

**NEW CONSTRUCTION FOR** 

# **TAKE 5 OIL CHANGE**

400 NE M STATE ROUTE 291 LEE'S SUMMIT, MISSOURI 64086

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Utility Details

Utility Details

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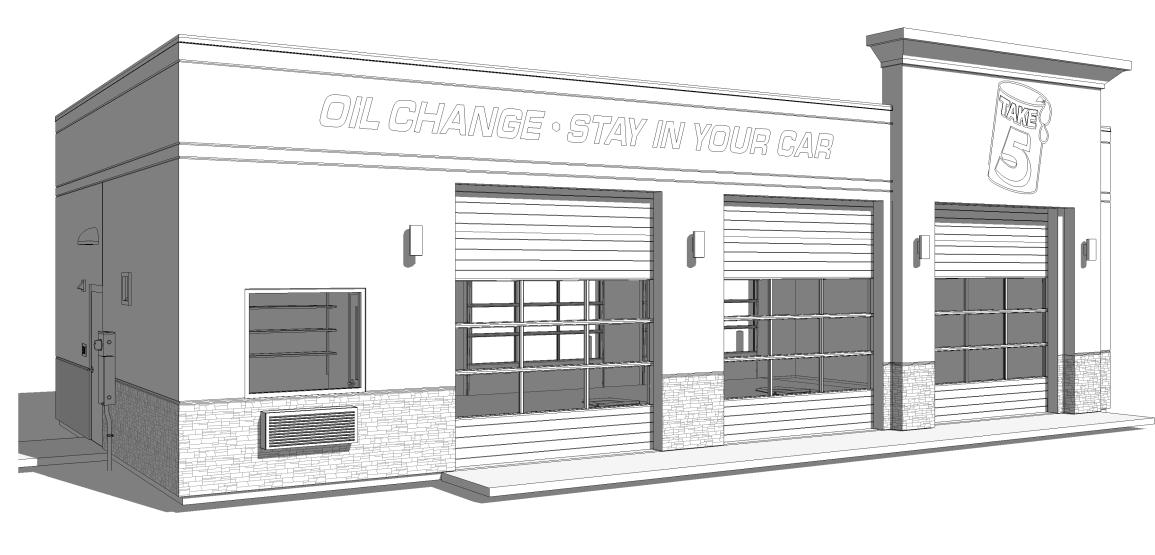
**Electrical Cover Sheet** Electrical Site Plan Photometric Plan Electrical Plans Electrical Details **Electrical Specifications** 

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Colored Signage Package



2 Take 5 Perspective

#### THE GENERAL CONTRACTOR IS RESPONSIBLE TO SUPPLY ALL SUBCONTRACTORS WITH CONSTRUCTION DRAWINGS AND SPECIFICATIONS NECESSARY TO BID AND/OR CONSTRUCT THIS PROJECT. ALL DIMENSIONS ON THE FLOOR PLANS, UNLESS OTHERWISE NOTED, ARE TAKEN FROM FACES OF STUDS OF EXTERIOR WALLS AND INTERIOR WALLS.

**GENERAL NOTES:** 

THE OWNER SHALL BE RESPONSIBLE FOR NOTIFYING THE GENERAL CONTRACTOR OF ANY ADDITIONAL ITEMS TO BE INSTALLED THAT ARE NOT SHOWN ON THE DRAWINGS.

ANY PENETRATIONS OF, OR MODIFICATIONS TO CONCRETE MUST BE COORDINATED WITH ARCHITECT PRIOR TO

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE. INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO INSURE THE SAFETY OF THE PUBLIC AND/OR WORK PERSONS ON THE JOB AND TO PREVENT ACCIDENTS OR INJURY TO ANY PERSON ON, ABOUT OR ADJACENT TO THE PREMISES. THE CONTRACTOR SHALL COMPLY WITH ALL LAWS. ORDINANCES, CODES, RULES AND REGULATIONS RELATIVE TO SAFETY AND THE PREVENTION OF ACCIDENTS

WHETHER OR NOT SPECIFICALLY INDICATED ON THE DRAWINGS, ALL CONTRACTORS SHALL BE RESPONSIBLE FOR REMOVING OR DEMOLISHING EXISTING CONSTRUCTION (INCLUDING UTILITIES) WHICH WILL INTERFERE WITH NEW

PRIOR TO THE SHUT-DOWN OR TYING INTO ANY UTILITY, APPROVAL SHALL BE OBTAINED FROM THE OWNER'S

COORDINATE WITH OWNER'S REPRESENTATIVE, LOCATION OF CONTRACTORS' EQUIPMENT AND MATERIAL

ALL MECHANICAL WORK SHALL BE PERFORMED BY A LICENSED MECHANICAL CONTRACTOR AND IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS ALL PLUMBING WORK SHALL BE PERFORMED BY A LICENSED PLUMBING CONTRACTOR ALL IN ACCORDANCE WITH

ALL APPLICABLE CODES AND STANDARDS. ALL ELECTRICAL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR AND IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS

ALL STRUCTURAL FRAMING WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS.

### OCCUPANCY CLASSIFICATION: REPAR GARAGE

NFPA:

TYPE OF CONSTRUCTION:

1 STORY NUMBER OF STORIES: **BUILDING HEIGHT:** 20'-0"

TOTAL BUILDING AREA: 1,415 S.F.

OCCUPANCY LOAD: 14 (S-1 = 100 sq ft/ person)

#### International Building Code - 2018 Edition

International Mechanical Code - 2018 Edition

International Plumbing Code - 2018 Edition

International Fire Code - 2018 Edition

International Fuel Gas Code - 2018 Edition

National Electric Code - 2017 Edition

Americans with Disabilities Act Accessibility Guidelines (ADA-AG September 1994)

ICC/ANSI A117.1-2009 as amended and adopted by the City of Lee's Summit

APPLICABLE BUILDING CODES AND STANDARDS:

#### PROJECT DESCRIPTION: PROFESSIONAL OF RECORD

PROJECT INFORMATION:

VΒ

This project involves:

New site work and a wood framed building for a Take 5 Oil change center.

Proper adherence to all state and local codes and provisions shall be followed.

#### **Fusion Architects**

3488 Brentwood Drive, Suite 101 Baton Rouge, LA 70809 P 225.766.4848 F 225.766.4724

Contact: Matt Daigrepont, AIA matt@fusionbcb.com

## **DEVELOPER / OWNER**

**Driven Assets LLC** 

6335 Markita Avenue TX, Dallas 75214

**Contact: Hank Hopkins** hank@drivenassets.com

# **Marquez Construction Inc.**

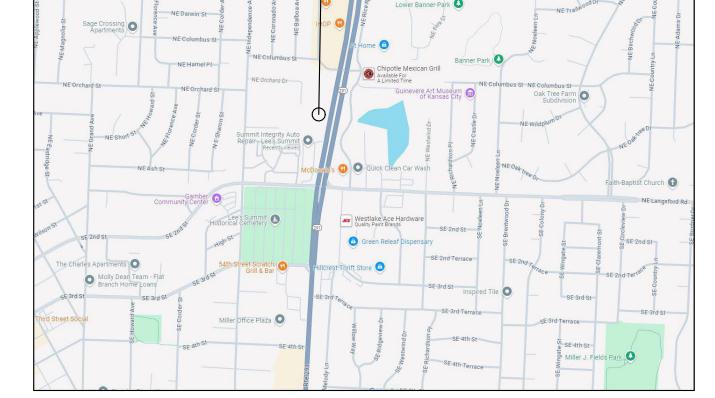
**GENERAL CONTRACTOR** 

1850 Tennyson Road Kansas City, KS 66104 P 913.275.3090

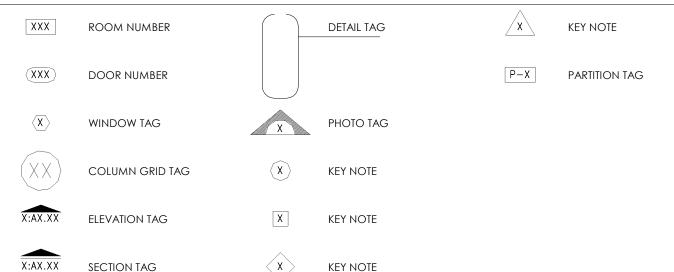
Contact: Jamie Marquez jmarquezconst@gmail.com

# **VICINITY MAP:**





## SYMBOLS LEGEND:



#### **CIVIL LANDSCAPE**

High Tide Consultants, LLC McKnight Landscape Architects

434 Columbia Street - Suite 200A Covington, LA 70433 P 985.446.1110 Ext: 1005 hightidela.com Contact: Richard "Ricky" Galloway, P.E. ricky@hightidela.com

C 985.227.5462

#### 688 S. Foster Drive, Suite 101 Baton Rouge, LA 70806 P 225.924.1265 F 225.709.0748 Mcknight-LA.com

Contact: Wesley Wilkerson PLA, ASLA wes@mcknight-la.com

CONSULTANTS:

# Salas O'Brien

541 Julia St., Suite 200 New Orleans, LA, 70124 P 225.266.0619 salasobrien.com Contact: Brad Carville, PE brad.carville@salasobrien.com

**STRUCTURAL** 

#### **MECHANICAL ELECTRICAL & PLUMBING**

Thompson Luke & Assoc. LLC 10705 Rieger Road - Suite 101 Baton Rouge, LA 70809

P 225.293.9474 www.tlaeng.com Contact: Kyle Baudoin, E.I. Kyle@tlaeng.com

#### HATCH LEGEND:

CONCRETE

STEEL

SPANDREL GLASS **NEW WALL** 

BRICK BRICK

**ELEVATION:** 

GYP. BD./STUCCO

CLEAR GLASS

GYP. BD./ M.D.F./ SAND C.M.U. EARTH

PLYWOOD

RIGID INSULATION

SHEET NO.

PROJ. ARCHITECT:

PROJECT NO:

PHASE: Final Dev. Submitta

TITLE SHEET

G1.00 OF

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DAIGREPONT NUMBER / This drawing is the propetry of FUSION ARCHITECTS and is not to be reproduced or copied in whole or in part unless authorization given by FUSION ARCHITECTS. It is only to used for the project and site specifically identified herein.

Scales as stated hereon are valid on the original These plans were prepared in this office under our personal supervision, and to the best of ou knowledge comply with state and local codes Will generally administer construction.



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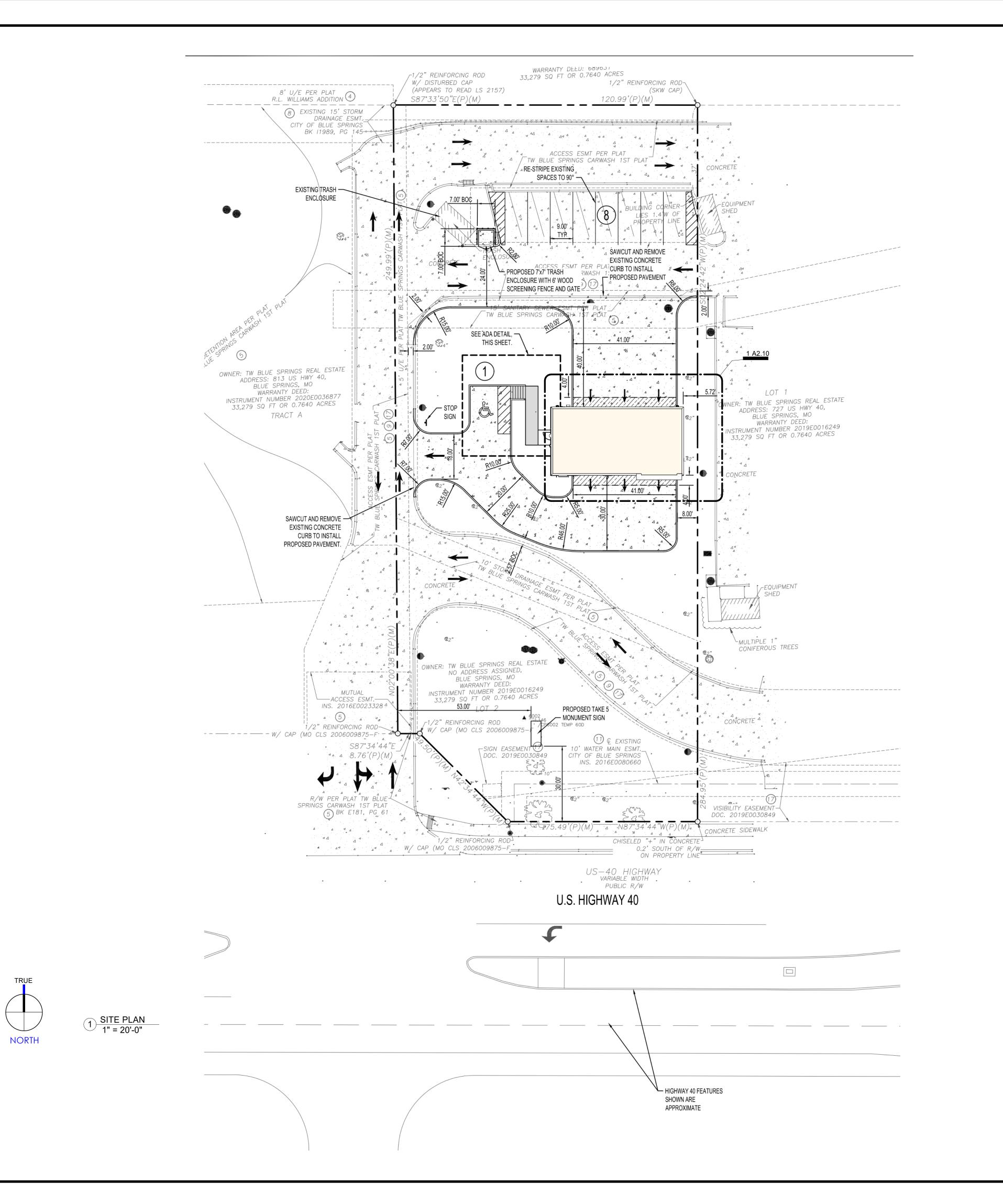
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33-006-22

26 July, 2024

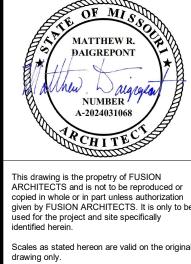


New Construction For Take 5 Oil Change

400 NE l ee's Sum







CIVIL COVER SHEET SHEET NO.

8 July, 2024

OF

PROJECT NO: 33-006-22

PHASE: Final Dev. Submitta

PROJ. ARCHITECT: MRD

#### Take 5 Oil Change Specifications:

#### **SHOP DRAWINGS**

Review of Shop Drawings by the Architect will be for general compliance with Contract Documents. No responsibility will be assumed by the Architect for correctness of dimensions, quantities, or details. The contractor shall check and verify all field measurements. The contractor and each separate contractor shall submit with such promptness as to cause no delay in their own work or in that of any other contract, Shop or Setting Drawings and schedules required for the work of the various trades. The Architect's review of such Drawings or schedules shall not relieve the Contractor from responsibility for deviations from Drawings or Specifications, unless he has in writing called the Architect's attention to such deviations at the time of submission, and secured Architect's written approval nor shall it relieve him from responsibility for errors in Shop Drawings or schedules.

#### **CONTRACTOR'S RESPONSIBILITIES**

Review Shop Drawings, project data and samples prior to submission.

- Field measurements
- Field construction criteria Catalog numbers and similar data
- Coordinate each submittal with requirements of work and of Contract Documents. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by Architect's review of submittals, unless Architect gives written acceptance of specific deviations. Notify Architect in writing at time of submission of deviations in submittals from requirements of Contract Documents. Do not begin work which requires submittals, until submittals are received with Architect's or his Consulting Engineer's stamp and initials indicating review.

#### **PROJECT/SITE CONDITIONS**

- Site Information: Data on indicated subsurface conditions are not intended as representations or warranties of accuracy or continuity between soil borings. It is expressly understood that Owner will not be responsible for interpretations or conclusions drawn therefrom by Contractor. Data is made available for convenience of Contractor. Geotechnical Report is available from the owner for this project.
- Additional test borings and other exploratory operations may be made by Contractor at no cost to Owner.
- Existing Utilities: Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of protection during earthwork operations.
- Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.
- Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning
- Operate warning lights as recommended by authorities having jurisdiction.
- Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral
- movement, undermining, washout and other hazards created by earthwork operations. All utilities shall be located and known before the start of construction. The contractor shall hold a meeting with all sub contractors and understand where all electrical lines are located (overhead and underground). No work shall be done in proximity to electrical powerlines without written consent from the local utility company and city. All governing codes shall

#### **TERMITE CONTROL**

Provide soil treatment for termite control. Provide a written warranty period for 5 years against subterranean termites and Formosan termites. Soil treatment shall be with:

Chloropyrifos ("Dursban TC"); 1.0 percent in water emulsion.

be understood for work around utility lines.

Permathrin ("Dragnet"); 0.5 percent in water emulsion.

Under slab-on-grade, treat soil before concrete slabs are placed, including all sidewalks, drives, and paving within 30 feet of the building, using the following rates of application:

Apply 4 gallons of chemical solution per 10 lin. ft. to soil in critical areas under slab, including entire inside perimeter inside of foundation walls, along both sides of interior partition walls, around plumbing pipes and electric conduit penetrating slab, and

Apply one gallon of chemical solution per 10 sq. ft. as an overall treatment under slab and attached slab areas where fill is soil or unwashed gravel. Apply 1-1/2 gallons of chemical solution to areas where fill is washed gravel or other coarse absorbent material.

#### **CULTURED STONE**

"Cultured Stone" by Boral Brick. Provide all samples to owner for approval. See building elevations for wainscot. "Limestone – Bucks County" version shown on project. Verify with owner and provide samples of all colors.

- Compressive Strength: Not less than 1800 psi (12.4 MPa) average for 5 specimens and not less than 2100 psi (14.4 MPa) for individual specimen when tested in accordance with ASTM C 39 & ASTM C 192.
- Bond Between Manufactured Masonry Unit, Mortar and Backing: Not less than 50 psi (345 kPa) when tested in accordance with ASTM C 482 using Type S mortar. Thermal Resistance: R-value of not less than 0.355 per inch (25.4 mm) of thickness when tested in accordance
- Freeze/Thaw: No disintegration and less than 3 percent weight loss when tested in accordance with ASTM C 67. Water Absorption: Tested in accordance with UBC 15-5 9-22% depending on density value.
- Unit Weight: Not more than 15 psf (73 kg/m2) saturated. Surface Burning Characteristics: Not more than the following when tested in accordance with UL 723:
- Flamespread: 25. Smoke Development: 450.
- UV Stable Mineral oxide pigments.
- Provide matching corners to fit.
- Strike all joints flushed, standard ½" tooled. Seal all joints at wall openings and penetrations with a sealant approved for use with masonry products.
- 12. Flashing: coordinate with flashing used on job.

#### **WOOD AND ROUGH CARPENTRY**

Lumber conforming to National Forest Products Association "National Design Specification for Stress-grade Lumber and It's Fastenings", 1971. Grades conforming to lumber manufacturing association Stress Grading Rules and Graded and Trade marked by producing mill and grading association.

Softwood plywood shall be identified with the APA grade-tradesmark of the American Plywood Association and meet the requirements of Product Standard PS 1-74 for Softwood Plywood/Construction and Industrial.

#### **MATERIALS**

Roof Blocking: #2SYP – Borate treated Members in contact with moisture or concrete - #2SYP borate treated

Roof Decking: 5/8" OSB plywood fastened with 8d ring shank nails @ 6" o.c. on edges & intermediate supports, 4" o.c. at any gables. Follow all guidelines and engineering requirements by the roof truss manufacturer, which shall supersede these specifications.

**Wood studs**: 2x6 No. 2 southern yellow pine with no finger joints.

Exterior side: 7/16" o.s.b. wall sheathing full blocked, 8d common nails o.c. edge, 12" o.c. field. Interior side: ½" cdx plywood with three coats of paint. (B/C grade). Fasten at 12" o.c. field.

Sole plate: 2x6 borate treated, anchored with 5/8" x 14" anchor bolts (galvanized). 3"x3"X1/4" steel washer @ 32" o.c. & 8" from corners. All components to be galvanized.

Garage door openings: Use garage door portal frames by Simpson Strong Tie, each opening shall have Simpson Strong Tie STHD14 with LSTA21 straps at headers. Provide review by Simpson Strong Tie system engineering.

#### **ACCESSORIES**

Nails, spikes and staples: Galvanized for exterior locations, high humidity locations and treated wood; plain finish for other interior locations.

Other Framing Members: Install miscellaneous blocking, furring, nailing strips and framing. Install members true, plumb and level. Secure in place. Space miscellaneous framing and furring at 16" o.c., unless shown otherwise. Perform all work to the highest standard of the carpentry trade. All work shall be coordinated with other trades to provide the proper integration and fits between crafts. Provide proper machinery and tools of the trade so that fashioning of lumber and fits between materials shall be of the highest standards of the trade

#### <u>INSULATION</u>

Separate all conditioned spaced from non-conditioned spaces with insulation. Use full cavity insulation in all locations shown in plans. Comply with fire-resistance, flammability and insurance ratings indicated, and comply with regulations as interpreted by governing authorities. Provide paper faced insulation by one of the following manufacturer's and use the thickness to match studs widths as shown in plans: Owen's corning, Knauf, and Johns Manville. Poly Iso Board over roofing – see modified bitumen specification.

#### **UNDER SLAB VAPOR BARRIER**

Vapor Barrier must be WVTR less than .008 as tested by ASTM E96. ASTM E 1745 Class A (Plastics), .012 perms or lower. Approved Products: Stego (15 mil), WR Meadows (15 mil) At service pits (depressions in slab more than 12": use bentonite geotextile waterproofing by Volclay, Miraclay, or paraseal. All barriers shall be taped and seams overlapped by the manufacturers installation recommendations.

#### FLASHING AND SHEET METAL

Parapet and Copings: 24 ga pre coated galvalume metal with continuous 30 mil nevestral under parapet. Minimum lengths of parapets shall be 8 feet. Seams are to be standing lock and flat lock type, except corners. Fabricate corners minimum 18" x 18", mitered, soldered, or welded, and sealed as one piece. Hem exposed edges of flashing on udnersides by ½". Follow all guidelines of SMACNA for sheet metal detailing. Provide samples from the manufacturer's full range of colors. Sheet metal by Berridge, All STO flashing and masonry shall have 16 oz. copper, separate from other metals with nevestral. All openings shall be coated with Tyvek's fluid applied water barrier system.

#### **SBS ROOFING**

System: Soprema (basis of design) or Johns Manville complete system with 20 ndl warranty.

Base Layer: 5/8" osb plwood with ring shank nail attachment, see wood and rough carpentry section. Place 40 mil ice and water shield over osb plywood and turn up full length on parapets.

Insulation: Place rigid polyisocyanurate foam board with an aged R value of 5.6 per inch. Provide a minimum of 3 inches with ASTM E84 for flame spread. Maintain positive drainage throughout. Provide a cover board by the SBS manufacturer, not less than ½".

Base sheet: Modified Sopra G 28 lb glass base sheet

#### Base Ply: elastophene sanded

**Top Ply:** Elastophene Granules FR

#### Base Ply flashing: Sopralene Flam 180

#### Asphalt Primer: Elastocol 500

Meet all wind uplift requirements to meet local and state codes in the area. Clean roof of all debris and have inspections approved by manufacturer's representatives for acceptance and warranty.

#### EIFS System

The system shall be based upon Dryvit's Outsulation MD System and finish system. All expansion joints shall be no more than 20' o.c. and locations determined in the shop drawing phase. Prior to applying Dryvit Outsulation Plus MD System, wall opening shall be treated with Dryvit Aquaflash system, baskstop flash & fill and flashing tape. The outsulation shall be bheld back from adjoining materials around openings and penetrations such as windows, doors, and mechanical equipment by a minimum of 3/4" for sealant application. The dryvit system shall be a minimum of 8" above finished grade.

Vapor retarders: Use Tyvek's system applicable for installation with Dryvit. The contractor shall receive written approval for the correct vapor retarder system and follow Dryvit Publication DS153. All flashing, screeds, and joint material shall be zinc coated.

#### Base coat: Primus DM or Genesis DM

Reinforcing mesh: glass fiber fabric treated for compatibility with other system materials. Mesh must meet ASTM E 2098.

Finish: smooth finish with Hydrophobic (HDP): 100% acrylic coating with integral color and texture: "Sandblast HDP" product. Provide coating to prevent algae growth and water staining. All EPS shapes and boards shall be coated on site utilizing the same materials. The insulation board shall part of the Dryvit system and manufactured by Dryvit. The EPS shall be separated from the building by a minimum 15-minute thermal barrier. Installation must be by a qualified Dryvit installer with a minimum of 5 years of experience with the product. Dryvit systems shall provide a written moisture drainage and limited material warranty against defective material before substantial completion. Follow all installation instructions provided by the manufacturer. Equal qualified manufacturer: STO Systems

#### STEEL DOORS AND FRAMES

Doors and frames by Ceco Doors, Steelcraft, or Amweld

Interior doors: cold rolled18 ga seamless construction – G-90 Galvanized with primer coat.

#### Exterior doors: cold rolled 16 ga seamless construction – G-90 Galvanized with primer coat.

Include door silencers, reinforcing in frames, jamb anchors, and stainless steel hinges. Hinge & pivot reinforcements – 7 gauge, 1.25"X10" minimum. Reinforcements for flush bolts, closers, surface mounted hardware, hold open arms, surface panics devices all 12 guage. Provide door sweeps and weatherstripping at all exterior doors. Provide drip edge at head of exterior door frames. All door hardware by Assa Abloy. Provide keying cores as required by owner with a master and grand master. See plans for garage

#### **PAINTING**

All metal primer: Kem kromik Universal metal primer

All finish coat on metal: Sherwin Williams industrial enamel B-54 series (2 coats).

Interior finish coats: Sherwin Williams ProMar 200 interior latex, semi gloss

Concrete sealer: H&C concrete sealer

#### **INTERIOR SIGNAGE**

(Designed based on Best HC300 ADA system) Size: 6" x 8" Pictogram 5/8" copy raised 1/32", 3/8" wide raised border and ½" radius corners, 1/8" thick plate, screw mounting, color selected from standard selections. Graphic ADA and sex symbol

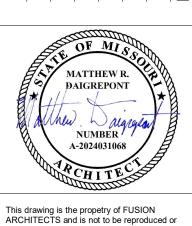
Raised Lettering for each room (follow room names in plans), include braille lettering

#### **TOILET AND BATH ACCESSORIES**

Insert manufacturer's product designation and manufacturer's name for each product that complies with requirements. Retain one of five subparagraphs below or insert requirements to suit project. As shown in plans. Grab Bars: 36"x42" stainless steel, 6806 Bobrick or model #812 bradley. Provide blocking in wall for grab bar mounting. Mirror Unit: one per lavatory: 18"x36" Bradly 780 series, stainless steel angle framed mirror. **Toilet Paper Dispenser:** Stainless steel Bobrick model # 2888 Soap dispensers and waste dispensers by owner.

#### MISCELLANEOUS ACCESSORIES

Three wall hung fire extinguishers See plans for sign package



copied in whole or in part unless authorization given by FUSION ARCHITECTS. It is only to be used for the project and site specifically identified herein. Scales as stated hereon are valid on the original

These plans were prepared in this office under our personal supervision, and to the best of our knowledge comply with state and local codes.
Will generally administer construction. Manhew. Dagrapant



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PROJECT NO: PHASE: Final Dev. Submitta PROJ. ARCHITECT: Designe **SPECIFICATIONS** 

SHEET NO.

#### 2.4 REINFORCEMENT ACCESSORIES Structural Spec Cast In Place Concrete: Add other products for dowels or dowel sleeves if required. These include circular and rectangular plastic dowel sleeves, square dowels, and plastic-surfaced or reinforced-paper-covered dowels Joint Dowel Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), plain-steel bars, cut bars true to length with ends square SECTION 03 33 00 - CAST-IN-PLACE CONCRETE This Section uses the term "Architect." Change this term to match that used to identify the design professional as defined and free of burrs. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and in the General and Supplementary Conditions. welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have "Manual of Standard Practice," of greater compressive strength than concrete and as follows: Delete or revise three subparagraphs below to suit Project. GENERAL PART 1 -For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-1.1 RELATED DOCUMENTS protected steel wire or CRSI Class 2 stainless-steel bar supports. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Add mechanical splices and connections for steel reinforcement here if required. Specification Sections, apply to this Section. 2.5 CONCRETE MATERIALS 1.2 SUMMARY A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project: This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mixture design, Select type and color of portland cement from options in subparagraph below. placement procedures, and finishes, for the following: 1. Portland Cement: ASTM C 150, Type I/II, gray. Supplement with the following at contractor's discretion: Grade Beams Select supplementary cementing materials from two subparagraphs below if permitted. Ready-mix concrete manufacturer blends Slabs-On-Grade these materials with portland cement. Fly ash, slag, or pozzolanic materials may slow rate of concrete strengthening and affect color 1.3 DEFINITIONS uniformity. Availability of Class F fly ash predominates over Class C fly ash. Definition in paragraph below refers to those materials that make up the cementitious component of the water-cementitious materials Fly Ash: ASTM C 618, Class F. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic Retain subparagraph below if factory-blended hydraulic cement is permitted; verify availability of options before specifying. Fly ash, cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements. slag, or pozzolanic materials in the nonportland cement part of blended hydraulic cement may slow rate of concrete strengthening 1.4 SUBMITTALS and affect color uniformity Product Data: For each type of product indicated. Silica fume below is most often used in high-strength concrete and in special applications such as bridge decks to enhance durability Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project by lowering permeability of concrete. ACI 301 identifies silica fume as a cementitious material. conditions, weather, test results, or other circumstances warrant adjustments. Select class of aggregate from options in paragraph below or revise to suit Project. ASTM C 33 limits deleterious substances in Indicate amounts of mixing water to be withheld for later addition at Project site. coarse aggregate depending on climate severity and in-service location of concrete. Classes in first set of options are ASTM C 33 Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, default classes for concrete exposed to weather for Severe, Moderate, and Negligible weathering regions, respectively. Revise first lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical two options to Class 4S or 4M if concrete will be exposed to frequent wetting. Retain last option if damage caused by concrete connections, tie spacing, hoop spacing, and supports for concrete reinforcement. expansion from alkali silica or alkali carbonate reactions is anticipated. Delete first paragraph and subparagraph below if not required. Normal-Weight Aggregates: ASTM C 33, Class 3M coarse aggregate or better, graded. Provide aggregates from a single D. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer detailing fabrication. assembly, and support of formwork. Select coarse-aggregate size from three options in subparagraph below; add gradation requirements if preferred. Aggregate size Delete subparagraph below if no shoring and reshoring are required. limits relate to spacing of steel reinforcement, depth of slab, or thickness of concrete member. Retain paragraph below if procedures for welder certification are retained in "Quality Assurance" Article. Maximum Coarse-Aggregate Size: Per ACI 318 limitations related to spacing of steel reinforcement, depth of slab Coordinate paragraph below with qualification requirements in Division 1 Section "Quality Requirements" and as supplemented in or thickness of concrete member. "Quality Assurance" Article. Retain subparagraph below if optional restriction for fine aggregate in ASTM C 33 is required. Qualification Data: For testing agency. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement. Delete paragraph and subparagraph below if material test reports are not required. C. Lightweight Aggregate: ASTM C 330, 1/2-inch nominal maximum aggregate size. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements: Retain option in subparagraph below if retaining service record data with "Normal-Weight Aggregates" Paragraph in Part 2 "Concrete Retain first paragraph below if using lightweight aggregate for structural lightweight concrete. Select size limit from four options Materials" Article. Water: ASTM C 94/C 94M and potable. Delete paragraph and subparagraphs below if material certificates are not required. 2.6 ADMIXTURES G. Material Certificates: For each of the following, signed by manufacturers: If subparagraphs titled "Available Products," "Products," "Available Manufacturers," or "Manufacturers" are retained in this Article, Edit list to suit Project. coordinate with Part 2 "Manufacturers" Article. Retain "Available" for nonproprietary and delete for semiproprietary specifications. Cementitious materials Air-Entraining Admixture: ASTM C 260. Admixtures. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not Form materials and form-release agents. contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures Steel reinforcement and accessories. containing calcium chloride. Waterstops. Select one or more chemical admixtures from six subparagraphs below. Curing compounds Water-Reducing Admixture: ASTM C 494/C 494M, Type A. Floor and slab treatments. Retarding Admixture: ASTM C 494/C 494M, Type B. Bonding agents. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D. Adhesives. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M. Type F. Vapor retarders. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G. Semirigid joint fille Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II. Micro Fiber Reinforcement required at all Joint-filler strips. conventionally reinforced concrete exposed to view as a final product. Repair materials Shrinkage Inhibiting Admixture (SRA): SRA shall be Master LIFE SRA 20 manufactured by BASF Corporation or Retain paragraph below if Contractor engages testing agency for measuring floor surface flatness and levelness. approved equal. Dosage rate shall bein accordance with the manufacturer's recommendations for the designated usage Retain paragraph below if Contractor is responsible for field quality-control testing and inspections other than special inspections. with a maximum shrinkage allowance of 0.025% but not less than 1.5gal/yd. Field quality-control test and inspection reports. Delete paragraph below if no preinstallation conference. Retain paragraph and subparagraphs below if set-accelerating corrosion inhibitors are required. Set-accelerating products are 1.5 QUALITY ASSURANCE usually calcium nitrite-based admixtures and comply with ASTM C 494/C 494M, Type C. Delete first paragraph below if not required. See Division 1 Section "Quality Requirements" for general installer qualifications. Verify tain paragraph and subparagraphs below if corrosion inhibitors that do not affect concrete setting time are required. availability of qualified personnel with a local ACI chapter or concrete contractors. These desirable programs may have limited Retain paragraph and subparagraphs below for integrally colored concrete. Add other admixtures, such as integral waterproofing admixtures, if required. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician. If subparagraphs titled "Available Products," "Products," "Available Manufacturers," or "Manufacturers" are retained in this Article, Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with coordinate with Part 2 "Manufacturers" Article. Retain "Available" for nonproprietary and delete for semiproprietary specifications. ASTM C 94/C 94M requirements for production facilities and equipment. Retain one of three paragraphs and associated subparagraphs below if flexible waterstops produced from rubber, thermoplastic Delete subparagraph below if not required. elastomer rubber, or PVC are required. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities." A. Self-Expanding Rubber Strip Waterstops: Manufactured rectangular or trapezoidal strip, bentonite-free hydrophilic polymer Retain paragraph below if Contractor or manufacturer selects testing agency for concrete mixture design, material test reports, or modified chloroprene rubber, for adhesive bonding to concrete, 3/8 by 3/4 inch (10 by 19 mm). field quality control. Retain option if field quality-control testing agency employed by Contractor must be approved by authorities Products: having jurisdiction Deneef Construction Chemicals; Swellseal. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548. Mitsubishi International Corporation; Adeka Ultra Seal. Retain subparagraph below, required by ACI 301 and ASTM C 31/C 31M, if emphasis is needed. ASTM C 1077 notes relevant field Progress Unlimited, Inc.; Superstop. or laboratory technician certification by ACI, NRMCA, and PCA, or the National Institute for Certification in Engineering Technologies 2.8 VAPOR RETARDERS may demonstrate evidence of competence. If subparagraphs titled "Available Products" or "Products" are retained in this Article, coordinate with Part 2 "Manufacturers" Article. Retain subparagraph below if requiring minimum qualifications for laboratory personnel performing testing and for laboratory Retain "Available" for nonproprietary and delete for semiproprietary specifications. Retain one of three paragraphs and associated subparagraphs below if plastic water vapor retarders are required. ASTM E 1745 D. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's sets three performance classes for plastic water vapor retarders: Classes A, B, and C. The water-vapor permeance value is the plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer. same for each class. Class A sets the highest tensile-strength and puncture-resistance requirements, while Class C sets the lowest. Delete first paragraph below if no welding. Retain "Welding certificates" Paragraph in "Submittals" Article if retaining below. AWS Thickness is not governed by ASTM E 1745. states that welding qualifications remain in effect indefinitely unless welding personnel have not welded for more than six months or Plastic Vapor Retarder: URefer to architectural specifications. there is a specific reason to question their ability. Retain option in paragraph below if generic polyethylene is permitted. Minimum thickness recommended by ACI 302.1R for ACI Publications: Comply with the following unless modified by requirements in the Contract Documents: polyethylene film used as a vapor retarder is 10 mils (0.25 mm). Retain second option in first subparagraph below if ACI 301, Section 7, for structural lightweight concrete is applicable. Delete two paragraphs below if not using a granular course over vapor retarder. Products are based on ACI 302.1R descriptions of ACI 301, "Specification for Structural Concrete," Sections 1 through 5. granular materials. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials." Retain paragraph below for a "crusher-run" course at least 4 inches (100 mm) thick. F. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design 2.9 CURING MATERIALS concrete mixtures. If subparagraphs titled "Available Products" or "Products" are retained in this Article, coordinate with Part 2 "Manufacturers" Article. Delete paragraph and subparagraphs below if not required. If retaining, indicate location, concrete type, and other details of Retain "Available" for nonproprietary and delete for semiproprietary specifications. mockups on Drawings or by inserts. Revise wording if only one mockup is required or if mockup of concrete in another location in a Evaporation retarder in paragraph below temporarily reduces moisture loss from concrete surfaces awaiting finishing in hot, dry, and building is required. windy conditions. Evaporation retarders are not curing compounds. Revise size of panel in subparagraph below if required. Panel for slab-on-grade may need to be enlarged if powered riding trowels Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete. will be used and if it could be a portion of the floor slab. Products: 1.6 DELIVERY, STORAGE, AND HANDLING Axim Concrete Technologies; Cimfilm. Retain option in first paragraph below if zinc- or epoxy-coated steel reinforcement is required. Burke by Edoco; BurkeFilm. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage. ChemMasters; Spray-Film. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants. Conspec Marketing & Manufacturing Co., Inc., a Dayton Superior Company; Aquafilm. PART 2 - PRODUCTS Dayton Superior Corporation; Sure Film. 2.1 MANUFACTURERS Euclid Chemical Company (The); Eucobar. See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and products. Kaufman Products, Inc.; Vapor Aid. Edit this Article with other Part 2 articles in which manufacturers and products, or manufacturers only, are named. See Division 1 Lambert Corporation; Lambco Skin. Section "Product Requirements" for an explanation of the terms "Available Products," "Products," "Available Manufacturers," and L&M Construction Chemicals, Inc.; E-Con. "Manufacturers" and the effect these terms have on "Comparable Product" and "Product Substitution" requirements. MBT Protection and Repair, Div. of ChemRex; Confilm. A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection: Meadows, W. R., Inc.; Sealtight Evapre. K. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before Metalcrete Industries; Waterhold. placing concrete. Products: Subject to compliance with requirements, provide one of the products specified. Nox-Crete Products Group, Kinsman Corporation; Monofilm. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified. Sika Corporation, Inc.; SikaFilm. 2.2 FORM-FACING MATERIALS Symons Corporation, a Dayton Superior Company; Finishing Aid. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Unitex: Pro-Film. 3.2 EMBEDDED ITEMS Furnish in largest practicable sizes to minimize number of joints. US Mix Products Company; US Spec Monofilm ER. Specify embedded items and anchorage devices for other work attached to or supported by cast-in-place concrete. Add specific Plywood, metal, or other approved panel materials. Vexcon Chemicals, Inc.; Certi-Vex EnvioAssist. requirements for installing embedded items, if any, that are part of the Work. Retain subparagraph above if generic specification is enough; revise if necessary. Retain subparagraph below if plywood selection Select curing aids and materials from remaining paragraphs. A. Place an is required. If Finnish overlaid birch plywood is required, add below and delete DOC PS 1 and other four choices of plywood. Water: Potable. B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at Retain paragraph and subparagraphs below if a dissipating-type, waterborne, membrane-forming curing compound is required. least two edges and one side for tight fit. Although the EPA mandates maximum VOC emissions of 350 g/L for curing compounds, verify VOC emission limits of authorities Forms in first paragraph below leave joint impressions in spiral or straight lines. Limit types of forms if a particular pattern of joint is having jurisdiction. If slow breakdown of curing membrane could interfere with bonding of floor coverings, retain removal required. Different release treatments of forms also affect appearance of as-cast surfaces. subparagraph in "Concrete Protecting and Curing" Article in Part 3. Retain void forms, sometimes called "carton forms," in paragraph below if required for expansive soils or block outs. Retain paragraph and subparagraphs below if a nondissipating-type, waterborne, membrane-forming curing compound with minimal C. Void Forms: Biodegradable paper surface, treated for moisture resistance, structurally sufficient to support weight of plastic solids content is required. Although the EPA mandates maximum VOC emissions of 350 g/L for curing compounds, verify VOC concrete and other superimposed loads. emission limits of authorities having jurisdiction. Retain option if applicable Delete first paragraph below if chamfering is not permitted. C. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, nondissipating, certified by Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch (19 by 19 mm), minimum. curing compound manufacturer to not interfere with bonding of floor coverings. Rustication Strips: Wood, metal, PVC, or rubber strips, kerfed for ease of form removal. Verify with manufacturer that selected products have been tested against interference with bonding of floor covering. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect Products: concrete surfaces and will not impair subsequent treatments of concrete surfaces. Anti-Hydro International, Inc.; AH Clear Cure WB. Formulate form-release agent with rust inhibitor for steel form-facing materials. Burke by Edoco; Spartan Cote WB II. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist ChemMasters; Safe-Cure & Seal 20. lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal. Conspec Marketing & Manufacturing Co., Inc., a Dayton Superior Company; Cure and Seal WB.

Dayton Superior Corporation; Safe Cure and Seal (J-18).

Euclid Chemical Company (The); Aqua Cure VOX.

Kaufman Products, Inc.; Cure & Seal 309 Emulsion.

L&M Construction Chemicals, Inc.; Dress & Seal WB

Nox-Crete Products Group, Kinsman Corporation; Cure & Seal 150E.

US Mix Products Company; US Spec Hydrasheen 15 percent

Symons Corporation, a Dayton Superior Company; Cure & Seal 18 Percent E.

Lambert Corporation; Glazecote Sealer-20.

Tamms Industries, Inc.; Clearseal WB 150.

Vexcon Chemicals, Inc.; Starseal 309.

Meadows, W. R., Inc.; Vocomp-20.

Metalcrete Industries: Metcure.

Unitex; Hydro Seal

Delete or revise three subparagraphs below to suit Project.

Delete or revise this Article to suit steel reinforcement requirements.

Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.

Retain paragraph below for galvanized steel reinforcement. Select type of reinforcement from first set of options and zinc coating

B. Plain-Steel Welded Wire Reinforcement: ASTM A 185, plain, fabricated from as-drawn steel wire into flat sheets.

Retain paragraph below for reinforcement that is welded or if added ductility is sought.

class from second set. Class I has at least 50 percent more zinc weight than Class II.

2.3 STEEL REINFORCEMENT

Retain paragraph and subparagraphs below if a nondissipating-type, waterborne, membrane-forming curing compound with a higher solids content is required. This product will partially seal the concrete. Although the EPA mandates maximum VOC emissions of 350 g/L for curing compounds, verify VOC emission limits of authorities having jurisdiction. Retain option if applicable. 2.10 RELATED MATERIALS Select one or all options in paragraph below. Joint-filler strips are used in floor isolation joints. A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or selfexpanding cork Select one of two options in paragraph below if semirigid joint filler is required to fill joints and support edges of trafficked contraction and construction joints Semirigid Joint Filler: Two-component, semirigid, 100 percent solids, per ASTM D 2240. Bonding agent in first paragraph below may be used directly from container or as an admixture in cement or sand-cement slurries and rubbing grout. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene. Retain first paragraph below if reglets are not specified elsewhere. Coordinate product requirements with Division 7 Section "Sheet Metal Flashing and Trim" or "Manufactured Roof Specialties" or in other Sections where reglets are supplied as auxiliary products with waterproofing or roofing membrane flashings. Reglets: Fabricate reglets of not less than 0.0217-inch- (0.55-mm-) thick, galvanized steel sheet. Temporarily fill or cover face opening of reglet to prevent intrusion of concrete or debris. Dovetail Anchor Slots: Hot-dip galvanized steel sheet, not less than 0.0336 inch (0.85 mm) thick, with bent tab anchors. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris. 2.11 CONCRETE MIXTURES, GENERAL Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures. Limit the water-cementitious materials (w/cm) ratio in concrete for floors to receive moisture-sensitive flooring to no higher than 0.45. Retain paragraph and subparagraphs below if limiting percentage of cementitious material that can replace portland cement. Neither ACI 301 nor ACI 318 (ACI 318M) limit amount of cementitious material that can replace portland cement unless concrete is exposed to deicing chemicals. Identify parts of building or structure affected by these limits unless extending them to all concrete. Cementitious Materials: Percentages, by weight, of cementitious materials other than portland cement in concrete shall be determined by the concrete supplier to maximize the amount of recycled material in the concrete while controlling workability, setting time, rate of strength gain, and other properties to facilitate construction operations. Percentages in subparagraphs below repeat ACI 301 limits for concrete exposed to deicing chemicals. Revise to suit Project. Cementitious materials other than portland cement shall make up a minimum of 15 percent of the total cementitious materials in any mix. 2. Limit cementitious materials other than portland cement to no more than 20 percent of the total cementitious materials in floor slabs to receive moisture-sensitive flooring. Delete three subparagraphs below if no silica fume is permitted. Limits of silica fume alone or in combination with other cementitious materials below are based on ACI 301 and ACI 318 (ACI 318M) Retain appropriate option in first paragraph below for chloride limits. Identify portions of building with different limits if required. Percentages below repeat ACI 301 limits, respectively, for prestressed (post-tensioned) concrete, reinforced concrete exposed to chloride, reinforced concrete that will not be dry or protected from moisture, and reinforced concrete that will be dry or protected from moisture. ACI 301 and ACI 318 (ACI 318M) express this percentage by weight of cement, not cementitious material. Limit water-soluble, chloride-ion content in hardened concrete to 0.30 percent by weight of cement. Admixtures: Use admixtures according to manufacturer's written instructions. Delete or revise four subparagraphs below to suit Project. Use water-reducing, high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability 2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50. Interior and Exterior structural concrete slabs exposed to view as a final product (including sealed concrete) shall contain a Shrinkage Reducing Admixture (SRA) and microfiber reinforcement. Add locations and dosage of corrosion-inhibiting admixture to subparagraph below if required 2.12 CONCRETE MIXTURES FOR BUILDING ELEMENTS This Article contains examples of building elements that often need different concrete mixtures. Revise, consolidate, or add other building elements if more concrete mixtures are required. Refer to the Structural Notes on the Structural Drawings for Usage, Concrete 28-day Compressive Strength, Slump, Air Select strength from five options in subparagraph below or revise to suit Project. Coordinate compressive strength with watercementitious materials ratio if concrete will be subject to special exposure conditions or sulfate exposure as identified in ACI 318 (ACI 318M). Retain one or more of first three subparagraphs below. Percentages in options in first two subparagraphs are default air contents required by ACI 301 for severe exposure. Air Content: Insert water-cementitious materials ratio here if elevated slabs will be subject to special exposure conditions. Delete subparagraph below if no steel-fiber reinforcement. Indicate location, on Drawings, of concrete using steel fiber. Revise Delete paragraph and subparagraphs below if normal-weight structural concrete is used. Coordinate requirements with lightweight aggregate supplier, structural engineer, and, if applicable, UL design limits. Retain first paragraph and subparagraphs below for concrete toppings or concrete underbeds on a base concrete slab or on structural precast concrete 2.13 FABRICATING REINFORCEMENT Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice." 2.14 CONCRETE MIXING Retain option in paragraph below if steel or synthetic fibers are required. oncrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes. Delete paragraph and subparagraphs below if Project-site mixing is not permitted. ACI 301 applies measuring, batching, and mixing requirements from ASTM C 94/C 94M to Project-site mixing. PART 3 - EXECUTION 3.1 FORMWORK Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads. Form vertical faces of all footings, stem walls and pilasters. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117. Limit concrete surface irregularities, designated by ACI 347R as abrupt or gradual, as follows: Select surface classes, usually two or more, from two subparagraphs below. See discussion in "Formwork" Article in the Evaluations. Coordinate with rough- and smooth-form finishes in "Finishing Formed Surfaces" Article. Class A, 1/8 inch (3.2 mm) for smooth-formed finished surfaces. Class B, 1/4 inch (6 mm) for rough-formed finished surfaces. Construct forms tight enough to prevent loss of concrete mortar. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical. Install keyways, reglets, recesses, and the like, for easy removal. Do not use rust-stained steel form-facing material. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds. H. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations. Retain one of two options in first paragraph below. ACI 301 requires chamfers, unless otherwise specified. Chamfer exterior corners and edges of permanently exposed concrete. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.

Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing

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knowledge comply with state and local codes Will generally administer construction.

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used for the project and site specifically



PROJECT NO: PHASE: Final Dev. Submitta PROJ. ARCHITECT: Designe CONCRETE **SPECIFICATIONS** 

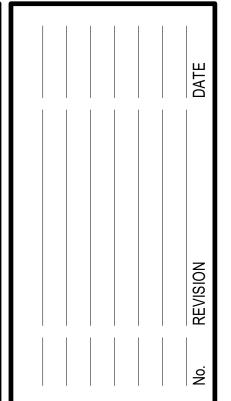
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#### 2.3 FIRE-RETARDANT-TREATED MATERIALS Structural Spec Rough Carpentry: Delete this Article if not applicable. General: Comply with performance requirements in AWPA C20 (lumber) and AWPA C27 (plywood). Exterior type is suitable for both exterior and interior applications. Interior type is only for interior applications. See Evaluations. Use Exterior type for exterior locations and where indicated. **ROUGH CARPENTRY** This Section uses the term "Architect." Change this term to match that used to identify the design professional as defined Delete first subparagraph below if not applicable. Revise description of locations to suit Project requirements. Use Interior Type A, High Temperature (HT) for enclosed roof framing, framing in attic spaces, and where indicated. in the General and Supplementary Conditions. Use Interior Type A, unless otherwise indicated. Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have Identify fire-retardant-treated wood with appropriate classification marking of testing and inspecting agency acceptable to authorities having jurisdiction. PART 1 -GENERAL Select only first option in subparagraph below if authorities having jurisdiction require classification marking on all materials. 1.1 RELATED DOCUMENTS 1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Delete or revise paragraph below if no exposed framing or if staining will hide colorants. Specification Sections, apply to this Section. C. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not bleed through, contain colorants, or otherwise adversely affect finishes. This Section includes the following: Select first option in paragraph below and delete subparagraphs if all wood is required to be fire-retardant treated; otherwise, select Adjust list below to suit Project. second option and retain appropriate subparagraphs. Framing with dimension lumber. Application: Treat items indicated on Drawings. Retain first subparagraph below for timber incidental to conventional framing. For extensive timber framing, use Division 6 Section Edit list below suit local code and Project. "Heavy Timber Construction." 2.4 DIMENSION LUMBER FRAMING 2. Framing with engineered wood products. Select one of five options in paragraph below, or delete paragraph if green lumber is acceptable in all thicknesses. Verify availability Delete first subparagraph below if bases and curbs are exclusively metal. of lumber with 15 percent maximum moisture content before retaining. Lumber more than 2 inches nominal (38 mm actual) in Wood blocking and nailers. thickness is often shipped green. See Evaluations. Wood furring. Maximum Moisture Content: 19 percent. Wood sleepers. First 10 paragraphs below provide several choices for specifying different categories of framing. Edit to retain no more than four Plywood backing panels. paragraphs (usually two or three), and select paragraph titles so that together they describe all the framing required. For simple Related Sections include the following: projects, two paragraphs titled "Interior Partitions" and "Framing Other Than Interior Partitions" might be retained; for other projects List below only products and construction that the reader might expect to find in this Section but are specified elsewhere. three paragraphs titled "Non-Load-Bearing Interior Partitions," "Exterior and Load-Bearing Walls," and "Joists, Rafters, and Other Borate treatment in Section referenced in first subparagraph below may be an acceptable substitute for borate-treated wood Framing Not Listed Above" might be retained. If retaining titles that refer to non-load-bearing or load-bearing construction, indicate specified in this Section. Delete if borate treatment is specified in this Section. load-bearing walls and framing on Drawings. In each paragraph where grade designations are used, grades are listed in order of Division 2 Section "Termite Control" for site application of borate treatment to wood framing. decreasing quality (and cost). Division 6 Section "Sheathing." Non-Load-Bearing Interior Walls: Grade and species per plans. Division 6 Section "Metal-Plate-Connected Wood Trusses." Delete paragraph above or below. Select one of three options for grade in either paragraph. Division 6 Section "Wood Deck" If retaining paragraph below, select one of three options for grade or revise to suit Project; verify with structural requirements. 1.3 DEFINITIONS Exterior and Load-Bearing Walls: Grade and species per plans. Delete first paragraph below if no exposed framing. Edit list below; usually retain all species that meet requirements except those not available in Project's location. Species groups are Exposed Framing: Framing not concealed by other construction. listed in order of decreasing strength (extreme fiber in bending). Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension. Paragraph below is an example for machine stress-rated lumber that can be used instead of paragraph above. If retaining, select Delete first paragraph below if no timber one of two titles and select or insert a grade to suit structural requirements of Project. Three grades listed are most commonly Timber: Lumber of 5 inches nominal or greater in least dimension. Delete paragraph and list below if lumber grading agencies are not referenced with products. 2.5 ENGINEERED WOOD PRODUCTS Lumber grading agencies, and the abbreviations used to reference them, include the following: Paragraphs and subparagraphs in this Article are examples of descriptive and property requirements based on product data of Coordinate list below with product lists; delete those not required. See Evaluations. various manufacturers. Verify that current products comply or revise. See Evaluations. Retain option in paragraph below if low-NeLMA: Northeastern Lumber Manufacturers' Association. emitting materials are required for LEED Credit EQ 4.4. Laminated-veneer lumber usually contains no urea formaldehyde. NLGA: National Lumber Grades Authority. Laminated-Veneer Lumber: Structural composite lumber made from wood veneers with grain primarily parallel to member RIS: Redwood Inspection Service. lengths, evaluated and monitored according to ASTM D 5456 and manufactured with an exterior-type adhesive complying with SPIB: The Southern Pine Inspection Bureau. WCLIB: West Coast Lumber Inspection Bureau. See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and products. Retain one of first two WWPA: Western Wood Products Association. subparagraphs and list of manufacturers below. See Division 1 Section "Product Requirements." 1.4 SUBMITTALS Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and incorporated into the Work include, but are not limited to, the following: include construction and application details. Manufacturers: Subject to compliance with requirements, provide products by one of the following: Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating Boise Cascade Corporation. plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative RedBuilt Finnforest USA. Delete subparagraph below if fire-retardant-treated wood is not required. Georgia-Pacific. Delete first subparagraph below if not applicable. Louisiana-Pacific Corporation. 2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was Pacific Woodtech Corporation reduced to levels specified before shipment to Project site. Roseburg Forest Products Co. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that Weldwood of Canada Limited; Subsidiary of International Paper Corporation. treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified Weyerhaeuser Company. independent testing agency. 4. For fire-retardant treatments specified to be High-Temperature (HT) type, include physical properties of treated Extreme Fiber Stress in Bending, Edgewise: Refer to Drawings. lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency Modulus of Elasticity, Edgewise: Refer to Drawings according to ASTM D 5664. Insert other properties of laminated veneer lumber here if critical. Retain option in paragraph below if low-emitting materials are Include copies of warranties from chemical treatment manufacturers for each type of treatment. required for LEED Credit EQ 4.4. Structural composite lumber usually contains no urea formaldehyde. Delete first paragraph below if no exposed framing or if fastener patterns are shown on Drawings. Parallel-Strand Lumber: Structural composite lumber made from wood strand elements with grain primarily parallel to Retain paragraph below if applicable; delete if species and grade are indicated for each use. member lengths, evaluated and monitored according to ASTM D 5456 and manufactured with an exterior-type adhesive complying Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review. See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and products. Retain one of first two Insert specific model code organization in paragraph below or revise if report must be from another source. subparagraphs and list of manufacturers below. See Division 1 Section "Product Requirements." C. Research/Evaluation Reports: For the following, showing compliance with building code in effect for Project: Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be Edit list below to retain only those products retained in Part 2. incorporated into the Work include, but are not limited to, the following: Wood-preservative-treated wood. Manufacturers: Subject to compliance with requirements, provide products by one of the following: Engineered wood products Weyerhaeuser Company. Fire-retardant-treated wood Extreme Fiber Stress in Bending, Edgewise: Refer to Drawings. Power-driven fasteners. Modulus of Elasticity, Edgewise: Refer to Drawings. Powder-actuated fasteners. Expansion anchors 2.6 MISCELLANEOUS LUMBER Metal framing anchors. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the 1.5 QUALITY ASSURANCE following: Source Limitations for Engineered Wood Products: Obtain each type of engineered wood product through one source from a single manufacturer. Nailers Paragraph and subparagraphs below may be retained to specify lumber and other wood products made from certified wood for Delete subparagraph below if prefabricated metal units are used. Prefabricated metal units may still require blocking or nailers. LEED Credit MR 7, which requires that a minimum of 50 percent of wood-based materials be certified. An alternative method of Delete subparagraph below if roof membrane used does not require cants or if cants of another material are used. meeting LEED Credit MR 7 requirement is to retain requirement in Division 1 Section "LEED Requirements" that gives Contractor option and responsibility for determining how LEED Credit MR 7 requirement will be met. Delete any or all of three items below if not required. B. Forest Certification: For the following wood products, provide materials produced from wood obtained from forests certified 4. Furring. by an FSC-accredited certification body to comply with FSC 1.2, "Principles and Criteria": For items of dimension lumber size, provide Standard, Stud, or No. 3 grade lumber with 19 percent maximum moisture Coordinate list below with products retained in Part 2. Delete items not required to be made from certified wood; verify that certified content of any species. wood is available for each item before retaining. Delete paragraph above or below. Select one of two options for grade in either paragraph. 19 percent moisture is usually adequate Dimension lumber framing. for untreated support and attachment items. Select 15 percent if required and available. Laminated veneer lumber Delete first paragraph below if not acceptable Parallel-strand lumber. C. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used Miscellaneous lumber. provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose. 1.6 DELIVERY, STORAGE, AND HANDLING For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other Stack lumber flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and defects that will interfere with attachment of other work. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over PART 2 - PRODUCTS nails and damage to paneling 2.1 WOOD PRODUCTS, GENERAL PLYWOOD BACKING PANELS A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber Telephone and Electrical Equipment Backing Panels: DOC PS 1, Exposure 1, C-D Plugged, in thickness indicated or, if not that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by indicated, not less than 1/2-inch nominal thickness. an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated. 2.8 FASTENERS 1. Factory mark each piece of lumber with grade stamp of grading agency. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and Select only first option in subparagraph below if authorities having jurisdiction require grade stamps on all materials. manufacture. In DOC PS 20, dressed sizes of green lumber are larger than dry lumber. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high Revise subparagraph below if rough lumber is acceptable for all work. relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153. 2. Provide dressed lumber, S4S, unless otherwise indicated Nails, Brads, and Staples: ASTM F 1667. Delete paragraph and subparagraph below if engineered wood products are not used. Standard in first paragraph below covers power-driven staples, nails, P-nails, and allied fasteners. B. Engineered Wood Products: Provide engineered wood products acceptable to authorities having jurisdiction and for which Power-Driven Fasteners: NES NER-272. current model code research or evaluation reports exist that show compliance with building code in effect for Project. Wood Screws: ASME B18.6.1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by Lag Bolts: ASME B18.2.1. manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers. data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 times the load imposed when 2.2 WOOD-PRESERVATIVE-TREATED LUMBER installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency. Delete this Article if not applicable. See Evaluations for discussion of formulations. 1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5. Preservative Treatment by Pressure Process: AWPA C2. Subparagraph above and below are examples only. Above protects against corrosion in an indoor atmosphere; revise to suit other See Evaluations for information about treatment chemicals. service conditions after verifying availability of thicker coatings. Preservative Chemicals: Acceptable to authorities having jurisdiction. 2.9 METAL FRAMING ANCHORS Delete subparagraph below if no exposed framing or if considered unnecessary. See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and products. If naming manufacturers or Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does products, retain one of three subparagraphs and list of manufacturers below. Refer to Division 1 Section "Product Requirements." not comply with requirements for untreated material. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review. incorporated into the Work include, but are not limited to, the following: Select only first option in subparagraph below if authorities having jurisdiction require quality mark on all materials. Manufacturers: Subject to compliance with requirements, provide products by one of the following: Select first option in paragraph below and delete subparagraphs if total treatment is required; otherwise, select second option and Basis-of-Design Products: Subject to compliance with requirements, provide products indicated on Drawings or comparable retain appropriate subparagraphs. products by one of the following: Application: Treat the following: Alpine Engineered Products, Inc. Retain subparagraph below if Project includes wood adjacent to roofing or waterproofing. Cleveland Steel Specialty Co. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with Harlen Metal Products, Inc. roofing, flashing, vapor barriers, and waterproofing. KC Metals Products, Inc. Retain applicable items below. Insert other items that require treatment but are not likely to be indicated on Drawings. Simpson Strong-Tie Co., Inc. Wood sills, sleepers, blocking, and similar concealed members in contact with masonry or concrete. Southeastern Metals Manufacturing Co., Inc. Wood floor plates that are installed over concrete slabs-on-grade. USP Structural Connectors. If retaining first option in first paragraph below, indicate design loads for metal framing anchors on Drawings. Galvanized Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653, G60 coating designation. Use for interior locations where stainless steel is not indicated. Paragraph above is typical for most manufacturers and is suitable for most applications. Delete paragraph and subparagraph below if not required. Type 304 is usually standard for stainless steel; Type 316 gives better corrosion resistance for exposed applications

12 paragraphs below are examples only. Revise to suit Project or delete all if "Basis-of-Design Products" Paragraph is used and

they are not needed to provide salient characteristics for products.

2.10 MISCELLANEOUS MATERIALS Sill-Sealer Gaskets: Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill sealer; or closed-cell neoprene foam, selected from manufacturer's standard widths to suit width of sill members indicated. Adhesives for Gluing Furring and Sleepers to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer. Retain subparagraph below if low-emitting materials are required for LEED Credit EQ 4.1. VOC limit is that for multipurpose construction adhesives in South Coast Air Quality Management District Rule #1168. Use adhesives that have a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24). Treatment below is for exposed ends of posts and beams, not for treating cuts in preservative-treated lumber. C. Water-Repellent Preservative: NWWDA-tested and -accepted formulation containing 3-iodo-2-propynyl butyl carbamate, combined with an insecticide containing chloropyrifos as its active ingredient. PART 3 - EXECUTION 3.1 INSTALLATION, GENERAL Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, and similar supports to comply with requirements for attaching other construction. Framing Standard: Comply with AF&PA's "Details for Conventional Wood Frame Construction." unless otherwise indicated. Delete paragraph below if engineered wood products are not used. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written Delete first paragraph below if metal framing anchors are not used. Metal Framing Anchors: Install metal framing to comply with manufacturer's written instructions. Do not splice structural members between supports, unless otherwise indicated. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches o.c. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated on Drawings. Delete first subparagraph below if no furred walls. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber. Use inorganic boron for items that are continuously protected from liquid water. Use copper naphthenate for items not continuously protected from liquid water. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following: If retaining subparagraph below, verify that this is acceptable to authorities having jurisdiction. Also retain one of the other subparagraphs that references a model code fastener schedule complying with local requirements. Fasteners covered by NES NER-272 are manufactured by member companies of the International Staple. Nail and Tool Association. NES NER-272 for power-driven fasteners. Retain one of six subparagraphs below, with or without subparagraph above, as required to comply with requirements of Project and local codes. Table 2306.1, "Fastening Schedule," in SBCCI's Standard Building Code. Revise paragraph below to include other kinds of nails if required. Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood: do not countersink nail heads, unless otherwise indicated. Delete paragraph and subparagraphs below if no exposed framing. Indicate locations of other fasteners, such as wood screws, bolts, and lag screws, on Drawings. 3.2 WOOD BLOCKING, AND NAILER INSTALLATION Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved. B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated. Retain paragraph below for conventional, not veneer, plaster. Insert other specific requirements as needed for work. 3.3 WOOD FURRING INSTALLATION Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work. Retain applicable types from two paragraphs below; revise if closer spacing is required for material fastened. B. Furring to Receive Plywood or Hardboard Paneling: Install 1-by-3-inch nominal-size furring horizontally and vertically at 24 Furring to Receive Gypsum Board: Install 1-by-2-inch nominal-size furring vertically at 16 inches o.c. If framing is minor in scope and importance, delete remaining framing installation articles. Review framing requirements for compliance with local building code 3.4 WALL AND PARTITION FRAMING INSTALLATION General: Provide single bottom plate and double top plates using members of 2-inch nominal thickness whose widths equal that of studs, except single top plate may be used for non-load-bearing partitions. Fasten plates to supporting construction, unless otherwise indicated. Select one of two stud sizes and one of four spacings in subparagraph below: third and fourth stud spacings are for metric module. Construct corners and intersections with three or more studs. Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Support headers on jamb studs. Two subparagraphs below refer to load-bearing and non-load-bearing construction. Designate load-bearing walls on Drawings if retaining this distinction. For non-load-bearing partitions, provide double-jamb studs and headers of depth indicated. Retain subparagraph above or below if applicable. Revise if single-jamb studs are acceptable. For load-bearing walls, provide double-jamb studs for openings 60 inches and less in width, and triple-jamb studs Retain paragraph below unless sheathing provides required bracing. If retaining second option below, indicate locations on Drawings. Change "bracing" to "wind bracing," "seismic bracing," etc., to match term used in code, where applicable. Insert requirements for framing gables, bays, and other special conditions or show on Drawings. Delete this Article if site-applied boron treatment is specified in Division 2 Section "Termite Control." Delete paragraph below if option allowing inorganic boron treatment is not retained in Part 2. A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label. Retain paragraph below instead of above if boron-treated wood is not used, but borate treatment of wood that has become wet is used to help prevent mold and mildew. Delete if site-applied boron treatment is specified in Division 2 Section "Termite Control." B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label. END OF SECTION 06 10 00



MATTHEW R.
BAIGREPONT

NUMBER

A-2024031068

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Scales as stated hereon are valid on the original

drawing only.

These plans were prepared in this office under our personal supervision, and to the best of ou knowledge comply with state and local codes. Will generally administer construction.

By: 

Mullu 

Magglat

88 BRENTWOOD DRIVE ATON ROUGE, LA 70809 766.4848 F. 225.766.4724

A R C H
3488 BR
BATON
P. 225,766,4

New Construction F
Take 5 Oil Change
400 NE M State Route 291
Lee's Summit, Missouri 64086



PROJECT NO: 33-006-2
PHASE: Final Dev. Submitta
DATE: 04/13/21
PROJ. ARCHITECT: Designer
CARPENTRY

SPECIFICATIONS

SHEET NO.

1.22

)F

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Paper-Surfaced Gypsum Wall Sheathing: ASTM C 79/C 79M or ASTM C 1396/C 1396M, gypsum sheathing; with water-
Structural Spec Sheathing:
                                                                                                                                    resistant-treated core and with water-repellent paper bonded to core's face, back, and long edges.
                                                                                                                                    See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and products. Retain one of first two
                                                                                                                                    subparagraphs and list of manufacturers below. See Division 01 Section "Product Requirements."
 SECTION 06 16 00
                                                                                                                                                   Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be
WOOD SHEATHING
                                                                                                                                            incorporated into the Work include, but are not limited to, the following:
Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have
                                                                                                                                                   Manufacturers: Subject to compliance with requirements, provide products by one of the following:
                                                                                                                                                            American Gypsum.
                GENERAL
PART 1 -
                                                                                                                                                            LaFarge North America Inc.
1.1 RELATED DOCUMENTS
                                                                                                                                                            G-P Gypsum Corporation.
       Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01
                                                                                                                                                            National Gypsum Company.
Specification Sections, apply to this Section.
                                                                                                                                                             Temple-Inland Forest Products Corporation.
1.2 SUMMARY
                                                                                                                                                            United States Gypsum Co.
 A. This Section includes the following:
                                                                                                                                                    Type and Thickness: Regular, thickness per the Drawings.
Adjust list below to suit Project.
                                                                                                                                    Tongue-and-groove edge is only available for regular, 24-by-96-inch (610-by-2438-mm) boards. Verify availability of SI (metric)
                 Wall sheathing.
                                                                                                                                    module with manufacturers selected.
                 Floor sheathing.
                                                                                                                                            4. Edge and End Configuration: Square ends; Square.
                 Roof sheathing
                                                                                                                                    24-by-96-inch (610-by-2438-mm) size is only available for regular boards with tongue-and-groove long edges. Special-order lengths
 B. Related Sections include the following:
                                                                                                                                    are available from some manufacturers but only in large quantities. SI (metric) module dimensions are not readily obtainable; verify
 List below only products and construction that the reader might expect to find in this Section but are specified elsewhere.
                                                                                                                                    availability by special order with manufacturers selected.
                 Division 01 Section "Sustainable Design Requirements" for additional LEED requirements.
                                                                                                                                    Boards 48 inches (1219 mm) or 1200 mm wide can be installed horizontally but are usually installed vertically; horizontal square
                 Division 06 Section "Rough Carpentry" for plywood backing panels.
                                                                                                                                    edges must be protected by a weather-resistant barrier or must be sealed.
1.3 SUBMITTALS
                                                                                                                                           5. Size: 24 by 96 inches for horizontal; 48 by 96 inches for vertical installation.
 A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and
                                                                                                                                    Only G-P Gypsum produces glass-mat gypsum sheathing board.
include construction and application details.
                                                                                                                                    2.5 ROOF SHEATHING
                Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating
                                                                                                                                   If retaining paragraph below, select one of four options. Structural I provides increased racking resistance. See Evaluations for
         plant that treated plywood complies with requirements. Indicate type of preservative used and net amount of preservative
                                                                                                                                    information about durability classifications of plywood.
                                                                                                                                           Plywood Roof Sheathing: Exterior, Structural I sheathing.
 Delete subparagraph below if fire-retardant-treated plywood is not required.
                                                                                                                                                    Span Rating: Not less than 32/16.
        2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that
                                                                                                                                                    Nominal Thickness: Not less than 15/32 inch (11.9 mm).
         treated plywood complies with requirements. Include physical properties of treated materials.
                                                                                                                                    If retaining paragraph below, select one of two options. Structural I provides increased racking resistance. See Evaluations for
 Delete first subparagraph below if not applicable.
                                                                                                                                    information about durability classifications of oriented strand board.
                For fire-retardant treatments specified to be High-Temperature (HT) type, include physical properties of treated
                                                                                                                                          Oriented-Strand-Board Roof Sheathing: Exposure 1, Structural I sheathing.
         plywood both before and after exposure to elevated temperatures, based on testing by a qualified independent testing
                                                                                                                                                    Span Rating: Not less than 32/16.
                                                                                                                                    If retaining subparagraph below, usually select first option for spans of 16 inches (406 mm), second option for spans of 24 inches
          4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was
                                                                                                                                    (610 mm). Select third option for more stringent requirement.
         reduced to levels specified before shipment to Project site.
                                                                                                                                                   Nominal Thickness: Not less than 15/32 inch.
          Include copies of warranties from chemical treatment manufacturers for each type of treatment.
                                                                                                                                    2.6 FLOORING
 Retain subparagraph below if applicable.
                                                                                                                                   For resilient flooring, APA recommends separate subflooring and underlayment rather than single-layer floor. See Evaluations for
        6. For building wrap, include data on air-/moisture-infiltration protection based on testing according to referenced
                                                                                                                                    information about durability classifications of plywood.
                                                                                                                                    For resilient flooring, APA recommends separate subflooring and underlayment rather than single-layer floor. See Evaluations for
       LEED Submittals
                                                                                                                                    information about durability classifications of oriented strand board.
 Retain subparagraph below if low-emitting materials are required for LEED Credit EQ 4.1; coordinate with requirements selected in
                                                                                                                                    If retaining paragraph below, select one of four options. Structural I provides increased racking resistance. For resilient flooring,
Part 2 for construction adhesive
                                                                                                                                    APA recommends separate subflooring and underlayment rather than single-layer floor. See Evaluations for information about
               Credit EQ 4.1: Manufacturers' product data for construction adhesive, including printed statement of VOC content.
                                                                                                                                    durability classifications of plywood.
 Retain subparagraph below if low-emitting materials are required for LEED Credit EQ 4.4.
                                                                                                                                    A. Plywood Subflooring: Exterior, Structural I single-floor panels or sheathing.
               Credit EQ 4.4: Composite wood manufacturer's product data for each composite wood product used on the interior
                                                                                                                                    Select one of first five options and possibly one of last three options in subparagraph below.
         of building indicating that bonding agent used contains no urea formaldehyde.
                                                                                                                                            1. Span Rating: Not less than 24" o.c.
 Retain subparagraph below and "Forest Certification" Paragraph in "Quality Assurance" Article if wood products are required to be
                                                                                                                                    If retaining subparagraph below, usually select first option for spans of 16 inches (406 mm); second option for spans of 24 inches
certified for LEED Credit MR 7, which requires that a minimum of 50 percent of wood-based materials be certified.
                                                                                                                                   (610 mm). For more stringent requirement, select second option for spans of 16 inches (406 mm) or third option for spans of 24
               Credit MR 7: Certificates of chain-of-custody signed by manufacturers certifying that products specified to be made
                                                                                                                                  inches (610 mm).
         from certified wood were made from wood obtained from forests certified by an FSC-accredited certification body to comply
                                                                                                                                           2. Nominal Thickness: Not less than 23/32 inch.
         with FSC 1.2, "Principles and Criteria." Include evidence that mill is certified for chain-of-custody by an FSC-accredited
                                                                                                                                    If retaining paragraph below, select one of two options. Structural I provides increased racking resistance. For resilient flooring, APA
         certification body
                                                                                                                                    recommends separate subflooring and underlayment rather than single-layer floor. See Evaluations for information about durability
 Insert specific model code organization in paragraph below or revise if report must be from another source.
                                                                                                                                    classifications of oriented strand board.
 C. Research/Evaluation Reports: For the following, showing compliance with building code in effect for Project:
                                                                                                                                    B. Oriented-Strand-Board Subflooring: Exposure 1, Structural I sheathing single-floor panels or sheathing.
Edit list below to retain only those products retained in Part 2.
                                                                                                                                    Select one of first five options and one of last four options in subparagraph below.
                 Preservative-treated plywood.
                                                                                                                                           1. Span Rating: Not less than 24" o.c.
                 Fire-retardant-treated plywood.
                                                                                                                                    If retaining subparagraph below, usually select first option for spans of 16 inches (406 mm); second option for spans of 24 inches
                 Foam-plastic sheathing.
                                                                                                                                    (610 mm). For more stringent requirement, select second option for spans of 16 inches (406 mm) or third option for spans of 24
                Building wrap.
                                                                                                                                    inches (610 mm).
 1.4 QUALITY ASSURANCE
                                                                                                                                                   Nominal Thickness: Not less than 23/32 inch.
Retain paragraph and subparagraph below for fire-rated assemblies.
                                                                                                                                   If retaining paragraph below, verify acceptability with floor covering manufacturers. Select second option if low-emitting materials are
A. Fire-Test-Response Characteristics: For assemblies with fire-resistance ratings, provide materials and construction
                                                                                                                                    required for LEED Credit EQ 4.4, which prohibits composite wood products containing urea formaldehyde.
identical to those of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to
authorities having jurisdiction.
                                                                                                                                          General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and
 Indicate design designations of specific assemblies on Drawings.
                                                                                                                                   manufacture.
Paragraph and subparagraphs below may be retained to specify wood products made from certified wood for LEED Credit MR 7.
                                                                                                                                                    For roof and wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
 which requires that a minimum of 50 percent of wood-based materials be certified. An alternative method of meeting LEED
                                                                                                                                            Nails, Brads, and Staples: ASTM F 1667.
 Credit MR 7 requirement is to retain requirement in Division 01 Section "Sustainable Design Requirements" that gives Contractor
                                                                                                                                     Standard in first paragraph below covers power-driven staples, nails, P-nails, and allied fasteners.
option and responsibility for determining how LEED Credit MR 7 requirement will be met.
                                                                                                                                          Power-Driven Fasteners: NES NER-272.
 B. Forest Certification: For the following wood products, provide materials produced from wood obtained from forests certified
                                                                                                                                           Wood Screws: ASME B18.6.1.
by an FSC-accredited certification body to comply with FSC 1.2, "Principles and Criteria":
                                                                                                                                          MISCELLANEOUS MATERIALS
 Coordinate list below with products retained in Part 2. Delete items not required to be made from certified wood; verify that certified
                                                                                                                                     According to APA, only certain solvent-based glues are suitable for nonveneer panels with sealed surfaces and ends.
 wood is available for each item before retaining.
                                                                                                                                          Adhesives for Field Gluing Panels to Framing: Formulation complying with APA AFG-01 that is approved for use with type
                                                                                                                                    of construction panel indicated by manufacturers of both adhesives and panels.
                 Oriented strand board.
                                                                                                                                    Retain subparagraph below if low-emitting materials are required for LEED Credit EQ 4.1. VOC limit is that for multipurpose
                 Fiberboard wall sheathing.
                                                                                                                                                     esives in South Coast Air Quality Management District Rule #1168.
                 Particleboard underlaymer
                                                                                                                                                    Use adhesives that have a VOC content of 70 or less when calculated according to 40 CFR 59, Subpart D (EPA
                 Hardboard underlayment.
                                                                                                                                            Method 24).
       DELIVERY, STORAGE, AND HANDLING
                                                                                                                                   PART 3 - EXECUTION
A. Stack plywood and other panels flat with spacers between each bundle to provide air circulation. Provide for air circulation
                                                                                                                                           INSTALLATION, GENERAL
around stacks and under coverings.
                                                                                                                                          Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number
PART 2 - PRODUCTS
                                                                                                                                    of joints or optimum joint arrangement.
2.1 WOOD PANEL PRODUCTS, GENERAL
                                                                                                                                          Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction, unless otherwise
 Select one of two options in paragraph below; usually the second. DOC PS 2 is a performance-based standard that does not include
requirements for grades of veneers. Second option includes phrase ", unless otherwise indicated" to allow for underlayment that is
                                                                                                                                   C. Securely attach to substrate by fastening as indicated, complying with the following:
specified to comply with DOC PS 1 because a minimum face veneer grade is required; delete if phrase is not needed.
                                                                                                                                                   NES NER-272 for power-driven fasteners.
  A. Plywood: Either DOC PS 1 or DOC PS 2, unless otherwise indicated.
                                                                                                                                    Retain one of six subparagraphs below, with or without subparagraph above, to comply with requirements of Project and local codes.
Delete paragraph below if oriented strand board is not used.
                                                                                                                                                    Table 2304.9.1, "Fastening Schedule," in ICC's "International Building Code."
       Oriented Strand Board: DOC PS 2.
                                                                                                                                                    Table 23-II-B-1, "Nailing Schedule," and Table 23-II-B-2, "Wood Structural Panel Roof Sheathing Nailing Schedule,"
 Retain first paragraph below if a minimum thickness is shown on Drawings.
                                                                                                                                            in ICBO's "Uniform Building Code."
       Thickness: As needed to comply with requirements specified, but not less than thickness indicated.
                                                                                                                                                    Table 2305.2, "Fastening Schedule," in BOCA's "BOCA National Building Code."
        Factory mark panels to indicate compliance with applicable standard.
                                                                                                                                                    Table 2306.1, "Fastening Schedule," in SBCCI's "Standard Building Code."
2.2 PRESERVATIVE-TREATED PLYWOOD
                                                                                                                                                    Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in
Delete this Article if not applicable. See Evaluations for discussion of formulations.
                                                                                                                                            ICC's "International Residential Code for One- and Two-Family Dwellings."
       Preservative Treatment by Pressure Process: AWPA C9.
                                                                                                                                                    Table 602.3(1), "Fastener Schedule for Structural Members," and Table 602.3(2), "Alternate Attachments," in ICC's
See Evaluations for information about treatment chemicals.
                                                                                                                                             "International One- and Two-Family Dwelling Code."
                Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
                                                                                                                                    Retain first paragraph below if wood framing is used. Revise to indicate other kinds of nails if required.
       Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
                                                                                                                                          Use common wire nails, unless otherwise indicated. Select fasteners of size that will not fully penetrate members where
 Select first option in paragraph below and delete others if total treatment is required; otherwise, select second option with or without
                                                                                                                                    opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.
                                                                                                                                          Coordinate wall and roof sheathing installation with flashing and joint-sealant installation so these materials are installed in
       Application: Treat all plywood, in contact with masonry or concrete or used with roofing, flashing, vapor barriers, and
                                                                                                                                    sequence and manner that prevent exterior moisture from passing through completed assembly.
waterproofing
                                                                                                                                           Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.
2.3 FIRE-RETARDANT-TREATED PLYWOOD
                                                                                                                                           Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to
Delete this Article if not applicable.
                                                                                                                                    precipitation or left exposed at end of the workday when rain is forecast.
       General: Comply with performance requirements in AWPA C27.
                                                                                                                                    3.2 WOOD STRUCTURAL PANEL INSTALLATION
                 Use treatment that does not promote corrosion of metal fasteners.
                                                                                                                                           General: Comply with applicable recommendations in APA Form No. E30S, "Engineered Wood Construction Guide," for
 Exterior type is suitable for both exterior and interior applications. Interior type is suitable for interior applications only. See
                                                                                                                                    types of structural-use panels and applications indicated.
Evaluations.
                                                                                                                                          Fastening Methods: Fasten panels as indicated below:
                 Use Exterior type for exterior locations and where indicated.
                                                                                                                                    Delete fastening methods not required. Coordinate with building code requirements.
 Delete first subparagraph below if not applicable. Revise description of locations to suit Project.
                 Use Interior Type A, High Temperature (HT) for roof sheathing and where indicated.
                                                                                                                                                            Glue and nail to wood framing.
                Use Interior Type A, unless otherwise indicated.
                                                                                                                                                            Screw to cold-formed metal framing.
 B. Kiln-dry material after treatment to a maximum moisture content of 15 percent. Do not use material that is warped or does
                                                                                                                                                            Space panels 1/8 inch apart at edges and ends.
not comply with requirements for untreated material.
                                                                                                                                           Wall and Roof Sheathing:
       Identify fire-retardant-treated plywood with appropriate classification marking of UL, U.S. Testing, Timber Products
                                                                                                                                    A continuous bead of glue applied to framing at edges of wall sheathing panels will help seal panel joints so sheathing will function as
 Inspection, or another testing and inspecting agency acceptable to authorities having jurisdiction.
                                                                                                                                  an air barrier.
 Select first option in paragraph below and delete subparagraphs if all wood is required to be fire-retardant treated; otherwise, select
                                                                                                                                                            Nail to wood framing.
second option and applicable subparagraphs.
                                                                                                                                                            Screw to cold-formed metal framing.
     Application: Treat plywood indicated on Drawings, and the following:
                                                                                                                                                            Space panels 1/8 inch apart at edges and ends.
Edit list below to suit local code and Project.
                                                                                                                                   3.3 GYPSUM SHEATHING INSTALLATION
                 Roof and wall sheathing within 48 inches of fire party walls.
                                                                                                                                          Comply with GA-253 and with manufacturer's written instructions.
                 Roof sheathing
                                                                                                                                    Retain applicable subparagraph(s) below or insert requirements to suit Project.
                 Subflooring and underlayment for raised platforms.
                                                                                                                                                    Fasten gypsum sheathing to wood framing with nails or screws.
2.4 WALL SHEATHING
                                                                                                                                                    Fasten gypsum sheathing to cold-formed metal framing with screws.
If retaining paragraph below, select one of four options. Structural I provides increased racking resistance. See Evaluations for
                                                                                                                                                    Install boards with a 3/8-inch gap where non-load-bearing construction abuts structural elements.
information about durability classifications of plywood.
                                                                                                                                                    Install boards with a 1/4-inch gap where they abut masonry or similar materials that might retain moisture, to
       Plywood Wall Sheathing: Exposure 1, Structural I sheathing.
                                                                                                                                            prevent wicking.
Select one of four options in subparagraph below.
                                                                                                                                            Apply fasteners so heads bear tightly against face of sheathing boards but do not cut into facing.
        1. Span Rating: Not less than 16/0.
                                                                                                                                   Revise first paragraph below if horizontally installed boards do not have tongue-and-groove edges.
 If retaining subparagraph below, usually select first option for studs 16 inches (406 mm) o.c., second option for studs 24 inches (610
                                                                                                                                           Horizontal Installation: Install sheathing with V-grooved edge down and tongue edge up. Interlock tongue with groove to
mm) o.c. Select third option for more stringent requirement.
                                                                                                                                    bring long edges in contact with edges of adjacent boards without forcing. Abut ends of boards over centers of studs, and stagger
       2. Nominal Thickness: Not less than 1/2 inch.
                                                                                                                                    end joints of adjacent boards not less than one stud spacing. Attach boards at perimeter and within field of board to each steel stud.
 If retaining paragraph below, select one of two options. Structural I provides increased racking resistance. See Evaluations for
                                                                                                                                                    Space fasteners per Drawings and set back a minimum of 3/8 inch from edges and ends of boards.
 information about durability classifications of oriented strand board.
                                                                                                                                    Retain subparagraph above or below. Delete below if not applicable or not permitted.
      Oriented-Strand-Board Wall Sheathing: Exposure 1, Structural I sheathing.
                                                                                                                                                  For sheathing under stucco cladding, boards may be initially tacked in place with screws if overlying self-furring
 Select one of five options in subparagraph below.
                                                                                                                                            metal lath is screw-attached through sheathing to study immediately after sheathing is installed.
               Span Rating: Not less than 16/0.
                                                                                                                                           Vertical Installation: Install board vertical edges centered over studs. Abut ends and edges of each board with those of
 If retaining subparagraph below, usually select first option for studs 16 inches (406 mm) o.c., second option for studs 24 inches (610
                                                                                                                                    adjacent boards. Attach boards at perimeter and within field of board to each stud.
mm) o.c. Select third option for more stringent requirement.

    Space fasteners per Drawings and set back a minimum of 3/8 inch from edges and ends of boards.

        2. Nominal Thickness: Not less than 1/2 inch.
                                                                                                                                    Retain subparagraph above or below. Delete below if not applicable or not permitted.
                                                                                                                                           2. For sheathing under stucco cladding, boards may be initially tacked in place with screws if overlying self-furring
                                                                                                                                            metal lath is screw-attached through sheathing to studs immediately after sheathing is installed.
```

3.4 PROTECTION

END OF SECTION

resistant sheathing paper securely fastened to framing. Apply covering immediately after sheathing is installed.

resistant sheathing paper will be installed to comply with requirements for incorporating it into final assembly.

Insert requirements for removing protection if it does not become part of final assembly. Paragraph above assumes that weather-

Paper-Surfaced Gypsum Sheathing: Protect sheathing by covering exposed exterior surface of sheathing with weather-

```
MATTHEW E
                  NUMBER
 This drawing is the propetry of FUSION ARCHITECTS and is not to be reproduced or
 copied in whole or in part unless authorization given by FUSION ARCHITECTS. It is only to be
  used for the project and site specifically
  Scales as stated hereon are valid on the original
 These plans were prepared in this office under
  our personal supervision, and to the best of our
 knowledge comply with state and local codes.
Will generally administer construction.
       Manhew. Dagregear
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 PROJECT NO:
PHASE: Final Dev. Submitta
PROJ. ARCHITECT: Designe
         SHEATHING
   SPECIFICATIONS
              SHEET NO.
```

#### Grade and Species: For truss chord and web members, provide dimension lumber of any species, graded visually or Structural Metal Plate Connected Wood Trusses: mechanically, and capable of supporting required loads without exceeding allowable design values according to AF&PA's "National Design Specifications for Wood Construction" and its "Supplement." Retain paragraph and applicable subparagraphs below if truss designs are shown on Drawings and if specifying lumber by grade and species. If fabricator provides truss design, below can also be retained instead of paragraph above to specify minimum METAL-PLATE-CONNECTED WOOD TRUSSES This Section uses the term "Architect." Change this term to match that used to identify the design professional as defined acceptable grades. Verify availability of selections. Retain first paragraph below if truss fabricator designs trusses and requirement for minimum chord sizes is needed to provide stiffer in the General and Supplementary Conditions. members for nailing Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have C. Permanent Bracing: Provide wood bracing that complies with requirements for miscellaneous lumber in Division 6 Section "Rough Carpentry." PART 1 -GENERAL 2.2 TIMBER 1.1 RELATED DOCUMENTS Delete this Article if not applicable. Preservative treatment is usually limited to wood exposed in wet and humid locations or Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 geographical areas where termite infestation is extensive. See the Evaluations in Division 6 Section "Rough Carpentry" for Specification Sections, apply to this Section. discussion of treatment chemicals; some treatment chemicals increase rate of corrosion of galvanized truss plates. A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber This Section includes the following: that complies with the applicable rules of any rules writing agency certified by the ALSC Board of Review. Provide lumber graded by Adjust list below to suit Project. an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated. Wood roof trusses Factory mark each piece of lumber with grade stamp of grading agency. Wood girder trusses. Delete first subparagraph below if authorities having jurisdiction require grade stamps on all materials. Wood truss bracing. Provide dressed lumber, S4S. Metal truss accessories Select one of two options in subparagraph below. Verify availability of lumber with 15 percent maximum moisture content before Related Sections include the following: List below only products and construction that the reader might expect to find in this Section but are specified elsewhere. Provide dry lumber with 19 percent maximum moisture content at time of dressing. Borate treatment in Section referenced in first subparagraph below may be an acceptable substitute for borate-treated wood Retain one of first three paragraphs and associated subparagraphs below. Usually retain first if truss fabricator provides truss specified in this Section. Delete if borate treatment is specified in this Section. design. First gives truss fabricator the greatest flexibility in lumber selection, but can only be used if fabricator provides truss design. Division 2 Section "Termite Control" for site application of borate treatment to wood trusses. Grade and Species: For truss chord and web members, provide dimension lumber of any species, graded visually or Division 6 Section "Wood Decking." mechanically, and capable of supporting required loads without exceeding allowable design values according to AF&PA's "National Division 6 Section "Sheathing" for roof sheathing. Design Specifications for Wood Construction" and its "Supplement." Retain paragraph below if an allowance is specified for permanent bracing. If retaining below, indicate in Division 1 Section Retain paragraph and applicable subparagraphs below if truss designs are shown on Drawings and if specifying lumber by grade "Allowances" that allowance includes installation as well as materials. Delete if bracing is shown on Drawings. and species. If fabricator provides truss design, below can also be retained instead of paragraph above to specify minimum C. Allowances: Provide wood truss bracing under the Metal-Plate-Connected Truss Bracing Allowance as specified in acceptable grades. Verify availability of selections. Division 1 Section "Allowances." Retain first paragraph below if truss fabricator designs trusses and requirement for minimum chord sizes is needed to provide stiffer members for nailing Retain abbreviations and terms that remain after this Section has been edited. Permanent Bracing: Provide wood bracing that complies with requirements for miscellaneous lumber in Division 6 Section A. Metal-Plate-Connected Wood Trusses: Planar structural units consisting of metal-plate-connected members fabricated from "Rough Carpentry." dimension lumber and cut and assembled before delivery to Project site. Metal-Plate-Connected Timber Trusses: Planar structural units consisting of metal-plate-connected members fabricated 2.3 METAL CONNECTOR PLATES from timber and cut and assembled before delivery to Project site. See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and products. Retain one of first two TPI: Truss Plate Institute, Inc. paragraphs and list of manufacturers below. See Division 1 Section "Product Requirements." Delete paragraph and list below if lumber grading agencies are not referenced with products. Manufacturers: Subject to compliance with requirements, provide products by one of the following: D. Lumber grading agencies, and the abbreviations used to reference them, include the following: Alpine Engineered Products, Inc. Coordinate list below with product lists; delete those not required. See Evaluations. Cherokee Metal Products, Inc.; Masengill Machinery Company. NeLMA: Northeastern Lumber Manufacturers' Association. CompuTrus, Inc. NLGA: National Lumber Grades Authority. Eagle Metal Products. SPIB: The Southern Pine Inspection Bureau. Jager Building Systems, Inc. WCLIB: West Coast Lumber Inspection Bureau. MiTek Industries, Inc.; a subsidiary of Berkshire Hathaway Inc. WWPA: Western Wood Products Association. Robbins Engineering, Inc. 1.4 PERFORMANCE REQUIREMENTS TEE-LOK Corporation; a subsidiary of Berkshire Hathaway Inc. Retain this Article if delegating any part of design responsibility for trusses to fabricator. Coordinate with Part 2. Insert other Truswal Systems Corporation. performance and design criteria below to suit Project or add to Drawings. AIA Document A201 requires Owner or Architect to General: Fabricate connector plates to comply with TPI 1 specify performance and design criteria to be satisfied. Retain one or more of two paragraphs and associated subparagraph below. A. Structural Performance: Provide metal-plate-connected wood trusses capable of withstanding design loads within limits and Hot-Dip Galvanized Steel Sheet: ASTM A 653/A 653M; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS under conditions indicated. Comply with requirements in TPI 1 unless more stringent requirements are specified below. Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G60 (Z180) coating designation; and not less than 0.036 inch (0.9 Tabulate minimum load requirements here or on Drawings. Revise first subparagraph below when design loads are included here. mm) thick. Include applicable live, dead, snow, collateral, seismic, wind, and uplift loads, and load combinations. Use for interior locations where for dimensional lumber and timber trusses. Design Loads: As indicated. Type 304 stainless steel is usually standard; Type 316 gives better corrosion resistance for exposed applications in coastal Maximum Deflection Under Design Loads: environments. Select deflection limits from options in subparagraph below or insert others as appropriate for floor, roof, and ceiling materials. a. Roof Trusses: Vertical deflection of 1/240 of span. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and Insert a subparagraph for horizontal (longitudinal) deflection limits of scissor trusses if they are used. 1.5 SUBMITTALS Nails, Brads, and Staples: ASTM F 1667. A. Product Data: For metal-plate connectors, metal truss accessories, and fasteners. Standard in paragraph below covers power-driven staples, nails, P-nails, and allied fasteners. Delete subparagraph below if preservative-treated wood is not required. Power-Driven Fasteners: NES NER-272. Shop Drawings: Prepared by or under the supervision of a qualified professional engineer. Show fabrication and installation Delete remaining fastener types not required. Screws may be needed to assemble multi-ply girder trusses; bolts are generally only details for trusses required for fastening to masonry or steel, expansion anchors for fastening to masonry. Show location, pitch, span, camber, configuration, and spacing for each type of truss required. Wood Screws: ASME B18.6.1. Indicate sizes, stress grades, and species of lumber and timber. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 According to TPI 1, building designer is responsible for design of "permanent lateral bracing as specified by the truss designer, to (ASTM A 563M) hex nuts and, where indicated, flat washers. prevent buckling of the individual truss members due to design loads." This bracing must be anticipated and detailed on Drawings, Use for exposed timber trusses subject to possible revision when truss Shop Drawings are received, or an Allowance for it must be included in the Contract Sum if a 2.5 METAL TRUSS ACCESSORIES Change Order is to be avoided. See Evaluations. See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and products. If naming manufacturers or Indicate locations of permanent bracing required to prevent buckling of individual truss members due to design products, retain one of three paragraphs and list of manufacturers below. Refer to Division 1 Section "Product Requirements." A. Basis-of-Design Products: Subject to compliance with requirements, provide products indicated on Drawings or Indicate type, size, material, finish, design values, orientation, and location of metal connector plates. comparable products by one of the following: Show splice details and bearing details. Cleveland Steel Specialty Co. Retain subparagraph below if products are required to withstand specific design loads and design responsibilities have been Harlen Metal Products, Inc. delegated to Contractor or if structural data are required as another way to verify products' compliance with performance KC Metals Products, Inc. requirements. Professional engineer qualifications are specified in Division 1 Section "Quality Requirements." Simpson Strong-Tie Co., Inc. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by Southeastern Metals Manufacturing Co., Inc. the qualified professional engineer responsible for their preparation. USP Structural Connectors. Retain paragraph and subparagraph below and "Forest Certification" Paragraph in "Quality Assurance" Article if wood for trusses is If retaining first option in first paragraph below, indicate design loads for metal truss accessories on Drawings. required to be certified for LEED Credit MR 7, which requires that a minimum of 50 percent of wood-based materials be certified. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed Retain paragraph below if certificates are required by authorities having jurisdiction. those of basis-of-design products. Manufacturer's published values shall be determined from empirical data or by rational C. Product Certificates: For metal-plate-connected wood trusses, signed by officer of truss fabricating firm. engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. Coordinate paragraph below with qualification requirements in Division 1 Section "Quality Requirements" and as supplemented in Galvanized Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating "Quality Assurance" Article. Qualification Data: For Fabricator and Installer Paragraph above is typical for most manufacturers and is suitable for most applications. Delete paragraph and subparagraph below Retain paragraph below if applicable; delete if species and grade are indicated for each use. if not required. Type 304 is usually standard for stainless steel; Type 316 gives better corrosion resistance for exposed applications E. Material Certificates: For dimension lumber and timber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review. First five paragraphs below are examples only. Revise to suit Project or delete all if "Basis-of-Design Products" Paragraph is used Insert specific model code organization in paragraph below or revise if report must be from another source. and they are not needed to provide salient characteristics for products. Research/Evaluation Reports: For the following, showing compliance with building code in effect for Project: First paragraph below, including option, is based on Simpson Strong-Tie's "H-2." Edit list below to retain only those products retained in Part 2. Truss Tie-Downs (Hurricane or Seismic Ties): Bent strap tie for fastening roof trusses to wall studs below, 2-1/4 inches (57 Metal-plate connectors. mm) wide by 0.062 inch (1.6 mm) thick. Tie fits over top of truss and fastens to both sides of truss, top plates, and one side of stud Metal truss accessories 1.6 QUALITY ASSURANCE Description in paragraph above is based on Simpson Strong-Tie's "H-7"; paragraph below, on Simpson Strong-Tie's "H-15." Metal Connector-Plate Manufacturer Qualifications: A manufacturer that is a member of TPI and that complies with quality-Roof Truss Clips: Angle clips for bracing bottom chord of roof trusses at non-load-bearing walls, 1-1/4 inches (32 mm) wide control procedures in TPI 1 for manufacture of connector plates. by 0.050 inch (1.3 mm) thick. Clip is fastened to truss through slotted holes to allow for truss deflection. Delete first subparagraph below if truss design is not delegated to manufacturer. Description in paragraph below is based on MiTek's "Stabilizer." Manufacturer's responsibilities include providing professional engineering services needed to assume engineering Roof Truss Bracing/Spacers: U-shaped channels, 1-1/2 inches (38 mm) wide by 1 inch (25 mm) deep by 0.040 inch (1.0 mm) thick, made to fit between 2 adjacent trusses and accurately space them apart, and with tabs having metal teeth for fastening to Engineering Responsibility: Preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer 2.6 MISCELLANEOUS MATERIALS TPI 1 added specific requirements for fabricator quality-assurance programs in the 2002 version, but does not require third-party Galvanizing Repair Paint: SSPC-Paint 20, with dry film containing a minimum of 94 percent zinc dust by weight. inspection. Verify that local truss fabricators participate in third-party inspection programs; many do not. Retain paragraph below if protective coating of exposed face of connectors is required (for galvanized plates used with chemically Fabricator Qualifications: Shop that participates in a recognized quality-assurance program that complies with qualitytreated wood or in unusual environmental conditions or exposed to weather). Select one system below or retain both if both are control procedures in TPI 1 and that involves third-party inspection by an independent testing and inspecting agency acceptable to acceptable. Coatings are based on TPI 1 recommendations. Consider using stainless-steel connector plates instead. Architect and authorities having jurisdiction. Source Limitations for Connector Plates: Obtain metal connector plates from a single manufacturer. Cut truss members to accurate lengths, angles, and sizes to produce close-fitting joints. Comply with applicable requirements and recommendations of the following publications: Fabricate metal connector plates to sizes, configurations, thicknesses, and anchorage details required to withstand design TPI publications below are listed by title without alphanumeric designations in which the number represents year of issue. loads for types of joint designs indicated. Designations in effect when this Section was updated appear in "Referenced Standards" Article in the Evaluations. Assemble truss members in design configuration indicated; use jigs or other means to ensure uniformity and accuracy of TPI 1, "National Design Standard for Metal Plate Connected Wood Truss Construction." assembly with joints closely fitted to comply with tolerances in TPI 1. Position members to produce design camber indicated. TPI DSB, "Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses." Manufacturing tolerances permitted by TPI 1 vary according to length and height of trusses as follows. Length: 1/2 inch (13 mm) up TPI HIB, "Commentary and Recommendations for Handling, Installing & Bracing Metal Plate Connected Wood to 30 feet (9.14 m) long, thereafter 3/4 inch (19 mm). Height: 1/4 inch (6.4 mm) up to 60 inches (1524 mm) high, thereafter 1/2 inch Wood Structural Design Standard: Comply with applicable requirements in AF&PA's "National Design Specifications for Fabricate wood trusses within manufacturing tolerances in TPI 1. Wood Construction" and its "Supplement." Connect truss members by metal connector plates located and securely embedded simultaneously in both sides of wood Retain paragraph below if wood for trusses is required to be certified for LEED Credit MR 7, which requires that a minimum of 50 members by air or hydraulic press. percent of wood-based materials be certified. See Evaluations. PART 3 - EXECUTION Forest Certification: Provide metal-plate-connected wood trusses produced from wood obtained from forests certified by an 3.1 INSTALLATION FSC-accredited certification body to comply with FSC 1.2, "Principles and Criteria." Install wood trusses only after supporting construction is in place and is braced and secured. 1.7 DELIVERY, STORAGE, AND HANDLING If trusses are delivered to Project site in more than one piece, assemble trusses before installing. Handle and store trusses to comply with recommendations of TPI HIB, "Commentary and Recommendations for Handling, Hoist trusses in place by lifting equipment suited to sizes and types of trusses required, exercising care not to damage truss Installing & Bracing Metal Plate Connected Wood Trusses." members or joints by out-of-plane bending or other causes. Store trusses flat, off of ground, and adequately supported to prevent lateral bending. Install and brace trusses according to TPI recommendations and as indicated. Protect trusses from weather by covering with waterproof sheeting, securely anchored. Install trusses plumb, square, and true to line and securely fasten to supporting construction. Provide for air circulation around stacks and under coverings. Space trusses as indicated, adjust and align trusses in location before permanently fastening. B. Inspect trusses showing discoloration, corrosion, or other evidence of deterioration. Discard and replace trusses that are Anchor trusses securely at bearing points; use metal truss tie-downs or floor truss hangers as applicable. Install fasteners damaged or defective. through each fastener hole in truss accessories according to manufacturer's fastening schedules and written instructions. 1.8 COORDINATION Retain first paragraph and subparagraph below if built-up girder trusses are required. TPI 1 states it is truss designer's responsibility Time delivery and erection of trusses to avoid extended on-site storage and to avoid delaying progress of other trades to design truss-to-girder connection. whose work must follow erection of trusses. Securely connect each truss ply required for forming built-up girder trusses. PART 2 - PRODUCTS Anchor trusses to girder trusses as indicated. 2.1 DIMENSION LUMBER Install and fasten permanent bracing during truss erection and before construction loads are applied. Anchor ends of A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber permanent bracing where terminating at walls or beams. that complies with the applicable rules of any rules writing agency certified by the ALSC Board of Review. Provide lumber graded by Install bracing to comply with Division 6 Section "Rough Carpentry." an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

Retain subparagraph below if floor trusses are required.

inch (13 mm) for parallel-chord trusses are also permitted.

Do not alter trusses in field.

Do not cut or remove truss members.

Install wood trusses within installation tolerances in TPI 1.

Replace wood trusses that are damaged or do not meet requirements.

TPI 1 permits out-of-plumb tolerance of the lesser of D/50 or 2 inches (50 mm) maximum. Out-of-plane tolerances or bow is limited

to the lesser of L/200 or 2 inches (50 mm) maximum. Location variances of 1/4 inch (6.4 mm) and a top-chord bearing gap of 1/2

Factory mark each piece of lumber with grade stamp of grading agency.

Provide dry lumber with 19 percent maximum moisture content at time of dressing

Select one of two options in subparagraph below. Verify availability of lumber with 15 percent maximum moisture content before

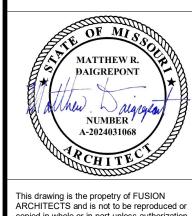
Retain one of first three paragraphs and associated subparagraphs below. Usually retain first if truss fabricator provides truss

design. First gives truss fabricator the greatest flexibility in lumber selection, but can only be used if fabricator provides truss design.

Delete first subparagraph below if authorities having jurisdiction require grade stamps on all materials.

Provide dressed lumber, S4S.

3.2 REPAIRS AND PROTECTION Delete paragraph below if option allowing inorganic boron treatment is not retained in Part 2 or if wood-preservative-treated lumber is Retain first paragraph below instead of above if boron-treated wood is not used, but borate treatment of wood that has become wet is used to help prevent mold and mildew. Delete if site-applied boron treatment is specified in Division 2 Section "Termite Control." Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label. B. Repair damaged galvanized coatings on exposed surfaces with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions. Retain paragraph and subparagraph below if an added corrosion-resistant coating of metal connector plates is required. C. Protective Coating: Clean and prepare exposed surfaces of metal connector plates. Brush apply primer, when part of coating system, and one coat of protective coating. Apply materials to provide minimum dry film thickness recommended by coating system manufacturer. END OF SECTION 06 17 60



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Scales as stated hereon are valid on the original

drawing only.

These plans were prepared in this office under our personal supervision, and to the best of ou knowledge comply with state and local codes. Will generally administer construction.

By:

R C H I T E C T S
3488 BRENTWOOD DRIVE
BATON ROUGE, LA 70809
P. 225.766.4848 F. 225.766.4724
fusionapc.com

w Construction For ake 5 Oil Change

400 NE M State Route 291
Lee's Summit, Missouri 64086



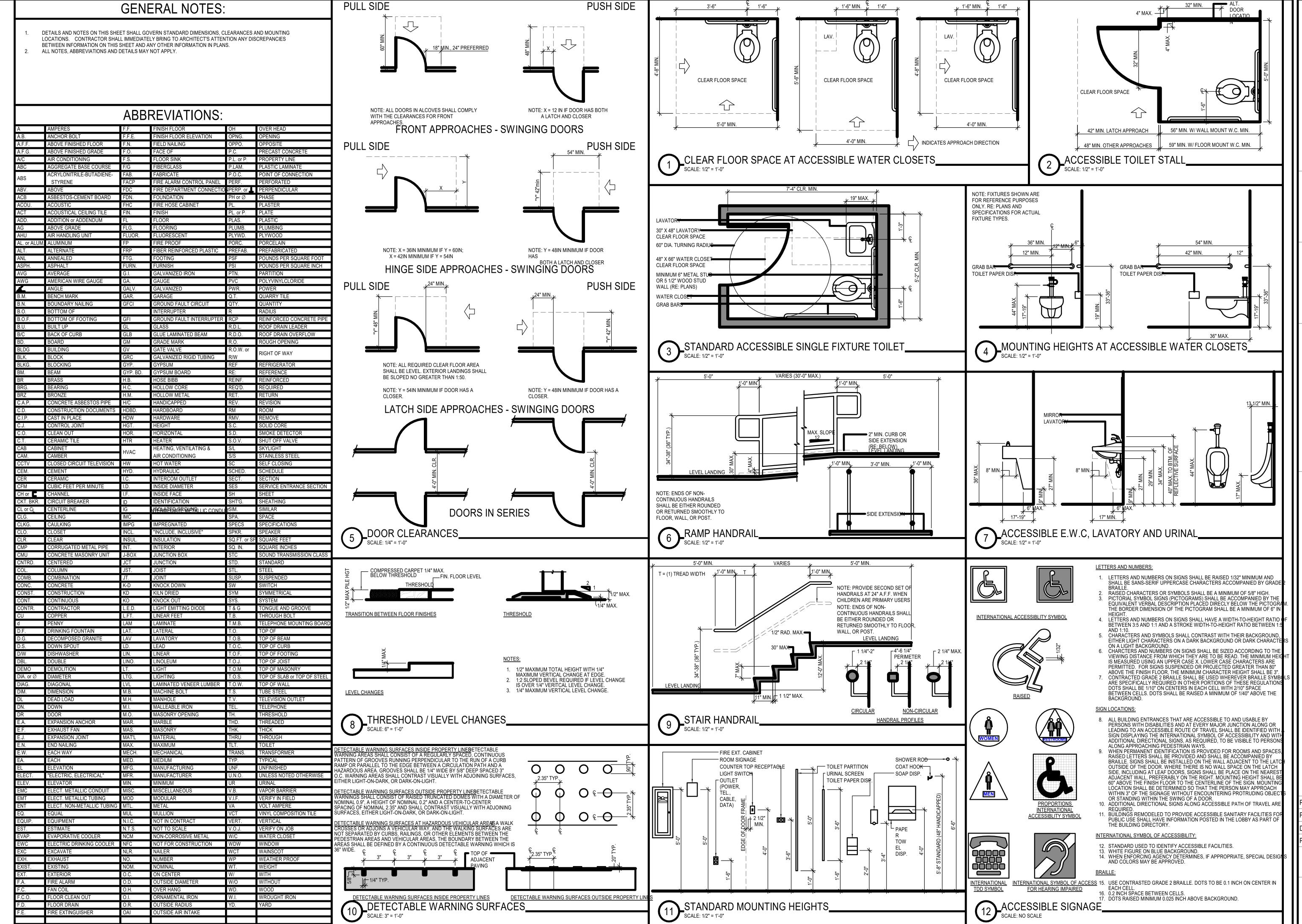
PROJECT NO: 33-006-2
PHASE: Final Dev. Submitta
DATE: 04/13/2
PROJ. ARCHITECT: Designe
WOOD TRUSS

SPECIFICATIONS

SHEET NO.

.\_\_

OF



MATTHEW R DAIGREPONT NUMBER / A-2024031068

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Scales as stated hereon are valid on the origin These plans were prepared in this office unde our personal supervision, and to the best of our owledge comply with state and local codes Will generally administer construction

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ROJECT NO: 33-006-2 PHASE: Final Dev. Submitta 02/17/1 PROJ. ARCHITECT: Designe

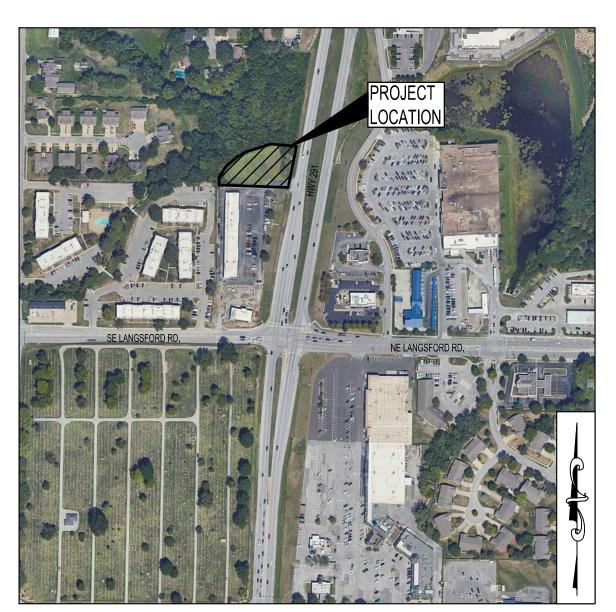
STANDARDS

SHEET NO. G2.00

OF

# PROPOSED TAKE 5 OIL CHANGE

RTE 291 @ SE LANGSFORD RD LEE'S SUMMIT, MISSOURI



VICINITY MAP

#### NOTE:

- THIS PROJECT IS TO BE CONSTRUCTED WITHIN THE JURISDICTIONAL BOUNDARIES OF THE CITY OF LEE'S SUMMIT, MO.
- UNLESS OTHERWISE NOTED ALL IMPROVEMENTS SHALL COMPLY WITH THE CITY OF LEE'S SUMMIT, MO STANDARD SPECIFICATIONS AND DRAWINGS.

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21	I -1 2	LANDSCAPE DETAILS

UTILITY DETAILS

UTILITY DETAILS

# DEVELOPER

DRIVEN ASSETS, LLC 2101 PEARL STREET BOULDER, CO 80302

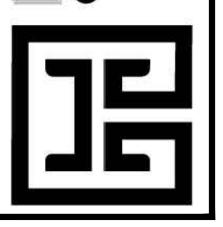


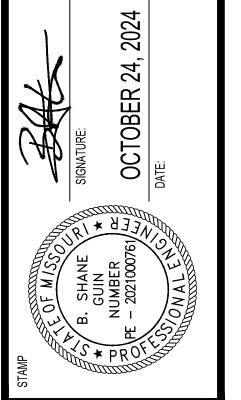
REVISION BY

10/24/2024 KRG

REVISED PER CITY

HIGH TIDE
CONSULTANTS LLC
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www.hightidela.com

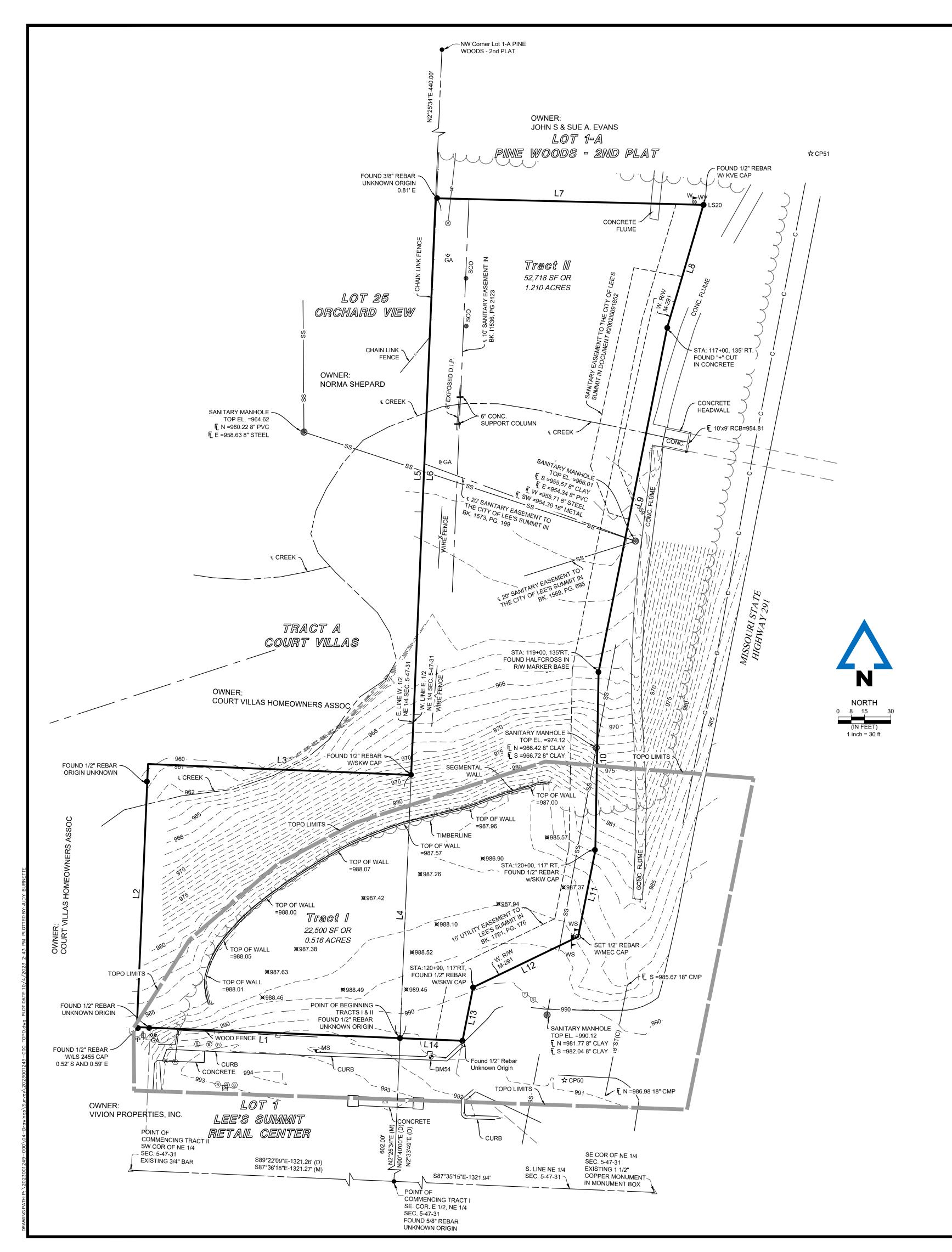


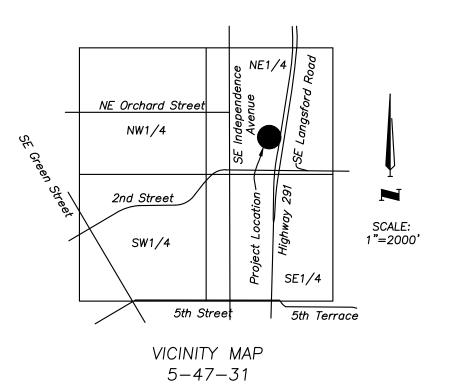


PROPOSED TAKE 5
LEE'S SUMMIT, MISSOURI
FOR DRIVEN ASSETS, LLC

DRAWN KRG
CHECKED RCG
ISSUED DATE 07/30/2024
ISSUED FOR PERMITTING
PROJECT NO. 22-218
FILE 22-218 COVER

COVER





#### **LEGEND**

= GUY ANCHOR = METAL SIGN ■ MS = POWER POLE

SSMH = SANITARY SEWER MANHOLE = SECTION CORNER = SEWER CLEAN OUT SCO

= GAS METER

= WATER MARKER = WATER VALVE ⊗ WV ► WS = WOOD SIGN = BOLLARD

= LIGHT POLE w/CONC. BASE

	PROJEC	T CONTROL P	OINTS TA	BLE
CP#	NORTHING	EASTING	ELEV.	DESCRIPTION
50	1002321.14'	2828279.79'	990.78'	CP 50
51	1002848.95'	2828419.99'	979.14'	CP 51
52	1001994.38'	2828211.00'	997.15'	CP 52
53	1002195.40'	2828248.41'	994.99'	BM 53
54	1002334.35'	2828203.90'	991.66'	BM 54

LINE TABLE				
LINE NO.	BEARING	DISTANCE		
L1	N87°36'18"W (M) N89°22'09"E (D)	150.00'		
L2	N2°25'34"E (M) N00°40'00"E (D)	150.00'		
L3	S89°22'09"E (D) S87°36'18"E (M)	150.00'		
L4	N00°40'00"E (D) N2°25'34"E (M)	150.00'		
L5	N2°33'49"E (D) N2°25'34"E (M)	328.79'		
L6	N2°33'49"E (D) N2°25'34"E (M)	478.79'		
L7	S88°27'48"E (D) S88°36'03"E (M)	152.53'		
L8	S16°24'21"W (M) S16°32'36"W (D)	73.03'		
L9	11°15'42"W (M) S11°23'57"W (D)	200.00'		
L10	S1°11'44"W (D) S1°03'29"W (M)	101.61'		
L11	S11°15'42"W (M) S11°23'57"W (D)	50.00'		
L12	S64°13'25"W (M) S64°21'40"W (D)	66.40'		
L13	S11°15'42"W (M) S11°23'57"W (D)	31.03'		
L14	N87°34'58"W (M) N87°26'43"W (D)	35.61'		

- 1/2" IRON BAR WITH SKW TRAVERSE CAP 1. NORTH 3.0 FEET TO THE SOUTH EDGE OF AN ASPHALT ENTRANCE. 2. SOUTHWEST 8.5 FEET TO THE WEST CURB RETURN.
- 1/2" IRON BAR WITH SKW CAP

3. SOUTH 36.8 FEET TO A FIRE HYDRANT.

1. EAST 10.50 FEET TO THE WEST EDGE OF HIGHWAY 291. 2. WEST 15.5 FEET TO THE EAST EDGE OF A CONCRETE FLUME.

3. SOUTHEAST 24.0 FEET TO THE SOUTH END OF AN 18"CMP.

MAG & SHINER IN THE TOP OF A CURB AT THE NORTH END OF YELLOW 1. WEST 28.0 FEET TO THE EAST END OF AN ISLAND. 2. EAST 41.8 FEET TO THE WEST EDGE OF HIGHWAY 291.

BENCHMARK 53 ELEV.: 994.99 SET + CUT THE NORTH BOLT TOP FLANGE OF A FIRE HYDRANT ±150'

SOUTHEAST OF THE SOUTHEAST CORNER OF THIS SURVEY.

ELEV.: 991.62 EXISTING SQUARE CUT ON BACK OF CURB 50'± EAST NORTHEAST OF THE NORTHEAST CORNER OF MEINEKE ON THE NORTH SIDE DRIVE AT

## **TOPOGRAPHIC SURVEY**

**SURVEY PREPARED FOR** 

DRIVEN ASSETS, LLC 2101 PEARL STREET BOULDER, CO. 80302 TODD MINIS, MANAGING PARNTER todd@drivenassets.com

- 1. INFORMATION AS SHOWN FOR UNDERGROUND UTILITIES HAS BEEN COMPILED FROM THE RECORDS OF VARIOUS UTILITY COMPANIES CONCERNED, AND AS MARKED IN THE FIELD BY THE MISSOURI ONE CALL SYSTEM, 1 (800) 344-7483. WHEN PRECISE LOCATIONS OF UNDERGROUND UTILITIES ARE NEEDED PRIOR TO EXCAVATION OR CONNECTIONS, THE VARIOUS UTILITY COMPANIES CONCERNED ARE TO FURNISH A CREW TO POINT OUT THE LOCATIONS AT THE JOB SITE. Missouri One Call Ticket #232351453.
- 3. CONTOURS SHOWN HEREON ARE 1 FOOT INTERVALS AND BASED NAVD88.
- 4. BASIS OF BEARINGS: MISSOURI STATE PLANE, WEST ZONE.
- 5. CLASS OF SURVEY: URBAN
- 6. WE HAVE REVIEWED THE "FLOOD INSURANCE RATE MAP", COMMUNITY PANEL NO. 29095C0436G HAVING AN EFFECTIVE JANUARY 20, 2017 AS PUBLISHED BY FEDERAL EMERGENCY MANAGEMENT AGENCY. OUR REVIEW OF THIS MAP INDICATES THAT THIS PARCEL OF LAND LIES WITHIN ZONE X OTHER FLOOD AREAS, WHICH IS "AREAS OF 0.2%; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE: AND AREAS PROTECTED BY LEVEES FORM 1% ANNUAL CHANCE

#### LEGAL DESCRIPTION PER TITLE COMMITMENT

TRACT I:

THE SOUTH 150 FEET OF THE EAST 150 FEET OF THE NORTH 300 FEET OF THE SOUTH 902 FEET OF THE EAST 880 FEET OF THE WEST ONE HALF OF THE NORTHEAST QUARTER OF SECTION 5, TOWNSHIP 47, RANGE 31, IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF THE NORTHEAST QUARTER OF SAID SECTION 5, TOWNSHIP 47, RANGE 31; THENCE SOUTH 89 DEGREES, 22 MINUTES, 09 SECONDS EAST ALONG THE SOUTH LINE OF THE WEST ONE HALF OF SAID QUARTER SECTION, A DISTANCE OF 1321.26 FEET TO THE SOUTHEAST CORNER OF SAID WEST ONE HALF; THENCE NORTH 00 DEGREES, 40 MINUTES, 00 SECONDS EAST ALONG THE EAST LINE OF SAID WEST ONE HALF, A DISTANCE OF 602.00 FEET TO THE POINT OF BEGINNING; THENCE NORTH 89 DEGREES, 22 MINUTES, 09 SECONDS EAST, PARALLEL WITH THE SOUTH LINE OF SAID WEST ONE HALF, A DISTANCE OF 150.00 FEET; THENCE NORTH 00 DEGREES, 40 MINUTES, 00 SECONDS EAST, PARALLEL WITH THE EAST LINE OF SAID WEST ONE HALF, A DISTANCE OF 150.00 FEET; THENCE SOUTH 89 DEGREES, 22 MINUTES, 09 SECONDS EAST, PARALLEL WITH THE SOUTH LINE OF SAID WEST ONE HALF, A DISTANCE OF 150.00 FEET TO A POINT ON THE EAST LINE OF SAID WEST ONE HALF; THENCE SOUTH 00 DEGREES, 40 MINUTES, 00 SECONDS WEST ALONG SAID EAST LINE, A DISTANCE OF 150.00 FEET TO THE POINT OF BEGINNING.

#### TRACT II:

COMMENCING AT THE SOUTHWEST CORNER OF THE EAST 1/2 OF THE NORTHEAST 1/4 OF SECTION 5, TOWNSHIP 47, RANGE 31, LEE'S SUMMIT, JACKSON COUNTY, MISSOURI; THENCE ALONG THE WEST LINE OF SAID 1/2 OF 1/4 SECTION NORTH 2 DEGREES, 33 MINUTES, 49 SECONDS EAST 602 FEET TO THE TRUE POINT OF BEGINNING OF THIS TRACT; THENCE ALONG SAID WEST LINE NORTH 2 DEGREES, 33 MINUTES, 49 SECONDS EAST 478.79 FEET; THENCE SOUTH 88 DEGREES, 27 MINUTES, 48 SECONDS EAST 152.53 FEET TO A POINT ON THE WEST LINE OF THE RIGHT-OF-WAY OF M-291; THENCE ALONG SAID RIGHT-OF-WAY LINE AS FOLLOWS; SOUTH 16 DEGREES, 32 MINUTES, 36 SECONDS WEST 73.03 FEET TO A POINT 135 FEET OPPOSITE CENTER LINE STATION 117+00; THENCE SOUTH 11 DEGREES, 23 MINUTES, 57 SECONDS WEST 200 FEET TO A POINT 135 FEET OPPOSITE CENTER LINE STATION 119+00: THENCE SOUTH 1 DEGREE, 11 MINUTES, 44 SECONDS WEST 101.61 FEET TO A POINT 117 FEET OPPOSITE CENTER LINE STATION 120+00; THENCE PARALLEL TO SAID CENTER LINE SOUTH 11 DEGREES, 23 MINUTES, 57 SECONDS WEST 50 FEET; THENCE SOUTH 64 DEGREES, 21 MINUTES, 40 SECONDS WEST 66.40 FEET TO A POINT 170 FEET OPPOSITE CENTER LINE STATION 120+90; THENCE PARALLEL TO SAID CENTER LINE SOUTH 11 DEGREES, 23 MINUTES, 57 SECONDS WEST 31.03 FEET; THENCE LEAVING SAID RIGHT-OF-WAY NORTH 87 DEGREES, 26 MINUTES, 43 SECONDS WEST 35.61 FEET TO THE TRUE POINT OF BEGINNING



#### UTILITY WARNING

THE UTILITIES DEPICTED ON THIS DOCUMENT HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN COMPRISE ALL SUCH ITEMS IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN ARE IN THE EXACT LOCATION INDICATED EXCEPT WHERE NOTED AS QUALITY LEVEL A.

TOPOGRAPHIC SURVEY

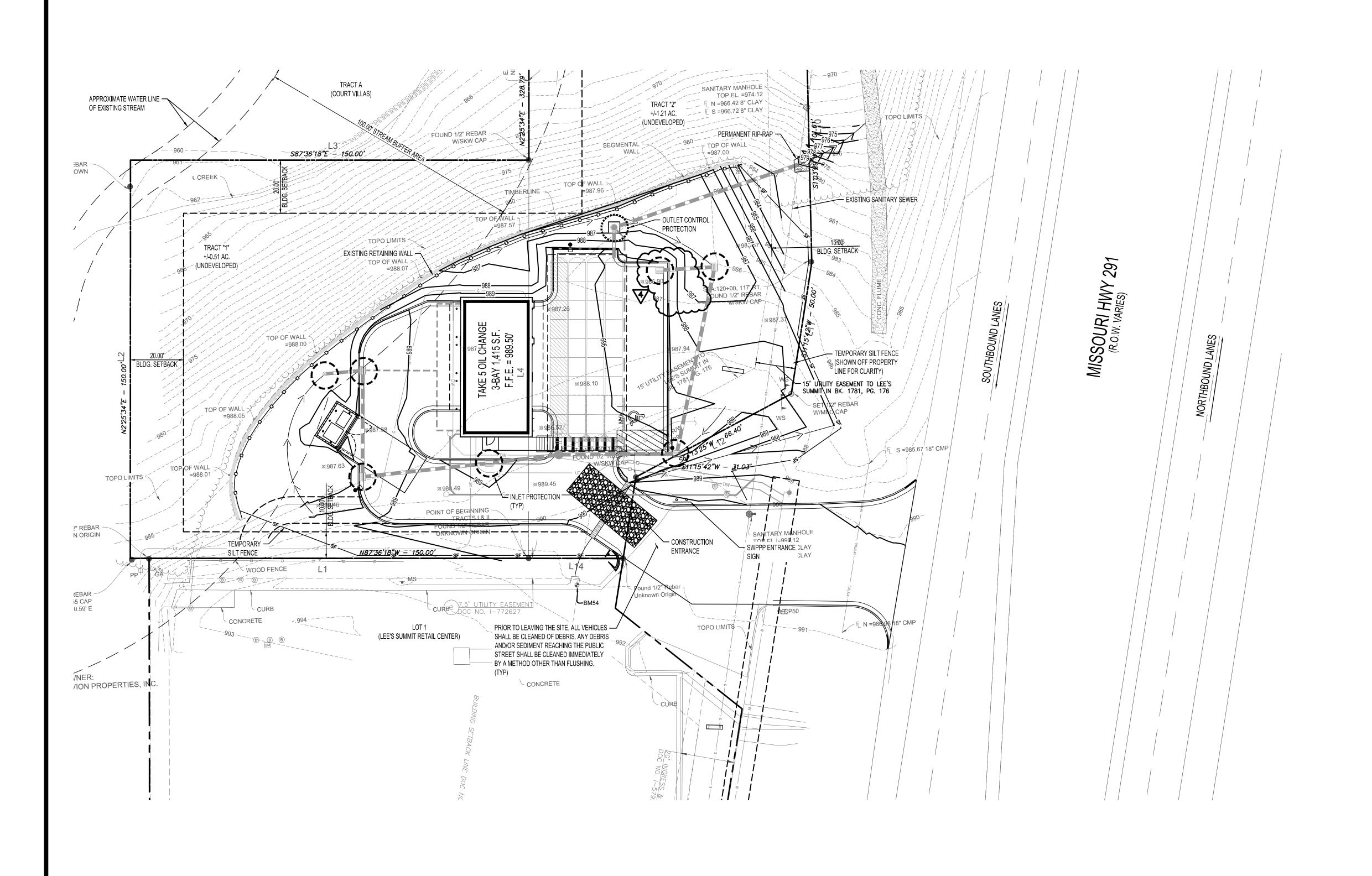
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9/13/2023

REVISIONS LEE'S SUMMIT, JACKSON CO. J.BURNETTE SURVEYOR S.WHITAKER SEC. 5-T47-R31 2023001249-000

01/01

**MCCLURE** making lives better. 1700 Swift Street, STE 100 North Kansas City, Missouri 641 816-756-0444



#### **EROSION CONTROL NOTES:**

- 1. SEDIMENT AND EROSION CONTROL FACILITIES AND STORM DRAINAGE FACILITIES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
- 2. CONTRACTOR SHALL MAINTAIN EROSION CONTROL FACILITIES DURING THE ENTIRE CONSTRUCTION PERIOD. FACILITIES ARE NOT TO BE REMOVED UNTIL COMPLETION OF THE PROJECT.
- 3. ADDITIONAL EROSION CONTROL BMP'S MAY BE REQUIRED AS DEEMED NECESSARY BY GOVERNING AUTHORITIES.
- 4. SILT FENCES SHALL BE CLEANED OR REPLACED WHEN SILT BUILDS UP TO  $\frac{1}{2}$  THE HEIGHT OF THE FENCE.
- 5. EROSION CONTROL MEASURES ARE TO BE INSPECTED WEEKLY AND AFTER EACH RAINFALL AND REPAIRED AS NECESSARY.
- 6. ALL GRADED AREAS SHALL BE STABILIZED WITH A PERMANENT FAST GROWING COVER AND/OR MULCH UPON COMPLETION OF GRADING OPERATIONS. COMPLETION OF GRADING OPERATIONS DOES NOT MEAN AT THE END OF THE PROJECT. AS SOON AS FINAL GRADES ARE ESTABLISHED IN AN UNPAVED AREA, THE CONTRACTOR SHALL STABILIZE WITH A TEMPORARY GRASS OR PERMANENT SOD. IF A TEMPORARY GRASS IS APPLIED, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO APPLY A PERMANENT SEED OR SOD AT THE PROPER TIME OF YEAR.
- 7. FILL SLOPES SHOULD BE PLANTED AS SOON AS AN AREA OF THE SITE IS BROUGHT TO FINAL GRADE. SURFACE RUNOFF SHALL BE INTERCEPTED AT THE TOP OF TEMPORARY AND PERMANENT SLOPES DURING CONSTRUCTION SO THAT WATER IS NOT ALLOWED TO FLOW OVER THE SLOPE FACE.
- 8. THE GENERAL CONTRACTOR AND THE GRADING CONTRACTOR SHALL REVIEW THEIR GRADING SEQUENCE TO INSURE THAT THE LEAST AMOUNT OF LAND POSSIBLE AT ANY ONE TIME IS DISTURBED WITHOUT PERMANENT STABILIZATION.
- 9. CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION ENTRANCES PRIOR TO ANY EARTHWORK OPERATIONS.
- 10. CONTRACTOR SHALL MAINTAIN SILT FENCE FOR THE DURATION OF THE PROJECT UNTIL ACCEPTED BY THE OWNER AT NO EXPENSE TO OWNER.
- 11. CONTRACTOR SHALL INSPECT ON A DAILY BASIS FOR NEEDED REMOVAL OF ANY ACCUMULATED SILTS, DEBRIS, OR REPAIR OF DAMAGED SILT FENCE AT NO ADDITIONAL EXPENSE TO OWNER.
- HEREON SHALL BE IN PLACE. CLEARING AND GRUBBING OPERATIONS WILL BE ENGAGED IN ONLY AS NECESSARY TO ALLOW THE PLACEMENT OF EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN HEREON UNTIL ALL SUCH MEASURES ARE IN PLACE.

12. PRIOR TO CONSTRUCTION, THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN

- 13. THE CONTRACTOR SHALL OBTAIN AND COMPLY WITH ALL MISSOURI DEPT. OF NATURAL RESOURCES/NPDES STORM WATER GENERAL PERMIT REQUIREMENTS THROUGHOUT THE DURATION OF CONSTRUCTION.
- 14. CONTRACTOR SHALL UPDATE MAP AS NEEDED DURING CONSTRUCTION TO INDICATE LOCATIONS OF PORTABLE TOILETS, MATERIAL STORAGE AREAS, CONCRETE WASHOUTS, ETC. AND TO DOCUMENT BMP INSTALLATION AND CHANGES.

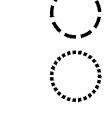
#### **BMP MAINTENANCE EROSION NOTES:**

ALL MEASURES STATED ON THIS SITE MAP SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION & SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT, & REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

- 1. INLET PROTECTION DEVICES & BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.
- 2. ALL SEEDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, & RESEEDED AS NEEDED.
- 3. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF
- THE HEIGHT OF THE SILT FENCE. 4. THE CONSTRUCTION ENTRANCE / EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION EXITS AS CONDITIONS
- 5. THE TEMPORARY PARKING & STORAGE AREA PROVIDED BY CONTRACTOR SHALL BE
- PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AREA AS CONDITIONS DEMAND. 6. PRIOR TO LEAVING THE SITE, ALL VEHICLES SHALL BE CLEANED OF DEBRIS. ANY DEBRIS &/OR SEDIMENT REACHING THE PUBLIC STREET SHALL BE CLEANED IMMEDIATELY BY A METHOD OTHER THAN FLUSHING.

#### **EROSION CONTROL LEGEND**

INLET PROTECTION



OUTLET CONTROL PROTECTION

CONSTRUCTION ENTRANCE



PERMANENT RIP-RAP

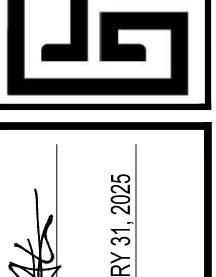
REFER TO SURVEY SHEETS FOR LEGEND OF EXISTING FEATURES

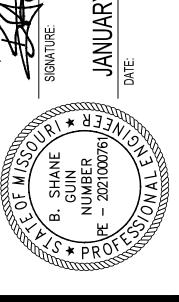


# **EROSION** CONTROL PLAN

REVISION 10/24/2024 REVISED PER CITY 12/16/2024 REVISED PER CITY 1/17/2025 REVISED PER CITY 1/31/2025 reviśed per city





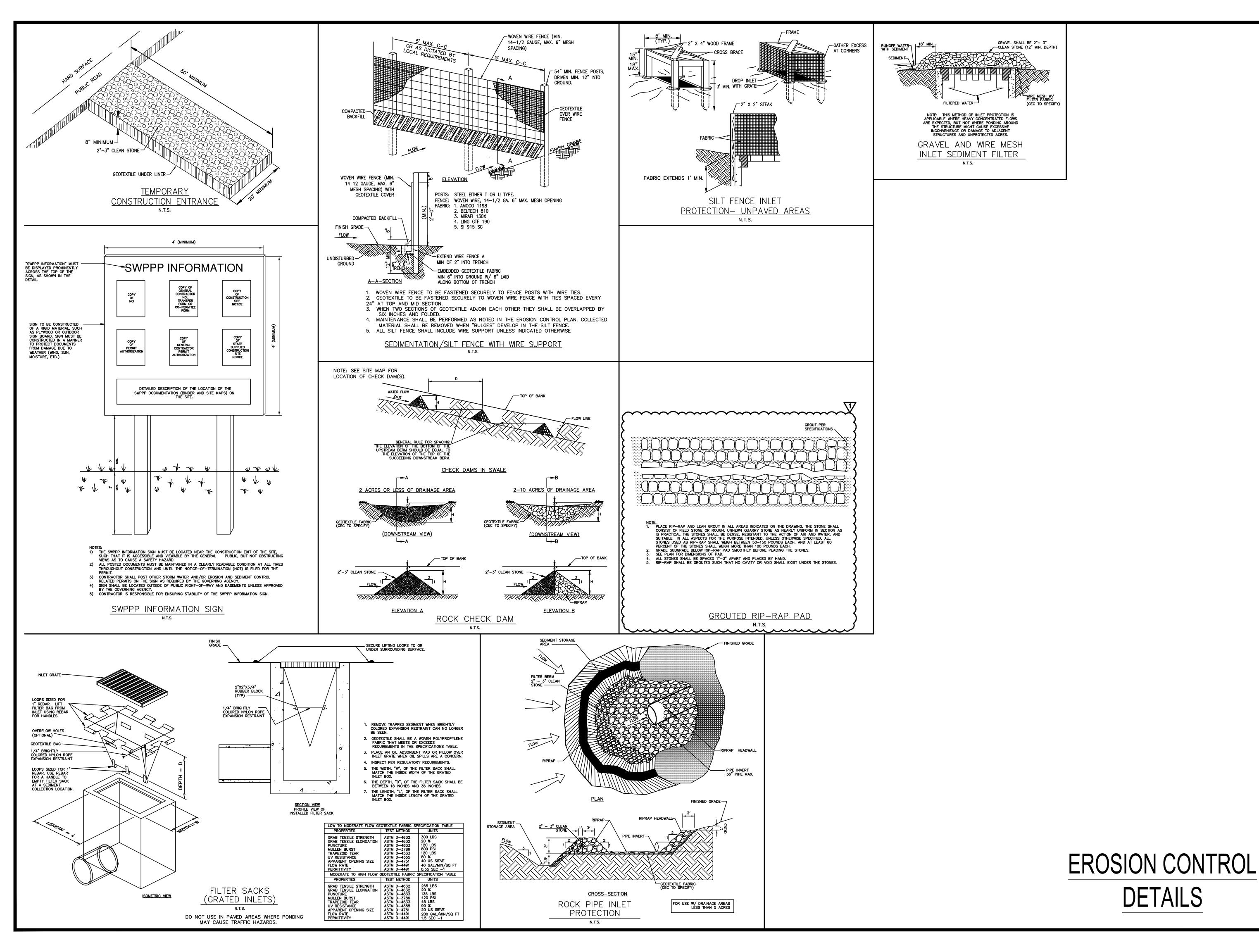


KRG CHECKED ISSUED DATE 07/30/2024 ISSUED FOR PERMITTING PROJECT NO.

22-218 22-218 ES-1 Erosion Control Plan

SHEET

ACCORDING TO THE MISSOURI DEPARTMENT OF NATURAL RESOURCES GIS MAP, NO EXISTING OIL AND GAS WELLS ARE LOCATED ON SITE.



REVISION BY

10/24/2024
REVISED PER CITY

KRG

SULTANTS LLC
COLUMBIA ST, SUITE 200A
DVINGTON, LA 70433



LEE'S SUMMIT, MISSOURI
FOR DRIVEN ASSETS, LLC
2101 PEARL STREET
BOULDER, CO 80302

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RCG

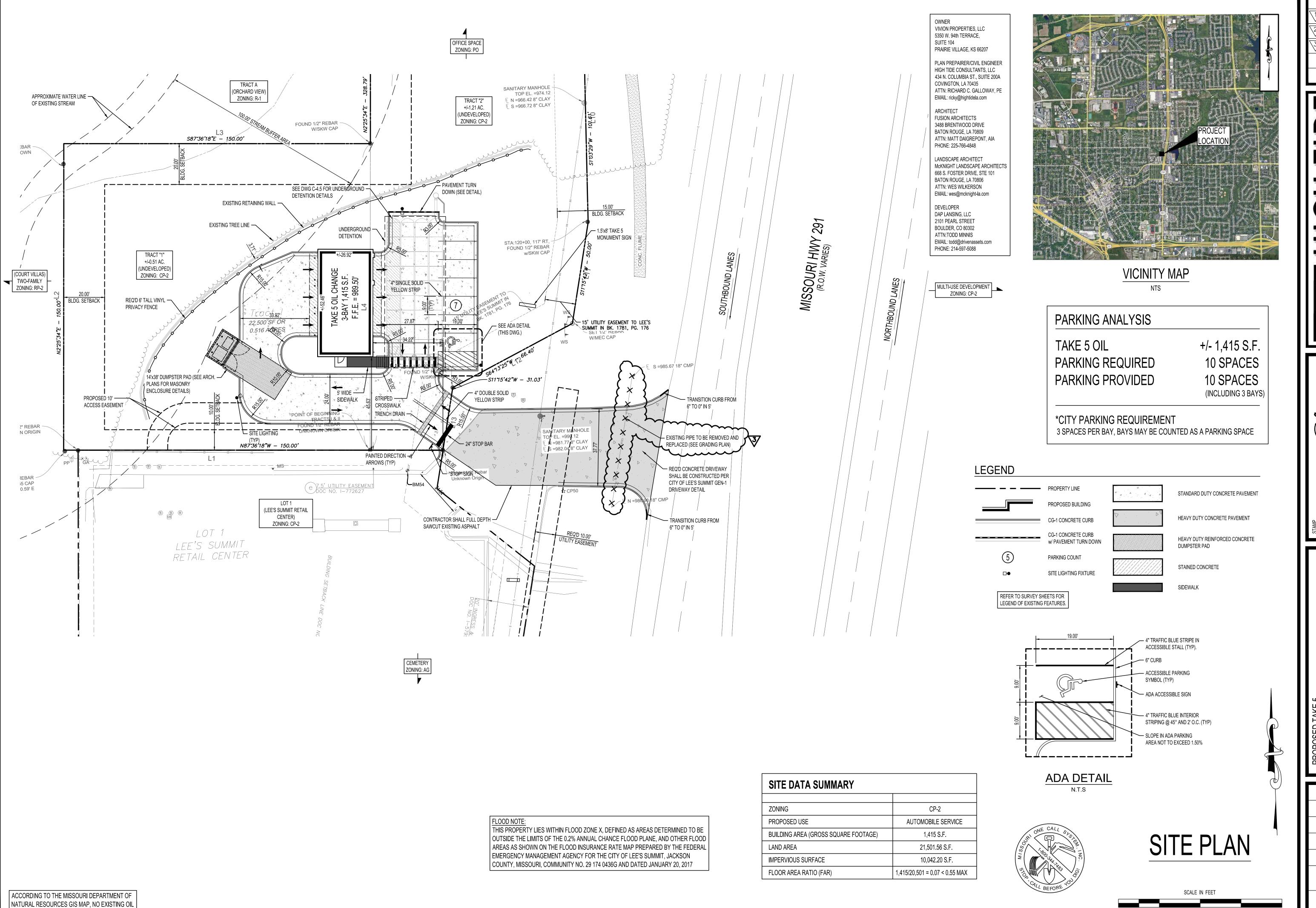
ISSUED DATE
07/30/2024

ISSUED FOR
PERMITTING

PROJECT NO.
22-218

FILE
22-218 C-4 Details

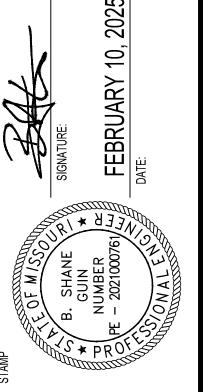
ES-2



AND GAS WELLS ARE LOCATED ON SITE.

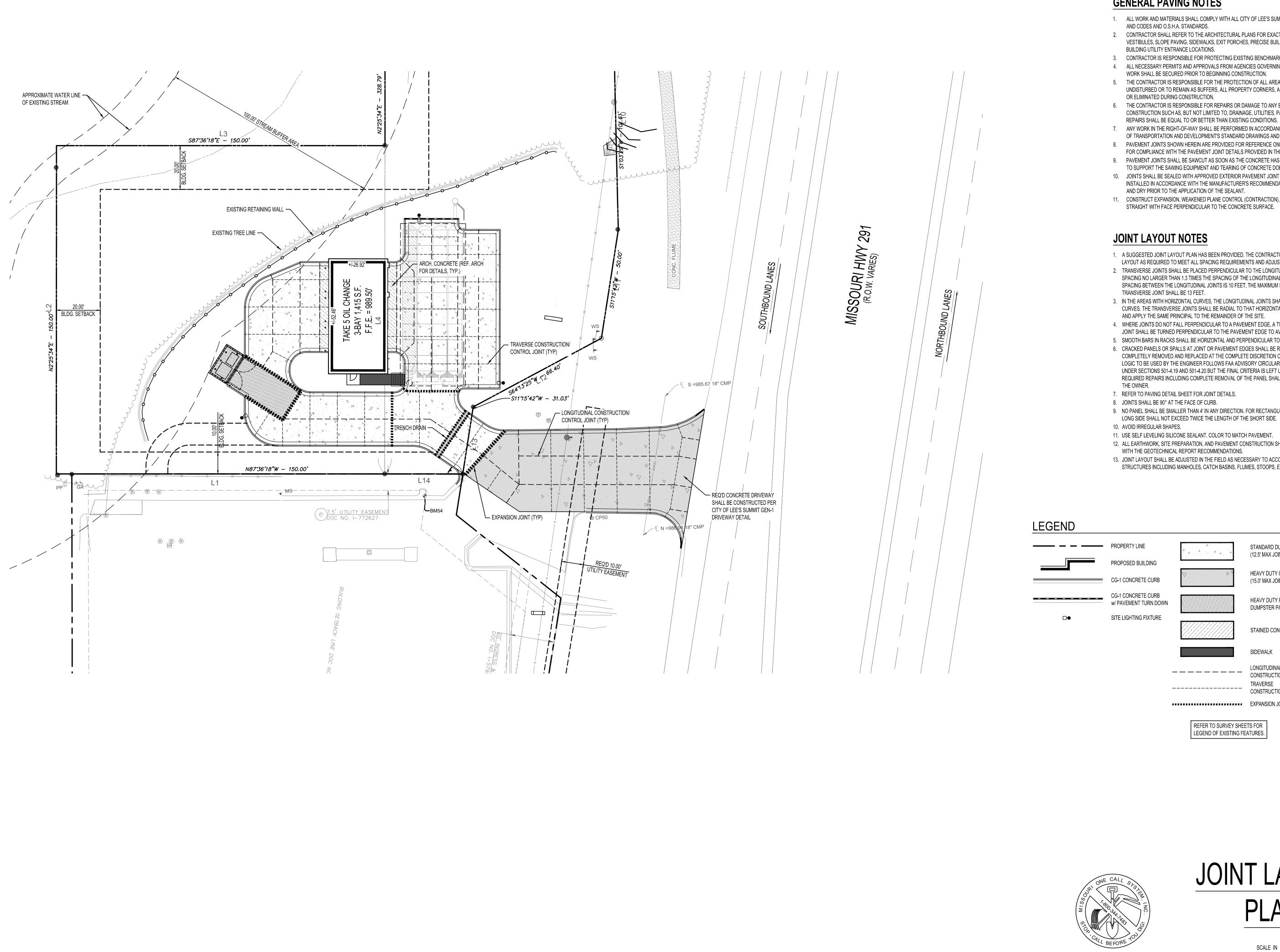
REVISION 10/24/2024 REVISED PER CITY 12/17/2024 REVISED PER CITY 2/10/2025 REVISED PER CITY





KRG CHECKED RCG ISSUED DATE 07/30/2024 ISSUED FOR PERMITTING PROJECT NO. 22-218 FILE

22-218 C-1 Site Plan SHEET



#### **GENERAL PAVING NOTES**

- 1. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY OF LEE'S SUMMIT AND MoDOTD REGULATIONS AND CODES AND O.S.H.A. STANDARDS.
- 2. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, SLOPE PAVING, SIDEWALKS, EXIT PORCHES, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
- 3. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING BENCHMARK.
- 4. ALL NECESSARY PERMITS AND APPROVALS FROM AGENCIES GOVERNING THE CONSTRUCTION OF THIS WORK SHALL BE SECURED PRIOR TO BEGINNING CONSTRUCTION.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL AREAS INDICATED TO REMAIN UNDISTURBED OR TO REMAIN AS BUFFERS, ALL PROPERTY CORNERS, AND REPLACING ALL PINS DAMAGED OR ELIMINATED DURING CONSTRUCTION.
- 6. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRS OR DAMAGE TO ANY EXISTING IMPROVEMENTS DURING CONSTRUCTION SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC.
- 7. ANY WORK IN THE RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH MISSOURI DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT'S STANDARD DRAWINGS AND SPECIFICATIONS.
- 8. PAVEMENT JOINTS SHOWN HEREIN ARE PROVIDED FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE PAVEMENT JOINT DETAILS PROVIDED IN THE DETAIL SHEETS.
- 9. PAVEMENT JOINTS SHALL BE SAWCUT AS SOON AS THE CONCRETE HAS REACHED SUFFICIENT STRENGTH TO SUPPORT THE SAWING EQUIPMENT AND TEARING OF CONCRETE DOES NOT OCCUR.
- 10. JOINTS SHALL BE SEALED WITH APPROVED EXTERIOR PAVEMENT JOINT SEALANTS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. JOINTS SHALL BE CELAN
- 11. CONSTRUCT EXPANSION, WEAKENED PLANE CONTROL (CONTRACTION), AND CONSTRUCTION JOINTS STRAIGHT WITH FACE PERPENDICULAR TO THE CONCRETE SURFACE.

#### **JOINT LAYOUT NOTES**

- 1. A SUGGESTED JOINT LAYOUT PLAN HAS BEEN PROVIDED. THE CONTRACTOR SHALL ADJUST THE JOINT LAYOUT AS REQUIRED TO MEET ALL SPACING REQUIREMENTS AND ADJUST TO CONSTRUCTION SEQUENCING. 2. TRANSVERSE JOINTS SHALL BE PLACED PERPENDICULAR TO THE LONGITUDINAL JOINTS SHOWN AT A SPACING NO LARGER THAN 1.3 TIMES THE SPACING OF THE LONGITUDINAL JOINT. FOR EXAMPLE, IF THE SPACING BETWEEN THE LONGITUDINAL JOINTS IS 10 FEET, THE MAXIMUM SPACING FOR THE ASSOCIATED
- 3. IN THE AREAS WITH HORIZONTAL CURVES, THE LONGITUDINAL JOINTS SHALL BE TRUE OFFSETS OF THE CURVES. THE TRANSVERSE JOINTS SHALL BE RADIAL TO THAT HORIZONTAL CURVE. SEE THE LAYOUT SHOWN AND APPLY THE SAME PRINCIPAL TO THE REMAINDER OF THE SITE.
- 4. WHERE JOINTS DO NOT FALL PERPENDICULAR TO A PAVEMENT EDGE, A TWO FOOT MINIMUM LENGTH OF JOINT SHALL BE TURNED PERPENDICULAR TO THE PAVEMENT EDGE TO AVOID "POINTS" IN PANELS. 5. SMOOTH BARS IN RACKS SHALL BE HORIZONTAL AND PERPENDICULAR TO THE JOINT.
- 6. CRACKED PANELS OR SPALLS AT JOINT OR PAVEMENT EDGES SHALL BE REPAIRED OR THE PANEL COMPLETELY REMOVED AND REPLACED AT THE COMPLETE DISCRETION OF THE ENGINEER. THE GENERAL LOGIC TO BE USED BY THE ENGINEER FOLLOWS FAA ADVISORY CIRCULAR 150-5370-10F DATED 9/30/2011 UNDER SECTIONS 501-4.19 AND 501-4.20 BUT THE FINAL CRITERIA IS LEFT UP TO THE ENGINEER. ANY REQUIRED REPAIRS INCLUDING COMPLETE REMOVAL OF THE PANEL SHALL BE AT NO ADDITIONAL COST TO THE OWNER.
- 7. REFER TO PAVING DETAIL SHEET FOR JOINT DETAILS.
- 8. JOINTS SHALL BE 90° AT THE FACE OF CURB.
- 9. NO PANEL SHALL BE SMALLER THAN 4' IN ANY DIRECTION. FOR RECTANGULAR PANELS, THE LENGTH OF THE LONG SIDE SHALL NOT EXCEED TWICE THE LENGTH OF THE SHORT SIDE.
- 10. AVOID IRREGULAR SHAPES.
- 11. USE SELF LEVELING SILICONE SEALANT. COLOR TO MATCH PAVEMENT.
- 12. ALL EARTHWORK, SITE PREPARATION, AND PAVEMENT CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT RECOMMENDATIONS.
- 13. JOINT LAYOUT SHALL BE ADJUSTED IN THE FIELD AS NECESSARY TO ACCOMMODATE EXACT LOCATIONS OF STRUCTURES INCLUDING MANHOLES, CATCH BASINS, FLUMES, STOOPS, ETC.

PROPOSED BUILDING CG-1 CONCRETE CURB

STANDARD DUTY CONCRETE PAVEMENT (12.5' MAX JOINT SPACING)

HEAVY DUTY CONCRETE PAVEMENT (15.0' MAX JOINT SPACING) HEAVY DUTY REINFORCED CONCRETE DUMPSTER PAD

STAINED CONCRETE

\_\_\_\_\_ CONSTRUCTION/CONTROL JOINT CONSTRUCTION/CONTROL JOINT

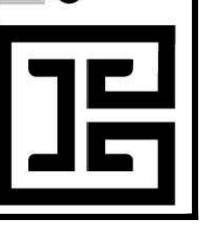
EXPANSION JOINT

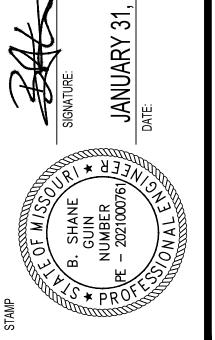
REFER TO SURVEY SHEETS FOR LEGEND OF EXISTING FEATURES.



# JOINT LAYOUT

REVISION

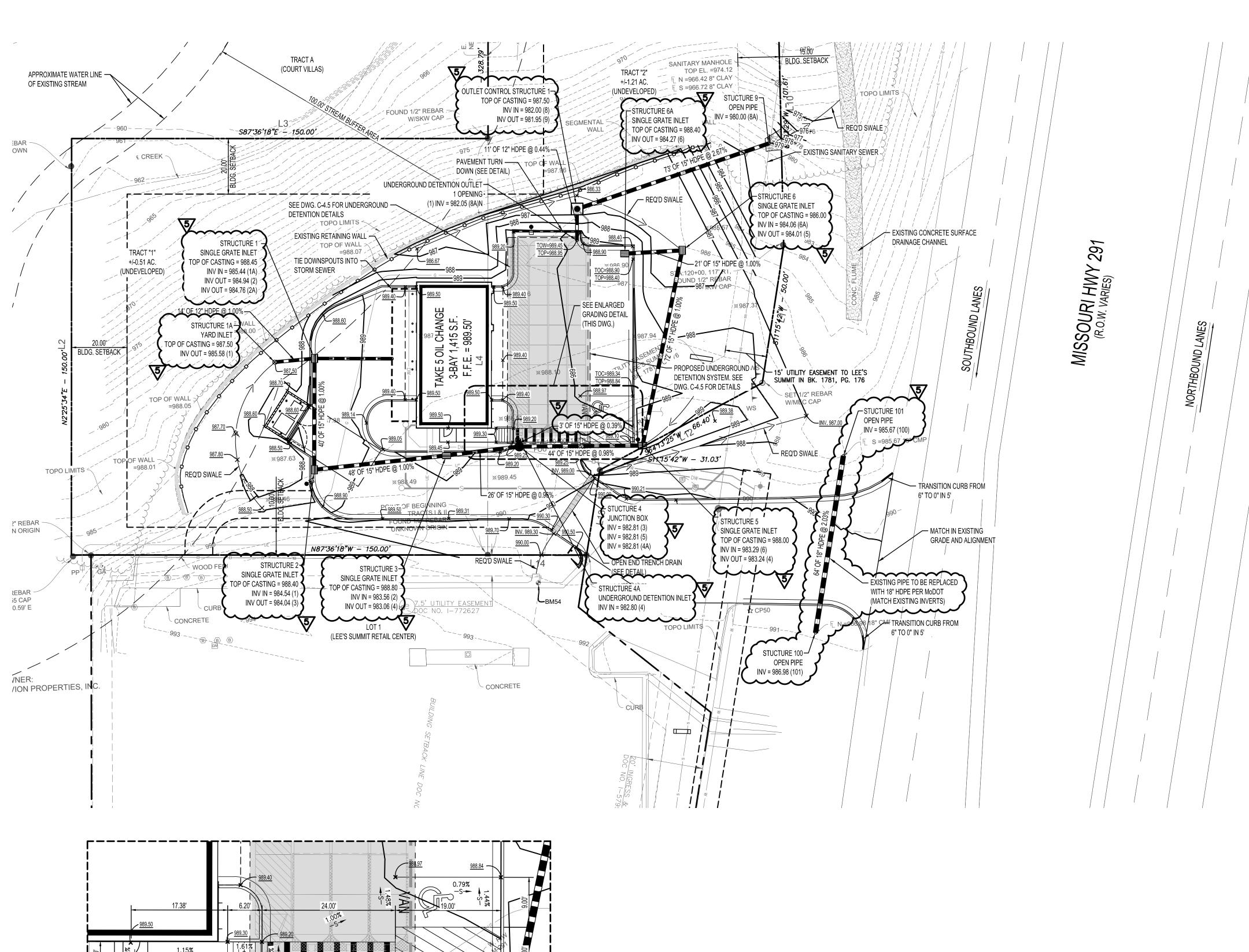




KRG CHECKED RCG ISSUED DATE 07/30/2024 ISSUED FOR PERMITTING PROJECT NO. 22-218

22-218 C-1.1 Joint Layout Plan

SHEET



NOTE:
THIS SITE IS LOCATED WITHIN THE WEST PRAIRIE LEE WATERSHED

FLOOD NOT

THIS PROPERTY LIES WITHIN FLOOD ZONE X, DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE LIMITS OF THE 0.2% ANNUAL CHANCE FLOOD PLANE, AND OTHER FLOOD AREAS AS SHOWN ON THE FLOOD INSURANCE RATE MAP PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY FOR THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI, COMMUNITY NO. 29 174 0436G AND DATED JANUARY 20, 2017

#### **GRADING NOTES**

- 1. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING FEATURES, INCLUDING REMOVAL OF ANY EXISTING UTILITIES UNLESS OTHERWISE NOTED ON THE PLANS. UTILITIES ARE TO BE REMOVED TO THE RIGHT-OF-WAY LIMITS.
- 2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- 3. ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
- 4. PRECAST STRUCTURES MAY BE USED AT CONTRACTORS OPTION.
- EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
- 6. IF ANY EXISTING STRUCTURES SHOWN TO REMAIN ARE DAMAGED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR
- AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.

  ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
- 8. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6" ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER".
- 9. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
- CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
- 11. TOPOGRAPHIC INFORMATION IS TAKEN FROM A TOPOGRAPHIC SURVEY BY McCLURE. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.
- 12. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS ESTABLISHED.
- 13. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
- 14. CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST STANDARD OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES.
- 15. ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT FROM INVERT IN TO INVERT OUT.
- 16. ALL PIPES AND STRUCTURES WITHIN THE STREET RIGHT-OF-WAY SHALL BE PER MISSOURI DEPARTMENT OF TRANSPORTATION STANDARDS & SPECIFICATIONS, LATEST EDITION AND MODOT STANDARD DETAILS.
- 17. DRAINAGE STRUCTURES SHALL BE PRECAST OR CAST-IN-PLACE CONCRETE IN ACCORDANCE WITH SPECIFICATIONS PROVIDED. REFER TO DETAIL SHEETS FOR DETAILS OF AREA INLETS AND MANHOLES. ALL INLET FRAMES AND GRATES SHALL BE VULCAN FOUNDRY CORP. CATALOG # V-4863 OR EQUAL.

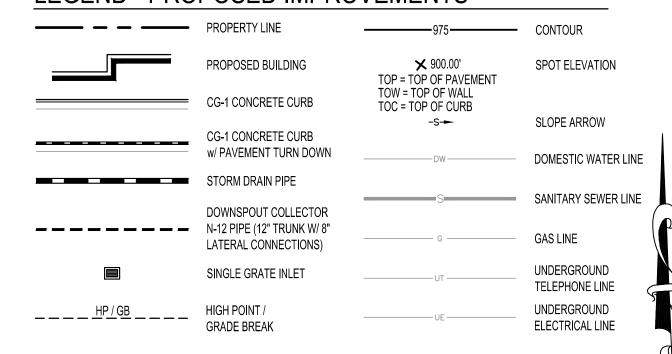
#### SITE AND PAD PREPARATION NOTES

- 1. ALL EARTHWORK, PAD AND SITE PREPARATION SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING SERVICES REPORT PREPARED BY TERRACON CONSULTANTS, INC., DATED NOVEMBER 2, 2023, TERRACON PROJECT NO. 02225258.
- 2. THE CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT FROM THE OWNER, BECOME FAMILIAR WITH THE REPORT AND RECOMMENDATIONS AND SHALL FOLLOW THE RECOMMENDATIONS AND REQUIREMENTS OF THE REPORT.
- 3. SITE PREPARATION SHALL INCLUDE THE STRIPPING OF EXISTING PAVEMENT SECTIONS, VEGETATION, ORGANICS, SILTY SOILS, AND LOOSE, SOFT OR OTHERWISE UNSUITABLE MATERIAL. COMPLETE STRIPPING OF THE ROOT MAT SHALL BE PERFORMED IN THE PROPOSED BUILDING AND PAVEMENT AREAS. STRIPPED MATERIALS CONSISTING OF VEGETATION AND ORGANIC MATERIALS SHALL BE WASTED OFF SITE. THE ACTUAL STRIPPING AND UNDERCUTTING
- DEPTHS SHALL BE DETERMINED BY A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER AT THE TIME OF CONSTRUCTION.

  4. THE SOILS WITHIN THE PLANNED BUILDING AREA SHALL BE FURTHER UNDERCUT AS NECESSARY TO ACCOMMODATE PLACEMENT OF THE RECOMMENDED 24-INCH THICK LVC LAYER BELOW FLOOR SLABS. THE UNDERCUT AREAS SHALL EXTEND A MINIMUM OF 5 FEET LATERALLY OUTSIDE THE BUILDING WALL LINE.
- 5. FOLLOWING INITIAL STRIPPING AND ANY NECESSARY UNDERCUTTING, THE EXPOSED SOILS SHALL BE PROOFROLLED. A TERRACON REPRESENTATIVE SHOULD OBSERVE THE PROOFROLLING. PROOFROLLING CAN BE ACCOMPLISHED USING A LOADED TANDEM-AXLE DUMP TRUCK WITH A GROSS WEIGHT OF AT LEAST 20 TONS, OR SIMILARLY LOADED EQUIPMENT. AREAS THAT DISPLAY EXCESSIVE DEFLECTION (PUMPING) OR RUTTING DURING PROOFROLL OPERATIONS SHOULD BE IMPROVED BY SCARIFICATION/COMPACTION OR BY REMOVAL AND REPLACEMENT WITH ENGINEERED FILL.
- SEE GEOTECHNICAL REPORT FOR FILL MATERIAL TYPES, ACCEPTABLE LOCATION FOR PLACEMENT, AND FILL COMPACTION REQUIREMENTS.
   ALL GRADES MUST PROVIDE EFFECTIVE DRAINAGE AWAY FROM THE BUILDING DURING AND AFTER CONSTRUCTION AND SHOULD BE MAINTAINED THROUGHOUTH THE LIFE OF THE STRUCTURE.
- 8. THE CONSTRUCTION PHASE DRAINAGE SHOULD BE CONSIDERED IN THE DEVELOPMENT OF THE PROJECT OVERALL GRADING AND DRAINAGE PLAN. THE POSSIBLE POOR DRAINAGE CONDITIONS CAN LEAD TO INSTABILITY IN THE AREAS AROUND THE BUILDING AND HAMPER CONSTRUCTION PROGRESS. THE SITE GRADING AND GENERAL CONTRACTOR SHOULD CONSIDER THEIR MEANS AND METHODS TO MAINTAIN DRAINAGE DURING THE CONSTRUCTION PHASE.
- 9. EXPOSED SUBGRADES SHALL BE SLOPED TO PROVIDE POSITIVE DRAINAGE SO THAT SATURATION OF THE SUBGRADES IS AVOIDED. SURFACE WATER SHALL NOT BE PERMITTED TO ACCUMULATE ON THE SITE.
- 10. UPON COMPLETION OF FILLING AND GRADING, CARE SHOULD BE TAKEN TO MAINTAIN THE SUBGRADE WATER CONTENT PRIOR TO CONSTRUCTION OF FLOOR
- 11. CONSTRUCTION TRAFFIC OVER THE COMPLETED SUBGRADES SHOULD BE AVOIDED TO THE EXTENT PRACTICAL.
   12. 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 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
- 13. 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.

SEE TERRACON GEOTECHNICAL REPORT DATED 11/2/2023 FOR ALL SITE AND PAD PREPARATION REQUIREMENTS.

#### **LEGEND - PROPOSED IMPROVEMENTS**



REFER TO SURVEY SHEETS FOR LEGEND OF EXISTING FEATURES



**GRADING PLAN** 

SCALE IN FEET

10 10 0 20 40 60

REVISION BY

10/24/2024
REVISED PER CITY

12/16/2024
REVISED PER CITY

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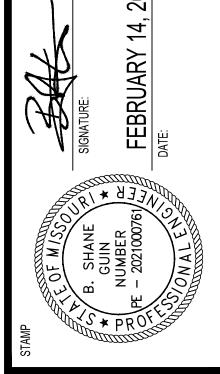
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TEN ASSETS, LLC
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CO 80302

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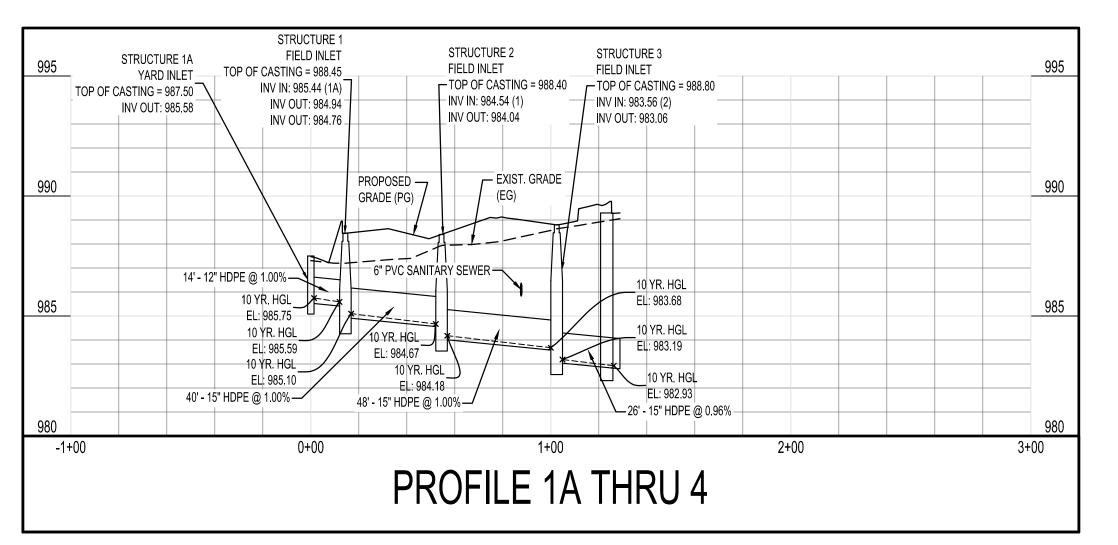
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22-218

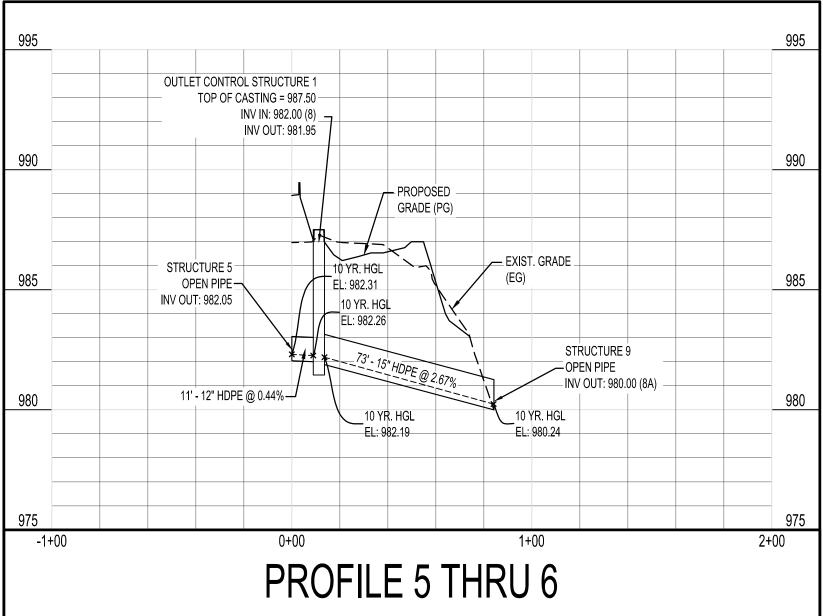
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22-218 C-2 Grading Plan

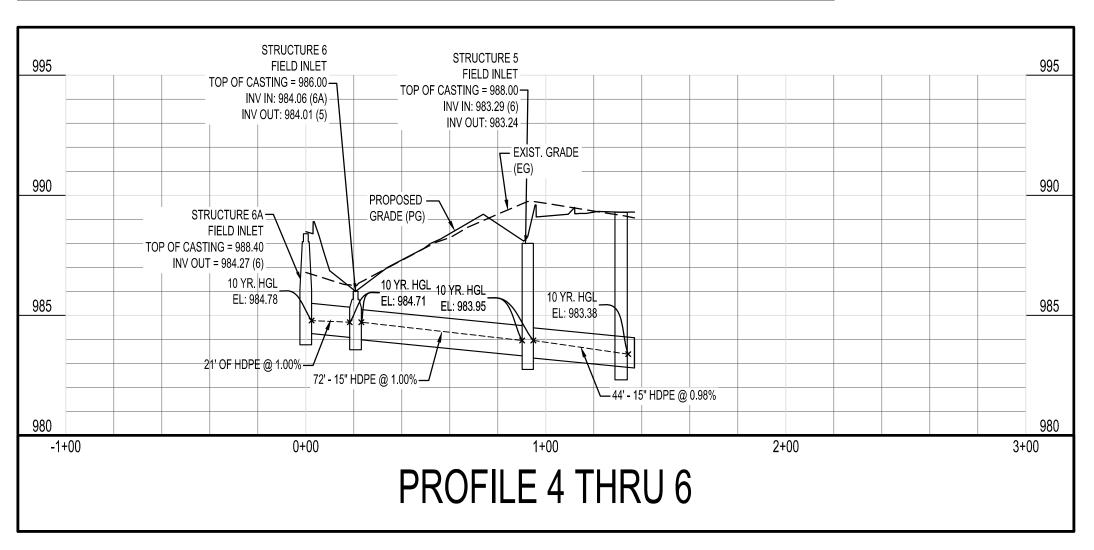
C-2

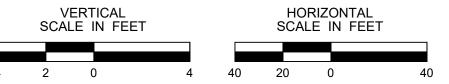
ACCORDING TO THE MISSOURI DEPARTMENT OF NATURAL RESOURCES GIS MAP, NO EXISTING OIL AND GAS WELLS ARE LOCATED ON SITE.

**ENLARGED GRADING DETAIL** 







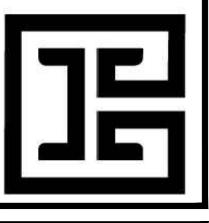


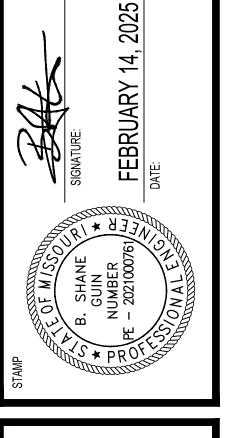
		995
990	PROPOSED GRADE (PG)  STRUCTURE 4  JUNCTION BOX TOP OF CASTING = 989.30 INV IN: 982.81 (3) INV IN: 982.81 (5) INV OUT: 982.81 (4A)  10 YR. HGL EL: 983.38  EL: 983.38  EL: 983.38	990
000	3' - 15" HDPE @ 0.10%	000
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3	1/31/2025 REVISED PER CITY	KRG
4	2/14/2025 REVISED PER CITY	KRG



CONSULTANT
A34 N. COLUMBIA ST, SI
COVINGTON, LA7
www.hightidela.

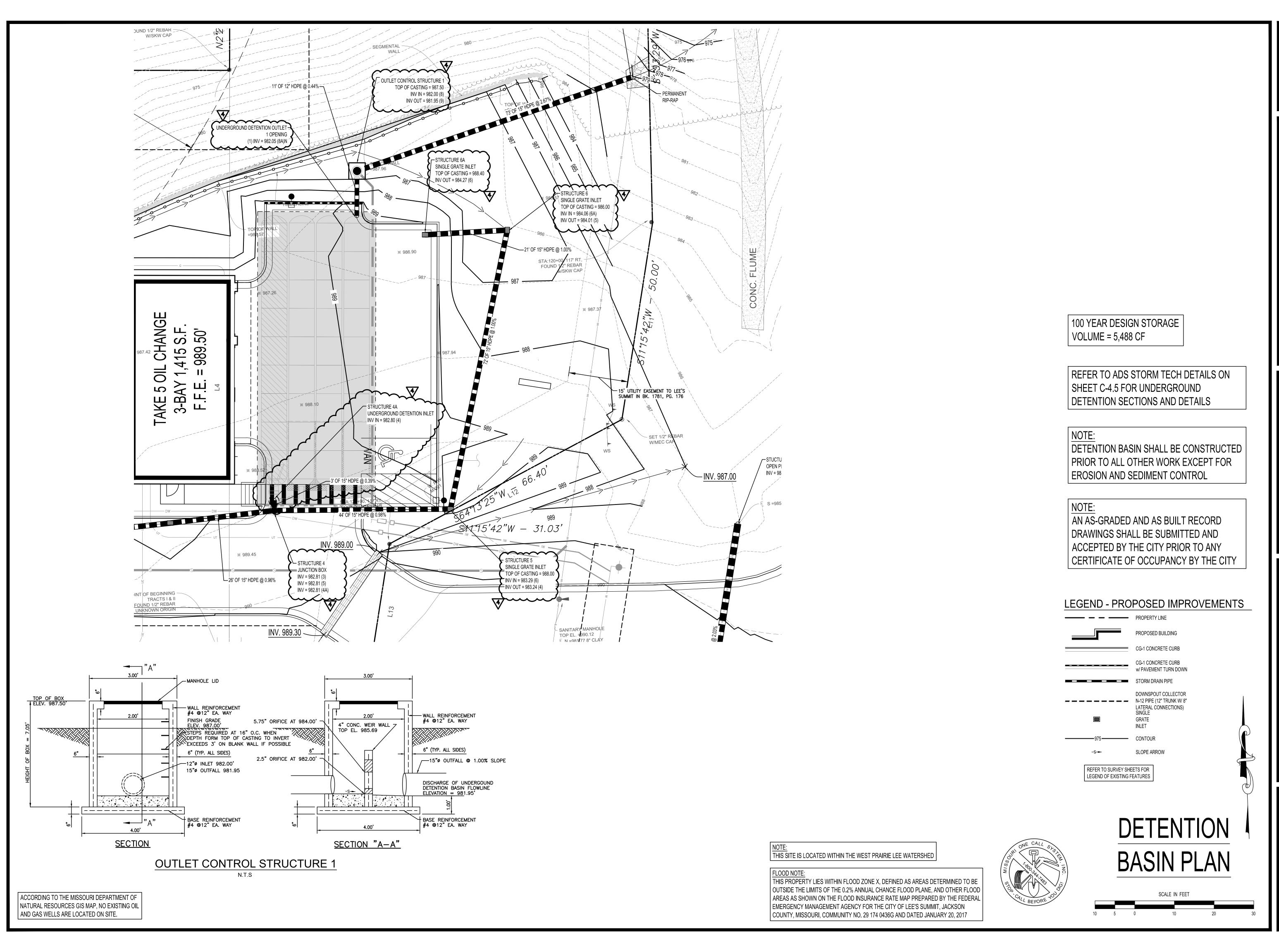




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RIVEN ASSETS, LLC FARL STREET DER, CO 80302	

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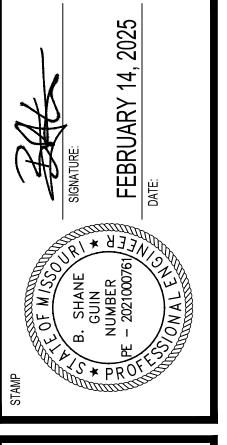
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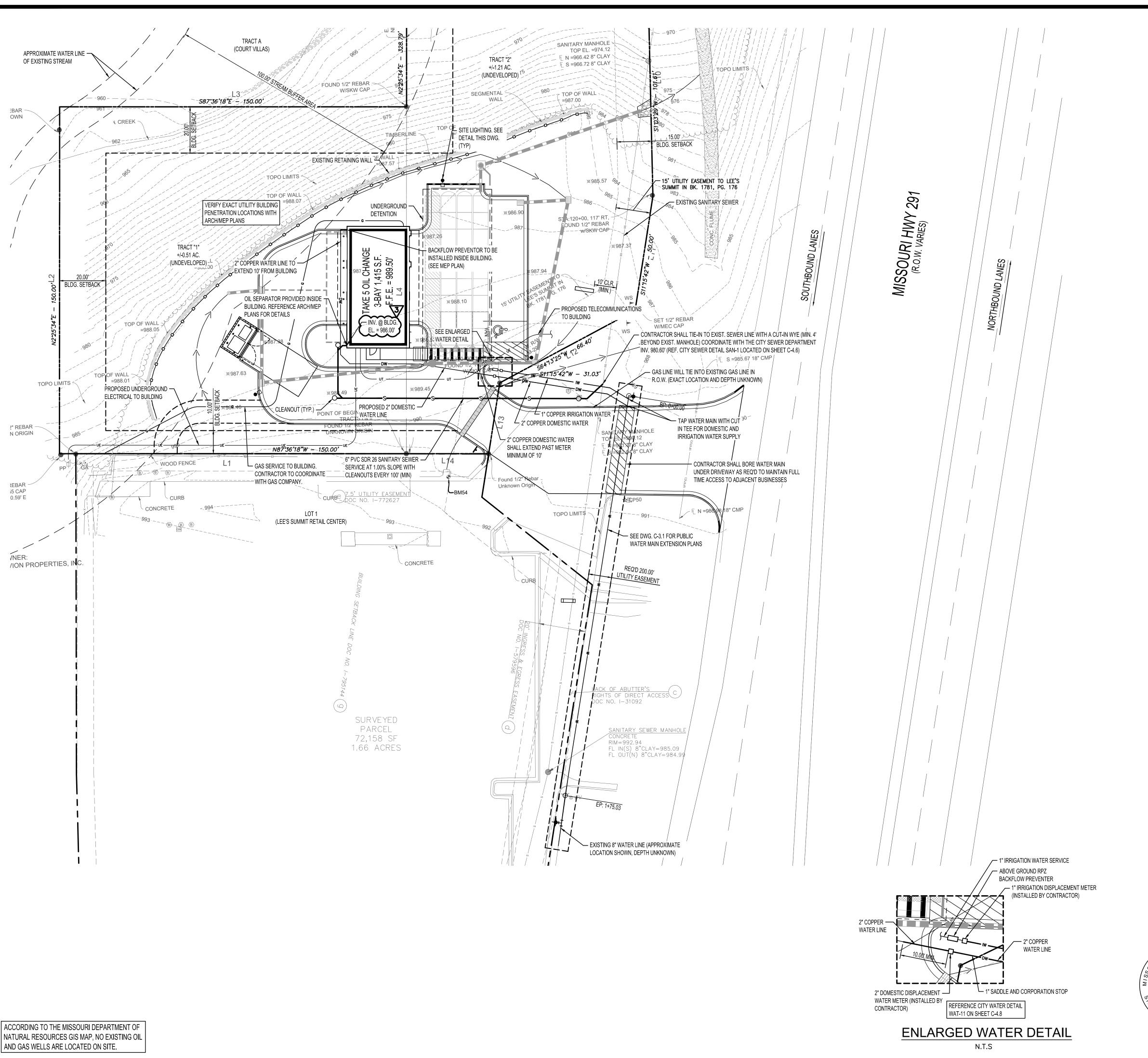


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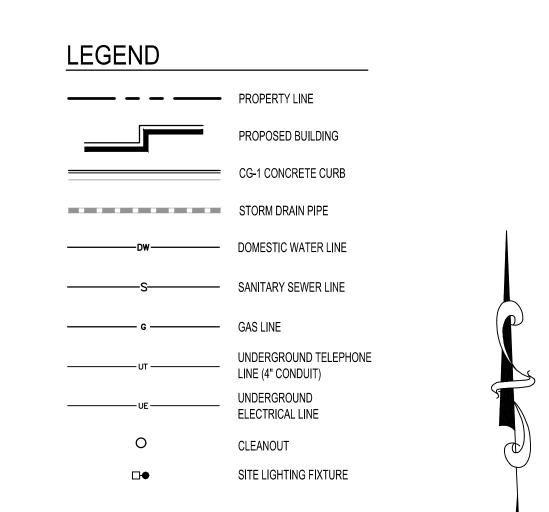
22-218 C-2 Grading Plan

SHEET C-2.2



#### **UTILITY NOTES**

- 1. ALL FILL MATERIAL IS TO BE IN PLACE AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
- 2. ALL SEWER UTILITY WORK SHALL BE DONE TO THE CITY OF LEE'S SUMMIT STANDARDS AND SPECIFICATIONS. ALL WATER UTILITY WORK SHALL BE DONE TO LEE'S SUMMIT WATER UTILITIES STANDARDS AND SPECIFICATIONS. ALL ELECTRICAL UTILITY WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL STANDARDS AND SPECIFICATIONS. ALL GAS UTILITY WORK SHALL BE DONE TO LOCAL GAS STANDARDS AND SPECIFICATIONS.
- 3. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- 4. SANITARY SEWER PIPE SHALL BE AS FOLLOWS:
- 6" PVC SCHEDULE 40
- 5. WATER LINES SHALL BE AS FOLLOWS:
- WATER SERVICE LINES GREATER THAN 1", BUT LESS THAN 4"
- A. FROM THE CITY'S MAIN TO THE CURB VALVE SHALL BE FLEXIBLE OR RIGID TYPE "K" COPPER.
   B. FROM THE CURB VALVE TO 10' BEYOND THE METER WELL SHALL BE FLEXIBLE OR RIGID TYPE "K" OR "L" COPPER. ALSO, COPPER MUST BE USED OUTSIDE THE BUILDING WALL OF THE PREMISES SERVED, A MINIMUM OF 10'
- 6. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
- 7. ON COPPER WATER SERVICE LINE, JOINTS (EXCLUDING JOINTS ON PRE-PURCHASED "METER SETTER") SHALL BE FLARED, COMPRESSION, OR BRAZED. USE OF ANY OTHER TYPE OF JOINT IS PROHIBITED, UNLESS SPECIFICALLY AUTHORIZED IN WRITING BY THE CITY.
- 8. ALL WATER AND SANITARY SEWER UTILITIES SHOULD MAINTAIN A MINIMUM TEN (10') OF HORIZONTAL SEPARATION OR, WHEN CROSSING, 18" OF VERTICAL SEPARATION (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).
- 9. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 4'-0" COVER ON ALL WATERLINES.
- 10. IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATER LINES, SANITARY LINES, STORM LINES AND GAS LINES (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING, THE WATER LINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 18" CLEARANCE. MEETING REQUIREMENTS OF ANSI A21.10 OR ANSI 21.11 (AWWA C-151) (CLASS 50).
- 11. LINES UNDERGROUND SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
- 12. TOPS OF EXISTING MANHOLES SHALL BE ADJUSTED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS. IN UNPAVED AREAS, EXISTING MANHOLE TOPS SHALL BE 6" ABOVE FINISHED GROUND ELEVATIONS AND CONTAIN WATER TIGHT LIDS.
- 13. ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 3000 P.S.I.
- 14. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR EXACT BUILDING TIE-IN LOCATIONS OF ALL UTILITIES.
   15. CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL AUTHORITIES WITH
- REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
- 16. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- 17. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES. THIS AND THE FINAL CONNECTIONS OF THE SERVICE SHALL BE COMPLETED 30 DAYS PRIOR TO BUILDING OCCUPANCY.
- 18. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.
- 19. REFER TO BUILDING PLANS FOR SITE LIGHTING ELECTRICAL PLAN.
- 20. CONTRACTOR SHALL COORDINATE WITH THE CITY OF LEE'S SUMMIT PUBLIC WORKS FOR TIE-IN LOCATIONS TO PUBLIC UTILITIES PRIOR TO COMMENCEMENT OF WORK.
- 21. EXISTING PUBLIC WATER LINE SHOWN IS BASED ON APPROXIMATE LOCATION PER MAP PROVIDED BY LEE'S SUMMIT WATER UTILITIES, EXACT SIZE AND LOCATION SHALL BE VERIFIED PRIOR TO START OF CONSTRUCTION. ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES.
- 22. TOPOGRAPHIC INFORMATION IS TAKEN FROM A TOPOGRAPHIC SURVEY BY McCLURE DATED 13 SEPTEMBER 2023. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.





**UTILITY PLAN** 

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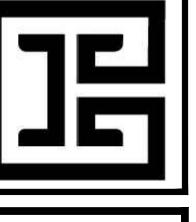
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TANTS LLC
SIA ST, SUITE 200A
ON, LA 70433
htidela.com

CONSULTAN 434 N. COLUMBIA ST, S COVINGTON, LA7 www.hightidela.



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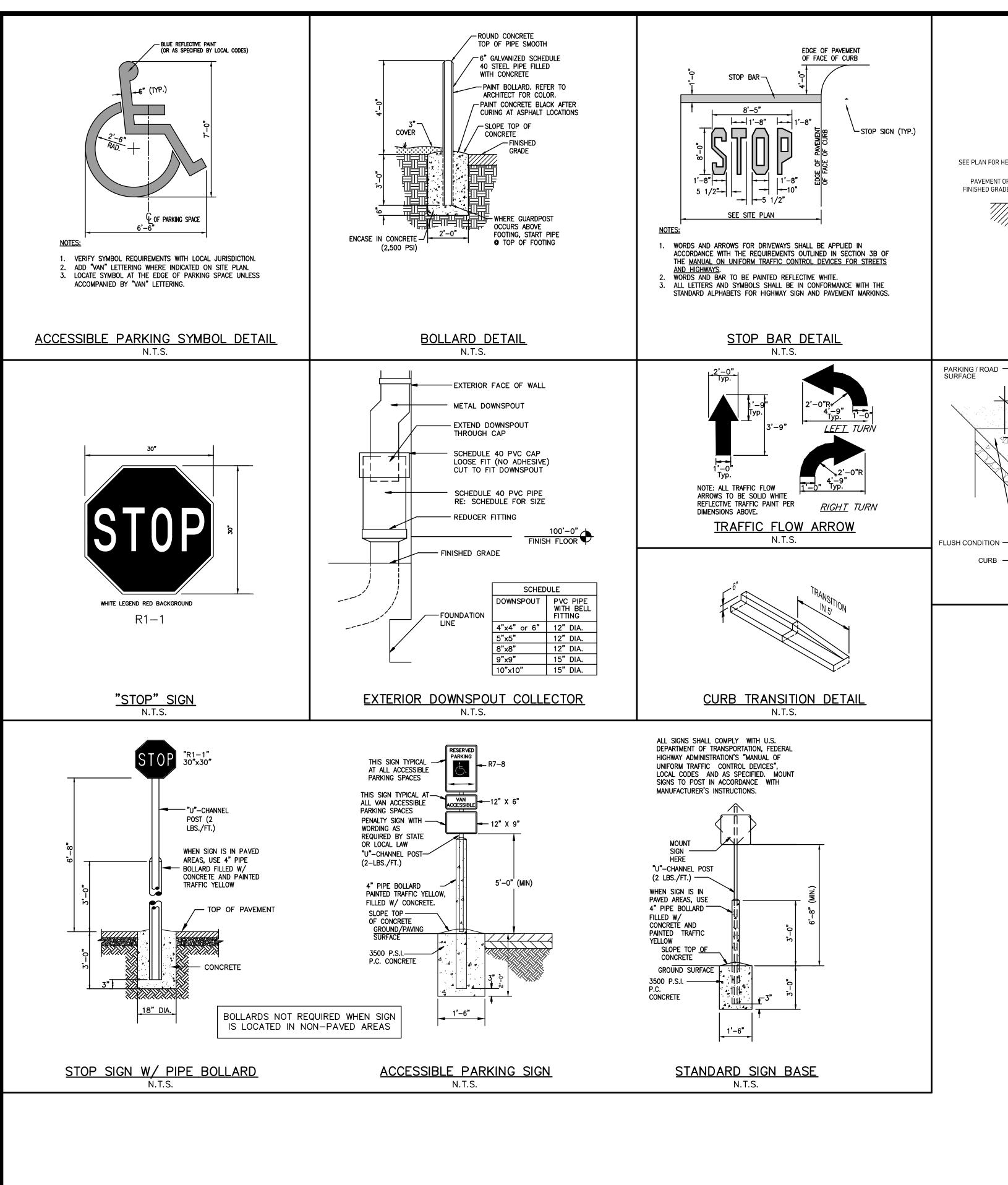
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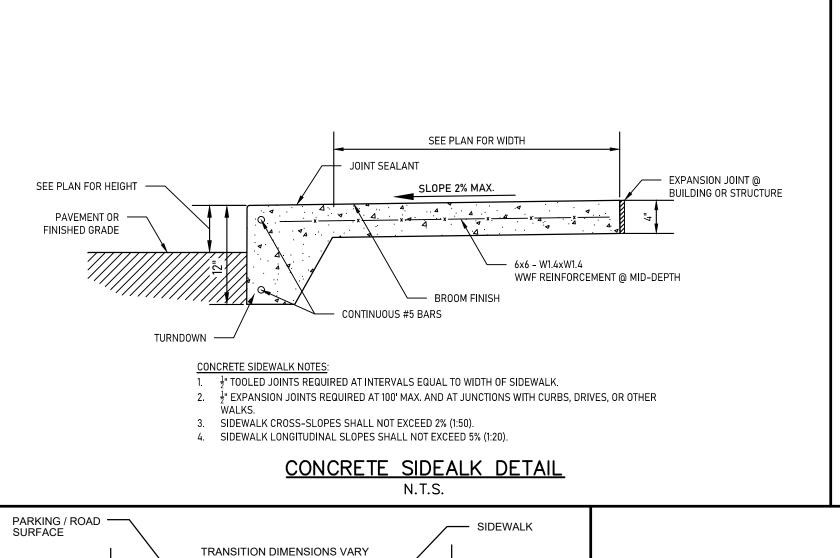
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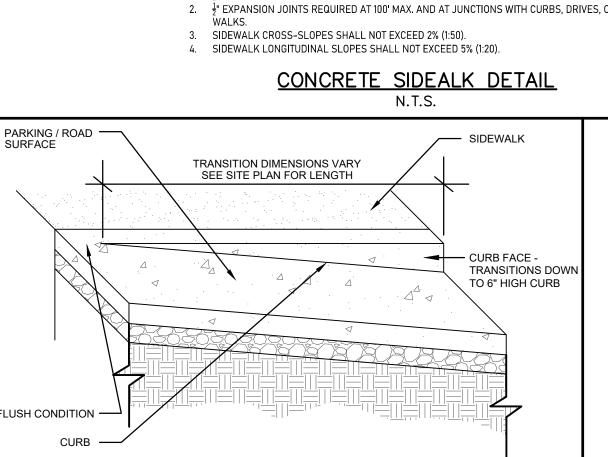
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DRIVEN ASSETS, LLC
PEARL STREET
LDER, CO 80302

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22-218 C-3 Utility Plan

C-3

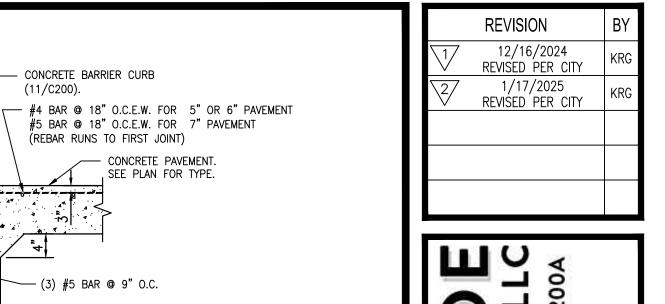






SIDEWALK TRANSITION DETAIL

N.T.S.



- CONCRETE BARRIER CURB

(REBAR RUNS TO FIRST JOINT)

— (3) #5 BAR @ 9" O.C.

#5 BAR @ 12" O.C.

REQUIRED

CONCRETE PAVEMENT TURN DOWN

STRUCTURAL FILL

- CONCRETE PAVEMENT.

, SEE PLAN FOR TYPE.

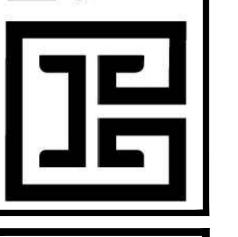
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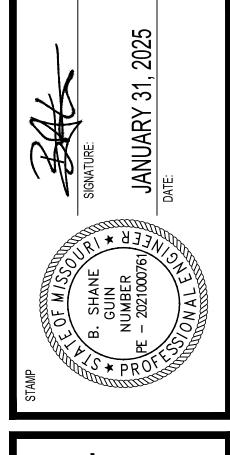
#4 DEFORMED BARS

(SEE BAR DETAIL DETAIL)

FINISHED GRADE -

ON 2' CENTERS



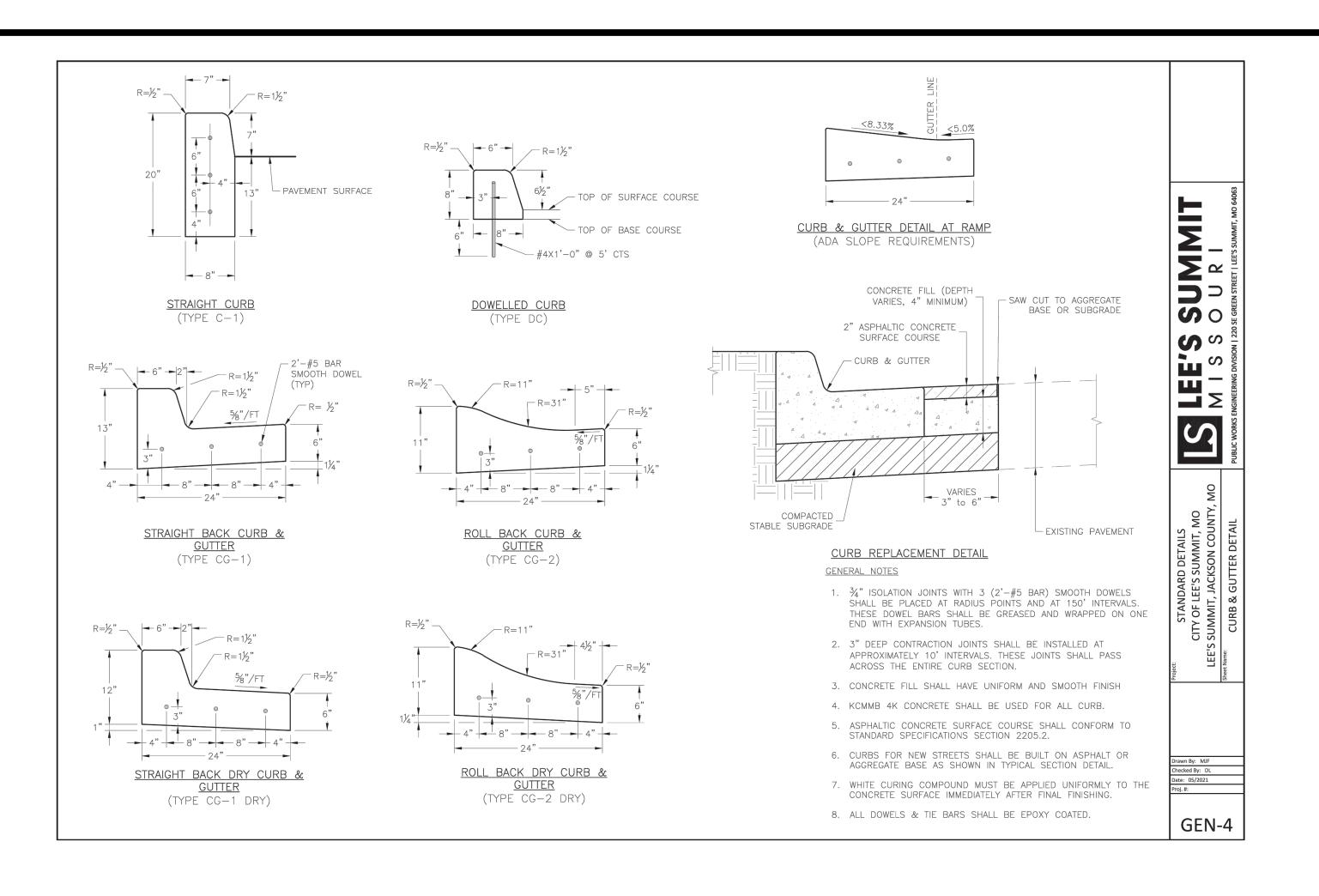


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> PERMITTING PROJECT NO. 22-218 FILE 22-218 C-4 Details

SITE DETAILS

SHEET



#### TABLE 1

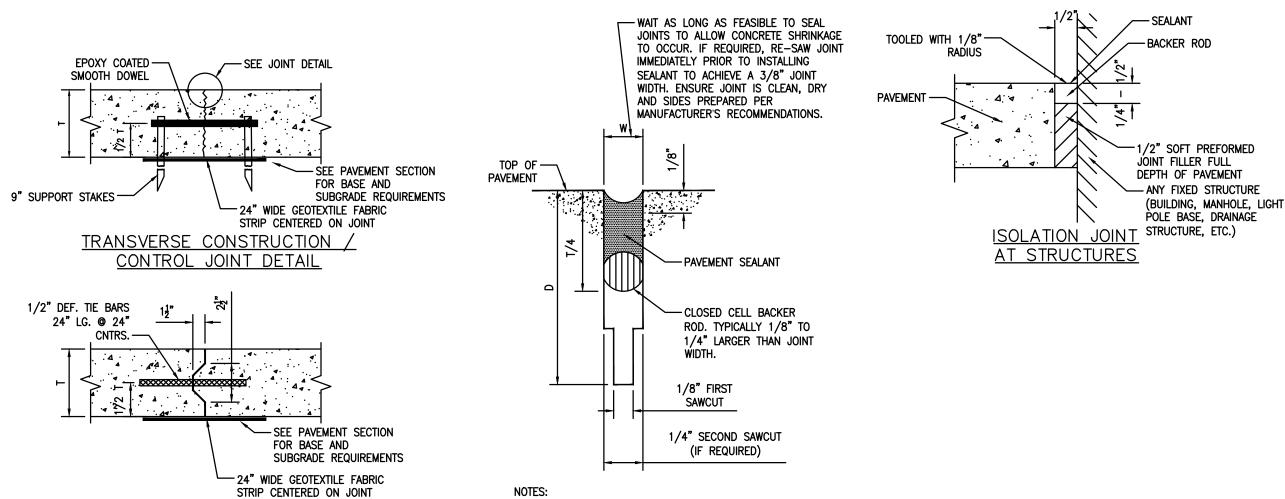
PAVEMENT THICKNESS	SMOC	SMOOTH DOWEL BARS		
" T " (IN)	SIZE Ø (IN)	LENGTH (IN)	SPACING (IN)	" D " (IN)
5"	1/2"	12"	18"	1 1/2"
6"	3/4"	14"	12"	1 3/4"
7"	1"	16"	12"	2"
8"	1 1/4"	18"	12"	3"
9"	1 1/4"	18"	12"	3"
10"	1 1/4"	18"	12"	3 1/4"

# NOTES: 1. JOINTS SHALL BE SAWCUT AS SOON AS THE CONCRETE HAS REACHED SUFFICIENT STRENGTH TO SUPPORT THE SAWING EQUIPMENT AND TEARING OF CONCRETE DOES NOT OCCUR.

- 2. GEOTEXTILE FABRIC SHALL BE CONSTRUCTED OF NON-WOVEN POLYPROPYLENE FIBERS RESISTANT TO CHEMICAL ATTACK, MILDEW, AND ROT. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A GEOTEXTILE MATERIAL SUBMITTAL FOR APPROVAL.
- 3. CONSTRUCT EXPANSION, WEAKENED PLANE CONTROL (CONTRACTION), AND CONSTRUCTION JOINTS STRAIGHT WITH FACE PERPENDICULAR TO CONCRETE SURFACE.
- 4. CONSTRUCT CONTROL JOINTS FOR DEPTH EQUAL TO AT LEAST 1/4 OF THE CONCRETE THICKNESS AS FOLLOWS:

  A. FORM TOOLED JOINTS IN FRESH CONCRETE BY GROOVING TOP WITH RECOMMENDED TOOL AND
- FINISHING EDGE WITH JOINTER.

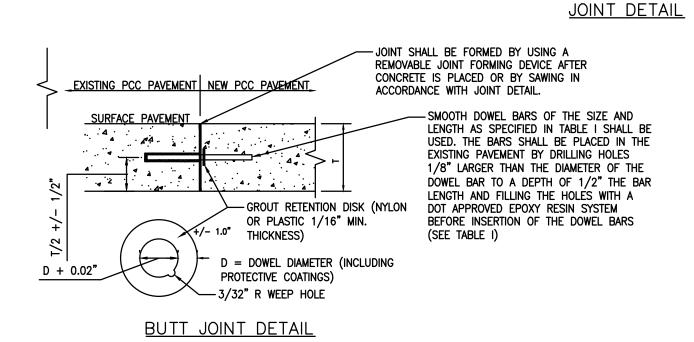
  B. FORM SAWED JOINTS USING POWERED SAWS EQUIPPED WITH SHATTERPROOF ABRASIVE OR DIAMOND RIMMED BLADES. CUT JOINTS INTO HARDENED CONCRETE AS SOON AS SURFACE WILL NOT BE TORN, ABRADED, OR OTHERWISE DAMAGED BY CUTTING ACTION.
- 5. CONSTRUCTION JOINTS: PLACE CONSTRUCTION JOINTS AT END OF PLACEMENTS AND AT LOCATIONS WHERE PLACEMENTS OPERATIONS ARE STOPPED FOR PERIOD OF MORE THAN 1/2 HOUR, EXCEPT WHERE SUCH PLACEMENTS TERMINATE AT EXPANSION JOINTS. CONSTRUCT JOINTS IN ACCORDANCE WITH DETAILS.
- 6. EXPANSION JOINTS: LOCATE EXPANSION JOINTS AT MAXIMUM OF 180'-0" ON CENTERS, MAXIMUM EACH WAY UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION DRAWINGS. PROVIDE PRE-MOLDED JOINT FILLER FOR EXPANSION JOINTS ABUTTING CONCRETE CURBS, CATCH BASINS, MANHOLES, INLETS, STRUCTURES, SIDEWALKS, AND OTHER FIXED OBJECTS.
- 7. BUTT JOINTS: FOR JOINTS AGAINST EXISTING PAVEMENT, PLACE DOWELS OF THE SIZE INDICATED IN TABLE 1 INTO HOLES DRILLED INTO CENTER OF EXISTING SLAB. EPOXY DOWELS INTO HOLES WITH APPROVED EPOXY COMPOUND. PLACE DOWELS PRIOR TO CONCRETE PLACEMENT FOR NEW CONCRETE. DOWEL SPACING TO BE AS INDICATED IN TABLE 1. SAW JOINTS AND FILL WITH JOINT SEALER.
- 8. JOINT FILLERS: EXTEND JOINT FILLERS FULL WIDTH AND DEPTH OF JOINT, AND NOT LESS THAN 1/2-INCH OR MORE THAN 1-INCH BELOW FINISHED SURFACE WHERE JOINT SEALER IS INDICATED. FURNISH JOINT FILLERS IN 1 PIECE LENGTHS FOR FULL WIDTH BEING PLACED, WHEREVER POSSIBLE. WHERE MORE THAN 1 LENGTH IS REQUIRED LACE OR CLIP JOINT FILLER SECTIONS TOGETHER.
- 9. JOINT SEALANTS: JOINTS SHALL BE SEALED WITH APPROVED EXTERIOR PAVEMENT JOINT SEALANTS AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 10. DOWELS SHALL NOT BE PLACED CLOSER THAN 12" TO A JOINT INTERSECTION.



NOTES:
1. ENSURE JOINTS ARE CLEAN AND DRY PRIOR TO THE APPLICATION OF THE JOINT SEALANT.

- INSTALL CLOSED CELL BACKER ROD AFTER JOINTS HAVE BEEN CLEANED AND DRIED IN ACCORDANCE WITH SEALANT MANUFACTURER'S REQUIREMENTS.

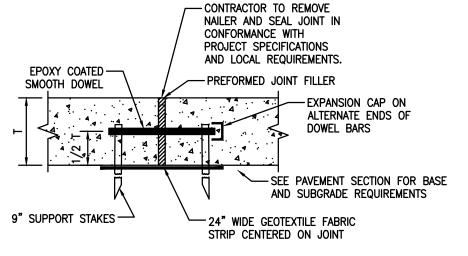
  AND AND ADDRESS OF THE CONTROL AND LINESPILE DEPTH.
- INSTALL BACKER ROD AT CONSISTENT AND UNIFORM DEPTH.
   JOINT SEALANT APPLICATION SHALL BE IN STRICT COMPLIANCE WITH SEALANT MANUFACTURER'S REQUIREMENTS.



CONCRETE JOINT DETAILS

LONGITUDINAL CONSTRUCTION

/ CONTROL JOINT DETAIL



NOTE:
EXPANSION JOINTS TO BE PLACED AT ALL RADIUS POINTS, OR MAXIMUM 180' O.C. SPACING.

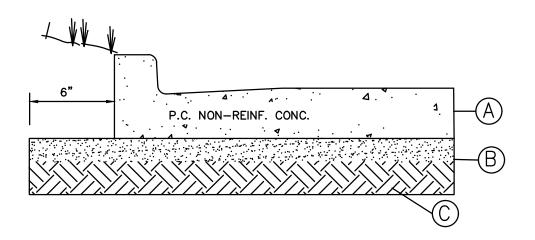
EXPANSION JOINT

DETAIL (EJ)

- P.C. NON-REINF. CONC.

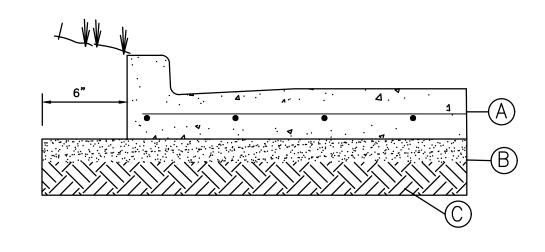
  A
  B
- A. 6" MIN. OF PORTLAND CEMENT CONCRETE PAVEMENT (PCCP). (MAXIMUM CONTROL JOINT SPACING 12.5') PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE KCMMB 4K MIX.
- B 4" COMPACTED GRANULAR AGGREGATE BASE WITH GEOGRID
- C. PROPERLY PREPARED SUBGRADE

# STANDARD DUTY CONCRETE PAVEMENT



- 8" MIN. OF PORTLAND CEMENT CONCRETE PAVEMENT (PCCP).
  (MAXIMUM CONTROL JOINT SPACING 15.0') PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE KCMMB 4K MIX.
- 4" COMPACTED GRANULAR AGGREGATE BASE WITH GEOGRID
- C. PROPERLY PREPARED SUBGRADE

# HEAVY DUTY CONCRETE PAVEMENT

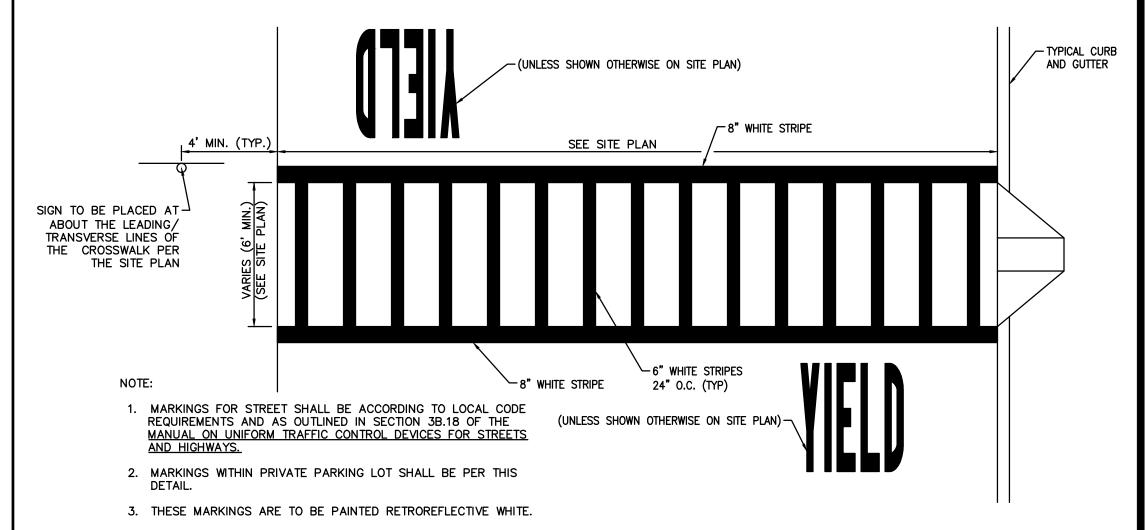


- 7" MIN. OF REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT (PCCP). (REINFORCING SHALL BE #4 BARS AT 18" O.C. EACH WAY.) PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE KCMMB 4K MIX.
- B. 4" COMPACTED GRANULAR AGGREGATE BASE WITH GEOGRID
- C PROPERLY PREPARED SUBGRADE

#### REINFORCED CONCRETE DUMPSTER PAD / APRON

#### PAVEMENT NOTES (ALL SECTIONS):

- 1. PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE KCMMB 4K MIX.
- 2. ALL PAVEMENT, BASE, FILL MATERIAL, AND SITE AND BUILDING PAD PREPARATION SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT RECOMMENDATIONS. REPORT PREPARED BY TERRACON ENGINEERING, LLC DATED 11/2/2023, TERRACON PROJECT NO. 02225258.
- 3. THE EXPOSED SUBGRADE SHOULD BE PROOFROLLED WITH A RUBBER TIRED VEHICLE WEIGHING 20 TONS. SOILS WHICH ARE OBSERVED TO RUT OR DEFLECT EXCESSIVELY UNDER THE MOVING LOAD SHALL BE UNDERCUT AND REPLACED WITH COMPACTED STRUCTURAL FILL.
- 4. AGGREGATE SHALL BE MoDOT TYPE 5.
   5. GRANULAR FILL SHALL BE PLACED IN MAXIMUM 8" LOOSE LIFTS AND COMPACTED TO 95% MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698 (STANDARD PROCTOR) WITHIN 3% OF OPTIMUM MOISTURE CONTENT.



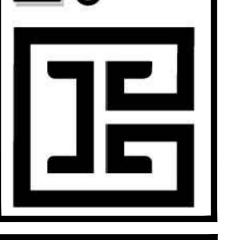
CROSSWALK MARKING W/ LONGITUDINAL STRIPES
N.T.S.

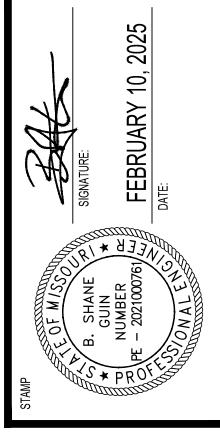
SITE DETAILS

II O 4

REVISION

ONSULTANTS LL
SAN. COLUMBIA ST, SUITE 200
COVINGTON, LA 70433



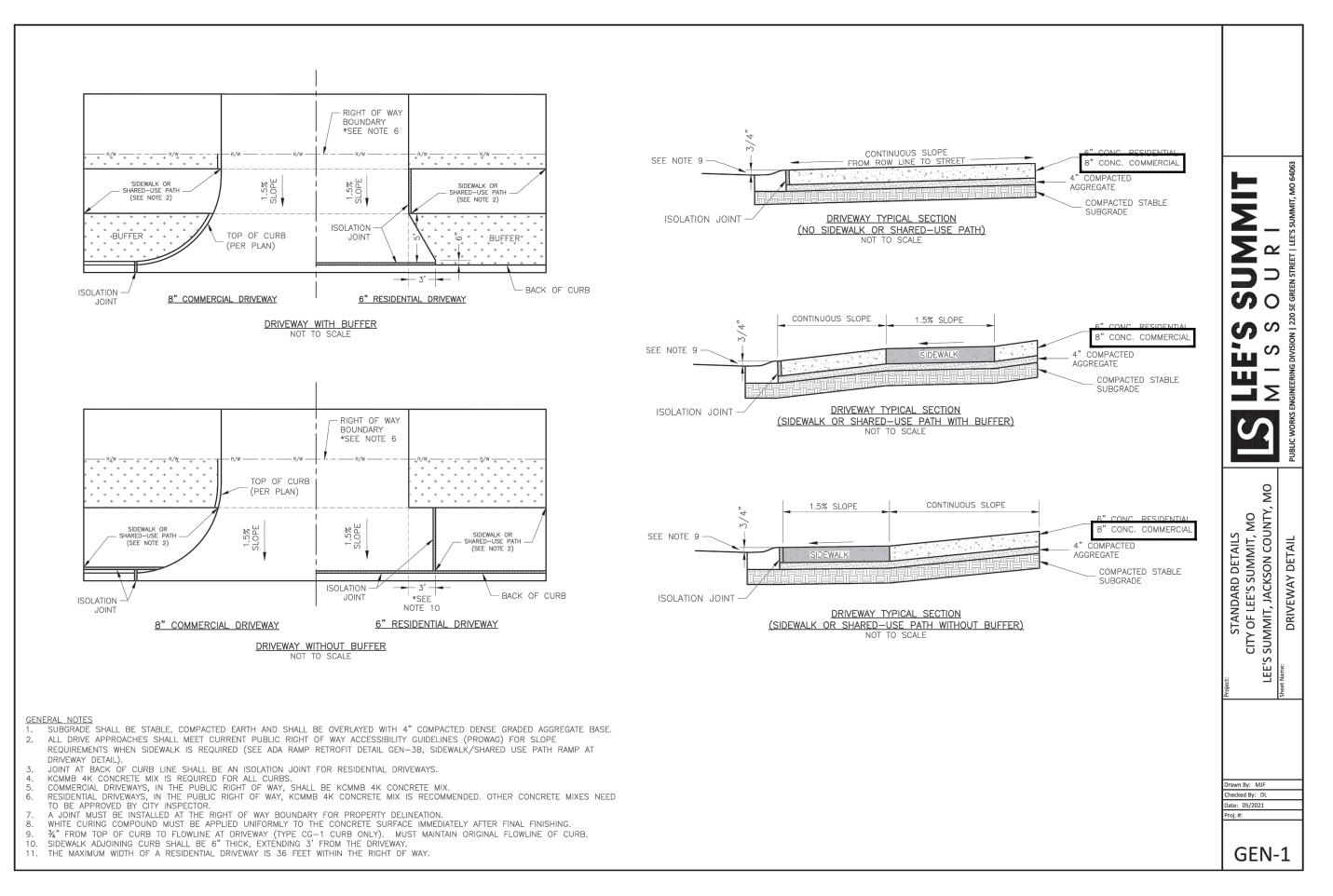


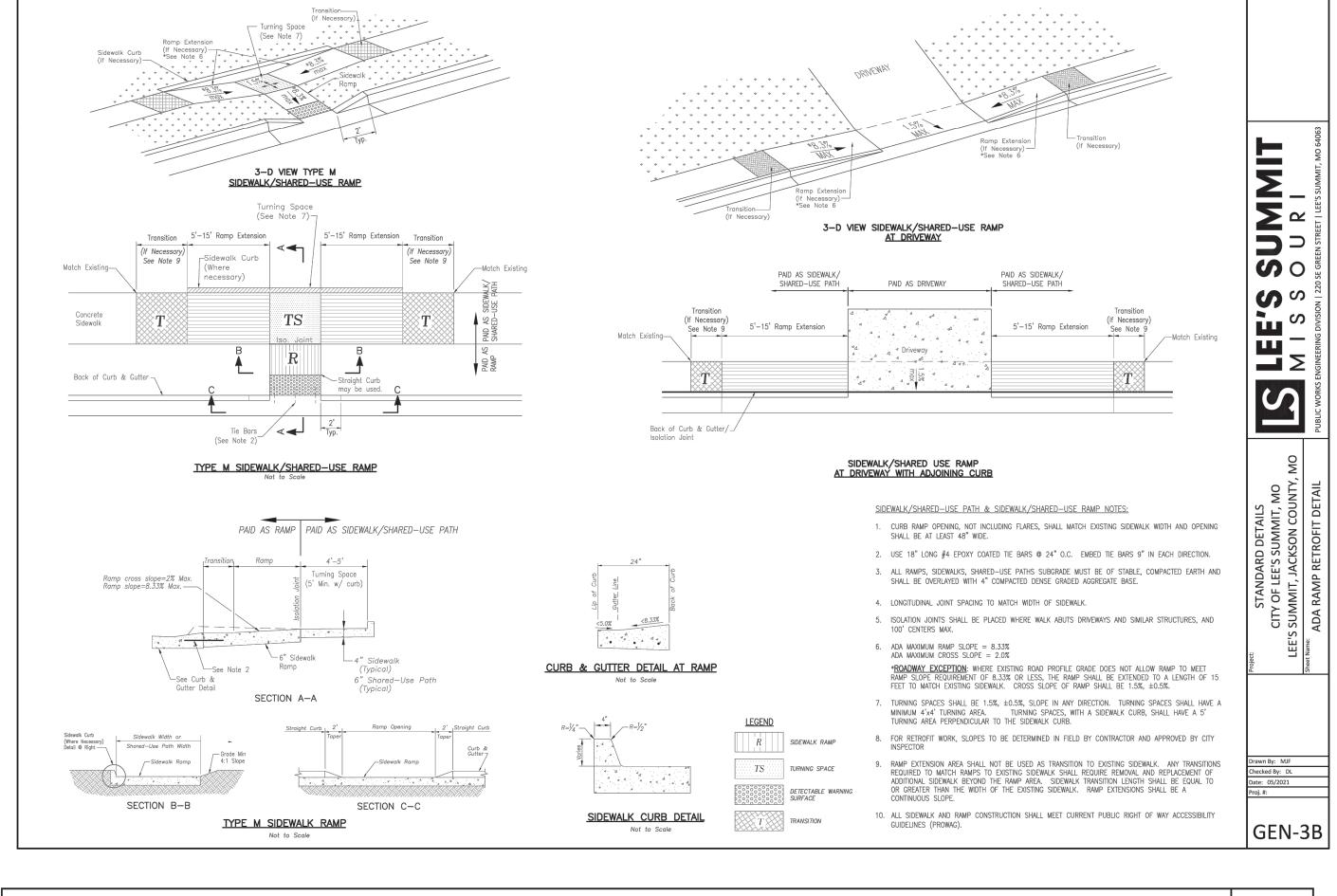
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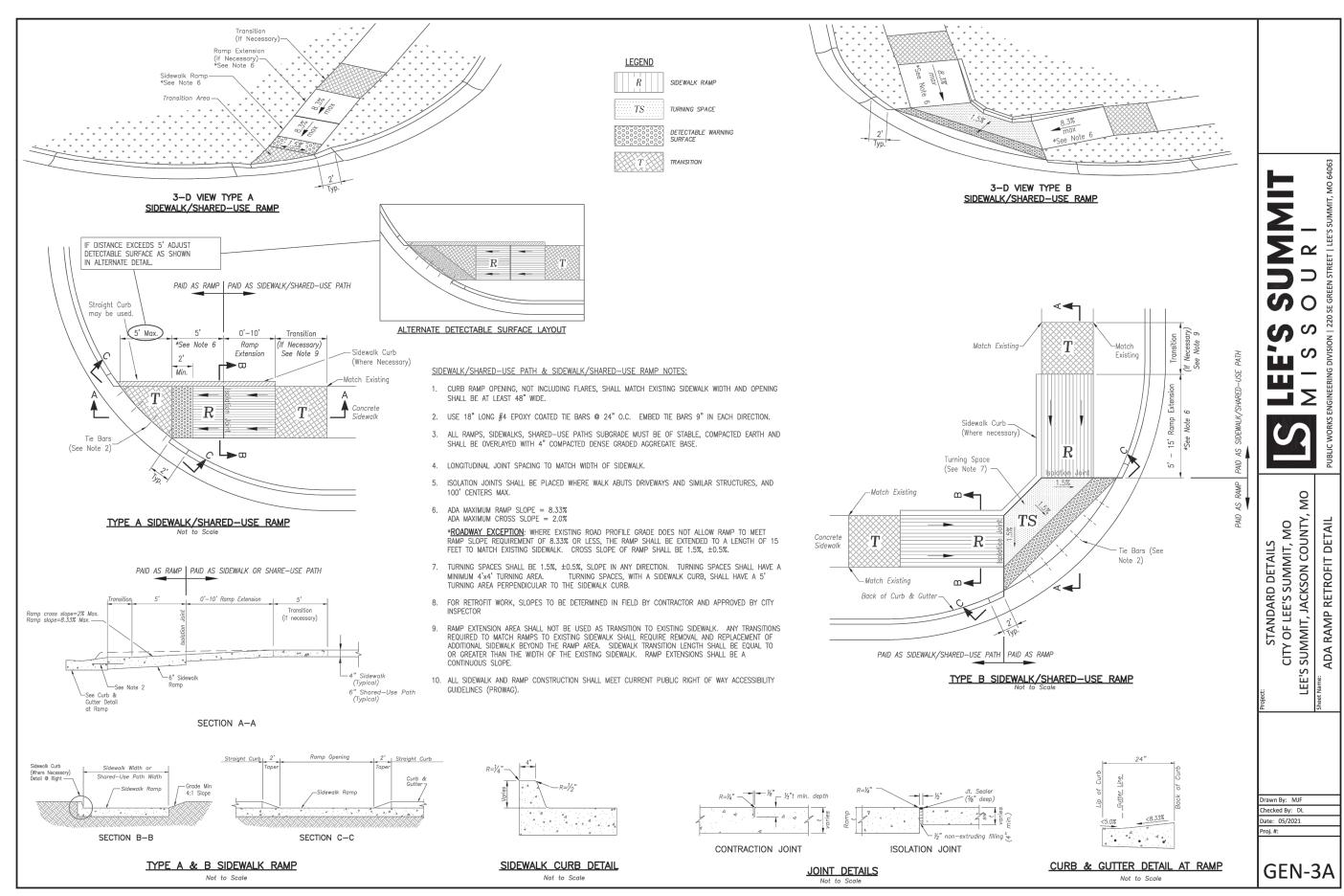
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2101 PEARL S1
BOULDER, CO

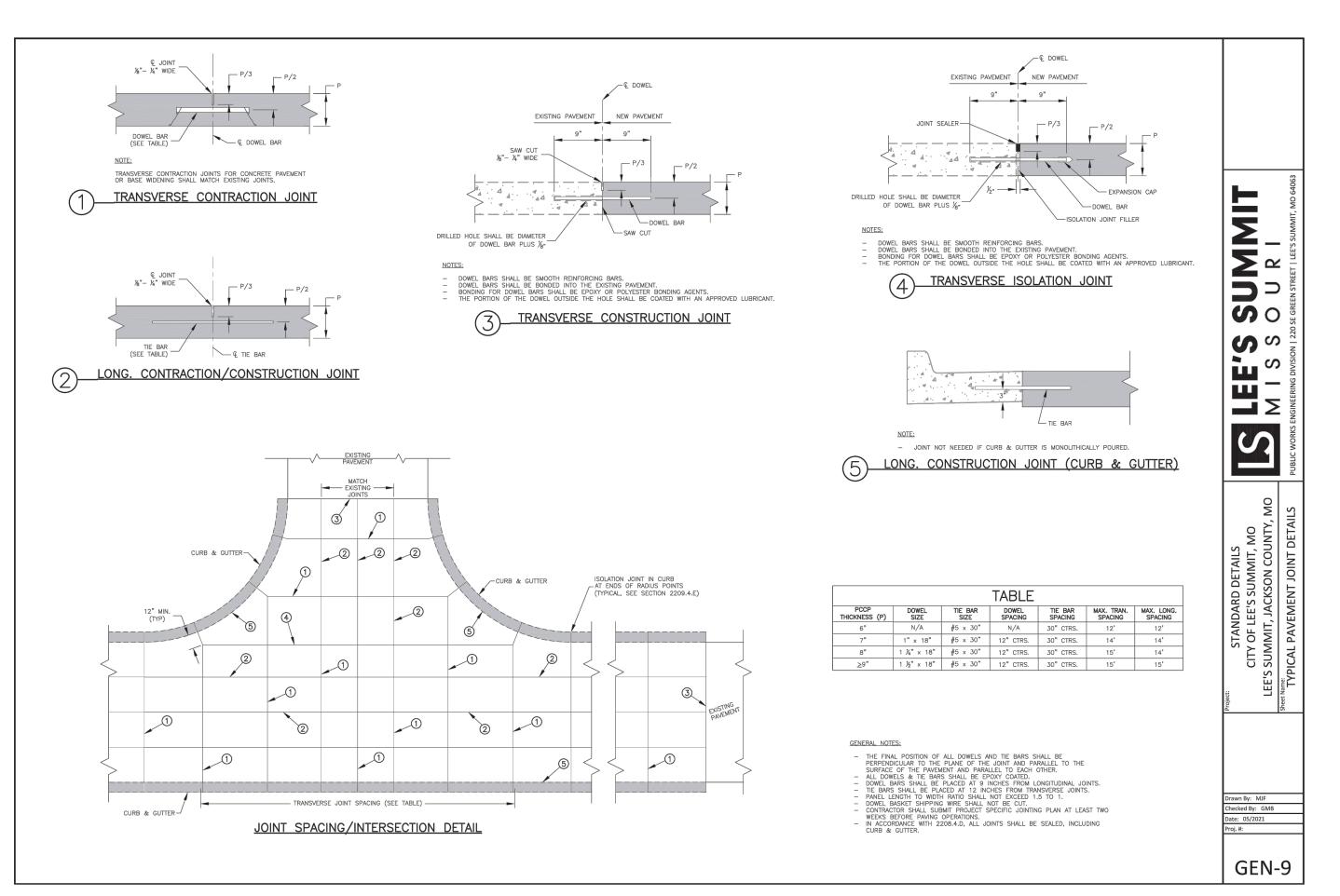
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PROJECT NO.
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22-218 C-4 Details

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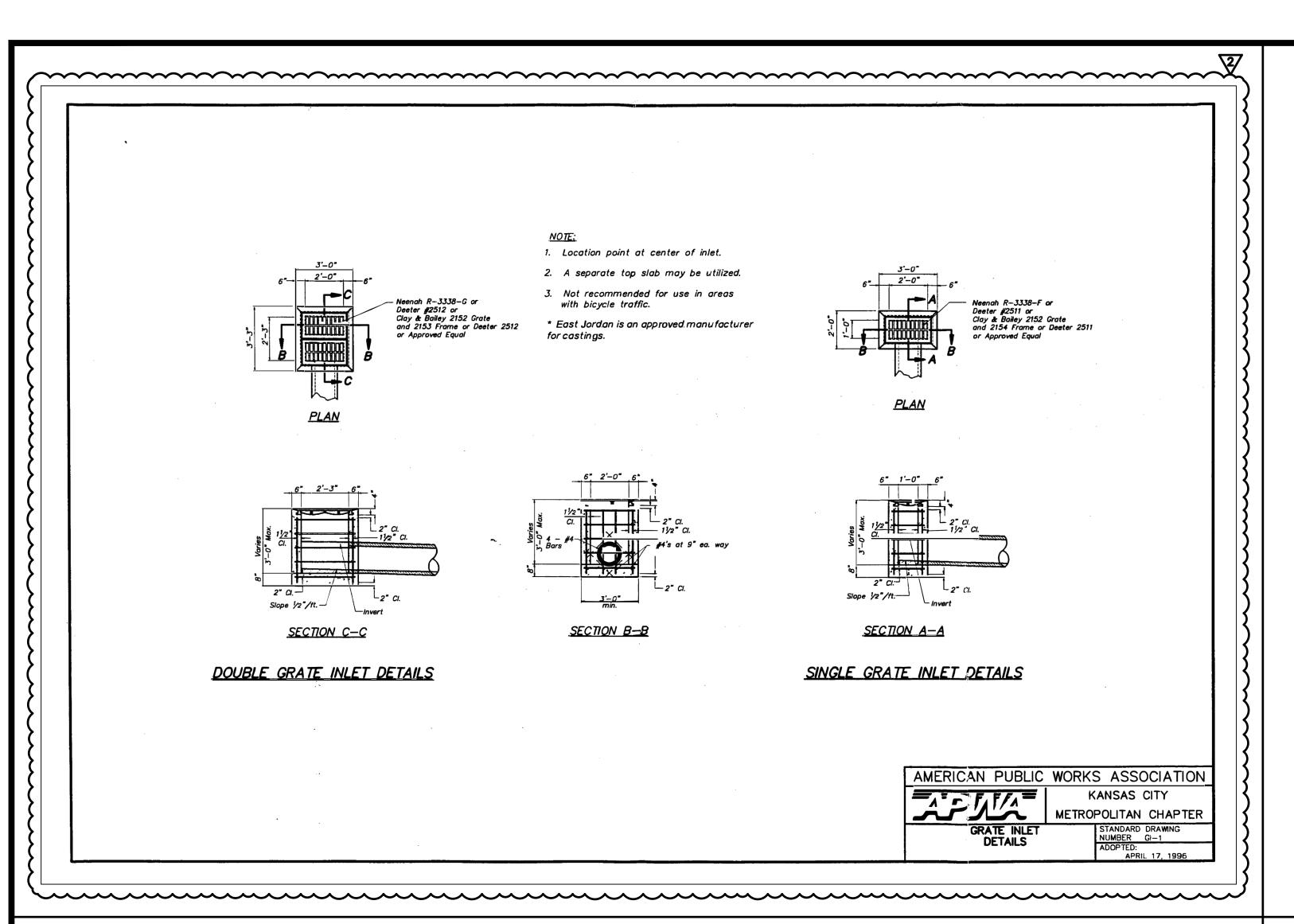


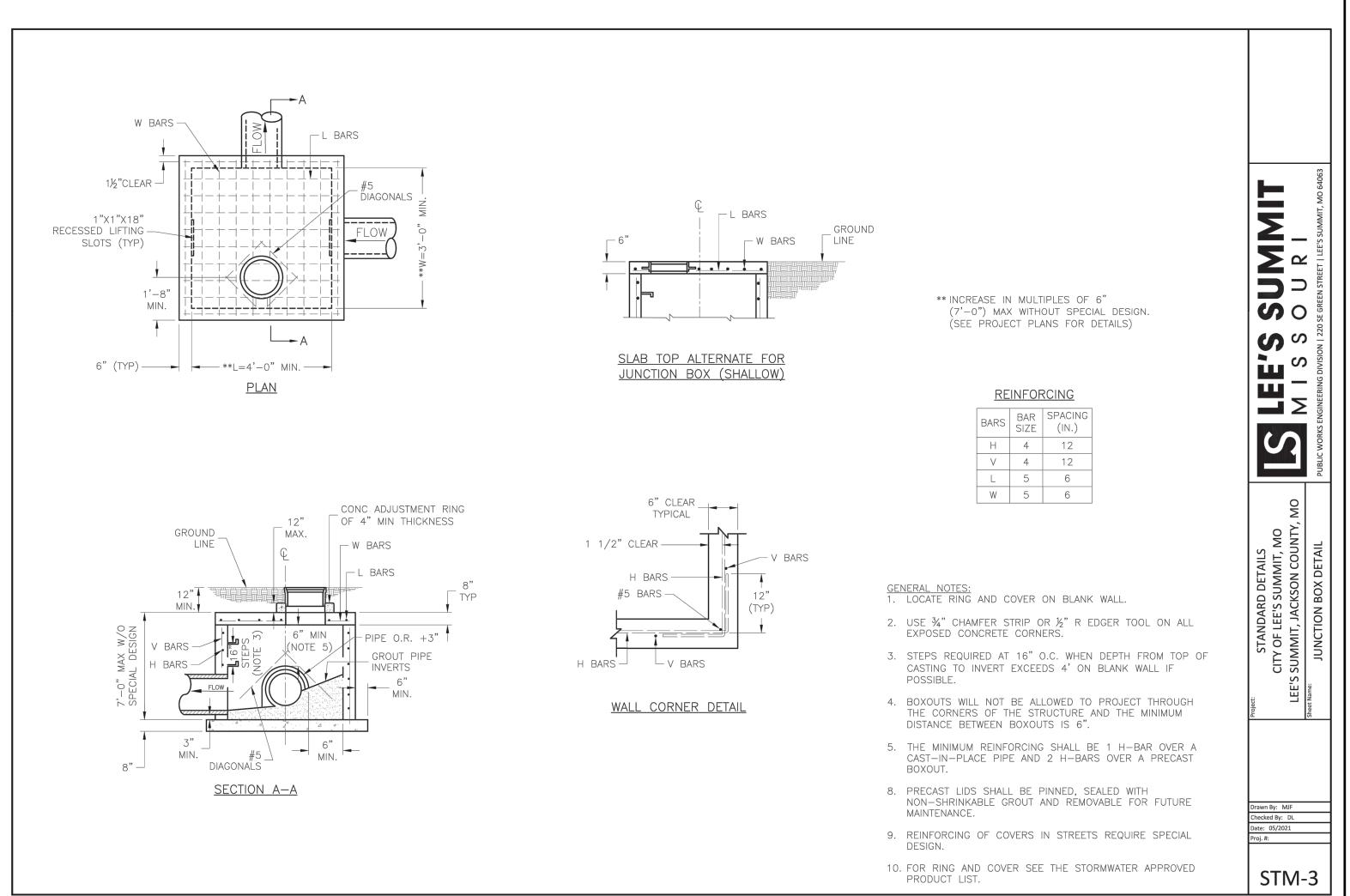
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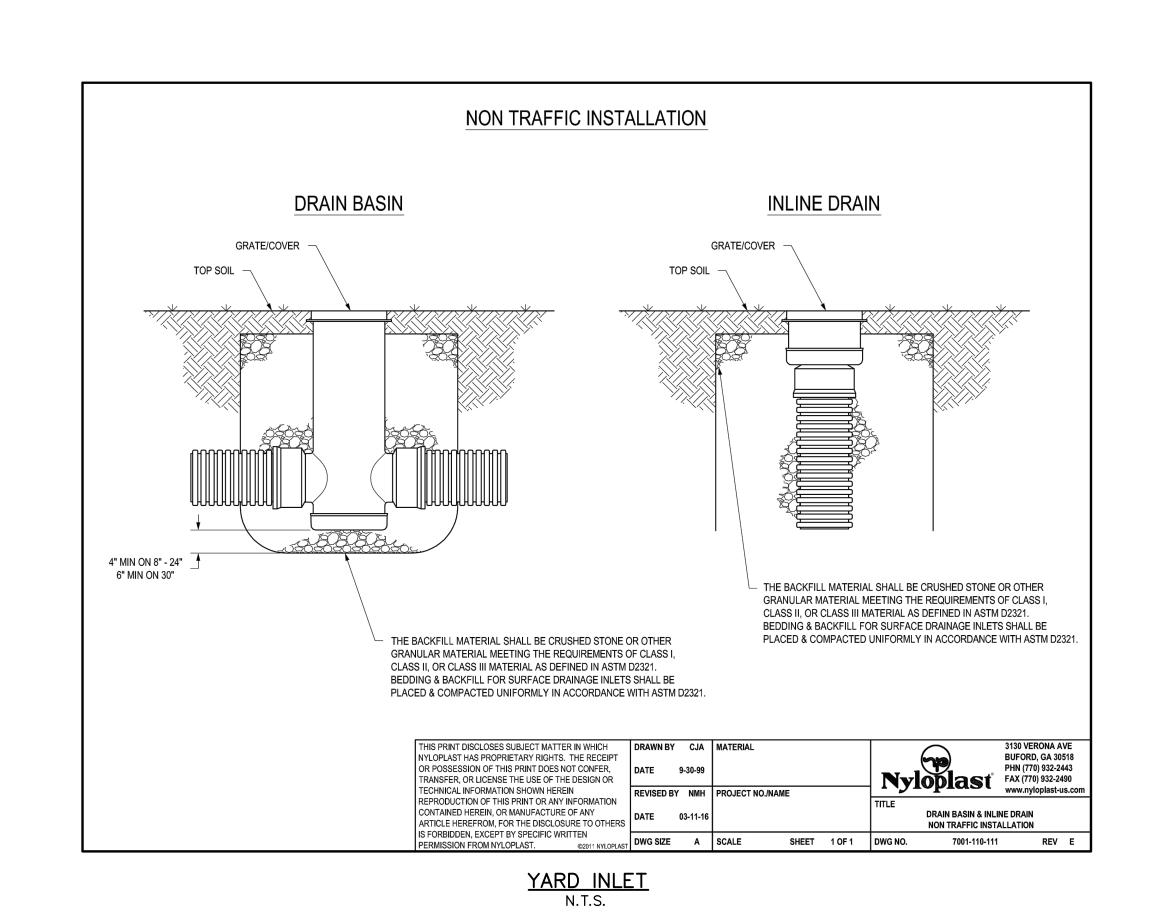
CLC R DRIVEN ASSETS, 1 PEARL STREET JLDER, CO 80302 PROPOSED TAK LEE'S SUMMIT, I FOR I 2101 BOUL DRAWN KRG CHECKED RCG ISSUED DATE 07/30/2024 ISSUED FOR PERMITTING PROJECT NO. 22-218 FILE 22-218 C-4 Details

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DRAINAGE DETAILS

REVISION BY

1/31/2025
REVISED PER CITY

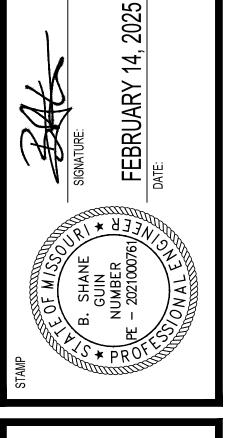
2/14/2025
REVISED PER CITY

KRG

KRG

SULTANTS LLC
OLUMBIA ST, SUITE 200A
VINGTON, LA 70433



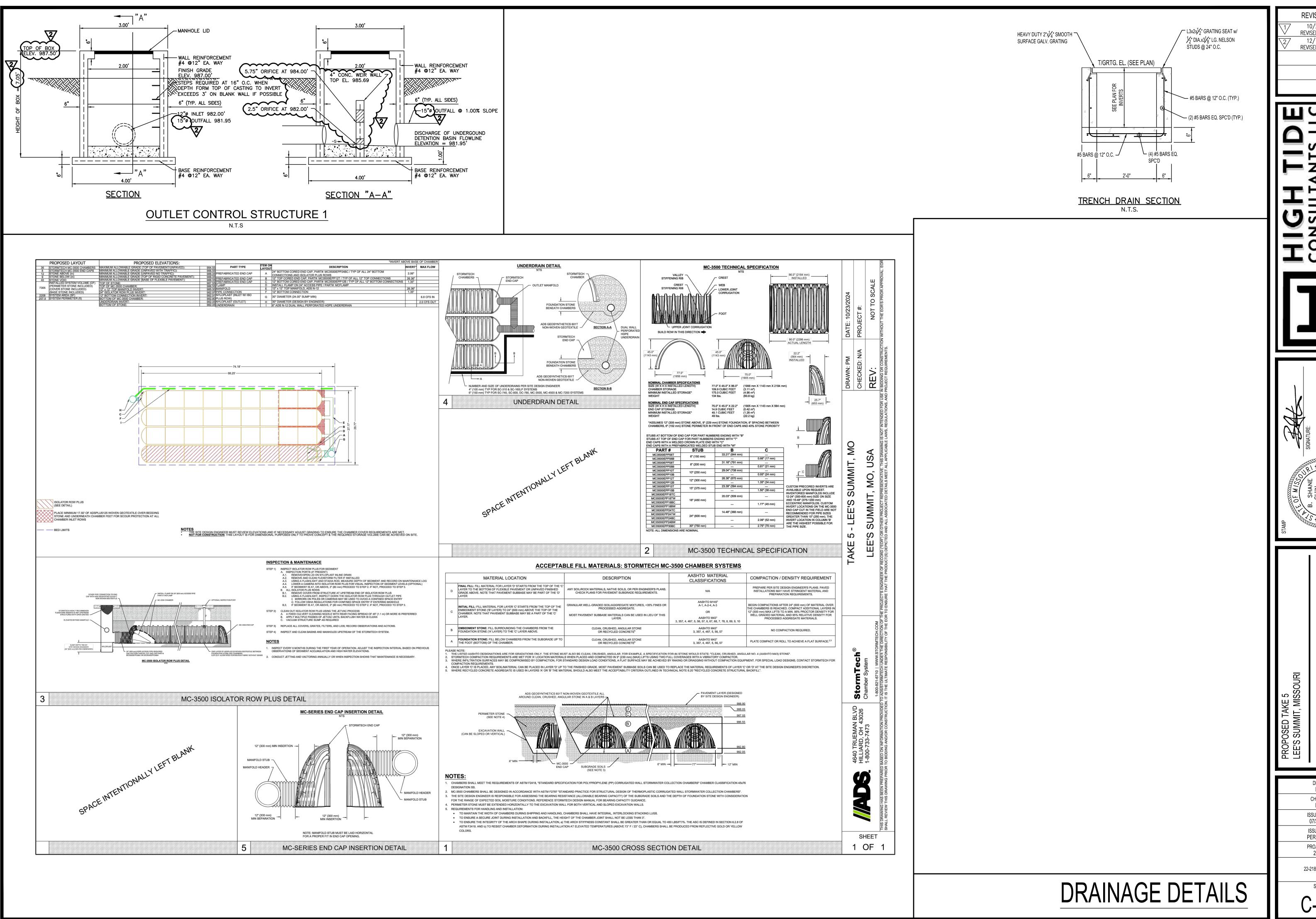


LEE'S SUMMIT, MISSOURI
FOR DRIVEN ASSETS, LLC
2101 PEARL STREET
BOULDER, CO 80302

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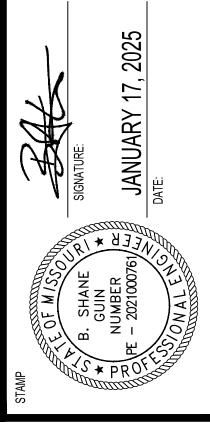
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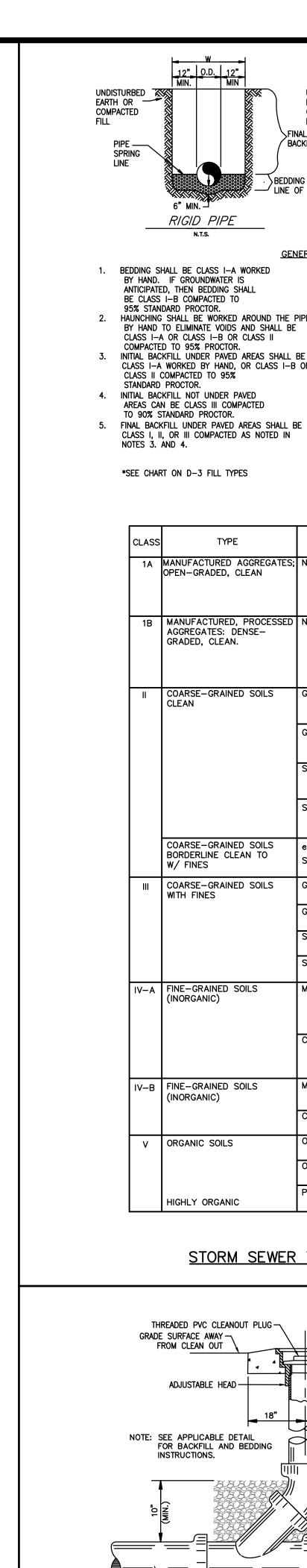
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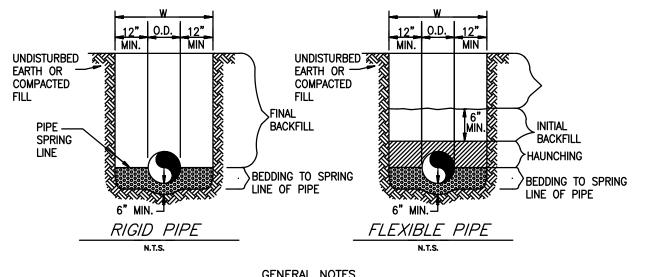




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#### <u>GENERAL</u>

- BEDDING SHALL BE CLASS I—A WORKED BY HAND. IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL
- 95% STANDARD PROCTOR. 2. HAUNCHING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS AND SHALL BE CLASS I-A OR CLASS I-B OR CLASS II COMPACTED TO 95% PROCTOR.
- CLASS I-A WORKED BY HAND, OR CLASS I-B OR CLASS II COMPACTED TO 95% STANDARD PROCTOR.
- 4. INITIAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS III COMPACTED
- TO 90% STANDARD PROCTOR. 5. FINAL BACKFILL UNDER PAVED AREAS SHALL BE CLASS I, II, OR III COMPACTED AS NOTED IN

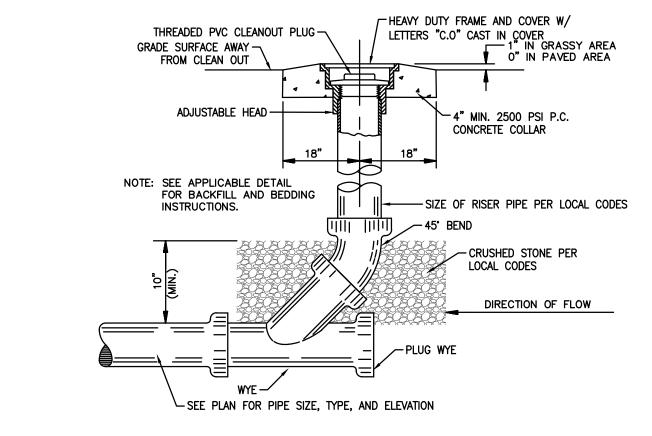
\*SEE CHART ON D-3 FILL TYPES

NOTE	<u>S</u>
6.	FINAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS IV—A COMPACTED TO 95% STANDARD PROCTOR.
7.	ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321—LATEST EDITION.
8.	ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV-A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
9.	FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND

- ROCKS LARGER THAN 3". 10. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL
- ORDINANCES. 11. GEOTECH FABRIC TO BE USED UNDER BEDDING MATERIAL WHEN UNSUITABLE SOILS ARE ENCOUNTERED OR A STABLE NON-YIELDING FOUNDATION CANNOT BE OBTAINED.
- 12. HAUNCHING FOR FLEXIBLE PIPE SHALL BE WORKED A MINIMUM OF 6" ABOVE THE TOP OF PIPE OR PER THE MANUFACTURER'S RECOMMENDATION, WHICHEVER IS MORE STRINGENT.

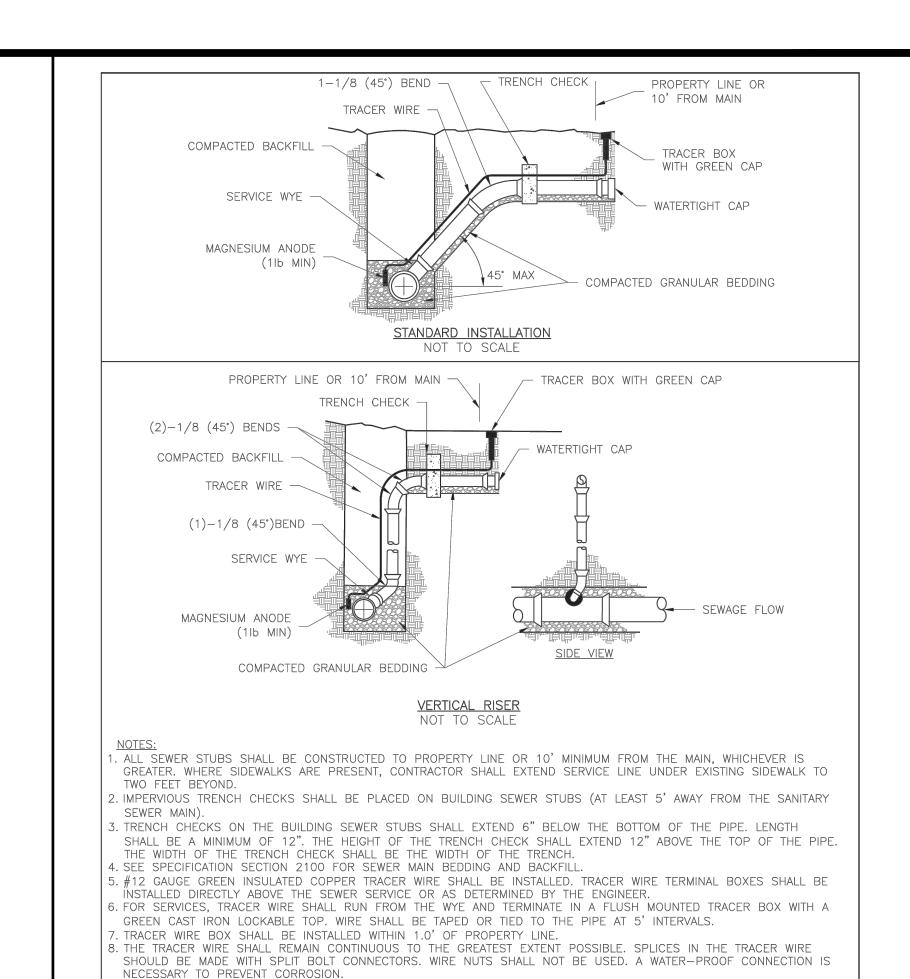
CLASS	TYPE	SOIL GROUP SYMBOL D2487	DESCRIPTION
1A	MANUFACTURED AGGREGATES; OPEN—GRADED, CLEAN		ANGULAR, CRUSHED STONE OR ROCK, CRUSHED GRAVEL, BROKEN CORAL, CRUSHED SLAG, CINDERS OR SHELLS; LARGE VOID CONTENT, CONTAIN LITTLE OR NO FINES
1B	MANUFACTURED, PROCESSED AGGREGATES: DENSE— GRADED, CLEAN.	NONE	ANGULAR, CRUSHED STONE (OR OTHER CLASS 1A MATERIALS) AND STONE/SAND MIXTURES WITH GRADATIONS SELECTED TO MINIMIZE MIGRATION OF ADJACENT SOILS; CONTAIN LITTLE OR NO FINES (SEEX1.8)
II	COARSE-GRAINED SOILS CLEAN	GW	WELL-GRADED GRAVELS AND GRAVEL-SAND MIXTURES; LITTLE OR NO FINES
		GP	POORLY-GRADED GRAVELS AND GRAVEL-SAND MIXTURES; LITTLE OR NO FINES
		SW	WELL-GRADED SANDS AND GRAVELY SANDS; LITTLE OR NO FINES (NO. 200 SIEVE)
		SP	POORLY—GRADED SANDS AND GRAVELY SANDS; LITTLE OR OR NO FINES (NO. 200 SIEVE)
	COARSE-GRAINED SOILS BORDERLINE CLEAN TO W/ FINES	e.g. GW-GC, SP-SM	SANDS AND GRAVELS WHICH ARE BORDERLINE BETWEEN CLEAN AND WITH FINES
III	COARSE-GRAINED SOILS WITH FINES	GM	SILTY GRAVELS, GRAVEL—SAND— SILT MIXTURES
		GC	CLAYEY GRAVELS, GRAVEL— SAND—CLAY MIXTURES
		SM	SILTY SANDS, SAND-SILT MIXTURES
		SC	CLAYEY SANDS, SAND-CLAY MIXTURES
IV-A	FINE-GRAINED SOILS (INORGANIC)	ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, SILTS WITH SLIGHT PLASTICITY
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
IV-B	FINE-GRAINED SOILS (INORGANIC)	МН	INORGANIC SILTS, MICACEOUS OF DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
		CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS.
٧	ORGANIC SOILS	OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
		ОН	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
	HIGHLY ORGANIC	PT	PEAT AND OTHER HIGH ORGANIC SOILS.

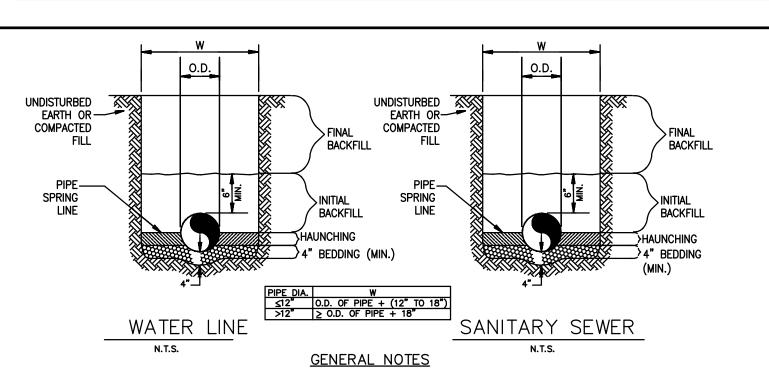
#### STORM SEWER TRENCH AND BEDDING N.T.S.



SANITARY SEWER CLEAN-OUT

N.T.S.





**LEE'S SUMMIT** 

MISSOURI

SANITARY SEWER STUB DETAIL

- 1. BEDDING SHALL BE CLASS I—A WORKED BY HAND. IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE
- CLASS I-B COMPACTED TO 85% STANDARD PROCTOR. 2. HAUNCHING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS AND SHALL BE CLASS I—A OR CLASS I-B OR CLASS II COMPACTED TO 85% PROCTOR. 3. INITIAL BACKFILL SHALL BE CLASS I-A WORKED BY HAND,
- OR CLASS I-B OR CLASS II COMPACTED TO 85% STANDARD 4. INITIAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS III COMPACTED TO 90% STANDARD PROCTOR. 5. FINAL BACKFILL SHALL BE CLASS I, II, OR III COMPACTED

AS NOTED IN NOTES 3. AND 4.

6. FINAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS IV-A COMPACTED TO 95% STANDARD PROCTOR. 7. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321-89.

8. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE

rawn By: MJF

necked By: DL

SAN-1

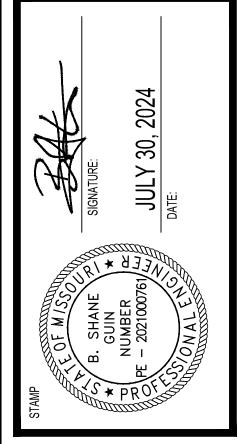
- LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV-A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT. 9. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
- 10. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES. (SEE SPECIFICATIONS)

UTILITY TRENCH AND BEDDING N.T.S.

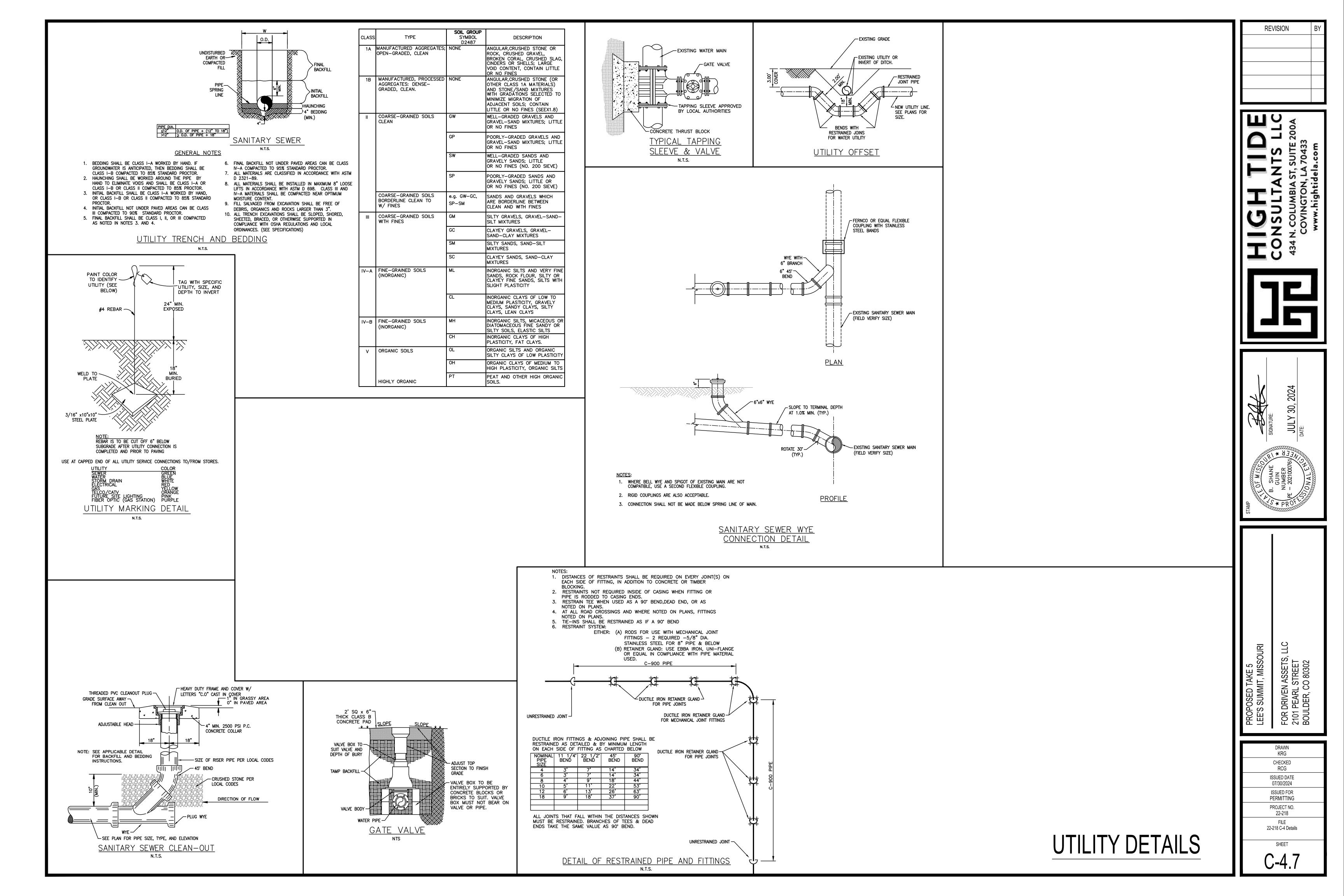
SEWER DETAILS

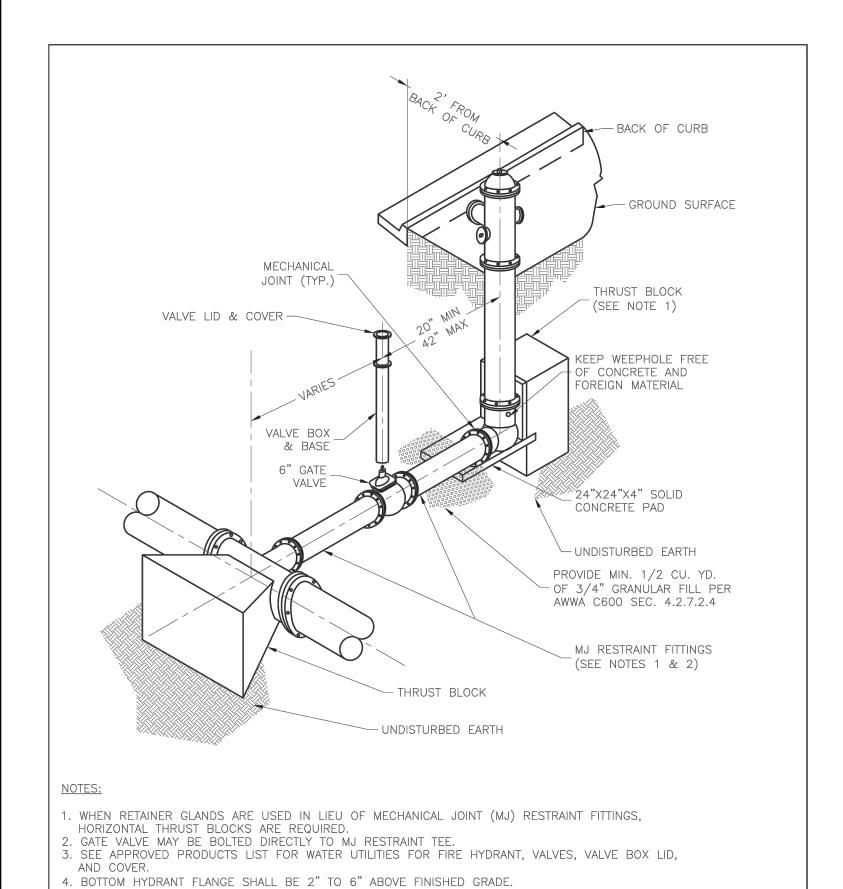
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5. FOR STREETS WITHOUT CURBS FIRE HYDRANTS SHALL BE PLACED WITHIN 1 FOOT OF THE R/W LINE,

**LEE'S SUMMIT** 

HYDRANT - STRAIGHT SET

M I S S O U R I
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Drawn By: JN

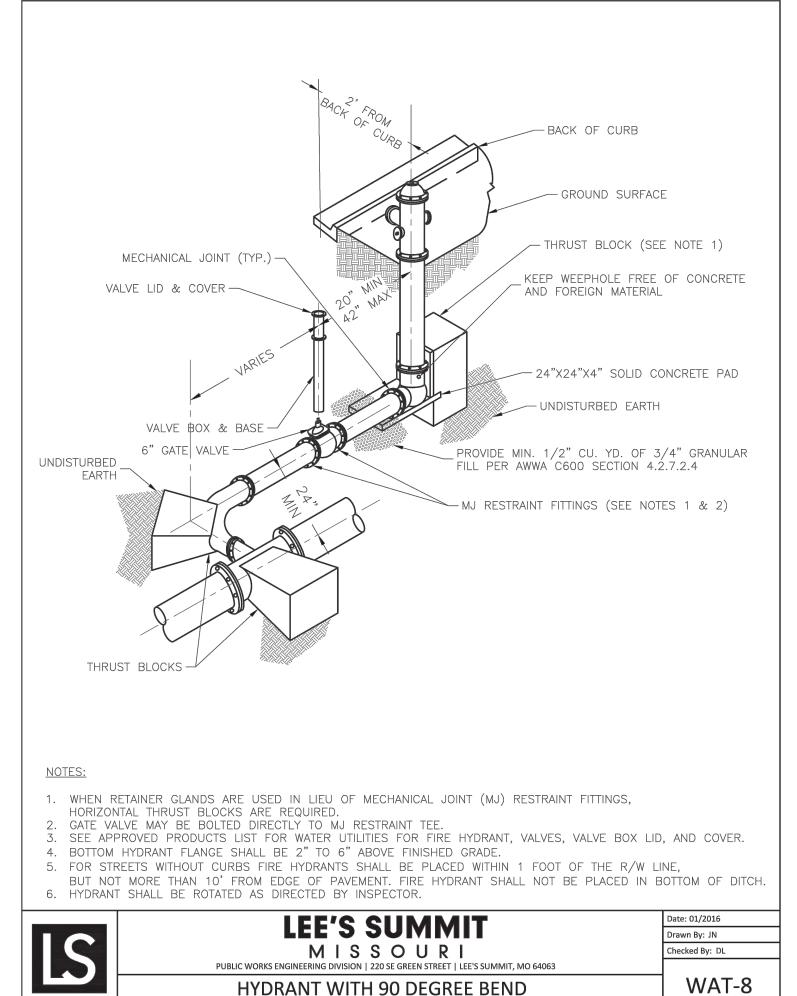
Checked By: DL

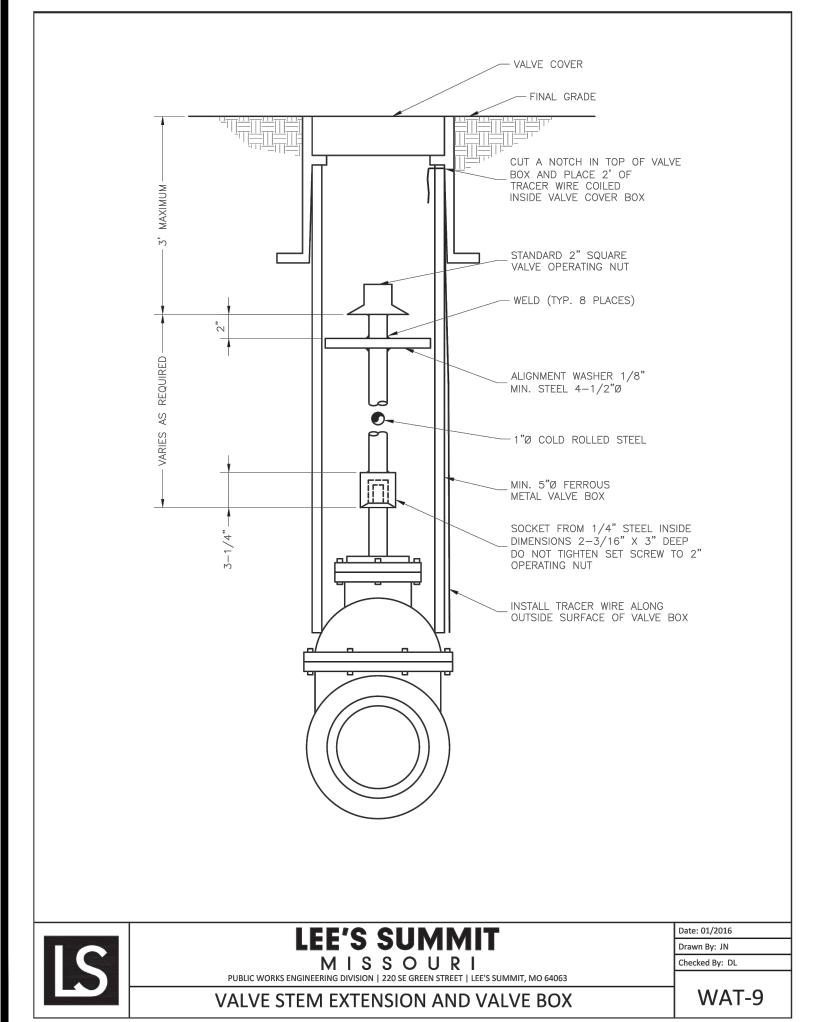
WAT-7

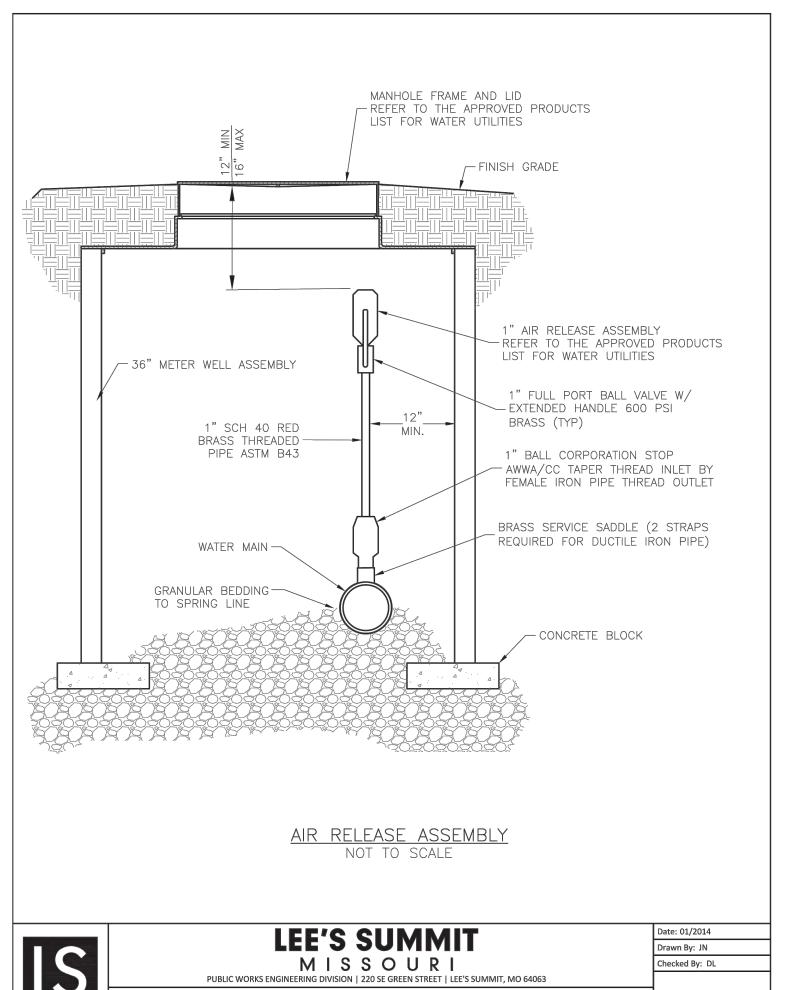
BUT NOT MORE THAN 10' FROM EDGE OF PAVEMENT. FIRE HYDRANT SHALL NOT BE PLACED IN

BOTTOM OF DITCH.

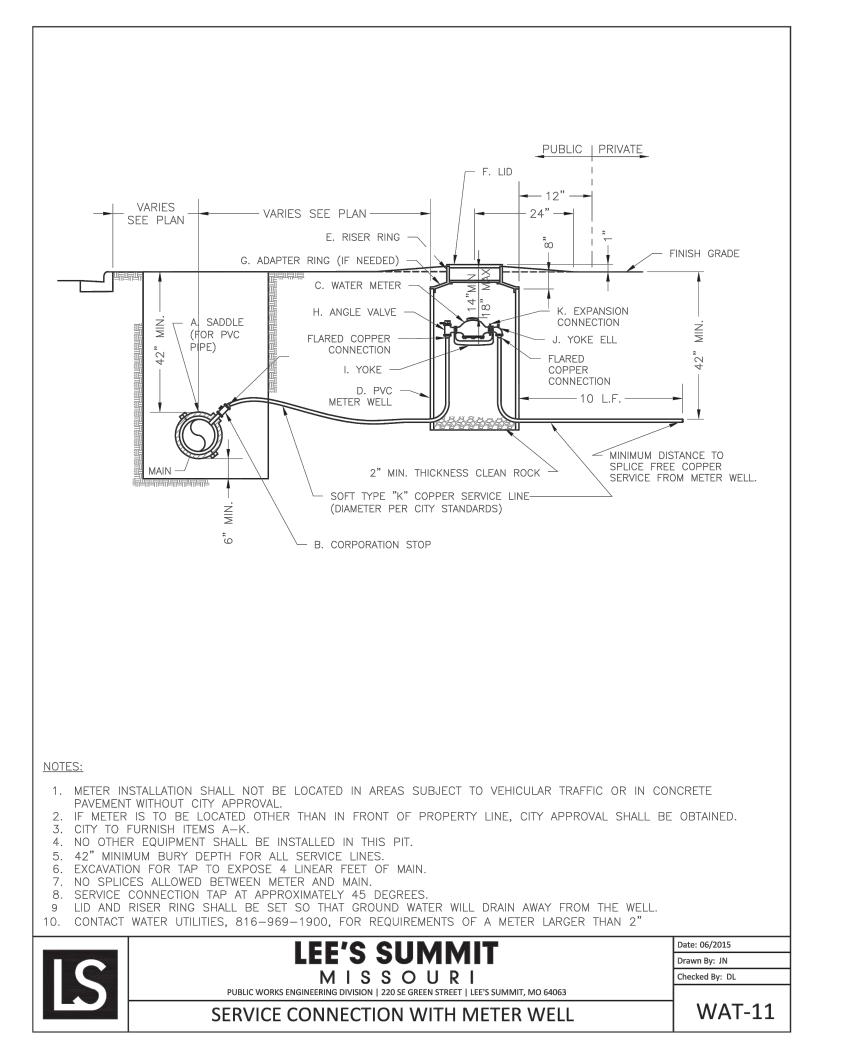
. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.







AIR RELEASE ASSEMBLY



UTILITY DETAILS



PROPOSED TAK LEE'S SUMMIT, I

FOR I 2101 BOUL

KRG CHECKED RCG

ISSUED DATE

07/30/2024

ISSUED FOR

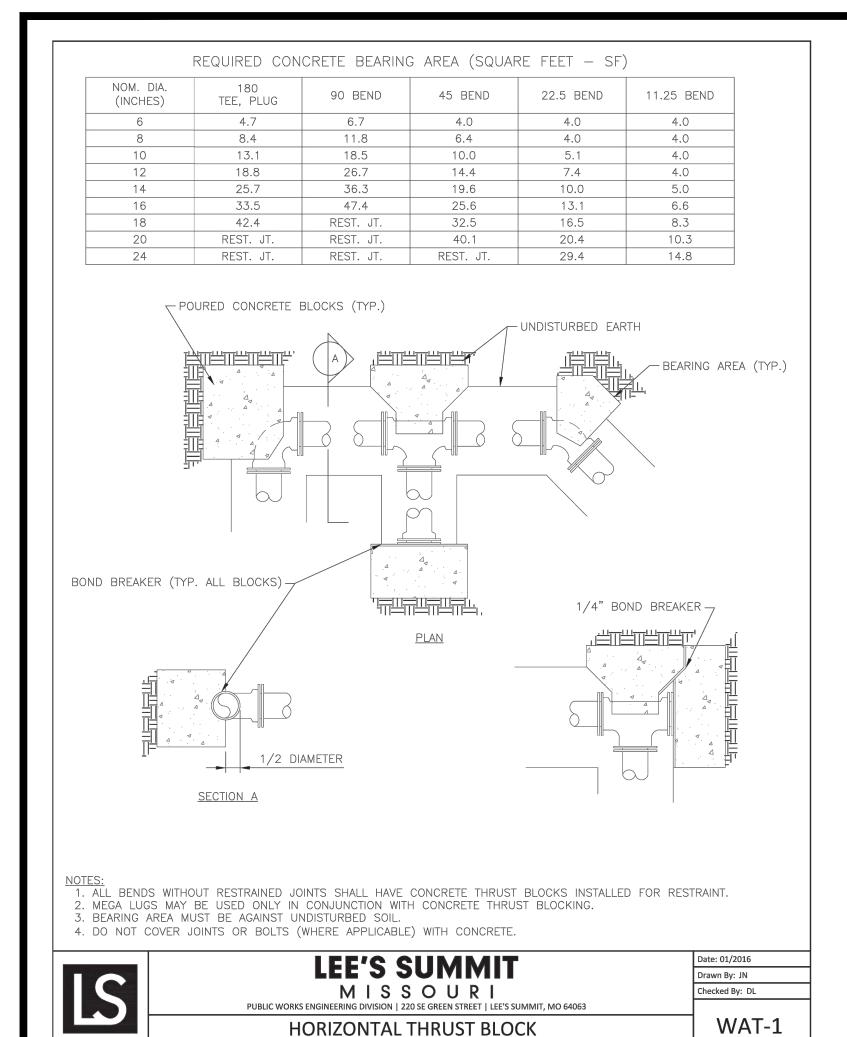
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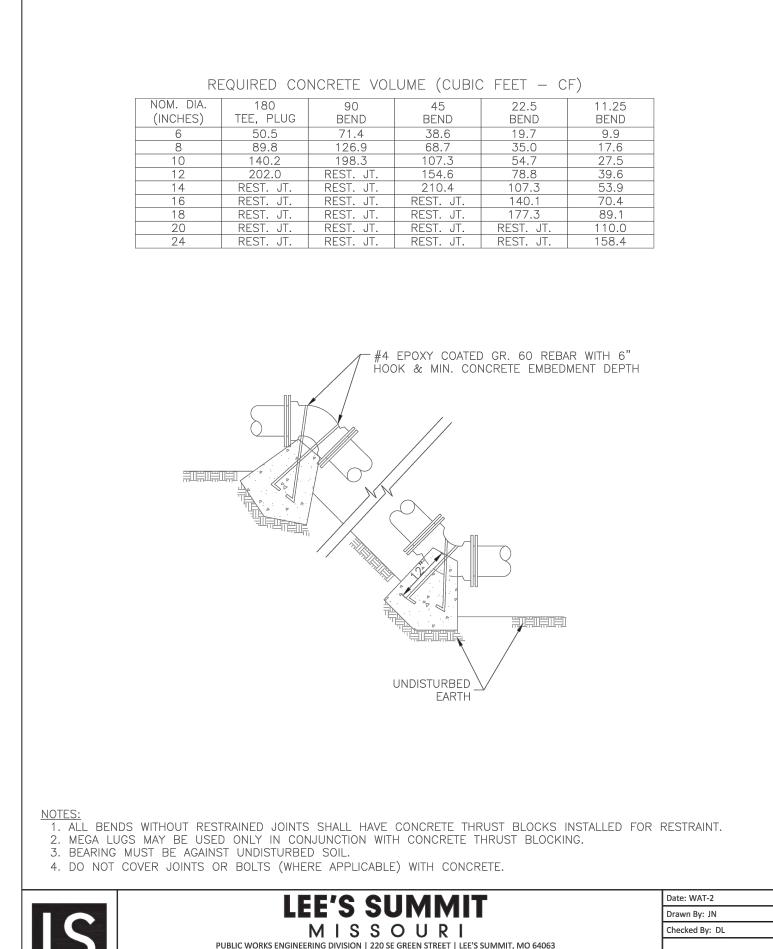
PROJECT NO.

22-218

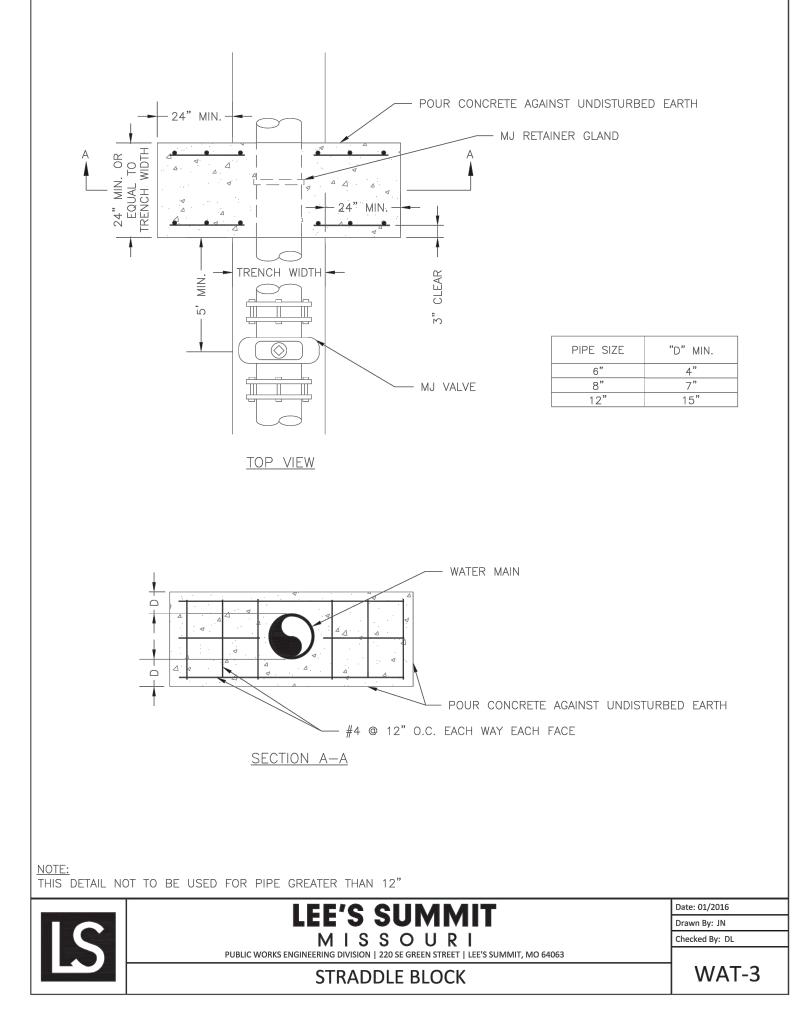
22-218 C-4 Details

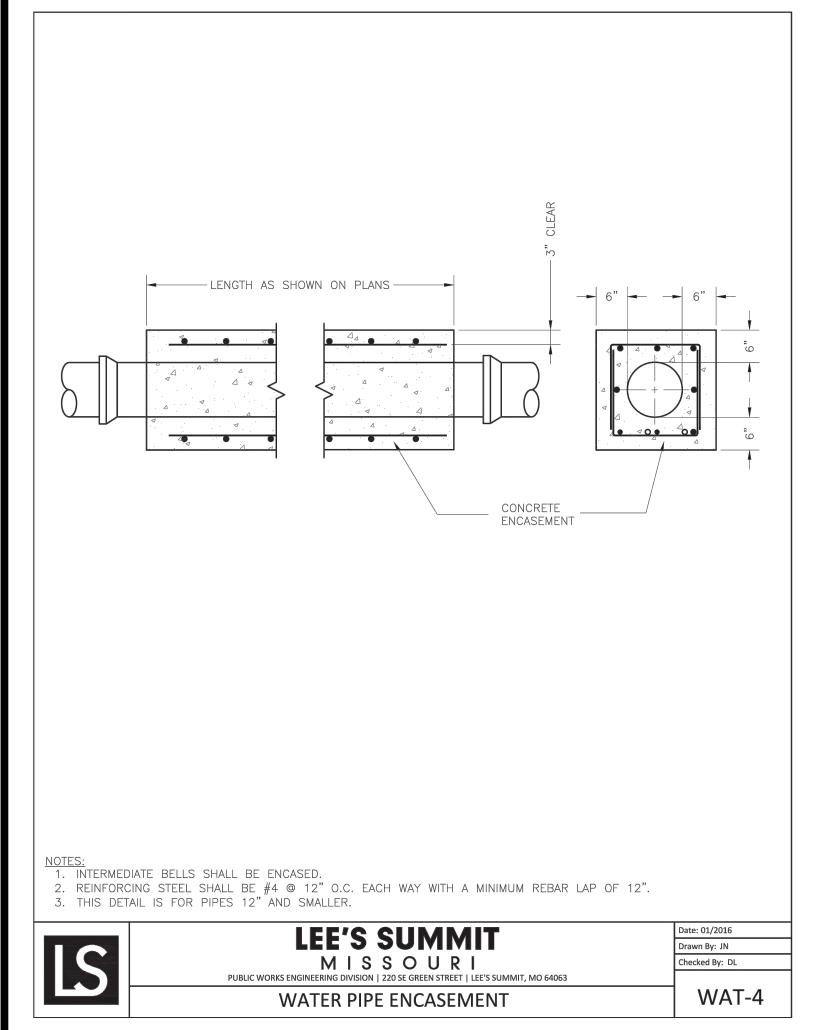
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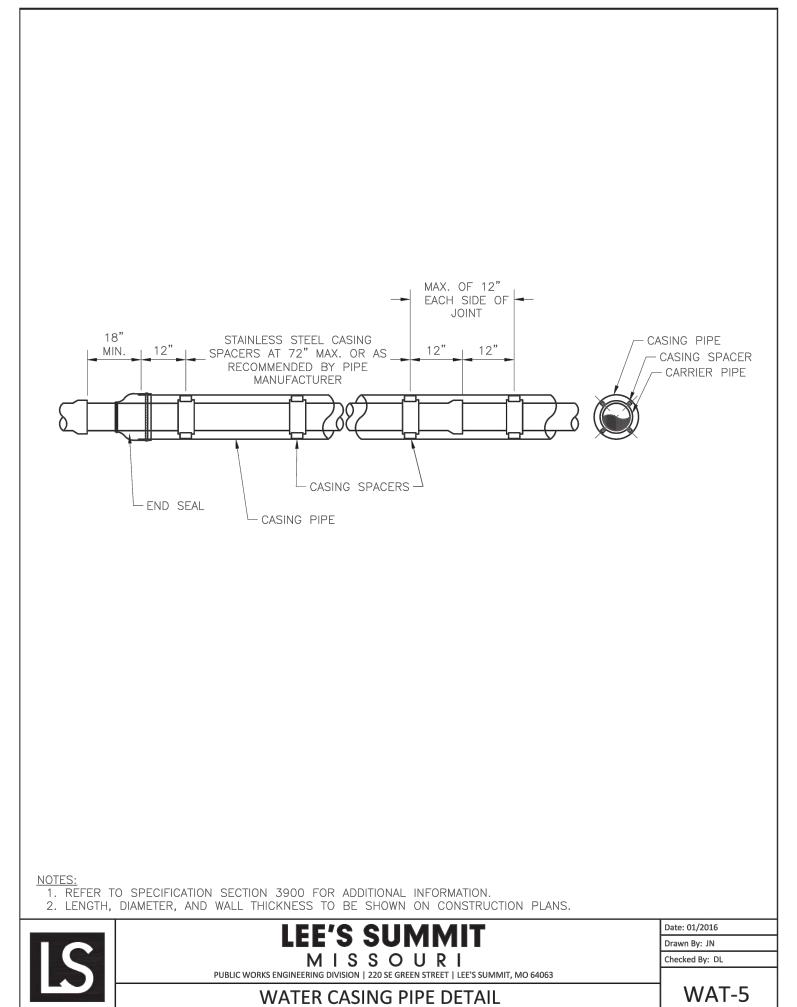


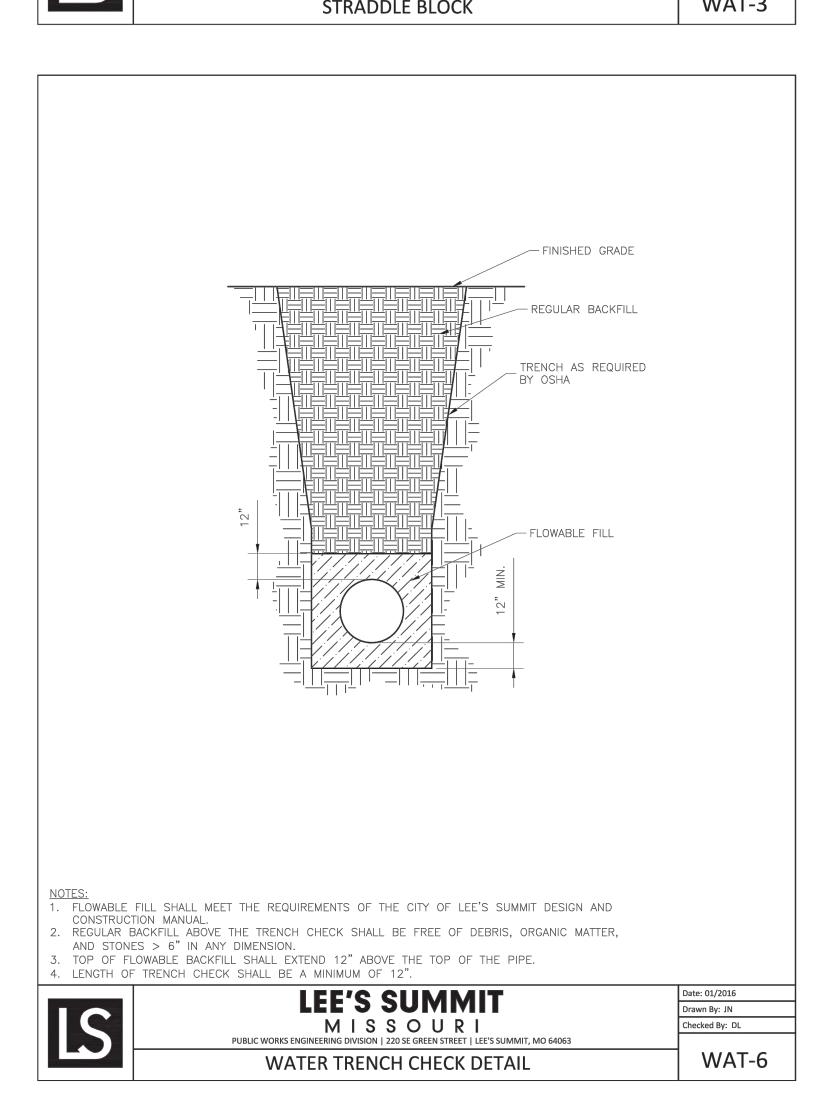


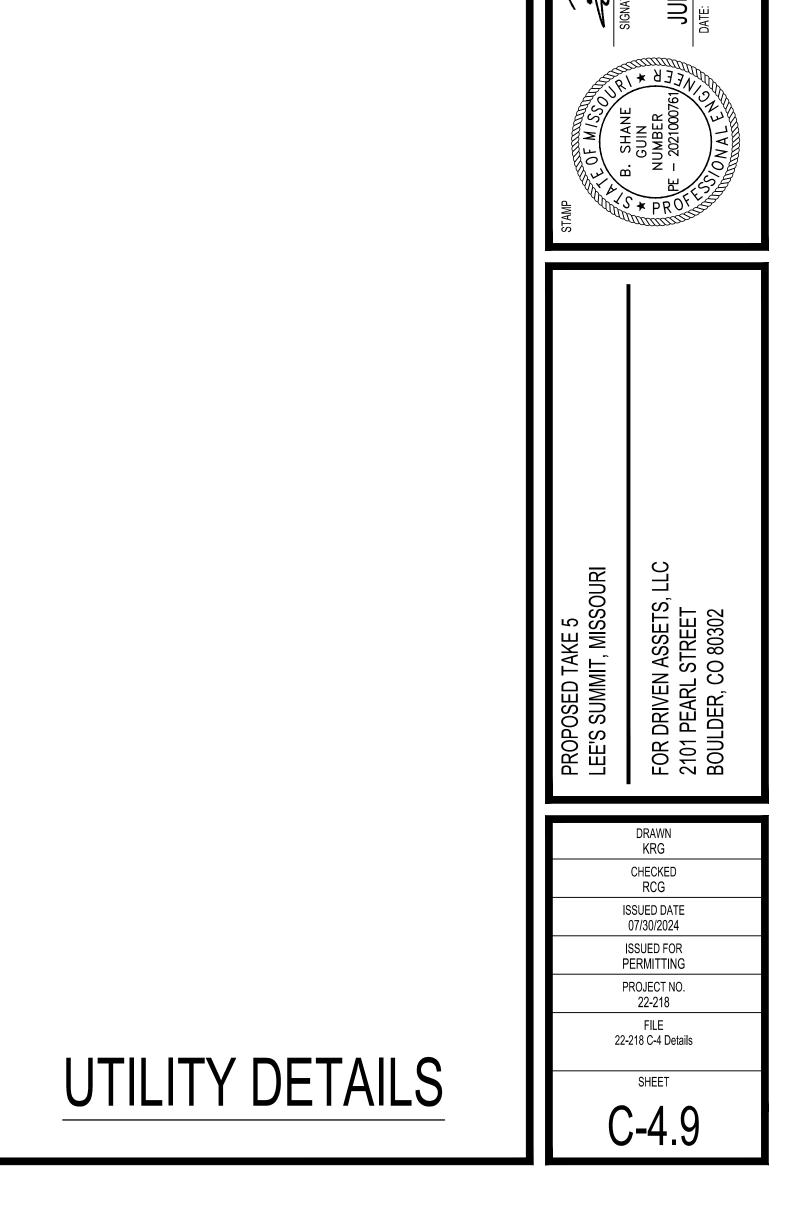
VERTICAL THRUST BLOCK

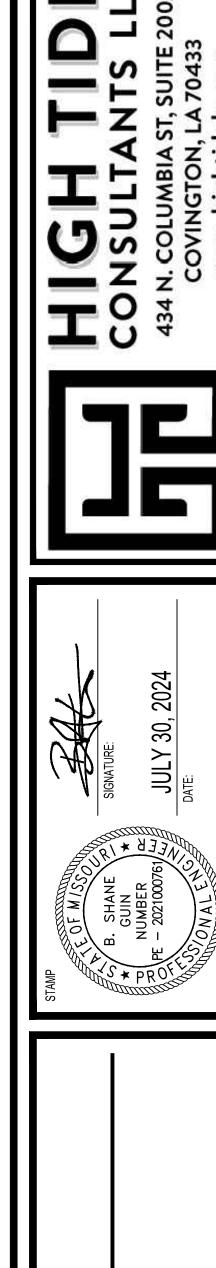












REVISION



668 S. FOSTER DRIVE, SUITE 101
BATON ROUGE, LOUISIANA 70806

P 225.924.1265 P 225.709.0748
McKnight-LA.com



PROVIDED: 5 TREES

B. 20' WIDE LANDSCAPE STRIP TO SEPARATE PARKING AREA FROM THE STREET.

C. 1 SHRUB FOR EACH 20' OF STREET FRONTAGE

PROVIDED: 20' LANDSCAPE STRIP

STREET FRONTAGE (NON RESIDENTIAL ZONE)

A. 1 TREE PER 30 L.F. OF STREET FRONTAGE

**REQUIRED: 5 TREES** 

REQUIRED: 7 SHRUBS

PROVIDED: 14 SHRUBS (NEAR SIGNAGE)

#### OPEN YARD AREA

LOT CONTAINS A LARGE CONSERVATION AREA THAT WILL REMAIN. CALCULATIONS BELOW ARE BASED ON CLEARED PORTION OF THE LOT; 23,670 SQUARE FEET.

A. 2 SHURBS PER 5,000 SQUARE FEET

REQUIRED: 10 SHRUBS
PROVIDED: 20 SHRUBS (PROVIDED TO HIDE TRASH
ENCLOSURE AND DRIVEWAY)

B. 1 TREE PER 5,000 SQUARE FEET

REQUIRED: 5 TREES PROVIDED: 5 TREES

PARKING LOT SCREENING

- A.  $2\frac{1}{2}$  HEIGHT OF SCREENING REQUIRED ALONG THE EDGE OF PARKING LOT CLOSEST TO THE STREET
- B. A HEDGE CONSISTING OF AT LEAST 12 SHRUBS PER 40'. HEDGE MUST BE AT LEAST 18" TALL AT TIME OF PLANTING.

REQUIRED: 36 SHRUBS (CONTINUOUS HEDGE)
PROVIDED: 44 SHRUBS (PROVIDED TO HAVE CONTINUOUS
HEDGE AROUND PARKING LOT PER CODE)

SOUTH & EAST BUFFER (CP2 ADJACENT TO CP2)

NO REQUIRED BUFFER

NORTH & WEST BUFFER (CP2 ADJACENT TO RP-2 & RP-4)

REQUIRED: 20' BUFFER YARD (HEAVY)
PROVIDED: EXISTING 30'-100' VEGETATED BUFFER & EXISTING
RETAINING WALL

# NOTE: OWNER'S REPRESENTATIVE SHALL REVIEW LANDSCAPING FOLLOWING INSTALLATION TO CERTIFY COMPLIANCE

LANDSCAPE ORDINANCE STANDARDS

WITH APPROVED PLAN.

LANDSCAPE MATERIALS AND PLANTS LIST

Hardwood Mulch, shredded (square feet)

Bed Preparation (square feet)

first 3" of imported planting soil.

Metal Edging (linear feet)

Gravel Border (square feet)

certified weed and pest free

Liriope (Liriope muscari)

4 per square foot

Lawn - Turf Type Fescue (square yards)

Drift Rose 'Popcorn' (Rosa 'Novarospop')

around all trees

and gravel border

PLANT / MATERIAL NAME AND DESCRIPTION

6" planting soil over 8" loosened topsoil. Mix top 4" of topsoil with

3" thick layer in all planting areas and 2x root ball diameter ring

 $\frac{1}{8}$ " x 4" aluminum edging color black; install between planting

 $\frac{1}{2}$ " - 1" river rock. 3" deep layer over non-woven filter fabric

3 gallon container, 15"-18" spread, dense and compact growth

New Horizon Elm (Ulmus davidiana var. japonicus x Ulmus pumilia)

Sweetbay Magnolia 'Green Shadow'; (Magnolia virginiana 'Green

45 gallon container, 12'-14' height, 5'-7' spread,  $2\frac{1}{2}$ "-3" caliper,

7'-8' height, 4'-5' spread, standard, 1"caliper, heavily branched

5 gallon container, 18" height, 18" spread, dense and compact

3 gallon container, 7"- 8" height, 12" - 18" spread at base, full

container, heavy and active foliage, planted 24" o.c.

4" Container, 4"-6" height and spread, full container

straight trunk, heavily branched, heavy canopy

Viburnum (Viburnum rhytidophylloides 'Allegheny')
5 gallon container, 3' height, dense foliage, full container

Japanese Yew (Podocarpus macrophyllus)

growth habit, strong central leader

'Hayden's Sedge' Carex haydenii

QUANTITY

AS NEEDED

EXISTING HEAVY VEGETATION BUFFER

PROPOSED POND

- DRIFT ROSE - 14

NEW HORIZON ELM - 1

SWEETBAY MAGNOLIA - 2

SIGHT TRIANGLE TO BE

VERIFIED BY CIVIL ENGINEER

ALL DISTURBED AREAS SHALL RECEIVE

SOD TYP.; BARE SOIL MUST BE STABILIZED AND ESTABLISHED WITH

LAWN PRIOR TO ACCEPTANCE.

46 - JAPANESE YEW -

PARKING LOT

1' GRAVEL STRIP

RE: I/L1.1

HAYDENS SEDGE - 23

- HAYDENS SEDGE - 14

1"=20'-0"

- AROUND BUILDING (TYP.)

BED EDGE

SIGHT TRIANGLE TO BE

VERIFIED BY CIVIL ENGINEER

EXISTING HEAVY VEGETATION BUFFER

27 - HAYDENS SEDGE

1' GRAVEL STRIP

RE: I/L1.1

BED EDGE -

BED EDGE -

PROPOSED

BUILDING

PROPERTY LINE

AROUND BUILDING (TYP.) -

VIBURNUM - 2

FENCED TRASH

OTHERS

VIBURNUM - 4

ENCLOSURE BY

EXISTING RETAINING WALL -

2 - SWEETBAY MAGNOLIA —

EXISTING HEAVY VEGETATION BUFFER

TO BE RETAINED

2 - NEW HORIZON ELM

ALL DISTURBED AREAS SHALL RECEIVE

SOD TYP.; BARE SOIL MUST BE STABILIZED AND ESTABLISHED WITH LAWN PRIOR TO ACCEPTANCE.

**ORDINANCE PLAN** 

- NEW HORIZON ELM - 3

 THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL FINAL GRADE WITH THE LANDSCAPE ARCHITECT AND OR DESIGN TEAM PRIOR TO COMPLETION.
 LOCATION AND PLACEMENT OF ALL PLANT MATERIAL SHALL BE

COORDINATED WITH THE LANDSCAPE ARCHITECT PRIOR TO

- INSTALLATION.

  3. THE LOCATION OF ALL UTILITIES ARE APPROXIMATE, THE CONTRACTOR SHALL FIELD VERIFY LOCATIONS PRIOR TO
- 4. REFER TO CIVIL DRAWINGS FOR ALL GRADING AND BERMING, EROSION CONTROL, STORM DRAINAGE, UTILITIES AND SITE

COMMENCEMENT OF CONSTRUCTION OPERATIONS.

- 5. PLANT QUANTITIES ARE FOR INFORMATION ONLY DRAWING SHALL PREVAIL IF CONFLICT OCCURS. CONTRACTOR IS RESPONSIBLE FOR CALCULATING OWN QUANTITIES AND BID ACCORDINGLY.
- 6. THE CONTRACTOR IS TO NOTIFY LANDSCAPE ARCHITECT AFTER STAKING IS COMPLETE AND BEFORE PLANT PITS ARE EXCAVATED. PROVIDE PHOTOGRAPHS.
- TREE LOCATIONS IN AREAS ADJACENT TO DRIVES, WALKS, WALLS AND LIGHT FIXTURES MAY BE FIELD ADJUSTED AS APPROVED BY LANDSCAPE ARCHITECT.
- 8. THE CONTRACTOR SHALL REPORT SUBSURFACE SOIL OR DRAINAGE PROBLEMS TO THE LANDSCAPE ARCHITECT.
- 9. THE PLAN IS SUBJECT TO CHANGES BASED ON PLANT SIZE AND MATERIAL AVAILABILITY. ALL CHANGES OR SUBSTITUTIONS MUST BE APPROVED BY THE CITY OF LEE'S SUMMIT, MISSOURI AND THE LANDSCAPE ARCHITECT.
- 10. ALUMINUM LANDSCAPE EDGING TO BE USED ON ALL LANDSCAPE BEDS ABUTTING TURF AREAS AS NOTED ON LANDSCAPE PLANS/LEGEND.
- 11. LANDSCAPE CONTRACTOR IS TO BE RESPONSIBLE FOR WATERING ALL PLANT MATERIAL UNTIL THE TIME THAT A PERMANENT WATER SOURCE IS READY.
- 12. THE CONTRACTOR SHALL SHOW PROOF OF PROCUREMENT, SOURCES, QUANTITIES AND VARIETIES FOR ALL SHRUBS, PERENNIALS ORNAMENTAL GRASSES AND ANNUALS WITHIN 21 DAYS FOLLOWING THE AWARD OF THE CONTRACT.
- 13. CONTRACTOR SHALL PROVIDE FULL MAINTENANCE FOR NEWLY LANDSCAPED AREAS FOR A PERIOD OF 30 DAYS AFTER THE DATE OF FINAL ACCEPTANCE. AT THE END OF THE MAINTENANCE PERIOD, A HEALTHY, WELL-ROOTED, EVEN-COLORED, VIABLE TURF AND LANDSCAPED AREA MUST BE ESTABLISHED. THE LANDSCAPED AREAS SHALL BE FREE OF WEEDS, OPEN JOINTS, BARE AREAS AND SURFACE IRREGULARITIES.
- 14. LANDSCAPE CONTRACTOR SHALL PROVIDE HARDWOOD MULCH SAMPLE TO OWNER FOR APPROVAL.

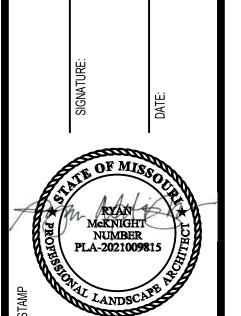
#### GENERAL PLANTING NOTES

- 1. LOCATE ALL UTILITIES ON SITE PRIOR TO COMMENCING WORK. ANY DAMAGE DONE TO EXISTING OR NEW UTILITIES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO OWNER.
- 2. PLANTS SHALL BE WELL FORMED, NO. 1 GRADE OR BETTER NURSERY STOCK AND SHALL MEET THE APPLICABLE STANDARDS NOTED HEREIN AND SHALL BE SUBJECT TO REJECTION BY THE LANDSCAPE ARCHITECT.
- 3. STAKE OUT ALL TREE LOCATIONS FOR APPROVAL BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. LOCATE ALL TREES AS SHOWN ON PLAN.
- 4. COORDINATE WORK WITH THE WORK OF OTHER TRADES ON THE SITE.
- 5. ENTIRE SITE SHALL BE GRADED TO FINISH GRADE PRIOR TO SCHEDULING PLANTING INSTALLATION.
- 6. PLANTS SHALL BE SPECIMEN QUALITY, FULL POT AND HEAD, SYMMETRICAL FOLIAGE AND BRANCHING STRUCTURE. SHRUBS SHALL BE FULL TO GROUND.
- 7. PLANT MATERIAL OF THE SAME SPECIES SHALL BE MATCHING IN CHARACTER AND SIZE, OBTAINED FROM THE SAME SOURCE.
- 8. ANY CHANGES IN PLANT MATERIAL SIZE, QUANTITY, SPECIES OR VARIETY MUST BE APPROVED BY THE OWNER AND/OR LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- 9. INSTALLATION MUST BE COMPLIANT WITH LANDSCAPE ORDINANCE STANDARDS.
- 10. SOD ALL AREAS DISTURBED BY CONSTRUCTION.

REVISION BY

HIGH TID
CONSULTANTS LI
434 N. COLUMBIA ST, SUITE 20
COVINGTON, LA 70433





IISSOURI SETS, LLC EET 302

FOR DRIVEN ASSETS 2101 PEARL STREET BOULDER, CO 80302

DRAWN
ML

CHECKED
BG/RM

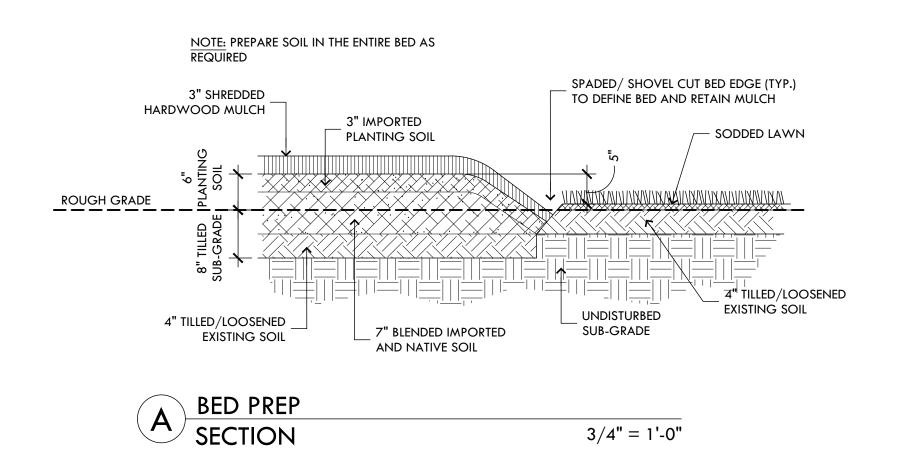
ISSUED DATE
9.08.2023

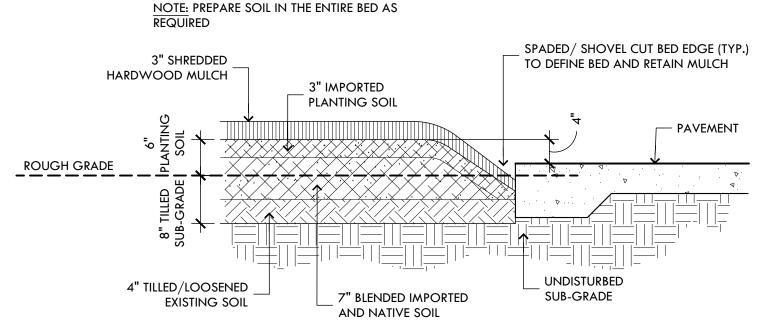
ISSUED FOR
PRELIMINARY DEVELOPMENT

PROJECT NO.

FILE L1.0 LANDSCAPE ORDINANCE PLAN

L1.0





BED PREP AT PAVEMENT

LAWN SECTION



3/4" = 1'-0"

1. CONTRACTOR SHALL OBTAIN A SOIL ANALYSIS FROM AN INDEPENDENT LABORATORY

SHALL BE INCORPORATED INTO PREPARATION.

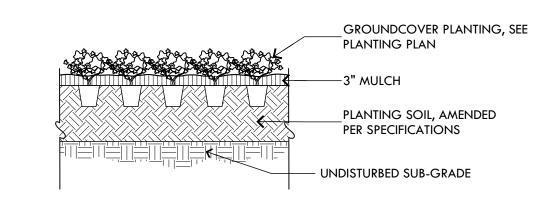
AS PER SPECIFICATIONS.

APPROVED BY THE STATE DEPARTMENT OF AGRICULTURE. ANY RECOMMENDED AMENDMENTS

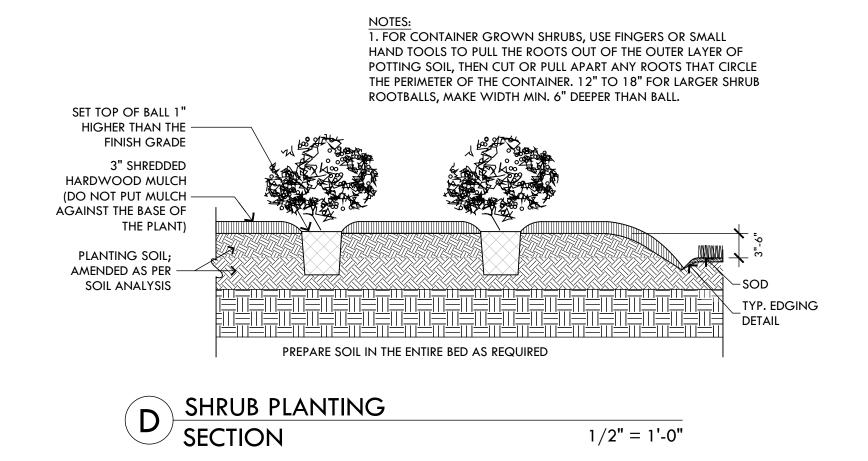
2. CONTRACTOR SHALL LOOSEN THE TOP FOUR (4") INCHES OF SOIL IN AREAS TO RECEIVE LAWN.

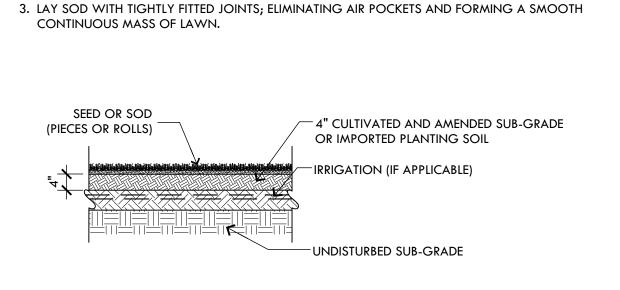
REMOVE ALL DEBRIS, STICKS, ROOTS, RUBBISH, CLUMPS OF SOIL, STONES OVER ONE (1) INCH

IN DIAMETER, AND ALL OTHER EXTRANEOUS MATTER PRIOR TO FINE GRADING FOR SOD AREAS

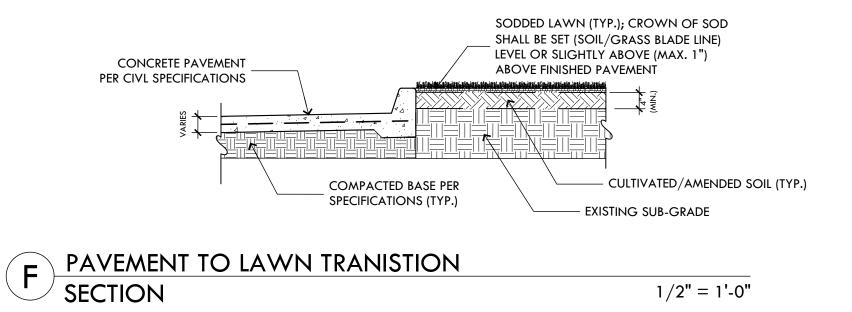


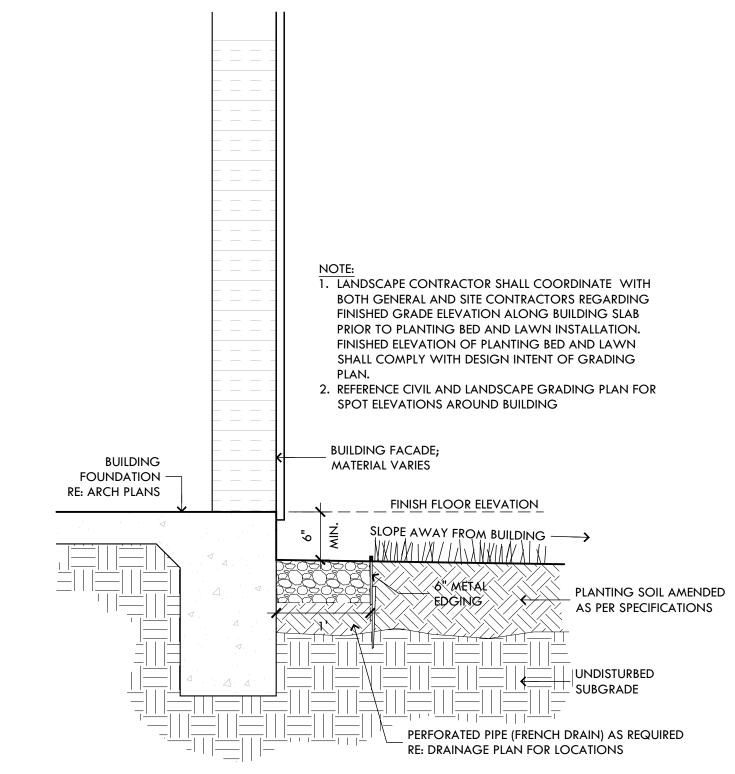


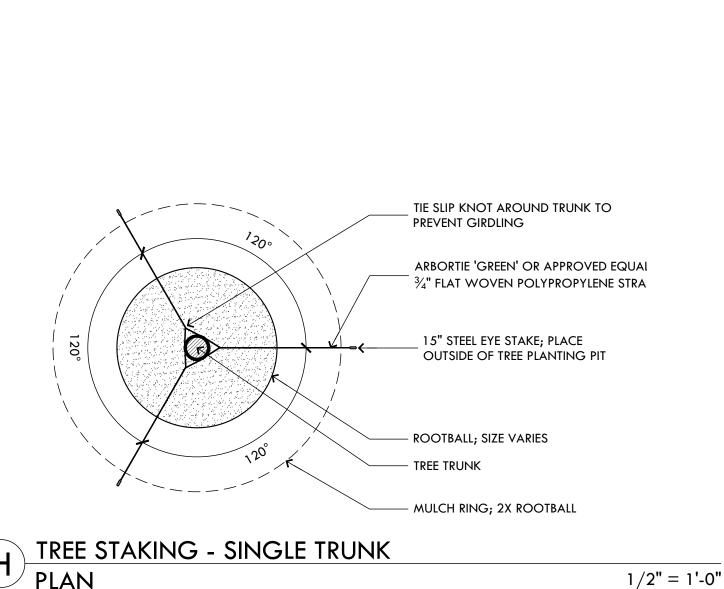


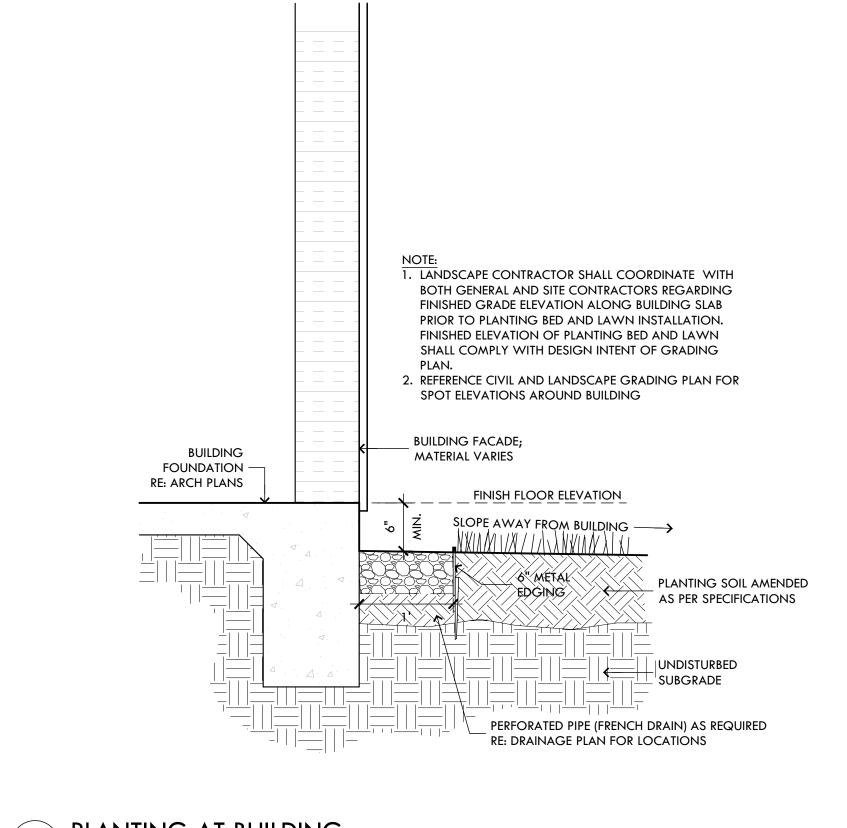


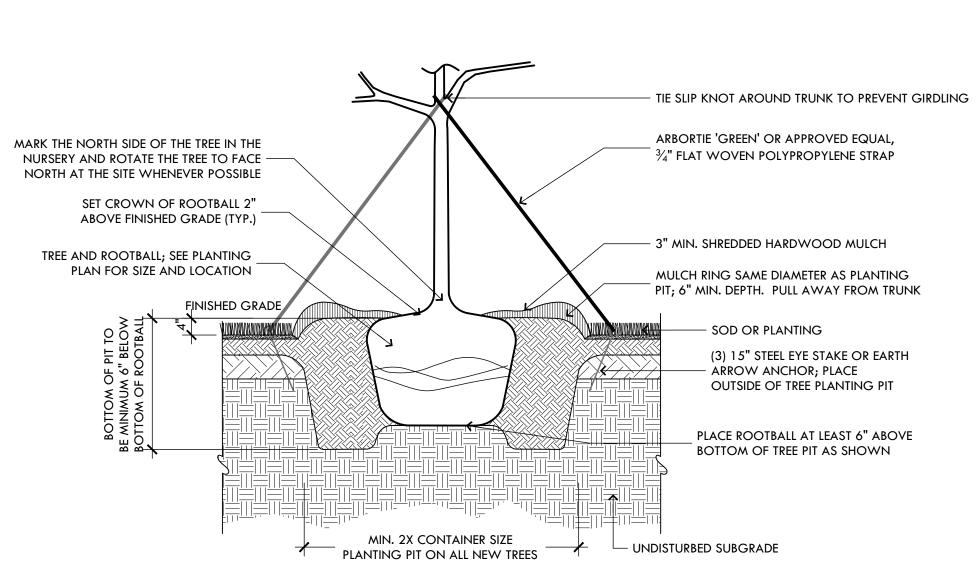
1/2" = 1'-0"











G TREE PLANTING - SINGLE TRUNK SECTION

1/2" = 1'-0"

H TREE STAKING - SINGLE TRUNK PLAN

PLANTING AT BUILDING
SECTION 1" = 1'-0" REVISION REVISION #1

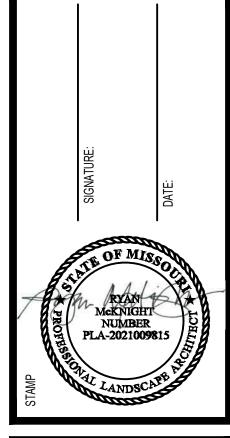
668 S. FOSTER DRIVE, SUITE 101

BATON ROUGE, LOUISIANA 70806

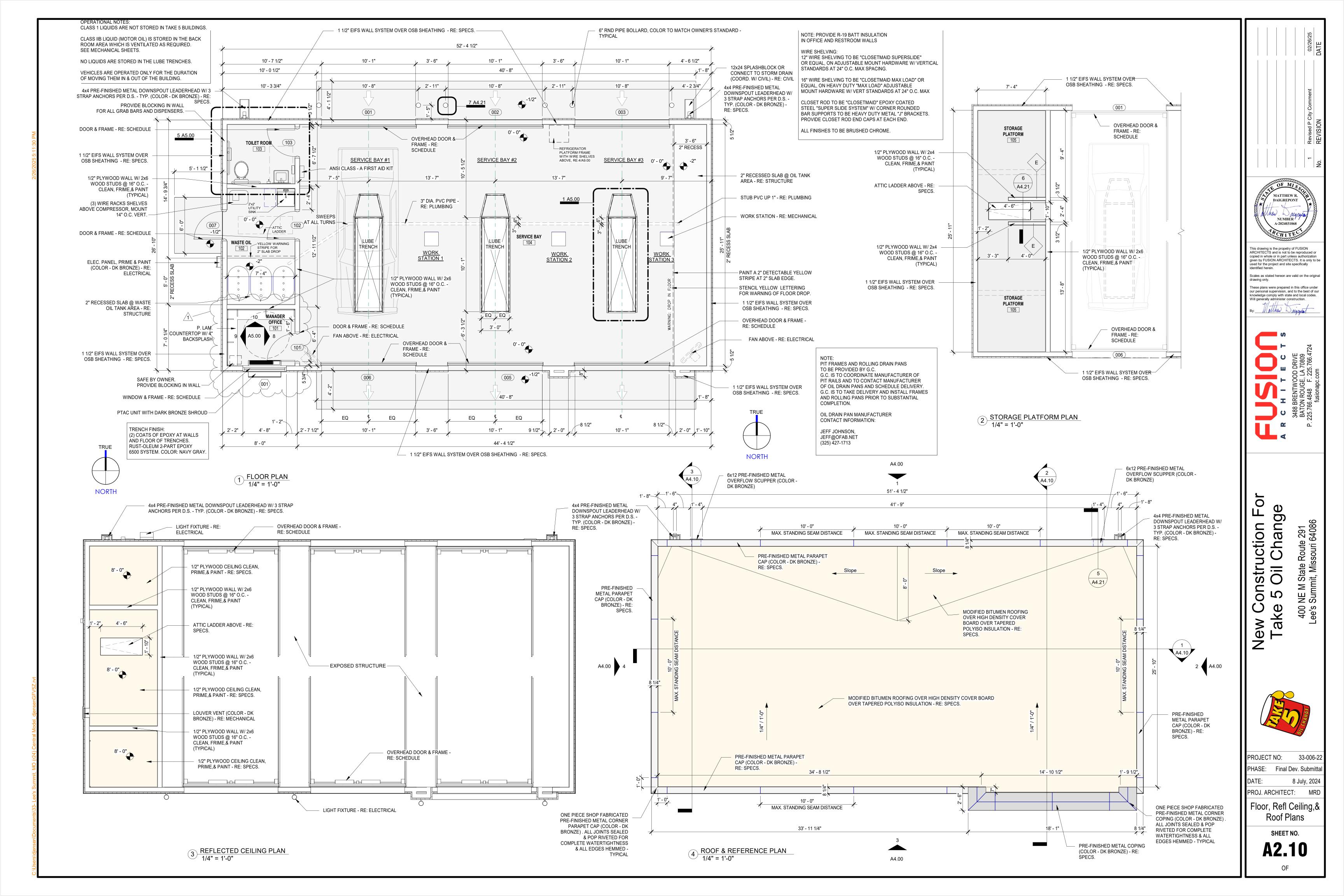
P 225.924.1265 P 225.709.0748

McKnight-LA.com

1/2" = 1'-0"



FOR DRIVEN ASSETS, I 2101 PEARL STREET BOULDER, CO 80302 DRAWN ISSUED DATE 9.08.2023 ISSUED FOR PRELIMINARY DEVELOPMENT PROJECT NO. L1.2 PLANTING DETAILS SHEET



	SCHEDULE - ROOM FINISH (NEW STYLE)																	
		FLR																
		MATL.	BASE WALL					FINISH					CI	EILING				
		ED	NORTH EAST S			SOUTH	WEST	VEST NORTH EAST SOUTH WEST										
No.	ROOM NAME	CONCRETE / SEALI	VINYL	1/2" PLY WD	1/2" PLY WD	1/2" PLY WD	1/2" PLY WD	PAINT	PAINT	PAINT	PAINT	PLY WOOD	FINISH	CEILING HEIGHT		REMARKS		Number
101	MANAGER OFFICE	•	•	•	•	•	•	•	•	•	•	•	PRIME & PAINT	8'- 0"	SMOOTH FINISH. STAINED	B-C PLYWD.	NOTE 1,2,3,4,8,9,10	101
102	WASTE OIL	•	•	•	•	•	•	•	•	•	•	•	PRIME & PAINT	8'- 0"	SMOOTH FINISH. STAINED	B-C PLYWD.	NOTE 1,2,3,4,8,9,10	102
103	TOILET ROOM	•	•	•	•	•	•	•	•	•	•	•	PRIME & PAINT	8'- 0"	SMOOTH FINISH. STAINED	B-C PLYWD.	NOTE 1,2,3,4,8,9,10,11	103
104	SERVICE BAY	•	•	•	•	•	•	•	•	•	•		PRIME & PAINT	EXPOSED STRUCTURE	SMOOTH FINISH. STAINED	B-C PLYWD.	NOTE 1,2,3,4,8,9,10	104
105	STORAGE PLATFORM	•	•	•	•	•	•	•	•	•	•		PRIME & PAINT	EXPOSED STRUCTURE	SMOOTH FINISH. STAINED	B-C PLYWD.	NOTE 1,2,3,4,8,9,10	105

								SCHEDULE - DO	OOR & FRAI	ME				
	SINGLE /		SIZE		Туре	DOOR	FRAME	DOOR & FRAME		DETAILS				
NO.	PAIR	Width	Height	THICKNESS	Mark	MATERIAL	MATERIAL	FINISH	HEAD	JAMB	SILL	HARDWARE Fire Rating	Comments	
001	OVERHEAD	10' - 1"	11' - 6"	0' - 2"	В	METAL / GLASS	METAL		11:A3.01	10:A3.01			3 CENTER SECTIONS GL	_ASS
002	OVERHEAD	10' - 1"	11' - 6"	0' - 2"	В	METAL / GLASS	METAL		11:A3.01	10:A3.01			3 CENTER SECTIONS GL	ASS
003	OVERHEAD	10' - 1"	11' - 6"	0' - 2"	В	METAL / GLASS	METAL		11:A3.01	10:A3.01			3 CENTER SECTIONS GL	ASS
004	OVERHEAD	10' - 1"	11' - 6"	0' - 2"	В	METAL / GLASS	METAL		9:A3.01	10:A3.01			3 CENTER SECTIONS GL	ASS
005	OVERHEAD	10' - 1"	11' - 6"	0' - 2"	В	METAL / GLASS	METAL		11:A3.01	10:A3.01			3 CENTER SECTIONS GL	ASS
006	OVERHEAD	10' - 1"	11' - 6"	0' - 2"	В	METAL / GLASS	METAL		11:A3.01	10:A3.01			3 CENTER SECTIONS GL	ASS
007	SINGLE	3' - 0"	7' - 0"	0' - 1 3/4"	С	FLUSH H.M.	H.M	PAINT / DK BRONZE EXT & GRAY INT	4:A3.01	5:A3.01	6:A3.01	SET 1	CLOSER, LOCKSET, THRESHOLD.	NOTE 1,2,5
101	SINGLE	3' - 0"	7' - 0"	0' - 1 3/4"	Α	FLUSH H.M.	H.M	PAINT / DK BRONZE EXT & GRAY INT	7:A3.01	8:A3.01		SET 2	LOCKSET, CLOSER	NOTE 1,2,6
102	SINGLE	3' - 0"	7' - 0"	0' - 1 3/4"	В	FLUSH H.M.	H.M	PAINT / DK BRONZE EXT & GRAY INT	7:A3.01	8:A3.01		SET 4	LOCKSET, CLOSER	NOTE 1,2
103	SINGLE	3' - 0"	7' - 0"	0' - 1 3/4"	В	FLUSH H.M.	H.M	PAINT / DK BRONZE EXT & GRAY INT	7:A3.01	8:A3.01		SET 3	LOCKSET, HALF GLASS (TINTED), CLOS	SER NOTE 1,2,4

\* ALL METAL DOOR FRAMES TO BE G90

A3.01

TYPE - A

101

1 DOOR & FRAME TYPES 1/4" = 1'-0"

TINTED SAFETY -

<u>Level</u> 1 0' - 0"

DOOR & WINDOW NOTES:

NOTE 1. HARDWARE TO BE LEVER ACTION AND MEET ALL ADA REQUIREMENTS.

NOTE 2. HARDWARE TO BE COMMERCIAL GRADE.

NOTE 3. HARDWARE PER MANUF. REQIREMENTS.

NOTE 4. SAFETY GLAZING TO MEET ANSI Z97.1 CLASS A.

NOTE 5. DARK BRONZE PAINT COLOR TO BE (SW 6076 "TURKISH COFFEE").

NOTE 6. EXTERIOR DOOR WHEN INDICATED ON PLAN 1/A-100

\A3.01/

TYPE - B

103

— TACTILE EXIT SIGN PER IBC SECT. 1013.4 — LOCATE AS PER ANSI A117.1 SECT 703.3.11

					SCHEDULE -	WINDOW & FRA	ME		
	S	IZE		F	RAME		DETAILS		
NO.	WIDTH	HEIGHT	GLAZING	Туре	MATERIAL	HEAD	JAMB	SILL	REMARKS
001	4' - 8"	4' - 0"	FIXED GLASS / DOUBLE PANE, LOW-E GLASS, TINTED	Α	ALUMINUM	1:A3.01	2:A3.01	3:A3.01	ANODIZED / DARK BRONZE EXT - PAINT GRAY INT NOTE 4

KAWNEER TRIFAB 450 SERIES ALUMINUM STOREFRONT WINDOWS OR OLDCASTLE EQUAL. GLASS TO BE SOLARBRONZE 60.

A3.01

TYPE - B

102

A3.01

CLOPLAY OVERHEAD DOORS - NO SUBSTITUTIONS

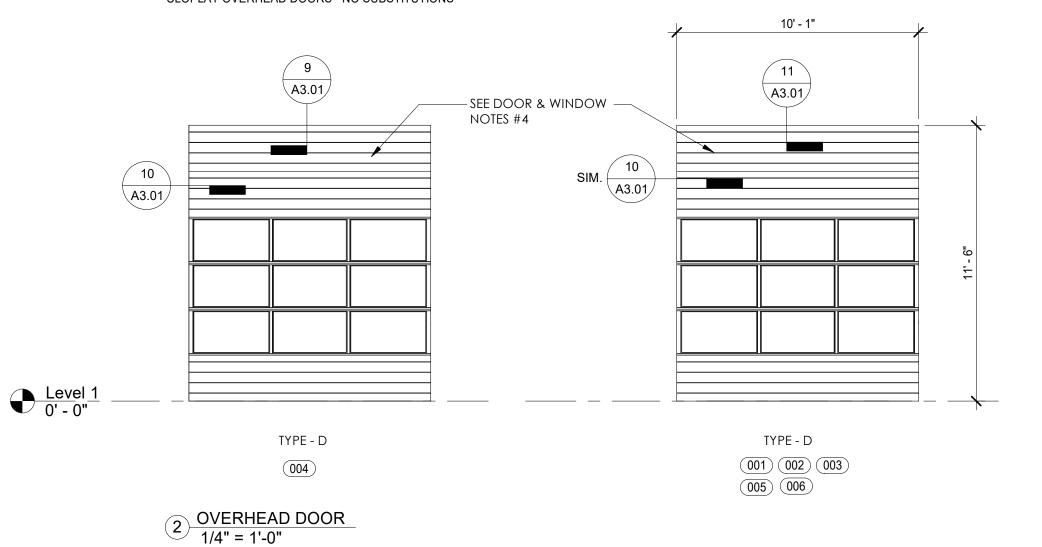
\A3.01

A3.01

TYPE - C

007

A3.01 i



4' - 4" —— 4 1/2" PREFIN ALUM STOREFRONT \A3.01/ - GALSS TO BE 1" INSUL. LOW-E TINTED (70% VISIBILITY) A.C UNIT, COLOR DK BRONZE -PROVIDED BY OWNER

TYPE - A

(001)

3 WINDOW TYPE 1/4" = 1'-0"

8 July, 2024 PROJ. ARCHITECT: MRD Schedules - Room,

Door,& Window

PHASE: Final Dev. Submitta

PROJECT NO:

SHEET NO. A3.00

FINISH SCHEDULE NOTES:

NOTE 1. PAINT EXPOSED WALL SURFACE (GWB OR PWD).

NOTE 2. PAINT EXPOSED CEILING.

NOTE 3. ALL INTERIOR FINISHES ARE TO MEET TABLE 803.5 OF THE NCBC.

NOTE 4. INTERIOR PAINT COLOR TO BE SEMI GLOSS ENAMEL WHITE (SW 7006 "EXTRA WHITE") EXCEPT WHERE NOTED.

NOTE 7. SEE STRUCTURAL DWGS FOR DEPRESSED SLAB DETAILS.

NOTE 8. STAIN - H&C INFUSION REACTIVE CONC. STAIN (SIENNA RED 40.002084.

NOTE 9. SEALER - H&C PRO SERIES SOLVENT BASED DECORATIVE CONC. SEALER (CLEAR).

NOTE 10. ALL INTERIOR TRIM TO BE "INDUSTRIAL GRAY" (SW 7017 "DORIAN GRAY").

NOTE 11. ALL INTERIOR WALL PAINT AT TOILET ROOM TO BE ACRYLIC WASHABLE SEMI-GLOSS ENAMEL PAINT.

DOOR HARDWARE SET NOTES (ALL FIN. HARDWARE TO BE ADA COMPLIANT):

SET 1 1 1/2 PAIR HINGES NRP MORTISED DEADBOLT AND LOCKSET COMBINED WITH THUMB TURN INSIDE AND KEYED OUTSIDE. ONE ACTION OPERATED BOTH BOLT AND LOCKSET.

FULL WEATHERSTRIP RAIN DRIP ON FRAME OVERHEAD THRESHOLD

SILENCERS FLOOR STOP

SET 2 1 1/2 PAIR HINGES.

LOCKSET - KEYED OUTSIDE, PUSH BUTTON INSIDE CLOSER FLOOR STOP - COOR. LOCATION W/ AC UNIT SILENCERS

SET 3 1 1/2 PAIR HINGES.

LOCKSET - KEYED OUTSIDE, PUSH BUTTON INSIDE

WALL STOP SILENCERS TACTILE SIGN W/ INTERNATIONAL SYMBOL: MEN/WOMEN

SET 4 1 1/2 PAIR HINGES.

LOCKSET - PASSAGE 1 STOP - FLOOR MTD.

CLOSER SILENCERS

NOTE: ALL FIN. HARDWARE TO BE ADA COMPLIOANT.

A-2024031068

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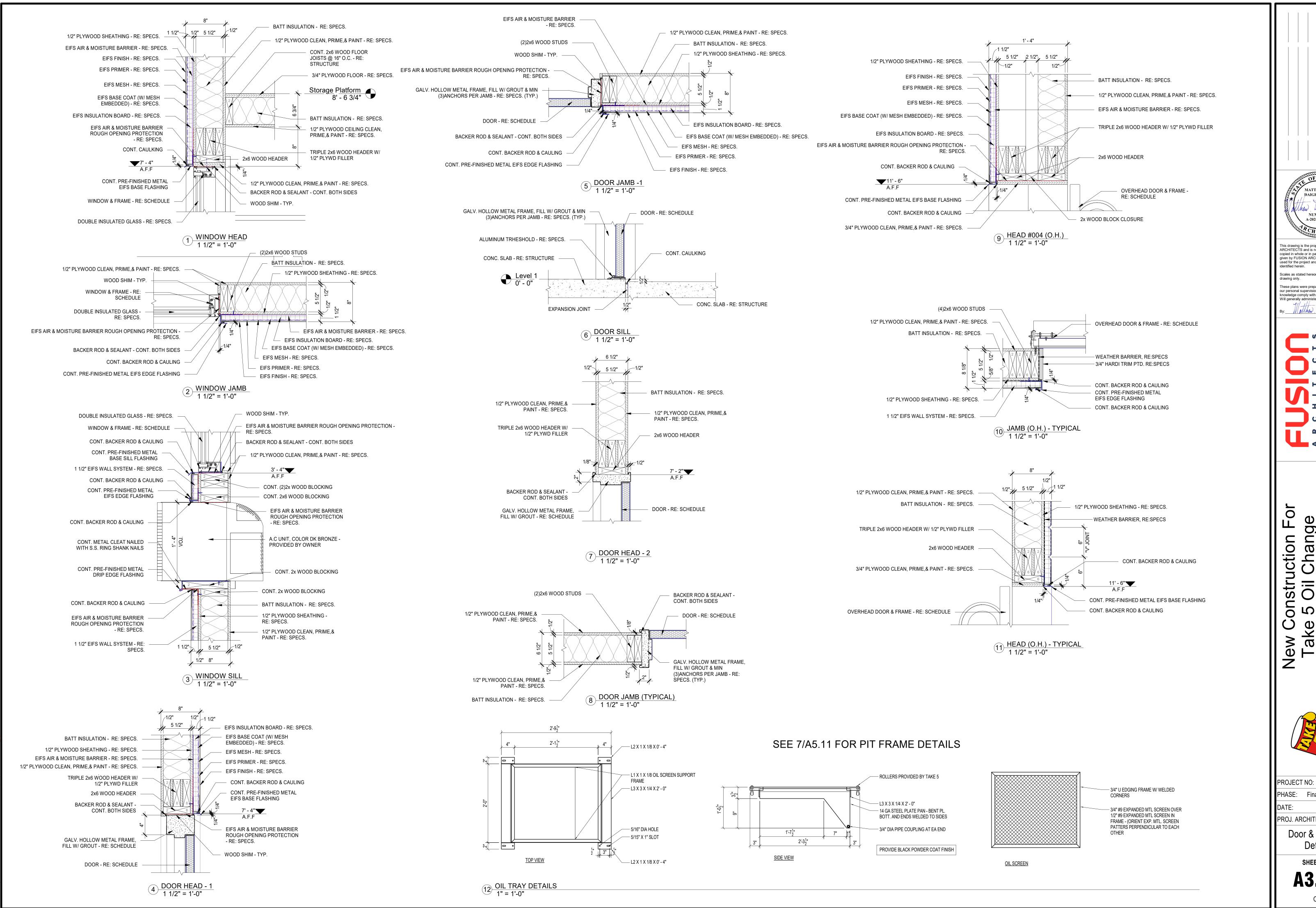
Scales as stated hereon are valid on the original These plans were prepared in this office under our personal supervision, and to the best of our

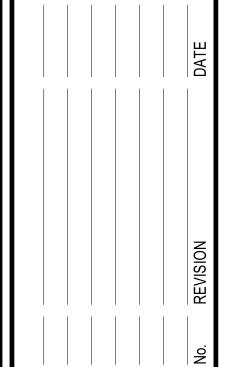
knowledge comply with state and local codes.
Will generally administer construction. Manhew Daggerant

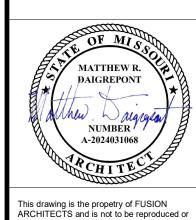
/ Construction For ke 5 Oil Change

400 NE .ee's Sun

New Co Take







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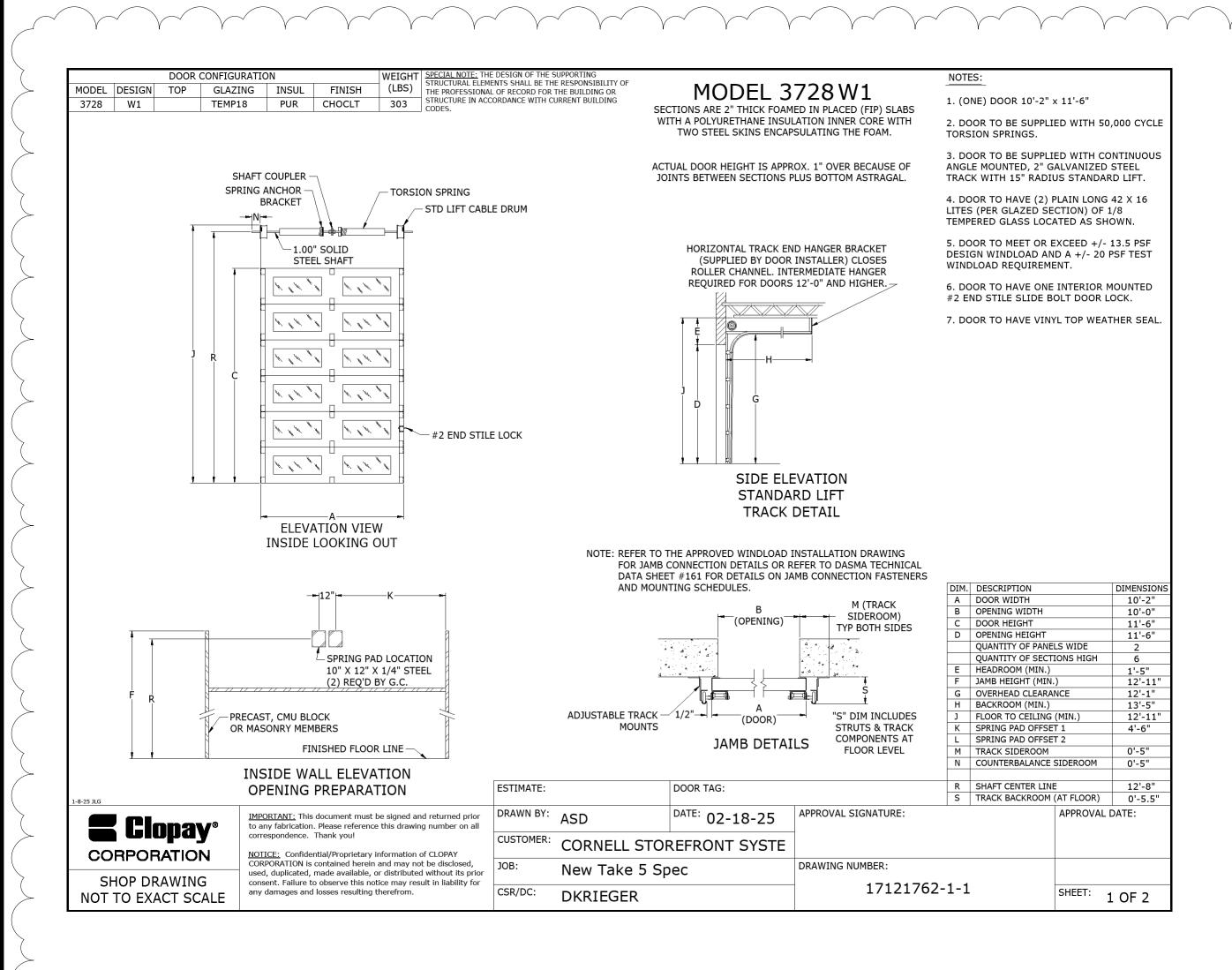
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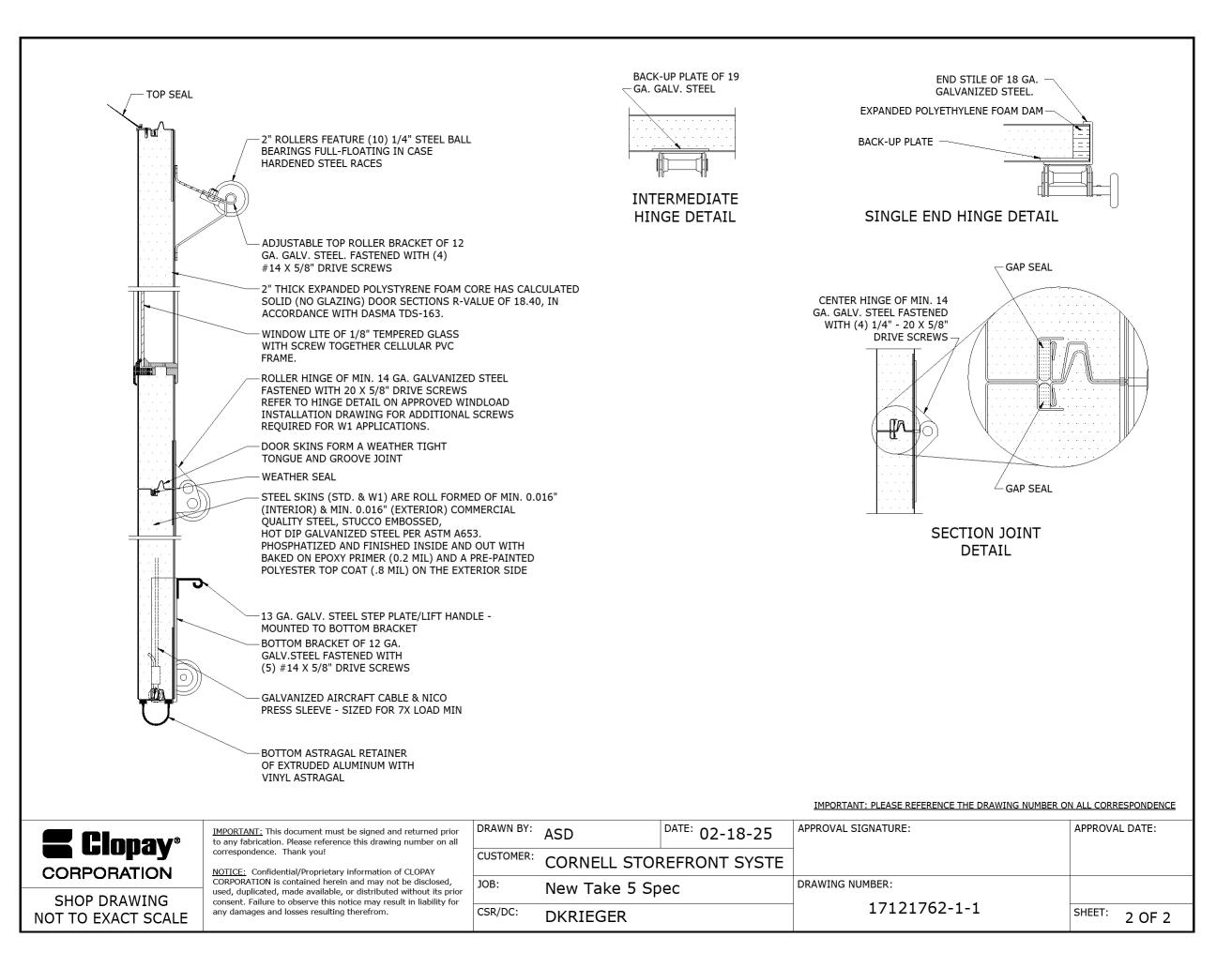
PROJECT NO: 33-006-2 PHASE: Final Dev. Submitta 8 July, 2024

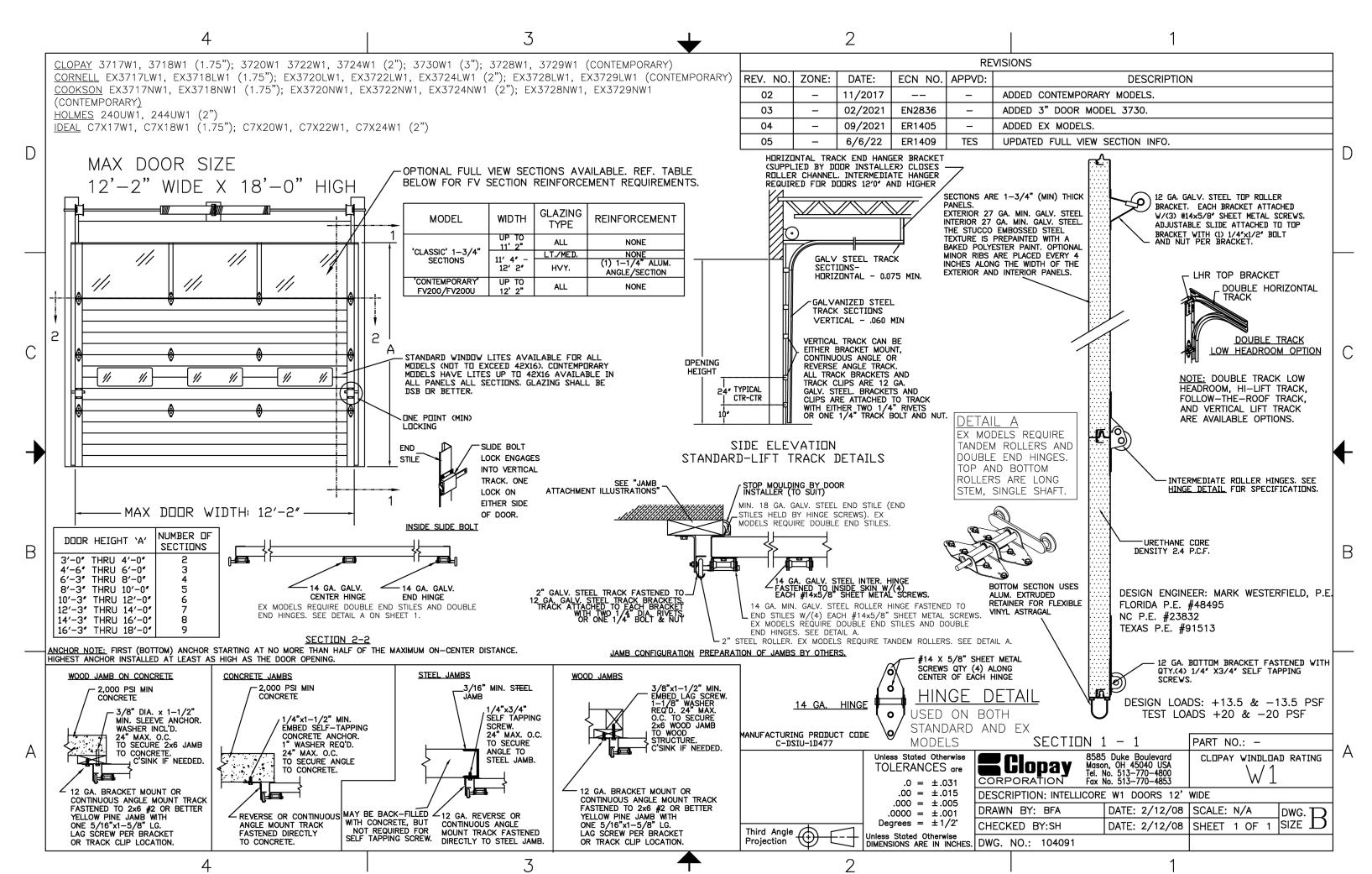
PROJ. ARCHITECT: Door & Window

Details

SHEET NO. **A3.0**1







DOOR SPECIFIED BY CLOPAY TAKE 5 OIL CHANGE NATIONAL ACCOUNT MANUFACTUER REPRESENTATIVE.

MEETS WIND SPEED REQUIREMENTS FOR THIS AREA.

#### **CONTACT INFORMATION**

CHRIS REMICK

PHONE: 614-306-9968 EMAIL: CRemick@clopay.com

<u>NOTE 1</u>:

COST OF DOORS SET BY VENDOR AND TAKE 5



New Construction
Take 5 Oil Chan
400 NE M State Route 291
Lee's Summit, Missouri 64086

ō

D

MATTHEW R.

DAIGREPONT

NUMBER /

A-2024031068

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Manhew, Dagagear

Will generally administer construction.

owledge comply with state and local codes.

used for the project and site specifically

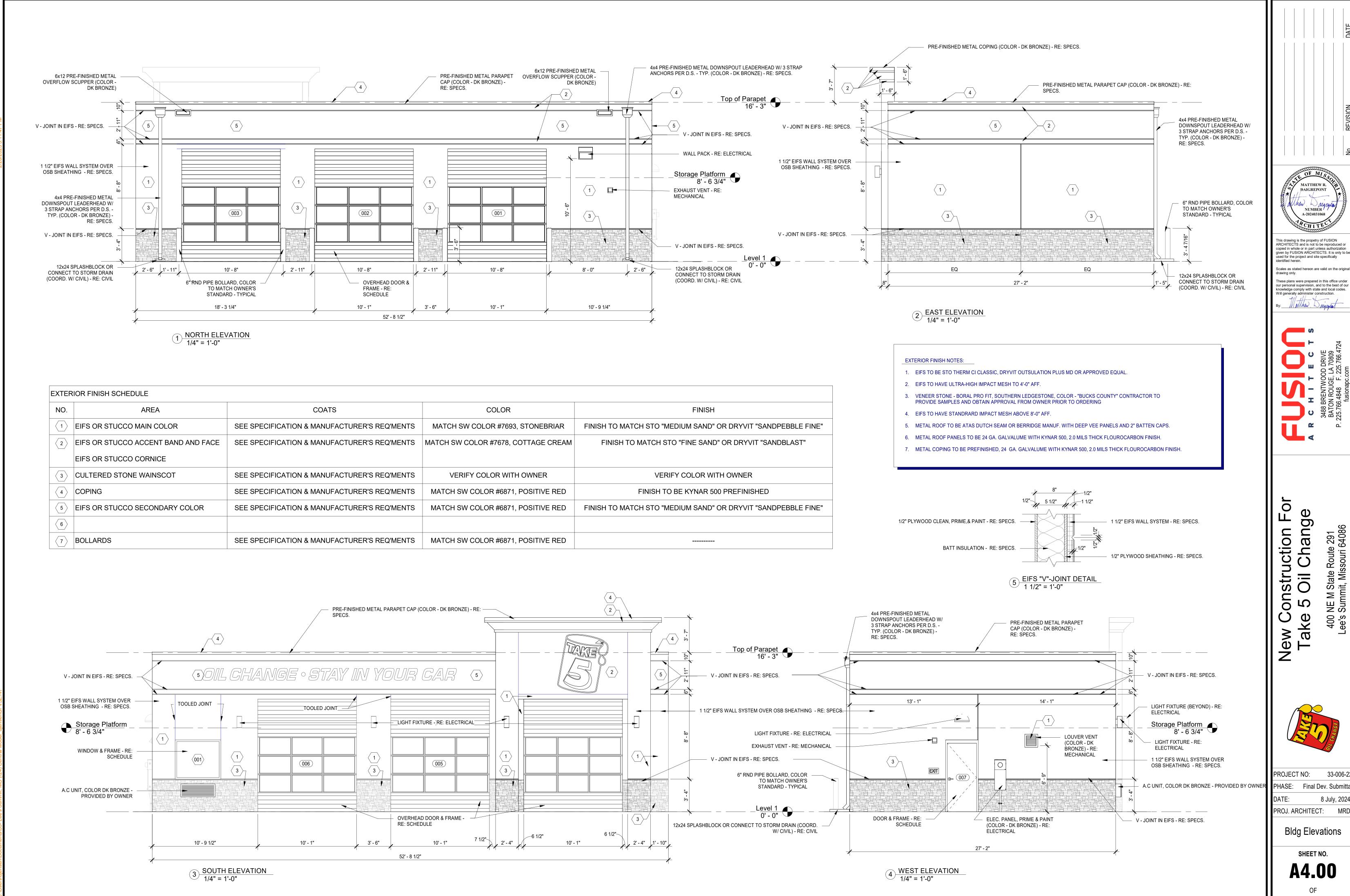
identified herein.



PROJECT NO: 33-006-2
PHASE: Final Dev. Submitta
DATE: 8 July, 2024
PROJ. ARCHITECT: MRD

Overhead Door Details

SHEET NO. **A3.02** 

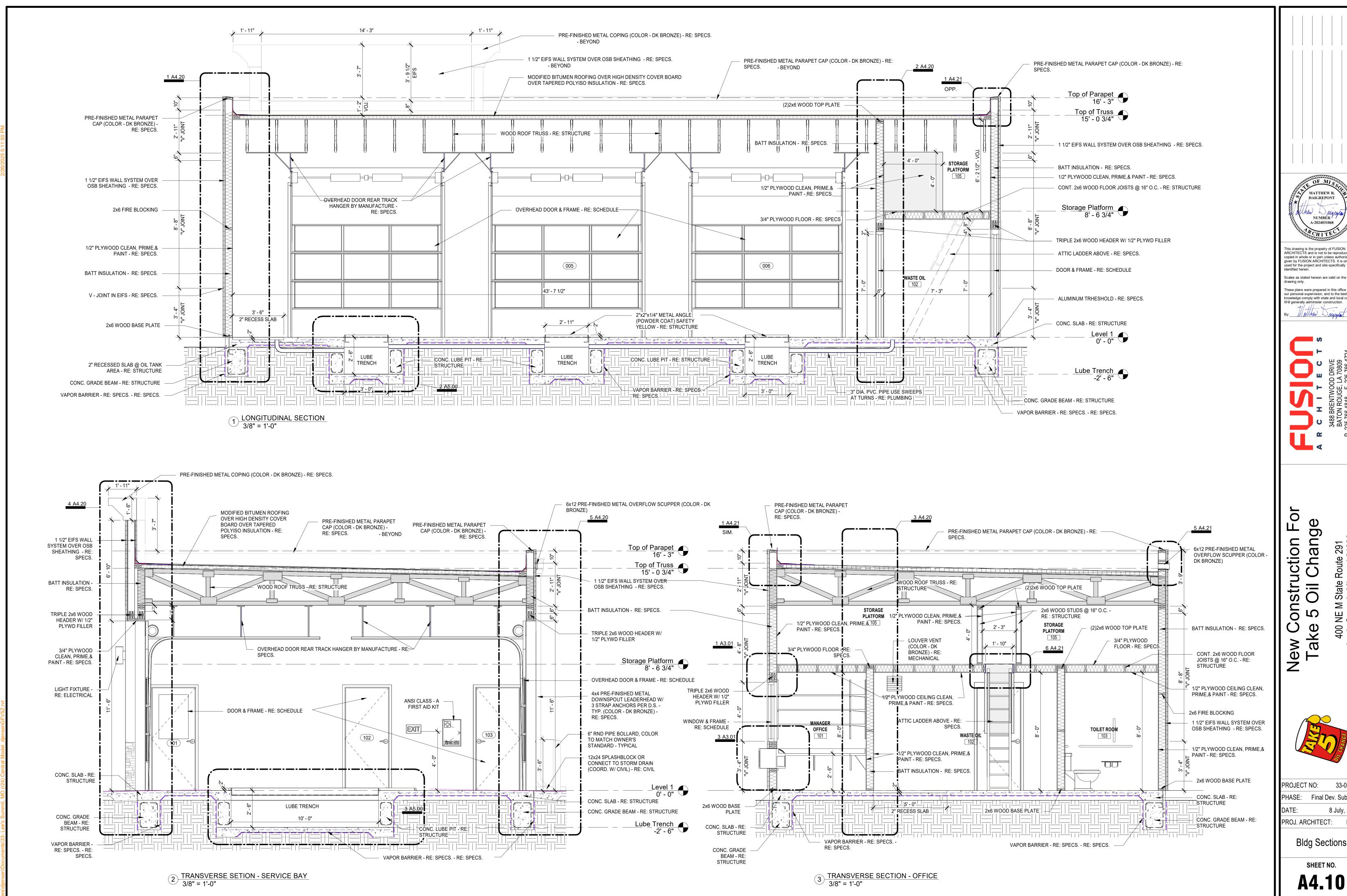


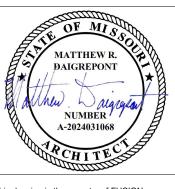
Route 291 ssouri 64086 NE Sun 400 ee's

33-006-22 PHASE: Final Dev. Submitta 8 July, 2024 PROJ. ARCHITECT: MRI

Bldg Elevations

A4.00





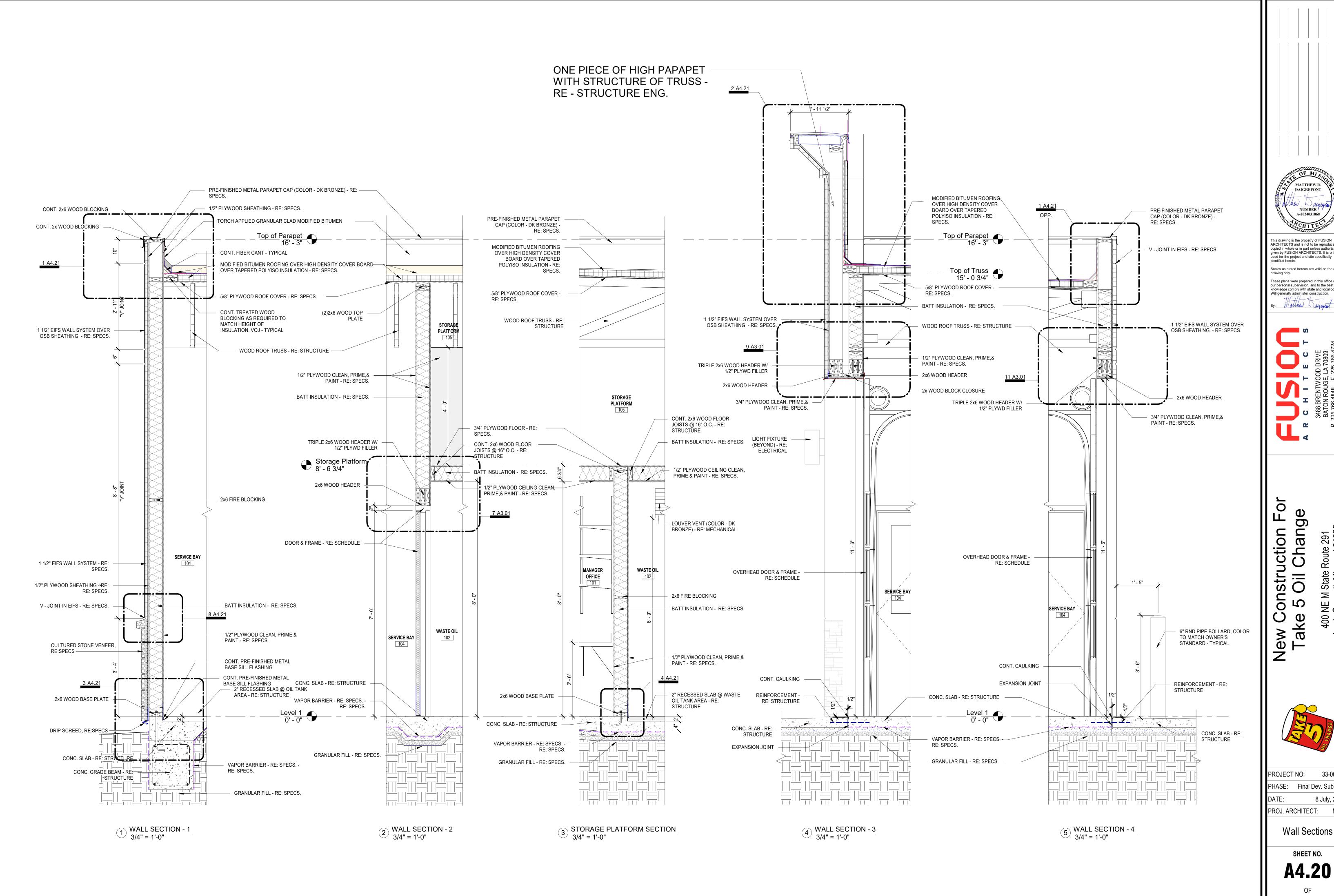
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Will generally administer construction.

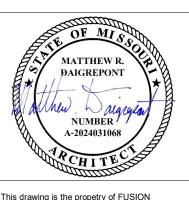
400 ee's



33-006-22 PHASE: Final Dev. Submitta 8 July, 2024 PROJ. ARCHITECT: MRI

Bldg Sections





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Will generally administer construction. Manhew. Dagregear

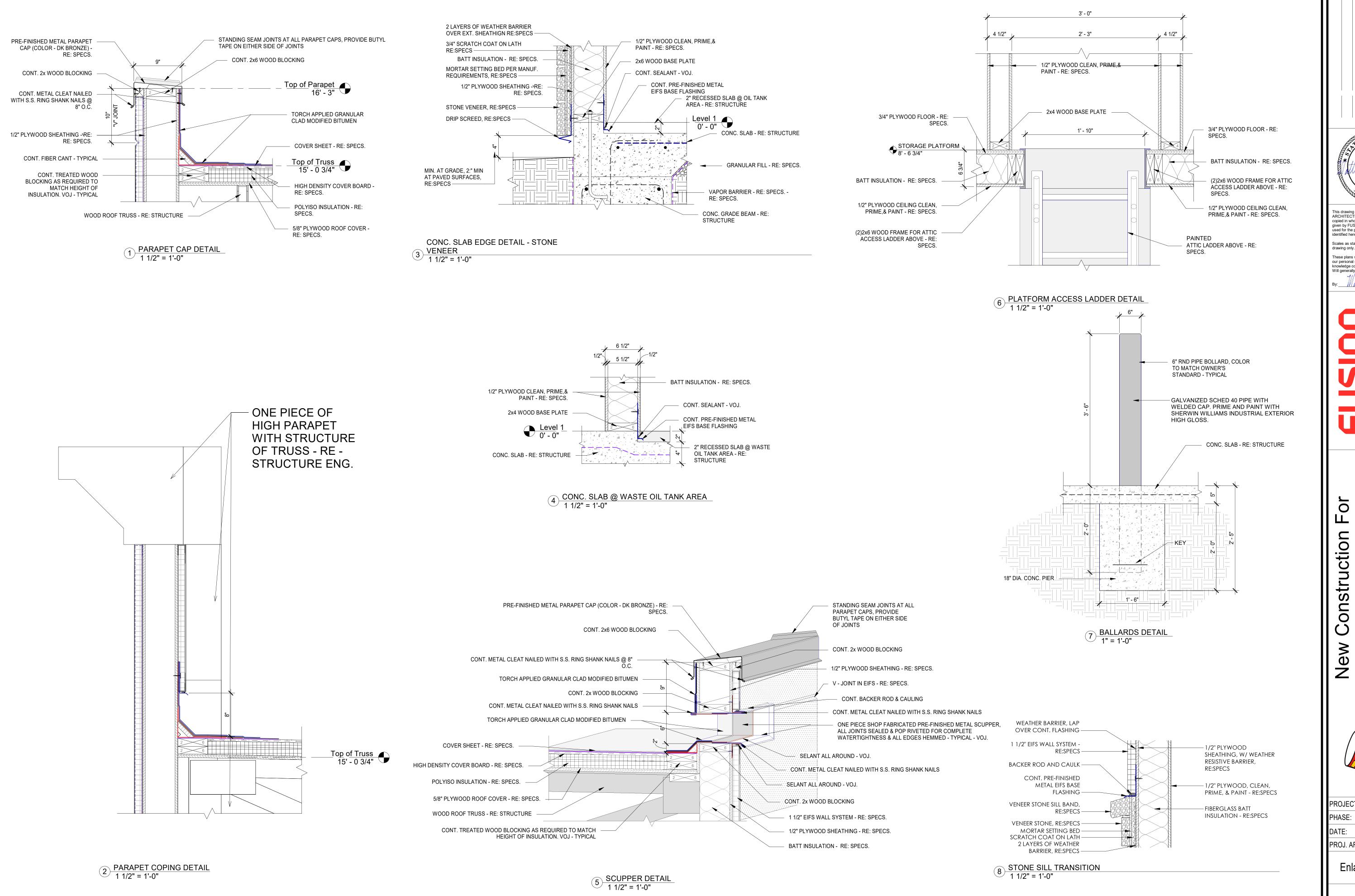


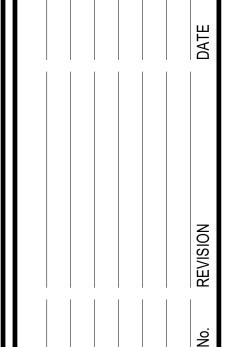
400 ee's



PHASE: Final Dev. Submitta 8 July, 2024 PROJ. ARCHITECT: MRI

Wall Sections





MATTHEW R.
BAIGREPONT

NUMBER
A-2024031068

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C H I T E C T S

3488 BRENTWOOD DRIVE
BATON ROUGE, LA 70809
25.766.4848 F. 225.766.4724

A R C H I
3488 BRENTW
BATON ROUG
P. 225.766.4848

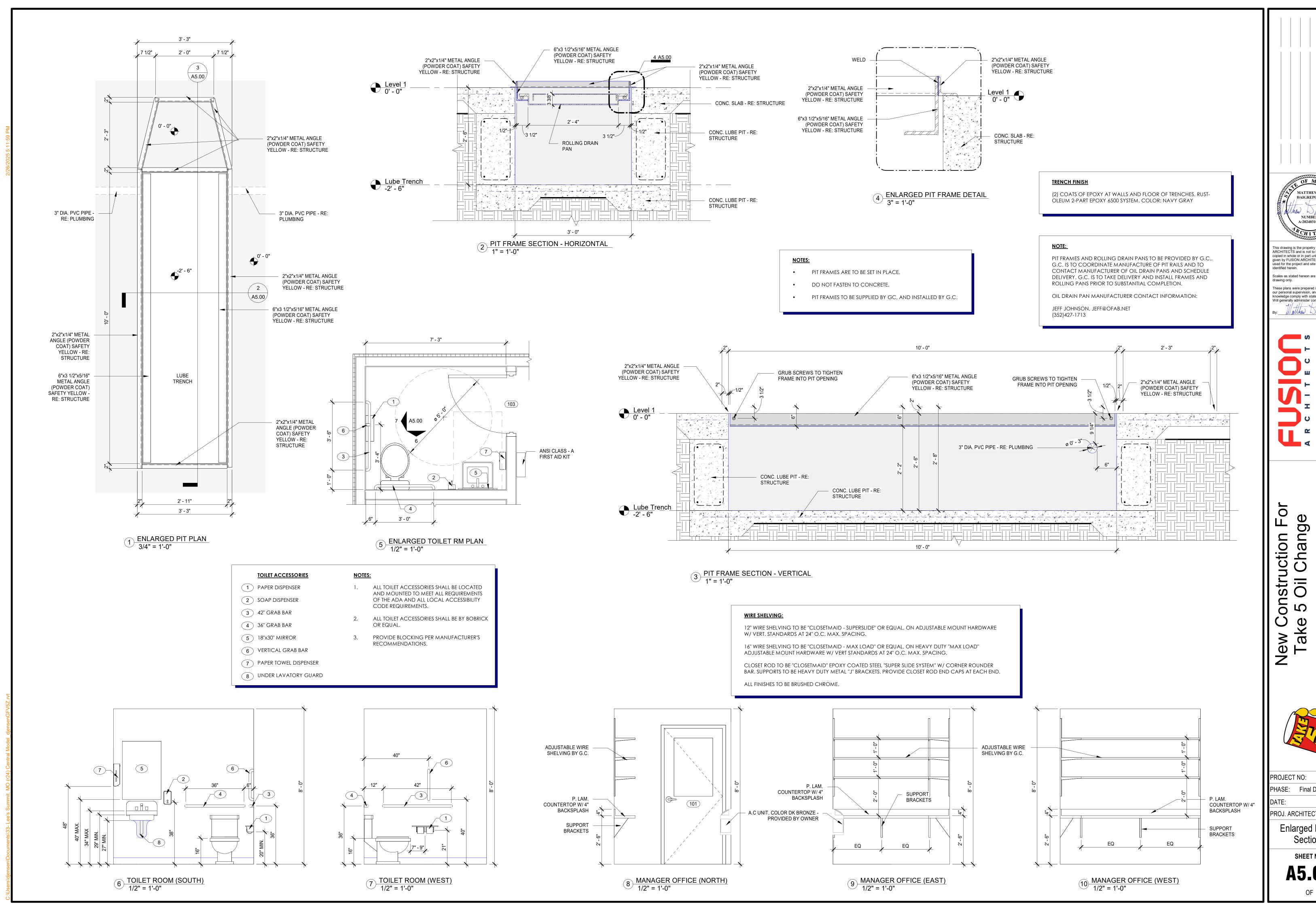
Ke 5 Oil Change
A00 NE M State Route 291
ee's Summit, Missouri 64086

THE STATE OF THE S

PROJECT NO: 33-006-22
PHASE: Final Dev. Submitta
DATE: 8 July, 2024
PROJ. ARCHITECT: MRD

Enlarged Details

SHEET NO. **A4.21** 



MATTHEW R. DAIGREPONT NUMBER / A-2024031068

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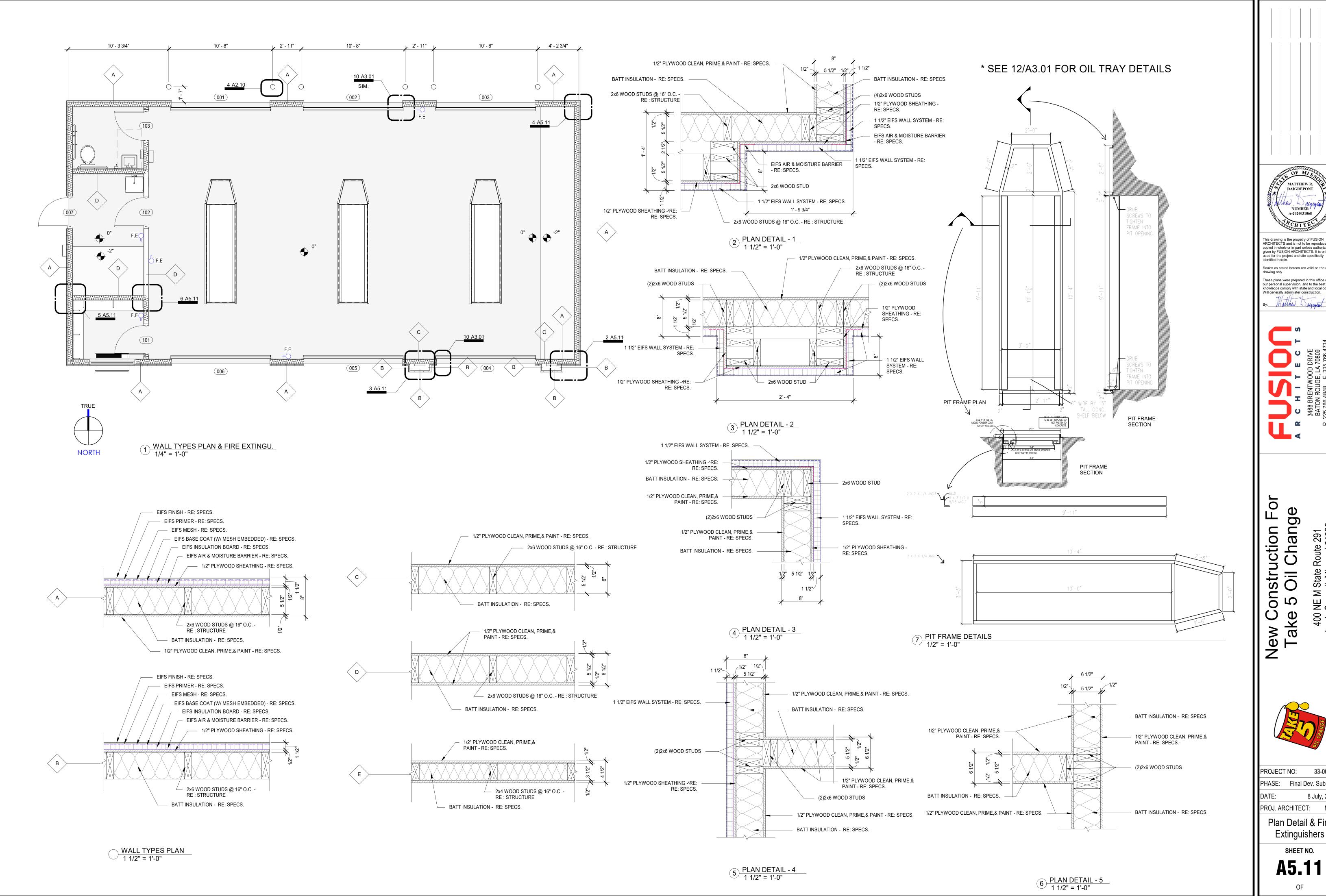
Scales as stated hereon are valid on the original These plans were prepared in this office under our personal supervision, and to the best of our knowledge comply with state and local codes.
Will generally administer construction. Manhew Daggerant

400 ee's

PHASE: Final Dev. Submitta 8 July, 2024 PROJ. ARCHITECT: Enlarged Plan &

Sections SHEET NO.

**A5.00** 





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Will generally administer construction.

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PROJECT NO: 33-006-22 PHASE: Final Dev. Submitta 8 July, 2024 PROJ. ARCHITECT: MRI Plan Detail & Fire

SHEET NO.

**A5.11** 

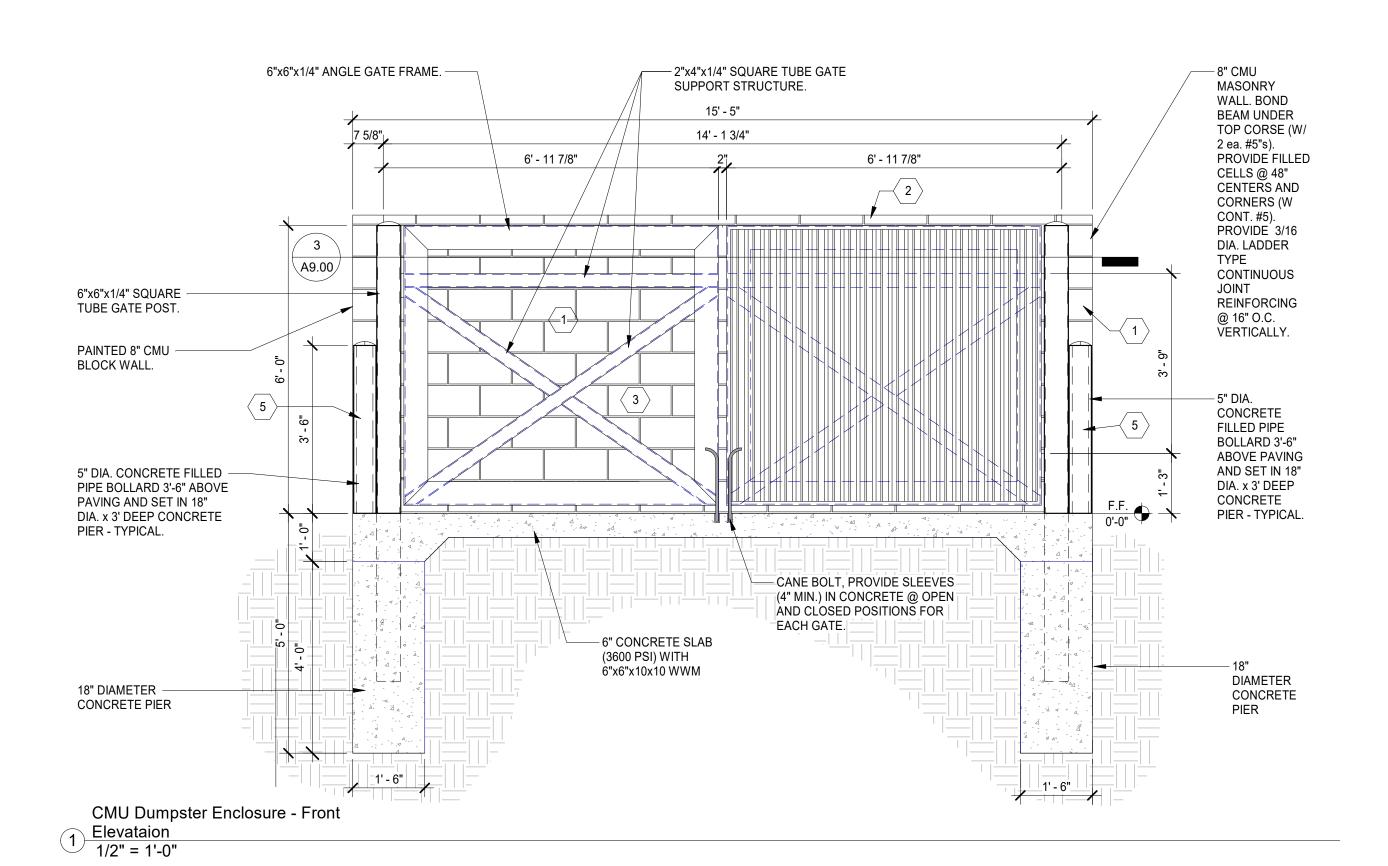
NOTE:

ALL HARDWARE TO BE GALVANIZED UNLESS OTHERWISE NOTED.

ALL STEEL POSTS AND GATE FRAME TO BE PRIMED AND PAINTED WITH 2 COATS EACH. COLOR TO BE DARK BRONZE SW6076.

ALL STEEL MEMBERS TO BE SHOP WELDED. PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION. ALL STEEL TO BE PAINTED DARK BRONZE SW6076.

ALL METAL FRAMING, POST AND HARDWARE TO BE PRIMED AND PAINTED W/ MIN. 1 COAT PRIMER, AND 2 COATS FINISH. PAINT TO BE OIL BASED AND COLOR TO BE DARK BRONZE SW6076.



#### TAKE 5 OIL CHANGE, LLC STORAGE SYSTEM REVIEW

#### SYSTEMS ARE DIVIDED INTO 2 SEPARATE PROCESSES.

AFTER A TAKE 5 TECHNICIAN DIRECTS AND GUIDES THE CUSTOMER OVER A SHALLOW TRENCH THE USED OIL IS DRAINED INTO A ROLLING DRAIN PAN THAT IS POSITIONED UNDER THE VEHICLE. THE OIL FILTER IS ALSO CHANGED ABOVE THE DRAIN PAN. WHEN NECESSARY, THE DRAIN PANS ARE EMPTIED TO DESIGNATED OIL TANKS VIA 3/4" GASOLINE-RATED HOSE, ROUTED THROUGH CHASES TO THE STORAGE ROOM. THE HOSES ARE CONNECTED VIA A VACUUM DIAPHRAGM PUMP, SO THE SYSTEM IS TOTALLY NON-PRESSURIZED. 100% OF TAKE 5'S USED OIL AND OIL FILTERS ARE RECLAIMED AND RECYCLED BY OSHA CERTIFIED USED OIL RECYCLING COMPANIES.

WE STORE NEW BULK OILS IN RHINO GRAVITY FEED SYSTEMS INSIDE THE BAY AREAS. THESE SYSTEMS HAVE NO PUMPS OR PRESSURE, ARE APPROVED BY OSHA AND DOT, AND ARE LOCATED WITHIN A RECESSED AREA WITHIN THE SHOP. TAKE 5 ALSO CARRIES A MINIMUM AMOUNT OF RETAIL BOTTLED OILS FOR SPECIALTY VEHICLES AS NECESSARY.

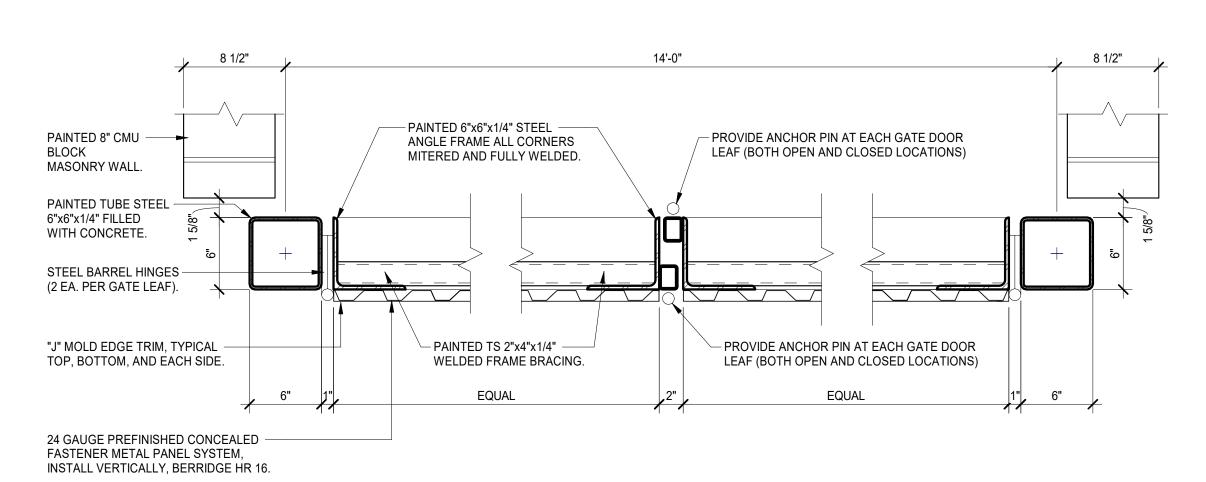
- TYPE OF LIQUIDS BEING STORED ARE CLASS IIIB LUBRICANTS ONLY.
- ALL TANKS ARE ABOVE GROUND, SINGLE WALL. 3 ARE STEEL AND 12 ARE HIGH-DENSITY POLYETHYLENE.
- VOLUME OF TANKS:

(3) WASTE OIL TANKS OF APPROXIMATELY 330 GALLONS EACH

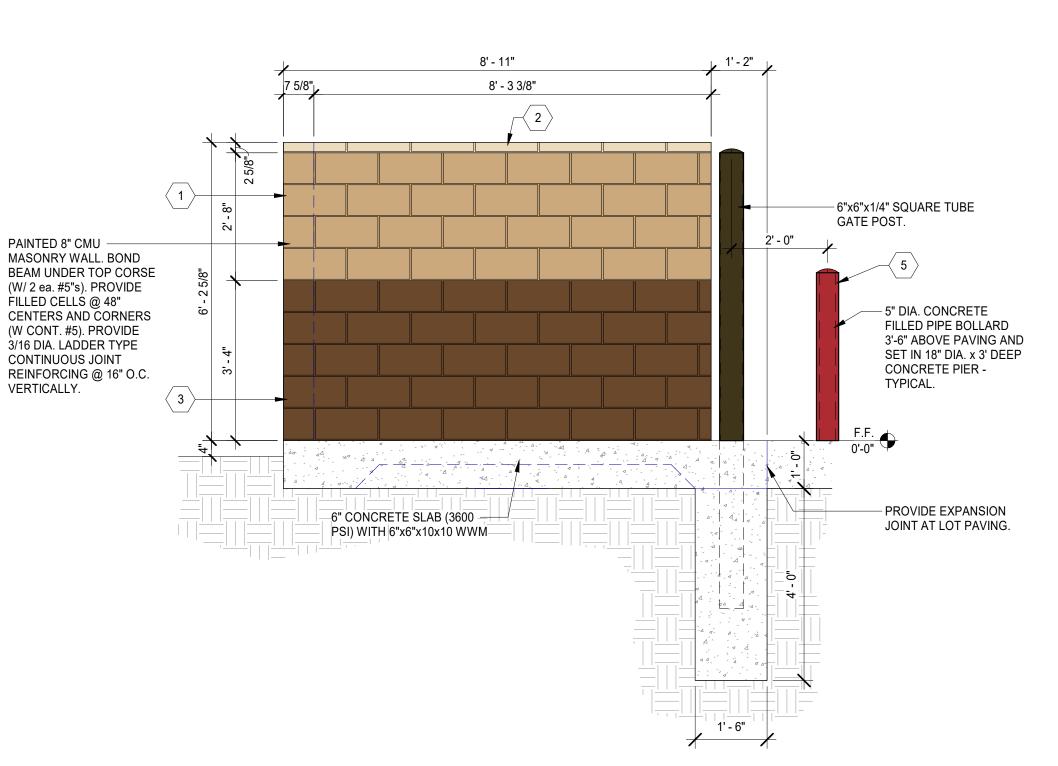
(9) NEW OIL RHINO TANKS OF 120 GALLONS EACH (4) NEW OIL RHINO TANKS OF 220 GALLONS EACH

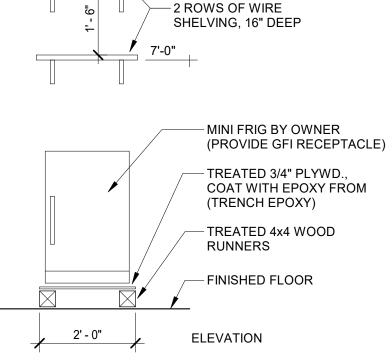
FOR CONTAINMENT - BULK TANKS ARE PLACED WITHIN RECESSED AREAS. THE RECESSED AREAS ARE CONNECTED VIA 3" CHASES TO THE SHALLOW TRENCHES, PROVIDING SECONDARY CONTAMINATION. EACH TRENCH MEASURES 10' X 3' X 30", YIELDING A TOTAL EXTRA VOLUME OF 1,683 GALLONS, IN ADDITION TO THE RECESSED AREAS WHERE THE TANKS ARE LOCATED.

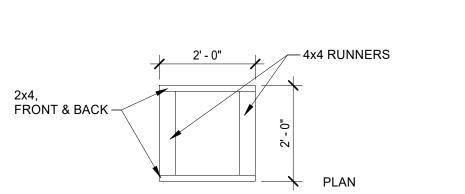
- TAKE 5 DOES NOT INCORPORATE DRAINS IN THEIR SHOP, SHALLOW TRENCH, OR STORAGE AREAS. THE ONLY DRAIN IN A TAKE 5 IS LOCATED IN THE RESTROOM.
- WE MOP OUR FLOORS, RINSING THE MOP IN A MOP SINK THAT IS CONNECTED DIRECTLY TO AN OIL SEPARATOR.
- 6. THE OIL SEPARATOR IS CLEANED/EMPTIED/MAINTAINED BY THE OSHA CERTIFIED RECYCLING COMPANY THAT COLLECTS AND RECYCLES THE USED OIL.
- SOME TANKS ARE PLACED ON SHOP FLOOR BETWEEN BAYS.



# 3 CMU Dumpster Gate Detail 1 1/2" = 1'-0"







4 REFRIGERATOR STAND 1/2" = 1'-0"

2 CMU Dumpster Enclosure - Side Elevation 1/2" = 1'-0"



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PROJECT NO: 33-006-2 PHASE: Final Dev. Submitta 8 July, 2024 PROJ. ARCHITECT: Dumpster Plan &

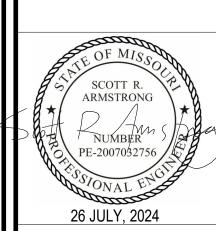
Elevations

SHEET NO. A9.00

# Salas O'Brien

New Orleans 541 Julia St., Suite 200 New Orleans, LA 70130

Registration: F-4111 Project No: 2497-66352-00 CITY COMMENTS 02-2.



R C H I T E C T S

3488 BRENTWOOD DRIVE
BATON ROUGE, LA 70809
P. 225.766.4848 F. 225.766.4724
fusionapc.com

w Construction For ake 5 Oil Change

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PROJECT NO: 2497-66352-0
PHASE: Final Dev. Submitta
DATE: 26 JULY, 2024
PROJ. ENGINEER: BC

STRUCTURAL INFORMATION

SHEET NO.

**SO.10** 

# WOOD FRAMING NOTES

# ALL WOOD FRAMING SHALL BE USED AT 19% MAXIMUM MOISTURE CONTENT AND SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS (ALLOWABLE STRESSES ARE UNFACTORED AND ARE BASED ON THE 2015 NATIONAL DESIGN SPECIFICATION (NDS) PUBLISHED BY THE NATIONAL FOREST PRODUCTS ASSOCIATION):

Fv=175 psi

E=1,400,000 psi

2x4 1100

2x6 1000

#2 SYP

2x BEAMS, HEADERS,

JOISTS, SILL PLATES

			2x8	925
ENGINEERED LUMBER BEAMS	LVL 2.0E	Fb=2,600 psi	2x10	800
LAMINATED VENEER LUMBER (LVL)	LVL 2.UE	Fv=285 psi	2x12	750
		E=2,000,000 psi		
		, , ,		
GLUED LAMINATED TIMBER	24F-V1 (SP/SP)	Fb(+)=2,600 psi		
(GLULAM)		Fb(-)=1,450 psi		
		Fv=210 psi		
		Ft=775 psi		
		Fc_=500 psi		
		E=1,700,000 psi		
BEARING PLATES, LEDGERS	#3 SPY	Fb=650 psi		
		Fv=175 psi		
		Ft=400 psi		
		Fc <sub>⊥</sub> =565 psi E=1,300,000 psi		
		E=1,300,000 psi		
STUDS AND STUD PACKS	STUD	Fb=650 psi		
		Fc=850 psi		
		E=1,200,000 psi		
POST COLUMNS	#2 SYP	Fb=850 psi		
5"x5" AND GREATER		Fc=525 psi		
		E=1,200,000 psi		
ENGINEERED LUMBER COLUMNS PARALLEL STRAND LUMBER (PSL)	PSL 1.8 E	Fb=2,400 psi Fc=2,500 psi		
THE LEEL OF THE WAS LOWDERT (1 OL)		E=1,800,000 psi		

- 2. SILL PLATES AND OTHER WOOD MEMBERS IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED FOR MOISTURE RESISTANCE. ALL WOOD MEMBERS EXPOSED TO WEATHER SHALL BE PRESSURE TREATED FOR MOISTURE RESISTANCE.
- 3. PREFABRICATED WOOD TRUSSES SHALL BE "GANG-NAIL, RAY FAB, OR APPROVED EQUAL AND SHALL BE DESIGNED, DETAILED, AND FABRICATED IN ACCORDANCE WITH THE LATEST EDITION OF THE "NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION" BY THE TRUSS PLATE INSTITUTE AND APPROVED BY THE CITY. WOOD TRUSS SHOP DRAWINGS SHALL INCLUDE FRAMING PLANS SHOWING ALL PREFABRICATED MEMBERS WITH MARK NUMBERS FOR EACH MEMBER TYPE. WOOD TRUSS SHOP DRAWINGS AND CALCULATIONS SHALL BEAR THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER FROM THE STATE OF WHERE THIS PROJECT IS LOCATED AND SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL.
- 4. COMPOSITE WOOD "I-BEAMS" SHALL BE TJI BY WEYERHAEUSER OR EQUIVALENT AND SHALL MEET THE STRENGTH AND STIFFNESS REQUIREMENTS OF THE SPECIES INDICATED ON PLANS.
- 5. ALL BEAMS AND TRUSSES SHALL BE GRADE STAMPED PER W.C.L.B. RULES.
- 6. IF A RIGID CEILING MATERIAL SUCH AS GYPSUM BOARD IS NOT APPLIED DIRECTLY TO THE BOTTOM OF FLOOR OR ROOF FRAMING, PROVIDE THE FOLLOWING BRIDGING: LUMBER FRAMING PROVIDE FULL-DEPTH BLOCKING AT 1/3 POINTS OF SPAN. PRE-ENGINEERED TRUSS FRAMING PROVIDE BOTTOM CHORD BRIDGING PER TRUSS SUPPLIER.
- 7. RIGID CEILING MATERIALS NOT ATTACHED DIRECTLY TO THE BOTTOM OF FLOOR OR ROOF FRAMING
- 8. MEMBERS ARE TO BE SUPPORTED BY CEILING JOISTS AS FOLLOWS: SPANS LESS THAN 10 FT. 2x4 @ 16" O.C. SPANS BETWEEN 10 FT & 16 FT 2x6 @ 16" O.C. SPANS EXCEEDING 16 FT. CONTACT ENGINEER.

# FLOOR AND ROOF FRAMING

- 1. "HANDLING, INSTALLING & BRACING METAL PLATE CONNECTED WOOD TRUSSES" (HIB-91) BY THE TRUSS PLATE INSTITUTE SHALL BE COMPLIED WITH DURING STORAGE AND INSTALLATION OF FLOOR AND ROOF TRUSSES.
- 2. NOTCHES ON THE ENDS OF JOISTS SHALL NOT EXCEED ONE FOURTH OF THE JOIST DEPTH. HOLES BORED IN JOISTS SHALL NOT BE WITHIN 2 INCHES OF THE TOP OR BOTTOM OF THE JOIST, AND THE DIAMETER OF ANY HOLE SHALL NOT EXCEED ONE THIRD OF THE DEPTH OF THE JOIST. NOTCHES IN THE TOP OR BOTTOM OF JOISTS SHALL NOT EXCEED ONE SIXTH OF THE DEPTH AND SHALL NOT BE LOCATED IN THE MIDDLE THIRD OF THE SPAN. THE GENERAL CONTRACTOR SHALL COORDINATE THESE GUIDELINES WITH ALL TRADES.
- 3. HOLES AND NOTCHES IN BEAMS AND HEADERS ARE NOT PERMITTED UNLESS VERIFIED IN WRITING BY THE ENGINEER OF RECORD.
- 4. BEAMS COMPRISED OF TWO OR MORE MEMBERS SHALL BE GLUED AND NAILED TOGETHER WITH A MINIMUM OF TWO (2) ROWS OF 16d NAILS AT 12" O.C. BEAMS COMPRISED OF THREE OR MORE MEMBERS SUPPORTING LOAD THROUGH SIDE HANGERS SHALL BE NAILED PER ABOVE WITH ADDITIONAL 1/2" DIAMETER THRU BOLTS AT 18" O.C. STAGGERED TOP AND BOTTOM.
- 5. SPLICING OF MEMBERS SHALL NOT BE PERMITTED UNLESS SHOWN ON THE PLANS OR VERIFIED IN WRITING BY THE ENGINEER.
- 6. INSTALL MEMBERS TRUE, PLUMB AND LEVEL AND PROVIDE ADEQUATE TEMPORARY BRACING AND SHORING UNTIL FINAL CONNECTIONS ARE MADE.

# WALL FRAMING

- 1. BUILT-UP STUD COLUMNS SHALL BE NAILED TOGETHER WITH 16d NAILS @ 20" O.C. FOR THE FULL STUD HEIGHT. REFER TO PLAN FOR BUILT UP STUD REQUIREMENTS. LOCATIONS OF BUILT UP STUDS MUST BE COORDINATED WITH THE TRUSS LAYOUT PROVIDED BY THE TRUSS SUPPLIER.
- 2. DOUBLE TOP PLATES SHALL LAP A MINIMUM OF FOUR (4) FEET. SPLICES SHALL OCCUR AT CENTER OF SUPPORTING STUD.
- 3. REFERENCE SHEATHING NOTES BELOW AND ARCHITECTURAL DRAWINGS FOR SHEATHING TYPE AND NAILING REQUIREMENTS.
- 4. INSTALL CORNER BRACING IN ACCORDANCE WITH BUILDING CODE REQUIREMENTS AT OR ADJACENT TO EVERY EXTERIOR CORNER.
- BORED HOLES IN 2x4 STUDS SHALL NOT EXCEED 1-3/8" FOR LOAD-BEARING WALLS AND 2-1/8" FOR NON-LOAD-BEARING WALLS. BORED HOLES IN 2x6 STUDS SHALL NOT EXCEED 2-1/8" FOR LOAD-BEARING WALLS AND 3-1/4" FOR NON-LOAD-BEARING WALLS. IN NO CASE SHALL THE BORED HOLE BE NEARER THAN 5/8" OF THE EDGE OF THE STUD
- 6. THE GENERAL CONTRACTOR SHALL VERIFY AND COORDINATE ALL CONDITIONS, DIMENSIONS, AND ELEVATIONS PRIOR TO ANY CONSTRUCTION OR FABRICATION OF MATERIALS.

#### **CONNECTORS**

TRUSS TO TRUSS AND TRUSS HANGER CONNECTIONS ARE THE RESPONSIBILITY OF THE TRUSS MANUFACTURER.

THE GOVERNING BUILDING CODE FOR THE APPLICATION INDICATED.

- NAILS, SPIKES, STAPLES, BOLTS, NUTS WASHERS, ETC. SHALL BE GALVANIZED FOR EXTERIOR OR TREATED WOOD LOCATIONS; PLAIN FINISH FOR INTERIOR LOCATIONS.
- 3. FRAMING CONNECTORS SHALL BE SIMPSON "STRONG-TIE" OR APPROVED EQUAL AND SHALL BE APPROVED BY

SILL PLATES AT THE BUILDING EXTERIOR SHALL BE FASTENED TO THE FOUNDATION WITH 1/2" DIAMETER F1554-36 ANCHOR BOLTS WITH 7" MIN. EMBED. AND 1" HOOK @ 32" O.C. (MIN. TWO BOLTS PER SILL). INTERIOR SILL PLATES (EXCLUDING SHEAR WALLS) SHALL BE ANCHORED WITH 1/2" DIAMETER F1554-36 ANCHOR BOLTS @ 48" O.C. OR POWDER ACTUATED FASTENERS: HILTI X-C P8S/SIMPSON STRONG-TIE PDPAWL-287 @ 16" O.C. MAX. REFER TO SHEAR WALL SCHEDULE FOR ANCHORS AT SHEAR WALLS.

#### SHEATHING AND DECKING

- 1. FLOOR DECKING TO BE NOMINAL 3/4" APA RATED EXPOSURE 1 SHEATHING WITH PANEL INDEX 48/24, NAILED WITH 8d NAILS @ 6" O.C. AT ALL EDGE SUPPORTS AND 8d NAILS @ 12" O.C. AT ALL INTERMEDIATE SUPPORTS. PROVIDE STANDARD EDGE CLIPS AT MID-SPAN BETWEEN ALL SUPPORTS.
- 2. ROOF DECKING TO BE NOMINAL 5/8" APA RATED EXPOSURE 1 OSB SHEATHING WITH PANEL INDEX 24/0, NAILED WITH 10d NAILS @ 6" O.C. AT ALL EDGE SUPPORTS AND 10d NAILS @ 12" O.C. AT ALL INTERMEDIATE SUPPORTS. PROVIDE STANDARD EDGE CLIPS AT MID-SPAN BETWEEN ALL SUPPORTS.
- 3. EXTERIOR WALL SHEATHING TO BE 1/2" OSB SHEATHING. INSTALLED W/ LONG DIMENSION HORIZONTAL OR VERTICAL, ATTACHED W/ 10d NAILS @ 6" O.C. AT ALL PANEL EDGES AND @ 6" O.C. AT INTERMEDIATE SUPPORTS.
- 4. INTERIOR WALL SHEATHING SHALL BE GYPSUM WALLBOARD AS SPECIFIED BY THE ARCHITECT.

# STANDARD FASTENING SCHEDULE

	CONNECTION; LOCATION	FASTENING
1.	JOIST TO SILL OR GIRDER; TOENAIL	3-80
2.	BRIDGING TO JOIST; TOENAIL EACH END	2-80
3.	1" x 6" SUBFLOOR OR LESS TO EACH JOIST; FACE NAIL	2-80
4.	WIDER THAN 1" x 6" SUBFLOOR TO EACH JOIST; FACE NAI	L 3-80
5.	2" SUBFLOOR TO JOIST OR GIRDER; BLIND AND FACE NAI	L 2-160
6.	SOLE PLATE TO JOIST OR BLOCKING; TYPICAL FACE NAIL	16d @16" O.C
	SOLE PLATE TO JOIST OR BLOCKING AT BRACED	3-16d PER 16
	WALL PANEL; BRACED WALL PANELS	
7.	TOP PLATE TO STUD; END NAIL	2-160
8.	STUD TO SOLE PLATE 4-8	Bd TOENAIL OR 2-16d END NAII
9.	DOUBLE STUDS; FACE NAIL	16d @ 24" O.C
10.	DOUBLE TOP PLATES; TYPICAL FACE NAIL	16d @ 16" O.C
	DOUBLE TOP PLATES; LAP SPLICE	8-160
11.	BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE:	; TOENAIL 3-80
12.	RIM JOIST TO TOP PLATE; TOENAIL	8d @ 6" O.C
13.	TOP PLATES, LAPS AND INTERSECTIONS; FACE NAIL	2-160
14.	CONTINUOUS HEADER, TWO PIECES; ALONG EDGE	16" O.C
15.	CEILING JOISTS TO PLATE; TOENAIL	3-80
16.	CONTINUOUS HEADER TO STUD; TOENAIL	4-80
17.	CEILING JOISTS, LAPS OVER PARTITIONS; FACE NAIL	3-160
18.	CEILING JOISTS TO PARALLEL RAFTERS; FACE NAIL	3-160
19.	RAFTER TO PLATE; TOENAIL	3-80
20.	1" DIAGONAL BRACE TO EACH STUD AND PLATE; FACE NA	
21.	1" x 8" SHEATHING TO EACH BEARING WALL; FACE NAIL	2-80
22.	WIDER THAN 1" x 8" SHEATHING TO EACH BEARING; FACE	
23.	BUILT-UP CORNER STUDS	24" O.C
24.	BUILT-UP GIRDER AND BEAMS; FACE NAIL	20d @ 32" O.C. TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES 2-20d AT ENDS AND AT EACH SPLICE
25	OF DEANIVE. AT EACH DEADING	
25.	2" PLANKS; AT EACH BEARING	160
26.	COLLAR TIE TO RAFTER; FACE NAIL	3-100
27.		d TOENAIL OR 2-16d FACE NAI
28.		d TOENAIL OR 2-16d FACE NAI
29.	JOIST TO BAND JOIST; FACE NAIL	3-16
30.	LEDGER STRIP; FACE NAIL	3-160
31.	WOOD STRUCTURAL PANELS AND PARTICLE BOARD:	10).
	SUBFLOOR, ROOF AND WALL SHEATHING (TO FRAMIN	,
	1/2" AND LESS	6d <sup>c</sup>
	19/32" TO 3/4"	8d <sup>d</sup> OR 6d
	7/8" TO 1"	10dd OR 2d
	1-1/8" TO 1-1/4"	10dd OR 8d
	SINGLE FLOOR (COMBINATION SUBFLOOR-UNDERLAY	*
	3/4" AND LESS	<b>6</b> d
	7/0   TO 4	•
	7/8" TO 1"	
00	1-1/8" TO 1-1/4"	
32.	1-1/8" TO 1-1/4" PANEL SIDING (TO FRAMING)	10d <sup>d</sup> OR 8d
32.	1-1/8" TO 1-1/4"  PANEL SIDING (TO FRAMING)  1/2"	10d <sup>d</sup> OR 8d
	1-1/8" TO 1-1/4"  PANEL SIDING (TO FRAMING)  1/2"  5/8"	10d <sup>d</sup> OR 8d
32.	1-1/8" TO 1-1/4"  PANEL SIDING (TO FRAMING)  1/2"  5/8"  FIBERBOARD SHEATHING:9	10d <sup>d</sup> OR 8d 6d 8d
	1-1/8" TO 1-1/4"  PANEL SIDING (TO FRAMING)  1/2"  5/8"  FIBERBOARD SHEATHING:9  1/2"  NO	10d <sup>d</sup> OR 8d 6d 8d 0. 11 GA. ROOFING NAIL <sup>h</sup> OR 6d
33.	1-1/8" TO 1-1/4"  PANEL SIDING (TO FRAMING)  1/2"  5/8"  FIBERBOARD SHEATHING:9  1/2"  NC  25/32"  NO	8d 10dd OR 8d 6c 8c  2. 11 GA. ROOFING NAIL <sup>h</sup> OR 6d 2. 11 GA. ROOFING NAIL <sup>h</sup> OR 8d
	1-1/8" TO 1-1/4"  PANEL SIDING (TO FRAMING)  1/2"  5/8"  FIBERBOARD SHEATHING:9  1/2"  NC  25/32"  INTERIOR PANELING	10dd OR 8d 6c 8c 0. 11 GA. ROOFING NAIL <sup>h</sup> OR 6d 0. 11 GA. ROOFING NAIL <sup>h</sup> OR 8d
33.	1-1/8" TO 1-1/4"  PANEL SIDING (TO FRAMING)  1/2"  5/8"  FIBERBOARD SHEATHING:9  1/2"  NC  25/32"  NO	10d <sup>d</sup> OR 8d 6d 8d 0. 11 GA. ROOFING NAIL <sup>h</sup> OR 6d

a. COMMON OR BOX NAILS ARE PERMITTED TO BE USED EXCEPT WHERE OTHERWISE STATED. REFER TO GOVERNING BUILDING CODE FOR ALLOWABLE STAPLE FASTENING ALTERNATIVES.

b. NAILS SPACED AT 6" O.C. AT EDGES, 12" O.C. AT INTERMEDIATE SUPPORTS EXCEPT 6" AT SUPPORTS WHERE SPANS ARE 48" OR MORE. FOR NAILING OF WOOD STRUCTURAL PANEL AND PARTICLE BOARD DIAPHRAGMS AND SHEAR WALLS, REFER TO SHEARWALL NOTES. NAILS FOR WALL SHEATHING ARE PERMITTED TO BE COMMON, BOX OR CASING.

- c. COMMON OR DEFORMED SHANK
- d. COMMON.
- e. DEFORMED SHANK.
- CORROSION-RESISTANT SIDING OR CASING NAIL.
- FASTENERS SPACED 3" O.C. AT EXTERIOR EDGES AND 6" O.C. AT INTERMEDIATE SUPPORTS.
- CORROSION-RESISTANT ROOFING NAILS WITH 7/16" DIAMETER HEAD AND 1-1/2" LENGTH FOR 1/2" SHEATHING AND 1-3/4" LENGTH FOR 25/32" SHEATHING.
- CASING OR FINISH NAILS SPACED 6" ON PANEL EDGES, 12" AT INTERMEDIATE SUPPORTS.
- j. PANEL SUPPORTS AT 24". CASING OR FINISH NAILS SPACED 6" ON PANEL EDGES, 12" AT INTERMEDIATE SUPPORTS.
- k. FOR ROOF SHEATHING APPLICATIONS, 8d NAILS ARE THE MINIMUM REQUIRED FOR STRUCTURAL PANELS.

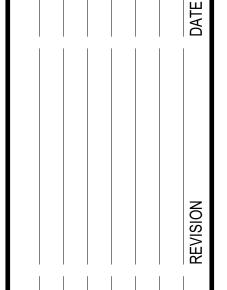
#### WOOD SHRINKAGE CONSIDERATIONS

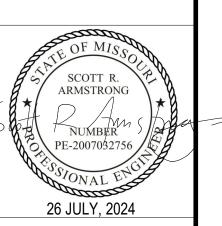
- WOOD PLATE SHRINKAGE IS TO BE 1/8" PER STORY, TYPICAL.
- ACCOUNT FOR ADDITIONAL 1/8" SETTLEMENT PER STORY ON FRAMING GAPS DUE TO CREEP AND GRAVITY LOADING.
- 3. 4-STORY BUILDINGS ARE ESTIMATED TO SETTLE UP TO 3/4" AT THE UPPERMOST LEVEL.
- ROUGH OPENING HEIGHTS SHALL BE OVERSIZED TO ACCOUNT FOR THE ESTIMATED SETTLEMENT STATED ABOVE.

Salas O'Brien.

New Orleans 541 Julia St., Suite 200 New Orleans, LA 70130

Registration: F-4111 Project No: 2497-66352-00







New Construction For Take 5 Oil Change



PROJECT NO: 2497-66352-00
PHASE: Final Dev. Submitta
DATE: 26 JULY, 2024
PROJ. ENGINEER: BC

STRUCTURAL INFORMATION

SHEET NO.

ΩF

Project No: 2497-66352-00

TRUSS LOADING SCHEDULE TCLL (PSF) BCLL (PSF) TCDL (PSF) BCDL (PSF) NOTES DESIGNATION DEPTH TOPPING 20 0 12 10 1, 2 & 3 REF. ARCH. ROOF ASSEMBLY OVER ROOF SHEATHING

1. SELF WT OF TRUSS IS NOT INCLUDED.

2. TOP CHORD SLOPING TO PROVIDE POSITIVE DRAINAGE, REF. ARCH.

3. REFER TO STRUCTURAL NOTES FOR SUBFLOOR & ROOF SHEATHING INFORMATION.

5 TRUSS SCHEDULE

SHEARWALL SCHEDULE						
I FVFI	EXTERIOR WALL	INTERIOR WALL				
	SHEATHING	SHEATHING				
1	SW5	SW4				

1. ALL SHEARWALL DESIGNATION APPLY TO EACH LOCATION UNLESS NOTED OTHERWISE ON PLAN. 2. REFER TO WOOD SHEARWALL SHEATHING AND ATTACHMENT SCHEDULE BELOW FOR MORE INFORMATION ON EACH SHEARWALL

TYPE.
3. \*\* DENOTES SHEATHING REQUIRED ON BOTH SIDES OF SHEARWALL.

4. EXTERIOR WALL SHALL RECEIVE SHEATHING ON EXTERIOR SIDE OF THE WALL U.N.O.

5. DEMISING WALL SHALL RECEIVE SHEATHING ON UNIT SIDE OF THE WALL U.N.O. 6. CORRIDOR WALL SHALL RECEIVE SHEATHING ON CORRIDOR SIDE OF THE WALL U.N.O.

	WOOD SHEARWALL SHEATHING AND ATTACHMENT SCHEDULE			
SW #	DESCRIPTION	SILL NAILING	SILL ANCHORS	TRUSS BLOCK SPACING
SW1	5/8" GYPSUM WALLBOARD UNBLOCKED AND FASTENED WITH WALLBOARD 6d NAILS @ 7" O.C. AT ALL PANEL EDGES.	16d @ 16" O.C.	X-CP 72 P8 S23 @ 24" O.C.	EVERY 4TH TRUSS SPACE OR 8'-0" O.C.
SW2	5/8" GYPSUM WALLBOARD UNBLOCKED AND FASTENED WITH WALLBOARD 6d NAILS @ 4" O.C. AT ALL PANEL EDGES	16d @ 12" O.C.	X-CP 72 P8 S23 @ 16" O.C.	EVERY 3RD TRUSS SPACE OR 6'-0" O.C.
SW3	5/8" GYPSUM WALLBOARD BLOCKED AND FASTENED WITH WALLBOARD 6d NAILS @ 4" O.C. AT ALL PANEL EDGES.	16d @ 10" O.C.	X-CP 72 P8 S23 @ 16" O.C.	EVERY 3RD TRUSS SPACE OR 6'-0" O.C.
SW4	5/8" GYPSUM SHEATHING BLOCKED AND FASTENED WITH WALLBOARD 6d NAILS @ 4" O.C. AT EDGES AND @ 7" O.C. AT INTERMEDIATE SUPPORTS.	2-16d @ 18" O.C.	X-CP 72 P8 S23 @ 12" O.C.	EVERY OTHER TRUSS SPACE OR 4'-0" O.C.
SW5	15/32" WOOD STRUCTURAL PANEL SHEATHING BLOCKED AND FASTENED WITH 8d NAILS @ 6" O.C AT ALL PANEL EDGES.	2-16d @ 10" O.C.	1/2" F1554-36 @ 48" O.C.	EVERY TRUSS SPACE
SW6	15/32" WOOD STRUCTURAL PANEL SHEATHING BLOCKED AND FASTENED WITH 10d NAILS @ 6" O.C AT ALL PANEL EDGES.	2-16d @ 8" O.C.	1/2" F1554-36 @ 36" O.C.	EVERY TRUSS SPACE
SW7	15/32" WOOD STRUCTURAL PANEL SHEATHING BLOCKED AND FASTENED WITH 10d NAILS @ 4" O.C AT ALL PANEL EDGES.	2-16d @ 4" O.C.	1/2" F1554-36 @ 24" O.C.	EVERY TRUSS SPACE(6)

1. ALL THE SHEARWALL TYPES ARE NOT USED, IF THEY ARE NOT MARKED ON SHEARWALL SCHEDULE OR ON PLANS.

2. "BLOCKED" SHEAR WALLS SHALL INCLUDE 2x BLOCKING AT ALL PANEL EDGES.

3. INTERMEDIATE SUPPORTS TO BE FASTENED @ 12" O.C. U.N.O.

4. STRUCTURAL PANELS ARE TO BE GRADE STRUCTRUAL 1. 5. THE X-CP 72 P8 S23 ARE HILTI POWDER ACTUATED FASTENERS WITH INTEGRAL WASHERS.

6. TRUSS BLOCK CAPACITY SHALL BE 1500 LBS

LOAD BEARING STUD SCHEDULE								
LEVEL	EXTERIOR WALL	INTERIOR WALL						
1	**2x6 @ 16" O.C.	**2x6 @ 16"O.C.						
NOTEO								

1. ALL EXTERIOR AND CORRIDOR WALLS ARE CONSIDERED TO BE LOAD BEARING WALLS.

2. REFER TO SHEET S0.12 FOR STUD SPECIES.

3. BALLOON FRAMED WALLS SHALL BE 2x6 @ 12" O.C. 4. NON LOAD BEARING WALLS SHALL BE 2Xs @ 16" O.C. MINIMUM.

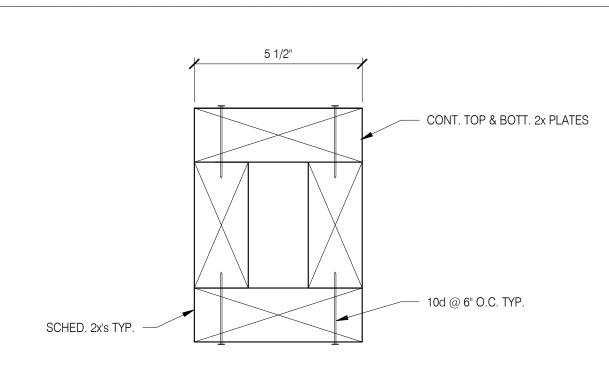
5. EXITWAYS ENCLOSES CORRIDORS WIDER THAN 8 FT INCLUDING BOTH ELEVATOR LOBBY & CORRIDORS LEADING TO STAIRS.

3 STUD SCHEDULE

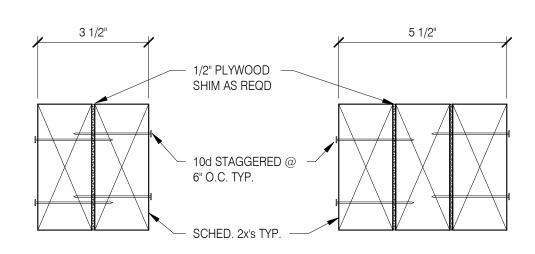
	HOLDDOWN AND TENSION TIE SCHEDULE									
MARK	PRODUCT	FASTENERS	ANCHOR	STUDPACK MIN. THICKNESS	ALLOWABLE CAPACITY1					
1	CS20	(14) 0.148x2 1/2 NAILS	N/A	(1) - 2x4	1030					
2	CS16	(22) 0.148x2 1/2 NAILS	N/A	(1) - 2x4	1705					
3	CS14	(30) 0.148x2 1/2 NAILS	N/A	(1) - 2x4	2490					
4	CMST14	(36) 0.148x2 1/2 NAILS	N/A	(2) - 2x4	3531					
5	CMST14	(56) 0.148x2 1/2 NAILS	N/A	(2) - 2x4	5494					
6	CMST14	(66) 0.148x2 1/2 NAILS	N/A	(2) - 2x4	6475					
7	LTTP2	(12) 0.148x2 1/2 NAILS	1/2"	(2) - 2x4	2230					
8	HTT4	(18) 0.148x2 1/2 NAILS	5/8"	(2) - 2x4	3610					
9	HTT5	(26) 0.162x3 NAILS	5/8"	(2) - 2x4	4670					
10	HDU8	(20) 1/4x2 1/2 SDS	7/8"	(3) - 2x4	6970					
11	HDU11	(30) 1/4x2 1/2 SDS	1"	(3) - 2x6	9535					
12	HDU14	(36) 1/4x2 1/2 SDS	1"	(3) - 2x6	10770					

1. ALLOWABLE CAPACITIES ARE BASED ON DF/SYP SPECIES.

2. REF. MFR. INSTALLATION GUIDELINES AND NOTES TO ENSURE REQ'D CAPACITIES ARE PROVIDED.



# 2x6 WALL (BOX BEAM)



**DOUBLE MEMBER** 

TRIPLE MEMBER

BEAM/HEADER SCHEDULE							
MARK	HEADER	JACK STUDS	KING STUDS	SIMPSON HANGER			
WB1	(2) 2x8	(1) - 2x	(2) - 2x	HU48			
WB2	(2) 2x10	(1) - 2x	(2) - 2x	HU410			
WB3	(2) 2x12	(1) - 2x	(3) - 2x	HU412			
WB4	(3) 2x8	(2) - 2x	(3) - 2x	HU68			
WB5	(3) 2x10	(2) - 2x	(3) - 2x	HU610			
WB6	(3) 2x12	(2) - 2x	(3) - 2x	HU612			
LVL1	3 1/2" x 9 1/2" LVL	(1) - 2x	(3) - 2x	HGLTV 3.59X			
LVL2	3 1/2" x 11 7/8" LVL	(1) - 2x	(3) - 2x	HGLTV 3.512			
LVL3	3 1/2" x 14" LVL	(2) - 2x	(4) - 2x	HGLTV 3.514			
LVL4	3 1/2" x 16" LVL	(2) - 2x	(4) - 2x	HGLTV 3.516			
LVL5	3 1/2" x 18" LVL	(2) - 2x	(4) - 2x	HGLTV 3.518			
LVL6	5 1/4" x 9 1/2" LVL	(2) - 2x	(4) - 2x	HGLTV 5.59X			
LVL7	5 1/4" x 11 7/8" LVL	(2) - 2x	(4) - 2x	HGLTV 5.512			
LVL8	5 1/4" x 14" LVL	(2) - 2x	(4) - 2x	HGLTV 5.514			
LVL9	5 1/4" x 16" LVL	(2) - 2x	(4) - 2x	HGLTV 5.516			
LVL10	5 1/4" x 18" LVL	(2) - 2x	(4) - 2x	HGLTV 5.518			

REFER TO STRUCTURAL NOTES FOR HEADER SPECIES.
 USE 1/2" PLYWOOD SPACER(S) BETWEEN 2x AND 3x MEMBERS. TYPICAL HEADER FRAMING.

3. (2) 2x HEADERS ON 6" WALLS (OR WIDER) SHALL INCLUDE BOX BEAM

FRAMING AS SHOWN.

4. REFER TO 1/S3.11 FOR JACK & KING STUD FRAMING REQUIREMENTS.

5. HANGERS OCCUR IF BEAM OR HEADER IS SUPPORTED BY ANOTHER BEAM IN LIEU OF STUD COLUMN SUPPORT.

PROVIDE SIMPSON HU48 (OR EQ.) FOR CONNX TO CMU. 7. ALL THE BEAM/HEADER TYPES ARE NOT USED, IF THEY ARE NOT MARKED

SHEET NO. **S0.13** 

PROJECT NO: 2497-66352-00

PHASE: Final Dev. Submitta

STRUCTURAL

INFORMATION

PROJ. ENGINEER:

26 JULY, 2024

26 JULY, 2024

New Construction For Take 5 Oil Change

4 SHEARWALL SCHEDULE

NTS 2 HOLDDOWN SCHEDULE

NTS 1 BEAM/HEADER SCHEDULE

NTS

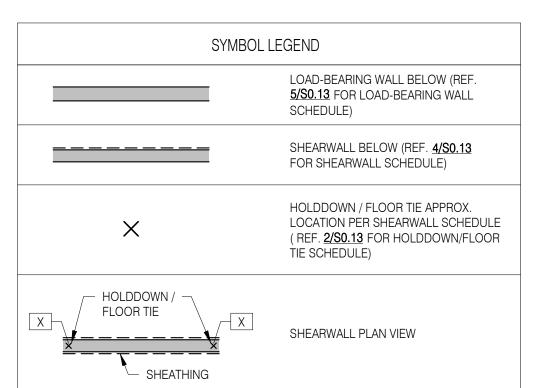


Registration: F-4111 Project No: 2497-66352-00

- 1. FINISHED FLOOR ELEVATION = T.O. CONCRETE SLAB = EL. 0'-0" UNLESS NOTED OTHERWISE. REFER TO ARCHITECTURAL OR CIVIL DRAWINGS FOR DATUM
- 2. COORDINATE ALL WORK THIS SHEET WITH THE STRUCTURAL NOTES ON SHEET **<u>\$1</u>** SERIES AND WITH THE PROJECT SPECIFICATIONS.
- 3. REFER TO SHEET **S3** SERIES FOR FOUNDATION DETAILS.
- CONCRETE FLOOR SLAB OVER MOISTURE RETARDER PER GENERAL NOTES OVER IMPORTED AND IMPROVED SUBGRADE PER THE GEOTECHNICAL REPORT.

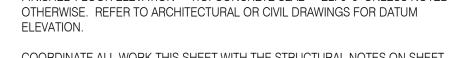
SLAB THICKNESS: 5 inches

- 5 L 2X2X1/4" (GALV.) MOUNTED TO THE TOP OF CONCRETE
- 6 L 6X3 1/2X5/16" LLV (GALV.) MOUNTED TO THE INSIDE FACE OF THE TRENCH PER 4/\$2.11

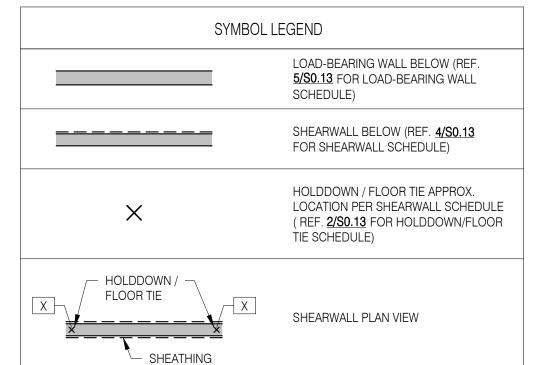


		REINFORCEMENT							
MARK	WIDTH	DEPTH	TOP & BOTTOM	MID.	STIRRUPS	NOTES			
GB1	14"	42"	4-#6	2-#5	#3 @ 30" O.C.				
GB2	14"	36"	4-#6	2-#5	#3 @ 30" O.C.				





CONCRETE SPECIFICATION: REFER TO 4/S0.11 AND SPECIFICATIONS SLAB REINFORCEMENT: #4 @ 12" O.C. EACH WAY MIDSLAB, LAPPED AT SPLICES REF. DETAIL 1/S2.11



	GRADE BEAM SCHEDULE										
	MARK	WIDTH	DEPTH	TOP & BOTTOM	MID.	STIRRUPS	NOTES				
~	GB1	14"	42"	4-#6	2-#5	#3 @ 30" O.C.					
{	GB2	14"	36"	4-#6	2-#5	#3 @ 30" O.C.					
		uuu					1				



PAVING, REF. CIVIL DOCS.

1 FOUNDATION PLAN

10' - 7 1/4"

PAVING, REF.

CIVIL DOCS.

7' - 9 1/4"

10' - 1"

T.O.C. EL.

52' - 4 1/2"

10' - 1"

T.O.C. EL.

10' - 1"

\_\_\_\_\_

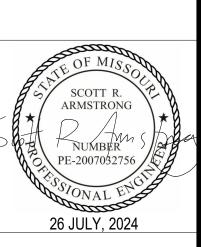
PAVING, REF. CIVIL DOCS.

4' - 6 1/4"

T.O.C. EL. -0'-2"

3' - 6"

1/4" = 1'-0"



New Construction For Take 5 Oil Change



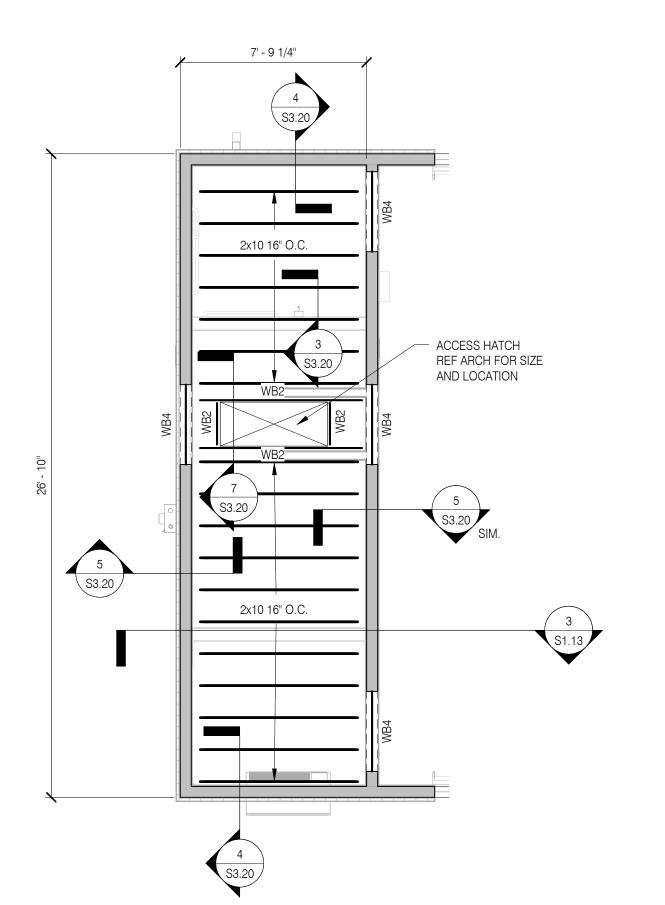
PROJECT NO: 2497-66352-0 26 JULY, 2024 PROJ. ENGINEER:

FOUNDATION PLAN

SHEET NO. **\$1.10** 



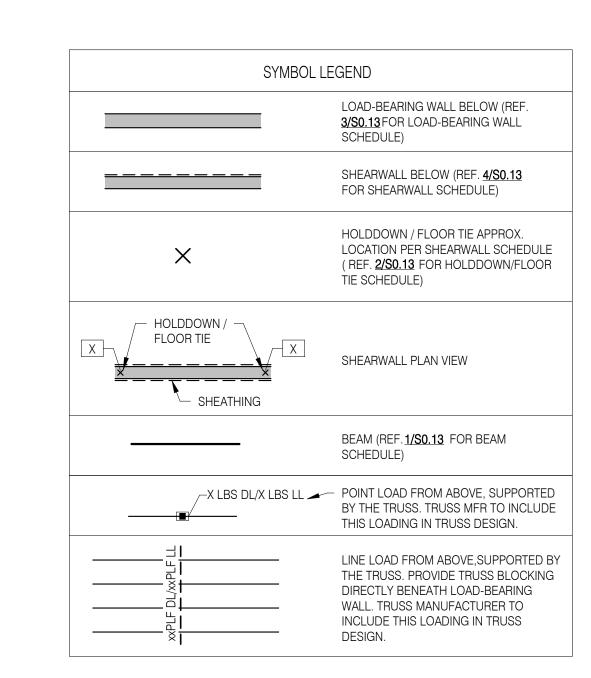
Registration: F-4111 Project No: 2497-66352-00

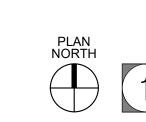


# PLAN NOTES AND KEY

- REFER TO SHEET <u>\$1</u> SERIES FOR STRUCTURAL INFORMATION, WOOD FRAMING NOTES AND WOOD SCHEDULES AND TYPICAL DETAILS.
- 1. THE BACKGROUND SHOWN ON THE PLAN IS FOR THE FLOOR BELOW.
- 1/S0.12

  2. ALL EXTERIOR WALLS ARE CONSIDERED LOAD-BEARING WALLS REGARDLESS OF HATCHING.
- 3. PROVIDE 3/4" FLOOR DECK PER WOOD FRAMING NOTES ON SHEET SX.XX ON TOP OF WOOD JOISTS AS NOTED ON THE PLAN.
- 4. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONAL CONTROL.
- 5. BOTTOM OF DECK ELEVATION =8'-0"

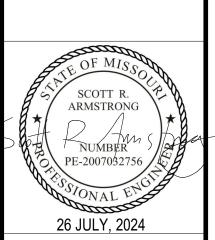




1 MEZZANINE FRAMING PLAN

1/4" = 1'-0"

SION DATE





New Construction For Take 5 Oil Change



PROJECT NO: 2497-66352-00
PHASE: Final Dev. Submitta
DATE: 26 JULY, 2024
PROJ. ENGINEER: BC

MEZZANINE
FRAMING PLAN

SHEET NO.

31.11

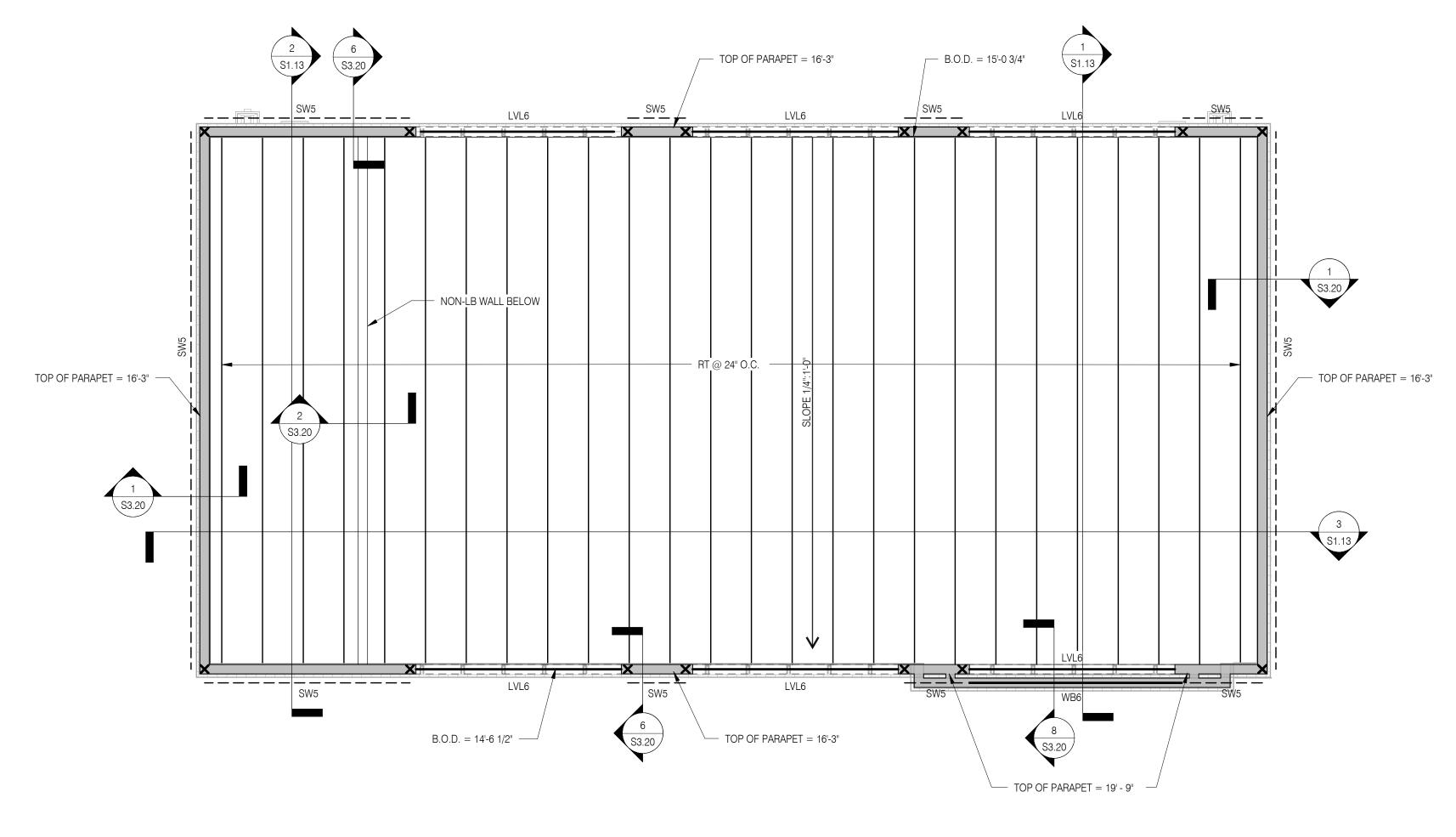


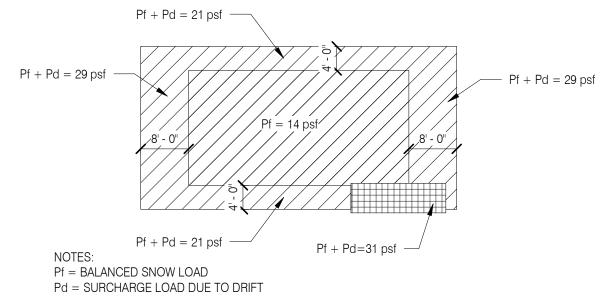
> Registration: F-4111 Project No: 2497-66352-00

# PLAN NOTES AND KEY

- 3. TRUSS BEARING ELEVATION = 12'-6 1/2"
- 6. PROVIDE TRUSS ABOVE SHEAR WALLS. PROVIDE BLOCKING BETWEEN TRUSSES WHERE SHEAR WALL RUNS PERPENDICULAR TO THE TRUSSES. REFER 3/S3.11
- 7. ALL EXTERIOR WALL AND CORRIDOR WALL HEADERS TO BE WB4 U.N.O. INTERIOR WALL HEADERS AND BEAMS NOT NOTED ON PLAN ARE TYPE WB2. REFER 1/S0.13 .

SYMBOL LE	GEND
	LOAD-BEARING WALL BELOW (REF. 3/S0.13' FOR LOAD-BEARING WALL SCHEDULE)
	SHEARWALL BELOW (REF. <u>4/S0.13</u> ( FOR SHEARWALL SCHEDULE)
×	HOLDDOWN / FLOOR TIE APPROX. LOCATION PER SHEARWALL SCHEDULE ( REF. <u>2/S0.13</u> FOR HOLDDOWN/FLOOR TIE SCHEDULE)
HOLDDOWN / FLOOR TIE X  SHEATHING	SHEARWALL PLAN VIEW
	BEAM (REF. 1/S0.13 FOR BEAM SCHEDULE)
-X LBS DL/X LBS LL	POINT LOAD FROM ABOVE, SUPPORTED BY THE TRUSS. TRUSS MFR TO INCLUDE THIS LOADING IN TRUSS DESIGN.
	LINE LOAD FROM ABOVE, SUPPORTED BY THE TRUSS. PROVIDE TRUSS BLOCKING DIRECTLY BENEATH LOAD-BEARING WALL. TRUSS MANUFACTURER TO INCLUDE THIS LOADING IN TRUSS DESIGN.





2 SNOW LOADING DIAGRAM

1/16" = 1'-0"

1 ROOF FRAMING PLAN

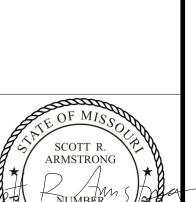
1/4" = 1'-0"



ROOF DECK PER WOOD NOTES ON <u>1/S0.12</u> OVER PRE-ENGINEERED WOOD TRUSSES @ 2'-0" O.C. TYP. U.N.O. REFER ARCH. FOR ROOF PROFILES.

- 2. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONAL CONTROL.
- 4. ROOF TRUSS TOP CHORDS SHALL BE SLOPED TO MATCH PROFILE OF ROOF
- 5. EACH END OF ALL ROOF TRUSSES SHALL BE ANCHORED TO WALL FRAMING WITH HURRICANE TIES PER DETAILS ON \$3.20
- 8. G.T. DESIGNATES PRE-FABRICATED GIRDER TRUSS.

SYMBOL LEGEND						
	LOAD-BEARING WALL BELOW (REF. 3/S0.13' FOR LOAD-BEARING WALL SCHEDULE)					
	SHEARWALL BELOW (REF. <u>4/S0.13</u> ) FOR SHEARWALL SCHEDULE)					
×	HOLDDOWN / FLOOR TIE APPROX. LOCATION PER SHEARWALL SCHEDULE ( REF. <u>2/S0.13</u> FOR HOLDDOWN/FLOOR TIE SCHEDULE)					
HOLDDOWN / FLOOR TIE X  SHEATHING	SHEARWALL PLAN VIEW					
	BEAM (REF. <u>1/S0.13</u> FOR BEAM SCHEDULE)					
-X LBS DL/X LBS LL	<ul> <li>POINT LOAD FROM ABOVE, SUPPORTED BY THE TRUSS. TRUSS MFR TO INCLUDE THIS LOADING IN TRUSS DESIGN.</li> </ul>					
PLF DL/%PLF LL	LINE LOAD FROM ABOVE, SUPPORTED BY THE TRUSS. PROVIDE TRUSS BLOCKING DIRECTLY BENEATH LOAD-BEARING WALL. TRUSS MANUFACTURER TO INCLUDE THIS LOADING IN TRUSS					



26 JULY, 2024

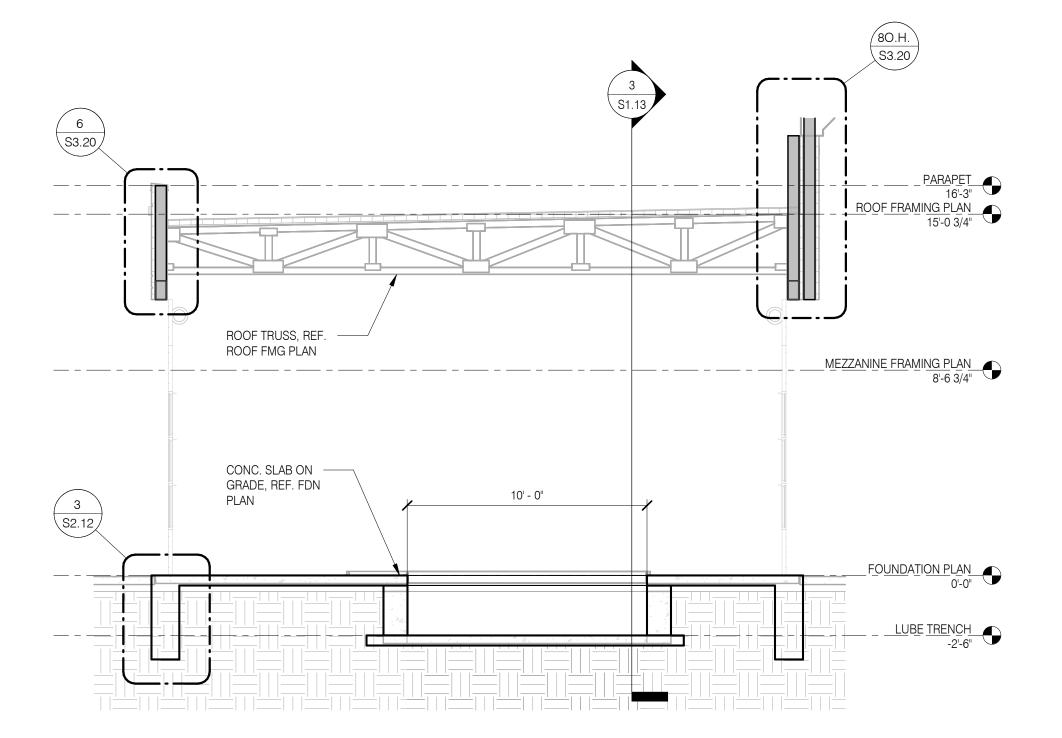
New Construction For Take 5 Oil Change



PROJECT NO: 2497-66352-0 PHASE: Final Dev. Submitta 26 JULY, 2024 PROJ. ENGINEER: ROOF FRAMING PLAN

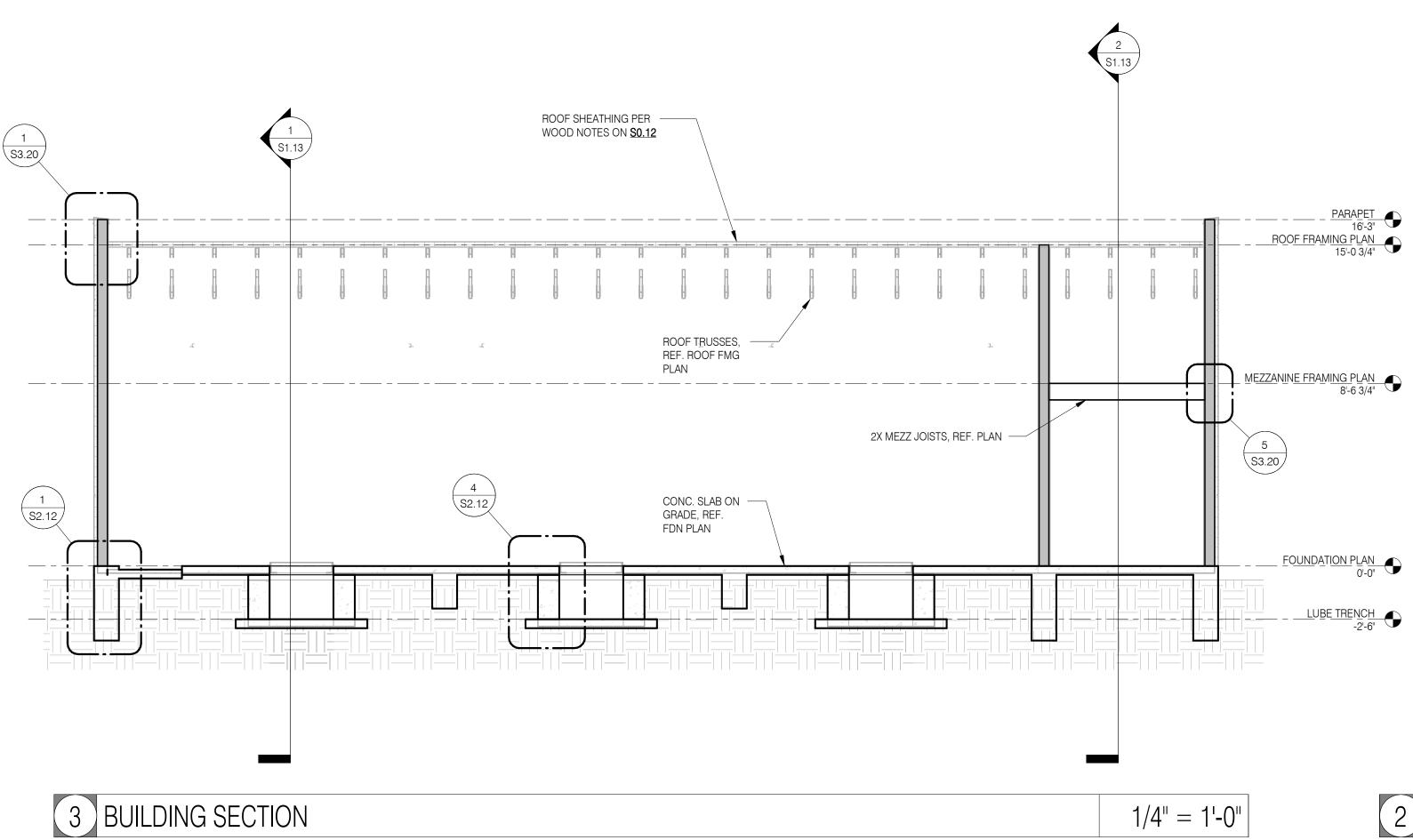
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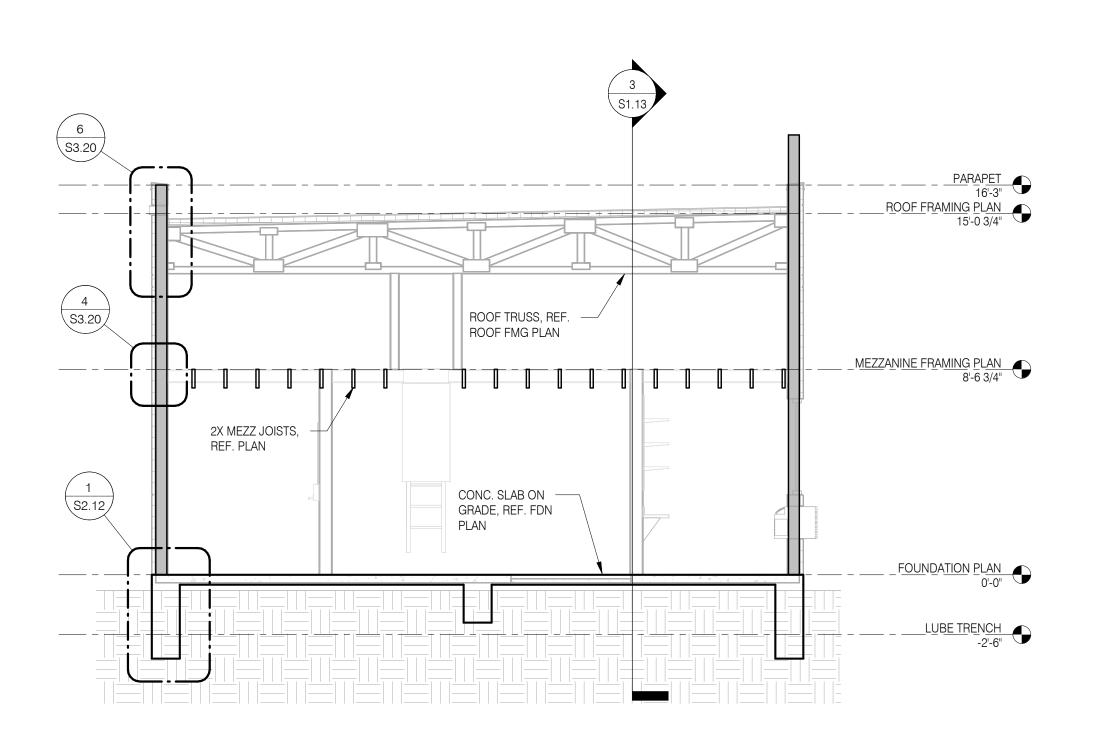




1 BUILDING SECTION

1/4" = 1'-0"





1/4" = 1'-0"

2 BUILDING SECTION

1/4" = 1'-0"

SHEET NO.

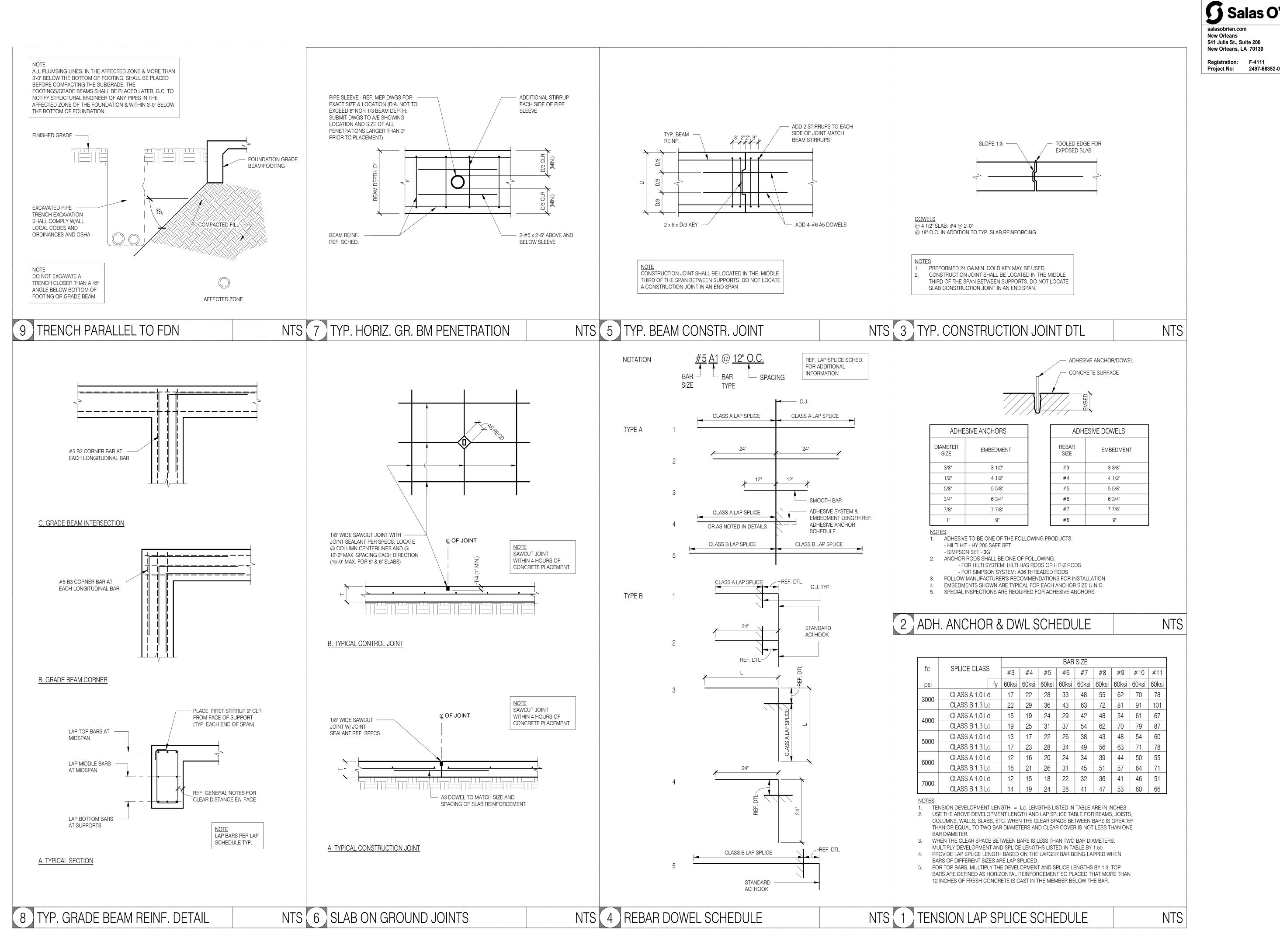
BUILDING SECTIONS

PROJ. ENGINEER:

PROJECT NO: 2497-66352-0 PHASE: Final Dev. Submitta 26 JULY, 2024

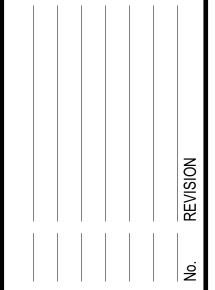
26 JULY, 2024

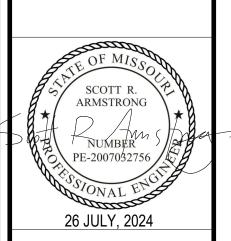
New Construction For Take 5 Oil Change



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2497-66352-00





Construction For 5 Oil Change ake New

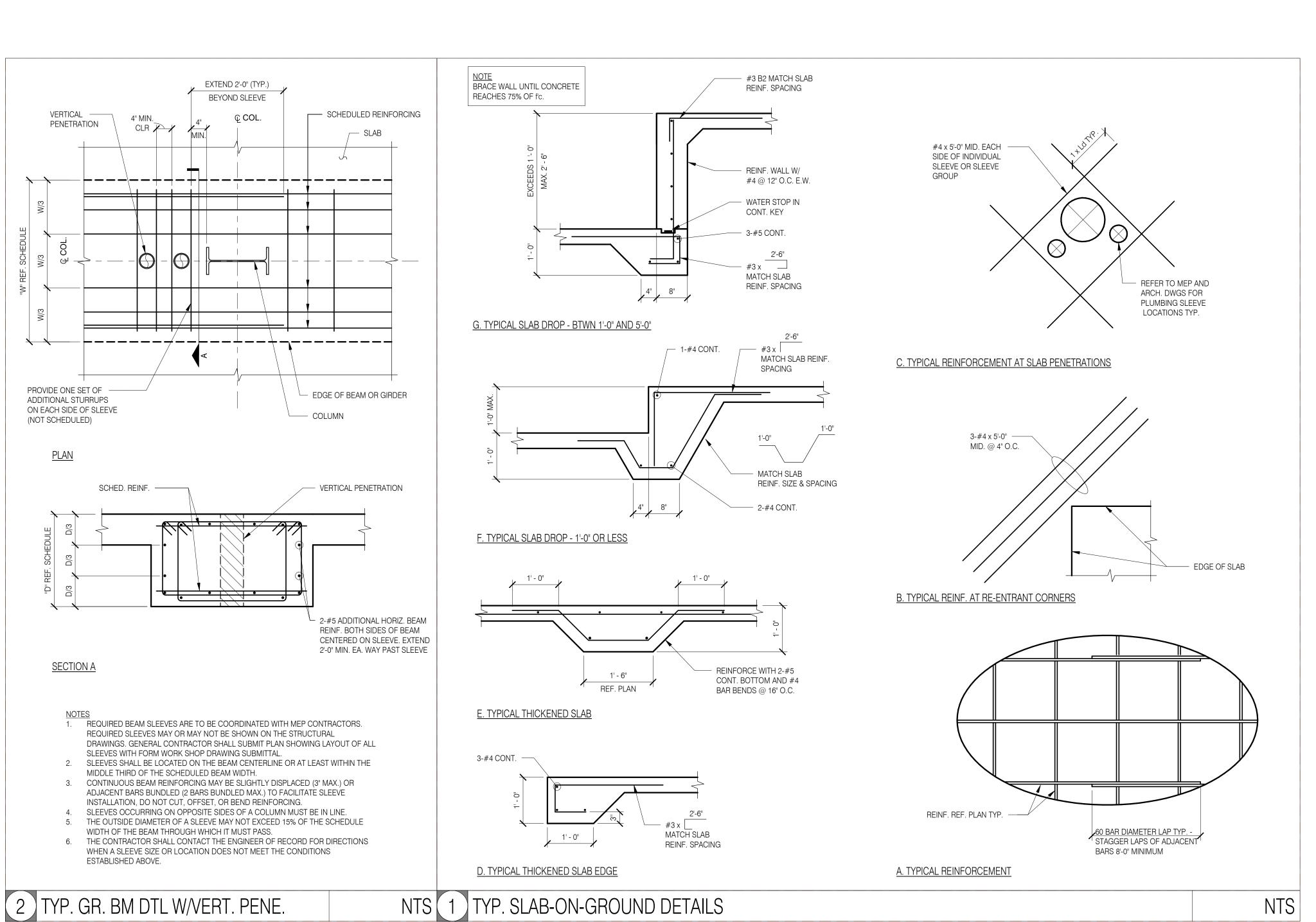


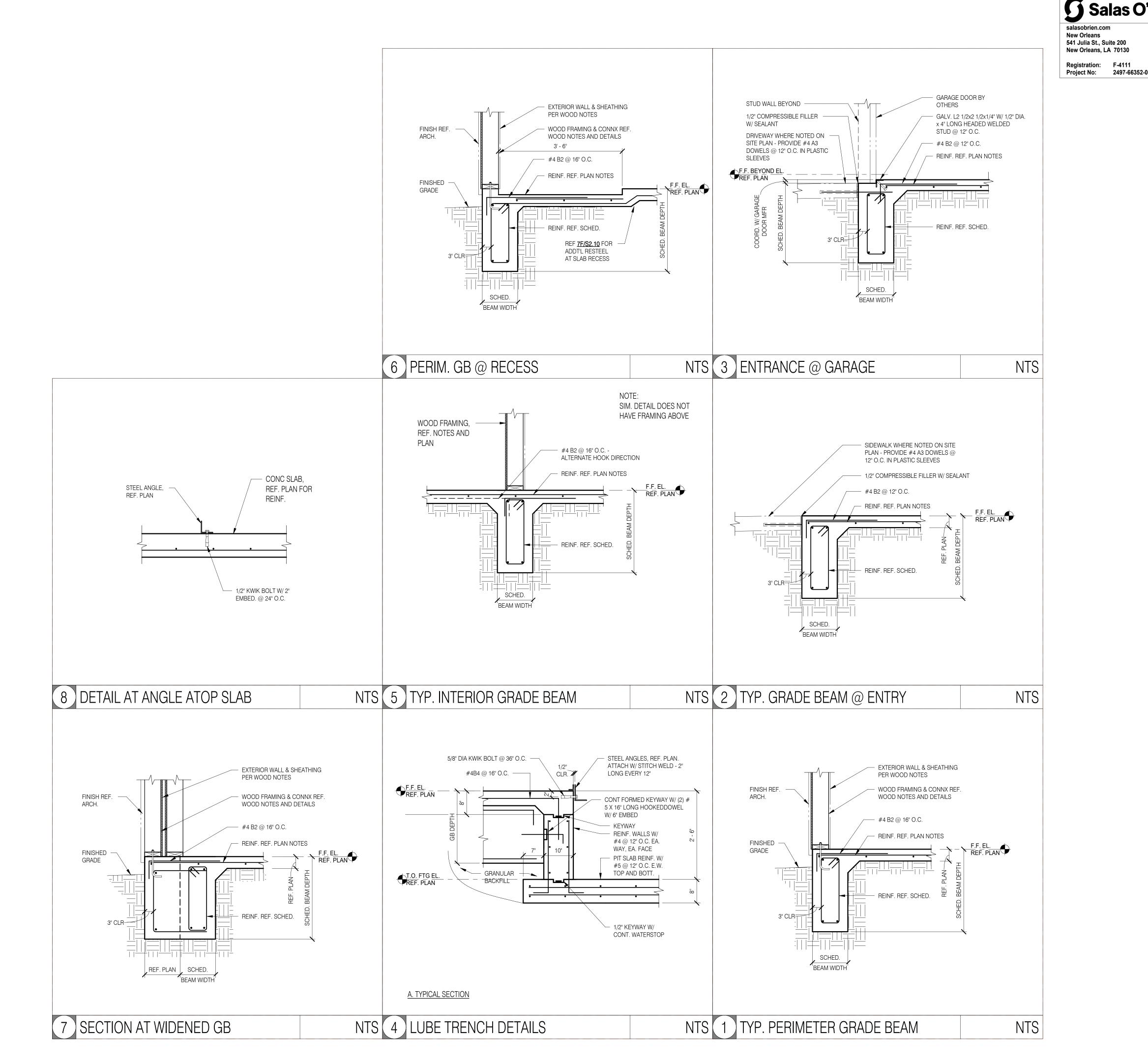
PROJECT NO: 2497-66352-0 PHASE: Final Dev. Submitta 26 JULY, 2024 PROJ. ENGINEER: FOUNDATION **SECTIONS &** DETAILS SHEET NO.



SECTIONS &

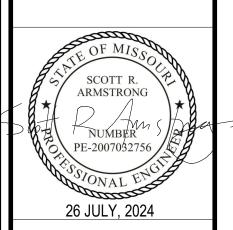
DETAILS SHEET NO.





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2497-66352-00



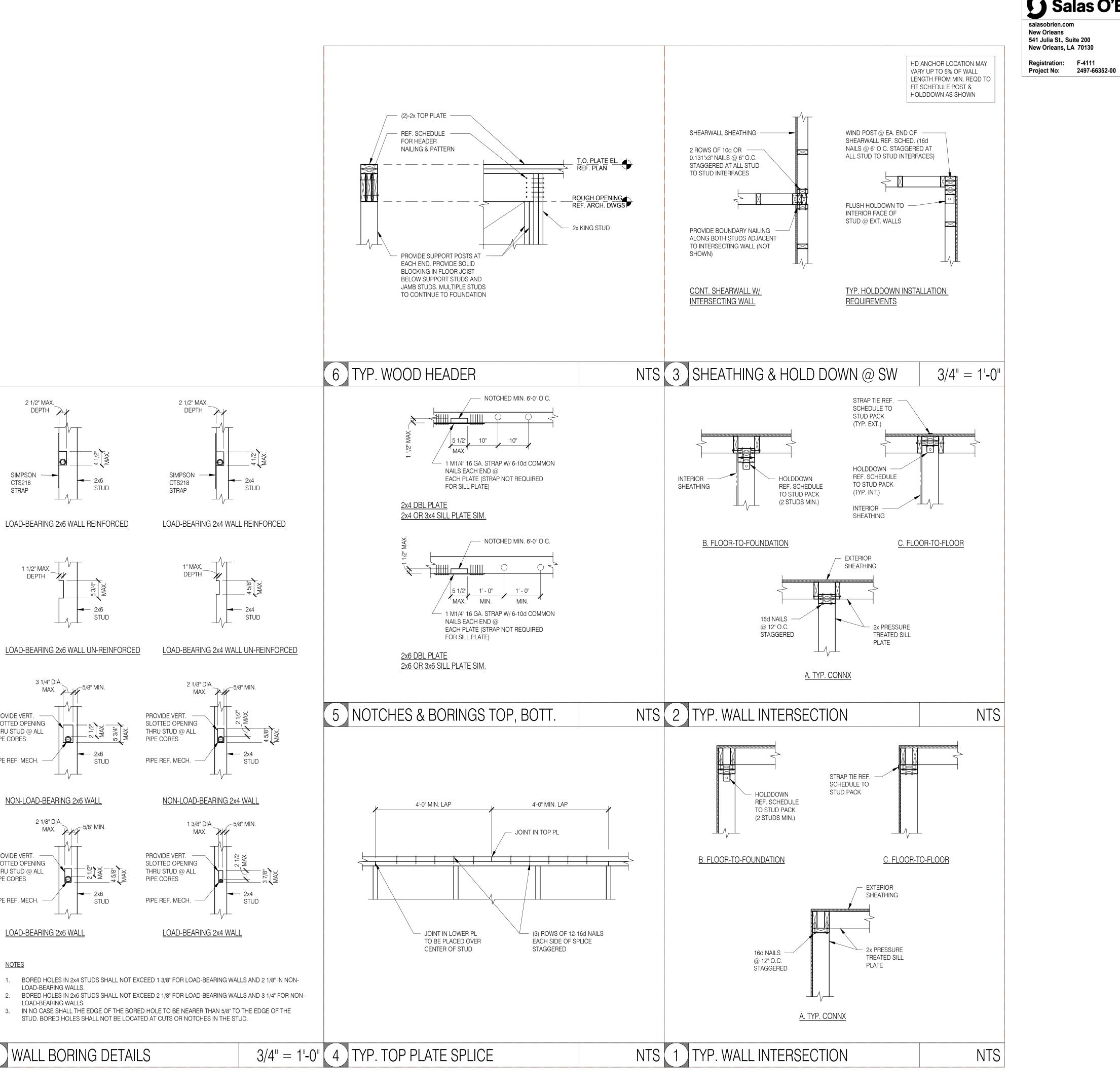


New Construction For Take 5 Oil Change



PROJECT NO: 2497-66352-0 PHASE: Final Dev. Submitta 26 JULY, 2024 PROJ. ENGINEER: **FOUNDATION DETAILS** SHEET NO.

**\$2.12** 



2 1/2" MAX.

CTS218 STRAP

DEPTH

STUD

STUD

STUD

STUD

LOAD-BEARING 2x6 WALL REINFORCED

LOAD-BEARING 2x6 WALL UN-REINFORCED

1 1/2" MAX.\_\_\_\_

3 1/4" DIA.

NON-LOAD-BEARING 2x6 WALL

2 1/8" DIA. MAX. 5/8" MIN.

PROVIDE VERT. —— SLOTTED OPENING

THRU STUD @ ALL

PIPE REF. MECH.

PROVIDE VERT.

PIPE CORES

SLOTTED OPENING

THRU STUD @ ALL

PIPE REF. MECH.

LOAD-BEARING 2x6 WALL

LOAD-BEARING WALLS.

LOAD-BEARING WALLS.

7 WALL BORING DETAILS

PIPE CORES

DEPTH

2 1/2" MAX.

SIMPSON -CTS218 STRAP

1" MAX.\_\_ T

DEPTH

PROVIDE VERT. —— SLOTTED OPENING

THRU STUD @ ALL

PIPE CORES

PIPE REF. MECH.

PROVIDE VERT.

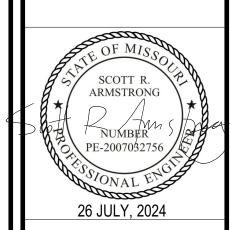
PIPE CORES

PIPE REF. MECH.

SLOTTED OPENING

THRU STUD @ ALL

1 3/8" DIA. MAX. Salas O'Brien.





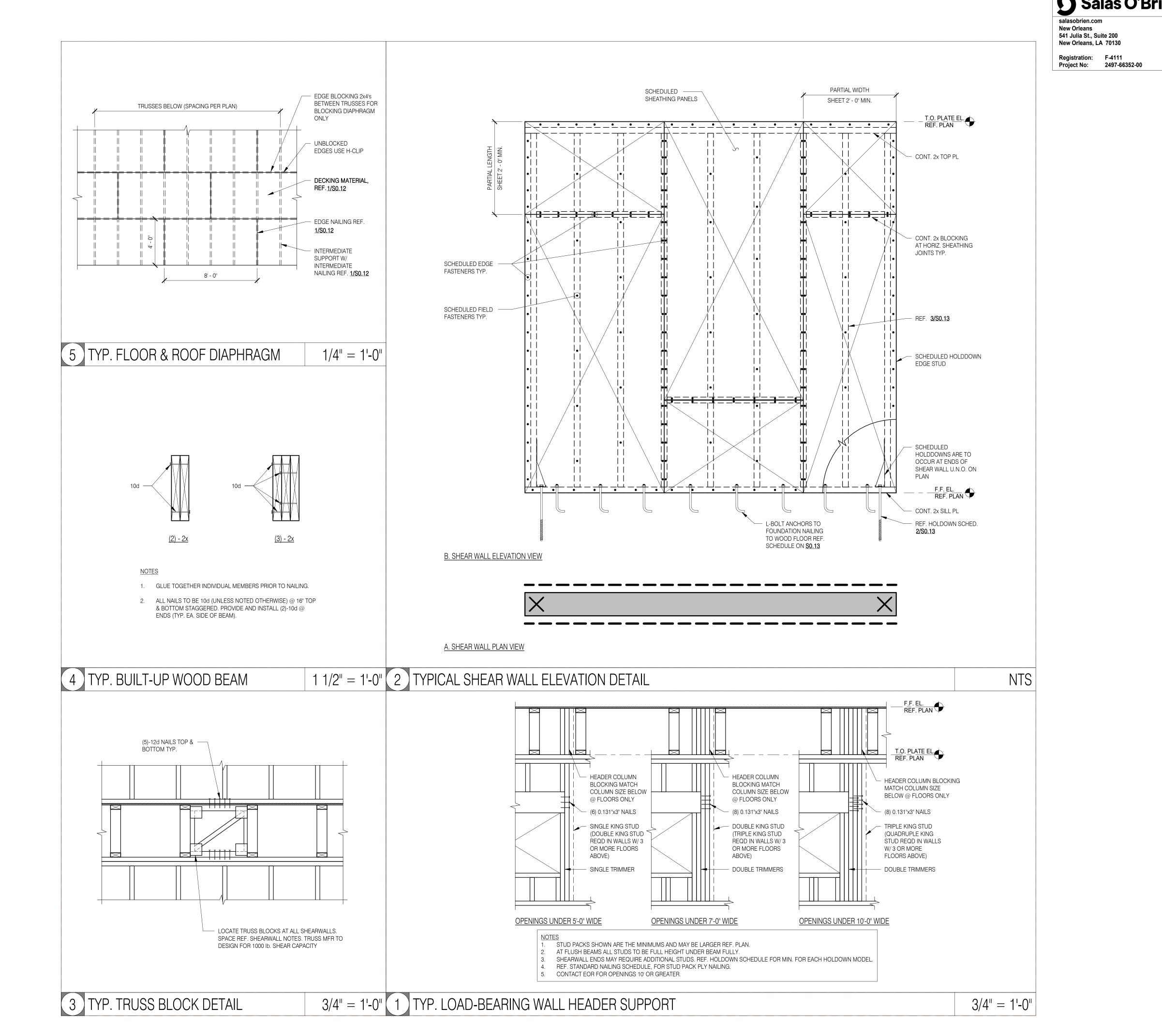
New Construction For Take 5 Oil Change



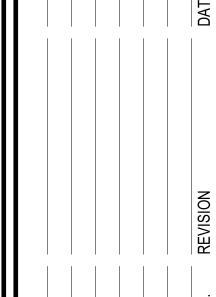
PROJECT NO: 2497-66352-0 PHASE: Final Dev. Submitta 26 JULY, 2024 PROJ. ENGINEER: FRAMING SECTIONS & DETAILS

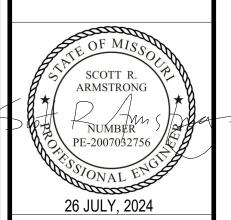
SHEET NO.

**S3.10** 











New Construction For Take 5 Oil Change

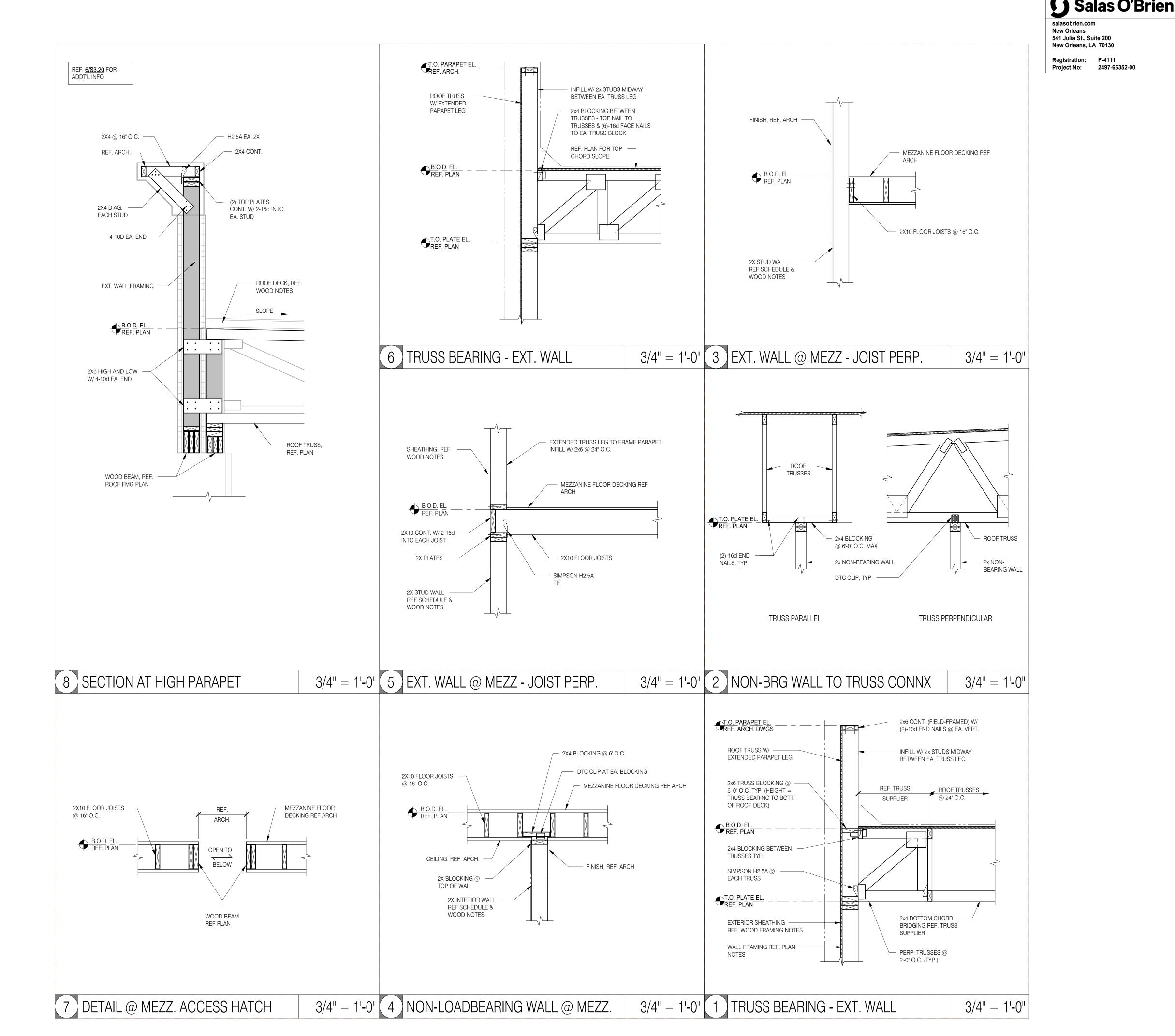


PROJECT NO: 2497-66352-0 PHASE: Final Dev. Submitta 26 JULY, 2024 PROJ. ENGINEER:

FRAMING SECTIONS

SHEET NO.

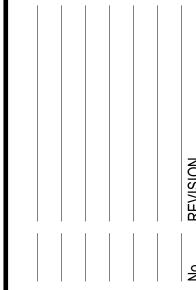
**S3.11** 

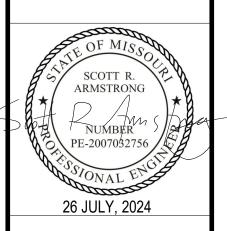


Salas O'Brien

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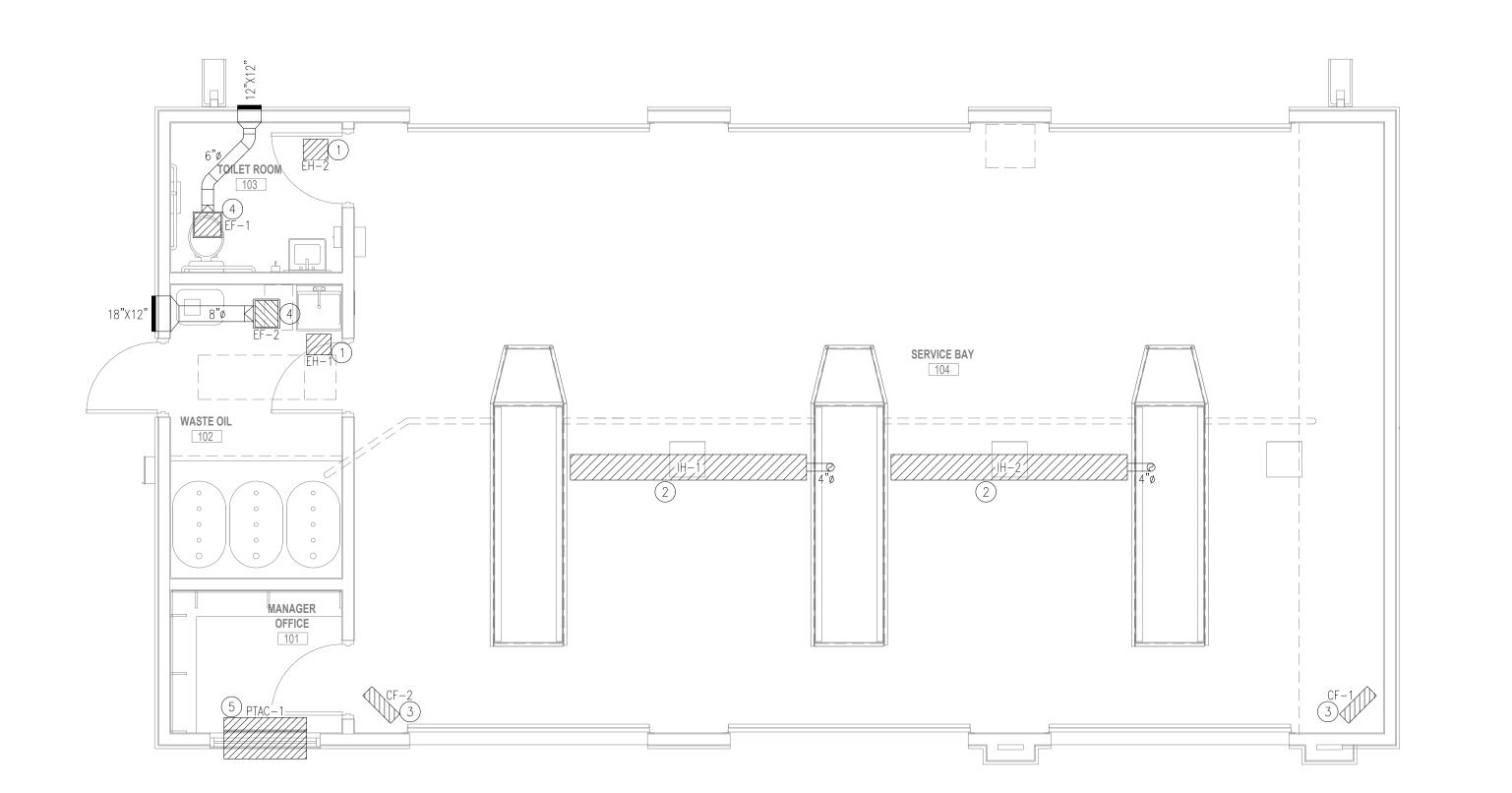
New Construction For Take 5 Oil Change



PROJECT NO: 2497-66352-0
PHASE: Final Dev. Submitta
DATE: 26 JULY, 2024
PROJ. ENGINEER: BC

FRAMING SECTIONS

SHEET NO. **\$3.20** 



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

1) CEILING MOUNTED UNIT HEATER. INSTALL IN STRICT ACCORDANCE TO MANUFACTURER'S SPECIFICATIONS. RE: SCHEDULE.

MECHANICAL PLAN NOTES:

- 2) INFRARED GAS HEATER SUSPENDED FROM CEILING. PROVIDE GAS PIPING AS REQ'D. COORDINATE WITH PLUMBING PLAN FOR GAS PIPING LOCATION. ROUTE NEW DOUBLE WALL 4"Ø FLUE UP THRU ROOF TO TYPE B ROOF CAP. ROOF PENETRATION SHALL BE SEALED WEATHER TIGHT. INSTALL IN STRICT ACCORDANCE TO MANUFACTURER'S SPECIFICATIONS. RE: SCHEDULE.
- 3 CIRCULATING FAN. INSTALL IN STRICT ACCORDANCE TO MANUFACTURER'S SPECIFICATIONS. COORDINATE WITH ARCHITECT FOR EXACT MOUNTING HEIGHT. RE: SCHEDULE.
- 4 CABINET TYPE EXHAUST FAN, CFMS AS SCHEDULED. CONTRACTOR SHALL ROUTE EXHAUST DUCT, SIZED AS SHOWN, TO EXTERIOR WALL LOUVER, GREENHECK ESD-403 OR APPROVED EQUAL.
- 5 .5 TON PACKAGE TERMINAL AIR CONDITIONER, REFER TO MECHANICAL SCHEDULE. PTAC UNIT SHALL HAVE INTERGRAL CONTROLS AND THERMOSTAT MOUNTED ON INTERIOR FACE OF UNIT. COORDINATE EXACT MOUNTING HEIGHT OF UNIT WITH ARCHITECT PRIOR TO INSTALLATION.

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PROJECT NO:

PROJ. ARCHITECT:

MECHANICAL PLAN

SHEET NO.

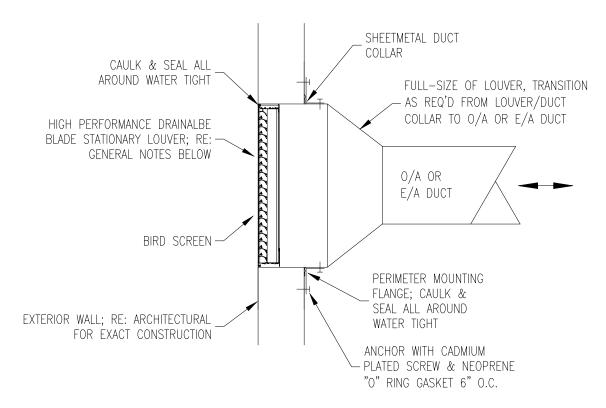
PTAC SCHE	EDULE											
OTES:  1. CAPACITIES	SHALL BE IN ACCO	DRDANCE WITH ARI STANDA	ARD 210/240: (A	.) COOLING: 80°F DE	3 / 67°F WB	ENTERING INC	ioor coil; 95°	°F ENTERING (	OUTDOOR COIL	AT PUBLISHED NOMINAL	_ CFM (B) HEATING: 47°F DB	
GENEF	RAL	EVAPORATOR COIL	ELEC <sup>-</sup>	TRIC HEAT		E	LECTRIC SERVIO	CE				
MARK	NOMINAL TONS	COOLING TOT CAP	MIN STAGES	MIN CAP	VOLTS	PH	FREQ	MCA	MOCP	WEIGHT	ACCEPTABLE MANUFACTURERS	NOTE

TRANE PTHE070 OR APPROVED EQUAL

3.0KW 240 V 1 60 Hz 17 A 20 A -

PLAN MARK	SERVICE AREA	TYPE	TOTAL CFM	S.P. LOSS IN W.C.	HP/W	FAN RPM	MOTOR RPM	DRIVE TYPE	INLET SONES	FLA	ELECTRIC SERVICE	MANUFACTURERS	NOTES
EF-1	SEE PLAN	CABINET	75	.25	19 W	950		DIRECT	0.8		120/1φ/60	GREENHECK SP-A110 OR APPROVED EQUAL	1,2
EF-2	SEE PLAN	CABINET	150	.25	51 W	1400		DIRECT	2.0		120/1φ/60	GREENHECK SP-A190 OR APPROVED EQUAL	1,2
CF-1,2	SEE PLAN	CIRCULATING	3700		1/8 HP	1200		DIRECT			120/1φ/60	DAYTON 2LY99 OR APPROVED EQUAL	3

UNIT HEATER SCHEDULE											
NO.	BTUH OUTPUT	CFM	KW	MCA	MFS	STAGES	ELECTRIC SERVICE	REMARKS			
EH-1	2,560	65	.75	6.3	_	1	120V/1ø/60Hz	QMARK QCH1151F OR APPROVED EQUAL			
EH-2	5,120	65	1.5	7.3	_	1	240V/1ø/60Hz	QMARK QCH1202F OR APPROVED EQUAL			
IH−1,2	40,000			1.8	_	1	120V/1ø/60Hz	SPACE RAY PTS-40-10-N7 OR APPROVED EQUAL			
1. FURNISH AND INSTAL 2. LOCATE THE THERMO 3. THE THERMOSTAT SH 4. BTUH, CFM, AIR TEM	IALL BE SET FOR 40°F	NGINEER.	ONE T'S	TAT/UNIT H	HEATER.	ETC.					

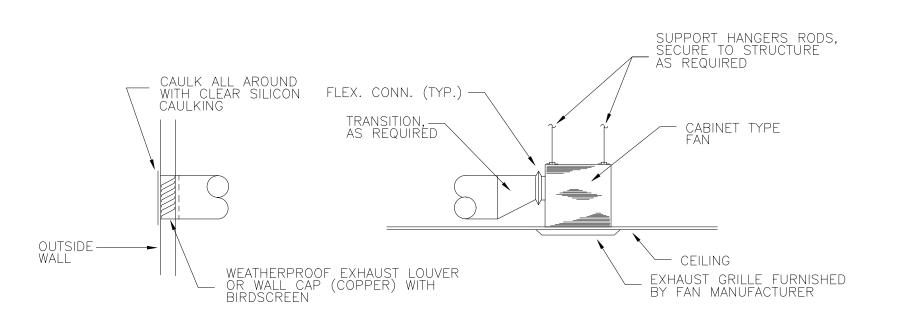


0.5 7200 BTU/H

PTAC-1

- GENERAL NOTES:
  1. LOUVER MUST BE WIND-DRIVEN RAIN LOUVER, 5.5" DEEP FRAME, ALUMINUM CONSTRUCTION, AMCA 550 QUALIFIED. LOUVER SHALL BE FURNISHED & INSTALLED WITH A FRAMED, REMOVABLE BIRD SCREEN MOUNTED ON REAR OF LOUVER. REFER TO PLAN FOR LOUVER SIZE(S). COORDINATE EXACT MOUNTING HEIGHT OF LOUVER WITH ARCHITECT, UNLESS OTHERWISE NOTED ON PLANS.
- 2. REFER TO MANUFACTURER'S INSTALLATION GUIDE & RECOMMENDATIONS FOR EXACT MOUNTING REQUIREMENTS OF LOUVER IN EXTERIOR WALL.
- 3. ALL EXHAUST OUTLETS & AIR INTAKES SHALL BE LOCATED A MINIMUM OF 10'-0" APART, UNLESS
- OTHERWISE NOTED ON PLANS.





DETAIL-CABINET TYPE EXHAUST FAN scale: n.t.s.



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PROJECT NO:

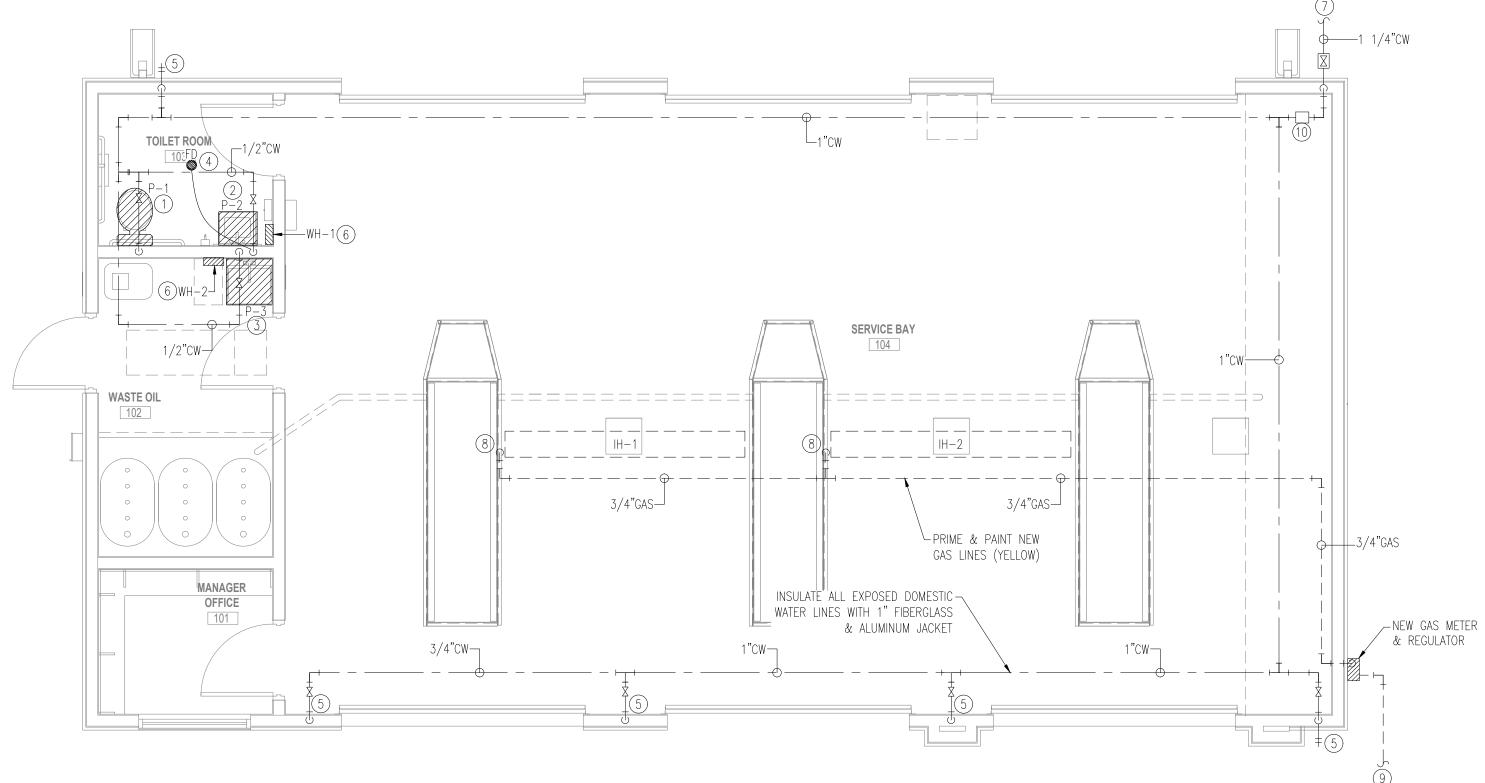
PROJ. ARCHITECT: MECHANICAL

SCHEDULE & **DETAILS** 

SHEET NO. M2.00

# .....

PLUMBING LEGEND  SYMBOL ABBREVATION DECRYPTION  DOW DOMESTIC COLD WATER PIPE  DHW DOMESTIC HOT WATER PIPE  PILER WATER PIPING  FILTER WATER PIPING  FILTER WATER PIPING  FILTER WATER SIZE AS PIPE IF NOT SPECIFICED)  FIPE DOWN  FIPE UP  PIPE TEE  PIPE TEE  PIPE TEE UP  PIPE TEE UP  PIPE TEE DOWN  PIPE TEE DOWN  PIPE TEE DOWN  SS SANITARY SEWER PIPE AND SIZE  GW GREASE WASTE PIPE AND SIZE  GW GREASE WASTE PIPE AND SIZE  CO CLEAN OUT  FD FLOGR DRAIN AND SIZE  PUMBING TEAN NOTE  POINT OF CONNECTION  1/2"  PIPE SIZE			
DCW DOMESTIC COLD WATER PIPE	PLUMBING LEGEND		
DHW DOMESTIC HOT WATER PIPE  DHWR DOMESTIC HOT WATER RETURN PIPE  FILTER WATER PIPING  FILTER WATER PIPING  GATE VALVE (SAME SIZE AS PIPE IF NOT SPECIFICED)  G+	SYMBOL	ABBREVIATION	DECRYPTION
DHWR DOMESTIC HOT WATER RETURN PIPE  - FILTER WATER PIPING  - GATE VALVE (SAME SIZE AS PIPE IF NOT SPECIFICED)  - PIPE DOWN  - PIPE UP  - PIPE TEE  - PIPE ELL  - PIPE TEE UP  - PIPE TEE DOWN  - FULL SIZE SHUTOFF VALVE, PROVIDE ACCESS PANEL  - PIPE CONTINUES  SS SANITARY SEWER PIPE AND SIZE  - W GREASE WASTE PIPE AND SIZE  - OW GREASE WASTE PIPE AND SIZE  - PLUMBING PLAN NOTE  - POINT OF CONNECTION		DCW	DOMESTIC COLD WATER PIPE
- FILTER WATER PIPING  - GATE VALVE (SAME SIZE AS PIPE IF NOT SPECIFICED)  - PIPE DOWN  - PIPE UP  - PIPE TEE  - PIPE TEE  - PIPE TEE UP  - PIPE TEE UP  - PIPE TEE DOWN  - PIPE CONTINUES  - SS SANITARY SEWER PIPE AND SIZE  - W SANITARY VENT PIPE AND SIZE  - GW GREASE WASTE PIPE AND SIZE  - CO CLEAN OUT  - PLOWBING PLAN NOTE  - POINT OF CONNECTION		DHW	DOMESTIC HOT WATER PIPE
- GATE VALVE (SAME SIZE AS PIPE IF NOT SPECIFICED)  C+ - PIPE DOWN  O+ - PIPE UP  - PIPE TEE  - PIPE TEE  - PIPE TEE UP  - PIPE TEE DOWN  - FULL SIZE SHUTOFF VALVE, PROVIDE ACCESS PANEL  - PIPE CONTINUES  SS SANITARY SEWER PIPE AND SIZE  - CO CLEAN OUT  FD FLOOR DRAIN AND SIZE  - PLUMBING PLAN NOTE  - POINT OF CONNECTION		DHWR	DOMESTIC HOT WATER RETURN PIPE
C+ - PIPE DOWN  O+ - PIPE UP  - PIPE TEE  - PIPE TEE UP  - PIPE TEE UP  - PIPE TEE DOWN  - FULL SIZE SHUTOFF VALVE, PROVIDE ACCESS PANEL  - PIPE CONTINUES  SS SANITARY SEWER PIPE AND SIZE  - CW GREASE WASTE PIPE AND SIZE  CO CLEAN OUT  - PLOOR DRAIN AND SIZE  - PLUMBING PLAN NOTE  - POINT OF CONNECTION		_	FILTER WATER PIPING
O+ - PIPE UP  - THE BOWN  - PIPE TEE  - PIPE TEE  - PIPE TEE UP  - PIPE TEE UP  - PIPE TEE DOWN  - FULL SIZE SHUTOFF VALVE, PROVIDE ACCESS PANEL  - PIPE CONTINUES  - SS SANITARY SEWER PIPE AND SIZE  - CO GREASE WASTE PIPE AND SIZE  - CO CLEAN OUT  - FLOOR DRAIN AND SIZE  - PLUMBING PLAN NOTE  - POINT OF CONNECTION		_	GATE VALVE (SAME SIZE AS PIPE IF NOT SPECIFICED)
PIPE TEE  - PIPE TEE  - PIPE TEE UP  - PIPE TEE DOWN  - FULL SIZE SHUTOFF VALVE, PROVIDE ACCESS PANEL  - PIPE CONTINUES  - SS SANITARY SEWER PIPE AND SIZE  - CW GREASE WASTE PIPE AND SIZE  - CW GREASE WASTE PIPE AND SIZE  - CO CLEAN OUT  - PLOWBING PLAN NOTE  - POINT OF CONNECTION	C+	_	PIPE DOWN
+O+ - PIPE ELL	0+	_	PIPE UP
PIPE TEE UP		_	PIPE TEE
PIPE TEE DOWN  - FULL SIZE SHUTOFF VALVE, PROVIDE ACCESS PANEL  - PIPE CONTINUES  SS SANITARY SEWER PIPE AND SIZE  V SANITARY VENT PIPE AND SIZE  GW GREASE WASTE PIPE AND SIZE  CO CLEAN OUT  FD FLOOR DRAIN AND SIZE  PLUMBING PLAN NOTE  POINT OF CONNECTION	t,	_	PIPE ELL
- FULL SIZE SHUTOFF VALVE, PROVIDE ACCESS PANEL - PIPE CONTINUES  SS SANITARY SEWER PIPE AND SIZE  V SANITARY VENT PIPE AND SIZE  GW GREASE WASTE PIPE AND SIZE  CO CLEAN OUT  FD FLOOR DRAIN AND SIZE  PLUMBING PLAN NOTE  POINT OF CONNECTION		_	PIPE TEE UP
- PIPE CONTINUES  SS SANITARY SEWER PIPE AND SIZE  V SANITARY VENT PIPE AND SIZE  GW GREASE WASTE PIPE AND SIZE  CO CLEAN OUT  FD FLOOR DRAIN AND SIZE  PLUMBING PLAN NOTE  POINT OF CONNECTION		_	PIPE TEE DOWN
SS SANITARY SEWER PIPE AND SIZE  V SANITARY VENT PIPE AND SIZE  GW GREASE WASTE PIPE AND SIZE  CO CLEAN OUT  FD FLOOR DRAIN AND SIZE  PLUMBING PLAN NOTE  POINT OF CONNECTION		_	FULL SIZE SHUTOFF VALVE, PROVIDE ACCESS PANEL
		_	PIPE CONTINUES
GW GREASE WASTE PIPE AND SIZE  CO CLEAN OUT  FD FLOOR DRAIN AND SIZE  PLUMBING PLAN NOTE  POINT OF CONNECTION		SS	SANITARY SEWER PIPE AND SIZE
CO CLEAN OUT  FD FLOOR DRAIN AND SIZE  PLUMBING PLAN NOTE  POINT OF CONNECTION		V	SANITARY VENT PIPE AND SIZE
FD FLOOR DRAIN AND SIZE  - PLUMBING PLAN NOTE  - POINT OF CONNECTION		GW	GREASE WASTE PIPE AND SIZE
PLUMBING PLAN NOTE  POINT OF CONNECTION		CO	CLEAN OUT
POINT OF CONNECTION	<u></u> J>⊠	FD	FLOOR DRAIN AND SIZE
4 /0"	1	_	PLUMBING PLAN NOTE
1/2" — PIPE SIZE	•	_	POINT OF CONNECTION
	1/2"	_	PIPE SIZE



1 PLUMBING FLOOR PLAN - DOMESTIC WATER 1/4" = 1'-0"

# SERVICE BAY 104 WASTE OPORT MANAGER OFFICE

2 PLUMBING FLOOR PLAN - SANITARY SEWER 1/4" = 1'-0"

# DOMESTIC WATER NOTES:

- (1) 1" CW TO SERVE WATER CLOSET, TYPICAL.
- (2) 1/2" C&HW TO SERVE LAVATORY/SINK, TYPICAL. (3) 1/2" C&HW TO SERVE JANITOR SINK, TYPICAL.
- (4) 1/2" TRAP PRIMER TO SERVE 4" FLOOR DRAIN, TYPICAL. (5) 3/4"CW DN TO FREEZE PROOF HOSE BIBB.
- (5) 1"CW SUPPLY WITH BALL VALVE LOCATED 3'-6" FROM WALL, CENTERED BETWEEN DOORS, STUB OUT ON WALL
- AT 10' A.F.F. (6) INSTANTANEOUS WATER HEATER ON WALL. PROVIDE
- THERMOSTATIC MIXING VALVE. RE: SCHEDULE FOR SIZE. (7) CONNECT NEW 1 1/4"CW INTO EXISTING CITY SERVICES. VERIFY EXACT LOCATION AND SIZE PRIOR TO
- INSTALLATION. (8) 1/2" GAS WITH FULL SIZE GAS COCK TO SERVE INFRARED GAS HEATER. INSTALL IN STRICT ACCORDANCE TO MANUFACTURER'S SPECIFICATIONS. RE: MECHANICAL SCHEDULE
- (9) NEW GAS SERVICE FROM GAS COMPANY. PROVIDE NEW METER AND LOW PRESSURE REGULATOR. COORDINATE WITH LOCAL GAS COMPANY AS REQUIRED. CONTRACTOR IS RESPONSIBLE FOR ALL FEES, PERMITS, ASSOCIATED WITH NEW SERVICE.
- (10) NEW RPZ BACKFLOW PREVENTER LOCATED INSIDE BUILDING. COORDINATE EXACT REQUIREMENTS WITH LOCAL WATER COMPANY.

# SANITARY SEWER NOTES:

- 1) 4"W, 3"V TO SERVICE WATER CLOSET, TYPICAL
- (2) 2"W, 2"V TO SERVICE LAVATORY/SINK, TYPICAL
- (3) 4"W, 3"V TO SERVICE 4" FLOOR DRAIN, TYPICAL
- 4) 2"W, 2"V TO SERVICE SINK, TYPICAL
- 5) NEW MIFAB LIL-35-0 OIL INTERCEPTOR. TOP OF OIL INTERCEPTOR SHALL BE FLUSH WITH FINISHED FLOOR. INSTALL IN STRICT ACCORDANCE TO
- MANUFACTURER'S SPECIFICATIONS. PROVIDE SAMPLING PORT & 2 WAY CLEANOUT AS REQUIRED.
- 6 TIE NEW 4"W INTO EXISTING CITY SERVICE. VERIFY EXACT LOCATION AND SIZE PRIOR TO INSTALLATION.
- 7 SAMPLING PORT SHALL BE SCHIER MODEL SV10 OR APPROVED EQUAL. MAINTAIN MINIMUM OF 18" TO ALLOW FOR SUFFICIENT ACCESS TO COLLECT WASTEWATER SAMPLES.



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**S** 



PROJECT NO: PHASE:

New

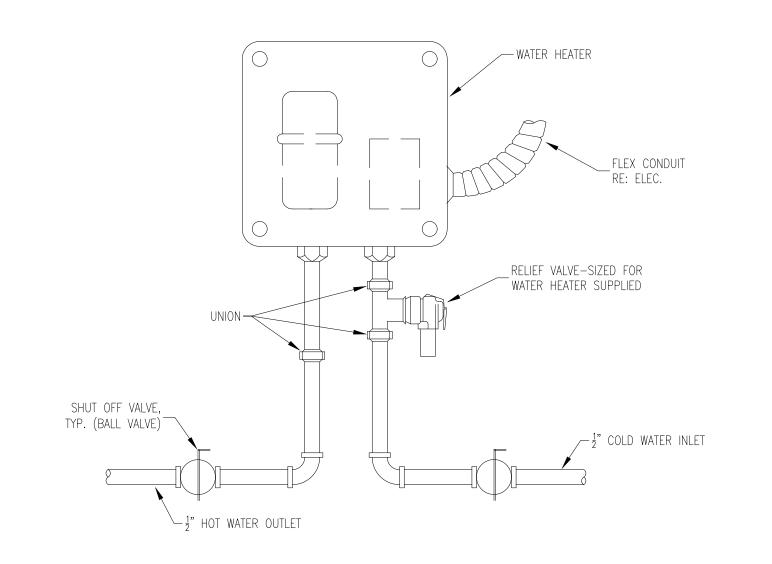
PROJ. ARCHITECT:

**PLUMBING** PLAN

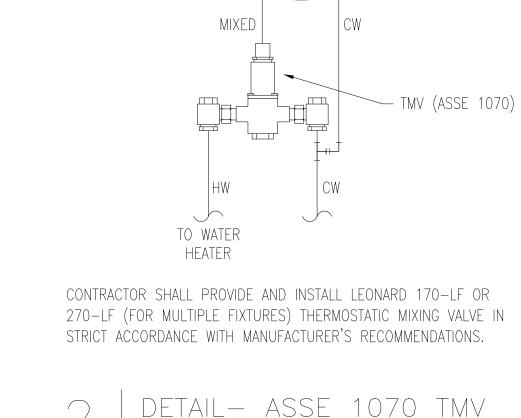
SHEET NO. P1.00

	PLUMBING FIXTURE SCHEDULE											
TAG	FIXTURE DESCRIPTION	MANUFACTURER &	TRIM						NECTION			NOTES
17.00	MODEL NUMBER		SEAT	CARRIER	FAUCET	DRAIN	MISCELLANEOUS		HW	SAN.	VENT	NOTES
P-1	FLOOR MOUNTED WHITE VITREOUS CHINA TANK TYPE WATER CLOSET WITH PRESSURE—ASSISTED SIPHON JET FLUSH ACTION(1.6 GPF); ADA COMPLIANT	AMERICAN STANDARD 2467.016 OR APPROVED EQUAL	BENEKE 527 SS CHURCH 9500 SSC				CLOSET SUPPLY WITH STOP BRASSCRAFT CR1912DL EASTMAN CM12	1/2"		4"	3"	
P-2	20"X18" WHITE VITREOUS CHINA WITH OVERFLOW WALL HUNG LAVATORY WITH 4" CENTER FAUCET HOLES	AMERICAN STANDARD 0355.012 OR APPROVED EQUAL		JAY R. SMITH 0700-Z ZURN Z1231 JOSAM 17100	AMERICAN STANDARD 7385.003 T&S BRASS B-2711 ZURN Z81000-G		1½" CAST BRASS "P" TRAP W/ CLEAN OUT; %" ANGLE STOP SUPPLIES WITH LOOSE KEY STOP	1/2"	1/2"	2"		CONTRACTOR SHALL COORDINATE EXACT CONCEALED ARM SUPPORT WALL CARRIER WITH WALL THICKNESS THAT LAVATORY OCCURS ON. PROVIDE THERMOSTATIC MIXING VALVE.
P-3	24"X24"X12" FLOOR MOUNTED SERVICE SINK W/STAINLESS STEEL CAP ALL SIDES AND STAINLESS STEEL BACKSPLASH	FIAT TSB-3010 OR APPROVED EQUAL			TS BRASS B-0665-BSTP ZURN 843M1-RC	JUST J-15-SS	1½" CAST BRASS "P" TRAP W/ CLEAN OUT; ¾" ANGLE STOP SUPPLIES WITH LOOSE KEY STOP	1/2"	1/2"	3"	2	PROVIDE HOSE W/BRACKET TO SUPPORT HOSE & MOP HANGER FOR EASY STORAGE OF THE MOP OVER SINK.
FD	CAST IRON FLOOR DRAIN WITH ½" TRAP PRIMER CONNECTION AND ADJUSTABLE SQUARE NICKEL BRONZE STRAINER	JAY R. SMITH 2005 OR APPROVED EQUAL								4"	3"	ALL FLOOR DRAINS SHALL BE INSTALLED WITH ½" TRAP PRIMER. SEE PLANS FOR SANITARY SEWER AND VENT CONNECTION SIZES.
F.P.H.B.	¾" FREEZE PROOF HOSE BIBB IN WALL BOX WITH LOOSE KEY	JAY R. SMITH 5519 WOODFORD B65						3/4"				

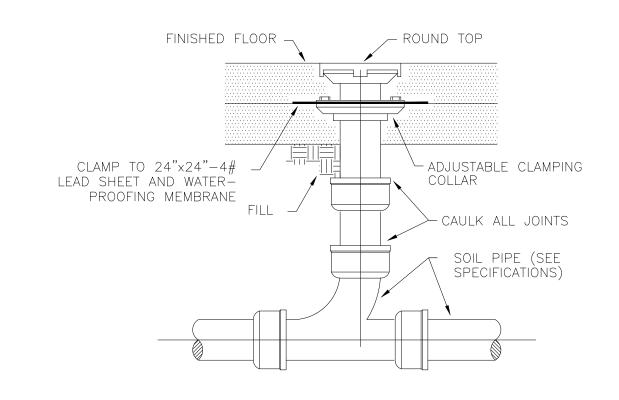
	T,	ANKI	LESS	EL	ECTRIC	WATER	HEATER SCHEDULE
MARK	ELECTRIC SERVICE	KW	FLA	MIN. GPM	TEMP RISE @ 0.5 GPM	TEMP RISE @ 1.0 GPM	MANUFACTURER
WH-1	120/1¢/60	3.6	30	0.35	49°	25°	CHRONOMITE M-30L/120 OR APPROVED EQUAL
WH-2	208/1¢/60	4.16	20	0.35	57°	28°	CHRONOMITE M-30L/208 OR APPROVED EQUAL



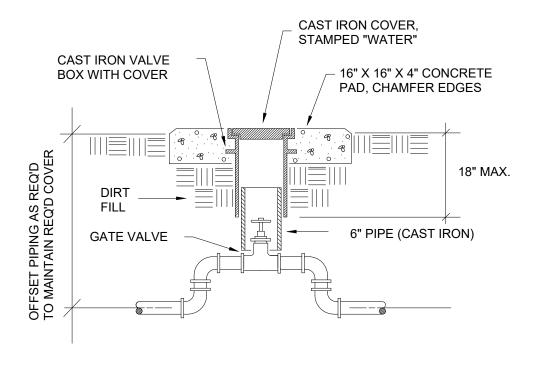
DETAIL-ELECTRIC INSTANTANEOUS WATER HEATER SCALE: N.T.S.



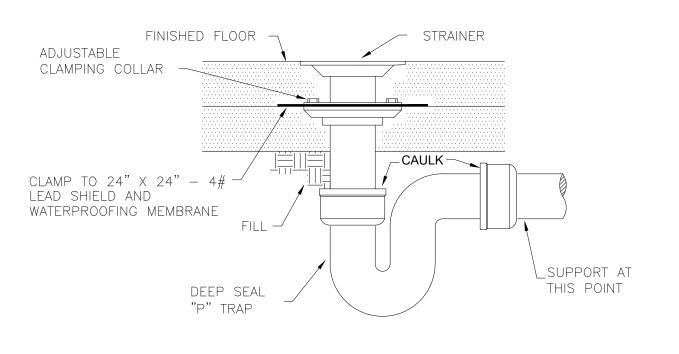




DETAIL-INTERIOR FLOOR CLEANOUT scale: n.t.s.

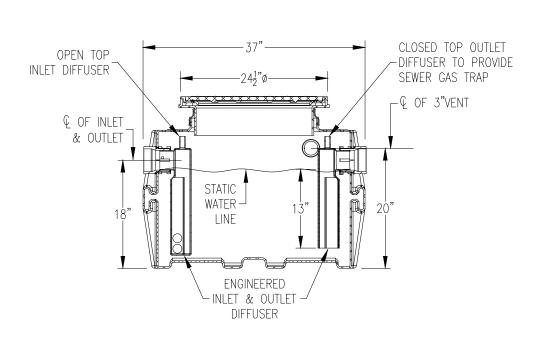


DETAIL-VALVE BOX FOR DOMESTIC WATER SERVICE scale: n.t.s.

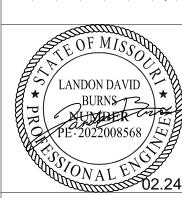


ALL FLOOR DRAINS SHALL HAVE TRAP PRIMERS.

DETAIL-FLOOR DRAIN scale: n.t.s.



DETAIL- OIL/WATER SEPERATOR scale: N.T.S.



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PROJECT NO: PHASE: PROJ. ARCHITECT:

> PLUMBING SCHEDULE & **DETAILS** SHEET NO.

P2.00

15010 BASIC MECHANICAL REQUIREMENTS

# GENERAL REQUIREMENTS

"PROVIDE" MEANS FURNISH AND INSTALL. THIS CONTRACTOR SHALL ALSO INSTALL MATERIALS FURNISHED "BY OTHERS" AND/OR OWNER.

GENERAL REQUIREMENTS SHALL BE INCLUDED AS PART OF THESE SPECIFICATIONS.

CONTRACTOR IS RESPONSIBLE FOR A COMPLETE SYSTEM. ALL EQUIPMENT AND RELATED ITEMS BY HVAC CONTRACTOR UNLESS OTHERWISE NOTED IN THESE SPECIFICATIONS.

IT IS THE INTENT OF THESE CONSTRUCTION DOCUMENTS TO DEPICT ENGINEERED DUCT, PIPE, AND EQUIPMENT ARRANGEMENTS THAT MINIMIZE CONFLICTS AND/OR INTERFERENCES WITH STRUCTURES AND OTHER TRADES. FINAL CONSTRUCTION COORDINATION WITH OTHER TRADES TO AVOID SUCH CONFLICTS IS THE RESPONSIBILITY OF THIS HVAC SUBCONTRACTOR.

DIFFERENCES AND/OR CONFLICTS BETWEEN CONTRACT DRAWING AND SPECIFICATION AND SHOP DRAWINGS, SHALL BE CALLED TO THE ENGINEERS ATTENTION.

TRADE NAMES ARE USED TO ESTABLISH QUALITY. SUBSTITUTIONS OF EQUIVALENT QUALITY MAY BE USED IF PRIOR APPROVED BY THE ENGINEER.

# RECORD DRAWINGS

PROVIDE RECORD DRAWINGS SHOWING LOCATIONS OF ALL CHANGES IN EQUIPMENT, PIPING AND DUCT ARRANGEMENTS. DRAWINGS SHALL BE RED PENCIL ON BLUE OR BLACK LINE PRINTS, DETAILS AND SCHEDULES SHALL BE KEPT UP TO DATE ON A DAILY BASIS. THESE DRAWINGS SHALL BE AVAILABLE TO THE BUILDER OR HIS REPRESENTATIVE AT THE JOB SITE.

AT COMPLETION OF THE PROJECT, <u>THE CONTRACTOR SHALL</u> SUBMIT UPDATED PRINTS TO THE BUILDER, <u>BEFORE</u> RECEIPT OF FINAL PAYMENT.

# MATERIALS FURNISHED BY OWNER

WILL BE RECEIVED, CHECKED FOR PROPER ACCESSORIES AND STORED AT THE SITE IN A CONVENIENT LOCATION FOR THE CONTRACTOR. UNLESS OTHERWISE SPECIFIED, ALL EQUIPMENT INDICATED IN THE SPECIFICATIONS, DETAILS, SCHEDULES, AND/OR ON THE DRAWINGS AS "FURNISHED BY OWNER" WILL BE FURNISHED BY OWNER AND INSTALLED BY THE CONTRACTOR. ALL OTHER EQUIPMENT AND MATERIALS SHALL BE PROVIDED BY THE CONTRACTOR.

# CONTRACTOR'S EQUIPMENT STORAGE

EQUIPMENT STORED AT THE SITE SHALL BE ADEQUATELY PROTECTED FROM THE WEATHER.

## START UP

CONTRACTOR TO LUBRICATE BEARINGS AS REQUIRED, INSTALL BELTS AND CHECK FOR PROPER BELT TENSION AND MOTOR ROTATION, INSTALL ALL SAFETY DEVICES, RELIEF VALVES, AND FILTERS. CONNECT ALL DAMPER LINKAGES AND REMOVE ALL SHIPPING HOLD DOWN CLAMPS AND BLOCKING.

# SYSTEM BALANCING

OBTAIN THE SERVICES OF AN INDEPENDENT AIR BALANCE AND TESTING AGENCY WHICH SPECIALIZES IN THE TESTING, AND BALANCING OF HEATING, VENTILATING, AIR CONDITIONING SYSTEMS: TO TEST: ADJUST AND BALANCE ALL SUPPLY, RETURN, AND EXHAUST SYSTEMS.

ALL WORK TO BE PERFORMED IN COMPLETE ACCORDANCE WITH THE ASSOCIATED AIR BALANCE COUNCIL (AABC) NATIONAL STANDARDS FOR FIELD MEASUREMENTS AND INSTRUMENTATION, LATEST ADDITION, THOSE SECTIONS APPLICABLE TO AIR DISTRIBUTION.

# EQUIPMENT SUPPORT

ALL DEVICES AND EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT DEPEND UPON CEILING OR WALL SURFACES FOR THEIR SUPPORT. THEY SHALL BE INCAPABLE OF BEING ROTATED OR DISPLACED. THE SUPPORT ATTACHMENT SHALL ADEQUATELY SUPPORT THE WEIGHT OF THE FIXTURE, DEVICE, OR EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT.

# TOUCH-UP AND COMPLETION

BUILDER WILL PAINT ALL EXTERIOR EXPOSED HVAC EQUIPMENT INCLUDING DUCTS, PIPES, LOUVERS, ETC. WHICH ARE SCRATCHED OR MARRED DURING CONSTRUCTION.

HVAC CONTRACTOR WILL RESPONSIBLE FOR PROTECTING AND KEEPING CLEAN HVAC EQUIPMENT DURING INSTALLATION. HVAC CONTRACTOR TO TEST EACH SYSTEM OR PIECE OF EQUIPMENT INSTALLED AND REPORT TO BUILDER ANY EQUIPMENT DAMAGE OR MALFUNCTION.

# ELECTRICAL WIRING

ELECTRICAL CONTRACTOR (E.C.) SHALL PROVIDE ALL POWER WIRING INCLUDING CONDUIT, WIRE AND CONNECTIONS. ALL STARTERS, FUSES, AND DISCONNECTS BY OTHERS EXCEPT WHERE SPECIFIED AS PART OF PACKAGE EQUIPMENT. STARTERS THAT COME WITH EQUIPMENT SHALL BE AUTOMATIC AND HAVE T.O.L. APPROPRIATE COVERS AND INTERLOCKS. ALL MOTORS LESS THAN 1/2 HP ARE 115/60/1 WITH INTEGRAL THERMAL OVERLOAD UNLESS OTHERWISE SPECIFIED.

ELECTRICAL CONTRACTOR SHALL LABEL ALL REMOVABLE PANELS FOR DISCONNECTS IN EQUIPMENT CABINETS WITH NAMEPLATE FURNISHED BY BUILDER (LABELED "ELECTRICAL SERVICE DISCONNECT LOCATED BEHIND THIS PANEL.")

# SHOP DRAWINGS

SUBMIT TO THE ENGINEER FOR REVIEW IMMEDIATELY AFTER AWARD OF CONTRACT, SIX (6) COPIES OF COMPLETE DESCRIPTIVE INFORMATION AND DIMENSIONAL DATA ON ALL ITEMS OF EQUIPMENT, MATERIALS, AND ACCESSORIES. SUBMIT ALL SHOP DRAWINGS AT ONE TIME. PIECE MEAL SUBMISSION SHALL NOT BE ACCEPTABLE.

"AS BUILT DRAWINGS": CONTRACTOR SHALL BE FURNISHED WITH ONE (1) SET OF BLUE OR BLACK LINE PRINTS, ON WHICH CONTR. SHALL SHOW ANY CHANGES IN THE WORK CAUSED BY UNFORESEEN CIRCUMSTANCES AND THESE DRAWINGS SHALL BE TURNED OVER TO THE ENGINEER IN GOOD ORDER PRIOR TO FINAL ACCEPTANCE OF THE BLDG. ENGINEER IN TURN PREPARE RECORD DRAWINGS FROM INFORMATION FURNISHED BY CONTR.

"PARTS CATALOG": FURNISH TO THE ENGINEER FOR THE OWNER, THREE (3) COMPLETE SETS OF PARTS CATALOGS AND OPERATING INSTRUCTIONS BOUND IN LARGE BINDERS FOR HIS USE. CONTR. SHALL INSTRUCT OWNER'S OPERATOR IN THE PROPER CARE, OPERATION, LUBRICATION, AND MAINTENANCE OF MECHANICAL EQUIPMENT INSTALLED.

# GUARANTEE AND SERVICE

GUARANTEE ALL EQUIPMENT, MATERIALS, AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FOLLOWING DATE OF ACCEPTANCE. GUARANTEE ALL EQUIPMENT CONTAINING ALL RECIPROCATING REFRIGERATION COMPRESSORS FULL FIVE (5) YEARS COVERING COMPRESSORS, LABOR, AND REFRIGERANT. GUARANTEE DOES NOT INCLUDE NORMAL MAINTENANCE ITEMS.

# 15050 BASIC MATERIALS AND METHODS

# MECHANICAL IDENTIFICATION

EQUIPMENT STENCILS SHALL IDENTIFY THE TYPE AND SERVICE WITH THE SAME NAMES, NUMBERS, AND/OR LETTERS USED TO IDENTIFY THE EQUIPMENT ON THE DRAWINGS. ALL STARTERS SHALL BE SIMILARLY STENCILED. OMIT IDENTIFICATION OF MINOR HEATING EQUIPMENT LOCATED IN THE ROOM IT SERVES, SUCH AS CONVECTORS, FINNED PIPE, UNIT HEATERS, ETC.

# VIBRATION ISOLATORS

INSTALL VIBRATION ISOLATORS AS SHOWN ON DETAILS OR AS NOTED ON SCHEDULES.

# PIPE INSULATION

REFRIGERANT SUCTION & CONDENSATE DRAIN LINES

INSTALL 3/4 INCH ARMAFLEX PER MANUFACTURER'S INSTRUCTIONS. ALL OUTSIDE LINES TO BE PAINTED WITH ARMSTRONG OUTDOOR FINISH. FOR LINES IN CEILING PLENUMS USE 1-1/2 INCH GLASS FIBER WITH INTEGRAL VAPOR BARRIER. MUST HAVE A CONTINUOUS SEALED VAPOR BARRIER ON ALL SUCTION

#### HOT AND COLD WATER DOMESTIC PIPING

INSULATE ALL HW AND CW PIPING IN EXTERIOR WALLS AND IN ATTIC SPACE W/ 3/4 INCH THK. FIBERGLASS INSULATION WITH FRJ JACKET, ALL JOINTS AND ELBOWS SHALL BE NEATLY MITERED AND SEALED COVERED PVC COVER/JACKET.

#### SLEEVES

PIPE SLEEVES: WROUGHT IRON OR STEEL OF SUFFICIENT SIZE FOR PIPING INSTALLATION IN FLOORS, WALLS, BELOW GRADE, AND GRADE BEAMS WHERE PIPING PASSES THROUGH. PVC MAY ONLY BE USED WHERE SPECIFICALLY NOTED.

# HANGERS AND SUPPORTS

REFER TO DUCTWORK SPECIFICATION, THIS SHEET.

HORIZONTAL PIPING ABOVE GRADE: RIGIDLY SUPPORTED ON MALLEABLE IRON SPLIT RING HANGERS; SUPPORTS FOR TWO OR MORE SYSTEMS OF PIPING RUN PARALLEL AND WITH SAME GRADE, TRAPEZE HANGERS MAY BE USED. USE ALL THREADED RODS FOR HANGERS AND SUPPORTS.

MAXIMUM SPACING OF SUPPORTS AND HANGERS FOR HORIZONTAL RUNS OF PIPE: FIVE (5) FEET FOR SOIL, TEN (10) FOR OTHER SOIL PIPE EXCEPT SUPPORT PIPING 1-1/2 INCH AND SMALLER EVERY SIX (6) FEET. PROVIDE GALVANIZED IRON SHIELDS BETWEEN HANGERS AND PIPE COVERING ON INSULATED PIPING. NO STRAP HANGERS OR WIRE WILL BE ACCEPTED.

SET INSERTS IN CONCRETE FOR HANGER RODS AND DUCT HANGERS WHERE APPLICABLE.

CONTR. SHALL SUPPORT DUCTWORK IN STRICT ACCORDANCE TO SMACNA STANDARDS,

# ACCESS PANELS

FACTORY MADE ACCESS DOORS AND FRAMES, PRIME COAT FINISH, SCREWDRIVER LATCH(S) OF SUITABLE SIZE AS REQUIRED. ACCESS PANELS IN RATED CEILING TO HAVE SAME RATING AS CEILING. ACCESS PANELS IN LINED DUCTWORK TO BE DOUBLE WALL TYPE WITH INSULATION SANDWICHED IN BETWEEN, SAME INSULATION VALUE AS ADJACENT DUCTWORK. WHERE VALVES, DAMPERS, CONTROLS, FIRE DAMPERS, SMOKE DAMPERS AND DETECTORS, REHEAT COILS, ETC. ARE CONCEALED IN WALLS OR NON—ACCESSIBLE CEILINGS. INSTALL FACTORY MADE ACCESS DOORS AND FRAMES.

FLOOR, WALL, AND CEILING PLATES (ESCUTCHEONS)

WHERE ANY PIPE OR RISERS PASS EXPOSED THROUGH WALLS, PARTITIONS,
FLOORS OR CEILING, USE CHROME PLATED FLOOR OR CEILING PLATES. PLATES
SHALL BE LARGE ENOUGH TO COMPLETELY CLOSE HOLE AROUND THE PIPES AND
BE ROUND WITH THE LEAST DIMENSION NOT LESS THAN 1-1/2" LARGER THAN THE
DIAMETER OF THE PIPE. PLATES SHALL BE SECURED IN AN APPROVED MANNER.

# CUTTING AND PATCHING

CUT ALL OPENINGS AS REQUIRED FOR THE WORK UNDER THIS SECTION. PATCHING SHALL BE DONE BY THE CRAFT WHOSE WORK IS INVOLVED. FURNISH AND INSTALL ALL NECESSARY SLEEVES, THIMBLES, HANGERS, INSERTS, ETC., AT SUCH TIME AND IN SUCH A MANNER SO AS NOT TO DELAY OR INTERFERE WITH WORK OF OTHER TRADES. NO BEAMS OR JOISTS SHALL BE CUT. AFTER RESURFACING HAS BEEN DONE, ANY FURTHER CUTTING, PATCHING AND PAINTING SHALL BE DONE AT THE EXPENSE OF THE CONTRACTOR.

# 15400 PLUMBING

# GENERAL

ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LOUISIANA STATE SANITARY CODE ALONG WITH ALL LOCAL CODES, ORDINANCES, AND REGULATIONS.

SLOPE DRAINAGE LINES, 3" AND SMALLER, 1/4" PER FOOT AND LINES 4" AND LARGER 1/8" PER FOOT.

ALL PIPES THRU WALL TO BE EQUIPPED WITH ESCUTCHEONS, CHROME PLATED.

SANITARY SEWER PIPING: ASTM D2556, PVC-DWV, SCHEDULE 40 SEWER PIPE WITH PVC FITTINGS, SOLVENT WELD JOINTS, ASTM D2564, UNLESS OTHERWISE STATED ON PLANS.

WATER PIPING: COPPER TUBING, ASTM B88 TYPE "L" SOFT DRAWN (UNDERGROUND) AND TYPE "L" HARD (ABOVE SLAB) DRAWN WITH ANSI/ASME B16.29 WROUGHT COPPER FITTINGS, JOINT SILVER SOLDERED NO JOINTS ALLOWED UNDERGROUND.

CONTRACTOR SHALL PROVE EITHER AIR CHAMBERS (MIN. 18" HIGH) OR SHOCK ABSORBERS AT ALL FIXTURES TO PREVENT WATER HAMMER, APPLIES ALL RISER DIAS.

SUPPORT ALL PIPING W/ CLEVIS TYPE HANGERS, EIGHT (8) FOOT CENTERS.

CONTRACTOR SHALL PROVIDE NEW WATER SERVICE. CONTRACTOR SHALL OBTAIN PRICES FROM LOCAL WATER COMPANY FOR THEIR REQUIRED SERVICES. PRICES

SHALL INCLUDE ALL NECESSARY EQUIPMENT, LABOR, ETC. FOR TIE-INS TO MAIN

INCLUDING COST OF BUT NOT LIMITED TO ALL METERS, FEES, PERMITS, ETC.

PLUMBING CONTRACTOR SHALL INSTALL AND CONNECT ALL OWNER FURNISHED EQUIP.
REQUIRING SERVICES (WATER OR SANITARY WASTE).

CONTRACTOR SHALL PROVIDE NEW SANITARY SEWER SERVICES. CONTRACTOR SHALL COORDINATE WITH CITY—PARISH FOR LOCATION OF TIE—IN ALONG WITH INCLUDING COSTS OF ALL PERMITS, FEES, ETC. IN HIS BID. BEFORE COMMENCING WORK CHECK ALL INVERT ELEVATIONS FOR SEWER CONNECTIONS, CONFIRM INVERTS AND ENSURE THAT THESE CAN BE PROPERLY CONNECTED WITH PROPER SLOPE FOR DRAINAGE.

CONTRACTOR SHALL PROVIDE EXTERIOR CLEANOUTS EVERY 75 FEET AND AT ALL TURNS.

### 15850 AIR HANDLING

# GENERAL

ALL RIGHTS AND LEFTS FOR FAN UNITS SHALL BE DETERMINED BY LOOKING INTO THE AIR OUTLET. CLOCKWISE AND COUNTERCLOCKWISE ROTATION SHALL BE DETERMINED BY VIEWING FROM THE DRIVE SIDE.

#### EXHAUST FANS

HVAC CONTRACTOR SHALL FURNISH AND SUPPLY EXHAUST FANS OF TYPE, CAPACITY AND SIZED AS SPECIFIED IN THE EXHAUST FAN EQUIPMENT SCHEDULE.

ALL CABINET TYPE FANS SHALL COME EQUIPPED WITH SPEED CONTROLLERS. ALL ROOF MOUNTED FANS SHALL COME WITH PREFABRICATED ROOF CURBS, REFER TO ARCH. DWGS. FOR ROOF SLOPE.

# 15880 AIR DISTRIBUTION

# DUCTWOR

VERIFY ALL DIMENSIONS. DIMENSIONS SHOWN ARE METAL TO METAL AREAS. ALL DUCTWORK SHALL HAVE MAXIMUM 5% LEAKAGE.

GALVANIZED SHEET METAL DUCTWORK FIRST QUALITY, COLD ROLLED, GALVANIZED, OPEN HEARTH SOFT STEEL SHEETS, CAPABLE OF DOUBLE SEAMING WITHOUT FRACTURE. TRANSVERSE JOINTS ON RECTANGULAR DUCTWORK WITH SLIPS AND DRIVES SHALL HAVE DRIVES BENT OVER AT CORNERS. GAUGES AND JOINT CONNECTORS PER LOCAL CODES, SMACNA, OR ASHRAE RECOMMENDATIONS AND THE FOLLOWING UNLESS OTHERWISE NOTED. FLEX DUCT WILL BE PERMITTED. FOR RUN-OUTS SHORTER THAN 10 FEET AND THE LAST 4 FEET OF A RUN OUT.

ALL DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT STANDARD, 2 INCH S.P. WITH THE FOLLOWING METAL THICKNESS.

# ROUND DUCTS — SNAP LOCK

UP TO 12 DIAMETER #26 GAUGE MINIMUM.
13 INCH TO 18 INCH DIAMETER #24 GAUGE MINIMUM
19 INCH TO 24 INCH DIAMETER #22 GAUGE MINIMUM

SPIRAL LOCK SEAM ROUND DUCTS MAY BE ONE GAUGE LIGHTER THAN GAUGES

# RECTANGULAR DUCTS AND PLENUMS

MAXIMUM SIDE UP TO 12 INCH #26 GAUGE MINIMUM MAXIMUM SIDE 13 INCH TO 30 INCH #24 GAUGE MINIMUM MAXIMUM SIDE 31 INCH TO 50 INCH #22 GAUGE MINIMUM MAXIMUM SIDE 51 INCH TO 84 INCH #20 GAUGE MINIMUM MAXIMUM SIDE 85 INCH AND UP #18 GAUGE MINIMUM

# AS NOTED ON DRAWINGS #16 GAUGE

FOR GREATER THAN 24 INCHES USE REINFORCEMENT AS LISTED IN LATEST SMACNA LOW PRESSURE SHEET METAL CONSTRUCTION GUIDE, SECURELY HUNG, BRACED AND STIFFENED TO PREVENT BREATHING, RATTLING, VIBRATION AND SAGGING.

DUCT SIZES 19 INCHES WIDE AND LARGER WHICH HAVE MORE THAN 10 SQUARE FEET OF UNBRACED PANEL SHALL BE CROSS BROKEN OR BEADED.

SUPPORT ALL DUCTS IN ACCORDANCE WITH SMACNA, EXCEPT WIRE HANGERS SHALL NOT BE PERMITTED. DUCTS 36 INCHES OR LARGER SHALL HAVE TRAPEZE TYPE HANGERS SUSPENDED WITH THREADED ROD.

SEAL ALL DUCTWORK SERVING SYSTEMS HAVING FANS RATED FOR LESS THAN 2 INCHES STATIC PRESSURE IN ACCORDANCE WITH SMACNA, SEAL CLASS C. ALL TRANSVERSE JOINTS, FITTING CONNECTIONS, AND SQUARE OR RECTANGULAR TO ROUND CONNECTIONS IN DUCTWORK SHALL BE SEALED USING ADHESIVE TYPE SLIPS, DUCT SEALER OR HARD CAST. ROUND TO ROUND CONNECTIONS WITH FIRM FIT AND SEALED, SEAL ALL DUCTWORK SERVING SYSTEMS HAVING FANS RATED FOR 2 INCHES STATIC PRESSURE OR GREATER IN ACCORDANCE WITH SMACNA SEAL CLASS A. ALL TRANSVERSE JOINTS, LONGITUDINAL SEAMS, DUCT WALL PENETRATIONS TO BE SEALED.

BRANCH TAKEOFFS NOT TO EXCEED 45 DEGREES. PROVIDE A VOLUME DAMPER IN EACH AND EVERY BRANCH OF SUPPLY, RETURN AND EXHAUST DUCT. (SEE FLOOR PLANS AND DETAILS).

# NO FIBERGLASS DUCT WILL BE ALLOWED ON THIS PROJECT

# CANVAS CONNECTORS

18 OUNCE FIREPROOF CANVAS OR NEOPRENE AT ALL FANS AND HVAC UNITS (EXCEPT ROOF VENTILATORS AND VANE AXIAL FANS WITH COMPANION FLANGES).

# DUCT INSULATION

INSULATION PRODUCTS PER NFPA—90A WITH 25 OR LESS FLAME SPREAD AND 50 OR LESS SMOKE DEVELOPMENT RATINGS. NO PLASTIC LINERS OR COVERS PERMITTED.

# DUCT LINER INSULATION

OWENS-CORNING AEROFLEX OR EQUIVALENT MANVILLE LINACOUSTIC OR KNAUF DUCT LINER M FIRE RESISTANT MATTE FACED GLASS FIBER DUCT LINER. 1-1/2 LB DENSITY. CERTIFIED EROSION RESISTANT DUCT LINER FOR DUCT AIR VELOCITIES UNDER 2000 F/P/M. K APPROX. 0.24 AT 50 DEGREES F. DUCT LINERS SHALL BE ADHERED TO THE SHEET METAL WITH A 100% COVERAGE OF ADHESIVE, AND ALL EXPOSED LEADING EDGES AND ALL TRANSVERSE JOINTS COATED WITH ADHESIVE. DUCT LINER SHALL BE CUT TO ASSURE OVERLAPPED AND COMPRESSED LONG-LONGITUDINAL CORNER JOINTS. THE DUCT LINER SHALL BE ADDITIONALLY SECURED WITH MECHANICAL FASTENERS WHICH SHALL COMPRESS THE DUCT LINER SUFFICIENTLY TO HOLD IT FIRMLY IN PLACE. FOR VELOCITIES TO 2000 F/P/M.

FASTENERS SHALL START WITHIN 3 INCHES OF THE UPSTREAM TRANSVERSE EDGES OF THE DUCT LINER AND 3 INCHES FROM THE LONGITUDINAL JOINTS AND SHALL BE SPACED A MINIMUM OF 12 INCHES O.C. AROUND THE PERIMETER OF THE DUCT, EXCEPT THAT THEY MAY BE A MAXIMUM OF 12 INCHES FROM A CORNER BREAK. ELSEWHERE THEY SHALL BE A MAXIMUM OF 18 INCHES O.C. EXCEPT THAT THEY SHALL BE PLACED NOT MORE THAN 6 INCHES FROM A CORNER BREAK.

# DUCT WRAP INSULATION

OWENS-CORNING FIBERGLASS ALL-SERVICE FACED DUCT WRAP INSULATION, OR EQUAL. INSTALL DUCT WRAP INSULATION WITH FACING OUTSIDE SO THAT TAPE FLAP OVERLAPS INSULATION AND FACING OF ADJACENT PIECE OF DUCT WRAP. INSULATION SHALL BE TIGHTLY BUTTED. IF DUCTS ARE RECTANGULAR, INSTALL SO INSULATION IS NOT EXCESSIVELY COMPRESSED AT DUCT CORNERS. SEAMS SHALL BE STAPLED APPROX. 6 INCHES ON CENTER WITH OUTWARD CLINCHING STAPLES.

SEAL SEAMS WITH PRESSURE—SENSITIVE TAPE MATCHING THE FACING. WHERE RECTANGULAR DUCTS ARE 24 INCHES IN WIDTH OR GREATER, DUCT WRAP INSULATION SHALL BE ADDITIONALLY SECURED TO THE BOTTOM OF THE DUCT WITH MECH. FASTENERS SUCH AS PINS AND SPEED CLIP WASHERS, SPACED ON 18 INCH CENTERS (MAXIMUM) TO PREVENT SAGGING OF INSULATION. ADJACENT SECTIONS OF WRAP INSULATION SHALL BE TIGHTLY BUTTED WITH THE 2 INCH TAPE FLAP OVERLAPPING. SEAL ALL TEARS, PUNCTURES, AND OTHER PENETRATIONS OF THE DUCT WRAP INSULATION FACING WITH TAPE OR MASTIC TO PROVIDE A VAPOR TIGHT SYSTEM.

# DUCT INSULATION LOCATION

#### EXHAUST DUCTS

WRAP ALL RECTANGULAR AND ROUND EXHAUST DUCTS AND EXHAUST PLENUMS AT ROOF EXHAUST FANS WITH 1-1/2 INCH THICK DUCT WRAP INSULATION. WRAP FOR ENTIRE LENGTH. LINE ALL EXHAUST GRILLE BOOTS WITH 1/2" DUCT LINER.

#### SUPPLY AIR DUCTS

WRAP ALL RECTANGULAR SUPPLY AIR DUCTS WITH 2" WRAP. LINEAR DIFFUSER BOOTS W/ 1" THICK DUCT LINER. WRAP ALL ROUND SUPPLY AIR DUCTS AND DUCTS 4" OR LESS IN ANY DIMENSION WITH 2" DUCT WRAP INSULATION.

#### RETURN AIR DUCTS

WRAP ALL RECTANGULAR DUCTS WITH 2" DUCT WRAP. GRILLE BOOTS W/ 1" THICK DUCT LINER. INSTALL RETURN GRILLE ACOUSTICAL PLENUMS FURNISHED BY BUILDER. WRAP ALL ROUND DUCTS AND DUCTS 4" OR LESS IN ANY DIMENSION WITH 2" THICK DUCT WRAP INSULATION.

# DUCT ACCESSORIES

# TURNING VANES

TURNING VANES TO BE DOUBLE WALL FABRICATED PER SMACNA STANDARDS.

<u>VOLUME DAMPERS</u>

MANUAL VOLUME DAMPERS, FABRICATED PER SMACNA STANDARDS, W/ LOCKING QUADRANT. PROVIDE MULTIBLADE DAMPERS FOR ALL DUCTS 12" DEEP AND

BALANCING DAMPERS WIDTH OF THE BRACH TAKEOFF. PROVIDE CEILING ACCESS FOR OPERATING DAMPERS. LEAVE ALL DAMPERS OPEN. VOLUME DAMPERS WHERE SHOWN ON DRAWING.

FOR ROUND DUCTS, HART & COOLEY #607 AND #608, OR EQUIVALENT, WITH 2 BEARING POINTS AND HANDLE AND WING NUT ASSEMBLY.

# BACK DRAFT DAMPERS

INSTALL PER MANUFACTURER'S INSTRUCTIONS. SEE SCHEDULE INTERLOCKED, FELT EDGED BLADE, ADJUSTABLE SPRING LOADED. PREFCO PHL, OR EQUIVALENT.

<u>DUCT ACCESS PANELS</u>

FOR MAINTENANCE, CLEANING, RESETTING, OR EXAMINATION. AIR TIGHT HINGED

# ACCESS DOORS W/ FELT OR TUBULAR NEOPRENE GASKET. WITH CAM LATCHES (NOT SCREWS). KARP OR EQUIVALENT. INSULATED AT INSULATED DUCTS.

GRILLES AND DIFFUSERS

ALL GRILLES AND DIFFUSERS SHALL BE AS INDICATED ON THE PLANS AND SHALL BE EQUIPPED W/ OPPOSED BLADE DAMPERS AND HAVE A WHITE BAKED ON ENAMEL FINISH UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS.

# FILTERS

FILTERS FURNISHED W/ ALL AIR HANDLING UNITS AND FURNACES. SEE SCHEDULES. SPARE FILTERS PROVIDED WHERE INDICATED IN SCHEDULE. HVAC CONTRACTOR IS REQ'D DURING AND AT THE COMPLETION OF THE BUILDING CONSTRUCTION TO PROVIDE NEW REPLACEMENT AIR FILTERS OF EQUAL EFFICIENCY AT ALL HVAC UNITS USED DURING CONSTRUCTION.

# HVAC CONTROLS

SEQUENCE OF OPERATION

AIR CONDITIONING SYSTEM (TYPICAL): PROVIDE PROGRAMMABLE ROOM TYPE THERMOSTATS TO CYCLE
THE CONDENSING UNIT ON THE COOLING CYCLE AND THE HEATING CYCLE,
REFER TO SCHEDULE AS REQ'D TO MAINTAIN SPACE CONDITIONS.

REFER TO SCHEDULE AS REQ'D TO MAINTAIN SPACE CONDITIONS.

AIR HANDLING UNIT SHALL BE WIRED FOR AND ELECTRICALLY INTERLOCKED SUCH THAT THE CONDENSING UNIT MAY NOT RUN NOR THE ELECTRIC HEATER BE ENERGIZED UNLESS THE EVAPORATOR FAN IS OPERATIONAL. THERMOSTAT SHALL BE EQUIPPED WITH "HEAT-OFF-COOL" AND "ON-AUTO" SELECTOR SWITCHES AND SHALL BE WIRED FOR EITHER CONSTANT FAN OPERATION OR AUTOMATIC FAN OPERATION ON BOTH THE HEATING AND COOLING CYCLE. IF AUX. DRAIN PAN FILLS W/ WATER, FLOAT SWITCH SHALL DE-ENERGIZE CONDENSING UNIT.

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Scales as stated hereon are valid on the original drawing only.

These plans were prepared in this office under our personal supervision, and to the best of our knowledge comply with state and local codes.

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2 ELECTRICAL SERVICE TO BE FURNISHED TO NEW HVAC UNITS AS FURNISHED BY THE MECHANCIAL CONTRACTOR. 3 ALL ELECTRICAL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL 4 BEFORE INSTALLATION, THE ELECTRICAL CONTRACTOR SHALL SUBMIT DETAILED DRAWINGS TO THE ENGINEER

FOR REVIEW COVERING PROPOSED LOCATIONS, MOUNTING, AND ROUTING FOR ALL CONDUITS, SERVICES, FITTINGS, GROUND RODS, SUPPORTS, ETC.

5 CONTRACTOR IS RESPONSIBLE FOR OVER-CURRENT PROTECTIVE DEVICE SHORT CIRCUIT, COORDINATION, AND ARC-FLASH STUDIES. 6 MATERIALS AND MANUFACTURERS NOTED ON DRAWINGS ARE TO BE USED AS BASIS OF DESIGN TO ESTABLISH

CONSIDERED WHERE SUFFICIENT PRODUCT INFORMATION IS PROVIDED TO MAKE A PROPER EVALUATION. APPROVAL OF A SUBSTITUTION IS AT THE SOLE DISCRETION OF THE PROFESSIONAL. 7 THE CONTRACTOR SHALL SUBMIT COPIES OF THE PRODUCT DATA, SHOP DRAWINGS, ETC. OF ALL MATERIALS NOTED ON THE DRAWINGS. ALL SUBMITTED PRODUCT DATA, SHOP DRAWINGS, ETC. SHALL BE MARKED WITH THE

QUALITY AND PERFORMANCE STANDARDS AND SHALL BE PROVIDED AS SPECIFIED. SUBSTITUTIONS WILL BE

NAME OF THE PROJECT AND SHALL BEAR THE STAMP OF APPROVAL OF THE CONTRACTOR AS EVIDENCE THAT THE MATERIAL HAS BEEN CHECKED BY THE CONTRACTOR. 8 DRAWINGS SPECIFIC TO THIS TRADE DO NOT LIMIT THE RESPONSIBILITY OR WORK REQUIRED BY THE CONTRACT DOCUMENTS. REFER TO DRAWINGS AND SPECIFICATIONS OF OTHER TRADES FOR COMPLETE INFORMATION

9 WHERE CONFLICTS EXIST AMONG DRAWINGS, SPECIFICATIONS, AND EQUIPMENT SCHEDULES, THE MOST STRINGENT REQUIREMENT OR QUANTITY SHALL APPLY. NOTIFY THE ARCHITECT/ENGINEER OF ALL CONFLICTS

FOR RESOLUTION OR INTERPRETATION. 10 NO EQUIPMENT SHALL BE ORDERED OR INSTALLED UNTIL THE PROJECT ENGINEER HAS RECEIVED A COPY STAMPED "NO EXCEPTIONS TAKEN." "NO EXCEPTIONS TAKEN" DOES NOT RELIEVE THE CONTRACTOR FROM CONFORMANCE WITH THE CONTRACT, EXTEND TO QUANTITIES OR DIMENSIONS, IMPLY THAT THE EQUIPMENT CAN BE INSTALLED OR OPERATE SATISFACTORILY, THAT THE EQUIPMENT CONTAINS ALL NECESSARY COMPONENTS, OR THAT IT WILL COORDINATE WITH OTHER APPROVED ITEMS.

11 OMISSION FROM THIS SHEET OF ANY ITEM SHOWN ELSEWHERE IN THE PLANS DOES NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY FOR ANY ASSOCIATED WORK.

12 COORDINATE INSTALLATION OF NEW ITEMS AND EQUIPMENT WITH THE OWNER'S REPRESENTATIVE AND THE WORK OF OTHER CONTRACTORS. THE CONTRACTOR SHALL INCUR ALL COSTS ASSOCIATED WITH THE RELOCATION OF EQUIPMENT CONFLICTING WITH NEW WORK BY OTHER DISCIPLINES THAT HAS NOT BEEN COORDINATED.

13 COORDINATE ALL ASPECTS OF NEW SERVICE WITH UTILITY COMPANY AND INCLUDE ALL COSTS IN BID.

14 WARNING TAPE SHALL BE INSTALLED 12 TO 18 INCHES BELOW GRADE OVER ALL CONDUITS.

15 PROVIDE 1/4" MINIMUM DIAMETER PULL ROPE. PULL ROPE SHALL NOT BE NYLON STRING.

16 FOR SERVICE ENTRANCE CONDUITS, UTILIZE LONG RADIUS (36") CONDUIT BENDS. 17 ALL CONDUIT RISERS FROM UNDERGROUND SHALL HAVE RIGID METAL ELLS AND RISERS.

18 PRIOR TO CONSTRUCTION, VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES. AVOID

DISTURBANCE OF EXISTING UTILITIES NOT INCLUDED IN THIS PROJECT. 19 ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR ONE YEAR EFFECTIVE THE DAY

THE PROJECT IS ACCEPTED BY THE OWNER. 20 ALL CUTTING AND PATCHING OF WALLS AND FLOORS FOR ELECTRICAL EQUIPMENT SHALL BE THE RESPONSIBILITY

OF THE ELECTRICAL CONTRACTOR. 21 PROVIDE CONDUIT SEALS AS REQUIRED WHERE PENETRATING NEC CLASSIFIED AREAS

22 VERIFY EXACT LOCATION, VOLTAGE, PHASE, AMPERAGE, ETC. OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO ORDERING ELECTRICAL GEAR.

# , LIGHTING GENERAL NOTES

ILLUMINATE THE SPACE.

1 ALL ELECTRICAL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL

2 VERIFY THE EXACT LOCATION OF ALL LIGHTING SWITCHES WITH THE ARCHITECT PRIOR TO ROUGH-IN.

3 VERIFY THE EXACT LOCATION OF ALL LIGHTING FIXTURES WITH THE ARCHITECTURAL REFLECTED CEILING PLAN

4 ROUTE NEW CONDUIT AND WIRING CONCEALED IN WALLS AND ABOVE CEILING WHERE POSSIBLE - COORDINATE INSTALLATION OF EXPOSED CONDUIT AND WIRING WITH THE ARCHITECT.

5 VERIFY THE EXACT LOCATION OF CEILING MOUNTED OCCUPANCY SENSORS WITH THE MANUFACTURER PRIOR TO

INSTALLATION FOR MAXIMUM PERFORMANCE.

6 EMERGENCY FIXTURES AND EXIT FIXTURES SHALL BE CONNECTED TO NEAREST CIRCUIT AHEAD OF SWITCH. 7 WALL MOUNT TYPE "Z" FIXTURES ABOVE DOOR AS SHOWN ON DRAWINGS. COORDINATE WITH ARCHITECT.

8 MOUNT TYPE "EM" FIXTURES 8'-0" AFF UNLESS OTHERWISE NOTED. 9 VERIFY THE CEILING TYPES FOR ALL LIGHT FIXTURES TO BE FLUSH MOUNTED OR SUSPENDED AND ADJUST

FIXTURE MOUNTING TYPES IN ACCORDANCE WITH THE CEILING TYPE, AS REQUIRED. 10 ALL VANITY FIXTURES SHALL BE MOUNTED WITH 0'-3" OF SPACE BETWEEN THE BOTTOM OF THE FIXTURE AND

THE TOP OF THE MIRROR. 11 VERIFY THE EXACT MOUNTING LOCATION FOR ANY PHOTOELECTRIC CELLS WITH THE ARCHITECT PRIOR TO

ROUGH-IN. ALL PHOTOELECTRIC CELLS MUST FACE NORTH.

12 CONTRACTOR SHALL CONFIRM COMPATIBILITY OF ALL LIGHTING CONTROL DEVICES/SWITCHES/DIMMERS WITH

LIGHTING FIXTURES AND BALLASTS/DRIVERS PRIOR TO SUBMITTAL.

13 COORDINATE LOCATION OF LIGHT FIXTURES IN MECHANICAL ROOMS WITH DIVISION 15/23 PLANNED EQUIPMENT LOCATION AND DUCT INSTALLATION. WALL MOUNT LIGHTS OR PROVIDE PENDANT MOUNTING AS REQUIRED TO POWER SYMBOL LEGEND

[		POWER PANEL		VOICE/DATA/POWER FLUSH FLOOR BOX		
	П	FUSED SAFETY DISCONNECT SWITCH		DUPLEX RECEPTACLE FLUSH FLOOR BOX	9	MOTOR
	$\bigcirc$	JUNCTION BOX		QUADRAPLEX RECEPTACLE FLUSH FLOOR BOX	WAP	WIRELESS ACCESS POINT
	M	JUNCTION BOX FOR MOTORIZED DAMPER	<b>◀</b>	DATA OUTLET PROVIDE 3/4" C. BACK TO	CT	CT CABINET
	$\rightleftharpoons$	DUPLEX RECEPTACLE	<b>◀</b>	ROUTER IN OFFICE.  DATA/DATA OUTLET PROVIDE 3/4" C. BACK TO	ATS	AUTOMATIC TRANSFER SWITCH
	<b>#</b>	ABOVE-COUNTER DUPLEX RECEPTACLE (42" AFF)	~	ROUTER IN OFFICE.  DATA/VOICE OUTLET PROVIDE 3/4" C. BACK	MTS	MANUAL TRANSFER SWITCH
	<del>-</del>	GFI DUPLEX RECEPTACLE	1	TO ROUTER IN OFFICE. VOICE OUTLET PROVIDE 3/4" C. BACK TO	GEN	GENERATOR
	<b>=</b> ‡	ABOVE-COUNTER GFI DUPLEX RECEPTACLE	7	ROUTER IN OFFICE.	OLIV	ABOVE-SLAB CONDUIT
	<b></b>	QUADRAPLEX RECEPTACLE		DATA FLUSH FLOOR BOX		BELOW-SLAB CONDUIT
	<b>#</b>	ABOVE-COUNTER QUADRAPLEX RECEPTACLE	$\blacktriangleleft$	ABOVE COUNTER DATA OUTLET		
	<del>\\\</del>	ABOVE GOOTHER GOADINI LEARLEGE TAGLE				

CABLE TV OUTLET

- PROVIDE 1" CONDUIT AND TWO (2) CAT 6 CABLES AT EACH DATA OUTLET SHOWN. ROUTE TO ABOVE CEILING AND ROUTE TO TELEPHONE BACKBOARD IN IT ROOM. COIL UP 10' OF SLACK FOR TERMINATIONS BY OWNER.
- OWNER SHALL PROVIDE THE WALL MOUNT DATA RACK, ALL ITEMS INCLUDED IN THE DATA RACK, AND ANY NECESSARY TELEPHONE EQUIPMENT.
- PLYWOOD FOR BACKBOARDS SHALL BE 0'-1" AC INDOOR GRADE, FIRE RETARDANT, AND PAINTED AS SPECIFIED. COMMON BOND RACKS, PATCH PANELS, CABLE SHIELDS, PROTECTORS, AND THE BUILDING MAIN ELECTRICAL GROUNDING CONDUCTORS SHALL BE, AT MINIMUM, #6 AWG INSULATED AND STRANDED COPPER. FASTENERS
- SHALL BE RECESSED AND ANCHORED. SUBMIT DIGITAL PHOTOGRAPHS OF ALL TERMINATIONS TO MAIN ELECTRICAL SERVICE GROUNDING MEANS.
- ALL BACKBOARDS SHALL BE EQUIPPED WITH D-RINGS SPACED AT 1'-0" APART AROUND ALL EDGES OF THE PLYWOOD TO SUPPORT CABLE AND WIRE.
- 7 CAT 6 CABLES FOR DATA OUTLETS SHALL HAVE BLUE JACKETS AND CAT 6 CABLES FOR VOICE OUTLETS SHALL

LIGHTING & SWITCHING SYMBOL LEGEND

DOUBLE-SIDED DIRECTIONAL EXIT LIGHT

SPECIAL PURPOSE RECEPTACLE

2X4 LED FIXTURE; "A" DENOTES TYPE PHOTOELECTRIC CELL 2X2 LED FIXTURE; "A" DENOTES TYPE SINGLE POLE TOGGLE SWITCH LINEAR LED FIXTURE; "A" DENOTES TYPE 3-WAY TOGGLE SWITCH DOWNLIGHT LED FIXTURE; "A" DENOTES TYPE LINEAR SLIDE DIMMER SWITCH 3-WAY LINEAR SLIDE DIMMER SWITCH TRACK LED FIXTURE; "A" DENOTES TYPE EMERGENCY LIGHTING UNIT MOTOR RATED TOGGLE SWITCH WALL MOUNT OCCUPANCY SENSOR EXIT/EMERGENCY LIGHTING UNIT SINGLE-SIDED EXIT LIGHT CEILING MOUNT OCCUPANCY SENSOR DOUBLE-SIDED EXIT LIGHT CEILING MOUNT VACANCY SENSOR SINGLE-SIDED DIRECTIONAL EXIT LIGHT

- | ABBREVIATION LEGEND

KEYNOTE ABOVE FINISHED FLOOR EXISTING TO REMAIN GFI GROUND-FAULT INTERRUPTER EXISTING TO BE DEMOLISHED WEATHERPROOF PROVIDE J-BOX AND CONNECTION FOR EXTERIOR SIGNS. COORDINATE NL FIXTURE TO BE ALWAYS ON, SWITCHED VIA EXACT ROUGH-IN LOCATION WITH SIGN VENDOR PRIOR TO ROUGH-IN. BREAKER.

ALL SYMBOLS, ABBREVIATIONS, AND NOTES ABOVE ARE TYPICAL AND ARE NOT NECESSARILY USED IN THESE CONSTRUCTION DOCUMENTS

# LIGHTING FIXTURE SCHEDULE

\*\* FINISH TO BE SELECTED BY ARCHITECT

MARK	DESCRIPTION	LAMPS	VOLTS	LOAD	TEMP.	LUMENS	MOUNTING	MANUFACTURER	CATALOG NO.	COUNT
Α	8' LED STRIP LIGHT WITH SEMI-FROSTED LENS. PROVIDE SUSPENSION HARDWARE AS REQUIRED.	LED	UNV	125 VA	4,000	14,000	CEILING/SUSPENDED	LITHONIA LIGHTING	ZL1D-L96-14000LM-FST-MVOLT-35K-80CRI	5
AE	8' LED STRIP LIGHT WITH SEMI-FROSTED LENS. PROVIDE SUSPENSION HARDWARE AS REQUIRED.	LED	UNV	125 VA	4,000	14,000	CEILING/SUSPENDED	LITHONIA LIGHTING	ZL1D-L96-14000LM-FST-MVOLT-35K-80CRI-E7W	3
В	4' LED STRIP LIGHT WITH SEMI-FROSTED LENS. PROVIDE SUSPENSION HARDWARE AS REQUIRED.	LED	UNV	60 VA	4,000	7,000	CEILING/SUSPENDED	LITHONIA LIGHTING	ZL1D-L48-7000LM-FST-MVOLT-35K-80CRI	4
BE	4' LED STRIP LIGHT WITH SEMI-FROSTED LENS. PROVIDE SUSPENSION HARDWARE AS REQUIRED.	LED	UNV	60 VA	4,000	7,000	CEILING/SUSPENDED	LITHONIA LIGHTING	ZL1D-L48-7000LM-FST-MVOLT-35K-80CRI-E7W	1
С	UP/DOWN WET LOCATION LISTED WALL SCONCE	LED	UNV	30 VA	4,000	1080 UP/DOWN	WALL/SURFACE	METEOR	LANCE4-30-408-UNV-NOD-30-15-**-**	4
EM	EMERGENCY LIGHTING UNIT EQUIPMENT WITH TWO ADJUSTABLE LED HEADS. INTEGRAL BATTERY WITH SELF-DIAGNOSTICS.	LED	UNV	2 VA	N/A	N/A	CEILING/WALL	LITHONIA LIGHTING	ELM6L	5
F	EXTERIOR WET LOCATION LISTED WALL PACK	LED	UNV	25 VA	4,000	2,200	WALL/SURFACE	LITHONIA LIGHTING	WSQLED-P1-40K-S2-MVOLT-BBW-**	1
FE	EXTERIOR WET LOCATION LISTED WALL PACK WITH EMERGENCY BATTERY BACKUP	LED	UNV	25 VA	4,000	2,200	WALL/SURFACE	LITHONIA LIGHTING	WSQLED-P1-40K-S2-MVOLT-BBW-**-E10WH	1
G	PARKING LOT FIXTURE ON 25' SSS POLE. PROVIDE ALL MOUNTING HARDWARE AS REQURIED. PROVIDE HOUSESIDE SHEILD	LED	UNV	60 VA	4,000	6,500	25' SSS POLE	LITHONIA LIGHTING	DSX1 LED 12 40K T3M MVOLT HS	3
G1	(2) HEAD PARKING LOT FIXTURE ON 25' SSS POLE. PROVIDE ALL MOUNTING HARDWARE AS REQURIED. PROVIDE HOUSESIDE SHEILD. LOAD AND LUMENS ARE THE TOTAL FOR BOTH HEADS.	LED	UNV	120 VA	4,000	13,000	25' SSS POLE	LITHONIA LIGHTING	DSX1 LED 12 40K T3M MVOLT HS	1
Н	6" LED DOWNLIGHT	LED	UNV	20 VA	3,500	1,500	RECESSED	LITHONIA LIGHTING	LDN6-35K-15-LO6-LSS-MVOLT	1
Х	COMBO UNIT EXIT SIGN WITH RED LETTERS AND TWO ADJUSTABLE LED HEADS. PROVIDE WITH NUMBER OF FACES AND DIRECTIONAL ARROWS AS INDICATED.	LED	UNV	1 VA	N/A	N/A	WALL/CEILING	LITHONIA LIGHTING	ECR LED	2

LANDON DAVID BURNS 12

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Will generally administer construction. Manhew. Wargegens

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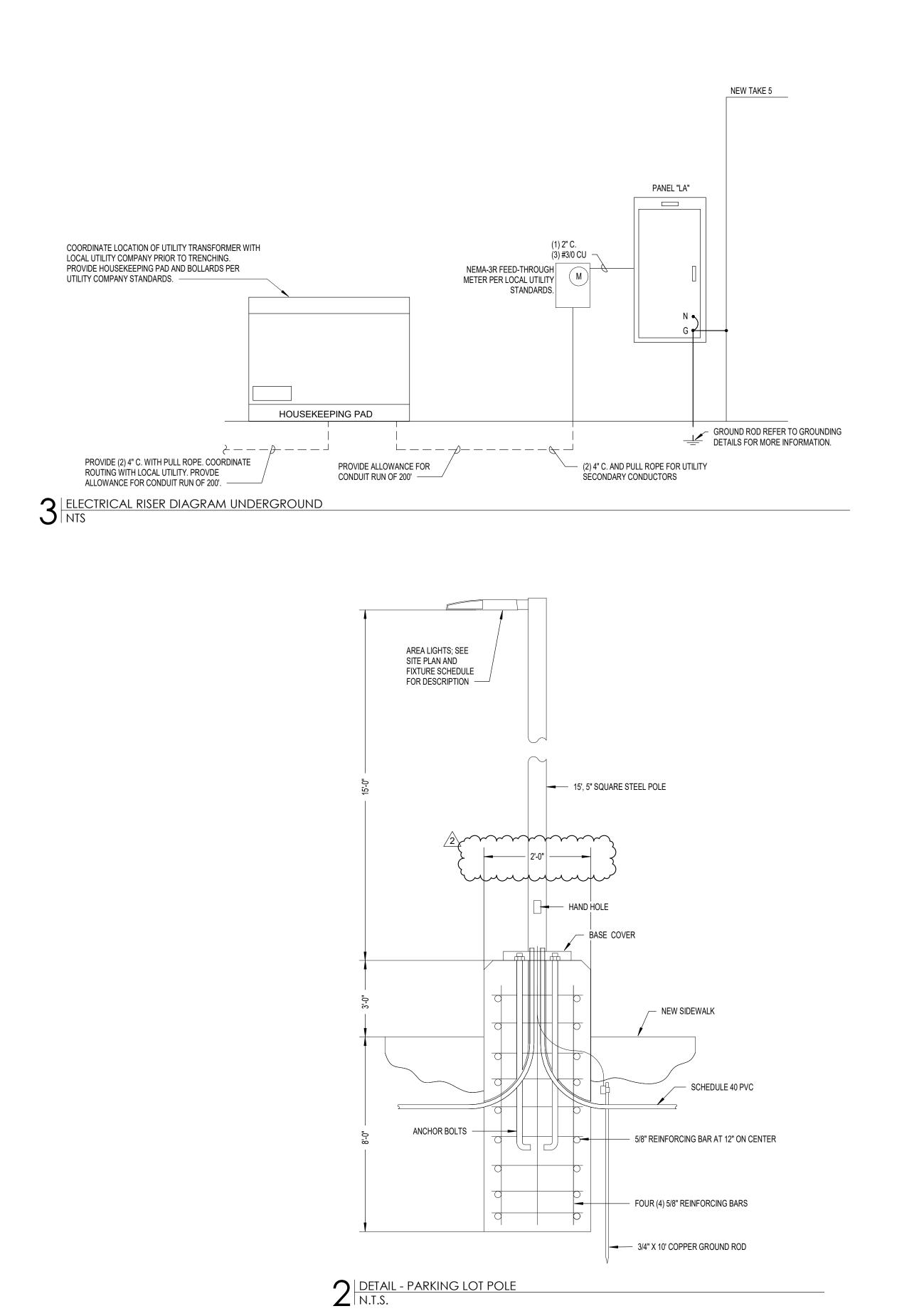
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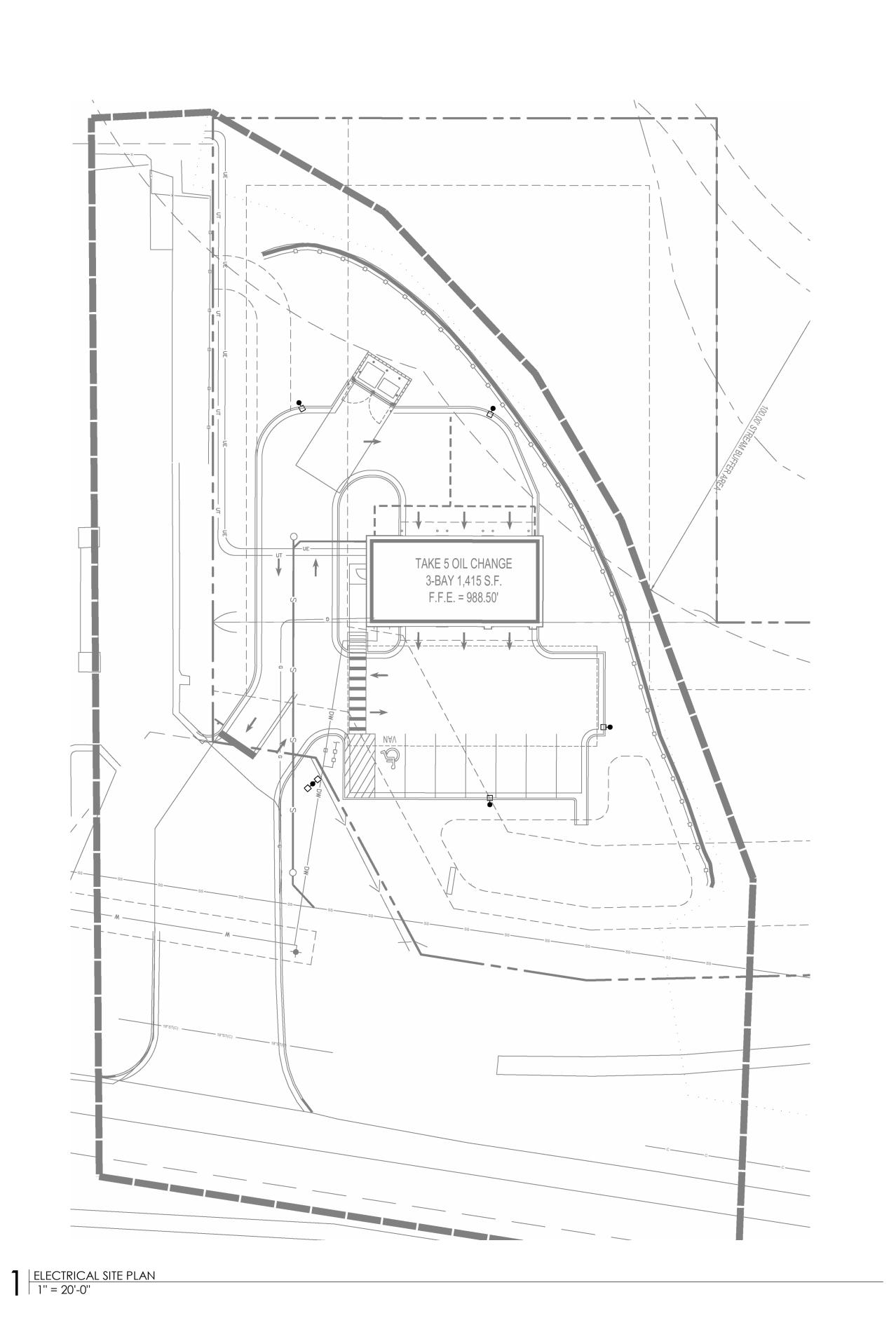


PROJECT NO: PHASE: Final Dev. Submitta 26 July, 2024 PROJ. ARCHITECT: ELECTRICAL COVE

SHEET

SHEET NO.





New Construction For Take 5 Oil Change

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400 NE M State Route 291 Lee's Summit, Missouri 64086

PROJECT NO: 33-006-22
PHASE: Final Dev. Submitta
DATE: 26 July, 2024
PROJ. ARCHITECT: MRD

ELECTRIAL SITE PLAN
SHEET NO.

SHEET NO.
F1\_01

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SITE PHOTOMETRIC PLAN
NTS

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By: Malhen, agregian

PHOTOMETRIC PLAN GENERAL NOTES

2. ALL CALCULATION POINTS WITHIN THE GREEN & RED

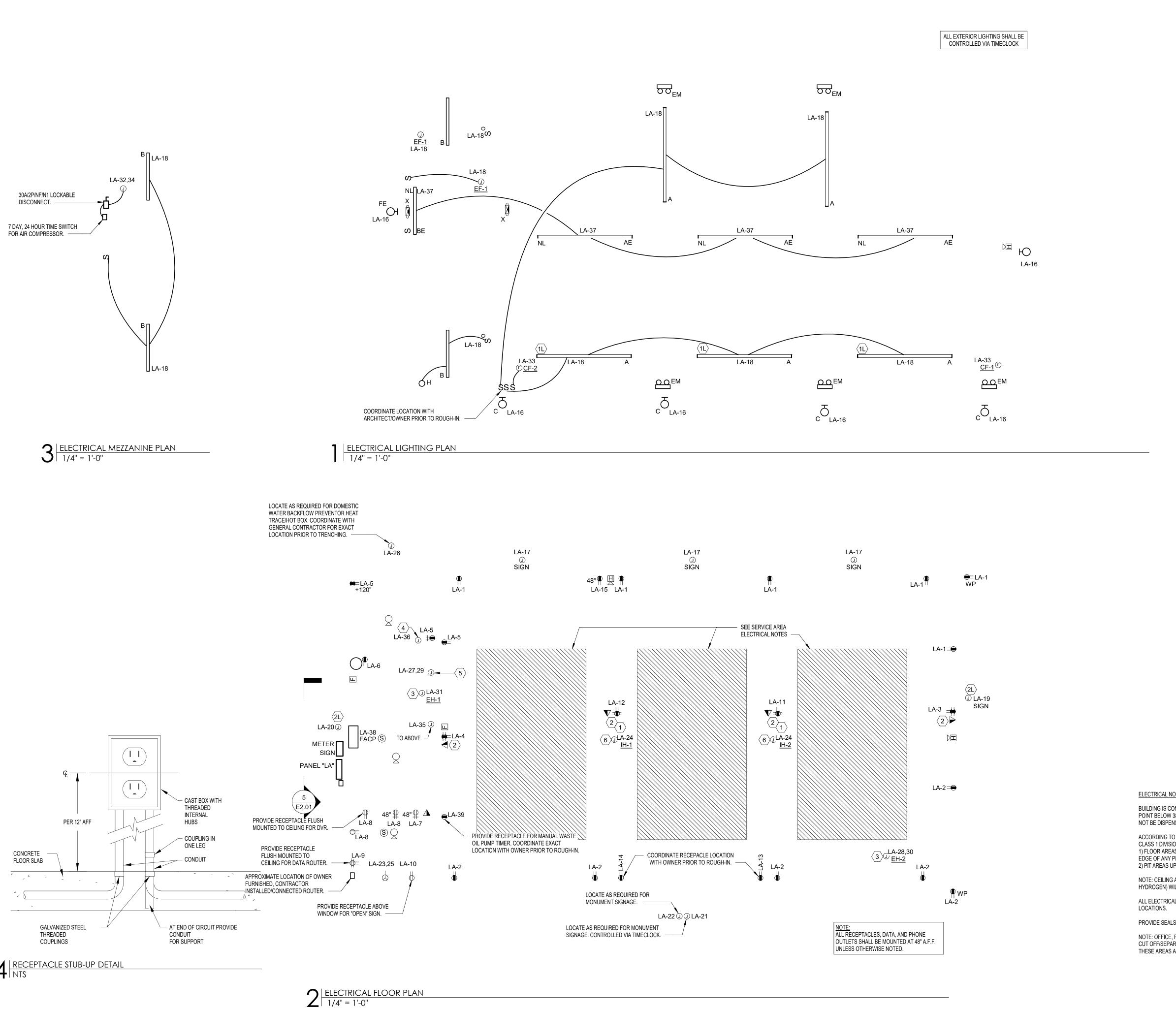


PHASE: Final Dev. Submitta 26 July, 2024 PROJ. ARCHITECT: MRI

PHOTOMETRIC PLAN

SHEET NO.

E1.02



LIGHTING KEYED NOTES:

COORDINATE EXACT LOCATION OF LIGHT FIXTURE WITH OWNER/ARCHITECT PRIOR TO INSTALLATION.

2L SIGNAGE CONTROLLED VIA TIMECLOCK

# **ELECTRICAL KEYED NOTES:**

 $\langle$  1  $\rangle$  INSTALL PODIUM DATA JUNCTION BOX ADJACENT TO PODIUM RECEPTACLE. FIELD VERIFY EXACT LOCATION PRIOR TO INSTALLATION OF UNDERGROUND CONDUIT. INSTALL PODIUMS 8'-6" FROM FRONT OF PIT AND TO FACE FRONT OF

 $\overline{2}$  PROVIDE (4) 3/4" C. BACK TO DATA ROUTER. PROVIDE DEDICATED 3/4" C. FOR EACH DATA RUN BACK TO ROUTER. ROUTE BELOW SLAB AND TURN UP AT ROUTER. PROVIDE JUNCTION BOX AT ROUTER. FIELD VERIFY EXACT LOCATION AND CONDUIT ROUTING PRIOR TO INSTALLATION.

(3) COORDINATE ELECTRICAL REQUIREMENTS WITH DIVISION 23 PRIOR TO PURCHASE.

 $\langle 4 \rangle$  LOCATE AS REQUIRED FOR INSTANT WATER HEATER. COORDINATE EXACT LOCATION WITH DIVISION 22 PRIOR TO ROUGH-IN. PROVIDE 30A SPST HEAVY DUTY TOGGLE SWITCH FOR LOCAL MEANS OF DISCONNECT.

 $\langle 5 \rangle$  LOCATE AS REQUIRED FOR INSTANT WATER HEATER. COORDINATE EXACT LOCATION WITH DIVISION 22 PRIOR TO ROUGH-IN. PROVIDE 30A/2P/NF/N1 DISCONNECT ADJACENT TO HEATER FOR LOCAL MEANS OF DISCONNECT.

6 MAKE CONNECTION TO GAS HEATERS FURNISHED AND INSTALLED BY DIVISION 23.

Storage Platform 8' - 6 3/4" -TIMECLOCK

 $5^{\frac{\text{| ELECTRICAL SERVICE ENTRANCE SECTION}}{1/4" = 1'-0"}}$ 

ELECTRICAL NOTES FOR SERVICE BAYS

BUILDING IS CONSIDERED A "MINOR REPAIR GARAGE" PER NEC ARTICLE 511.2 FLAMMABLE LIQUIDS HAVING A FLASH POINT BELOW 38°C (100°F) SUCH AS GASOLINE, OR GASEOUS FUELS SUCH AS NATURAL GAS OR HYDROGEN, WILL NOT BE DISPENSED OR TRANSFERRED.

ACCORDING TO NEC ARTICLE 511.3(D) THE FOLLOWING LOCATIONS IN THE SERVICE AREAS SHALL BE CONSIDERED CLASS 1 DIVISION 2 LOCATIONS: 1) FLOOR AREAS UP TO A LEVEL OF 18" ABOVE THE PITS AND EXTENDING A DISTANCE 3' HORIZONTALLY FROM THE EDGE OF ANY PIT. 2) PIT AREAS UP TO THE FLOOR LEVEL.

NOTE: CEILING AREAS ARE UNCLASSIFIED SINCE LIGHTER THAN AIR GASSES (SUCH AS NATURAL GAS AND HYDROGEN) WILL NOT BE TRANSFERRED.

ALL ELECTRICAL WORK IN THESE CLASSIFIED AREAS SHALL CONFORM TO ARTICLE 511 FOR CLASS 1 DIVISION 2

PROVIDE SEALS IN CONDUIT AND CABLE SYSTEMS PER ARTICLE 501 IN CLASSIFIED AREAS.

NOTE: OFFICE, RESTROOM AND OIL STORAGE AREAS ARE UNCLASSIFIED SINCE WALLS ARE USED TO EFFECTIVELY CUT OFF/SEPARATE THESE ROOMS FROM AREAS WHERE FLAMMABLE VAPORS ARE LIKELY TO BE RELEASED AND THESE AREAS ARE TYPICALLY OUTSIDE THE 3' HORIZONTAL DISTANCE FROM PIT EDGE.



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Will generally administer construction.

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used for the project and site specifically identified herein.

BURNS 12

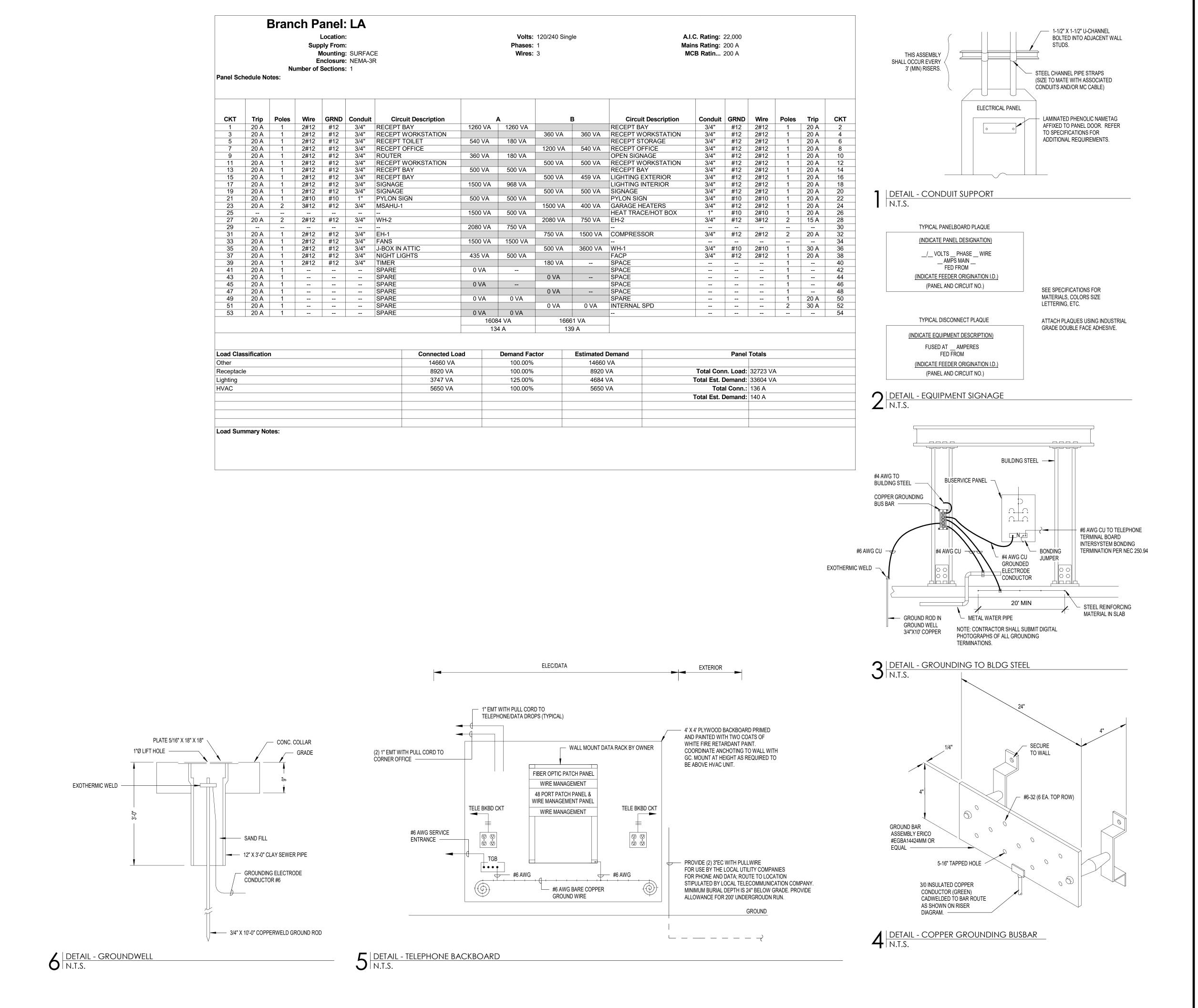


PROJECT NO: PHASE: Final Dev. Submitta 26 July, 2024 PROJ. ARCHITECT: MRI

ELECTRICAL PLANS

SHEET NO.

400 ee's



2 Revised Per City Comment
1 Revised Per City Comment
No. REVISION

LANDON DAVID

BURNS

PE-2022008568

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R C H I T E C T S

B C B

BRENTWOOD DRIVE BATON ROUGE, LATER P. 225.766.4848 F. 225.766.4724

FUSIONARCHITECTURE.COM

onstruction For 5 Oil Change NE M State Route 291

400 NE M State Roulee's Summit, Missoul



PROJECT NO: 33-006-2
PHASE: Final Dev. Submitta
DATE: 26 July, 2024
PROJ. ARCHITECT: MRE

DETAILS

SHEET NO. **E3.01** 

1.1 GENERAL CONDITIONS The General Conditions and Supplementary General Conditions are a part of this section of these Specifications. The Contractor is cautioned to read and be thoroughly familiar with all provisions of the General Conditions. These conditions shall be complied with in every aspect. The word "shall" where used, is to be understood, as mandatory and the word "should" as advisory. "May" is used in the permissive sense.

1.2 MINIMUM STANDARDS

Applicable rules of the National Electrical Code apply as a minimum standard for this contract, but do not replace or reduce any specific requirement

1.3 LAWS, PERMITS AND FEES

A. The entire electrical work shall comply with the rules and regulations of the State, including the State Fire Marshal and State Board of Health, whether so shown on plans or not.

PART 2.0 PRODUCTS

2.1 RACEWAYS AND FITTINGS Raceways permitted on this project shall be hot dipped galvanized rigid steel conduit; electrical metallic tubing (EMT); flexible metallic tubing; and liquidtight flexible metal conduit. All conduits shall be new and shall bear the inspection label of the Underwriter's Laboratories, Inc. Metallic conduit shall be metalized. Non-metallic conduit shall be schedule 40 PVC.

B. Fittings for conduit shall be an approved type specially designed and manufactured for their purpose. EMT fittings shall be water tight, compression type. Setscrew connector fittings shall not be permitted.

C. Galvanized conduit furnished in accordance with these specifications shall be of mild steel piping, galvanized inside and outside, and shall conform in all respects to the American Standard Association rigid Steel Conduit Specification C80.1-1959 and Underwriter's Laboratories Specifications.

2.2 OUTLET AND SWITCH BOXES

Outlet boxes in concealed conduit systems shall be flush mounted. Boxes shall be galvanized steel of sufficient size to accommodate devices shown and shall have raised covers where required to meet requirements of NEC Article 314. All boxes shall be stamped, one piece, galvanized steel, of proper size and shape for conduits entering them, and shall be UL listed and NEC approved for the intended use.

B. Boxes for lighting fixtures shall be 4 inches octagon, not less than 1-1/2 inches deep, with fixtures stud fastened through from back box. Outlet boxes for switches in concealed work shall be standard switch boxes of required number of gangs. Outlet boxes for receptacles, telephone, and communication use in concealed work shall be 4 inch square, not less than 1-1/2 inches deep.

Boxes are not to be installed back to back in walls. Do not use long, extended boxes that would effectively couple light and sound between adjoining

2.3 WIRE (600 VOLT AND BELOW)

All conductors used in the work shall be of soft drawn annealed copper having a conductivity of not less than 98% of that of pure copper. Conductors shall be standard code gauge in size, insulated and shall have insulation rated for use at 600 volts. Unless noted otherwise or specified, insulation shall be type MC, THW, THWN, or THHN for sizes up to and including No. 2 AWG. Insulation for wire sizes larger than No. 2 AWG shall be type THW, XHHW, or THHN. Lighting fixture wire shall be heat resistant type TF (150oC) with 300-volt insulation minimum. Wires shall be of the single conductor type. Sizes No. 8 AWG and larger shall be stranded. Sizes No. 12 thru No. 14 shall be single strand solid copper.

Throughout the system, all conductors shall be identified as to the phase and voltage of the system by color-coding in accordance with NEC 210.5. Color-coding shall be continuous the full length of the wire with surface printing at regular intervals on all conductors and for neutral conductors.

Panelboards shall be sized as shown on the drawings and schedules, and shall be the bolted breaker panelboard type. All panelboard bussing shall be copper. Load centers are not acceptable.

B. Panel board shall be dead front safety type with main breaker or main lugs, as required by code. Panel boards shall have single, feed through, or double lugs to accommodate feeder conductors. Panel boards with neutrals shall have a neutral buss and a neutral bar insulated from the enclosure for terminating feeder and branch circuit neutral conductors. Each panel board shall have an equipment grounding bar connected to the cabinet for terminating feeder and branch circuit ground conductors.

C. All breakers shall be bolt on type. Panelboards for 120/208 volt service shall be GE type NLAB, Square D type NQOD, Siemens type CDP\_7, Cutler-Hammer POW-R-LINE series, or equal. Panelboards for 480/277 volt service shall be Square D type NEHB, Siemens type Sentron, Cutler-Hammer

Unless otherwise specified, all outlets including voice/data outlets shall be fitted with cover plates. Cover plates shall be standard size, uniform in design and finish for switches, receptacles and other outlets requiring cover plates.

Wiring devices shall be as listed. The color of device shall match color of outlet cover plate. It shall be the responsibility of the Contractor to provide plugs, receptacles, and fittings required for any equipment furnished or installed or connected under the contract. Color as selected by the Architect.

	Levition	P&S	Hubbe
Toggle Switches: 20A 120/277V Single pole Three-way	1221-l 1223-l	20AC1-I 20AC3-I	1221-l 1223-l
Duplex Receptacle: 20A, 125V, NEMA 5-20R	5362-I	5362-l	5363-I
Ground Fault Circuit Interrupter: 20A, 125V, Feed Throug	h,		

C. Quad receptacles shall be 20 amp, 125 volt rated, NEMA 5-20R, with two (2) duplex receptacles or single four-plex device.

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2.6 VOICE & DATA STATION CABLES

Voice and data station wiring shall be Category 6 enhanced (Cat 6e) communications wire and cable. Station Cable shall be four-pair, unshielded, twisted pair, inside-station cable, and shall be constructed of solid 24 gauge annealed copper. Each conductor shall be insulated with a continuous layer of fluorinated ethylene propylene (FEP). The sheath shall be all weather, flame resistant, polyvinyl chloride. Station wire shall be constructed of 4 twisted pair sharing one sheath. Cable shall have Category 6e transmission characteristics as specified by ANSI/EIA/TIA-568-B2.1. Cables routed in air plenum shall have a sheath and conductor insulation constructed of material so as to be classified as type CMP as defined by the NEC 800-3(b)(3). Voice cable shall be GRAY. Data station cables shall be BLUE.

2.7 LED LIGHTING

Lighting fixtures with LED light sources shall meet the following fixture and light source requirements:

LED Color Temperature - Cool White (CW), 5800K nom., CRI > 70

Line Voltage - Universal Voltage 120-277 volts Governmental Standards - LM79 and LM80 Compliant

Expected Lamp Life - LED Life Rating (L70 B10) to be 60,000 hours to 100,000 hours; Defined as time of operation (in hours) to 30% lumen depreciation (i.e. 70% lumen maintenance), derived from Luminaire in-situ temperature measurement testing (i.e. LED chip package temperature (TS) measurement obtained with the LED chip package operating in given luminaire and in a given stabilized ambient environment) under UL1598 environments and directly correlated to LED package manufacturers IESNA LM-80-08 data. Predicted (L70 B10) Limits (@ 25°C luminaire ambient operating environment): Greater than 60,000 hours @ 350mA Drive Current

Driver - Components must be fully encased in potting material for moisture resistance, and must comply with IEC and FCC standards

Surge Protection - Surge protection must be provided including separate sure protection built into electronic driver Mechanical - Luminaire LED system components to be low copper aluminum, with high performance heat sink(s) designed specifically for LED luminaires. No active cooling features (Fans, etc.). Luminaire configuration must allow for modular upgradability and/or field repair of all electrical components (i.e. LED modules, Driver(s), etc.). Drivers and

vertical light bars must be all mounted to a twist-lock tool-less assembly for ease of installation and trouble- shooting. Drivers shall be provided with a minimum warranty of 5 years.

3.1 WIRING - GENERAL Unless otherwise specified, all wiring shall be installed in conduit. No wire shall be smaller than No. 12 unless noted otherwise. Wire for each branch circuit shall be of single size and type from the branch circuit protective device the last outlet of the circuit. BX wiring shall not be allowed.

3.2 CONDUIT - MATERIALS AND METHODS

Conduit shall be installed as per NEC and NEMA regulations and the manufacturer's recommendations. Electrical Metallic Tubing shall be used for feeders, branch circuit and communications and control wiring. In places where EMT is permitted, 1/2" through 2" sizes shall be the only sizes permitted. Fittings for EMT shall be the compression ring type fittings. Communications wiring may be installed without conduits above accessible ceilings.

3.3 MOUNTING HEIGHTS

Unless otherwise noted on the drawings or required by the Architect, the following mounting heights shall apply: Toggle Switches - 4'-0"; Receptacles - 1'-6"; Communication Outlets - 1'-6" (48" for wall phone).

3.4 COMMUNICATIONS WIRING INSTALLATION

Unless otherwise specified, all communications systems shall be permanently installed and connected to the wiring system. The systems must be installed according to manufacturer standards and recommendations. Wiring installation shall be tested after completion of installation. Test results and as-built documents will be provided toarchitect in both hard copy and electronic copy, furnished on a CD.

Wiring map/as built documents showing voice and data outlets, device numbers, room locations, and termination locations will be displayed in each wiring closet.

Wireless drop wiring shall be punched down on a separate punch down block at the end of the data punch down blocks. The wireless punch down block shall be

Voice and data wiring routed above accessible ceilings shall be supported on J-hooks, and shall be loose bundled using Velcro wraps. Voice and data wire bundles shall not include power wiring or wiring for other low voltage systems (fire alarm, intercom, security, CCTV, etc.).

E. COMMUNICATIONS SYSTEM CABLES ROUTED EXPOSED ABOVE CEILINGS SHALL BE PLENUM RATED.

LIGHTING INSTALLATION

Unless otherwise specified, lighting fixtures shall be permanently installed and connected to the wiring system. The Contractor shall support each fixture, independently from the building structure. Ceiling framing members shall not be used to support fixtures except in specified areas where ceiling supports for this purpose have been specified elsewhere in these specifications. Each fixture shall have at least two fixture supports. Flexible conduit used for fixture whips shall be at least twelve (12) inches, but not more than 48 inches long.

ARCHITECTS and is not to be reproduced or copied in whole or in part unless authorization given by FUSION ARCHITECTS. It is only to be

used for the project and site specifically identified herein. Scales as stated hereon are valid on the original These plans were prepared in this office under our personal supervision, and to the best of our

knowledge comply with state and local codes.
Will generally administer construction. Manhew. Dagregear



PROJECT NO: PHASE: Final Dev. Submitta 26 July, 2024 PROJ. ARCHITECT:

**SPECIFICATIONS**