

ADDENDUM NO. 1

September 29, 2022

Damien Center Headquarters Building

East Washington Street/North Oriental Avenue
Indianapolis, IN 46201

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications and the Drawings dated September 12, 2022, by Axis Architectural & Interiors. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 1-1 through ADD 1- 2 and attached Axis Architectural & Interiors Addendum No. 1, dated September 29, 2022, consisting of six (6) pages, Specification Section 00 00 02 – Architects TOC, Specification Section 033000 - Cast-In-Place Concrete, Specification Section 102600 Wall Protection, Specification Section 22 13 13 – Facility Sanitary Sewers (Site), Specification Section 329200 Turf and Grasses, Addendum Drawings: G001, S001, S101A, S101B, S102A, S102B, S103, S103A, S103B, S104, S104A, S104B, S506, S507, S508, S509, S601, A101A, A401A, A700, A701, A701A.

A. SPECIFICATION SECTION 01 12 00 MULTIPLE CONTRACT SUMMARY

3.03 Bid Categories:

B. Bid Category No. 2 – General Trades

Add the following Specification Sections:
Section 10 26 00 Wall Protection

Add the following Clarification:

21. Include installation of Owner furnished equipment items as noted on the equipment plans/equipment schedule.

G. Bid Category No. 7 – Metal Framing, Drywall & Ceilings

Add the following Clarification:

5. Provide all plywood sheathing and MDF box frames per Note 17 and 18 on Mainstreet Interior Plans and details.

K. Bid Category No. 10 – Casework & Millwork

Add the following Clarification:

1. Include installation of Owner furnished casework/millwork noted on the Pharmacy Plans.

M. Bid Category No. 12 – Plumbing & HVAC

Add the following Clarification:

6. Provide plumbing rough-ins for Owner furnished refrigerator and freezers noted on the Pharmacy Plans. Reference sheet A111 for locations.

ADDENDUM No. 01
FOR
NEW DAMIEN HEADQUARTERS

September 29, 2022

ADDENDUM No. 1
FOR
NEW DAMIEN HEADQUARTERS



Date of Issue: September 29, 2022

This Addendum is issued before bid date to inform the Bidders of revisions and/or clarifications to the Project Bid Documents and includes all Bid Packages.

All requirements contained in the Bidding Documents shall apply to this Addendum. The general character of the work called for in this Addendum shall be the same as originally set forth in the applicable portions of the Bidding Documents for similar work, unless otherwise specified under this Addendum. All incidental work necessitated by this Addendum, as required to complete the work, shall be included in the bid even though not specifically mentioned in this Addendum.

The Addendum forms a part of, modifies the Bidding Documents and Contract Requirements, the Specifications and the Drawings dated September 12, 2022 as well as any previous Addendums. This Addendum is hereby made a part of the Bidding Documents and will be included in the Contract.

To: ALL BIDDERS

QUESTIONS FROM BIDDERS

ITEM-1

- A. QUESTION: A700 Finish Schedule – where are FB1-4 used and is there a specification?
- B. ANSWER: Refer to interior elevation sheets for where FB1-4 are used. There is no specification, refer to sheet A700 Finish Schedule and Specifications.

ITEM-2

- A. QUESTION: A700 Finish Schedule – where is WD1 used and is there a specification? And is the stain WST1 applicable to this tag as well?
 - B. ANSWER: Refer to interior elevation sheets for where WD1 is used. There is no specification, refer to sheet A700 Finish Schedule and Specifications. No, the stain WST1 is not applicable to the WD1 tag.
-

ITEM-3

- A. QUESTION: Please confirm a "zip strip" is an acceptable product when drywall abuts a dissimilar material.
- B. ANSWER: Yes, that is an acceptable solution, unless noted otherwise per the drawings.

ITEM-4

- A. QUESTION: Regarding Section 07 42 13.16, 2.2 – Paragraph A states that the system is to be weathertight. This is a perforated panel system that cannot be weathertight. Please clarify.
- B. ANSWER: It is understood that the perforated panel system is open and allows weather through it. However, the connections of the panel to the building frame would still need to be a weathertight system.

ITEM-5

- A. QUESTION: Regarding Section 07 42 13.16, 2.2 – Paragraph C refers to the drawings for the aluminum sheet thickness. The drawings indicate the panel depth, but not the sheet thickness. Please clarify.
- B. ANSWER: The sheet thickness is determined by the Manufacturer.

ITEM-6

- A. QUESTION: Regarding Section 07 42 13.16, 2.2 – C,1, a states the color is to be selected from the manufacturer's full range. The building elevation Exterior Materials Legend says Color: Cal Gray. Please clarify.
- B. ANSWER: Cal Gray is the selected color, and it is also one of the manufacturer's standard colors from their full range of colors.

ITEM-7

- A. QUESTION: Corner guards are shown on the equipment plans – will a technical specification be provided?
- B. ANSWER: Specification Section 10 26 00 Wall Protection is included.

ITEM-8

- A. QUESTION: Note "B" on S104A refers to detail 19/S505. There is no detail 19 on S505?
- B. ANSWER: The detail that should be referenced is 10/S511. Updated the callout on sheet S104A, see attached.

ITEM-9

- A. QUESTION: 1st floor east southside main entrance the pair of doors doesn't have a number and it does not appear on the door schedule. Need to know what hardware set, door number, etc.
- B. ANSWER: Refer to 02/A120 – there is a door number there that references the door in the door schedule.

ITEM-10

- A. QUESTION: Detail 8/S509 on S103 states the HSS is 6x4x1/4. However, on drawing S103, note where the detail is cut, it states that it is 6x4x1/2.
- B. ANSWER: The correct size is 6x6x1/4. Updated the sizes shown on sheets S103 and S104, see attached.

ITEM-11

- A. QUESTION: Specification 22 13 13 Facility Sanitary Sewers (Site) is missing from the manual.
- B. ANSWER: Specification 22 13 13 Facility Sanitary Sewers (Site) has been added to the Project Manual, see attached.

CHANGES TO PROJECT MANUAL:

ITEM-12 00 00 02 – TABLE OF CONTENTS

- A. Replace specification section in its entirety with attached.

ITEM-13 03 30 00 – CAST-IN-PLACE CONCRETE

- A. Add specification section in its entirety with attached
- B. The following changes were made to the specification:
 - 1. Limited allowable curing product options – delete sections 2.11.F through 2.11.J
 - 2. Limited allowable curing methods – delete sections 3.12.E.2 through 3.12.E.5

ITEM-14 07 25 00 – WEATHER BARRIER

- A. Delete from specification packet, it was removed from the table of contents.

ITEM-15 07 42 13.16 – METAL PANEL WALL SYSTEMS

- A. Add Division 7 Metals as an approved vendor of D7-DPS Wall Panel System

ITEM-16 10 26 00 – WALL PROTECTION

- A. Specification added for corner guards listed on equipment plans

ITEM-17 22 13 13 FACILITY SANITARY SEWERS (SITE)

- A. Add specification section in its entirety with attached.

ITEM-18 32 92 00 – TURF AND GRASSES

- A. Add specification section in its entirety with attached.
- B. Section 2.1.G revision for the permanent seeding erosion-control blanket.

CHANGES TO GENERAL DRAWINGS:

ITEM-19 G001 – COVER SHEET

- A. Replace sheet in its entirety with attached.

CHANGES TO STRUCTURAL DRAWINGS:

ITEM-20 S001 – GENERAL NOTES SCHEDULES

- A. Replace sheet in its entirety with attached.

ITEM-21 S101A – FOUNDATION PLAN – WEST

- A. Replace sheet in its entirety with attached.

ITEM-22 S101B – FOUNDATION PLAN – EAST

- A. Replace sheet in its entirety with attached.

ITEM-23 S102A – SECOND FLOOR FRAMING PLAN – WEST

- A. Replace sheet in its entirety with attached.

ITEM-24 S102B – SECOND FLOOR FRAMING PLAN – EAST

- A. Replace sheet in its entirety with attached.

ITEM-25 S103 – OVERALL THIRD FLOOR FRAMING PLAN

- A. Replace sheet in its entirety with attached.

ITEM-26 S103A – THIRD FLOOR FRAMING PLAN – WEST

- A. Replace sheet in its entirety with attached.

ITEM-27 S103B – THIRD FLOOR FRAMING PLAN – EAST

- A. Replace sheet in its entirety with attached.

ITEM-28 S104 – OVERALL MAIN ROOF FRAMING PLAN

- A. Replace sheet in its entirety with attached.

ITEM-29 S104A – MAIN ROOF FRAMING PLAN – WEST

- A. Replace sheet in its entirety with attached.

ITEM-30 S104B – MAIN ROOF FRAMING PLAN – EAST

- A. Replace sheet in its entirety with attached.

ITEM-31 S506 – TYPICAL SECTIONS AND DETAILS

- A. Replace sheet in its entirety with attached.

ITEM-32 S507 – TYPICAL SECTIONS AND DETAILS

- A. Replace sheet in its entirety with attached.

ITEM-33 S508 – TYPICAL SECTIONS AND DETAILS

- A. Replace sheet in its entirety with attached.

ITEM-34 S509 – TYPICAL SECTIONS AND DETAILS

- A. Replace sheet in its entirety with attached.

ITEM-35 S601 – COLUMN SCHEDULE AND DETAILS

- A. Replace sheet in its entirety with attached.

CHANGES TO ARCHITECTURAL DRAWINGS:

ITEM-36 A101A – FIRST FLOOR CONSTRUCTION PLAN - WEST

- A. Wall types changed
- B. Replace sheet in its entirety with attached.

ITEM-37 A401A – FIRST FLOOR REFLECTED CEILING PLAN – WEST

- A. Updated noting at Large Meeting room 106
- B. Replace sheet in its entirety with attached.

ITEM-38 A700 – FINISH SCHEDULES AND SPECIFICATIONS

- A. Revision to fabric on finish schedule
- B. Replace sheet in its entirety with attached.

ITEM-39 A701 – FIRST FLOOR INTERIOR FINISH PLAN – OVERALL

- A. Corrected a hatch pattern in Large Meeting room 106
- B. Replace sheet in its entirety with attached.

ITEM-40 A701A – FIRST FLOOR INTERIOR FINISH PLAN – WEST

- A. Corrected floor finish transition dimension in Large Meeting room 106
- B. Replace sheet in its entirety with attached.

ATTACHMENTS:

- A. Specification Sections as follows:
 - a. 00 00 02 – TABLE OF CONTENTS

- b. 03 30 00 - CAST-IN-PLACE CONCRETE
- c. 10 26 00 - WALL PROTECTION
- d. 22 13 13 - FACILITY SANITARY SEWERS (SITE)
- e. 32 92 00 - TURF AND GRASSES

B. Drawings as follows:

- a. G001 - COVER SHEET
- b. S001 - GENERAL NOTES SCHEDULES
- c. S101A - FOUNDATION PLAN - WEST
- d. S101B - FOUNDATION PLAN - EAST
- e. S102A - SECOND FLOOR FRAMING PLAN - WEST
- f. S102B - SECOND FLOOR FRAMING PLAN - EAST
- g. S103 - OVERALL THIRD FLOOR FRAMING PLAN
- h. S103A - THIRD FLOOR FRAMING PLAN - WEST
- i. S103B - THIRD FLOOR FRAMING PLAN - EAST
- j. S104 - OVERALL MAIN ROOF FRAMING PLAN
- k. S104A - MAIN ROOF FRAMING PLAN - WEST
- l. S104B - MAIN ROOF FRAMING PLAN - EAST
- m. S506 - TYPICAL SECTIONS AND DETAILS
- n. S507 - TYPICAL SECTIONS AND DETAILS
- o. S508 - TYPICAL SECTIONS AND DETAILS
- p. S509 - TYPICAL SECTIONS AND DETAILS
- q. S601 - COLUMN SCHEDULE AND DETAIL
- r. A101A - FIRST FLOOR CONSTRUCTION PLAN - WEST
- s. A401A - FIRST FLOOR REFLECTED CEILING PLAN - WEST
- t. A700 - FINISH SCHEDULES AND SPECIFICATIONS
- u. A701 - FIRST FLOOR INTERIOR FINISH PLAN - OVERALL
- v. A701A - FIRST FLOOR INTERIOR FINISH PLAN - WEST

END OF ADDENDUM NO. 1

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DIVISION 03 - CONCRETE

03 30 00 CAST-IN-PLACE CONCRETE

03 35 43 POLISHED CONCRETE FINISHING

DIVISION 04 - MASONRY

04 20 00 CONCRETE UNIT MASONRY

04 26 13 MASONRY VENEER

04 72 00 CAST STONE MASONRY

DIVISION 05 - METALS

05 12 00 STRUCTURAL STEEL

05 12 13 ARCHITECTURALLY EXPOSED STRUCTURAL STEEL FRAMING

05 31 00 STEEL DECKING

05 40 00 COLD-FORMED METAL FRAMING

05 50 00 METAL FABRICATIONS

05 51 13 METAL PAN STAIRS

05 52 13 PIPE AND TUBE RAILINGS

05 73 00 DECORATIVE METAL RAILINGS

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06 16 00 SHEATHING

06 20 23 INTERIOR FINISH CARPENTRY

06 41 16 PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

06 64 00 PLASTIC PANELING

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

07 11 13 BITUMINOUS DAMPPROOFING

07 13 54 THERMOPLASTIC SHEET WATERPROOFING

07 21 00 THERMAL INSULATION

07 24 13 POLYMER-BASED EXTERIOR INSULATION AND FINISH SYSTEM (EFIS)

07 27 26 FLUID-APPLIED MEMBRANE AIR BARRIERS

07 42 13.13 FORMED METAL WALL PANELS

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07 54 23 THERMOPLASTIC-POLYOLEFIN (TPO) ROOFING

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09 91 13 EXTERIOR PAINTING
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10 21 23 CUBICAL CURTAINS AND TRACK
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22 13 16	SANITARY WASTE AND VENT PIPING
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26 29 13	MANUAL AND MAGNETIC MOTOR CONTROLLERS
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DIVISION 33 – UTILITIES

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END OF SECTION 000002

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:
 - 1. Footings.
 - 2. Foundation walls.
 - 3. Slabs-on-grade.
 - 4. Building walls.
- B. Related Sections include the following:
 - 1. Division 09 Sections relating to moisture requirements of floor finishes applied over concrete slabs.
 - 2. Division 31 Section "Earth Moving" for drainage fill under slabs-on-grade.
 - 3. Division 32 Section "Concrete Paving" for concrete pavement and walks.

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.4 ACTION SUBMITTALS

- A. Product Data with Shop Drawings:
 - 1. Product Data: For each type of product indicated.
 - 2. Shop Drawings:
 - a. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.
 - b. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and support of formwork.

- B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

- 1. Indicate amounts of mixing water to be withheld for later addition at Project site.

1.5 INFORMATIONAL SUBMITTALS

- A. Welding certificates.
- B. Qualification Data: For Installer manufacturer testing agency.
- C. Material Test Reports: For the following, from a qualified testing agency, indicating compliance with requirements:
 - 1. Aggregates. Include service record data indicating absence of deleterious expansion of concrete due to alkali aggregate reactivity.
- D. Material Certificates: For each of the following, signed by manufacturers:
 - 1. Cementitious materials.
 - 2. Admixtures.
 - 3. Form materials and form-release agents.
 - 4. Steel reinforcement and accessories.
 - 5. Fiber reinforcement.
 - 6. Waterstops.
 - 7. Curing compounds.
 - 8. Floor and slab treatments.
 - 9. Bonding agents.
 - 10. Adhesives.
 - 11. Vapor barriers.
 - 12. Semirigid joint filler.
 - 13. Joint-filler strips.
 - 14. Repair materials.
- E. Floor surface flatness and levelness measurements to determine compliance with specified tolerances.
- F. Field quality-control test and inspection reports.
- G. Minutes of preinstallation conference.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs on Project personnel qualified as ACI-certified Flatwork Technician and Finisher and a supervisor who is an ACI-certified Concrete Flatwork Technician.

- B. **Manufacturer Qualifications:** A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
 - 1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."
- C. **Testing Agency Qualifications:** An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548.
 - 1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-01 or an equivalent certification program.
 - 2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.
- D. **Source Limitations:** Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.
- E. **Welding:** Qualify procedures and personnel according to AWS D1.4, "Structural Welding Code--Reinforcing Steel."
- F. **ACI Publications:** Comply with the following unless modified by requirements in the Contract Documents:
 - 1. ACI 301, "Specification for Structural Concrete," Sections 1 through 5.
 - 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
- G. **Concrete Testing Service:** Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.
- H. **Preinstallation Conference:** Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."
 - 1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
 - a. Contractor's superintendent.
 - b. Ready-mix concrete manufacturer.
 - c. Concrete subcontractor.
 - 2. Review special inspection and testing and inspecting agency procedures for field quality control, concrete finishes and finishing, cold- and hot-weather concreting procedures, curing procedures, construction contraction and isolation joints, and joint-filler strips, semirigid joint fillers, vapor-barrier installation, anchor rod and anchorage device installation tolerances, steel reinforcement installation, floor and slab flatness and levelness measurement, concrete repair procedures, and concrete protection.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.
- B. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
 - 2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.

2.2 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
 - 1. Plywood, metal, or other approved panel materials.
 - 2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
 - a. High-density overlay, Class 1 or better.
 - b. Medium-density overlay, Class 1 or better; mill-release agent treated and edge sealed.
 - c. Structural 1, B-B or better; mill oiled and edge sealed.
 - d. B-B (Concrete Form), Class 1 or better; mill oiled and edge sealed.
- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.
- C. Forms for Cylindrical Columns, Pedestals, and Supports: Metal, glass-fiber-reinforced plastic, paper, or fiber tubes that will produce surfaces with gradual or abrupt irregularities not exceeding specified formwork surface class. Provide units with sufficient wall thickness to resist plastic concrete loads without detrimental deformation.
- D. Pan-Type Forms: Glass-fiber-reinforced plastic or formed steel, stiffened to resist plastic concrete loads without detrimental deformation.
- E. Void Forms: Biodegradable paper surface, treated for moisture resistance, structurally sufficient to support weight of plastic concrete and other superimposed loads.

- F. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.
- G. Rustication Strips: Wood, metal, PVC, or rubber strips, kerfed for ease of form removal.
- H. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
 - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- I. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 - 1. Furnish units that will leave no corrodible metal closer than 1 inch to the plane of exposed concrete surface.
 - 2. Furnish ties that, when removed, will leave holes no larger than 1 inch in diameter in concrete surface.
 - 3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

2.3 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- B. Low-Alloy-Steel Reinforcing Bars: ASTM A 706/A 706M, deformed.
- C. Steel Bar Mats: ASTM A 184/A 184M, fabricated from ASTM A 615/A 615M, Grade 60 ASTM A 706/A 706M, deformed bars, assembled with clips.
- D. Plain-Steel Wire: ASTM A 82, as drawn.
- E. Deformed-Steel Wire: ASTM A 496.
- F. Plain-Steel Welded Wire Reinforcement: ASTM A 185, plain, fabricated from as-drawn steel wire into flat sheets.
- G. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.

2.4 REINFORCEMENT ACCESSORIES

- A. Joint Dowel Bars: ASTM A 615/A 615M, Grade 60, plain-steel bars, cut bars true to length with ends square and free of burrs.
- B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

2.5 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
 1. Portland Cement: ASTM C 150, Type I/II, . Supplement with the following:
 - a. Fly Ash: ASTM C 618, Class C F.
 - b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
 2. Blended Hydraulic Cement: ASTM C 595, Type IS, portland blast-furnace slag IP, portland-pozzolan I (PM), pozzolan-modified portland I (SM), slag-modified portland cement. Select type that best suits the project requirements.
- B. Silica Fume: ASTM C 1240, amorphous silica.
- C. Normal-Weight Aggregates: ASTM C 33, Class 3S 3M coarse aggregate or better, graded. Provide aggregates from a single source with documented service record data of at least 10 years' satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials.
 1. Maximum Coarse-Aggregate Size: SEE CONCRETE MIX SCHEDULE .
 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- D. Water: ASTM C 94/C 94M and potable.

2.6 ADMIXTURES

- A. Air-Entraining Admixture: ASTM C 260.
- B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.
 1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
 2. Retarding Admixture: ASTM C 494/C 494M, Type B.
 3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
 4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
 5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
 6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.
- C. Set-Accelerating Corrosion-Inhibiting Admixture: Commercially formulated, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete and complying with ASTM C 494/C 494M, Type C.

1. Available Products:

- a. Boral Material Technologies, Inc.; Boral BCN.
- b. Euclid Chemical Company (The); Eucon CIA.
- c. GCP Applied Technologies; DCI.
- d. Master Builders, Inc.; MasterLife CI 30.
- e. Sika Corporation; Sika CNI.
- f. Or engineer approved equivalent.

D. Non-Set-Accelerating Corrosion-Inhibiting Admixture: Commercially formulated, non-set-accelerating, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete.

1. Available Products:

- a. Boral Material Technologies, Inc.; Boral BCN2.
- b. Cortec Corporation; MCI 2000.
- c. GCP Applied Technologies; DCI S.
- d. Master Builders, Inc.; MasterLife CI 222.
- e. Sika Corporation; FerroGard-901.
- f. Or engineer approved equivalent

2.7 FIBER REINFORCEMENT

A. Synthetic Fiber: Monofilament polypropylene fibers engineered and designed for use in concrete pavement, complying with ASTM C 1116

1. Products:

a. Monofilament Fibers:

- 1) Axim Concrete Technologies; Fibrasol IIP.
- 2) Euclid Chemical Company (The); Fiberstrand 100.
- 3) FORTA Corporation; Forta Mono.
- 4) GCP Applied Technologies; MicroFiber.
- 5) Metalcrete Industries; Polystrand 1000.
- 6) SI Concrete Systems; Fibermix Stealth.

2.8 WATERSTOPS

A. Flexible Rubber Waterstops: CE CRD-C 513, with factory-installed metal eyelets, for embedding in concrete to prevent passage of fluids through joints. Factory fabricate corners, intersections, and directional changes.

1. Available Manufacturers:

- a. Greenstreak.
- b. Progress Unlimited, Inc.
- c. Williams Products, Inc.

- d. Or engineer approved equivalent
 2. Profile: Flat, dumbbell with center bulb Ribbed with center bulb Ribbed without center bulb.
 3. Dimensions: 6 inches by 3/8 inch thick; nontapered.
- B. Flexible PVC Waterstops: CE CRD-C 572, with factory-installed metal eyelets, for embedding in concrete to prevent passage of fluids through joints. Factory fabricate corners, intersections, and directional changes.
1. Available Manufacturers:
 - a. Bometals, Inc.
 - b. Greenstreak.
 - c. Meadows, W. R., Inc.
 - d. Murphy, Paul Plastics Co.
 - e. Progress Unlimited, Inc.
 - f. Tamms Industries, Inc.
 - g. Vinylex Corp.
 - h. Or engineer approved equivalent
 2. Profile: Flat, dumbbell with center bulb Ribbed with center bulb Ribbed without center bulb.
 3. Dimensions: 6 inches by 3/8 inch thick; nontapered.
- C. Self-Expanding Butyl Strip Waterstops: Manufactured rectangular or trapezoidal strip, butyl rubber with sodium bentonite or other hydrophilic polymers, for adhesive bonding to concrete, 3/4 by 1 inch.
1. Available Products:
 - a. Colloid Environmental Technologies Company; Volclay Waterstop-RX.
 - b. Concrete Sealants Inc.; Conseal CS-231.
 - c. Greenstreak; Swellstop.
 - d. Henry Company, Sealants Division; Hydro-Flex.
 - e. JP Specialties, Inc.; Earthshield Type 20.
 - f. Progress Unlimited, Inc.; Superstop.
 - g. TCMiraDRI; Mirastop.
 - h. Or engineer approved equivalent
- D. Self-Expanding Rubber Strip Waterstops: Manufactured rectangular or trapezoidal strip, bentonite-free hydrophilic polymer modified chloroprene rubber, for adhesive bonding to concrete, 3/8 by 3/4 inch.
1. Available Products:
 - a. Deneef Construction Chemicals; Swellseal.
 - b. Greenstreak; Hydrotite.
 - c. Mitsubishi International Corporation; Adeka Ultra Seal.
 - d. Progress Unlimited, Inc.; Superstop.
 - e. Or engineer approved equivalent

2.9 VAPOR BARRIERS

- A. Plastic Vapor Barrier: ASTM E 1745, Class A with a permeance of 0.01 as tested before and after mandatory conditioning (ASTM E 1745 Section 7.1 and subparagraph 7.1.1-7.1.5) less than 0.01 perms (grains/(ft² hr in Hg)). Include manufacturer's recommended adhesive or pressure-sensitive tape.
1. Available Products:
- a. Henry Company; Moistop Ultra 15.
 - b. Reef Industries; Griffolyn G 15.
 - c. Stego Industries, Stego Wrap 15.
 - d. Or engineer approved equivalent
- B. Granular Fill: Clean mixture of crushed stone or crushed or uncrushed gravel; ASTM D 448, Size 57, with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.
- C. Fine-Graded Granular Material: Clean mixture of crushed stone, crushed gravel, and manufactured or natural sand; ASTM D 448, Size 10, with 100 percent passing a 3/8-inch sieve, 10 to 30 percent passing a No. 100 sieve, and at least 5 percent passing No. 200 sieve; complying with deleterious substance limits of ASTM C 33 for fine aggregates.

2.10 FLOOR AND SLAB TREATMENTS

- A. Slip-Resistive Emery Aggregate Finish: Factory-graded, packaged, rustproof, nonglazing, abrasive, crushed emery aggregate containing not less than 50 percent aluminum oxide and not less than 20 percent ferric oxide; unaffected by freezing, moisture, and cleaning materials with 100 percent passing [3/8-inch] [No. 4] [No. 8] <Insert size or gradation> sieve.
1. Available Products:
- a. Anti-Hydro International, Inc.; Emery.
 - b. Dayton Superior Corporation; Emery Non-Slip.
 - c. Emeri-Crete, Inc.; Emeri-Topcrete.
 - d. Lambert Corporation; EMAG-20.
 - e. L&M Construction Chemicals, Inc.; Grip It.
 - f. Metalcrete Industries; Metco Anti-Skid Aggregate.
 - g. Or engineer approved equivalent
- B. Slip-Resistive Aluminum Granule Finish: Factory-graded, packaged, rustproof, nonglazing, abrasive aggregate of not less than 95 percent fused aluminum-oxide granules.
1. Available Products:
- a. Anti-Hydro International, Inc.; A-H Alox.
 - b. L&M Construction Chemicals, Inc.; Grip It AO.
 - c. Sonneborn, Div. of ChemRex; Frictex NS.
 - d. Or engineer approved equivalent

- C. Metallic Dry-Shake Floor Hardener: Unpigmented, factory-packaged, dry combination of portland cement, graded metallic aggregate, rust inhibitors, and plasticizing admixture; with metallic aggregate consisting of no less than 65 percent of total aggregate content.
- D. Unpigmented Mineral Dry-Shake Floor Hardener: Factory-packaged dry combination of portland cement, graded quartz aggregate, and plasticizing admixture.

1. Available Products:

- a. Burke by Edoco; NonMetallic Floor Hardener.
- b. ChemMasters; Concolor.
- c. Conspec Marketing & Manufacturing Co., Inc., a Dayton Superior Company; Conshake 500.
- d. Dayton Superior Corporation; Quartz Tuff.
- e. Euclid Chemical Company (The); Surfex.
- f. Kaufman Products, Inc.; Tycron.
- g. Lambert Corporation; Colorhard.
- h. L&M Construction Chemicals, Inc.; Quartzplate FF.
- i. MBT Protection and Repair, Div. of ChemRex; Maximent.
- j. Metalcrete Industries; Floor Quartz.
- k. Scofield, L. M. Company; Lithochrome Color Hardener.
- l. Symons Corporation, a Dayton Superior Company; Hard Top.
- m. Vexcon Chemicals, Inc.; Durag Premium.
- n. Or engineer approved equivalent.

2.11 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

1. Products:

- a. Axim Concrete Technologies; Cimfilm.
- b. Burke by Edoco; BurkeFilm.
- c. ChemMasters; Spray-Film.
- d. Conspec Marketing & Manufacturing Co., Inc., a Dayton Superior Company; Aquafilm.
- e. Dayton Superior Corporation; Sure Film.
- f. Euclid Chemical Company (The); Eucobar.
- g. Kaufman Products, Inc.; Vapor Aid.
- h. Lambert Corporation; Lambco Skin.
- i. L&M Construction Chemicals, Inc.; E-Con.
- j. MBT Protection and Repair, Div. of ChemRex; Confilm.
- k. Meadows, W. R., Inc.; Sealtight Evapre.
- l. Metalcrete Industries; Waterhold.
- m. Nox-Crete Products Group, Kinsman Corporation; Monofilm.
- n. Sika Corporation, Inc.; SikaFilm.
- o. Symons Corporation, a Dayton Superior Company; Finishing Aid.
- p. Unitex; Pro-Film.
- q. US Mix Products Company; US Spec Monofilm ER.

- r. Vexcon Chemicals, Inc.; Certi-Vex EnvioAssist.
 - s. Or engineer approved equivalent
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.
- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.
- E. E5 Internal Cure by Specification Products

2.12 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self-expanding cork.
- B. Semirigid Joint Filler: Two-component, semirigid, 100 percent solids, epoxy resin with a Type A shore durometer hardness of 80 per ASTM D 2240.
- C. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.
- D. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:
 - 1. Types I and II, non-load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.
- E. Reglets: Fabricate reglets of not less than 0.0217-inch- thick, galvanized steel sheet. Temporarily fill or cover face opening of reglet to prevent intrusion of concrete or debris.
- F. Dovetail Anchor Slots: Hot-dip galvanized steel sheet, not less than 0.0336 inch thick, with bent tab anchors. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

2.13 REPAIR MATERIALS

- A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.
 - 1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 - 2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
 - 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by underlayment manufacturer.

4. Compressive Strength: Not less than 4100 psi at 28 days when tested according to ASTM C 109/C 109M.
 5. Products: Subject to compliance with requirements, provide one of the following:
 - a. Ardex; K-15 Self-Leveling Underlayment Concrete.
 - b. BASF Construction Chemicals, Inc.; Chemrex Self-Leveling Underlayment.
 - c. Euclid Chemical Company (The); Level Magic.
 - d. L&M Construction Chemicals, Inc.; Levelex.
 - e. Specialty Construction Brands, Inc., an H.B. Fuller company; TEC EZ Level.
- B. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.
1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.
 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.
 4. Compressive Strength: Not less than 5700 psi at 28 days when tested according to ASTM C 109/C 109M.
 5. Products: Subject to compliance with requirements, provide one of the following:
 - a. Ardex; K-15 Self-Leveling Underlayment Concrete.
 - b. BASF Construction Chemicals, Inc.; Chemrex Self-Leveling Underlayment.
 - c. Euclid Chemical Company (The); Level Magic.
 - d. L&M Construction Chemicals, Inc.; Levelex.
 - e. Specialty Construction Brands, Inc., an H.B. Fuller company; TEC EZ Level.

2.14 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as shown in CONCRETE MIX SCHEDULE IN THE DRAWINGS.
- C. Limit water-soluble, chloride-ion content in hardened concrete to 0.10 percent by weight of cement.
- D. Admixtures: Use admixtures according to manufacturer's written instructions.
1. Use water-reducing high-range water-reducing plasticizing admixture in concrete, as required, for placement and workability.

2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, concrete required to be watertight, and concrete with a water-cementitious materials ratio below 0.50.
4. Use corrosion-inhibiting admixture in concrete mixtures where indicated.

2.15 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.16 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M and ASTM C 1116, and furnish batch ticket information.
 1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Limit concrete surface irregularities, designated by ACI 347R as abrupt or gradual, as follows:
 1. Class A, 1/8 inch for smooth-formed finished surfaces.
 2. Class B, 1/4 inch for rough-formed finished surfaces.
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
 1. Install keyways, reglets, recesses, and the like, for easy removal.
 2. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Chamfer exterior corners and edges of permanently exposed concrete.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."
 - 2. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
 - 3. Install dovetail anchor slots in concrete structures as indicated.

3.3 REMOVING AND REUSING FORMS

- A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete, if concrete is hard enough to not be damaged by form-removal operations and curing and protection operations are maintained.
 - 1. Leave formwork for beam soffits, joists, slabs, and other structural elements that supports weight of concrete in place until concrete has achieved at least 75 percent of its 28-day design compressive strength.
 - 2. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
- B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.

- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.4 VAPOR BARRIERS

- A. Plastic Vapor Barriers: Place, protect, and repair vapor retarders according to ASTM E 1643 and manufacturer's written instructions.
 - 1. Lap joints 6 inches and seal with manufacturer's recommended tape.
- B. Granular Course: Cover granular fill with vapor barrier.

3.5 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
 - 1. Do not cut or puncture vapor barrier. Repair damage and reseal vapor barrier before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
 - 1. Weld reinforcing bars according to AWS D1.4, where indicated.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

3.6 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
 - 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.
 - 2. Form keyed joints as indicated. Embed keys at least 1-1/2 inches into concrete.

3. Locate joints for beams, slabs, joists, and girders in the middle third of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
 4. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
 5. Space vertical joints in walls as indicated. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
 6. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
 7. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness as follows:
1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface, unless otherwise indicated.
 2. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants, specified in Division 07 Section "Joint Sealants," are indicated.
 3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

3.7 WATERSTOPS

- A. Flexible Waterstops: Install in construction joints and at other joints indicated to form a continuous diaphragm. Install in longest lengths practicable. Support and protect exposed waterstops during progress of the Work. Field fabricate joints in waterstops according to manufacturer's written instructions.
- B. Self-Expanding Strip Waterstops: Install in construction joints and at other locations indicated, according to manufacturer's written instructions, adhesive bonding, mechanically fastening, and firmly pressing into place. Install in longest lengths practicable.

3.8 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
 - 1. Verify that vapor barrier is in place and not damaged and that lapped seams are taped properly in compliance with manufacturer's instructions. Do not proceed with concrete placement until damaged vapor barrier has been patched, sealed, and repaired.
- B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.
- C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
 - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
 - 1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
 - 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
 - 3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
 - 1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 - 2. Maintain reinforcement in position on chairs during concrete placement.
 - 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
 - 4. Slope surfaces uniformly to drains where required.
 - 5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- F. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

G. Hot-Weather Placement: Comply with ACI 301 and as follows:

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.9 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces not exposed to public view.

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces exposed to public view, to receive a rubbed finish, to be covered with a coating or covering material applied directly to concrete.

C. Rubbed Finish: Apply the following to smooth-formed finished as-cast concrete where indicated:

1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
2. Grout-Cleaned Finish: Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix one part portland cement to one and one-half parts fine sand with a 1:1 mixture of bonding admixture and water. Add white portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours.

- D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.10 FINISHING FLOORS AND SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of 1/4 inch in 1 direction.
 - 1. Apply scratch finish to surfaces indicated and to receive concrete floor toppings to receive mortar setting beds for bonded cementitious floor finishes.
- C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraighening until surface is left with a uniform, smooth, granular texture.
 - 1. Apply float finish to surfaces to receive trowel finish and to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.
- D. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
 - 1. Apply a trowel finish to surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.
 - 2. Finish and measure surface so gap at any point between concrete surface and an unleveled, freestanding, 10-foot- long straightedge resting on 2 high spots and placed anywhere on the surface does not exceed 1/8 inch
- E. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces where ceramic or quarry tile is to be installed by either thickset or thin-set method. While concrete is still plastic, slightly scarify surface with a fine broom.
- F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.
 - 1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.

- G. Slip-Resistive Finish: Before final floating, apply slip-resistive aluminum granule finish where indicated and to concrete stair treads, platforms, and ramps. Apply according to manufacturer's written instructions and as follows:
1. Uniformly spread 25 lb/100 sq. ft. of dampened slip-resistive aluminum granules over surface in 1 or 2 applications. Tamp aggregate flush with surface, but do not force below surface.
 2. After broadcasting and tamping, apply float finish.
 3. After curing, lightly work surface with a steel wire brush or an abrasive stone and water to expose slip-resistive aluminum granules.

3.11 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures, unless otherwise indicated, after work of other trades is in place. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.
- C. Equipment Bases and Foundations: Provide machine and equipment bases and foundations as shown on Drawings. Set anchor bolts for machines and equipment at correct elevations, complying with diagrams or templates from manufacturer furnishing machines and equipment.
- D. Steel Pan Stairs: Provide concrete fill for steel pan stair treads, landings, and associated items. Cast-in inserts and accessories as shown on Drawings. Screed, tamp, and trowel-finish concrete surfaces.

3.12 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.

- E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
 - 1. Chemical Admixture Curing: Include E5 Internal Cure (4 fl. Oz. per 100 lbs of cementitious material in concrete mix design)
 - a. Follow all manufacturer's recommendations for concrete mix design, for cement replacement, for concrete placement, and for curing.
 - b. Curing shall be for a minimum period of five days (120 h). Curing shall consist of covering Curing shall consist of covering with white plastic sheeting (minimum 4 mil thickness) or clear plastic sheeting (minimum 6 mil thickness). Sheetting shall be applied as soon as possible.

3.13 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
 - 1. Defer joint filling until concrete has aged at least one month(s). Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- C. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints. Overfill joint and trim joint filler flush with top of joint after hardening.

3.14 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
 - 1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension in solid concrete, but not less than 1 inch in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
 - 2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.

3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 2. After concrete has cured at least 14 days, correct high areas by grinding.
 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
 5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
 6. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 7. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.15 FIELD QUALITY CONTROL

- A. Testing and Inspecting: Owner will engage a special inspector to perform field tests and inspections and prepare test reports.
- B. Testing and Inspecting: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.

C. Inspections:

1. Steel reinforcement placement.
2. Steel reinforcement welding.
3. Headed bolts and studs.
4. Verification of use of required design mixture.
5. Concrete placement, including conveying and depositing.
6. Curing procedures and maintenance of curing temperature.
7. Verification of concrete strength before removal of shores and forms from beams and slabs.

D. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof.
 - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
5. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
6. Compression Test Specimens: ASTM C 31/C 31M.
 - a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
 - b. Cast and field cure two sets of two standard cylinder specimens for each composite sample.
7. Compressive-Strength Tests: ASTM C 39/C 39M; test one set of two laboratory-cured specimens at 7 days and one set of two specimens at 28 days.
 - a. Test one set of two field-cured specimens at 7 days and one set of two specimens at 28 days.
 - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.

8. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
 9. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
 10. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
 11. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
 12. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.
 13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
 14. Correct deficiencies in the Work that test reports and inspections indicate does not comply with the Contract Documents.
- E. Measure floor and slab flatness and levelness according to ASTM E 1155 within 24 hours of finishing.

END OF SECTION 033000

SECTION 102600 - WALL PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Corner guards.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, impact strength, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: For each type of wall protection showing locations and extent.
 - 1. Include plans, elevations, sections, and attachment details.
- C. Samples for Initial Selection: For each type of impact-resistant wall-protection unit indicated, in each color and texture specified.
 - 1. Include Samples of accent strips and accessories to verify color selection.

1.4 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For each type of exposed plastic material.
- B. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of wall and door protection product to include in maintenance manuals.
 - 1. Include recommended methods and frequency of maintenance for maintaining best condition of plastic covers under anticipated traffic and use conditions. Include precautions against using cleaning materials and methods that may be detrimental to finishes and performance.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Corner-Guard Covers: Full-size plastic covers of maximum length equal to 2 of each type, color, and texture of cover installed, but no fewer than two, 48-inch- (1200-mm-) long units.
 - 2. Mounting and Accessory Components: Amounts proportional to the quantities of extra materials. Package mounting and accessory components with each extra material.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store wall and door protection in original undamaged packages and containers inside well-ventilated area protected from weather, moisture, soiling, extreme temperatures, and humidity.
 - 1. Maintain room temperature within storage area at not less than 70 deg F (21 deg C) during the period plastic materials are stored.
 - 2. Keep plastic materials out of direct sunlight.
 - a. Store corner-guard covers in a vertical position.

1.8 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of wall- and door-protection units that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including detachment of components from each other or from the substrates, delamination, and permanent deformation beyond normal use.
 - b. Deterioration of metals, metal finishes, plastics, and other materials beyond normal use.
 - 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain wall- and door-protection products of each type from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Surface Burning Characteristics: Comply with ASTM E84 or UL 723; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: 25 or less.
 - 2. Smoke-Developed Index: 450 or less.
- B. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities and ICC A117.1.

2.3 CORNER GUARDS

- A. Surface-Mounted, Plastic-Cover Corner Guards: Manufacturer's standard, PVC-free assembly consisting of snap-on, resilient plastic cover installed over retainer; including mounting hardware; fabricated with 90- or 135-degree turn to match wall condition.
 - 1. Manufacturers: Basis of Design to be Construction Specialties, Inc. Subject to compliance with requirements, provide products by one of the following:
 - a. Construction Specialties, Inc.
 - b. J. L. Industries, Inc.; Activar Construction Products Group, Inc.
 - c. Koroseal Interior Products, LLC.
 - d. Nystrom, Inc.
 - e. Tepromark Architectural Products, LLC.
 - f. WallGuard.com.
 - g. Wallprotex.
 - h. inpro Corporation.
 - 2. Cover: Extruded rigid plastic, in various dimensions and profiles indicated on Interior Drawing Sheets. Drawings.
 - a. Profile: As indicated on the drawings.
 - b. Height: As indicated on the drawings.
 - c. Color and Texture: As selected by Architect from manufacturer's full range.
 - 3. Retainer Clips: Manufacturer's standard impact-absorbing clips.
 - 4. Top and Bottom Caps: Prefabricated, injection-molded plastic; color matching cover; field adjustable for close alignment with snap-on cover.

2.4 MATERIALS

- A. Plastic Materials: Chemical- and stain-resistant, high-impact-resistant plastic with integral color throughout; extruded and sheet material as required, thickness as indicated.
- B. Fasteners: Aluminum, nonmagnetic stainless-steel, or other noncorrosive metal screws, bolts, and other fasteners compatible with items being fastened. Use security-type fasteners where exposed to view.

2.5 FABRICATION

- A. Fabricate wall and door protection according to requirements indicated for design, performance, dimensions, and member sizes, including thicknesses of components.
- B. Factory Assembly: Assemble components in factory to greatest extent possible to minimize field assembly. Disassemble only as necessary for shipping and handling.
- C. Quality: Fabricate components with uniformly tight seams and joints and with exposed edges rolled. Provide surfaces free of wrinkles, chips, dents, uneven coloration, and other imperfections. Fabricate members and fittings to produce flush, smooth, and rigid hairline joints.
- D. Wood Handrails: Miter corners and ends of wood handrails for returns.

2.6 FINISHES

- A. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and wall areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine walls to which wall and door protection will be attached for blocking, grounds, and other solid backing that have been installed in the locations required for secure attachment of support fasteners.
 - 1. For wall and door protection attached with adhesive, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Complete finishing operations, including painting, before installing wall and door protection.
- B. Before installation, clean substrate to remove dust, debris, and loose particles.

3.3 INSTALLATION

- A. Installation Quality: Install wall and door protection according to manufacturer's written instructions, level, plumb, and true to line without distortions. Do not use materials with chips, cracks, voids, stains, or other defects that might be visible in the finished Work.
- B. Mounting Heights: Install wall and door protection in locations and at mounting heights indicated on Drawings.
- C. Accessories: Provide splices, mounting hardware, anchors, trim, joint moldings, and other accessories required for a complete installation.
 - 1. Provide anchoring devices and suitable locations to withstand imposed loads.

2. Where splices occur in horizontal runs of more than 20 feet (6.1 m), splice aluminum retainers and plastic covers at different locations along the run, but no closer than 12 inches (305 mm) apart.
3. Adjust end and top caps as required to ensure tight seams.

3.4 CLEANING

- A. Immediately after completion of installation, clean plastic covers and accessories using a standard ammonia-based household cleaning agent.
- B. Remove excess adhesive using methods and materials recommended in writing by manufacturer.

END OF SECTION 102600

SECTION 22 13 13 - FACILITY SANITARY SEWERS (SITE)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Pipe and fittings.
 - 2. Nonpressure and pressure couplings.
 - 3. Cleanouts.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Protect pipe, pipe fittings, and seals from dirt and damage.

1.4 PROJECT CONDITIONS

- A. Interruption of Existing Sanitary Sewerage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:
 - 1. Notify Architect no fewer than two days in advance of proposed interruption of service.
 - 2. Do not proceed with interruption of service without Architect's written permission.

PART 2 - PRODUCTS

2.1 PVC PIPE AND FITTINGS

- A. PVC Profile Sewer Piping:
 - 1. Pipe: ASTM F 794, PVC profile, gravity sewer pipe with bell-and-spigot ends for gasketed joints.
 - 2. Fittings: ASTM D 3034, PVC with bell ends.
 - 3. Gaskets: ASTM F 477, elastomeric seals.

B. PVC Type PSM Sewer Piping:

1. Pipe: ASTM D 3034, SDR 35, PVC Type PSM sewer pipe with bell-and-spigot ends for gasketed joints.
2. Fittings: ASTM D 3034, PVC with bell ends.
3. Gaskets: ASTM F 477, elastomeric seals.

C. PVC Gravity Sewer Piping:

1. Pipe and Fittings: ASTM F 679, T-1 wall thickness, PVC gravity sewer pipe with bell-and-spigot ends and with integral ASTM F 477, elastomeric seals for gasketed joints.

2.2 NONPRESSURE-TYPE TRANSITION COUPLINGS

A. Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground nonpressure piping. Include ends of same sizes as piping to be joined and corrosion-resistant-metal tension band and tightening mechanism on each end.

B. Sleeve Materials:

1. For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.

C. Unshielded, Flexible Couplings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Dallas Specialty & Mfg. Co.
 - b. Fernco Inc.
 - c. Logan Clay Pipe.
 - d. Mission Rubber Company; a division of MCP Industries, Inc.
 - e. NDS.
 - f. Plastic Oddities; a division of Diverse Corporate Technologies, Inc.
2. Description: Elastomeric sleeve with stainless-steel shear ring and corrosion-resistant-metal tension band and tightening mechanism on each end.

D. Shielded, Flexible Couplings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Cascade Waterworks Mfg.
 - b. Dallas Specialty & Mfg. Co.
 - c. Mission Rubber Company; a division of MCP Industries, Inc.

2. Description: ASTM C 1460, elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.

E. Ring-Type, Flexible Couplings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Fernco Inc.
 - b. Logan Clay Pipe.
 - c. Mission Rubber Company; a division of MCP Industries, Inc.
2. Description: Elastomeric compression seal with dimensions to fit inside bell of larger pipe and for spigot of smaller pipe to fit inside ring.

F. Nonpressure-Type, Rigid Couplings:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. ANACO-Husky.
2. Description: ASTM C 1461, sleeve-type, reducing- or transition-type mechanical coupling, molded from ASTM C 1440, TPE material; with corrosion-resistant-metal tension band and tightening mechanism on each end.

2.3 CLEANOUTS

A. Cast-Iron Cleanouts:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Josam Company.
 - b. MIFAB, Inc.
 - c. Smith, Jay R. Mfg. Co.
 - d. Tyler Pipe.
 - e. Zurn Specification Drainage Operation; Zurn Plumbing Products Group.
2. Description: ASME A112.36.2M, round, gray-iron housing with clamping device and round, secured, scoriated, gray-iron cover. Include gray-iron ferrule with inside calk or spigot connection and countersunk, tapered-thread, brass closure plug.
3. Top-Loading Classification(s): Heavy Duty .
4. Sewer Pipe Fitting and Riser to Cleanout: ASTM A 74, Service class, cast-iron soil pipe and fittings.

2.4 CONCRETE

- A. General: Cast-in-place concrete complying with ACI 318, ACI 350/350R, and the following:
 - 1. Cement: ASTM C 150, Type II.
 - 2. Fine Aggregate: ASTM C 33, sand.
 - 3. Coarse Aggregate: ASTM C 33, crushed gravel.
 - 4. Water: Potable.
- B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio.
 - 1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
 - 2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 deformed steel.
- C. Manhole Channels and Benches: Factory or field formed from concrete. Portland cement design mix, 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio. Include channels and benches in manholes.
 - 1. Channels: Concrete invert, formed to same width as connected piping, with height of vertical sides to three-fourths of pipe diameter. Form curved channels with smooth, uniform radius and slope.
 - a. Invert Slope: 1 percent through manhole.
 - 2. Benches: Concrete, sloped to drain into channel.
 - a. Slope: 4 percent.
- D. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water/cementitious materials ratio.
 - 1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
 - 2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 deformed steel.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Excavating, trenching, and backfilling are specified in Section 31 20 00 "Earth Moving."

3.2 PIPING INSTALLATION

- A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground sanitary sewer piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.
- B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for using lubricants, cements, and other installation requirements.
- C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.
- D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.
- E. When installing pipe under streets or other obstructions that cannot be disturbed, use pipe-jacking process of microtunneling.
- F. Install gravity-flow, nonpressure, drainage piping according to the following:
 - 1. Install piping pitched down in direction of flow, at minimum slope of 1 percent unless otherwise indicated.
 - 2. Install piping NPS 6 and larger with restrained joints at tee fittings and at changes in direction. Use corrosion-resistant rods, pipe or fitting manufacturer's proprietary restraint system, or cast-in-place-concrete supports or anchors.
 - 3. Install piping with 36-inch minimum cover.
 - 4. Install PVC profile sewer piping according to ASTM D 2321 and ASTM F 1668.
 - 5. Install PVC Type PSM sewer piping according to ASTM D 2321 and ASTM F 1668.
 - 6. Install PVC gravity sewer piping according to ASTM D 2321 and ASTM F 1668.
- G. Clear interior of piping and manholes of dirt and superfluous material as work progresses. Maintain swab or drag in piping, and pull past each joint as it is completed. Place plug in end of incomplete piping at end of day and when work stops.

3.3 PIPE JOINT CONSTRUCTION

- A. Join gravity-flow, nonpressure, drainage piping according to the following:
 - 1. Join PVC profile sewer piping according to ASTM D 2321 for elastomeric-seal joints or ASTM F 794 for gasketed joints.
 - 2. Join PVC Type PSM sewer piping according to ASTM D 2321 and ASTM D 3034 for elastomeric-seal joints or ASTM D 3034 for elastomeric-gasket joints.
 - 3. Join PVC gravity sewer piping according to ASTM D 2321 and ASTM D 3034 for elastomeric-seal joints or ASTM D 3034 for elastomeric-gasket joints.

- B. Pipe couplings, expansion joints, and deflection fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.
 - 1. Use nonpressure flexible couplings where required to join gravity-flow, nonpressure sewer piping unless otherwise indicated.
 - a. Shielded flexible or rigid couplings for pipes of same or slightly different OD.
 - b. Unshielded, increaser/reducer-pattern, flexible or rigid couplings for pipes with different OD.
 - c. Ring-type flexible couplings for piping of different sizes where annular space between smaller piping's OD and larger piping's ID permits installation.
 - 2. Use pressure pipe couplings for force-main joints.

3.4 CONCRETE PLACEMENT

- A. Place cast-in-place concrete according to ACI 318.

3.5 CLEANOUT INSTALLATION

- A. Install cleanouts and riser extensions from sewer pipes to cleanouts at grade. Use cast-iron soil pipe fittings in sewer pipes at branches for cleanouts, and use cast-iron soil pipe for riser extensions to cleanouts. Install piping so cleanouts open in direction of flow in sewer pipe.
 - 1. Use Light-Duty, top-loading classification cleanouts in earth or unpaved foot-traffic areas.
 - 2. Use Medium-Duty, top-loading classification cleanouts in paved foot-traffic areas.
 - 3. Use Heavy-Duty, top-loading classification cleanouts in vehicle-traffic service areas.
 - 4. Use Extra-Heavy-Duty, top-loading classification cleanouts in roads.
- B. Set cleanout frames and covers in earth in cast-in-place-concrete block, 18 by 18 by 12 inches deep. Set with tops 1 inch above surrounding grade.
- C. Set cleanout frames and covers in concrete pavement and roads with tops flush with pavement surface.

3.6 CONNECTIONS

- A. Connect nonpressure, gravity-flow drainage piping to building's sanitary building drains specified in Section 22 13 16 "Sanitary Waste and Vent Piping."
- B. Connect force-main piping to building's sanitary force mains specified in Section 22 13 16 "Sanitary Waste and Vent Piping." Terminate piping where indicated.
- C. Make connections to existing piping and underground manholes.

1. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye fitting plus 6-inch overlap with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
2. Make branch connections from side into existing piping, NPS 4 to NPS 20. Remove section of existing pipe, install wye fitting into existing piping, and encase entire wye with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
3. Make branch connections from side into existing piping, NPS 21 or larger, or to underground manholes by cutting opening into existing unit large enough to allow 3 inches of concrete to be packed around entering connection. Cut end of connection pipe passing through pipe or structure wall to conform to shape of and be flush with inside wall unless otherwise indicated. On outside of pipe or manhole wall, encase entering connection in 6 inches of concrete for minimum length of 12 inches to provide additional support of collar from connection to undisturbed ground.
 - a. Use concrete that will attain a minimum 28-day compressive strength of 3000 psi unless otherwise indicated.
 - b. Use epoxy-bonding compound as interface between new and existing concrete and piping materials.
4. Protect existing piping and manholes to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.

D. Connect to grease interceptors specified in Section 22 13 23 "Sanitary Waste Interceptors."

3.7 IDENTIFICATION

- A. Comply with requirements in Section 312000 "Earth Moving" for underground utility identification devices. Arrange for installation of green warning tapes directly over piping and at outside edges of underground manholes.
 1. Use warning tape or detectable warning tape over ferrous piping.
 2. Use detectable warning tape over nonferrous piping and over edges of underground manholes.

END OF SECTION 22 13 13

SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

- A. Preparation of topsoil, placing topsoil, fertilizing, sod` installation, and maintenance.
- B. Related Sections:
 - 1. Division 32 Section 329300 "Landscape Plantings"
 - 2. Division 31 Section 312000 "Earth Moving"

1.2 REFERENCES

- A. ASPA (American Sod Producers Association) - Guideline Specifications to Sodding.

1.3 DEFINITIONS

- A. Weeds: Include Dandelion, Jimsonweed, Quackgrass, Horsetail, Morning Glory, Rush Grass, Mustard, Lambsquarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Blackberry, Tansy Ragwort, Bermuda Grass, Johnson Grass, Poison Ivy, Nut Sedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

1.4 SUBMITTALS

- A. Product Data: Submit data for sod grass, species and blend, fertilizer bag label with guaranteed analysis, and other accessories or amendments as required.
- B. Product Data: submit data for permanent seeding, specie, and blend, fertilizer bag label with guaranteed analysis, and other accessories or amendments as required.
- C. Operation Data: Submit for continuing Owner maintenance.
- D. Maintenance Data: Include maintenance instructions, cutting method and maximum grass height; types, application frequency, and recommended coverage of fertilizer.
- E. Herbicide Product Data: submit data for herbicide product (Use of Round-up is prohibited by local ordinances.)

1.5 QUALITY ASSURANCE

- A. Installer's Personnel Certifications: Certified Landscape Technician, CLT-Exterior

- B. Sod/Seeding: Minimum age of 18 months, with root development that will support its own weight without tearing, when suspended vertically by holding the upper two corners. Comply with State and Federal laws with respect to inspection for plant diseases and insect infestation.
- C. Sod to be installed must have been grown on soils similar to those found on project site. Contractor to provide proof of site soil analysis and proposed sod soil analysis for approval by Landscape Architect prior to installation.
- D. Submit sod certification for grass species and location of sod source/seeding source.
- E. Soils shall conform to the requirements of Section 329300 "Landscape Plantings." Contractor shall verify compliance with recommendations of prior test results with Landscape Architect.
- F. Water: Furnish water to the site at no extra cost. It is the Contractor's responsibility to correct all Work injured or damaged due to the lack of water, or the use of too much water. Use water which is free from impurities injurious to vegetation.
- G. Regulatory Requirements: Comply with regulatory agencies for fertilizer and herbicide composition.

1.6 QUALIFICATIONS

- A. Sod Producer: Company specializing in sod production and harvesting with minimum five (5) years experience, and certified by the State of Indiana.
- B. Permanent Seeding Producer. Company specializing in seeding production and harvesting with minimum five (5) years experience, and certified by the State of Indiana.
- C. Installer: Contractor shall be a company specializing in landscape sod installation who has completed landscaping work similar in material, design, and extent to that indicated for this Project and with a record of successful landscape establishment. Installer shall be an approved Landscape Contractor with a minimum of 5 years experience on comparable projects. Use experienced crews.
- D. Installer's Field Supervision: Require Installer to maintain an experienced fulltime supervisor on the Project site during times that landscape work is in progress.

1.7 SITE CONDITIONS

- A. Project Environment:
 - 1. Work of the Section shall be performed only when weather and substrate conditions are favorable for such operations.
 - 2. Operations will be suspended or delayed whenever conditions are unfavorable for such work or at the request of the Landscape Architect.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Sod/Seeding:
 - 1. Protect and maintain during transit or storage onsite as necessary to ensure vigorous growth after placement.

2. Inform Owner's Representative and Landscape Architect a minimum of 24 hours in advance of delivery of sod. Each shipment shall be accompanied by an invoice from vendor giving quantity and certifying that sod received meets requirements as contained in these specifications, together with analysis of seed from which sod was grown. Provide copy of invoice to Landscape Architect upon delivery of sod.
3. Remove site and dispose of, in legal manner, sod remaining on site unplaced after 48 hours, without extra cost to the Owner. Remove from site and dispose of, in legal manner, any yellowing or otherwise discolored sod without extra cost to the Owner.
4. Deliver sod on pallets and or in rolls. Protect exposed roots from dehydration.
5. Do not deliver more sod than can be installed within **24**-hour period.

1.9 MAINTENANCE SERVICE

- A. Maintain sodded areas after date of substantial completion until grass is well established and exhibits a vigorous growing condition for ninety (90) days.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Sod: Department of Agriculture Certified, Nursery grown; cultivated grass sod; with strong fibrous root system, free of stones, burned or base spots; contained no weeds. Sod must be grown on soils similar to those found on the project site.
 1. Kentucky Blue Grass blend to be approved by Landscape Architect.
 2. Fresh cut, live, nursery grown sod having well matted roots.
 3. Root zone shall be of good, fertile, natural mineral soil free from stones and debris.
 4. Peat sod will not be acceptable.
 5. Sod shall contain no bent or quack grass or other noxious weed growth.
 6. Sod Sections: Standard in size (18 inches wide by 6 feet in length) not less than 1-1/2 inches thick, strong enough to support its own weight and retain its size and shape when suspended vertically from firm grasp on upper 10% of section.
 7. Mowed at least twice with final mowing not more than 7 days before being cut and lifted.
 8. Obtain sod from nurseries having growing conditions similar to job site.
 9. Schedule sod cutting and delivery so that sod may be placed within **24** hours of cutting.
- B. Topsoil:
 1. Provide topsoil over sod as required to complete landscape work as specified in Section 329300 Landscape Plantings. Use stockpiled topsoil as available only after tests have been submitted to Landscape Architect. All topsoil proposed for use, whether on-site or imported, shall be tested at the Contractor's expense for conformance to Section 329300 - Landscape Plantings.
- C. Fertilizer:
 1. Commercial fertilizer recommended for grass of neutral character with fifty percent of elements derived from organic sources; shall be delivered to the site in unopened, original containers, each bearing name and address of the manufacturer, name brand or trademark and manufacturer's guaranteed analysis.

2. The formula shall contain a minimum basis percentage by weight of the following proportions: Nitrogen 24% percent, phosphoric acid 4% percent, soluble potash 8% percent.
- D. Soil Amendments (If required as part of soil testing agency's recommendations):
 1. Lime: Natural limestone containing not less than 85% of total carbonates, ground so that not less than 90% passes a 10-mesh sieve and not less than 50% passes a 100-mesh sieve.
 2. Aluminum Sulfate: Commercial grade, unadulterated and delivered in containers with material and manufacturer, names and weight of contents.
- E. Water: Clean, fresh and free of substances or matter which could inhibit vigorous growth of grass.
- F. Permanent Seeding: Per Indiana/Illinois Department of Transportation, Section 250- Seeding, seeding Mixture: salt tolerant Lawn Mixture and construction Requirements.
- G. Permanent Seeding Erosion-Control Blankets: consists of a specific cut of naturally seed free Great Lakes Aspen curled wood excelsior with 80% size-inch fibers or greater fiber length. It is of consistent thickness with fibers evenly distributed throughout the entire area of the blanket. Curlex Netfree is a 100% biodegradable ECB. Include manufacturer's recommended hardware of a length appropriate for site soil conditions. Manufacturer: www.curlex.com or approved equal.

2.2 ACCESSORIES

- A. Herbicide: Use the product to meet the Office of Indiana State Chemist Pesticide Section requirements.

2.3 HARVESTING SOD

- A. Machine cut sod and load on pallets in accordance with ASPA (American Sod Producers Association) Guidelines.
- B. Cut sod in area not exceeding one (1) sq yd with minimum $\frac{3}{4}$ inch and maximum 1 inch topsoil base.

2.4 TESTS

- A. Provide analysis of topsoil fill in accordance with Section 329300.
- B. Analyze to ascertain percentage of nitrogen, phosphorus, potash, soluble salt content, organic matter content, and pH value.
- C. Indicate, by test results, information necessary to determine suitability.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that prepared soil base is ready to receive the work of this section.
- B. Verify location of underground utilities with appropriate sources. Contact indiana811.org. at least 48 hours before commencing with construction. Repair damaged utilities.

3.2 PREPARATION OF SUBSOIL

- A. Prepare subsoil and eliminate uneven areas and low spots.
- B. Maintain lines, levels, profiles, and contours. Make changes in grade gradual. Blend slopes into level areas.
- C. Remove foreign materials and undesirable plants and their roots. Do not bury foreign material beneath areas to be sodded.
- D. Scarify subsoil to a depth of four (4) inches where topsoil is to be placed.
- E. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted subsoil.

3.3 PLACING TOPSOIL

- A. Spread topsoil to a depth of four (4) inches over area to be sodded. Compact each lift to the extent necessary to prevent settlement. Do not compact to a density that prohibits growth.
 - 1. Place topsoil during dry weather and on dry unfrozen subgrade.
 - 2. Remove vegetable matter and foreign non-organic material from topsoil while spreading.
- B. Finish Grading:
 - 1. Provide smooth continual grades without dips and pockets where water may stand. Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage
 - 2. Correct surface irregularities produced by preceding operations or by any other cause.
 - 3. Finish grades shall be approved by Landscape Architect on site prior to lawn construction.
- C. Tilling:
 - 1. Prepare areas to depth of approximately 3 in. by disking, harrowing or other approved means.
 - 2. Areas shown on drawings which are too small to make these operations practicable shall receive special scarification prior to final tilling.
 - 3. Continue tilling until soil condition is suitable for lawn construction.
- D. Cleanup:
 - 1. After completion of tilling operations, clear surface of stones, stumps, roots, brush, wire, grade stakes, construction materials, and other objects which hinder planting, installation, and maintenance operations.

2. Keep adjacent paved areas clean.
3. Remove and dispose of soil or other materials that have been brought to surface in accordance with specifications.

3.4 FERTILIZING

- A. Apply fertilizer in accordance with manufacturer's instructions. Use mechanical spreader wherever practicable.
- B. Apply fertilizer after smooth raking of topsoil and prior to installation of sod.
- C. Apply fertilizer no more than 48 hours before laying sod.
- D. Mix thoroughly into upper 2 inches of topsoil by disking, harrowing or other methods which produce similar results.
- E. Lightly water to aid the dissipation of fertilizer.

3.5 LAYING SOD

- A. Planting season for Sod Installation:
 1. March 15 to June 15
 2. August 15 to November 15
 3. Weather conditions within season shall govern actual planting periods.
 4. Seasons may be extended upon approval by Landscape Architect, however, such time extensions shall not change Contractor's responsibility for establishing healthy and vigorous growing turf.
- B. Moisten prepared surface immediately prior to laying sod.
- C. Lay sod immediately after delivery to site and within 24 hours after harvesting to prevent deterioration.
- D. Lay sod tight with no open joints visible, and no overlapping edges; stagger end joints 12 inches minimum. Do not stretch or overlap sod pieces.
- E. Lay sod smooth.
- F. Place top elevation of sod ½ inch below adjoining edging.
- G. Water sodded areas immediately after installation. Saturate sod to four (4) inches of soil.
- H. After sod and soil have dried, roll sodded areas to ensure good bond between sod and soil and to remove depressions, lumps, and irregularities. If sodded areas develop depressions, lumps, or irregularities during the first growing season, additional rolling may be required at the direction of the Landscape Architect.
- I. If any gaps or seams are visible in newly sodded areas, contractor shall fill gaps with topsoil and seed, or re-sod areas as directed by Landscape Architect.

- J. Make a "v-cut" as periphery of sodded areas where sod meets a planting bed or tree rings.
- K. All new and existing trees shall have minimum 48" diameter double shredded hardwood bark mulch rings to be installed by contractor. Sod shall not be placed within these mulch ring areas unless otherwise indicated.

3.6 MAINTENANCE

- A. Mow grass at regular intervals to maintain at a maximum height of 2-1/2 inches. Do not cut more than 1/3 of grass blade at any one mowing.
- B. Neatly trim edges and hand clip where necessary.
- C. Immediately remove clippings after mowing and trimming.
- D. Water to prevent grass and soil from drying out.
- E. Roll surface to remove depressions, lumps, or irregularities as needed.
- F. Control growth of weeds. Apply herbicides in accordance with manufacturer's instructions. Remedy damage resulting from improper use of herbicides.
- G. Immediately replace sod to areas which show deterioration or bare spots.
- H. Protect sodded areas with warning signs during maintenance period.

3.7 ACCEPTANCE

- A. Final acceptance will be granted upon conformance with following:
 - 1. Turf shall be reasonably free from weeds, diseases, or other visible imperfections.
 - 2. Turf shall display uniform color, quality, and coverage.
 - 3. Performed two mowings.
 - 4. Performed fertilizing operation after mowing.

END OF SECTION 329200

DAMIEN CENTER

NEW DAMIEN HEADQUARTERS

SEPTEMBER 12, 2022 - 100% BID AND PERMIT PACKAGE



INTERSECTION OF E WASHINGTON STREET AND N ORIENTAL STREET

ALTERNATES**	
A.	ADD ALTERNATE #01: FABRIC WRAPPED DRYWALL PANELS ADD DRYWALL REVEALS AND FABRIC WRAPPED DRYWALL PANELS
B.	ADD ALTERNATE #02: ELEVATOR EQUIPMENT FOR ELEVATOR 2 (EL2)
C.	ADD ALTERNATE #03: LVT TO WOOD FLOORING (WF1) AT ENTRY 300, MAINSTREET 301, MOTHER'S ROOM 304C, CORRIDOR 305 AND SOCIAL HUB 307
D.	ADD ALTERNATE #04: LVT TO TILE FLOORING (PCT1) AT ENTRY 200, RECEPTION 201, MAINSTREET 202A & 202B, VESTIBULE 202C, CORRIDOR 204 AND CLIENT WAITING 205B
F.	ADD ALTERNATE #05: CUSTOM INSET SHELVING
G.	ADD ALTERNATE #06: EXTERIOR LOUVERED SUNSHADES
H.	ADD ALTERNATE #07: WASHINGTON STREET ENTRANCE TRELLIS
I.	ADD ALTERNATE #08: GRC PLANTERS ON TERRACES
J.	ADD ALTERNATE #09: CUSTOM INTERIOR RAILINGS
K.	ADD ALTERNATE #10: OPERABLE EXTERIOR GLASS PARTITION
** SEE SPECIFICATION SECTION 01 23 00 - ALTERNATES FOR ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS FOR ALTERNATES. DRAWING REFERENCES ARE PROVIDED FOR CONVENIENCE TO FIND WORK SCOPE. THESE REFERENCES ARE A STARTING POINT AND ARE NOT INTENDED TO PROVIDE ALL DETAILS AND SPECIFICATIONS.	

DESIGN TEAM CONTACTS

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PROJECT CONTACTS

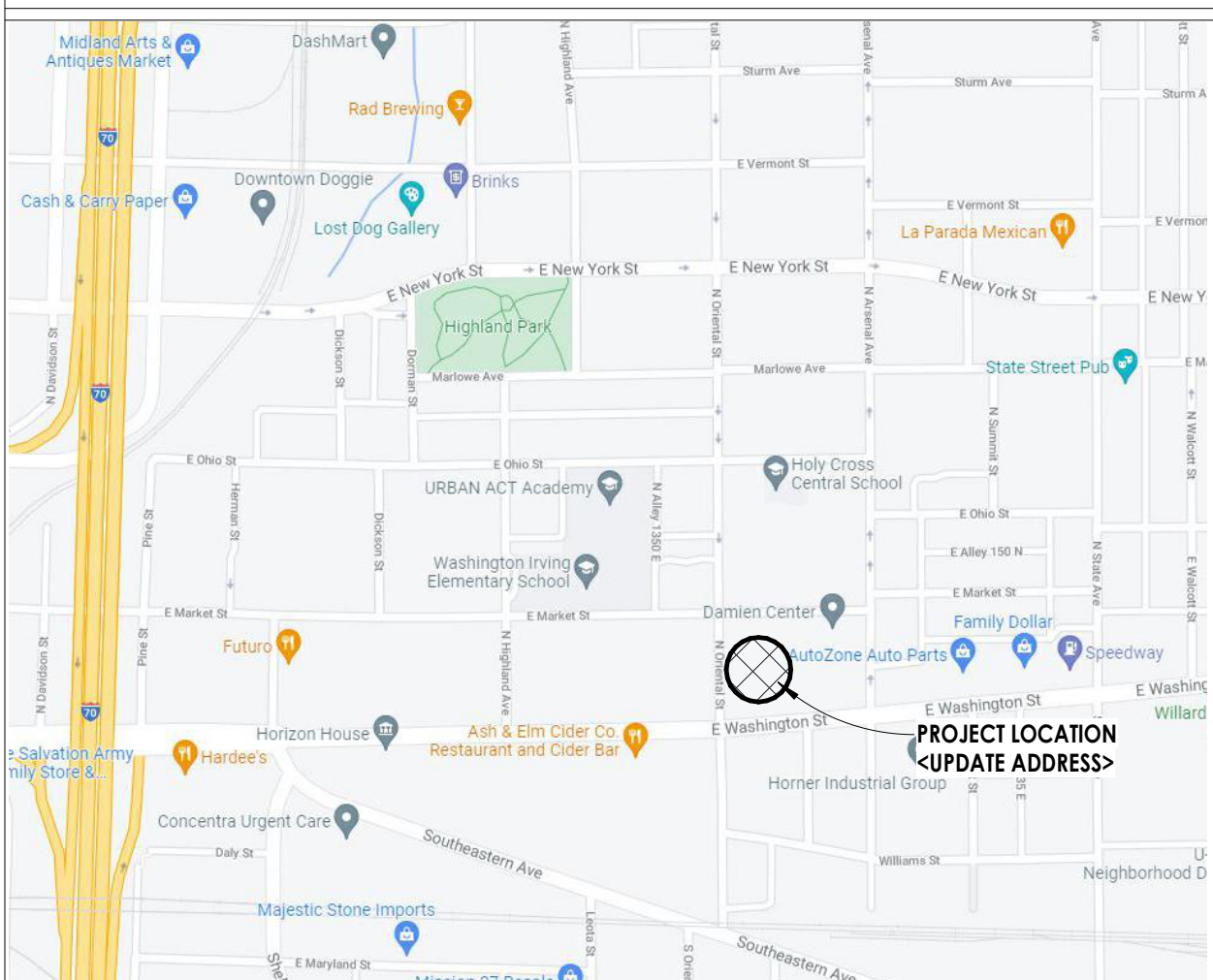
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PH 317 632-0123

ALEXANDRA MARSHALL, Project Manager
26 North Arsenal Avenue
Indianapolis, Indiana 46201
PH 317 632-0123

BUILDING INFORMATION

USE GROUP	B, A-3, S-2
CONSTRUCTION TYPE	II-B
BUILDING GROSS AREA	
FIRST FLOOR	(11,625 SF, B-OFFICE) (14,435 SF, S-2 PARKING)
SECOND FLOOR	23,618 SF
THIRD FLOOR	20,744 SF
GROSS AREA TOTAL	55,987 SF

SITE LOCATION



BUILDING LOCATION



618 East Market Street
Indianapolis, Indiana 46202
phone 317/264.8162
axisarch.com

Revised Drawings
These drawings indicate the general scope of the project in terms of architectural design concept, the dimensions of the building, the major architectural elements and the type of structure, mechanical and electrical systems. The drawings do not necessarily indicate or describe all work required for full performance and completion of the requirements of the contract. On the basis of the general scope indicated or described, the trade contractor shall furnish all items required for the proper execution and completion of all work.

DRAWN BY: KS
CHECKED BY: DS
DATE ISSUED: 09/12/2022

REVISIONS:

#	DESCRIPTION	DATE
1	ADDENDUM #01	09/29/2022

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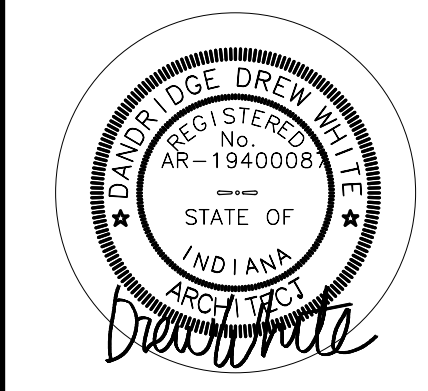
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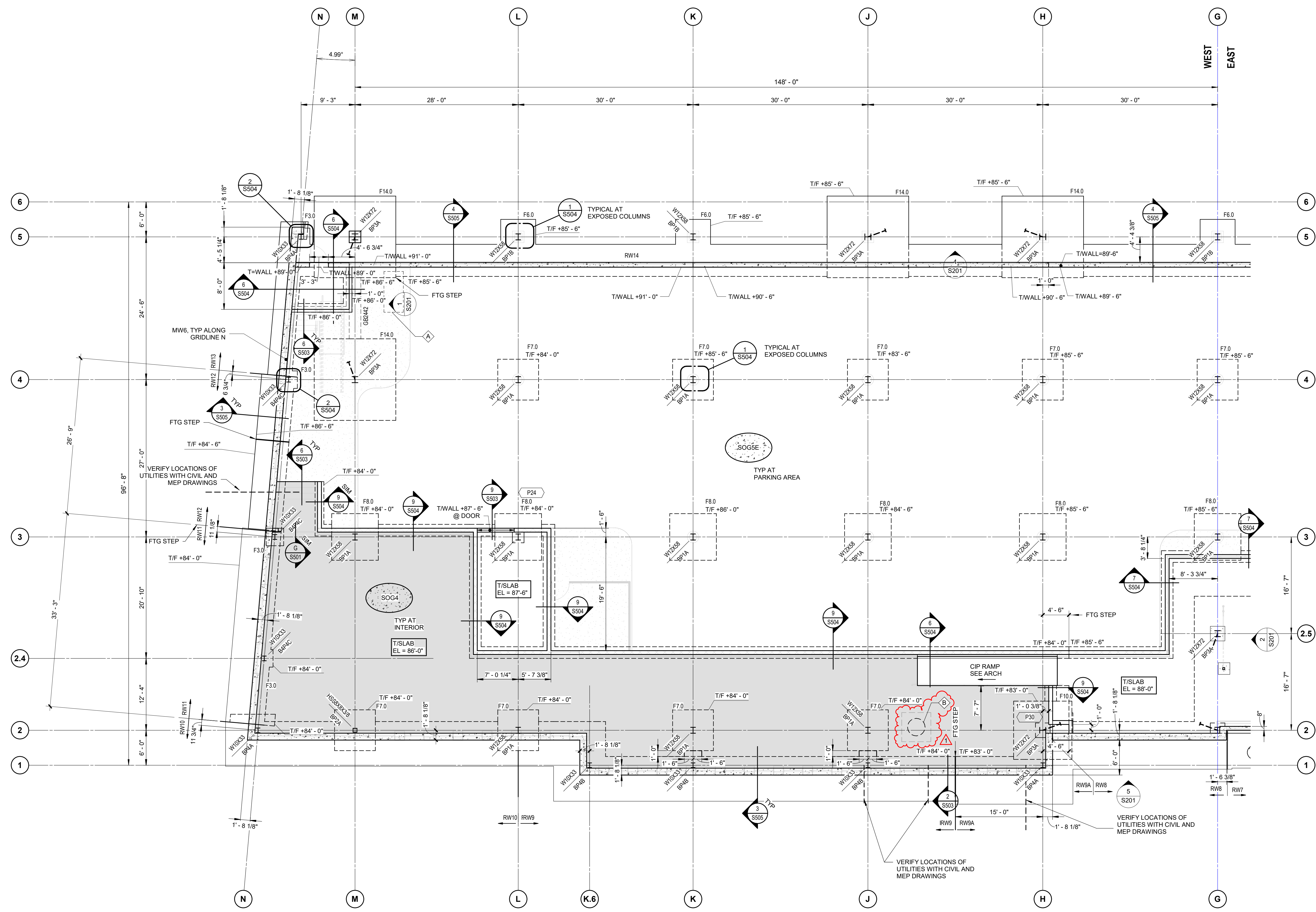
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DAMIEN CENTER
NEW DAMIEN HEADQUARTERS
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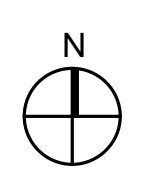
COVER SHEET

G001
PROJECT NUMBER: 2021029



FOUNDATION PLAN - WEST

SCALE: 1/8" = 1'-0"

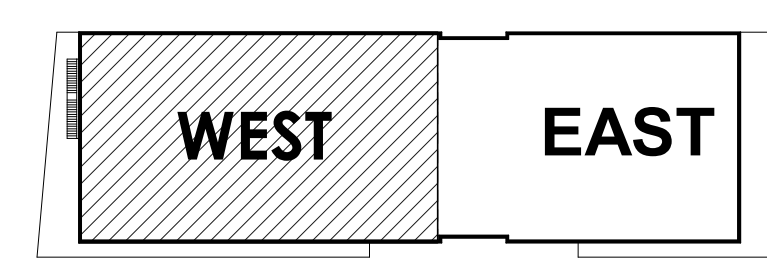


FOUNDATION PLAN NOTES:

- REFERENCE TOP OF SLAB (T/SLAB) = PER PLAN
- TOP OF FOOTING (T/F) 86'-0", UNO.
- TOP OF PIER (T/PIER) = 87'-0", UNO.
- SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
- GALVANIZE ALL STEEL MEMBERS OUTSIDE OF BUILDING ENVELOPE.

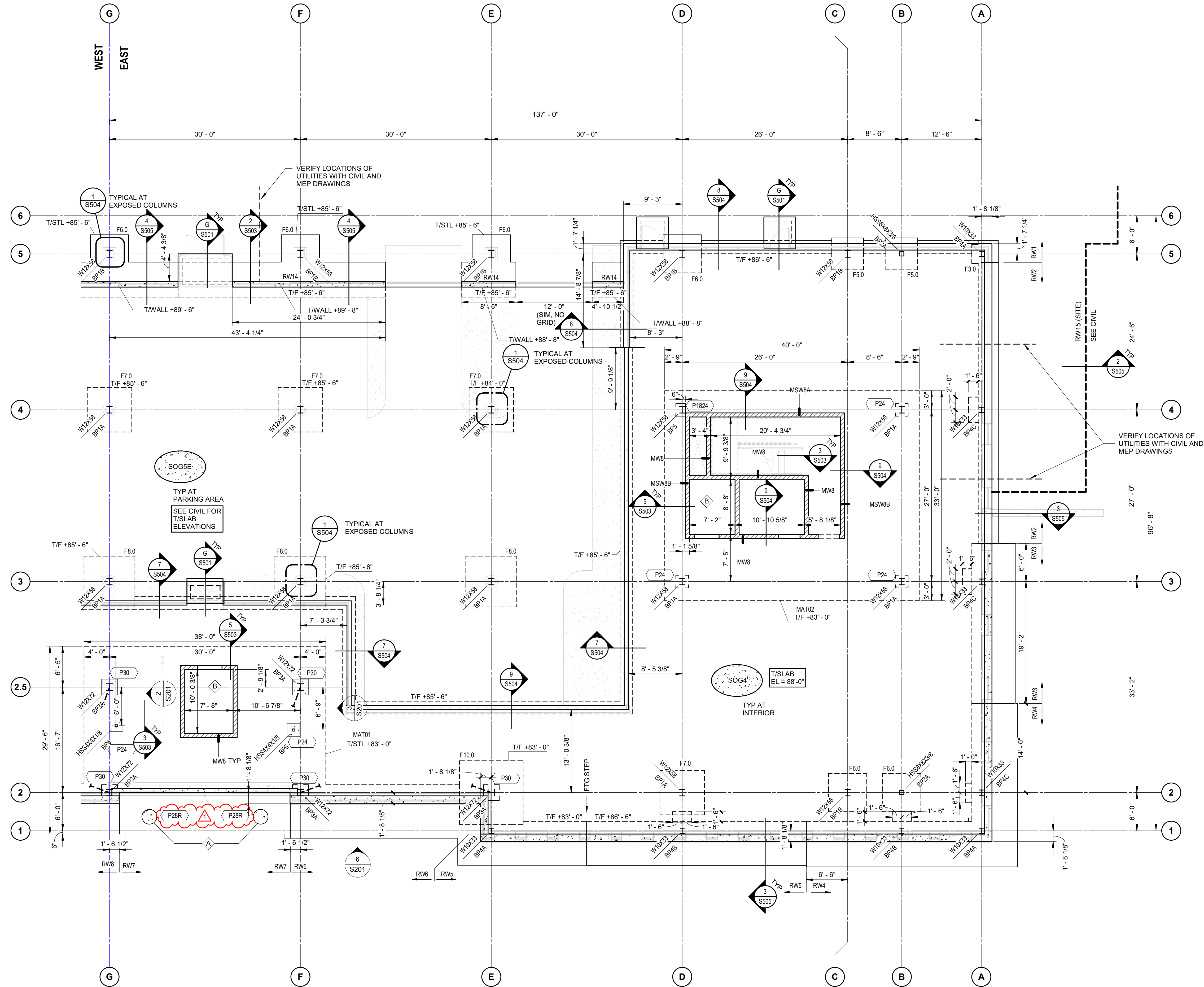
FOUNDATION KEY PLAN NOTES - WEST

#	NOTE
A	GENERATOR, PROVIDE EXTERIOR EQUIPMENT PAD PER EXTERIOR EQUIPMENT PAD DETAIL
B	SEWAGE EJECTOR PIT. SEE MEP DRAWINGS. PROVIDE 5'x5'x1' FOUNDATION PAD W/ #5@18" OC EW T&S. T/PAD = 87'-0"



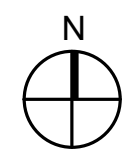
Key Plan

SCALE: 1" = 80'-0"



FOUNDATION PLAN - EAST

SCALE: 1/8" = 1'-0"

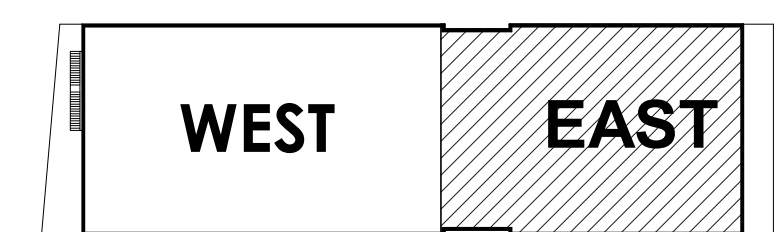


FOUNDATION PLAN NOTES:

1. REFERENCE TOP OF SLAB (T/SLAB) = PER PLAN
2. TOP OF FOOTING (T/F) 86'-6". UNO.
3. TOP OF PIER (T/PIER) = 87'-0". UNO.
4. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
5. GALVANIZE ALL STEEL MEMBERS OUTSIDE OF BUILDING ENVELOPE.

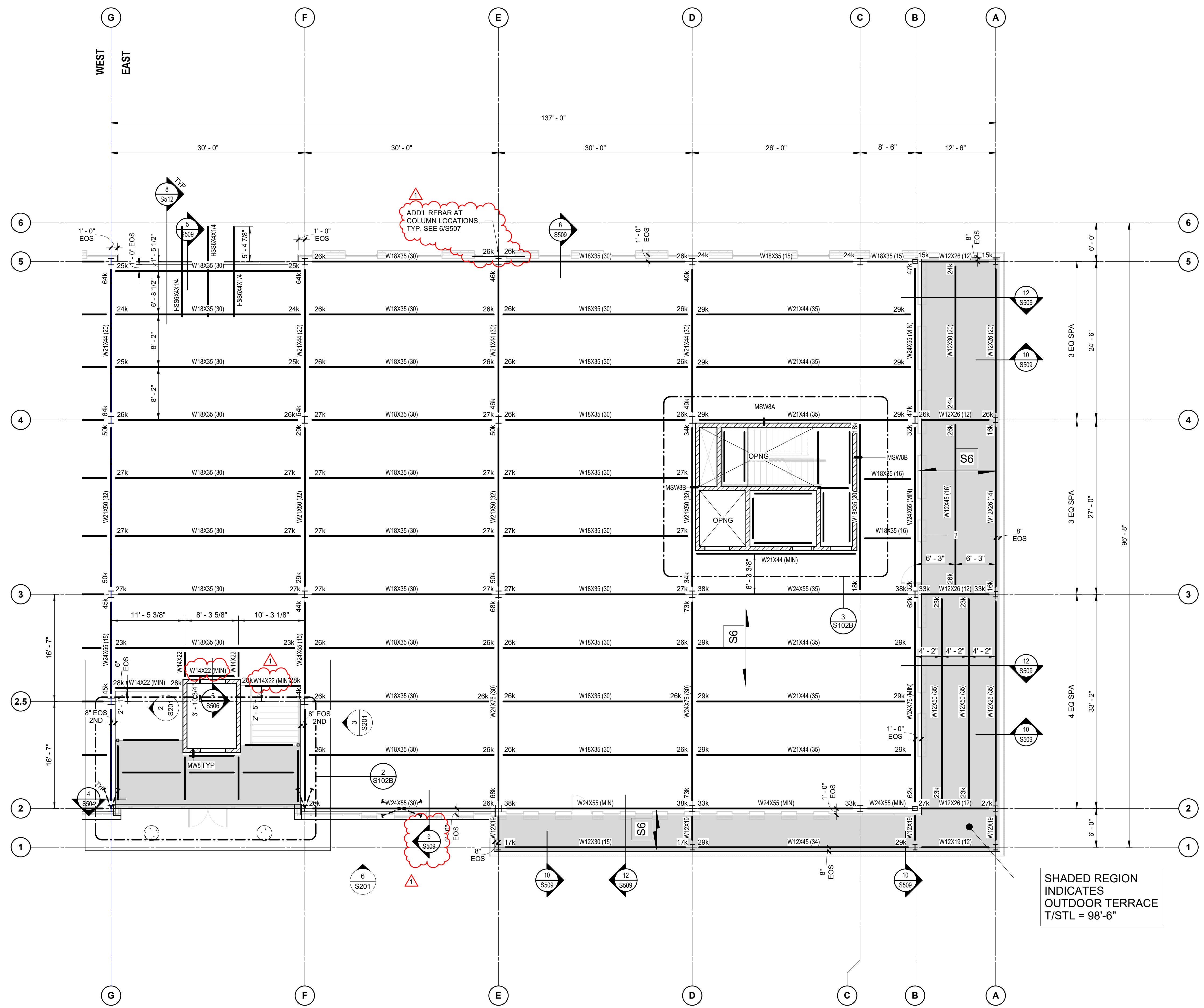
FOUNDATION KEY PLAN NOTES - EAST

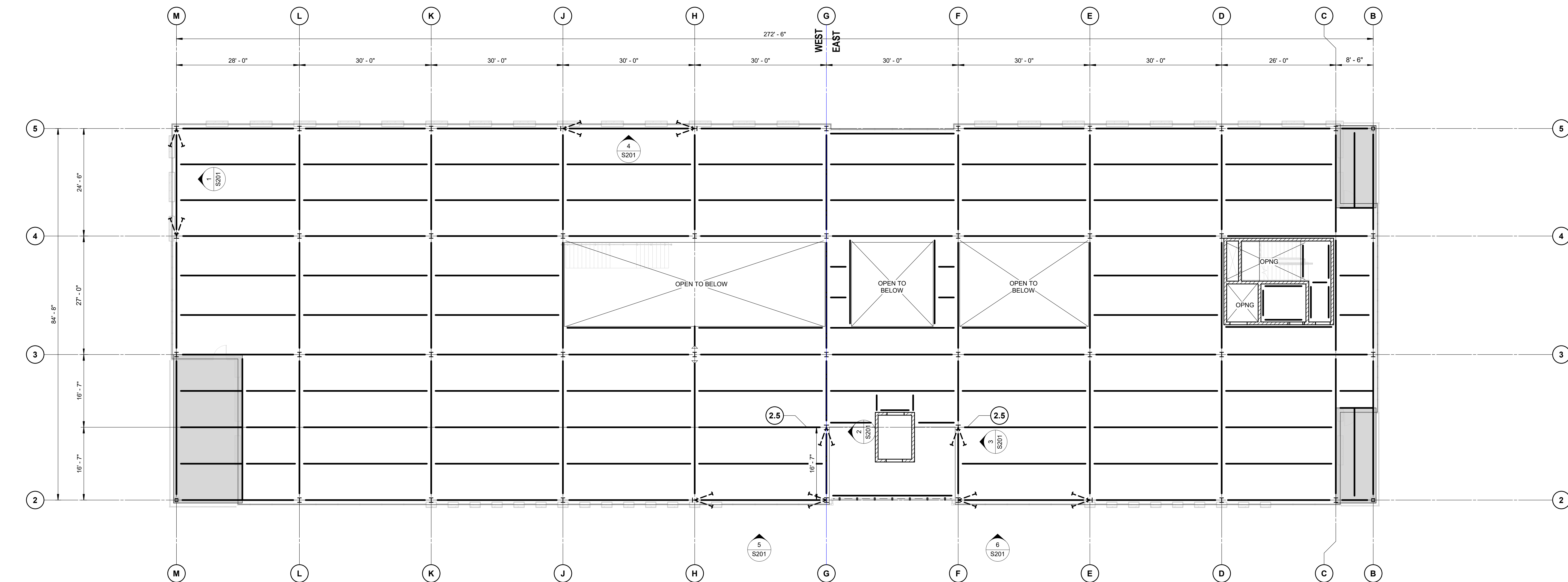
#	NOTE
A	PROVIDE PIERS FOR STEEL TRELLIS SUPPORT - T/PIER = 95'-8" - ALTERNATE #7.
B	PROVIDE ELEVATOR SUMP PIT PER TYPICAL ELEVATOR SUMP PIT DETAIL. COORDINATE SIZE AND LOCATION WITH ELEVATOR SUPPLIER.



Key Plan

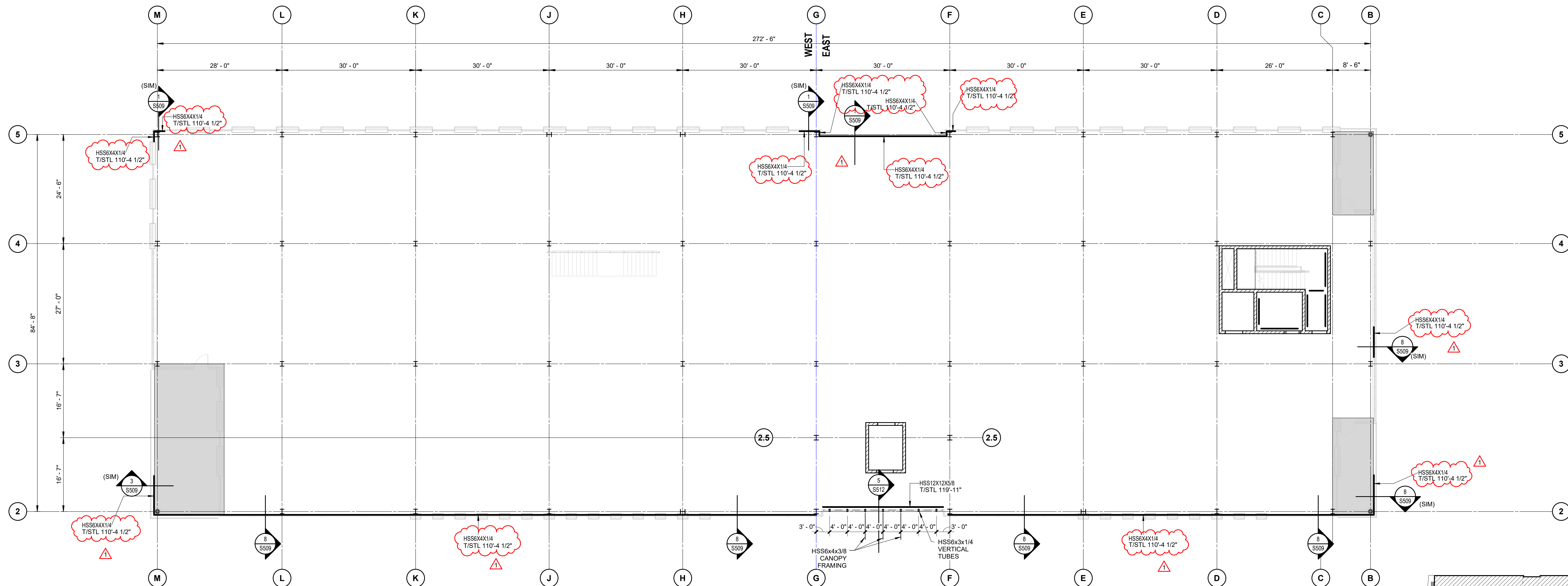
SCALE: 1" = 80'-0"





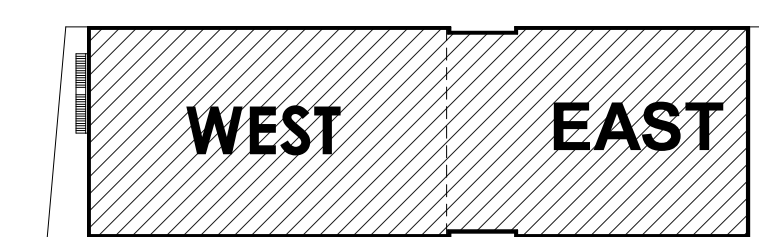
OVERALL THIRD FLOOR FRAMING PLAN

SCALE: 3/32" = 1'-0"



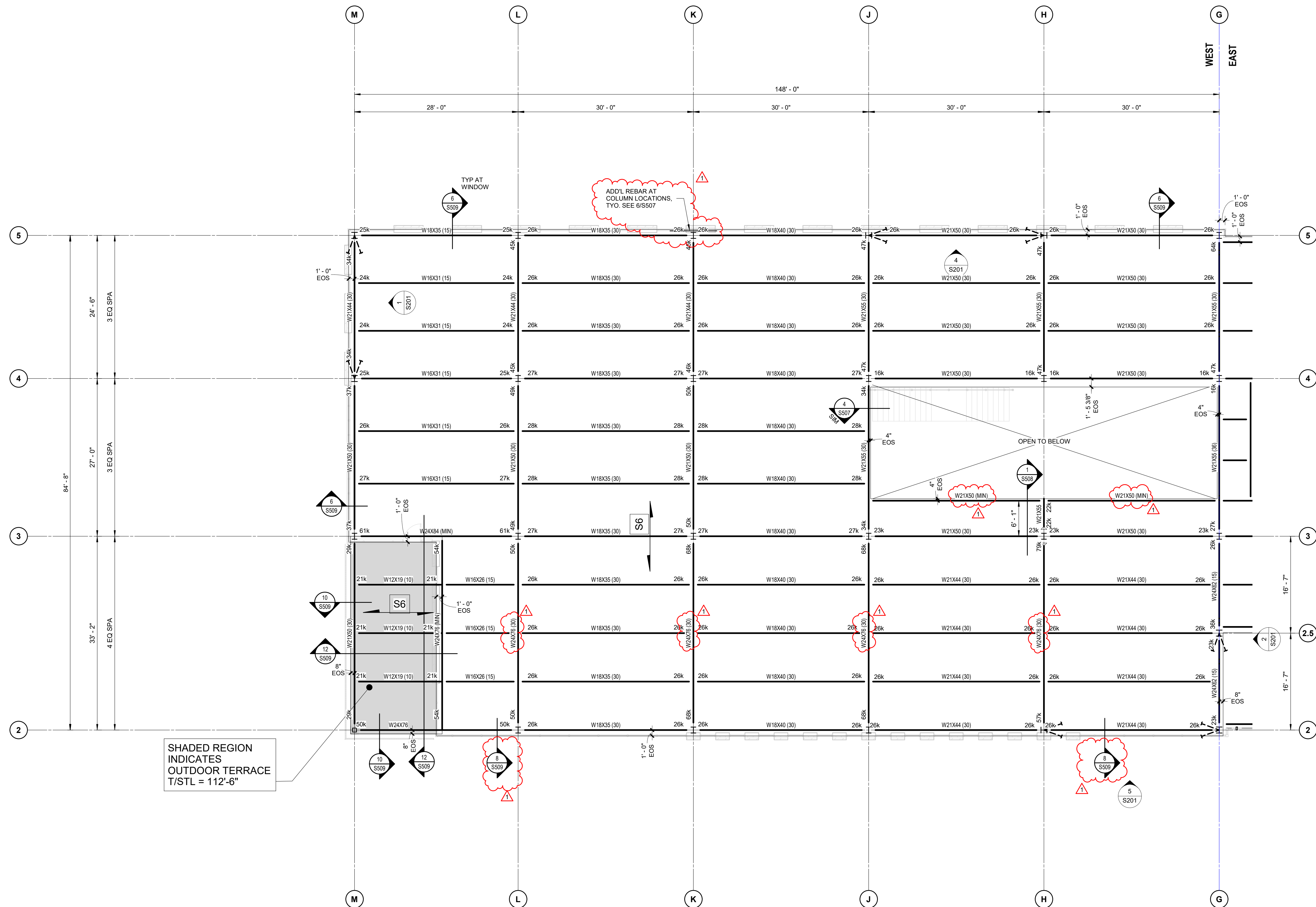
OVERALL WINDOW TUBE FRAMING PLAN

SCALE: 3/32" = 1'-0"



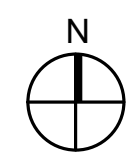
Key Plan

SCALE: 1" = 80'-0"



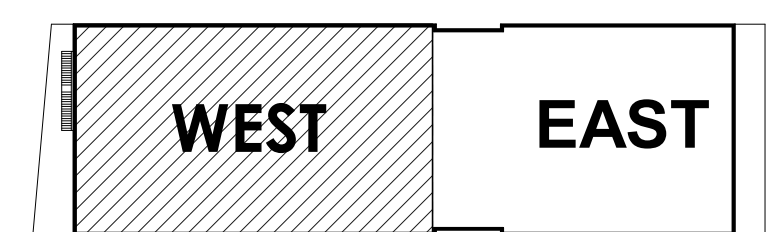
THIRD FLOOR FRAMING PLAN - WEST

SCALE: 1/8" = 1'-0"



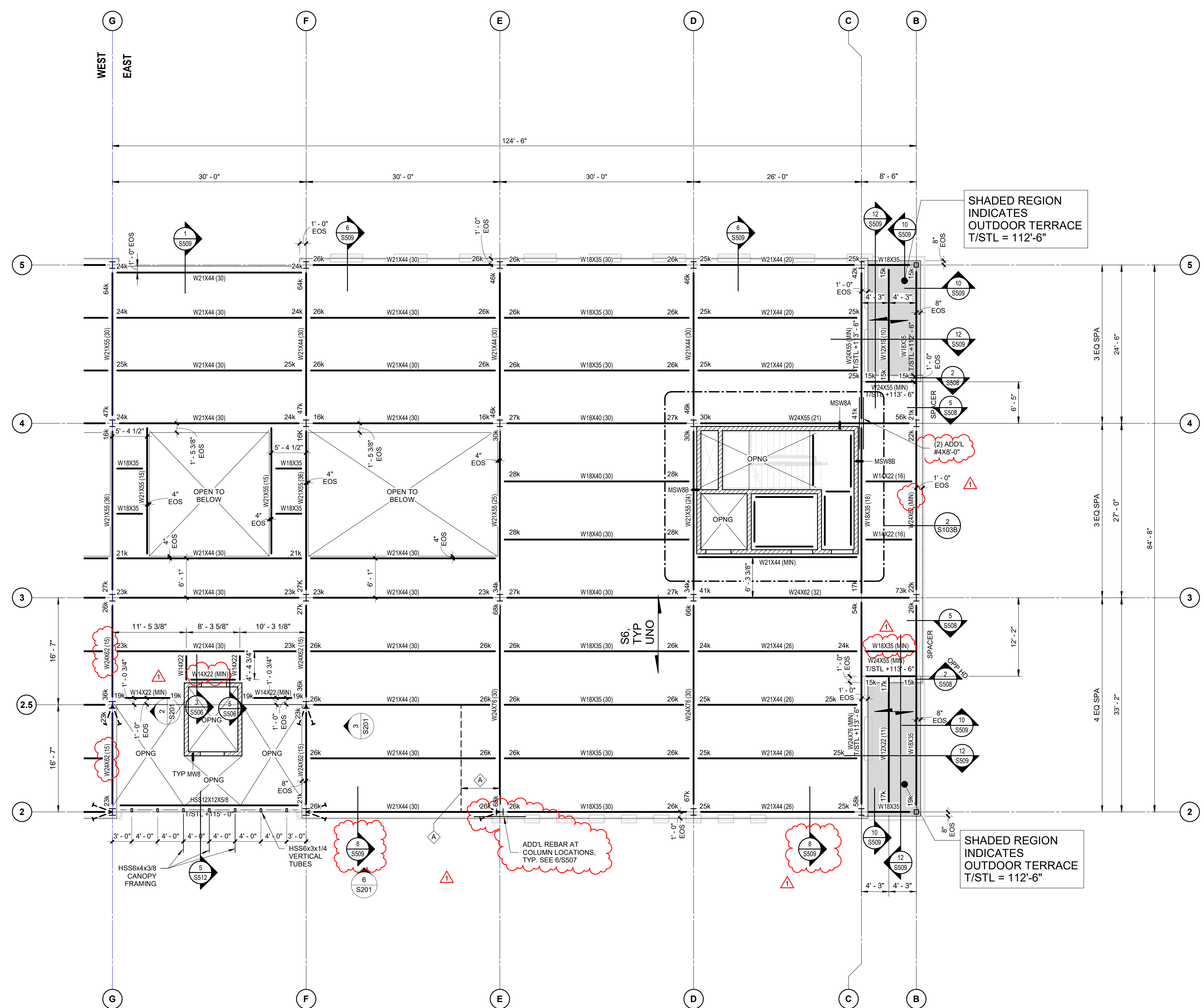
FRAMING PLAN NOTES:

- TOP OF SLAB (T/SLAB) ELEVATION = 114'-0" UNO
- TOP OF STEEL (T/STL) ELEVATION = 113'-6"
- SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
- COORDINATE DECK AND SLAB OPENINGS - EXACT SIZE AND LOCATION, WITH MECHANICAL AND PLUMBING CONTRACTOR DRAWINGS AND EQUIPMENT SUPPLIER.
- GALVANIZE ALL STEEL MEMBERS OUTSIDE OF BUILDING ENVELOPE.



Key Plan

SCALE: 1" = 80'-0"

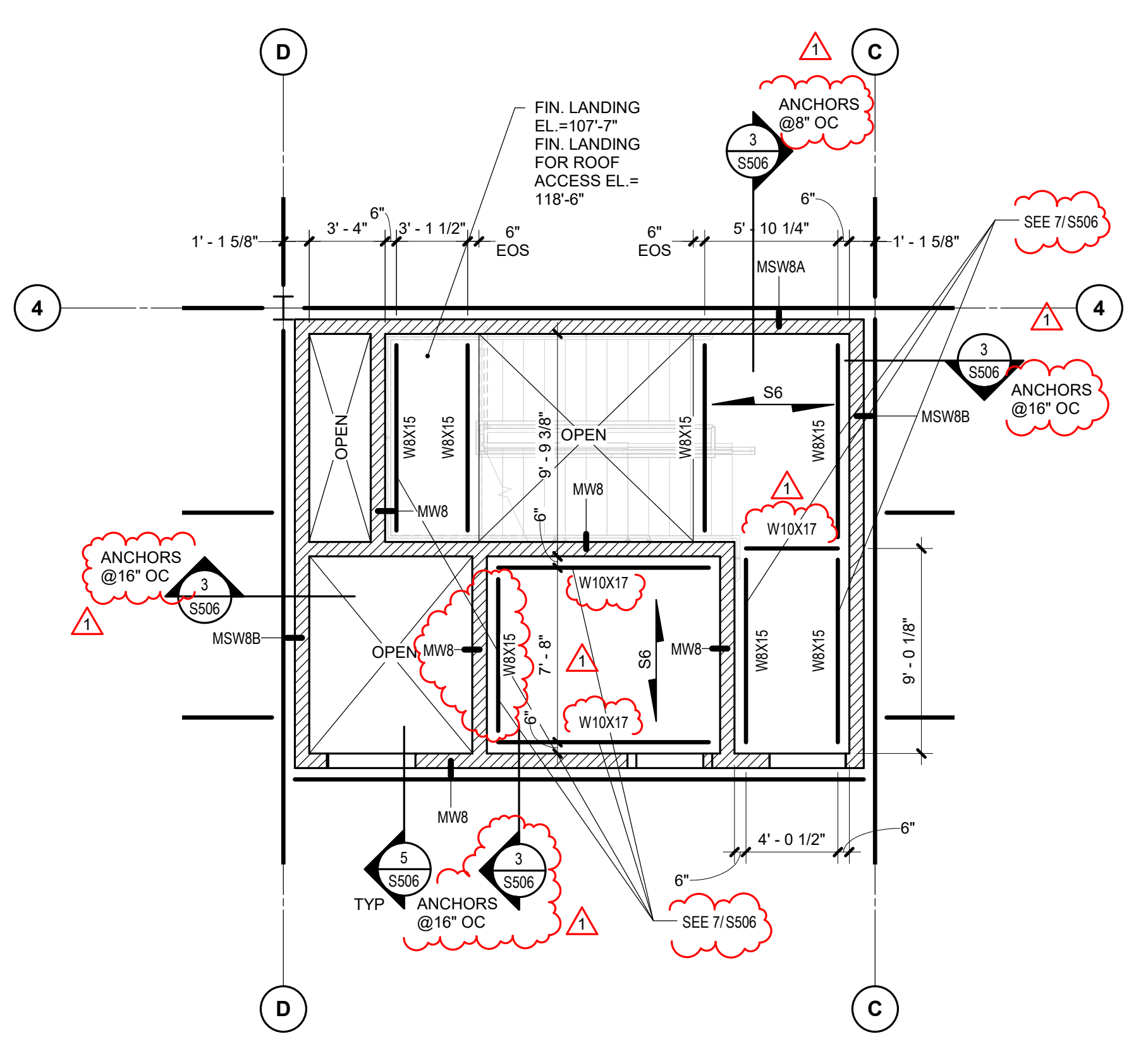


THIRD FLOOR FRAMING PLAN - EAST

SCALE: 1/8" = 1'-0"

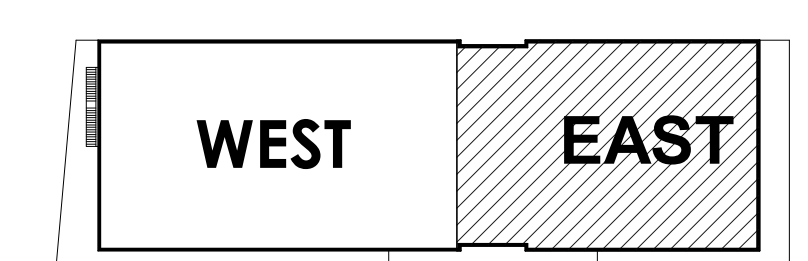
- FRAMING PLAN NOTES:
1. TOP OF SLAB (T/SLAB) ELEVATION = 114'-0" UNO
 2. TOP OF STEEL (T/STL) ELEVATION = 113'-0"
 3. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY
 4. COORDINATE DECK AND SLAB OPENINGS - EXACT SIZE AND LOCATION, WITH MECHANICAL AND PLUMBING CONTRACTOR DRAWINGS AND EQUIPMENT SUPPLIER.
 5. GALVANIZE ALL STEEL MEMBERS OUTSIDE OF BUILDING ENVELOPE.

#	NOTE
A	SEE MOVEABLE PARTITION WALL SUPPORT DETAIL. COORDINATE LOCATION WITH PARTITION WALL SUPPLIER.

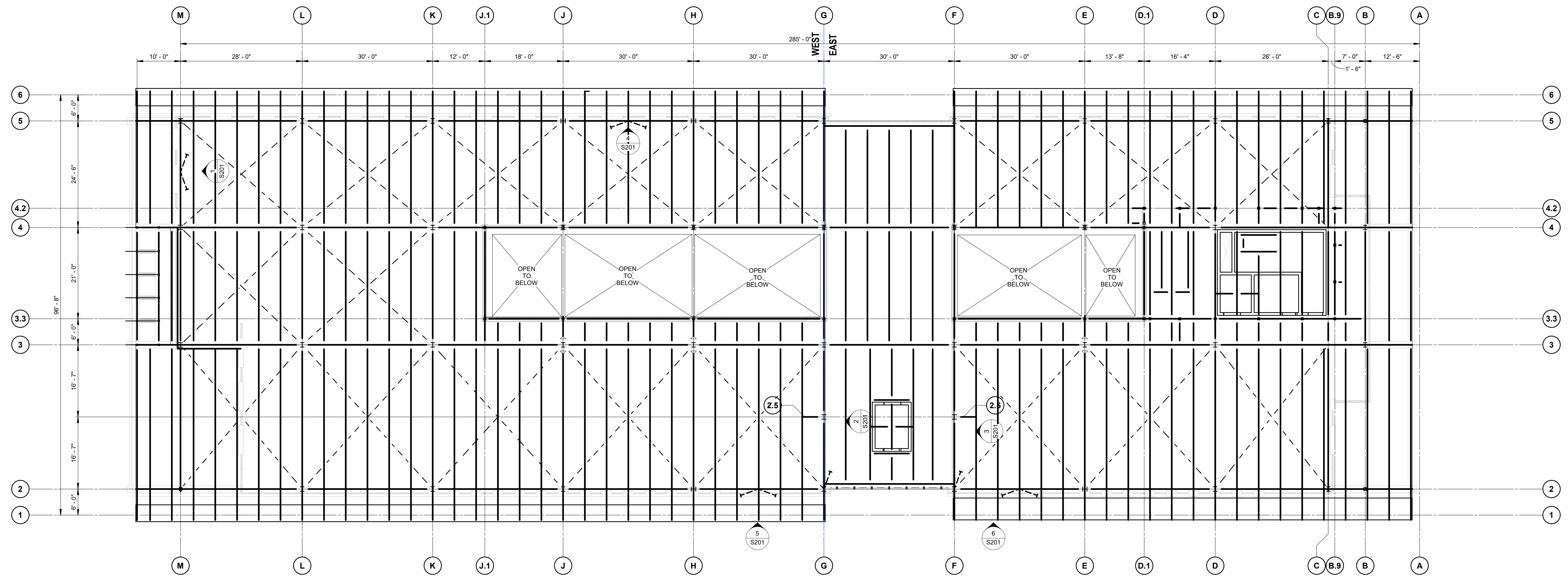


ENLARGED PLAN - THIRD FLOOR EAST STAIR

SCALE: 3/16" = 1'-0"

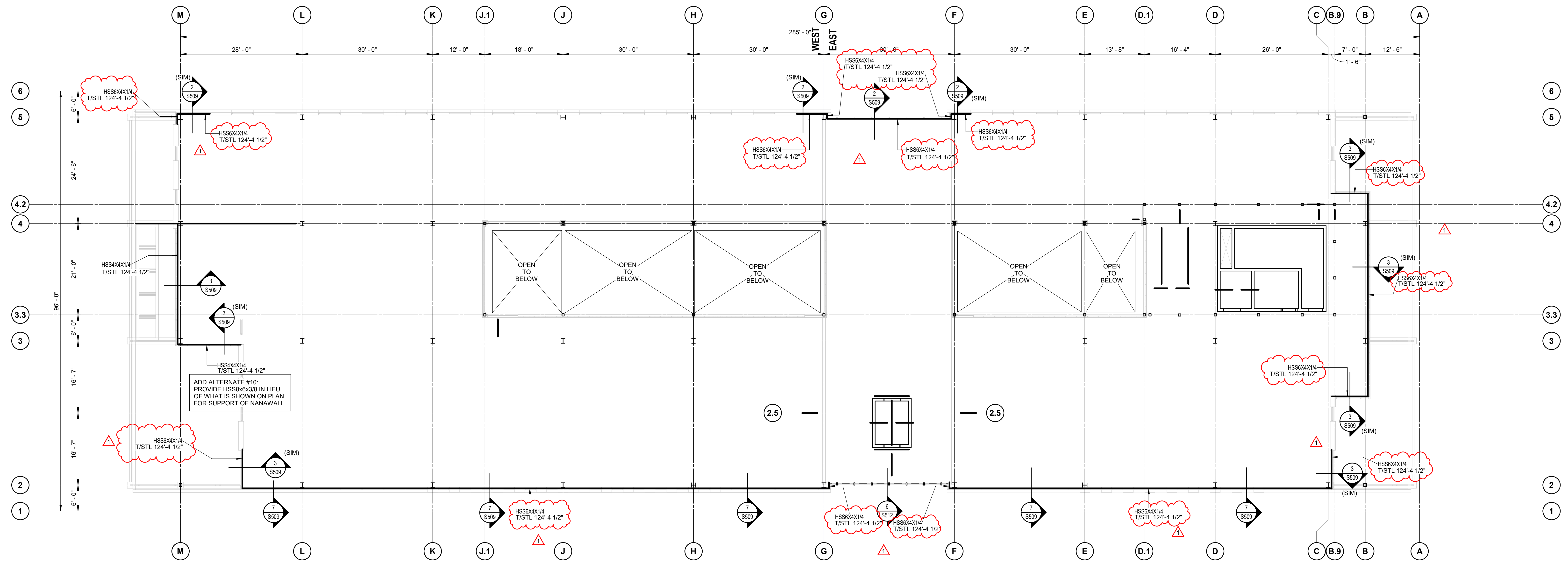


Key Plan
SCALE: 1" = 80'-0"



OVERALL MAIN ROOF FRAMING PLAN

SCALE: 3/32" = 1'-0"



OVERALL WINDOW TUBE FRAMING PLAN

SCALE: 3/32" = 1'-0"

Key Plan

SCALE: 1" = 80'-0"

S104B

MASONRY WALL SCHEDULE									
Mark	Thickness	Vertical Wall Reinforcing			Horiz Reinf		Top of Wall Bond Beam Reinforcing		
		Size	Spa	Location	Size	Spa	No. of	Size	Remarks
MSWB8	7 5/8"	#7	8"	Center	#6	4'-0"	2	#5	Provide boundary reinforcing at the three cells of each end of wall. (1) #6 each cell, (3) total each end
MSWB8	7 5/8"	#8	1'-4"	Center	#6	4'-0"	2	#5	
MW6	5 5/8"	#6	2'-0"	Center	Ladder	6"	1	#5	
MW8	7 5/8"	#6	2'-8"	Center	Ladder	1'-4"	2	#5	

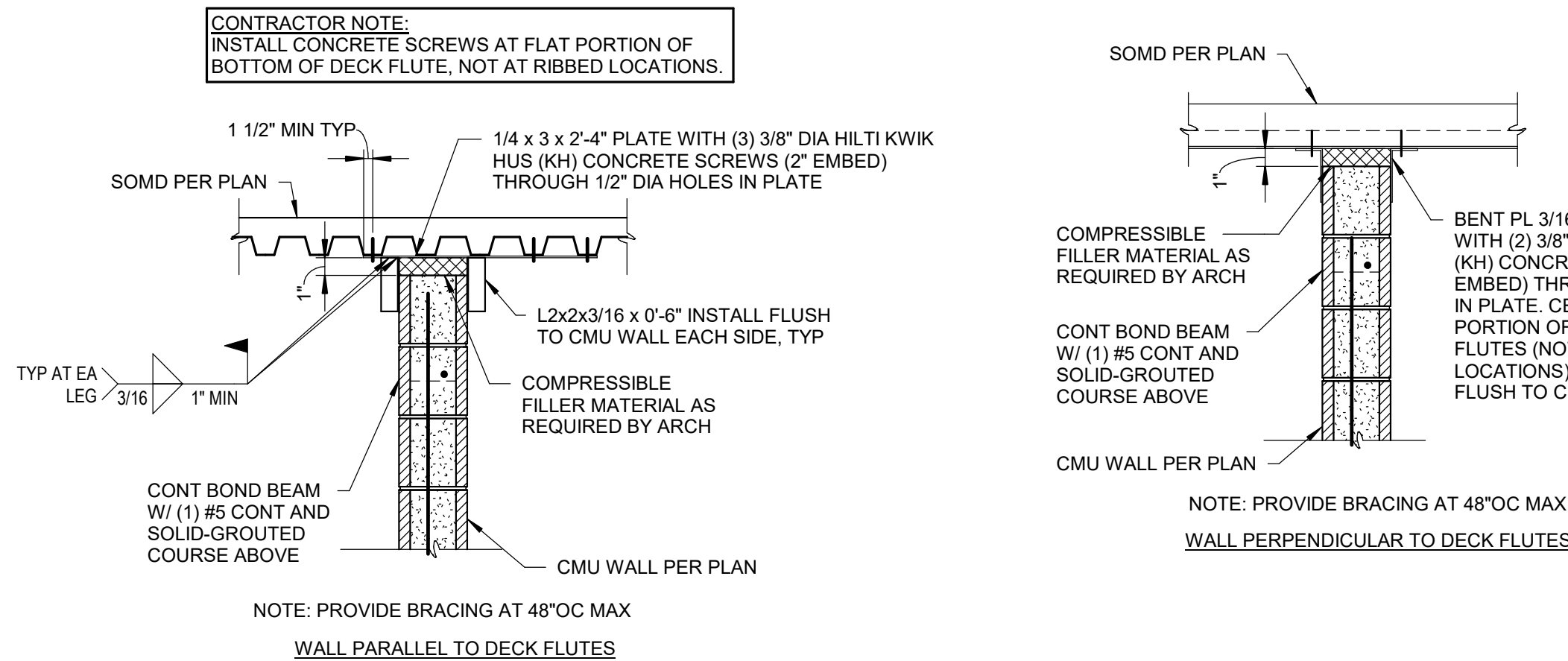
Masonry Wall Schedule Notes
1. Provide 2" cover from outside face for bars in each face.
2. Grout all cores with rebar solid, unless solid grouted wall is shown.
3. Provide ladder type horizontal reinforcement at 16" o.c. above grade and 8" o.c. below grade and at parapets, unless noted otherwise. Side and cross rods shall be #5 wire, galvanized, see specifications. Cut joint reinforcement at control joints.
4. Provide bond beam with (2) #5 cont. at top of wall, unless noted otherwise.
5. See schedule for additional bond beams.
6. CMU partition walls not explicitly labeled shall be reinforced with #5@48" o.c. for 6" and 8" CMU, #6@48" o.c. for 10" CMU and #7@48" o.c. for 12" CMU

PRESCRIPTIVE LINTEL SCHEDULE			
GENERAL NOTE: PROVIDE LINTELS IN THIS SCHEDULE FOR MASONRY OPENINGS WHERE SPECIFIC LINTELS (L#) ARE NOT OTHERWISE INDICATED. WHERE A SPECIFIC LINTEL (L#) IS INDICATED FOR A PARTICULAR OPENING, PROVIDE THE SPECIFIC LINTEL (L#). FOR OPENINGS BEYOND THE LIMITS AND/OR MATERIALS IDENTIFIED IN THIS SCHEDULE WHERE SPECIFIC LINTELS (L#) ARE NOT OTHERWISE INDICATED, CONTACT THE STRUCTURAL ENGINEER FOR REQUIRED LINTEL SIZE AND TYPE.			
SECTION	CLEAR OPENING	TYPE	NOTES
W x 8 H (NOMINAL) CMU	UP TO 3'-4"	PLB	6", 8", 10", 12" CMU
W x 16 H (NOMINAL) CMU	>3'-4" UP TO 6'-4"	PLB	6", 8", 10", 12" CMU
W x 24 H (NOMINAL) CMU	>6'-4" UP TO 10'-4"	PLB	6", 8", 10", 12" CMU
L3 1/2 x 3 1/2 x 5/16	UP TO 4'-0"	PLC	4" MASONRY VENEER
L5 x 3 1/2 x 5/16 (LLV)	>4'-0" UP TO 6'-0"	PLC	4" MASONRY VENEER
L6 x 3 1/2 x 3/8 (LLV)	>6'-0" UP TO 8'-0"	PLC	4" MASONRY VENEER
TYPES:			
<p>PRESCRIPTIVE LINTEL SCHEDULE NOTES:</p> <ol style="list-style-type: none"> CMU LINTELS SHALL BEAR 1'-4" ONTO SUPPORTING WALLS, UNO. STEEL LINTELS SHALL BEAR 0'-8" ONTO SUPPORTING WALLS, UNO. ALL STEEL LINTELS IN EXTERIOR WALLS SHALL BE GALVANIZED. 			

MASONRY REINFORCING STEEL LAP SPLICE CHART	
BAR SPLICE LENGTHS	
BAR	LENGTH
#3	12"
#4	12"
#5	17"
#6	33"
#7	46"
#8	NOTE 1
NOTES:	
1. FOR #6 BARS, SPLICE WITH MECHANICAL CONNECTORS.	
2. SPLICES BASED ON $f_y = 60,000$ PSI AND $f_m \geq 2500$ PSI.	

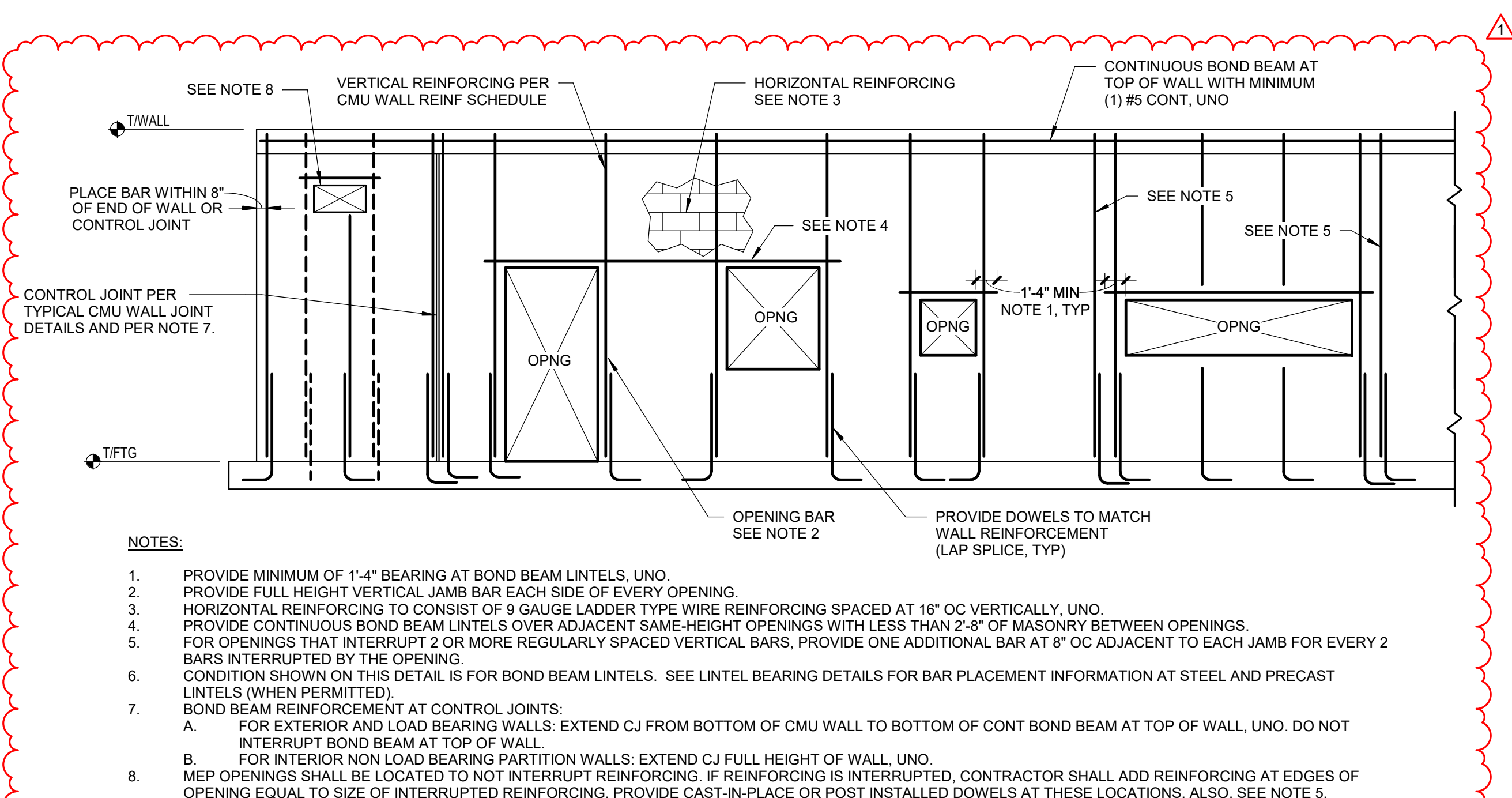
TYPICAL BEAM BEARING ON MASONRY

SCALE: 3/4" = 1'-0"



TYPICAL FULL-HEIGHT CMU PARTITION WALL BRACING AT SLAB ON METAL DECK

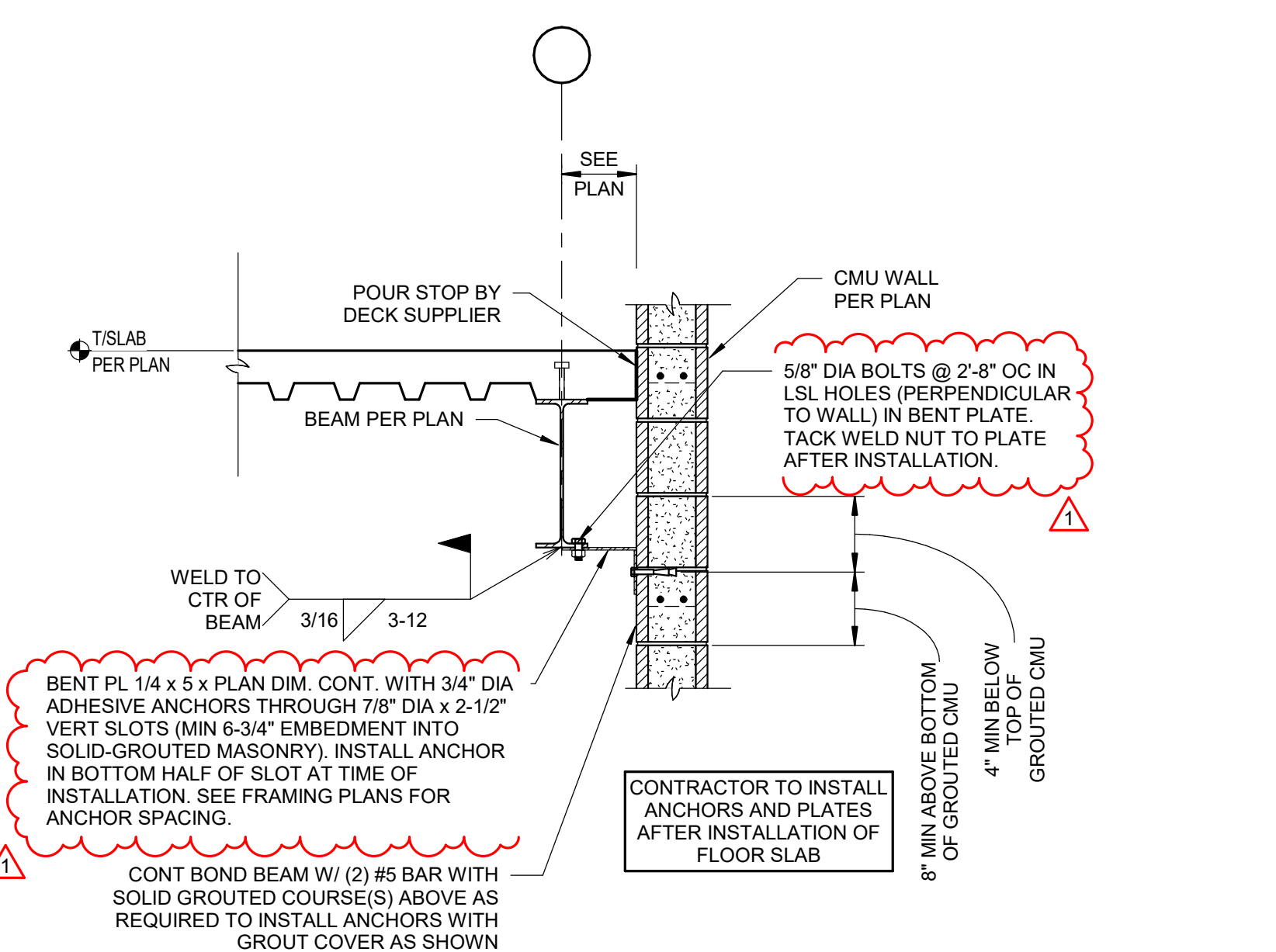
SCALE: 3/4" = 1'-0"



- NOTES:
- PROVIDE MINIMUM OF 1'-4" BEARING AT BOND BEAM LINTELS, UNO.
 - PROVIDE FULL HEIGHT VERTICAL JAMB BAR EACH SIDE OF EVERY OPENING.
 - HORIZONTAL REINFORCING TO CONSIST OF 5 GAUGE LADDER TYPE WIRE REINFORCING SPACED AT 16" OC VERTICALLY, UNO.
 - PROVIDE CONTINUOUS BOND BEAM LINTELS OVER ADJACENT SAME-HEIGHT OPENINGS WITH LESS THAN 2'-8" OF MASONRY BETWEEN OPENINGS.
 - FOR OPENINGS THAT INTERRUPT 2 OR MORE REGULARLY SPACED VERTICAL BARS, PROVIDE ONE ADDITIONAL BAR AT 8" OC ADJACENT TO EACH JAMB FOR EVERY 2 BARS INTERRUPTED BY THE OPENING.
 - CONDITION SHOWN ON THIS DETAIL IS FOR BOND BEAM LINTELS. SEE LINTEL BEARING DETAILS FOR BAR PLACEMENT INFORMATION AT STEEL AND PRECAST LINTELS (WHEN PERMITTED).
 - BOND BEAM REINFORCEMENT AT CONTROL JOINTS:
 - FOR EXTERIOR AND LOAD BEARING WALLS: EXTEND CJ FROM BOTTOM OF CMU WALL TO BOTTOM OF CONT BOND BEAM AT TOP OF WALL, UNO. DO NOT INTERRUPT BOND BEAM AT TOP OF WALL.
 - FOR INTERIOR NON LOAD BEARING PARTITION WALLS: EXTEND CJ FULL HEIGHT OF WALL, UNO.
 - MEP OPENINGS SHALL BE LOCATED TO NOT INTERRUPT REINFORCING. IF REINFORCING IS INTERRUPTED, CONTRACTOR SHALL ADD REINFORCING AT EDGES OF OPENING EQUAL TO SIZE OF INTERRUPTED REINFORCING. PROVIDE CAST-IN-PLACE OR POST INSTALLED DOWELS AT THESE LOCATIONS. ALSO, SEE NOTE 5.

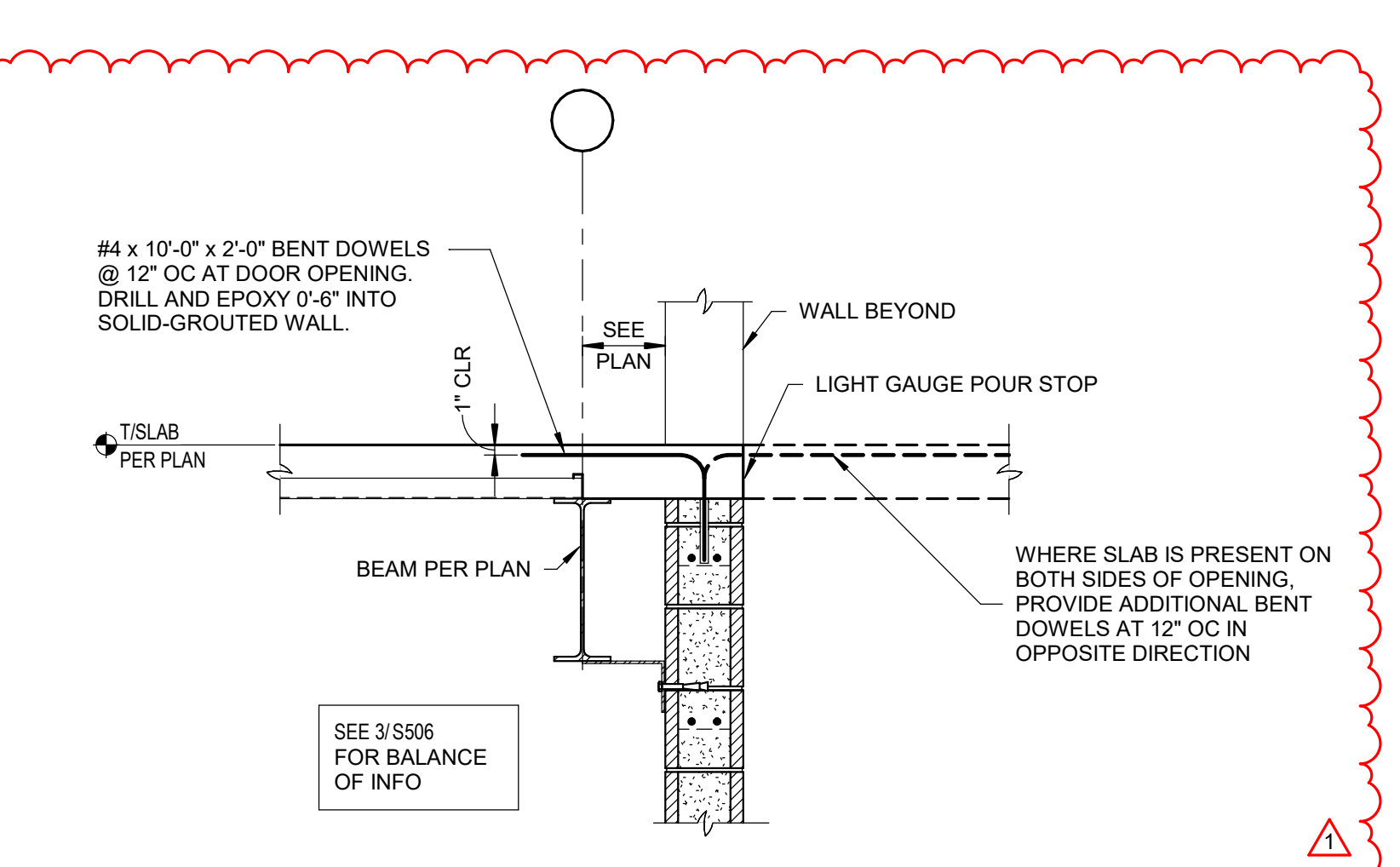
ROOF CONNECTION SECTION AT BYPASS CMU WALL

SCALE: 3/4" = 1'-0"



FLOOR SLAB SECTION AT BYPASS CMU WALL

SCALE: 3/4" = 1'-0"



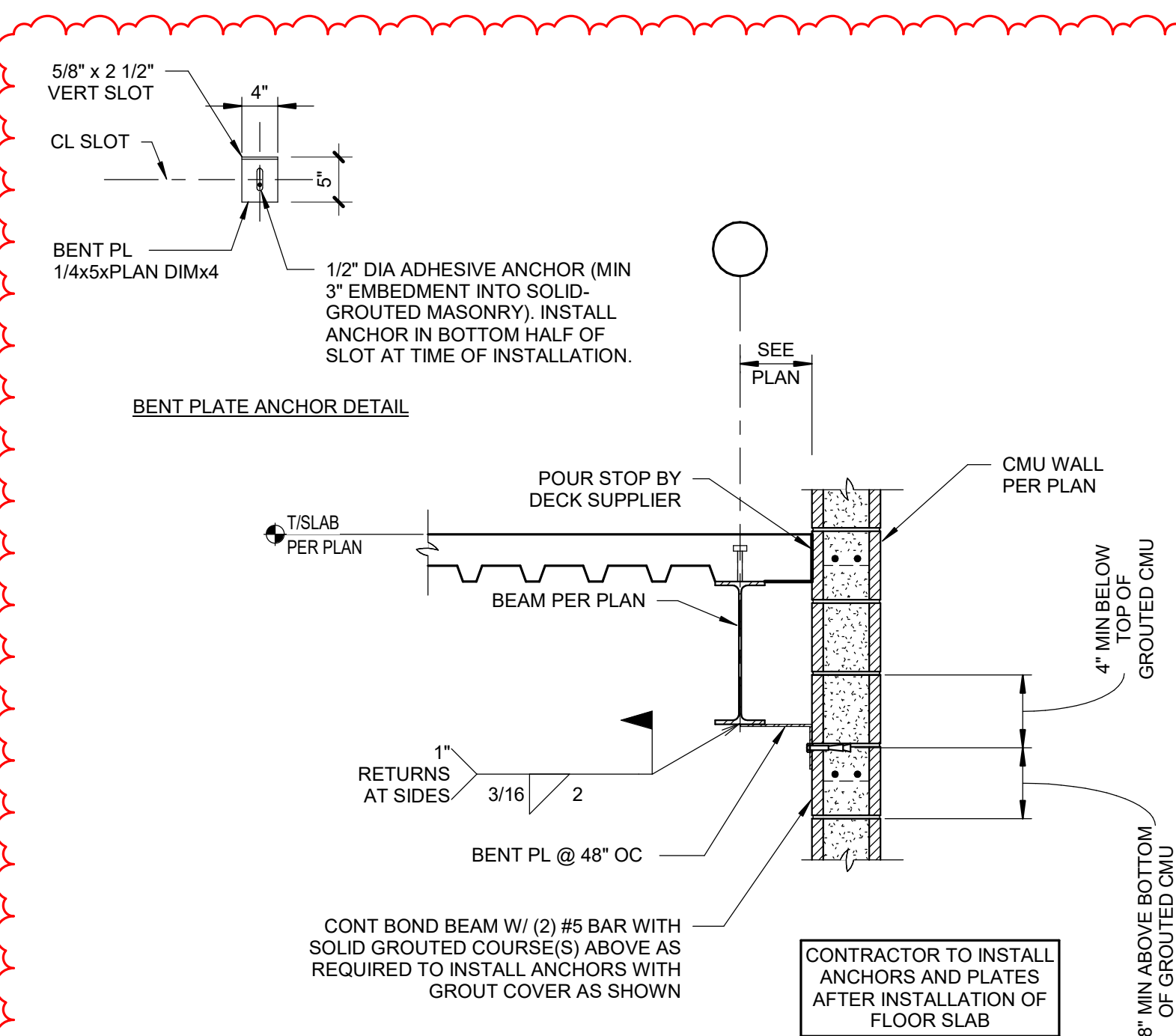
FLOOR SLAB SECTION AT DOOR OPENING IN BYPASS CMU WALL

SCALE: 3/4" = 1'-0"



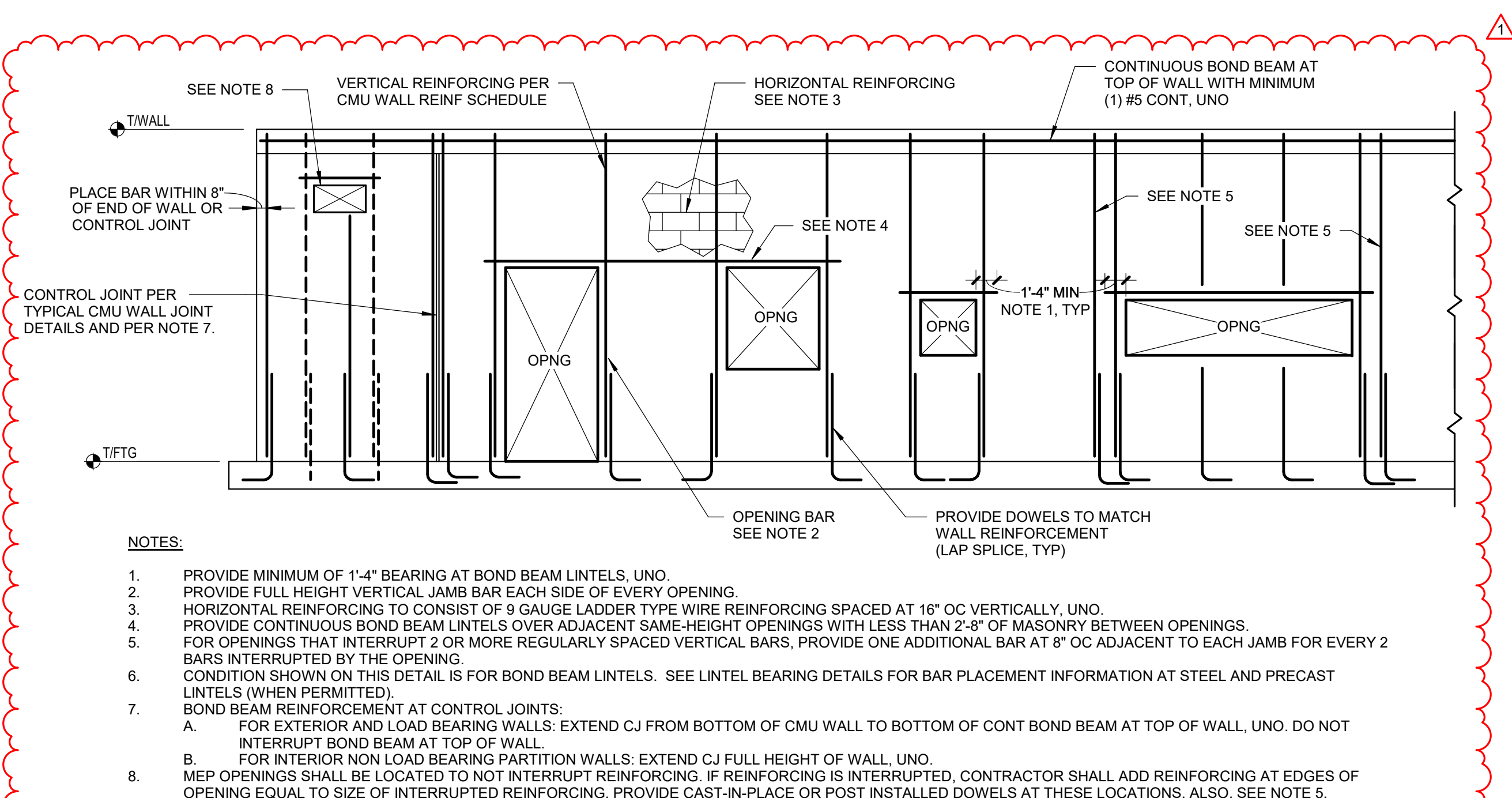
FLOOR SLAB CONNECTION AT EAST ELEVATOR/STAIR TOWER

SCALE: 3/4" = 1'-0"



TYPICAL REINFORCING AT CMU WALLS

SCALE: 3/4" = 1'-0"



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Checked By: DAB
Date Issued: 09/12/2022

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DAMIEN CENTER
NEW DAMIEN HEADQUARTERS
INTERSECTION OF WASHINGTON STREET
AND N ORIENTAL STREET

PAUL A. BURCH
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STATE OF INDIANA
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Darl Burch
09/12/2022

TYPICAL SECTIONS AND DETAILS

S506
PROJECT NUMBER: 2021029

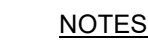
FASTENER PATTERN DIAGRAM

PERIMETER EDGE FASTENING

SUPPORT FASTENER PATTERN DEFINITION

NOTES:

1. CONCRETE TO BE NORMAL WEIGHT, UNO.
2. FASTEN THROUGH MULTIPLE SHEETS AT ALL END AND SIDE LAPS.
3. END LAPS SHALL OCCUR ONLY AT SUPPORT POINTS.
4. DECK SHALL BE INSTALLED IN A MINIMUM THREE SPAN CONDITION WHEREVER POSSIBLE. WHERE THREE SPAN CONDITION IS NOT POSSIBLE, NOTIFY STRUCTURAL ENGINEER PRIOR TO FABRICATION OF DECK SO THAT EVALUATION OF THE LESSER SPAN CONDITION(S) CAN BE PERFORMED.
5. FOR DECK SPANS 5'-0" OR LESS, PROVIDE ONE SIDELAP FASTENER AT MID-SPAN OF EACH JOIST OR BEAM SPACE. FOR DECK SPANS EXCEEDING 5'-0", PROVIDE SIDELAP FASTENERS AT 3'-0" OC, MAX. USE DECK MANUFACTURER'S RECOMMENDED PUNCHED SIDELAPS FOR COMPOSITE DECK AND NON-NESTING FORM DECK UNO. USE #10 TEK SCREWS AT DECK WITH NESTED SIDELAPS, UNO.
6. PROVIDE DECK WITH ALL PROPERTIES MEETING OR EXCEEDING THE INDICATED BASIS OF DESIGN DECK.



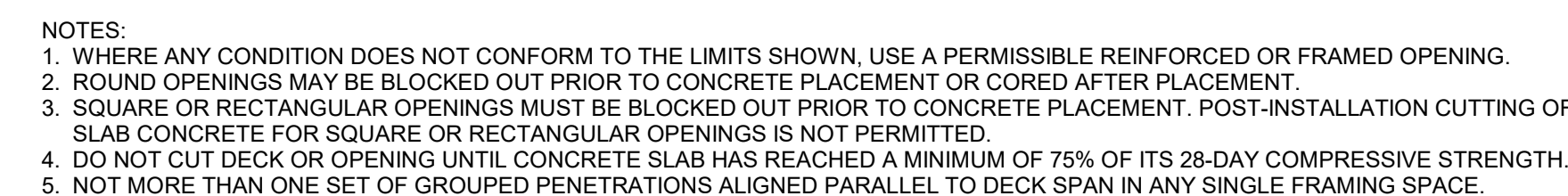
1. REINFORCEMENT SHOWN ON THIS DETAIL IS IN ADDITION TO ALL OTHER INDICATED REINFORCEMENT, UNO.
2. CONCRETE CONTRACTOR SHALL SECURELY CHAIR ALL REINFORCEMENT PRIOR TO CONCRETE PLACEMENT AND MAINTAIN PROPER REINFORCEMENT POSITIONING THROUGHOUT THE CONCRETE PLACEMENT.

SCALE: 3/4" = 1'-0"



1. PROVIDE SUPPORT ANGLE AS SHOWN AT ALL LOCATION WHERE DECK IS NOT OTHERWISE SUPPORTED BY BEAM OR OTHER FRAMING.

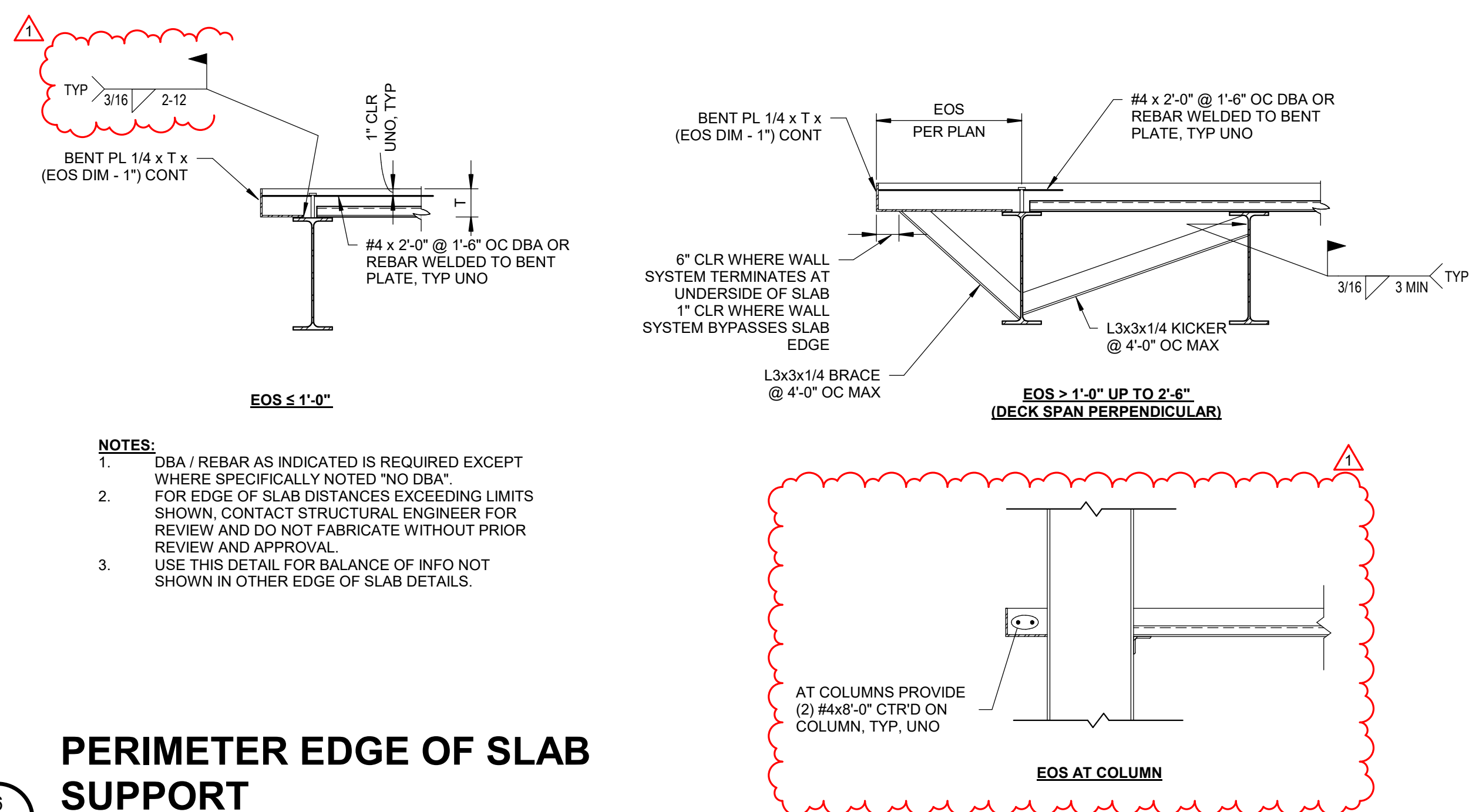
SCALE: 3/4"

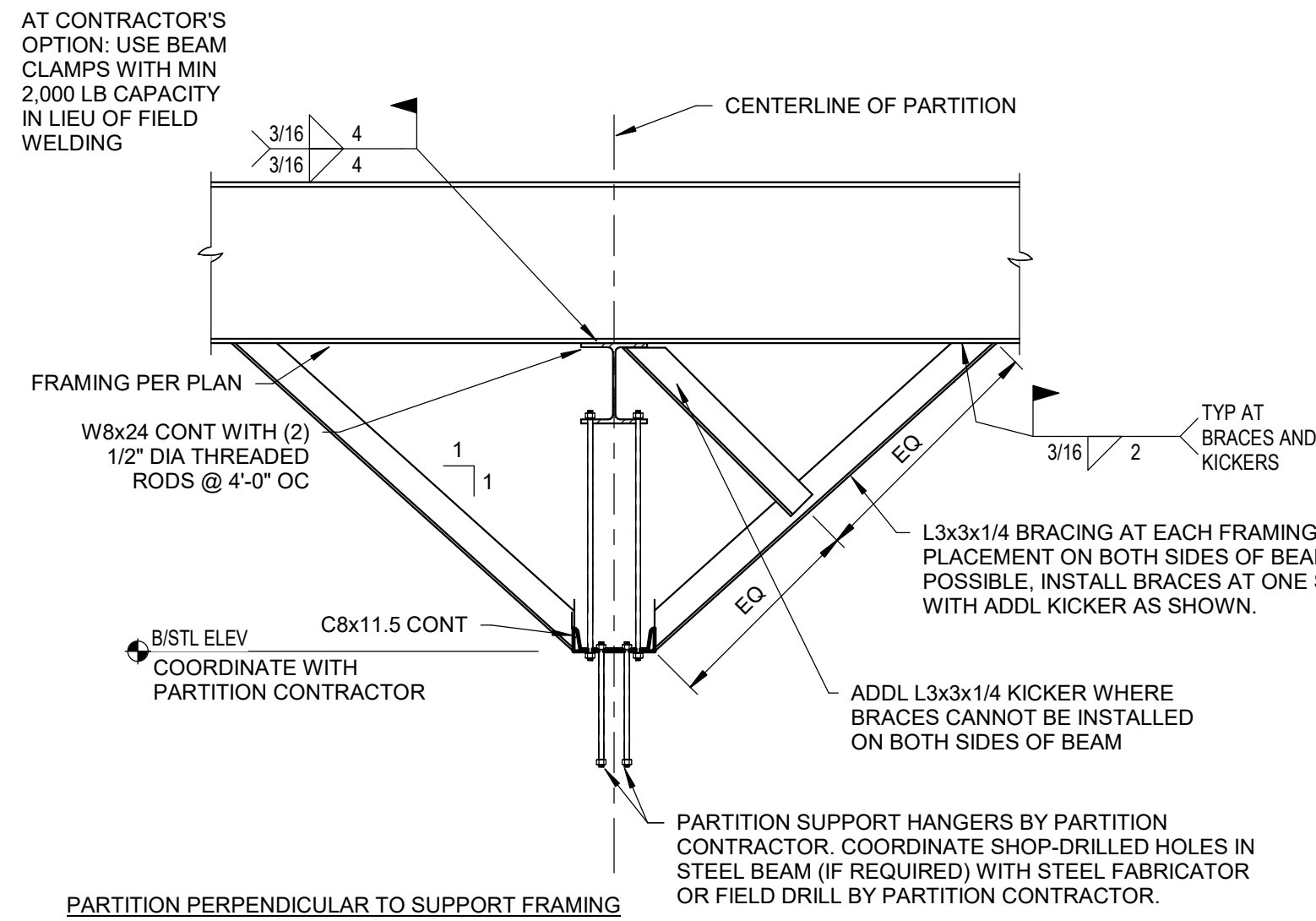


SCALE: 3/8" = 1'-0"



SCALE: 3/4" = 1'-0"

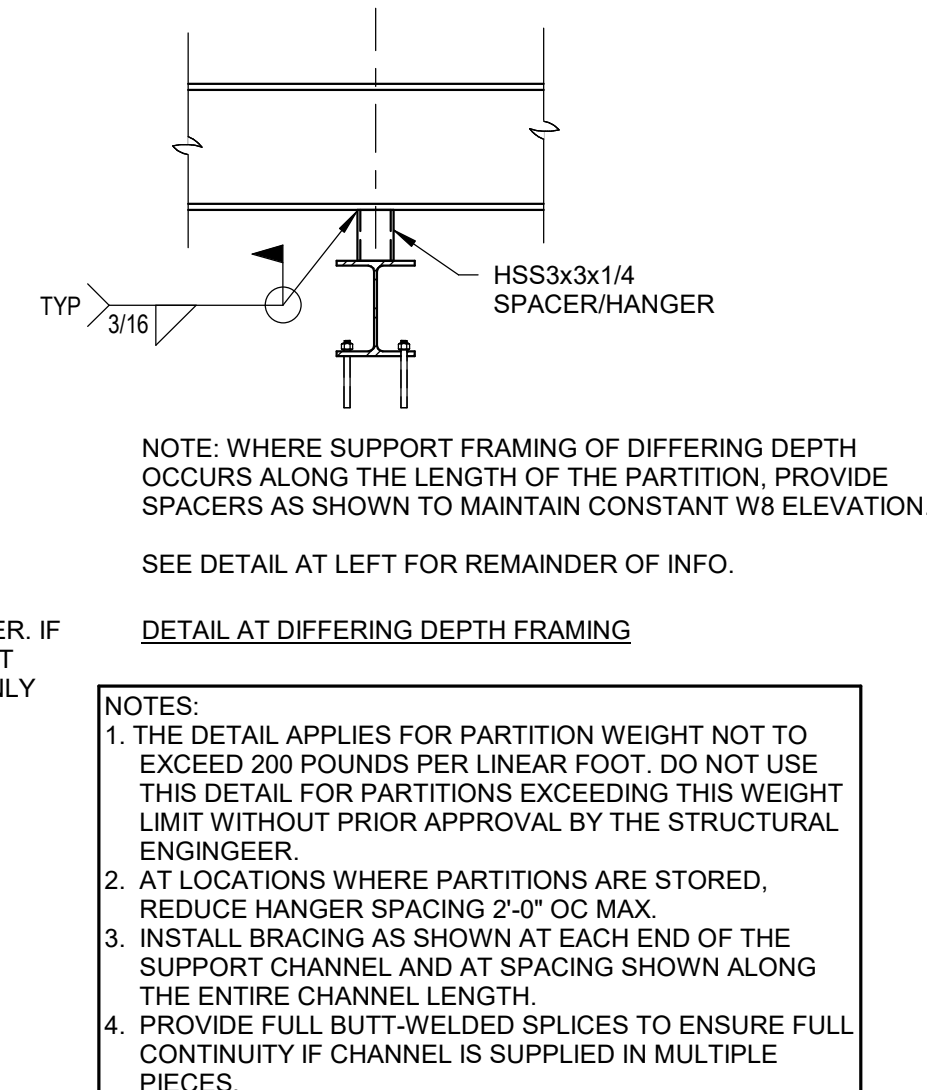




MOVABLE PARTITION WALL SUPPORT FRAMING

3
S508

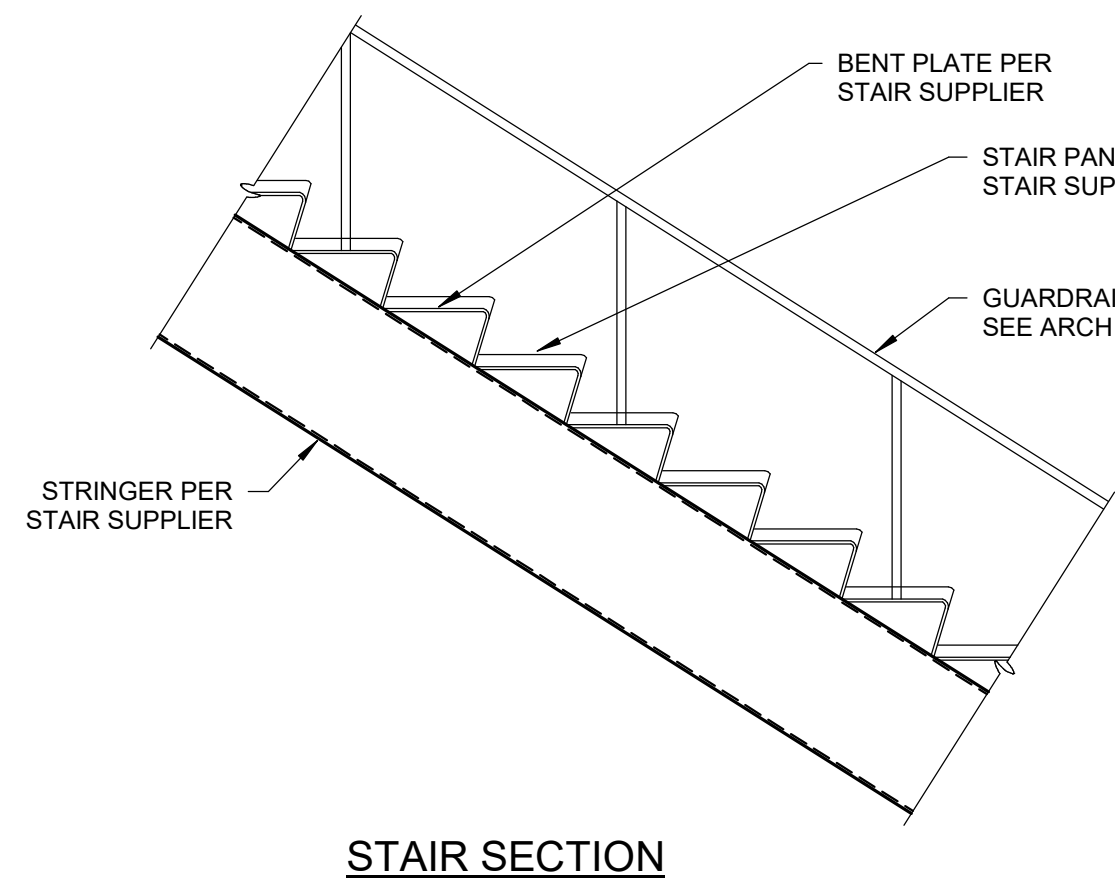
SCALE: 3/4" = 1'-0"



TYPICAL CONNECTION TO SPACER DETAIL

2
S508

SCALE: 3/4" = 1'-0"

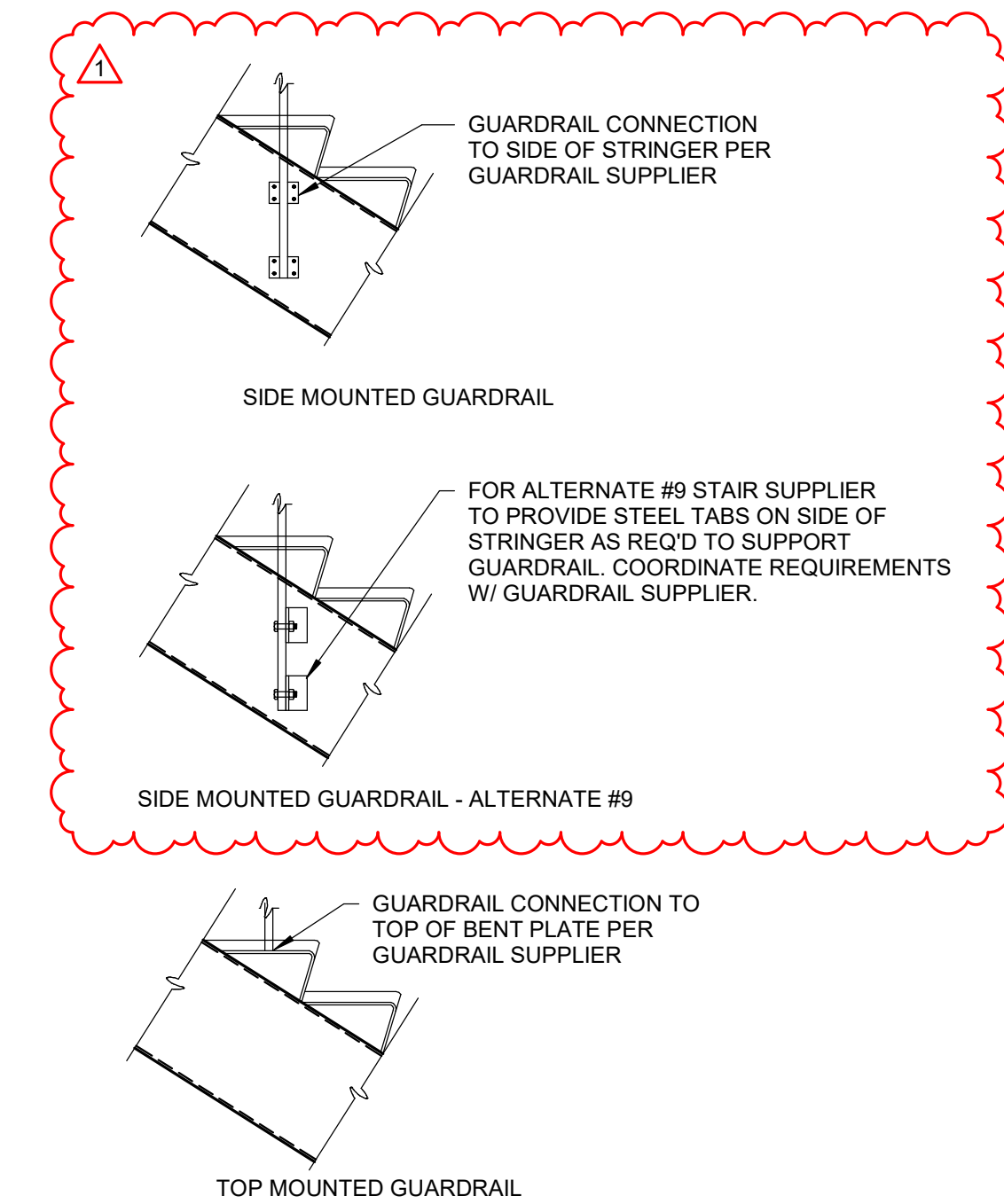


STAIR SECTION

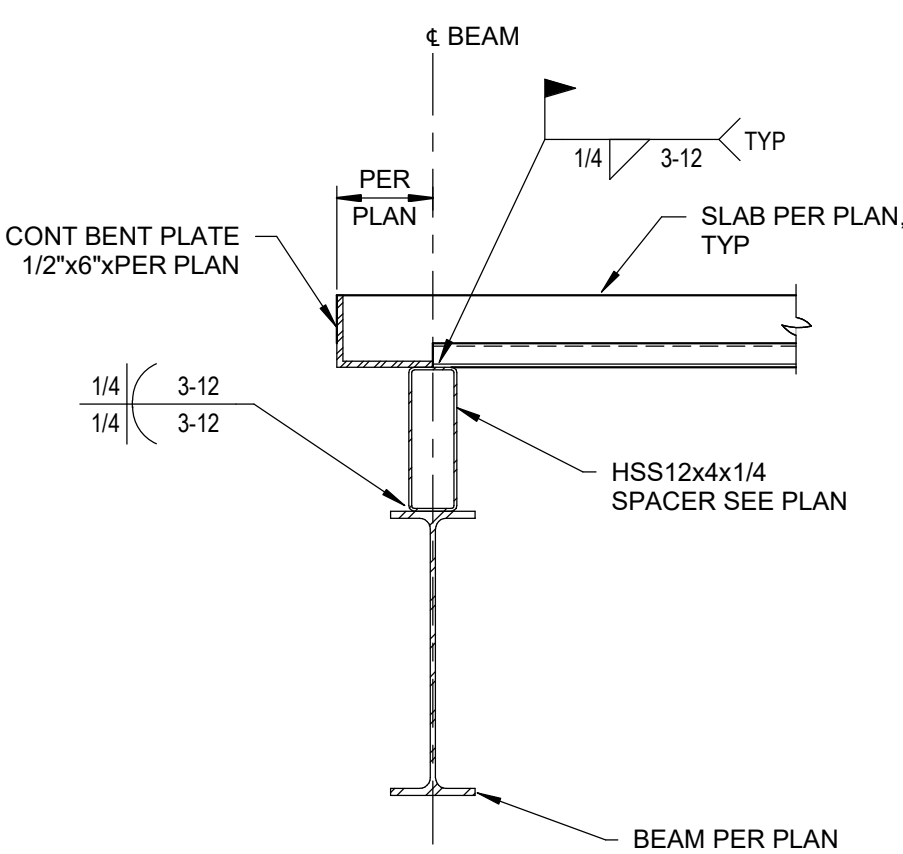
MAINSTREET STAIR SUPPORT CONDITION

6
S508

SCALE: 3/4" = 1'-0"



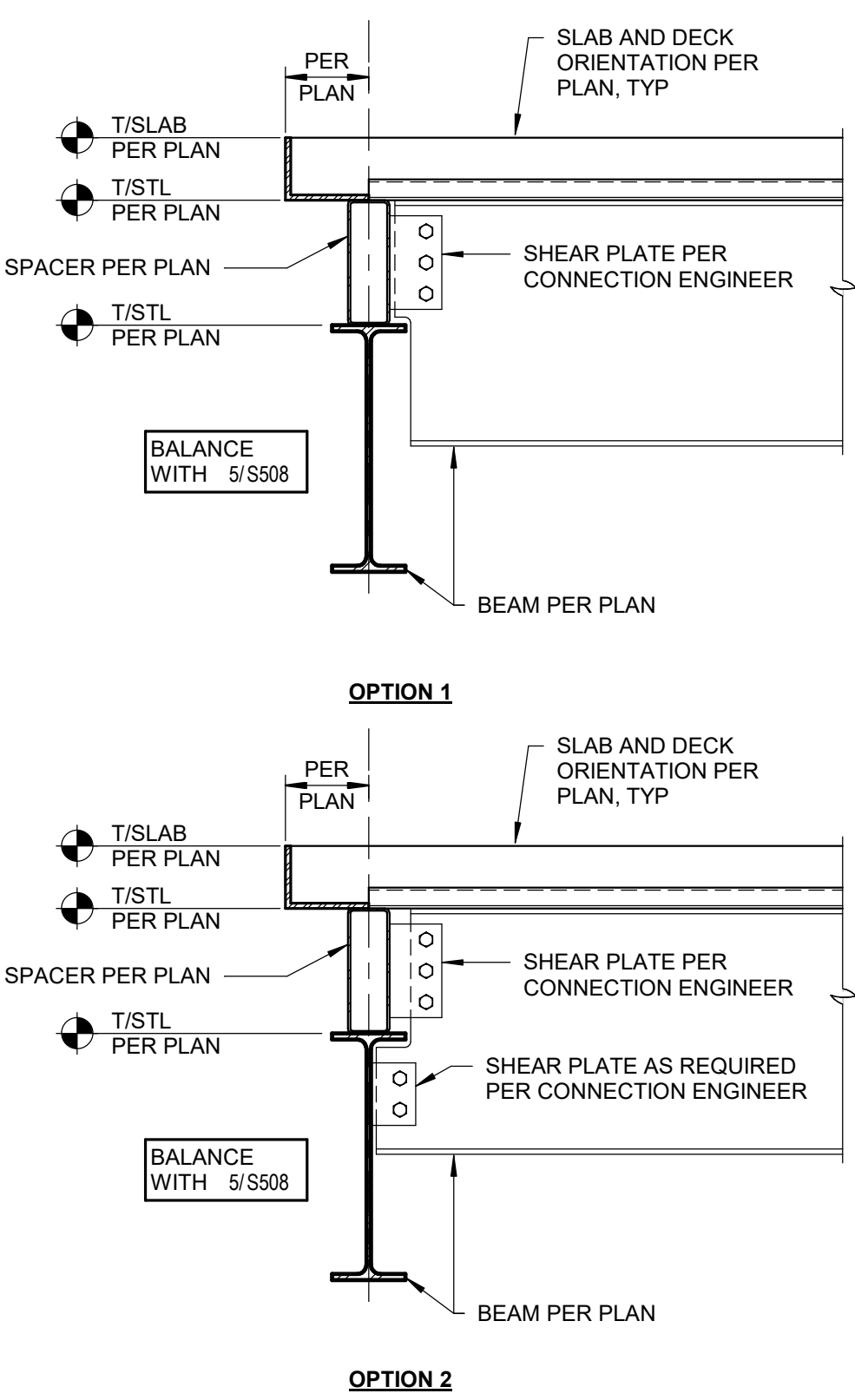
GUARDRAIL BASE CONNECTION TYPES



TYPICAL SPACER DETAIL

5
S508

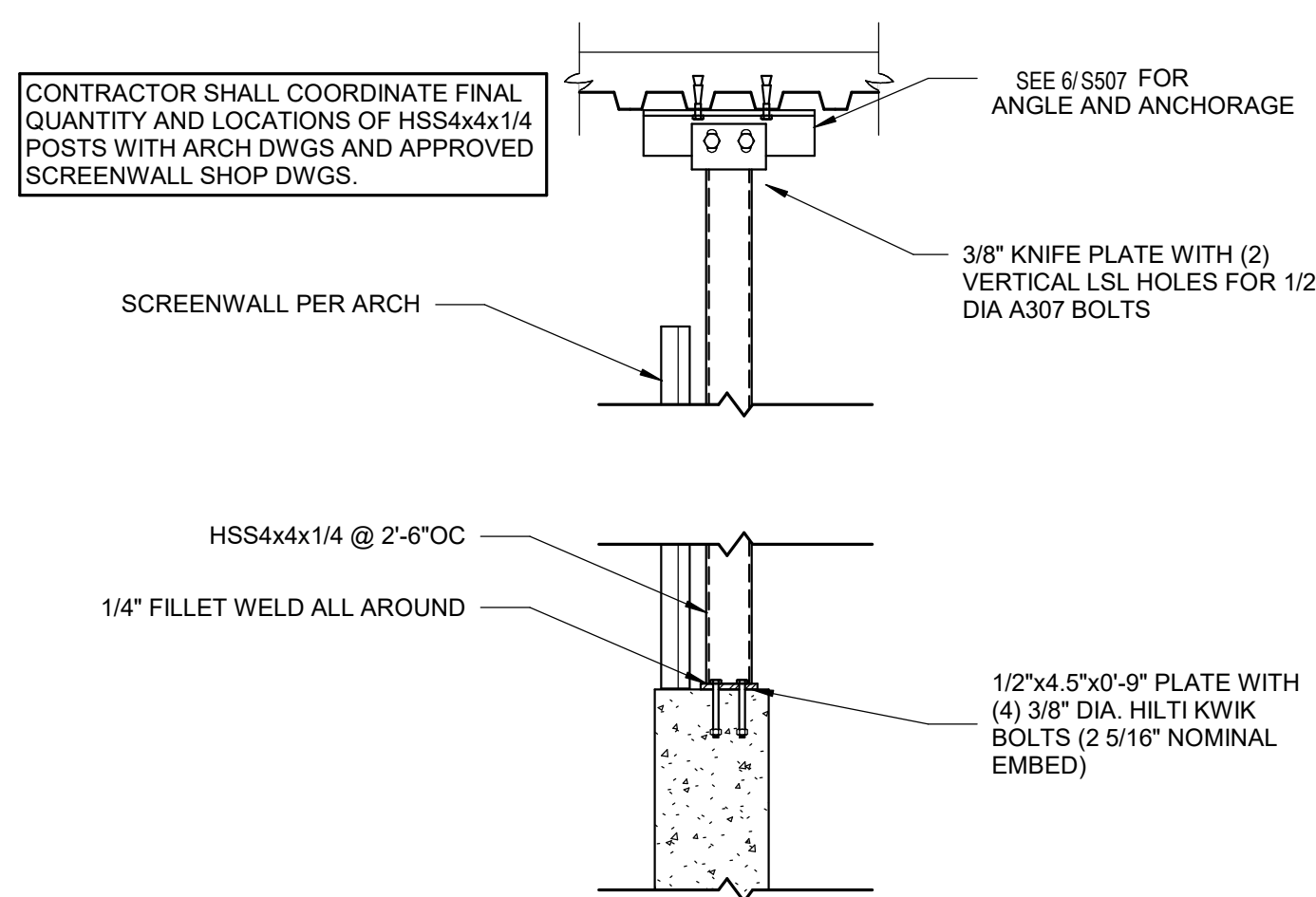
SCALE: 3/4" = 1'-0"



CANTILEVERED BEAM AT 3RD FLOOR CLERESTORY

1
S508

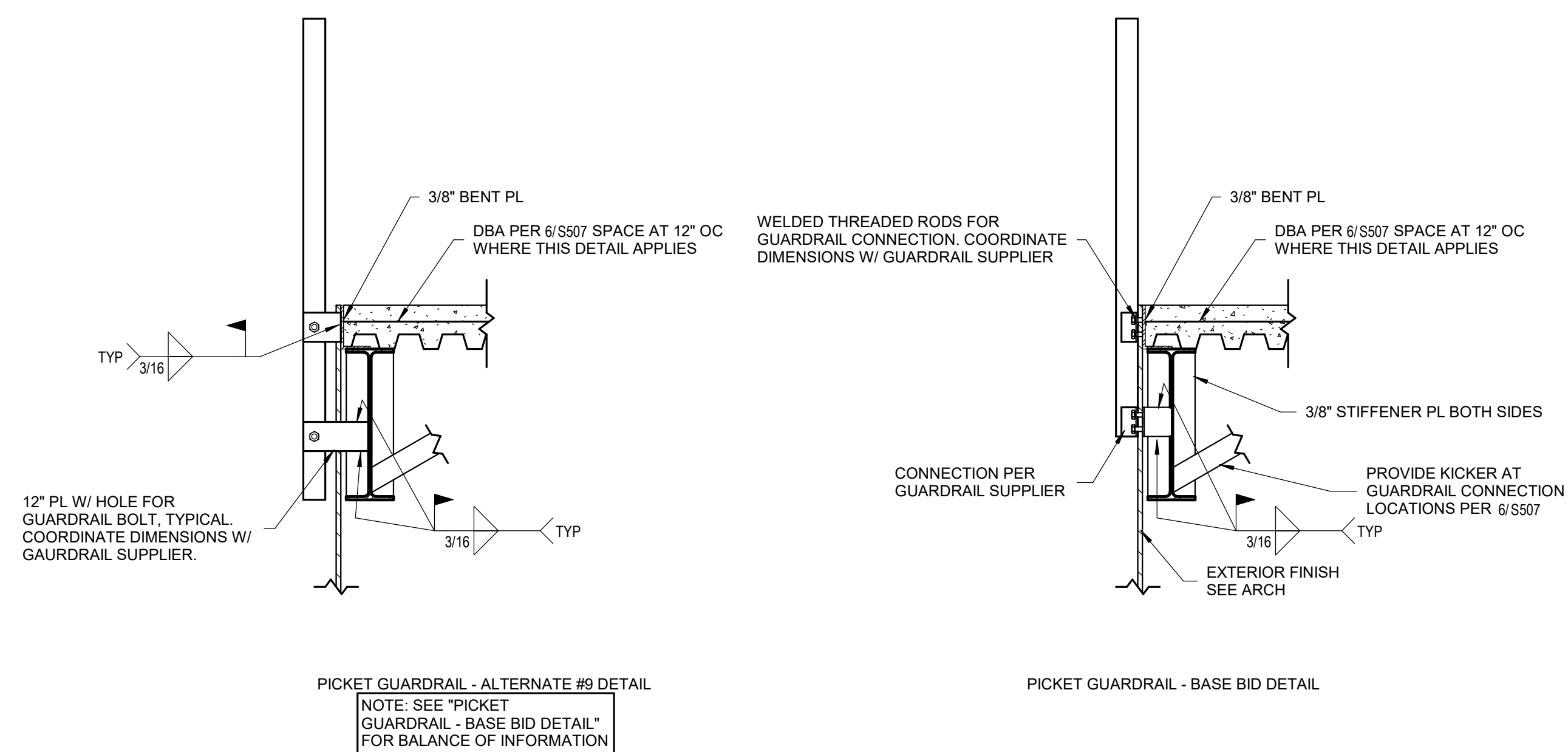
SCALE: 3/4" = 1'-0"



PARKING SCREENWALL SUPPORT

4
S508

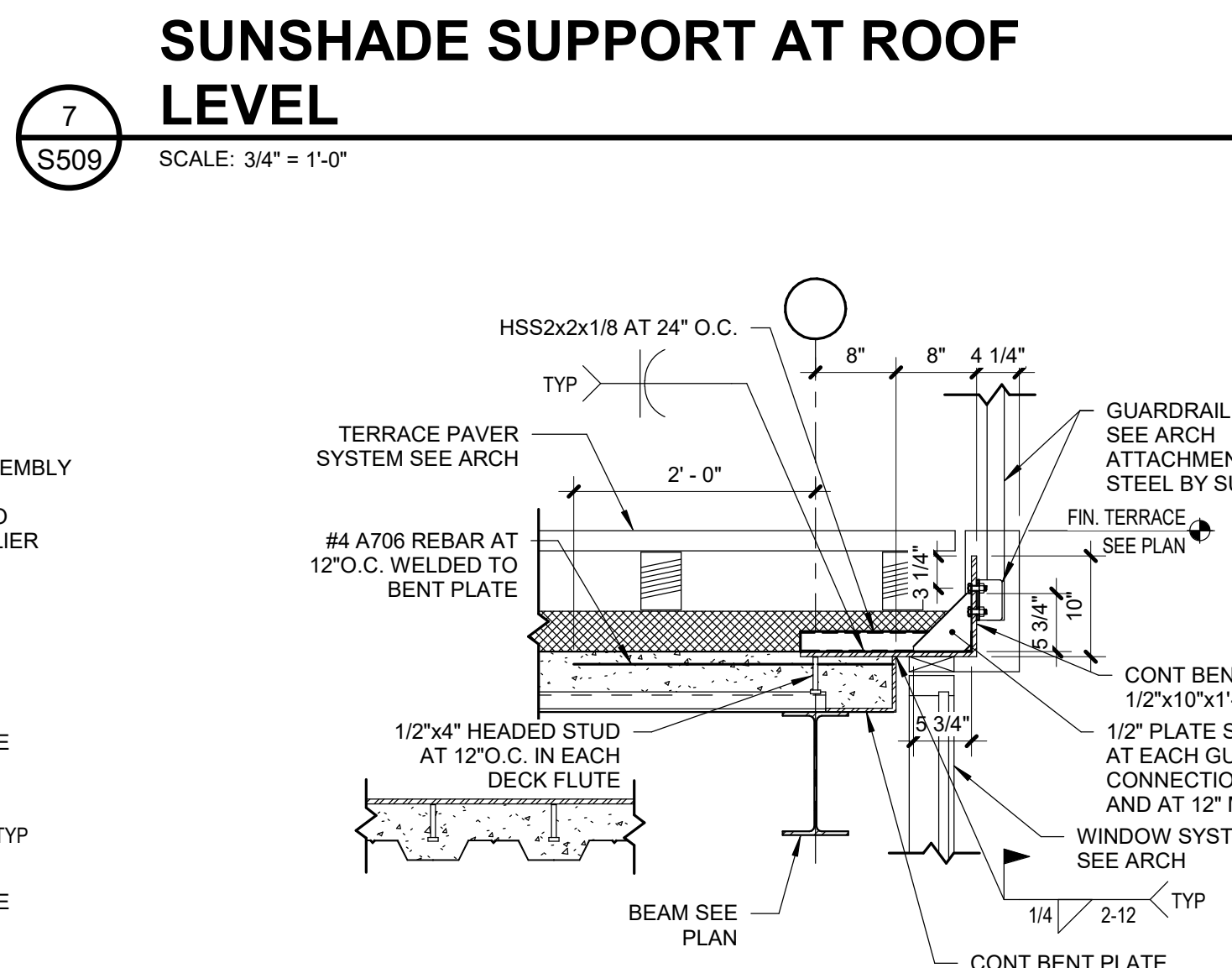
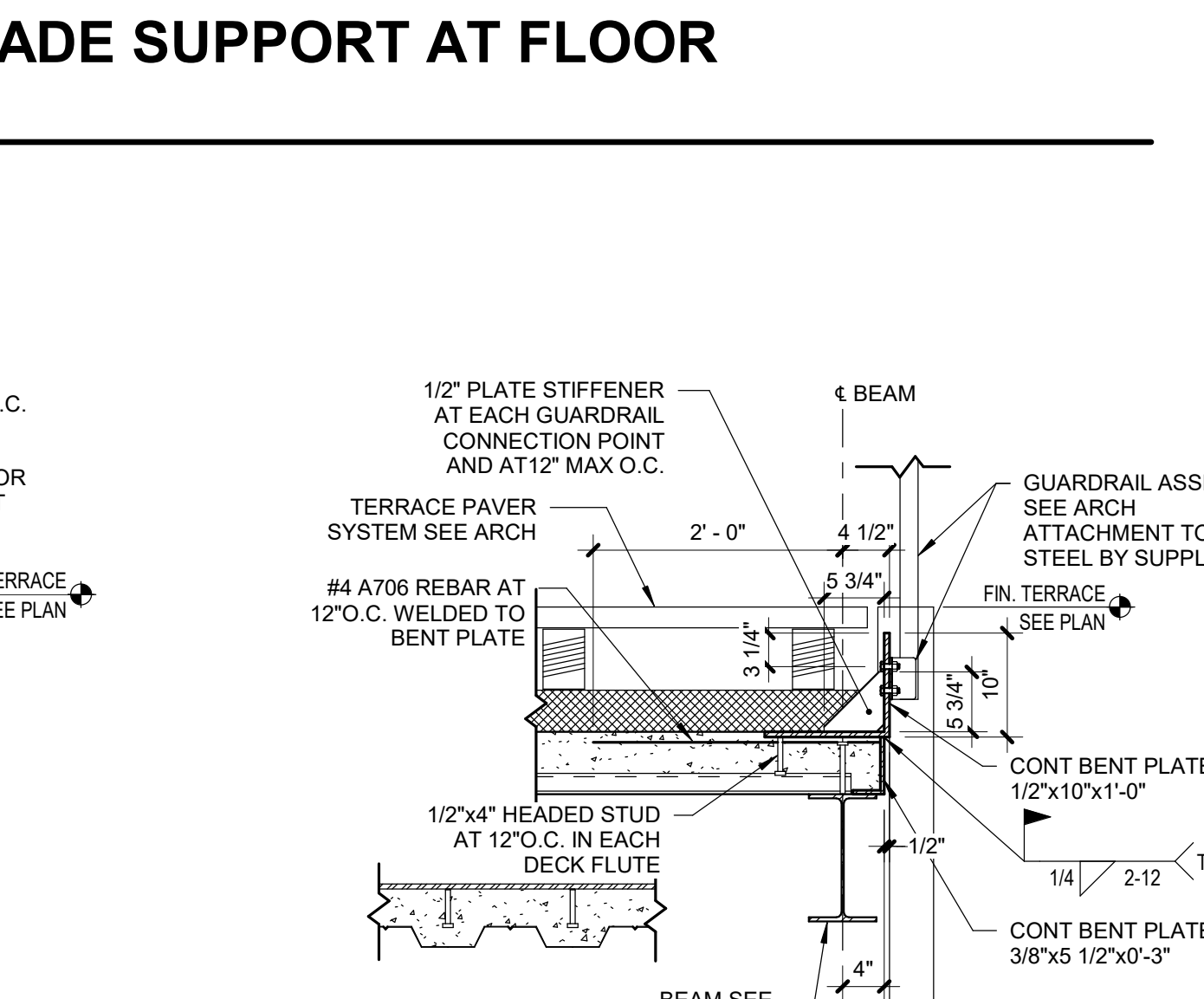
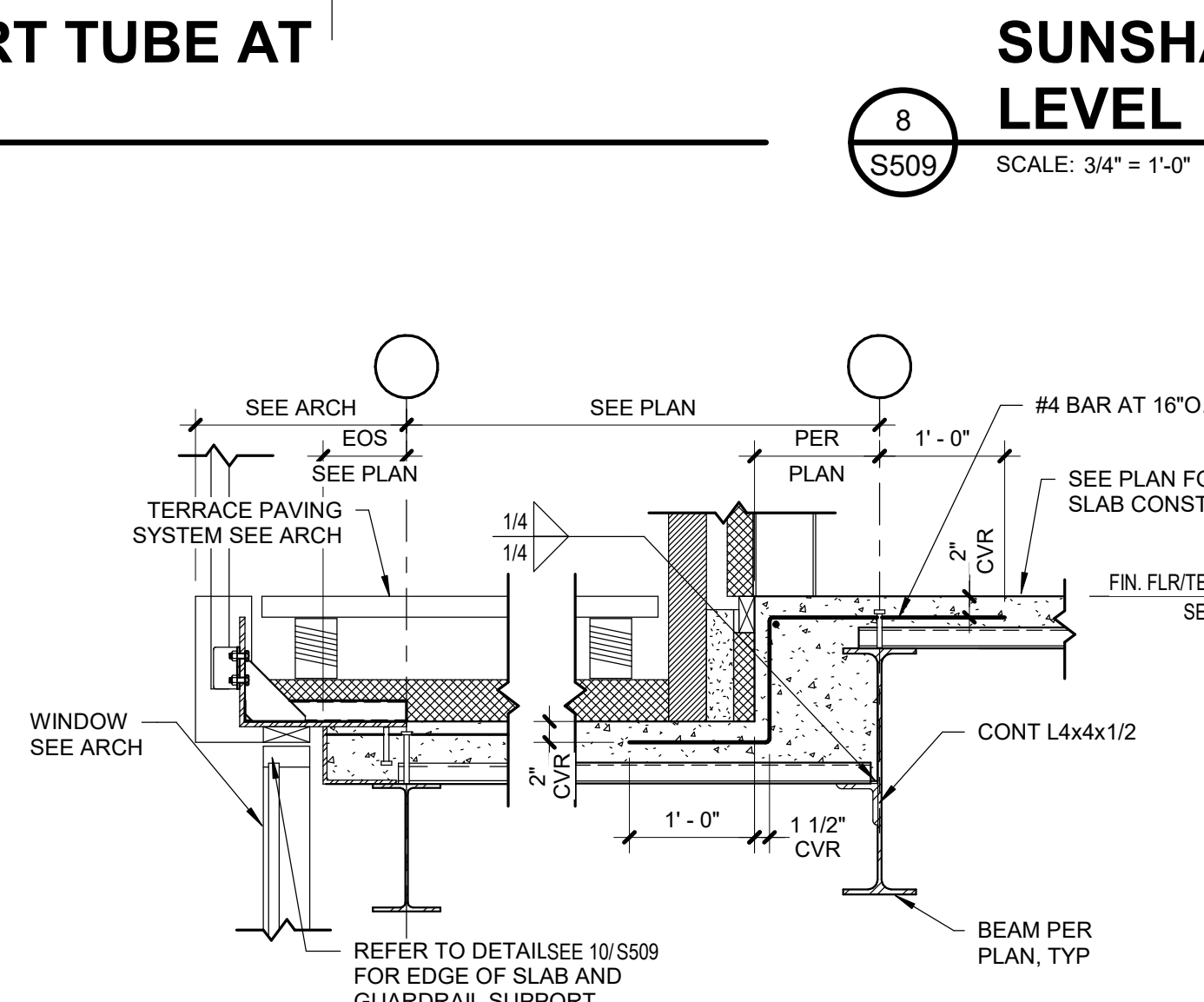
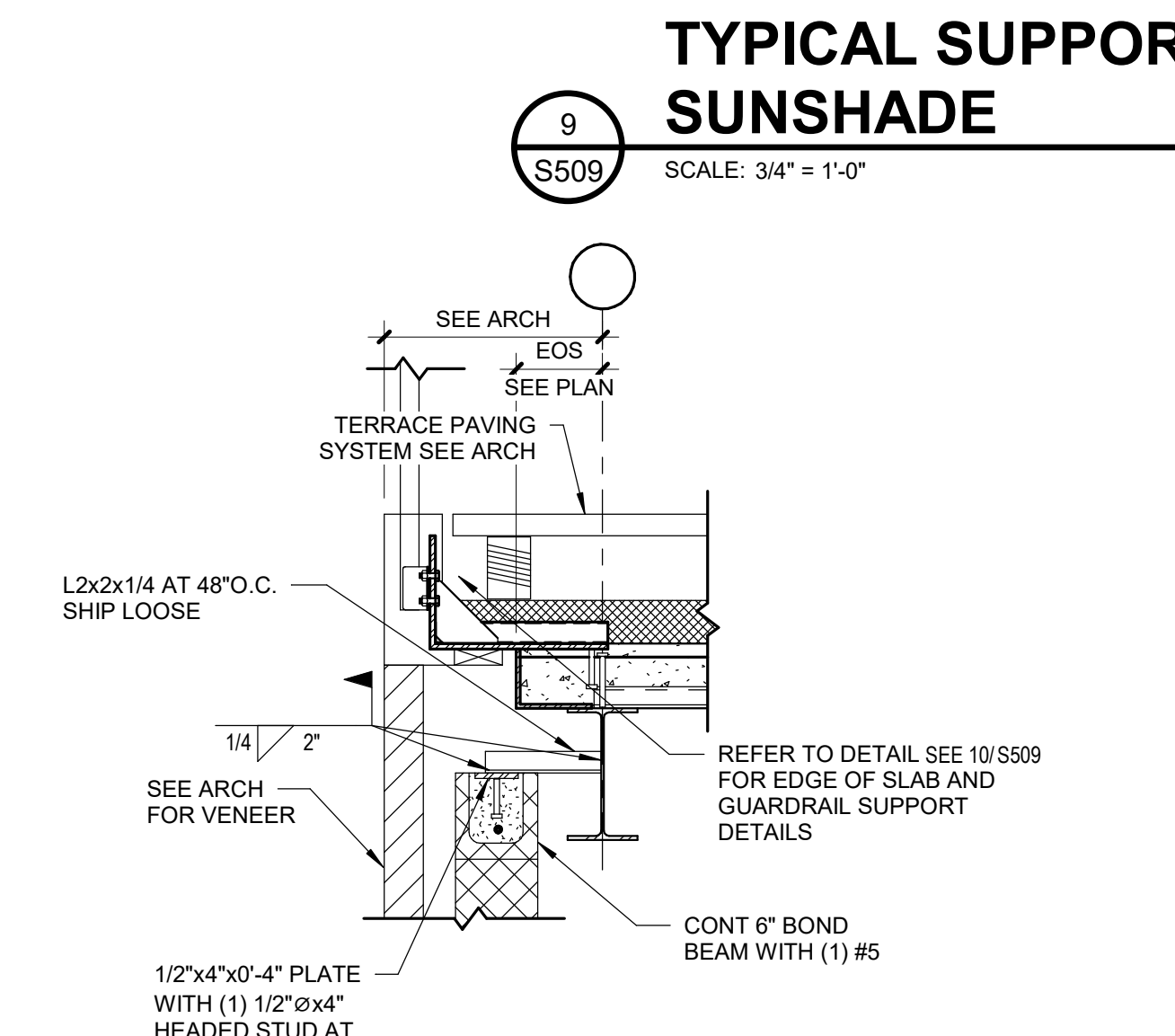
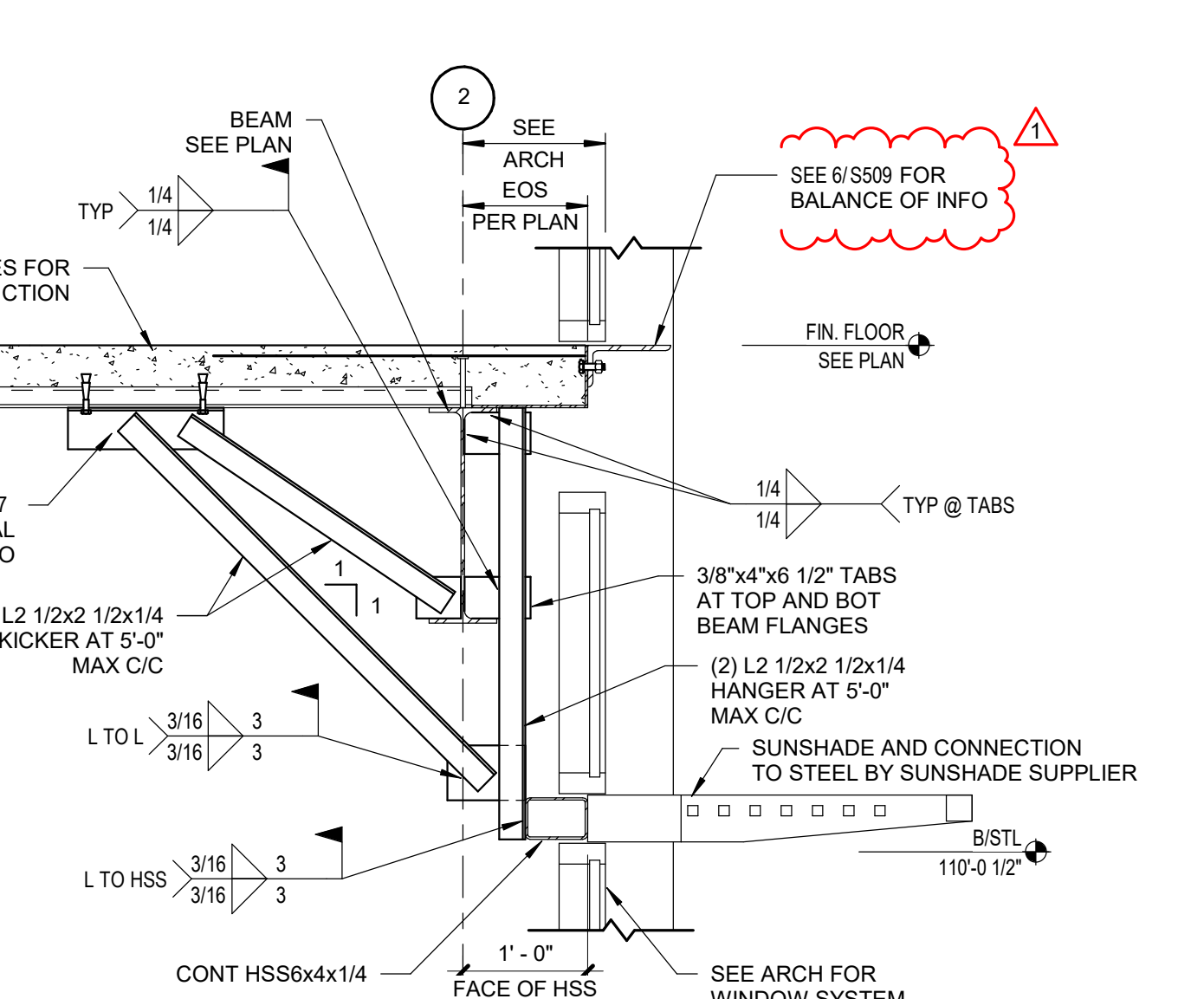
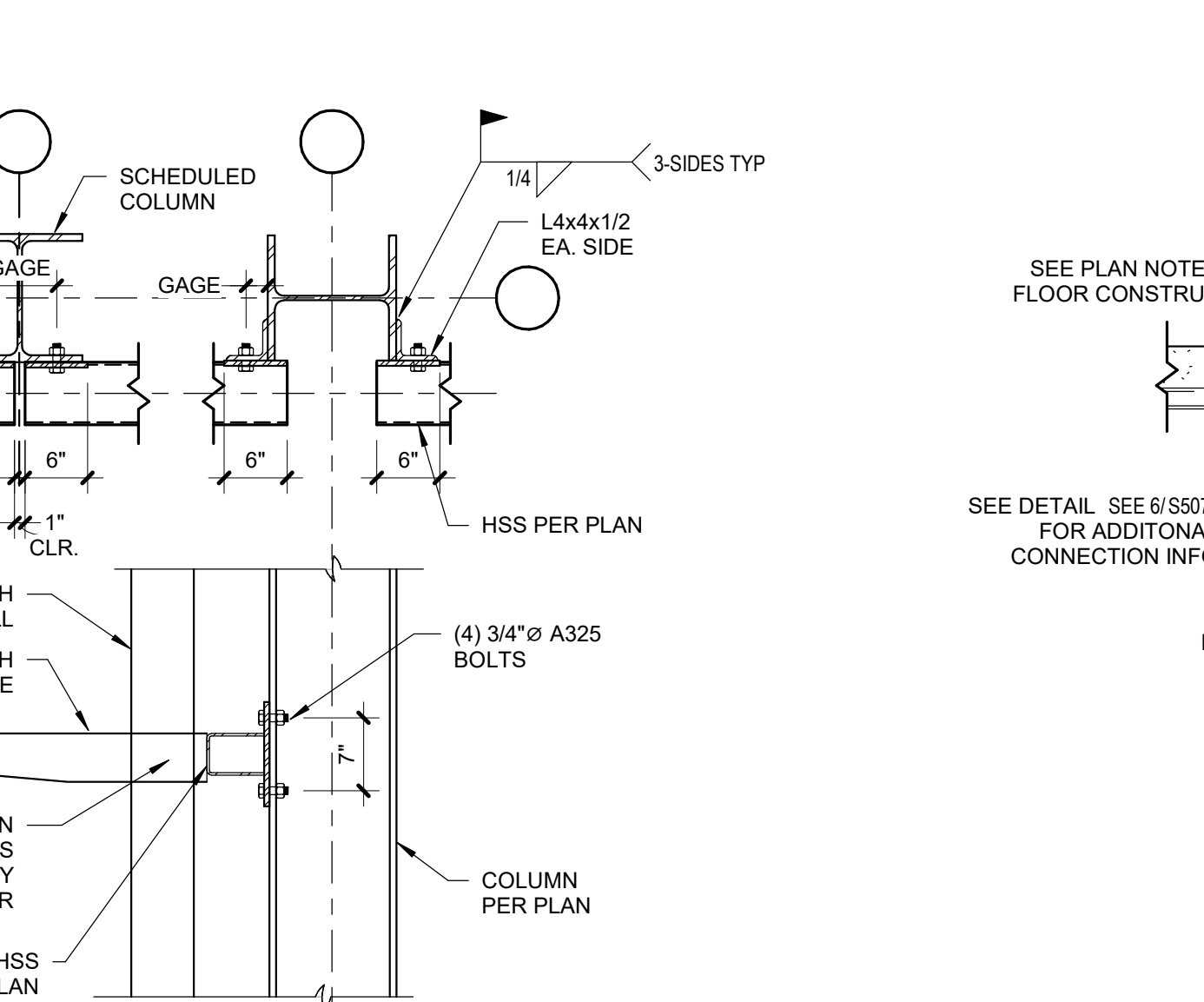
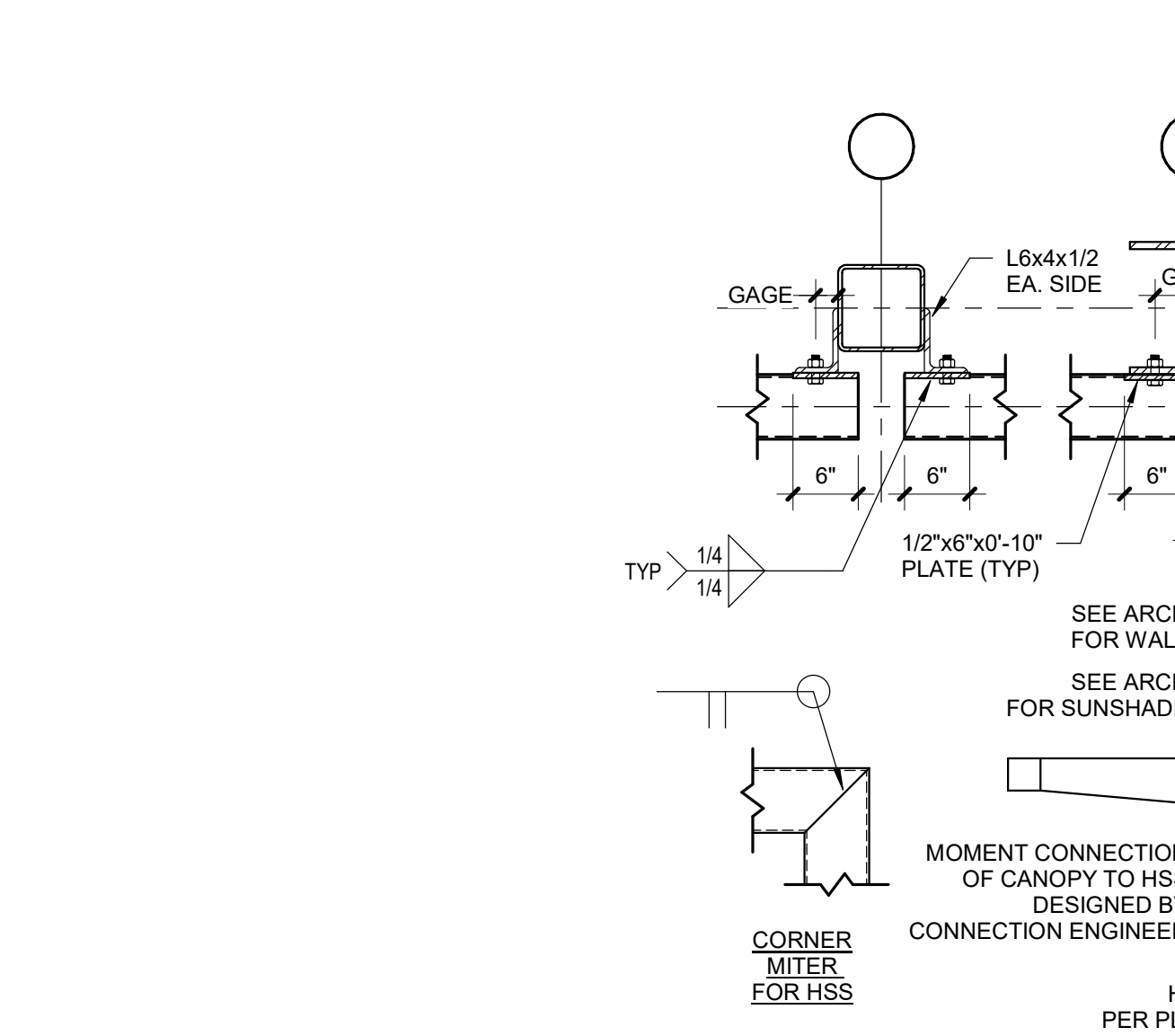
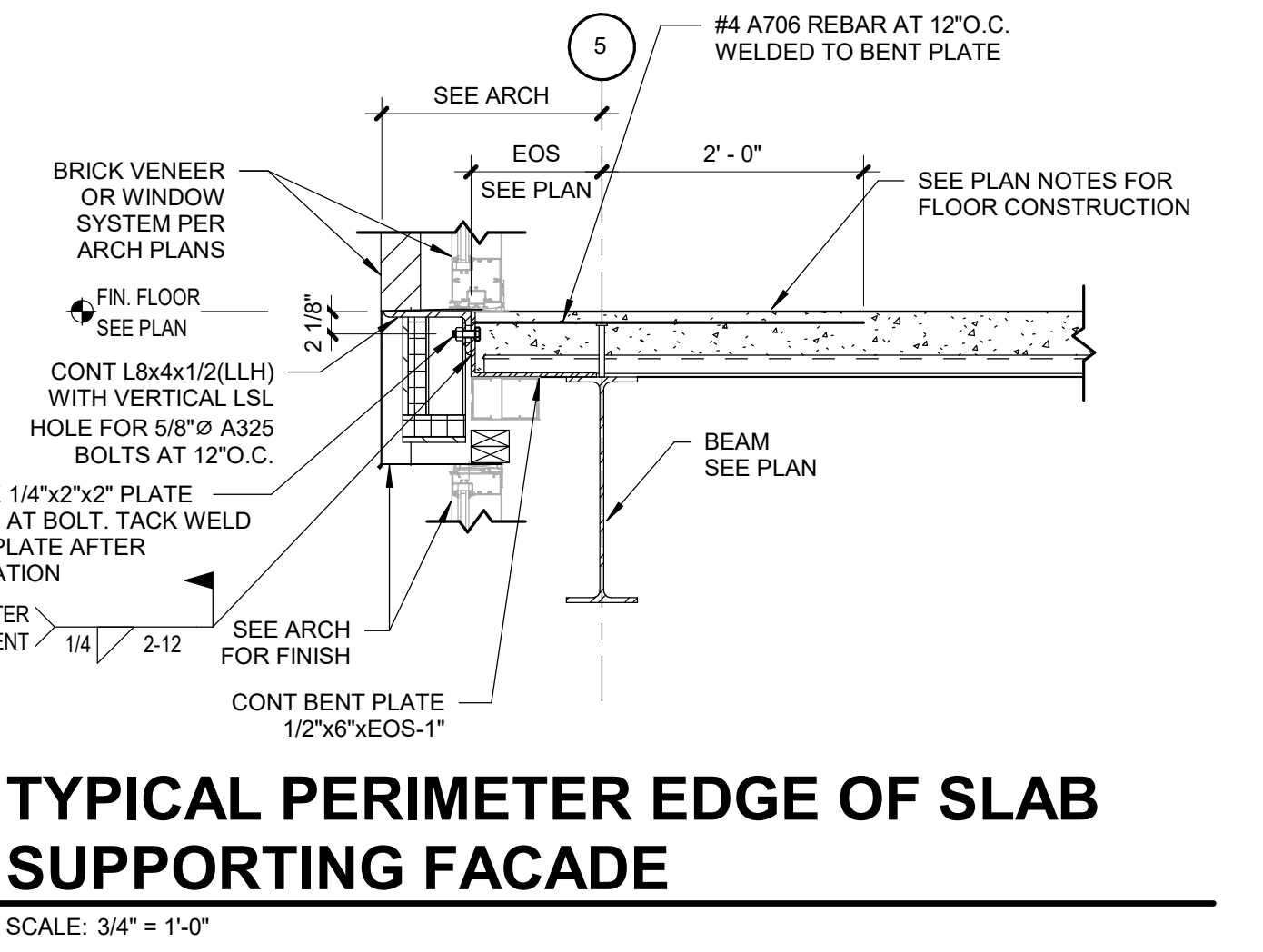
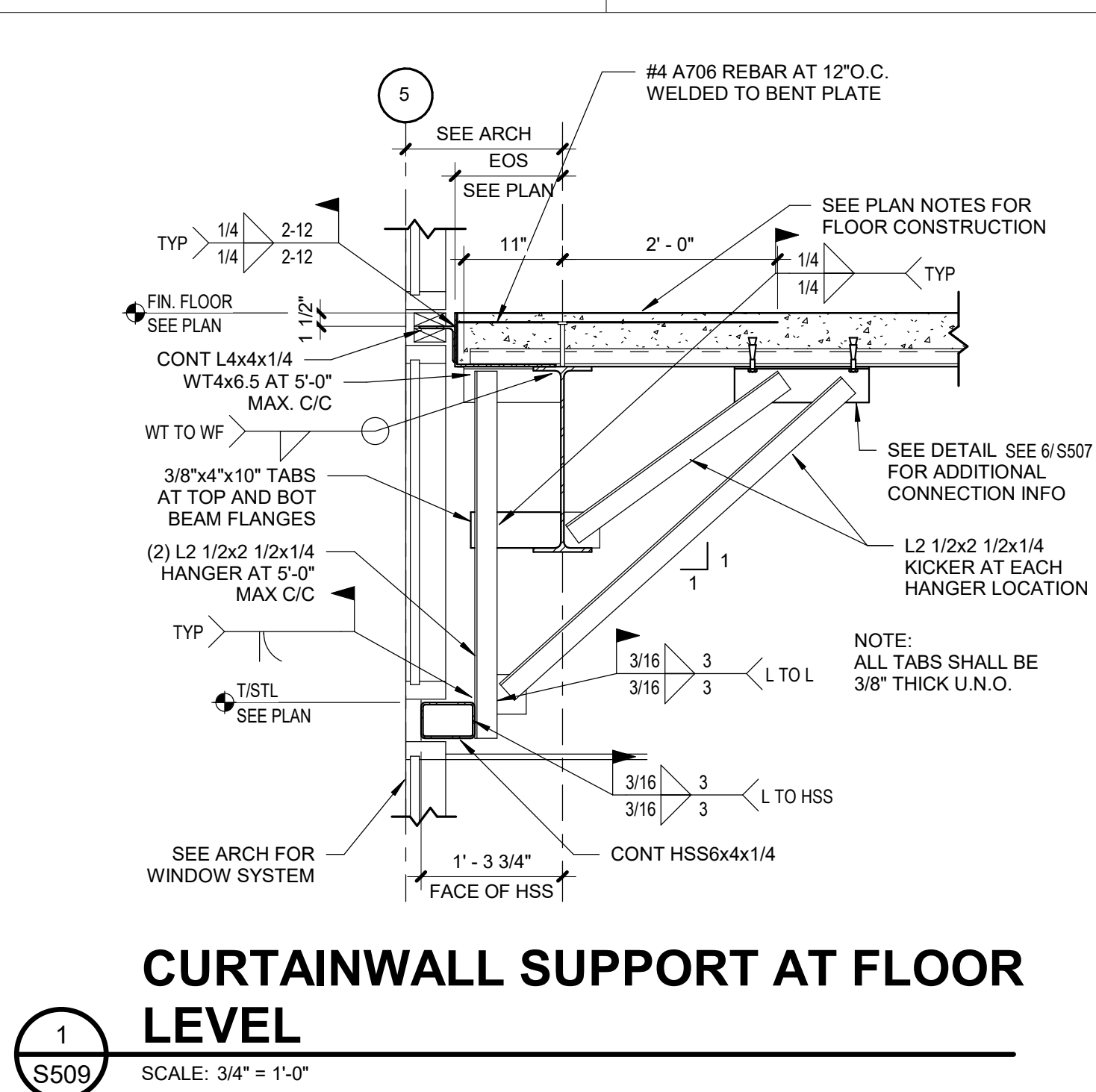
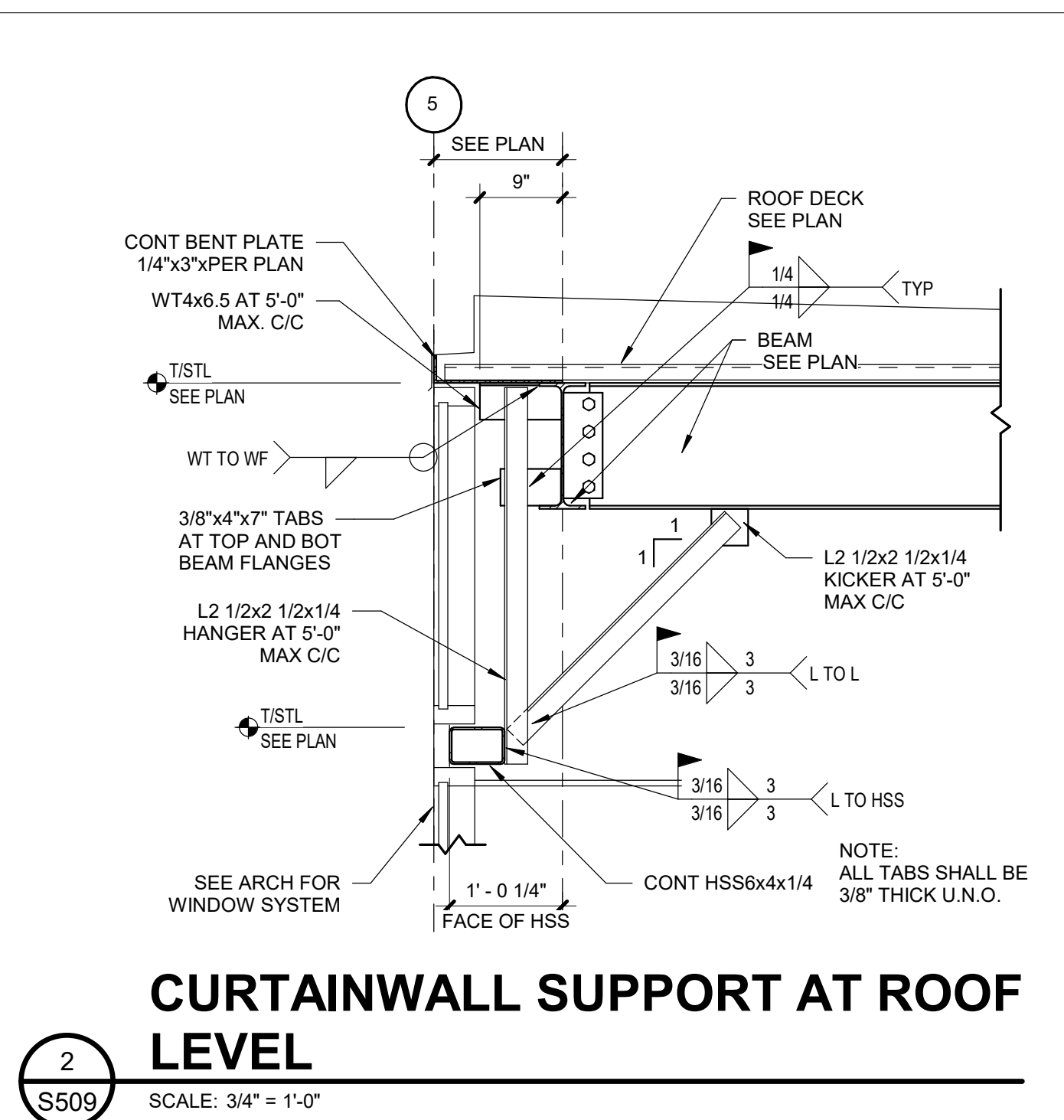
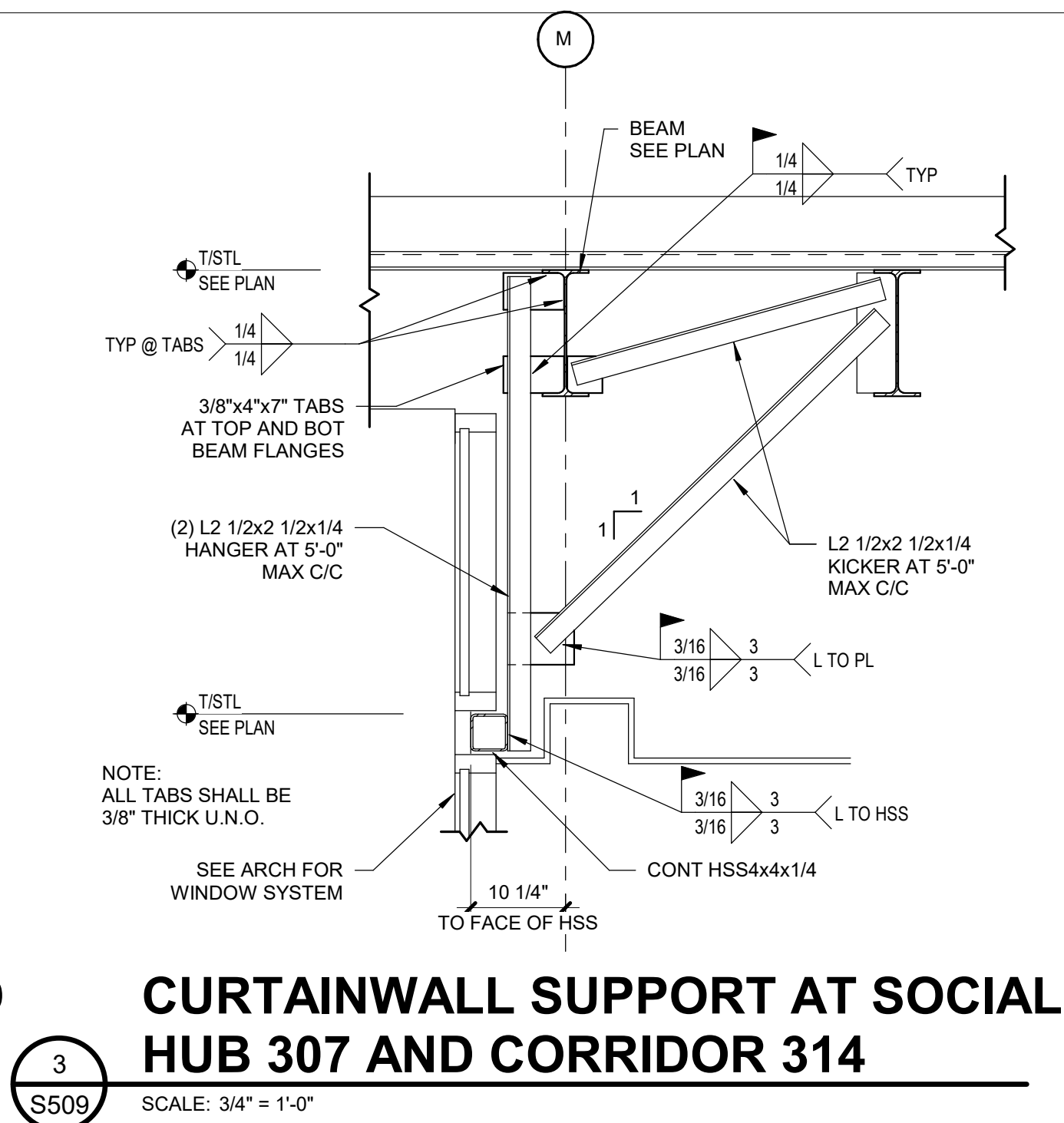
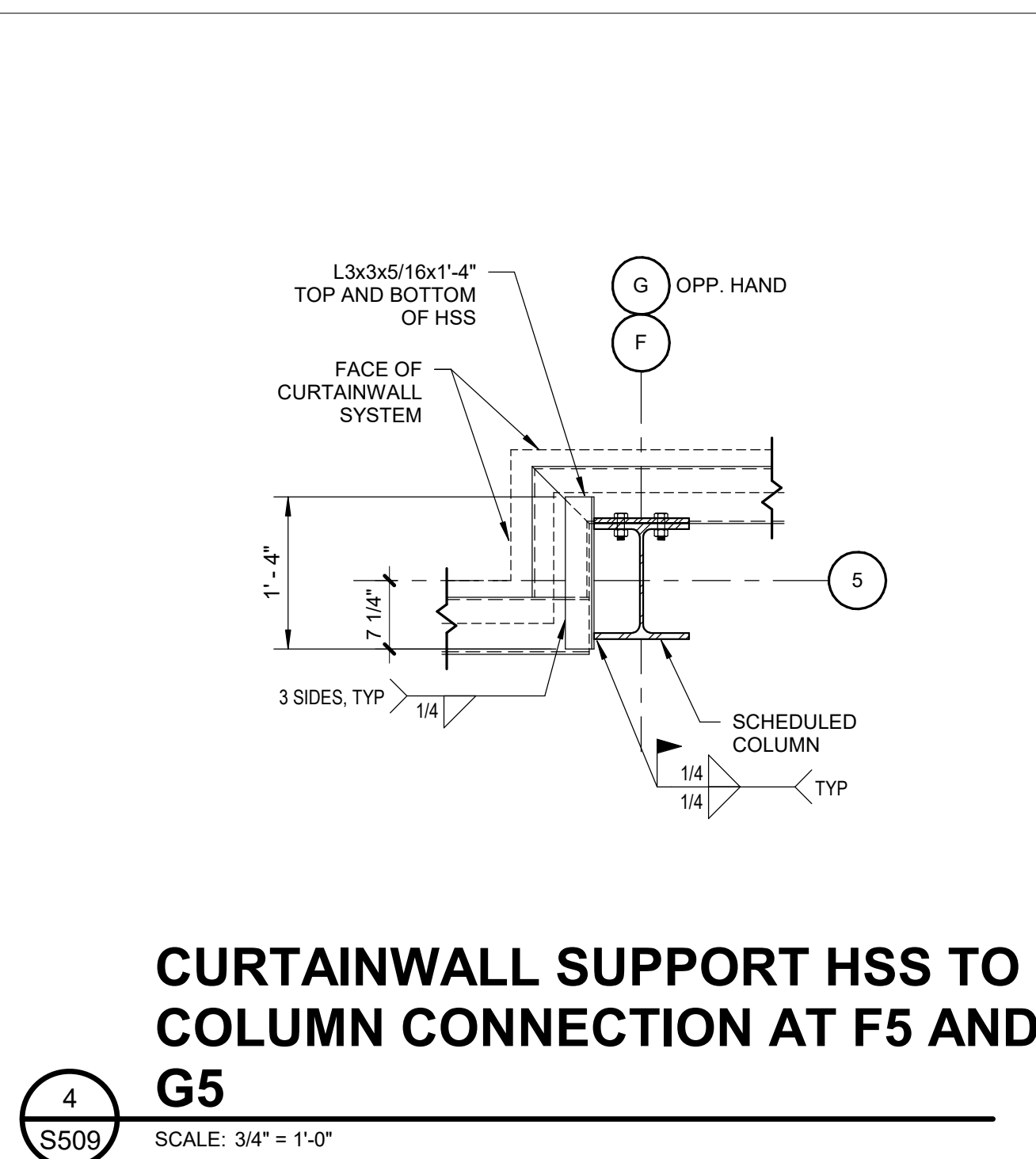
SCALE: 3/4" = 1'-0"



MAINSTREET GUARDRAIL CONNECTION DETAIL

7
S508

SCALE: 3/4" = 1'-0"



AXIS

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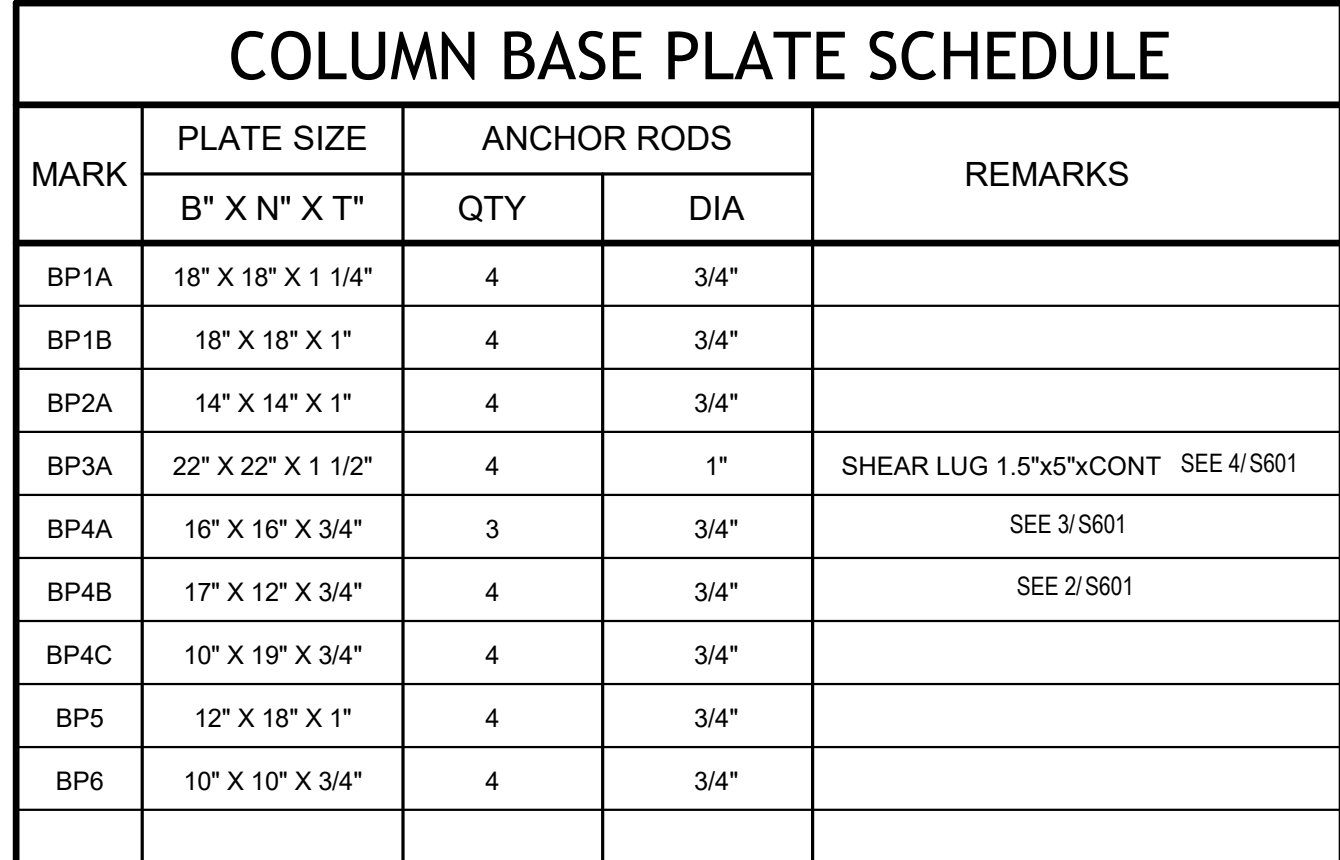
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INTERSECTION OF WASHINGTON STREET
AND N ORIENTAL STREET

S509
PROJECT NUMBER: 2021029

[illegible]

Column Footing Schedule Notes:
1. Reinforcing clearance at bottom and sides of footings = 3"



Pier Schedule Notes:

1. Provide 2 inch concrete cover over ties.
2. Space first tie 2" from top of footing, last tie 2" from top of pier.
3. Provide (3) ties in top of pier, spacing = 2 1/2" on center.
4. In rectangular piers, provide CRSI typical bar bend T6 for all ties.
For piers with more than four vertical bars provide additional T9 ties.
5. In circular piers, provide CRSI typical bar bend T3.
Rotate lap location 90 deg in every layer when placing ties.
6. Provide CRSI standard hooks, bends, and laps.

NOTES:

1. THIS DETAIL APPLIES AT ALL COLUMN ANCHOR RODS AT BRACED FRAMES AND MOMENT FRAMES UNO.

**TYPICAL WELDED PLATE WASHER
DETAIL**

SCALE: 3/4" = 1'-0"

The image contains two technical drawings of a column base plate connection.

PLAN View: This drawing shows the top-down view of the column and base plate. The column is a wide-flange I-beam. The base plate is rectangular. Key dimensions and labels include:

- Dimensions:** 6" (width of base plate flange), EQ (equal spacing), 6" (width of base plate flange), W (width of column flange), EQ (equal spacing), N (width of column web), EQ (equal spacing), W (width of column flange).
- Labels:** "GROUT HOLES" (pointing to holes in the base plate), "BASE PLATE PER SCHEDULE" (pointing to the base plate), "COLUMN PER PLAN" (pointing to the column), "NO WELD AT FILLETS AND TOES" (pointing to a fillet weld), and "5/16" (pointing to a weld size).

SECTION View: This drawing shows a cross-section of the connection. Key components and labels include:

- Components:** "BASE PLATE - SEE SCHEDULE", "TOP NUTS/ WASHERS", "SHIMS AND LEVELING NUTS/WASHER", "SHEAR LUG 1 1/2" THICK x 5" DEEP x 8" LONG", "GROUT POCKET 3 1/2" WIDE x 6" DEEP x B+ 4" LONG", "COLUMN", "TUBESHAFT PROJECTION PER SCHEDULE", "NON-SHRINK GROUT PER SCHEDULE", "3/8 x T LUG", "3/8 x T LUG", "ANCHOR ROD AND EMBED LENGTH PER TYP DETAIL", and "HEX NUT (NO WASHER) TACK WELD TO ANCHOR ROD, TYP".
- Dimensions:** 5/16" (weld size), 3/8" (lug diameter), and 3/8" (lug diameter).

TYPICAL W COLUMN BASE DETAIL

BP4A

SCALE: 3/4" = 1'-0"

The drawing consists of two views: a Plan view on the left and a Section view on the right.

Plan View: Shows a top-down view of the column base. A central rectangular area is labeled 'COLUMN PER PLAN'. Below it is a 'BASE PLATE PER COLUMN SCHEDULE'. Dimensions include 'B' (width), 'E' (edge distance), 'EO' (end offset), 'W' (width of base plate), and 'N' (total width). A circular feature is labeled 'NO WELD AT FILLETS AND TOES' with a note 'S16'. A dimension '1/8\"

Section View: Shows a cross-section of the column base. The column is labeled 'W COLUMN'. The base plate is labeled 'BASE PLATE PER COLUMN SCHEDULE'. The section shows 'TOP NUTS / WASHERS', 'SHIMS AND LEVELING NUTS / WASHERS', 'ANCHOR RODS PER COLUMN SCHEDULE', and 'HEX NUT (NO WASHER) TACK WELD NUT TO ANCHOR ROD, TYP'. The section also shows 'EMBED LENGTH' and 'NON-SHRINK GROUT PER SCHEDULE'.

Notes:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SUFFICIENT TEMPORARY SUPPORT OF COLUMN BASE PLATES USING LEVELING PLATES, LEVELING NUTS / WASHERS OR STEEL SHIMS (OR COMBINATION THEREOF) PRIOR TO PLACEMENT AND CURING OF NON-SHRINK GROUT.

TYPICAL W COLUMN BASE DETAIL
BP3A
SCALE: 1" = 1'-0"

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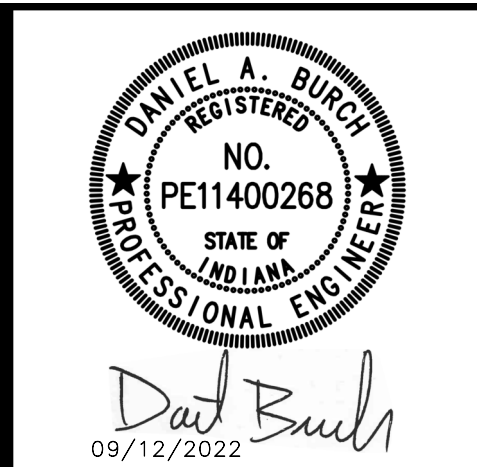
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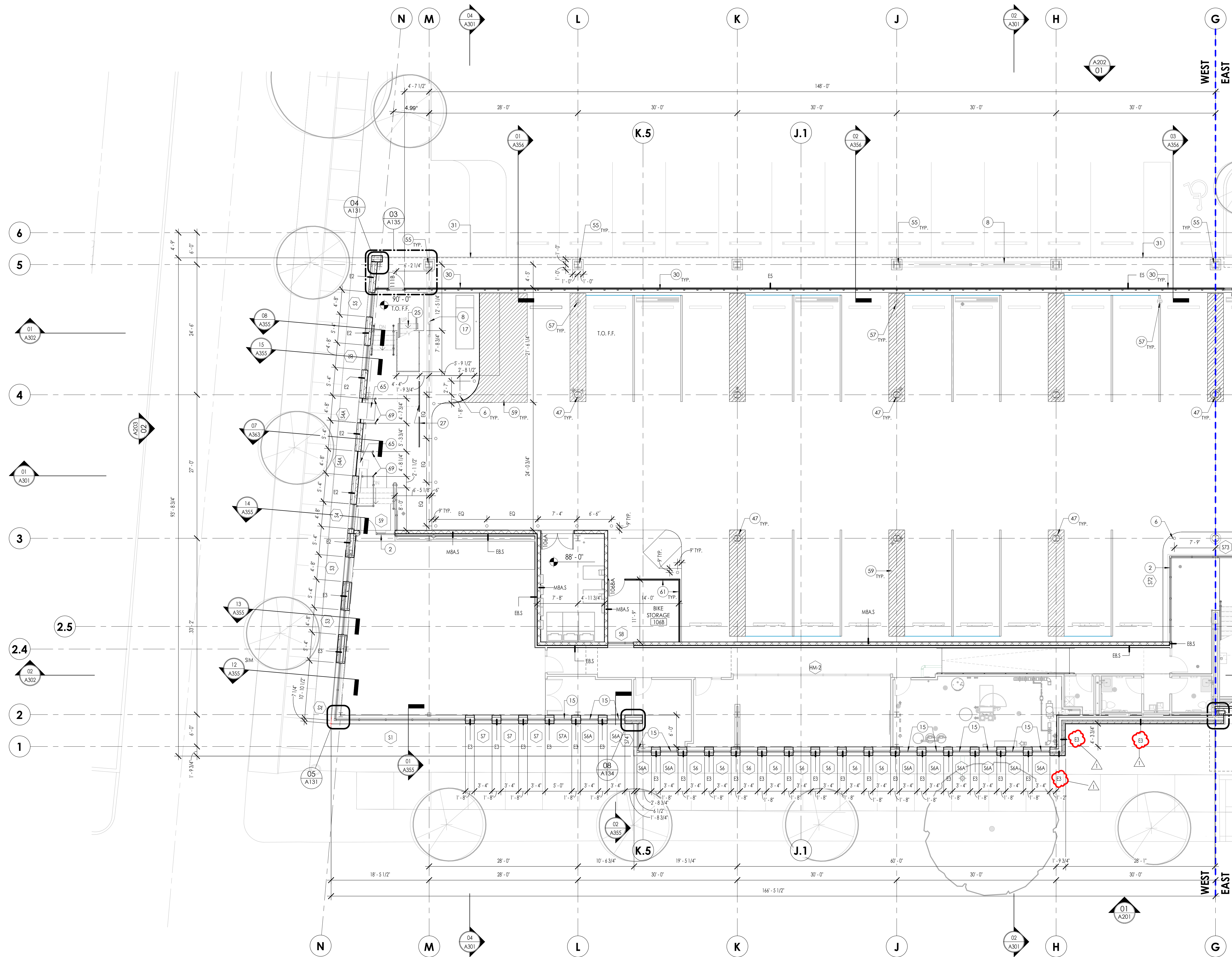
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Tel 312 363-0148

DAMIEN CENTER
NEW DAMIEN HEADQUARTERS
INTERSECTION OF WASHINGTON STREET
AND N ORIENTAL STREET



COLUMN SCHEDULE AND DETAILS

S601
PROJECT NUMBER: 2021029



GENERAL PLAN NOTES

- REFER TO A201-A202 FOR GENERAL NOTES, WALL TYPES, SYMBOLS AND TYPICAL CONSTRUCTION DETAILS.
- REFER TO WALL TYPE TAGS, INTERIOR ELEVATIONS, AND SECTION DETAILS FOR WALL HEIGHTS, ACOUSTICAL REQUIREMENTS, AND LOCATIONS.
- MEP DRAWINGS PROVIDED BY OTHERS. COORDINATE WITH ARCHITECTURAL, STRUCTURAL, LIGHTING AND FURNITURE DRAWINGS.
- FURNITURE SHOWN FOR REFERENCE ONLY - COORDINATE WITH OWNER VENDOR.
- PROVIDE MOISTURE AND MOLD RESISTANT GYPSUM WALLBOARD AT ALL WET WALLS IN SOCIAL HUBS, KITCHENS AND RESTROOMS. PROVIDE HIGH-IMPACT GYPSUM WALLBOARD AT ALL CORRIDORS, STAIRCASES AND LOBBIES.
- PLAN KEYNOTES APPLY TO SHEETS A101-A103 SERIES AND A111-A115. RESTROOM KEYNOTES APPLY TO SHEETS A110 SERIES. ENLARGED PLAN KEYNOTES APPLY TO SHEETS A116-A124.

PLAN KEYNOTES

- MILLWORK SHOWN SHADED GRAY. REFER TO INTERIOR ELEVATIONS.
- ALUMINUM STOREFRONT SYSTEM, ANODIZED FINISH. REFER TO INTERIOR ELEVATIONS AND SPECIFICATIONS.
- WALL COVERING RBS. REFER TO DETAIL 04/A101C FOR MORE INFORMATION.
- FEATURE WALL - REFER TO INTERIOR ELEVATIONS.
- DASHED LINE SHOWS BOUNDARY OF FLOOR OPENING ABOVE.
- 6" DIA. PAINTED STEEL BOLLARD. REFER TO STRUCTURAL DWGS.
- DRINKING FOUNTAIN WITH BOTTLE FILLER - REFER TO PLUMBING DRAWINGS.
- LATERAL BRACING - REFER TO STRUCTURAL DRAWINGS.
- MOP SINK WITH OPEN SHELVING.
- MILLWORK WITH SINK.
- OPERABLE GATE AT COMMUNITY IMPACT ENTRANCE. BASIS-OF-DESIGN: DYNAMIC CLOSURES ROLL AND FOLD PARAVENT MODEL WITH PERFORATED STEEL PANELS. REFERENCE SPECIFICATION 10.22.23 - PORTABLE PARTITIONS. FINISH TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD FINISHES.
- METAL PAN STAIR WITH CONCRETE TREADS.
- ALUMINUM STOREFRONT SYSTEM, ANODIZED FINISH WITH WINDOW FILM. REFER TO EXTERIOR ELEVATIONS AND SPECIFICATIONS FOR WINDOW FILM.
- CLINIC EXAM ROOMS & DENTAL ROOM FINISHES TO BE S31 COUNTERTOP & CAB1 BY MIDMARK. OWNER COORDINATED EQUIPMENT TO BE SUPPLIED BY OWNER'S VENDOR. COORDINATE POWER/ DATA REQUIREMENTS WITH MEP DWGS.
- GENERATOR. REFER TO ELECTRICAL DWGS.
- GUARDSAIL.
- MONUMENTAL STAIR - REFER TO ENLARGED PLANS.
- HYDRAULIC ELEVATOR. REFER TO SPECIFICATIONS.
- FRONT AND REAR OPENING HYDRAULIC ELEVATOR. REFER TO SPECIFICATIONS.
- OPERABLE PARTITION WALL. BASIS-OF-DESIGN: MODERNFOLD - ACOUSTI-SEAL MODEL ENCORE. ACOUSTICS - STC-56, MANUAL - PANEL FINISH TBD - TRIM COLOR TBD. SEE SPECIFICATIONS.
- INTERNAL RAMP WITH WALL MOUNTED HANDRAILS.
- PRINTER.
- EXTERIOR FAIR TO ROOF TERRACE.
- DAMEN CENTER VENDING MACHINE - RELOCATED FROM EXISTING BUILDING.
- BIKE RACK. REFER TO LANDSCAPE PLAN.
- DASHED LINE REPRESENTS OVERHEAD COILING DOOR - REFER TO REFLECTED CEILING PLAN.
- SWINGING PARKING GATE CLAD WITH PERP METAL PANELS.
- PERFORATED SCREEN WALL. REFER TO ELEVATIONS FOR EXTENTS. CONCRETE KNEE WALL BELOW WHERE INDICATED.
- EDGE OF OVERHANG ABOVE.
- TRANSPORT PARKING.
- DELIVERY ZONE.
- BASE BID: ALUMINUM STOREFRONT SYSTEM WITH SWING DOOR (AS SHOWN). ALTERNATE #10: FOLDING ALUMINUM FRAMED GLASS DOORS WITH INTEGRAL SWING DOOR FOR EGRESS. BASIS-OF-DESIGN: NAWAWALL 3145.
- PRE-FINISHED ALUMINUM PICKET GUARDRAIL. BASIS-OF-DESIGN: DURARAIL DOOR TO RECEIVE ROOM SCHEDULE EQUIPMENT BY OTHERS. PROVIDE NECESSARY POWER AND DATA.
- 2' x 2' PRECAST PAVES ON PEDESTAL. BASIS-OF-DESIGN MANUFACTURER: HANOVER.
- DASHED LINE OF CEILING / BULKHEAD ABOVE. REFER TO REFLECTED CEILING PLAN.
- SEALED RECESSED FIRE EXTINGUISHING CABINET. REFER TO SPECS.
- PHARMACY COMPOUND SINK.
- MOTORIZED STEEL ROLL DOWN GATE AT CHECK-IN WINDOWS WITH MANUAL OVERRIDE. DOOR TO INCLUDE INTERIOR LOCK.
- TRANSACTION WINDOW AND COUNTER.
- FOOD PANTRY EQUIPMENT AND SHELVING BY OWNER. SHOWN HERE FOR REFERENCE.
- HOLLOW METAL WINDOW SYSTEM. SILL HEIGHT: 2'-10"; HEAD HEIGHT: 8'-0".
- ACCESS PANEL 6'-6" [H] X 4'-0" [W]. PANEL RESTS ON FINISH FLOOR - REFER TO ELECTRICAL DRAWINGS.
- ALUMINUM STOREFRONT SYSTEM. ANODIZED FINISH. REFER TO INTERIOR ELEVATIONS AND SPECIFICATIONS WITH WINDOW FILM.
- STEEL COLUMN WITH 2'-0" DIA AND 4'-0" HIGH CONCRETE BASE. REFER TO STRUCTURAL DRAWINGS. PAINT EXPOSED STEEL WITH HIGH PERFORMANCE COATING ABOVE CONCRETE BASE.
- PROVIDE BLOCKING AS REQUIRED.
- ALTERNATE #07 - TRELLIS COLUMNS. REFER TO DETAILS AND STRUCTURAL DRAWINGS.
- ENTRY CANOPY BELOW. SEE ELEVATIONS AND DETAILS.
- 6" CHASE FOR A/V CONDUIT - REFER TO TECHNOLOGY DRAWINGS.
- REFRIGERATOR(S) FOR MEDICINE TO BE LOCATED IN THIS ROOM. TO BE COORDINATED WITH OWNER.
- PARTITION WALL WITH WINDOW FILM ABOVE.
- SWING OF DOOR TO BE 18" FROM INSIDE FACE OF FINISHED WALL.
- METAL WRAPPED STEEL COLUMN ABOVE 4" CONCRETE BASE. REFER TO EXTERIOR ELEVATIONS ON A201 FOR METAL TYPE.
- TRENCH DRAIN. REFER TO PLUMBING DRAWINGS.
- AREA FLOOR DRAIN. REFER TO PLUMBING DRAWINGS.
- BUILT-IN WOOD FRAMES. REFERENCE ELEVATIONS AND DETAILS.
- PAINTED CONCRETE MARKINGS.
- GLASS GUARDRAIL. BASIS-OF-DESIGN: CR. GLASS RAIL STANDOFF BASE AND CAP - 1-3/4" PROJECTION SIDE MOUNTED FOR 3/4" LAMINATED TEMPERED GLASS.
- CHAINLINK FENCE AT BIKE STORAGE UP TO CEILING WITH LOCKABLE DOOR. SEE DOOR SCHEDULE.
- WALL MOUNTED LOUVERED PANELS - TO BE COORDINATED WITH OWNER - PROVIDE BLOCKING AS REQUIRED.
- CUBICLE CURTAIN AND TRACK - REFERENCE INTERIOR FINISH PLAN AND SPECIFICATION 10.21.23.
- OPERABLE GATE AT COMMUNITY IMPACT ENTRANCE. BASIS-OF-DESIGN: DYNAMIC CLOSURES ROLL AND FOLD PARAVENT MODEL WITH PERFORATED STEEL PANELS. REFERENCE SPECIFICATION 10.22.23 - PORTABLE PARTITIONS. WALL CHANNEL MOUNTING - REFER TO DETAIL 04/A132.
- PRE-FINISHED ALUMINUM LOUVER AND EXHAUST FAN. REFER TO MECH. DWGS FOR FAN INFO.
- AREA FLOOR DRAIN. REFER TO PLUMBING DRAWINGS.
- UNDER CABINET LIGHTING - REFER TO ELECTRICAL DRAWINGS.
- OWNER COORDINATED EQUIPMENT TO BE SUPPLIED BY OWNER'S VENDOR. INSTALLED BY CONTRACTOR. COORDINATE POWER/ DATA REQUIREMENTS WITH MEP DWGS.
- PAINTED STEEL CANE RAIL. REFER TO STAIR DRAWING ON A125.

WEST EAST

KEY PLAN
SCALE: NTS

618 East Market Street
Indianapolis, Indiana 46202
phone 317/264.8162
a x i s | c h . c o m

Drawn By: ST
Checked By: DS
Date Issued: 09/12/2022

REVISIONS:
DESCRIPTION DATE
1 ADDENDUM #01 09/29/2022

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DAMEN CENTER
NEW DAMEN HEADQUARTERS
INTERSECTION OF E WASHINGTON STREET
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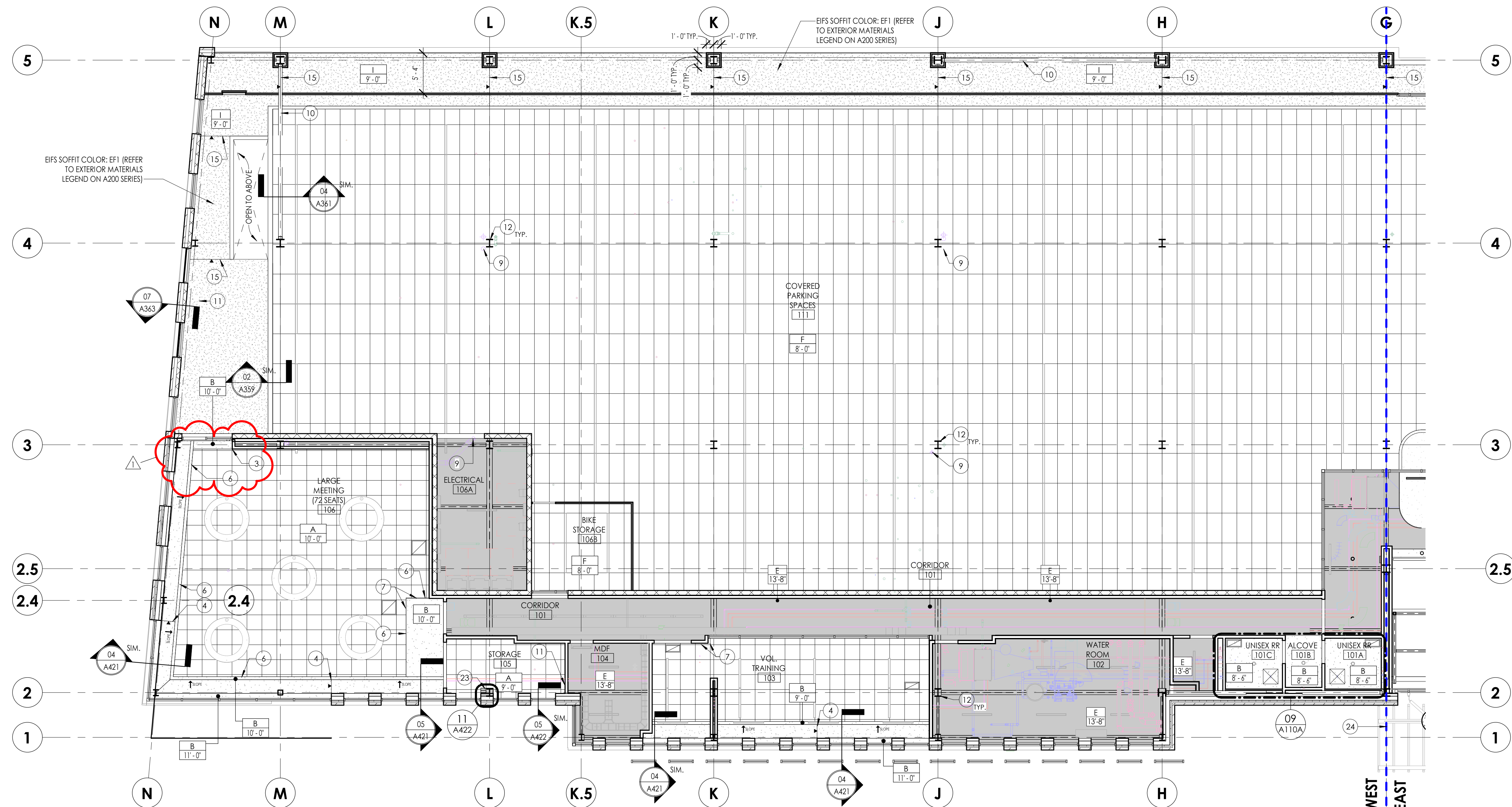


FIRST FLOOR
CONSTRUCTION PLAN - WEST

A101A
PROJECT NUMBER: 2021029



02 FIRST FLOOR REFLECTED CEILING PLAN - WEST: LIGHTING
SCALE: 1/8" = 1'-0"



01 FIRST FLOOR REFLECTED CEILING PLAN - WEST
SCALE: 1/8" = 1'-0"

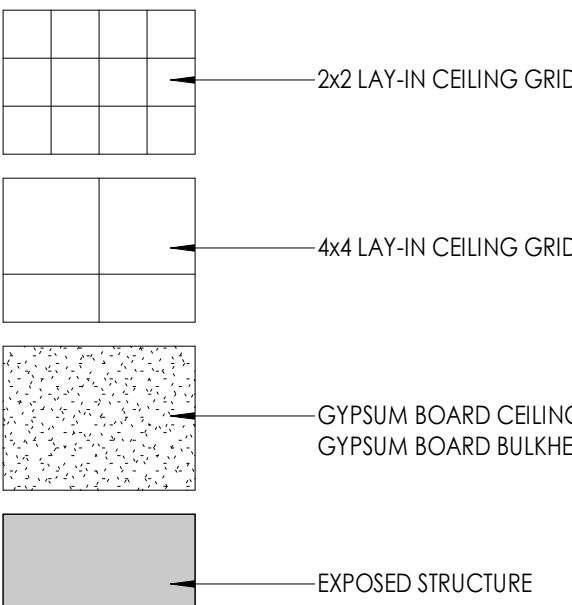
REFLECTED CEILING KEYNOTES

1. PROVIDE 4" ARMSTRONG CLASSIC EDGE TRIM AT PERIMETER OF CEILING CLOUD.
2. ALIGN FINISH FACE OF CEILING/ BULKHEAD WITH WALL.
3. ALIGN.
4. 1/4" #9/3 ZINC CONTROL JOINT IN HORIZONTAL AND VERTICAL FACES OF CEILING AND BULKHEAD, DESIGNATED WITH TRIANGLE SYMBOL. FINISH TO BE PAINTED TO MATCH DRYWALL CEILING COLOR. ALIGN WITH FACE OF WALL/ BULKHEAD/ CEILING CLOUD OR CENTERLINE OF MULLION, CENTER ON GRIDLINE WHERE SHOWN, TYP.
5. CEILING FORM CURVED FROM LOW TO HIGH HEIGHT - REFER TO CEILING DETAIL.
6. PROVIDE CEILING TRANSITION MOLDING AT JUNCTION OF ACOUSTIC PANEL CEILING AND GYPSUM BOARD CEILING. BASIS-OF-DESIGN: ARMSTRONG #7901 9/16" SHADOW REVEAL TRANSITION MOLDING.
7. ALIGN CEILING GRID WITH EDGE OF BULKHEAD.
8. HORIZONTAL AND VERTICAL SURFACES OF GYP CEILING TO RECEIVE ACCENT PAINT (PT). REFER TO CEILING PLAN FOR PAINT TAG (PT). REFER TO FINISH SCHEDULE FOR ADDITIONAL FINISH INFORMATION.
9. ROOF LEADER. PAINT. PROVIDE CEILING GRID PERIMETER TRIM AROUND STEEL PENETRATION THROUGH CEILING. REFER TO PLUMBING DRAWINGS FOR TIE-IN ABOVE CEILING AND CIVIL DRAWINGS FOR TIE-IN BELOW SLAB.
10. EXPOSED STRUCTURAL STEEL BRACING THIS BAY. PAINT. PROVIDE CEILING GRID PERIMETER TRIM AROUND STEEL PENETRATION THROUGH ACOUSTIC TILE CEILING. REFER TO STRUCTURAL DRAWINGS.
11. MECHANICAL EQUIPMENT. REFER TO MECHANICAL DRAWINGS.
12. EXPOSED STRUCTURAL STEEL COLUMN. PAINT (HP2). REFER TO STRUCTURAL DRAWINGS.
13. PROVIDE 3-5/8" METAL STUD FRAMING AT 14" O.C. AND 5/8" TYPE 'X' GYPSUM BOARD BULKHEAD. EXTEND GYPSUM BOARD 6" ABOVE HIGHEST ADJACENT CEILING. EXTEND TO DECK WHERE NO CEILING IS PRESENT.
14. PROVIDE 6" ARMSTRONG ONE-PIECE DRYWALL EDGE TRIM AT PERIMETER OF CEILING CLOUD.
15. EPS CONTROL JOINT IN SOFFIT. DESIGNATED WITH TRIANGLE SYMBOL. FINISH TO BE PAINTED TO MATCH SOFFIT COLOR. ALIGN WITH FACE OF WALL/ MULLION. CENTER ON GRIDLINE WHERE SHOWN, TYP.
16. RAILING ABOVE. REFER CONSTRUCTION PLAN AND ELEVATIONS FOR MORE INFO.
17. CANOPY. REFER TO EXTERIOR ELEVATIONS AND SECTION DETAILS.
18. ALTERNATE #06 - ALUMINUM SUNSHADE FASTENED TO STEEL PLATE. SUNSHADE BASIS-OF-DESIGN: CRL AX31 POWDER-COATED. SQUARE TUBE SUNSHADE. REFER TO EXTERIOR ELEVATIONS AND SECTION DETAILS.
19. ARCHITECTURAL MILLWORK FEATURE. REFER TO INTERIOR ELEVATIONS AND SECTION DETAILS.
20. STRUCTURAL STEEL FLANGE. CUT TO PROFILE. PAINT WITH HIGH PERFORMANCE COATING. REFER TO WALL SECTIONS AND DETAILS.
21. CEILING AND VERTICAL SURFACES TO RECEIVE ACCENT PAINT.
22. EXPOSED STRUCTURAL STEEL COLUMN. PAINT. PROVIDE 2" AXIOM FRAME AROUND STEEL PENETRATION. REFER TO DETAIL 09/A422.
23. EXPOSED STRUCTURAL STEEL COLUMN. PAINT. PROVIDE 2" AXIOM FRAME AROUND STEEL PENETRATION. CONTINUE METAL STUD FRAMING AND FINISH WALL ASSEMBLY TO DECK WHERE NO CEILING IS PRESENT.
24. ALTERNATE #07 - WASHINGTON STREET ENTRANCE TRELLIS - REFER TO SHEET A350 FOR DETAILS.
25. COVE FOR DRAPERY TRACK. REFER TO DETAILS AND EQUIPMENT PLANS.
26. WOOD FRAMEWORK TO ALIGN WITH VERTICAL MILLWORK ON WALL.
27. PRE-MANUFACTURED STEEL AND GLASS CANOPY. REFER TO EXTERIOR ELEVATIONS AND SECTION DETAILS.
28. 24"x24" ACCESS PANEL. PANEL IS TO BE PAINTED TO MATCH CEILING FINISH. REFER TO SPEC 06 31.13 FOR ADDITIONAL INFORMATION.

GENERAL CEILING PLAN NOTES

- A. REFER TO CEILING PLAN FOR ALL CEILING HEIGHTS.
- B. ALL GRIDS ARE CENTERED IN ROOMS EACH DIRECTION UNLESS NOTED OTHERWISE.
- C. LOCATE CEILING GRIDS WITHIN ROOMS SUCH THAT BORDERS CONTAIN NOT LESS THAN 1/2 TILE WIDTH, UNLESS OTHERWISE INDICATED.
- D. CENTER PENETRATIONS IN ACOUSTICAL CEILING SYSTEMS WITHIN INDIVIDUAL CEILING PANELS, SUCH AS SPRINKLER HEADS, DIFFUSERS, LIGHT FIXTURES, ETC., UNLESS OTHERWISE INDICATED.
- E. PAINT ALL EXPOSED GYPSUM WALLBOARD SURFACES UNLESS NOTED OTHERWISE. REFER TO FINISH PLAN FOR COLORS.
- F. ALL EXPOSED DUCTWORK, PIPING, CONDUITS ETC. SHALL BE PAINTED, COLOR TO MATCH CEILING OR EXPOSED STRUCTURE UNLESS OTHERWISE NOTED.
- G. PROVIDE CONTROL JOINTS IN GYPSUM WALLBOARD CEILINGS AT 20' MAXIMUM. VERIFY LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.
- H. COORDINATE REFLECTED CEILING PLAN WITH MECHANICAL, PLUMBING, ELECTRICAL, AND LIFE SAFETY PLANS. PROVIDE COORDINATION DRAWINGS FOR REVIEW PRIOR TO CEILING INSTALLATION.
- I. LIGHT FIXTURES, SPRINKLER HEADS, HVAC SUPPLY AND RETURN GRILLES ARE SHOWN FOR LOCATION ONLY. REFER TO MEP DRAWINGS FOR ADDITIONAL INFORMATION.
- J. PROVIDE ACOUSTICAL CEILING HOLD-DOWN CLIPS IN VESTIBULES. IN ROOMS WITH EXTERIOR ENTRANCE DOORS PROVIDE HOLD-DOWN CLIPS FOR 10' IN ALL DIRECTION OF DOORWAY.
- K. CEILING ACCESS PANELS INDICATED ARE NOT INTENDED TO LIMIT NUMBER OF PANELS REQUIRED. PANEL QUANTITY SHALL BE SUFFICIENT TO PROVIDE REQUIRED ACCESS WHETHER OR NOT INDICATED ON THE DRAWINGS. VERIFY LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION.

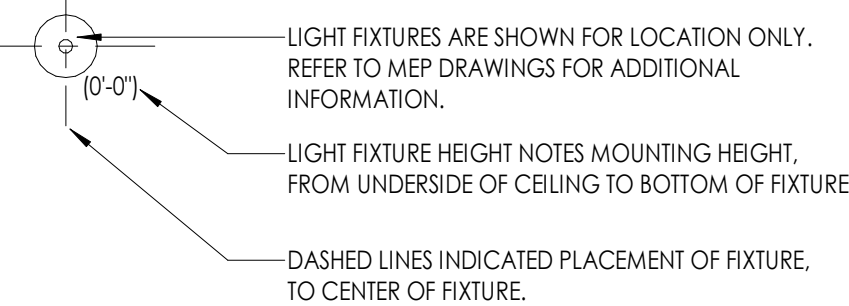
CEILING LEGEND



CEILING TAG



LIGHTING



CEILING TYPES

TYPE	DESCRIPTION
A	24" X 24" LAY-IN CEILING TILE ARMSTRONG DUKE. EDGE: ANGLED REGULAR 9/16, COLOR: WHITE.
B	GYPSUM WALLBOARD CEILING. FINISH: REFER TO FINISH PLANS FOR COLOR.
C	GYPSUM WALLBOARD CEILING WITH WOOD DETAIL. REFER TO DETAIL 02/A403 FINISH: WALL COVERING (WC2).
D	24" X 48" LAY-IN CEILING TILE. ARMSTRONG CIRRIUS SECOND LOOK II PANEL. 9/16" BEVELED REGULAR. FINISH: EFFECTS SUBTLE FLAX.
E	NO CEILING IN THIS ROOM. - PAINT EXPOSED STRUCTURE. DUCTWORK, PIPING, CONDUITS, ETC. EXTEND PAINTED FINISH 48" PAST EDGE OF ADJACENT CEILING EDGE TRIM WHERE APPLICABLE. REFER TO FINISH PLANS AND SPECIFICATIONS FOR FINISH REQUIREMENTS.
F	24" X 48" LAY-IN CEILING TILE ROCKWOOL ROCKBOARD 40. 4" THICKNESS. R-VALUE 14.0.
G	24" X 24" ARMSTRONG CLEAN ROOM VL SQUARE TILES INSTALLED IN PRELUDE 15/16" XL GRID.
H	METAL TECH FORMED METAL WALL PANEL SOFFIT WITH REVEALS. COLOR: TAN.
I	2" EPS SOFFIT ON EXTERIOR SHEATHING ON SUSPENSION GRID.
J	GYPSUM WALLBOARD CEILING ON DRYWALL GRID SUSPENSION SYSTEM. FINISH: REFER TO FINISH PLANS FOR COLOR.

WEST EAST

KEY PLAN
SCALE: 1" = 80'-0"



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Revised Drawings:
These drawings indicate the general scope of the project in terms of architectural design concepts, the dimensions of the building, the major architectural elements and the layout of structural, mechanical and electrical systems. The drawings do not necessarily indicate or describe all work required for full performance and completion of the project and are for conceptual use only. On the basis of the general scope indicated, the trade contractor shall verify all items indicated for the proper installation and completion of work.

DRAWN BY: KS
CHECKED BY: CS
DATE ISSUED: 09/12/2022

REVISIONS:
DESCRIPTION DATE
1 ADDENDUM #01 09/29/2022

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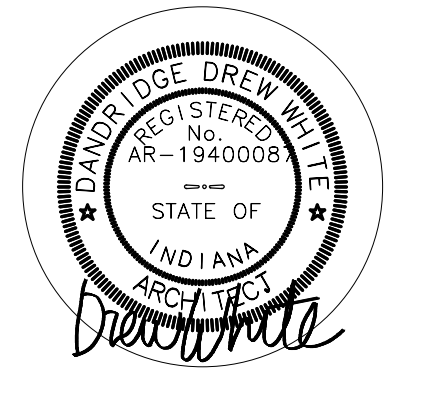
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DAMIEN CENTER
NEW DAMIEN HEADQUARTERS
INTERSECTION OF E WASHINGTON STREET
AND N ORIENTAL STREET

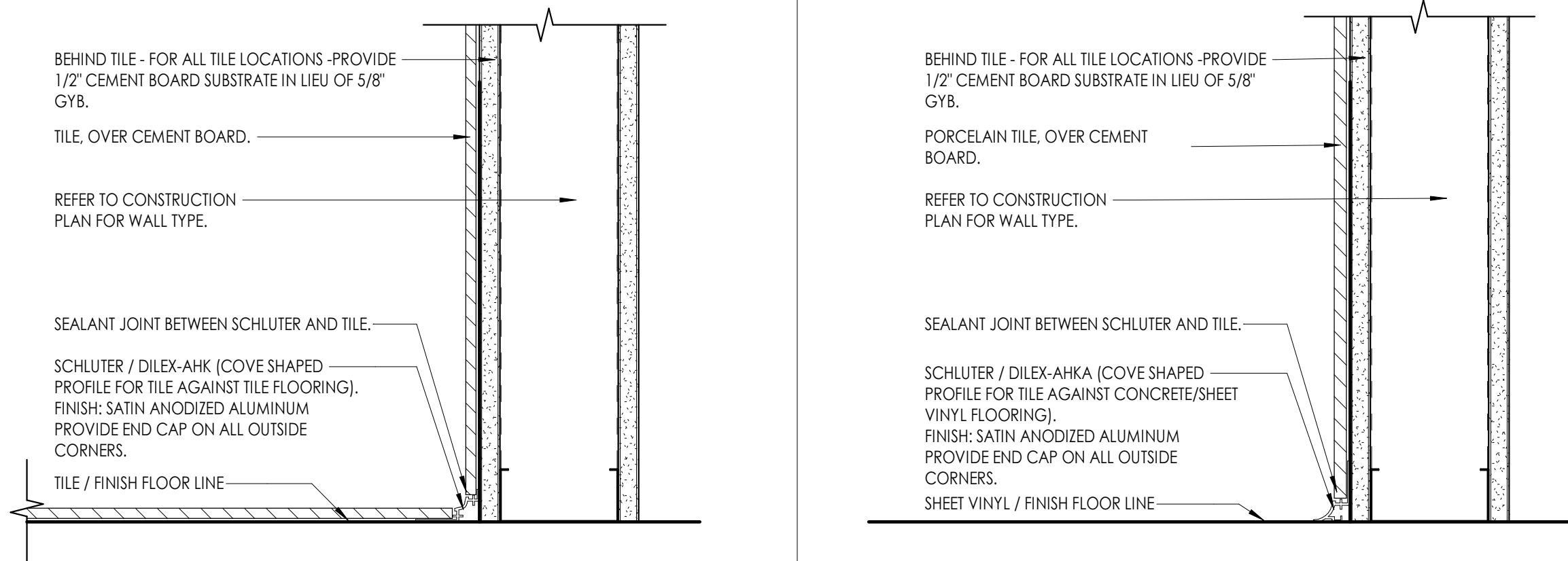


FIRST FLOOR REFLECTED
CEILING PLAN - WEST

A401A
PROJECT NUMBER: 2021029

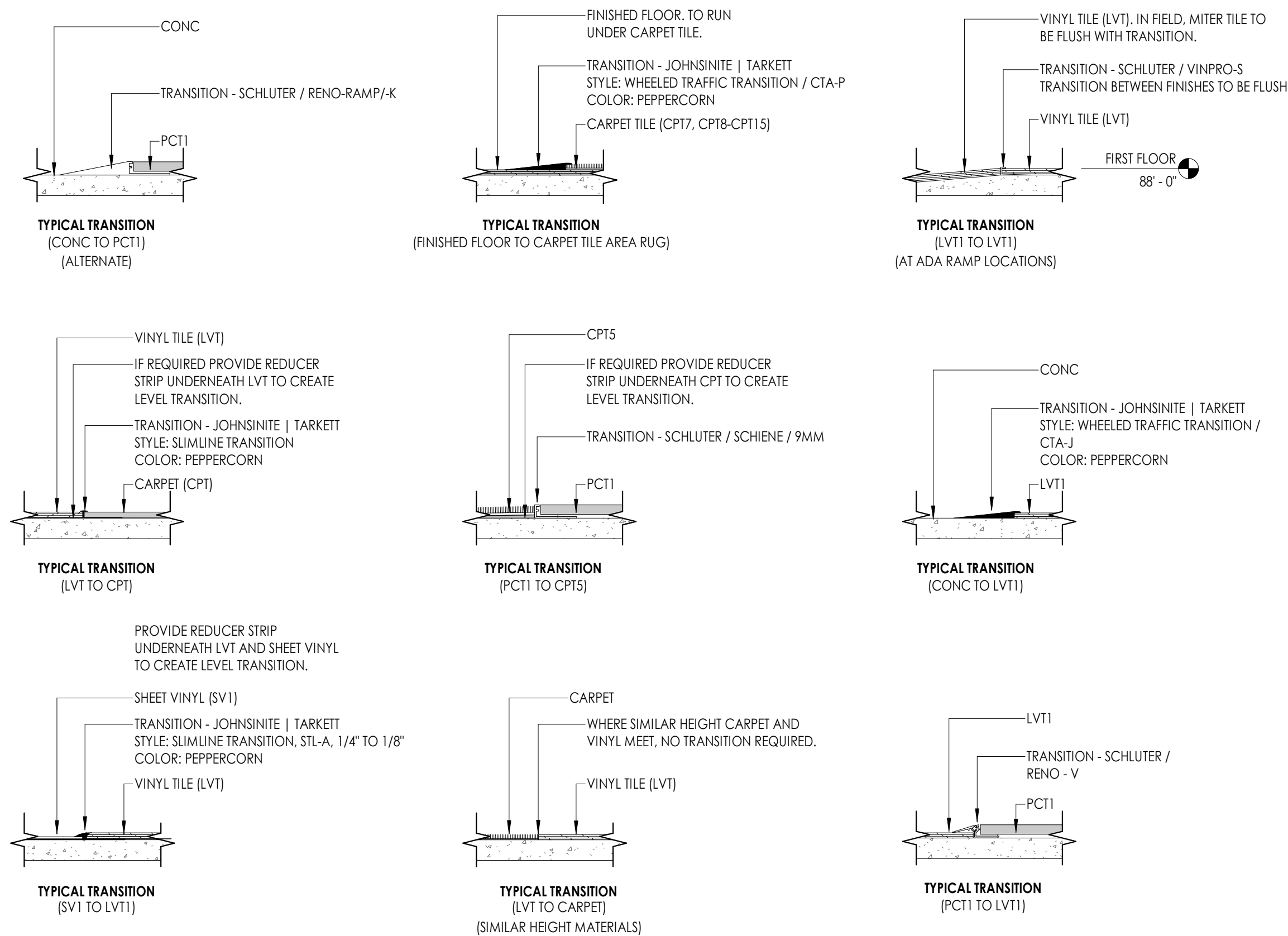
02 TILE TO FINISH FLOOR (TILE) TRANSITION

SCALE: 3" = 1'-0"



03 TILE TO FINISH FLOOR TRANSITION

SCALE: 3" = 1'-0"



01 FLOOR TRANSITION DETAILS

SCALE: 3" = 1'-0"

FINISH LEGEND							
FINISH MARK	FINISH LOCATION / TYPE	DESCRIPTION	MANUFACTURER	PATTERN / STYLE	COLOR	FINISH NOTES	REP CONTACT
ADD ALTERNATE #02							
CP1	ADD ALTERNATE #02	CARPET TILE	MILLIKEN	ENTRANCE FLOORING OBEY CUTX/FRZ	DARK GREY	19.7' x 19.7' INSTALLATION: NON DIRECTIONAL	
ST1	ADD ALTERNATE #02	STAINLESS STEEL	AMERICAN ELEVATOR			WALL PANEL MATERIAL	
CARPET							
CP1	CARPET	CARPET TILE	MILLIKEN	ENTRANCE FLOORING OBEY CUTX/FRZ	DARK GREY	19.7' x 19.7' INSTALLATION: NON DIRECTIONAL	
CP2	CARPET	CARPET TILE	INTERFACE	THREAD STORY / DRAWN THREADS	ONYX TWILL	9.8' x 39.3' INSTALLATION: ASHLAR	
CP3	CARPET	CARPET TILE	INTERFACE	THREAD STORY / LOOM OF LIFE	ONYX TAUPE	9.8' x 39.3' INSTALLATION: ASHLAR	
CP4	CARPET	CARPET TILE	INTERFACE	LOOK BOTH WAYS / STEP THIS WAY	ASH	19.6' x 19.6' INSTALLATION: ASHLAR	
CP5	CARPET	CARPET TILE	INTERFACE	MONOCHROME	BROWN	19.6' x 19.6' INSTALLATION: MONOUIHC	
CP6	CARPET	CARPET TILE	INTERFACE	DIMINUED	TRAVERTINE	9.8' x 39.3' INSTALLATION: ASHLAR	
CP6A	CARPET	CARPET TILE	INTERFACE	INTERMEDIO	TRAVERTINE	9.8' x 39.3' INSTALLATION: ASHLAR	
CP6B	CARPET	CARPET TILE	INTERFACE	OBLIGATO	TRAVERTINE	9.8' x 39.3' INSTALLATION: ASHLAR	
CP7	CARPET	CARPET TILE	INTERFACE	THREAD STORY / FUTURE WOVEN	FIELSTONE	9.8' x 39.3' INSTALLATION: ASHLAR	
CP8	CARPET	CARPET TILE	INTERFACE	PANOLA MOUNTAIN	BLUE LICHEN	19.6' x 19.6' INSTALLATION: QUARTER TURNED	PLEASE CALL JAE PARK WITH INTERFACE AT 317.445.2813.
CP9	CARPET	CARPET TILE	INTERFACE	PANOLA MOUNTAIN	BUSH LICHEN	19.6' x 19.6' INSTALLATION: QUARTER TURNED	PLEASE CALL JAE PARK WITH INTERFACE AT 317.445.2813.
CP10	CARPET	CARPET TILE	INTERFACE	PANOLA MOUNTAIN	BROWN LICHEN	19.6' x 19.6' INSTALLATION: QUARTER TURNED	PLEASE CALL JAE PARK WITH INTERFACE AT 317.445.2813.
CP11	CARPET	CARPET TILE	INTERFACE	PANOLA MOUNTAIN	GREEN LICHEN	19.6' x 19.6' INSTALLATION: QUARTER TURNED	PLEASE CALL JAE PARK WITH INTERFACE AT 317.445.2813.
CP12	CARPET	CARPET TILE	INTERFACE	PANOLA MOUNTAIN	MEADOW LICHEN	19.6' x 19.6' INSTALLATION: QUARTER TURNED	PLEASE CALL JAE PARK WITH INTERFACE AT 317.445.2813.
CP13	CARPET	CARPET TILE	INTERFACE	PANOLA MOUNTAIN	RUST LICHEN	19.6' x 19.6' INSTALLATION: QUARTER TURNED	PLEASE CALL JAE PARK WITH INTERFACE AT 317.445.2813.
CP14	CARPET	CARPET TILE	INTERFACE	PANOLA MOUNTAIN	SAGE LICHEN	19.6' x 19.6' INSTALLATION: QUARTER TURNED	PLEASE CALL JAE PARK WITH INTERFACE AT 317.445.2813.
CP15	CARPET	CARPET TILE	INTERFACE	PANOLA MOUNTAIN	YELLOW LICHEN	19.6' x 19.6' INSTALLATION: QUARTER TURNED	PLEASE CALL JAE PARK WITH INTERFACE AT 317.445.2813.
CERAMIC / PORCELAIN TILE							
CT1	CERAMIC / PORCELAIN TILE	CERAMIC TILE	DAITILE	COLOR WHEEL LINEAR	BISCUIT K775 / MATTE	4" x 12" INSTALLATION: MONOUIHC	
CT1A	CERAMIC / PORCELAIN TILE	CERAMIC TILE	DAITILE	COLOR WHEEL LINEAR	ARCTIC WHITE D190	4" x 12" INSTALLATION: MONOUIHC	
CT2	CERAMIC / PORCELAIN TILE	CERAMIC TILE	DAITILE	TEC	SPRINT	3" x 12" INSTALLATION: MONOUIHC	
G1	CERAMIC / PORCELAIN TILE	GROUT	TEC		935 SILHOUETTE	USE WITH PCT1. SETTING MATERIALS AND GROUT TO BE BY SAME MFG.	
G2	CERAMIC / PORCELAIN TILE	GROUT	TEC		931 STANDARD WHITE	USE WITH CT1 AND CT1A. SETTING MATERIALS AND GROUT TO BE BY SAME MFG.	
G3	CERAMIC / PORCELAIN TILE	GROUT	TEC		909 STERLING	USE WITH CT2. SETTING MATERIALS AND GROUT TO BE BY SAME MFG.	
PCT1	CERAMIC / PORCELAIN TILE	PORCELAIN TILE	PLATFORM SURFACES	ARTWORK	ARGILLA	8" x 48" 12" x 48" 18" x 36" INSTALLATION: ALL TILE TO BE 18" x 36" EXCEPT FOR MAINSTREET PATTERNS. REFER TO FINISH PLANS.	
PCT2	CERAMIC / PORCELAIN TILE	PORCELAIN TILE	DAITILE	ELEMENTAL SELECTION - PANORAMIC PORCELAIN SURFACES	CAIACATTA TOPAZ CM82	85" x 128" .6MM THICK. INSTALLATION: REFER TO FINISH PLANS.	
CONCRETE							
CONC1	CONCRETE	CONCRETE		LEVEL 3 POLISHED CONCRETE.	FINAL POLISH TO BE 800-GRIT DIAMOND ABRASIVE	PROVIDE HARDENER FOLLING INITIAL GRIDING.	
FABRIC							
CB1	FABRIC	CUBICLE CURTAIN	KNOLL	SIGNAL	LIGHTHOUSE		
FB1	FABRIC	FABRIC	MAHARAM	TEX WALL (LICENT)	002 VILLAGE		
FB2	FABRIC	FABRIC	MAHARAM	TEX WALL BRIDGE	DISFAVOR		
FB3	FABRIC	DRAPERY	MAHARAM	BOUCLE LENO	002 PEARL		
FB4	FABRIC	FABRIC	DESIGNTEX	BELLARD CLOTH	002 PEARL		
MIDMARK							
CAB1	MIDMARK	SYNTHESIS CABINETRY	MIDMARK		PEARL ESSENCE		
SS2	MIDMARK	SOLID SURFACE	CORIAN		ELEGANT GREY	THICKNESS: 1/2"	
MILLWORK							
PL1	MILLWORK	PLASTIC LAMINATE	WILSONART		NEOWALNUT 7991-38		
PL2	MILLWORK	PLASTIC LAMINATE	FORMICA		MOJAVE 8731-PX		
PL3	MILLWORK	PLASTIC LAMINATE	WILSONART		SLATE GREY D91F-18		
Q21	MILLWORK	QUARTZ	CAESARSTONE		PRIMORDIA 4043	SQUARE PROFILE. QUARTZ ON BACKSPLASH TO BE 2CM. QUARTZ HORIZONTAL SURFACES / COUNTERTOPS TO BE 3CM.	
SS1	MILLWORK	SOLID SURFACE	STARON		PEBBLE CHIFFON	THICKNESS: 1/2"	
SS2	MILLWORK	SOLID SURFACE	CORIAN		ELEGANT GREY	THICKNESS: 1/2"	
SS3	MILLWORK	SOLID SURFACE	CORIAN		DEEP SABLE	THICKNESS: 1/2". MAINSTREET ARCH MATERIAL.	CONTACT HEIDI GESSNER, E: HEIDI.GESSNER@OVSCO.COM P: 317.590.0290. PREFERRED THERMOFORM FABRICATOR: TRADEMARK SURFACES. REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
PAINT							
PT1	PAINT	PAINT	BENJAMIN MOORE	INTERIOR PAINT	CHINA WHITE OC141		
PT2	PAINT	PAINT	BENJAMIN MOORE	INTERIOR PAINT	REVERE FEWTER HC-172		
PT3	PAINT	PAINT	SHERWIN WILLIAMS	INTERIOR PAINT	SW 7032 WARM STONE		
PT4	PAINT	PAINT	SHERWIN WILLIAMS	INTERIOR PAINT	SW 7020 BLACK FOX		
PT5	PAINT	PAINT	GLIDDEN	INTERIOR PAINT	STEWART HOUSE BROWN 50YR D6/081		
PT6	PAINT	PAINT	PPG	INTERIOR PAINT	CITRUS YELLOW PPG1109-4		
PHARMACY							
PL4	PHARMACY	PLASTIC LAMINATE	FORMICA		NEUTRAL TWILL 8826-58	CABINETS AND END PANELS	
PL5	PHARMACY	PLASTIC LAMINATE	WILSONART		GREY 1500-60	COUNTERTOP	
RESILIENT							
LVT1	RESILIENT	VINYL TILE	SHAW CONTRACT	SOUTIDE 064BV	NATURAL 48250	6" x 48" NOMINAL. 20 MIL. .5MM THICK. DIRECT GLUE	
LVT2	RESILIENT	VINYL TILE	MOHAWK GROUP	BOLDER C0010	888 SCHST	36" x 36" NOMINAL. 20 MIL. .5MM THICK	
RST1	RESILIENT	RUBBER STAIR TREAD	MANNINGTON	COLORSCAPE STAIR TREADS	BLACK BROWN 523	TEXTURE: SCULPTED	
SV1	RESILIENT	SHEET GOODS	TARKETT/JOHNSONITE	IQ OPTIMA	RAW IVORY 0862	6.5" x 82" ROLLED GOODS	
WALL BASE							
B1	WALL BASE	WALL BASE - RUBBER	JOHNSONITE COVE	4" TRADITIONAL	TB1 PEPPERCORN	ROLL GOOD.	
B2	WALL BASE	WALL BASE - RUBBER	JOHNSONITE MILLWORK	MANDALAY (4TH)	TB1 PEPPERCORN		
B3	WALL BASE	WALL BASE - RUBBER	JOHNSONITE MILLWORK	MANDALAY (6TH)	TB1 PEPPERCORN		
WALLCOVERING							
WC1	WALLCOVERING	WALLCOVERING	WOLF GORDON	GRAIN	PINE		
WC2	WALLCOVERING	WALLCOVERING	WOLF GORDON	GRAIN	ROSEWOOD		
WP1	WALLCOVERING	WALL PROTECTION	CJS ACROVYN	1.5MM. SUEDE TEXTURED SHEET. PVC FREE	933 MISSION WHITE		
WOOD							
WD1	WOOD	WOOD	SURFACING SOLUTIONS	TAMBOUR SAMPLE: PROFILE 311	SPECIES: WALNUT		
WF1	WOOD	WOOD FLOORING	SOLID WOOD (REFER TO DETAILS)	-	-	BASS OF DESIGN: FINISH AND STAIN TO MATCH RESAWN TIMBER NORTH AMERICAN WHITE OAK TARANTELLA.	
WS1	WOOD	WOOD STAIN	-	STAIN TO MATCH LVT1 AND/OR WF1.	-	STAIN TO MATCH LVT1 AND/OR WF1. PROVIDE ARCHITECT SAMPLE FOR APPROVAL.	

GENERAL FINISH NOTES

- GENERAL:**
- PROVIDE INTERIOR FINISH SAMPLE SUBMITTALS FOR ALL FINISH ITEMS FOR INTERIOR DESIGN APPROVAL PRIOR TO ORDERING FINISH MATERIALS AND INSTALLATION.
 - WHEN MORE THAN ONE FINISH IS NOTED FOR GIVEN AREA, ALWAYS COORDINATE WITH AXIS ARCHITECTURE + INTERIORS FOR DIRECTION AND/OR APPROVAL.
 - ANY VARIATION IN PATTERN, TEXTURE, COLOR OR ANY OTHER EFFECT SHOULD BE BROUGHT TO THE ATTENTION OF AXIS ARCHITECTURE + INTERIORS FOR DIRECTION AND/OR APPROVAL.
 - AXIS ARCHITECTURE + INTERIORS STRONGLY RECOMMENDS ORDERING FINISHES IMMEDIATELY TO ENSURE TIMELY DELIVERY FOR AN ON-TIME INSTALLATION.
- PAINTING:**
- ALL PAINT FINISH LOCATIONS TO BE THREE-COAT SYSTEM. REFER TO SPECS FOR PREPARATION, SYSTEM DESCRIPTION AND PRODUCTS.
 - PAINT ALL EXPOSED MISC. STEEL LINTELS, PLATES, ANGLES, ETC. PX UNLESS NOTED OTHERWISE.
- FLOORING:**
- REVIEW AND ABIDE BY ALL MANUFACTURER INSTALLATION INSTRUCTIONS PRIOR TO INSTALLATION OF FLOORING MATERIALS.
 - CONTRACTOR TO USE MANUFACTURER'S RECOMMENDED PRIMERS, SEALERS, AND ADHESIVES.
 - SUBFLOOR MUST BE LEVEL, SOUND, RIGID, CLEAN/FREE OF ANY DEBRIS, AND PERMANENTLY DRY PRIOR TO INSTALLATION. LEVEL ALL FLOORS IN ACCORDANCE WITH FLOORING FINISH MANUFACTURERS SPECIFICATIONS. THE INSTALLATION OF FINISH FLOORING MATERIALS SHALL SERVE AS ACCEPTANCE OF SLAB CONDITION. FLOORING MATERIALS SHALL BE FROM THE SAME PRODUCTION RUN. ALL FLOORING TO RUN UNDER CASEWORK, LOCKERS, ETC.
 - WHERE DISSIMILAR FLOORING FINISHES MEET, THEY MUST DO SO UNDER CENTERLINE OF DOOR UNLESS NOTED OTHERWISE.
 - FLOORING CONTRACTOR TO PROVIDE AND INSTALL TRANSITION STRIP BETWEEN DISSIMILAR FLOORING MATERIALS. TRANSITION STRIP IS TO BE SCHLUTER SCHIENE OR EQUAL, WITH A BRUSHED ANTIQUE BRONZE ANODIZED ALUMINUM FINISH. APPLY FLOOR LEVELING COMPOUND, IF NEEDED, TO ALLOW FOR BOTH FLOORING SURFACES TO BE COMPLETELY LEVEL AT POINT OF TRANSITION. REFER TO D1/A700 FOR TYPICAL FLOOR TRANSITION DETAILS.

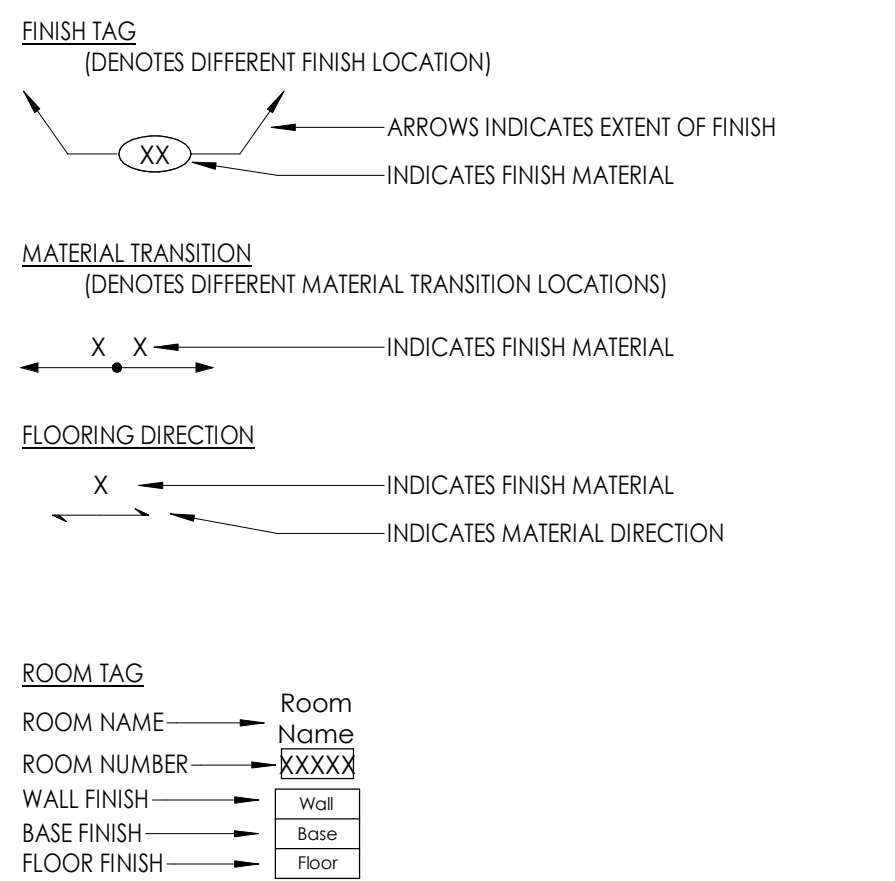
- CEILINGS / WALLS:**
- ALL WALLS TO BE PAINTED **PT1**, UNLESS NOTED OTHERWISE.
 - ALL VERTICAL + HORIZONTAL FACES OF BULKHEADS TO BE PAINTED **BRIGHT CEILING WHITE**, UNLESS NOTED OTHERWISE.
 - ALL GYPSUM CEILINGS TO BE PAINTED **BRIGHT CEILING WHITE** UNLESS NOTED OTHERWISE.
 - ALL DRYWALL TO BE LEVEL **4** FINISH, UNLESS KEY NOTED OTHERWISE ON FINISH PLANS.
 - ALL EXPOSED STRUCTURE AND MEP RELATED SYSTEMS TO BE PAINTED **PT1**.

- BASE:**
- ALL BASE TO BE **B1** UNLESS NOTED OTHERWISE.
 - ALL CABINETS ARE TO RECEIVE **B1** AT TOE KICK UNLESS NOTED OTHERWISE.

- MILLWORK:**
- CALULK SELECTIONS ARE TO BE PROVIDED TO AXIS ARCHITECTURE + INTERIORS FOR SELECTION AND/OR APPROVAL BEFORE INSTALLATION OF MILLWORK.
 - ALL COUNTERTOPS WITH SINKS WILL BE SOLID SURFACE. SINKS ARE TO BE UNDERMOUNTED.
 - ALL WINDOW SILLS TO BE SOLID SURFACE UNLESS NOTED OTHERWISE.
 - ALL COUNTERTOPS TO BE 24" DEEP. TO ALIGN WITH FINISH FACE OF CABINET DOOR AND / OR DRAWER. UNLESS NOTED OTHERWISE.

- FURNITURE / EQUIPMENT:**
- FURNITURE SHOWN IS NOT PART OF THIS WORK AND IS TO BE SUPPLIED AND INSTALLED BY THE FURNITURE SUPPLIER. FURNITURE FOR REFERENCE ONLY.
 - REFER TO A801 FOR SPECIALTY EQUIPMENT SCHEDULE. NOTED WITH TYPE MARK "SE".
 - REFER TO A001 FOR PLUMBING ACCESSORY SCHEDULE. NOTED WITH TYPE MARK "T".

GENERAL FINISH SYMBOLS



618 East Market Street
Indianapolis, Indiana 46202
phone 317.284.8162
axisarch.com

Drawn By: KS / LJ
Checked By: DS
Date Issued: 09/12/2022

REVISIONS:
DESCRIPTION DATE
1 ADDENDUM #01 09/29/2022

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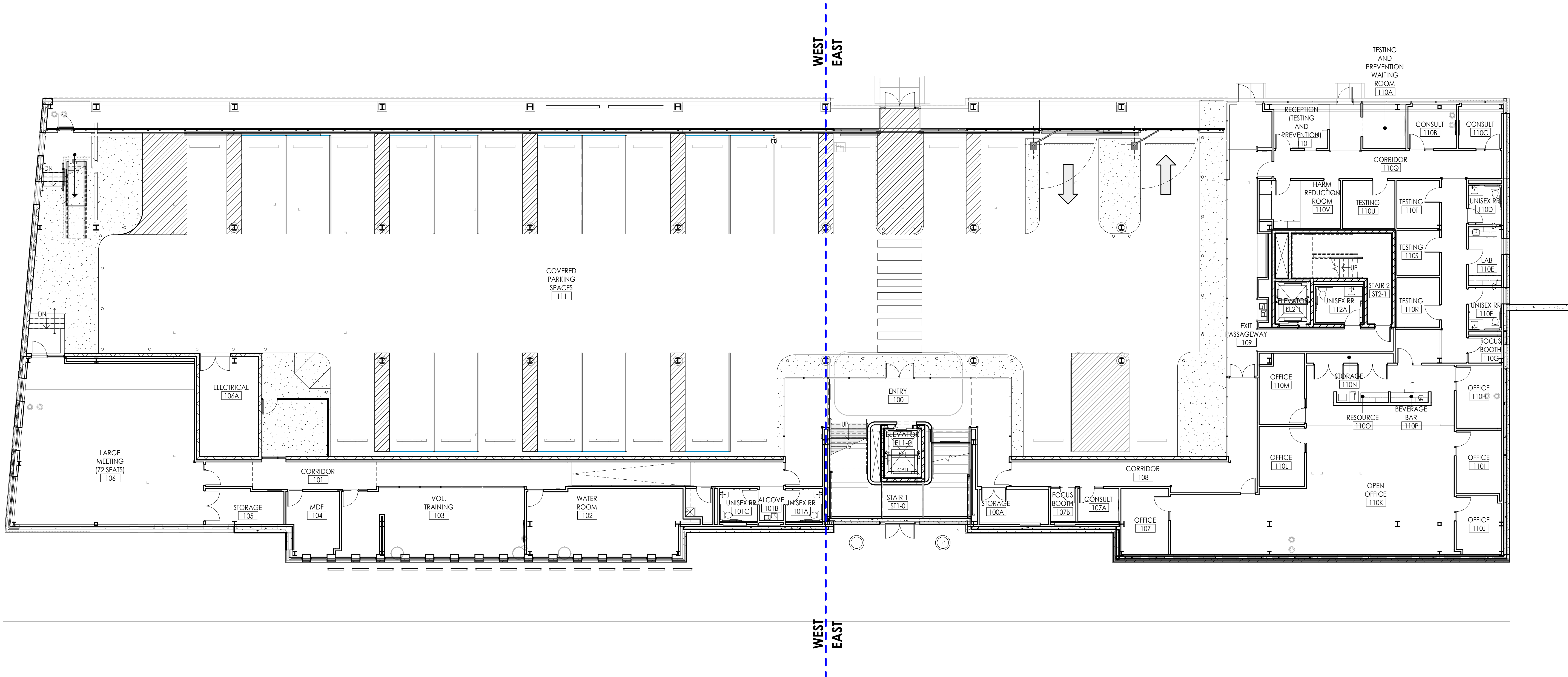
LANDSCAPE ARCHITECT
CHEN SITE DESIGN STUDIO LLC
JANIE CHEN, P.L.A. AIA
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Chicago, IL 60601
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DAMIAN CENTER
NEW DAMIAN HEADQUARTERS
INTERSECTION OF E WASHINGTON STREET
AND N ORIENTAL STREET



FINISH SCHEDULES AND SPECIFICATIONS

A700
PROJECT NUMBER: 2021029



GENERAL FINISH NOTES

- GENERAL:**
- PROVIDE INTERIOR FINISH SAMPLE SUBMITTALS FOR ALL FINISH ITEMS FOR INTERIOR DESIGN APPROVAL PRIOR TO ORDERING FINISH MATERIALS AND INSTALLATION.
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- PAINTING:**
- ALL PAINT FINISH LOCATIONS TO BE THREE-COAT SYSTEM. REFER TO SPECS FOR PREPARATION, SYSTEM DESCRIPTION AND PRODUCTS.
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- ALL WALLS TO BE PAINTED **PT1**. UNLESS NOTED OTHERWISE.
 - ALL VERTICAL + HORIZONTAL FACES OF BULKHEADS TO BE PAINTED **BRIGHT CEILING WHITE**. UNLESS NOTED OTHERWISE.
 - ALL GYPSUM CEILINGS TO BE PAINTED **BRIGHT CEILING WHITE** UNLESS NOTED OTHERWISE.
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 - REFER TO A801 FOR SPECIALTY EQUIPMENT SCHEDULE. NOTED WITH TYPE MARK "SE".
 - REFER TO A001 FOR PLUMBING ACCESSORY SCHEDULE. NOTED WITH TYPE MARK "T".

GENERAL FINISH SYMBOLS

- FINISH TAG**
(DENOTES DIFFERENT FINISH LOCATION)
- ARROWS INDICATES EXTENT OF FINISH
INDICATES FINISH MATERIAL
- MATERIAL TRANSITION**
(DENOTES DIFFERENT MATERIAL TRANSITION LOCATIONS)
- INDICATES FINISH MATERIAL
INDICATES MATERIAL DIRECTION
- FLOORING DIRECTION**
- INDICATES FINISH MATERIAL
INDICATES MATERIAL DIRECTION
- ROOM TAG**
- | | |
|--------------|-------|
| Room | Name |
| Room Number | XXXXX |
| Wall Finish | Wall |
| Base Finish | Base |
| Floor Finish | Floor |

FINISH PLAN KEYNOTES

- WALL PROTECTION (WP1) BEHIND JANITOR SINK (BOTH SIDES) TO BE INSTALLED UP TO 4H AND EXTEND PAST EDGE OF SINK BY 6". UTILIZE APPROPRIATE EDGE TRIM.
- PROVIDE WALL PROTECTION (WP1) FROM ABOVE WALL BASE TO FULL HEIGHT ON ALL WALLS OF WAITING KITCHEN.
- PROVIDE BLOCKING AS REQUIRED.
- FLOOR PATTERN WITHIN THIS AREA COMPOSED OF CARPETS (CPT8-CPT15) ON FINISH SCHEDULE. REFER TO INTERFACE DOCUMENTATION FOR LAYOUT, CARPET ISLAND TO LAY ON TOP OF LVT. REFER TO A700 FOR FLOOR TRANSITIONS.
- BASE BID: LVT FLOORING. ADD ALTERNATE #03 - WOOD FLOORING (WF1) AT ENTRY 300, MAINSTREET 301, MOTHER'S ROOM 304C, CORRIDOR 305 AND SOCIAL HUB 307.
- BASE BID: LVT FLOORING. ADD ALTERNATE #04 - PCT1 AT ENTRY 300, RECEPTION 201, MAINSTREET 202A & 202B, VESTIBULE 202C, CORRIDOR 204, AND CLIENT WAITING 205B.
- PAINT TO TRANSITION IN A CLEAN, SHARP, STRAIGHT LINE.
- FROM THIS POINT ON HEADING WEST, PLAN FOR LVT2 (MONOLITHIC).
- VERTICAL RIBS' SECTION, PLAN FOR LVT2 (MONOLITHIC STEPPING).
- FROM THIS POINT ON HEADING EAST, PLAN FOR LVT2 (MONOLITHIC).
- AREA BETWEEN PATTERN AT 'VERTICAL RIBS'. PLAN FOR LVT2 (MONOLITHIC).
- AREA BETWEEN PATTERN AT 'VERTICAL RIBS'. PLAN FOR 18'X36" PCT1 (MONOLITHIC).
- VERTICAL RIBS' SECTION, PLAN FOR (PCT1) (REFER TO 08/A117 FOR TILE PATTERN).
- FROM THIS POINT ON HEADING EAST, PLAN FOR 18'X36" PCT1 (MONOLITHIC).
- ALIGN FLOOR FINISH TRANSITION WITH WALL AND/OR VERTICAL STRUCTURE.
- FOR FLOOR TRANSITION AT TOP OF RAMP, REFER TO 01/A700.
- BASE BID: PCT1 FLOORING.
- CLINIC EXAM ROOMS & DENTAL ROOM FINISHES TO BE: (SS2) COUNTERTOP & (CAB1) BY INDIAHARK. OWNER COORDINATED EQUIPMENT TO BE SUPPLIED BY OWNER'S VENDOR. COORDINATE POWER/ DATA REQUIREMENTS WITH MEP DWGS.
- DRAWERY FABRIC ON CEILING MOUNT TRACK SYSTEM. REFER TO DETAIL 07/A421.
- CARPET TO BE A BLEND OF 50% (CPT6A) AND 25% EACH (CPT6 AND CPT6B).
- STEEL COLUMNS TO BE PAINTED (HP2). REFER TO EXTERIOR MATERIALS LEGEND FOR MORE INFORMATION.

KEY PLAN

SCALE: NTS

AXIS

618 East Market Street
Indianapolis, Indiana 46202
phone 317/284.8162
axisarch.com

Revised Drawings
These drawings indicate the general scope of the project in terms of architectural design concept, the dimensions of the building, the major architectural elements and the type of structure, mechanical and electrical systems. The drawings do not necessarily indicate or describe all work required for full performance and completion of the requirements of the contract. On the basis of the general scope and information described, the trade contractor shall furnish all items required for the proper execution and completion of all work.

DRAWN BY: LJ
CHECKED BY: DS
DATE ISSUED: 09/12/2022

REVISIONS:
DESCRIPTION DATE
1 ADDENDUM #01 09/29/2022

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DAMIEN CENTER
NEW DAMIEN HEADQUARTERS
INTERSECTION OF E WASHINGTON STREET
AND N ORIENTAL STREET



FIRST FLOOR INTERIOR
FINISH PLAN - OVERALL

A701
PROJECT NUMBER: 2021029

