



March 1, 2023

Cherokee Nation Businesses
Cherokee Nation Film Office
Owasso Campus Improvements Phase II
16990 E. 116th Street N. Owasso, Ok
74055



ADDENDUM NUMBER 02

By issuance this addendum is made a part of the bidding documents for the referenced project as though originally included therein. Where a portion of the bidding documents is modified or deleted the unaltered portion of the bidding documents shall remain in effect.

ITEM	REFERENCE	CHANGE
CHANGES TO PROJECT MANUAL		
AD 2.01	000003	Delete Specification Section 000003 from project Manual, replace with revised Section 000003 dated, March 1, 2023. (2 pages)
AD 2.02	012300	Add specification Section 012300 dated, March 1, 2023, to Project Manual. (2 pages)
AD 2.03	072100	Delete Specification Section 072100 from project Manual, replace with revised Section 072100 dated, March 1, 2023. (5 pages)
AD 2.04	090561	Add specification Section 090561 dated, March 1, 2023, to Project Manual. (8 pages)
AD 2.05	096813	Delete Specification Section 096813 from project Manual, replace with revised Section 096813 dated, March 1, 2023. (3 pages)
AD 2.06	133419	Delete Specification Section 133419 from project Manual, replace with revised Section 133419 dated, March 1, 2023. (22 pages)

CHANGES TO CIVIL DRAWINGS (Campus Improvements Phase II)

AD 2.07	C1.1	Delete drawing C1.1 and add in its place on attached Drawing C1.1, dated March 1, 2023.
AD 2.08	C1.4	Delete drawing C1.4 and add in its place on attached Drawing C1.4, dated March 1, 2023.
AD 2.09	C1.5	Delete drawing C1.5 and add in its place on attached Drawing C1.5, dated March 1, 2023.
AD 2.09	C1.7	Delete drawing C1.7 and add in its place on attached Drawing C1.7, dated March 1, 2023.
AD 2.10	C1.8	Delete drawing C1.8 and add in its place on attached Drawing C1.8, dated March 1, 2023.

CHANGES TO GENERAL DRAWINGS (Campus Improvements Phase II)

AD 2.11	G1.3	Delete drawing G1.3 and add in its place on attached Drawing G1.3, dated March 1, 2023.
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CHANGES TO ARCHITECTURAL DRAWINGS (Campus Improvements Phase II)

AD 2.12	A2.1	Delete drawing A2.1 and add in its place on attached Drawing A2.1, dated March 1, 2023.
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ALTERNATE NO.1 - SECOND FLOOR ADDITION

ADDITION TO GENERAL DRAWINGS (Campus Improvements Phase II - ALTERNATE #1)

AD 2.13	G1.1.1b	Add drawing G1.1.1b to Construction Documents, dated March 1, 2023.
AD 2.14	G1.1.1c	Add drawing G1.1.1c to Construction Documents, dated March 1, 2023.
AD 2.15	G1.2b	Add drawing G1.2b to Construction Documents, dated March 1, 2023.

AD 2.16	G1.3b	Add drawing G1.3b to Construction Documents, dated March 1, 2023.
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ADDITION TO ARCHITECTURAL DRAWINGS (Campus Improvements Phase II - ALTERNATE #1)

AD 2.17	A2.0b	Add drawing A2.0b to Construction Documents, dated March 1, 2023.
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AD 2.18	A2.1b	Add drawing A2.1b to Construction Documents, dated March 1, 2023.
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AD 2.18	A2.1c	Add drawing A2.1c to Construction Documents, dated March 1, 2023.
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AD 2.19	A2.3c	Add drawing A2.3c to Construction Documents, dated March 1, 2023.
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AD 2.20	A2.4b	Add drawing A2.4b to Construction Documents, dated March 1, 2023.
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AD 2.21	A2.6b	Add drawing A2.6b to Construction Documents, dated March 1, 2023.
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AD 2.22	A2.6c	Add drawing A2.6c to Construction Documents, dated March 1, 2023.
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AD 2.23	A3.0b	Add drawing A3.0b to Construction Documents, dated March 1, 2023.
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AD 2.24	A3.6	Add drawing A3.6 to Construction Documents, dated March 1, 2023.
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AD 2.25	A5.1b	Add drawing A5.1b to Construction Documents, dated March 1, 2023.
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ADDITION TO STRUCTURAL DRAWINGS (Campus Improvements Phase II - ALTERNATE #1)

AD 2.26	S0.1b	Add drawing S0.1b to Construction Documents, dated March 1, 2023.
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AD 2.27	S0.2b	Add drawing S0.2b to Construction Documents, dated March 1, 2023.
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AD 2.28	S0.3b	Add drawing S0.3b to Construction Documents, dated March 1, 2023.
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AD 2.29	S0.4b	Add drawing S0.4b to Construction Documents, dated March 1, 2023.
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AD 2.30	S0.5b	Add drawing S0.5b to Construction Documents, dated March 1, 2023.
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AD 2.31	S0.6b	Add drawing S0.6b to Construction Documents, dated March 1, 2023.
AD 2.32	S1.1b	Add drawing S1.1b to Construction Documents, dated March 1, 2023.
AD 2.33	S1.2b	Add drawing S1.2b to Construction Documents, dated March 1, 2023.
AD 2.34	S2.1b	Add drawing S2.1b to Construction Documents, dated March 1, 2023.
AD 2.35	S3.1b	Add drawing S3.1b to Construction Documents, dated March 1, 2023.
AD 2.36	S4.1b	Add drawing S4.1b to Construction Documents, dated March 1, 2023.

MEP DESIGN NARRATIVE (Campus Improvements Phase II - ALTERNATE #1)

Add attached Design Narrative as prepared by Green Acorn to Construction Documents, Dated March 1, 2023. (3 pages)

DOCUMENT 000003

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Cherokee Nation Film Office
Owasso Camus Improvements - Phase II
16990 East 116th Street North
Owasso, Oklahoma



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Appendix 'A'

Document Geotechnical Report

END OF SECTION 000003

**SECTION 012300
ALTERNATES**

PART 1 - GENERAL

1.1 SUMMARY

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

1.2 DEFINITIONS

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

1.3 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Notification: Immediately following award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate if alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- C. Execute accepted alternates under the same conditions as other work of the Contract.
- D. Schedule: A Schedule of Alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. *Alternate No. 1: Provide Alternate price for Second Story Addition as outlined in Alternate No. 1 Bid Documents as prepared by MGM Design Group, Wallace Design Collective and Green Acorn, LLC. Dated March 1, 2023.*
 - 1. **Architectural Drawings (14 Sheets) Dated March 1, 2023**
 - 2. **Structural Drawings (11 Sheets) Dated March 1, 2023**
 - 3. **MEPF Design Narrative (3 Pages) Dated March 1, 2023**

- B. **Alternate No. 2: Provide Alternate Unit Price for saw cutting and patching of existing Interior Floor Slabs. Pricing shall be submitted in Cost per Yard Formatting**

- C. **Alternate No. 3: Provide Alternate Unit Price for saw cutting and patching of existing exterior concrete parking and driveways. Pricing shall be submitted in Cost per Yard Formattin.**

END OF SECTION 012300

**SECTION 072100
INSULATION**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Rigid polystyrene board insulation.
 - 2. Glass-fiber blanket thermal insulation.
 - 3. Glass-fiber blanket acoustical insulation.
 - ~~4. Spray polyurethane foam insulation.~~
 - 5. Vapor retarders.

1.2 DEFINITIONS

- A. Mineral-Fiber Insulation: Insulation composed of rock-wool fibers, slag-wool fibers, or glass fibers; produced in boards and blanket with latter formed into batts (flat-cut lengths) or rolls.

1.3 ACTION SUBMITTALS

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

1.4 INFORMATIONAL SUBMITTALS

- A. Product test reports.
- B. Research/evaluation reports.

PART 2 - PRODUCTS

2.1 INSULATION PRODUCTS

- A. Foundation Insulation: Extruded-Polystyrene Board Insulation: ASTM C 578, Type VI, with flame-spread and smoke-developed indexes of 75 and 450, respectively.
 - 1. Thicknesses: 2 inches.

2.2 BOARD INSULATION PRODUCTS

- A. Extruded-Polystyrene Board Insulation: ASTM C 578, Type VI.
- B. Acoustic Board: Owens Corning - Select Sound 2" thick.

2.3 BATT INSULATION PRODUCTS

- A. Glass-Fiber-Blanket Insulation: ASTM C 665, Type I, unfaced.
- B. Glass-Fiber-Blanket Insulation: ASTM C 665, Type III, Class A, foil faced on one.
- C. Glass-Fiber-Blanket Insulation: ASTM C 665, Type III (reflective faced), Class B (faced surface with a flame-propagation resistance of 0.12 W/sq. cm); Category 1 (membrane is a vapor barrier), faced with foil-scrim kraft (FSK), or foil-scrim polyethylene.
- D. Foil-Face Bubble Sheet: Foil facing both sides.

~~2.4 SPRAY POLYURETHANE FOAM INSULATION~~

~~A. Closed Cell Polyurethane Foam Insulation: ASTM C 1029, Type II, with maximum flame spread and smoke developed indexes of 75 and 450, respectively, per ASTM E 84.~~

~~1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:~~

- ~~a. BASF Corporation.~~
- ~~b. BaySystems North America, LLC.~~
- ~~c. Dow Chemical Company (The).~~
- ~~d. ERSystems, Inc.~~
- ~~e. Gaco Western Inc.~~
- ~~f. Henry Company.~~
- ~~g. NCFI; Division of Barnhardt Mfg. Co.~~
- ~~h. SWD Urethane Company.~~

~~2. Minimum density of 1.5 lb/cu. ft., thermal resistivity of 6.2 deg F x h x sq. ft./Btu x in. at 75 deg F.~~

2.5 AUXILLIARY MATERIALS

- A. Vapor-Retarder Tape: Pressure-sensitive tape of type recommended by insulation manufacturers for sealing joints and penetrations in vapor-retarder facings.
- B. Noise Proofing Compound: Green Glue Boise Proofing compound.

PART 3 - PRODUCTS

3.1 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.

- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.
- C. Extend insulation to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Water-Piping Coordination: If water piping is located within insulated exterior walls, coordinate location of piping to ensure that it is placed on warm side of insulation and insulation encapsulates piping.
- E. Provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

3.2 INSTALLATION OF BELOW-GRADE INSULATION

- A. On vertical surfaces, set insulation units loosely laid according to manufacturer's written instructions.
 - 1. If not otherwise indicated, extend insulation a minimum of 24 inches below exterior grade line.
- B. On horizontal surfaces, loosely lay insulation units according to manufacturer's written instructions. Stagger end joints and tightly abut insulation units.
 - 1. If not otherwise indicated, extend insulation a minimum of 24 inches in from exterior walls.

3.3 INSTALLATION OF INSULATION FOR FRAMED CONSTRUCTION

- A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.
- B. Glass-Fiber Insulation: Install in cavities formed by framing members according to the following requirements:
 - 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
 - 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 - 3. Maintain 3-inch clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
 - 4. For metal-framed wall cavities where cavity heights exceed 96 inches, support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.

5. Vapor-Retarder-Faced Blankets: Tape joints and ruptures in vapor-retarder facings, and seal each continuous area of insulation to ensure airtight installation.

6. Exterior Walls: R19 + 11

3.4 INSTALLATION OF INSULATION IN CEILINGS FOR SOUND ATTENUATION

- A. Where indicated, install 3-inch- thick, unfaced glass-fiber blanket insulation over suspended ceilings at partitions in a width that extends insulation 48 inches on either side of partition. Secure 2 by 4 foot batts of insulation to each 2 by 4 foot acoustical ceiling panel with 3 (three) strips of double-sided carpet tape spaced 10 inches o.c.

3.5 Installation of Green Glue Compound

- A. Refer to Green Glue Noise Proofing Compound Installations.

3.6 PROTECTION

- A. Protect installed insulation and vapor retarders from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

3.7 INSULATION SCHEDULE

- A. Extruded-Polystyrene Board Insulation, Foundation Insulation:

1. Foundation insulation. 2 inches thick. Unfaced.

- B. Glass-Fiber-Blanket Insulation, Walls:

1. Exterior wall insulation in 6 inch wide metal stud framing. 6 inches thick, R-19. Faced. Continuous blankets or batts sized to fit snugly in framing.
2. Acoustical ceiling batts: 3 inches thick, No R-rating required. 2 by 4 foot batts. Unfaced.

~~C. Sprayed Foam Insulation, Exterior Walls:~~

- ~~1. Spray onto wall to a minimum of 4 inches thick, or as noted on Drawings.~~

- D. Roof Insulation System:

1. Roof Insulation, R30 +11

- a. Install on top of upper layer of unfaced glass-fiber insulation which is to be draped over purlins. Install with bubble wrap adjacent to or nearest steel roof deck. Secure to insulation batt using T-pins in sufficient numbers and spacing to keep bubble sheet from sliding out of place.

2. Glass-Fiber-Blanket Roof Insulation, Primary:

- a. Roof Insulation, Primary: 4-inch thick batt of unfaced insulation placed on top of 4-inch thick batt of faced insulation, continuous batt faced insulation.
- b. Drape batts over roof purlins. Use insulation spaces.

END OF SECTION 072100

**SECTION 090561
MOISTURE VAPOR EMISSION CONTROL**

PART 1 GENERAL

1.1 RELATED SECTIONS

- A. Section 096813 – Tile Carpeting

1.2 REFERENCES

- A. ASTM F 1869 Standard Test for measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
- B. ASTM F 2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
- C. ASTM D7234 Tensile Bond Strength
- D. ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials

1.3 SYSTEM DESCRIPTION:

- A. Provide a system of **moisture mitigation, surface preparation products, and adhesives** from a single source manufacturer necessary to achieve proper installation of specified flooring material that will provide the Owner with a moisture control system limited warranty for a period of no less than **25 years**.
- B. Provide a system of **moisture mitigation and surface preparation products ONLY (not adhesives)** from a single source manufacturer necessary to achieve proper installation of specified flooring material that will provide the Owner with a moisture control system limited warranty for a period of no less than **15 years**.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data:
 - 1. Manufacturer's data sheets on each product to be used.
 - 2. Preparation instructions and recommendations.
 - 3. Storage and handling requirements and recommendations.
 - 4. Typical installation methods.
 - 5. System Warranty including moisture vapor barrier, skim coats, self leveling underlayments and flooring adhesive from a single manufacturer.
- C. Sustainability Submittals: Refer to Division 01810 Facility Performance Requirements for additional requirements:

1. Submit certificate of CRI Green Label Plus for flooring adhesive.
 2. Submit contractor certification of compliance with installation requirements of products to maintain sustainability performance levels.
- D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square representing actual product, color, and patterns.
- E. Shop Drawings: Include details of materials, construction and finish. Include relationship with adjacent construction.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing Products specified in this section.
- B. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
- C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.
- D. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
 2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
 3. Retain mock-up during construction as a standard for comparison with completed work.
 4. Do not alter or remove mock-up until work is completed or removal is authorized.

1.6 PRE-INSTALLATION CONFERENCE

- A. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
- B. Discuss contract document requirements, moisture tests, manufacturer recommendations, installer's recommendations, scheduling, and protection of work from damage by other trades.
- C. Attendance required by: Contractor, Floor Installer, Manufacturer's Representative, Independent testing agency, Concrete Subcontractor, Ready Mix supplier.
- D. Objective of conference is:
1. Review methods and procedures.
 2. Tour job site representative areas to inspect and discuss condition of substrate.
 3. Review concrete finishing requirements.
 4. Review and finalize construction schedule.
 5. Review required inspections, testing, certifications, material usage procedures.
 6. Review environmental restrictions and forecasts

- 7. Record content of conference including attendance and topics.
- E. Furnish record of pre-installation conference to all parties who are affected by MVE control systems work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of section 01650 and section 01660.
- B. Store products in manufacturer's unopened containers until ready for installation.
- C. Store products in a cool dry place out of direct sunlight.
- D. Maximum shelf life is 1 year from date of manufacture in unopened containers. Uncontaminated, resealed partial pails of product can be stored, until depleted, for up to 6 months.

1.8 PROJECT CONDITIONS

- A. For interior application only.
- B. Do not bridge existing expansion joints.
- C. Do not install in temperatures below 50 degrees F.
- D. Not for use in conditions of hydrostatic pressure or excessive moisture (>100 percent Relative Humidity) per ASTM F 2170, or 25 lbs./1000 sq. ft. / 24 hours per ASTM F 1869.
- E. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.9 WARRANTY

- A. [10 Year Limited Product Warranty for Moisture Mitigation Vapor Barrier](#): Product shall be free from manufacturing defects and will not break down or deteriorate under normal use for 10 years.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Brand/Manufacturer: TEC®/H.B. Fuller Construction Products Inc.; 1105 S. Frontenac Street, Aurora, IL 60504.
Tel: 800-832-9023. Web: www.tecspecialty.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 MATERIALS

A. [TEC® LiquiDam EZ™](#): Technical Data:

1. Maximum allowable moisture emission rate of concrete: 25 lbs. per 1,000 ft² per 24 hours when measured in accordance with ASTM F 1869, or an RH value of 100% or less when measured in accordance with ASTM F 2170.
2. One-part formula
3. Permeance shall be no greater than 0.10 per ASTM E96
4. Floor covering installation: 4 hours (dependent on substrate conditions, porosity and temperature.)
5. Polymeric emulsion moisture mitigation formula
6. VOC: 1 g/L

PART 3 EXECUTION

3.1 EXAMINATION

- A. Test moisture content of substrates:
1. Before applying LiquiDam EZ™, refer to the [TEC® Moisture Mitigation Checklist](#) and use an approved testing method to determine the relative humidity of the concrete or Moisture Vapor Emission Rate (MVER). Approved methods include the use of ASTM F2170 to determine the relative humidity of the concrete or “Anhydrous Calcium Chloride” testing per ASTM F1869 to determine the MVER.
 2. Notify the Architect and General Contractor in writing of any unsatisfactory conditions.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
1. All surfaces shall be structurally sound and free from oil, grease, dust, loose or peeling paint, sealers, floor finishes, curing compounds or any contaminant that would prevent a good bond.
 2. Minimum tensile bond strength of 150 psi (1 MPa) is required, when tested per ASTM D7234 (tensile bond test).
 3. Substrate temperature shall be a minimum of 50 F during application.
 4. Air temperature shall be maintained between 50 – 90 F.
- C. A successful application to concrete requires evaluation and preparation to address any conditions that would prevent a good bond. The following guidelines are provided to assist in this process. Additional evaluation, testing and/or preparation may be required to ensure the above Surface Preparation Requirements are met. It is necessary to evaluate all four conditions. Check for Condition 1 on the entire concrete surface. Conditions 2 through 4 should be checked

for at least once per every 50 ft² (4.6 m²) on small applications (1000 ft² [93 m²] or less) and once every 100 ft² (9 m²) on large applications (greater than 1000 ft² [93 m²]). Once you have completed the preparation method, always re-check to confirm the method worked.

1. **CONDITION 1:** Surface coatings and/or contamination such as gypsum plaster, joint compound, paint and adhesive. **Evaluation:** Look at the surface and note the type and location of the surface contamination. **Preparation:** First scrape off any lumps and loose material. Then use an appropriate cleaning method for the type of coating or contamination.
 - a. For gypsum plaster and joint compound — Scrub with warm water and detergent to remove any remaining material. Thoroughly rinse off any residue and allow concrete to dry prior to application of any TEC[®] materials.
 - b. For paint — Chemical strippers should not be used. They may leave a residue or be absorbed into the concrete and later migrate into the surface and cause a bond failure. Paint not easily scraped off should be mechanically removed.
 - c. For adhesive — Scrape off all the adhesive from the surface first, then remove the layer of adhesive-contaminated concrete by mechanical means.
2. **CONDITION 2:** Weak top layer (called laitance) or damaged concrete such as spalling, scaling, delaminating or crumbling. **Evaluation:** First scrape the surface with a knife blade. If this produces a fine powder, then laitance is present. Then use a hammer or other heavy object to sound out weak or hollow areas. Note the areas that are weak or damaged. **Preparation:** Weak or damaged concrete must be mechanically removed. Do NOT acid wash or etch concrete because it is difficult to fully remove contaminants and properly neutralize. The acid can penetrate into the porous concrete and chemically undermine it, weakening the concrete. Acid washing will not remove grease or oil.
3. **CONDITION 3:** Curing Compounds/Sealers
 - a. Broom finish or Steel troweled finish (non-glossy) **Evaluation:** Apply water droplets onto the surface. If the droplets are not absorbed within 60 seconds the surface was treated with a curing compound/ sealer or is contaminated. **Preparation:** The sealed or contaminated layer of concrete must be removed by mechanical means.
 - b. Burnished finish (glossy surface) **Evaluation:** Frequently LiquiDam EZ™ can be installed over burnished concrete without mechanical preparation. For glossy burnished concrete surfaces, apply test areas to confirm bond strength of at least 150 psi when tested per ASTM D7234 (tensile bond test). **Preparation:** Glossy burnished concrete surfaces that do not provide bond strength of at least 150 psi must be removed by mechanical means.
4. **CONDITION 4:** Final Surface Preparation - removal of dirt and dust. **Evaluation:** Wipe the surface with a clean dark cloth. If powder is visible on the cloth the surface is not clean enough. Note the areas that were not clean enough. **Preparation:** Always use a two-step method to remove surface dirt and dust. First use a dry clean broom and sweep the entire surface. Do not use oil or wax based sweeping compounds. They can leave a film

on the concrete surface that will prevent a proper bond. The second step should consist of one of the following:

- a. Vacuuming — use a heavy-duty industrial type vacuum to provide a dust-free surface. It may also be necessary to follow vacuuming with a damp sponge wipe to remove residual surface dust.
- b. Water cleaning — use a stream of potable water with sufficient pressure to remove dust and dirt. When necessary, also scrub with a stiff bristled brush. **Remove all wash water and allow concrete to thoroughly dry.**
- c. Detergent water cleaning — using a stiff bristled brush or broom, scrub the entire concrete surface with a cleaning product intended for concrete or a solution of at least 4 ounces (113 g) of trisodium phosphate per gallon (3.78 L) of warm water. Before the surface dries, thoroughly flush the concrete with clean potable water to remove all wash water and residue. **Allow concrete to thoroughly dry prior to application of any TEC® materials.**

3.3 MIXING

- A. Mix materials in accordance with manufacturer's instructions.
 1. Open the pail and hand stir to a smooth creamy consistency with a paint stick or margin trowel. Be sure to re-blend in any liquid that may have separated to the top of the container. Do not use an electric drill and mixing paddle. High-speed drills and paddles can entrain air into the formula. Air entrainment may increase work time to roll out the bubbles. Substrate and all materials must be maintained at 50°F-90°F (10°C-32°C) for 24 hours before, during and after installation.

3.4 EXISTING CRACKS

- A. For Static Cracks, Cuts or Joints less than 1 mm wide: remove dirt, debris or existing sealant from all cracks and joints, then treat static (non-moving) joints, cuts and cracks with LiquiDam EZ™ by directly applying LiquiDam EZ™ into the cracks or joints with a paintbrush, to completely coat the walls of each cavity.
- B. For Static Cracks / Control Joints 1 mm-3 mm wide: remove dirt, debris or existing sealant from cracks and joints, then use a concrete crack filler, such as [TEC® Feather Edge Skim Coat](#) or [TEC® PerfectFinish™ Skim Coat](#) and allow to dry 15 to 60 minutes.
- C. For Fast-Track Saw Cut / Static Cracks Fill: Remove any dirt, debris, or existing sealant. Use [TEC Joint/Crack Filler](#) per product data sheet instructions. Overfill the joint/crack and shave after the material loses tack (typically 45-55 minutes). To optimize coverage, use of backer rod is acceptable for deep joints/ cracks but you must maintain minimum depth of 1/2" with TEC Joint/Crack Filler.
- D. For Expansion Joints / Dynamic (moving) Cracks: remove any dirt, debris or existing sealant from cracks and joints. Treat all dynamic (movement) joints with LiquiDam EZ™ by applying a layer into the joint edges with a paintbrush to completely coat the walls of the cavity. Once dried, fill the dynamic joint with backer rod, leaving a minimum of 1/2" (12 mm) open at the top for proper treatments with a sealant.

3.5 APPLICATION

- A. LiquiDam EZ is applied in two coats. The first coat is applied at 150 ft² (13.94 m²) per gallon and must be trowel-applied and backrolled. The second coat is applied at a 300 ft² (27.87 m²) per gallon and can be trowel-applied and backrolled or simply roller-applied.

1) Lay out the substrate area into one 150 ft² (13.94 m²) grid (example: 6 ft. x 25 ft / 1.83 m x 7.62 m) to validate the first coat spread rate.

2) After stirring (as noted above), spread one gallon of the LiquiDam EZ, across the grid area with a 1/16" (1.6 mm) square-notched trowel. NOTE: Do not exceed 150 ft² (13.94 m²) per applied gallon. **Product must be troweled as the first step and followed up in unison with the 1/4" nap roller.**

3) Immediately saturate the roller in the initial application of trowel applied LiquiDam EZ, then backroll the area, to optimize disbursement of the material over the entire substrate. Periodically evaluate the surface to ensure a smooth continuous film. Wet film thickness of the first coat should be 18-20 mils.

4) Allow the first coat to dry 90-120 minutes. LiquiDam EZ is dry when it turns dark blue.

5) Apply the second coat with a 1/32" (0.8 mm) U-notched trowel and backroll with the 1/4" nap roller or simply roller-apply the second coat. Wet film thickness for the second coat should be 9-10 mils. The second coat must fill any remaining white pinholes from the first coat. Care should be taken to not gouge or otherwise disturb or damage the dried membrane. Inspect the dried film to make sure there are no pinholes, voids, bubbles or breaks in the membrane. Apply additional LiquiDam EZ to fill all voids and allow to dry. **Do not over-work.**

6) Once dry, the second coat will appear darker than the first. The second coat MUST dry a minimum of 90-120 minutes before moving to the next installation step. Protect the application area from traffic and other trades until installation of the flooring.

After a job is complete, any unused, uncontaminated LiquiDam EZ Moisture Vapor Barrier can be simply resealed securely with the container lid, and then can be used for up to 6 months (see storage guidelines).

3.6 DRYING AND SURFACE PREPARATION

- A. Most impervious floor coverings require the application of a TEC[®] cementitious underlayment over LiquiDam EZ[™]* for the adhesives to bond properly to the floor coverings. Combined coats of LiquiDam EZ[™] dry in as little as 3-4 hours, depending on surface porosity and ambient humidity. Apply appropriate TEC[®] cementitious underlayment directly to the dried LiquiDam EZ[™] at a minimum thickness of 1/8" (3 mm) (no primer is required). For further information contact your TEC[®] Sales Associate.

* TEC Releasable Pressure Sensitive Adhesive or TEC Clear Thin Spread Adhesive may be applied directly to LiquiDam EZ Moisture Vapor Barrier if concrete surface is sufficiently smooth and level to accept flooring. If the substrate is not smooth and level, please treat with appropriate TEC surface preparation products, for the proposed floor coverings, as noted above.

END OF SECTION

**SECTION 096813
TILE CARPETING**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes modular carpet tile.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.3 SUBMITTALS

- A. Action Submittals:

1. Product Data: For each type of product indicated.
2. Shop Drawings: Show layout and pattern type, location, and direction:
3. Samples: For each exposed product and for each color and texture specified.

- B. Informational Submittals: Product test reports; Sample warranty.

- C. Closeout Submittals: Maintenance data.

1.4 MAINTENANCE MATERIALS SUBMITTAL

- A. Extra Materials: Deliver to Owner carpet tiles equal to 5 percent of each type and color installed, packaged with protective covering for storage.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An installer with a proven, successful record of installations of the same type and size as this Project.
- B. Fire-Test-Response Ratings: Where indicated, provide carpet tile identical to those of assemblies tested for fire response according to NFPA 253 by a qualified testing agency.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with CRI 104.

1.7 FIELD CONDITIONS

- A. Comply with CRI 104, Section 7.2, "Site Conditions; Temperature and Humidity" and Section 7.12, "Ventilation."

- B. Environmental Limitations: Do not install carpet tiles until wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
- C. Do not install carpet tiles over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended by carpet tile manufacturer.

1.8 WARRANTY

- A. Special Warranty for Carpet Tiles: Manufacturer agrees to repair or replace components of carpet tile installation that fail in materials or workmanship within 10 years from date of Substantial Completion

PART 2 - PRODUCTS

2.1 CARPET TILE

- A. Products: Subject to compliance with requirements, provide the products listed in the Finish Legend and Room Finish Schedule:
- B. Colors and Patterns: Indicated in the Finish Legend.
- C. Primary Backing/Backcoating: Manufacturer's standard composite materials.
- D. Applied Soil-Resistance Treatment: Manufacturer's standard material.
- E. Antimicrobial Treatment: Manufacturer's standard material.

2.2 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet tile manufacturer.
- B. Carpet Tile Adhesives: Pressure-sensitive type that complies with flammability requirements for installed carpet tile and is recommended by carpet tile manufacturer for conditions indicated for releasable installation.
 - 1. Adhesives shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- C. Edge/Transition Strips: Rubber transition strips, of height required to protect exposed edge of carpet, and of maximum lengths to minimize running joints. Refer to Division 09 Section "Resilient Base and Accessories." Provide resilient edge/transition strips if and as indicated in the Room Finish Schedule.
- D. Provide TEC - Liquidam EZ Moisture Vapor Barrier over existing floor slab in Open Office A022 and Office A021.**

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance. Examine carpet tile for type, color, pattern, and potential defects.
- B. Concrete Subfloors: Verify that concrete slabs comply with ASTM F 710.
- C. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch wide or wider and protrusions more than 1/32 inch unless more stringent requirements are required by manufacturer's written instructions.
- D. Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by carpet tile manufacturer.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.
- F. Installation: Comply with CRI 104, Section 14, "Carpet Modules."
- G. Maintain dye lot integrity. Do not mix dye lots in same area.
- H. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.
- I. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- J. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on finish flooring as marked on subfloor. Use nonpermanent, nonstaining marking device.
- K. Install pattern parallel to walls and borders, unless otherwise indicated in the Drawings.
- L. Perform the following operations immediately after installing carpet tile:
 - 1. Remove excess adhesive, seam sealer, and other surface blemishes using cleaner recommended by carpet tile manufacturer.
 - 2. Remove yarns that protrude from carpet tile surface.
 - 3. Vacuum carpet tile using commercial machine with face-beater element.
- M. Protect installed carpet tile to comply with CRI 104, Section 16, "Protecting Indoor Installations."

END OF SECTION 096813

**SECTION 13 34 19
METAL BUILDING SYSTEMS**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes metal building systems that consist of integrated sets of mutually dependent components including structural framing, roof panels and accessories.

1.3 DEFINITIONS

- A. Bay: Dimension between main frames measured normal to frame (at centerline of frame) for interior bays, and dimension from centerline of first interior main frame measured normal to end wall (outside face of end-wall girt) for end bays.
- B. Building Length: Dimension of the building measured perpendicular to main framing from end wall to end wall (outside face of girt to outside face of girt).
- C. Building Width: Dimension of the building measured parallel to main framing from sidewall to sidewall (outside face of girt to outside face of girt).
- D. Clear Span: Distance between supports of beams, girders, or trusses (measured from lowest level of connecting area of a column and a rafter frame or knee).
- E. Eave Height: Vertical dimension from finished floor to eave (the line along the sidewall formed by intersection of the planes of the roof and wall).
- F. Clear Height under Structure: Vertical dimension from finished floor to lowest point of any part of primary or secondary structure, not including crane supports, located within clear span.
- G. Terminology Standard: Refer to MBMA's "Metal Building Systems Manual" for definitions of terms for metal building system construction not otherwise defined in this Section or in referenced standards.

1.4 SYSTEM DESCRIPTION

- A. General: Provide a complete, integrated set of metal building system manufacturer's standard mutually dependent components and assemblies that form a metal building system capable of

withstanding structural and other loads, thermally induced movement, and exposure to weather without failure or infiltration of water into building interior. Include primary and secondary framing, metal roof panels, and accessories complying with requirements indicated.

1. Provide metal building system of size and with spacings, slopes, and spans indicated.
- B. Primary Frame Type:
1. Rigid Modular: Solid-member, structural-framing system with and without interior columns.
- C. Eave Height: As noted on Drawings.
- D. Bay Spacing: As indicated on drawings.
- E. Roof Slope: As noted on the Drawings
- F. Roof System: Manufacturer's standard vertical-rib, standing-seam metal roof panels.
- G. Exterior Wall System: R Panel

1.5 SYSTEM PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide metal building systems capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
1. Engineer metal building systems according to procedures in MBMA's "Metal Building Systems Manual."
 2. Design Loads: As indicated on Drawings.
 3. Live Loads: Include vertical loads induced by the building occupancy indicated on Drawings. Include loads induced by maintenance workers, materials, and equipment for roof live loads.
 - a. Building Occupancy: As indicated on Drawings or with Codes Review.
 4. Roof Snow Loads: Include vertical loads induced by the weight of snow, as determined by 50-year, mean-recurrence-interval ground snow load at Project site of 10 psf. Allow for unbalanced and drift loads.
 5. Wind Loads: Include horizontal loads induced by a basic wind speed of 115 MPH per IBC 2015.
 6. Collateral Loads: Include additional dead loads of 10 psf, other than the weight of metal building system, to account for permanent items such as sprinklers, mechanical systems, electrical systems, and ceilings. This allowance does not include the weight of hung equipment weighing 50 lbs. or more. Equipment loads of 50 lbs. or more shall be investigated and the structure shall be strengthened as required. Refer to Mechanical

- and Plumbing drawings for hung loads. Contractor shall coordinate with the Building Manufacturer the magnitude and location of all concentrated loads greater than 50 lbs.
7. Auxiliary Loads: Include dynamic live loads, such as those generated by cranes and materials-handling equipment indicated on Drawings.
 8. Load Combinations: Design metal building systems to withstand the most critical effects of load factors and load combinations as required by MBMA's "Metal Building Systems Manual."
 9. Deflection Limits: Engineer assemblies to withstand design loads with deflections no greater than the following:
 - a. Purlins and Rafters: Refer to Drawings.
 - b. Girts: Refer to Drawings.
 10. Design secondary framing system to accommodate deflection of primary building structure and construction tolerances, and to maintain clearances at openings.
 11. Provide metal panel assemblies capable of withstanding the effects of loads and stresses indicated, based on testing according to ASTM E 1592.
- B. Seismic Performance: Design and engineer metal building systems capable of withstanding the effects of earthquake motions determined according to ASCE 7, "Minimum Design Loads for Buildings and Other Structures": Section 12, "Seismic Design Requirements for Building Structures."
- C. Thermal Movements: Provide metal panel systems that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.
- D. Air Infiltration for Metal Roof Panels: Air leakage through assembly of not more than 0.06 cfm/sq. ft. of roof area when tested according to ASTM E 1680 at negative test-pressure difference of 1.57 lbf/sq. ft..
- E. Water Penetration for Metal Roof Panels: No water penetration when tested according to ASTM E 1646 at test-pressure difference of 2.86 lbf/sq. ft..
- F. Water Penetration for Metal Wall Panels: No water penetration when tested according to ASTM E 331 at a minimum differential pressure of 20 percent of inward-acting, wind-load design pressure of not less than 6.24 lbf/sq. ft. and not more than 12 lbf/sq. ft..
- G. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for Class 90.

1.6 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of the following metal building system components:
1. Structural-framing system.
 2. Metal roof panels.
 3. Insulation and vapor retarders.
 4. Flashing and trim.
 5. Accessories.
- B. Shop Drawings: For the following metal building system components. Include plans, elevations, sections, details, and attachments to other work.
1. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
 2. Anchor-Bolt Plans: Submit anchor-bolt plans before foundation work begins. Include location, diameter, and projection of anchor bolts required to attach metal building to foundation. Indicate column reactions at each location.
 3. Structural-Framing Drawings: Show complete fabrication of primary and secondary framing; include provisions for openings. Indicate welds and bolted connections, distinguishing between shop and field applications. Include transverse cross-sections.
 - a. Show provisions for attaching roof curbs.
 4. Metal Roof Panel Layout Drawings: Show layouts of metal panels including methods of support. Include details of edge conditions, joints, panel profiles, corners, anchorages, trim, flashings, closures, and special details. Distinguish between factory- and field-assembled work; show locations of exposed fasteners.
 - a. Show roof-mounted items including roof hatches, equipment supports, pipe supports and penetrations, lighting fixtures, snow guards, and items mounted on roof curbs.
 - b. Show wall-mounted items including doors, windows, louvers, and lighting fixtures.
 5. Accessory Drawings: Include details of the following items, at a scale of not less than 1-1/2 inches per 12 inches:
 - a. Flashing and trim.
 - b. Gutters.
 - c. Downspouts.
 - d. Roof ventilators.
- C. Samples for Initial Selection: For each type of building component with factory-applied color finish.

- D. Product Certificates: For each type of metal building system, signed by product manufacturer.
1. Letter of Design Certification: Signed and sealed by a qualified professional engineer. Include the following:
 - a. Name and location of Project.
 - b. Order number.
 - c. Name of manufacturer.
 - d. Name of Contractor.
 - e. Building dimensions including width, length, height, and roof slope.
 - f. Indicate compliance with AISC standards for hot-rolled steel and AISI standards for cold-rolled steel, including edition dates of each standard.
 - g. Governing building code and year of edition.
 - h. Design Loads: Include dead load, roof live load, collateral loads, roof snow load, deflection, wind loads/speeds and exposure, seismic design category or effective peak velocity-related acceleration/peak acceleration, and auxiliary loads (cranes).
 - i. Load Combinations: Indicate that loads were applied acting simultaneously with concentrated loads, according to governing building code.
 - j. Building-Use Category: Indicate category of building use and its effect on load importance factors.
 - k. AISC Certification for Category MB: Include statement that metal building system and components were designed and produced in an AISC-Certified Facility by an AISC-Certified Manufacturer.
- E. Welding certificates.
- F. Manufacturer Certificate: Signed by manufacturer certifying that products comply with requirements.
- G. Material Test Reports: Signed by manufacturers certifying that the following products comply with requirements:
1. Structural steel including chemical and physical properties.
 2. Bolts, nuts, and washers including mechanical properties and chemical analysis.
 3. Tension-control, high-strength, bolt-nut-washer assemblies.
 4. Shop primers.
 5. Nonshrink grout.
- H. Field quality-control test reports.
- I. Maintenance Data: For metal panel finishes to include in maintenance manuals.
- J. Warranties: Special warranties specified in this Section.

1.7 QUALITY ASSURANCE

- A. Erector Qualifications: An experienced erector with minimum 5 years experience specialized in erecting and installing work similar in material, design, and extent to that indicated for this Project and who is acceptable to manufacturer. Erector must be qualified and experienced in the installation of standing seam metal roofs.
- B. Manufacturer Qualifications: A qualified manufacturer and member of MBMA.
 - 1. AISC Certification for Category MB: An AISC-Certified Manufacturer that designs and produces metal building systems and components in an AISC-Certified Facility.
 - 2. Engineering Responsibility: Preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.
- C. Testing Agency Qualifications: An independent agency qualified according to ASTM E 329 for testing indicated, as documented according to ASTM E 548.
- D. Source Limitations: Obtain primary metal building system components, including structural framing and metal panel assemblies, through one source from a single manufacturer.
- E. Product Options: Drawings indicate size, profiles, and dimensional requirements of metal building system and are based on the specific system indicated. Refer to Division 01 Section "Product Requirements."
 - 1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.
- F. Welding: Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel," and AWS D1.3, "Structural Welding Code--Sheet Steel."
- G. Structural Steel: Comply with AISC's "Specification for Structural Steel Buildings--Allowable Stress Design, Plastic Design," or AISC's "Load and Resistance Factor Design Specification for Structural Steel Buildings," for design requirements and allowable stresses.
- H. Cold-Formed Steel: Comply with AISI's "Specification for the Design of Cold-Formed Steel Structural Members," or AISI's "Load and Resistance Factor Design Specification for Steel Structural Members," for design requirements and allowable stresses.
- I. Surface-Burning Characteristics: Provide field-insulated metal panels having thermal insulation and vapor-retarder-facing materials with the following surface-burning characteristics as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
 - 1. Flame-Spread Index: 25 or less, unless otherwise indicated.

2. Smoke-Developed Index: 450 or less, unless otherwise indicated.
- J. Pre-Erection Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to metal building systems including, but not limited to, the following:
1. Inspect and discuss condition of foundations and other preparatory work performed by other trades.
 2. Safety requirements.
 3. Review structural load limitations.
 4. Review and finalize construction schedule and verify availability of materials, Erector's personnel, equipment, and facilities needed to make progress and avoid delays.
 5. Review required testing, inspecting, and certifying procedures.
 6. Review weather and forecasted weather conditions and procedures for unfavorable conditions.

1.8 DELIVERY, STORAGE, AND HANDLING

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

1.9 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when weather conditions permit metal panels to be installed according to manufacturers' written instructions and warranty requirements.
- B. Field Measurements:
 1. Established Dimensions for Foundations: Comply with established dimensions on approved anchor-bolt plans, establishing foundation dimensions and proceeding with fabricating structural framing without field measurements. Coordinate anchor-bolt installation to ensure that actual anchorage dimensions correspond to established dimensions.
 2. Established Dimensions for Metal Panels: Where field measurements cannot be made without delaying the Work, either establish framing and opening dimensions and

proceed with fabricating metal panels without field measurements, or allow for field trimming metal panels. Coordinate construction to ensure that actual building dimensions, locations of structural members, and openings correspond to established dimensions.

1.10 COORDINATION

- A. Coordinate size and location of concrete foundations and casting of anchor-bolt inserts into foundation walls and footings. Concrete, reinforcement, and formwork requirements are specified in Division 03 Section "Cast-in-Place Concrete."
- B. Coordinate installation of roof curbs equipment supports and roof penetrations, which are specified in Division 07 Section "Roof Accessories."
- C. Coordinate metal panel assemblies with rain drainage work, flashing, trim, and construction of supports and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.11 WARRANTY

- A. Special Warranty on Metal Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Silicone Polyester Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 25 years from date of Substantial Completion.
- B. Special Weathertightness Warranty for Standing-Seam Metal Roof Panels: Manufacturer's standard form in which manufacturer agrees to repair or replace standing-seam, metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.
 - 1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: The design for metal building systems is based on Nucor Building Systems. Subject to compliance with requirements, provide the named product or a comparable product.

2.2 STRUCTURAL-FRAMING MATERIALS

- A. W-Shapes: ASTM A 992/A 992M.
- B. Channels, Angles, M-Shapes, and S-Shapes: ASTM A 36/A 36M.
- C. Plate and Bar: ASTM A 36/A 36M.
- D. Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade B.
- E. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B or C, structural tubing.
- F. Structural-Steel Sheet: Hot-rolled, ASTM A 1011/A 1011M, Structural Steel (SS), Grades 30 through 55, or High-Strength Low Alloy Steel (HSLAS), Grades 45 through 70; or cold-rolled, ASTM A 1008/A 1008M, Structural Steel (SS), Grades 25 through 80, or High-Strength Low Alloy Steel (HSLAS), Grades 45 through 70.
- G. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grades 33 through 80 or High-Strength Low Alloy Steel (HSLAS), Grades 50 through 80; with G60 coating designation; mill phosphatized.
- H. Metallic-Coated Steel Sheet Prepainted with Coil Coating: Steel sheet metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.
 - 1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grades 33 through 80 or High-Strength Low Alloy Steel (HSLAS), Grades 50 through 80; with G90 coating designation.
 - 2. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792/A 792M, Structural Steel (SS), Grade 50 or 80; with Class AZ50 coating.
- I. Non-High-Strength Bolts, Nuts, and Washers: ASTM A 307, Grade A, carbon-steel, hex-head bolts; ASTM A 563 carbon-steel hex nuts; and ASTM F 844 plain (flat) steel washers.
 - 1. Finish: Mechanically deposited zinc coating, ASTM B 695, Class 50.
- J. High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy hex steel structural bolts; ASTM A 563 heavy hex carbon-steel nuts; and ASTM F 436 hardened carbon-steel washers.
 - 1. Finish: Mechanically deposited zinc coating, ASTM B 695, Class 50.
- K. High-Strength Bolts, Nuts, and Washers: ASTM A 490, Type 1, heavy hex steel structural bolts or tension-control, bolt-nut-washer assemblies with splined ends; ASTM A 563 heavy hex carbon-steel nuts; and ASTM F 436 hardened carbon-steel washers, plain.

- L. Primer: SSPC-Paint 15, Type I, red oxide.

2.3 MATERIALS FOR FIELD-ASSEMBLED METAL PANELS

- A. Metallic-Coated Steel Sheet Prepainted with Coil Coating: Steel sheet metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.
 - 1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grades 33 through 80, with G90 coating designation.
 - 2. Surface: Smooth, flat finish.
 - 3. Exposed Finishes: Apply the following coil coating, as specified or indicated on Drawings:
 - a. High-Performance Organic Finish (2-Coat Fluoropolymer): AA-C12C40R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: conversion coating; Organic Coating: manufacturer's standard 2-coat, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2604 and with coating and resin manufacturers' written instructions, except as modified below:
 - b. Standard R-Panel Color: Bases of Design: Color: NBS Galvalume Plus

2.4 THERMAL INSULATION FOR FIELD-ASSEMBLED METAL PANELS

- A. Metal Building Insulation: ASTM C 991, Type I, or NAIMA 202, glass-fiber-blanket insulation; 0.5-lb/cu. ft. density; 2-inch- wide, continuous, vapor-tight edge tabs; and with a flame-spread index of 25 or less.
- B. R-Value**
 - 1. Walls = 19 + 11**
 - 2. Roof = 30 + 11 with thermal spacers**
- C. Vapor-Retarder Facing: ASTM C 1136, with permeance not greater than 0.02 perm when tested according to ASTM E 96, Desiccant Method.
 - 1. Composition: White polypropylene vinyl film facing, fiberglass scrim reinforcement, and metallized-polyester film backing.
- D. Retainer Strips: 0.019-inch- thick, formed, galvanized steel or PVC retainer clips colored to match insulation facing.
- E. Vapor-Retarder Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.

2.5 MISCELLANEOUS MATERIALS

- A. Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Provide fasteners with heads matching color of materials being fastened by means of plastic caps or factory-applied coating.
 - 1. Fasteners for Metal Roof Panels: Self-drilling or self-tapping, zinc-plated, hex-head carbon-steel screws, with a stainless-steel cap or zinc-aluminum-alloy head and EPDM or neoprene sealing washer.
 - 2. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws with hex washer head.
 - 3. Blind Fasteners: High-strength aluminum or stainless-steel rivets.
- B. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive, nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.
- C. Metal Panel Sealants:
 - 1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape of manufacturer's standard size.
 - 2. Joint Sealant: ASTM C 920; one-part elastomeric polyurethane, polysulfide, or silicone-rubber sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended by metal building system manufacturer.

2.6 FABRICATION, GENERAL

- A. General: Design components and field connections required for erection to permit easy assembly.
 - 1. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.
 - 2. Fabricate structural framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape, and location. Members shall be free of cracks, tears, and ruptures.
- B. Tolerances: Comply with MBMA's "Metal Building Systems Manual": Chapter IV, Section 9, "Fabrication and Erection Tolerances."
- C. Metal Panels: Fabricate and finish metal panels at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

1. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of metal panel.

2.7 STRUCTURAL FRAMING

A. General:

1. Primary Framing: Shop fabricate framing components to indicated size and section with baseplates, bearing plates, stiffeners, and other items required for erection welded into place. Cut, form, punch, drill, and weld framing for bolted field assembly.
 - a. Make shop connections by welding or by using high-strength bolts.
 - b. Join flanges to webs of built-up members by a continuous submerged arc-welding process.
 - c. Brace compression flange of primary framing with steel angles or cold-formed structural tubing between frame web and purlin or girt web, so flange compressive strength is within allowable limits for any combination of loadings.
 - d. Weld clips to frames for attaching secondary framing members.
 - e. Shop Priming: Prepare surfaces for shop priming according to SSPC-SP 2. Shop prime primary structural members with specified primer after fabrication.
2. Secondary Framing: Shop fabricate framing components to indicated size and section by roll-forming or break-forming, with baseplates, bearing plates, stiffeners, and other plates required for erection welded into place. Cut, form, punch, drill, and weld secondary framing for bolted field connections to primary framing.
 - a. Make shop connections by welding or by using non-high-strength bolts.
 - b. Shop Priming: Prepare uncoated surfaces for shop priming according to SSPC-SP 2. Shop prime uncoated secondary structural members with specified primer after fabrication.

B. Primary Framing: Manufacturer's standard structural primary framing system, designed to withstand required loads and specified requirements. Primary framing includes transverse and lean-to frames; rafter, rake, and canopy beams; sidewall, intermediate, end-wall, and corner columns; and wind bracing.

1. General: Provide frames with attachment plates, bearing plates, and splice members. Factory drill for field-bolted assembly. Provide frame span and spacing indicated.
 - a. Slight variations in span and spacing may be acceptable if necessary to meet manufacturer's standard, as approved by Architect.
2. Rigid Modular Frames: I-shaped frame sections fabricated from shop-welded, built-up steel plates or structural-steel shapes. Provide interior columns fabricated from round steel pipe or tube, or shop-welded, built-up steel plates.
3. Frame Configuration: Refer to drawings.
4. Exterior Column Type: Refer to drawings.
5. Rafter Type: Uniform depth.

- C. End-Wall Framing: Manufacturer's standard primary end-wall framing fabricated for field-bolted assembly to comply with the following:
1. End-Wall and Corner Columns: I-shaped sections fabricated from structural-steel shapes; shop-welded, built-up steel plates; or C-shaped, cold-formed, structural-steel sheet; with minimum thickness of 0.0598 inch.
 2. End-Wall Rafters: C-shaped, cold-formed, structural-steel sheet; with minimum thickness of 0.0598 inch; or I-shaped sections fabricated from shop-welded, built-up steel plates or structural-steel shapes.
- D. Secondary Framing: Manufacturer's standard secondary framing members, including purlins, girts, eave struts, flange bracing, base members, gable angles, clips, headers, jambs, and other miscellaneous structural members. Fabricate framing from cold-formed, structural-steel sheet or roll-formed, metallic-coated steel sheet prepainted with coil coating, unless otherwise indicated, to comply with the following:
1. Purlins: C- or Z-shaped sections; fabricated from minimum 0.0598-inch- thick steel sheet, built-up steel plates, or structural-steel shapes; minimum 2-1/2-inch- wide flanges.
 - a. Depth: 8 inches or as noted on Drawings.
 2. Girts: C- or Z-shaped sections; fabricated from minimum 0.0598-inch- thick steel sheet, built-up steel plates, or structural-steel shapes. Form ends of Z-sections with stiffening lips angled 40 to 50 degrees to flange and with minimum 2-1/2-inch- wide flanges.
 - a. Depth: 8 inches or as noted on Drawings.
 3. Eave Struts: Unequal-flange, C-shaped sections; fabricated from 0.0598-inch- thick steel sheet, built-up steel plates, or structural-steel shapes; to provide adequate backup for metal panels.
 4. Flange Bracing: Minimum 2-by-2-by-1/8-inch structural-steel angles or 1-inch diameter, cold-formed structural tubing to stiffen primary frame flanges.
 5. Sag Bracing: Minimum 1-by-1-by-1/8-inch structural-steel angles.
 6. Base or Sill Angles: Minimum 3-by-2-by-0.0598-inch zinc-coated (galvanized) steel sheet.
 7. Purlin and Girt Clips: Minimum 0.0598-inch- thick, steel sheet. Provide galvanized clips where clips are connected to galvanized framing members.
 8. Secondary End-Wall Framing: Manufacturer's standard sections fabricated from minimum 0.0598-inch- thick, zinc-coated (galvanized) steel sheet.
 9. Framing for Openings: Channel shapes; fabricated from minimum 0.0598-inch- thick, cold-formed, structural-steel sheet or structural-steel shapes. Frame head and jamb of door openings, and head, jamb, and sill of other openings.
 10. Miscellaneous Structural Members: Manufacturer's standard sections fabricated from cold-formed, structural-steel sheet; built-up steel plates; or zinc-coated (galvanized) steel sheet; designed to withstand required loads.

- E. Bracing: Provide adjustable wind bracing as follows:
1. Rods: ASTM A 36/A 36M; ASTM A 572/A 572M, Grade 50; or ASTM A 529/A 529M, Grade 50; minimum 1/2-inch- diameter steel; threaded full length or threaded a minimum of 6 inches at each end.
 2. Cable: ASTM A 475, 1/4-inch- diameter, extra-high-strength grade, Class B zinc-coated, 7-strand steel; with threaded end anchors.
 3. Angles: Fabricated from structural-steel shapes to match primary framing, of size required to withstand design loads.
 4. Rigid Portal Frames: If specified, fabricate from shop-welded, built-up steel plates or structural-steel shapes to match primary framing; of size required to withstand design loads.
 5. Pinned-Base Columns: Fabricate from shop-welded, built-up steel plates or structural-steel shapes to match primary framing; of size required to withstand design loads.
 6. Diaphragm Action of Metal Panels: Design metal building to resist wind forces through diaphragm action of metal panels.
 7. Bracing: Provide wind bracing using any method specified above, at manufacturer's option.
- F. Bolts: Provide plain finish bolts for structural-framing components that are primed or finish painted. Provide zinc-plated or hot-dipped galvanized bolts for structural-framing components that are galvanized.
- G. Factory-Primed Finish: Apply specified primer immediately after cleaning and pretreating.
1. Prime primary, secondary, and end-wall structural-framing members to a minimum dry film thickness of 1 mil.
 - a. Prime secondary steel framing formed from uncoated steel sheet to a minimum dry film thickness of 0.5 mil on each side.
 2. Prime galvanized members with specified primer, after phosphoric acid pretreatment.

2.8 ACCESSORIES

- A. General: Provide accessories as standard with metal building system manufacturer and as specified. Fabricate and finish accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes. Comply with indicated profiles and with dimensional and structural requirements.
1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
- B. Roof Panel Accessories: Provide components required for a complete metal roof panel assembly including copings, fasciae, corner units, ridge closures, clips, sealants, gaskets, fillers,

closure strips, and similar items. Match material and finish of metal roof panels, unless otherwise indicated.

1. Closures: Provide closures at eaves and ridges, fabricated of same material as metal roof panels.
 2. Clips: Manufacturer's standard, formed from steel sheet, designed to withstand negative-load requirements.
 3. Cleats: Manufacturer's standard, mechanically seamed cleats formed from steel sheet.
 4. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
 5. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- thick, flexible closure strips; cut or premolded to match metal roof panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
 6. Thermal Spacer Blocks: Where metal panels attach directly to purlins, provide thermal spacer blocks of thickness required to provide 1 inch standoff; fabricated from extruded polystyrene.
- C. Flashing and Trim: Formed from minimum 0.0159-inch- thick, metallic-coated steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating; finished to match adjacent metal panels.
1. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers.
 2. Opening Trim: Minimum 0.0159-inch- thick, metallic-coated steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating. Trim head and jamb of door openings, and head, jamb, and sill of other openings.
- D. Snow Guards: Prefabricated, noncorrosive units designed to be installed without penetrating roof panel, with predrilled holes and clamps or hooks for anchoring.
1. Plastic-Type Guard: Polycarbonate, designed for attachment to roof surface using silicone or polyurethane sealant or adhesive tape, as recommended by manufacturer.
 - a. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - b. Products: Subject to compliance with requirements, provide one of the following:
 - 1) Polar Blox, Inc.; Polar Blox.
 - 2) Sno-Gem, Inc.; SNO-GEM.
 - 3) Snojax, Inc.; SNOJAX.

2.9 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Erector present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
 - 1. For the record, prepare written report, endorsed by Erector, listing conditions detrimental to performance of work.
- B. Before erection proceeds, survey elevations and locations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments to receive structural framing, with Erector present, for compliance with requirements and metal building system manufacturer's tolerances.
 - 1. Engage land surveyor to perform surveying.
- C. Proceed with erection only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition.
- B. Provide temporary shores, guys, braces, and other supports during erection to keep structural framing secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural framing, connections, and bracing are in place, unless otherwise indicated.

3.3 ERECTION OF STRUCTURAL FRAMING

- A. Erect metal building system according to manufacturer's written erection instructions and erection drawings.

- B. Do not field cut, drill, or alter structural members without written approval from metal building system manufacturer's professional engineer.
- C. Set structural framing accurately in locations and to elevations indicated and according to AISC specifications referenced in this Section. Maintain structural stability of frame during erection.
- D. Base Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
 - 1. Set plates for structural members on wedges, shims, or setting nuts as required.
 - 2. Tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
 - 3. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.
- E. Align and adjust structural framing before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with framing. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
 - 1. Level and plumb individual members of structure.
 - 2. Make allowances for difference between temperature at time of erection and mean temperature when structure will be completed and in service.
- F. Primary Framing and End Walls: Erect framing true to line, level, plumb, rigid, and secure. Level baseplates to a true even plane with full bearing to supporting structures, set with double-nutted anchor bolts. Use grout to obtain uniform bearing and to maintain a level base-line elevation. Moist cure grout for not less than seven days after placement.
 - 1. Make field connections using high-strength bolts installed according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
 - a. Joint Type: Snug tightened or pretensioned.
- G. Secondary Framing: Erect framing true to line, level, plumb, rigid, and secure. Fasten secondary framing to primary framing using clips with field connections using non-high-strength bolts.
 - 1. Provide rake or gable purlins with tight-fitting closure channels and fasciae.
 - 2. Locate and space wall girts to suit openings such as doors and windows.
 - 3. Locate canopy framing as indicated.
 - 4. Provide supplemental framing at entire perimeter of openings, including doors, windows, louvers, ventilators, and other penetrations of roof and walls.

- H. Bracing: Install bracing in roof and sidewalls where indicated on erection drawings.
 - 1. Tighten rod and cable bracing to avoid sag.
 - 2. Locate interior end-bay bracing only where indicated.
- I. Framing for Openings: Provide shapes of proper design and size to reinforce openings and to carry loads and vibrations imposed, including equipment furnished under mechanical and electrical work. Securely attach to structural framing.
- J. Erection Tolerances: Maintain erection tolerances of structural framing within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

3.4 METAL PANEL INSTALLATION, GENERAL

- A. Examination: Examine primary and secondary framing to verify that structural panel support members and anchorages have been installed within alignment tolerances required by manufacturer.
 - 1. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before metal panel installation.
- B. General: Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 1. Field cut metal panels as required for doors, windows, and other openings. Cut openings as small as possible, neatly to size required, and without damage to adjacent metal panel finishes.
 - a. Field cutting of metal panels by torch is not permitted unless approved in writing by manufacturer.
 - 2. Install metal panels perpendicular to structural supports, unless otherwise indicated.
 - 3. Flash and seal metal panels with weather closures at perimeter of openings and similar elements. Fasten with self-tapping screws.
 - 4. Locate and space fastenings in uniform vertical and horizontal alignment.
 - 5. Locate metal panel splices over, but not attached to, structural supports with end laps in alignment. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
 - 6. Lap metal flashing over metal panels to allow moisture to run over and off the material.
- C. Lap-Seam Metal Panels: Install screw fasteners with power tools having controlled torque adjusted to compress neoprene washer tightly without damage to washer, screw threads, or metal panels. Install screws in predrilled holes.
 - 1. Arrange and nest side-lap joints so prevailing winds blow over, not into, lapped joints. Lap ribbed or fluted sheets one full rib corrugation. Apply metal panels and associated

items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line.

- D. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal roof panel manufacturer.
- E. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal panel manufacturer.
 - 1. Seal metal panel end laps with double beads of tape or sealant, full width of panel. Seal side joints where recommended by metal panel manufacturer.
 - 2. Prepare joints and apply sealants to comply with requirements in Division 07 Section "Joint Sealants."

3.5 METAL ROOF PANEL INSTALLATION

- A. General: Provide metal roof panels of full length from eave to ridge, unless otherwise indicated or restricted by shipping limitations.
 - 1. Flash and seal metal roof panels with weather closures at eaves and rakes. Fasten with self-tapping screws.
- B. Field-Assembled, Standing-Seam Metal Roof Panels: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended by manufacturer.
 - 1. Install clips to supports with self-tapping fasteners.
 - 2. Install pressure plates at locations indicated in manufacturer's written installation instructions.
 - 3. Seamed Joint: Crimp standing seams with manufacturer-approved motorized seamer tool so clip, metal roof panel, and factory-applied sealant are completely engaged.
 - 4. Rigidly fasten eave end of metal roof panels and allow ridge end free movement due to thermal expansion and contraction. Pre-drill panels for fasteners.
 - 5. Provide metal closures at rake edges and rake walls.
- C. Metal Fascia Panels: Align bottom of metal panels and fasten with blind rivets, bolts, or self-tapping screws. Flash and seal metal panels with weather closures where fasciae meet soffits, along lower panel edges, and at perimeter of all openings.

- D. Metal Roof Panel Installation Tolerances: Shim and align metal roof panels within installed tolerance of 1/4 inch in 20 feet on slope and location lines as indicated and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

3.6 METAL SOFFIT PANEL INSTALLATION

- A. Provide metal soffit panels full width of soffits. Install panels perpendicular to support framing.
- B. Flash and seal metal soffit panels with weather closures where panels meet walls and at perimeter of all openings.

3.7 THERMAL INSULATION INSTALLATION FOR FIELD-ASSEMBLED METAL PANELS

- A. General: Install insulation concurrently with metal wall panel installation, in thickness indicated to cover entire wall, according to manufacturer's written instructions.
 - 1. Set vapor-retarder-faced units with vapor retarder to warm side of construction, unless otherwise indicated. Do not obstruct ventilation spaces, except for firestopping.
 - 2. Tape joints and ruptures in vapor retarder, and seal each continuous area of insulation to surrounding construction to ensure airtight installation.
 - 3. Install factory-laminated, vapor-retarder-faced blankets straight and true in one-piece lengths with both sets of facing tabs sealed to provide a complete vapor retarder.
 - 4. Install blankets straight and true in one-piece lengths. Install vapor retarder over insulation with both sets of facing tabs sealed to provide a complete vapor retarder.

3.8 ACCESSORY INSTALLATION

- A. General: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
 - 1. Install components required for a complete metal roof panel assembly including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
 - 2. Install components for a complete metal wall panel assembly including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
 - 3. Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by manufacturer.

- B. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
 - 1. Install exposed flashing and trim that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance.
 - 2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
- C. Gutters: Join sections with riveted and soldered or lapped and sealed joints. Attach gutters to eave with gutter hangers spaced not more than 4 feet o.c. using manufacturer's standard fasteners. Provide end closures and seal watertight with sealant. Provide for thermal expansion.

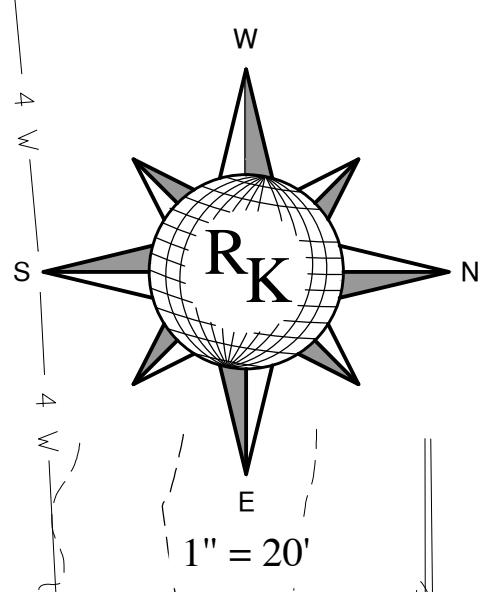
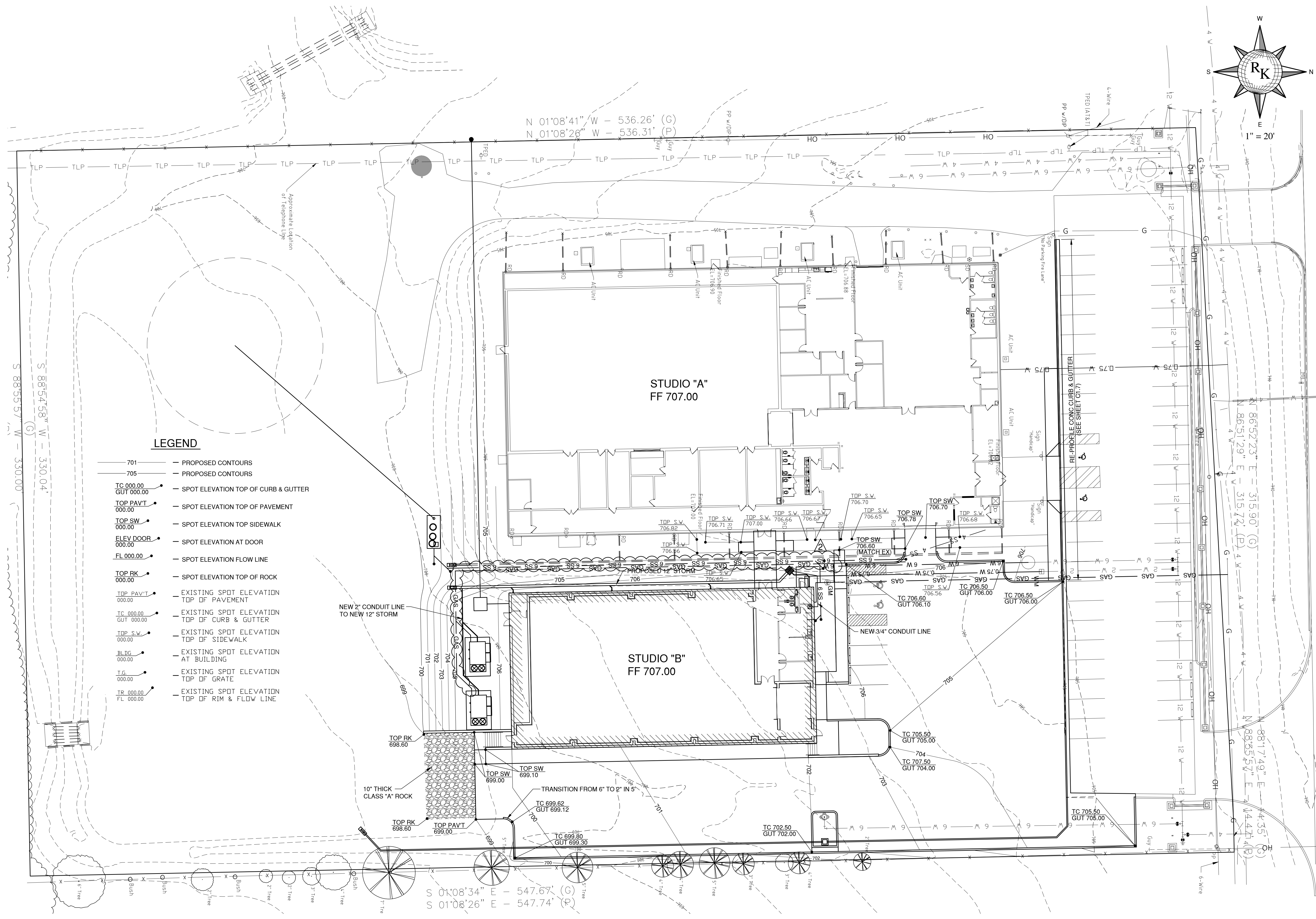
3.9 CLEANING AND PROTECTION

- A. Repair damaged galvanized coatings on galvanized items with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.
- B. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.
- C. Touchup Painting: After erection, promptly clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted structural framing, bearing plates, and accessories.
 - 1. Clean and prepare surfaces by SSPC-SP 2, "Hand Tool Cleaning," or SSPC-SP 3, "Power Tool Cleaning."
 - 2. Apply a compatible primer of same type as shop primer used on adjacent surfaces.
- D. Metal Panels: Remove temporary protective coverings and strippable films, if any, as metal panels are installed. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
 - 1. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

METAL BUILDING SYSTEMS
Cherokee Nation Businesses
Cherokee Nation Film Office
Owasso Campus Improvements

133419 - 22
AD#02 02.24.23



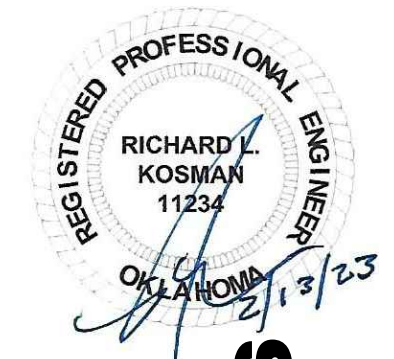
LEGEND

- 701 — PROPOSED CONTOURS
- 705 — PROPOSED CONTOURS
- TC 000.00 — SPOT ELEVATION TOP OF CURB & GUTTER
- GUT 000.00 — SPOT ELEVATION TOP OF PAVEMENT
- TOP PAVT 000.00 — SPOT ELEVATION TOP OF PAVEMENT
- TOP S.W. 000.00 — SPOT ELEVATION TOP SIDEWALK
- ELEV DOOR 000.00 — SPOT ELEVATION AT DOOR
- FL 000.00 — SPOT ELEVATION FLOW LINE
- TOP RK 000.00 — SPOT ELEVATION TOP OF ROCK
- TOP PAVT 000.00 — EXISTING SPOT ELEVATION TOP OF PAVEMENT
- TC 000.00 — EXISTING SPOT ELEVATION TOP OF CURB & GUTTER
- TOP S.W. 000.00 — EXISTING SPOT ELEVATION TOP OF SIDEWALK
- BLDG 000.00 — EXISTING SPOT ELEVATION AT BUILDING
- T.G. 000.00 — EXISTING SPOT ELEVATION TOP OF GRATE
- TR 000.00 — EXISTING SPOT ELEVATION TOP OF RIM & FLOW LINE


 REGISTERED PROFESSIONAL ENGINEER
 RICHARD L. KOSMAN
 11234
 OKLAHOMA 02/13/23

Cherokee Nation Businesses
Cherokee Nation Film Office
Owasso Campus Improvements
 16990 East 116th Street North Owasso, Oklahoma 74055

JOB NUMBER
 REVISIONS
 Addendum 2 03-01-23
 DATE February 13, 2023
 SHEET Grading Plan

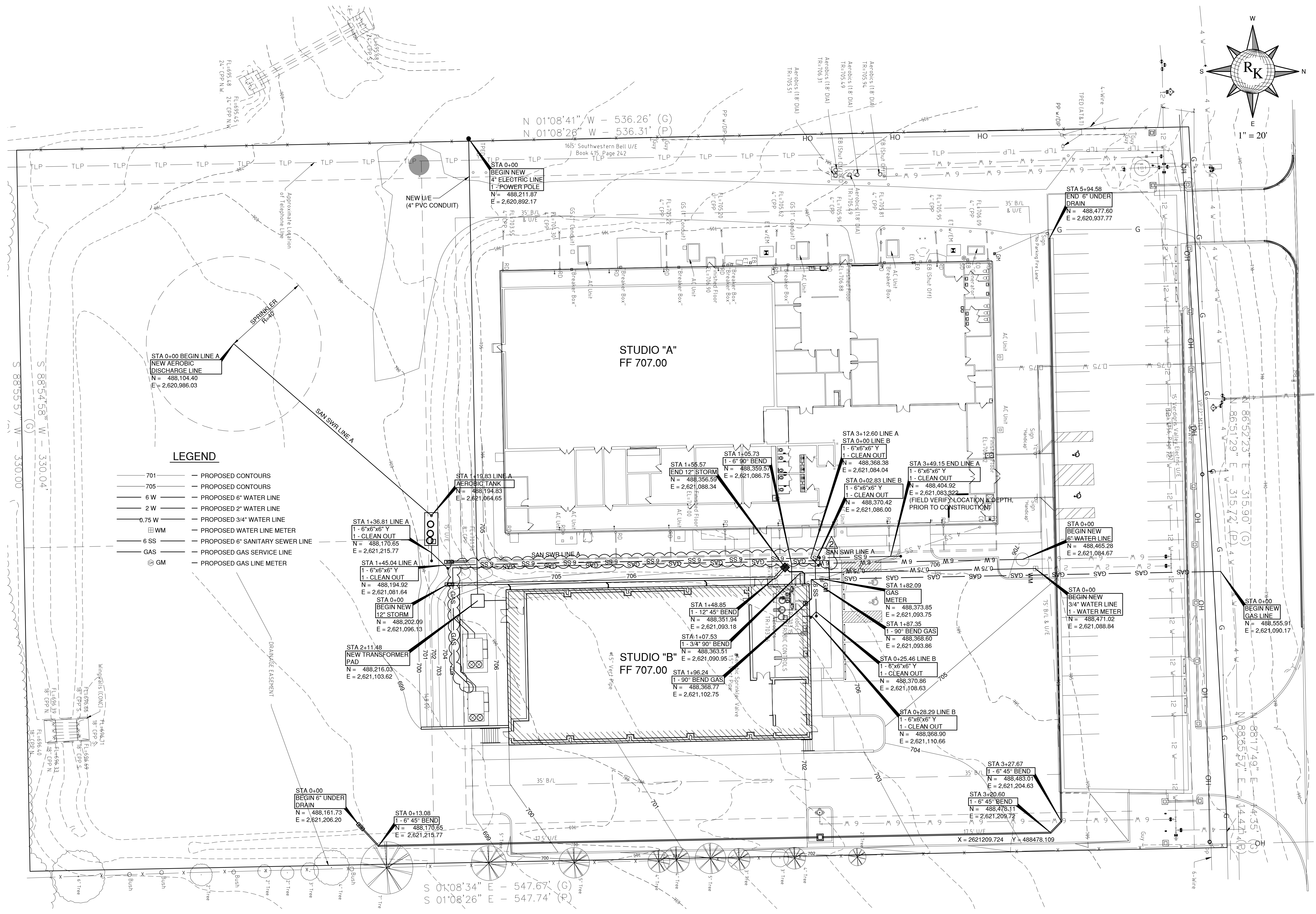


**Cherokee Nation Film Office
Owasso Campus Improvements**
16990 East 116th Street North Owasso, Oklahoma 74055

JOB NUMBER
REVISIONS
2 Addendum 2 03-01-23

DATE
February 13, 2023
SHEET
Utility Plan

C1.5



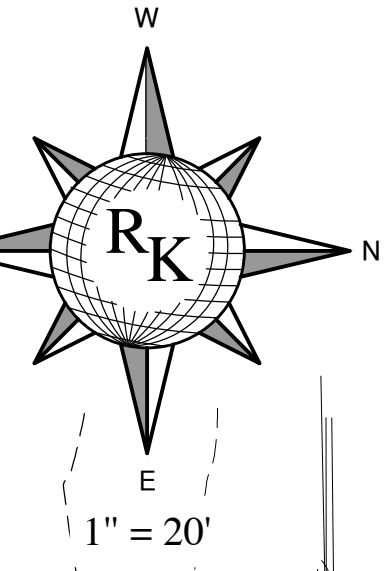
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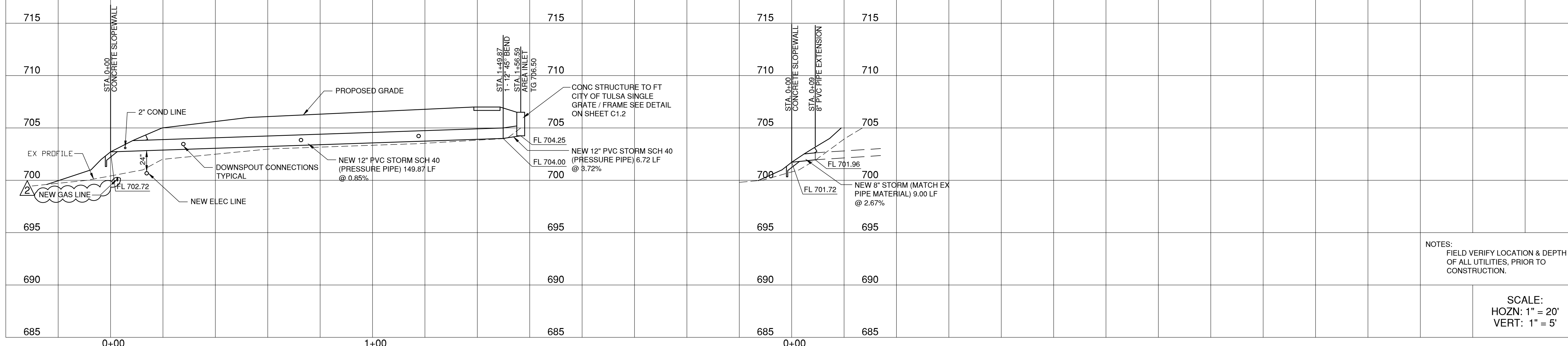
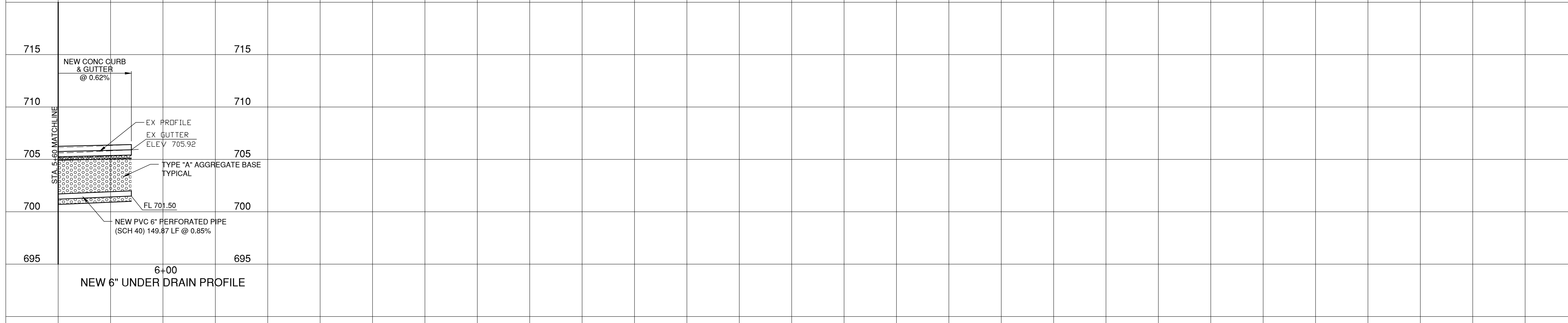
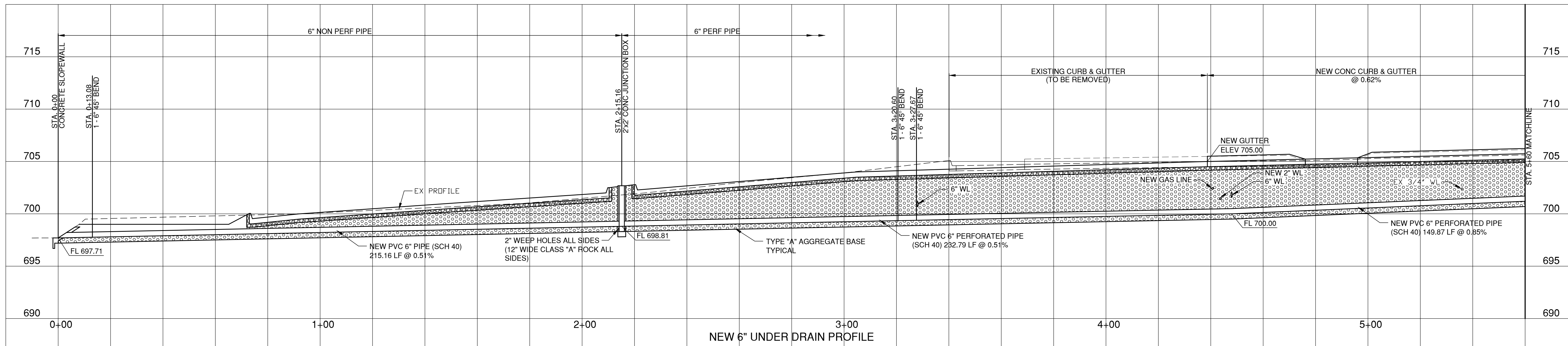
- 701 — PROPOSED CONTOURS
- 705 — PROPOSED CONTOURS
- 6 W — PROPOSED 6" WATER LINE
- 2 W — PROPOSED 2" WATER LINE
- 0.75 W — PROPOSED 3/4" WATER LINE
- WM — PROPOSED WATER LINE METER
- 6 SS — PROPOSED 6" SANITARY SEWER LINE
- GAS — PROPOSED GAS SERVICE LINE
- GM — PROPOSED GAS LINE METER

S 88°55'57" W - 330.04'
S 88°54'58" W - 330.04'
S 88°55'57" W - 330.04'

N 01°08'41" W - 536.26' (G)
N 01°08'26" W - 536.31' (P)

S 01°08'34" E - 547.67' (G)
S 01°08'26" E - 547.74' (P)



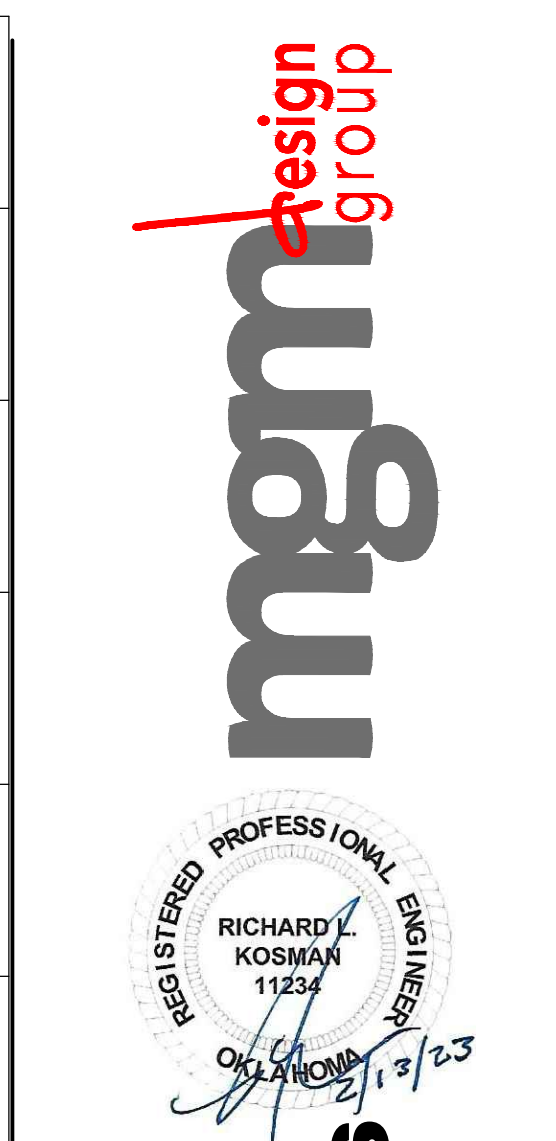


NEW 12" STORM SEWER PROFILE

NEW 8" STORM SEWER EXTENSION PROFILE

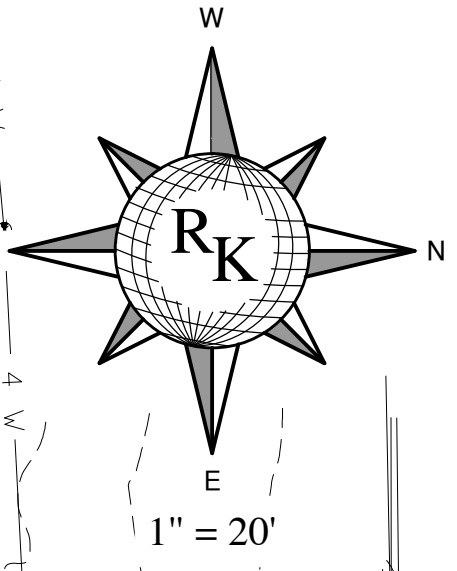
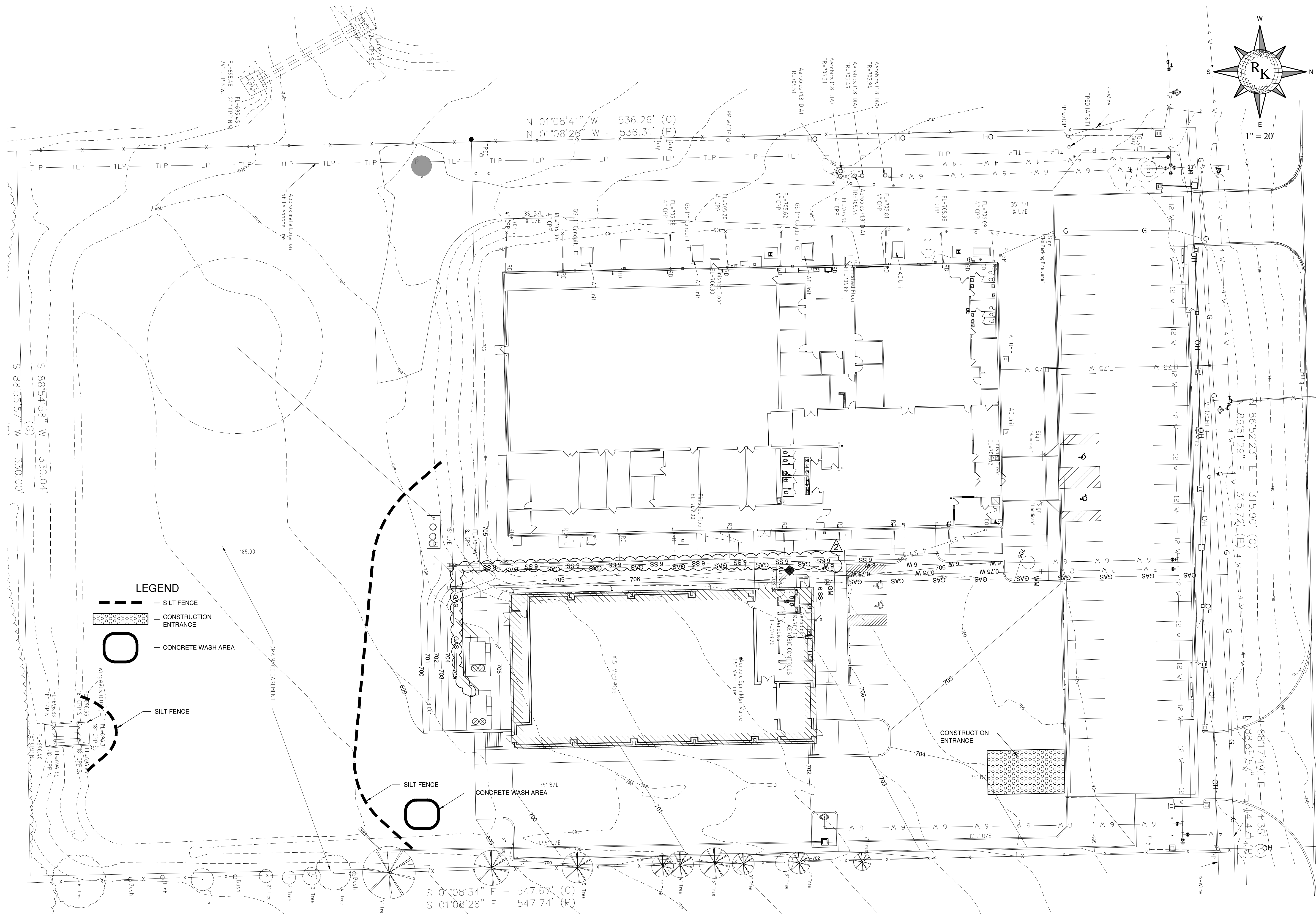
NOTES:
FIELD VERIFY LOCATION & DEPTH
OF ALL UTILITIES, PRIOR TO
CONSTRUCTION.

SCALE:
HOZN: 1" = 20'
VERT: 1" = 5'



Cherokee Nation Businesses
Cherokee Nation Film Office
Owasso Campus Improvements
 16990 East 116th Street North Owasso, Oklahoma 74055

JOB NUMBER
 REVISIONS
 Addendum 2 03-01-23
 DATE February 13, 2023
 SHEET Storm Sewer Profiles



- LEGEND**
- SILT FENCE
 - CONSTRUCTION ENTRANCE
 - CONCRETE WASH AREA



Cherokee Nation Businesses
Cherokee Nation Film Office
Owasso Campus Improvements
 16990 East 116th Street North Owasso, Oklahoma 74055

JOB NUMBER: _____

REVISIONS:

2	Addendum 2	03-01-23
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DATE: February 13, 2023

SHEET: Soil Erosion Control Plan

C1.8

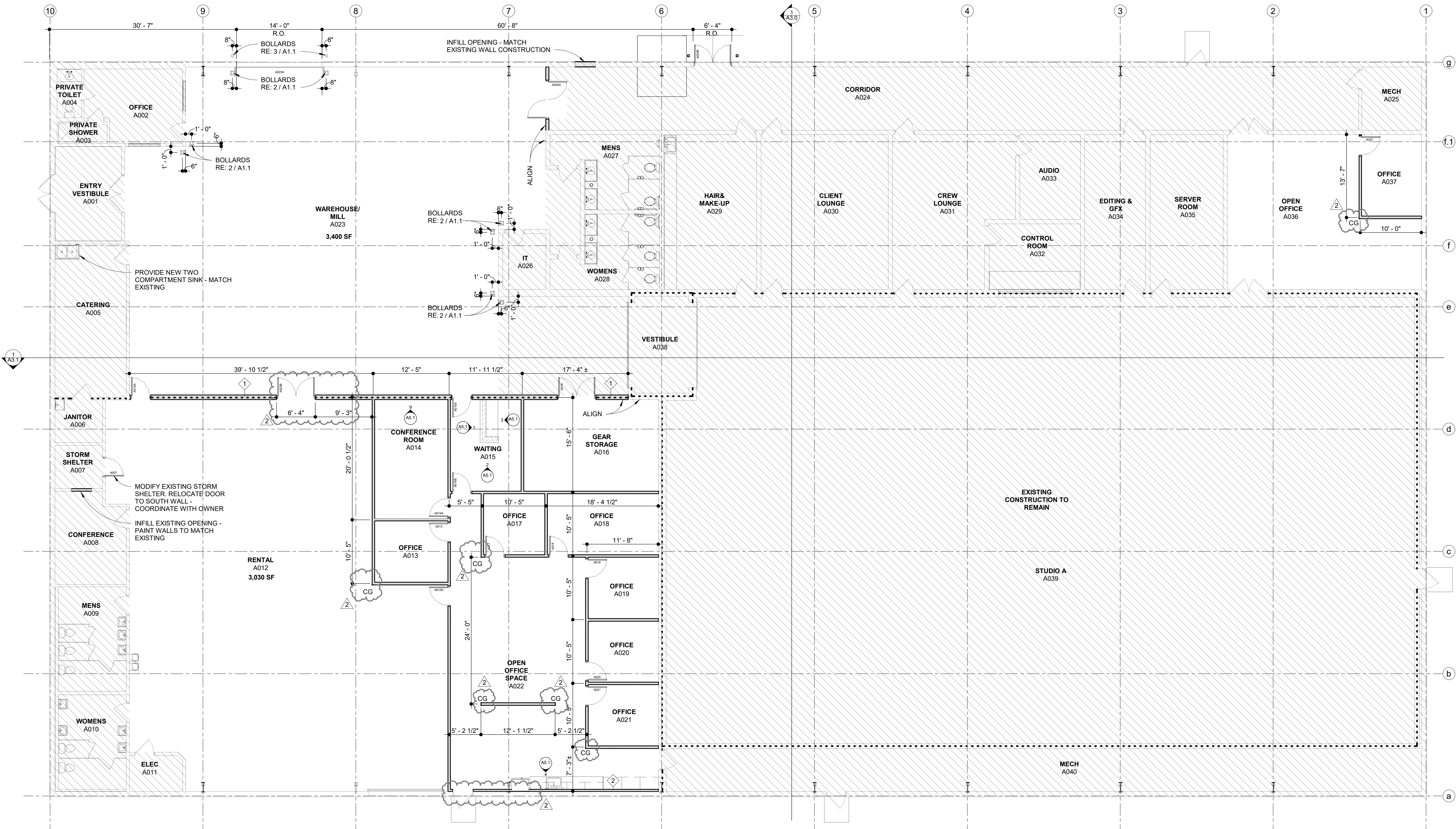


MATERIAL FINISH SCHEDULE						
FINISH CODE	MATERIAL	MANUF	DESCRIPTION	SIZE	COMMENTS / INSTALLATION NOTES	
CEILING MATERIAL						
ACT1	ACOUSTIC CEILING TILE	USG	RADAR BASIC I2110	24" X 24"		
ACT 2	GYPSUM BOARD			24" X 24"	1/2" GYPSUM BOARD	
ACT 3	ACOUSTIC CEILING TILE	ARMSTRONG	HUMIGUARD PLUS	24" X 24"		
FLOORING						
CPT1	CARPET	PATCRAFT	RISE 10465 - POINT 00599	12" X 48"	INSTALL 1/3 ASHLAR RUNNING EAST/WEST	
LVT1	LUXURY VINYL TILE	PATCRAFT	CHARTED 1313V - EXLAMATION 00480	23.63" X 23.63"	INSTALL RANDOM	
LVT2	LUXURY VINYL TILE	BENTLEY	BATISTE - WEAVE 801841	18" X 36"	INSTALL ASHLAR RUNNING EAST/WEST	
RF	RESONOUIS FLOORING		BLACK		MATCH EXSITNG STUDIO A	
T1	PORCELAIN FLOOR TILE	INTERCERAMIC	CONCRETE - DARK GRAY, MATTE / GROUT: CUSTOM #335 WINTER GRAY	12" X 24"	INSTALL 1/3 BRICK LAY RUNNING EAST/WEST	
MILLWORK MATERIAL						
PL1	PLASTIC LAMINATE	FORMICA	WHITE TWILL, MATTE 9285-58			
PL2	PLASTIC LAMINATE	WILSONART	CRISP LINEN 4942-38			
PL3	PLASTIC LAMINATE	WILSONART	GRAPHITE NEBULA 4623-80			
SS1	SOLID SURFACE	WILSONART	FROSTY WHITE MIRAGE 1573MG			
SS2	SOLID SURFACE	WILSONART	COCONUT OIL 9100GS			
PAINT						
P1	PAINT	SHERWIN WILLIAMS	SW7649 SILVER PLATE			
P2	PAINT	SHERWIN WILLIAMS	SW6276 MYSTICAL SHADE			
P3	PAINT	SHERWIN WILLIAMS	SW7048 URBANE BRONZE			
P4	PAINT	SHERWIN WILLIAMS	SW7043 WORLDLY GRAY			
P5	PAINT	SHERWIN WILLIAMS	SW6772 CAY			
P6	PAINT	SHERWIN WILLIAMS	SW7069 IRON ORE			
TRANSITIONS						
TR1	METAL TRANSITION	SCHLUTER	JOLLY -ANODIZED ALUMINUM, POLISHED CHROME		FOR USE AT TILE/MIRROR SURROUNDS	
TR2	METAL TRANSITION	SCHLUTER	QUADEC - ANODIZED ALUMINUM, NICKEL		FOR USE AT PT2 TOP CAP	
TR3	RUBBER TRANSITION	ROPPE	EDGE GUARD #38, COLOR 100 BLACK		FOR USE WITH CPT1 AND LVT2	
TR4	RUBBER TRANSITION	ROPPE	EDGE GUARD #38, COLOR 100 BLACK		FOR USE WITH LVT1	
TR5	METAL TRANSITION	SCHLUTER	RENO - U, BRUSHED ANTIQUE BRONZE ANODIZED ALUMINUM (ABGB)		FOR USE AT RESTROOM THREASHOLDS WITH T1	
WALL BASE						
RB1	RUBBER BASE	ROPPE	4" STANDARD TOE RUBBER WALL BASE, COLOR 100 BLACK	4"		
RB2	RUBBER BASE	ROPPE	4" STANDARD TOE RUBBER WALL BASE, COLOR 177 STEEL BLUE	4"		
WALL PROTECTION						
CG1	CORNER GUARD	KOROSEAL	G100 SIMPLY WHITE		MOUNT AT TOP OF WALL BASE	
WALL TILE						
T2	PORCELAIN WALL TILE	CROSSVILLE	TWEED- TAUPE, DOMTWETP / GROUT: CUSTOM #335 WINTER GRAY, 1/8" JOINT	12" X 24"		
T3	PORCELAIN WALL TILE	CROSSVILLE	TWEED -SILVER, DOMTWESL / GROUT: CUSTOM #542 GRAYSTONE, 1/8" JOINT	12" X 24"		
T4	PORCELAIN WALL TILE	CROSSVILLE	TWEED -SILVER, DOMTWESL / GROUT: CUSTOM #542 GRAYSTONE, 1/8" JOINT	18" X 36"		
T5	GLASS WALL TILE	EMSER	EDGE -NAVY, W80EDGENA1212MCV / GROUT: CUSTOM #542 GRAYSTONE, 1/8" JOINT	12" X 12"		
T6	GLAZED CERAMIC WALL TILE	EMSER	EXPRESS - BURST WHITE, W37EXPRBUWH0312 / GROUT: CUSTOM #544 ROLLING FOG, 1/16" JOINT	3" X 12"		
T7	GLAZED CERAMIC WALL TILE	EMSER	EXPRESS - GLARE WHITE, W37EXPRGLWH0312 / GROUT: CUSTOM #544 ROLLING FOG, 1/16" JOINT	3" X 12"		
T8	GLAZED CERAMIC WALL TILE	EMSER	EXPRESS - LINEAR WHITE, W37EXPRLWH0312 / GROUT: CUSTOM #544 ROLLING FOG, 1/16" JOINT	3" X 12"		
T9	GLAZED CERAMIC WALL TILE	EMSER	EXPRESS -AGLOW WHITE, W37EXPRAGWH0312 / GROUT: CUSTOM #544 ROLLING FOG, 1/16" JOINT	3" X 12"		
Z-SPECIALTIES						
DLT1	DECORATIVE LIGHT FIXTURE	SHADES OF LIGHT	CYDNEY VANITY LIGHT - LARGE, CHROME & OPAL GLASS - BS20084 CH			
DLT2	DECORATIVE LIGHT FIXTURE	SHADES OF LIGHT	INDUSTRIAL CINCH CHANDELIER, BLACK & POLISHED NICKEL			
HDW1	CABINET HARDWARE	MY KNOBS	CONTEMPORARY EXPRESSION I - 7 9/16" CENTER LACONIA HANDLE IN CHROME & MATTE BLACK / RICHELIEU HARDWARE / MYKNOBS.COM	7 9/16"		

FINISH SCHEDULE												
REV #	ROOM #	ROOM NAME	FLOOR	BASE	WALLS				CEILING	MILLWORK		REMARKS
					NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL		CABINETS	COUNTERS	
A005	CATERING		EX		FRP1	FRP1	FRP1	FRP1				PAINT CEILING SW SNOWFALL
A012	RENTAL		EX	RB1	P1	P1	P1	P1	-	-	-	
A013	OFFICE		CPT1	RB1	P1	P1	P1	P1	ACT1	-	-	
A014	CONFERENCE ROOM		CPT1	RB2	P1	P1	P1	P1	ACT1	-	-	
A015	WAITING		CPT1	RB2	P1	P1	P1	P1	ACT1	PL1,P1	SS1,PL2	
A016	GEAR STORAGE		EX	RB3	P1	P1	P1	P1	ACT1	-	-	
A017	OFFICE		CPT1	RB2	P1	P1	P1	P1	ACT1	-	-	
A018	OFFICE		CPT1	RB2	P1	P1	P1	P1	ACT1	-	-	
A019	OFFICE		CPT1	RB2	P1	P1	P1	P1	ACT1	-	-	
A020	OFFICE		CPT1	RB2	P1	P1	P1	P1	ACT1	-	-	
A021	OFFICE		CPT1	RB2	P1	P1	P1	P1	ACT1	-	-	
A022	OPEN OFFICE SPACE		CPT1	RB2	P1	P1	P1	P1	ACT1	PL1	SS1	
A023	WAREHOUSE/ MILL		EX	RB3	P1	P1	P1	P1	-	-	-	
A036	OPEN OFFICE		EX	RB1	P2	P2	P2	P2	ACT1			
A037	OFFICE		EX	RB1	P2	P2	P2	P2	ACT1			
B001	VESTIBULE		EX	-	AB	AB	AB	AB	ACT2/AB	-	-	AB (ACOUSTICAL BLANKET) RE: WALL TYPES AND SECTIONS
B002	CORRIDOR		RF	RB2	P1	P1	P1	P1	ACT1	-	-	
B003	FLEX		LVT1	RB2	P1	P1	P1	P1	ACT1	-	-	
B004	MAKEUP		LVT1	RB2	T3,T4,T5	P4	P4	P4	ACT1	PL1	SS2	
B005	TOILET		T1	T2	PT2,T2,T6,T7,T8,T9	T2/P2	T2/P2	T2/P2	ACT1	-	-	WALLS TO BE T2 UP TO 7'-0" AFF. GYP. PAINTED PT2 ABOVE, U.N.O.
B006	TOILET		T1	T2	PT2,T2,T6,T7,T8,T9	T2/P2	T2/P2	T2/P2	ACT1	-	-	WALLS TO BE T2 UP TO 7'-0" AFF. GYP. PAINTED PT2 ABOVE, U.N.O.
B007	RISER		EX	RB1	P1	P1	P1	P1	-	-	-	
B008	JANITOR		SC		FRP1	FRP1	FRP1	FRP1	ACT3			
B009	STUDIO B		RF	-	AB	AB	AB	AB	ACT2/AB	-	-	AB (ACOUSTICAL BLANKET) RE: WALL TYPES AND SECTIONS
B010	MECH		SC	RB1	P1	P1	P1	P1	ACT1	-	-	
B011	IT CLOSET		SC	SC	P1	P1	P1	P1				

GENERAL FINISH NOTES:

- COORDINATE INSTALLATION HEIGHTS OF ALL DECORATIVE LIGHT FIXTURES WITH DESIGNER PRIOR TO INSTALLATION. FIELD VERIFY.
- STAIN RESISTANT, NON SAG, HIGH PERFORMANCE GROUT REQUIRED AT ALL AREAS U.N.O.
- ARCHITECT/DESIGNER TO REVIEW ALL BLOCKING AND FRAMING LOCATIONS WITH GC, OWNER, AND MILLWORK SUBCONTRACTOR PRIOR TO CONCEALING.
- FIELD COORDINATE FINAL LOCATION OF ALL THERMOSTATS, FIRE ALARMS, AND SURFACE INSTALLED PANELS WITH DESIGNER AND ARCHITECT WITH PRE-INSTALLATION CONFERENCE TO AVOID UNSIGHTLY LOCATIONS WITH INTERIOR DESIGN.
- INSTALL APPROPRIATE TRANSITIONS AT FINISH TRANSITIONS. ALL TRANSITIONS TO BE REVIEWED BY DESIGNER IF THEY DIFFER FOR ANY REASON FROM SPECIFICATIONS IN THE MATERIAL FINISH LEGEND.
- ALL CEILING PAINT TO BE FLAT U.N.O.
- ALL WALL PAINT TO BE SATIN U.N.O.
- ALL HOLLOW METAL DOORS AND FRAMES PAINTED PT2 U.N.O.
- WHERE FLOORING AND WALLS ARE TO BE INSTALLED OVER EXISTING STUDIO A CONCRETE SURFACES. FURNISH AND INSTALL "LIQUIDAM EZ MOISTURE VAPOR BARRIER" PER MANUFACTURERS RECOMMENDATIONS. RE: TILE CARPETING SPECIFICATION SECTION 098013



Cherokee Nation Businesses
**CNFO Owasso Campus
 Improvements Phase II**
 16990 East 116th Street North Owasso, Oklahoma 74055

REVISIONS

2	AD#2	03.01.23
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DATE: 02.13.23
 SHEET: Studio A - Floor Plan

1 STUDIO A - FLOOR PLAN
 1/8" = 1'-0"
 0 4' 8' 16'
 NORTH

Alternate No. 1 Drawings and MEPF Design Narrative
Drawings Shall be used in conjunction with Original
Campus Improvements Documents.

STUDIO A - DESIGN DATA

BUILDING CODE	OKLAHOMA UNIFORM BUILDING CODE - 2015 INTERNATIONAL BUILDING CODE - 2018 INTERNATIONAL PLUMBING CODE - 2018 INTERNATIONAL MECHANICAL CODE - 2018 NATIONAL ELECTRICAL CODE - 2018
ZONING CLASSIFICATION	COMMERCIAL C-4
OCCUPANCY CLASSIFICATION	USE GROUP F-1 (MOTION PICTURE & TELEVISION FILMING)
CONSTRUCTION CLASSIFICATION (IBC CHAPTER 3)	TYPE IIB
GENERAL AREAS AND BUILDING HEIGHTS (IBC CHAPTER 5)	
CONSTRUCTION SQUARE FOOTAGE CALCULATIONS	
TOTAL BUILDING AREA: 27,071 SF	CONSTRUCTION AREA: 14,441 SF
ALLOWABLE STORIES (IBC 504.4) GROUP F - TYPE IIB - FULLY SPRINKLERED ALLOWABLE: TWO STORY - 2 PROVIDED	ALLOWABLE BUILDING HEIGHTS (IBC 504.3) ALLOWABLE: 75' - 0" ACTUAL: 35' - 0"
ALLOWABLE AREA (IBC 506.2) GROUP F - TYPE IIB - FULLY SPRINKLERED ALLOWABLE AREA: 62,000 SF	

-  FIRE EXTINGUISHER AND CABINET
-  WALL MOUNTED FIRE EXTINGUISHER
-  EXIT SIGNAGE LIGHTING WITH BACK UP POWER
-  EXISTING CONSTRUCTION (NOT IN SCOPE)

TYPES OF CONSTRUCTION (CHAPTER 6)			
BUILDING ELEMENT	HOURLY RATING REQUIRED	HOURLY RATING PROVIDED	METHOD OF ACHIEVING RATING
EXTERIOR BEARING WALLS	0	0	N/A
INTERIOR BEARING WALLS	0	0	N/A
EXTERIOR NON-BEARING WALLS	0	0	N/A
INTERIOR NON-BEARING WALLS	0	0	N/A
FLOOR CONSTRUCTION AND SECONDARY MEMBERS	0	0	N/A
ROOF CONSTRUCTION AND SECONDARY MEMBERS	0	0	N/A

INTERIOR FINISHES (IBC 803.11)			
FULLY SPRINKLERED			
GROUP	EXITS	CORRIDORS	ROOMS
BUSINESS	CLASS C	CLASS C	CLASS C

FIRE PROTECTION SYSTEMS (IBC CHAPTER 9)
AUTOMATIC FIRE EXTINGUISHING SYSTEM (IBC 903) BUILDING IS FULLY SPRINKLERED

PORTABLE FIRE EXTINGUISHERS (IBC 906.3(1))		
	ORDINARY LOW HAZARD OCCUPANCY	EXTINGUISHERS AS PROVIDED
MIN. RATED SINGLE EXTINGUISHER:	2-A	
MAXIMUM FLOOR AREA PER UNIT OF A:	3,000 SQ. FT.	27,071 SF. / 3,000 SF. = 10 MIN.
MAXIMUM FLOOR AREA FOR EXTINGUISHER:	11,250 SQ. FT.	
MAXIMUM TRAVEL DISTANCE TO AN EXTINGUISHER:	75 FT.	

FIRE ALARM AND DETECTION SYSTEMS (IBC 907.2.2)
GROUP B - BUSINESS
FIRE ALARM SYSTEM: FIRE ALARM IN PLACE
SMOKE DETECTION SYSTEM: NOT REQUIRED
OCCUPANCY NOTIFICATION SYSTEM: NOT REQUIRED

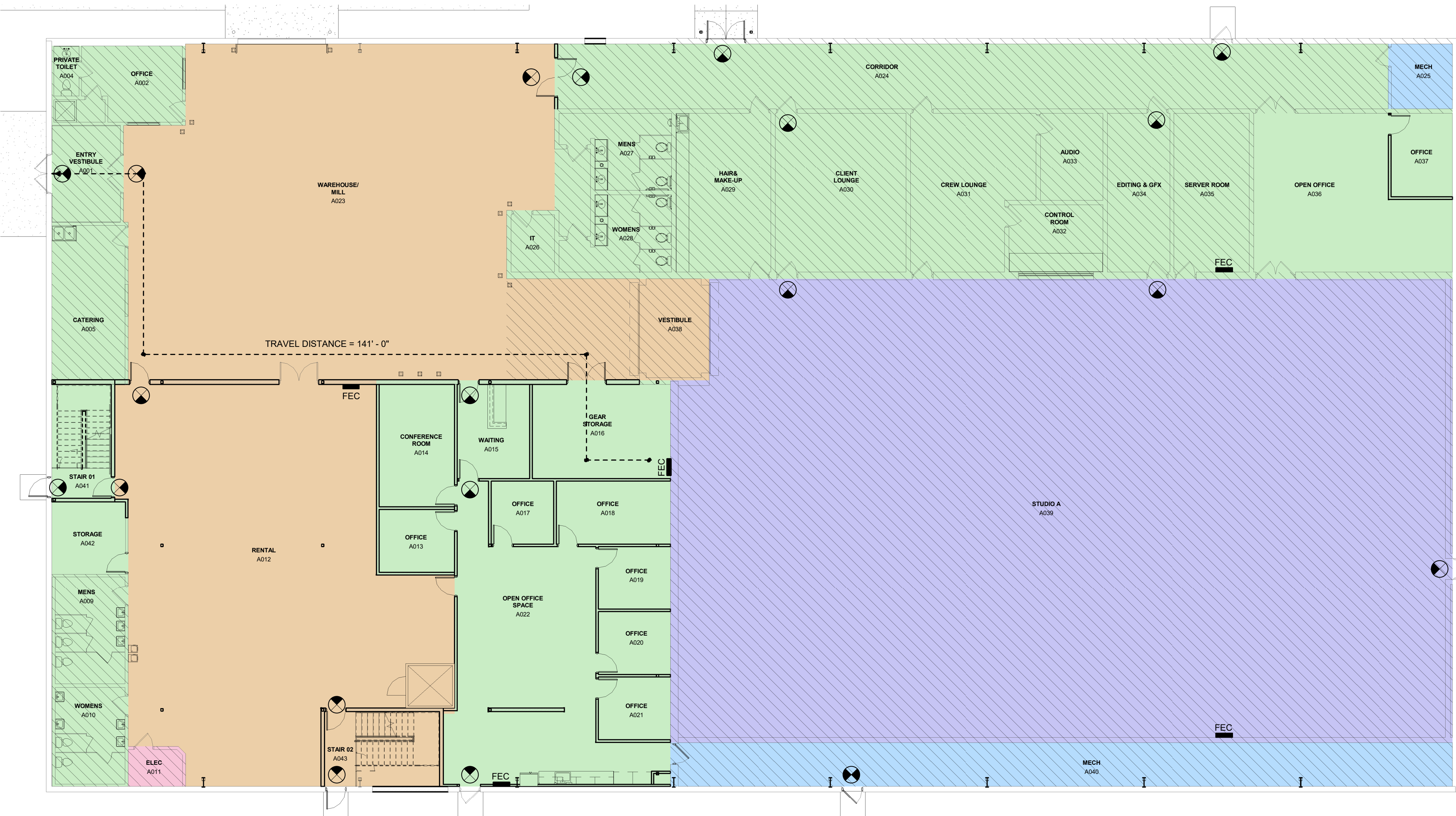
BUILDING A - 1ST FLOOR OCCUPANT LOAD CALCULATIONS (IBC 1004.1.2)

ROOM NO.	ROOM NAME	OCCUPANCY FUNCTION	ROOM AREA	SF PER PERSON	AREA TYPE	OCCUPANT LOAD
A001	ENTRY VESTIBULE	BUSINESS	168 SF	100 SF	GROSS	2
A002	OFFICE	BUSINESS	178 SF	100 SF	GROSS	2
A003	PRIVATE SHOWER	BUSINESS	29 SF	100 SF	GROSS	1
A004	PRIVATE TOILET	BUSINESS	32 SF	100 SF	GROSS	1
A005	CATERING	BUSINESS	293 SF	100 SF	GROSS	3
A006	JANITOR	BUSINESS	54 SF	100 SF	GROSS	1
A009	MENS	BUSINESS	190 SF	100 SF	GROSS	2
A010	WOMENS	BUSINESS	172 SF	100 SF	GROSS	2
A011	ELEC	STORAGE	51 SF	300 SF	GROSS	1
A012	RENTAL	WAREHOUSE	2969 SF	500 SF	GROSS	6
A013	OFFICE	BUSINESS	120 SF	100 SF	GROSS	2
A014	CONFERENCE ROOM	BUSINESS	234 SF	100 SF	GROSS	3
A015	WAITING	BUSINESS	173 SF	100 SF	GROSS	2
A016	GEAR STORAGE	STORAGE	330 SF	300 SF	GROSS	2
A017	OFFICE	BUSINESS	100 SF	100 SF	GROSS	1
A018	OFFICE	BUSINESS	182 SF	100 SF	GROSS	2
A019	OFFICE	BUSINESS	115 SF	100 SF	GROSS	2
A020	OFFICE	BUSINESS	115 SF	100 SF	GROSS	2
A021	OFFICE	BUSINESS	115 SF	100 SF	GROSS	2
A022	OPEN OFFICE SPACE	BUSINESS	967 SF	100 SF	GROSS	10
A023	WAREHOUSE/ MILL	WAREHOUSE	3747 SF	500 SF	GROSS	8
A024	CORRIDOR	BUSINESS	1178 SF	100 SF	GROSS	12
A025	MECH	MECH	101 SF	300 SF	GROSS	1
A026	IT	BUSINESS	64 SF	100 SF	GROSS	1
A027	MENS	BUSINESS	178 SF	100 SF	GROSS	2
A028	WOMENS	BUSINESS	178 SF	100 SF	GROSS	2
A029	HAIR & MAKE-UP	BUSINESS	385 SF	100 SF	GROSS	4
A030	CLIENT LOUNGE	BUSINESS	527 SF	100 SF	GROSS	6
A031	CREW LOUNGE	BUSINESS	451 SF	100 SF	GROSS	5
A032	CONTROL ROOM	BUSINESS	160 SF	100 SF	GROSS	2
A033	AUDIO	BUSINESS	139 SF	100 SF	GROSS	2
A034	EDITING & GFX	BUSINESS	252 SF	100 SF	GROSS	3
A035	SERVER ROOM	BUSINESS	303 SF	100 SF	GROSS	4
A036	OPEN OFFICE	BUSINESS	664 SF	100 SF	GROSS	7
A037	OFFICE	BUSINESS	131 SF	100 SF	GROSS	2
A038	VESTIBULE	WAREHOUSE	139 SF	500 SF	GROSS	1
A039	STUDIO A	STAGE	8854 SF	15 SF	NET	591
A040	MECH	MECH	865 SF	300 SF	GROSS	3
A041	STAIR 01	BUSINESS	171 SF	100 SF	GROSS	2
A042	STORAGE	STORAGE	138 SF	300 SF	GROSS	1
A043	STAIR 02	BUSINESS	219 SF	100 SF	GROSS	3
TOTAL OCCUPANT LOAD:						711

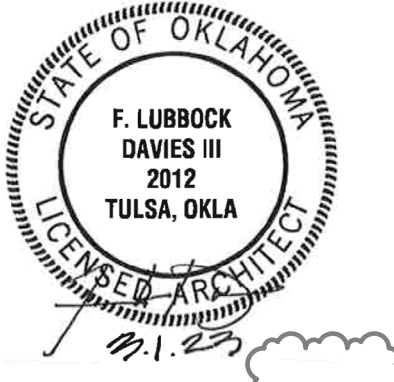
NUMBER OF EXITS AND EXIT ACCESS DOORWAYS (1006)		
OCCUPANT LOAD PER EXIT ACCESS DOOR WITH OCCUPANT LOAD FACTOR		
SPACES WITH ONE EXIT ACCESS DOORWAY (IBC 1006.2.1)		
OCCUPANCY	MAXIMUM OCCUPANCY LOAD OF SPACE	COMMON PATH OF EGRESS MAX W/ AUTOMATIC SPRINKLER
FACTORY	711	100

REQUIRED NUMBER OF EXITS (1006.3.1)
FIRST STORY = REQUIRED NUMBER OF EXITS (1006.3.1) 501-1,000 OCCUPANTS PER STORY = 3 TOTAL EXITS
MAXIMUM TRAVEL DISTANCE TO AN EXIT (1017.2) 300 FT WITH SPRINKLER SYSTEM

ACCESSIBLE PARKING SPACES (1106.1)					
PARKING REQUIREMENTS		REQUIRED		PROVIDED	
GROUP - COMMERCIAL C4 - LIGHT MANUFACTURING (MOTION PICTURE PRODUCTION USE UNIT 27)	BUILDING AREA UP TO 30,000 SF	SPACES	1 SPACE / 800 SF	BUILDING AREA	SPACES
				27,071 SF	50 TOTAL
				ACCESSIBLE REQUIRED	ACCESSIBLE PROVIDED
	TOTAL SPACES	REQUIRED MINIMUM		TOTAL SPACES	SPACES
	34	2		26 - 50	2



STUDIO A - 1ST FLOOR LIFE SAFETY PLAN
1/32" = 1'-0"
0 5'-4" 10'-8" 21'-4"
NORTH







Cherokee Nation Businesses
CNFO Owasso Campus Phase II - Alt I
16990 East 116th Street North Owasso, Oklahoma 74055

REVISIONS
2 AD#2 03.01.23

DATE: March 1, 2023
SHEET: Studio A - Alternate I
1st Floor Life Safety
Plan

STUDIO A - DESIGN DATA

BUILDING CODE	OKLAHOMA UNIFORM BUILDING CODE - 2015 INTERNATIONAL BUILDING CODE - 2018 INTERNATIONAL PLUMBING CODE - 2018 INTERNATIONAL MECHANICAL CODE - 2018 NATIONAL ELECTRICAL CODE - 2018
ZONING CLASSIFICATION	COMMERCIAL C-4
OCCUPANCY CLASSIFICATION	USE GROUP F-1 (MOTION PICTURE & TELEVISION FILMING)
CONSTRUCTION CLASSIFICATION (IBC CHAPTER 3)	TYPE IIB
GENERAL AREAS AND BUILDING HEIGHTS (IBC CHAPTER 5)	
CONSTRUCTION SQUARE FOOTAGE CALCULATIONS	
TOTAL BUILDING AREA: 27,071 SF	CONSTRUCTION AREA: 14,441 SF
ALLOWABLE STORIES (IBC 504.4) GROUP F - TYPE IIB - FULLY SPRINKLERED ALLOWABLE: TWO STORY - 2 PROVIDED	ALLOWABLE BUILDING HEIGHTS (IBC 504.3) ALLOWABLE: 75' - 0" ACTUAL: 35' - 0"
ALLOWABLE AREA (IBC 506.2) GROUP F - TYPE IIB - FULLY SPRINKLERED ALLOWABLE AREA: 62,000 SF	

-  FIRE EXTINGUISHER AND CABINET
-  WALL MOUNTED FIRE EXTINGUISHER
-  EXIT SIGNAGE LIGHTING WITH BACK UP POWER
-  EXISTING CONSTRUCTION (NOT IN SCOPE)

TYPES OF CONSTRUCTION (CHAPTER 6)			
BUILDING ELEMENT	HOURLY RATING REQUIRED	HOURLY RATING PROVIDED	METHOD OF ACHIEVING RATING
EXTERIOR BEARING WALLS	0	0	N/A
INTERIOR BEARING WALLS	0	0	N/A
EXTERIOR NON-BEARING WALLS	0	0	N/A
INTERIOR NON-BEARING WALLS	0	0	N/A
FLOOR CONSTRUCTION AND SECONDARY MEMBERS	0	0	N/A
ROOF CONSTRUCTION AND SECONDARY MEMBERS	0	0	N/A

INTERIOR FINISHES (IBC 803.11)			
FULLY SPRINKLERED			
GROUP	EXITS	CORRIDORS	ROOMS
BUSINESS	CLASS C	CLASS C	CLASS C

FIRE PROTECTION SYSTEMS (IBC CHAPTER 9)
AUTOMATIC FIRE EXTINGUISHING SYSTEM (IBC 903) BUILDING IS FULLY SPRINKLERED

PORTABLE FIRE EXTINGUISHERS (IBC 906.3(1))		
	ORDINARY LOW HAZARD OCCUPANCY	EXTINGUISHERS AS PROVIDED
MIN. RATED SINGLE EXTINGUISHER:	2-A	
MAXIMUM FLOOR AREA PER UNIT OF A:	3,000 SQ FT.	27,071 SF. / 3,000 SF. = 10 MIN.
MAXIMUM FLOOR AREA FOR EXTINGUISHER:	11,250 SQ FT.	
MAXIMUM TRAVEL DISTANCE TO AN EXTINGUISHER:	75 FT.	

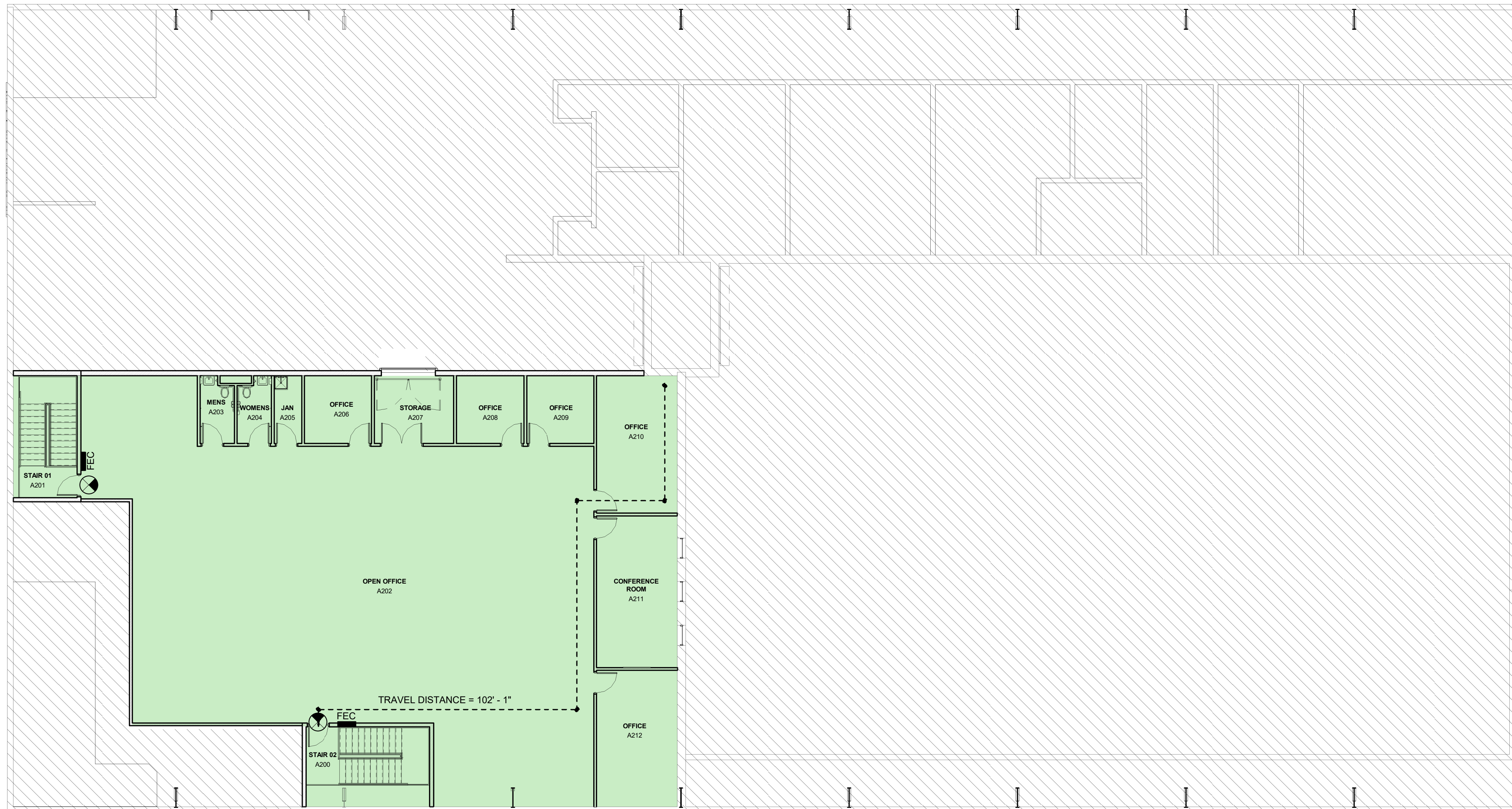
FIRE ALARM AND DETECTION SYSTEMS (IBC 907.2.2)
GROUP B - BUSINESS
FIRE ALARM SYSTEM: FIRE ALARM IN PLACE
SMOKE DETECTION SYSTEM: NOT REQUIRED
OCCUPANCY NOTIFICATION SYSTEM: NOT REQUIRED

BUILDING A - 2ND FLOOR OCCUPANT LOAD CALCULATIONS (IBC 1004.1.2)						
ROOM NO.	ROOM NAME	OCCUPANCY FUNCTION	ROOM AREA	SF PER PERSON	AREA TYPE	OCCUPANT LOAD
A200	STAIR 02	B	219 SF	100 SF	GROSS	3
A201	STAIR 01	B	171 SF	100 SF	GROSS	2
A202	OPEN OFFICE	B	3357 SF	100 SF	GROSS	34
A203	MENS	B	47 SF	100 SF	GROSS	1
A204	WOMENS	B	47 SF	100 SF	GROSS	1
A205	JAN	B	41 SF	100 SF	GROSS	1
A206	OFFICE	B	100 SF	100 SF	GROSS	1
A207	STORAGE	B	118 SF	100 SF	GROSS	2
A208	OFFICE	B	100 SF	100 SF	GROSS	1
A209	OFFICE	B	100 SF	100 SF	GROSS	1
A210	OFFICE	B	244 SF	100 SF	GROSS	3
A211	CONFERENCE ROOM	B	271 SF	100 SF	GROSS	3
A212	OFFICE	B	243 SF	100 SF	GROSS	3
TOTAL OCCUPANT LOAD:						56

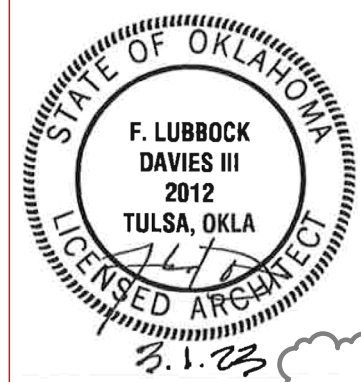
NUMBER OF EXITS AND EXIT ACCESS DOORWAYS (1006)		
OCCUPANT LOAD PER EXIT ACCESS DOOR WITH OCCUPANT LOAD FACTOR		
SPACES WITH ONE EXIT ACCESS DOORWAY (IBC 1006.2.1)		
OCCUPANCY	MAXIMUM OCCUPANCY LOAD OF SPACE	COMMON PATH OF EGRESS MAX W/ AUTOMATIC SPRINKLER
FACTORY	56	100

REQUIRED NUMBER OF EXITS (1006.3.1)
SECOND STORY = REQUIRED NUMBER OF EXITS (1006.3.1) 1 - 500 OCCUPANTS PER STORY = 2 TOTAL EXITS
MAXIMUM TRAVEL DISTANCE TO AN EXIT (1017.2) 300 FT WITH SPRINKLER SYSTEM

ACCESSIBLE PARKING SPACES (1106.1)				
PARKING REQUIREMENTS	REQUIRED		PROVIDED	
	BUILDING AREA	SPACES	BUILDING AREA	SPACES
GROUP - COMMERCIAL C4 - LIGHT MANUFACTURING (MOTION PICTURE PRODUCTION USE UNIT 27)	UP TO 30,000 SF	1 SPACE / 800 SF	27,071 SF	50 TOTAL
	ACCESSIBLE REQUIRED	ACCESSIBLE PROVIDED		
	TOTAL SPACES	REQUIRED MINIMUM	TOTAL SPACES	SPACES
	34	2	26 - 50	2



STUDIO A - 2ND FLOOR
1 LIFE SAFETY PLAN
3/32" = 1'-0"
0 5'-4" 10'-8" 21'-4"
NORTH



Cherokee Nation Businesses
CNFO Owasso Campus Phase II - Alt I
Improvements Phase II - Alt I
16990 East 116th Street North Owasso, Oklahoma 74055

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2 AD#2 03.01.23

DATE March 1, 2023
SHEET Studio A - Alternate I
2nd Floor Life Safety
2 Plan

G1.1.1c

DOOR SCHEDULE									
DOOR#	W	H	T	MATERIAL	FRAME	TYPE	HARDWARE SET	RATING	NOTE
A041A	3'-0"	7'-0"	1 3/4"	HM	HM	A	16		
A041B	3'-0"	7'-0"	1 3/4"	WD	HM	A	15	1 HOUR	
A042	3'-0"	7'-0"	1 3/4"	WD	HM	A	17		
A043A	3'-0"	7'-0"	1 3/4"	WD	HM	A	15	1 HOUR	
A043B	3'-0"	7'-0"	1 3/4"	HM	HM	A	16		
A200	3'-0"	7'-0"	1 3/4"	WD	HM	A	15	1 HOUR	
A201	3'-0"	7'-0"	1 3/4"	WD	HM	A	15	1 HOUR	
A203	3'-0"	7'-0"	1 3/4"	WD	HM	A	09		
A204	3'-0"	7'-0"	1 3/4"	WD	HM	A	09		
A205	3'-0"	7'-0"	1 3/4"	WD	HM	A	04		
A206	3'-0"	7'-0"	1 3/4"	WD	HM	A	04		
A207A	6'-0"	7'-0"	1 3/4"	WD	HM	B	14		
A207B	8'-0"	8'-0"	3/4"	STL	STL	C	-		BETWEEN JAMB OVERHEAD COILING DOOR
A208	3'-0"	7'-0"	1 3/4"	WD	HM	A	04		
A209	3'-0"	7'-0"	1 3/4"	WD	HM	A	04		
A210	3'-0"	7'-0"	1 3/4"	WD	HM	A	04		
A211	3'-0"	7'-0"	1 3/4"	WD	HM	A	06		
A212	3'-0"	7'-0"	1 3/4"	WD	HM	A	04		

DOOR HARDWARE (ALTERNATE #1)

SET#015

- CONTINUOUS HINGE
- FIRE EXIT DEVICE
- IC RIM CYLINDER
- ENTRY LEVER
- REGULAR ARM CLOSER
- OVERHEAD DOOR STOP
- PROTECTION PLATE
- THRESHOLD
- DOOR BOTTOM
- GASKETING
- CORNER PAD

SET#016

- CONTINUOUS HINGE
- FIRE EXIT DEVICE
- IC RIM CYLINDER
- REGULAR ARM CLOSER
- OVERHEAD DOOR STOP
- PROTECTION PLATE
- THRESHOLD
- DOOR BOTTOM
- WEATHER SEAL KIT
- CORNER PAD
- DRIP CAP
- NO ENTRY FROM EXTERIOR OF BUILDING

SET#17

- LEVER ACTION LOCKSET SET
- HINGES
- DOOR SILENCERS

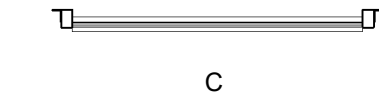
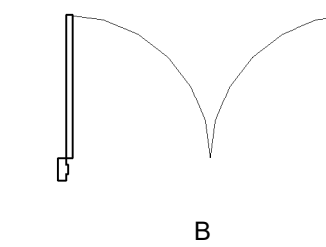
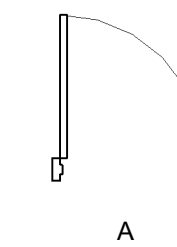
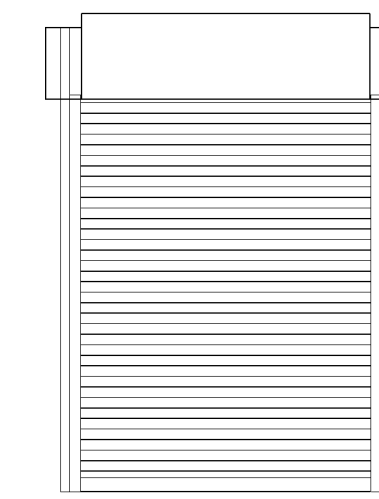
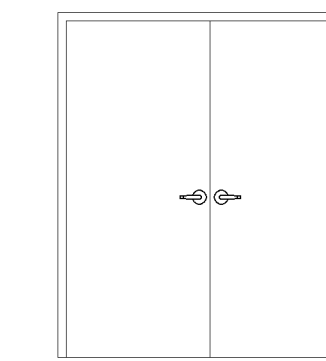
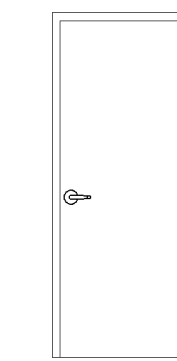
NOTE:
CARD READERS (BY OTHERS) RETRACTS ELECTRONIC LOCKING DEVICE FOR AUTHORIZED ENTRY. FREE EGRESS IS PROVIDED AT ALL TIMES BY MANUAL OPERATION OF EXIT DEVICES.

DOOR TYPES

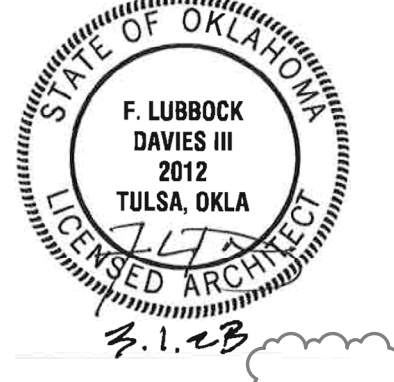
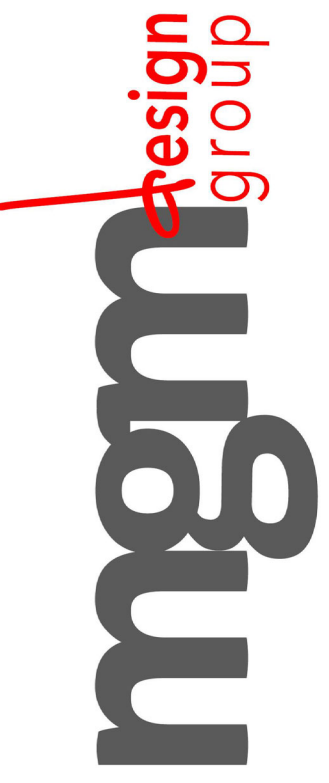
Single Flush

Double Flush

Overhead Coiling



FINISH SCHEDULE												
REV #	ROOM #	ROOM NAME	FLOOR	BASE	WALLS				CEILING	MILLWORK		REMARKS
					NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL		CABINETS	COUNTERS	
A041	STAIR 01	SC	RB1	-	-	P1	P1	P1	-			
A042	STORAGE	SC	RB1	-	-	P1	P1	P1	GYP			
A043	STAIR 02	SC	RB1	P1	P1	P1	-	-				
A200	STAIR 02	SC	RB1	-	P1	P1	P1	P1	ACT1			
A201	STAIR 01	SC	RB1	P1	P1	P1	P1	P1	ACT1			
A202	OPEN OFFICE	CPT1	RB2	-	P2	P2	P2	-				
A203	MENS	T1	T2	T2/PT2	PT2,T2,T6,T7,T8,T9	T2/PT2	T2/PT1	ACT1				
A204	WOMENS	T1	T2	T2/PT2	PT2,T2,T6,T7,T8,T9	T2/PT2	T2/PT1	ACT1				
A205	JAN	SC	-	FRP1	FRP1	FRP1	FRP1	ACT3				
A206	OFFICE	CPT1	RB2	P1	P1	P1	P1	ACT1				
A207	STORAGE	SC	RB1	P1	P1	P1	P1	ACT1				
A208	OFFICE	CPT1	RB2	P1	P1	P1	P1	ACT1				
A209	OFFICE	CPT1	RB2	P1	P1	P1	P1	ACT1				
A210	OFFICE	CPT1	RB2	P1	P1	P1	P1	ACT1				
A211	CONFERENCE ROOM	CPT1	RB2	P1	P1	P1	P1	ACT1				
A212	OFFICE	CPT1	RB2	P1	P1	P1	P1	ACT1				



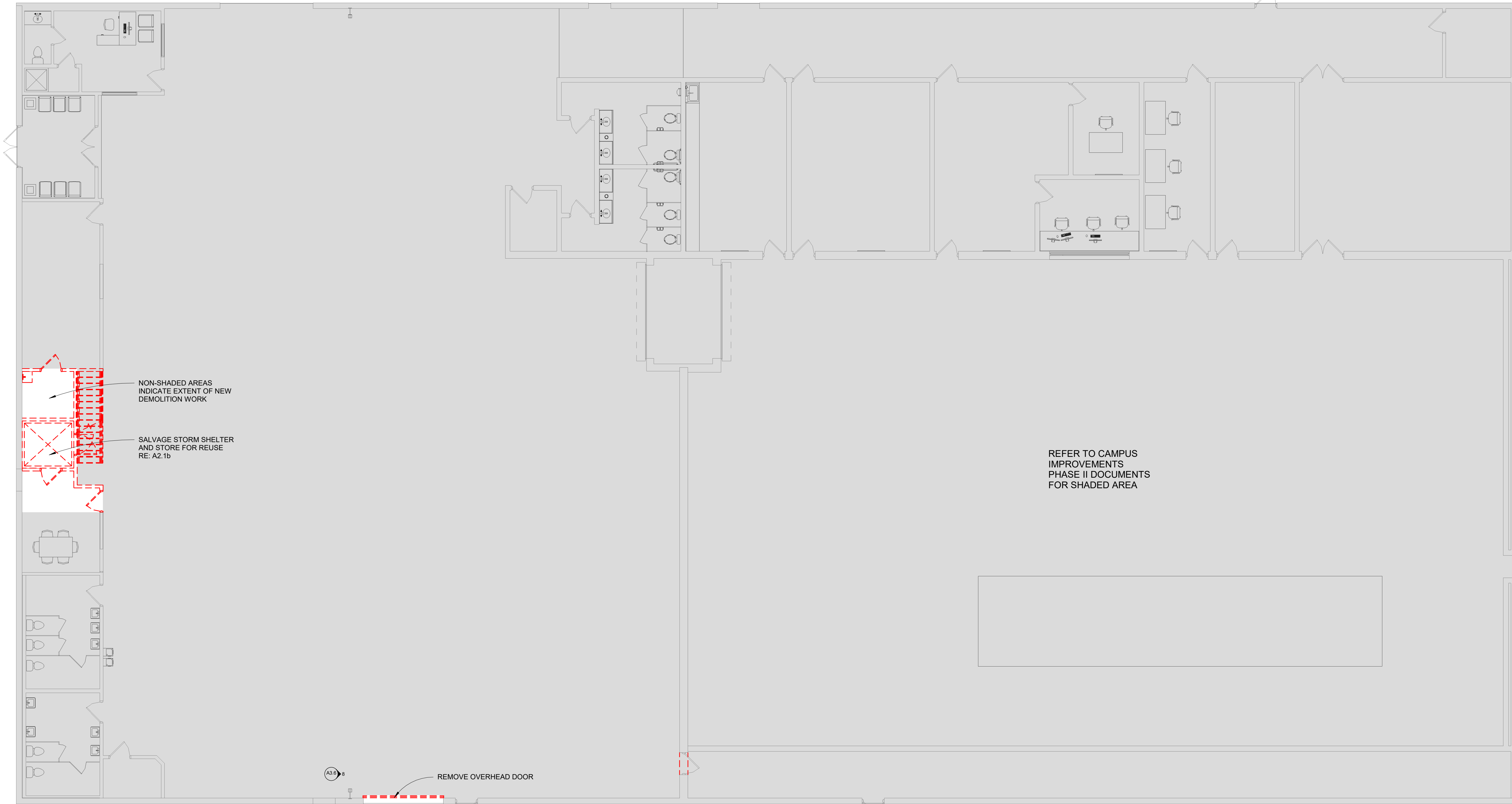
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**CNFO Owasso Campus
 Improvements Phase II - Alt I**

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 2 AD#2 03.01.23

DATE March 1, 2023
 SHEET Alternate I Finish Schedules

G1.3b



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 Improvements Phase II - Alt I**
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REVISIONS

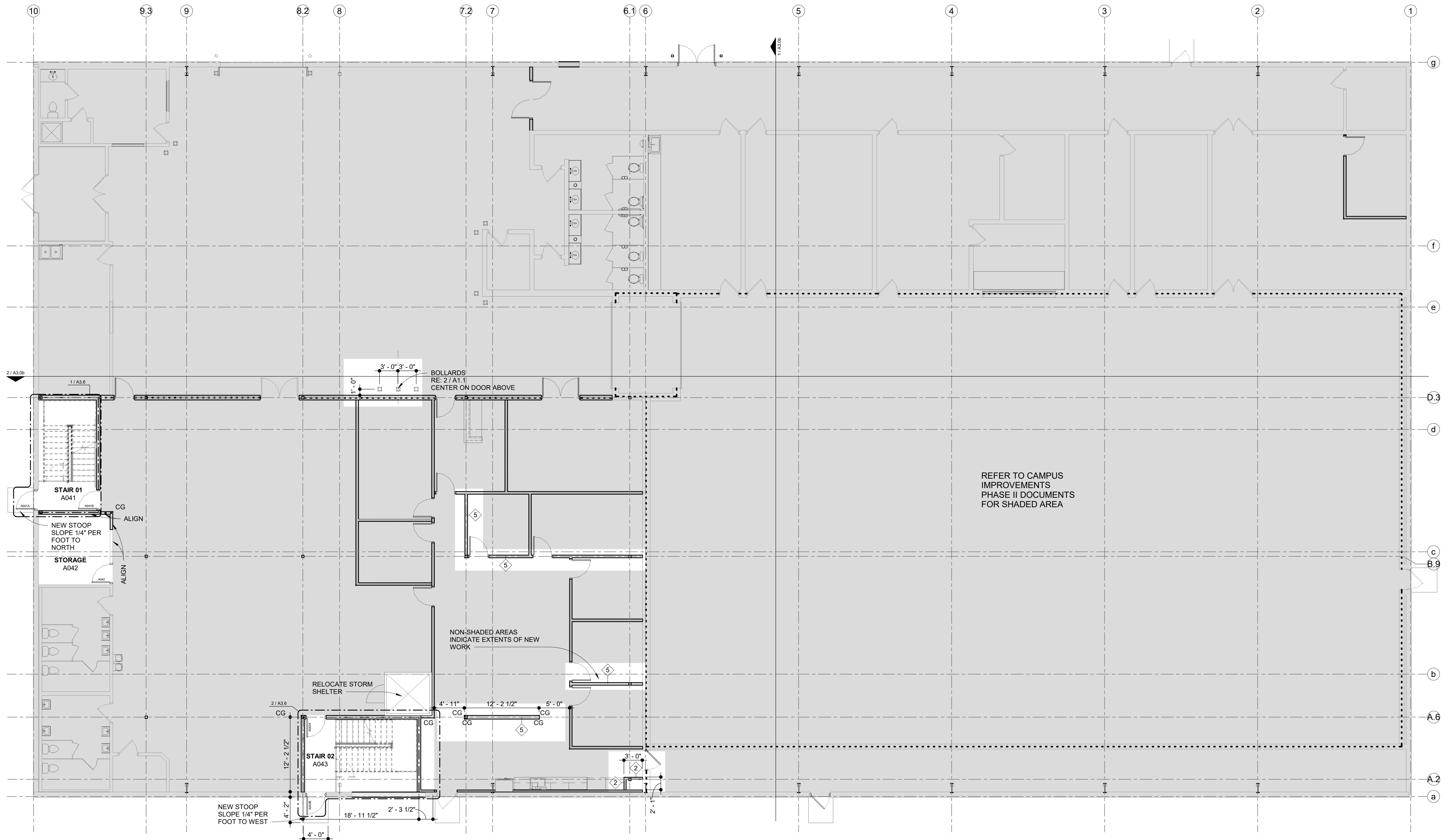
2	AD#2	03.01.23
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DATE
 March 1, 2023
 SHEET
 Studio A - Alternate I
 Demolition Plan

A2.0b

1 STUDIO A - 1ST FLOOR
 DEMOLITION PLAN
 1/8" = 1'-0"





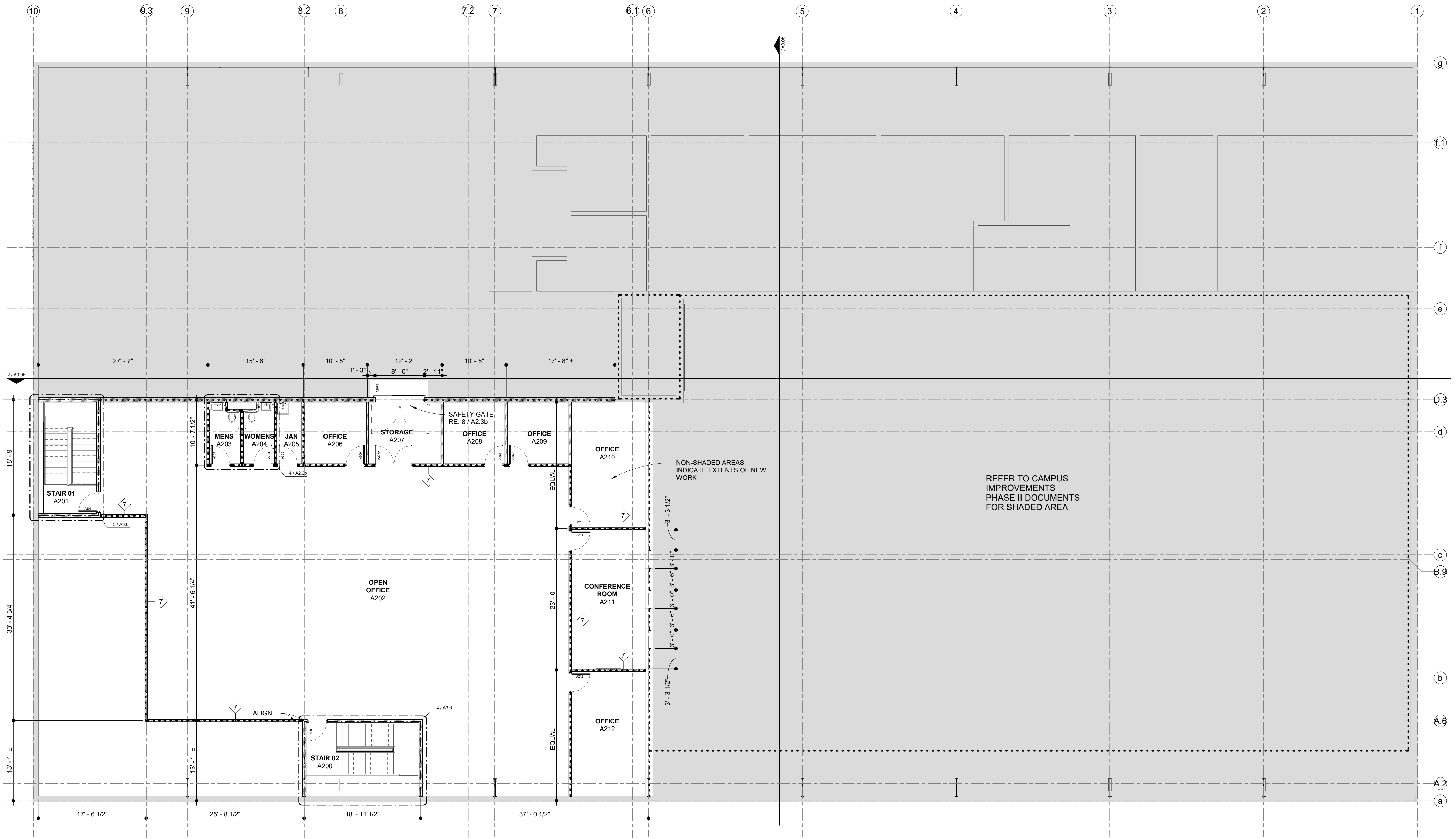
Cherokee Nation Businesses
**CNFO Owasso Campus
 Improvements Phase II - Alt I**
 16990 East 116th Street North Owasso, Oklahoma 74055

REVISIONS

2	AD#2	03.01.23
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DATE: March 1, 2023
 SHEET: Studio A - Alternate I
 1st Floor Plan

**STUDIO A - 1ST FLOOR
 1 FLOOR PLAN**
 1/8" = 1'-0"



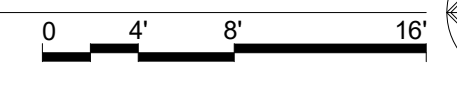
Cherokee Nation Businesses
**CNFO Owasso Campus
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REVISIONS

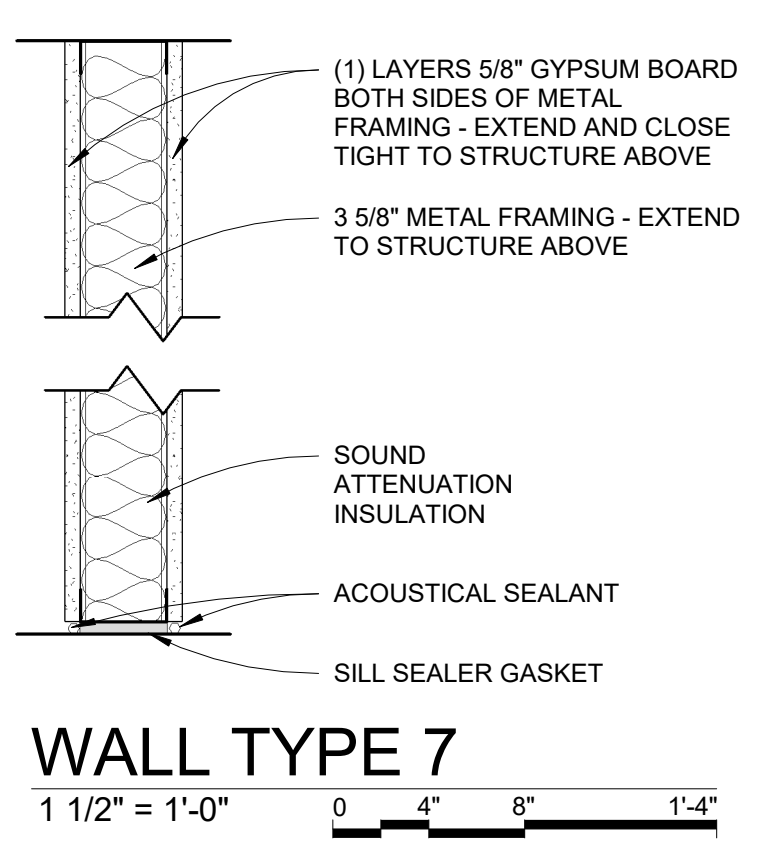
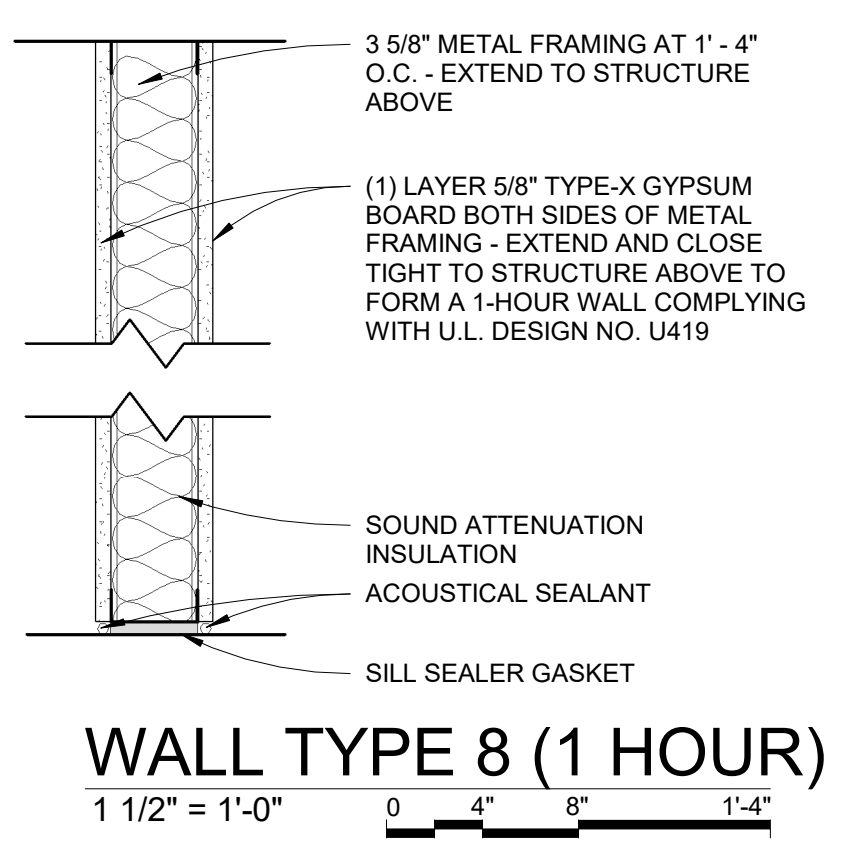
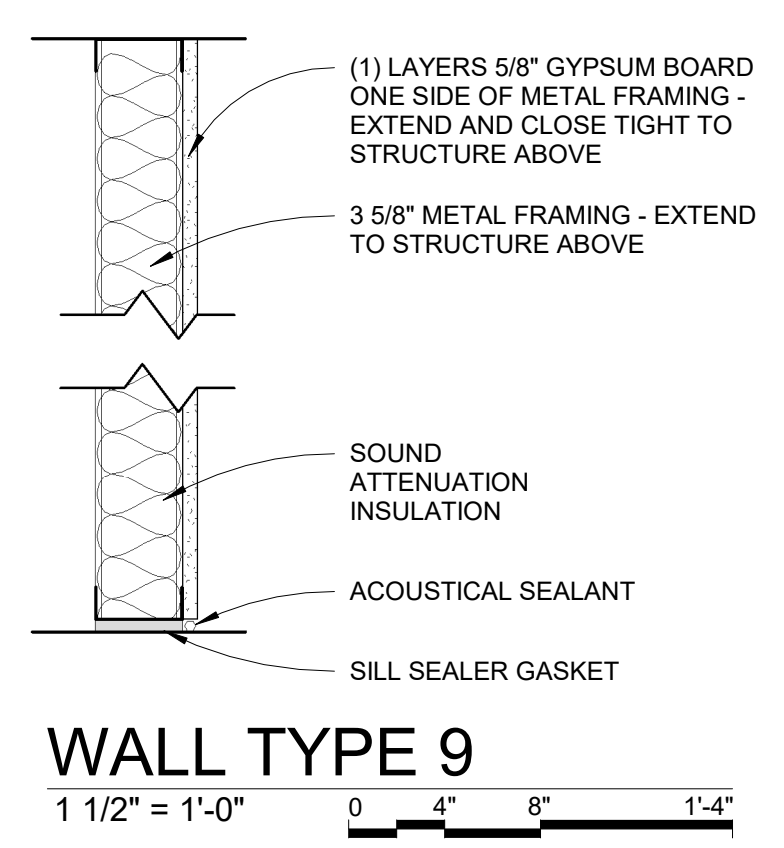
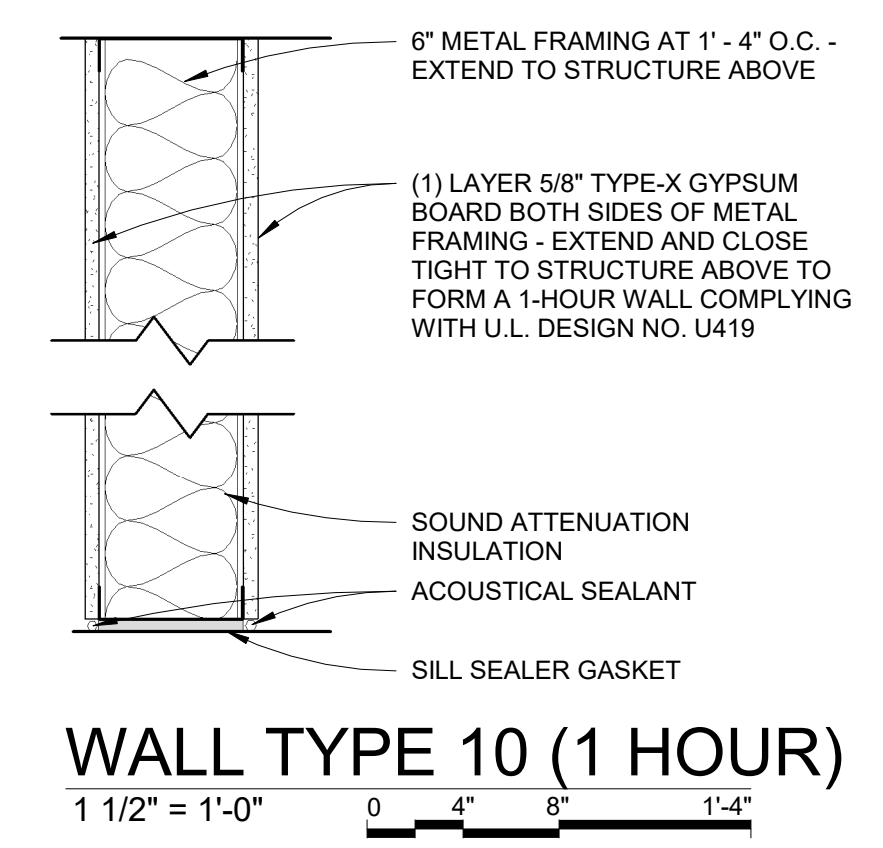
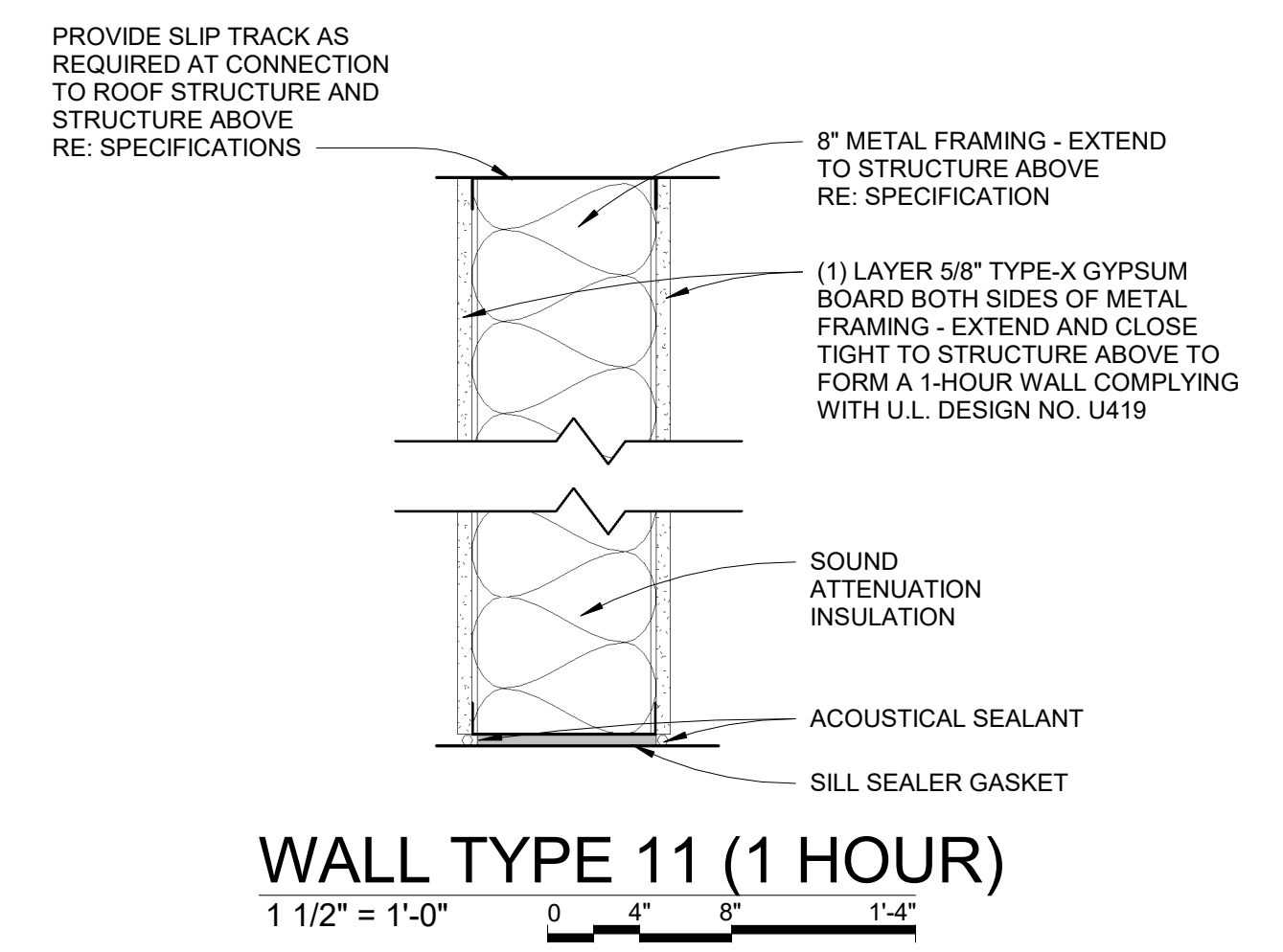
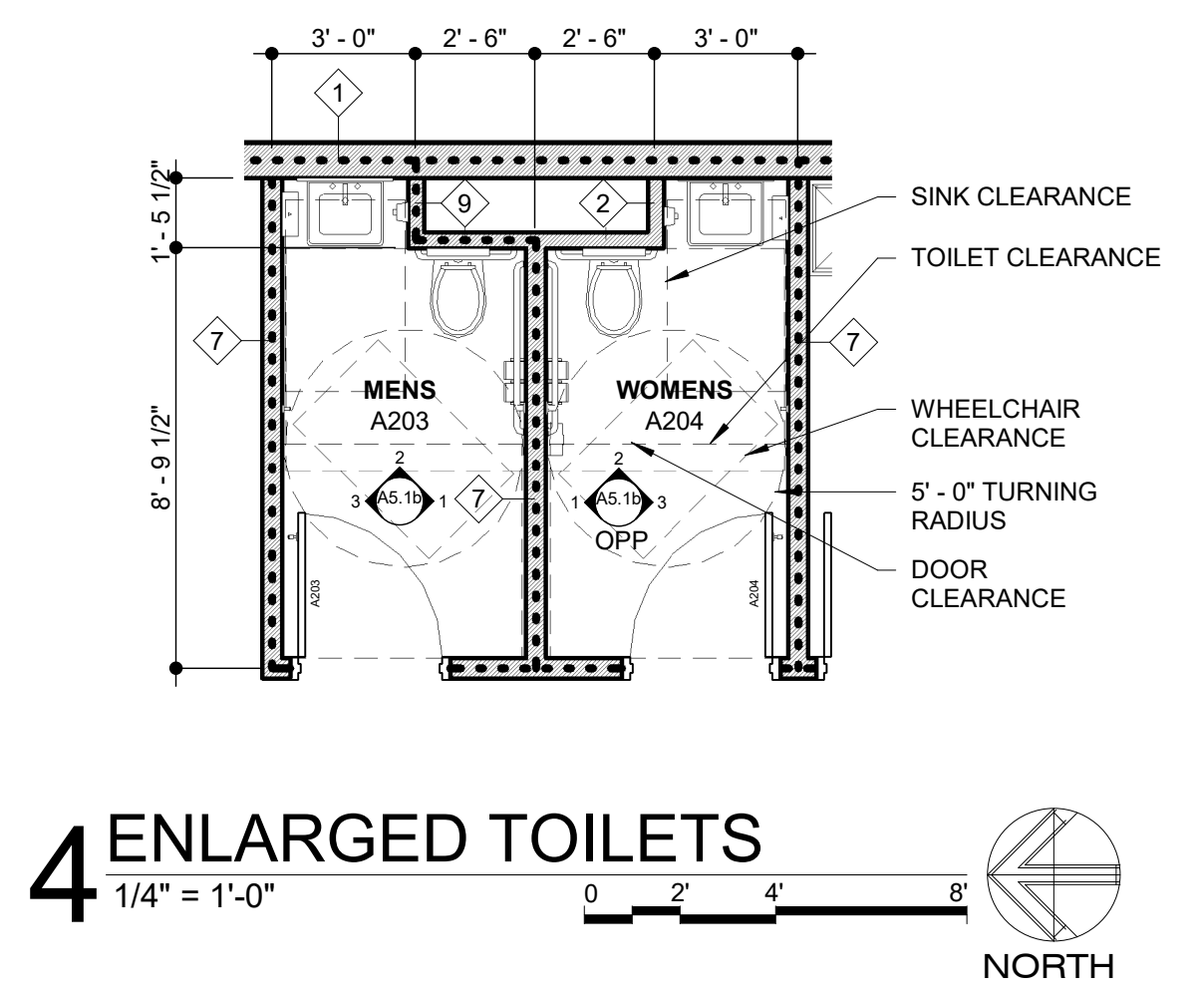
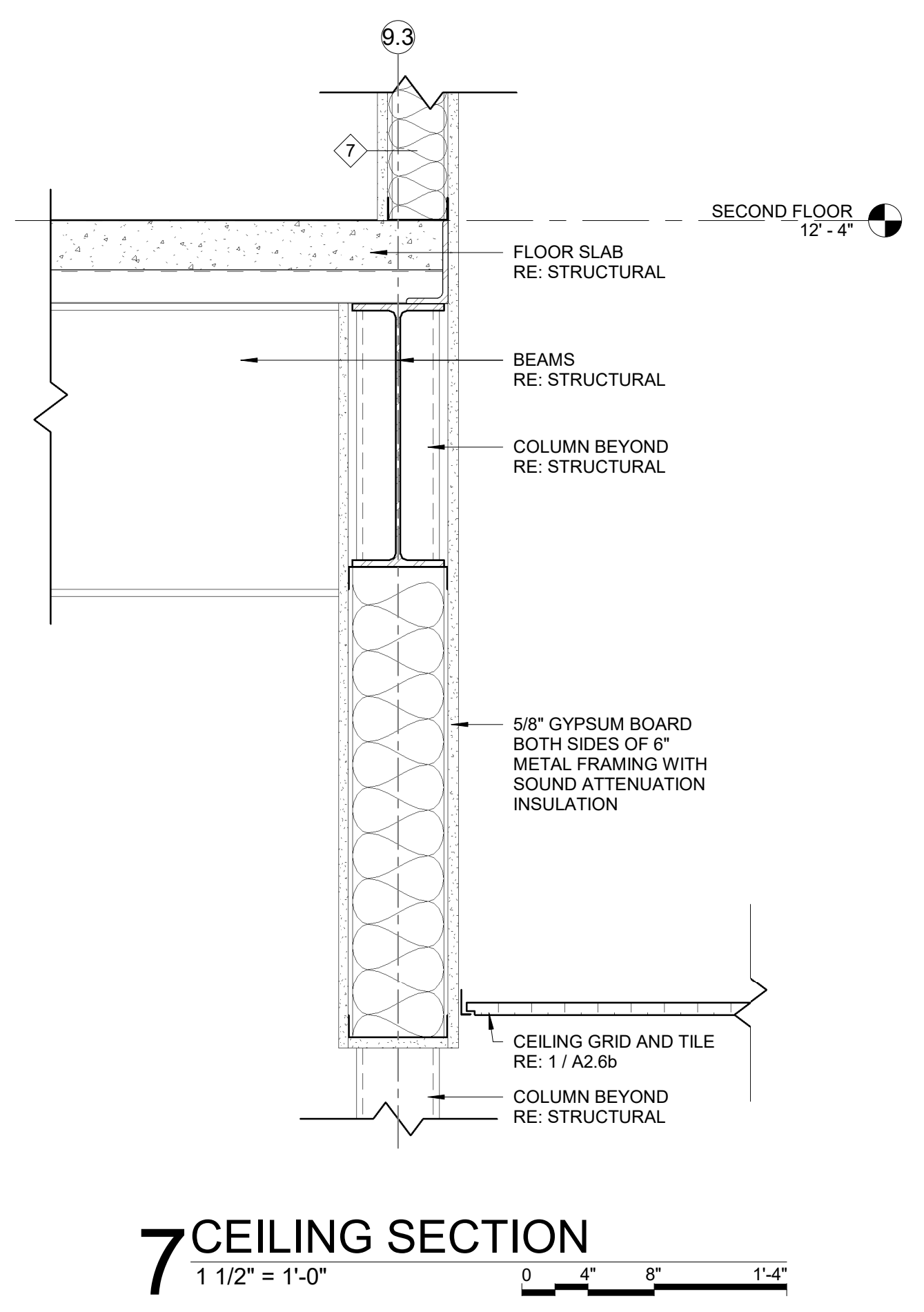
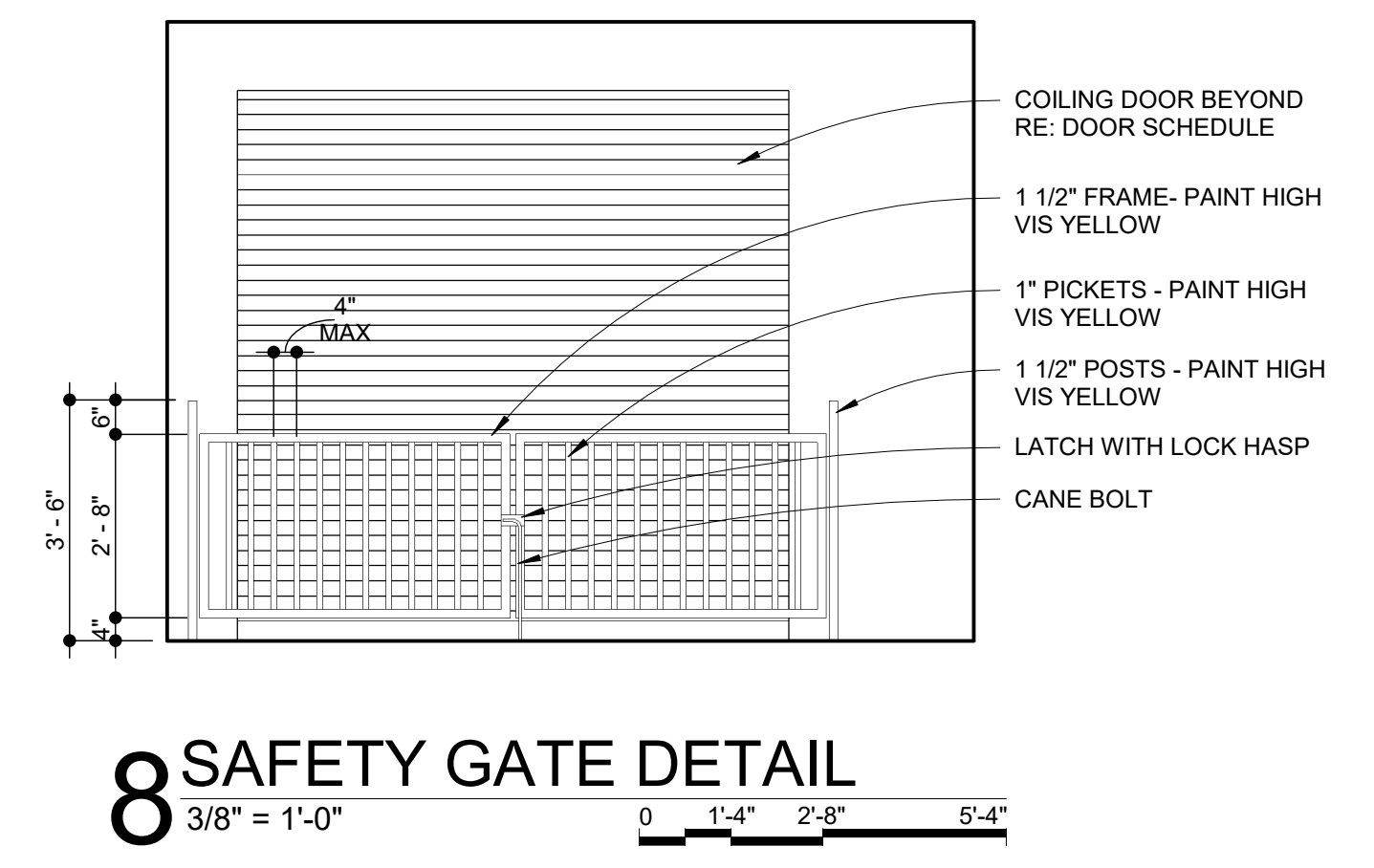
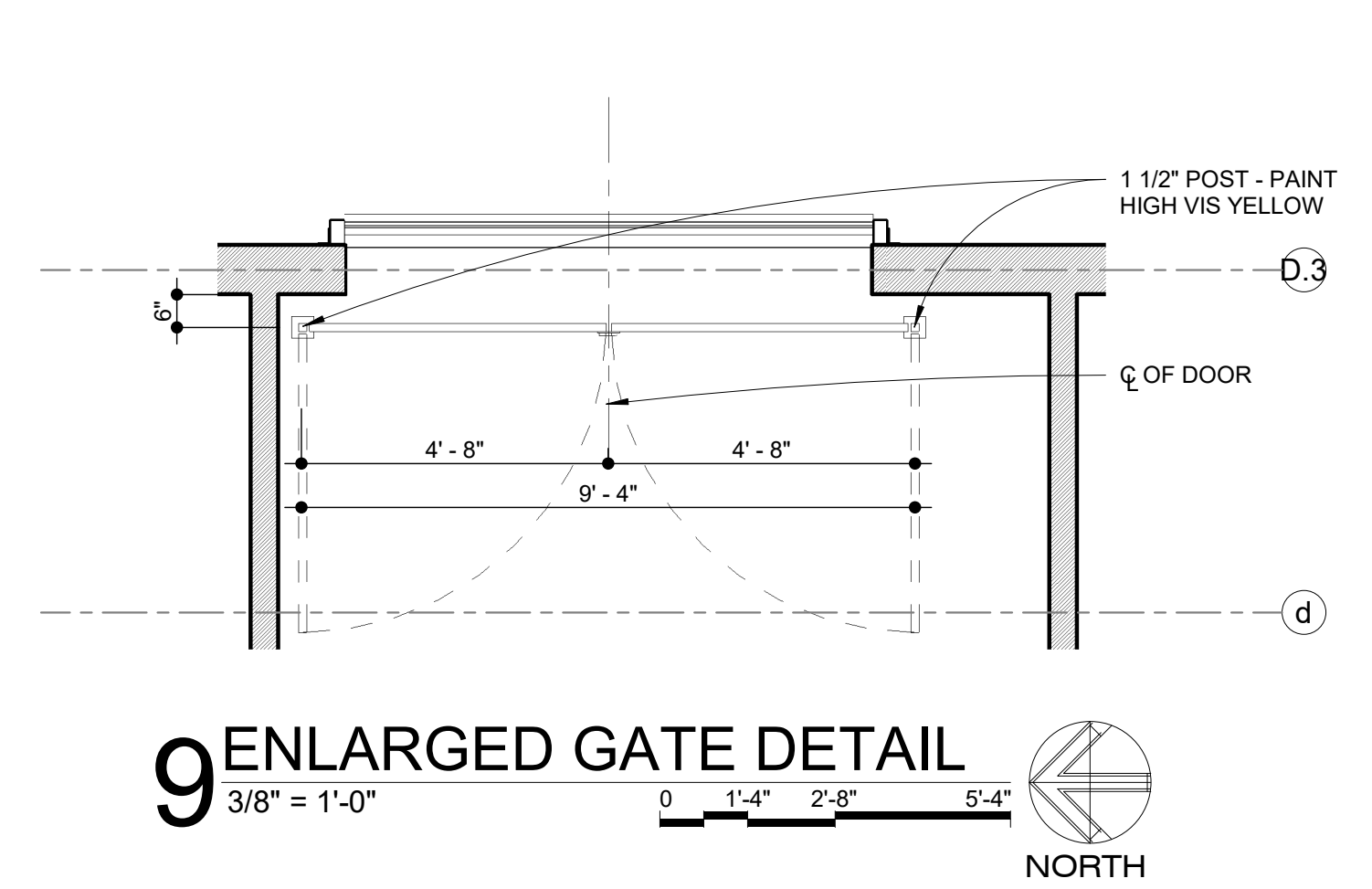
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DATE: March 1, 2023
 SHEET: Studio A - Alternate I
 2nd Floor Plan

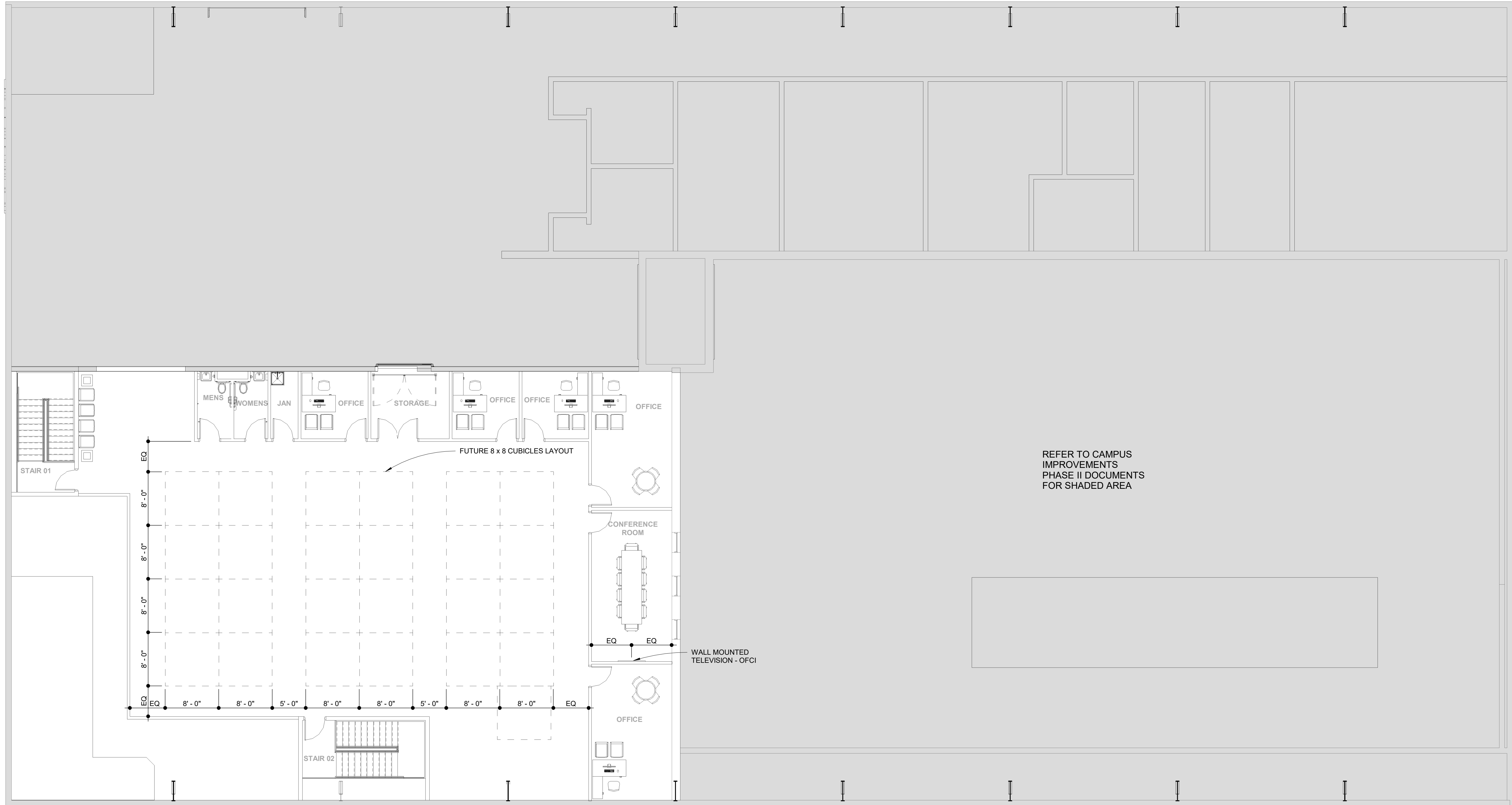
**STUDIO A - 2ND FLOOR
 1 FLOOR PLAN**
 1/8" = 1'-0"



A2.1c



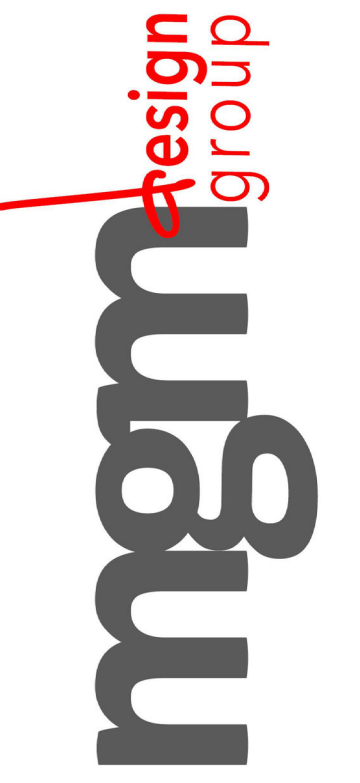
NOTE:
 FOR ADDITIONAL WALL
 TYPE INFORMATION
 REFER TO SHEET A2.3



FURNITURE PLANS ARE FOR INFORMATIONAL PURPOSES ONLY.

1 STUDIO A - 2ND FLOOR
FURNITURE PLAN
1/8" = 1'-0"

NORTH



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 Improvements Phase II - Alt I**
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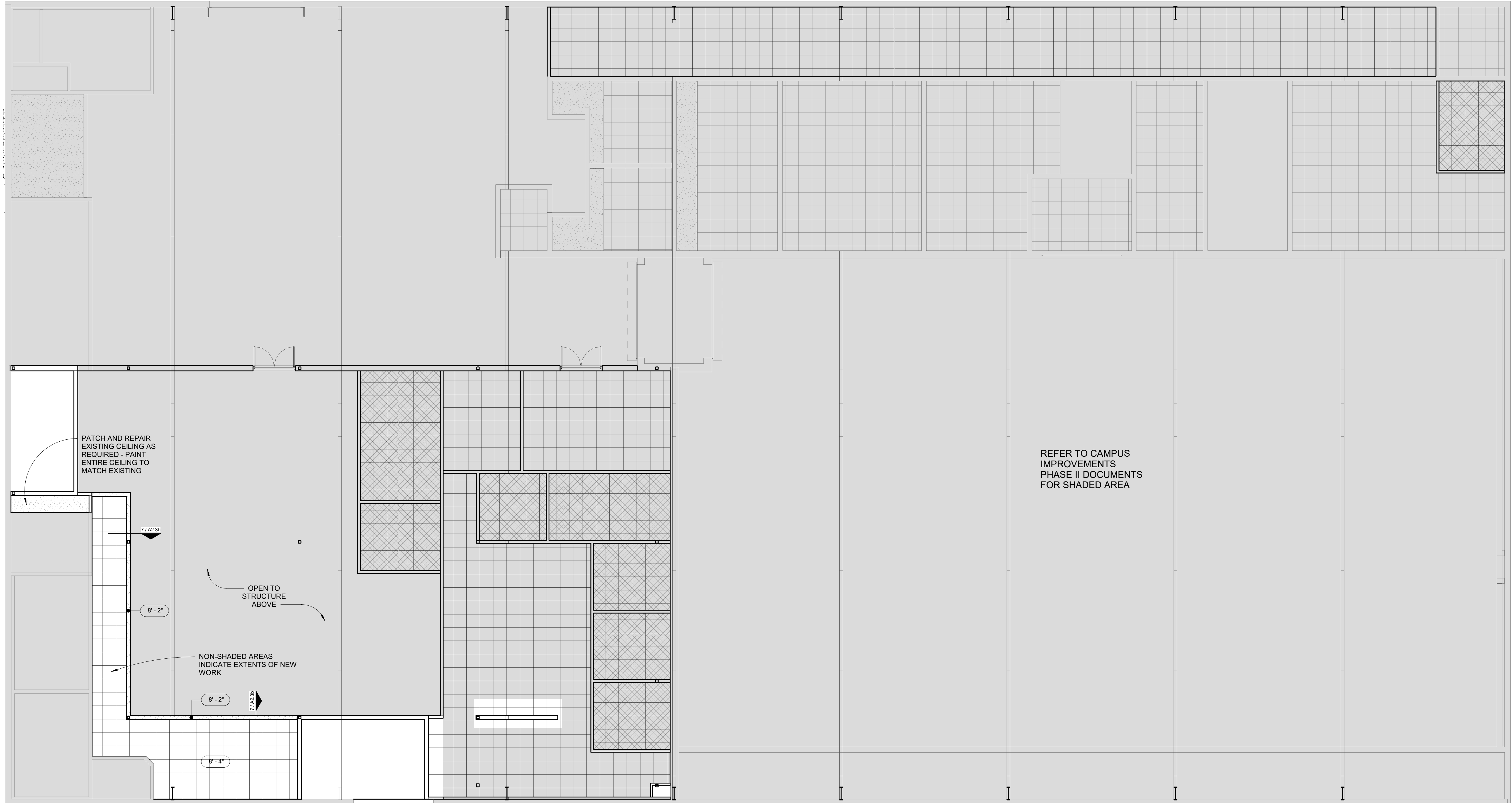
REVISIONS

2	AD#2	03.01.23
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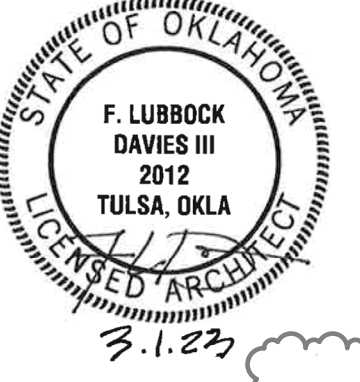
DATE: March 1, 2023
 SHEET: Studio A - Alternate I
 2nd Floor Furniture
 2 Plan

A2.4b

FOR GENERAL NOTES AND LEGENDS, RE: SHEET G1.4



mgm design group



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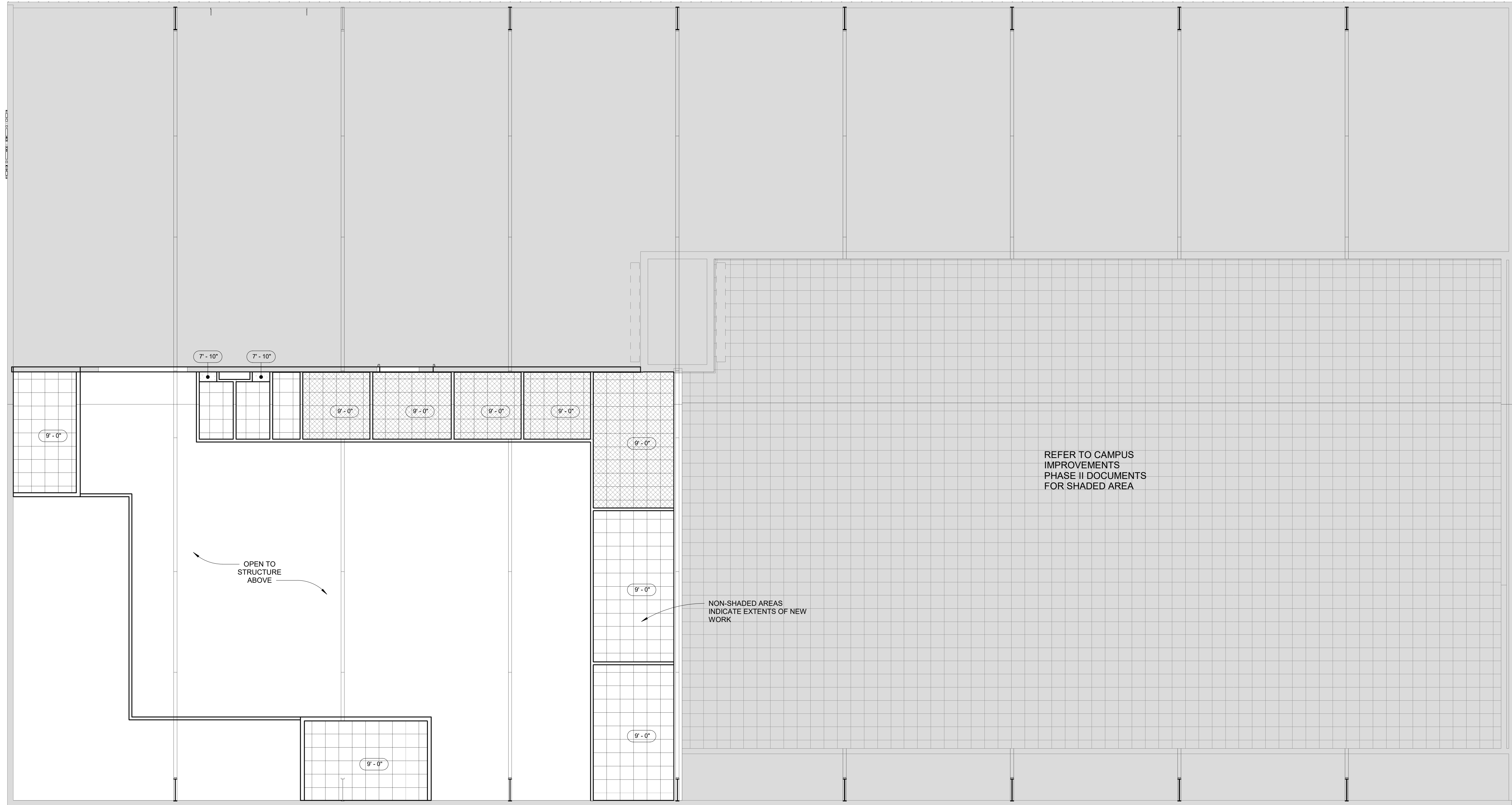
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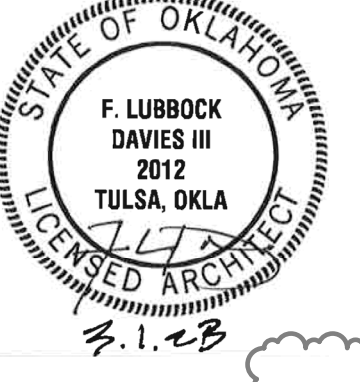
1 1ST FLOOR REFLECTED CEILING PLAN
 1/8" = 1'-0"
 0 4' 8' 16'
 NORTH

DATE: March 1, 2023
 SHEET: Studio A - Alternate I
 1st Floor Reflected Ceiling Plan
A2.6b

FOR GENERAL NOTES AND LEGENDS, RE: SHEET G1.4



mgm design group



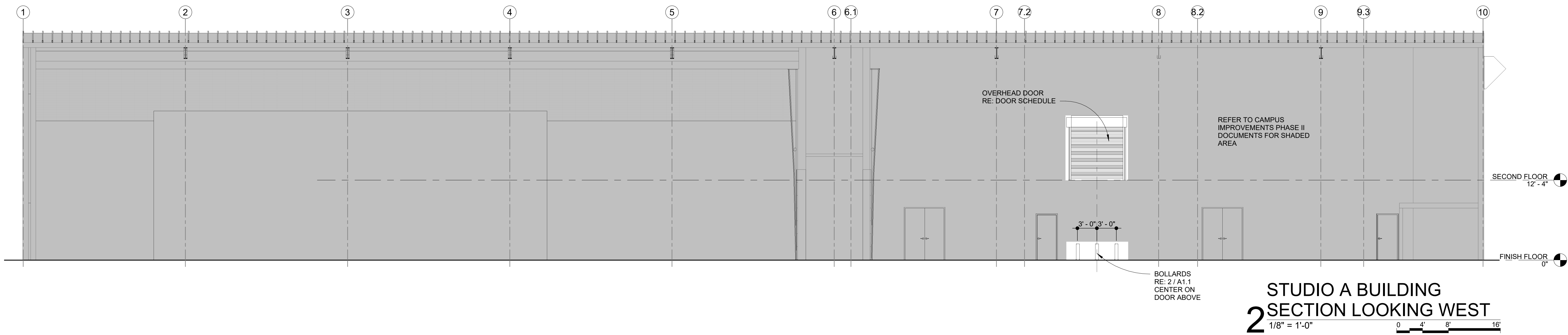
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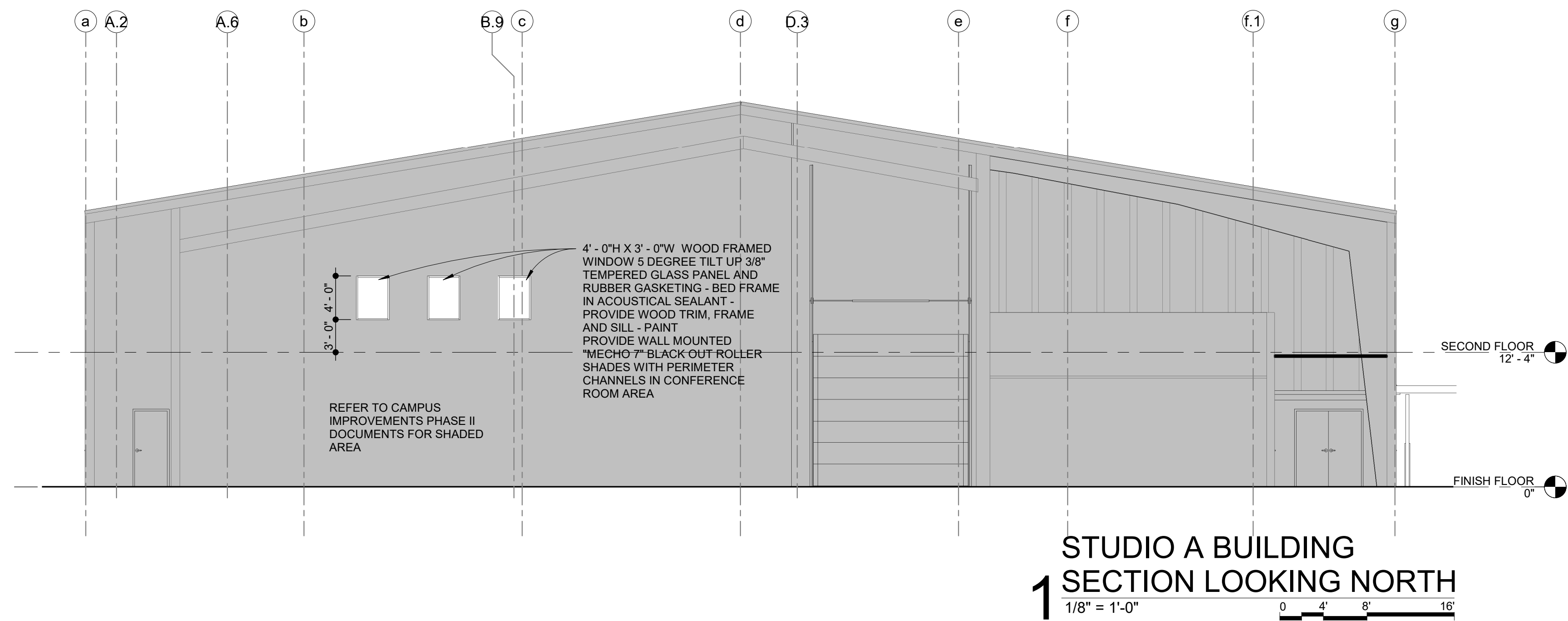
2	AD#2	03.01.23
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2ND FLOOR
1 REFLECTED CEILING PLAN
 1/8" = 1'-0"

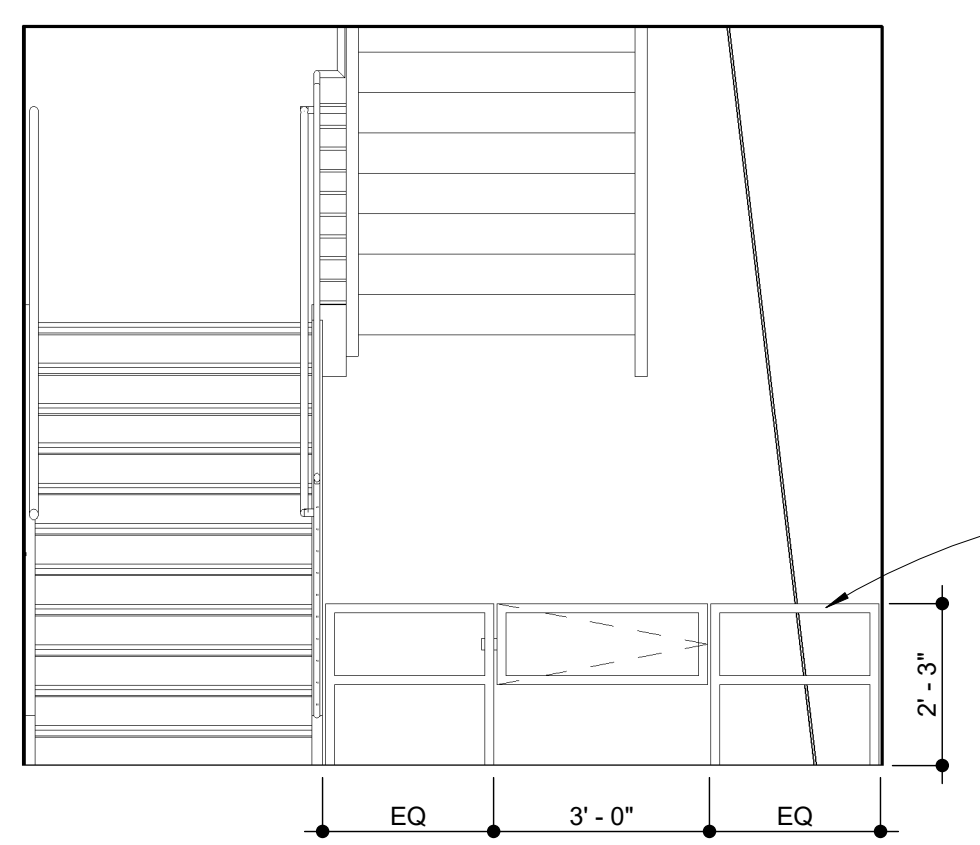
DATE: March 1, 2023
 SHEET: Studio A - Alternate I
 2nd Floor Reflected Ceiling Plan
A2.6c



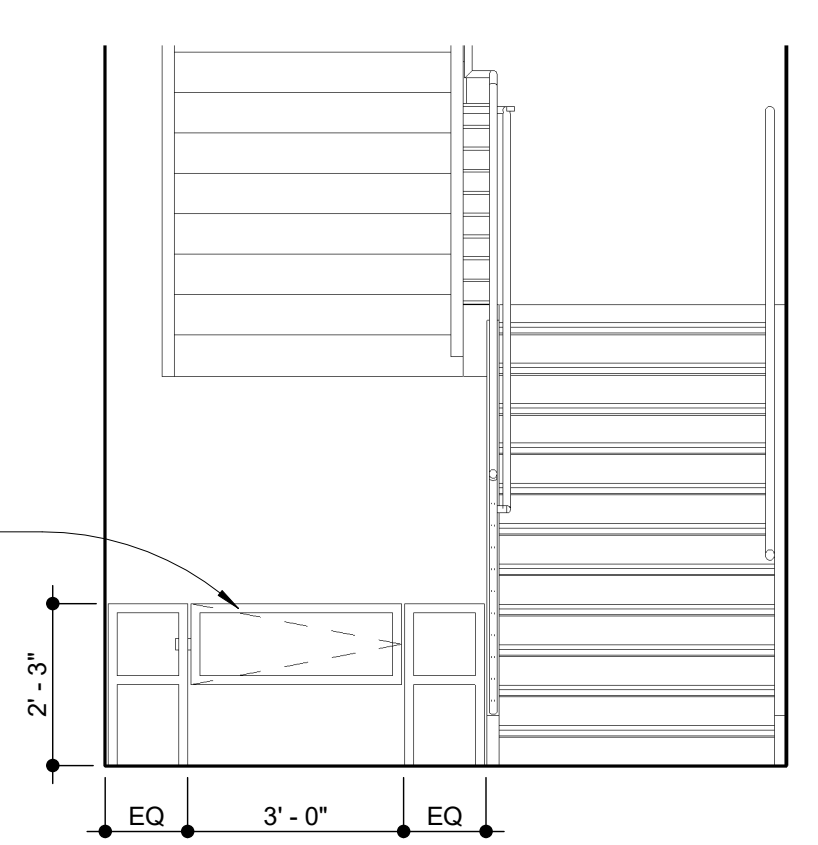
STUDIO A BUILDING
2 SECTION LOOKING WEST
 1/8" = 1'-0"



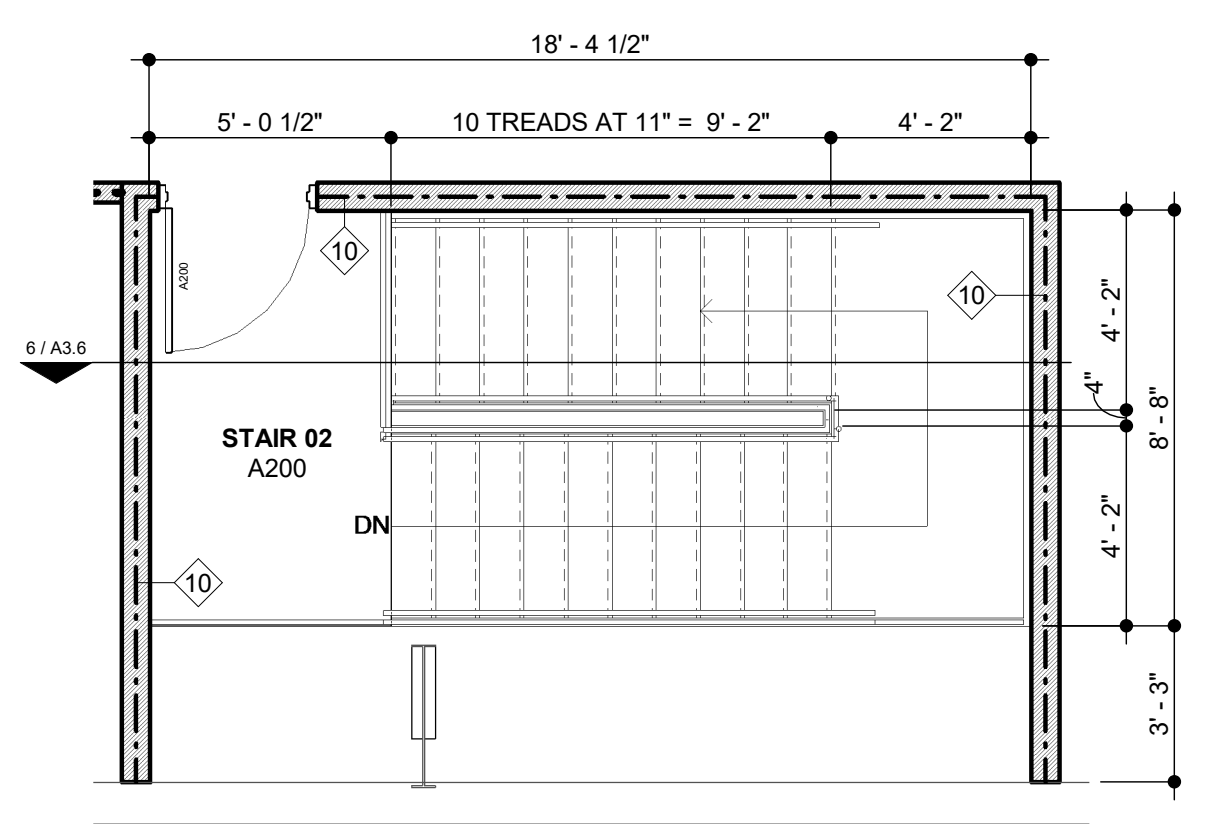
STUDIO A BUILDING
1 SECTION LOOKING NORTH
 1/8" = 1'-0"



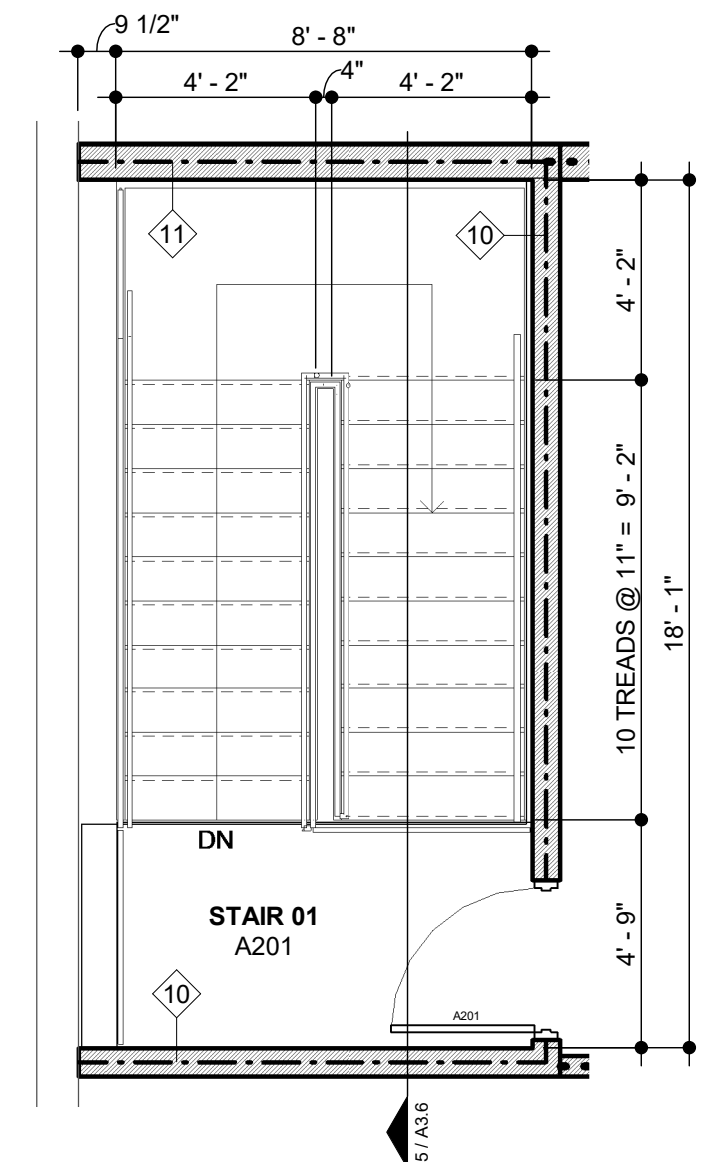
8 STAIR 02 GATE ELEVATION
3/8" = 1'-0"
0 1'-4" 2'-8" 5'-4"



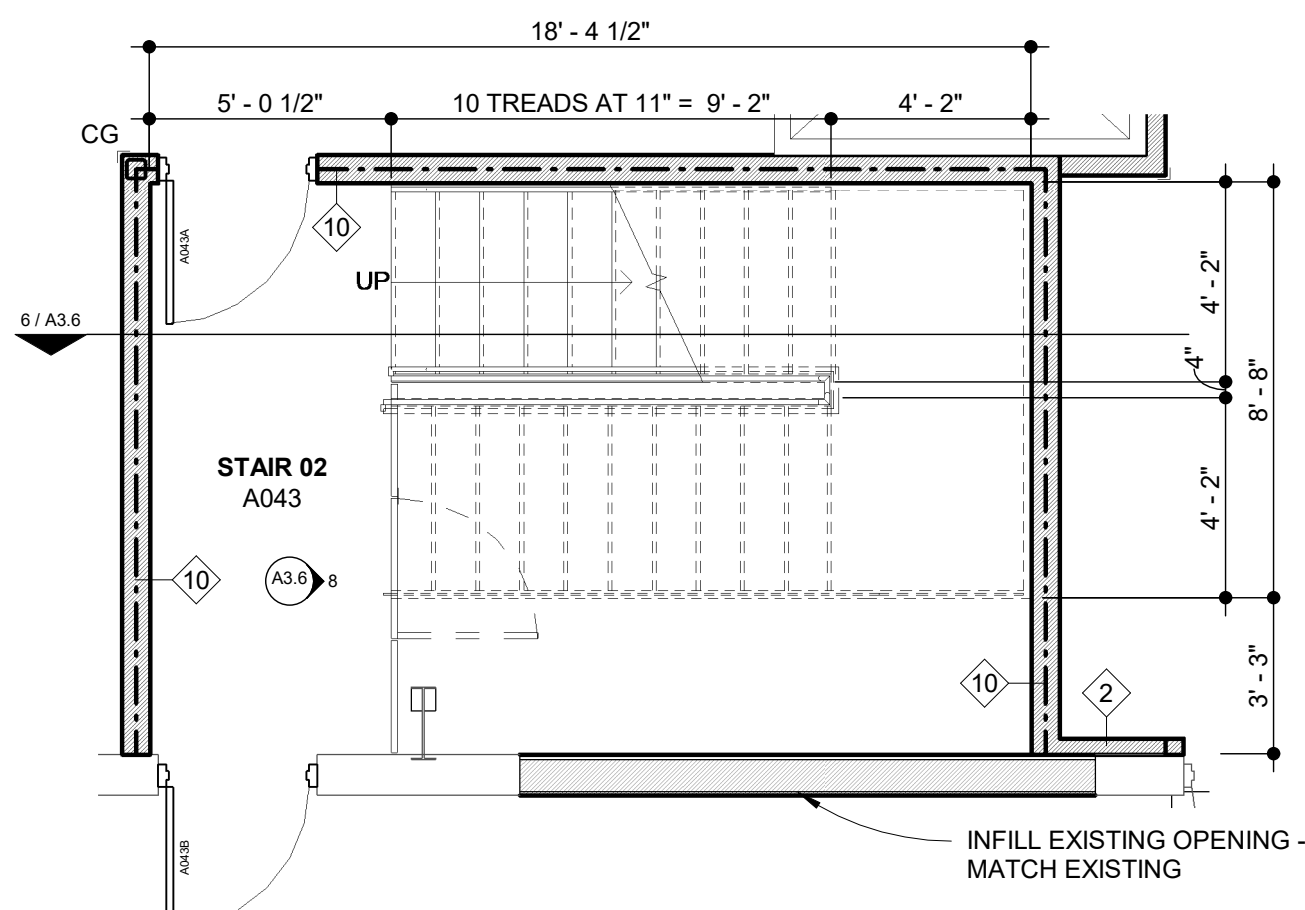
7 STAIR 01 GATE ELEVATION
3/8" = 1'-0"
0 1'-4" 2'-8" 5'-4"



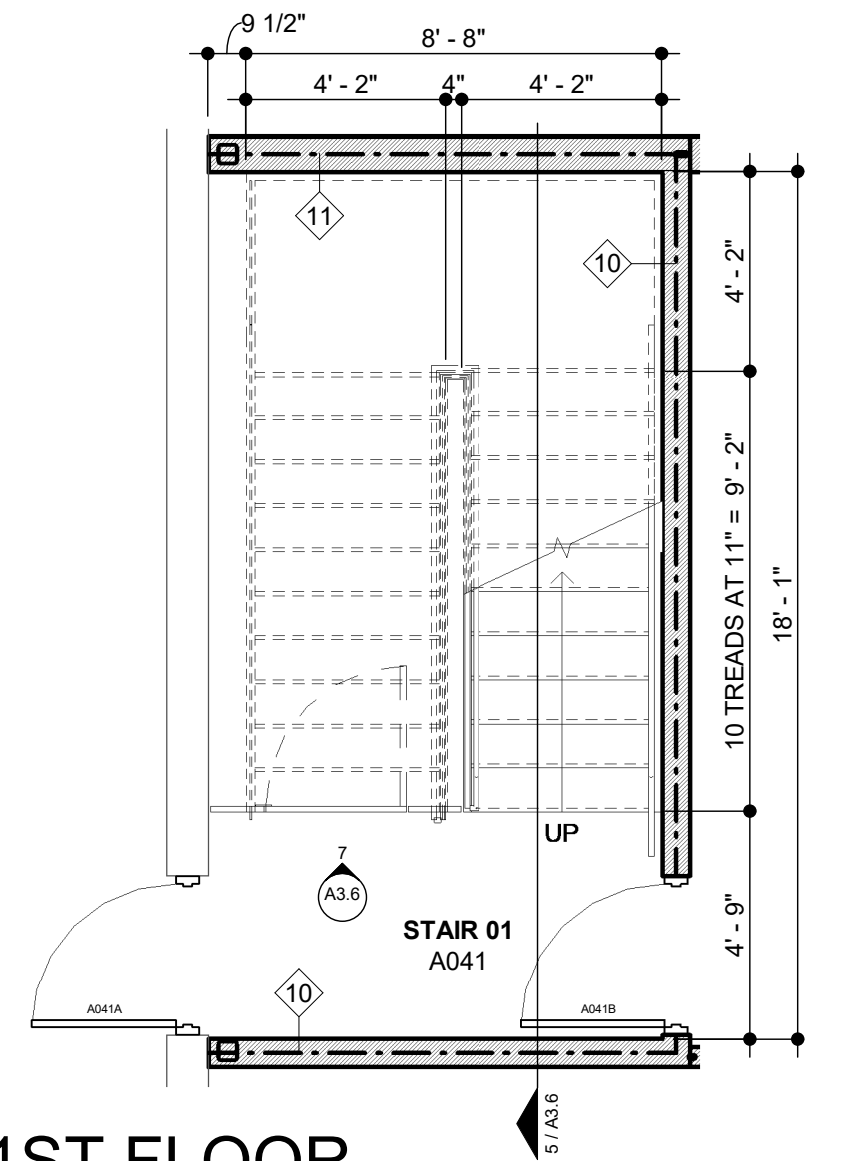
4 2ND FLOOR ENLARGED STAIR 02
1/4" = 1'-0"
0 2' 4' 8' NORTH



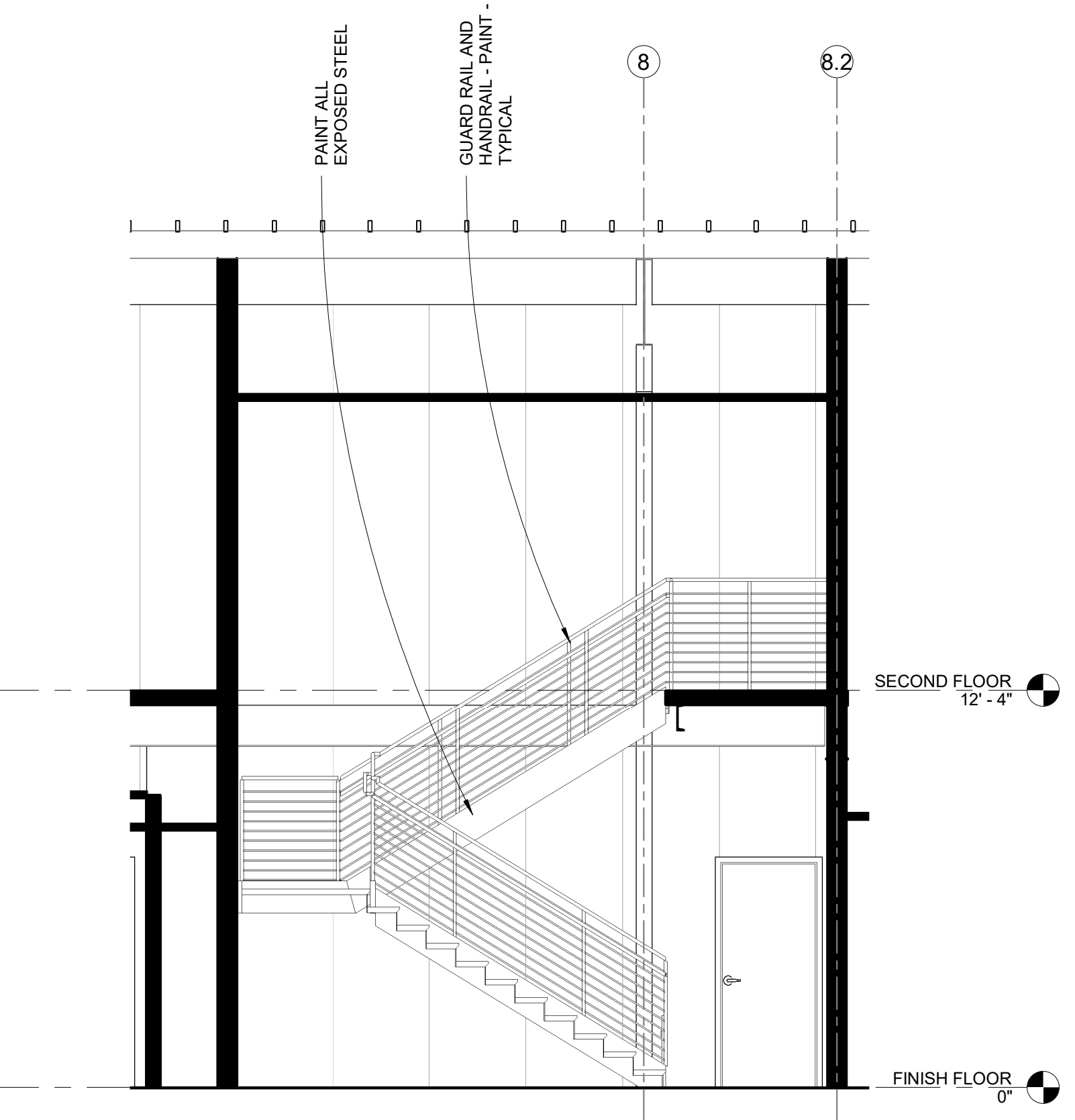
3 2ND FLOOR ENLARGED STAIR 01
1/4" = 1'-0"
0 2' 4' 8' NORTH



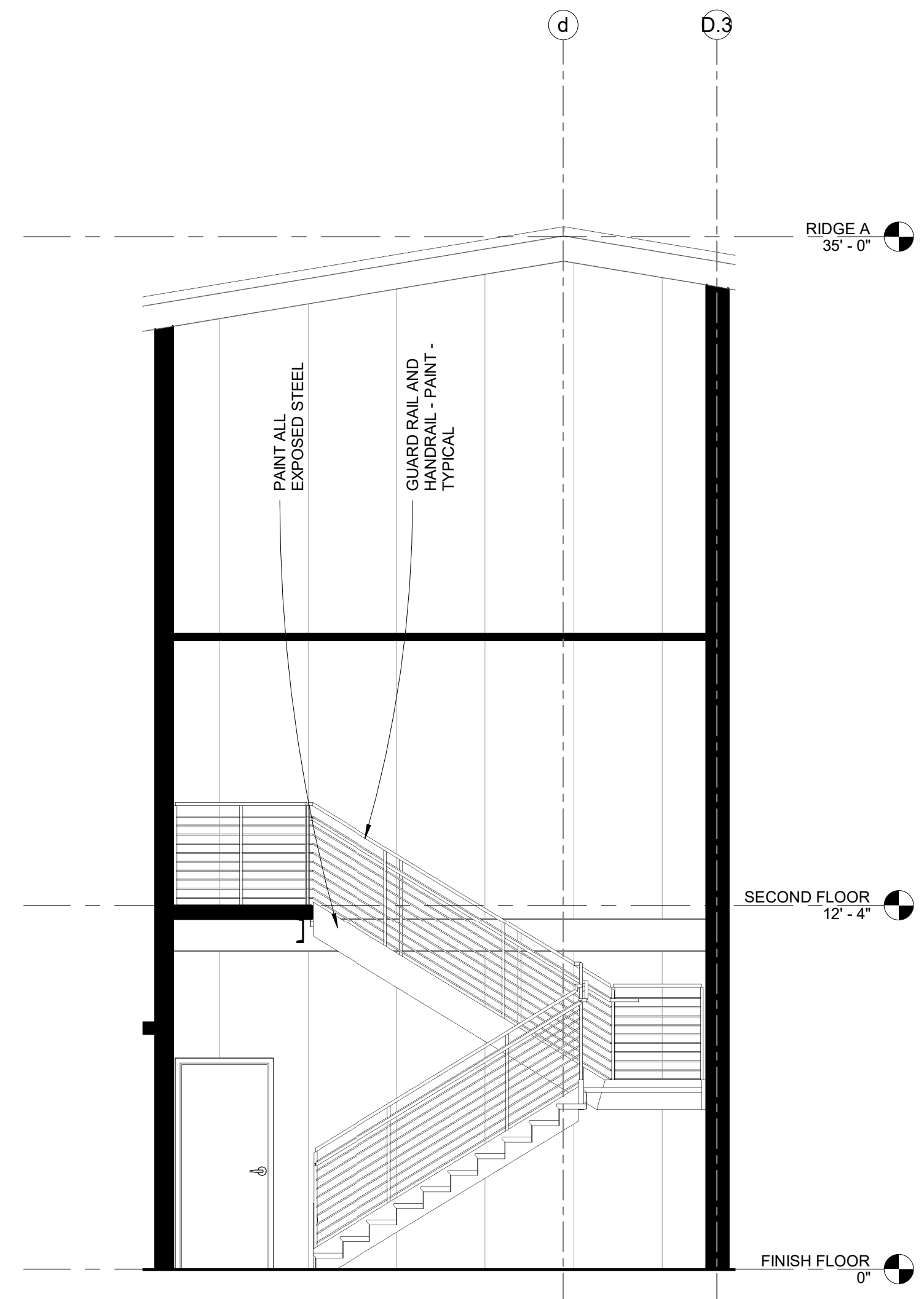
2 1ST FLOOR ENLARGED STAIR 02
1/4" = 1'-0"
0 2' 4' 8' NORTH



1 1ST FLOOR ENLARGED STAIR 01
1/4" = 1'-0"
0 2' 4' 8' NORTH



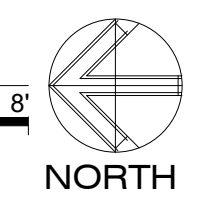
6 SECTION THRU STAIR 02
1/4" = 1'-0"
0 2' 4' 8'



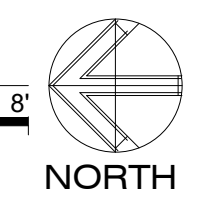
5 SECTION THRU STAIR 01
1/4" = 1'-0"
0 2' 4' 8'

GUARDRAIL WITH GATE - PAINT

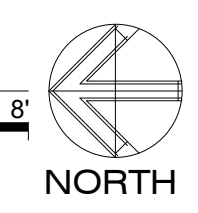
RIDGE A 35'-0"



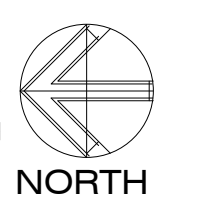
NORTH



NORTH

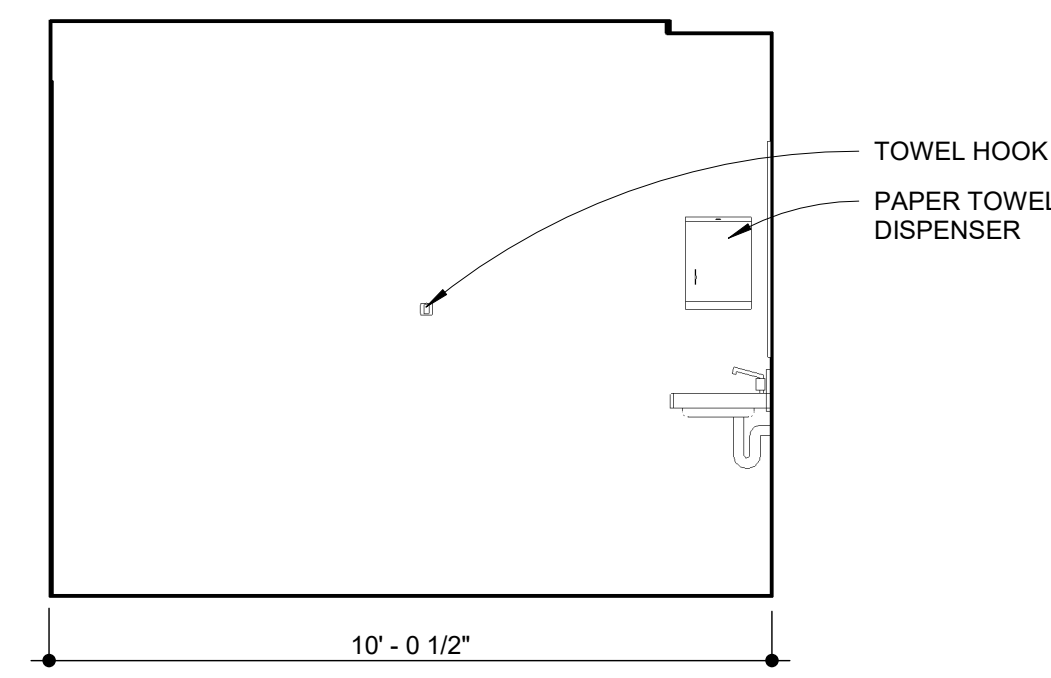


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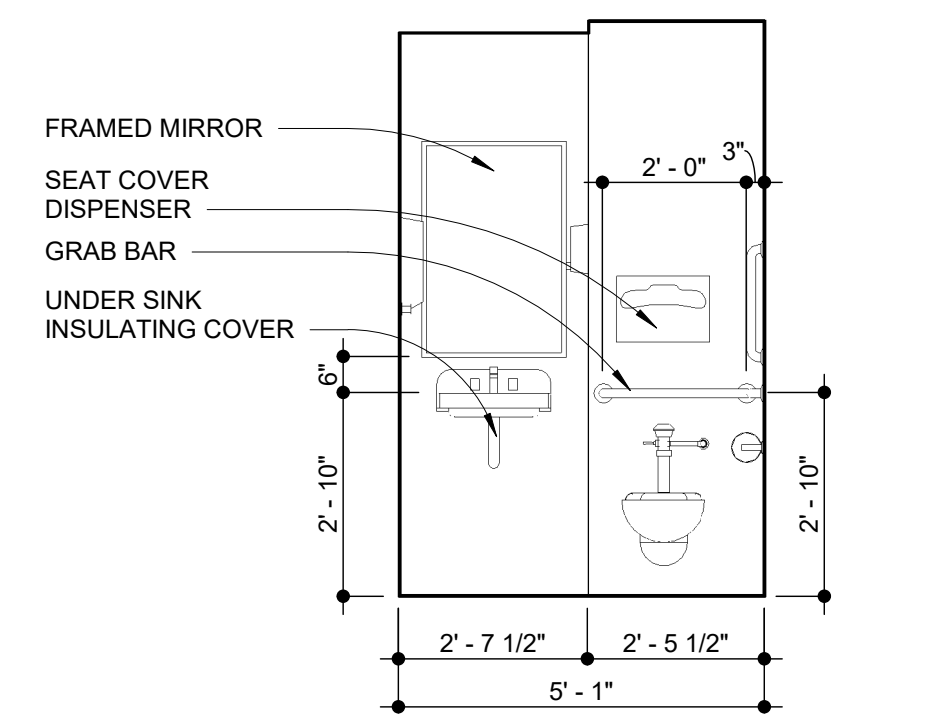


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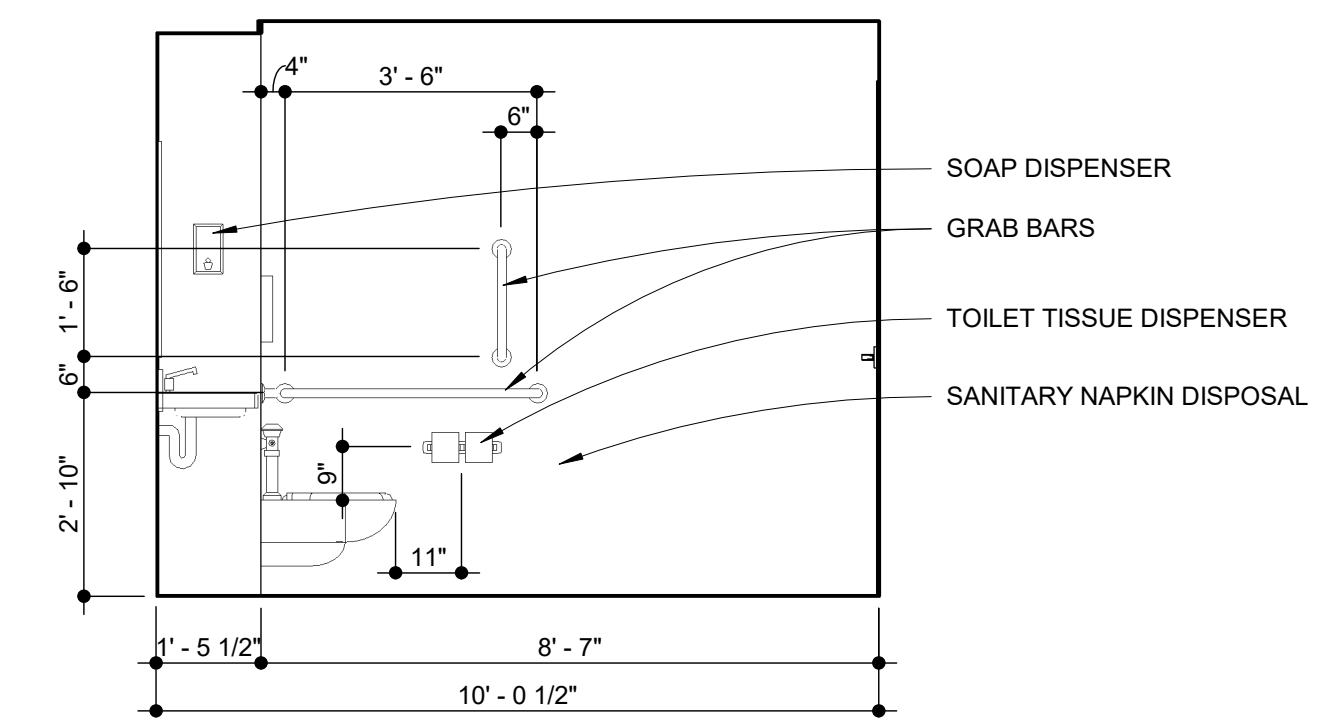
INFILL EXISTING OPENING - MATCH EXISTING



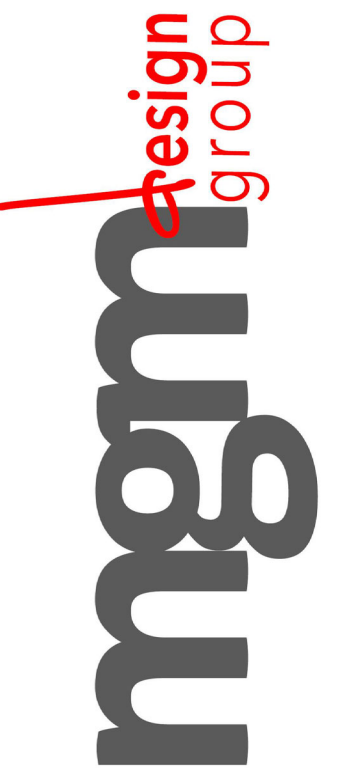
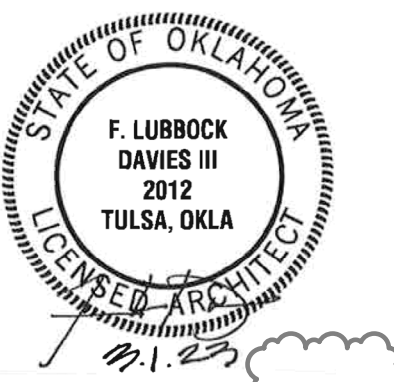
3 TOILET
3/8" = 1'-0"
0 1'-4" 2'-8" 5'-4"



2 TOILET
3/8" = 1'-0"
0 1'-4" 2'-8" 5'-4"



1 TOILET
3/8" = 1'-0"
0 1'-4" 2'-8" 5'-4"



Cherokee Nation Businesses
**CNFO Owasso Campus
 Improvements Phase II - Alt I**
 16990 East 116th Street North Owasso, Oklahoma 74055

REVISIONS

2	AD#2	03.01.23
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DATE: March 1, 2023
 SHEET: Alternate I Interior Elevations

A5.1b

DESIGN PARAMETERS

1.	DESIGN CODES AND STANDARDS	
A.	BUILDING CODE: IBC 2015 RISK CATEGORY	II
B.	MATERIAL CODES AND STANDARDS	
	DESIGN LOADS:	
	ASCE/SEI 7-10 - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES	
	CONCRETE:	
	ACI 318-14 - BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE	
	STEEL:	
	AISC 360-10 - SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS	
2.	GRAVITY LOADS	
A.	FLOOR DEAD LOADS	
	FLOOR COVERING	3.0 PSF
	CONCRETE SLAB AND METAL DECK	51.0 PSF
	MECH., ELEC., PLUMBING AND SPRINKLERS	6.0 PSF
	CEILING	2.0 PSF
	MISCELLANEOUS	3.0 PSF
	TOTAL SUPERIMPOSED FLOOR DEAD LOAD	70.0 PSF
	FLOOR STRUCTURE	ACTUAL WEIGHT
B.	FLOOR LIVE LOADS (UNIFORM/CONCENTRATED)	
	SECOND FLOOR	80 PSF / 1000 LB
	STAIRS	100 PSF / 300 LB
3.	EARTHQUAKE DESIGN DATA	
A.	SEISMIC IMPORTANCE FACTOR, I_e	1.0
B.	MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETER, S_s	12.6%
C.	MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETER, S_1	7.5%
D.	SITE CLASS	C
E.	DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETER, S_{ds}	0.135
F.	DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETER, S_{d1}	0.120
G.	SEISMIC DESIGN CATEGORY	B
H.	STRUCTURAL SYSTEM	-
	1.) VERTICAL ELEMENT TYPE	BUILDING FRAME SYSTEM
	2.) BASIC SEISMIC FORCE-RESISTING SYSTEM TYPE	STRUCTURAL STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
	3.) RESPONSE MODIFICATION FACTOR, R	3
	4.) SEISMIC RESPONSE COEFFICIENT, C_s	0.036
	5.) DESIGN BASE SHEAR, $1.0E$	0.036 W
J.	ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE

STRUCTURAL OBSERVATION REQUIREMENTS (IBC 2015 SECTION 1704.6)

- A REPRESENTATIVE OF THE ENGINEER OF RECORD WILL PERFORM THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTION REQUIRED OF THE BUILDING OFFICIAL OR THE SPECIAL INSPECTOR.
- A PRE-CONSTRUCTION MEETING SHALL BE HELD AND ATTENDED BY THE ARCHITECT, ENGINEER OF RECORD, GENERAL CONTRACTOR, SUBCONTRACTORS, AND SPECIAL INSPECTORS.
- THE GENERAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AT LEAST 48 HOURS PRIOR TO COMPLETING CONSTRUCTION OPERATIONS THAT REQUIRE STRUCTURAL OBSERVATION (BY CALLING (918) 584-5858 TO SCHEDULE A SITE VISIT).
- AT A MINIMUM, THE FOLLOWING SIGNIFICANT CONSTRUCTION STAGES REQUIRE A SITE VISIT AND AN OBSERVATION REPORT FROM THE STRUCTURAL OBSERVER:
 - AFTER INSTALLATION OF FIRST FOUNDATION REINFORCING AND BEFORE CONCRETE PLACEMENT.
 - AFTER INSTALLATION OF CONCRETE WALL REINFORCING AND BEFORE CONCRETE PLACEMENT.
 - AFTER INSTALLATION OF COMPOSITE FLOOR DECK AND SHEAR STUDS AND BEFORE CONCRETE PLACEMENT.
 - AFTER ERECTION OF STRUCTURAL STEEL AND BEFORE METAL DECK PLACEMENT.
 - AFTER INSTALLATION AND FASTENING OF METAL DECK AND BEFORE PLACING INSULATION.
- AT THE CONCLUSION OF THE WORK INCLUDED IN THE PERMIT, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE BUILDING OFFICIAL A WRITTEN STATEMENT THAT THE SITE VISITS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES THAT, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.

DEFERRED STRUCTURAL SUBMITTALS (IBC 2015 SECTION 107.3.4.1)

- THE FOLLOWING STRUCTURAL COMPONENTS SHALL BE DESIGNED AND SUBMITTED BY OTHERS FOR APPROVAL IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
 - STRUCTURAL STEEL CONNECTIONS OF FRAMING AND BRACING ELEMENTS.
 - STEEL, SELF-SUPPORTING STAIRS.
 - COLD FORMED METAL WALL FRAMING AND ATTACHMENTS TO STRUCTURE.
- DOCUMENTS FOR DEFERRED STRUCTURAL SUBMITTAL ITEMS SHALL BE DESIGNED, SEALED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THE DEFERRED SUBMITTAL DOCUMENTS SHALL BE SUBMITTED TO THE ARCHITECT OR ENGINEER-OF-RECORD WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL AS REQUESTED WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED FOR DESIGN LOADS AND BEEN FOUND TO BE IN GENERAL CONFORMANCE TO THE DESIGN CRITERIA OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.

GENERAL NOTES

GENERAL

- STRUCTURAL ELEMENTS ARE NON-SELF SUPPORTING AND REQUIRE INTERACTION WITH OTHER ELEMENTS FOR STABILITY AND RESISTANCE TO LATERAL FORCES. FRAMING AND WALLS SHALL BE TEMPORARILY BRACED BY THE CONTRACTOR UNTIL PERMANENT BRACING, FLOOR AND ROOF DECKS, AND WALLS HAVE BEEN INSTALLED AND CONNECTIONS BETWEEN THESE ELEMENTS HAVE BEEN MADE.
- THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION, UNLESS NOTED OTHERWISE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATION OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO.
- THE STRUCTURE HAS BEEN DESIGNED FOR THE INDICATED LOADS ONLY. USE OF HEAVY EQUIPMENT AND SCAFFOLDING, OR STORAGE OF MATERIALS THAT TRANSFER EXCESSIVE LOADS TO THE STRUCTURE SHALL BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE CALCULATIONS SIGN AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED TO VERIFY THE ADEQUACY OF THE STRUCTURE FOR ALL APPLIED CONSTRUCTION LOADS THAT EXCEED THE LOADS INDICATED IN THE CONSTRUCTION DOCUMENTS AND SHALL BE APPROVED BY THE ARCHITECT AND ENGINEER-OF-RECORD PRIOR TO ANY CONSTRUCTION ACTIVITY.
- THE SPECIFICATIONS ARE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS AND SHALL BE USED IN CONJUNCTION WITH THE CONTRACT DRAWINGS. WHERE REQUIREMENTS INDICATED ON THE CONTRACT DRAWINGS DIFFER FROM THE SPECIFICATIONS, NOTIFY THE ARCHITECT AND THE ENGINEER-OF-RECORD.
- STRUCTURAL DRAWINGS ARE NOT STAND-ALONE DOCUMENTS AND ARE INTENDED TO BE USED IN CONJUNCTION WITH CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND DRAWINGS FROM OTHER DISCIPLINES. THE CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS INTO SHOP DRAWINGS AND WORK.
- ALL WELDS SHALL BE PERFORMED BY QUALIFIED WELDERS IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (A.W.S.) SPECIFICATIONS.
- THE SIZE AND LOCATION OF EQUIPMENT PADS AND PENETRATIONS THROUGH THE STRUCTURE FOR MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL BE VERIFIED BY THE CONTRACTOR. PENETRATIONS SHALL BE SUBJECT TO APPROVAL BY THE ARCHITECT AND THE ENGINEER-OF-RECORD. REFERENCE MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR OPENING LOCATIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
- USE ONLY DIMENSIONS INDICATED IN THE CONTRACT DOCUMENTS. DO NOT SCALE CONTRACT DOCUMENTS OR USE ANY DIMENSIONS TAKEN FROM ELECTRONIC DRAWING FILES. CONTRACTOR SHALL COORDINATE IN-PLACE DIMENSIONS BASED ON TOLERANCES OF THE RESPECTIVE TRADES.
- ASSUME EQUAL SPACING IF NOT INDICATED IN CONTRACT DOCUMENTS.
- ARCHITECTURAL, MECHANICAL AND ELECTRICAL COMPONENTS AND SYSTEMS SHALL BE DESIGNED AND CONSTRUCTED TO RESIST SEISMIC FORCES AS DETERMINED IN CHAPTER 13 OF ASCE 7.
- REFERENCE ARCHITECTURAL DRAWINGS FOR NON-LOAD BEARING PARTITION FRAMING. CONNECTION OF NON-LOAD BEARING PARTITION FRAMING TO THE PRIMARY STRUCTURE SHALL ALLOW FOR VERTICAL LIVE LOAD DEFLECTIONS OF THE FLOOR AND ROOF FRAMING.
- CONTRACTOR SHALL COORDINATE ALL DIMENSIONS, OPENING, BLOCKOUTS, RECESSES, ELEVATIONS, ANCHOR RODS AND EMBED LOCATIONS PRIOR TO CONSTRUCTION.

FOUNDATIONS

- FOOTING DESIGNS ARE BASED ON AN ASSUMED STABLE, NON-EXPANSIVE SOIL WITH AN ALLOWING BEARING PRESSURE OF [2,500] PSF. THE CONTRACTOR SHALL HIRE A REGISTERED GEOTECHNICAL ENGINEER LICENSED IN THE STATE THE PROJECT IS LOCATED TO DETERMINE WHETHER OR NOT THE SOIL MEETS THE MINIMUM CRITERIA.
- THE SOILS SUPPORTING THE FOUNDATION AND SLAB SHALL BE PREPARED AND COMPACTED IN ACCORDANCE WITH THE RECOMMENDATIONS FROM THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL VERIFY CONFORMANCE OF EXCAVATION, SCARIFYING, PROOF-ROLLING, FILL CLASSIFICATION, MAXIMUM PARTICLE SIZE, LIQUID LIMIT, PLASTICITY INDEX AND PLACEMENT PROCEDURES.
- THE BEARING MATERIALS SHALL BE FREE OF ORGANIC, EXPANSIVE, OR CORROSIVE MATERIAL AND SHALL SUPPORT THE FOUNDATION IN ACCORDANCE WITH THE FOLLOWING CRITERIA:
 - MAXIMUM DIFFERENTIAL SETTLEMENT SHALL NOT EXCEED [1/4"] OVER A DISTANCE OF [50] FEET
 - MAXIMUM TOTAL MOVEMENT DUE TO EITHER SETTLEMENT OR HEAVE SHALL NOT EXCEED [1"]
- IF THE CRITERIA CANNOT BE MET, THE ENGINEER OF RECORD SHALL BE NOTIFIED SO THAT THE FOUNDATION MAY BE REDESIGNED ACCORDINGLY.
- THE SUBGRADE SHALL BE PREPARED AS INDICATED IN THE STRUCTURAL EARTH MOVING SPECIFICATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT QUANTITIES OF CUT AND FILL FOR ESTIMATING AND CONSTRUCTION. SUBGRADE SHALL BE PREPARED AS NOTED IN THE STRUCTURAL EARTH MOVING SPECIFICATION.
- FOUNDATION WALLS SHALL HAVE ADEQUATE TEMPORARY BRACING INSTALLED BY THE CONTRACTOR BEFORE BACKFILL IS PLACED AGAINST THEM. TEMPORARY BRACING SHALL NOT BE REMOVED UNTIL WALL IS PERMANENTLY BRACED.
- AVOID DAMAGE TO UNDERGROUND UTILITIES INCLUDING, BUT NOT LIMITED TO, WATER MAINS, SANITARY SEWERS AND BURIED CABLES WHICH MIGHT EXTEND ACROSS OR ADJOIN SITE.

CONCRETE

- MINIMUM COMPRESSIVE STRENGTH (f_c) AT THE END OF 28 DAYS SHALL BE AS FOLLOWS:

A. FOOTINGS	3000 PSI
B. INTERIOR SLABS-ON-GRADE	3000 PSI
C. SLABS ON COMPOSITE DECK [SUSPENDED SLABS]	3000 PSI
D. INTERIOR TOPPING SLABS	4000 PSI
E. STEEL STAIR PANS [SLABS ON NON-COMPOSITE DECK]	3000 PSI
F. EXTERIOR STRUCTURAL CONCRETE	4500 PSI

- REFERENCE SPECIFICATIONS FOR MAXIMUM WATER/CEMENT RATIOS, MINIMUM CEMENT CONTENTS AND OTHER MIX DESIGN REQUIREMENTS. CONCRETE SHALL BE NORMAL WEIGHT (145 PCF), UNLESS NOTED OTHERWISE.
- EXTERIOR CONCRETE AND CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL BE AIR-ENTRAINED. REFERENCE CAST-IN-PLACE CONCRETE SPECIFICATION FOR AIR CONTENT.
- MATERIALS OR ADMIXTURES SHALL NOT CONTAIN ANY CALCIUM CHLORIDE.
- REINFORCING STEEL SHALL MEET THE FOLLOWING:

	ASTM SPECIFICATION
A. DEFORMED BARS	A615, GRADE 60
B. WELDABLE DEFORMED BARS	A706, GRADE 60
C. WELDED WIRE REINFORCEMENT	A1064
D. STEEL FIBERS	A820

- PROVIDE MINIMUM CONCRETE CLEAR COVER FOR REINFORCEMENT PER ACI 318, UNLESS NOTED OTHERWISE.
- WELDING SHALL MEET ANSI / AWS D1.1, STRUCTURAL WELDING CODE AND ANSI / AWS D14 "STRUCTURAL WELDING CODE FOR REINFORCING STEEL" LATEST REVISION. ELECTRODES FOR DEFORMED BAR ANCHORS SHALL BE 90 KSI, LOW HYDROGEN.
- WHERE DOWELS ARE INDICATED BUT NOT SIZED, PROVIDE DOWELS THAT MATCH SIZE AND LOCATION OF MAIN REINFORCING STEEL AND LAP SPlice WITH THE MAIN REINFORCING STEEL. REINFORCING STEEL SHALL BE SPLICED AS NOTED IN THE REINFORCING LAP SCHEDULE.
- "C.J." INDICATES SAW CUT CONTRACTION JOINT OR DOWELED CONSTRUCTION JOINT IN SLAB-ON-GRADE. REFERENCE CAST-IN-PLACE CONCRETE SPECIFICATION FOR ACCEPTED SAW CUT METHODS. SLAB POURS SHALL BE SEPARATED BY A DOWELED CONSTRUCTION JOINT. CONTRACTION/CONSTRUCTION JOINTS SHALL BE LOCATED AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER-OF-RECORD.
- PROVIDE CORNER BARS THAT MATCH AND LAP CONTINUOUS REINFORCEMENT SIZE AND QUANTITY AT INTERSECTIONS AND CORNERS OF WALLS AND FOUNDATIONS.
- PROVIDE #3 Z-BAR SPACERS AT 24 INCHES ON CENTER EACH WAY FOR CONCRETE WALLS HAVING REINFORCING STEEL IN BOTH FACES.
- ANCHOR BOLTS AND EMBED PLATES SHALL BE TIED INTO THE REINFORCING STEEL CAGE AND HELD IN PLACE WITH A RIGID TEMPLATE TO PREVENT MOVEMENT DURING CONCRETE PLACEMENT.

ABBREVIATIONS

A.R.	ANCHOR RODS
ARCH.	ARCHITECTURAL
B.O.S.	BOTTOM OF STEEL
B.P.	BASE PLATE
BAL.	BALANCE
BLDG.	BUILDING
BRG.	BEARING
C.J.	CONTRACTION JOINT
C.L.	CENTER LINE
CFMF	COLD FORMED METAL FRAMING
CLR.	CLEAR
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
D.B.A.	DEFORMED BAR ANCHOR
D.B.E.	DECK BEARING ELEVATION
DIA.	DIAMETER
DTL.	DETAIL
DWG.	DRAWING
E.F.	EACH FACE
E.J.	EXPANSION JOINT
E.O.D.	EDGE OF DECK
E.O.R.	ENGINEER OF RECORD
E.O.S.	EDGE OF SLAB
E.W.	EACH WAY
EA.	EACH
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EQ.	EQUAL
EXIST.	EXISTING
F.F.E.	FINISHED FLOOR ELEVATION
F.S.	FAR SIDE
F.V.	FIELD VERIFY
FDN.	FOUNDATION
FT.	FOOT/FEET
FTG.	FOOTING
G.B.	GRADE BEAM
G.C.	GENERAL CONTRACTOR
GA.	GAGE
GALV.	GALVANIZED
H.S.A.	HEADED STUD ANCHOR
HORIZ.	HORIZONTAL
I.F.	INSIDE FACE
IN.	INCH/INCHES
INFO.	INFORMATION
JT.	JOINT
K	UNIT OF 1,000 POUNDS (KIP)
KSI	KIPS PER SQUARE INCH
LBS.	POUNDS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG.	LONGITUDINAL
LSH	LONG SIDE HORIZONTAL
LSL	LONG SLOT
LSV	LONG SIDE VERTICAL
MAX.	MAXIMUM
MECH.	MECHANICAL
MEP	MECHANICAL/ELECTRICAL/PLUMBING
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MTL.	METAL
N.S.	NEAR SIDE
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.F.	OPPOSITE FACE
O.H.	OPPOSITE HAND
OPP.	OPPOSITE
P.A.F.	POWERPOWDER ACTUATED FASTENER
PCF	POUNDS PER CUBIC FOOT
PEMB	PRE-ENGINEERED METAL BUILDING
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PLUMB.	PLUMBING
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
R	RADIUS
RE:	REFER
REINF.	REINFORCING
REQD.	REQUIRED
RTU	ROOF TOP UNIT
SCHED.	SCHEDULE
SIM.	SIMILAR
SP.	SPACE/SPACING
SPECS.	SPECIFICATIONS
SSL	SHORT SLOT
STD.	STANDARD
STL.	STEEL
T&B	TOP AND BOTTOM
T.O.	TOP OF
T.O.C.	TOP OF CONCRETE
T.O.F.	TOP OF FOOTING
T.O.S.	TOP OF STEEL
T.O.W.	TOP OF WALL
TRANS.	TRANSVERSE
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
W.P.	WORK POINT
W.W.R.	WELDED WIRE REINFORCEMENT
WT.	WEIGHT



wallace design collective, pc
structural - civil - landscape - survey
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918.584.5858 - 800.364.5858

OKCA #1460
Exp Date: 06/30/23



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CNFO Owasso Campus
Improvements Phase II - Alternate I
16990 East 116th Street North Owasso, Oklahoma

JOB NUMBER
2112025
REVISIONS

DATE
03.01.23
SHEET
GENERAL NOTES

S0.1b

GENERAL NOTES

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL MEET THE FOLLOWING MINIMUM YIELD STRESS (Fy):

	YIELD	ASTM SPECIFICATION
A. W, WT SHAPES:	50 KSI	A992
B. BARS, PLATES, CHANNELS, ANGLES:	36 KSI	A36
C. SQUARE, RECTANGULAR HSS:	50 KSI	A500, GRADE C
D. ROUND HSS:	46 KSI	A500, GRADE C
E. STRUCTURAL STEEL PIPE:	35 KSI	A53, GRADE B
F. ANCHOR RODS:	36 KSI [55KSI, 105 KSI], WELDABLE	F1554
G. ALL-THREAD RODS:	36 KSI	A36
H. HEADED STUD ANCHORS:	65 KSI TENSILE STRESS	A108, GRADES 1010-1020
2. BOLTS FOR STEEL BEAM AND COLUMN CONNECTIONS SHALL BE 3/4-INCH DIAMETER (MIN.) ASTM F3125, GRADE A325-N [A490-N] HIGH-STRENGTH BOLTS UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS.
3. ALL BOLTED JOINTS SHALL BE SNUG TIGHT UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS. FOR PRETENSIONED OR SLIP-CRITICAL JOINTS, THE METHOD OF INSTALLATION SHALL BE TURN-OF-NUT WITH MATCH MARKING, TWIST-OFF-TYPE TENSION CONTROL BOLT ASSEMBLIES (ASTM F3125, GRADE F1852) OR DIRECT TENSION INDICATORS (ASTM F959).
4. WELDING SHALL MEET ANSI / AWS D1.1, STRUCTURAL WELDING CODE LATEST REVISION. ELECTRODES SHALL BE 70 KSI, LOW HYDROGEN.
5. WELDS NOT SPECIFICALLY SIZED ON THE STRUCTURAL DRAWINGS SHALL BE THE MINIMUM SIZE PER THE LATEST AWS D1.1.
6. PROVIDE DOUBLE NUTS AND DOUBLE WASHERS FOR STEEL COLUMN ANCHOR BOLTS TO ALLOW FOR ADJUSTMENT IN BASE PLATE ELEVATION. PROVIDE 1 1/2 INCH NON-SHRINK GROUT UNDER BASE PLATE AFTER ERECTION. USE 2 1/2 INCH NON-SHRINK GROUT WHEN COLUMN ANCHOR BOLTS ARE 1 1/4 INCH DIAMETER OR LARGER. NON-SHRINK GROUT SHALL BE NON-METALLIC WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.
7. LEDGER ANGLES AND LINTELS IN EXTERIOR WALL SYSTEMS SHALL BE HOT DIP GALVANIZED PER ASTM A123.
8. ALL CONNECTIONS NOT FULLY DETAILED IN THE CONTRACT DOCUMENTS SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THE CONNECTION DESIGN ENGINEER SHALL BE EMPLOYED OR RETAINED BY THE STEEL FABRICATOR. THE DESIGN AND DETAILING SHALL COMPLY WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS.
9. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCLUDING THE COSTS FOR ALL MISCELLANEOUS STEEL SHOWN IN THE CONTRACT DOCUMENTS. THESE COSTS SHALL INCLUDE, BUT ARE NOT LIMITED TO, MISCELLANEOUS STEEL ITEMS SHOWN ON THE STRUCTURAL, ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS AND IN THE SPECIFICATIONS.
10. AT ALL GALVANIZED OR PAINTED STEEL MEMBERS WITH FIELD WELDED CONNECTIONS, REMOVE GALVANIZING, PAINT OR PRIMER PRIOR TO FIELD WELDING AS REQUIRED. AFTER WELDING IS COMPLETE AND INSPECTOR APPROVED, PREPARE AND REPAINT THE FRAMING SURFACES.

STEEL DECK

1. STEEL DECK AND ITS ANCHORAGE SHALL BE MANUFACTURED AND ERECTED PER THE STEEL DECK INSTITUTE (SDI) MANUALS FOR "ROOF DECK DESIGN", "FLOOR DECK DESIGN" AND "DIAPHRAGM DESIGN", CURRENT EDITION.
2. COMPOSITE STEEL FLOOR DECK
 - A. FLOOR DECK SHALL BE GALVANIZED COMPOSITE STEEL FLOOR DECK. DEPTH SHALL BE AS SHOWN IN THE CONTRACT DOCUMENTS.
 - B. CONNECTIONS SHALL BE IN ACCORDANCE WITH STEEL DECK INSTITUTE SPECIFICATIONS AND AS FOLLOWS:
 - 1) PERPENDICULAR ATTACHMENT TO SUPPORTS - (4) - 5/8 INCH DIAMETER PUDDLE WELDS PER SHEET (1) WELD AT EACH LOW RIB
 - 2) PARALLEL ATTACHMENT TO SUPPORTS - 5/8 INCH DIAMETER PUDDLE WELDS AT 12 INCHES ON CENTER.
 - 3) SIDELAPS - BUTT ON PUNCHED AT 12 INCHES ON CENTER UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS.
 - 4) DECKING SHALL BE CONTINUOUS OVER A MINIMUM OF (3) SPANS, UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS.
3. NON-COMPOSITE STEEL FLOOR DECK
 - A. FLOOR DECK SHALL BE GALVANIZED NON-COMPOSITE STEEL FLOOR DECK. DEPTH SHALL BE AS SHOWN IN THE CONTRACT DOCUMENTS.
 - B. CONNECTIONS SHALL BE IN ACCORDANCE WITH STEEL DECK INSTITUTE SPECIFICATIONS AND AS FOLLOWS:
 - 1) PERPENDICULAR ATTACHMENT TO SUPPORTS - (4) - 5/8 INCH DIAMETER PUDDLE WELDS PER SHEET (1) WELD AT EACH LOW RIB
 - 2) PARALLEL ATTACHMENT TO SUPPORTS - 5/8 INCH DIAMETER PUDDLE WELDS AT 12 INCHES ON CENTER.
 - 3) SIDELAPS - BUTT ON PUNCHED AT 12 INCHES ON CENTER UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS.
 - 4) DECKING SHALL BE CONTINUOUS OVER A MINIMUM OF (3) SPANS, UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS.

COLD FORMED METAL FRAMING

1. COLD FORMED METAL FRAMING AND THE CONNECTIONS TO THE STRUCTURE SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THE DESIGN AND DETAILING SHALL COMPLY WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS.
2. ALL COLD FORMED METAL FRAMING SHALL HAVE A MINIMUM THICKNESS OF 33 MILS (20 GA) AND SHALL BE SPACED AT A MAXIMUM OF 16 INCHES ON CENTER UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS AND SHALL MEET THE MINIMUM STRUCTURAL PROPERTIES FROM THE AMERICAN IRON AND STEEL INSTITUTE - NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING LATEST EDITION. MINIMUM FLANGE WIDTH OF FRAMING MEMBERS SHALL BE 1 5/8 INCH AND THE LIP LENGTH OF THE C-SHAPE PORTION SHALL BE A MINIMUM OF 1/2 INCH.
3. WALL STUDS AS BACKING TO MASONRY [OR STONE] VENEER SHALL HAVE A MINIMUM THICKNESS OF 43 MILS (18 GA).
4. COLD FORM METAL FRAMING SHALL BE IN ACCORDANCE WITH THE FOLLOWING UNLESS NOTED OTHERWISE:

A. 54 MILS (16 GA) AND HEAVIER	A1003, GRADE 50 TYPE H (ST50H)
B. 43 MILS (18 GA) AND LIGHTER	A1003, GRADE 33 TYPE H (ST33H)
C. ACCESSORIES, TRACK AND OTHER MEMBERS	A1003, GRADE 33 TYPE H (ST33H), MINIMUM
5. DO NOT WELD 33 MILS (20 GA) AND LIGHTER FRAMING, UNLESS SPECIFICALLY NOTED IN THE CONTRACT DOCUMENTS.
6. COLD FORMED METAL FRAMING AND BRACING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN RECOMMENDATIONS AND SPECIFICATIONS.
7. HORIZONTAL BRACING FOR WALL STUDS SHALL BE PLACED AT 48 INCHES ON CENTER OR AS PER MANUFACTURER'S WRITTEN RECOMMENDATIONS IF LESS THAN 48 INCHES ON CENTER. HORIZONTAL BRIDGING FOR JOISTS SHALL BE PLACED AT 8'-0" ON CENTER OR AS PER MANUFACTURER'S WRITTEN RECOMMENDATIONS IF LESS THAN 8'-0" ON CENTER. APPLIED FINISH MATERIALS SHALL NOT BE CONSIDERED BRIDGING OR FLANGE BRACING UNLESS NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.
8. ALL AXIALLY LOADED WALL STUDS SHALL HAVE FULL FLANGE BEARING AGAINST UPPER AND LOWER TRACK WEB PRIOR TO ATTACHMENT TO TRACK. SPLICES IN AXIALLY LOADED WALL STUDS ARE NOT ALLOWED.

POST INSTALLED ANCHORS

1. ANCHORS SHALL ONLY BE INSTALLED WHERE SPECIFIED ON THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE STRUCTURAL ENGINEER PRIOR TO INSTALLING POST INSTALLED ANCHORS IN PLACE OF MISSING OR MIS-PLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REINFORCING. ANY CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE EOR PRIOR TO COMPLETION OF WORK.
2. THE CONTRACTOR SHALL SUBMIT PRODUCT DATA WITH DESIGN VALUES AND PHYSICAL PROPERTIES FOR ALL POST INSTALLED ANCHORS. ADDITIONALLY, THE CONTRACTOR SHALL SUBMIT CERTIFIED ICC ESR OR ESR REPORTS WHICH VERIFY COMPLIANCE WITH THE SPECIFIED CRITERIA.
3. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED ON THE CONTRACT DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE STRUCTURAL ENGINEER ALONG WITH CALCULATIONS THAT ARE SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION AND LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARDS AS REQUIRED BY THE BUILDING CODE.
4. ALL HOLES SHALL BE DRILLED, DRY AND CLEANED AND ANCHORS SHALL BE INSTALLED IN ACCORDANCE PER ANCHOR MANUFACTURER'S WRITTEN SPECIFICATIONS. THE LATEST VERSION OF THE WRITTEN SPECIFICATION SHALL BE ON-SITE AND FOLLOWED DURING THE INSTALLATION OF THE ANCHORS.
5. THE ANCHOR EMBEDMENT DEPTH SHALL BE DEFINED AS THE DEPTH FROM THE SURFACE FACE OF THE LOAD BEARING BASE MATERIAL TO THE DEEPEST PART OF THE ANCHOR AFTER THE ANCHOR HAS BEEN FULLY INSTALLED INTO THE HOLE PER MANUFACTURER'S SPECIFICATIONS.
6. ANCHORS EXPOSED TO WEATHER SHALL BE STAINLESS STEEL.
7. CONTRACTOR SHALL FOLLOW THE LATEST VERSION OF MANUFACTURER'S SPECIFICATION DURING INSTALLATION OF ANCHORS.
8. OVERHEAD ADHESIVE ANCHORS MUST BE INSTALLED BY PERSONNEL CERTIFIED BY THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM.

SPECIAL INSPECTION REQUIREMENTS (2015)

SPECIAL INSPECTIONS REQUIREMENTS (IBC 2015 CHAPTER 17)

1. THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS PER SECTION 1704 OF THE IBC. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS SPECIFIED IN THE PROJECT SPECIFICATIONS.
2. REPORT REQUIREMENTS SHALL CONFORM TO SECTIONS 1704.2.4 AND 1704.5 OF THE IBC. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THE DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO COMPLETION OF THAT PHASE OF WORK. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON BY THE PERMIT APPLICANT AND THE BUILDING OFFICIAL PRIOR TO THE START OF WORK.
3. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE SPECIAL INSPECTOR REGARDING INDIVIDUAL INSPECTION FOR ITEMS LISTED ON THE STATEMENT OF SPECIAL INSPECTIONS AND AS NOTED ON THE BUILDING DEPARTMENT APPROVED PLANS. ADEQUATE NOTICE AND ACCESS TO APPROVED PLANS SHALL BE PROVIDED SO THAT THE SPECIAL INSPECTOR HAS TIME TO BECOME FAMILIAR WITH THE PROJECT.
4. FABRICATORS OF STRUCTURAL LOAD-BEARING OR LATERAL LOAD RESISTING MEMBERS OR ASSEMBLIES SHALL CONFORM TO THE REQUIREMENTS OF SECTION 1704.2.5 OF THE IBC.
5. SPECIAL INSPECTION REPORTS AND A FINAL REPORT IN ACCORDANCE WITH SECTION 1704.2.4 SHALL BE SUBMITTED TO THE BUILDING OFFICIAL PRIOR TO THE TIME THAT PHASE OF WORK IS APPROVED FOR OCCUPANCY.

IBC 2015 REQUIRED SPECIAL INSPECTIONS

		FREQUENCY OF INSPECTION	
		CONTINUOUS	PERIODIC
STEEL CONSTRUCTION - STRUCTURAL STEEL (IBC SECTION 1705.2.1)			
1.	SPECIAL INSPECTION AND NONDESTRUCTIVE TESTING OF STRUCTURAL STEEL ELEMENTS IN BUILDINGS, STRUCTURES AND PORTIONS THEREOF SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360-10.		
STEEL CONSTRUCTION - COLD FORMED STEEL DECK (IBC SECTION 1705.2.2)			
1.	SPECIAL INSPECTION AND QUALIFICATIONS OF WELDING SPECIAL INSPECTORS FOR COLD-FORMED STEEL FLOOR AND ROOF DECK SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF SDI, QA/QC.		
CONCRETE CONSTRUCTION (IBC TABLE 1705.3)			
1.	INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	---	X
2.	REINFORCING BAR WELDING:		
	A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706;	---	X
	B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND		X
	C. INSPECT ALL OTHER WELDS	X	
3.	INSPECT ANCHORS CAST IN CONCRETE.	---	X
4.	INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS. (a)		
	A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X	
	B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4 A.		X
5.	VERIFY USE OF REQUIRED DESIGN MIX.	---	X
6.	PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	---
7.	INSPECT CONCRETE AND SHOTCRETE PLACEMENT OF PROPER APPLICATION TECHNIQUES.	X	---
8.	VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	---	X
9.	INSPECT PRESTRESSED CONCRETE FOR:		
	A. APPLICATION OF PRESTRESSING FORCES; AND	X	---
	B. GROUTING OF BONDED PRESTRESSING TENDONS.	X	---
10.	INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	---	X
11.	VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	---	X
12.	INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	---	X
	a. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 17.8.2 IN ACI 308. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, CONTACT THE STRUCTURAL ENGINEER-OF-RECORD FOR SPECIAL INSPECTION REQUIREMENTS.		
SOILS (IBC TABLE 1705.6)			
1.	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	---	X
2.	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	---	X
3.	PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	---	X
4.	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	---
5.	PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	---	X



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GENERAL NOTES

AISC 360-10 SPECIAL INSPECTION REQUIREMENTS

1. QUALITY CONTROL (QC) SHALL BE PROVIDED BY THE FABRICATOR AND ERECTOR.
2. QUALITY ASSURANCE (QA) SHALL BE PROVIDED BY OTHERS.
3. NONDESTRUCTIVE TESTING (NDT) SHALL BE PERFORMED BY THE AGENCY OR FIRM RESPONSIBLE FOR QUALITY ASSURANCE (QA).
4. THE QUALITY ASSURANCE INSPECTOR (QAI) SHALL REVIEW MATERIAL TEST REPORTS AND CERTIFICATIONS AS LISTED IN SECTION N3.2 FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.
5. FOR WORK PERFORMED BY APPROVED FABRICATORS AND ERECTOR:
 - A. QA INSPECTIONS, MAY BE WAIVED WHEN THE WORK IS PERFORMED IN A FABRICATING SHOP OR BY AN ERECTOR APPROVED BY THE AUTHORITY HAVING JURISDICTION (AHJ) TO PERFORM THE WORK WITHOUT QA.
 - B. NDT OF WELDS COMPLETED IN AN APPROVED FABRICATOR'S SHOP MAY BE PERFORMED BY THAT FABRICATOR WHEN APPROVED BY THE AHJ. WHEN THE FABRICATOR PERFORMS THE NDT, THE QA AGENCY SHALL REVIEW THE FABRICATOR'S NDT REPORTS.
 - C. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AHJ STATING THAT THE MATERIALS SUPPLIED AND WORK PERFORMED BY THE FABRICATOR ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
 - D. AT COMPLETION OF ERECTION, THE APPROVED ERECTOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AHJ STATING THAT THE MATERIALS SUPPLIED AND WORK PERFORMED BY THE ERECTOR ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.



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AISC 360-10, CHAPTER N SPECIAL INSPECTION REQUIREMENTS

		FREQUENCY OF INSPECTION	
		PERFORM	OBSERVE
N5.4 - INSPECTION OF WELDING			
AISC 360-10, TABLE N5.4.1 - INSPECTION TASKS PRIOR TO WELDING			
1.	WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS	---	X
2.	WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE	X	---
3.	MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	X	---
4.	MATERIAL IDENTIFICATION (TYPE/GRADE)	---	X
5.	WELDER IDENTIFICATION SYSTEM (a)	---	X
6.	FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)	---	X
A.	JOINT PREPARATION	---	X
B.	DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)	---	X
C.	CLEANLINESS (CONDITION OF STEEL SURFACES)	---	X
D.	TACKING (TACK WELD QUALITY AND LOCATION)	---	X
E.	BACKING TYPE AND FIT (IF APPLICABLE)	---	X
7.	FIT-UP OF CJP GROOVE WELDS OF HSS, T-, Y- AND K-JOINTS WITHOUT BACKING (INCLUDING JOINT GEOMETRY)	---	X
A.	JOINT PREPARATIONS	---	X
B.	DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)	---	X
C.	CLEANLINESS (CONDITION OF STEEL SURFACES)	---	X
D.	TACKING (TACK WELD QUALITY AND LOCATION)	---	X
8.	CONFIGURATION AND FINISH OF ACCESS HOLES	---	X
9.	FIT-UP OF FILLET WELDS	---	X
A.	DIMENSIONS (ALIGNMENT, GAPS AT ROOT)	---	X
B.	CLEANLINESS (CONDITION OF STEEL SURFACES)	---	X
C.	TACKING (TACK WELD QUALITY AND LOCATION)	---	X
AISC 360-10, TABLE N5.4.2 - INSPECTIONS DURING WELDING			
1.	CONTROL AND HANDLING OF WELDING CONSUMABLES	---	X
A.	PACKAGING	---	X
B.	EXPOSURE CONTROL	---	X
2.	NO WELDING OVER CRACKED TACK WELDS	---	X
3.	ENVIRONMENTAL CONDITIONS	---	X
A.	WIND SPEED WITHIN LIMITS	---	X
B.	PRECIPITATION AND TEMPERATURE	---	X
4.	WELDING PROCEDURE SPECIFICATION (WPS) FOLLOWED	---	X
A.	SETTINGS ON WELDING EQUIPMENT	---	X
B.	TRAVEL SPEED	---	X
C.	SELECTED WELDING MATERIALS	---	X
D.	SHIELDING GAS TYPE / FLOW RATE	---	X
E.	PREHEAT APPLIED	---	X
F.	INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.)	---	X
G.	PROPER POSITION (F, V, H, OH)	---	X
5.	WELDING TECHNIQUES	---	X
A.	INTERPASS AND FINAL CLEANING	---	X
B.	EACH PASS WITHIN PROFILE LIMITATIONS	---	X
C.	EACH PASS MEETS QUALITY REQUIREMENTS	---	X
6.	PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	X	---
AISC 360-10, TABLE N5.4.3 - INSPECTION TASKS AFTER WELDING			
1.	WELDS CLEANED	---	X
2.	SIZE, LENGTH AND LOCATION OF WELDS	X	---
3.	WELDS MEET VISUAL ACCEPTANCE CRITERIA	---	---
A.	CRACK PROHIBITION	X	---
B.	WELD/BASE-METAL FUSION	X	---
C.	CRATER CROSS SECTION	X	---
D.	WELD PROFILES	X	---
E.	WELD SIZE	X	---
F.	UNDERCUT	X	---
G.	POROSITY	X	---
4.	ARC STRIKES	X	---
5.	k-AREA (b)	X	---
6.	WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES (c)	X	---
7.	BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	X	---
8.	REPAIR ACTIVITIES	X	---
9.	DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	X	---
10.	NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE EOR.	---	X
11.	ULTRASONIC TESTING (UT) ON ALL CJP GROOVE WELDS IN BUTT, T- AND CORNER JOINTS, IN MATERIALS 5/16 INCH THICK OR GREATER (required in Risk Category III or IV)	X	---
12.	ULTRASONIC TESTING (UT) ON 10% OF CJP GROOVE WELDS IN BUTT, T- AND CORNER JOINTS, IN MATERIALS 5/16 INCH THICK OR GREATER (required in Risk Category II)	---	X
13.	THERMALLY CUT SURFACES OF ACCESS HOLES SHALL BE TESTED USING MAGNETIC PARTICLE TESTING (MT) OR PENETRANT TESTING (PT), WHEN FLANGE THICKNESS EXCEEDS 2 INCHES FOR ROLLED SHAPES, OR WHEN THE WEB THICKNESS EXCEEDS 2 INCHES FOR BUILT-UP SHAPES	X	---
14.	(see AISC 360-10, section N5-5c for additional special inspections for welded joints subject to fatigue)	---	---
(a)	THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW STRESS TYPE.	---	---
(b)	WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE k-AREA, VISUALLY INSPECT THE WEB k-AREA FOR CRACKS WITHIN 3 INCHES OF THE WELD.	---	---
(c)	AFTER ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES HAVE BEEN WELDED, VISUALLY INSPECT THE WELD ACCESS HOLE PER CRACKS.	---	---
	** PERFORM - PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER.	---	---
	** OBSERVE - OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.	---	---

AISC 360-10, CHAPTER N SPECIAL INSPECTION REQUIREMENTS

		FREQUENCY OF INSPECTION	
		PERFORM	OBSERVE
N5.6 - INSPECTION OF HIGH-STRENGTH BOLTS			
AISC 360-10, TABLE N5.6.1 - INSPECTION TASKS PRIOR TO BOLTING			
1.	MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	X	---
2.	FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	---	X
3.	CORRECT FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH) IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE	---	X
4.	CORRECT BOLTING PROCEDURES SELECTED FOR JOINT DETAIL	---	X
5.	CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	---	X
6.	PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	X	X
7.	PROTECTED STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	---	X
AISC 360-10, TABLE N5.6.2 - INSPECTIONS DURING BOLTING			
1.	FASTENER ASSEMBLIES PLACED IN ALL HOLES AND WASHERS AND NUTS ARE POSITIONED AS REQUIRED	---	X
2.	JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	---	X
3.	FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	---	X
4.	FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	---	X
AISC 360-10, TABLE N5.6.3 - INSPECTIONS AFTER BOLTING			
1.	DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	X	---
	** PERFORM - PERFORM THESE TASKS FOR EACH BOLTED CONNECTION.	---	---
	** OBSERVE - OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.	---	---
N5.7 - OTHER INSPECTION TASKS			
1.	INSPECTION OF GALVANIZED STEEL STRUCTURAL MAIN MEMBERS EXPOSED CUT SURFACES OF GALVANIZED MAIN MEMBERS AND EXPOSED CORNERS OF HSS SHALL BE VISUALLY INSPECTED FOR CRACKS SUBSEQUENT TO GALVANIZING.	X	---
N5.8 - OTHER INSPECTION TASKS			
1.	INSPECT THE STEEL TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS.	X	---
2.	INSPECT THE PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. THE DIAMETER, GRADE, TYPE AND LENGTH OF THE ANCHOR ROD OR EMBEDDED ITEM, AND THE EXTENT OR DEPTH OF EMBEDMENT INTO THE CONCRETE, SHALL BE VERIFIED AND DOCUMENTED PRIOR TO PLACEMENT OF CONCRETE	X	---
	** PERFORM - PERFORM THESE TASKS FOR EACH CONNECTION.	---	---
	** OBSERVE - OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.	---	---

SDI QA/QC - 2017 SPECIAL INSPECTION REQUIREMENTS

1. QUALITY CONTROL (QC) AS SPECIFIED IN THE STANDARD SHALL BE PROVIDED BY THE INSTALLER.
2. QUALITY ASSURANCE (QA) AS SPECIFIED IN THE STANDARD SHALL BE PROVIDED BY THE OWNER'S DESIGNATED REPRESENTATIVE.
3. THE QUALITY ASSURANCE INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE AHJ AND SATISFY THE QUALIFICATIONS NOTED IN SECTION 3.2 OF THE STANDARD.

SDI QA/QC - 2017 STANDARD FOR QUALITY CONTROL AND QUALITY ASSURANCE FOR INSTALLATION OF STEEL DECK

		FREQUENCY OF INSPECTION	
		PERFORM	OBSERVE
TABLE 1.1 INSPECTION OR EXECUTION TASKS PRIOR TO DECK PLACEMENT			
A.	VERIFY COMPLIANCE OF MATERIAL (SIDE/DECK AND DECK ACCESSORIES) WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES, AND BASE METAL THICKNESS.	X	---
B.	DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES	X	---
TABLE 1.2 INSPECTION OR EXECUTION TASKS AFTER DECK PLACEMENT			
A.	VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION WITH CONSTRUCTION DOCUMENTS	X	---
B.	VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS	X	---
C.	DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES	X	---
TABLE 1.3 INSPECTION OR EXECUTION TASKS PRIOR TO WELDING			
A.	WELDING PROCEDURE SPECIFICATIONS (WPS) AVAILABLE	---	X
B.	MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	---	X
C.	MATERIAL IDENTIFICATION (TYPE/GRADE)	---	X
D.	CHECK WELDING EQUIPMENT	---	X
TABLE 1.4 INSPECTION OR EXECUTION TASKS DURING WELDING			
A.	USE OF QUALIFIED WELDERS	---	X
B.	CONTROL AND HANDLING OF WELDING CONSUMABLES	---	X
C.	ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE)	---	X
D.	WPS FOLLOWED	---	X
TABLE 1.5 INSPECTION OR EXECUTION TASKS AFTER WELDING			
A.	VERIFY SIZE AND LOCATION OF WELDS, INCLUDING SUPPORT, SIDELAP, AND PERIMETER WELDS	X	---
B.	WELDS MEET VISUAL ACCEPTANCE CRITERIA	X	---
C.	VERIFY REPAIR ACTIVITIES	X	---
D.	DOCUMENT ACCEPTANCE OR REJECTION OF WELDS	X	---
TABLE 1.6 INSPECTION OR EXECUTION TASKS PRIOR TO MECHANICAL FASTENING			
A.	MANUFACTURER INSTALLATION INSTRUCTIONS AVAILABLE FOR MECHANICAL FASTENERS	---	X
B.	PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION	---	X
C.	PROPER STORAGE FOR MECHANICAL FASTENERS	---	X
TABLE 1.7 INSPECTION OR EXECUTION TASKS DURING MECHANICAL FASTENING			
A.	FASTENERS ARE POSITIONED AS REQUIRED	---	X
B.	FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS	---	X
TABLE 1.8 INSPECTION OR EXECUTION TASKS AFTER MECHANICAL FASTENING			
A.	CHECK SPACING, TYPE, AND INSTALLATION OF SUPPORT FASTENERS	X	---
B.	CHECK SPACING, TYPE, AND INSTALLATION OF SIDELAP FASTENERS	X	---
C.	CHECK SPACING, TYPE, AND INSTALLATION OF PERIMETER FASTENERS	X	---
D.	VERIFY REPAIR ACTIVITIES	X	---
E.	DOCUMENT ACCEPTANCE OR REJECTION OF MECHANICAL FASTENERS	X	---
	** PERFORM - PERFORM THESE TASKS PRIOR TO FINAL ACCEPTANCE FOR EACH ITEM OR ELEMENT.	---	---
	** OBSERVE - INSPECT THESE ITEMS ON AN INTERMITTENT BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS. FREQUENCY OF OBSERVATIONS SHALL BE ADEQUATE TO CONFIRM THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE APPLICABLE DOCUMENTS.	---	---

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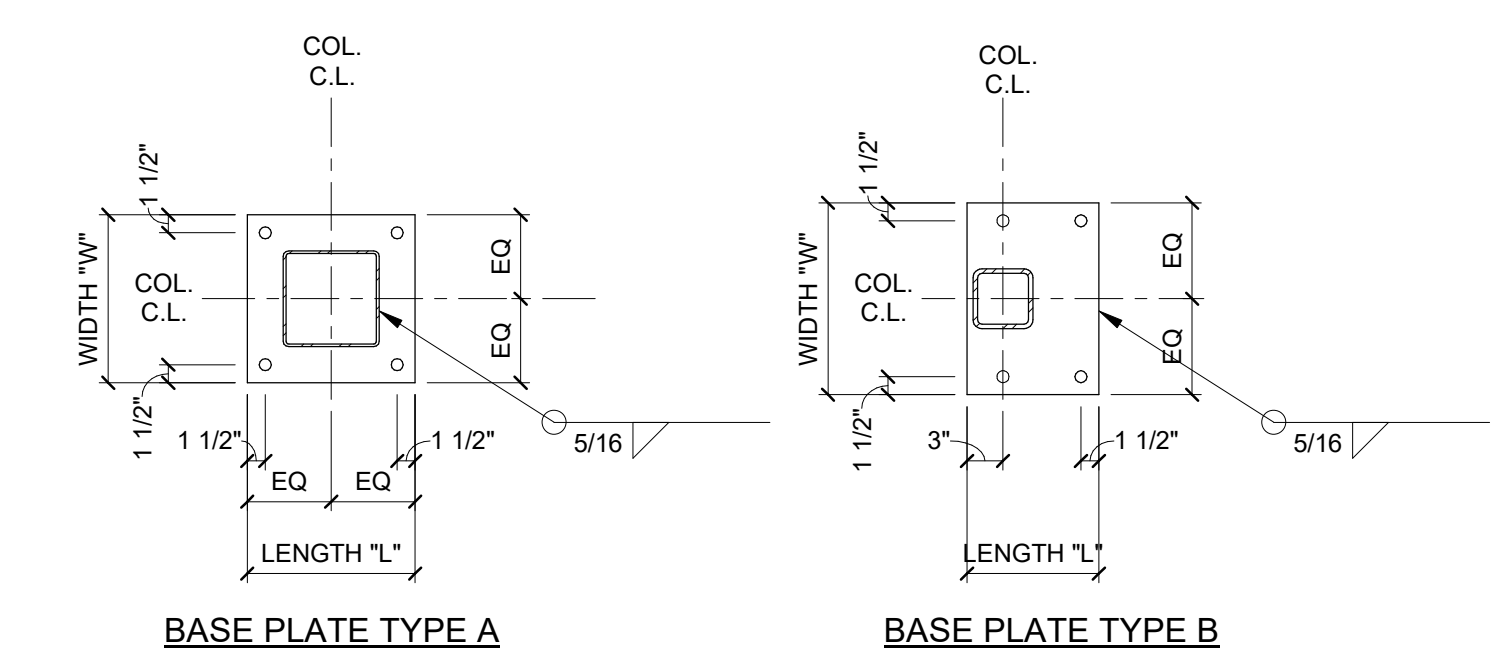
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S0.3b

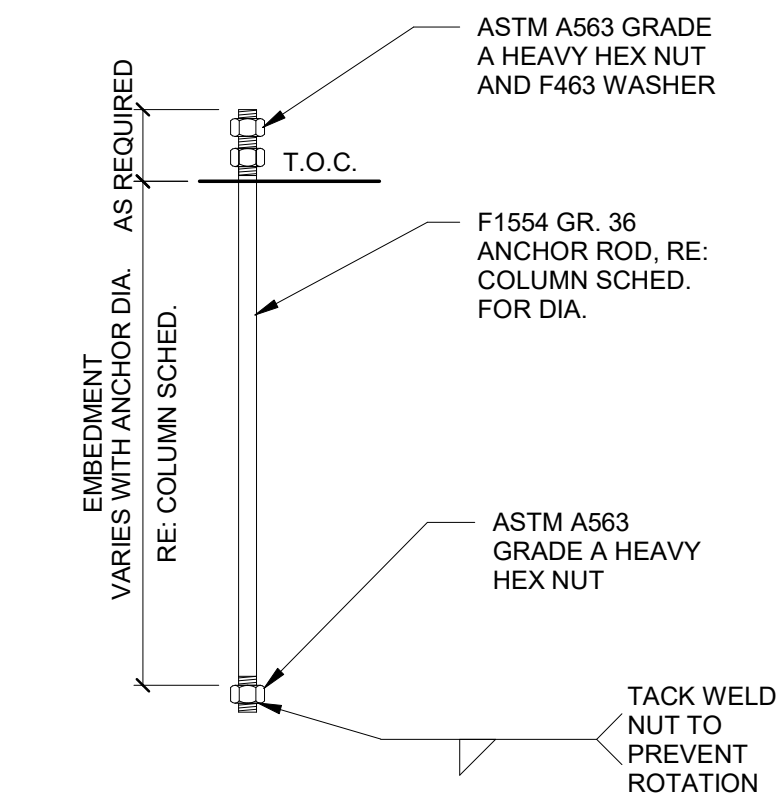


STEEL COLUMN SCHEDULE								
MARK	TYPE	BASE PLATE			ANCHOR RODS			NOTES
		TYPE	T	W	L	NUMBER	DIA.	
	HSS3X3X1/4							
C1	HSS5X5X3/8	A	1"	12"	1'-0"	4	3/4"	1'-0"
C2	HSS5X5X3/8	A	1"	12"	1'-0"	4	3/4"	1'-0"
C3	HSS5X5X3/8	B	1"	12"	0'-10"	4	3/4"	1'-0"

- NOTES:
 1. USE CAST-IN-PLACE ANCHOR RODS PER 4/S0.4b
 2. USE HILTI HAS-E THREADED RODS, EMBED 12" WITH HILTI RE500-V3



3 ANCHOR ROD AND BASEPLATE DIAGRAM
 3/4" = 1'-0"



4 ANCHOR BOLT DETAIL
 3/4" = 1'-0"

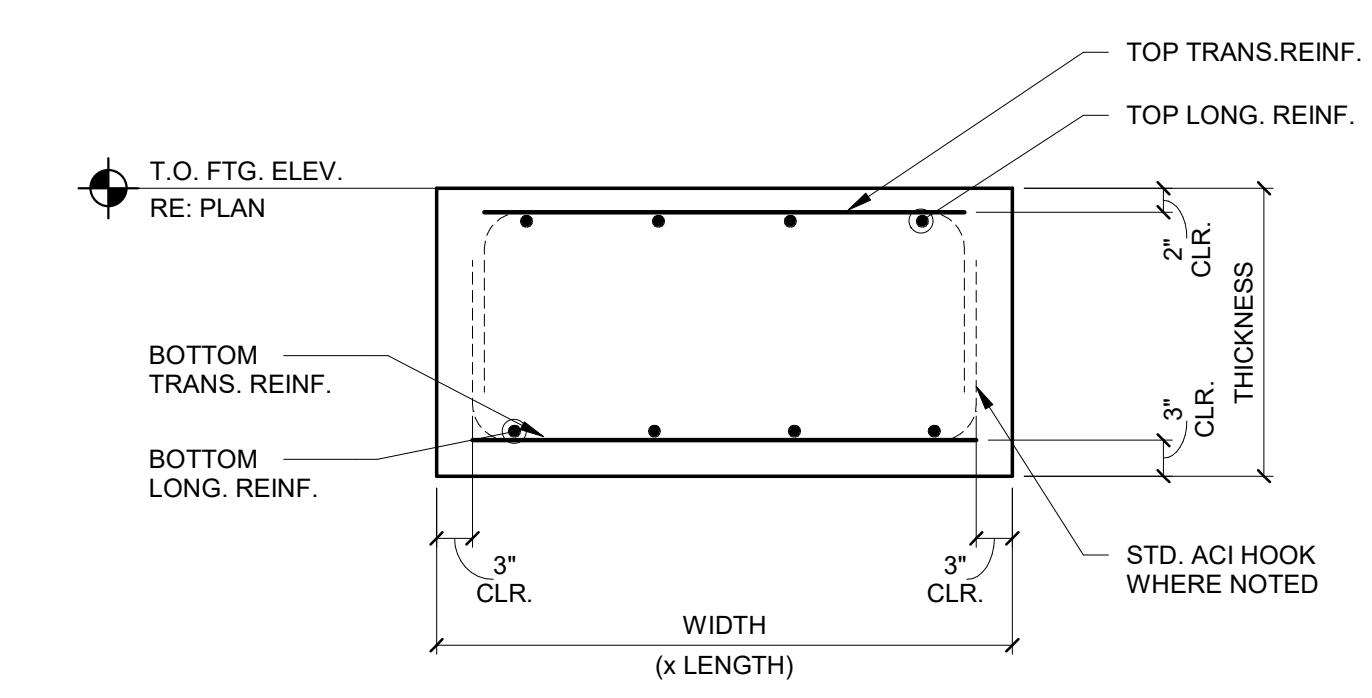
BAR SIZE	CONCRETE REINFORCING LAP LENGTH SCHEDULE									
	STRUCTURAL ELEMENT MINIMUM COMPRESSIVE STRENGTH (f _c)									
	3000psi		4000psi		4500psi		5000psi		7000psi	
	TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER	TOP BARS	OTHER
#3	28"	22"	25"	19"	23"	18"	22"	17"	19"	14"
#4	38"	29"	33"	25"	31"	24"	29"	23"	25"	19"
#5	47"	36"	41"	31"	38"	30"	36"	28"	31"	24"
#6	56"	43"	49"	37"	46"	35"	44"	34"	37"	28"
#7	81"	63"	71"	54"	67"	51"	63"	49"	54"	41"
#8	93"	72"	81"	62"	76"	59"	72"	56"	61"	47"
#9	105"	81"	91"	70"	86"	66"	81"	63"	69"	53"
#10	118"	91"	102"	79"	96"	74"	92"	71"	77"	60"

- NOTES:
 1. LAP LENGTH FOR TOP BARS SHALL BE USED WHEN MORE THAN 12 INCHES OF FRESH CONCRETE IS PLACED BELOW HORIZONTAL REINFORCEMENT.

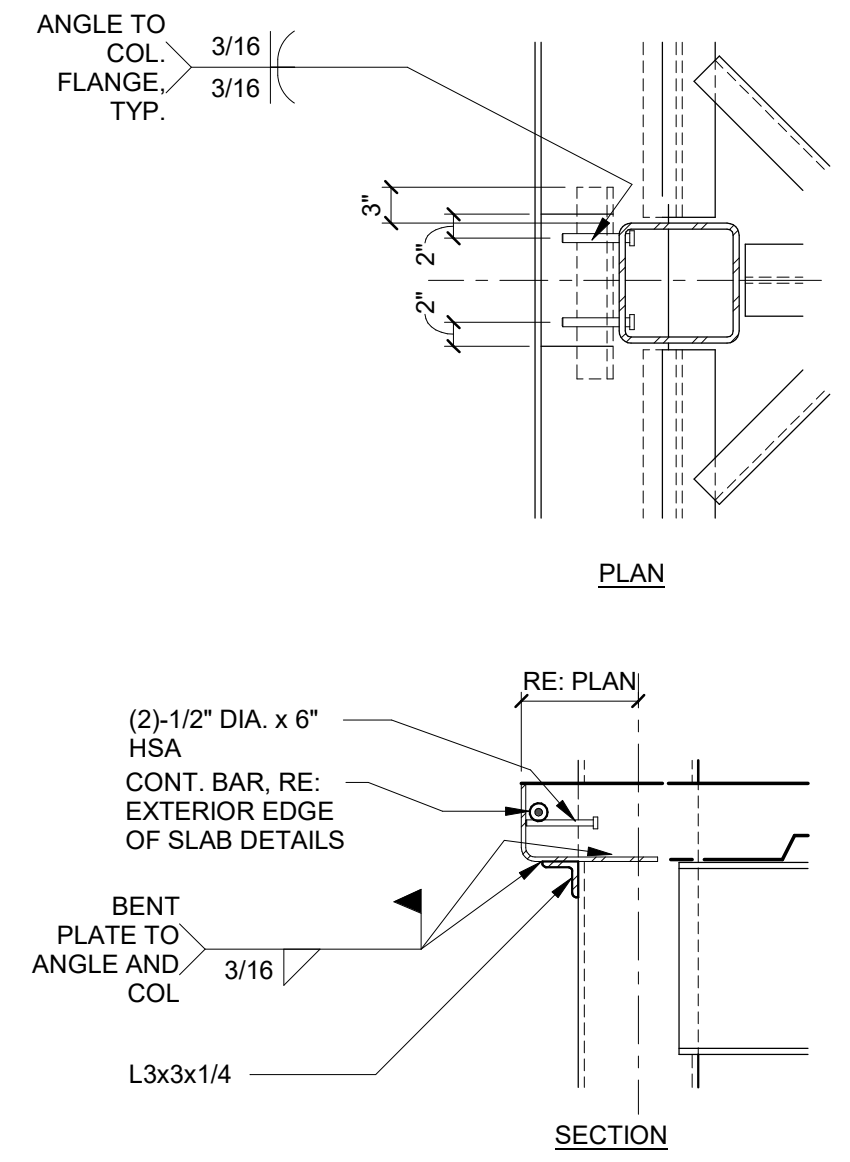
2 CONCRETE REINFORCING LAP SCHEDULE
 3/4" = 1'-0"

MARK	FOOTING SCHEDULE							NOTES
	SIZE			BOTTOM REINFORCING		TOP REINFORCING		
	LENGTH	WIDTH	THICKNESS	LONGITUDINAL	TRANSVERSE	LONGITUDINAL	TRANSVERSE	
F1	6'-0"	6'-0"	1'-6"	(6)-#7	(6)-#7			
F2	5'-0"	5'-0"	1'-6"	(5)-#7	(5)-#7			
F3	7'-0"	3'-0"	1'-6"	(4)-#7	(7)-#7		1, 2	
F4	4'-6"	2'-6"	2'-0"	(3)-#6	(4)-#6	(3)-#6	(4)-#6	

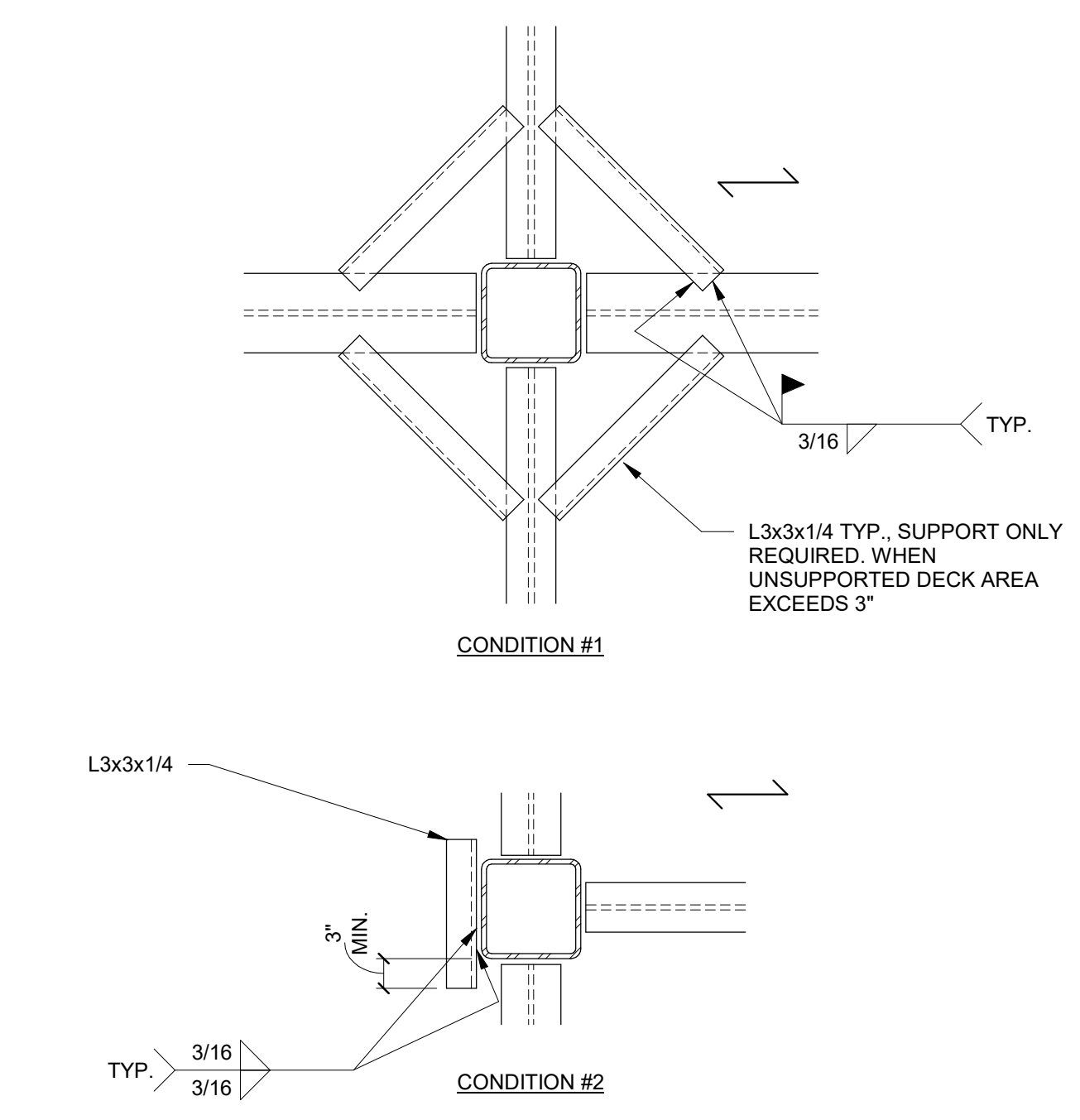
- NOTES:
 1. RE: PLAN FOR FOOTING ORIENTATION
 2. PROVIDE STD. ACI HOOK EA. END AT BOTTOM REINF. FOR TRANSVERSE BARS



1 TYPICAL FOOTING SCHEDULE AND DIAGRAM
 NTS

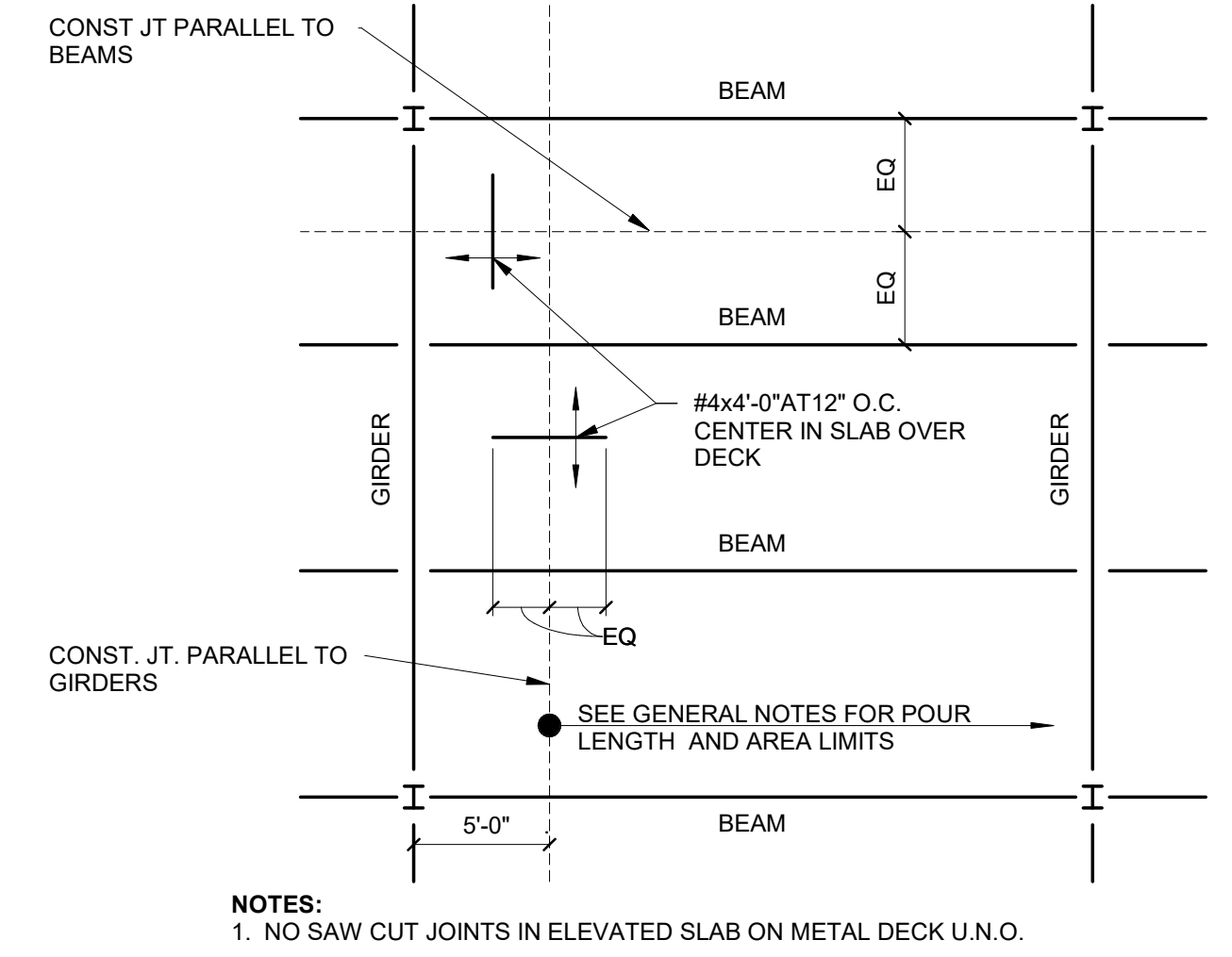


AT PERIMETER COLUMN

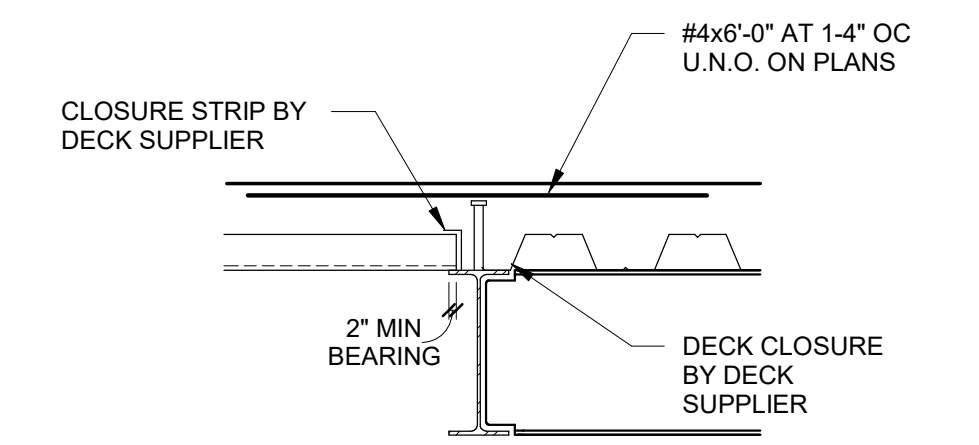


NOTES:
1. CONTRACTOR MAY PROVIDE ALTERNATE METHODS OF DECK SUPPORT. DECK SUPPORTS SHALL SUPPORT THE DECK AS A FORM WITH THE WET WEIGHT OF THE CONCRETE AND ALL CONSTRUCTION LOADS

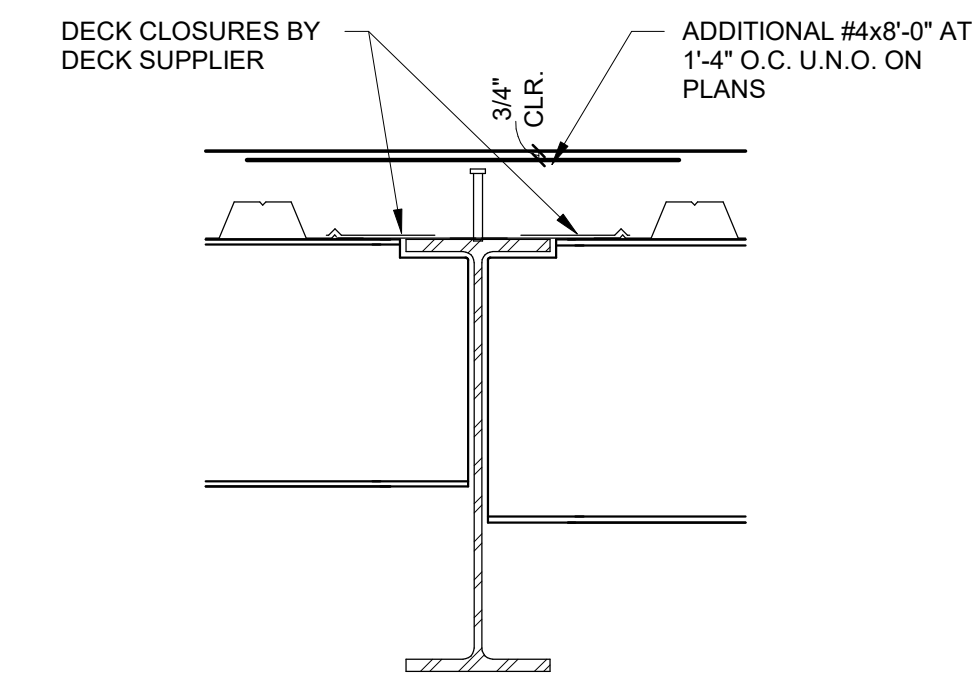
2 TYPICAL METAL DECK SUPPORT AT COLUMN
3/4" = 1'-0"



4 TYPICAL SLAB CONSTRUCTION JOINT LOCATIONS
3/4" = 1'-0"

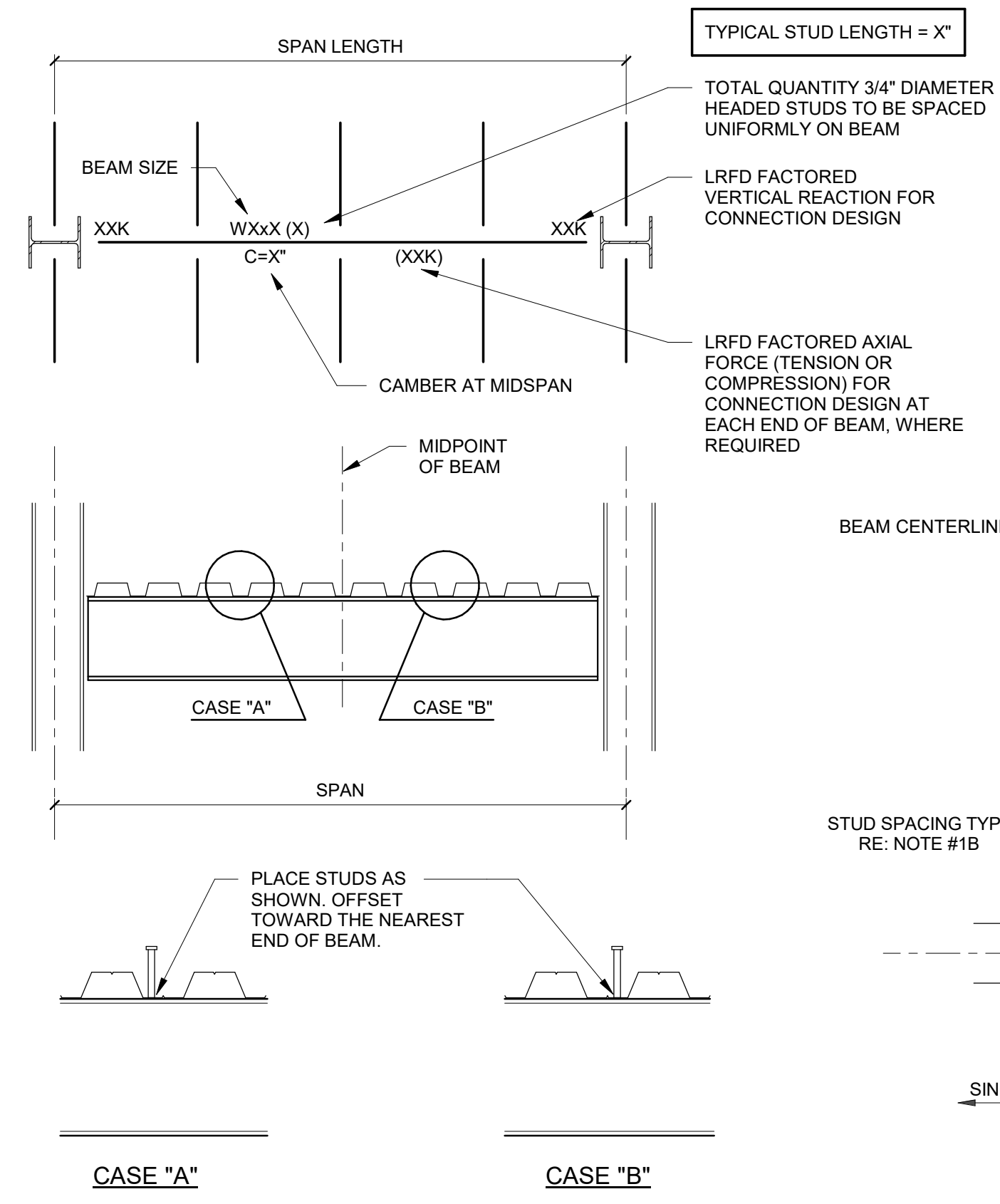


DECK DIRECTION CHANGE



DECK PARALLEL TO BEAM

3 TYPICAL SLAB ON METAL DECK REINFORCING
3/4" = 1'-0"

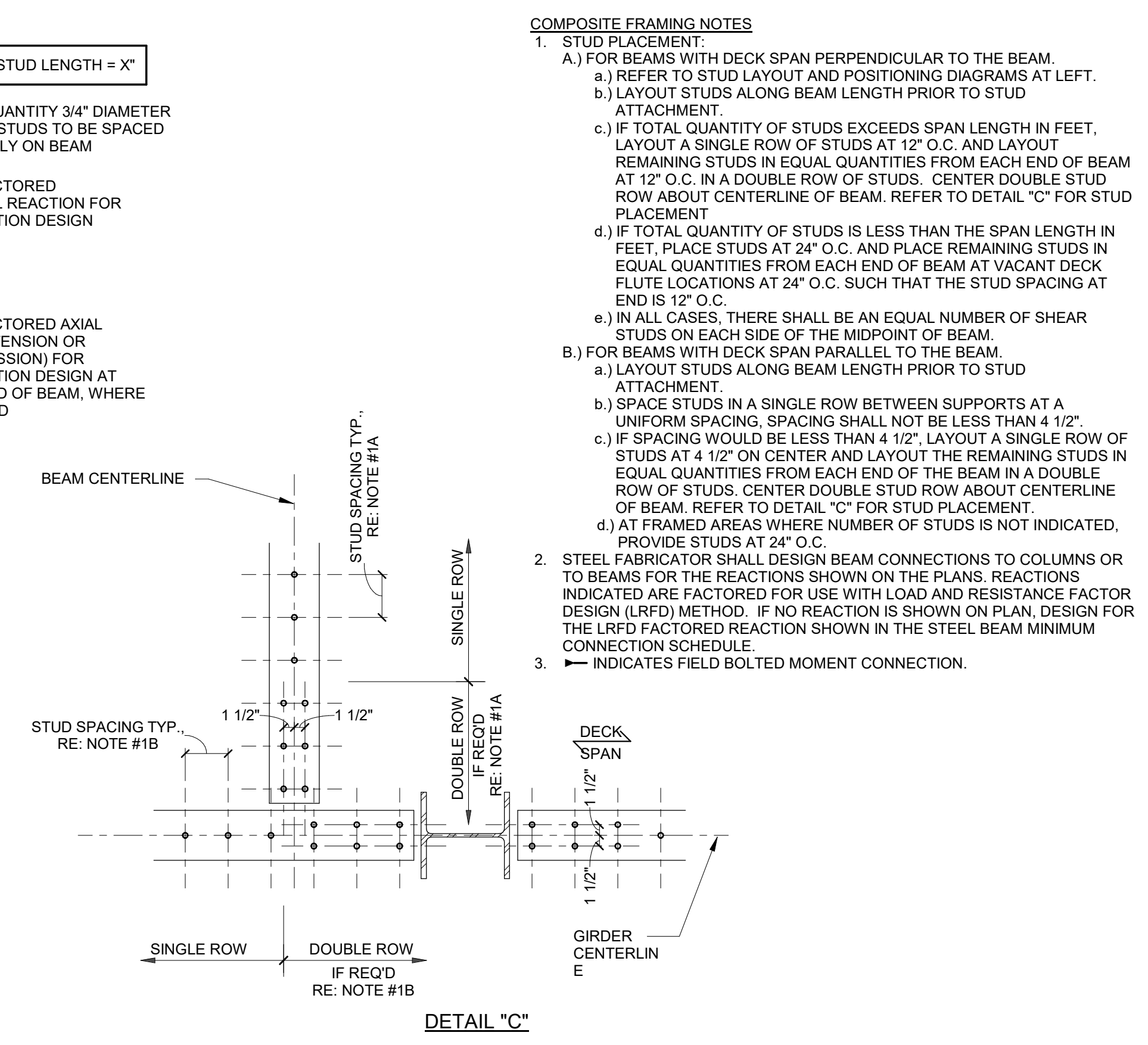


TYPICAL STUD LENGTH = "X"

TOTAL QUANTITY 3/4" DIAMETER HEADED STUDS TO BE SPACED UNIFORMLY ON BEAM
LRFD FACTORED VERTICAL REACTION FOR CONNECTION DESIGN
LRFD FACTORED AXIAL FORCE (TENSION OR COMPRESSION) FOR CONNECTION DESIGN AT EACH END OF BEAM, WHERE REQUIRED

CASE "A" CASE "B"

1 COMPOSITE BEAM DIAGRAMS AND NOTES
3/4" = 1'-0"



COMPOSITE FRAMING NOTES
1. STUD PLACEMENT:
A.) FOR BEAMS WITH DECK SPAN PERPENDICULAR TO THE BEAM.
a.) REFER TO STUD LAYOUT AND POSITIONING DIAGRAMS AT LEFT.
b.) LAYOUT STUDS ALONG BEAM LENGTH PRIOR TO STUD ATTACHMENT.
c.) IF TOTAL QUANTITY OF STUDS EXCEEDS SPAN LENGTH IN FEET, LAYOUT A SINGLE ROW OF STUDS AT 12" O.C. AND LAYOUT REMAINING STUDS IN EQUAL QUANTITIES FROM EACH END OF BEAM AT 12" O.C. IN A DOUBLE ROW OF STUDS. CENTER DOUBLE STUD ROW ABOUT CENTERLINE OF BEAM. REFER TO DETAIL "C" FOR STUD PLACEMENT.
d.) IF TOTAL QUANTITY OF STUDS IS LESS THAN THE SPAN LENGTH IN FEET, PLACE STUDS AT 24" O.C. AND PLACE REMAINING STUDS IN EQUAL QUANTITIES FROM EACH END OF BEAM AT VACANT DECK FLUTE LOCATIONS AT 24" O.C. SUCH THAT THE STUD SPACING AT END IS 12" O.C.
e.) IN ALL CASES, THERE SHALL BE AN EQUAL NUMBER OF SHEAR STUDS ON EACH SIDE OF THE MIDPOINT OF BEAM.
B.) FOR BEAMS WITH DECK SPAN PARALLEL TO THE BEAM.
a.) LAYOUT STUDS ALONG BEAM LENGTH PRIOR TO STUD ATTACHMENT.
b.) SPACE STUDS IN A SINGLE ROW BETWEEN SUPPORTS AT A UNIFORM SPACING. SPACING SHALL NOT BE LESS THAN 4 1/2".
c.) IF SPACING WOULD BE LESS THAN 4 1/2", LAYOUT A SINGLE ROW OF STUDS AT 4 1/2" ON CENTER AND LAYOUT THE REMAINING STUDS IN EQUAL QUANTITIES FROM EACH END OF THE BEAM IN A DOUBLE ROW OF STUDS. CENTER DOUBLE STUD ROW ABOUT CENTERLINE OF BEAM. REFER TO DETAIL "C" FOR STUD PLACEMENT.
d.) AT FRAMED AREAS WHERE NUMBER OF STUDS IS NOT INDICATED, PROVIDE STUDS AT 24" O.C.
2. STEEL FABRICATOR SHALL DESIGN BEAM CONNECTIONS TO COLUMNS OR TO BEAMS FOR THE REACTIONS SHOWN ON THE PLANS. REACTIONS INDICATED ARE FACTORED FOR USE WITH LOAD AND RESISTANCE FACTOR DESIGN (LRFD) METHOD. IF NO REACTION IS SHOWN ON PLAN, DESIGN FOR THE LRFD FACTORED REACTION SHOWN IN THE STEEL BEAM MINIMUM CONNECTION SCHEDULE.
3. ↑ INDICATES FIELD BOLTED MOMENT CONNECTION.

DETAIL "C"

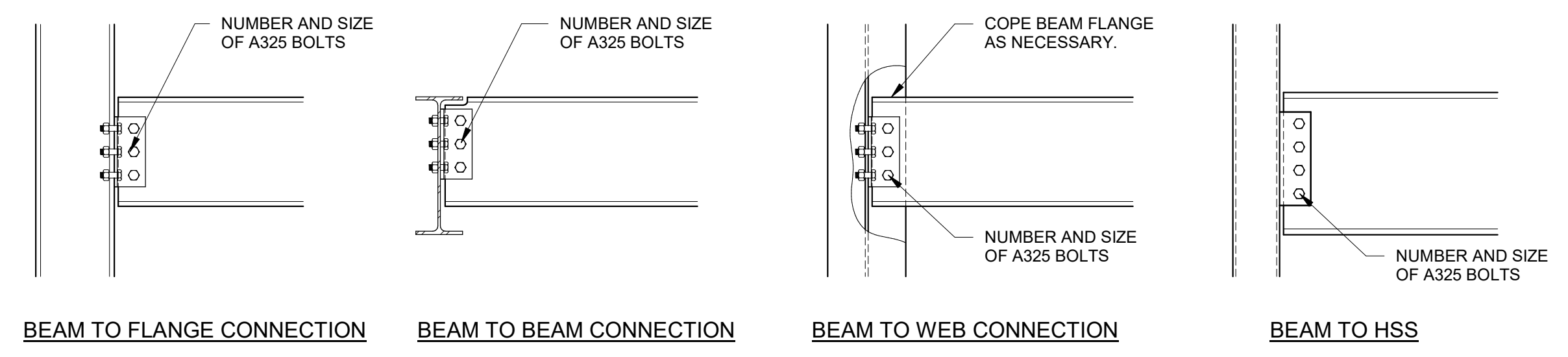


STEEL BEAM MINIMUM CONNECTION SCHEDULE

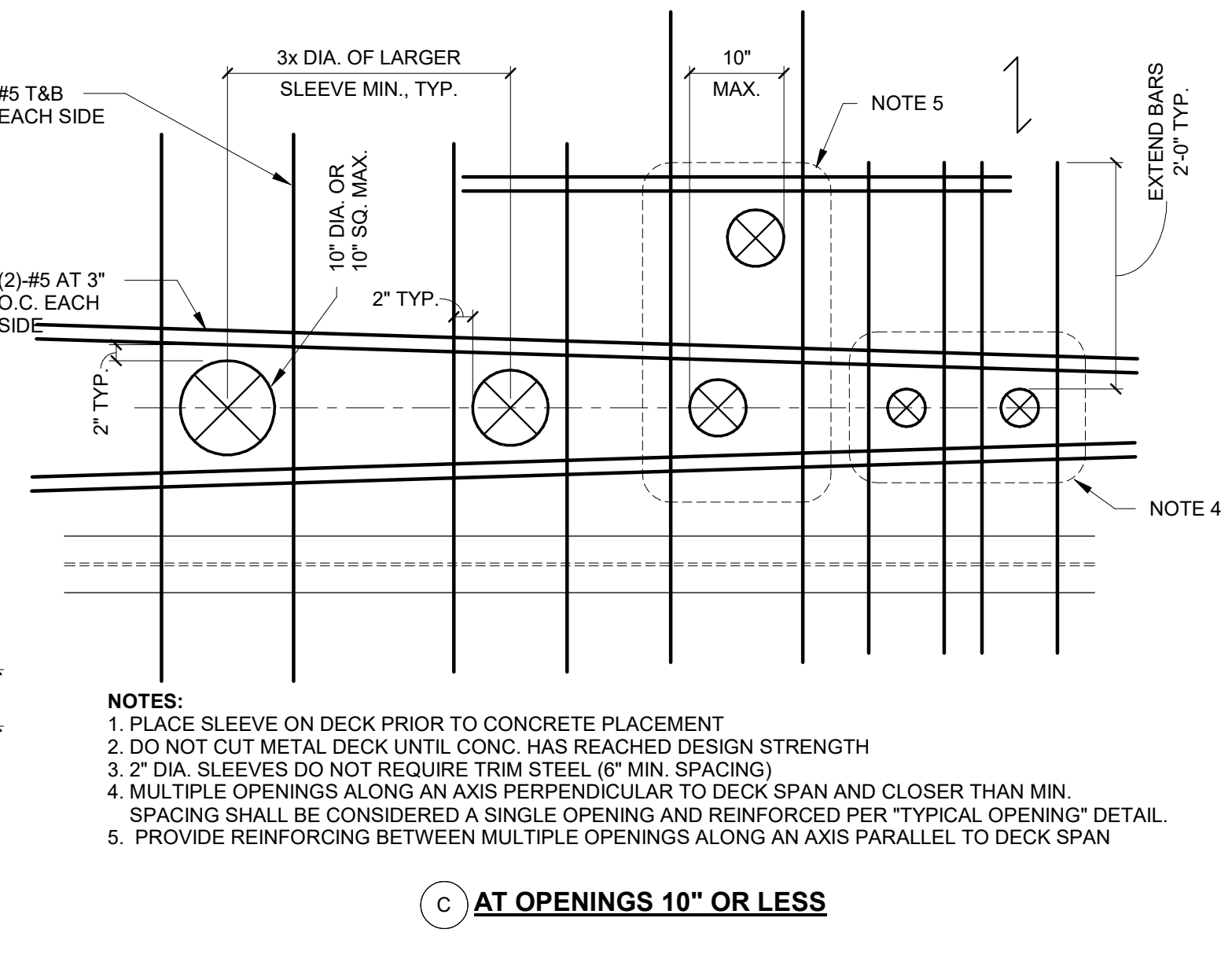
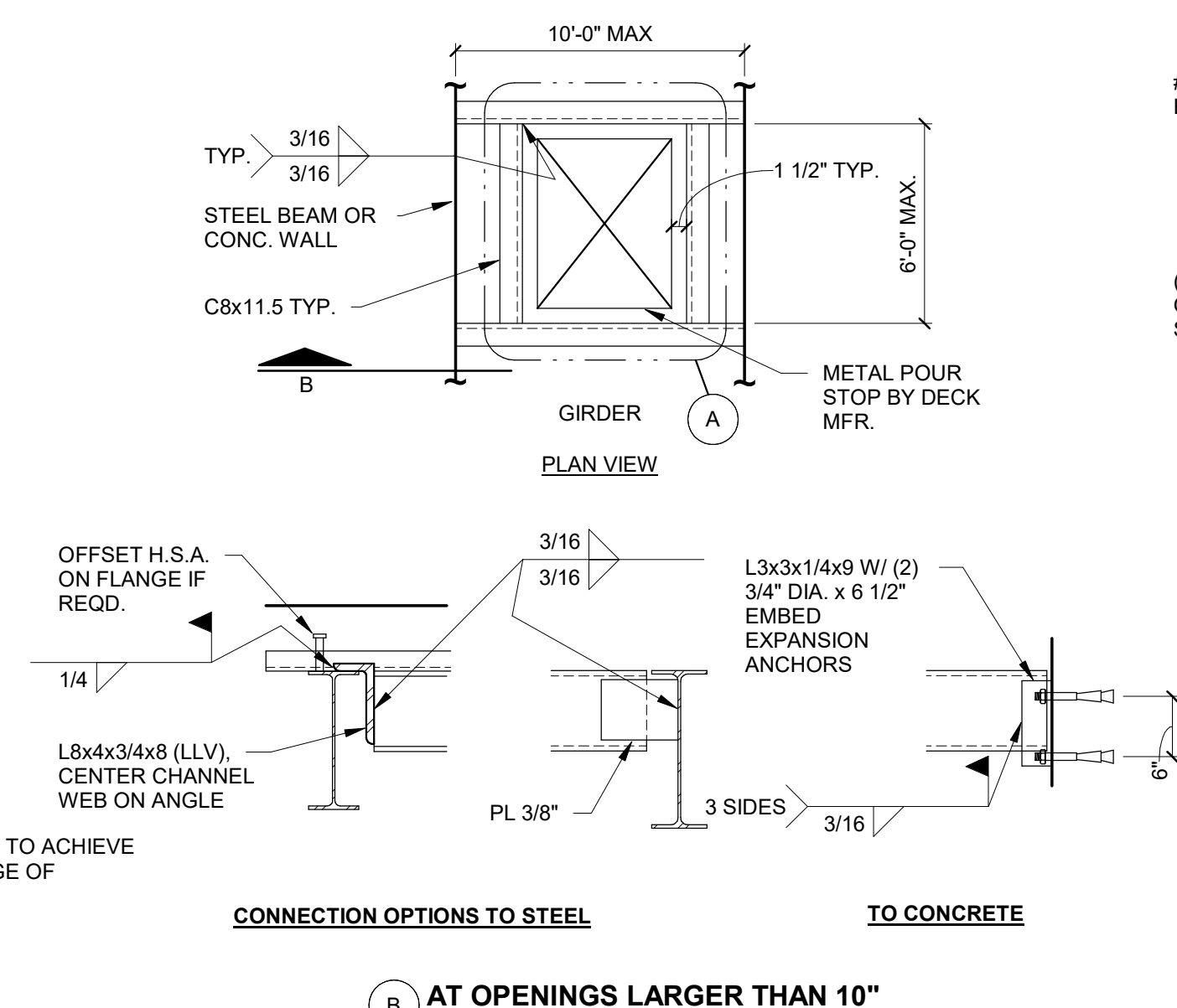
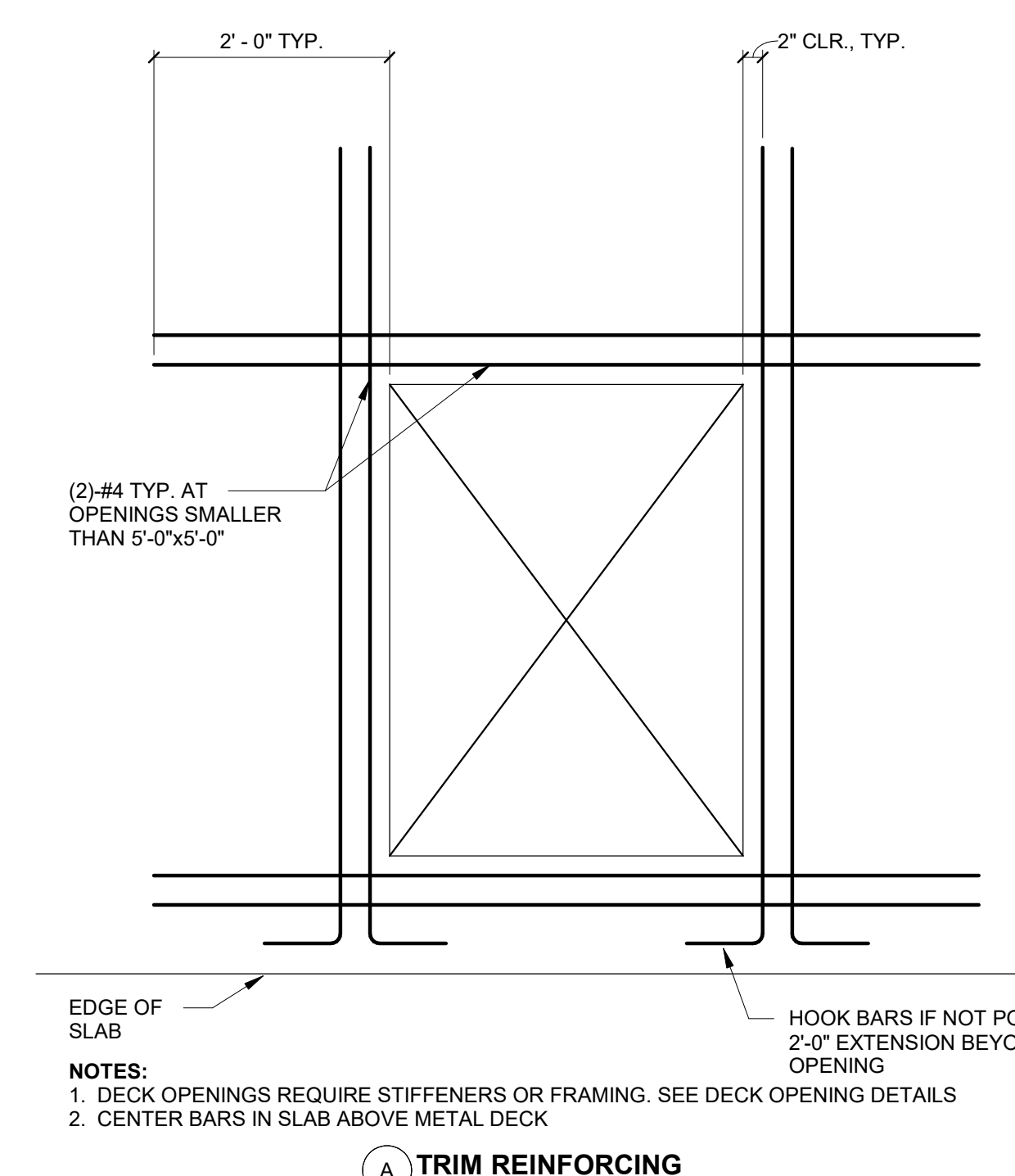
BEAM	MINIMUM BOLT DIA.	MINIMUM NUMBER OF BOLTS	MINIMUM LRFD FACTORED END REACTION (KIPS)	NOTE
W8	3/4"	2	24	1,2,3,4
W10	3/4"	2	24	1,2,3,4
W12	3/4"	3	38	1,2,3,4
W14	3/4"	3	38	1,3,4
W16	3/4"	4	52	1,3,4
W18	3/4"	4	52	1,3,4
W21	3/4"	5	64	1,3,4
W24	3/4"	5	64	1,3,4
W27	3/4"	7	88	1,3,4
W30	3/4"	7	88	1,3,4
W33	3/4"	8	101	1,3,4

THE STEEL FABRICATOR SHALL BE RESPONSIBLE FOR DESIGN AND ADEQUACY OF ALL CONNECTIONS THAT ARE NOT FULLY DETAILED ON THE CONTRACT DOCUMENTS. RE: PLANS AND SCHEDULE FOR LRFD FACTORED LOADS, AND RE: STEEL BEAM MINIMUM CONNECTION SCHEDULE FOR MINIMUM CONNECTION REQUIRED.

- BEAM MINIMUM CONNECTION SCHEDULE NOTES:
- UNLESS INDICATED ON FRAMING PLAN AND CORRESPONDING DETAILS OR NOTES BELOW, SCHEDULE INDICATES THE MINIMUM NUMBER OF BOLTS ALLOWED FOR BEAM CONNECTIONS.
 - MINIMUM BOLT SCHEDULE APPLIES TO CHANNEL SECTIONS OF SAME NOMINAL DEPTHS, U.N.O.
 - CONNECTIONS SHALL BE DESIGNED FOR LRFD FACTORED END REACTIONS SHOWN ON PLANS. IF NO REACTION IS SHOWN ON PLAN, DESIGN FOR REACTION IN SCHEDULE.
 - RE: PLAN FOR REQUIRED MOMENT CONNECTION.



2 TYPICAL STEEL BEAM CONNECTION SCHEDULE AND DETAILS
3/4" = 1'-0"

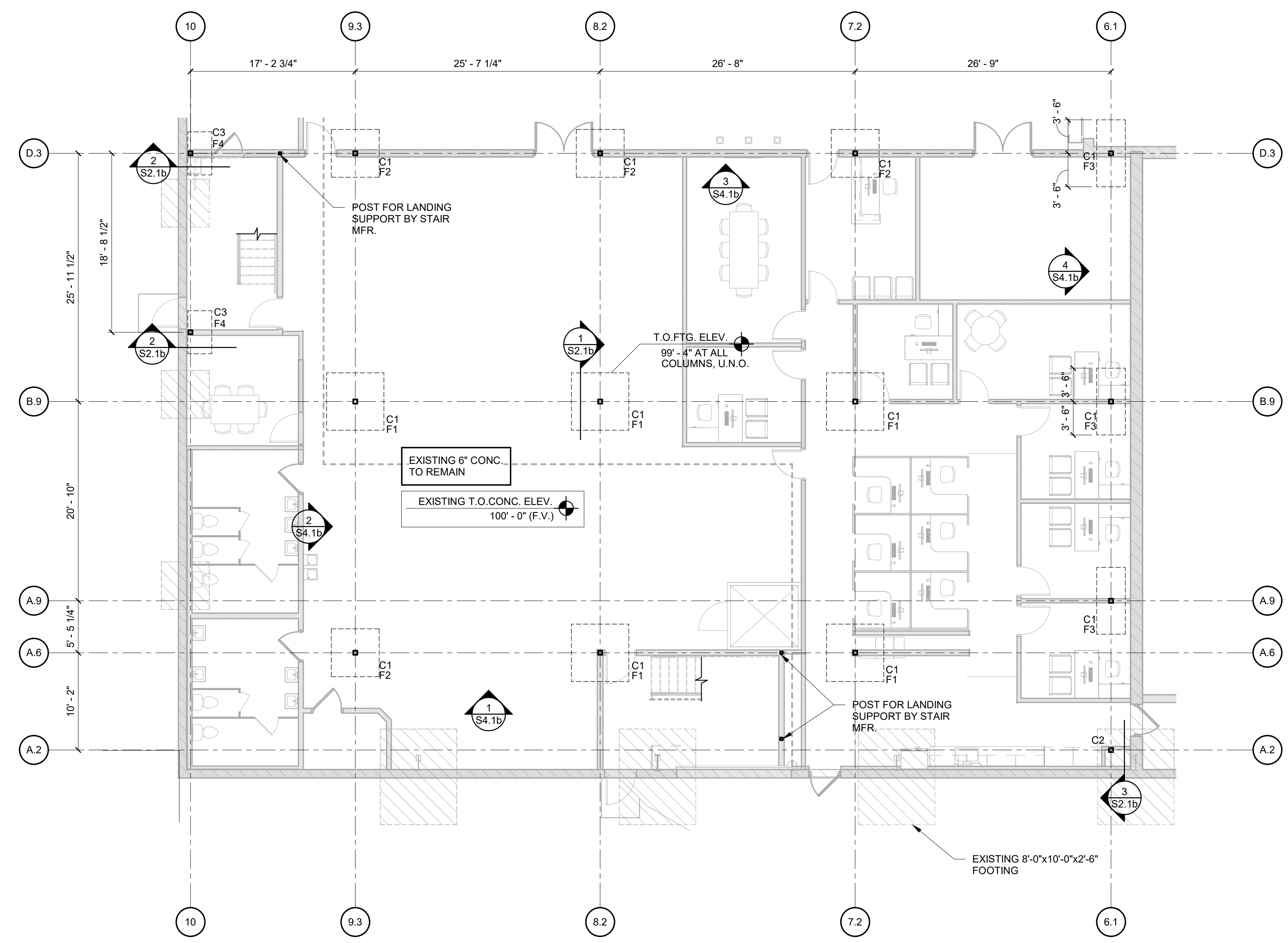


- NOTES:
- PLACE SLEEVE ON DECK PRIOR TO CONCRETE PLACEMENT
 - DO NOT CUT METAL DECK UNTIL CONC. HAS REACHED DESIGN STRENGTH
 - 2" DIA. SLEEVES DO NOT REQUIRE TRIM STEEL (6" MIN. SPACING)
 - MULTIPLE OPENINGS ALONG AN AXIS PERPENDICULAR TO DECK SPAN AND CLOSER THAN MIN. SPACING SHALL BE CONSIDERED A SINGLE OPENING AND REINFORCED PER "TYPICAL OPENING" DETAIL
 - PROVIDE REINFORCING BETWEEN MULTIPLE OPENINGS ALONG AN AXIS PARALLEL TO DECK SPAN

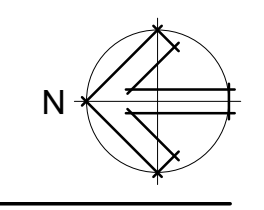
1 TYPICAL METAL DECK SLAB OPENINGS
3/4" = 1'-0"



EXISTING PORTION OF PLANS ARE FROM EXISTING DRAWINGS AND LIMITED SITE MEASUREMENTS. ALL EXISTING MATERIALS, DIMENSIONS, ELEVATIONS AND GENERAL CONDITIONS SHALL BE VERIFIED BEFORE PURCHASE OF MATERIAL AND CONSTRUCTION. NOTIFY ARCHITECT AND ENGINEER-OF-RECORD OF DISCREPANCIES BETWEEN PLANS AND FIELD CONDITIONS IMMEDIATELY.



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



Cherokee Nation Businesses
CNFO Owasso Campus
Improvements Phase II - Alternate I
 16990 East 116th Street North Owasso, Oklahoma

JOB NUMBER
 2112025
 REVISIONS

DATE
 03.01.23
 SHEET
 MEZZANINE
 FOUNDATION
 PLAN

S1.1b



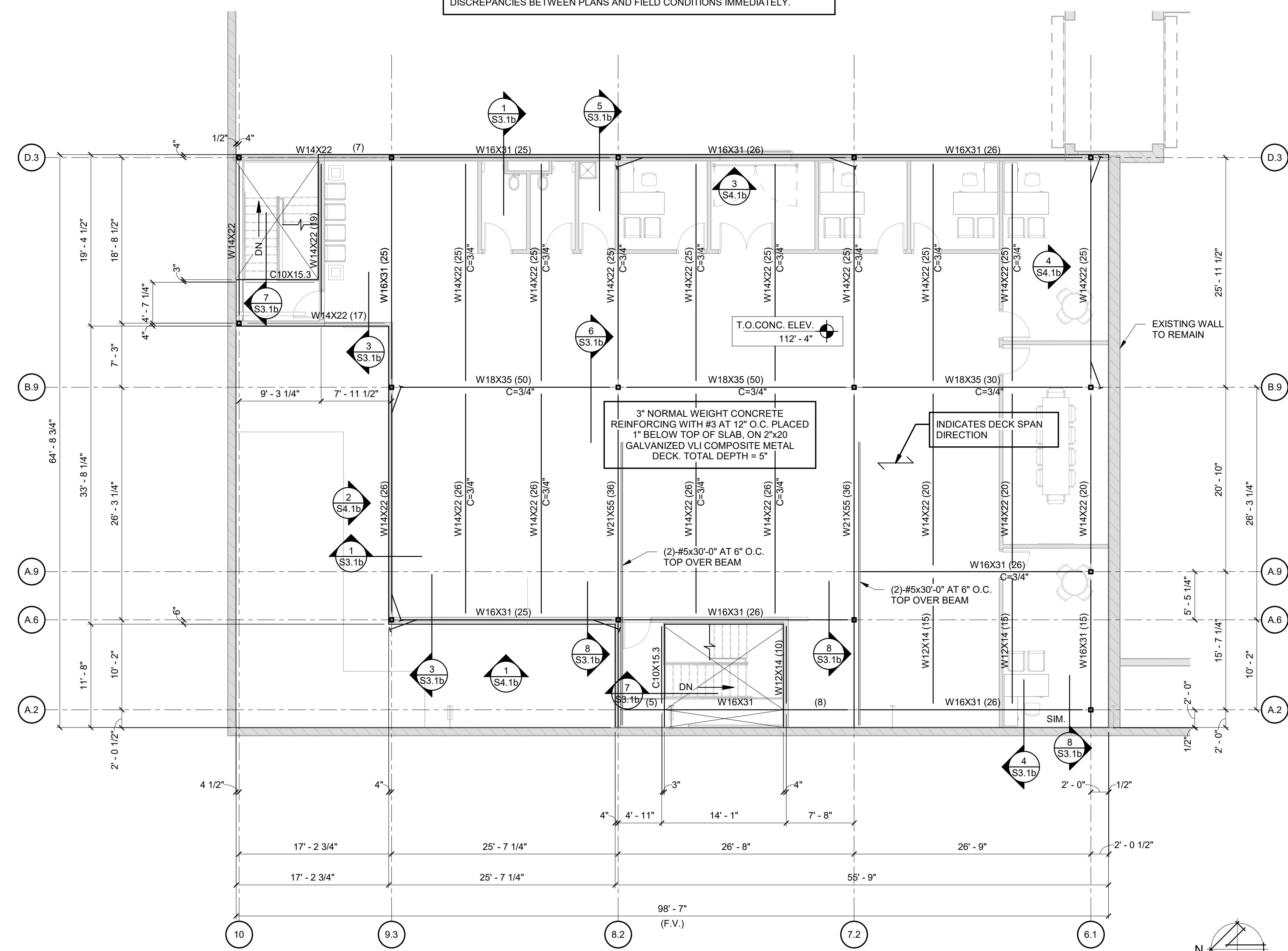
Cherokee Nation Businesses
CNFO Owasso Campus
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 16990 East 116th Street North Owasso, Oklahoma

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 REVISIONS

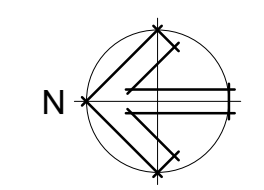
DATE
 03.01.23
 SHEET
 MEZZANINE
 FLOOR FRAMING
 PLAN

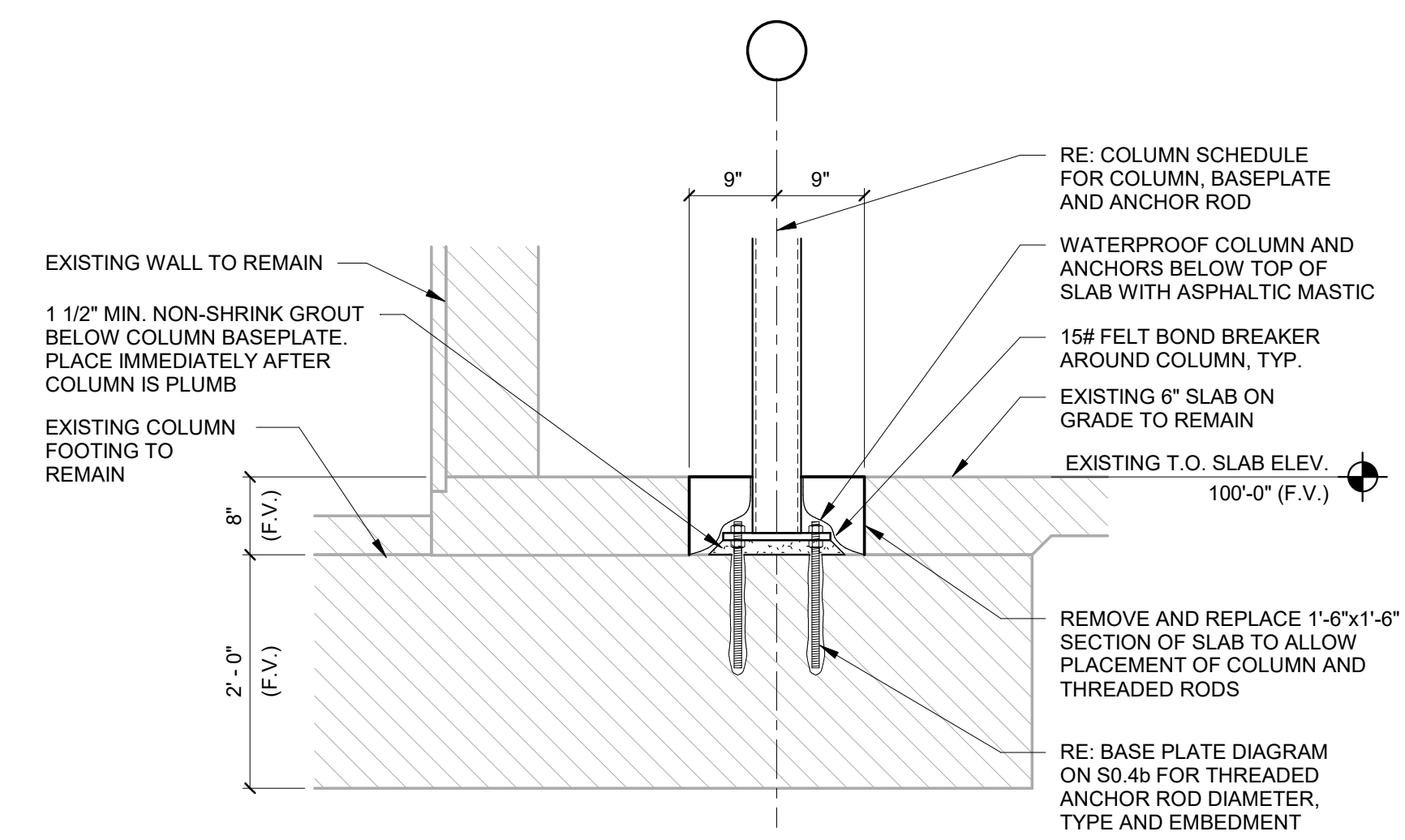
S1.2b

EXISTING PORTION OF PLANS ARE FROM EXISTING DRAWINGS AND LIMITED SITE MEASUREMENTS. ALL EXISTING MATERIALS, DIMENSIONS, ELEVATIONS AND GENERAL CONDITIONS SHALL BE VERIFIED BEFORE PURCHASE OF MATERIAL AND CONSTRUCTION. NOTIFY ARCHITECT AND ENGINEER-OF-RECORD OF DISCREPANCIES BETWEEN PLANS AND FIELD CONDITIONS IMMEDIATELY.

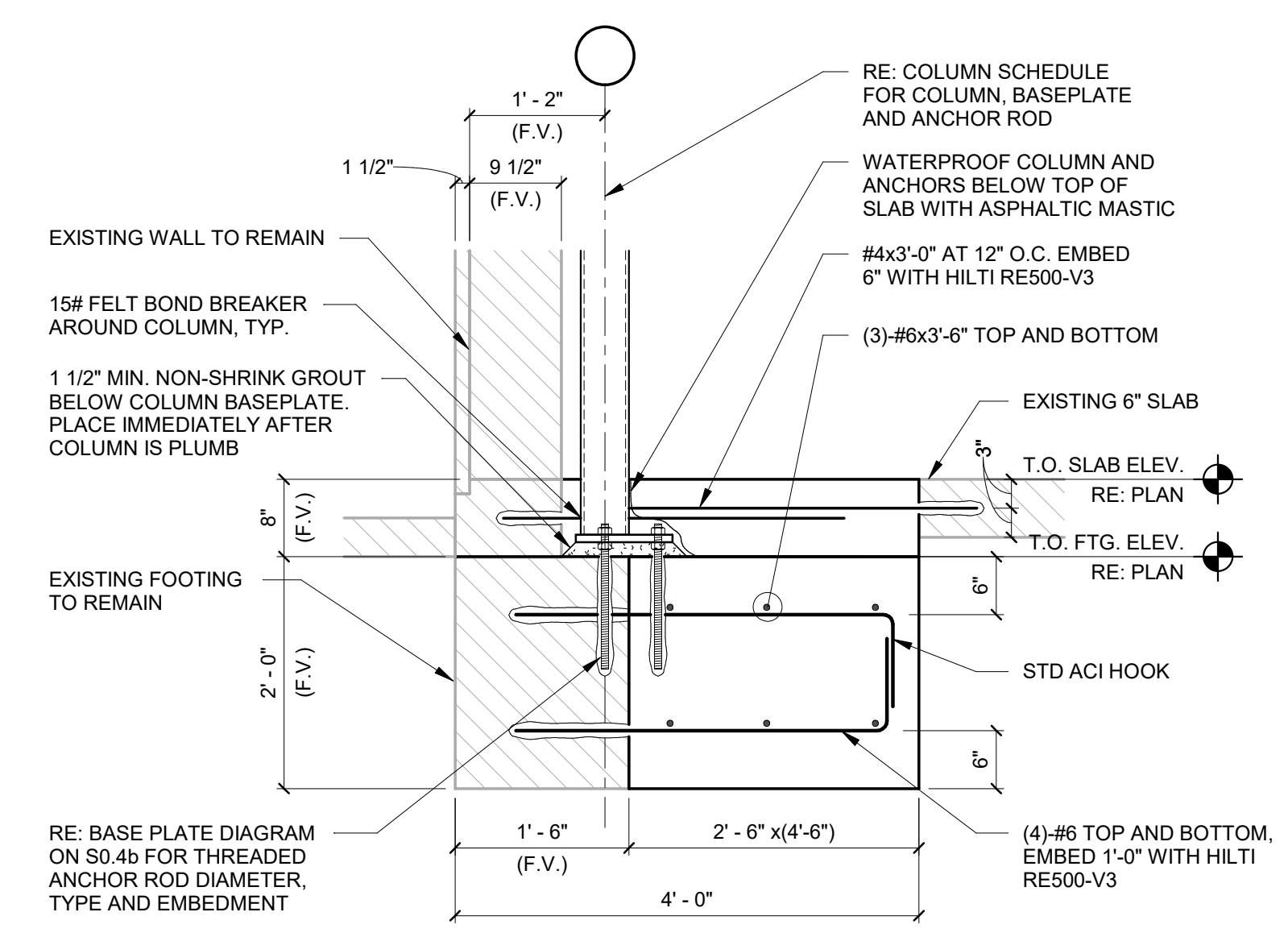


1 FLOOR FRAMING PLAN
 1/8" = 1'-0"

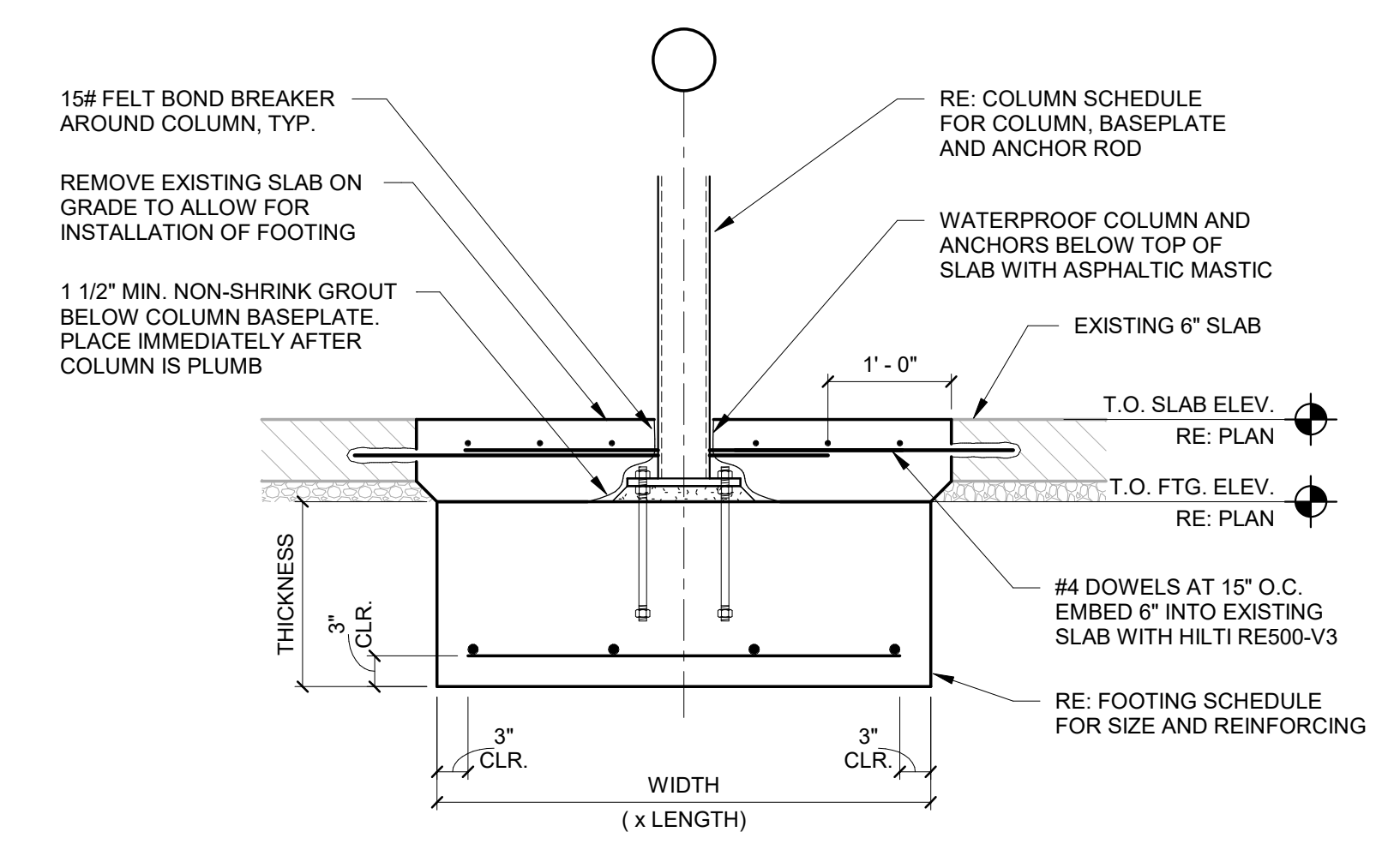




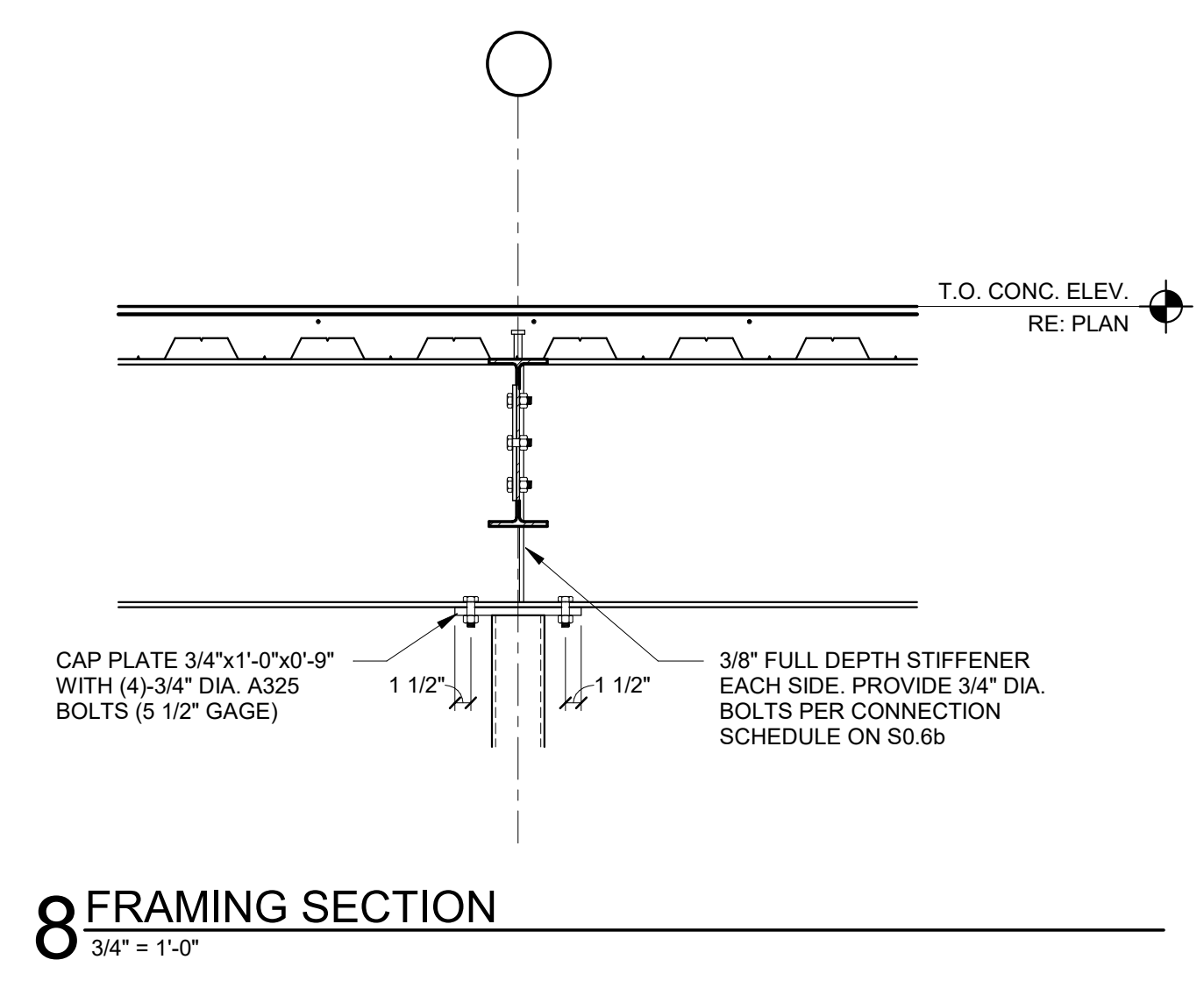
3 SECTION AT EXISTING FOUNDATION
 3/4" = 1'-0"



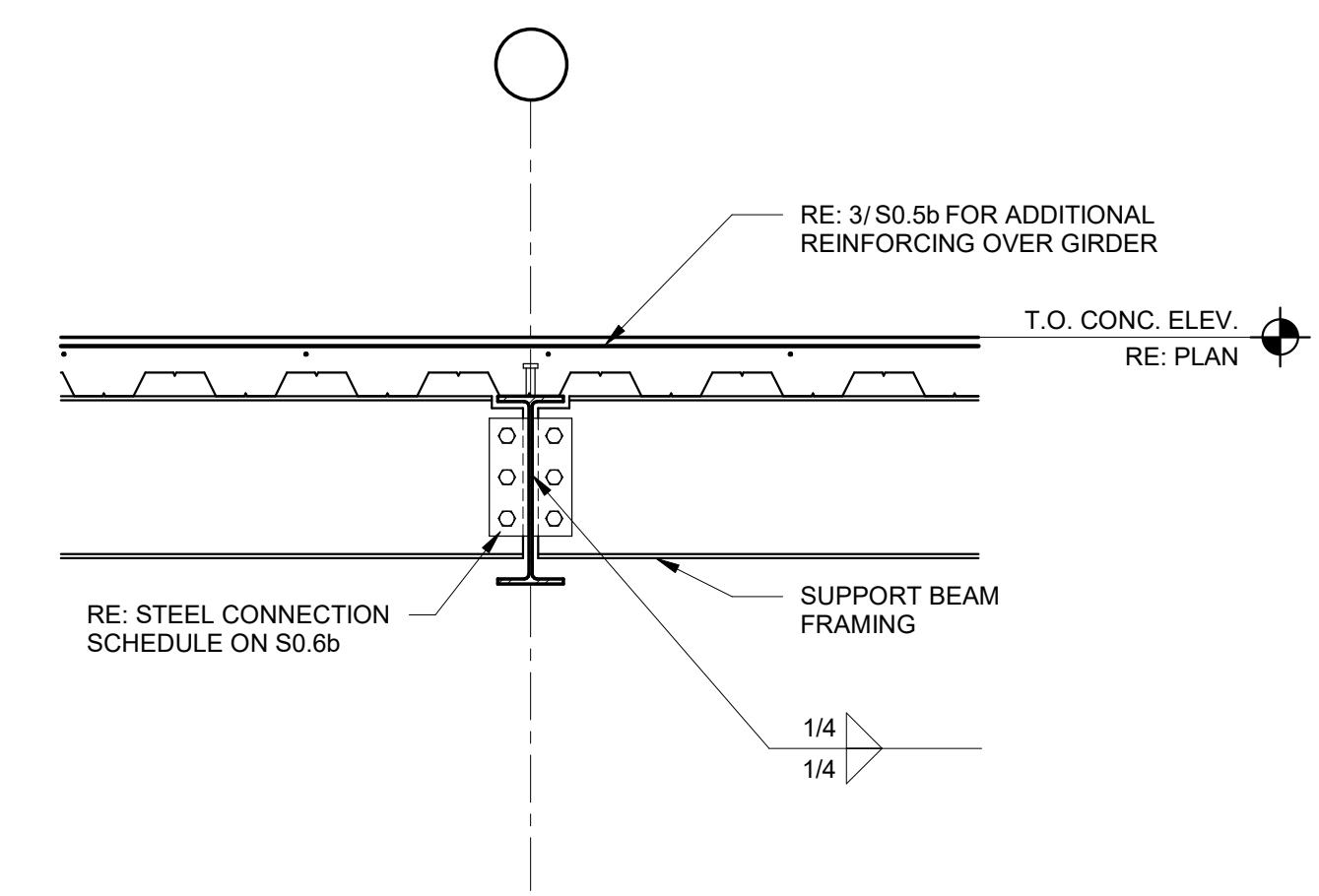
2 SECTION AT EXISTING FOUNDATION
 3/4" = 1'-0"



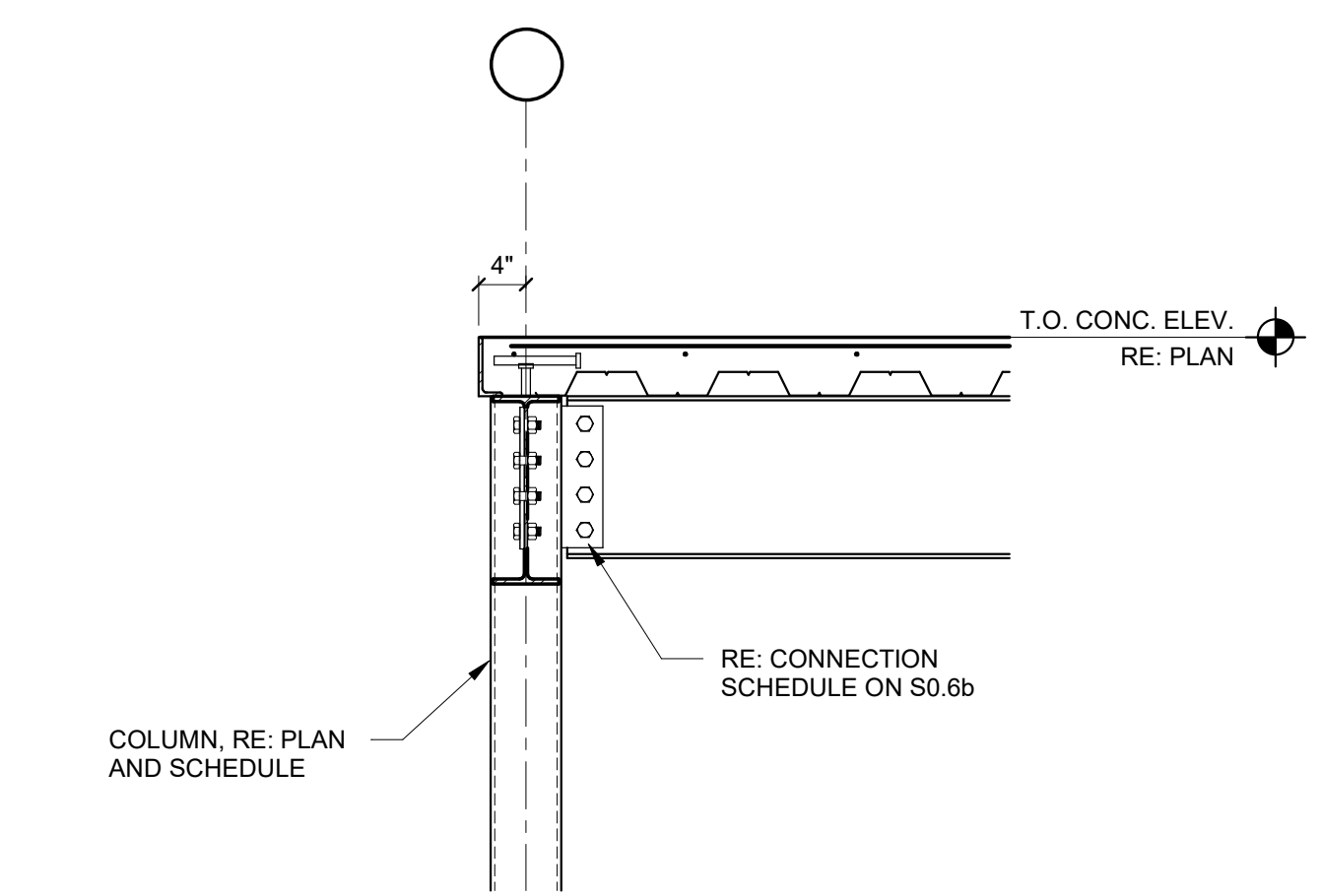
1 INTERIOR STEEL COLUMN FOOTING
 3/4" = 1'-0"



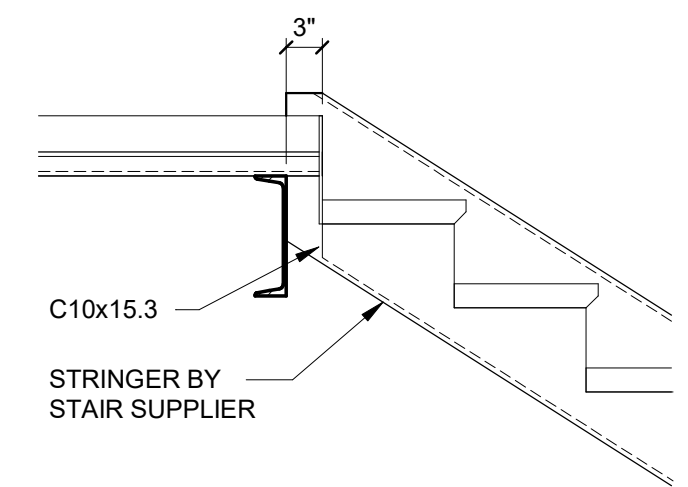
8 FRAMING SECTION
 3/4" = 1'-0"



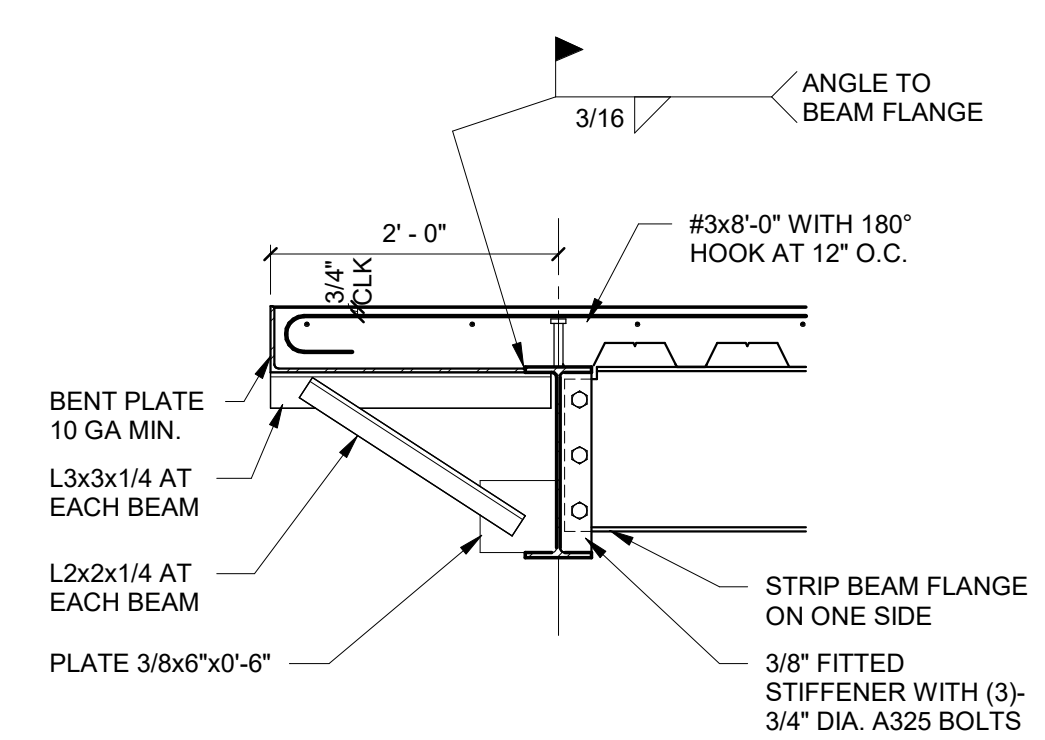
6 FRAMING SECTION
 3/4" = 1'-0"



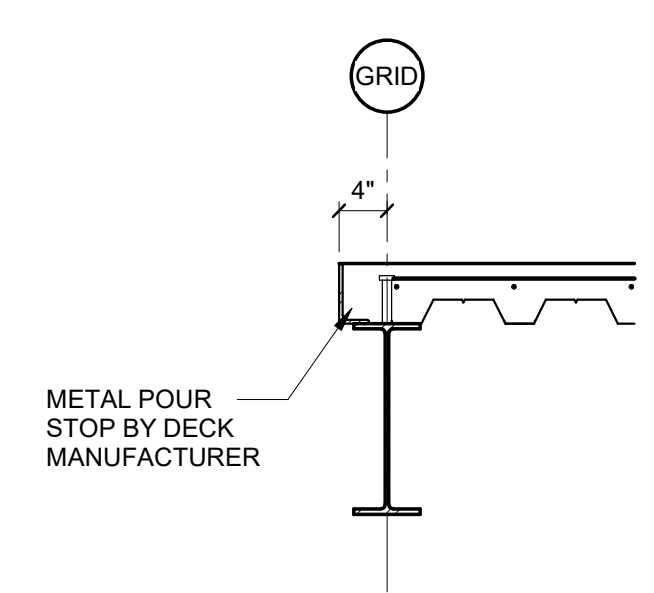
5 FRAMING SECTION
 3/4" = 1'-0"



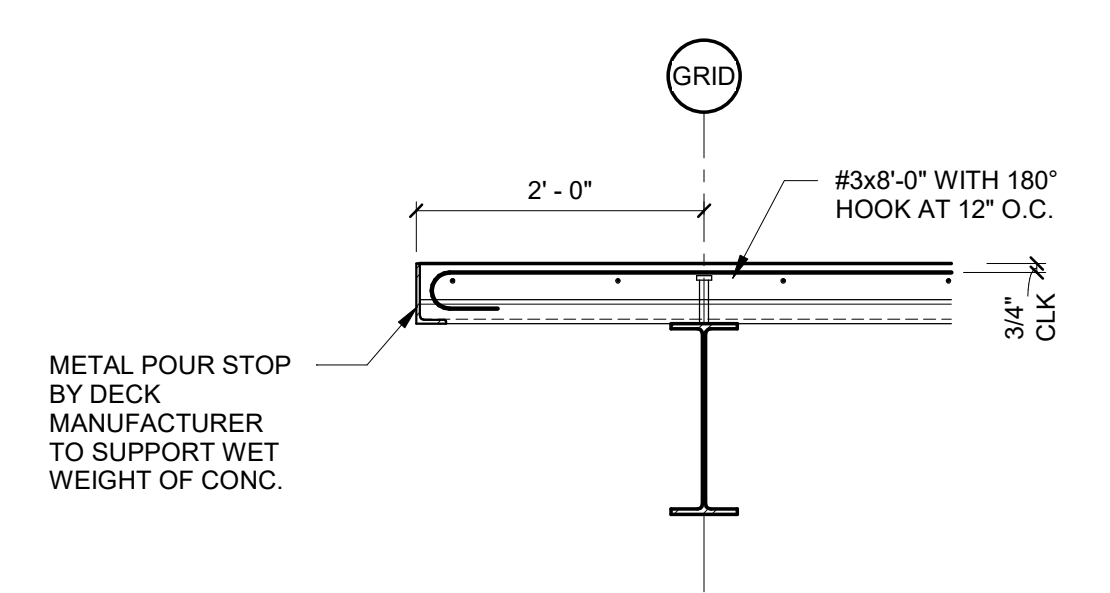
7 FRAMING SECTION
 3/4" = 1'-0"



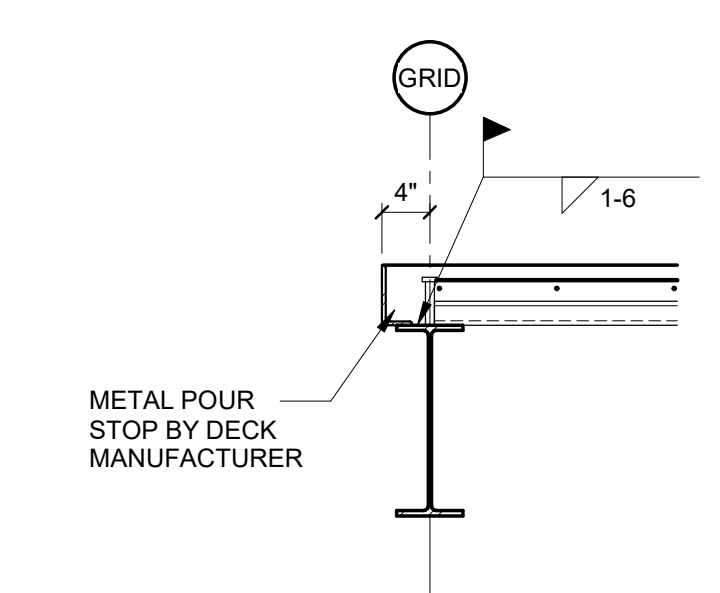
4 FRAMING SECTION
 3/4" = 1'-0"



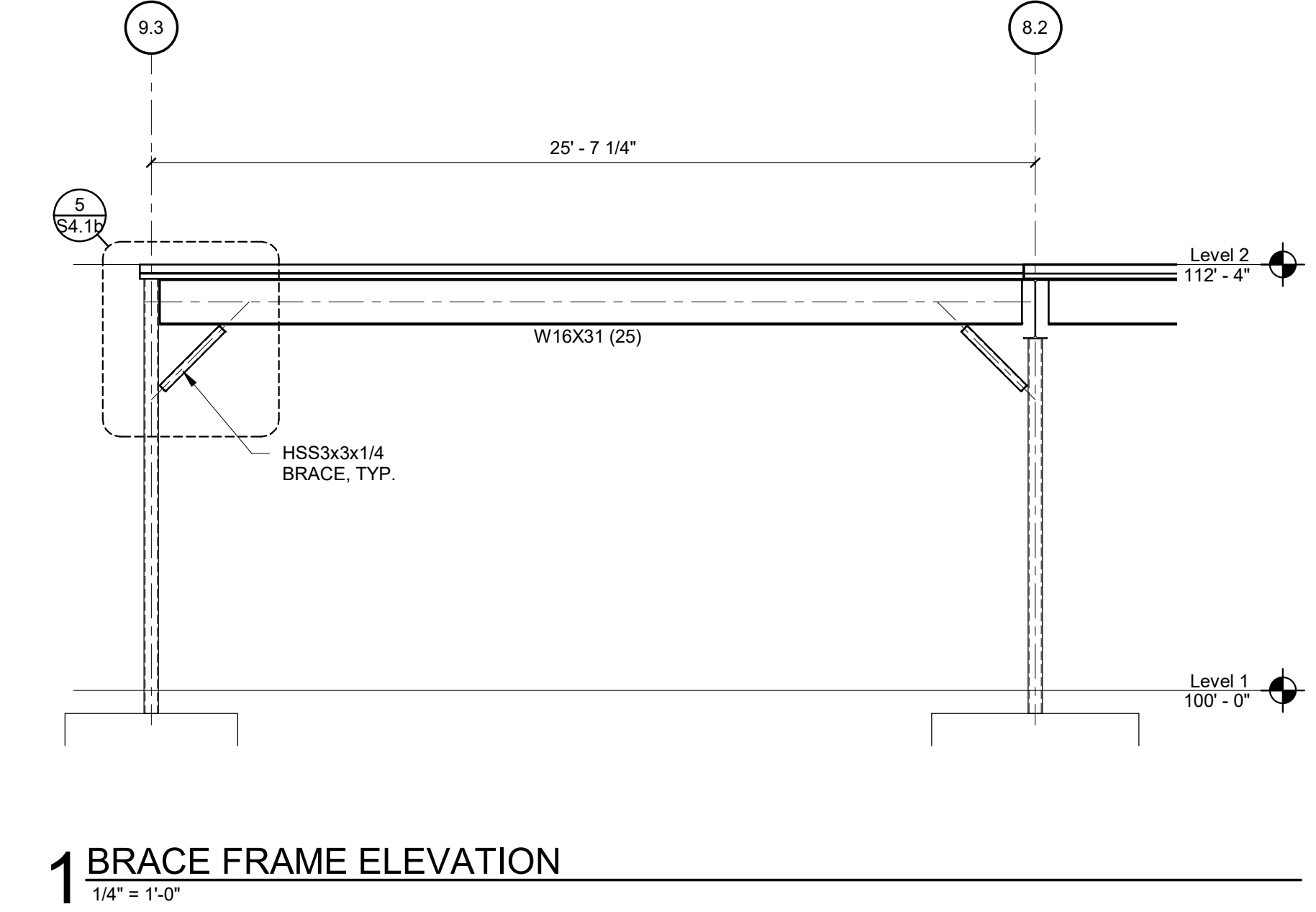
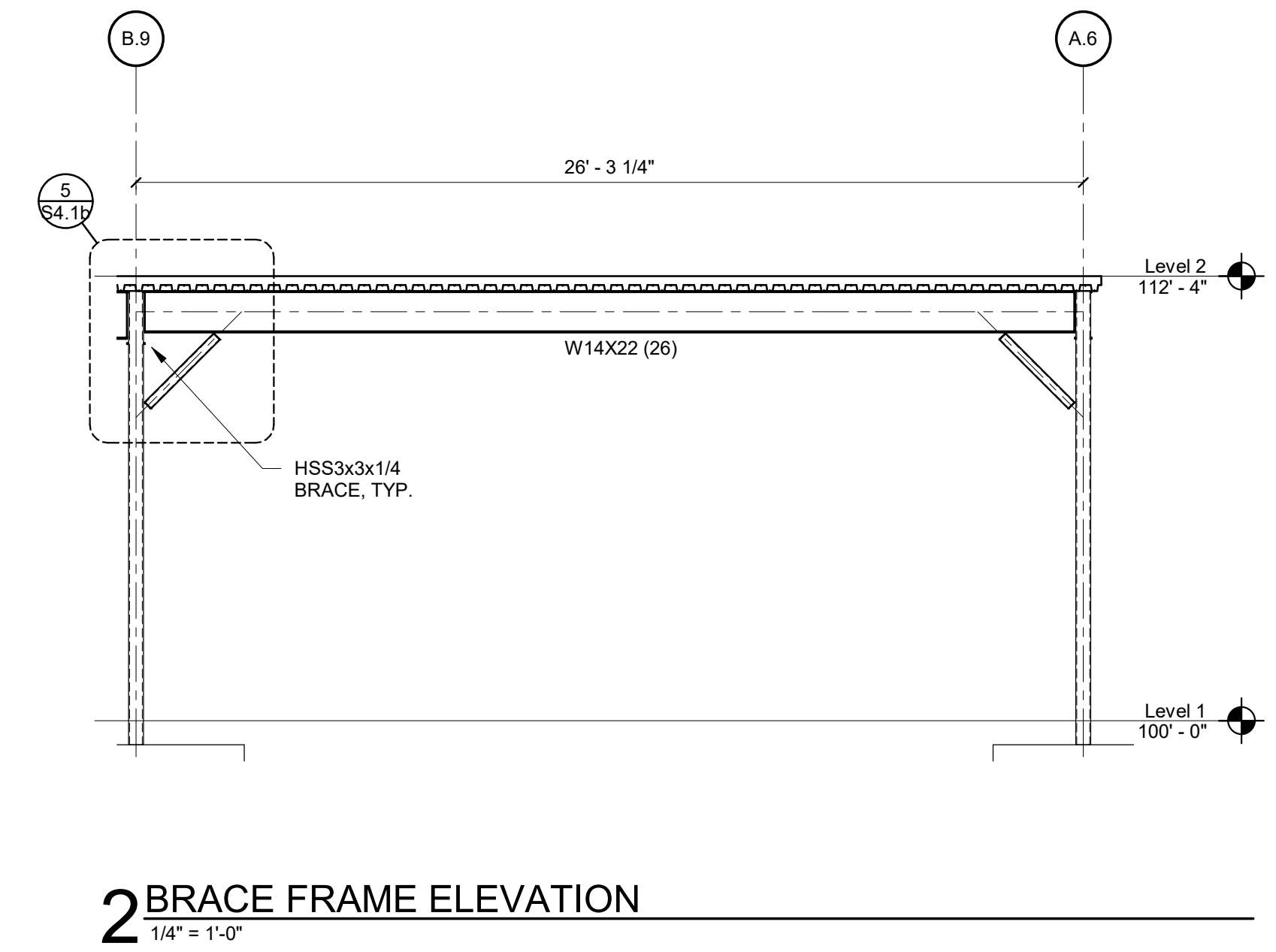
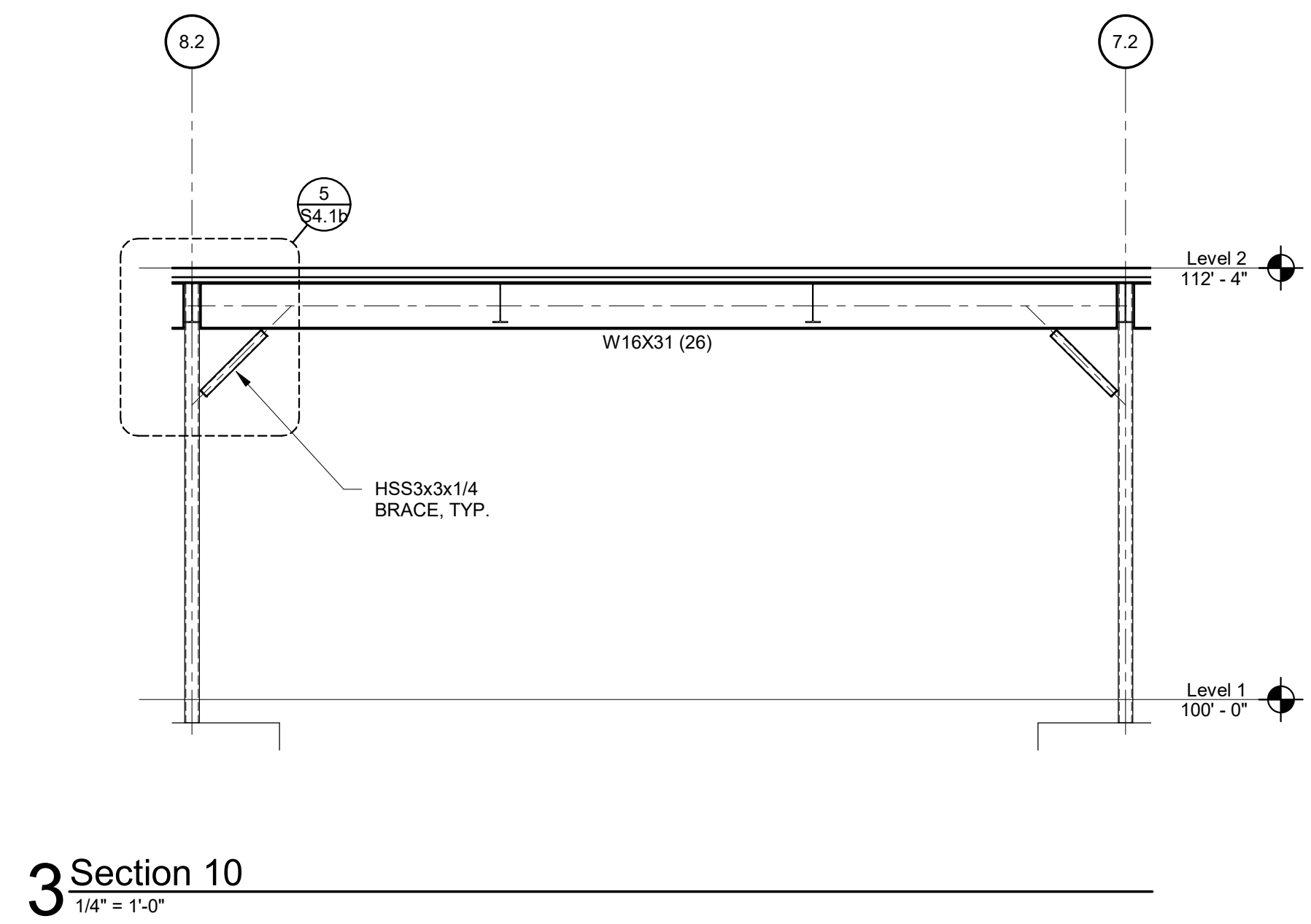
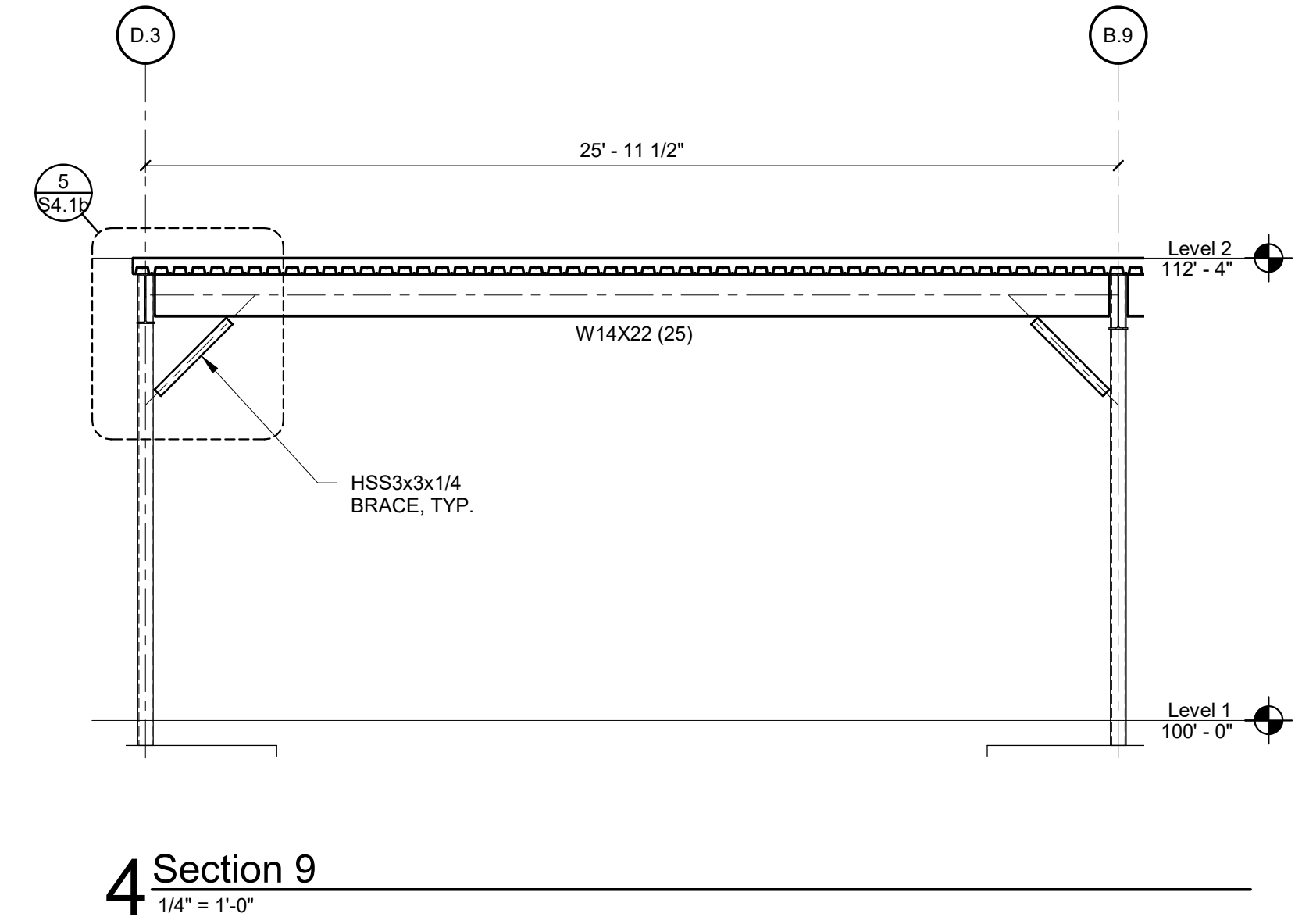
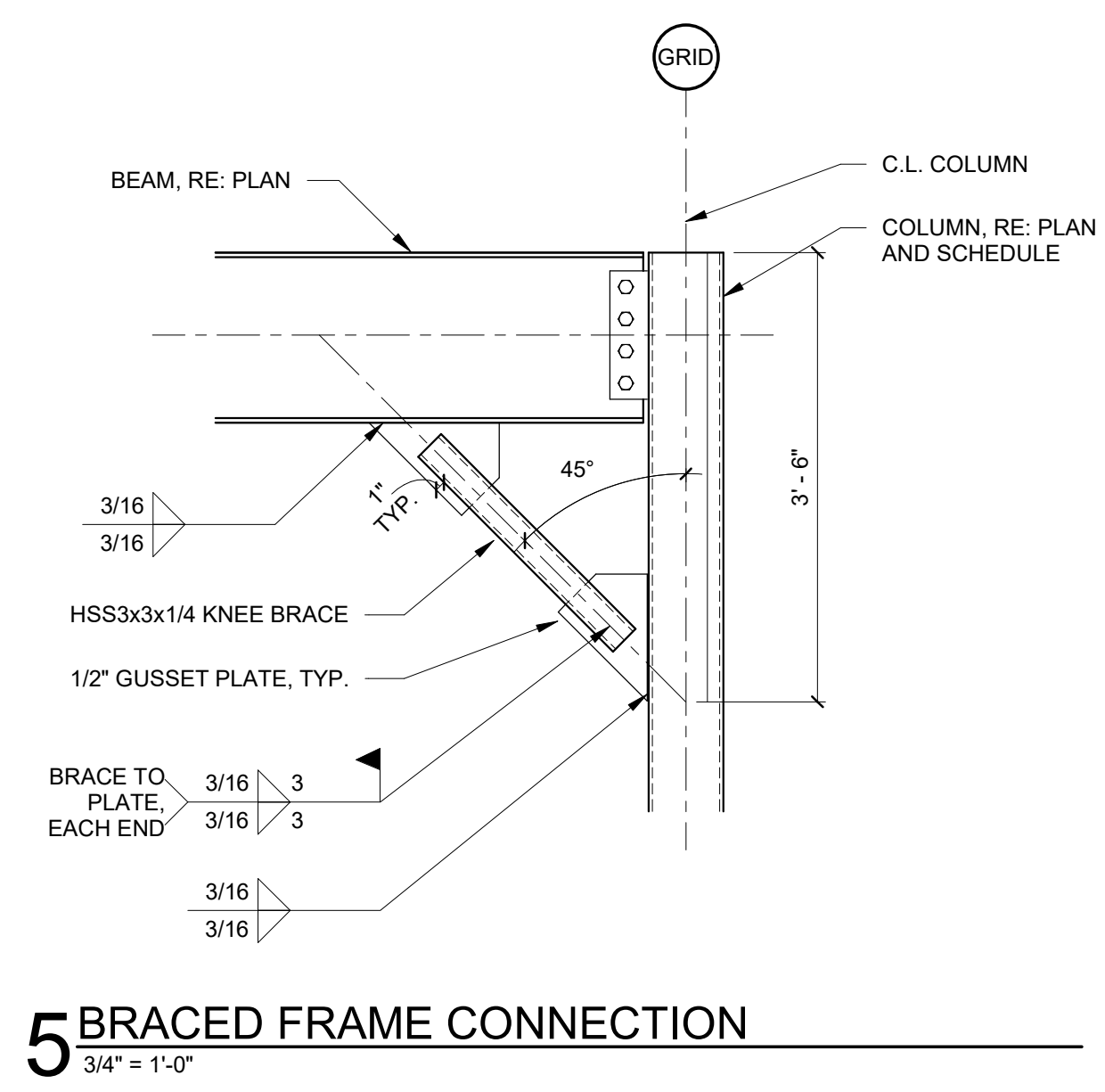
3 FRAMING SECTION
 3/4" = 1'-0"



2 FRAMING SECTION
 3/4" = 1'-0"



1 FRAMING SECTION
 3/4" = 1'-0"



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

2 BRACE FRAME ELEVATION
 1/4" = 1'-0"

1 BRACE FRAME ELEVATION
 1/4" = 1'-0"



March 1, 2023

Mitch McClain
MGM Design Group
1820 South Boulder, STE 400
Tulsa, OK 74119

RE: CNFO Owasso Campus Improvements Phase II – Alternate I – Mechanical, Electrical, and Plumbing Mezzanine Alternate Schematic Design Narrative

This narrative is to be considered part of AD#02 with a date of March 1, 2023. The purpose of this document is to outline the proposed mechanical, electrical, plumbing, and fire protections systems required for the proposed mezzanine alternate addition to the Cherokee Nation Film Studios located at 16990 East 116th Street North in Owasso, Oklahoma. Green Acorn developed this narrative based on the floor plan from MGM design group received on February 28, 2023 and knowledge of the building systems gained during the design of phase 2 of the project.

Background:

The proposed project will involve the addition of a mezzanine office floor in the Studio A building. The mezzanine area is approximately 5,200 ft² of floor space.

HVAC Scope:

1. Revise ductwork routing from RTU-3 to serve the first floor offices to accommodate the reduced ceiling height.
2. Revise ductwork routing from RTU-4 to serve the rental space and north restrooms to accommodate the reduced ceiling height.
3. Lower transfer grille between A012 Rental and A023 Warehouse/Mill.
4. Provide new ceiling mounted exhaust fans for the mezzanine toilet rooms (A203 Mens & A204 Womens) and janitor closet (A205 Jan) and route the exhaust to pre-fab wall caps on the exterior of the building.
5. Provide a new 10-ton constant air volume (CAV) packaged rooftop unit (RTU) on grade to serve the mezzanine office area.
 - a. RTU shall be horizontal discharge, placed on a concrete pad, and shall have an economizer, hot gas reheat, stainless steel heat exchanger, hail guards, and return air smoke detectors.
6. Provide VAV diffusers in the mezzanine offices for additional comfort control.
7. Provide electric wall heaters in mezzanine stair wells.

Plumbing Scope:

1. Provide new plumbing fixtures as shown on the mezzanine and provide new sewer and domestic water piping to the new fixtures. Connect to existing underground sanitary sewer line beneath A005 Catering. Connect to existing domestic water line above A009 Mens.
2. Provide new low-boy electric water heater above new mezzanine mop sink to provide hot water to all new second floor fixtures.

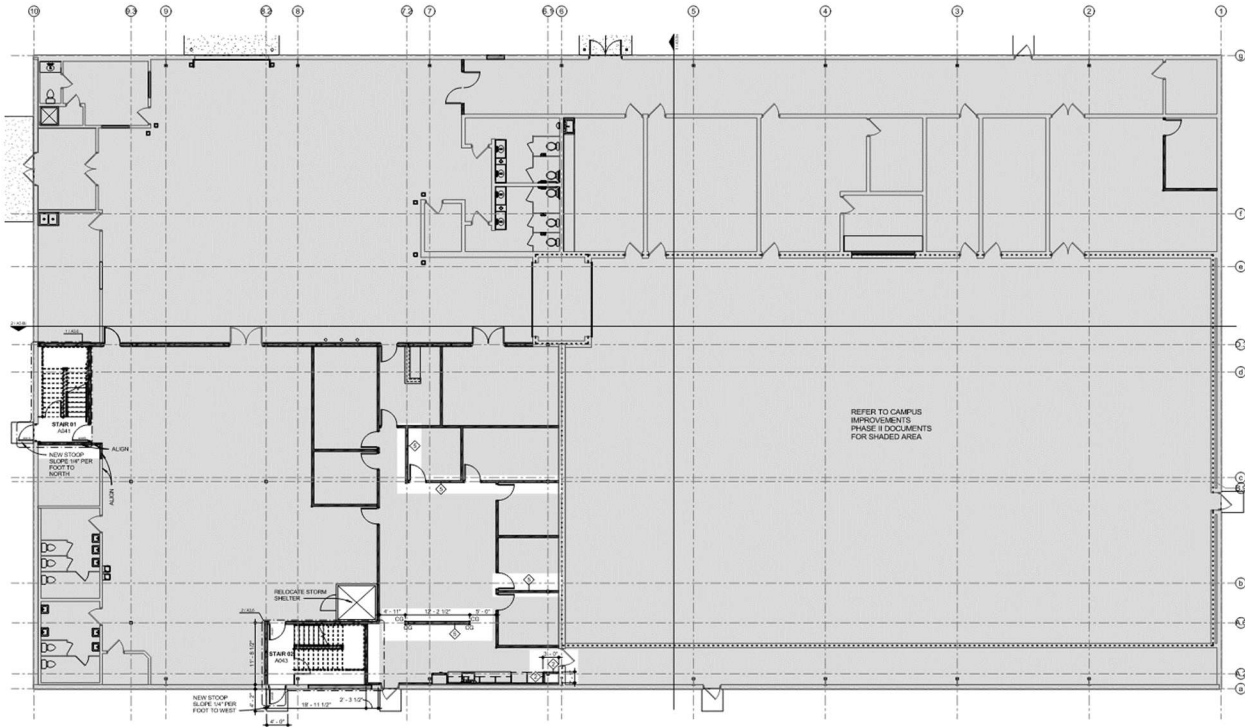
Fire Protection Scope:

1. Modify the existing sprinkler system to provide a sprinkler system that complies with NFPA 13.

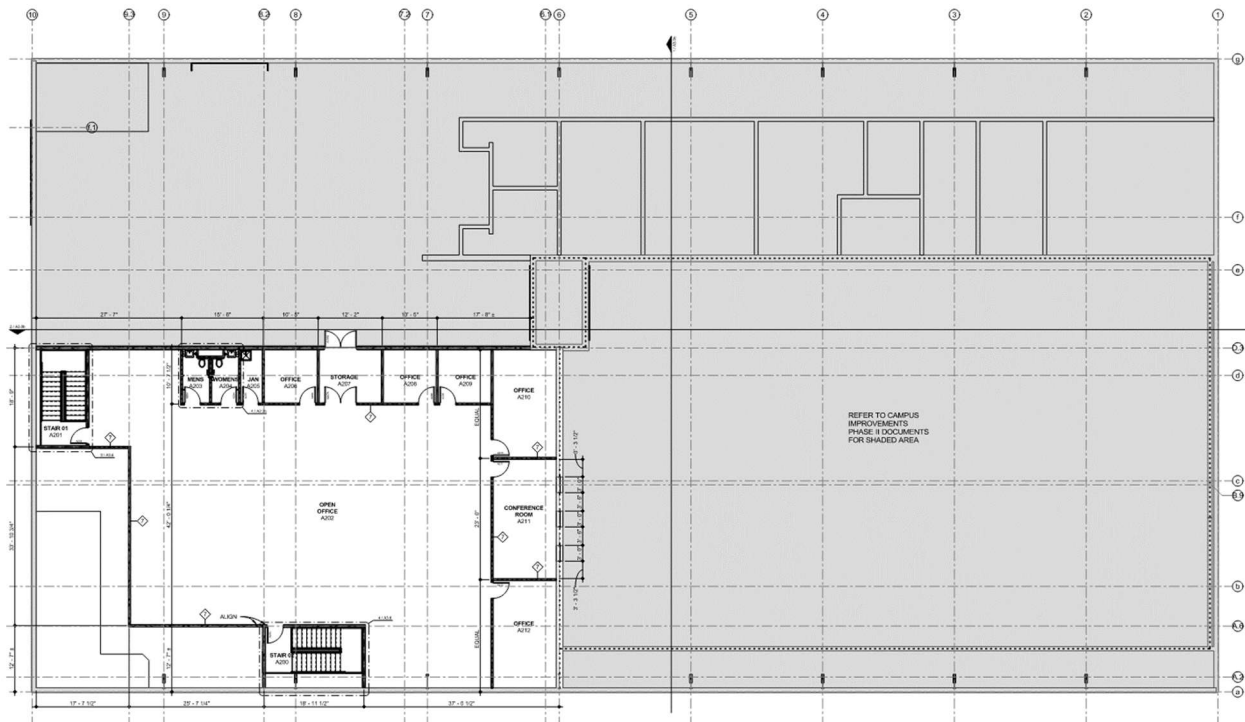
Electrical Scope:

1. Revise electrical and lighting devices in ground floor areas with minor wall relocations due to addition of mezzanine.
2. Provide 208V, 3ph power to new ground-mounted 10-ton RTU from new 60A/3 breaker in existing space in MDP.
3. Provide new 208V, 3ph, 4w, 100A panel in mezzanine janitor closet fed from new 100A/3 breaker in existing space in MDP.
 - a. Provide power to receptacles and lights for mezzanine from new panel.
 - i. Restroom exhaust fans to be powered from lighting circuit.
 - b. Provide 208V, 1ph power to new electric water heater from new panel.
4. Provide lights with emergency backup in stairwells from existing spare breakers panel LP2.
5. Provide power for electric wall heaters from new 30A/2 breakers in existing panel LP2.
6. Receptacles and data:
 - a. Provide (10) double duplex poke-thru floor boxes with data equal to Legrand Evolution series in open office area.
 - b. Provide (1) double duplex poke-thru floor box with data & HDMI equal to Legrand Evolution series in conference room.
 - c. Provide receptacles approximately every 15 linear feet of wall space in the open office area.
 - d. Provide (4) data drops on walls in open office area.
 - e. Provide (1) GFI receptacle in each restroom.
 - f. Provide (1) GFI receptacle in the janitor closet.
 - g. Provide (4) receptacles (one on each wall) and a data drop in offices A206, A208, & A209.
 - h. Provide (6) receptacles (two on long walls, one on short walls) and a data drop in offices A210 & A212.
 - i. Provide (4) receptacles (one on each wall), data drop, and HDMI connection for TV in conference room.
7. Lighting:
 - a. Provide 2'x4' light fixtures matching existing in building for each space.
 - i. Open office 8' x 10' centers
 - ii. (2) fixtures in A206-A209
 - iii. (4) fixtures in A210-A212
 - b. Provide strip fixture in janitor closet.
 - c. Provide 4" downlights in restrooms (battery backup in one fixture).
 - d. Provide emergency battery backup in select fixtures for emergency egress.
 - e. Provide edge-lit exit signs.

Proposed Building Floor Plans:



STUDIO A - 1ST FLOOR
1 FLOOR PLAN
 1/8" = 1'-0"



STUDIO A - 2ND FLOOR
1 FLOOR PLAN
 1/8" = 1'-0"