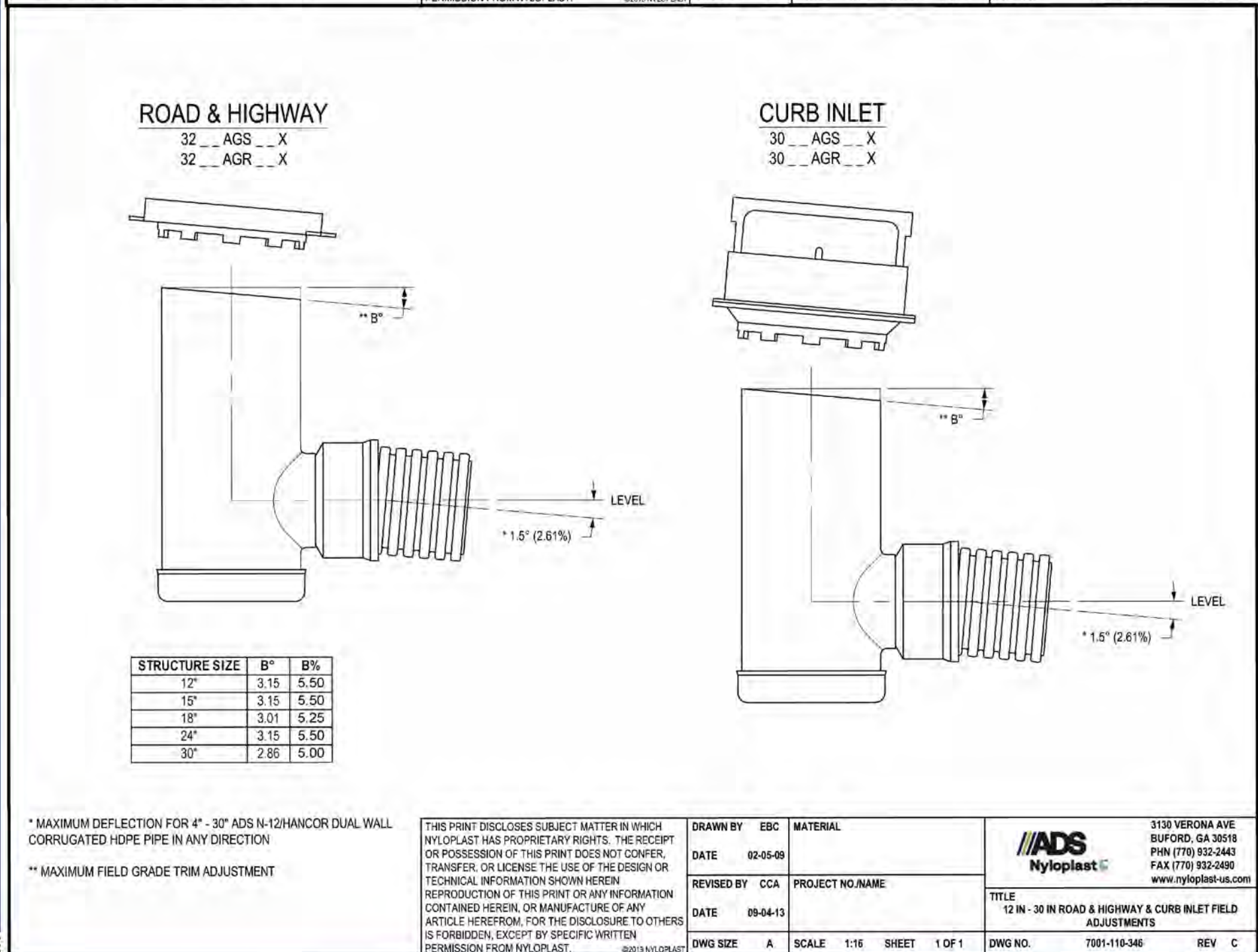




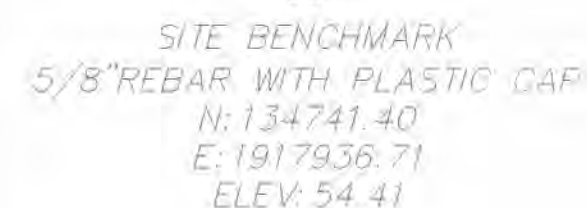
DATE	ISSUES	DESCRIPTIONS	PREPARED BY:	R-Tank	SYSTEM LAYOUT EXPRESS OIL CHANGE FOLEY, AL	DRAWN BY: JMR DATE REVISION SHEET NO. 2 of 3
						
				MODULAR STAMPEANER STORAGE SYSTEM 		
				THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO FERGUSON WATERWORKS BY THE SYSTEM ENGINEER, CONTRACTOR, OR OTHER PROJECT REPRESENTATIVE. THE ENGINEER OF RECORD SHALL REVIEW AND APPROVE THAT THE SYSTEM LAYOUT AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE REGULATIONS AND PROJECT SPECIFIC REQUIREMENTS.		
				NOTES: 1. MATERIALS FOR THESE SYSTEMS MUST MEET OR EXCEED THE FOLLOWING REQUIREMENTS: 2. FOR ALL SYSTEMS, ALL COMPONENTS, UNLOCATED, FREE DRAINING BACKFILL (SPEC. SECTION 2.0.2.2) TO PROVIDE A LEVEL BASE. BACKFILL MUST BE SMOOTH, FREE OF LUMPS OR CORNERS, AND EXCEED 2 INCHES OF TANK COVERING. THE ENGINEER OF RECORD IS RESPONSIBLE FOR ASSURING THE BACKFILL IS PLACED TO THE PROPER DEPTH. 3. FOR INSTALLATIONS IN UNLOCATED AREAS, THE INSTALLATION OF TREES IS PROHIBITED ABOVE THE TANK SYSTEM. PLANTS LOCATED NEAR THE TANKS MUST BE MAINTAINED AT A MINIMUM OF 10 FEET FROM THE TANK SYSTEM. 4. FOR MORE INFORMATION: 5. THE R-TANK SYSTEM IS NOT DESIGNED TO SUPPORT LOADS FROM BUILDINGS OR STRUCTURES. THE TANK SYSTEM IS NOT DESIGNED TO SUPPORT LOADS FROM THE PROCEEDING STRUCTURE. THERE ARE NO STRUCTURAL LOADS ARE APPLIED UPON THE SYSTEM AND ANY INFILTRATION FROM THE SYSTEM HAS BEEN ACCOUNTED FOR IN THE FOUNDATION DESIGN.		
						
				DOUBLE R-TANK® - MODULE DETAIL 		
				R-TANK SECTION VIEW 		
				R-Tank MODULAR STAMPEANER STORAGE SYSTEM SYSTEM DETAILS EXPRESS OIL CHANGE FOLEY, AL THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO FERGUSON WATERWORKS BY THE SYSTEM ENGINEER, CONTRACTOR, OR OTHER PROJECT REPRESENTATIVE. THE ENGINEER OF RECORD SHALL REVIEW AND APPROVE THAT THE SYSTEM LAYOUT AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE REGULATIONS AND PROJECT SPECIFIC REQUIREMENTS.		

[illegible]



[illegible]





(120' RIGHT OF WAY)  
PUBLICLY DEDICATED



1. SANITARY SEWER MAINS SHALL NOT BE INSTALLED UNDER OR WITHIN 10 FEET HORIZONTALLY OF ANY WATER IMPOUNDMENTS, INCLUDING ORNAMENTAL WATER FEATURES, RETENTION PONDS, OR FOUNTAINS.
2. THE MINIMUM COVER FROM THE TOP OF THE PIPE OF ALL SANITARY SEWER MAINS SHALL BE FOUR (4) FEET TO FINISHED SUBGRADE UNDER ROADWAYS AND THREE (3) FEET TO FINISHED GRADES ELSEWHERE. COVER OF MAINS TO LESS THAN MINIMUM DEPTHS SHALL REQUIRE WRITTEN APPROVAL BY RIVERA UTILITIES.
3. SANITARY SEWER MAINS SHALL HAVE A MINIMUM VERTICAL SEPARATION OF TWELVE (12) INCHES BETWEEN STORM SEWER PIPES WHEN THE HORIZONTAL SEPARATION IS THREE (3) FEET OR LESS. WHERE SANITARY AND STORM SEWERS CROSS WITH A VERTICAL SEPARATION OF LESS THAN EIGHTEEN (18) INCHES, A MINIMUM OF ONE (1) FULL CIRCUMFERENCE OF DUCTILE IRON PIPE SHALL BE CENTERED AT THE CROSSING AND BACKFILLED WITH 3000 PSI CONCRETE OR EXCAVATABLE FLOWABLE FILL THAT MEETS OR EXCEEDS ALDOT REQUIREMENTS.
4. SANITARY SEWER MAINS SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF TEN (10) FEET FROM ALL WATER MAINS, UNLESS THE SANITARY MAIN IS MORE THAN EIGHTEEN (18) INCHES BELOW THE BOTTOM OF THE WATER MAIN AND THERE IS HORIZONTAL SEPARATION OF AT LEAST 36 INCHES FROM THE CLOSEST PIPE JOINTS.
5. WHERE SANITARY SEWER MAINS CROSS BENEATH WATER MAINS WITH VERTICAL SEPARATION OF EIGHTEEN (18) INCHES OR LESS, OR WHERE WATER MAINS CROSS UNDER SANITARY SEWER MAINS, A MINIMUM OF ONE (1) FULL CIRCUMFERENCE OF DUCTILE IRON PIPE SHALL BE CENTERED AT THE CROSSING AND THE ANNUAL SPACE BETWEEN THE CROSSING SHALL BE BACKFILLED WITH AN EXCAVATABLE FLOWABLE FILL THAT MEETS OR EXCEEDS ALDOT REQUIREMENTS. THE WATER MAIN SHALL BE CENTERED AT THE POINT OF CROSSING, WHICH SHALL BE AT AN APPROXIMATE 90 DEGREE ANGLE.
6. CONTRACTOR SHALL NOTIFY THE CITY OF RIVERA WATER MAINS AND NOTIFY THE ENGINEER BEFORE COMMENCING ANY CONSTRUCTION ACTIVITIES.
7. CONTRACTOR SHALL PERFORM THE TAP FOR THE FIRE SERVICE AND PROVIDE A SAFE WORKING HOLE AND JOBSITE FOR RIVERA UTILITIES PERSONNEL TO PERFORM THEIR TAPS.
8. RIVERA UTILITIES SHALL PERFORM THE TAP FOR THE IRRIGATION AND DOMESTIC SERVICES.

<h2 style="text-align: center; margin: 0;">SANITARY PIPE SCHEDULE</h2>							
FROM	FROM INV	TO	TO INV	PIPE LENGTH	SLOPE (%)	DIAMETER (IN.)	MATERIAL
A-30	48.00'	A-20	49.87'	56.51'	N/A	3"	PVC Pipe
A-10	49.87'	CO-2	50.19'	32'	1.00%	6"	SDR-26
CO-2	50.19'	CO-1	50.63'	44'	1.00%	6"	SDR-26
EX. SAN CO	52.03'	MH-1	50.00'	664.20'	N/A	3"	PVC Pipe

[illegible]

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DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.: TNA230034-00-  
DRAWN BY: JI  
CHECKED BY: KE/I  
DATE: 12/31/19  
CAD I.D.: P-CIVL-SI

PROJECT:

**PROP.  
CIVIL SITE PLAN**

**FOR**



**EXPRESS OIL CHANGE**

21270 MIFLIN RD.  
COUNTY BALDWIN  
FOLEY, AL  
PARCEL I.D.: 05-61-02-10-0-000-002.002



**209 10TH AVENUE S, SUITE 534  
NASHVILLE, TN 37203  
Phone: (629) 235-4040**

[www.BohlerEngineering.com](http://www.BohlerEngineering.com)

SHEET TITLE:

## UTILITY PLAN

SHEET NUMBER:

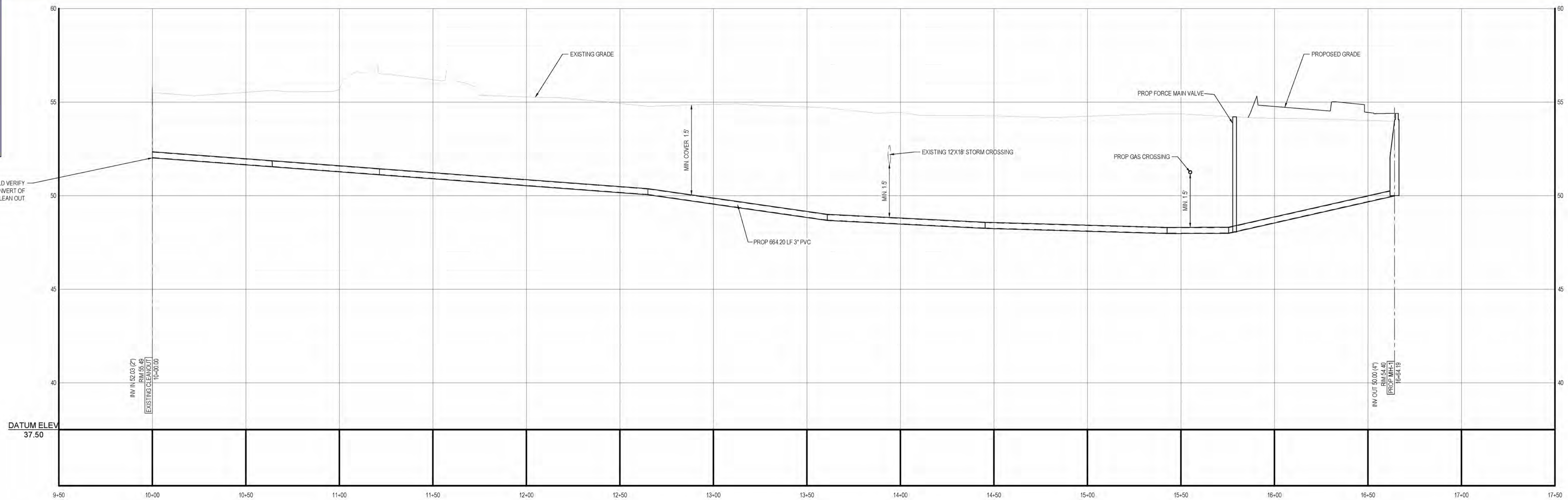
**C-501**

REVISION 1 - 09/09/2024





CONTRACTOR TO FIELD VERIFY  
THE LOCATION AND INVERT OF  
THE EXISTING CLEAN OUT



PROPOSED FORCE MAIN EXTENSION PROFILE

SCALE: 1" = 20' HORIZONTAL  
1" = 2' VERTICAL

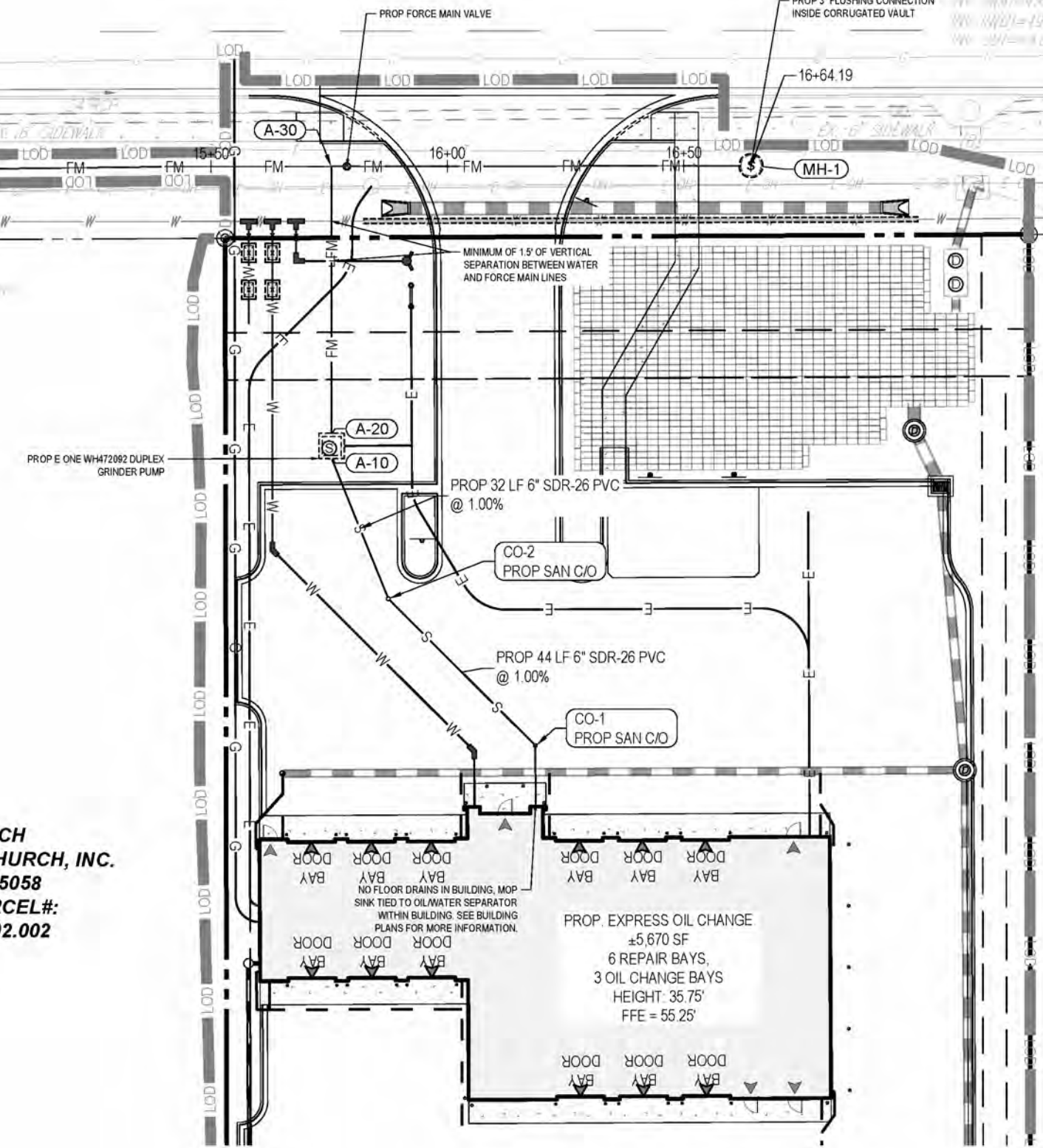
**MIFLIN ROAD**  
(120' RIGHT OF WAY)  
PUBLICLY DEDICATED

CONTRACTOR TO COORDINATE  
ANY CONSTRUCTION ACTIVITIES  
RELATED TO THE FORCE MAIN  
EXTENSION AND TIME LINE WITH  
ADJACENT PROPERTY OWNER

N/F  
CITYHOPE CHURCH  
F/K/A BAY COMMUNITY CHURCH, INC.  
INSTRUMENT# 1585058  
REMAINDER OF PARCEL#:  
05-61-02-10-0-000-002.002

N/F  
CITYHOPE CHURCH  
F/K/A BAY COMMUNITY CHURCH, INC.  
INSTRUMENT# 1585058  
REMAINDER OF PARCEL#:  
05-61-02-10-0-000-002.002

**MIFLIN ROAD**  
(120' RIGHT OF WAY)  
PUBLICLY DEDICATED



THIS PLAN TO BE UTILIZED FOR  
UTILITIES PURPOSES ONLY

30 15 7.5 0 30  
SCALE: 1" = 30'

**BOHLER**  
SITE CIVIL AND CONSULTING ENGINEERING  
PROFESSIONAL ENGINEER  
PROFESSIONAL LANDSCAPE ARCHITECT  
PROFESSIONAL SUSTAINABLE DESIGN  
PROFESSIONAL PERMITTING SERVICES  
PROFESSIONAL TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	DRAWN BY
1	09/09/2024	PER CITY/UTILITY PROVIDER COMMENTS	JDA BS/KE



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PROJECT No.: TNA230034.00-0A  
DRAWN BY: JDA  
CHECKED BY: KE/MT  
DATE: 12/31/1999  
CAD ID: P-CIVIL-SITE

PROJECT:  
**PROP. CIVIL SITE PLAN**  
FOR



EXPRESS OIL CHANGE  
21270 MIFLIN RD.  
COUNTY BALDWIN  
FOLEY, AL  
PARCEL I.D.: 05-61-02-10-0-000-002.002

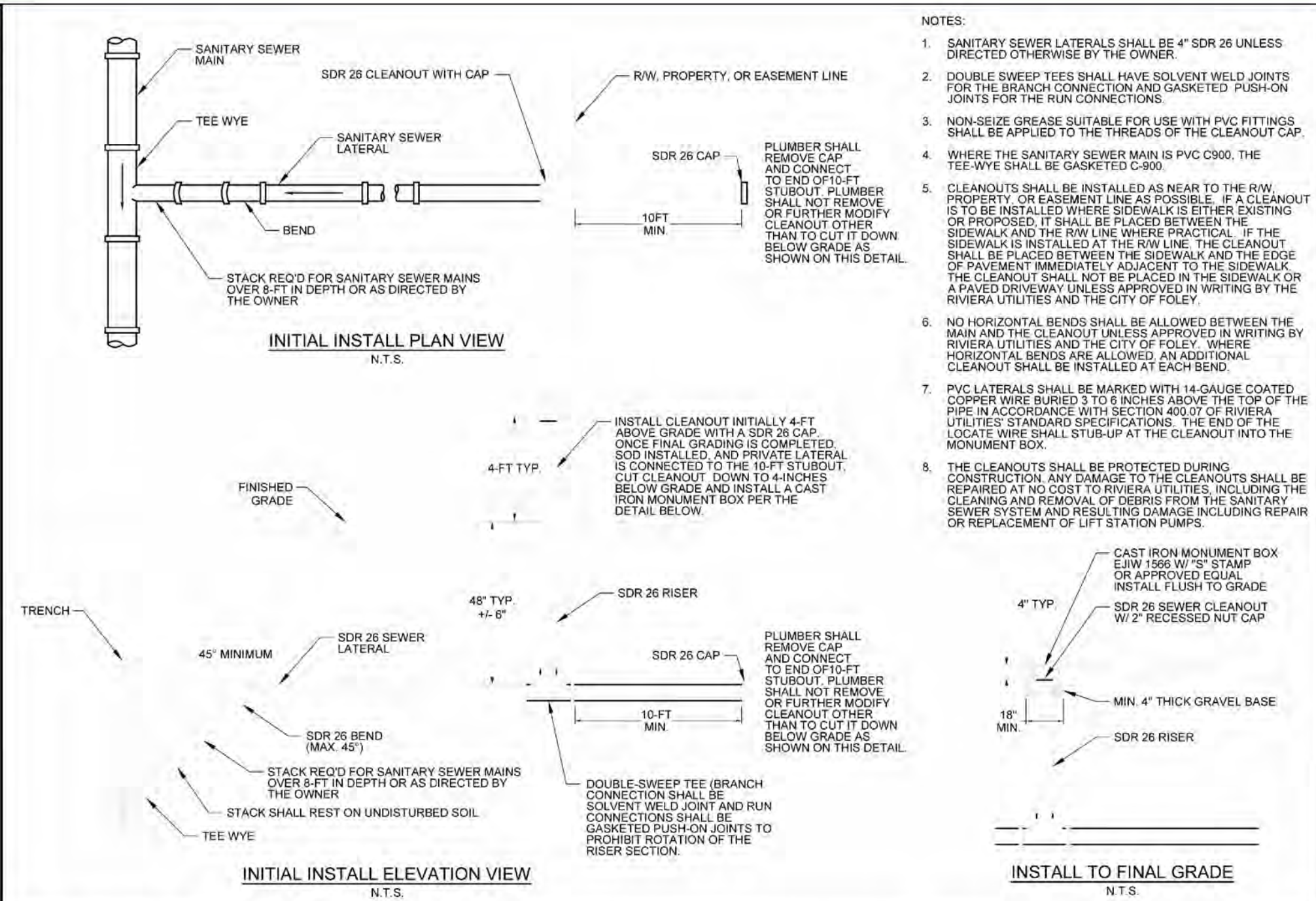
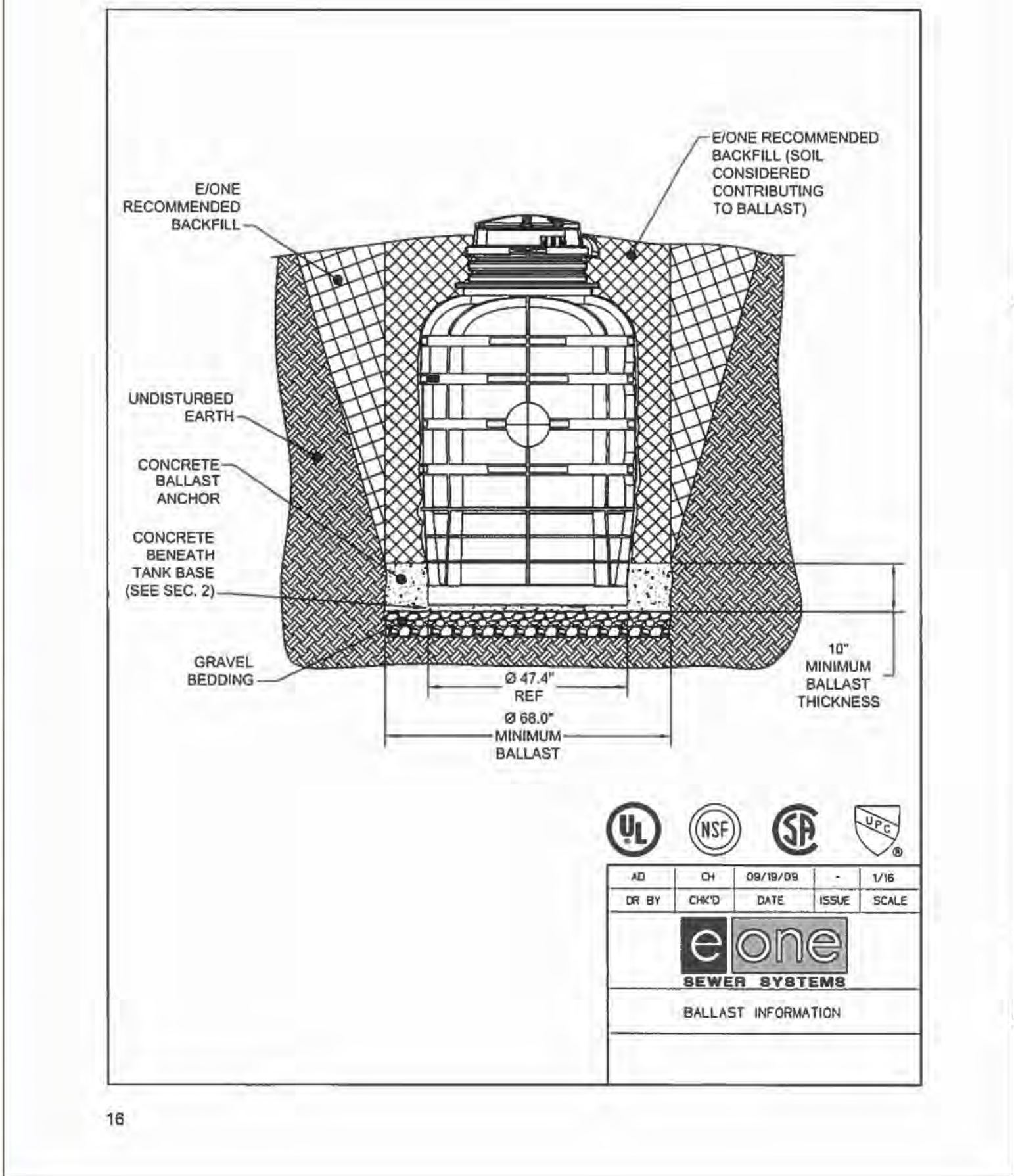
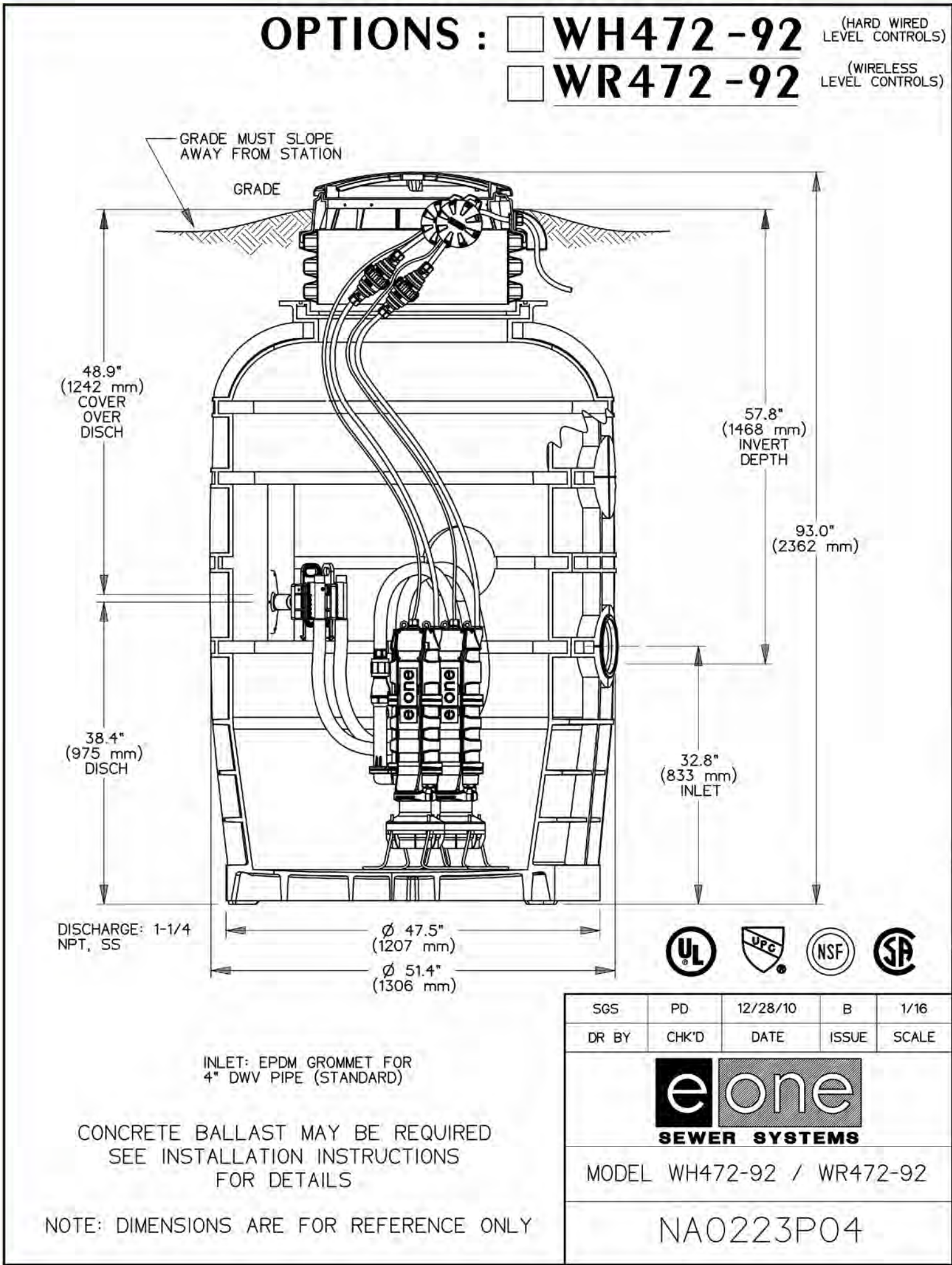
**BOHLER**  
209 10TH AVENUE S, SUITE 534  
NASHVILLE, TN 37203  
Phone: (629) 235-4040  
www.BohlerEngineering.com

SHEET TITLE:  
**FORCE MAIN EXTENSION PLAN**

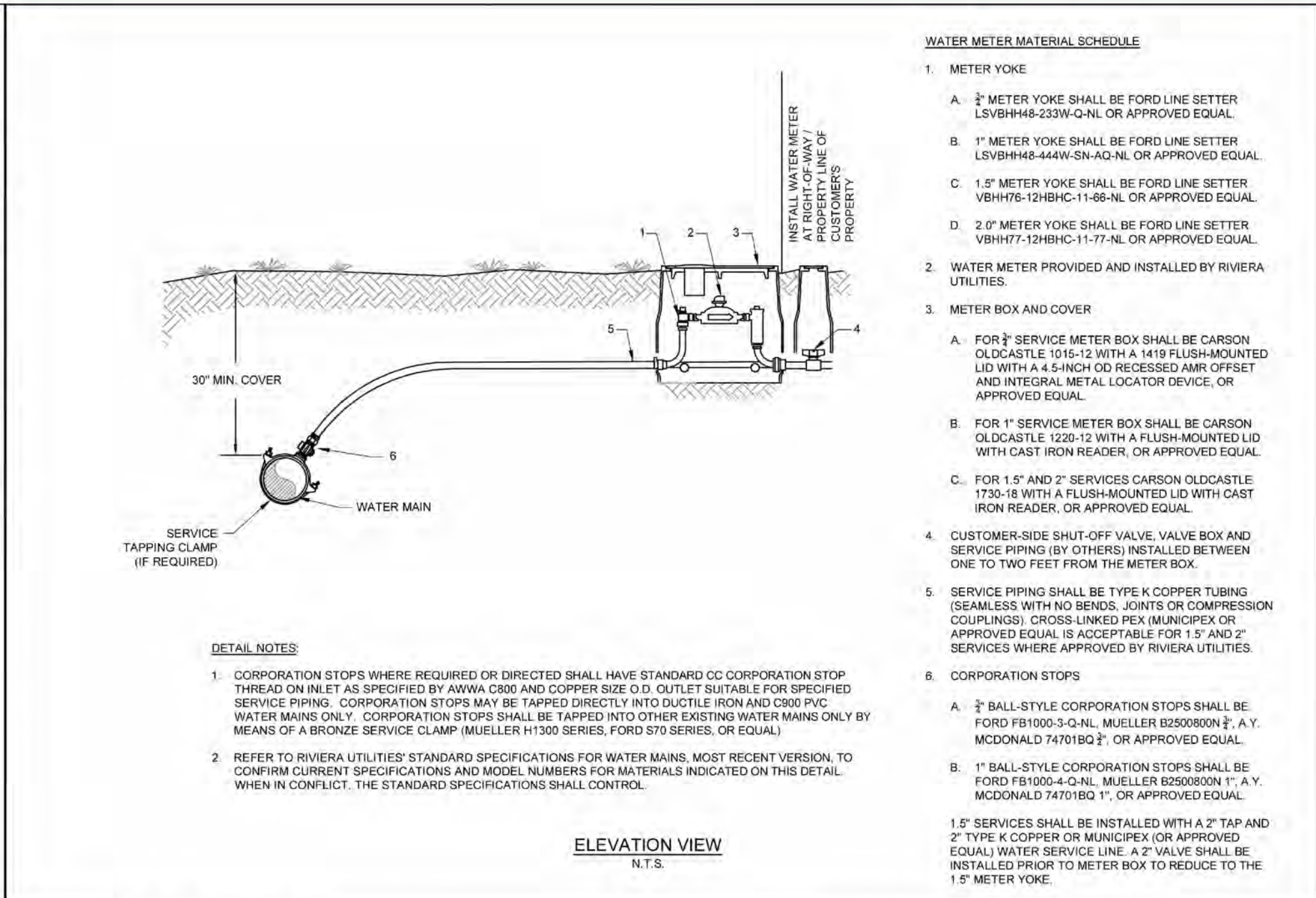
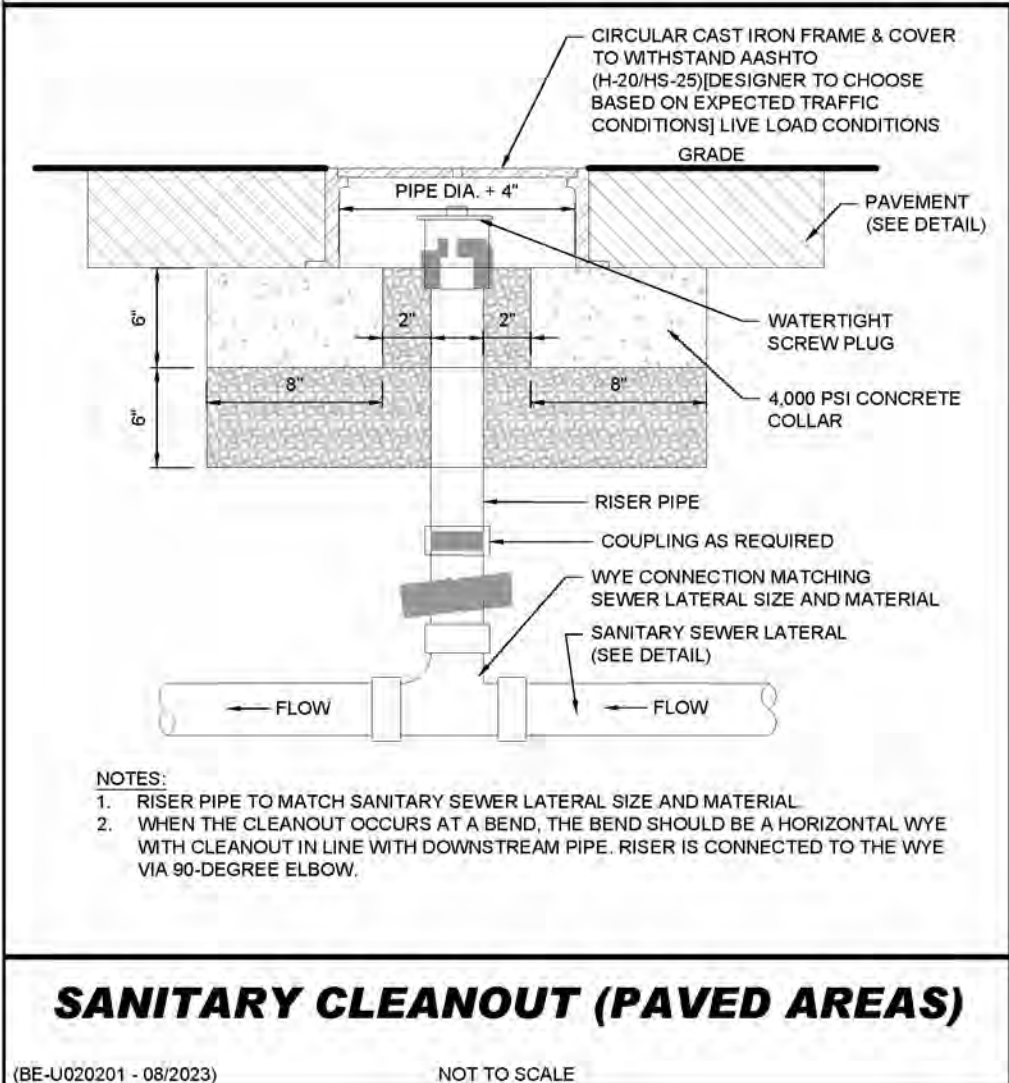
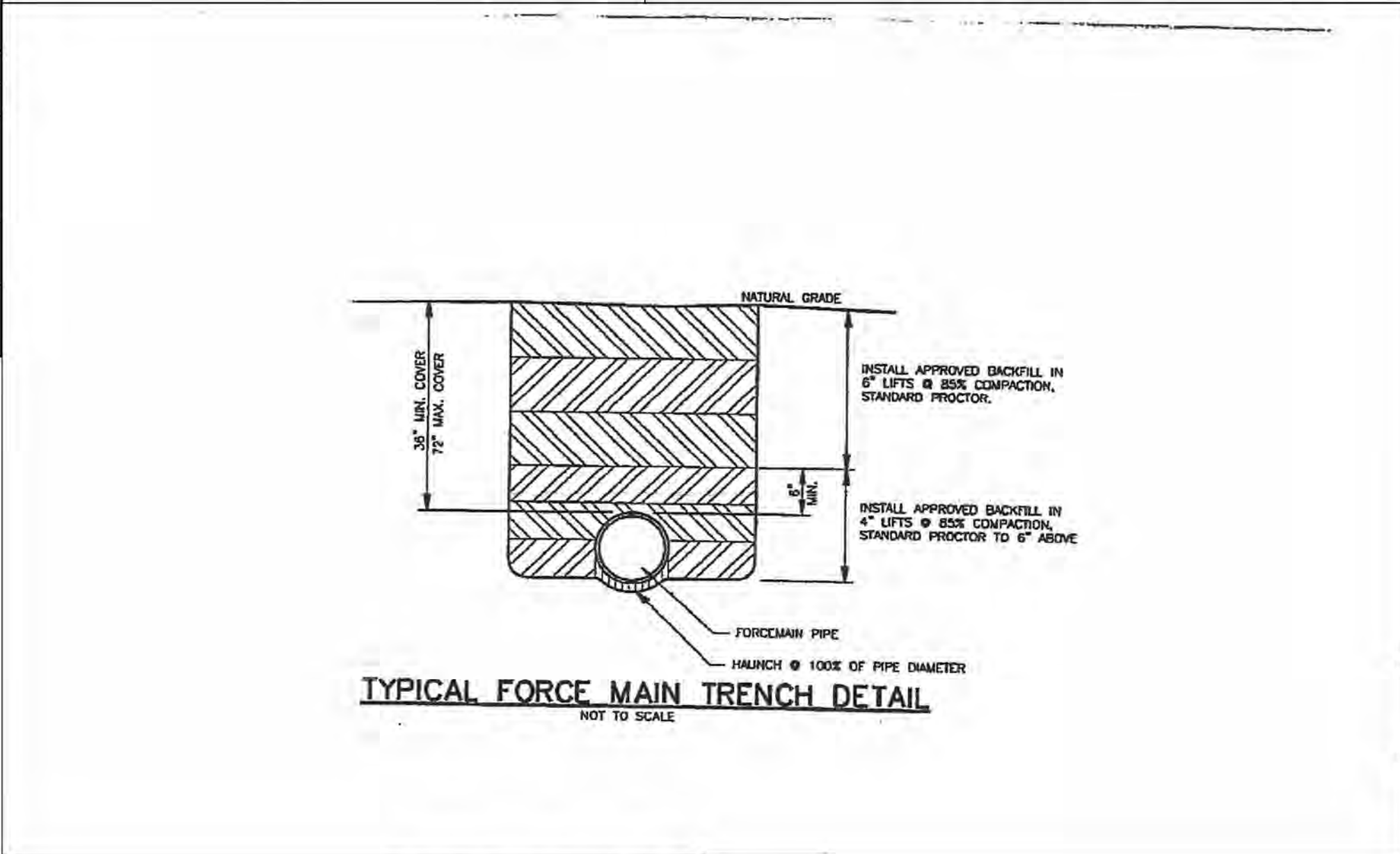
SHEET NUMBER:  
**C-502**

REVISION 1 - 09/09/2024

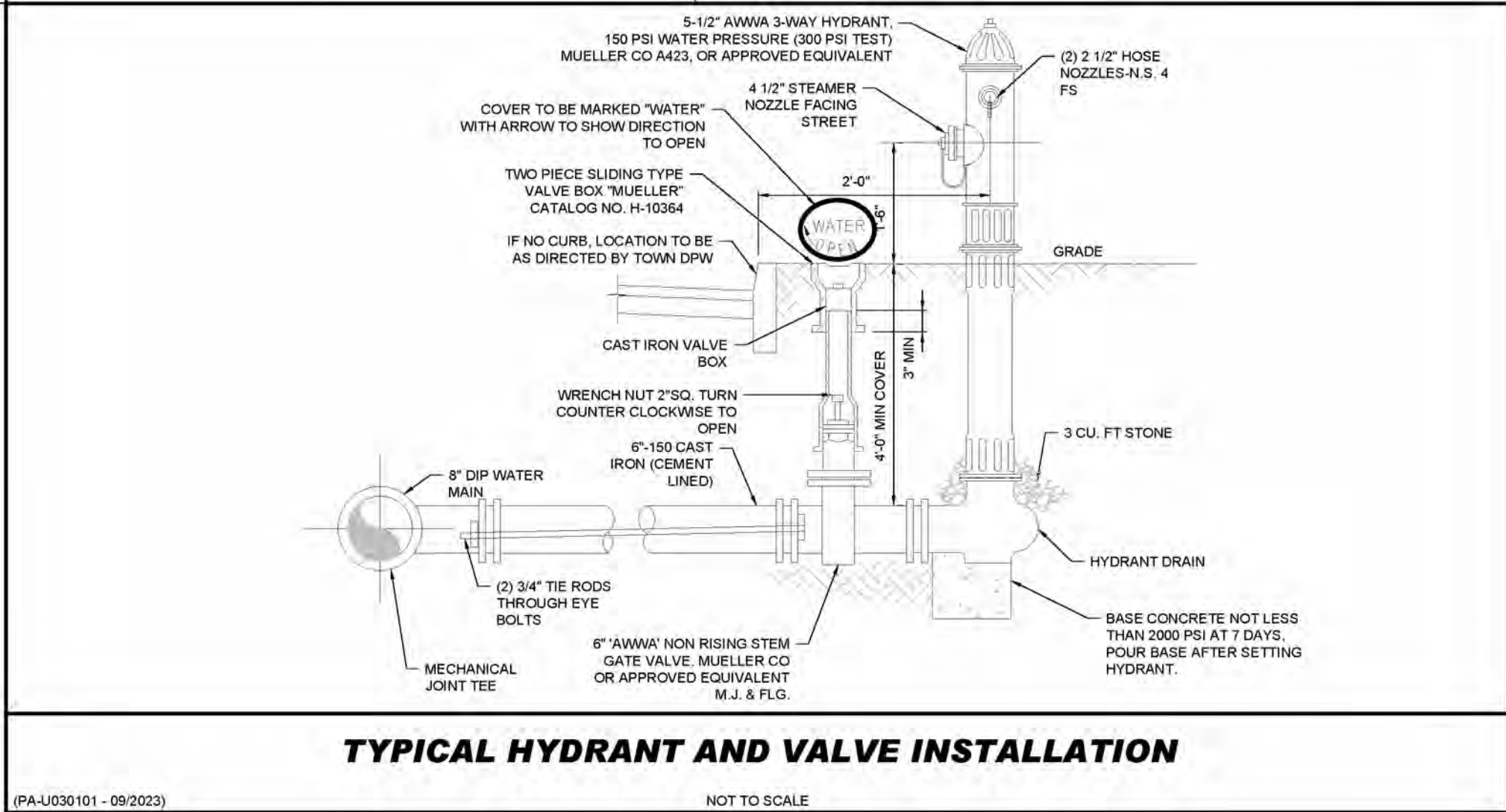




<b>RIVIERA UTILITIES</b>	EASTERN DIVISION GAS, WATER, & WASTEWATER DEPARTMENT 413 EAST LAUREL AVENUE FOLEY, ALABAMA 36535 251.943.5001	STANDARD SANITARY SEWER DETAILS	DATE ISSUED 06-22-21
		TYPICAL SANITARY SEWER LATERAL CONNECTION	SHEET NO. S-6



<b>RIVIERA UTILITIES</b>	EASTERN DIVISION GAS, WATER, & WASTEWATER DEPARTMENT 413 EAST LAUREL AVENUE FOLEY, ALABAMA 36535 251.943.5001	WATER DETAILS	DATE ISSUED 03-23-2022
		STANDARD WATER SERVICE DETAIL (UP TO 2-INCH)	SHEET NO. W-1



REVISIONS				
REV	DATE	COMMENT	PER CITY/UTILITY PROVIDER COMMENTS	DRAWN BY
1	09/09/2024			JDA

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PROJECT No.: TMA230034.00-0A  
DRAWN BY: JDA  
CHECKED BY: KE/MT  
DATE: 12/31/1999  
CAD I.D.: P-CIVIL-CNDS

PROJECT:  
**PROP. CIVIL SITE PLAN**  
FOR

**EXPRESS OIL CHANGE**  
**TIRE ENGINEERS**

EXPRESS OIL CHANGE  
21270 MIFLIN RD.  
COUNTY BALDWIN  
FOLEY, AL  
PARCEL I.D.: 05-61-02-10-0-000-002.002

**BOHLER**  
209 10TH AVENUE S, SUITE 534  
NASHVILLE, TN 37203  
Phone: (629) 235-4040  
www.BohlerEngineering.com

SHEET TITLE:  
**UTILITY DETAILS**  
SHEET NUMBER:  
**C-503**  
REVISION 1 - 09/09/2024





SITE BENCHMARK  
5/8" REBAR WITH PLASTIC CAP  
N: 134741.40  
E: 1917936.71  
ELEV: 54.41

**MIFLIN ROAD**  
(120' RIGHT OF WAY)  
PUBLICLY DEDICATED

EXISTING CURB AND GUTTER TO BE REMOVED

EXISTING SIDEWALK TO BE REMOVED

(SCE)

5/8" CURB SET  
P.O.B.  
N: 134637.9681  
E: 1917935.5386

30' FRONT YARD SETBACK

5' SIDE YARD SETBACK

N/F  
CITYHOPE CHURCH  
F/K/A BAY COMMUNITY CHURCH, INC.  
INSTRUMENT# 1585058  
PORTION OF PARCEL#:  
05-61-02-10-0-000-002.002

N/F  
CITYHOPE CHURCH  
F/K/A BAY COMMUNITY CHURCH, INC.  
INSTRUMENT# 1585058  
REMAINDER OF PARCEL#:  
05-61-02-10-0-000-002.002

PROP SEDIMENT TUBE TO BE INSTALLED  
AS A TEMPORARY DIVERSION UNTIL  
BYPASS DITCH IS GRADED AND  
STABILIZED

(ST)

20' FRONT YARD SETBACK

N: 134377.9685  
E: 1917936.0116

N: 134378.8087  
E: 1918106.0096

1.015 ACRES  
44,200 SQUARE FEET

S 89°43'01" W  
170.00'

N 89°43'01" E  
170.00'

N/F  
BYRD SONS RESIDUAL TRUST  
INSTRUMENT# 1585412  
PARCEL#:  
05-61-02-10-0-000-002.000

S 00°06'15" E  
260.00'

(SF)

10' UTILITY EASEMENT  
(TITLE EXCEPTION 20)

30' B.S.L.  
(TITLE EXCEPTION 20)

20' UTILITY EASEMENT  
(TITLE EXCEPTION 20)

(SF)

1/2" RB FND

## EROSION AND SEDIMENT CONTROL NOTES

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## LAND DISTURBANCE

ITEM	ACRES	SQUARE FEET
TOTAL PARCEL AREA	1.015	44,200
ON-SITE DISTURBED AREA	1.015	44,200
OFF-SITE DISTURBED AREA	0.20	8,712
TOTAL DISTURBED AREA	1.22	53,143.2
EXISTING IMPERVIOUS AREA	0.00	0.00
PROPOSED IMPERVIOUS AREA	0.67	28,886.07
TOTAL IMPERVIOUS AREA	0.67	28,886.07

## LEGEND

### PROPOSED

SILT FENCE	(SF)
CONCRETE WASHOUT	(CW)
SEDIMENT TUBE	(ST)
STABILIZED CONSTRUCTION ENTRANCE	(SCE)

## REVISIONS

REV	DATE	COMMENT	DESIGNED BY
1	09/09/2024	PER CITY/UTILITY PROVIDER COMMENTS	JDA BSKE



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## ISSUED FOR MUNICIPAL & AGENCY REVIEW & APPROVAL

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PROJECT No.: TNA230034.00-0A  
DRAWN BY: JDA  
CHECKED BY: KE/MT  
DATE: 12/31/1999  
CAD I.D.: P-CIVL-SITE

PROJECT:

## PROP. CIVIL SITE PLAN

FOR



EXPRESS OIL CHANGE

21270 MIFLIN RD.  
COUNTY BALDWIN  
FOLEY, AL  
PARCEL I.D.: 05-61-02-10-0-000-002.002

## BOHLER

209 10TH AVENUE S, SUITE 534  
NASHVILLE, TN 37203  
Phone: (629) 235-4040

www.BohlerEngineering.com

## SHEET TITLE: SOIL EROSION AND SEDIMENT CONTROL PLAN PHASE I

SHEET NUMBER:

C-801

REVISION 1 - 09/09/2024

THIS PLAN TO BE UTILIZED FOR SOIL  
EROSION AND SEDIMENT CONTROL  
PURPOSES ONLY



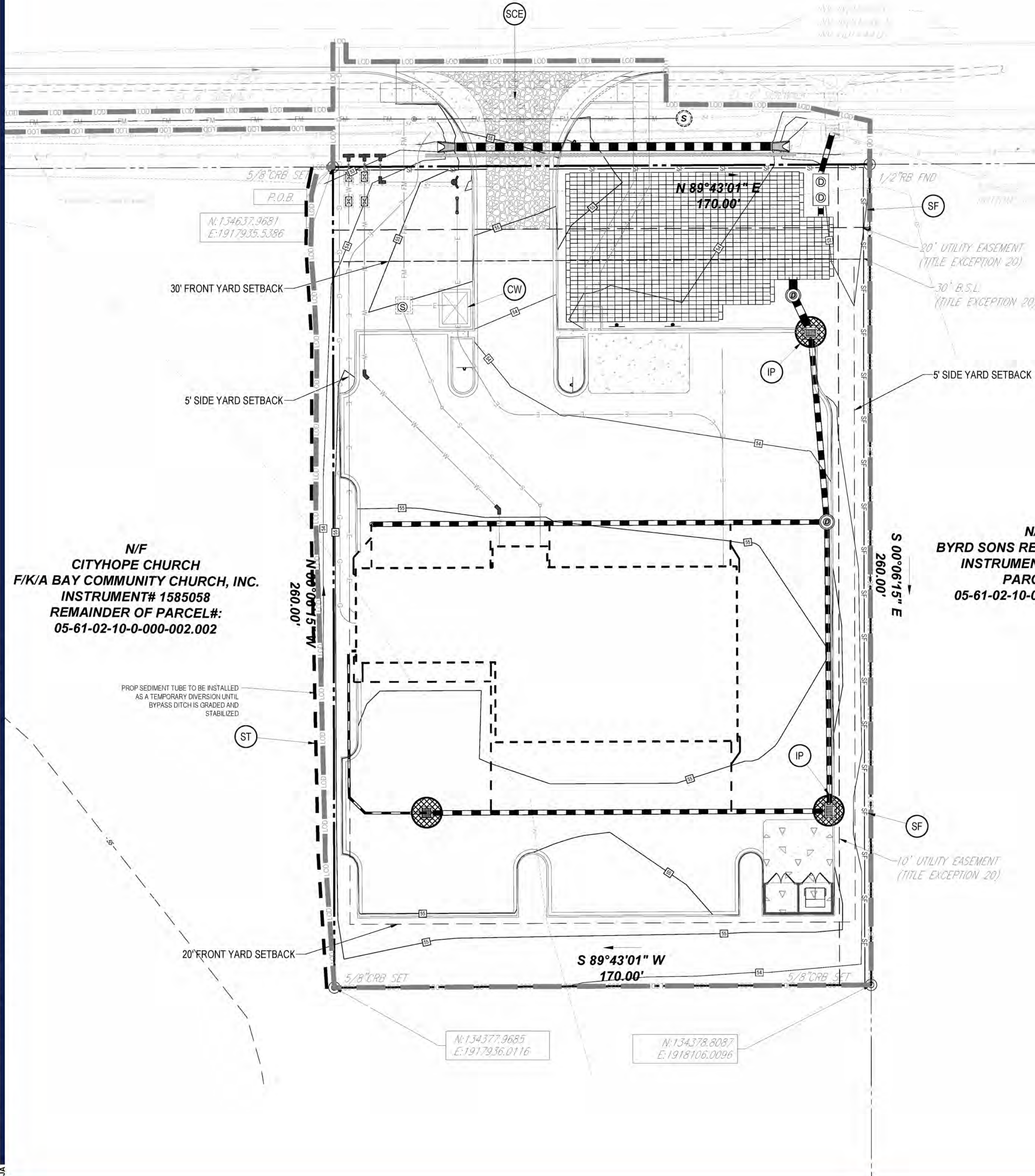




SITE BENCHMARK  
5/8" REBAR WITH PLASTIC CAP  
N: 134741.40  
E: 1917936.71  
ELEV: 54.41

# MIFLIN ROAD

(120' RIGHT OF WAY)  
PUBLICLY DEDICATED



## EROSION AND SEDIMENT CONTROL NOTES

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TOTAL IMPERVIOUS AREA	0.67	28,886.07

## LEGEND

### PROPOSED

SILT FENCE WITH WIRE BACKING	SF
INLET PROTECTION	IP
SEDIMENT TUBE	ST
STABILIZED CONSTRUCTION ENTRANCE	SCE



SITE CIVIL AND CONSULTING ENGINEERING  
PROGRAM MANAGEMENT  
LANDSCAPE ARCHITECTURE  
SUSTAINABLE DESIGN  
PERMITTING SERVICES  
TRANSPORTATION SERVICES

## REVISIONS

REV	DATE	COMMENT	DESIGNED BY
1	09/09/2024	PER CITY/UTILITY PROVIDER COMMENTS	JDA BSKE



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PROJECT No.: TNA230034-00-0A  
DRAWN BY: JDA  
CHECKED BY: KE/MT  
DATE: 12/31/1999  
CAD ID: P-CIVIL-SITE

PROJECT:

## PROP. CIVIL SITE PLAN

FOR



EXPRESS OIL CHANGE

21270 MIFLIN RD.  
COUNTY BALDWIN  
FOLEY, AL  
PARCEL I.D.: 05-61-02-10-0-000-002.002



209 10TH AVENUE S, SUITE 534  
NASHVILLE, TN 37203  
Phone: (629) 235-4040

www.BohlerEngineering.com

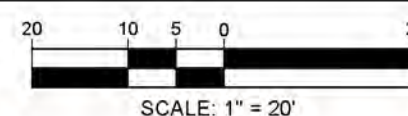
## SHEET TITLE: SOIL EROSION AND SEDIMENT CONTROL PLAN PHASE II

SHEET NUMBER:

C-802

REVISION 1 - 09/09/2024

THIS PLAN TO BE UTILIZED FOR SOIL  
EROSION AND SEDIMENT CONTROL  
PURPOSES ONLY



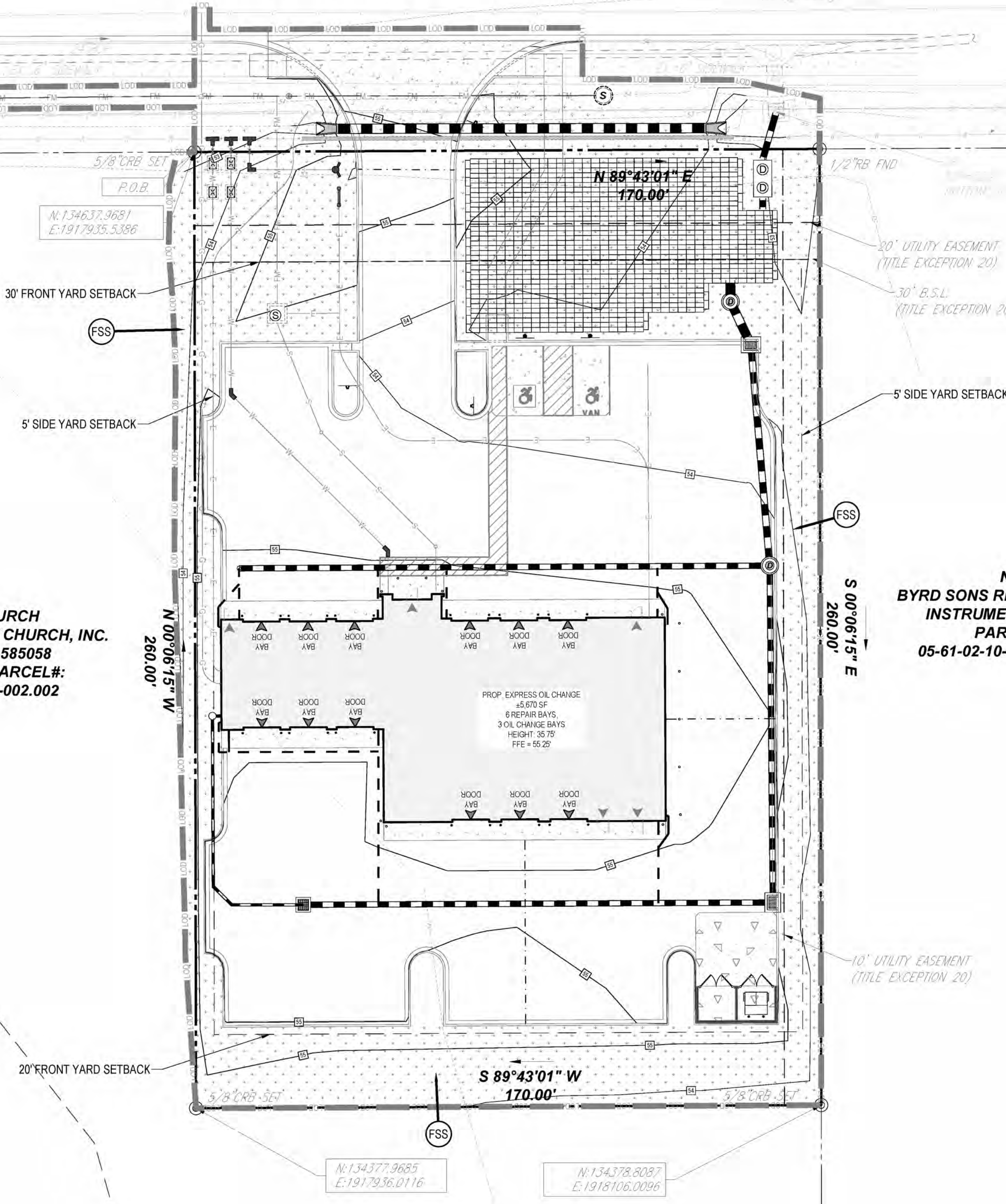




SITE BENCHMARK  
5/8" REBAR WITH PLASTIC CAP  
N: 134741.40  
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# MIFLIN ROAD

(120' RIGHT OF WAY)  
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## LAND DISTURBANCE

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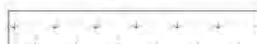
## LEGEND

### PROPOSED

FINAL SLOPE STABILIZATION



FINAL SLOPE STABILIZATION HATCHING (SOD)



SITE CIVIL AND CONSULTING ENGINEERING  
PROJECT MANAGEMENT  
LANDSCAPE ARCHITECTURE  
SUSTAINABLE DESIGN  
PERMITTING SERVICES  
TRANSPORTATION SERVICES

## REVISIONS

REV	DATE	COMMENT	DESIGNED BY
1	09/09/2024	PER CITY/UTILITY PROVIDER COMMENTS	JDA BSKE



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PROJECT No.: TNA230034-00-0A  
DRAWN BY: JDA  
CHECKED BY: KE/MT  
DATE: 12/31/1999  
CAD ID: P-CIVL-SITE

PROJECT:

## PROP. CIVIL SITE PLAN

FOR



EXPRESS OIL CHANGE

21270 MIFLIN RD.  
COUNTY BALDWIN  
FOLEY, AL  
PARCEL I.D.: 05-61-02-10-0-000-002.002



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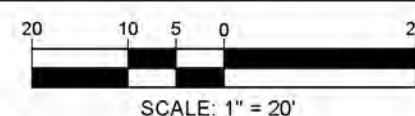
## SHEET TITLE: SOIL EROSION AND SEDIMENT CONTROL PLAN PHASE III

SHEET NUMBER:

C-803

REVISION 1 - 09/09/2024

THIS PLAN TO BE UTILIZED FOR SOIL  
EROSION AND SEDIMENT CONTROL  
PURPOSES ONLY






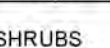








**N/F  
CITYHOPE CHURCH  
F/K/A BAY COMMUNITY CHURCH, INC.  
INSTRUMENT# 1585058  
REMAINDER OF PARCEL#:  
05-61-02-10-0-000-002.002**

PLANT SCHEDULE						
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
TREES						
	FG	5	FAGUS GRANDIFOLIA	AMERICAN BEECH	3" CAL. MIN.	8&8
	QP	5	QUERCUS PHellos	WILLOW OAK	3" CAL. MIN.	8&8
SHRUBS						
	BG	51	BUXUS X 'GREEN MOUNTAIN'	GREEN MOUNTAIN BOXWOOD	30" MIN.	CONTAINER
GROUND COVERS						
		16,348 SF	SOD	SOD	SOD	PALLET

LANDSCAPE COMPLIANCE CHART		
SECTION	REQUIREMENT	PROVIDED
ARTICLE X, SECT 10.1.2	<p>A. A MINIMUM OF TEN PERCENT (10%) OF THE TOTAL INTERIOR AREA INTENDED FOR OFF-STREET PARKING SHALL BE SUITABLY LANDSCAPED, SUCH LANDSCAPING TO INCLUDE THE PLACEMENT OF A SHADE TREE AT INTERVALS APPROXIMATELY FIFTY (50) LINEAR FEET WITH A MINIMUM OF FIVE (5) SHRUBS PER SHADE TREE.</p> <p>APPROXIMATELY (6) TREES REQUIRED SHRUBS: (8) TREES X 5 = (30) SHRUBS REQUIRED</p>	<p>(6) TREES PROVIDED</p> <p>(46) SHRUBS PROVIDED</p>
ARTICLE X, SECT 10.2.3	<p>B. SHRUBS SHALL BE EVERGREEN AND AT LEAST THIRTY (30) INCHES TALL AT INSTALLATION WITH AN AVERAGE HEIGHT OF FIVE (5) TO SIX (6) FT TO BE EXPECTED AS NORMAL GROWTH WITHIN FOUR (4) YEARS.</p> <p>C. OVERSTORY TREES SHALL BE 3" CALIPER AT TIME OF INSTALL</p>	ALL PLANTS SPECIFIED FOR REQUIRED INSTALL DIMENSIONS
LAND DEVELOPMENT ORDINANCE 5-2.3	PLAN SHALL HAVE A MINIMUM DENSITY OF TEN (10) NATIVE TREES PER ACRE OF OPEN SPACE, COMMON AREA AND COMMERCIAL AREA WITHIN THE DEVELOPMENT.	(10) TREES PROVIDED

**PLANTING NOTES:**

4. ALL LANDSCAPE AREAS ARE TO RECEIVE A MINIMUM OF 4" OF TOPSOIL.
5. ALL PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, AND FREE OF PEST AND DISEASE IN THE PLANT LIST.
6. ALL PLANT MATERIAL SHALL BE CONTAINER GROWN OR BALLED & BURLAPPED AS INDICATED IN THE PLANT LIST.
7. ALL LAWN AREAS SHALL BE SEEDDED WITH LOCALLY GROWN FESCUE SEED MIX MEETING THE LATEST NORTH CAROLINA DEPT. OF AGRICULTURE STANDARD FOR SEED AND PLANT CERTIFICATION, CONSULT LOCAL N.C.S. COOPERATING EXTENSION, FOR PROPER FERTILIZATION AND ILL APPLICATION RATES FOR LAWN CARE.
8. ALL TREES SHALL TRUNK, FULL HEAD, AND MEET ALL REQUIREMENTS SPECIFIED ABOVE.
9. ALL MATERIALS SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER INSTALLATION.
10. ALL TREES MUST BE GUYED OR STAKED AS SHOWN IN THE DETAILS.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF WORK. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN OF THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND IT TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR 1) TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION, 2) TO PROTECT ALL UTILITIES PRIOR TO CONSTRUCTION, 3) TO REPAIR ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLAN BEFORE PRICING THE WORK.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DELIVERY SCHEDULE AND PROTECTION BETWEEN THE ORDER DATE AND THE PLANT SPECIFICATIONS TO MAINTAIN HEALTHY PLANT CONDITIONS.
14. THE CONTRACTOR SHALL COMPLETELY GUARANTEE AND BE RESPONSIBLE FOR FULLY MAINTAINING (INCLUDING BUT NOT LIMITED TO WATERING, SPRAYING, MULCHING, FERTILIZING, ETC.) ALL OF THE PLANTS AND TREES FOR THE ENTIRE TERM OF THE CONTRACT.
15. ANY PLANT MATERIAL WHICH IS DISEASED, DISTRESSED, DEAD, OR REJECTED (PRIOR TO SUBSTANTIAL COMPLETION) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE WILL MEETING ALL PLANT SCHEDULE SPECIFICATIONS.
16. THE ORDER SET FURNISHED BY THE CLIENT SHALL BE USED TO REPRESENT SPECIFICATIONS. SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENT FOR PLANT MATERIAL.
17. WHERE SHOWN ON THE PLANS AND DETAILS, PLANTING BEDS ARE TO BE COMPLETELY COVERED WITH A 3" DEPT. TRIPLE SHRED HARDWOOD MULCH FROM A LOCAL MULCH SOURCE HARVESTED IN A SUSTAINABLE MANNER.
18. ALL LANDSCAPING SHALL AVOID CONFLICT WITH UNDERGROUND STORMWATER MANAGEMENT MEASURES.
19. ALL STORMWATER HANDLING SHALL BE IN ACCORDANCE WITH THE SHAMROCK INKBERY HOLLY AND DWARF BURFORD HOLLY. ALTERNATE SPECIES BETWEEN DIFFERENT UNITS.



## REVISIONS

[illegible]

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**ISSUED FOR MUNICIPAL &  
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PROJECT No.: TNA230034.00-0  
DRAWN BY: JD  
CHECKED BY: KE/M  
DATE: 12/31/1995  
CAD I.D.: P-CIVL-LLG

PROJECT:

**PROP.**  
**CIVIL SITE PLAN**

- FOR



**EXPRESS OIL CHANGE**

21270 MIFLIN RD.  
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PARCEL I.D.: 05-61-02-10-0-000-002.002

**BOHLER //**

**209 10TH AVENUE S, SUITE 534**  
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Phone: (629) 235-4040

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SHEET TITLE:

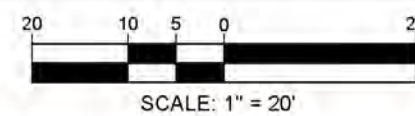
## LANDSCAPE PLAN

SHEET NUMBER:

# L-101

REVISION 1 - 09/09/2024

**THIS PLAN TO BE UTILIZED FOR  
LANDSCAPE PURPOSES ONLY**

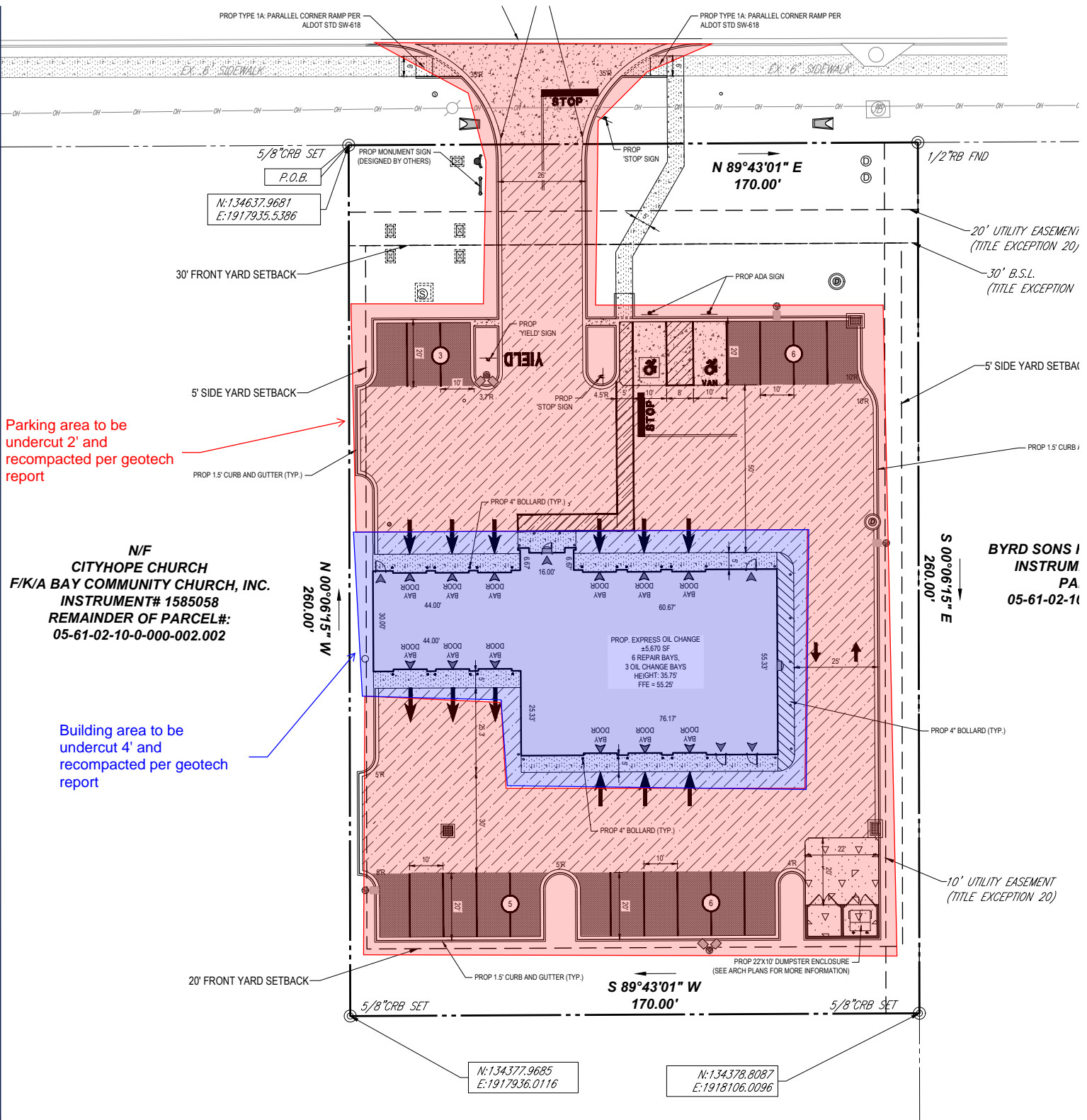






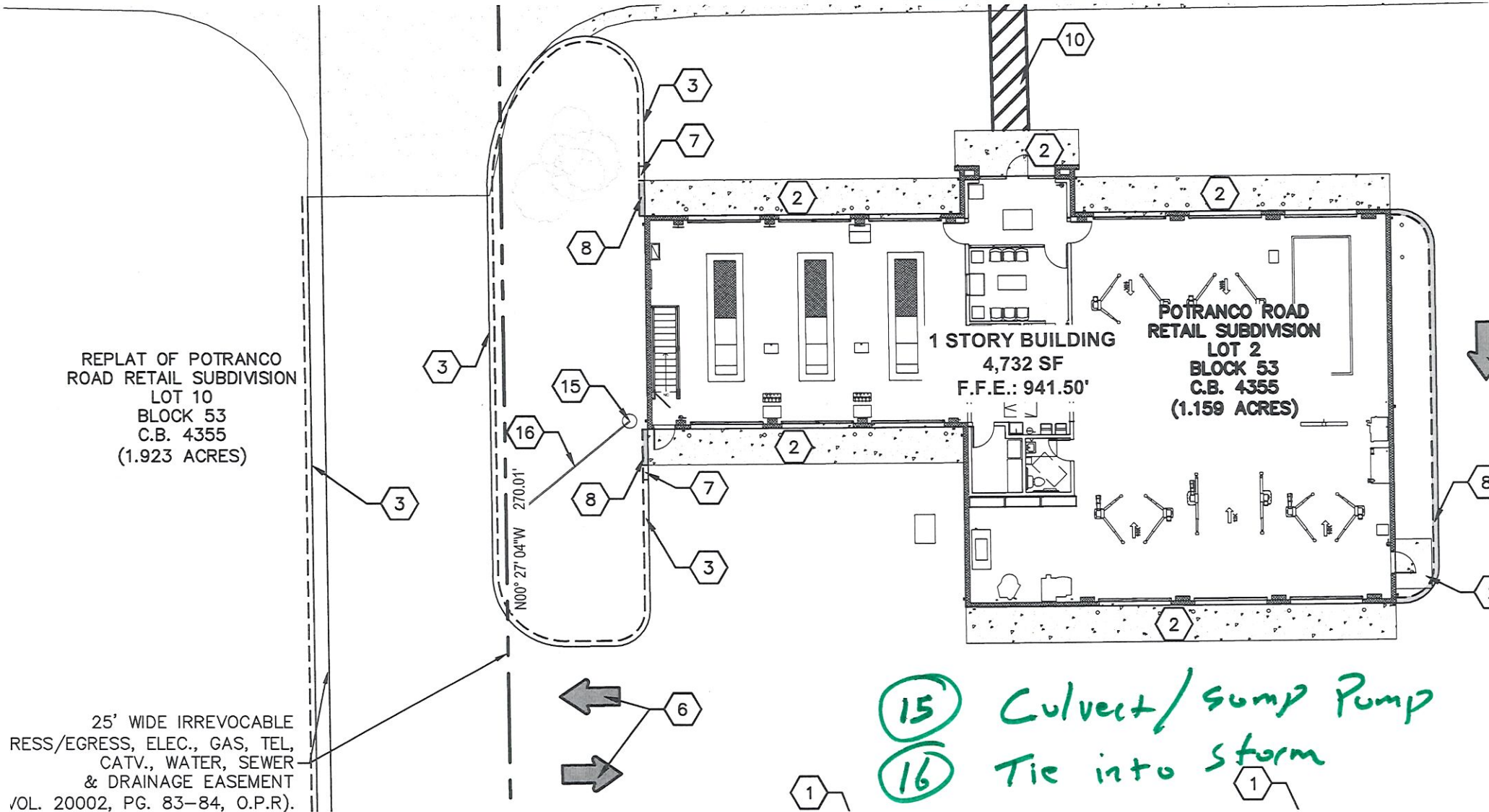


## EXHIBIT H - Sitework Undercut





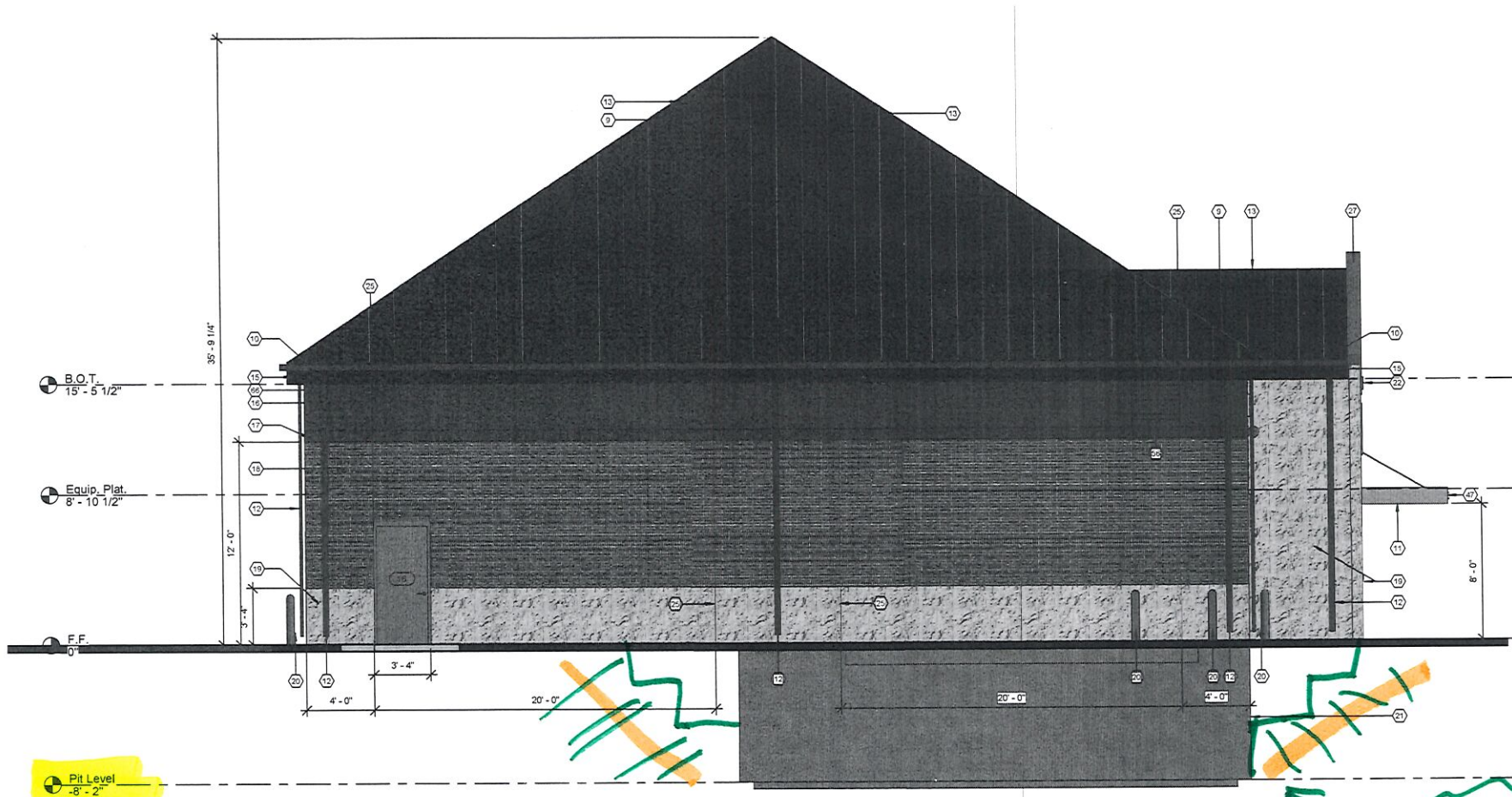
Example:



15 Culvert/sump Pump  
16 Tie into storm

Typ Project. See Plans





Example:

See Architectural Plans  
 see Geotech Report  
 Pit excavated soil for reuse.

Level -  
 Excavate Pit  
 OSHA Std.  
 TYP.



Keynote Schedule	
Tag	Text
1	Attic Access (Werner Model WH2208)
2	Membrane waterproofing at perimeter of foundation wall as specified
3	Location of 30" wide refrigerator by others.
4	Robe hook mounted at 48" A.F.F., Bradley Corporation Model 915.
5	42" grab bar, Bradley Corporation Model 8120-00142. Provide blocking in wall as required.
6	Painted 1/2" thick plywood with 1/4"x1 1/4" wood batten strips at seams and secured to underside of roof trusses
7	1/2" gypsum board ceiling, painted
8	Exposed to structure above
9	Pre-finished standing seam metal roof system
10	Pre-finished metal gutter system
11	Pre-finished metal awning system. See details on sheet A303
12	Pre-finished metal downspout and elbow. Provide concrete splashblock at each downspout unless discharge is on concrete or asphalt.
13	Pre-finished hip and ridge cap. Color to match roof.
14	Metal valley flashing. Color to match roof.
15	1x pressure treated painted fascia board continuous
16	Painted structural half highs
17	Painted 8" split-faced grout filled "u" block bond beam. See Structural.
18	Unpainted structural half highs
19	Painted 8" split-face CMU
20	Painted concrete-filled steel bollard
21	Cast-in-place concrete wall (See Structural)
22	Signage by others. Provide blocking as required. See Electrical for power.
23	Wall sconce by others. See electrical for power. Provide blocking as required.
24	Lightbar by others. See electrical for power. Provide blocking as required.
25	Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" from wall intersection or corner and every 20'-0".
26	Key box (Locate as directed by the Local Fire Marshal or AHJ)
27	Pre-finished metal coping
28	Framed mirror, Bradley Corporation Model 780-02436
29	Automatic Towel Dispenser by others, Bradley Corporation Model 2494. Provide blocking in wall as required.
30	Wall mounted soap dispenser by others, Bradley Corporation Model 9563. Provide blocking in wall as required.
31	Jumbo Dual Roll Toilet Tissue dispenser by others, Bradley Corporation Model 5425. Provide blocking in the wall as required.
32	36" grab bar, Bradley Corporation Model 8120-00136. Provide blocking in wall as required.
33	ADA compliant room / exit sign.
34	4" perforated perimeter drain with filter fabric
35	Foundation sump lift station. Verify location with Civil and tie into Civil storm drain system, Model Zoeller M98. Or, approved comparable product.
36	Surface mounted baby changing station, Bradley Corporation Model 9631 Light Gray. Provided blocking in wall as required.
37	Lightbar by others. See electrical for power. Provide blocking as required.
38	Eyewash station (See Plumbing)
39	Provide attic draftstop partition and access door per IBC. Wall shall read "Seal All Penetrations" every 25'-0" o.c. Attic "Floor" area within draftstop areas shall not exceed 3,000 s.f. Draftstop materials shall not be less than 1/2" gypsum board adequately supported. The integrity of draftstop shall be maintained. Provide 1 opening per partition, protected by a self-closing door constructed as required for the partition with automatic latch. Door shall not be less than 20"x30" which is required for attic access specified in Section 1209.2 of the IBC. Provided max. 3,000 s.f. area is not exceeded, draftstop locations shall align with structural supports.
40	Underlayment guards
41	Paint structural steel at openings Safety Yellow. (Typical for pit openings and stairwell opening).
42	Paint all roof penetrations to match roof color.
43	24" vertical grab bar, Bradley Corporation Model 8120-00124. Provided blocking in wall as required.
44	Concrete apron, Coordinate with Civil.
45	Provide a 2" concrete walkway cap with non-slip surface over oil tanks (by others). Coordinate with equipment supplier prior to installation.
46	Oil tank stairs by others.
47	Provide address identification (as directed by the Local Fire Marshal or AHJ)
48	Painted concrete-filled steel pipe bollard located near gas meter.
49	Telephone back board. See Electrical.
51	Provide 20"x30" insulated attic access panel
52	Sign to be centered on wall horizontally. Align top of sign vertically where wall begins to pitch unless otherwise indicated. Junction box for sign shall be located in the center of the sign. Verify with sign company prior to rough-in
53	Conduit to be centered horizontally for lights in awning. Verify with sign company prior to rough-in.
54	Locate junction box for sconces 5'-0" a.f.f. vertically and 4" from center horizontally (Typical). Verify with sign company prior to rough-in.
55	Stainless steel corner guard.
56	Metal louver or vent. see Mechanical. Paint to match adjacent surface.
57	Transition strip.
58	Verify location and size of pit exhaust opening with Structural and Mechanical drawings.
59	Provide swing gate at stairs for fall protection. Gate to open in direction of egress. Provide signage that reads "Do Not Enter, Authorized Personnel Only".
60	Coffee cabinet (To be provided by GC).
61	Wall mounted T.V. by others. See Electrical for power, etc.
62	4" stainless steel chain rail by others.
63	Service Desk (To be provided by GC).
64	Roof Vent. Paint to match roof color. (See Mechanical)
65	Word Wall. Graphics by others. Use extreme bond primer.
66	Painted 2x frieze board



Express Oil Change & Tire Engineers  
Single Building - Right Hand Oil Change

San Antonio, Texas

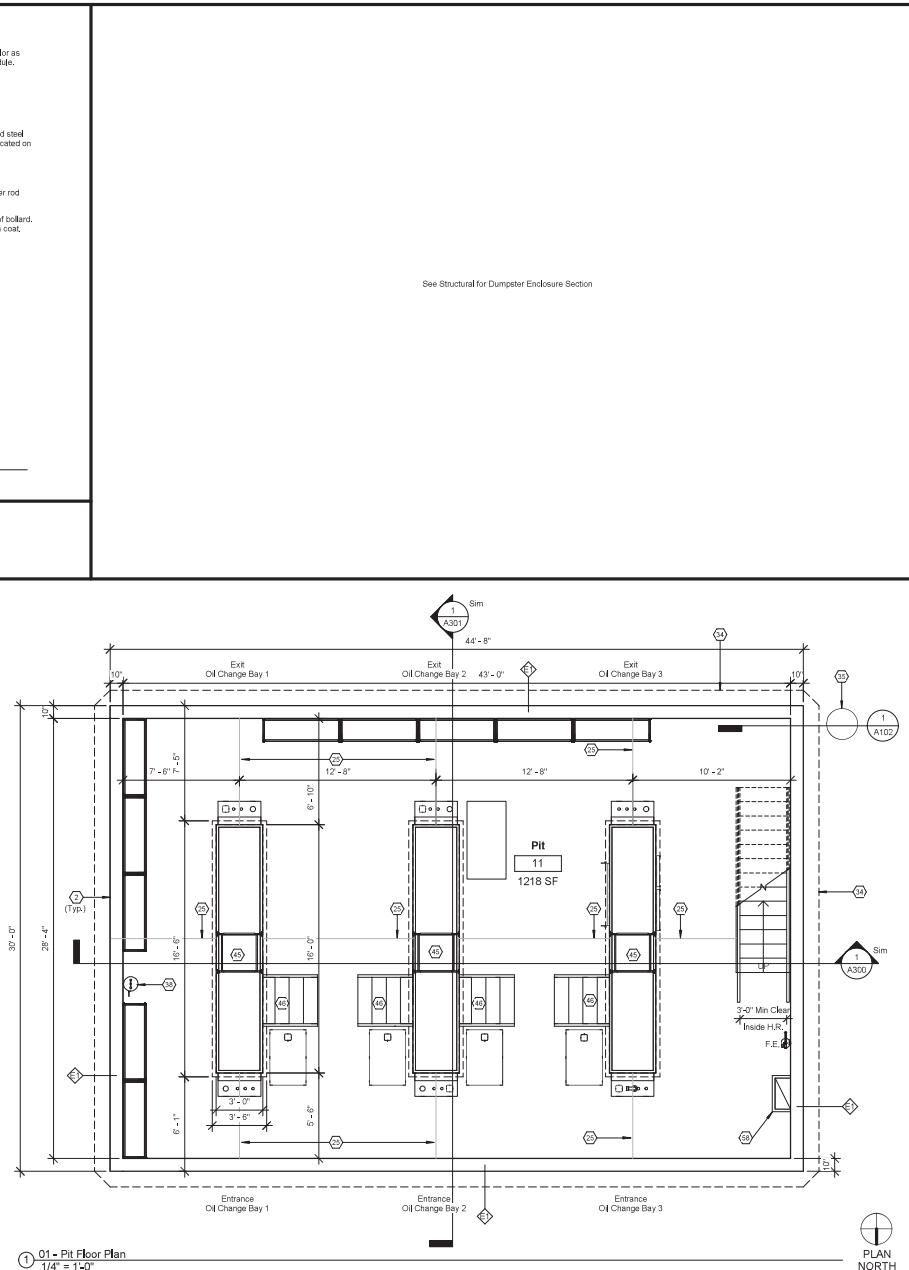
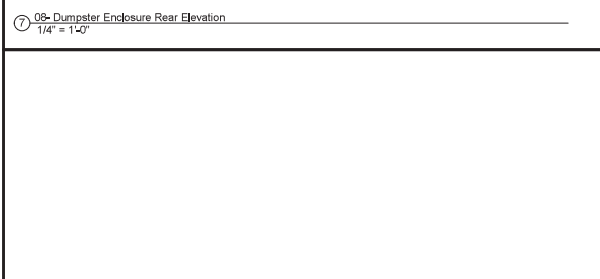
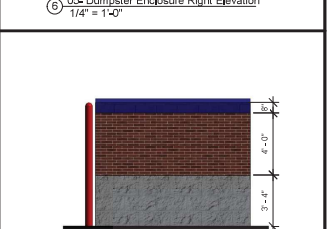
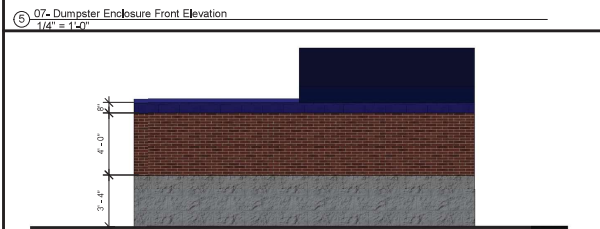
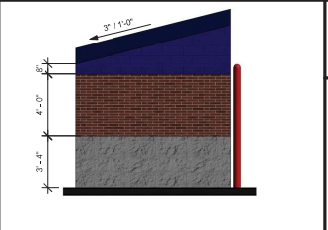
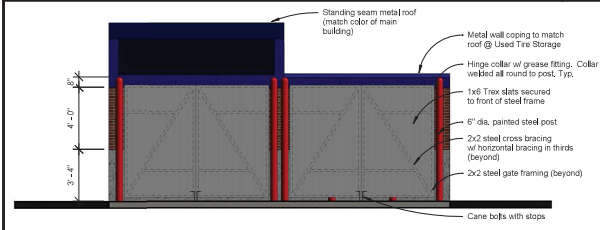
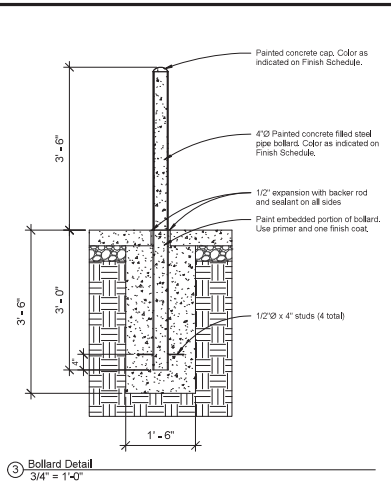
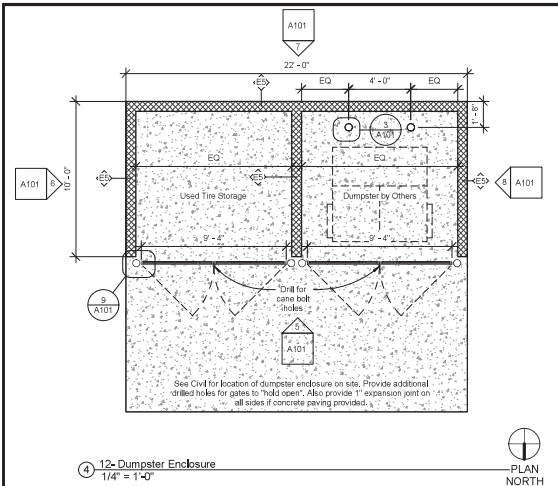
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Keynotes

Project number	21042
Date	01/07/2022
Drawn by	ARC
Checked by	TAA
G101	
Scale	





**Express Oil Change & Tire Engineers**  
Single Building - Right Hand Oil Change  
San Antonio, Texas

FINAL

No.	Description	Date

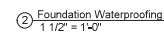
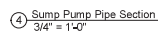
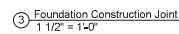
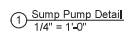
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**Pit Floor Plan and Site Details**

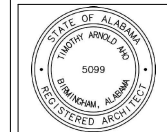
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Date	01/07/2022
Drawn by	ARC
Checked by	TAA
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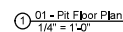
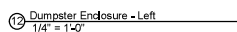
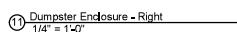
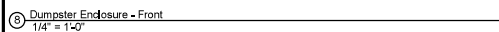
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### Pit Floor Plan and Site Details

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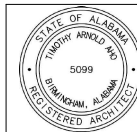
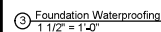
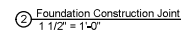
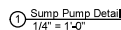
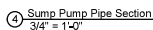



See Structural for Dumpster Enclosure Section



PLAN  
NORTH





Left Hand Oil Change Building

2101 Winchester Road NE  
Huntsville, AL 35811

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### Foundation Details

Project number	21028
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Date	09/14/2021
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Checked by	TAA
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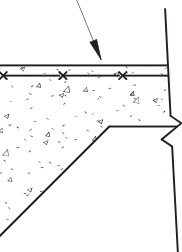
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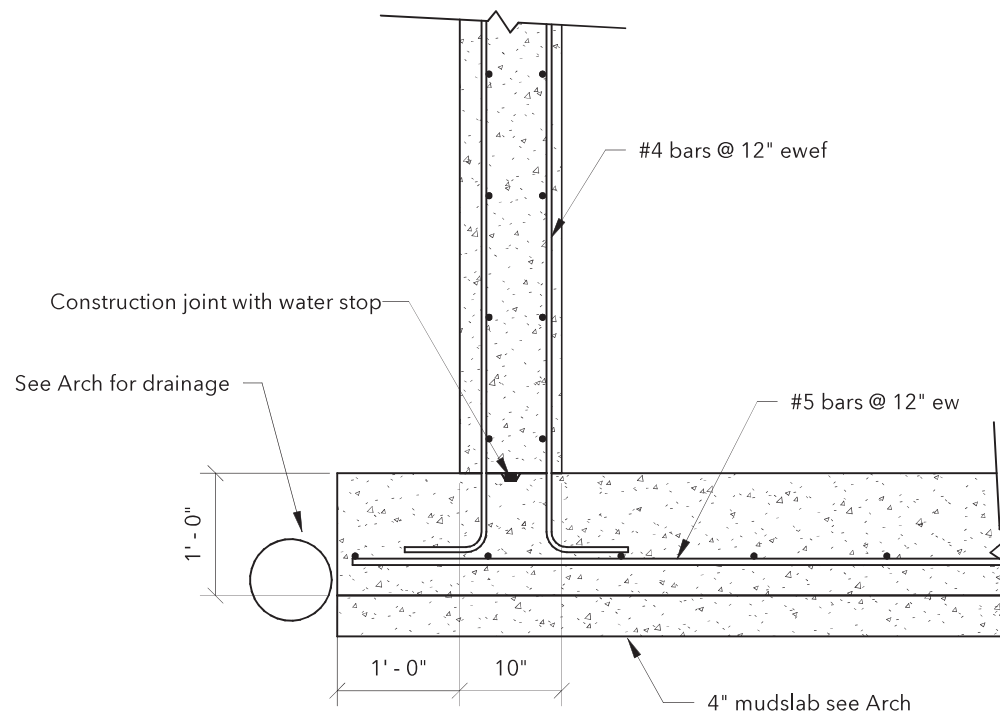


3" o.c.

e  
f



pp &  
ottom  
24"



### Section 1

3/4" = 1'-0"

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No.	Description	Date

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## Sections and Details

Project number 21042

Date 01/07/2022

Drawn by jcj

Checked by jd

# S5.1

Scale 3/4" = 1'-0"



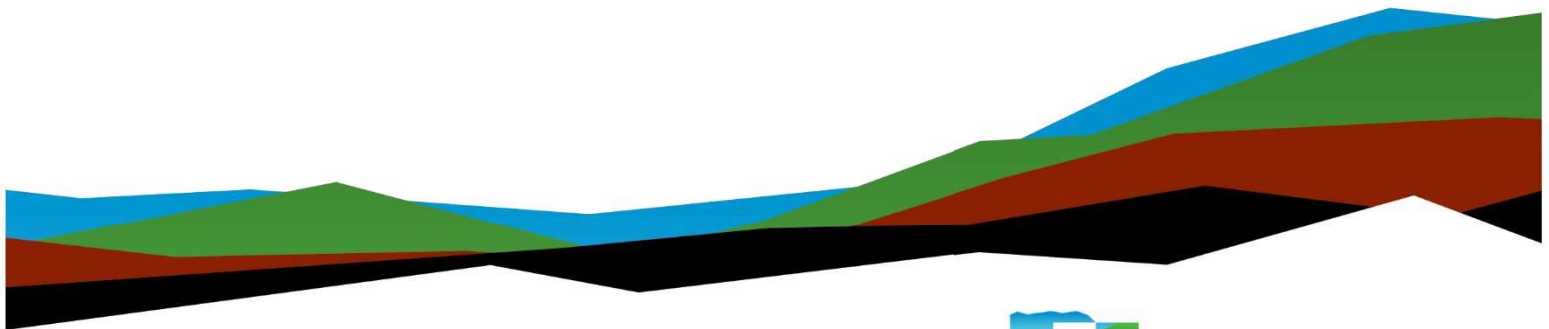
# Express Oil Change

## Geotechnical Engineering Report

January 11, 2023 | Terracon Project No. EK235058

### Prepared for:

Express Oil Change, LLC  
1800 Southpark Drive  
Birmingham, Alabama 35244



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6215 Rangeline Road, Suite 115  
Theodore, AL 36582  
P (251) 443-5374  
**Terracon.com**

January 11, 2023

Express Oil Change, LLC  
1800 Southpark Drive  
Birmingham, Alabama 35244

Attn: Justin Duck  
P: (205) 397-1142  
E: justin.duck@expressoil.com

Re: Geotechnical Engineering Report  
Express Oil Change  
Miflin Road  
Foley, Alabama  
Terracon Project No. EK235058

Dear Justin Duck:

We have completed the scope of Geotechnical Engineering services for the above referenced project in general accordance with Terracon Proposal No. PEK235058 dated December 1, 2023. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations, floor slabs, and pavements for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

**Terracon**

A handwritten signature in blue ink, appearing to read 'J. Cooch'.

John D. Cooch  
Assistant Project Manager

A handwritten signature in blue ink, appearing to read 'Benjamin G. Weinberg'.

Benjamin G. Weinberg, P.E.  
Project Engineer



*Peer Reviewed by: Ryan P. Steiner, P.E. (MS) – Senior Engineer*



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## **Exploration and Testing Procedures**

## **Site Location and Exploration Plans**

## **Exploration and Laboratory Results**

## **Supporting Information**

**Note:** This report was originally delivered in a web-based format. **Blue Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the  Terracon logo will bring you back to this page. For more interactive features, please view your project online at [client.terracon.com](https://client.terracon.com).

Refer to each individual Attachment for a listing of contents.



## Report Summary

Topic <sup>1</sup>	Overview Statement <sup>2</sup>
<b>Project Description</b>	The project includes the construction of a new Express Oil Change located on Mifflin Road in Foley, Alabama.
<b>Geotechnical Characterization</b>	Very loose/loose moisture-sensitive sands up to 4 feet depths Groundwater encountered between 18 to 19 feet depths
<b>Earthwork</b>	Existing silty sand and clayey sand can be used for engineered fill Silty sands and clayey sands are sensitive to moisture variation
<b>Shallow Foundations</b>	Shallow foundations are recommended for building support Allowable bearing pressure = 2,000 psf Expected settlements: < 1-inch total, < 1/2-inch differential
<b>Below-Grade Structures</b>	Basement "pit" area can be designed using the resistance values in the Shallow Foundation section of the report. Earth pressures acting are provided in the Lateral Earth Pressure section.
<b>Pavements</b>	With subgrade prepared as noted in <b>Earthwork</b> . Asphaltic Concrete (AC) Design: <ul style="list-style-type: none"> <li>■ Automobile parking: 3-in AC over 6-in aggregate base (AB)</li> <li>■ Drive Lanes/Entrances/Exits: 5-in AC over 6-in AB</li> </ul> Portland Cement Concrete (PCC) Design: <ul style="list-style-type: none"> <li>■ Automobile Parking: 5-in PCC over 4-in AB</li> <li>■ Drive Lanes/Entrances/Exits: 6-in PCC over 4-in AB</li> <li>■ Dumpster Pad: 8-in PCC over 4-in AB</li> </ul>
<b>General Comments</b>	This section contains important information about the limitations of this geotechnical engineering report.

1. If the reader is reviewing this report as a pdf, the topics above can be used to access the appropriate section of the report by simply clicking on the topic itself.
2. This summary is for convenience only. It should be used in conjunction with the entire report for design purposes.



## Introduction

This report presents the results of our subsurface exploration and Geotechnical Engineering services performed for the proposed Express Oil Change building to be located off of Mifflin Road in Foley, Alabama. The purpose of these services was to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions
- Groundwater conditions
- Seismic site classification per IBC
- Site preparation and earthwork
- Foundation design and construction
- Floor slab design and construction
- Lateral earth pressure
- Pavement design and construction

The geotechnical engineering Scope of Services for this project included the advancement of soil borings, laboratory testing, engineering analysis, and preparation of this report.

Drawings showing the site and boring locations are shown on the [Site Location](#) and [Exploration Plan](#), respectively. The results of the laboratory testing performed on soil samples obtained from the site during our field exploration are included on the boring logs in the [Exploration Results](#) section.

## Project Description

Our initial understanding of the project was provided in our proposal and was discussed during project planning. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

Item	Description
<b>Information Provided</b>	An email request for proposal was provided by Justin Duck with Express Oil Change, LLC on November 30 <sup>th</sup> , 2023. The request included a conceptual site plan drawing of the layout of the planned development.
<b>Project Description</b>	The project includes the construction of a new Express Oil Change located on Mifflin Road in Foley, Alabama.
<b>Proposed Structure</b>	The structure associated with the project is a 5,600 square foot single-story building with a basement.



Item	Description
<b>Building Construction</b>	Not provided; we anticipate the building will be constructed using steel framing.
<b>Finished Floor Elevation</b>	Not provided; boring depths have assumed that finished floor is within 1 foot of existing grade.
<b>Maximum Loads</b>	<p>In the absence of information provided by the design team, we will use the following loads in estimating settlement based on our experience with similar projects.</p> <ul style="list-style-type: none"> <li>■ Columns: 75 kips</li> <li>■ Walls: 3 kips per linear foot (klf)</li> <li>■ Slabs: 150 pounds per square foot (psf)</li> </ul>
<b>Grading/Slopes</b>	Not provided; we have assumed minimal grading will be required, less than 1 foot of cut or fill.
<b>Below-Grade Structures</b>	Basement "pit" area under a portion of the east wing of the building.
<b>Pavements</b>	<p>A preferred pavement surfacing has not been identified to us as part of the preliminary information. Asphalt Cement (AC)/Portland Cement Concrete (PCC) surfacing is common in the area for projects of this nature and is the assumed preference.</p> <p>We assumed the ACI traffic categories for PCC pavements will consist of the following:</p> <ul style="list-style-type: none"> <li>■ <b>Automobile Parking:</b> (Category A) Car parking areas and access lanes, 10 truck per day</li> <li>■ <b>Drive Lanes/Entrances/Exits:</b> (Category B) Entrance and truck service lanes, 50 trucks per day</li> <li>■ <b>Dumpster Pad:</b> (Category E) Garbage or fire truck lanes, 1 truck per day</li> </ul> <p>We assumed the traffic classes for AC pavements will consist of the following:</p> <ul style="list-style-type: none"> <li>■ <b>Automobile Parking:</b> (Class I) Parking stalls for autos and pickup trucks</li> <li>■ <b>Drive Lanes/Entrances/Exits:</b> (Class III) Delivery lanes with up to ten 3-axle trucks per day</li> </ul> <p>The pavement design period is 20 years.</p>
<b>Building Code</b>	2018 IBC

Terracon should be notified if any of the above information is inconsistent with the planned construction, especially the grading limits, as modifications to our recommendations may be necessary.



## Site Conditions

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

Item	Description
<b>Site Information</b>	The project is located on Miflin Road in Foley, Alabama, approximately at 30.3697° N, 87.6601° W. See <a href="#">Site Location</a>
<b>Existing Improvements</b>	The site has been cleared of all large vegetation and appears to have been mass graded and previously used for agriculture.
<b>Current Ground Cover</b>	Grass
<b>Existing Topography</b>	Per Google Earth™, the site is relatively flat with an approximate elevation of 53 feet.

## Geotechnical Characterization

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, laboratory data, geologic setting and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical calculations and evaluation of the site. Conditions observed at each exploration point are indicated on the individual logs. The individual logs can be found in the [Exploration Results](#) and the GeoModel can be found in the [Figures](#) attachment of this report.

As part of our analyses, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name	General Description
<b>1</b>	<b>Loose Sands</b>	Silty Sand (SM) / Clayey Sand (SC); Loose
<b>2</b>	<b>Denser Sands</b>	Silty Sand (SM) / Clayey Sand (SC); Medium Dense
<b>3</b>	<b>Lower Sands</b>	Poorly Graded Sand (SP) / Poorly Graded Sand with Silt (SP-SM); Medium Dense

Groundwater was observed from depths varying from 18 to 19 feet below the existing ground surface, as shown in the GeoModel. However, this does not necessarily mean that



the water levels summarized above are stable groundwater levels. Groundwater conditions may be different at the time of construction. Groundwater conditions may change because of seasonal variations in rainfall, runoff, and other conditions not apparent at the time of drilling. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

## Seismic Site Class

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Site Classification is required to determine the Seismic Design Category for a structure. The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7 and the International Building Code (IBC). Based on the soil properties observed at the site and as described on the exploration logs and results, our professional opinion is for that a **Seismic Site Classification of D** be considered for the project. Subsurface explorations at this site were extended to a maximum depth of 25 feet. The site properties below the boring depth to 100 feet were estimated based on our experience and knowledge of geologic conditions of the general area. Additional deeper borings or geophysical testing may be performed to confirm the conditions below the current boring depths.

## Geotechnical Overview

Based on the results of the geotechnical investigation, the following **Geotechnical Hazard** was identified and will require mitigation for this project:

- Unstable Subgrade

Mitigation efforts for the identified **Geotechnical Hazard** is provided in the **Earthwork** section. The **Shallow Foundations** section addresses support of the building bearing on native silty sand/clayey sand or engineered fill. The **Floor Slabs** section addresses slab-on-grade support of the building. Flexible and rigid pavement systems are feasible for this site. The **Pavements** section addresses the design of pavement systems.

A preliminary grading plan was not available at the time of this report. We have assumed that up to 1 foot of cut or fill will occur to achieve the finished subgrade elevation for the project. Final grades will affect the recommendations contained herein. This office should be notified upon completion of site grading plans to revisit the mitigation recommendations.



The recommendations contained in this report are based upon the results of field and laboratory testing (presented in the **Exploration Results**), engineering analyses, and our current understanding of the proposed project. The **General Comments** section provides an understanding of the report limitations.

## Earthwork

Earthwork is anticipated to include clearing and stripping, subgrade preparation, excavations, and engineered fill placement. The following sections provide recommendations for use in the preparation of specifications for the work. Recommendations include critical quality criteria, as necessary, to render the site in the state considered in our geotechnical engineering evaluation for foundations, floor slabs, and pavements.

### Site Preparation

Prior to subgrade preparation, existing vegetation, topsoil, and root mats should be removed. Complete stripping of the topsoil should be performed in the proposed building and parking/driveway areas. Any vegetation and topsoil, or other loose, soft or otherwise unsuitable material should be removed from the entire construction area.

Stripped materials consisting of vegetation and organic materials should be wasted off site or used to vegetate landscaped areas or exposed slopes after completion of grading operations. Stripping depths between our boring locations and across the site could vary considerably as such we recommend actual stripping depths be evaluated by a representative of Terracon during construction to aid in preventing removal of excess material. The demolition phase may also encounter buried foundations, old fills, or other past site improvements. Former utility lines and utility backfill should be removed from beneath the building, and the resulting excavations should be properly backfilled as outlined herein. These conditions should be evaluated at the time of construction by the geotechnical engineer.

No root balls from the trees should be left in the ground after the site clearing process. The root ball should be excavated such that the roots remaining in the ground are smaller than 1/2-inch in diameter. The voids left behind by the removal of the root balls should be replaced with engineered fill as specified in **Fill Material Types** and **Fill Placement and Compaction Requirements**.

### Geotechnical Hazard

As noted in **Geotechnical Characterization**, very loose to loose silty sands were generally encountered throughout the site to a depth of about 4 feet below existing grades.



These soils, in their current state, appear to be unstable and not capable to support the proposed building, pavements, or engineered fill placement. These soils will require mitigation.

Within the building, mitigation should consist of over-excavating the unstable soils to a stable material, anticipated to be about 4 feet, and then backfilling the excavation with engineered fill as specified in **Fill Material Types** and **Fill Compaction Requirements**. On-site soils appear suitable for re-use as engineered fill provided it is moisture conditioned prior to placement and compaction.

Within areas of pavement, the subgrade should be evaluated after stripping and grubbing, but prior to fill placement. It should be anticipated that unstable soils will be present upon initial grading and will require mitigation prior to fill placement or pavement construction. Mitigation should consist of undercutting pavement areas about 2 feet below the finished subgrade elevation. The exposed subgrade should then be densified across the pavement area using a heavy smooth drum vibratory compactor having a gross weight of not less than 22,000 pounds at the drum. The surface should be compacted by making a minimum of 5 overlapping passes in a perpendicular direction to each other. Should the stability of the sands worsen during densification, the densification process should cease until the pore water pressure has dissipated. After the exposed subgrade has been densified, the entire pavement area should be proofrolled to observe for the presence of weak, yielding or pumping soils. Should additional mitigation of weak, yielding or pumping soils be required, our office should be notified so that appropriate mitigation can be prescribed by the project geotechnical engineer. After mitigation of loose soils as described above, the pavement area should be filled with engineered fill as specified in **Fill Material Types** and **Fill Placement and Compaction Requirements**.

## Subgrade Preparation

We recommend that the soils within the footprint of the proposed structure be mitigated as described in **Geotechnical Hazards**. Prior to placing fill, existing vegetation and root mat should be removed. Complete stripping of the topsoil should be performed in the proposed building and parking/driveway areas.

After mitigation efforts, the finished subgrade should be proofrolled with an adequately loaded vehicle such as a fully-loaded tandem-axle dump truck. The proofrolling should be performed under the observation of the Geotechnical Engineer or representative. Areas excessively deflecting under the proofroll should be delineated and subsequently addressed by the Geotechnical Engineer. Mitigation might include processing to remove excess moisture, overexcavation and backfilling, chemical stabilization, or modification with geotextile reinforcement. Should mitigation of wet and pumping soils be required, our office should be notified so that appropriate mitigation can be prescribed by the project geotechnical engineer.



## Fill Material Types

**Reuse of On-Site Soil:** Excavated on-site soil may be reused as fill. Material property requirements for on-site soil for use as Engineered Fill are noted in the table below:

Property	Engineered Fill
Composition	Free of deleterious material
Fines content	Not Limited
Plasticity	Liquid Limit (LL) $\leq$ 45
GeoModel Layer Expected to be Suitable <sup>1,2</sup>	1, 2

1. Based on subsurface exploration. Actual material suitability should be determined in the field at time of construction.
2. High silt content soils are extremely sensitive to variations in moisture content and can lose strength rapidly with increases in moisture. It should be noted that the moisture content of the silt must be closely controlled in order to achieve the desired degree of compaction. The contractor should expect difficulties with controlling the soil's moisture content to near optimal levels in order to achieve adequate density of the compacted soil. Cement modification may be necessary for highly silty soils to maintain stability.

**Imported Fill Materials:** Imported fill materials should meet the following material property requirements. Regardless of its source, compacted fill should consist of approved materials that are free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade.

Soil Type <sup>1</sup>	USCS Classification	Acceptable Parameters
Low Plasticity Cohesive	CL	$10 \leq$ Plasticity Index (PI) $\leq$ 25 Liquid Limit (LL) $\leq$ 45
Bridge Lift Land	SP, SP-SM, SP-SC	Less than 10% Passing No. 200 sieve
Granular <sup>2</sup>	SW, SP, SM, SC	Less than 50% passing No. 200 sieve

1. Engineered fill should consist of approved materials free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade. A sample of each material type should be submitted to the Geotechnical Engineer for evaluation prior to use on this site.
2. High silt content soils are extremely sensitive to variations in moisture content and can lose strength rapidly with increases in moisture. It should be noted that the moisture content of the silt must be closely controlled in order to achieve the desired degree of compaction. The contractor should expect difficulties with controlling the soil's moisture content to near optimal levels in order to achieve adequate density of the compacted soil. Cement modification may be necessary for highly silty soils to maintain stability.



## Fill Placement and Compaction Requirements

Engineered Fill should meet the following compaction requirements.

Item	Engineered Fill
<b>Maximum Lift Thickness</b>	9 inches or less in loose thickness when heavy, self-propelled compaction equipment is used 4 to 6 inches in loose thickness when hand-guided equipment (i.e., jumping jack or plate compactor) is used
<b>Minimum Compaction Requirements <sup>1,2</sup></b>	98% of maximum dry density with stability present
<b>Water Content Range <sup>1</sup></b>	Within -2% to +2% of optimum

1. Maximum density and optimum water content as determined by the standard Proctor test (ASTM D 698).
2. If the granular material is a coarse sand or gravel, or of a uniform size, or has a low fines content, compaction comparison to relative density may be more appropriate. In this case, granular materials should be compacted to at least 70% relative density (ASTM D 4253 and D 4254) at workable moisture content. Materials not amenable to density testing should be placed and compacted to a stable condition observed by the Geotechnical Engineer or representative.

## Utility Trench Backfill

Any soft or unsuitable materials encountered at the bottom of utility trench excavations should be removed and replaced with Engineered Fill or bedding material in accordance with public works specifications for the utility to be supported. This recommendation is particularly applicable to utility work requiring grade control and/or in areas where subsequent grade raising could cause settlement in the subgrade supporting the utility. Trench excavation should not be conducted below a downward 1:1 projection from existing foundations without engineering review of shoring requirements and geotechnical observation during construction.

On-site materials are considered suitable for backfill of utility and pipe trenches from 1 foot above the top of the pipe to the final ground surface, provided the material is free of organic matter and deleterious substances.

Trench backfill should be mechanically placed and compacted as discussed earlier in this report. Compaction of initial lifts should be accomplished with hand-operated tampers or other lightweight compactors. Where trenches are placed beneath slabs or footings, the backfill should satisfy the gradation and expansion index requirements of engineered fill discussed in this report. Flooding or jetting for placement and compaction of backfill is not recommended.



## Grading and Drainage

All grades must provide effective drainage away from the building during and after construction and should be maintained throughout the life of the structure. Water retained next to the building can result in soil movements greater than those discussed in this report. Greater movements can result in unacceptable differential floor slab and/or foundation movements, cracked slabs and walls, and roof leaks. The roof should have gutters/drains with downspouts that discharge onto splash blocks at a distance of at least 10 feet from the building.

Exposed ground should be sloped and maintained at a minimum 5% away from the building for at least 10 feet beyond the perimeter of the building. Locally, flatter grades may be necessary to transition ADA access requirements for flatwork. After building construction and landscaping have been completed, final grades should be verified to document effective drainage has been achieved. Grades around the structure should also be periodically inspected and adjusted, as necessary, as part of the structure's maintenance program. Where paving or flatwork abuts the structure, a maintenance program should be established to effectively seal and maintain joints and prevent surface water infiltration.

## Earthwork Construction Considerations

The near-surface soils are sensitive to increases in moisture content and have a tendency to lose strength and stability as the moisture content increases or as a result of construction traffic. We suggest earthwork construction take place during generally dryer months of the year. Wet season earthwork has an increased risk that may require additional mitigation measures beyond that which would be expected during the drier summer and fall months.

Shallow excavations for the proposed structure are anticipated to be accomplished with conventional construction equipment. Upon completion of filling and grading, care should be taken to maintain the subgrade water content prior to construction of grade-supported improvements such as floor slabs and pavements. Construction traffic over the completed subgrades should be avoided. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. Water collecting over or adjacent to construction areas should be removed. If the subgrade freezes, desiccates, saturates, or is disturbed, the affected material should be removed, or the materials should be scarified, moisture conditioned, and recompacted prior to floor slab construction.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local and/or state regulations.



Construction site safety is the sole responsibility of the contractor who controls the means, methods, and sequencing of construction operations. Under no circumstances shall the information provided herein be interpreted to mean Terracon is assuming responsibility for construction site safety or the contractor's activities; such responsibility shall neither be implied nor inferred.

Excavations or other activities resulting in ground disturbance have the potential to affect adjoining properties and structures. Our scope of services does not include review of available final grading information or consider potential temporary grading performed by the contractor for potential effects such as ground movement beyond the project limits. A preconstruction/ precondition survey should be conducted to document nearby property/infrastructure prior to any site development activity. Excavation or ground disturbance activities adjacent or near property lines should be monitored or instrumented for potential ground movements that could negatively affect adjoining property and/or structures.

## Construction Observation and Testing

The earthwork efforts should be observed by the Geotechnical Engineer (or others under their direction). Observation should include documentation of adequate removal of surficial materials (vegetation, topsoil, and pavements), evaluation and remediation of existing fill materials, as well as proofrolling and mitigation of unsuitable areas delineated by the proofroll.

Each lift of compacted fill should be tested, evaluated, and reworked, as necessary, as recommended by the Geotechnical Engineer prior to placement of additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 5,000 square feet of compacted fill in the building areas and 10,000 square feet in pavement areas or a minimum of 2 tests per lift of engineered fill for each area (building and pavements). Where not specified by local ordinance, one density and water content test should be performed for every 150 linear feet of compacted utility trench backfill and a minimum of one test performed for every 12 vertical inches of compacted backfill.

In areas of foundation excavations, the bearing subgrade should be evaluated by the Geotechnical Engineer. If unanticipated conditions are observed, the Geotechnical Engineer should prescribe mitigation options.

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer's evaluation of subsurface conditions, including assessing variations and associated design changes.



## Shallow Foundations

If the site has been prepared in accordance with the requirements noted in [Earthwork](#), the following design parameters are applicable for shallow foundations.

### Design Parameters – Compressive Loads

Item	Description
<b>Maximum Net Allowable Bearing Pressure <sup>1, 2</sup></b>	2,000 psf
<b>Required Bearing Stratum <sup>3</sup></b>	Compacted native soil or engineered fill
<b>Minimum Foundation Dimensions</b>	Per IBC 1809.7
<b>Ultimate Passive Resistance<sup>4</sup> (equivalent fluid pressures)</b>	250 pcf
<b>Sliding Resistance <sup>5</sup></b>	0.35 allowable coefficient of friction
<b>Minimum Embedment below Finished Grade <sup>6</sup></b>	18 inches
<b>Estimated Total Settlement from Structural Loads <sup>2</sup></b>	About 1 inch
<b>Estimated Differential Settlement <sup>2, 7</sup></b>	About ½ of total settlement

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. Values assume that exterior grades are no steeper than 20% within 10 feet of structure.
2. Values provided are for maximum loads noted in [Project Description](#). Additional geotechnical consultation will be necessary if higher loads are anticipated.
3. Unsuitable or soft soils should be overexcavated and replaced per the recommendations presented in [Earthwork](#). **Values consist primarily of elastic settlement which would occur during construction.**
4. Use of passive earth pressures require the sides of the excavation for the spread footing foundation to be nearly vertical and the concrete placed neat against these vertical faces or that the footing forms be removed and compacted Engineered Fill be placed against the vertical footing face. Assumes no hydrostatic pressure.
5. Can be used to compute sliding resistance where foundations are placed on suitable soil/materials. Frictional resistance for granular materials is dependent on the bearing pressure which may vary due to load combinations. For fine-grained materials, lateral resistance using cohesion should not exceed ½ the dead load.
6. Embedment necessary to minimize the effects of frost and/or seasonal water content variations. For sloping ground, maintain depth below the lowest adjacent exterior grade within 5 horizontal feet of the structure.
7. Differential settlements are noted for equivalent-loaded foundations and bearing elevation as measured over a span of 50 feet.



Trees or other vegetation whose root systems can remove excessive moisture from the subgrade and foundation soils should not be planted next to critical structures. Trees and shrubbery should be kept away from the exterior edges of the foundation element a distance at least equal to 1.5 times their expected mature height.

## Design Parameters – Overturning and Uplift Loads

Shallow foundations subjected to overturning loads should be proportioned such that the resultant eccentricity is maintained in the center-third of the foundation (e.g.,  $e < b/6$ , where  $b$  is the foundation width). This requirement is intended to keep the entire foundation area in compression during the extreme lateral/overturning load event. Foundation oversizing may be required to satisfy this condition.

Uplift resistance of spread footings can be developed from the effective weight of the footing and the overlying soils with consideration to the IBC basic load combinations.

Item	Description
<b>Soil Moist Unit Weight</b>	120 pcf
<b>Soil Effective Unit Weight<sup>1</sup></b>	60 pcf
<b>Soil weight included in uplift resistance</b>	Soil included within the prism extending up from the top perimeter of the footing at an angle of 20 degrees from vertical to ground surface

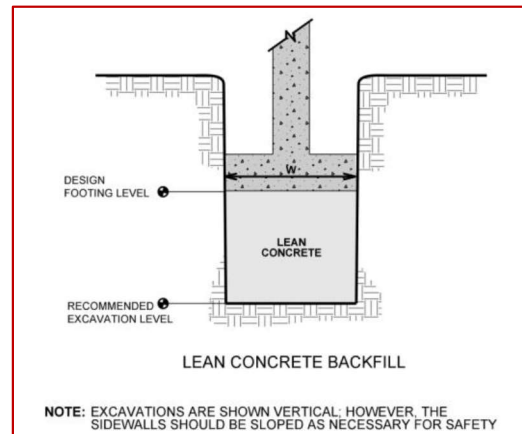
1. Effective (or buoyant) unit weight should be used for soil above the foundation level and below a water level. The high groundwater level should be used in uplift design as applicable.

## Foundation Construction Considerations

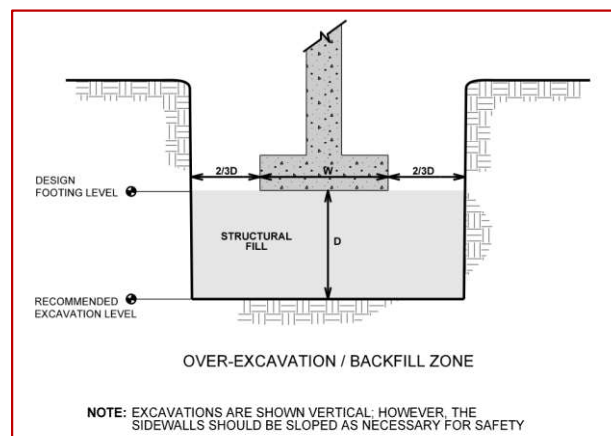
As noted in [Earthwork](#), the footing excavations should be evaluated under the observation of the Geotechnical Engineer. The base of all foundation excavations should be free of water and loose soil, prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. Excessively wet or dry material or any loose/disturbed material in the bottom of the footing excavations should be removed/reconditioned before foundation concrete is placed.



If unsuitable bearing soils are observed at the base of the planned footing excavation, the excavation should be extended deeper to suitable soils, and the footings could bear directly on these soils at the lower level or on lean concrete backfill placed in the excavations. The lean concrete replacement zone is illustrated on the sketch below.



Overexcavation for Engineered Fill placement below footings should be conducted as shown below. The overexcavation should be backfilled up to the footing base elevation, with engineered fill placed, as recommended in the [Earthwork](#) section.





## Floor Slabs

Design parameters for floor slabs assume the requirements for **Earthwork** have been followed. Specific attention should be given to positive drainage away from the structure and positive drainage of the aggregate base beneath the floor slab.

### Floor Slab Design Parameters

Item	Description
<b>Floor Slab Support<sup>1</sup></b>	<ul style="list-style-type: none"> <li>Subgrade per recommendations in <b>Earthwork</b></li> <li>Minimum 6 inches of crushed aggregate compacted to at least 98% of ASTM D 698 <sup>1, 2</sup></li> </ul>
<b>Estimated Modulus of Subgrade Reaction <sup>2</sup></b>	100 pounds per square inch per inch (psi/in) for point loads

1. Floor slabs may be structurally independent of building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation.
2. Modulus of subgrade reaction is an estimated value based upon our experience with the subgrade condition, the requirements noted in **Earthwork**, and the floor slab support as noted in this table. It is provided for point loads. For large area loads the modulus of subgrade reaction would be lower.

The use of a vapor retarder should be considered beneath concrete slabs on grade covered with wood, tile, carpet, or other moisture sensitive or impervious coverings, when the project includes humidity-controlled areas, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

Saw-cut contraction joints should be placed in the slab to help control the location and extent of cracking. For additional recommendations, refer to the ACI Design Manual. Joints or cracks should be sealed with a waterproof, non-extruding compressible compound specifically recommended for heavy duty concrete pavement and wet environments.

Where floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the length of the structural dowels. The Structural Engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing or other means.



## Floor Slab Construction Considerations

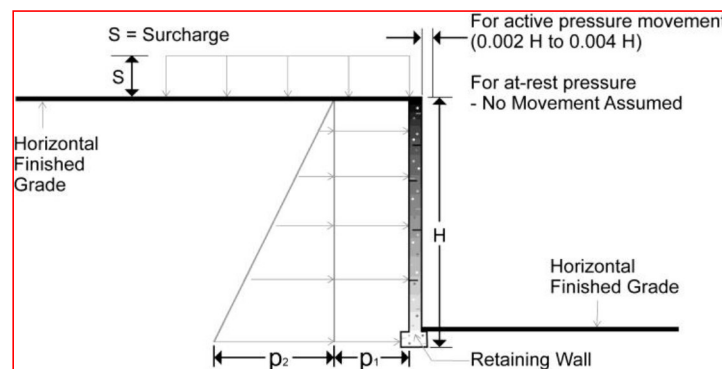
Finished subgrade, within and for at least 10 feet beyond the floor slab, should be protected from traffic, rutting, or other disturbance and maintained in a relatively moist condition until floor slabs are constructed. If the subgrade should become damaged or desiccated prior to construction of floor slabs, the affected material should be removed, and Engineered Fill should be added to replace the resulting excavation. Final conditioning of the finished subgrade should be performed immediately prior to placement of the floor slab support course.

The Geotechnical Engineer should observe the condition of the floor slab subgrades immediately prior to placement of the floor slab support course, reinforcing steel, and concrete. Attention should be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

## Lateral Earth Pressures

### Design Parameters

Structures with unbalanced backfill levels on opposite sides should be designed for earth pressures at least equal to values indicated in the following table. Earth pressures will be influenced by structural design of the walls, conditions of wall restraint, methods of construction, and/or compaction and the strength of the materials being restrained. Two wall restraint conditions are shown in the diagram below. Active earth pressure is commonly used for design of free-standing cantilever retaining walls and assumes wall movement. The "at-rest" condition assumes no wall movement and is commonly used for basement walls, loading dock walls, or other walls restrained at the top. The recommended design lateral earth pressures do not include a factor of safety and do not provide for possible hydrostatic pressure on the walls (unless stated).





### Lateral Earth Pressure Design Parameters

Earth Pressure Condition <sup>1</sup>	Coefficient for Backfill Type <sup>2</sup>	Surcharge Pressure <sup>3</sup> p <sub>1</sub> (psf)	Equivalent Fluid Pressures (psf) <sup>2,4</sup>	
			Unsaturated <sup>5</sup>	Submerged <sup>5</sup>
Active (K <sub>a</sub> )	Granular - 0.33	(0.31)S	(40)H	(80)H
	Fine Grained - 0.41	(0.41)S	(50)H	(85)H
At-Rest (K <sub>o</sub> )	Granular - 0.47	(0.47)S	(55)H	(90)H
	Fine Grained - 0.58	(0.58)S	(70)H	(95)H

1. For active earth pressure, wall must rotate about base, with top lateral movements 0.002H to 0.004H, where H is wall height. For passive earth pressure, wall must move horizontally to mobilize resistance. Fat clay or other expansive soils should not be used as backfill behind the wall.
2. Uniform, horizontal backfill, compacted to at least 98% of the ASTM D 698 maximum dry density, with a maximum unit weight of 120 pcf.
3. Uniform surcharge, where S is surcharge pressure.
4. Loading from heavy compaction equipment is not included.
5. To achieve "Unsaturated" conditions, follow guidelines in **Subsurface Drainage for Below-Grade Walls** below. "Submerged" conditions are recommended when drainage behind walls is not incorporated into the design.

Backfill placed against structures should consist of granular soils or low plasticity cohesive soils. For the granular values to be valid, the granular backfill must extend out and up from the base of the wall at an angle of at least 45 degrees from vertical for the active case.

Footings, floor slabs or other loads bearing on backfill behind walls may have a significant influence on the lateral earth pressure. Placing footings within wall backfill and in the zone of active soil influence on the wall should be avoided unless structural analyses indicate the wall can safely withstand the increased pressure.

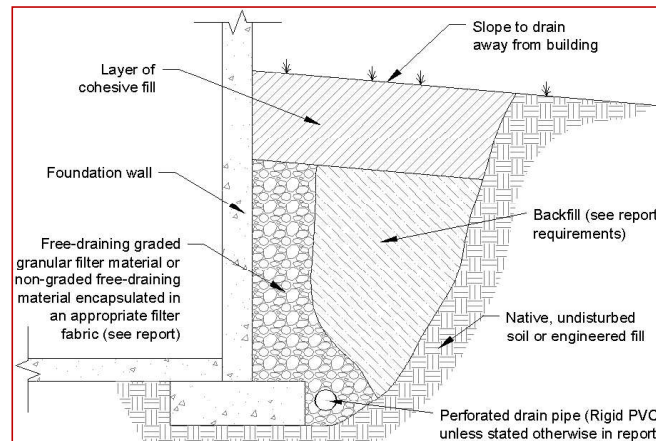
The lateral earth pressure recommendations given in this section are applicable to the design of rigid retaining walls subject to slight rotation, such as cantilever, or gravity type concrete walls. These recommendations are not applicable to the design of modular block - geogrid reinforced backfill walls (also termed MSE walls). Recommendations covering these types of wall systems are beyond the scope of services for this assignment. However, we would be pleased to develop a proposal for evaluation and design of such wall systems upon request.

### Subsurface Drainage for Below-Grade Walls

A perforated rigid plastic drain line installed behind the base of walls and extends below adjacent grade is recommended to prevent hydrostatic loading on the walls. The invert of a drain line around a below-grade building area or exterior retaining wall should be placed near foundation bearing level. The drain line should be sloped to provide positive gravity



drainage to daylight or to a sump pit and pump. The drain line should be surrounded by clean, free-draining granular material having less than 5% passing the No. 200 sieve, such as No. 57 aggregate. The free-draining aggregate should be encapsulated in a filter fabric. The granular fill should extend to within 2 feet of final grade, where it should be capped with compacted cohesive fill to reduce infiltration of surface water into the drain system.



As an alternative to free-draining granular fill, a prefabricated drainage structure may be used. A prefabricated drainage structure is a plastic drainage core or mesh which is covered with filter fabric to prevent soil intrusion and is fastened to the wall prior to placing backfill.

## Pavements

### General Pavement Comments

Pavement designs are provided for the traffic conditions and pavement life conditions as noted in **Project Description** and in the following sections of this report. A critical aspect of pavement performance is site preparation. Pavement designs noted in this section must be applied to the site which has been prepared as recommended in the **Earthwork** section.

### Pavement Design Parameters

An estimated California Bearing Ratio (CBR) of 5 was used for the subgrade for the asphaltic concrete (AC) pavement designs. An estimated modulus of subgrade reaction of 125 pci was used for the Portland cement concrete (PCC) pavement designs. The value was empirically derived based upon our experience with similar subgrade soils and our expectation of the quality of the subgrade as prescribed by the **Site Preparation** conditions as outlined in **Earthwork**. A modulus of rupture of 550 psi was used in design



for the concrete (based on correlations with a minimum 28-day compressive strength of 4,000 psi).

## Pavement Section Thicknesses

The following table provides our opinion of minimum thickness for AC sections:

### Asphaltic Concrete Design

Layer	Thickness (inches)	
	Automobile Parking (Class I) <sup>1</sup>	Drive Lanes/Entrances/Exits (Class III) <sup>1</sup>
AC <sup>2, 3</sup>	3	5
Aggregate Base	6	6

1. See [Project Description](#) for more specifics regarding traffic assumptions.
2. All materials should meet the current State of Alabama Department of Transportation (ALDOT) Standard Specifications for Road and Bridge Construction, 2018 Edition or equivalent specifications.
  - Asphaltic Surface – ALDOT Section 424 A (ESAL Range A/B)
  - Asphaltic Base – ALDOT Section 424 B (ESAL Range A/B)
  - Aggregate base course should consist of an ALDOT Section 825B Crushed Aggregate Base. Aggregate base course should be compacted to 100 percent of its maximum dry density as determined by ASTM D-698.
3. A minimum 1.5-inch surface course should be used on AC pavements.

The following table provides our estimated minimum thickness of PCC pavements.

### Portland Cement Concrete Design

Layer	Thickness (inches)		
	Automobile Parking (Category A) <sup>1</sup>	Drive Lanes/Entrances/Exits (Category B) <sup>1</sup>	Dumpster Pad (Category E) <sup>1</sup>
PCC <sup>2</sup>	5	6	8
Aggregate Base	4	4	4

1. See [Project Description](#) for more specifics regarding traffic classifications.
2. All materials should meet the current State of Alabama Department of Transportation (ALDOT) *Standard Specifications for Highway Construction*, 2022 Edition or equivalent specifications.
  - Concrete Pavement – ALSSHC (2022), Section 450
  - Aggregate base course should consist of an ALDOT Section 825B Crushed Aggregate Base. Aggregate base course should be compacted to 100 percent of its maximum dry density as determined by ASTM D-698.



Areas for parking of heavy vehicles, concentrated turn areas, and start/stop maneuvers could require thicker pavement sections. Edge restraints (i.e., concrete curbs or aggregate shoulders) should be planned along curves and areas of maneuvering vehicles.

Although not required for structural support, a minimum 4-inch thick base course layer is recommended to help reduce potential for slab curl, shrinkage cracking, and subgrade pumping through joints. Proper joint spacing will also be required to prevent excessive slab curling and shrinkage cracking. Joints should be sealed to prevent entry of foreign material and doweled where necessary for load transfer. PCC pavement details for joint spacing, joint reinforcement, and joint sealing should be prepared in accordance with ACI 330 and ACI 325.

Where practical, we recommend early-entry cutting of crack-control joints in PCC pavements. Cutting of the concrete in its "green" state typically reduces the potential for micro-cracking of the pavements prior to the crack control joints being formed, compared to cutting the joints after the concrete has fully set. Micro-cracking of pavements may lead to crack formation in locations other than the sawed joints, and/or reduction of fatigue life of the pavement.

Openings in pavements, such as decorative landscaped areas, are sources for water infiltration into surrounding pavement systems. Water can collect in the islands and migrate into the surrounding subgrade soils thereby degrading support of the pavement. Islands with raised concrete curbs, irrigated foliage, and low permeability near-surface soils are particular areas of concern. The civil design for the pavements with these conditions should include features to restrict or collect and discharge excess water from the islands. Examples of features are edge drains connected to the stormwater collection system, longitudinal subdrains, or other suitable outlets and impermeable barriers preventing lateral migration of water such as a cutoff wall installed to a depth below the pavement structure.

## Pavement Drainage

Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. In addition, the pavement subgrade should be graded to provide positive drainage within the granular base section. Appropriate sub-drainage or connection to a suitable daylight outlet should be provided to remove water from the granular subbase.

## Pavement Maintenance

The pavement sections represent minimum recommended thicknesses and, as such, periodic upkeep should be anticipated. Preventive maintenance should be planned and



provided for through an on-going pavement management program. Maintenance activities are intended to slow the rate of pavement deterioration and to preserve the pavement investment. Pavement care consists of both localized (e.g., crack and joint sealing and patching) and global maintenance (e.g., surface sealing). Additional engineering consultation is recommended to determine the type and extent of a cost-effective program. Even with periodic maintenance, some movements and related cracking may still occur, and repairs may be required.

Pavement performance is affected by its surroundings. In addition to providing preventive maintenance, the civil engineer should consider the following recommendations in the design and layout of pavements:

- Final grade adjacent to paved areas should slope down from the edges at a minimum 2%.
- Subgrade and pavement surfaces should have a minimum 2% slope to promote proper surface drainage.
- Install pavement drainage systems surrounding areas anticipated for frequent wetting.
- Install joint sealant and seal cracks immediately.
- Seal all landscaped areas in or adjacent to pavements to reduce moisture migration to subgrade soils.
- Place compacted, low permeability backfill against the exterior side of curb and gutter.
- Place curb, gutter and/or sidewalk directly on clay subgrade soils rather than on unbound granular base course materials.

## General Comments

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner



is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly effect excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating including excavation support and dewatering requirements/design are the responsibility of others. Construction and site development have the potential to affect adjacent properties. Such impacts can include damages due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with contractor means and methods and are not addressed in this report. The owner and contractor should consider a preconstruction/precondition survey of surrounding development. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.



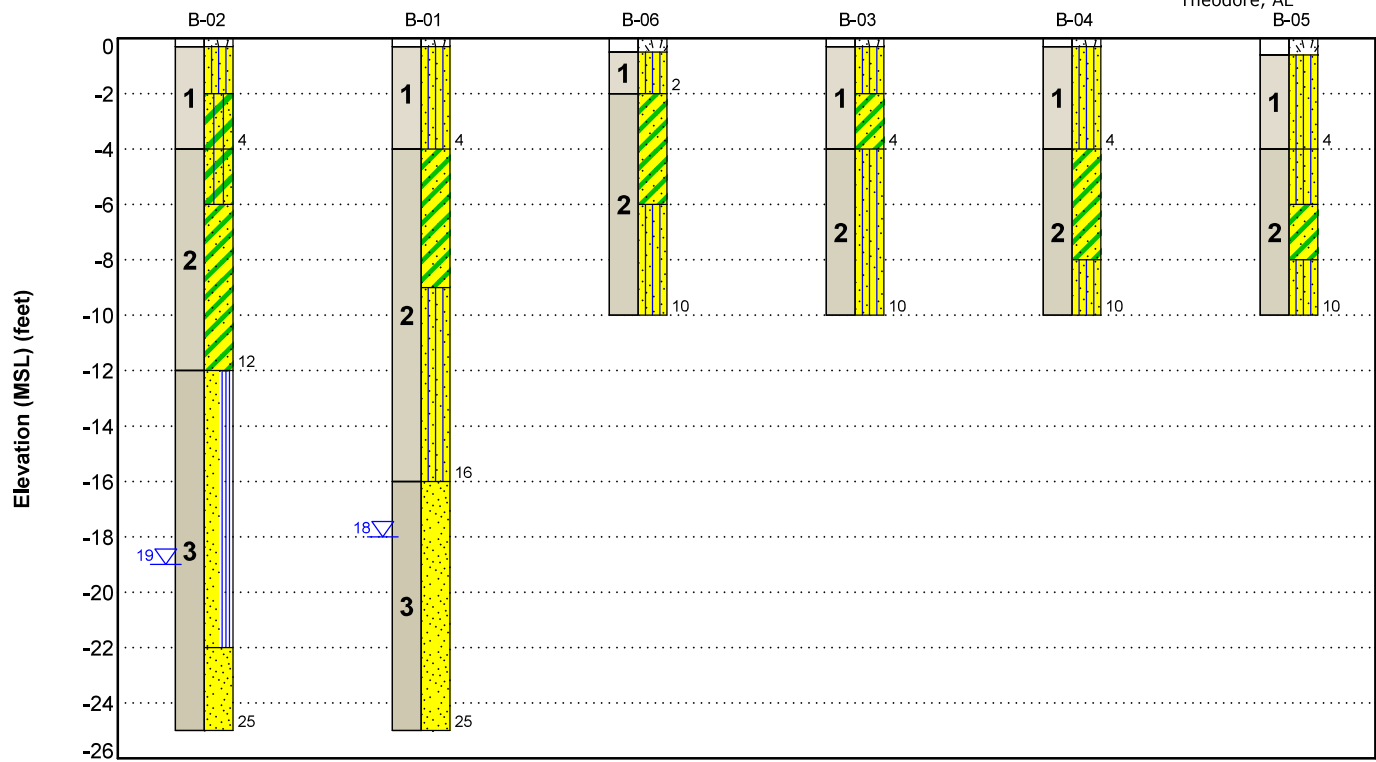
## Figures

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GeoModel









GeoModel



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	Loose Sands	Silty Sand (SM) / Clayey Sand (SC); Loose
2	Denser Sands	Silty Sand (SM) / Clayey Sand (SC); Medium Dense
3	Lower Sands	Poorly Graded Sand (SP) / Poorly Graded Sand with Silt (SP-SM); Medium Dense

LEGEND

-  Topsoil
-  Poorly-graded Sand
-  Silty Sand
-  Silty Clayey Sand
-  Clayey Sand
-  Poorly-graded Sand with Silt

 First Water Observation

The groundwater levels shown are representative of the date and time of our exploration. Significant changes are possible over time. Water levels shown are as measured during and/or after drilling. In some cases, boring advancement methods mask the presence/absence of groundwater. See individual logs for details.

NOTES:  
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.



## Geotechnical Engineering Report

Express Oil Change | Foley, Alabama

January 11, 2023 | Terracon Project No. EK235058



## Attachments



## Exploration and Testing Procedures

### Field Exploration

Number of Borings	Approximate Boring Depth (feet)	Location
2	25	Building Area
4	10	Pavement Areas

**Boring Layout and Elevations:** Terracon personnel provided the boring layout using handheld GPS equipment (estimated horizontal accuracy of about  $\pm 10$  feet) and referencing existing site features. If elevations and a more precise boring layout are desired, we recommend borings be surveyed.

**Subsurface Exploration Procedures:** We advanced the borings with a track-mounted, rotary drill rig hollow-stem auger technique. Five samples were obtained in the upper 10 feet and at intervals of 5 feet thereafter in the boeings. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the middle 12 inches of a normal 24-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. We observed and recorded groundwater levels during drilling and sampling. For safety purposes and in accordance with Alabama State Regulations, all borings were backfilled with auger cuttings after their completion.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials observed during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.



## Laboratory Testing

The project engineer reviewed the field data and assigned laboratory tests. The laboratory testing program included the following types of tests:

- Moisture content
- Atterberg limits
- No. 200 wash

Based on the results of our field and laboratory programs, we described and classified the soil samples in accordance with the Unified Soil Classification System.



## Site Location and Exploration Plans

### **Contents:**

Site Location Plan

Exploration Plan

Note: All attachments are one page unless noted above.



Site Location

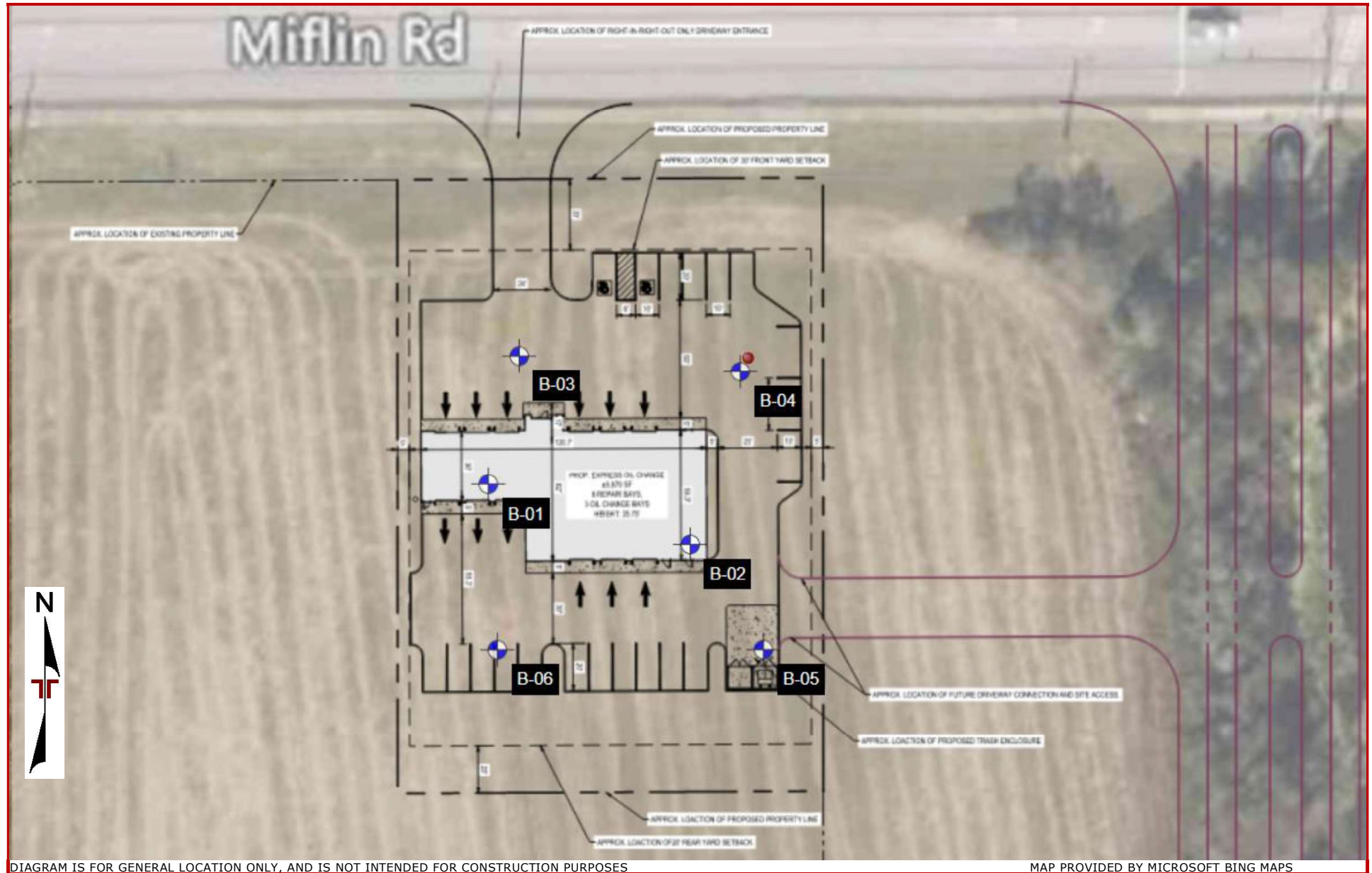


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS



## Exploration Plan





## **Exploration and Laboratory Results**

### **Contents:**

Boring Logs (B-1 through B-6)

Note: All attachments are one page unless noted above.



## Boring Log No. B-01

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a> Latitude: 30.3698° Longitude: -87.6602° Depth (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	Percent Fines
								LL-PL-PI	
		0.3 <b>TOPSOIL</b>							
1		<b>SILTY SAND (SM)</b> , tan red and gray, loose				1-2-3-2 N=5	16.0		
		-trace sandstone below 2'				2-2-4-5 N=6	18.7		33
		4.0							
2		<b>CLAYEY SAND (SC)</b> , tan red and gray, medium dense	5			3-7-12-9 N=19	17.0	32-17-15	30
						5-6-9-10 N=15	19.4		
		9.0				3-4-8-10 N=12	7.3		
		<b>SILTY SAND (SM)</b> , orange and white, medium dense	10						
3						6-10-14-20 N=24			
		16.0							
		<b>POORLY GRADED SAND (SP)</b> , white, medium dense							
						8-11-14-15 N=25			
						3-7-8-8 N=15			
		25.0							
		<b>Boring Terminated at 25 Feet</b>	25						

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).  
See [Supporting Information](#) for explanation of symbols and abbreviations.

### Notes

### Water Level Observations

While drilling

**Drill Rig**  
CME-75 Track

**Hammer Type**  
Automatic

**Driller**  
Challenge Testing

**Logged by**  
J. Cooch

**Boring Started**  
12-12-2023

**Boring Completed**  
12-12-2023

**Advancement Method**  
Hollow Stem Auger: 0' to 25'

**Abandonment Method**  
Boring backfilled with auger cuttings upon completion.



## Boring Log No. B-02

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a> Latitude: 30.3697° Longitude: -87.6900° Depth (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	Percent Fines
								LL-PL-PI	
1		0.3 <b>TOPSOIL</b>							
		<b>SILTY SAND (SM)</b> , tan, loose				1-2-2-1 N=4	17.3		
		2.0 <b>SILTY CLAYEY SAND (SC-SM)</b> , tan and red, loose				2-2-4-11 N=6	16.9		32
2		4.0 <b>SILTY CLAYEY SAND (SC-SM)</b> , tan and red, medium dense	5			2-9-11-13 N=20	19.6	38-18-20	46
		6.0 <b>CLAYEY SAND (SC)</b> , tan and red, medium dense				4-7-8-11 N=15	19.1		
			10			8-12-13-15 N=25	13.4		
		12.0 <b>POORLY GRADED SAND WITH SILT (SP-SM)</b> , yellow white and red, medium dense				7-8-10-13 N=18			
3			15						
			20			11-9-10-9 N=19			
		22.0 <b>POORLY GRADED SAND (SP)</b> , white, medium dense				5-5-5-8 N=10			
		25.0 <b>Boring Terminated at 25 Feet</b>	25						

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).  
See [Supporting Information](#) for explanation of symbols and abbreviations.

### Notes

### Water Level Observations

While drilling

**Drill Rig**  
CME-75 Track

**Hammer Type**  
Automatic

**Driller**  
Challenge Testing

**Logged by**  
J. Cooch

**Boring Started**  
12-12-2023

**Boring Completed**  
12-12-2023

**Advancement Method**  
Hollow Stem Auger: 0' to 25'

**Abandonment Method**  
Boring backfilled with auger cuttings upon completion.







Boring Log No. B-03

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a> Latitude: 30.3699° Longitude: -87.6602°  Depth (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	Percent Fines
								LL-PL-PI	
1		0.3 <b>TOPSOIL</b>							
		<b>SILTY SAND (SM)</b> , tan, very loose				2-2-1-3 N=3	14.8		31
		2.0 <b>CLAYEY SAND (SC)</b> , trace sandstone, tan, loose				2-2-2-8 N=4	19.3		31
2		4.0 <b>SILTY SAND (SM)</b> , tan and red, medium dense	5			6-9-12-13 N=21			
		-trace clay lenses from 6' to 8'				3-3-7-9 N=10			
		10.0	10			4-7-9-13 N=16			
		<b>Boring Terminated at 10 Feet</b>							
See <a href="#">Exploration and Testing Procedures</a> for a description of field and laboratory procedures used and additional data (If any). See <a href="#">Supporting Information</a> for explanation of symbols and abbreviations.			<b>Water Level Observations</b> Groundwater not encountered during drilling			<b>Drill Rig</b> CME-75 Track  <b>Hammer Type</b> Automatic  <b>Driller</b> Challenge Testing  <b>Logged by</b> J. Cooch  <b>Boring Started</b> 12-12-2023  <b>Boring Completed</b> 12-12-2023			
<b>Notes</b>			<b>Advancement Method</b> Hollow Stem Auger: 0' to 10'  <b>Abandonment Method</b> Boring backfilled with auger cuttings upon completion.						



## Boring Log No. B-04

Model Layer	Graphic Log	Location: See <span>Exploration Plan</span>	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	Percent Fines		
		Latitude: 30.3699° Longitude: -87.6599°						LL-PL-PI			
		Depth (Ft.)									
1		0.3 <b>TOPSOIL</b>	5			2-4-2-4 N=6	14.0				
		<b>SILTY SAND (SM)</b> , tan and red, loose				2-2-2-2 N=4	18.4				
2		4.0 <b>CLAYEY SAND (SC)</b> , tan and red, medium dense				9-9-13-13 N=22					
		8.0 <b>SILTY SAND (SM)</b> , tan and red, medium dense				2-4-7-9 N=11					
						5-9-11-13 N=20					
		10.0 <b>Boring Terminated at 10 Feet</b>	10								

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).  
See [Supporting Information](#) for explanation of symbols and abbreviations.

**Water Level Observations**  
Groundwater not encountered during drilling

**Drill Rig**  
CME-75 Track  
  
**Hammer Type**  
Automatic  
  
**Driller**  
Challenge Testing

### Notes

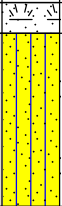

**Advancement Method**  
Hollow Stem Auger: 0' to 10'

**Abandonment Method**  
Boring backfilled with auger cuttings upon completion.

**Logged by**  
J. Cooch  
  
**Boring Started**  
12-12-2023  
  
**Boring Completed**  
12-12-2023



## Boring Log No. B-05

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a> Latitude: 30.3696° Longitude: -87.6599°  Depth (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	Percent Fines
								LL-PL-PI	
		0.6 <b>TOPSOIL</b>							
1		<b>SILTY SAND (SM)</b> , tan, loose				1-2-2-3 N=4	16.9		34
						2-2-5-13 N=7	17.6		
2		4.0 <b>SILTY SAND (SM)</b> , tan and red, medium dense	5			3-6-9-12 N=15			
		6.0 <b>CLAYEY SAND (SC)</b> , tan and red, medium dense				3-6-7-9 N=13			
		8.0 <b>SILTY SAND (SM)</b> , red and tan, medium dense				4-5-10-12 N=15			
		10.0							
		<b>Boring Terminated at 10 Feet</b>	10						

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).  
See [Supporting Information](#) for explanation of symbols and abbreviations.

**Water Level Observations**  
Groundwater not encountered during drilling



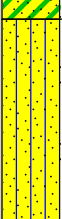
**Drill Rig**  
CME-75 Track  
  
**Hammer Type**  
Automatic  
  
**Driller**  
Challenge Testing  
  
**Logged by**  
J. Cooch  
  
**Boring Started**  
12-12-2023  
  
**Boring Completed**  
12-12-2023

### Notes

**Advancement Method**  
Hollow Stem Auger: 0' to 10'  
  
**Abandonment Method**  
Boring backfilled with auger cuttings upon completion.



## Boring Log No. B-06

Model Layer	Graphic Log	Location: See <a href="#">Exploration Plan</a> Latitude: 30.3696° Longitude: -87.6602° Depth (Ft.)	Depth (Ft.)	Water Level Observations	Sample Type	Field Test Results	Water Content (%)	Atterberg Limits	Percent Fines
								LL-PL-PI	
		0.5 <b>TOPSOIL</b>							
1		<b>SILTY SAND (SM)</b> , tan, very loose				2-1-2-1 N=3	17.6		
		2.0							
		<b>CLAYEY SAND (SC)</b> , trace sandstone, tan and red, medium dense				3-6-8-9 N=14	18.2		
			5			7-9-9-10 N=18	19.9		
2		<b>SILTY SAND (SM)</b> , tan and red, medium dense				3-6-8-9 N=14			
		-orange below 8'							
		10.0				5-7-7-11 N=14			
		<b>Boring Terminated at 10 Feet</b>	10						

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (If any).  
See [Supporting Information](#) for explanation of symbols and abbreviations.

**Water Level Observations**  
Groundwater not encountered during drilling

**Drill Rig**  
CME-75 Track  
**Hammer Type**  
Automatic  
**Driller**  
Challenge Testing

### Notes

**Advancement Method**  
Hollow Stem Auger: 0' to 10'

**Abandonment Method**  
Boring backfilled with auger cuttings upon completion.

**Logged by**  
J. Cooch  
**Boring Started**  
12-12-2023  
**Boring Completed**  
12-12-2023



## **Supporting Information**

### **Contents:**

General Notes












Unified Soil Classification System

Note: All attachments are one page unless noted above.



## General Notes

### DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

SAMPLING			WATER LEVEL		Water Initially Encountered	FIELD TESTS	(HP)	Hand Penetrometer	
					Water Level After a Specified Period of Time		(T)	Torvane	
					Water Level After a Specified Period of Time		(b/f)	Standard Penetration Test (blows per foot)	
				Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.			(PID) Detector	Photo-Ionization	
	Grab Sample	No Recovery					(OVA)	Organic Vapor Analyzer	

### DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

### LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

<b>STRENGTH TERMS</b>	<b>RELATIVE DENSITY OF COARSE-GRAINED SOILS</b> (More than 50% retained on No. 200 Sieve) Density determined by Standard Penetration Resistance. Includes gravels, sands and silts.			<b>CONSISTENCY OF FINE-GRAINED SOILS</b> (50% or more passing the No. 200 sieve). Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance.			
	<b>Descriptive Term (Density)</b>	<b>Standard Penetration or N-Value Blows/Ft.</b>	<b>Ring Sampler Blows/Ft.</b>	<b>Descriptive Term (Consistency)</b>	<b>Unconfined Compressive Strength, Qu, tsf</b>	<b>Standard Penetration or N-Value Blows/Ft.</b>	<b>Ring Sampler Blows/Ft.</b>
	Very Loose	0 – 3	0 – 6	Very Soft	Less than 0.25	0 – 1	< 3
	Loose	4 – 9	7 – 18	Soft	0.25 to 0.50	2 – 4	3 – 4
	Medium Dense	10 – 29	19 – 58	Medium-Stiff	0.50 to 1.00	4 – 8	5 – 9
	Dense	30 – 50	59 – 98	Stiff	1.00 to 2.00	8 – 15	10 – 18
	Very Dense	> 50	≥ 99	Very Stiff	2.00 to 4.00	15 – 30	19 – 42
				Hard	> 4.00	> 30	> 42

### RELATIVE PROPORTIONS OF SAND AND GRAVEL

<b>Descriptive Term(s) of other constituents</b>	<b>Percent of Dry Weight</b>
Trace	< 15
With	15 – 29
Modifier	> 30

### RELATIVE PROPORTIONS OF FINES

<b>Descriptive Term(s) of other constituents</b>	<b>Percent of Dry Weight</b>
Trace	< 5
With	5 – 12
Modifier	> 12

### GRAIN SIZE TERMINOLOGY

<b>Major Component of Sample</b>	<b>Particle Size</b>
Boulders	Over 12 in. (300mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 4.75mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm)
Silt or Clay	Passing #200 sieve (0.075mm)

### PLASTICITY DESCRIPTION

<b>Term</b>	<b>Plasticity Index</b>
Non-plastic	0
Low	1 – 10
Medium	11 – 30
High	> 30



## Unified Soil Classification System

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests <sup>A</sup>				Soil Classification	
				Group Symbol	Group Name <sup>B</sup>
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines <sup>C</sup>	$Cu \geq 4$ and $1 \leq Cc \leq 3$ <sup>E</sup>	GW	Well-graded gravel <sup>F</sup>
			$Cu < 4$ and/or $[Cc < 1$ or $Cc > 3.0]$ <sup>E</sup>	GP	Poorly graded gravel <sup>F</sup>
		Gravels with Fines: More than 12% fines <sup>C</sup>	Fines classify as ML or MH	GM	Silty gravel <sup>F, G, H</sup>
			Fines classify as CL or CH	GC	Clayey gravel <sup>F, G, H</sup>
	Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines <sup>D</sup>	$Cu \geq 6$ and $1 \leq Cc \leq 3$ <sup>E</sup>	SW	Well-graded sand <sup>I</sup>
			$Cu < 6$ and/or $[Cc < 1$ or $Cc > 3.0]$ <sup>E</sup>	SP	Poorly graded sand <sup>I</sup>
		Sands with Fines: More than 12% fines <sup>D</sup>	Fines classify as ML or MH	SM	Silty sand <sup>G, H, I</sup>
			Fines classify as CL or CH	SC	Clayey sand <sup>G, H, I</sup>
Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	$PI > 7$ and plots above "A" line <sup>J</sup>	CL	Lean clay <sup>K, L, M</sup>
			$PI < 4$ or plots below "A" line <sup>J</sup>	ML	Silt <sup>K, L, M</sup>
		Organic:	$\frac{LL \text{ oven dried}}{LL \text{ not dried}} < 0.75$	OL	Organic clay <sup>K, L, M, N</sup> Organic silt <sup>K, L, M, O</sup>
	Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above "A" line	CH	Fat clay <sup>K, L, M</sup>
			PI plots below "A" line	MH	Elastic silt <sup>K, L, M</sup>
		Organic:	$\frac{LL \text{ oven dried}}{LL \text{ not dried}} < 0.75$	OH	Organic clay <sup>K, L, M, P</sup> Organic silt <sup>K, L, M, Q</sup>
Highly organic soils:	Primarily organic matter, dark in color, and organic odor			PT	Peat

<sup>A</sup> Based on the material passing the 3-inch (75-mm) sieve.

<sup>B</sup> If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

<sup>C</sup> Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

<sup>D</sup> Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

$$^E \quad Cu = D_{60}/D_{10} \quad Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$$

<sup>F</sup> If soil contains  $\geq 15\%$  sand, add "with sand" to group name.

<sup>G</sup> If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

<sup>H</sup> If fines are organic, add "with organic fines" to group name.

<sup>I</sup> If soil contains  $\geq 15\%$  gravel, add "with gravel" to group name.

<sup>J</sup> If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

<sup>K</sup> If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

<sup>L</sup> If soil contains  $\geq 30\%$  plus No. 200 predominantly sand, add "sandy" to group name.

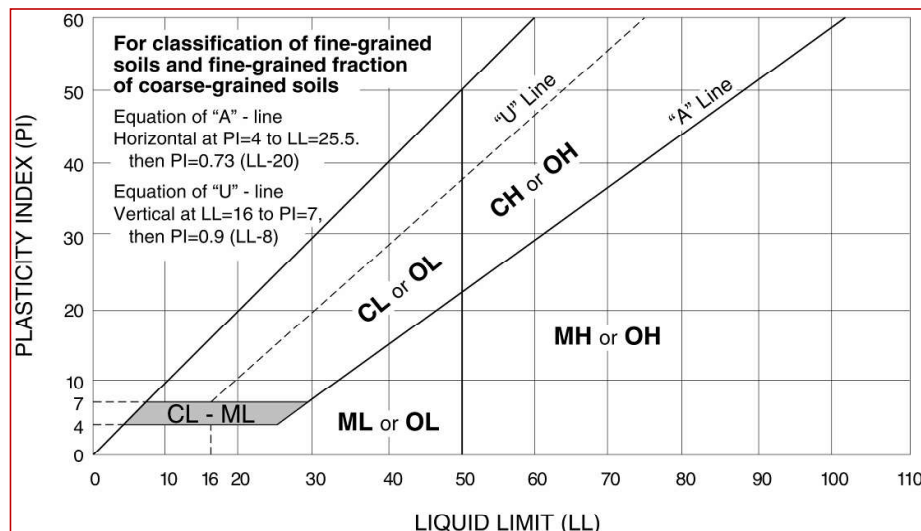
<sup>M</sup> If soil contains  $\geq 30\%$  plus No. 200, predominantly gravel, add "gravelly" to group name.

<sup>N</sup> PI  $\geq 4$  and plots on or above "A" line.

<sup>O</sup> PI < 4 or plots below "A" line.

<sup>P</sup> PI plots on or above "A" line.

<sup>Q</sup> PI plots below "A" line.





## **SCOPE OF WORK**

### Phase I

- Set Site Benchmark
- Locate existing property corner iron rods and reestablishing if necessary
- Set four building corner lines with 10' setbacks

### Phase II

- Provide top of forms elevation certificate

### Phase III

- Provide finished construction slab elevation
- Provide sketch showing location of slab on property

### Phase IV

- Locate up to 5 defined points in the field at the request of the contractor

### Phase V

- Final FEMA Certificate