

Addendum No. 1
July 23, 2024

Project: Brandon Valley Elementary School
Brandon, South Dakota
Project #3023

Architect: Architecture Incorporated

Letting: **2:00 p.m. (prevailing local time)**
Thursday, August 8, 2024
Brandon Valley School District Administration Center Conference Room
300 South Splitrock Boulevard
Brandon, South Dakota

Scope of this Addendum:

To all bidders and all others to whom drawings and specifications have been issued by Architecture Incorporated, this Addendum forms a part of the Contract Documents. Acknowledge receipt of this addendum by listing its number and date in the bidder's Form of Proposal. Failure to do so may subject bidder to disqualification. This addendum modifies the drawings and specifications as follows:

GENERAL ITEMS:

- 1) **SECTION – 011000 – SUMMARY OF WORK**
 - a) Use of Site, Paragraph 1.5.B.4: Add the following: Contractor shall provide and install a 20' wide temporary gravel access road to the site from Chestnut Street; reference attached drawing Sheet 2.30, revision dated 7-23-24, for additional information.
 - i) The Contractor shall include installation of temporary culverts, if necessary.
 - ii) The Contractor shall use the temporary access road to the site during the entire construction period.
 - iii) At completion of project, Contractor shall remove temporary access road and restore final construction with black dirt finish grading and grass seed as shown.
 - b) Work by Owner, Paragraph 1.8.A.1: Construction of Chestnut Street Update. Chestnut Street is being installed by another contractor. The street construction including underground utilities, water line, curb and gutter, gravel base and asphalt paving is scheduled to be completed by September 15, 2024. The Elementary School Building Contractor shall coordinate and share access of the street with the street contractor. Sunshine Avenue Street construction schedule is currently not scheduled.
 - c) Work by Owner, Paragraph 1.8.13: Landscaping items. Omit all references that grass seed, plants and trees to be provided by the Owner. Grass seed, plants and trees will be provided and installed by the Contractor. See attached specifications for grass seed, plants and trees.
- 2) **SECTION 114000 – FOOD SERVICE EQUIPMENT**
 - a) Food Service Equipment Schedule Clarifications:

- i) Item 1 - Milk Cooler:
 - (1) Manufacturer: Turbo Air; disregard Nor-Lake original listed in Section 114000.
 - (a) Model #: (*Turbo Air*) TMKC-58-2-SS-N6.
 - ii) Item 17 – Three (3) Compartment Sink:
 - (1) Model number for T&S waste valve shall be changed to B-3992-01-5x.
 - iii) Item 22 – Vegetable Prep Sink:
 - (1) Model number for T&S waste valve shall be changed to B-3992-01-5x.
 - iv) Item 26 – CUSTOM Prep Table:
 - (1) Model number for T&S waste valve shall be changed to B-3992-01-5x.
- 3) SECTION – 230800 – VENTILATION AND AIR CONDITIONING
- a) Modification to Section *230800-1.26* Air Cooled Chiller:
 - i) Manufacturer shall warrant all equipment and material of its manufacture against defects in workmanship and material for a period of one year from final acceptance. The compressors shall have a five year parts and labor warranty.
- 4) SHEET 2.30 – OVERALL ARCHITECTURAL SITE PLAN
- a) Furnish and install a 20'-0" wide temporary gravel access road at the northwest corner of the site as indicated per *revised* drawing Sheet 2.30, *revision* dated 7-23-24; reference *revised* Sheet 2.31 attached to the end of Addendum #1.
 - i) See Addendum #1 *Section 011000* clarifications for additional information.
- 5) SHEET 2.31 – ENLARGED SITE PLAN – SOUTH PARKING
- a) Furnish and install 4-inches of landscape rock (over weed barrier) at the northernmost parking lot island as indicated per *revised* drawing Sheet 2.31, *revision* dated 7-23-24; reference *revised* Sheet 2.31 attached to the end of Addendum #1.
- 6) SHEET 2.33 – ENLARGED SITE PLAN – SOUTH PLAYGROUND
- a) Omit the concrete curb & gutter originally shown along the east and south sides of the asphalt pavement located east of the new bus garage.
 - i) Reference *revised* drawing Sheet 2.33, *revision* dated 7-23-24, attached to the end of Addendum #1.

7) SHEET 2.90 – LANDSCAPE PLAN

a) Legend and General Notes Clarifications:

- i) Omit all notes that reference grass seed and plant materials to be provided by the Owner.
- ii) All seeding, plants, trees, fertilizing and mulching will be provided and installed by the Contractor not the Owner.
- iii) See Section 329200 – Turf and Grasses specification attached with Addendum #1.
- iv) See Section 329300 – Plants specification attached with Addendum #1.

8) SHEET 3.00 – GENERAL STRUCTURAL NOTES

- a) Abbreviation Clarifications: PRAN is defined as Permeability-Reducing Admixture for Non-Hydrostatic Conditions for the Cast-in-Place Concrete Section located under Materials Grades and Strengths; reference *revised* Sheet 3.00, *revision* dated 7-23-224, attached to the end of Addendum #1.

9) SHEET 3.21 – ROOF FRAMING PLAN – AREA A

- a) Reference *revised* drawing Sheet 3.21, *revision* dated 7-23-2024, attached to the end of Addendum #1 for the following modifications:
 - i) The roof access metal grate stair stringers originally shown as steel tubes shall be changed to steel channel stringers as indicated.
 - ii) Add HSS 3x3 posts at each stringer, as indicated in the revised detail 9/3.48.

10) SHEET 3.22 – ROOF FRAMING PLAN – AREA B

- a) Reference *revised* drawing Sheet 3.22, *revision* dated 7-23-2024, attached to the end of Addendum #1 for the following modifications:
 - i) The roof access metal grate stair stringers originally shown as steel tubes shall be changed to steel channel stringers as indicated.
 - ii) Add HSS 3x3 posts at each stringer, as indicated in the revised detail 12/3.51.

11) SHEET 3.46 – STRUCTURAL DETAILS

- a) Reference detail 17/3.46: Revise roof access stair stringer connection to CMU wall detail as indicated in the *revised* drawing Sheet 3.46, *revision* dated 7-23-2024, attached to the end of Addendum #1.

12) SHEET 3.48 – STRUCTURAL DETAILS

- a) Reference detail 9/3.48: Revise roof access stair detail as indicated in the *revised* drawing Sheet 3.48, *revision* dated 7-23-2024, attached to the end of Addendum #1.

13) SHEET 3.51 – STRUCTURAL DETAILS

- a) Reference detail 12/3.51: Revise roof access stair detail as indicated in the *revised* drawing Sheet 3.51, *revision* dated 7-23-2024, attached to the end of Addendum #1.

14) SHEET 5.13 – WINDOW AND STOREFRONT ELEVATIONS

- a) Window Details Reference Clarifications: All references to window head, jamb and sill details in Window Types Schedule shall be changed to Sheet 5.14; there is no Sheet 5.16 in the project documents.

MECHANICAL ITEMS:

15) SHEET 8.51 – SCHEDULES

- a) Fan Schedule Modifications:
- i) ***TF-A118A and TF-A118B***: Provide factory inlet filter box and backdraft damper. Filter rack shall be sloped and sized for 2” thick merv 8 filters. Fan shall be designed at 0.635” esp.
 - ii) ***EF-G106A, EF-G106B, EF-G106C, RF-1 and RF-2***: Provide motorized damper.

GENERAL APPROVALS:

The following material or equipment furnished by the manufacturers listed, may be substituted as equivalent providing that each item, material, and piece of equipment conforms to the design and requirement of the specifications.

<u>SECTION</u>	<u>ITEM</u>	<u>MANUFACTURER</u>
034500	Precast Architectural Concrete	SteinBauer, LLC; Faulkton, SD
084113	Aluminum-Framed Entrances and Storefront	Oldcastle Building Envelope
101100	Visual Display Boards	Nelson Adams NACO
220400	Water Heater	Lochinvar Shield
220600	Ice Storage	PhaseStor, Dunham Bush
220600	Cabinet Unit Heater	Total Comfort Solutions
230800	Furnace/Condensing Unit	Daikin, Guardian
230800	Duct Mounted Heating Coil	Precision Coil, Greenheck
230800	CO/NO2 System	Brasch, Macurco
230800	Kitchen Hood	Greasemaster

230800	Fabric Duct	Prihoda
230800	GRD's	Greenheck
230800	Air Handling Units	VTS, Pace
230800	Chiller	Dunham Bush, Quantech
230800	Fan Powered VAV Terminals	Greenheck
230800	VAV Reheat Terminals	Greenheck
230800	Roof Curbs	CDI, Greenheck
230800	Ductless Split System	Hitachi

END OF ADDENDUM No. 1

SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Seeding.
 - 2. Meadow grasses and wildflowers.
 - 3. Turf renovation.
 - 4. Erosion-control material(s).

1.3 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.
- B. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- C. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- D. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- E. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

1.4 INFORMATIONAL SUBMITTALS

- A. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture, stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
- B. Product Certificates: For fertilizers, from manufacturer.

- C. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: Recommended procedures to be established by Owner for maintenance of turf and meadows during a calendar year. Submit before expiration of required maintenance periods.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws, as applicable.
- B. Bulk Materials:
 - 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
 - 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
 - 3. Accompany each delivery of bulk materials with appropriate certificates.

1.7 FIELD CONDITIONS

- A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of planting completion.
 - 1. Spring Planting:
 - a. Turf Grass: April 1 – June 15.
 - 1) Topsoil temperature shall be above 50 degrees F.
 - b. Native Grass/Meadow: May 1 – July 31.
 - 1) Topsoil temperature shall be above 60 degrees F.
 - 2. Fall Planting:
 - a. Turf Grass: August 1 – September 15.
 - 3. Dormant Seeding:
 - a. Turf Grass: November 1 – freeze up.
 - b. Native Grass/Meadow: November 1 – freeze up.

- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 SEED

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Species:
 - 1. Quality: State-certified seed of grass species as listed below for solar exposure.
 - 2. Sun and Partial Shade: Proportioned by weight as follows:
 - a. 60 percent Improved Kentucky bluegrass (*Poa pratensis*), a minimum of three cultivars.
 - b. 25 percent fine-leaf perennial ryegrass (*Lolium perenne*), a minimum of two cultivars.
 - c. 15 percent creeping red fescue (*Festuca rubra* variety).

2.2 MEADOW GRASSES AND WILDFLOWERS

- A. Native-Grass Seed: Fresh, clean, and dry new seed, of mixed species as follows:
 - 1. Big Country Native Mix.
 - a. Millborn Seeds
1335 Western Ave.
Brookings, SD 57006

B. Seed Carrier: Inert material, sharp clean sand or perlite.

C. Cover Crop: QuickGuard Sterile Triticale hybrid or oats.

2.3 FERTILIZERS

- A. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
 - 1. Composition: 13 percent nitrogen, 13 percent phosphorous, and 13 percent potassium, by weight.

2.4 MULCHES

- A. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic and free of plant-growth or germination inhibitors; with a maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.
- B. Nonasphaltic Tackifier: Colloidal tackifier recommended by fiber-mulch manufacturer for slurry application; nontoxic and free of plant-growth or germination inhibitors.
- C. Asphalt Emulsion: ASTM D 977, Grade SS-1; nontoxic and free of plant-growth or germination inhibitors.

2.5 PESTICIDES

- A. General: Pesticide, registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent Herbicide (Selective and Nonselective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Nonselective): Effective for controlling weed growth that has already germinated.

2.6 EROSION-CONTROL MATERIALS

- A. Erosion-Control Blankets: Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh. Include manufacturer's recommended steel wire staples, 6 inches (150 mm) long.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to be planted for compliance with requirements and other conditions affecting installation and performance of the Work.
 - 1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
 - 2. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
 - 3. Uniformly moisten excessively dry soil that is not workable or which is dusty.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

3.2 PREPARATION

- A. Protect structures; utilities; sidewalks; pavements; and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
 - 1. Protect adjacent and adjoining areas from hydroseeding and hydromulching overspray.
 - 2. Protect grade stakes set by others until directed to remove them.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- C. Apply initial fertilizer required for establishing new turf and mix thoroughly into top **4 inches (100 mm)** of existing soil. Install new planting soil to fill low spots and meet finish grades.
 - 1. Initial Fertilizer: Slow-release fertilizer applied according to manufacturer's recommendations.

3.3 TURF AREA PREPARATION

- A. Placing Planting Soil: Place planting soil in place over exposed subgrade.
- B. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- C. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.4 PREPARATION FOR EROSION-CONTROL MATERIALS

- A. Prepare area as specified in "Turf Area Preparation" Article.
- B. For erosion-control blanket or mesh, install from top of slope, working downward, and as recommended by material manufacturer for site conditions. Fasten as recommended by material manufacturer.
 - 1. Install on 4H:1V or greater slopes, or as directed by the Engineer.
- C. Moisten prepared area before planting if surface is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

3.5 SEEDING

- A. Sow seed with seeding machine. Do not broadcast or drop seed when wind velocity exceeds **10 mph**.

1. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
 2. Do not use wet seed or seed that is moldy or otherwise damaged.
 3. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.
- B. Sow seed at a total rate of the following.
1. Turfgrass Seed Mix: 260 lb/acre.
- C. Rake seed lightly into top **1/8 inch (3 mm)** of soil, roll lightly, and water with fine spray.
- D. Protect seeded areas from hot, dry weather or drying winds by applying fiber mulch at not less than 3000-lbs/acre to form a continuous mat within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a thickness of **3/16 inch (4.8 mm)** with suitable equipment.

3.6 TURF RENOVATION

- A. Renovate existing turf as necessary to join existing turf areas with new turf areas or at the discretion of the Architect.
- B. Renovate turf damaged by Contractor's operations, such as storage of materials or equipment and movement of vehicles.
1. Reestablish turf where settlement or washouts occur or where minor regrading is required.
 2. Install new planting soil as required.
- C. Remove sod and vegetation from diseased or unsatisfactory turf areas; do not bury in soil.
- D. Remove topsoil containing foreign materials, such as oil drippings, fuel spills, stones, gravel, and other construction materials resulting from Contractor's operations, and replace with new planting soil.
- E. Mow, dethatch, core aerate, and rake existing turf.
- F. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.
- G. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of them off Owner's property.
- H. Till stripped, bare, and compacted areas thoroughly to a soil depth of **6 inches (150 mm)**.
- I. Apply initial fertilizer required for establishing new turf and mix thoroughly into top **4 inches (100 mm)** of existing soil. Install new planting soil to fill low spots and meet finish grades.
1. Initial Fertilizer: Slow-release fertilizer applied according to manufacturer's recommendations.
- J. Apply seed and protect with fiber mulch as required for new turf.

- K. Water newly planted areas and keep moist until new turf is established.

3.7 TURF MAINTENANCE

- A. General: Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and mulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
 - 1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
 - 2. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.
- B. Watering: Utilize new irrigation system (if applicable) and install and maintain temporary piping, hoses, and turf-watering equipment in non-irrigated areas to convey water from sources and to keep turf uniformly moist to a depth of **4 inches (100 mm)**.
 - 1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
 - 2. Water turf with fine spray at a minimum rate of **1 inch (25 mm)** per week unless rainfall precipitation is adequate.
- C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than one-third of grass height. Remove no more than one-third of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:
 - 1. Mow Kentucky bluegrass to a height of **2 to 2-1/2 inches**.
- D. Turf Postfertilization: Apply slow-release fertilizer after initial mowing and when grass is dry.
 - 1. Use fertilizer that provides actual nitrogen of at least **1 lb/1000 sq. ft. (0.45 kg/92.9 sq. m)** to turf area.

3.8 SATISFACTORY TURF

- A. Turf installations shall meet the following criteria as determined by Architect:
 - 1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any **10 sq. ft. (0.92 sq. m)** and bare spots not exceeding **5 by 5 inches (125 by 125 mm)**.
- B. Use specified materials to reestablish turf that does not comply with requirements, and continue maintenance until turf is satisfactory.

3.9 MEADOW

- A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph (8 km/h).
 - 1. Before sowing, mix seed with seed carrier at a ratio of not less than two parts seed carrier to one part seed.
 - 2. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
 - 3. Do not use wet seed or seed that is moldy or otherwise damaged.
- B. Sow seed at a total rate of 15-lbs PLS/acre.
 - 1. If broadcasting seed, multiply the seeding rate times 1.5.
 - 2. If used in a commercial application, multiply the seeding rate times 2.
- C. Sow cover crop with seed or in a separate application at a total rate of 10 – 15-lbs/acre.
- D. Brush seed into top 1/16 inch (1.6 mm) of soil, roll lightly, and water with fine spray.
- E. Protect seeded areas from hot, dry weather or drying winds by applying fiber mulch at not less than 3000-lbs/acre within 24 hours after completing seeding operations. Soak areas, scatter mulch uniformly to a thickness of 3/16 inch (4.8 mm), and roll surface smooth.
- F. Water newly planted areas and keep moist until meadow is established.

3.10 MEADOW MAINTENANCE

- A. Maintain and establish meadow by watering, weeding, mowing, trimming, replanting, and performing other operations as required to establish a healthy, viable meadow. Roll, regrade, and replant bare or eroded areas and remulch. Provide materials and installation the same as those used in the original installation.
 - 1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and meadow damaged or lost in areas of subsidence.
 - 2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
 - 3. Apply treatments as required to keep meadow and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.
- B. Mow meadow area when weeds are a few inches above the seedling height. Mowing height should be just above the new native seedlings or no closer than 8 inches.
 - 1. Mow every two weeks.
- C. Watering: Install and maintain temporary piping, hoses, and meadow-watering equipment to convey water from sources and to keep meadow uniformly moist.

1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
2. Water meadow with fine spray at a minimum rate of 1/2 inch (13 mm) per week for six weeks after planting unless rainfall precipitation is adequate.

3.11 PESTICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents according to requirements of authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- B. Post-Emergent Herbicides (Selective and Nonselective): Apply only as necessary to treat already-germinated weeds and according to manufacturer's written recommendations.

3.12 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.
- C. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.
- D. Remove nondegradable erosion-control measures after grass establishment period.

3.13 MAINTENANCE SERVICE

- A. Turf Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in "Turf Maintenance" Article. Begin maintenance immediately after each area is planted and continue until acceptable turf is established, but for not less than the following periods:
 1. Seeded Turf: 60 days from date of planting completion.
 - a. When initial maintenance period has not elapsed before end of planting season, or if turf is not fully established, continue maintenance during next planting season.
- B. Meadow Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in "Meadow Maintenance" Article. Begin maintenance immediately after each area is planted and continue until acceptable meadow is established, but for not less than maintenance period below.
 1. Maintenance Period: 90 days from date of planting completion.

END OF SECTION 329200

SECTION 329300 - PLANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

1. Plants.
2. Tree stabilization.
3. Tree-watering devices.
4. Landscape edgings.

- B. Related Requirements:

1. Section 329200 "Turf and Grasses" for turf (lawn) and meadow planting, hydroseeding, and erosion-control materials.

1.3 DEFINITIONS

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Balled and Burlapped Stock: Plants dug with firm, natural balls of earth in which they were grown, with a ball size not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required; wrapped with burlap, tied, rigidly supported, and drum laced with twine with the root flare visible at the surface of the ball as recommended by ANSI Z60.1.
- C. Balled and Potted Stock: Plants dug with firm, natural balls of earth in which they are grown and placed, unbroken, in a container. Ball size is not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required.
- D. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.
- E. Finish Grade: Elevation of finished surface of planting soil.
- F. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant. Some sources classify herbicides separately from pesticides.

- G. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- H. Planting Area: Areas to be planted.
- I. Planting Soil: Existing, on-site soil; imported soil; or manufactured soil that has been modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth. See Section 329115 "Soil Preparation (Performance Specification)" for drawing designations for planting soils.
- J. Plant; Plants; Plant Material: These terms refer to vegetation in general, including trees, shrubs, vines, ground covers, ornamental grasses, bulbs, corms, tubers, or herbaceous vegetation.
- K. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.
- L. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.
- M. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

1.4 COORDINATION

- A. Coordination with Turf Areas (Lawns): Plant trees, shrubs, and other plants after finish grades are established and before planting turf areas unless otherwise indicated.
 - 1. When planting trees, shrubs, and other plants after planting turf areas, protect turf areas, and promptly repair damage caused by planting operations.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Plant Materials: Include quantities, sizes, and sources for plant materials.
 - 2. Plant Photographs: Include color photographs in digital format of each required species and size of plant material as it will be furnished to Project. Take photographs from an angle depicting true size and condition of the typical plant to be furnished. Include a scale rod or other measuring device in each photograph. Identify each photograph with the full name of the plant.
- B. Samples for Verification: For each of the following:
 - 1. Organic Mulch: **1-pint (0.5-L)** volume of each organic mulch required; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of color, texture, and organic makeup.
 - 2. Mineral Mulch: **2 lb (1.0 kg)** of each mineral mulch required, in sealed plastic bags labeled with source of mulch. Sample shall be typical of the lot of material to be

delivered and installed on-site; provide an accurate indication of color, texture, and makeup of the material.

1.6 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of manufactured product, from manufacturer, and complying with the following:
 - 1. Manufacturer's certified analysis of standard products.
- B. Pesticides and Herbicides: Product label and manufacturer's application instructions specific to Project.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: Recommended procedures to be established by Owner for maintenance of plants during a calendar year. Submit before expiration of required maintenance periods.

1.8 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful establishment of plants.
 - 1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
 - 2. Pesticide Applicator: State licensed, commercial.
- B. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.
- C. Measurements: Measure according to ANSI Z60.1. Do not prune to obtain required sizes.
 - 1. Trees and Shrubs: Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container-grown stock. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip to tip. Take caliper measurements **6 inches (150 mm)** above the root flare for trees up to **4-inch (100-mm)** caliper size, and **12 inches (300 mm)** above the root flare for larger sizes.
 - 2. Other Plants: Measure with stems, petioles, and foliage in their normal position.
- D. Plant Material Observation: Architect may observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Architect may also observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and may reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws if applicable.
- B. Bulk Materials:
 - 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
 - 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
- C. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.
- D. Handle planting stock by root ball.
- E. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.
 - 1. If deciduous trees or shrubs are moved in full leaf, spray with antidesiccant at nursery before moving and again two weeks after planting.
- F. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.
- G. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.
 - 1. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
 - 2. Do not remove container-grown stock from containers before time of planting.
 - 3. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly wet condition.

1.10 FIELD CONDITIONS

- A. Field Measurements: Verify actual grade elevations, service and utility locations, irrigation system components, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.

- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions and warranty requirements.

1.11 WARRANTY

- A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner.
 - b. Structural failures including plantings falling or blowing over.
 - c. Faulty performance of tree stabilization and edgings.
 - d. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 2. Warranty Periods: From date of Substantial Completion.
 - a. Trees, Shrubs, Vines, and Ornamental Grasses: 12 months.
 - b. Ground Covers, Biennials, Perennials, and Other Plants: 12 months.
 - 3. Include the following remedial actions as a minimum:
 - a. Immediately remove dead plants and replace unless required to plant in the succeeding planting season.
 - b. Replace plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
 - c. A limit of one replacement of each plant is required except for losses or replacements due to failure to comply with requirements.
 - d. Provide extended warranty for period equal to original warranty period, for replaced plant material.
 - e. Notify Architect in writing immediately upon completion of any warranty replacement plantings.
 - f. Notify Architect in writing with any concerns regarding Owner maintenance of plant material during the warranty period.

PART 2 - PRODUCTS

2.1 PLANT MATERIAL

- A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant List, Plant Schedule, or Plant Legend indicated on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock,

densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

1. Trees with damaged, crooked, or multiple leaders; tight vertical branches where bark is squeezed between two branches or between branch and trunk ("included bark"); crossing trunks; cut-off limbs more than **3/4 inch (19 mm)** in diameter; or with stem girdling roots are unacceptable.
 2. Collected Stock: Do not use plants harvested from the wild, from native stands, from an established landscape planting, or not grown in a nursery unless otherwise indicated.
- B. Provide plants of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of plants required. Plants of a larger size may be used if acceptable to Architect, with a proportionate increase in size of roots or balls.
- C. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which begins at root flare according to ANSI Z60.1. Root flare shall be visible before planting.
- D. Labeling: Label at least one plant of each variety, size, and caliper with a securely attached, waterproof tag bearing legible designation of common name and full scientific name, including genus and species. Include nomenclature for hybrid, variety, or cultivar, if applicable for the plant.
- E. If formal arrangements or consecutive order of plants is indicated on Drawings, select stock for uniform height and spread, and number the labels to assure symmetry in planting.

2.2 FERTILIZERS

- A. Planting Tablets: Tightly compressed chip-type, long-lasting, slow-release, commercial-grade planting fertilizer in tablet form. Tablets shall break down with soil bacteria, converting nutrients into a form that can be absorbed by plant roots.
1. Nutrient Composition: 20 percent nitrogen, 10 percent phosphorous, and 5 percent potassium, by weight plus micronutrients.

2.3 MULCHES

- A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:
1. Type: Shredded hardwood.
 2. Size Range: **3 inches (76 mm)** maximum, **1/2 inch (13 mm)** minimum.
 3. Color: Natural.
- B. Mineral Mulch: Hard, durable stone, washed free of loam, sand, clay, and other foreign substances, of the following type, size range, and color:
1. Type: River Rock.
 2. Size Range: 1-1/2 inch rounded.
 3. Color: Medium-gray, tan, reddish-brown, and white.

2.4 WEED-CONTROL BARRIERS

- A. Composite Fabric: Woven, needle-punched polypropylene substrate bonded to a nonwoven polypropylene fabric. (All landscape areas unless denoted otherwise).
 - 1. Basis-of-Design: DeWitt Pro 5, or equal as approved by addendum.

2.5 PESTICIDES

- A. General: Pesticide registered and approved by the EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent Herbicide (Selective and Nonselective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Nonselective): Effective for controlling weed growth that has already germinated.

2.6 TREE-STABILIZATION MATERIALS

- A. Trunk-Stabilization Materials:
 - 1. Upright and Guy Stakes: Rough-sawn, sound, new hardwood, free of knots, holes, cross grain, and other defects, **2-by-2-inch nominal (38-by-38-mm actual)** by length indicated, pointed at one end.
 - 2. Wood Deadmen: Timbers measuring **8 inches (200 mm)** in diameter and **48 inches (1200 mm)** long, treated with specified wood pressure-preservative treatment.
 - 3. Flexible Ties: Wide rubber or elastic bands or straps of length required to reach stakes or turnbuckles.
 - 4. Guys and Tie Wires: ASTM A 641/A 641M, Class 1, galvanized-steel wire, two-strand, twisted, **0.106 inch (2.7 mm)** in diameter.
 - 5. Tree-Tie Webbing: UV-resistant polypropylene or nylon webbing with brass grommets.
 - 6. Guy Cables: Five-strand, **3/16-inch- (4.8-mm-)** diameter, galvanized-steel cable, with zinc-coated turnbuckles, a minimum of **3 inches (75 mm)** long, with two **3/8-inch (10-mm)** galvanized eyebolts.
 - 7. Flags: Standard surveyor's plastic flagging tape, white, **6 inches (150 mm)** long.
 - 8. Proprietary Staking-and-Guying Devices: Proprietary stake or anchor and adjustable tie systems to secure each new planting by plant stem; sized as indicated and according to manufacturer's written recommendations.
 - a. **Manufacturers:** Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1) **Arborbrace.**

2.7 LANDSCAPE EDGINGS

- A. Steel Edging: Standard commercial-steel edging, fabricated in sections of standard lengths, with loops stamped from or welded to face of sections to receive stakes.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Collier Metal Specialties, Inc.
 - b. J. D. Russell Company (The).
 - c. Sure-loc Edging Corporation.
 - 2. Edging Size: **3/16 inch (4.8 mm)** thick by **4 inches (100 mm)** deep.
 - 3. Stakes: Tapered steel, a minimum of **12 inches (300 mm)** long.
 - 4. Accessories: Standard tapered ends, corners, and splicers.
 - 5. Finish: Manufacturer's standard paint.
 - a. Paint Color: Black.

2.8 TREE-WATERING DEVICES

- A. Slow-Release Watering Device: Standard product manufactured for drip irrigation of plants and emptying its water contents over an extended time period; manufactured from UV-light-stabilized nylon-reinforced polyethylene sheet, PVC, or HDPE plastic.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Treegator.
 - 2. Color: Green.

2.9 MISCELLANEOUS PRODUCTS

- A. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's written instructions.
- B. Burlap: Non-synthetic, biodegradable.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive plants, with Installer present, for compliance with requirements and conditions affecting installation and performance of the Work.

1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
 2. Verify that plants and vehicles loaded with plants can travel to planting locations with adequate overhead clearance.
 3. Suspend planting operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
 4. Uniformly moisten excessively dry soil that is not workable or which is dusty.
- B. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas and existing plants from damage caused by planting operations.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.
- C. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain Architect's acceptance of layout before excavating or planting. Make minor adjustments as required.

3.3 PLANTING AREA ESTABLISHMENT

- A. General: Prepare planting area for soil placement and mix planting soil according to Section 329115 "Soil Preparation (Performance Specification)."
- B. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.4 EXCAVATION FOR TREES AND SHRUBS

- A. Planting Pits and Trenches: Excavate circular planting pits.
1. Excavate planting pits with sides sloping inward at a 45-degree angle. Excavations with vertical sides are unacceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.
 2. Excavate approximately three times as wide as ball diameter for balled and burlapped, balled and potted, and container-grown stock.

3. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
 4. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
 5. Maintain angles of repose of adjacent materials to ensure stability. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
 6. Maintain supervision of excavations during working hours.
 7. Keep excavations covered or otherwise protected when unattended by Installer's personnel.
 8. If drain tile is indicated on Drawings or required under planting areas, excavate to top of porous backfill over tile.
- B. Backfill Soil: Subsoil and topsoil removed from excavations may be used as backfill soil unless otherwise indicated.
- C. Obstructions: Notify Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.
- D. Drainage: Notify Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub planting pits.
- E. Fill excavations with water and allow to percolate away before positioning trees and shrubs.

3.5 TREE, SHRUB, AND VINE PLANTING

- A. Inspection: At time of planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.
- B. Roots: Remove stem girdling roots and kinked roots. Remove injured roots by cutting cleanly; do not break.
- C. Balled and Burlapped Stock: Set each plant plumb and in center of planting pit or trench with root flare **1 inch (25 mm)** above adjacent finish grades.
1. Backfill: Planting soil. For trees, use excavated soil for backfill.
 2. After placing some backfill around root ball to stabilize plant, carefully cut and remove burlap, rope, and wire baskets from tops of root balls and from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
 3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
 4. Place planting tablets equally distributed around each planting pit when pit is approximately one-half filled. Place tablets beside the root ball about **1 inch (25 mm)** from root tips; do not place tablets in bottom of the hole.
 - a. Quantity: Three for each caliper inch of plant.

5. Continue backfilling process. Water again after placing and tamping final layer of soil.
- D. Container-Grown Stock: Set each plant plumb and in center of planting pit or trench with root flare **1 inch (25 mm)** above adjacent finish grades.
1. Backfill: Planting soil. For trees, use excavated soil for backfill.
 2. Carefully remove root ball from container without damaging root ball or plant.
 3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
 4. Place planting tablets equally distributed around each planting pit when pit is approximately one-half filled. Place tablets beside the root ball about **1 inch (25 mm)** from root tips; do not place tablets in bottom of the hole.
 - a. Quantity: Two per plant.
5. Continue backfilling process. Water again after placing and tamping final layer of soil.
- E. Slopes: When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

3.6 TREE, SHRUB, AND VINE PRUNING

- A. Remove only dead, dying, or broken branches. Do not prune for shape.
- B. Prune, thin, and shape trees, shrubs, and vines as directed by Architect.
- C. Prune, thin, and shape trees, shrubs, and vines according to standard professional horticultural and arboricultural practices. Unless otherwise indicated by Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.
- D. Do not apply pruning paint to wounds.

3.7 TREE STABILIZATION

- A. Trunk Stabilization by Upright Staking and Tying: Install trunk stabilization as follows unless otherwise indicated:
 1. Upright Staking and Tying: Stake trees of **2- through 5-inch (50- through 125-mm)** caliper. Stake trees of less than **2-inch (50-mm)** caliper only as required to prevent wind tip out. Use a minimum of two stakes of length required to penetrate at least **18 inches (450 mm)** below bottom of backfilled excavation and to extend at least **48 inches** above grade. Set vertical stakes and space to avoid penetrating root balls or root masses.
 2. Support trees with bands of flexible ties at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree.

3.8 GROUND COVER AND PLANT PLANTING

- A. Set out and space ground cover and plants other than trees, shrubs, and vines as indicated on Drawings in even rows with triangular spacing.
- B. Use planting soil for backfill.
- C. Dig holes large enough to allow spreading of roots.
- D. For rooted cutting plants supplied in flats, plant each in a manner that minimally disturbs the root system but to a depth not less than two nodes.
- E. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.
- F. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.
- G. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

3.9 PLANTING AREA MULCHING

- A. Install weed-control barriers before mulching according to manufacturer's written instructions. Completely cover area to be mulched, overlapping edges a minimum of **6 inches (150 mm)** and secure seams with galvanized pins.
- B. Mulch backfilled surfaces of planting areas and other areas indicated.
 - 1. Trees in Turf Areas: Apply organic mulch ring of **4-inch** average thickness, with **30-inch** radius around trunks or stems. Do not place mulch within **3 inches (75 mm)** of trunks or stems.
 - 2. Mineral Mulch in Planting Areas: Apply **3-inch (75-mm)** average thickness of mineral mulch over whole surface of planting area, and finish level with adjacent finish grades. Do not place mulch within 12 inches of trunks or stems. Fill 12-inch area around each plant with organic mulch.

3.10 EDGING INSTALLATION

- A. Steel Edging: Install steel edging where indicated according to manufacturer's written instructions. Anchor with steel stakes spaced approximately **30 inches (760 mm)** apart, driven below top elevation of edging.
- B. Shovel-Cut Edging: Separate mulched areas from turf areas with a 45-degree, **4- to 6-inch-(100- to 150-mm-)** deep, shovel-cut edge.

3.11 INSTALLING SLOW-RELEASE WATERING DEVICE

- A. Provide one device for each tree.

- B. Place device on top of the mulch at base of tree stem and fill with water according to manufacturer's written instructions.

3.12 PLANT MAINTENANCE

- A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings.
- B. Fill in, as necessary, soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
- C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices when possible to minimize use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.

3.13 PESTICIDE APPLICATION

- A. Apply pesticides and other chemical products and biological control agents according to authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- B. Pre-Emergent Herbicides (Selective and Nonselective): Apply to tree, shrub, and ground-cover areas according to manufacturer's written recommendations. Do not apply to seeded areas.
- C. Post-Emergent Herbicides (Selective and Nonselective): Apply only as necessary to treat already-germinated weeds and according to manufacturer's written recommendations.

3.14 REPAIR AND REPLACEMENT

- A. General: Repair or replace existing or new trees and other plants that are damaged by construction operations, in a manner approved by Architect.
- B. Remove and replace trees that are more than 25 percent dead or in an unhealthy condition or are damaged during construction operations that Architect determines are incapable of restoring to normal growth pattern.
 - 1. Provide new trees of same size as those being replaced for each.
 - 2. Species of Replacement Trees: Same species being replaced.

3.15 CLEANING AND PROTECTION

- A. During planting, keep adjacent paving and construction clean and work area in an orderly condition. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

- B. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.
- C. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.
- D. After installation and before Substantial Completion, remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.
- E. At time of Substantial Completion, verify that tree-watering devices are in good working order and leave them in place. Replace improperly functioning devices.

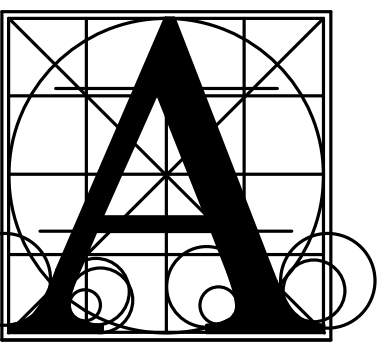
3.16 MAINTENANCE SERVICE

- A. Maintenance Service for Trees and Shrubs: Provide maintenance by skilled employees of landscape Installer. Maintain as required in "Plant Maintenance" Article. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy, well established, and accepted by the Owner, but for not less than maintenance period below:
 - 1. Maintenance Period: 45 days from date of planting completion.
- A. Maintenance Service for Ground Cover and Other Plants: Provide maintenance by skilled employees of landscape Installer. Maintain as required in "Plant Maintenance" Article. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy, well established, and accepted by the Owner, but for not less than maintenance period below:
 - 1. Maintenance Period: 45 days from date of planting completion.

END OF SECTION 329300

GENERAL NOTES - SITE PLAN

- A. CONTRACTOR SHALL PROVIDE 6" TOP SOIL FINISH GRADE AT ALL DISTURBED AREAS U.N.O.
- B. SEE MECHANICAL AND ELECTRICAL AND CIVIL FOR ADDITIONAL SITE ITEMS.
- C. SLOPE FINISH GRADE AWAY FROM THE BUILDING.



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BRANDON VALLEY ELEMENTARY SCHOOL

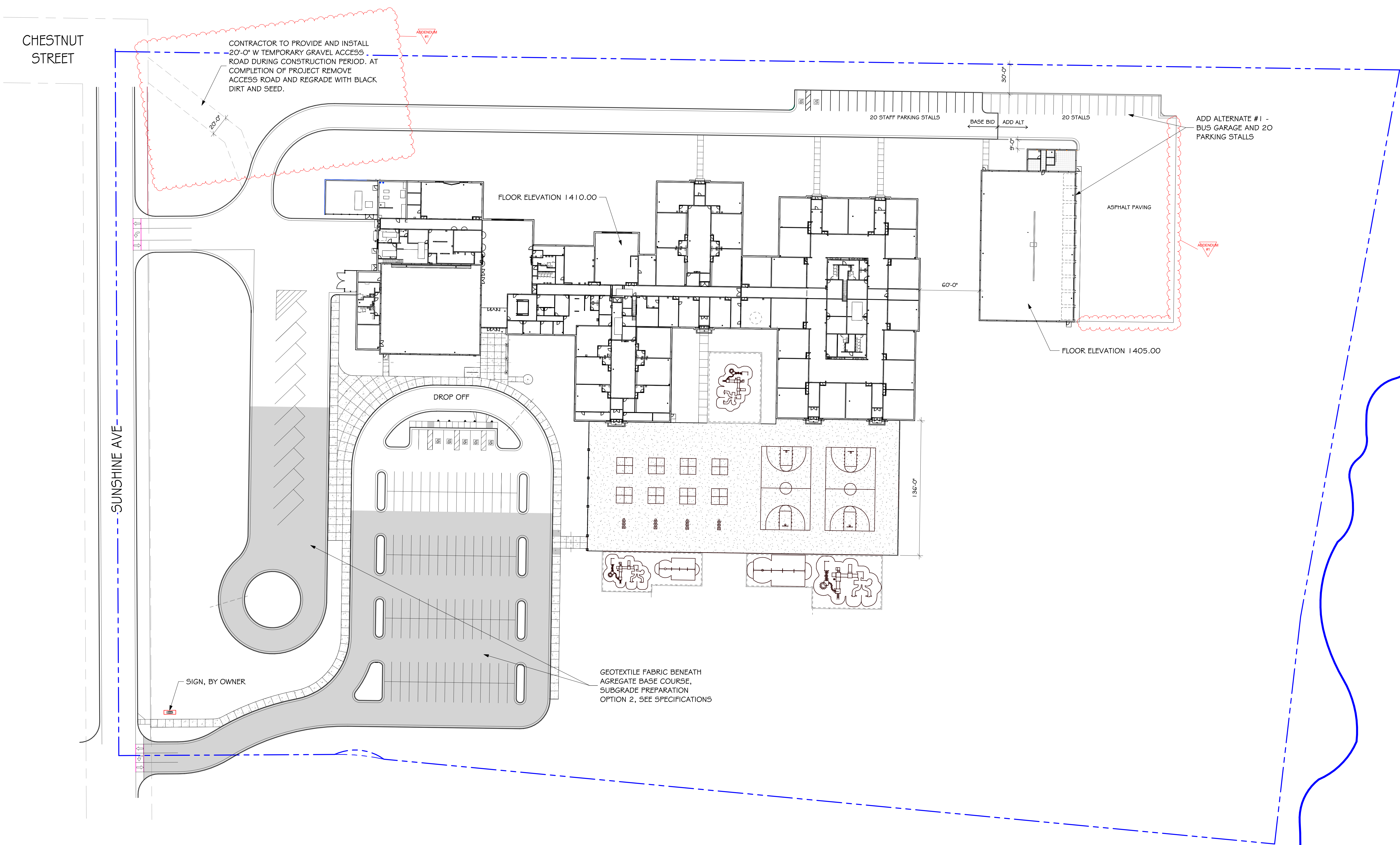
OVERALL ARCHITECTURAL SITE PLAN

Project

number 0306.3023.23
date JULY 01, 2024
revision
drawn ZJG checked SRJ

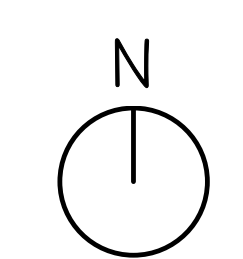
DATE	DESCRIPTION
07-23-24	ADDENDUM #1

2.30



OVERALL ARCHITECTURAL SITE PLAN

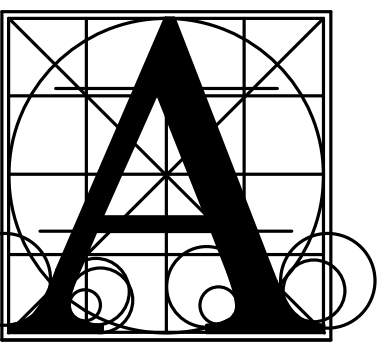
SCALE: 1" = 40'-0"



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GENERAL NOTES - SITE PLAN

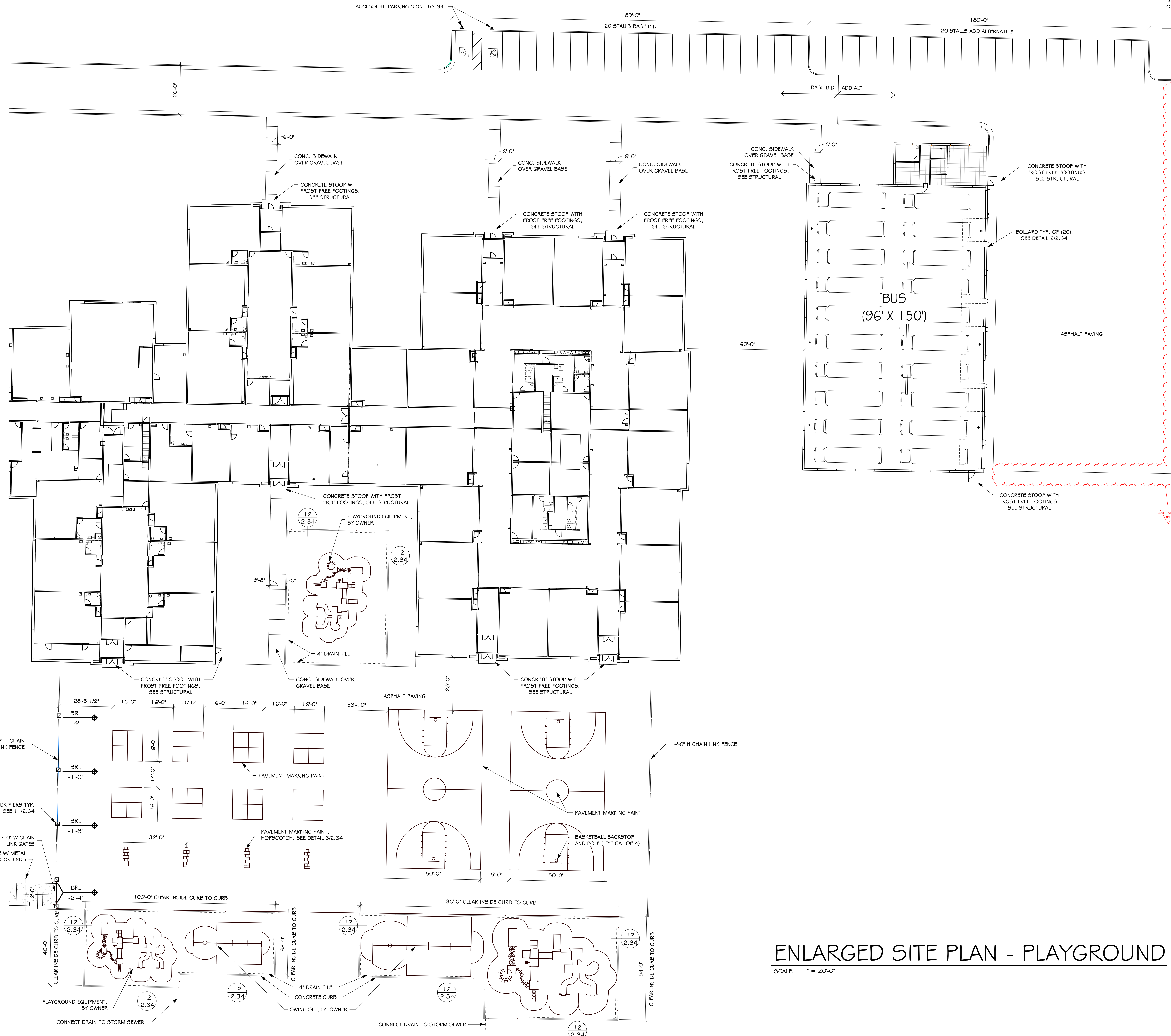
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Architecture Incorporated

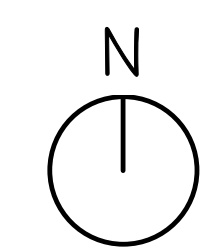
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ENLARGED SITE PLAN - PLAYGROUND

SCALE: 1" = 20'-0"



BRANDON VALLEY ELEMENTARY SCHOOL

ENLARGED SITE PLAN - SOUTH PLAYGROUND

Project	number	0306.3023.23
	date	JULY 01, 2024
	revision	
	drawn	ZJG checked SRJ

DATE	DESCRIPTION
07-23-24	ADDENDUM #1

2.33

GENERAL STRUCTURAL NOTES
APPLY UNLESS NOTED OTHERWISE

DESIGN CODE:

- 1. INTERNATIONAL BUILDING CODE, 2021

DESIGN LOADS:

- 1. FLOOR LIVE LOADS: MECHANICAL ROOM(S) - 150 PSF
2A. ROOF LOADS (SCHOOL AND HIGH WIND SHELTER): BASIC LIVE LOAD = 20 PSF
2B. ROOF LOADS (GARAGE): BASIC LIVE LOAD - 20 PSF
3. CONCENTRATED LOADS AS SHOWN IN IBC TABLE 1607.1 SHALL BE ADDED TO THE UNIFORM LOADS SHOWN ABOVE AS APPROVED FOR ITS USE FOR MEMBERS DESIGNED BY SUPPLIERS
4A. WIND LOADS (SCHOOL OTHER THAN HIGH WIND SHELTER): BASIC WIND SPEED = 120 MPH
4B. WIND LOADS (HIGH WIND SHELTER): BASIC WIND SPEED = 200 MPH PER LOCAL AMENDMENT TO IBC 2021
4C. WIND LOADS (GARAGE): BASIC WIND SPEED = 115 MPH
COMPONENTS AND CLADDING DESIGN WIND PRESSURE: (60 #1 TRIB AREA) WALLS = +37.2 PSF (ULTIMATE) (AREA 4 PER ASCE 7-10 FIGURE 30.4-1)
5. SEISMIC LATERAL LOADS (SCHOOL, HIGH WIND SHELTER & GARAGE): RISK CATEGORY II (ASCE 7-16) SEISMIC IMPORTANCE FACTOR I = 1.25

MATERIALS GRADES AND STRENGTHS:

- 1. CAST-IN-PLACE CONCRETE: FOOTINGS - Fc = 4000 PSI AT 28 DAYS F0, S1, C1, W1
2. MASONRY: CONCRETE MASONRY UNITS - ASTM C90 TYPE 'N'-1
3. REINFORCING STEEL: BARS - ASTM A615 (GRADE 60)
4. STRUCTURAL STEEL: WIDE FLANGE SHAPES - ASTM A992 (Fy = 50 KSI)
5. LIGHT GAUGE STEEL FRAMING: STUDS, JOISTS AND ACCESSORIES - A 1003, GRADE 50 (Fy = 50 KSI), G60 GALVANIZED

GENERAL:

- 1. THE INFORMATION SHOWN ON THE STRUCTURAL DRAWINGS IS NOT TO BE SCALED, AS THE ITEMS SHOWN MAY NOT BE TO SCALE FOR THE SPECIFIC LOCATION.
2. NO OPENINGS OR SLEEVES SHALL BE CUT OR PROVIDED IN WALLS OR FLOOR CONSTRUCTION WITHOUT APPROVAL BY THE A/E.
3. EXAMINE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS TO DETERMINE LOCATION OF CHASES, INSERTS, OPENINGS, SLEEVES, WALLS, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
4. BEFORE FABRICATION AND ERECTION OF ANY MATERIALS, FIELD VERIFY ALL EXISTING ELEVATIONS, DIMENSIONS AND CONDITIONS AS SHOWN ON THE DRAWINGS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT/ENGINEER AT ONCE FOR RESOLUTION.
5. STRUCTURAL MEMBERS INCLUDING JOISTS, SLABS, BEAMS, TRUSSES, COLUMNS AND WALLS ARE DESIGNED FOR 'IN PLACE' LOADS. CONTRACTOR IS RESPONSIBLE FOR PREVENTING OVERSTRESSING, ALL STRUCTURAL ELEMENTS (AS REQUIRED AT ANY STAGE OF CONSTRUCTION) UNTIL COMPLETION OF THE PROJECT.

FOUNDATIONS:

- 1. FOOTINGS HAVE BEEN DESIGNED FOR A NET MAXIMUM ALLOWABLE SOIL BEARING PRESSURE OF 3000 PSF. REFERENCE GEOTEK REPORT NO. 23-1318 DATED 01-04-2024. CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN THAT REPORT.
2. IN ORDER TO PROVIDE UNIFORM SUPPORT BENEATH FOOTINGS OF THE SCHOOL BUILDING AND THE BUS GARAGE, ADDITIONAL OVER EXCAVATION WILL BE REQUIRED IN AREAS WHERE GENERAL STRUCTURAL FILL AND LOESS SOILS ARE ENCOUNTERED. A TEMPORARY SURFACE SHALL ALSO BE NEEDED AT THE EAST PORTION OF THE SCHOOL BUILDING (MOST OF AREA D) AND OVER THE ENTIRE FOOTPRINT OF THE BUS GARAGE. REFERENCE FIGURES 4-8 IN GEOTEK REPORT NO. 23-1318 DATED 01-04-2024 FOR MORE INFORMATION.
3. TOP OF FOOTING OR BOTTOM OF WALLS WITHOUT FOOTINGS ARE TO BE LOCATED AT ELEVATIONS INDICATED BY 'T'EE SYMBOL. FOOTING STEPS SHALL BE LOCATED GENERALLY WHERE INDICATED BY 'F'S' SYMBOL.
4. TESTING SERVICES MUST INSPECT AND APPROVE SUBGRADES AND FILL LAYERS BEFORE FURTHER CONSTRUCTION WORK IS PERFORMED THEREON. NOTIFY TESTING SERVICE PRIOR TO PROCEEDING WITH PLACEMENT OF FOOTING, FILL OR OTHER CONSTRUCTION OVER SUBGRADES AND FILL.
5. WATER SHALL NOT BE PERMITTED TO POND IN FOOTING EXCAVATION. KEEP EXCAVATION DRY. FAILURE TO DO SO WILL BE CAUSE FOR REQUIRING CONTRACTOR TO REMOVE WATER DAMAGED SOILS AND REPLACE WITH CONTROLLED FILL AS DIRECTED.
6. SHOULD ANY QUESTIONABLE CONDITIONS BE ENCOUNTERED DURING EXCAVATION, NOTIFY A/E IMMEDIATELY. IT IS RECOMMENDED A GEOTECHNICAL ENGINEER OR GEOTECHNICAL ENGINEERING TECHNICIAN OBSERVE ALL EXCAVATIONS FOR FOUNDATIONS, SLABS, AND PAVEMENTS. FOOTING ELEVATIONS ARE SUBJECT TO CHANGE DEPENDING ON SOIL CONDITIONS ENCOUNTERED.
7. REMOVE ANY ABANDONED SEWER OR SERVICE LINE ENCOUNTERED DURING EXCAVATION WITHIN THE BUILDING LINES. SHOULD SUCH LINES BE FOUND BELOW OR ADJACENT TO FOOTING LOCATIONS, NOTIFY THE A/E.
8. ALL FOOTINGS SHALL BE CENTERED UNDER WALLS. NO OFFSETS SHALL BE PERMITTED.
9. WALLS RETAINING SOIL SHALL BE BACKFILLED WITH A FREE DRAINING GRANULAR MATERIAL WITH A MAXIMUM EQUIVALENT AT REST FLUID PRESSURE OF 50 PCF. ONLY FREE DRAINING GRANULAR FILL SHALL BE USED. REFERENCE GEOTEK REPORT NO. 23-1318 DATED 01-04-2024 FOR APPROPRIATE FILL MATERIAL.
10. WHERE FILL MATERIAL IS PLACED ON BOTH SIDES OF GRADE BEAMS OR WALLS, IT SHALL BE PLACED IN LAYERS ALTERNATELY ON OPPOSITE SIDES TO MAINTAIN LEVELS THAT WILL AVOID DISPLACEMENT OF, OR DAMAGE TO, THE WALLS OR BEAMS.
11. WHERE FILL MATERIAL IS PLACED ON ONE SIDE OF A WALL, THE WALL SHALL BE ADEQUATELY SHORED OR BRACED OR THE MATERIAL SHALL NOT BE PLACED UNTIL SUPPORTING FLOOR SLABS HAVE BEEN POURED AND SET.
12. NO FILL OR BACKFILL SHALL BE 'SETTLED' BY THE USE OF WATER.
13. PROVIDE A MINIMUM TWELVE (12) INCHES OF GRANULAR FILL BELOW ALL INTERIOR FLOOR SLABS. THE FINAL SIX (6) INCHES OF GRANULAR FILL DIRECTLY BENEATH THE FLOOR SLAB SHALL CONSIST OF SELECT GRANULAR FILL. REFERENCE GEOTEK REPORT NO. 23-1318 DATED 01-04-2024 FOR APPROPRIATE MATERIAL.
14. CONTINUOUS FOOTINGS SHALL BE LOCATED AT A SLOPE OF ONE VERTICAL TO TWO HORIZONTAL AT ALL STEPPINGS NOTED ON THE PLANS. REFERENCE DETAIL 2/3,4/0
15. AT LOCATIONS WHERE UTILITY PIPES ARE LOCATED TO INTERSECT A FOUNDATION WALL, AN OVERSIZED SLEEVE IS TO BE CAST INTO THE WALL TO ACCOMMODATE PASSAGE OF THE PIPE. WHERE THE PIPE IS AT AN ELEVATION NEAR THE FOOTING ELEVATION, THE FOOTING ELEVATION SHALL BE LOWERED TO ACCOMMODATE PASSAGE OF THE PIPE WITHOUT INTERRUPTING THE FOOTING. REFERENCE DETAIL 3/3,4/0
16. IF CONSTRUCTION IS ANTICIPATED DURING COLD WEATHER, ALL FOUNDATIONS AND SLABS ARE TO BE PROTECTED FROM FROST PENETRATION UNTIL PROJECT COMPLETION. CONCRETE CAN NOT BE PLACED ON FROZEN SUB-STRUCES. FROST CAN NOT BE ALLOWED TO PENETRATE BELOW THE FOOTINGS. IF FLOOR SLAB SUB-GRADERS FREEZE, THE FROZEN SOILS ARE TO BE REMOVED AND REPLACED, OR COMPLETELY THAWED AND RE-COMPACTED, PRIOR TO PLACEMENT OF THE FLOORING. REFERENCE DETAIL 2/3,4/0
17. SLOPE BETWEEN ADJACENT FOOTINGS OR EXCAVATIONS SHALL NOT EXCEED ONE VERTICAL TO TWO HORIZONTAL. STEP FOOTINGS DOWN AS NECESSARY TO MAINTAIN SLOPE.
18. ALL EXTERIOR DOORS SHALL HAVE A FROST-FREE STOOP. REFERENCE DETAIL 4/3,4/0
19. PROVIDE ELECTRICAL GROUNDING BAR AS REQUIRED PER THE LOCAL ELECTRICAL CODE. COORDINATE LOCATION OF GROUNDING BAR WITH ELECTRICAL DRAWINGS. REFERENCE DETAIL 6/3,4/0

PRECAST PRESTRESSED CONCRETE:

- 1. THE DESIGN AND MANUFACTURE OF ALL PRESTRESSED CONCRETE UNITS SHALL CONFORM TO ACI 318.
2. PRECAST, PRESTRESSED MEMBERS SHALL BE DESIGNED FOR THE SUPERIMPOSED LOADS SHOWN ON THE DRAWINGS.
3. PRECAST, PRESTRESSED MEMBERS ARE DESIGNED FOR 'IN PLACE' LOADS. IT SHALL BE THE RESPONSIBILITY OF THE PRECAST MANUFACTURER TO TRANSPORT AND ERECT THE PRECAST MEMBERS WITHOUT OVER-STRESSING OR OTHERWISE DISTRESSING THEM IN ANY MANNER.
4. DESIGN MUST INCLUDE VERIFICATION OF ALL OPENINGS AND MECHANICAL LOADS. ADDITIONAL OPENINGS OF GREATER THAN 12" DIMENSION SHALL NOT BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE PRECAST MANUFACTURER.
5. PRECAST MANUFACTURER SHALL PROVIDE WELD PLATES AND OTHER EMBEDDED ITEMS NOTED ON THE DRAWINGS.
6. PROVIDE 1/8" THICK CONTINUOUS KOROLATH BEARING STRIPS BETWEEN HOLLOW CORE SLABS AND MASONRY OR CONCRETE SUPPORTS.
7. PRESTRESSED PRECAST CONCRETE MANUFACTURER SHALL SUBMIT A COMPLETE ERECTION DRAWING AND ENGINEERING CALCULATIONS FOR ALL PRESTRESSED PRECAST CONCRETE. AN ENGINEER REGISTERED IN THE STATE OF SOUTH DAKOTA SHALL CERTIFY CALCULATIONS.
8. ALL HEADERS AT OPENING THROUGH PRECAST UNITS SHALL BE DESIGNED AND PROVIDED BY PRECAST SUPPLIER. PRECAST UNITS ADJACENT TO OPENING SHALL BE DESIGNED FOR THE ADDITIONAL LOAD AT EACH HEADER LOCATION.
9. PRECAST MANUFACTURER SHALL SHOW ALL FIELD WELDING REQUIREMENTS ON THE SHOP DRAWINGS.
10. PRECAST UNITS SHALL BE ERECTED SIMULTANEOUSLY ON EACH SIDE OF ALL SUPPORTING BEAMS OR WALLS. BEAMS SHALL BE SHORED TO PREVENT ROTATION UNTIL THE PRECAST UNITS ARE TOTALLY ERECTED.
11. REINFORCE TWO OR FOUR INCH TOPPING SLAB OVER PRESTRESSED PRECAST CONCRETE WITH 4 LBS/5CY MACRO FIBERS. ADD EXTRA BARS AS NOTED ON PLAN AND IN DETAILS.
12. PROVIDE CONTINUOUS SOLID GROUT AT BOTTOM OF ALL PRECAST CONCRETE PANELS. GROUT WITH NON SHRINKING METALLIC GROUT.
13. PROVIDE COLUMN BRACING DETAIL 2/3,6/0 AT ALL COLUMNS SUPPORTING BEAMS SUPPORTING HOLLOWCORE.

CONCRETE:

- 1. CODE FOR REINFORCED CONCRETE DESIGN AND CONSTRUCTION IS ACI 318, LATEST EDITION. ALL CONSTRUCTION SHALL CONFORM TO LATEST EDITION OF ACI 301. CONCRETE SLAB ON GRADE CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF ACI 360 AND ACI 302. ALL SLABS SHALL BE WET CURED FOR A MINIMUM OF 7 DAYS.
2. ARRANGEMENT AND BENDING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI DETAILING MANUAL, LATEST EDITION.
3. REINFORCING STEEL SHALL BE NON DEFORMED BARS.
4. PER ACI 301-10 2.2.2.3, UNLESS REQUIRED OR PERMITTED, DO NOT USE EARTH CUTS AS FORMS FOR VERTICAL OR SLOPING SURFACES.
5. TOP OF FOOTING OR BOTTOM OF WALLS WITHOUT FOOTINGS ARE TO BE LOCATED AT ELEVATIONS INDICATED BY 'T'EE SYMBOL. FOOTING STEPS SHALL BE LOCATED GENERALLY WHERE INDICATED BY 'F'S' SYMBOL.
6. IN ADDITION TO OTHER REINFORCING NOTED, PROVIDE (2) #5 ON EVERY SIDE OF EACH OPENING IN CONCRETE WALLS. EXTEND #5 BARS 24" BEYOND EDGE OF OPENING. REFERENCE DETAIL 6/3,4/0
7. REINFORCE ALL EARTH OR FILL SUPPORTED SLABS WITH 6x6-W2.1KW2.1 WELDED WIRE FABRIC (W.W.F.), EXCEPT AS NOTED OTHERWISE. OMIT MESH AT SIDEWALKS.
8. POLYPROPYLENE FIBER REINFORCING, FIBRILLATED, (BY FIBERMESH OR APPROVED EQUIV) IS TO BE USED FOR ALL INTERIOR AND EXTERIOR SLAB-ON-GRADE LOCATIONS SHOWN ON THESE STRUCTURAL SHEETS AS TEMPERATURE AND SHRINKAGE REINFORCING. APPLY REINFORCING AT THE MANUFACTURER'S RECOMMENDED RATE OR 1.5 LBS/CY, WHICHEVER IS GREATER. WELDED WIRE FABRIC REINFORCING AT INTERIOR AND EXTERIOR SLAB-ON-GRADE LOCATIONS IS TO BE USED IN LIEU OF FIBER REINFORCING AS TEMPERATURE AND SHRINKAGE REINFORCING AT LOCATIONS NOTED ON THE PLAN.
9. AT FLOOR DRAINS, SLOPE FLOOR UNIFORMLY THROUGHOUT THE ROOM TO THE DRAIN, UNLESS SHOWN OTHERWISE.
10. ALL REINFORCING BARS SHALL BE LAP SPICED WITH CLASS 'B' TENSION LAP SPICES OR 50 BAR DIAMETER (WHICHEVER IS GREATER), EXCEPT WHERE NOTED OR DETAILED OTHERWISE. REFERENCE DETAIL 1/3,4/0 STAGGER LAPS IN SLABS AND WALLS. SPICE BARS IN GRADE BEAMS, STRUCTURAL SLABS, JOISTS, BEAMS, PLASTERERS OR COLUMNS ONLY WHERE SHOWN ON DRAWINGS OR SCHEDULES APPROVED BY A/E.
11. LAP W.W.F. WIRE SPACING PLUS 2" (6" MINIMUM).
12. CONCRETE COVER TO REINFORCING STEEL, UNDO, SHALL BE AS FOLLOWS: SURFACES CAST AGAINST EARTH - 2" (#5 BAR OR LARGER - 1" (#5 BAR OR SMALLER - 1/2" FORMED SURFACES IN CONTACT WITH EARTH OR EXPOSED TO WEATHER.
13. DETAIL AND PROVIDE SUITABLE WIRE SPACERS, CHAIRS, TIES, ETC., FOR SUPPORTING REINFORCING STEEL IN THE PROPER POSITION WHILE PLACING CONCRETE.
14. NON-CONTINUOUS ENDS OF TOP BARS IN BEAMS, JOISTS, AND SLABS SHALL TERMINATE IN A STANDARD HOOK, UNLESS DETAILED OTHERWISE.
15. ALL CHAIRS SUPPORTED BY GRADE SHALL INCLUDE SAND PLATES.
16. BAR SUPPORTS WHICH COME IN CONTACT WITH EXPOSED SURFACES SHALL HAVE PLASTIC OR RUBBER TIPS OR BE STAINLESS STEEL.
17. PROVIDE HOOKED DOWELS OF SAME SIZE AND SPACING AS VERTICAL WALL OR VERTICAL COLUMN REINFORCING AT THE FOUNDATION, UNLESS NOTED OTHERWISE. ALL HOOKED DOWELS SHALL BE TIED IN PLACE PRIOR TO CONCRETE PLACEMENT.
18. PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT CORNERS AND INTERSECTIONS OF WALLS, BEAMS, BOND BEAMS, AND FOOTINGS. REFERENCE DETAIL 7/3,4/0
19. WHERE CONSTRUCTION JOINTS ARE NOT SHOWN, OR WHEN ALTERNATE LOCATIONS ARE PROPOSED, DRAWINGS SHOWING LOCATION OF CONSTRUCTION AND CONTROL JOINTS AND PLACING SEQUENCE SHALL BE SUBMITTED FOR APPROVAL PRIOR TO PREPARATION OF THE REINFORCING STEEL SHOP DRAWINGS.
20. HORIZONTAL CONSTRUCTION JOINTS ARE NOT PERMITTED IN CONCRETE MEMBERS UNLESS SHOWN ON THE DRAWINGS OR APPROVED IN ADVANCE. VERTICAL CONSTRUCTION JOINTS OR BULKHEADS SHALL BE MADE AT MIDSPAN OR POINTS OF MINIMUM SHEAR.
21. PROVIDE CONCRETE ENCASUREMENT AROUND STEEL COLUMNS EXTENDING BELOW SLABS ON EARTH FLOOR FILL.
22. PROVIDE KEYS CONSTRUCTION JOINTS (KCJ) IN EARTH OR FILL SUPPORTED SLABS AT LOCATIONS NOTED.
23. SIZE OF CONCRETE POURS BETWEEN CONSTRUCTION JOINTS SHALL BE LIMITED TO: FOUNDATION WALLS (FROST DEPTH, NOT EXPOSED) - UNLIMITED

RETAINING WALLS - MAXIMUM LENGTH 60 FT. WITH INTERMEDIATE CONTROL JOINTS AT APPROXIMATELY 8 FT. OR TWO TIMES THE WALL HEIGHT, WHICHEVER IS LESS. DO NOT LOCATE WITHIN 8 FT. OF A CORNER OR COLUMN. REFERENCE DETAIL 8/3,4/0 FOR CONSTRUCTION JOINTS AND DETAIL 9/3,4/0 FOR CONTROL JOINTS.

SLAB ON GRADE - 3600 SOFT WITH MAXIMUM DIMENSION OF 60 FT. PLACE IN LANE OR STRIP FASHION WITH INTERMEDIATE CONTROL JOINTS AT APPROXIMATELY 12 FT. THE SLAB JOINTS SHOWN ON THE DRAWINGS ARE BASED ON THE SLAB BEING PLACED AFTER THE BUILDING IS ENCLOSED AND TEMPERATURE-CONTROLLED TEMPERATURES BETWEEN 40 DEGREES AND 100 DEGREES. IF THE CONTRACTOR PLACES SLABS PRIOR TO THOSE CONDITIONS BEING MET, THE CONTRACTOR MUST ADJUST HIS CONTROL JOINT LOCATIONS AND SPACING ACCORDINGLY AND DOES SO AT HIS RISK. CONTRACTOR SHALL SUBMIT PROPOSED CONSTRUCTION AND CONTROL JOINT LOCATIONS FOR REVIEW BY ARCHITECT AND ENGINEER PRIOR TO PLACING CONCRETE. REFERENCE SLAB ON GRADE KEYPLAN AND DETAILS 10/3,4/0

- 24. VERIFY LOCATION OF OPENINGS SHOWN THROUGH CONCRETE SLABS OR WALLS AND COORDINATE ANY ADDITIONAL REQUIRED OPENINGS WITH OTHER TRADES AND THE ARCHITECT/ENGINEER.
25. CONCRETE EXPOSED TO FREEZING AND THAWING SHALL CONTAIN 5% - 7% ENTRAINED AIR.
26. ALUMINUM CONDUIT OR PIPING MAY NOT BE EMBEDDED IN ANY CONCRETE.
27. CALCIUM CHLORIDE IS NOT PERMITTED IN ANY CONCRETE ADMIXTURES.
28. SUBMIT MIX DESIGN TO ENGINEER/ARCHITECT FOR APPROVAL PRIOR TO PLACING ANY CONCRETE. MIX DESIGNS SHALL BE CERTIFIED BY AN ENGINEER LICENSED IN THE STATE OF SOUTH DAKOTA.
29. PROVIDE SIXTEEN (16) CY OF INSTALLED AND FORMED CONCRETE IN ADDITION TO THAT REQUIRED BY DRAWINGS, NOTES AND SCHEDULES. ADDITIONAL CONCRETE SHALL BE INSTALLED AS DIRECTED BY A/E.
30. PROVIDE ONE (1) TONS OF FABRICATED AND INSTALLED REINFORCING STEEL IN ADDITION TO THAT REQUIRED BY DRAWINGS, NOTES AND SCHEDULES. ADDITIONAL REINFORCING STEEL SHALL BE INSTALLED AS DIRECTED BY A/E.
31. REFERENCE DETAIL 11/3,4/0 FOR TYPICAL CONCRETE COLUMN AND PEDESTAL THE LAYOUT.

SPECIAL INSPECTION:

THE FOLLOWING WORK ITEMS REQUIRE SPECIAL INSPECTION PER IBC SECTION 1705. THE SPECIAL INSPECTION, AND THE COST ASSOCIATED THEREWITH, WILL BE PAID BY THE OWNER. THE ITEMS THAT REQUIRE SPECIAL INSPECTIONS ARE:

- A. 1705.2 STEEL CONSTRUCTION - REFERENCE 1705.2.1 AND ASCE 360 FOR STRUCTURAL STEEL AND 1705.2.2 AND TABLE 1705.2.2 FOR REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL.
B. 1705.3 CONCRETE CONSTRUCTION - REFERENCE TABLE 1705.3 FOR REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION.
C. 1705.4 MASONRY CONSTRUCTION - REFERENCE TABLE 1.19.2 OF THE TMS 402/ACI308.5/ASCE-5 FOR REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION.
D. 1705.6 SOILS. REFERENCE TABLE 1705.6 FOR REQUIRED INSPECTION OF SOILS.

STRUCTURAL OBSERVATIONS:

1704.6 STRUCTURAL OBSERVATIONS - THE OWNER OR THE OWNER'S AUTHORIZED AGENT SHALL EMPLOY A REGISTERED DESIGN PROFESSIONAL TO PERFORM STRUCTURAL OBSERVATIONS.

MASONRY:

- 1. CONSTRUCT MASONRY TO IBC REQUIREMENTS.
2. PROVIDE VERTICAL REINFORCEMENT IN MASONRY WALLS THUS, UNO REFERENCE DETAILS 8/3,45 5/3,45
EXTERIOR WALLS: #5 AT 32 INCHES o.c. FULL HEIGHT UNO ON PLAN.
INTERIOR WALLS: #5 AT 32 INCHES o.c. FULL HEIGHT AT WALLS GREATER THAN 12" TALL TO 14'-0" TALL TO 21'-0" TALL. UNO ON PLAN.
INTERIOR WALLS: #5 AT 48 INCHES o.c. FULL HEIGHT AT WALLS LESS THAN 14'-0" TALL. UNO ON PLAN.
HIGH WIND SHELTER (GROUT SOLID ALL CORES FULL HEIGHT): ALL INTERIOR AND EXTERIOR HIGH WIND SHELTER WALLS: #5 AT 16" o.c.
3. DOWEL VERTICAL WALL REINFORCING TO FOUNDATION, FOOTING OR THICKENED SLAB WITH EITHER A HOOKED BAR LAPPED WITH VERTICAL CMU WALL REINFORCING ABOVE OR A VERTICAL BAR LAPPED WITH VERTICAL CMU WALL REINFORCING ABOVE AND CONCRETE AND REINFORCED BELOW.
4. REINFORCE EACH SIDE OF ALL OPENINGS, CORNERS IN MASONRY WALLS, AND END 12" OF ALL MASONRY WALLS WITH #6 TENSION REINFORCING, IN EACH OF TWO ADJACENT CORES. REFERENCE DETAIL 6/3,45
5. REINFORCE ALL BOND BEAMS WITH (2) #5 BOTTOM, CONTINUOUS, REINFORCING TO BEND 2'-0" AROUND ALL CORNERS OR USE 4'-0" CORNER BARS. REFERENCE DETAILS 1/3,45 2/3,45
6. PLACE 5/8x8x8 PLATES WITH (2) 1/2" INCH DIAMETER x 5 1/2" HEADED STUDS FLUSH IN TOP OF CONCRETE FILLED BOND BEAM AT BEARING POINTS OF ALL STEEL JOISTS OR BEAMS.
7. SHOP WELD ALL LINTEL UNITS COMPRISED OF MULTIPLE PIECES.
8. PROVIDE AND INSTALL 1/2 TON OF FABRICATED LINTELS AND BRACING IN ADDITION TO THOSE REQUIRED BY DRAWINGS, NOTES AND SCHEDULES. THIS ADDITIONAL STEEL SHALL BE FABRICATED AND INSTALLED AS DIRECTED BY A/E.
9. PROVIDE 1/4" INCH PLATE LINTELS AT RECESSED TOWEL DISPENSERS AND FIRE EXTINGUISHER CABINETS.
10. AT ALL UNFRAMED OPENINGS 3'-0" WIDE OR NARROWER, WHERE NO STEEL LINTEL IS INDICATED, PROVIDE REINFORCED CONCRETE BLOCK LINTELS REINFORCED WITH (1) #5 PER 4" WALL THICKNESS, END BEARINGS 8" MINIMUM. NOTIFY A/E IF BEAM, JOIST OR COLUMN BEARING OCCURS ABOVE OPENING.
11. PROVIDE WELDED WIRE JOINT REINFORCING IN ALL MASONRY WALLS AT 16" o.c. MAXIMUM AT RUNNING BOND AND 8" o.c. STACK BOND. REFERENCE DETAIL 7/3,45
12. PROVIDE REINFORCING BARS AT LOCATIONS INDICATED ON THE DRAWINGS. LAP SPICES IN VERTICAL WALL REINFORCING AND ELSEWHERE REFERENCE DETAIL 8/3,45
13. GROUT CORES IN 6'-0" MAXIMUM LIFTS UNLESS CLEAN-OUTS ARE PROVIDED, IN WHICH CASE 8'-0" MAXIMUM LIFTS MAY BE USED.
14. EXCEPT FOR SELF-CONSOLIDATING GROUT, CONSOLIDATE GROUT POURS EXCEEDING 12 INCHES IN HEIGHT AT TIME OF PLACEMENT BY MECHANICAL VIBRATION AND RECONSOLIDATE BY MECHANICAL VIBRATION AFTER INITIAL WATER LOSS AND BEFORE SETTING (USUALLY WITHIN 3 TO 10 MINUTES). A LOW-VELOCITY VIBRATOR WITH A 3/4 INCH DIAMETER HEAD IS NORMALLY USED. THE VIBRATOR IS TO BE ACTIVATED FOR ONE TO TWO SECONDS IN EACH GROUTED CELL OF HOLLOW UNIT MASONRY. AVOID EXCESSIVE VIBRATION. FOR GROUT POURS 12 INCH OR LESS IN HEIGHT (e.g. AT BOND BEAMS) CONSOLIDATE BY MECHANICAL VIBRATION OR BY PUDDLING.
15. WHEN GROUTING, FORM GROUT KEYS BETWEEN GROUT POURS. FORM A GROUT KEY BY TERMINATING THE GROUT A MINIMUM OF 1 1/2 INCHES BELOW A MORTAR JOINT.
16. THE VERTICAL REINFORCING TO JOINT REINFORCING AT 32" o.c. VERTICALLY TO MAINTAIN POSITIONING WHILE GROUTING.
17. PROVIDE #5 VERTICAL BARS IN CORE(S) BELOW BEAM AND LINTEL BEARINGS AND GROUT CORE(S) IN THE BEARING DISTANCE SHALL BE A MINIMUM OF 8" BEAM OR LINTEL SHALL BE SET IN GROUT, 1/2" MINIMUM DEPTH. PROVIDE #5 VERTICAL BARS, FROM TOP OF FOUNDATION TO TOP OF WALL, IN (2) CORES ADJACENT TO BEAM AND LINTEL BEARINGS AND GROUT CORES FULL HEIGHT. REFERENCE DETAILS 14/3,45 15/3,45 16/3,45
18. ALL LINTELS AND LOOSE BRICK ANGLES TO BE TEMPORARILY SHORED UNTIL MASONRY HAS HARDENED.
19. CMU CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID WITH CORE FILL CONCRETE. FILLING CORES WITH MORTAR IS NOT ACCEPTABLE.
20. STEEL COLUMNS EMBEDDED WITHIN CMU WALLS SHALL BE WRAPPED WITH TWO LAYERS OF 15# BUILDING PAPER TO BREAK THE BOND BETWEEN THE STEEL COLUMN AND THE CMU AND MORTAR. CARE IS TO BE TAKEN TO ALLOW FOR DIFFERENTIAL MOVEMENT OF THE STEEL AND CONCRETE.
21. PROVIDE SPECIAL BLOCK TYPES WHERE REQUIRED FOR CORNERS, CONTROL JOINTS, HEADERS, LINTELS WITH (2) #5 MINIMUM (UNO), AND OTHER SPECIAL CONDITIONS WHETHER OR NOT SPECIFICALLY INDICATED ON THE DRAWINGS.
22. PLACE CONTROL JOINTS IN MASONRY WALLS SUCH THAT NO STRAIGHT RUN OF MASONRY EXCEEDS 24'-0" OR ONE-AND-A-HALF TIMES THE WALL HEIGHT, WHICHEVER IS LESS. REFERENCE DETAIL 3/3,45 PROVIDE SOFT CONTROL JOINTS AT ALL LOCATIONS WHERE NEW CMU IS INSTALLED AGAINST PREVIOUSLY INSTALLED AND CURED CMU AND THE NEW CMU IS NOT TOOTHED INTO THE PREVIOUSLY INSTALLED CMU.
23. CONSTRUCT ALL MASONRY WALLS, WHETHER LOAD BEARING OR NON-LOAD BEARING, WHETHER PARTIAL HEIGHT OR FULL HEIGHT, WITH A BOND BEAM AT THE TOP COURSE. THIS BOND BEAM IS TO BE REINFORCED WITH (2) #5 BARS, BOTTOM, CONTINUOUS. ALL VERTICAL REINFORCING IN THE WALL IS TO EXTEND FULLY INTO THIS BOND BEAM.
24. CONSTRUCT NON-LOAD BEARING MASONRY WALLS SUCH THAT THEY ARE BRACED AGAINST LATERAL MOVEMENT ON EACH SIDE AT TOP OF WALL. CONNECT TO ROOF OR FLOOR STRUCTURE. SNUG FIT CONNECTION TO MASONRY TO ALLOW FOR VERTICAL DEFLECTION OF ROOF OR FLOOR STRUCTURE WHILE INHIBITING LATERAL DEFLECTION OF MASONRY WALL.
25. MASONRY STRENGTH NOTES: Fm = 2000 PSF EXCEPT WHERE NOTED OTHERWISE ON DRAWINGS. CONTRACTOR SHALL SUBMIT CERTIFICATION AND TESTING RESULTS AS REQUIRED TO ESTABLISH Fm BASED ON THE UNIT STRENGTH METHOD. MINIMUM NET AREA COMPRESSIVE STRENGTH OF MASONRY UNITS IS 2000 PSF PER IBC TABLE 1705.2.1.2 FOR TYPE 'M' OR 'S' MORTAR. ALL SUBMITTALS SHALL BE REVIEWED AND APPROVED PRIOR TO MASONRY CONSTRUCTION STARTING.
26. SUBMIT MIX DESIGN OF CORE FILL CONCRETE (GROUT) AND BOND BEAM FILL CONCRETE (GROUT) TO ENGINEER/ARCHITECT FOR APPROVAL PRIOR TO PLACING ANY CONCRETE.
27. VERIFY SIZE AND LOCATION OF ALL MECHANICAL, U.V., LOUVER AND DUCT OPENINGS WITH MECHANICAL CONTRACTOR.
28. FOR ALL OPENINGS THROUGH MASONRY WALLS INCLUDING MECHANICAL AND ELECTRICAL OPENINGS, PROVIDE ONE OF THE FOLLOWING (UNLESS NOTED OTHERWISE), CONTRACTOR TO COORDINATE WITH ALL ASPECTS:

STEEL ANGLE LINTELS (FOR CLEAR SPANS > 6'-0") (MINIMUM BEARING OF 6" ON SOLID GROUTED MASONRY). REFERENCE DETAILS 12/3,45 1/3,48 2/3,48

(1) 3 1/2" x 3 1/2" x 1/4" ANGLE FOR EACH 4" THICKNESS OF WALL FOR SPANS UP TO 4'-0". FOR 12" CMU WALLS PROVIDE (1) 5" x 3 1/2" x 5/16" LVL ANGLE AND (1) 6" x 3 1/2" x 5/16" LVL ANGLE. FOR 6" CMU WALLS PROVIDE (1) WT4x8 REFERENCE DETAIL 11/3,45

(1) 5" x 3 1/2" x 5/16" LVL ANGLE FOR EACH 4" THICKNESS OF WALL FOR SPANS UP TO 5'-0". FOR 12" CMU WALLS PROVIDE (1) 5" x 5" x 5/16" ANGLE AND (1) 6" x 4" x 5/16" LVL ANGLE. FOR 6" CMU WALLS PROVIDE (1) WT4x8 REFERENCE DETAIL 11/3,45

(1) 6" x 3 1/2" x 5/16" LVL ANGLE FOR EACH 4" THICKNESS OF WALL FOR SPANS TO 6'-0". FOR 12" CMU WALLS PROVIDE (1) 5" x 5" x 5/16" ANGLE AND (1) 6" x 4" x 5/16" LVL ANGLE. FOR 6" CMU WALLS PROVIDE (1) WT4x8 REFERENCE DETAIL 11/3,45

STEEL BEAM LINTELS (FOR CLEAR SPAN > 6'-0") (MINIMUM BEARING OF 6" ON SOLID GROUTED AND REINFORCED MASONRY) REFERENCE DETAILS 13/3,45 3/3,48

FOR 8" CMU WALLS: W8x15 WITH 3/16" PLATE, BOTTOM. IN WALLS THAT ARE EXPOSED TO PUBLIC VIEW IN THEIR FINAL STATE, OTHERWISE W8x35 FOR CLEAR SPAN UP TO 9'-0". W16x8 FOR CLEAR SPANS EXCEEDING 9'-0".

FOR 12" CMU WALLS: W8x35 WITH 3/16" PLATE, BOTTOM. IN WALLS THAT ARE EXPOSED TO PUBLIC VIEW IN THEIR FINAL STATE, OTHERWISE W8x35 WITH 3/16" PLATE, TOP. FOR SPANS UP TO 9'-0", W16x40 WITH 1/4" PLATE, BOTTOM FOR CLEAR SPANS EXCEEDING 9'-0".

CMU LINTELS (MINIMUM BEARING OF 6" ON SOLID MASONRY) REFERENCE DETAILS 9/3,45 10/3,45

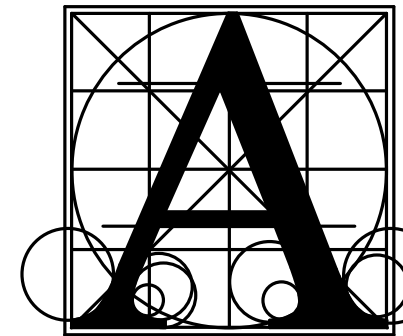
Table with 4 columns: 12" CMU, 8" CMU, 6" CMU, WALL TYPE. Rows include #4 BOTT, #5 BOTT, #6 BOTT, #8 TAB, #8 TAB (2 COURSES).

MASONRY CONTINUED:

- 29. FILL CMU LINTELS SOLID WITH 3,000 PSI CONCRETE (3/8" MAXIMUM AGGREGATE).
30. REFERENCE DETAIL 8/3,46 FOR PENETRATION LAYOUT THROUGH CMU WALL.
31. AT POCKETS IN CMU WALLS AT JOIST BRG LOCATIONS, ALL POCKETS SHALL BE GROUTED. SUCH POCKETS HAVE BEEN INSPECTED.
32. AT LOCATIONS WHERE VERTICAL REINFORCING AND GROUTED CORES ARE INDICATED, THE CORES SHALL BE GROUTED AND REINFORCED. THE FULL HEIGHT OF THE WALL WITH MATCHING HOOKED DOWELS INTO THE FOOTING OR SPlice DOWELS INTO THE FOUNDATION WALLS. IF REINFORCING SIZE IS NOT INDICATED PROVIDE #5 BAR AND CONFIRM WITH ENGINEER.

STEEL FRAMING:

- 1. TO AVOID UNDESIRABLE STRESSES IN PLATES OR THEIR ANCHORS, ALL WELDS SHALL BE MADE IN SINGLE PASSES IF APPLICABLE, SYMMETRICALLY AROUND THE PLATE. WHEN MULTIPLE PASSES ARE REQUIRED SUFFICIENT TIME SHALL BE ALLOWED BETWEEN PASSES FOR THE HEAT TO DISSIPATE.
2. LATEST AISC MANUAL AND SPECIFICATIONS APPLY.
3. WELDING ELECTRODES SHALL COMPLY WITH AWS REQUIREMENTS MIN 70XX, ELECTRODE MUST BE COMPATIBLE WITH MATERIALS BEING WELDED.
4. ALL WELDING AND TESTING OF WELDS SHALL BE IN ACCORDANCE WITH AMERICAN WELDING SOCIETY CODES AND RECOMMENDATIONS.
5. ALL WELDING SHALL BE BY WELDERS HOLDING VALID CERTIFICATES IN THE TYPE OF WELD REQUIRED.
6. ALL FULL PENETRATION WELDS SHALL BE ULTRASONICALLY TESTED BY AN INDEPENDENT TESTING LABORATORY.
7. UNLESS DETAILED OTHERWISE, ALL BEAM CONNECTIONS SHALL BE PROVIDED AND DESIGNED BY THE STEEL FABRICATOR AND SHALL BE IN ACCORDANCE WITH AISC'S MANUAL OF STEEL CONSTRUCTION, 14TH EDITION ASD, AND RELATED AISC PUBLICATIONS. UNLESS DETAILED OTHERWISE, ALL BEAM CONNECTIONS SHALL BE DOUBLE ANGLE CONNECTIONS WITH A325N BOLTS. WELDED AND ANGLES DESIGNED TO DEVELOP OF THE LISTED CAPACITY MAY BE USED INSTEAD OF BOLTS. THESE CONNECTION DETAILS SHALL BE SHOWN ON THE SHOP DRAWINGS. REFERENCE RECOMMENDED CONNECTIONS ON 1/3,60
8. BEAM END CONNECTIONS SHALL BE DESIGNED FOR THE ALLOWABLE LOADS INDICATED IN KIPS ON THE FRAMING PLANS OR STRUCTURAL DETAILS. THE MINIMUM CONNECTION LENGTH SHOULD BE ONE-HALF THE T-DIMENSION OF THE BEAM TO BE SUPPORTED. IF NO LOAD IS INDICATED, THE BEAM END CONNECTIONS SHALL BE DESIGNED FOR THE MAXIMUM TOTAL UNIFORM LOAD IN KIPS DIVIDED BY 2 (i.e. W/2), AS SHOWN IN THE AISC MAXIMUM TOTAL UNIFORM LOAD TABLES AND PER AISC FRAMED BEAM CONNECTION TABLES.
9. ALL HIGH STRENGTH BOLTED CONNECTIONS SHALL BE TIGHTENED TO THE TENSIONS SPECIFIED IN TABLE 8.1 OF AISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM F3125 F1882 OR F2280 BOLTS. TENSION MEASURING DEVICES SHALL BE USED TO VERIFY THAT THE REQUIREMENTS OF TABLE 8.1. MEASURING DEVICES SHALL INCLUDE TWIST-OFF BOLTS.
10. ALL HIGH STRENGTH BOLTED CONNECTIONS (NOT WITHIN THE SLIP-CRITICAL CATEGORY NOR SUBJECT TO TENSION LOADS NOR REQUIRED TO BE FULLY TENSIONED BEARING-TYPE CONNECTIONS) SHALL BE TIGHTENED TO THE SNUG TIGHT CONDITION SPECIFIED IN THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM F3125 A325 OR A490 BOLTS, ARTICLE 8.1.
11. NOT ALL CONNECTIONS ARE DETAILED; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED. CONTACT THE ENGINEER OR ARCHITECT PROMPTLY TO VERIFY THE DETAILS OF MEMBERS OR CONNECTIONS IN ANY SITUATION WHERE REQUIREMENTS ARE UNCLEAR. CONTRACTOR SHALL PROVIDE THE NECESSARY BRACING DURING ERECTION AND UNTIL ALL STEEL IS PLUMB AND SECURED.
12. FIELD CUTTING OR OTHER FIELD MODIFICATIONS TO STRUCTURAL STEEL SHALL NOT BE MADE WITHOUT SPECIFIC PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
13. ALL BEAM COPES MUST BE MADE TO A RADIUS (3/4" MINIMUM).
14. STRUCTURAL STEEL FRAMING SHALL BE TRUE PLUMB AND PLUMB BEFORE CONNECTIONS ARE FINAL BOLTED OR WELDED.
15. INSTALL EXPANSION BOLTS IN ACCORDANCE WITH THE ICBQ REPORT RECOMMENDATIONS.
16. INSTALL DECK SUPPORT FRAMING AROUND ALL PENETRATIONS THROUGH STEEL FORM DECK AND STEEL ROOF DECK, INCLUDING MECHANICAL OPENINGS AND ROOF DRAINS. CONTRACTOR TO VERIFY AND COORDINATE LOCATIONS AND QUANTITIES. REFERENCE DETAIL 9/3,46
17. AT LINTEL LOCATIONS NOTED, PROVIDE BEAM WITH PLATE WELDED TO THE BOTTOM FLANGES. PLATE WIDTH TO BE 1/4" LESS THAN NOMINAL WALL WIDTH (HELD BACK EQUALLY FROM EACH WALL FACE). WELD PLATE TO BEAM WITH 2 INCHES OF 3/16 INCH FILLET WELDS, EACH SIDE, SPACED AT 12 INCHES ON CENTER. PROVIDE 3/16" x 3" STEEL TABS ON TOP OF TOP FLANGE OF BEAM, SPACED AT 32" o.c. REFERENCE DETAILS 13/3,45 3/3,48
18. PROVIDE TWO (2) TONS OF FABRICATED STRUCTURAL STEEL AND BRACING IN ADDITION TO THOSE REQUIRED BY DRAWINGS, NOTES AND SCHEDULES. ADDITIONAL STEEL SHALL BE INSTALLED AS DIRECTED BY A/E.
19. PROVIDE BASE PLATE SIZE AND ANCHOR ROD LAYOUT PER DETAIL 14/3,41
20. AT LOCATIONS WHERE STEEL BEAMS ARE PARALLEL TO BAR JOIST WITH CAMBER, BEAMS SHALL BE CAMBERED TO MATCH ADJACENT JOISTS OR DUE CONSIDERATION OF THE DIFFERENCES IN CAMBER SHALL BE TAKEN INTO ACCOUNT DURING INSTALLATION OF STEEL AND DECKING.



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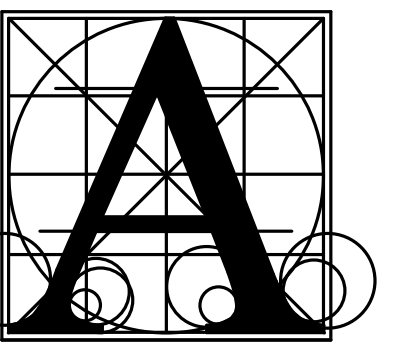
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BRANDON VALLEY ELEMENTARY SCHOOL GENERAL STRUCTURAL NOTES

Table with 3 columns: number, SEA Job No., and 2306000. Rows include date (07/01/2024), revision, drawn (RDM), checked (MAS), and MARK DATE DESCRIPTION (AD 1 7/23/2024 ADOENDA 1).

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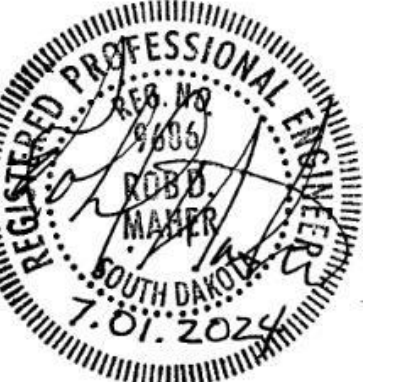
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BRANDON VALLEY ELEMENTARY SCHOOL

ROOF FRAMING PLAN - AREA A

Project	number	SEA Job. No. AI 230600
	date	07/01/2024
	revision	
	drawn	RDW
	checked	MAS
	MARK DATE DESCRIPTION	
	AD 1 7/23/2024 ADDENDA 1	

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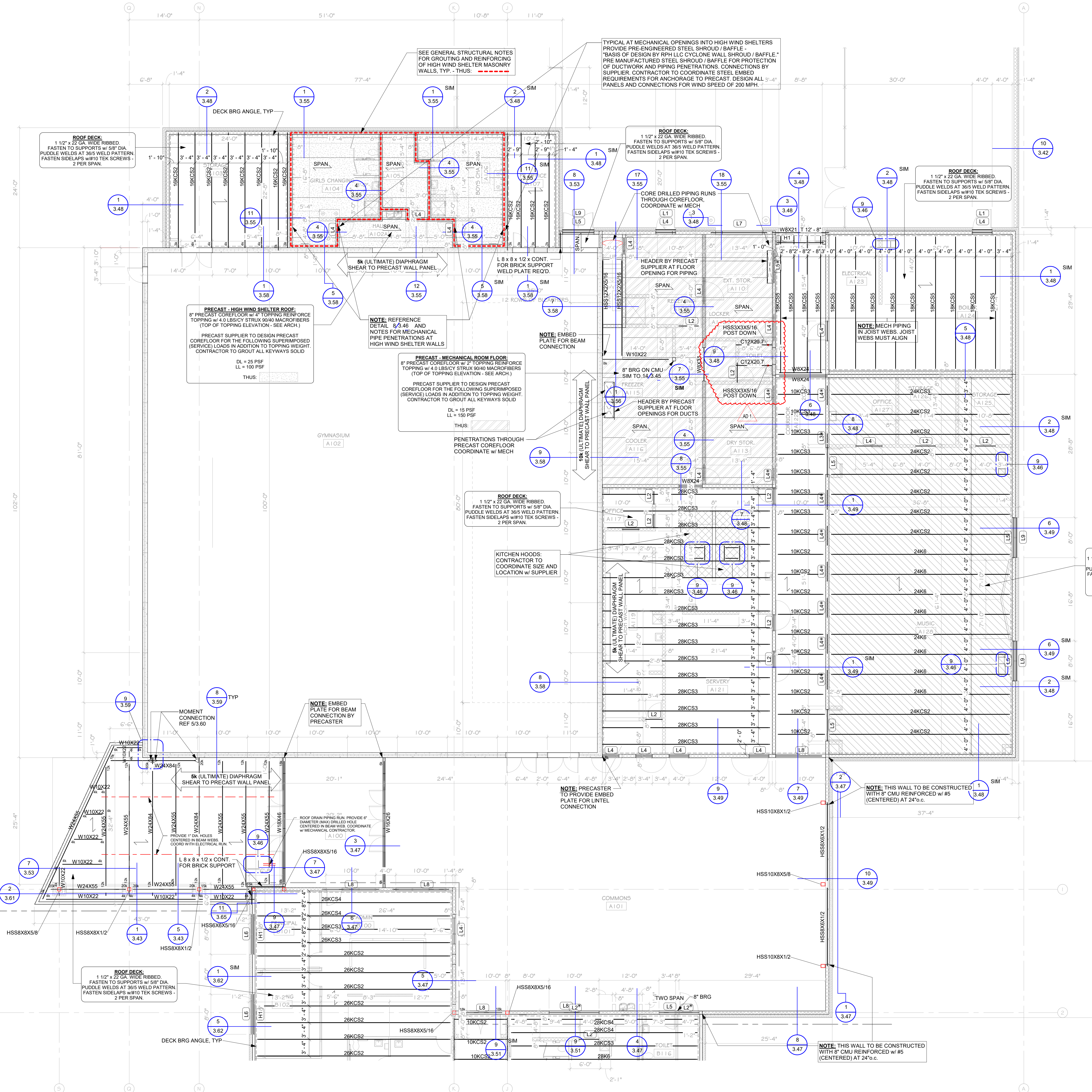
HEADER AND LINTEL SCHEDULE			
MARK	SIZE	BEARING EACH END (UNO)	NOTES
H1	(2)800S162-97 (50 KSI) BOX HEADER	(2) BRG STUDS & (3) BYPASS STUDS	8" BRG.
H2	(2)1000S162-97 (50 KSI) BOX HEADER	(2) BRG STUDS & (1) BYPASS STUD	
H3	(2)800S162-68 (50 KSI) BOX HEADER	(1) BRG STUDS & (1) BYPASS STUD	
H4	(2)800S162-54 (50 KSI) BOX HEADER	(1) BRG STUDS & (1) BYPASS STUD	
L1	L6X4X5/16 (LH)	6" MIN BRG.	
L2	2L3-1/2X3-1/2X1/4	6" MIN BRG.	
L3	2L5X3 1/2X1/4 (LLBB)	6" MIN BRG.	
L4	WBX15	8" BRG.	
L5	WBX21	8" BRG.	
L6	L5X5X5/16	6" MIN BRG.	
L7	HSS8X8X5/8	L8X8X1/2	SEE PLAN
L8	W16X26	8" BRG.	
L9	L6X5X5/16	6" MIN BRG.	
L10	2L8X4X5/8LLBB	8" BRG.	

- LINTEL AND BEAM NOTES:**
1. LINTELS WITH AN "N" NEXT TO THEIR MARK IN PLAN, ARE LINTELS OVER MECHANICAL PENETRATIONS. ALL LOCATIONS MAY NOT BE NOTED ON STRUCTURAL PLANS. COORDINATE WITH MECHANICAL.
 2. SEE DETAILS 14, 15 AND 16 ON 3.45 AND 1/3.46 FOR LINTEL AND BEAM BEARINGS.
 3. ALL BEAMS USED AS LINTELS IN MASONRY WALLS SHALL HAVE A 5/16" LINTEL PLATE. SEE DETAIL 13/3.45 FOR LINTEL PLATE CONFIGURATIONS.
 4. LOOSE EXTERIOR BRICK ANGLES ARE TO BEAR 6" MIN. UNO.

- LIGHT GAUGE STEEL HEADER NOTES:**
1. ALL HEADERS TO BE UNPUNCHED MATERIAL.
 2. WEB STIFFENERS REQUIRED IN ALL HEADER PIECES AT BEARING OF ALL STEEL STUD HEADERS. PROVIDE EACH END OF HEADER.
 3. ALL INTERIOR LOAD BEARING STEEL STUDS SHALL BE 50 KSI 6"x16 GA CSJ AT 16" oc BY CLARK/DIERICH OR APPROVED EQUAL. PROVIDE (2) BEARING STUDS DIRECTLY BELOW EACH JOIST/BEAM BEARING. UNO.
 4. HEADERS WITH AN "N" NEXT TO THEIR MARK IN PLAN, ARE LINTELS OVER MECHANICAL PENETRATIONS. COORDINATE WITH MECHANICAL.
 5. SEE DETAILS 6 AND 10 ON 3.65 FOR TYPICAL HEADER CONSTRUCTION.
 6. PROVIDE BEARING CONDITION LISTED IN SCHEDULE UNLESS NOTED OTHERWISE ON PLAN.

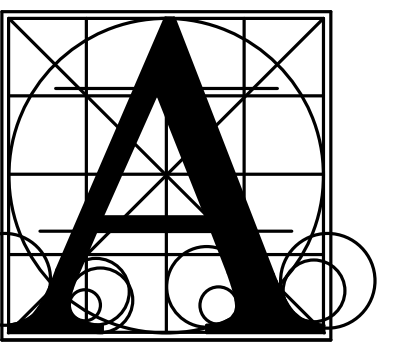
ROOF DECK:
1 1/2" x 22 GA WIDE RIBBED.
FASTEN TO SUPPORTS W/ 5/8" DIA.
PUDDLE WELDS AT 3/65 WELD PATTERN.
FASTEN SIDELAPS W/ #10 TEK SCREWS -
2 PER SPAN.

NOTE: SEE ARCH AND REFER TO OVERALL ROOF FRAMING PLAN - SHEET 3.20 - FOR JOIST BEARING ELEVATIONS, TYP.



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

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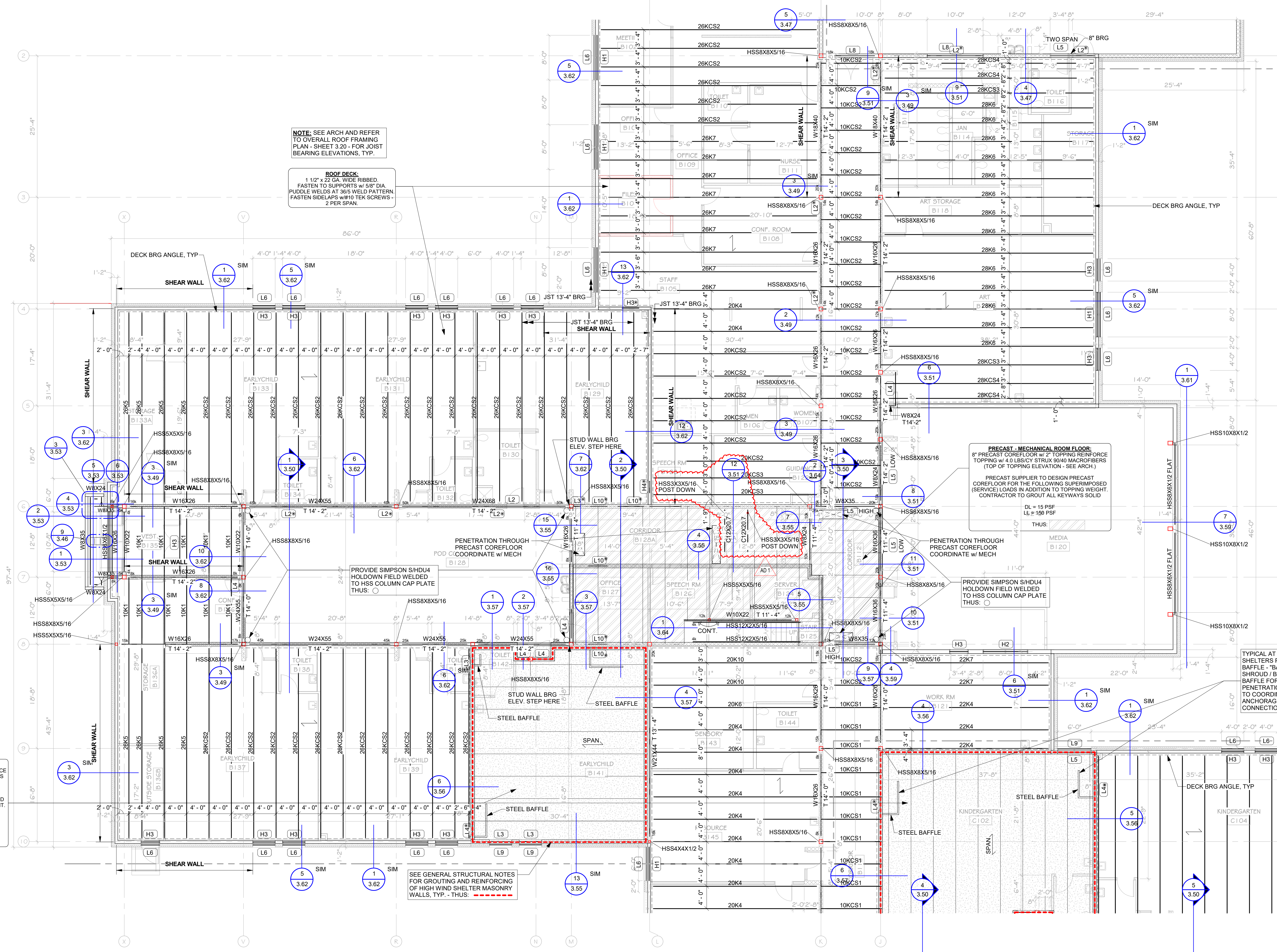


BRANDON VALLEY ELEMENTARY SCHOOL

ROOF FRAMING PLAN - AREA B

Project	number	SEA Job. No. AI 230600	
date	07/01/2024		
revision			
drawn	RDM	checked	Checker
MARK DATE DESCRIPTION			
AD 1 7/23/2024		ADDENDA 1	

3.22



NOTE: SEE ARCH AND REFER TO OVERALL ROOF FRAMING PLAN - SHEET 3.20 - FOR JOIST BEARING ELEVATIONS, TYP.

ROOF DECK
1 1/2" x 22 GA. WIDE RIBBED FASTEN TO SUPPORTS w 5/8" DIA. PUDDLE WELDS AT 360 WELD PATTERN. FASTEN SUELS w #10 TEK SCREWS 2 PER SPAN.

PRECAST - MECHANICAL ROOM FLOOR
8" PRECAST CORE FLOOR w 2" TOPPING REINFORCE TOPPING w 4.0 LBS/CY STRUX 9040 MACROFIBERS (TOP OF TOPPING ELEVATION - SEE ARCH.)
PRECAST SUPPLIER TO DESIGN PRECAST CORE FLOOR FOR THE FOLLOWING SUPERIMPOSED (SERVICE) LOADS IN ADDITION TO TOPPING WEIGHT. CONTRACTOR TO GROUT ALL KEYWAYS SOLID
THUS: $DL = 13$ PSF
 $LL = 150$ PSF

PRECAST - HIGH WIND SHELTER ROOF
12" PRECAST CORE FLOOR w 4" TOPPING REINFORCE TOPPING w 4.0 LBS/CY STRUX 9040 MACROFIBERS (TOP OF TOPPING ELEVATION - SEE ARCH.)
PRECAST SUPPLIER TO DESIGN PRECAST CORE FLOOR FOR THE FOLLOWING SUPERIMPOSED (SERVICE) LOADS IN ADDITION TO TOPPING WEIGHT. CONTRACTOR TO GROUT ALL KEYWAYS SOLID
THUS: $DL = 25$ PSF
 $LL = 100$ PSF

TYPICAL AT MECHANICAL OPENINGS INTO HIGH WIND SHELTERS PROVIDE PRE-ENGINEERED STEEL SHROUD / BAFFLE - BASIS OF DESIGN BY RPH LLC CYCLONE WALL SHROUD / BAFFLE - PRE MANUFACTURED STEEL SHROUD / BAFFLE FOR PROTECTION OF DUCTWORK AND PIPING PENETRATIONS. CONNECTIONS BY SUPPLIER. CONTRACTOR TO COORDINATE STEEL EMBED REQUIREMENTS FOR ANCHORAGE TO PRECAST. DESIGN ALL PANELS AND CONNECTIONS FOR WIND SPEED OF 200 MPH.

PRECAST - HIGH WIND SHELTER ROOF
12" PRECAST CORE FLOOR w 4" TOPPING REINFORCE TOPPING w 4.0 LBS/CY STRUX 9040 MACROFIBERS (TOP OF TOPPING ELEVATION - SEE ARCH.)
PRECAST SUPPLIER TO DESIGN PRECAST CORE FLOOR FOR THE FOLLOWING SUPERIMPOSED (SERVICE) LOADS IN ADDITION TO TOPPING WEIGHT. CONTRACTOR TO GROUT ALL KEYWAYS SOLID
THUS: $DL = 25$ PSF
 $LL = 100$ PSF

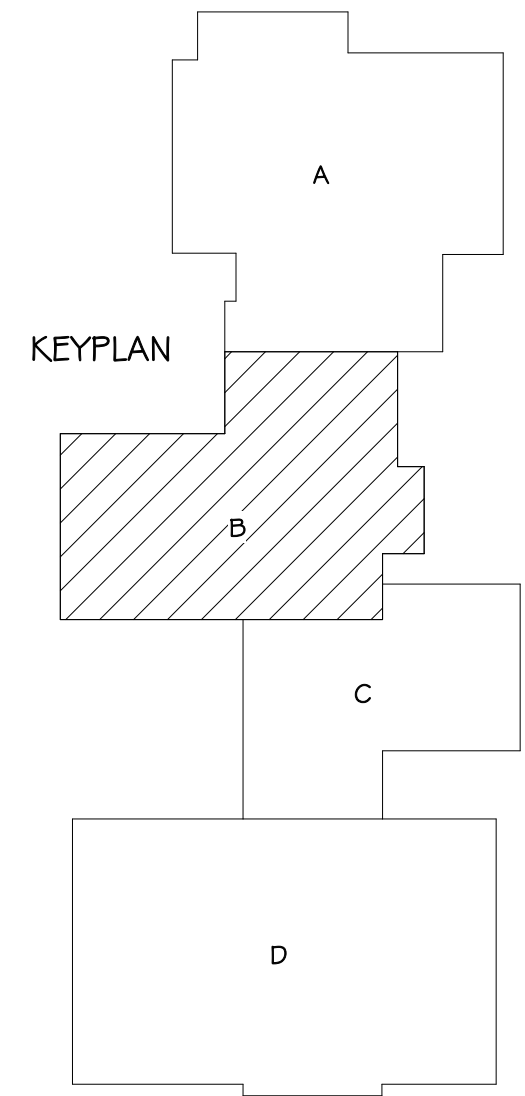
SEE GENERAL STRUCTURAL NOTES FOR GROUTING AND REINFORCING OF HIGH WIND SHELTER MASONRY WALLS, TYP. - THUS.

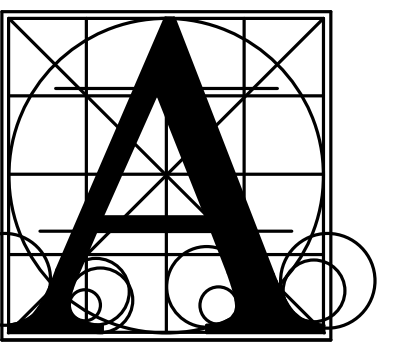
HEADER AND LINTEL SCHEDULE			
MARK	SIZE	BEARING EACH END (UNO)	NOTES
H1	(2)800S162-97 (50 KSI) BOX HEADER	(2) BRG STUDS & (3) BYPASS STUDS	
H2	(2)1000S162-97 (50 KSI) BOX HEADER	(2) BRG STUDS & (1) BYPASS STUD	
H3	(2)800S162-68 (50 KSI) BOX HEADER	(1) BRG STUDS & (1) BYPASS STUD	
H4	(2)800S162-54 (50 KSI) BOX HEADER	(1) BRG STUDS & (1) BYPASS STUD	
L1	L6X8X5/16 (LLH)	6" MIN BRG.	
L2	2L3-1/2X3-1/2X1/4	6" MIN BRG.	
L3	2L5X3 1/2X1/4 (LLBB)	6" MIN BRG.	
L4	WBX15	6" BRG.	
L5	WBX21	6" BRG.	
L6	L6X8X5/16	6" MIN BRG.	
L7	HSS8X8X3/8 w/ L6X8X1/2	SEE PLAN	
L8	W16X26	8" BRG.	
L9	L6X6X5/16	6" MIN BRG.	
L10	2L6X4X5/8LLBB	6" BRG.	

- LINTEL AND BEAM NOTES:**
1. LINTELS WITH AN * NEXT TO THEIR MARK IN PLAN, ARE LINTELS OVER MECHANICAL PENETRATIONS. ALL LOCATIONS MAY NOT BE NOTED ON STRUCTURAL PLANS. COORDINATE WITH MECHANICAL.
 2. SEE DETAILS 14, 15 AND 16 ON 3.45 AND 1/3.46 FOR LINTEL AND BEAM BEARINGS.
 3. ALL BEAMS USED AS LINTELS IN MASONRY WALLS SHALL HAVE A 5/16" LINTEL PLATE. SEE DETAIL 133.45 FOR LINTEL PLATE CONFIGURATIONS.
 4. LOOSE EXTERIOR BRICK ANGLES ARE TO BEAR 6" MIN. UNO.

- LIGHT GAUGE STEEL HEADER NOTES:**
1. ALL HEADERS TO BE UNPUNCHED MATERIAL.
 2. WEB STIFFENERS REQUIRED IN ALL HEADER PIECES AT BEARING OF ALL STEEL STUD HEADERS. PROVIDE EACH END OF HEADER.
 3. ALL INTERIOR LOAD BEARING STEEL STUDS SHALL BE 50 KSI 6"x16 GA CSJ AT 16" oc BY CLARKDIETRICH OR APPROVED EQUAL. PROVIDE (2) BEARING STUDS DIRECTLY BELOW EACH JOIST/BEAM BEARING. UNO
 4. HEADERS WITH AN * NEXT TO THEIR MARK IN PLAN, ARE LINTELS OVER MECHANICAL PENETRATIONS. COORDINATE WITH MECHANICAL.
 5. SEE DETAILS 6 AND 10 ON 3.65 FOR TYPICAL HEADER CONSTRUCTION.
 6. PROVIDE BEARING CONDITION LISTED IN SCHEDULE UNLESS NOTED OTHERWISE ON PLAN.

1 ROOF FRAMING PLAN - AREA B
3.22 1/8" = 1'-0"





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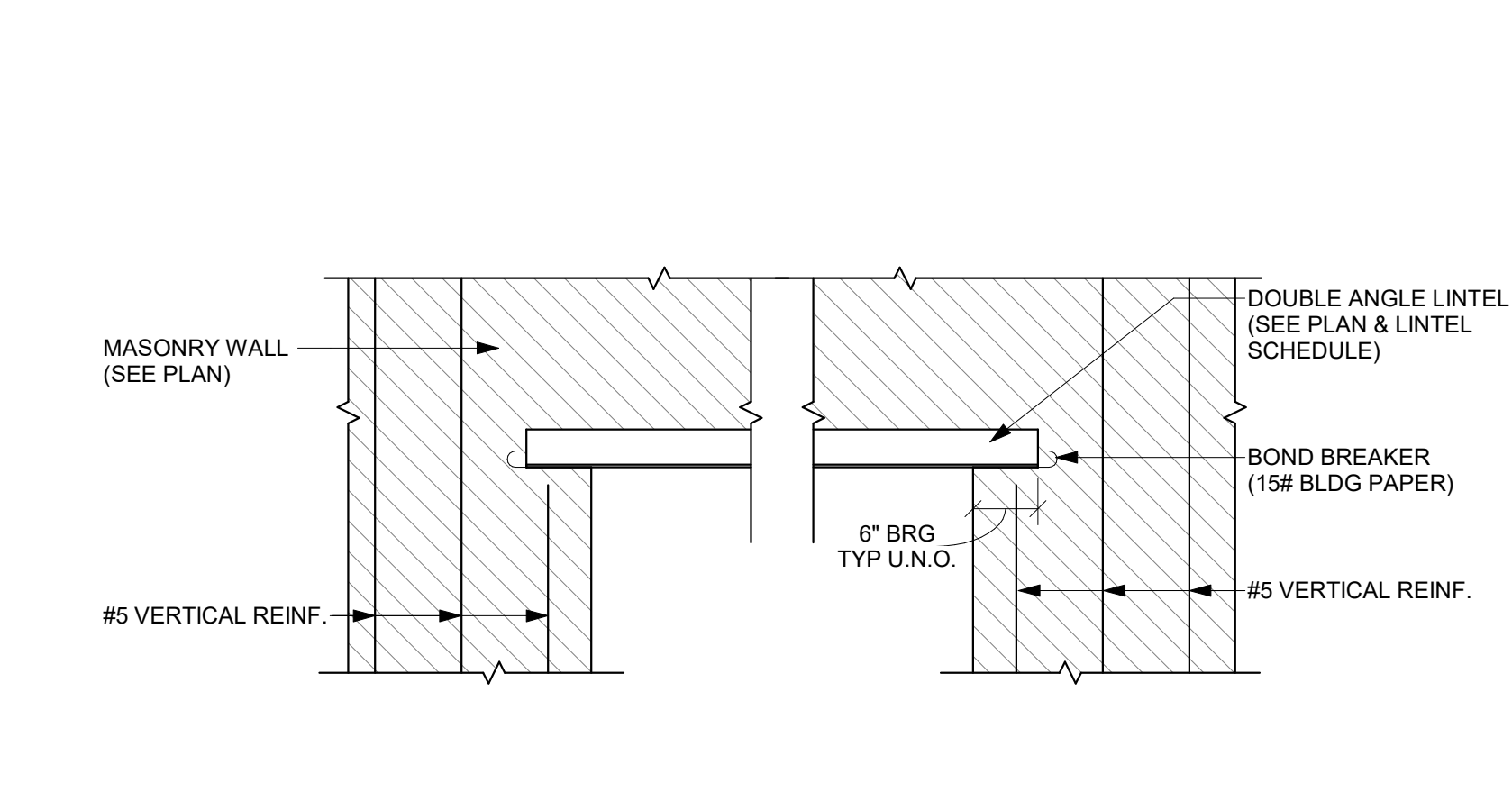


BRANDON VALLEY ELEMENTARY SCHOOL

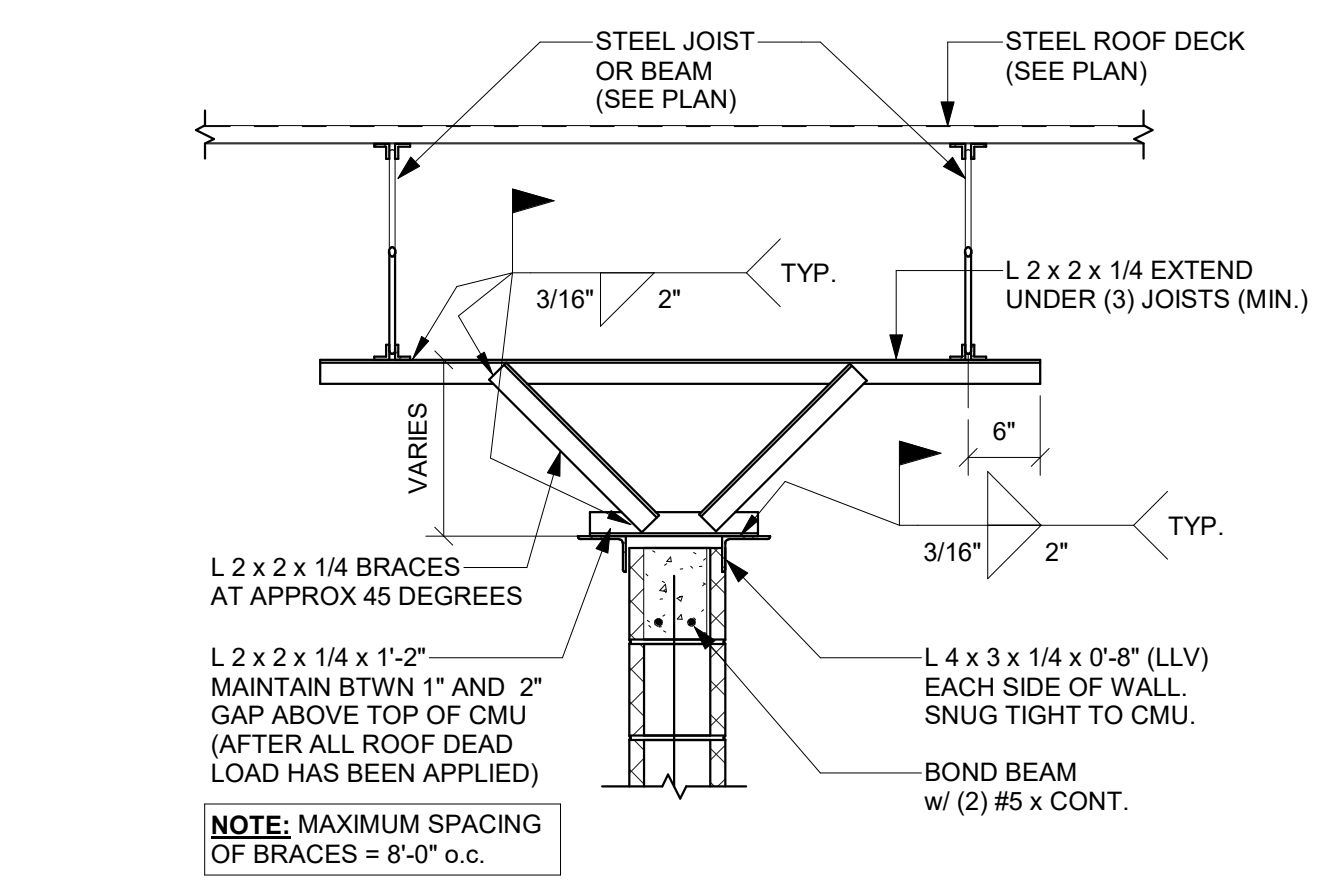
STRUCTURAL DETAILS

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	date	07/01/2024
	revision	
	drawn	RDM checked MAS
	MARK DATE DESCRIPTION	
	AD 1 7/23/2024	ADDENDA 1

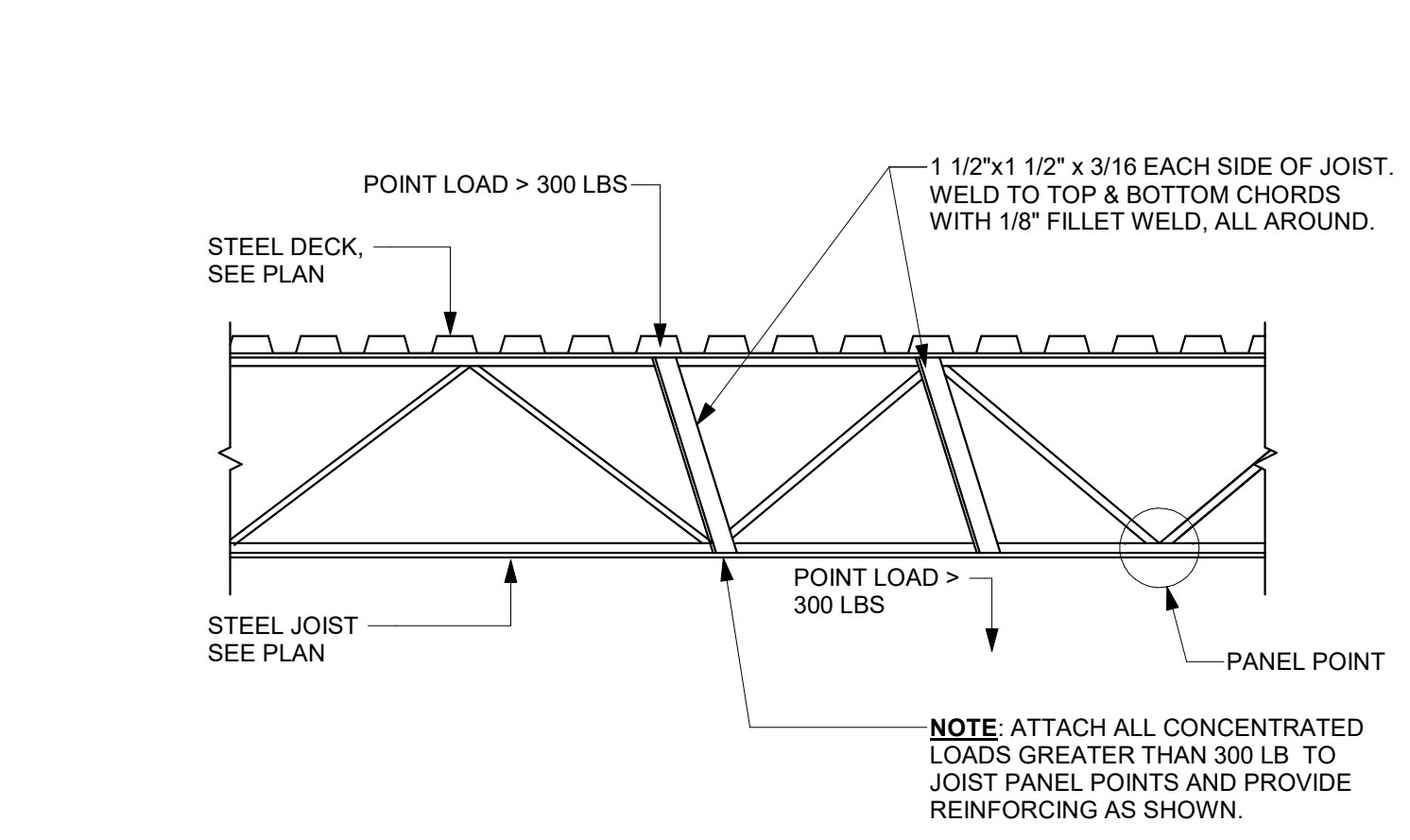
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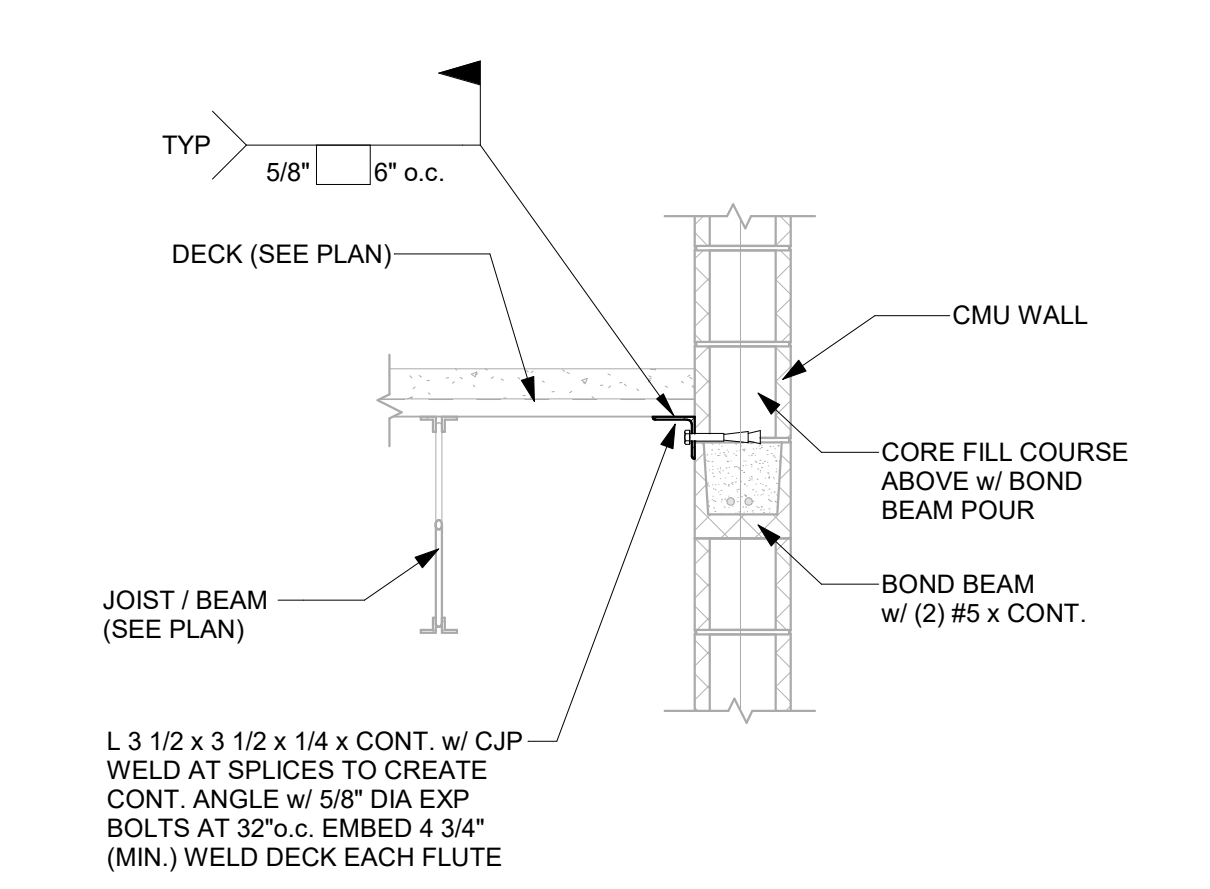
1 STEEL ANGLE LINTEL ELEVATION
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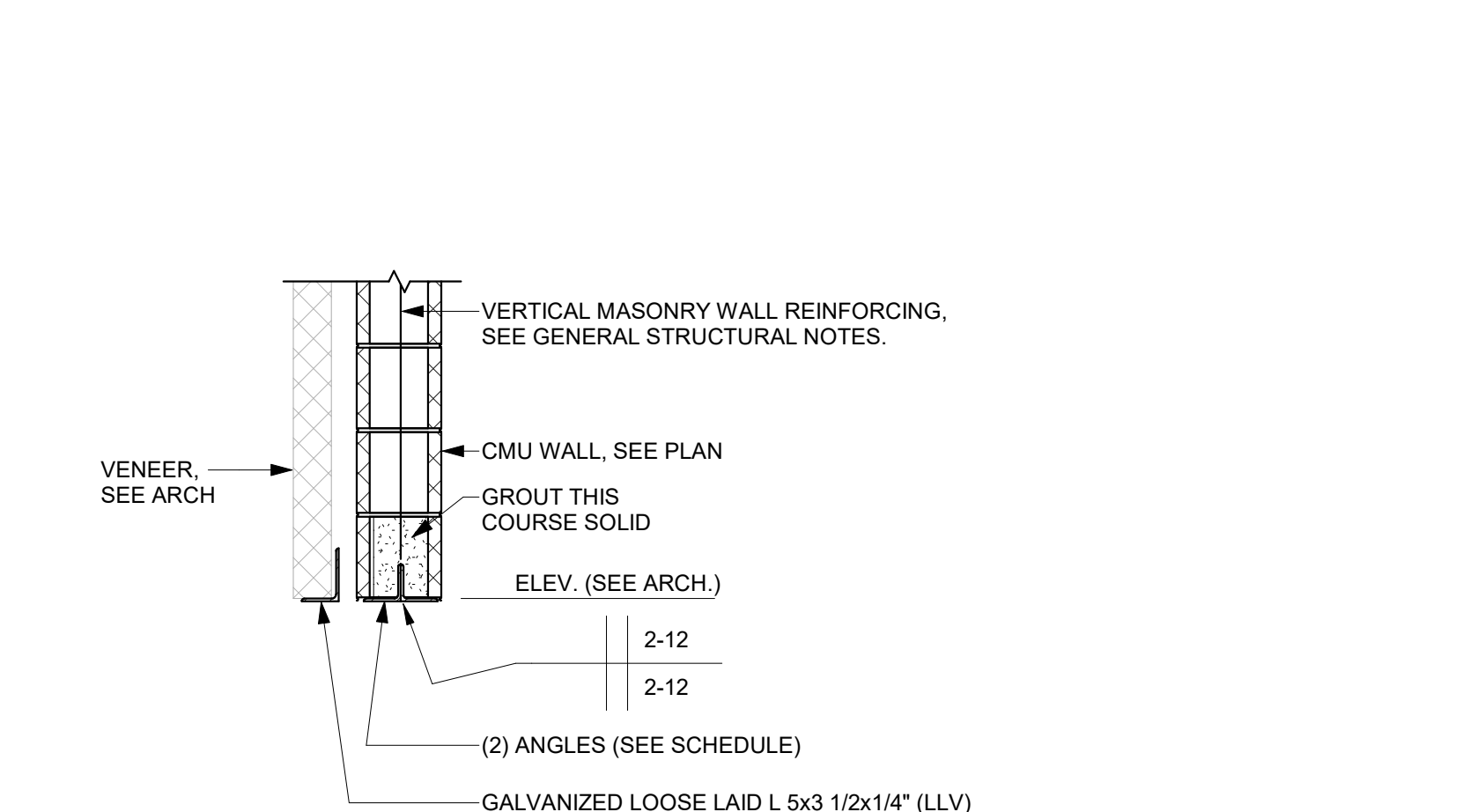
6 TYPICAL TOP OF CMU PARTITION WALL SUPPORT
3.46 NTS



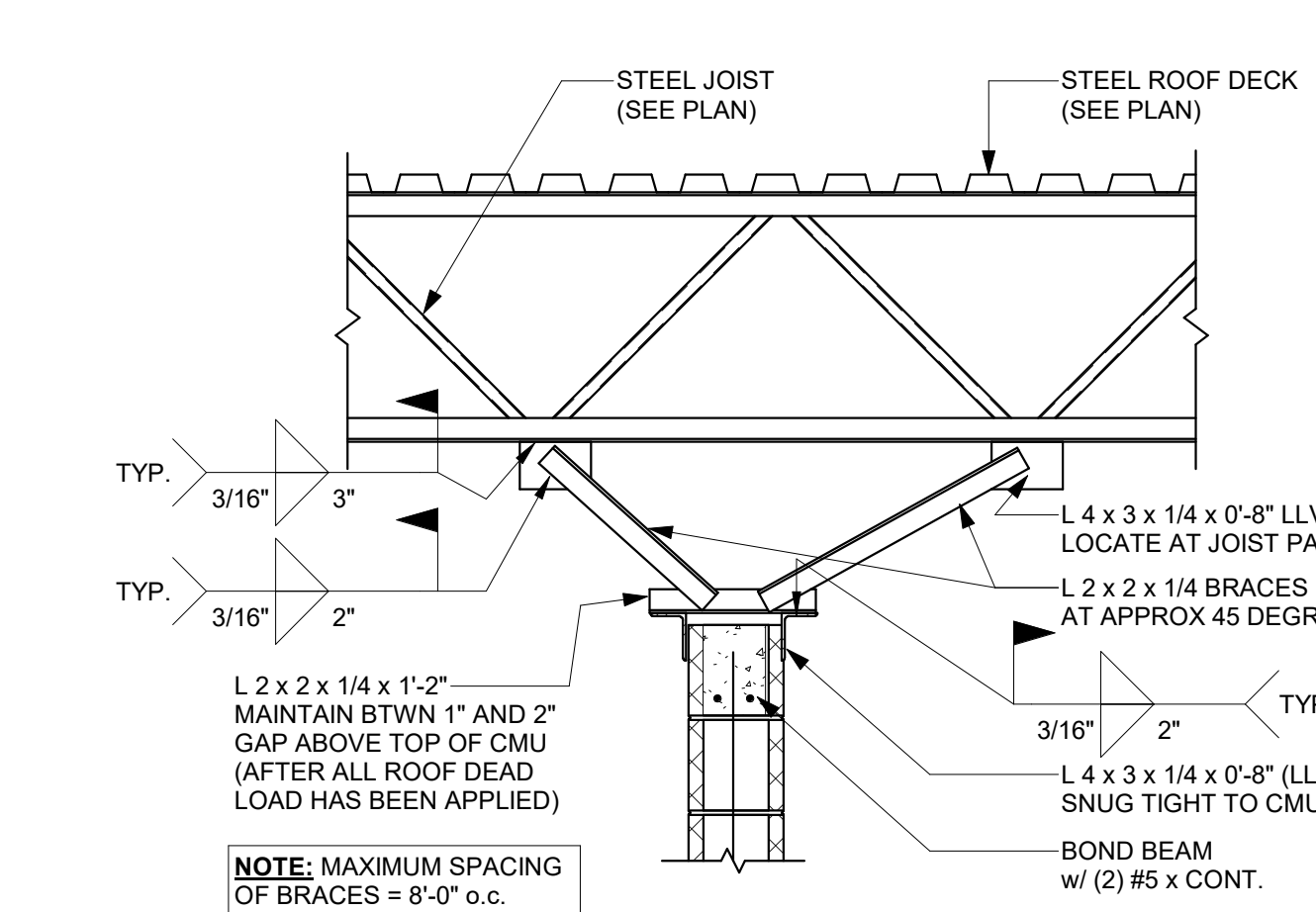
10 JOIST REINFORCEMENT DETAIL AT POINT LOAD
3.46 NTS



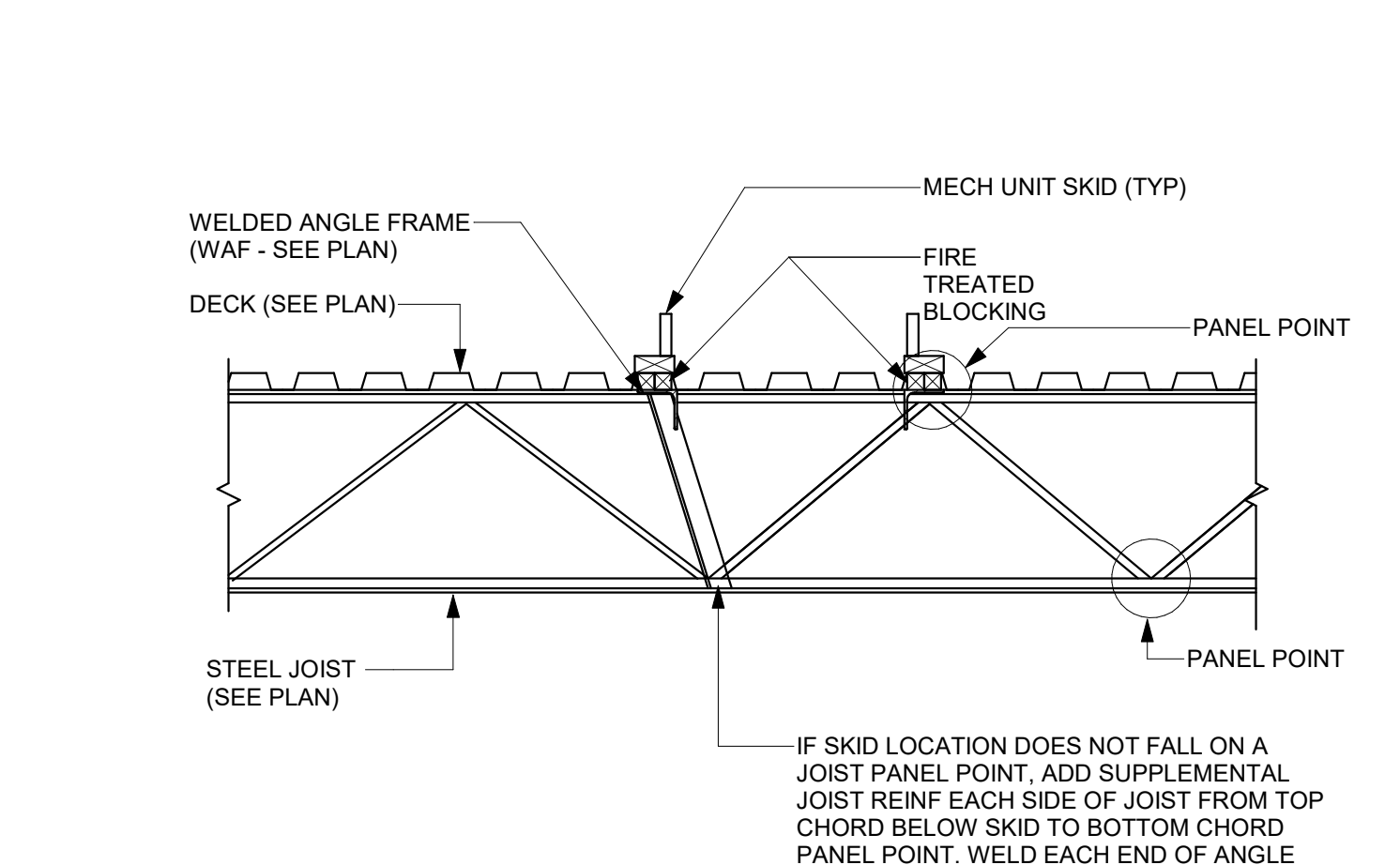
14 TYP. FORM DECK BRG. AT CMU WALL DETAIL
3.46 NTS



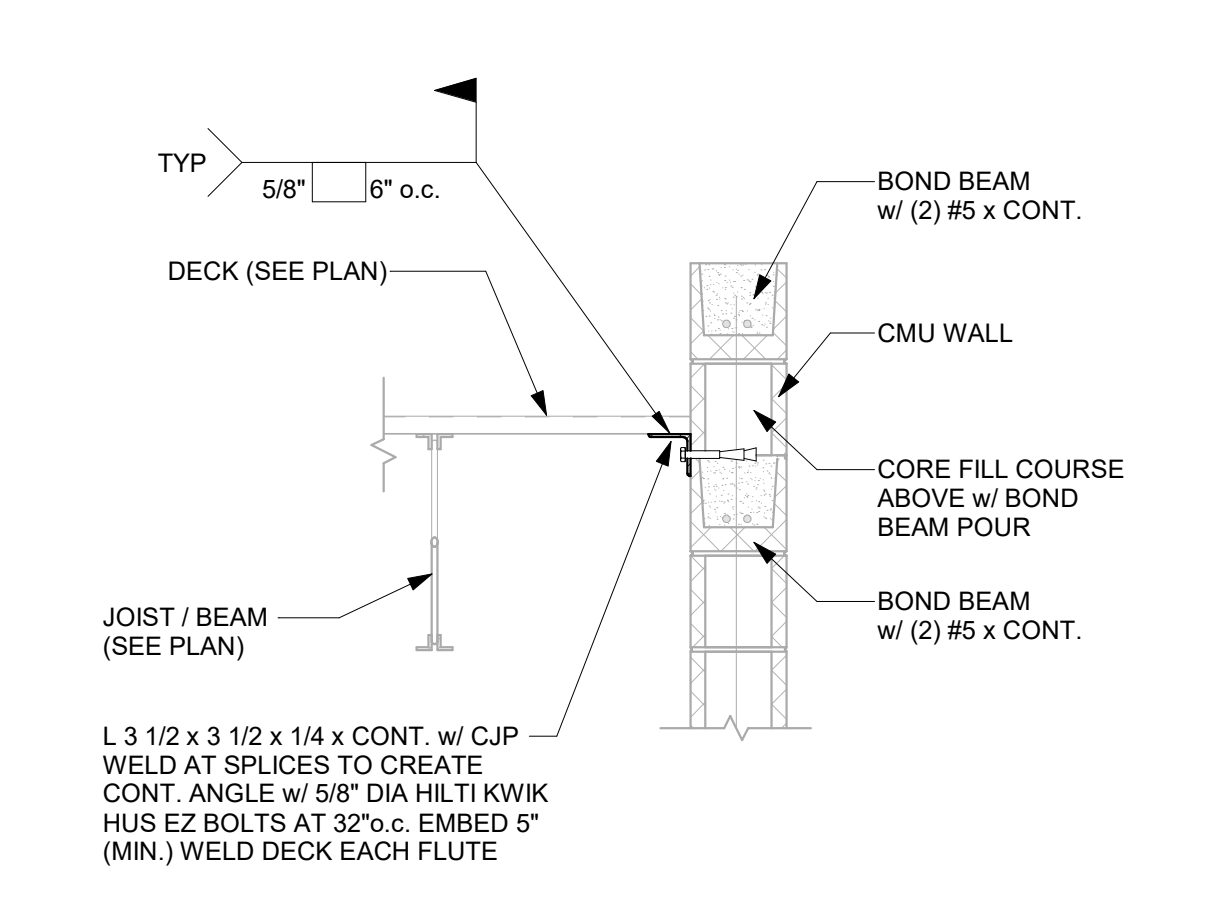
2 TYP DOUBLE ANGLE LINTEL W/ VENEER
3.46 NTS



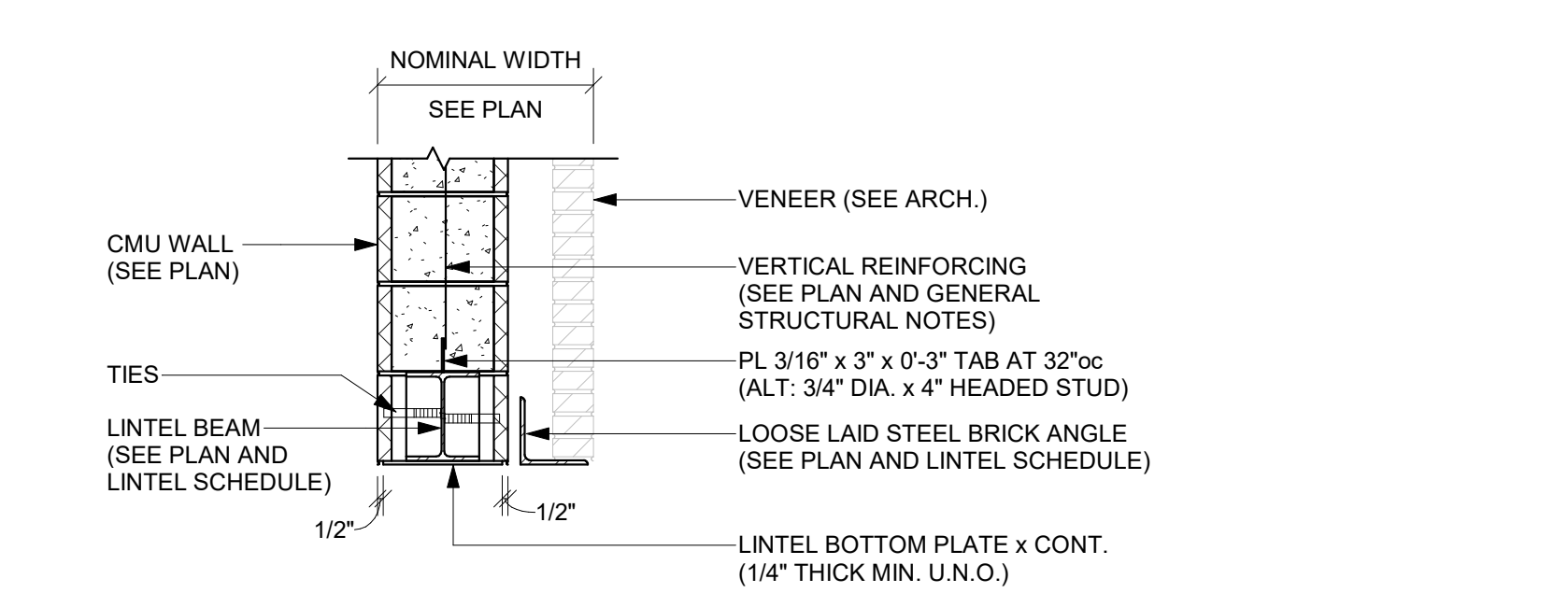
7 TYPICAL TOP OF CMU PARTITION WALL SUPPORT
3.46 NTS



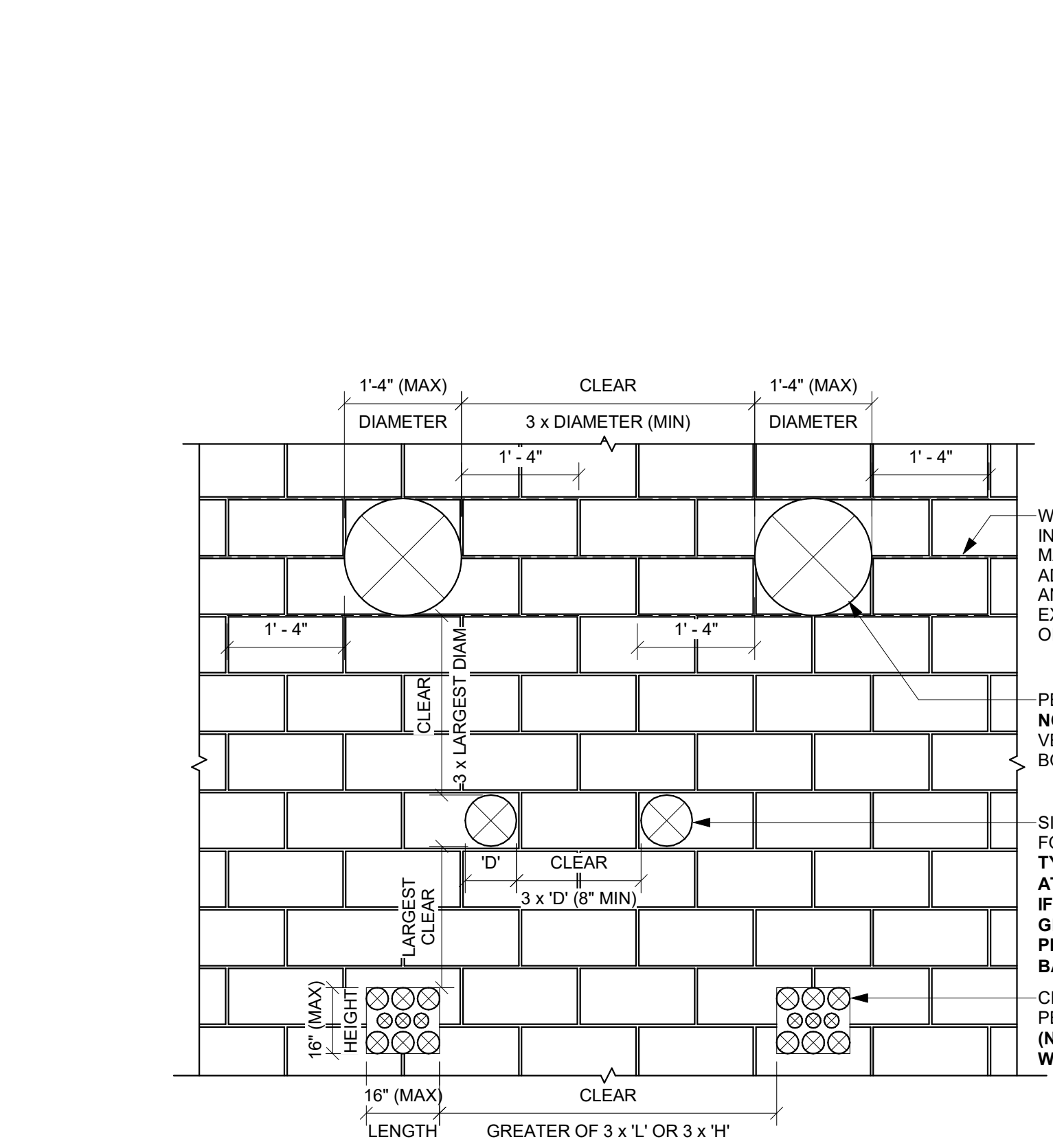
11 JOIST REINFORCEMENT DETAIL AT MECH. UNIT SUPPORT
3.46 NTS



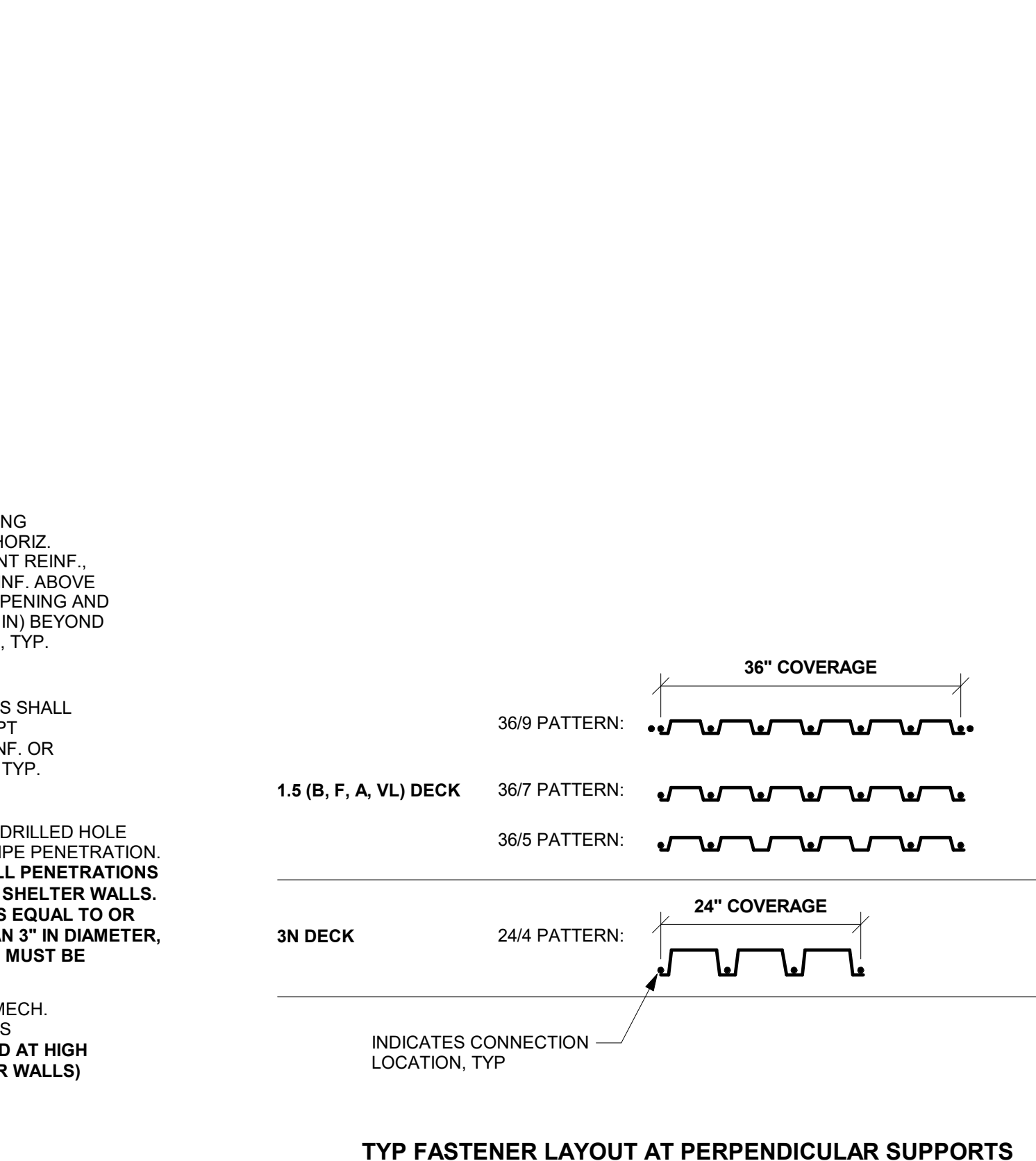
15 TYP. ROOF DECK BRG. AT CMU WALL DETAIL
3.46 NTS



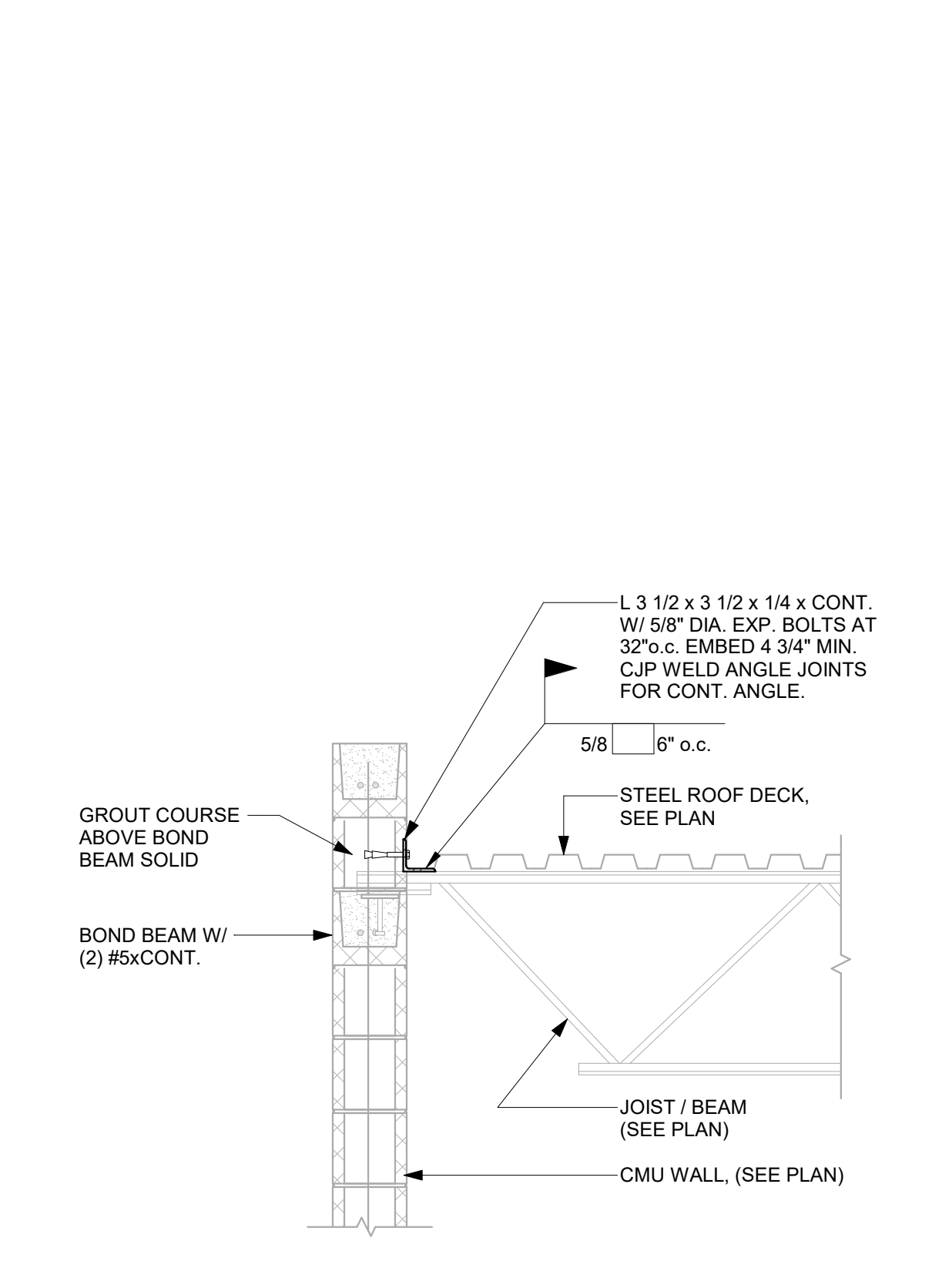
3 TYPICAL STEEL BEAM LINTEL W/ VENEER DETAIL
3.46 NTS



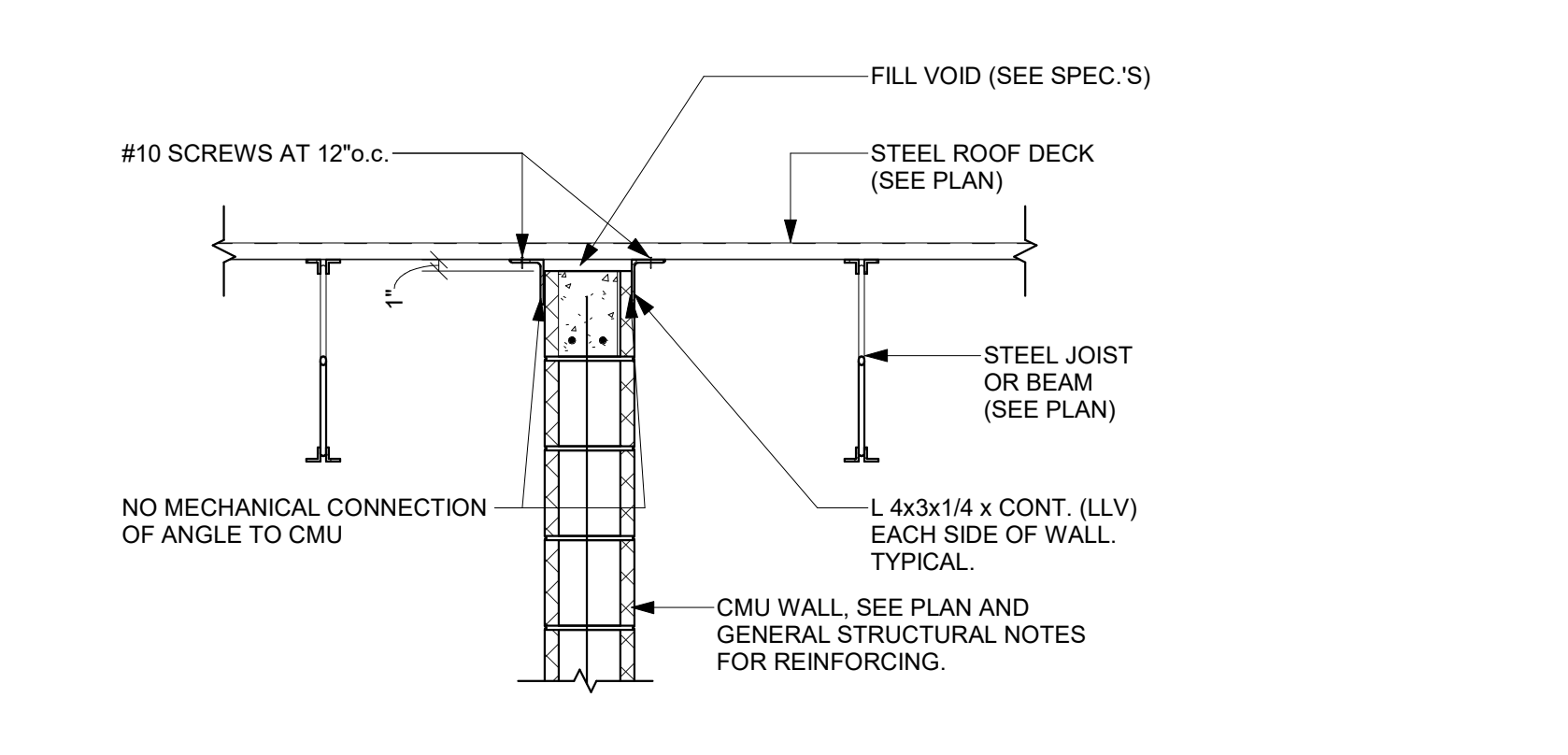
8 TYP PIPING OPENING THROUGH CMU WALL
3.46 NTS



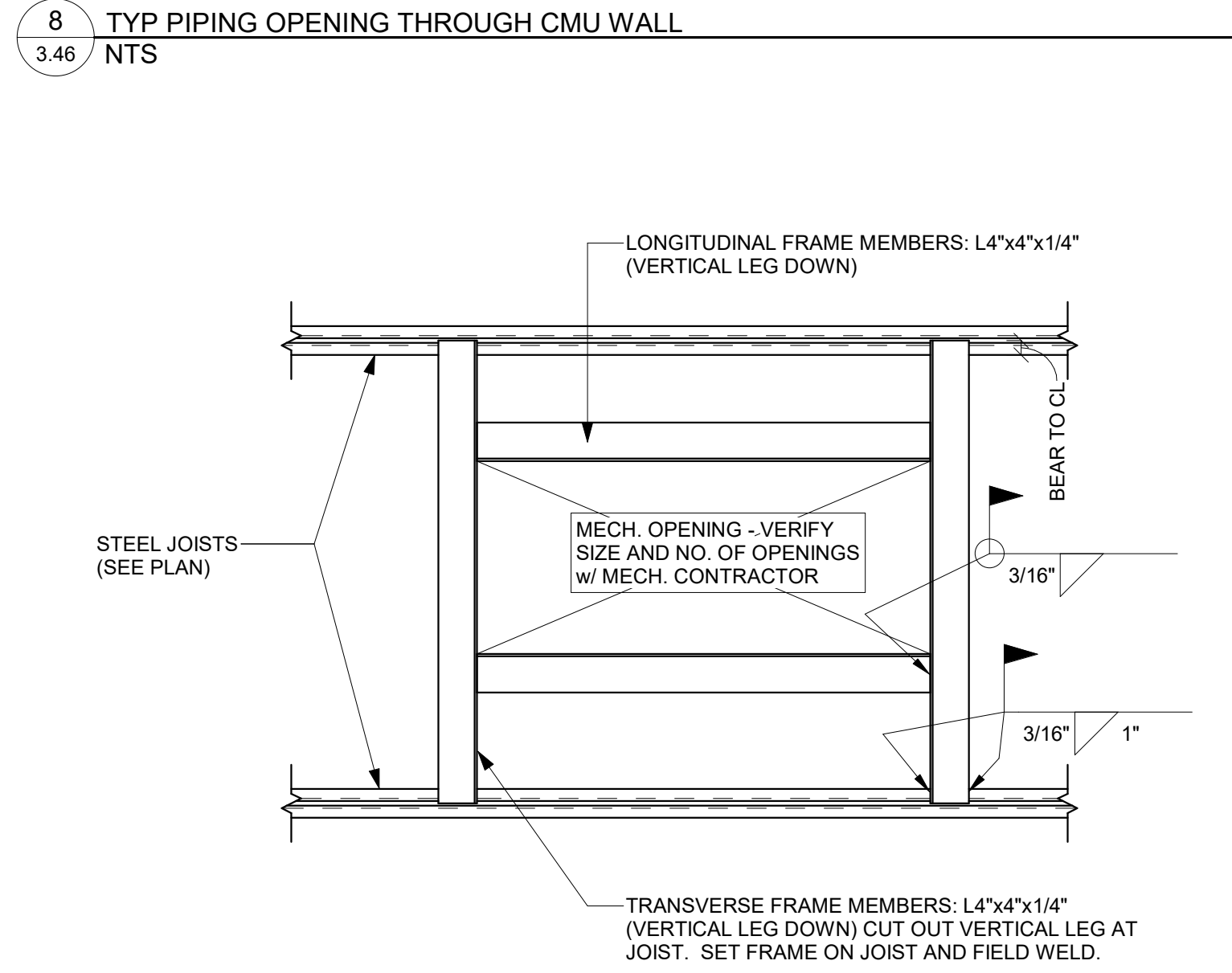
12 METAL ROOF DECK FASTENING PATTERN
3.46 NTS



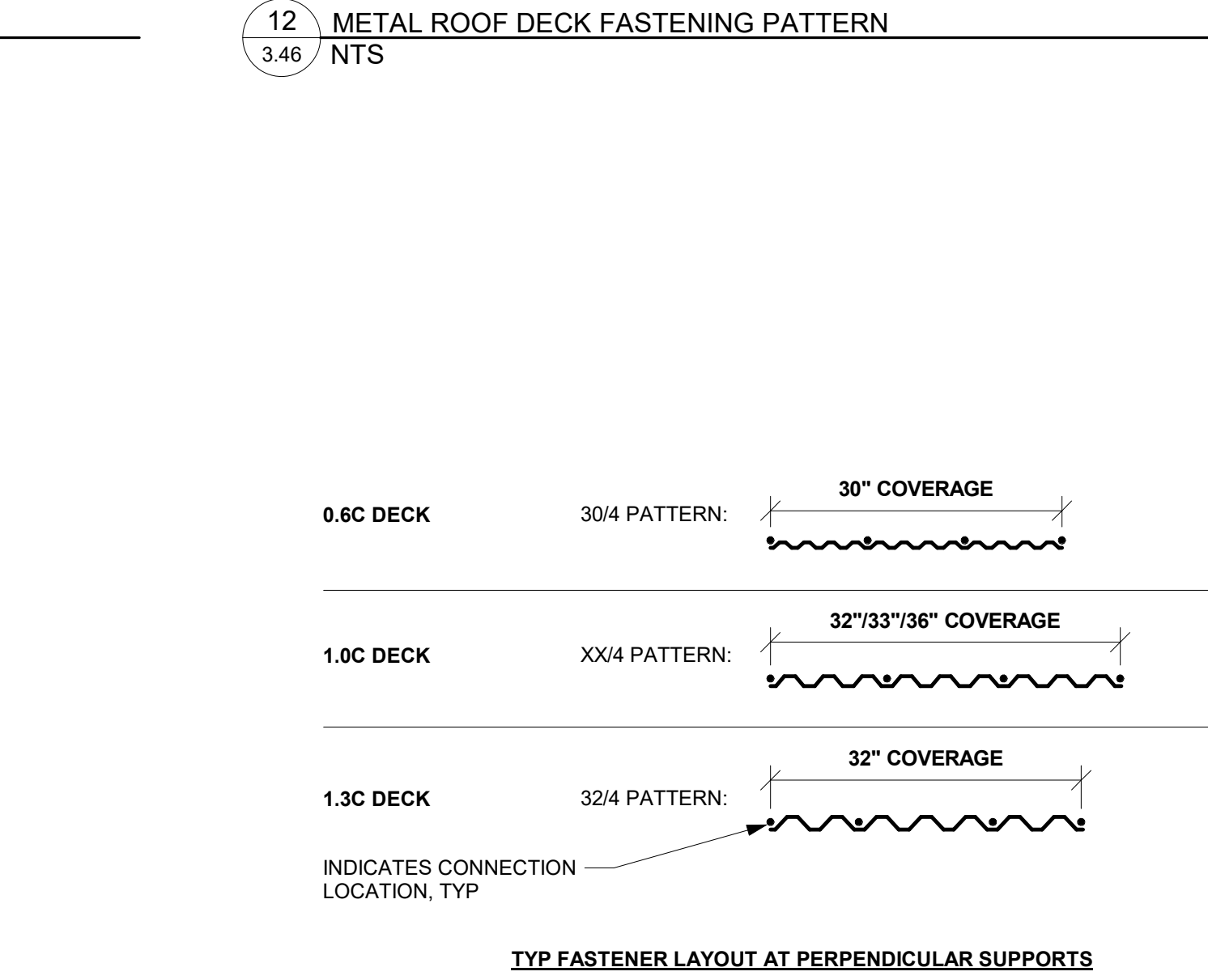
16 DECK BEARING DETAIL
3.46 NTS



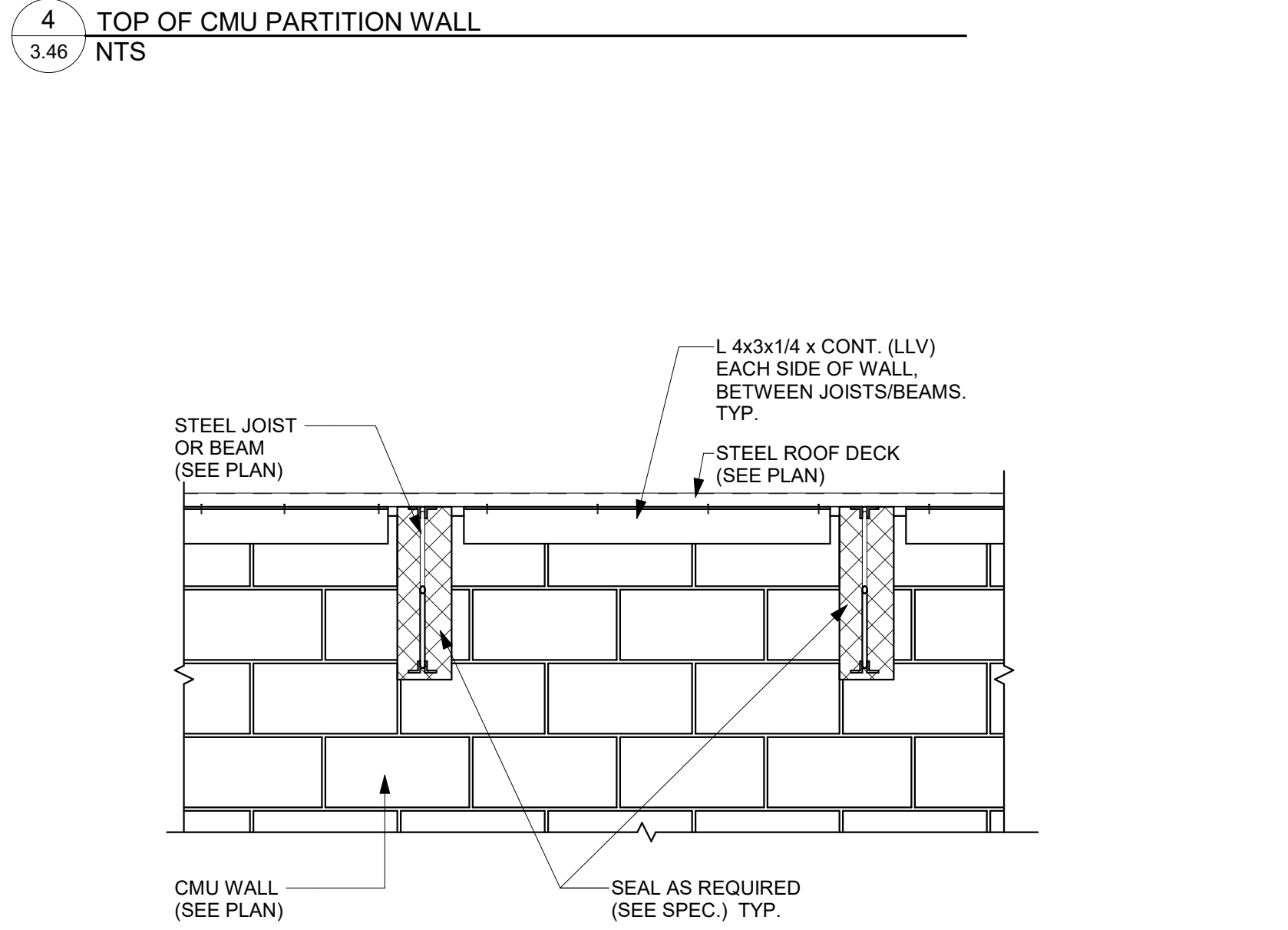
4 TOP OF CMU PARTITION WALL
3.46 NTS



9 FRAMING AT OPENING THROUGH ROOF
3.46 N.T.S.

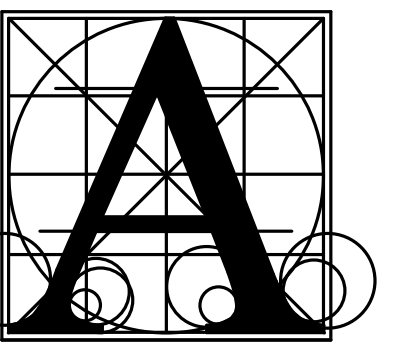


17 HSS STAIR STRINGER TO CMU WALL DETAIL
3.46 NTS



5 INTERIOR NONLOAD BRG CMU WALL
3.46 NTS

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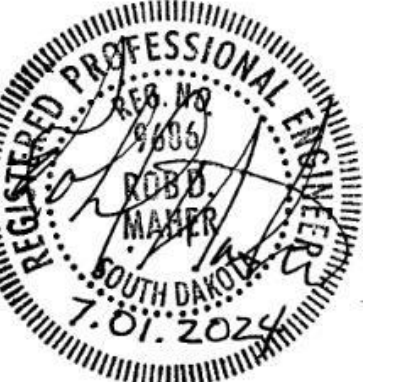
415 South Main Avenue
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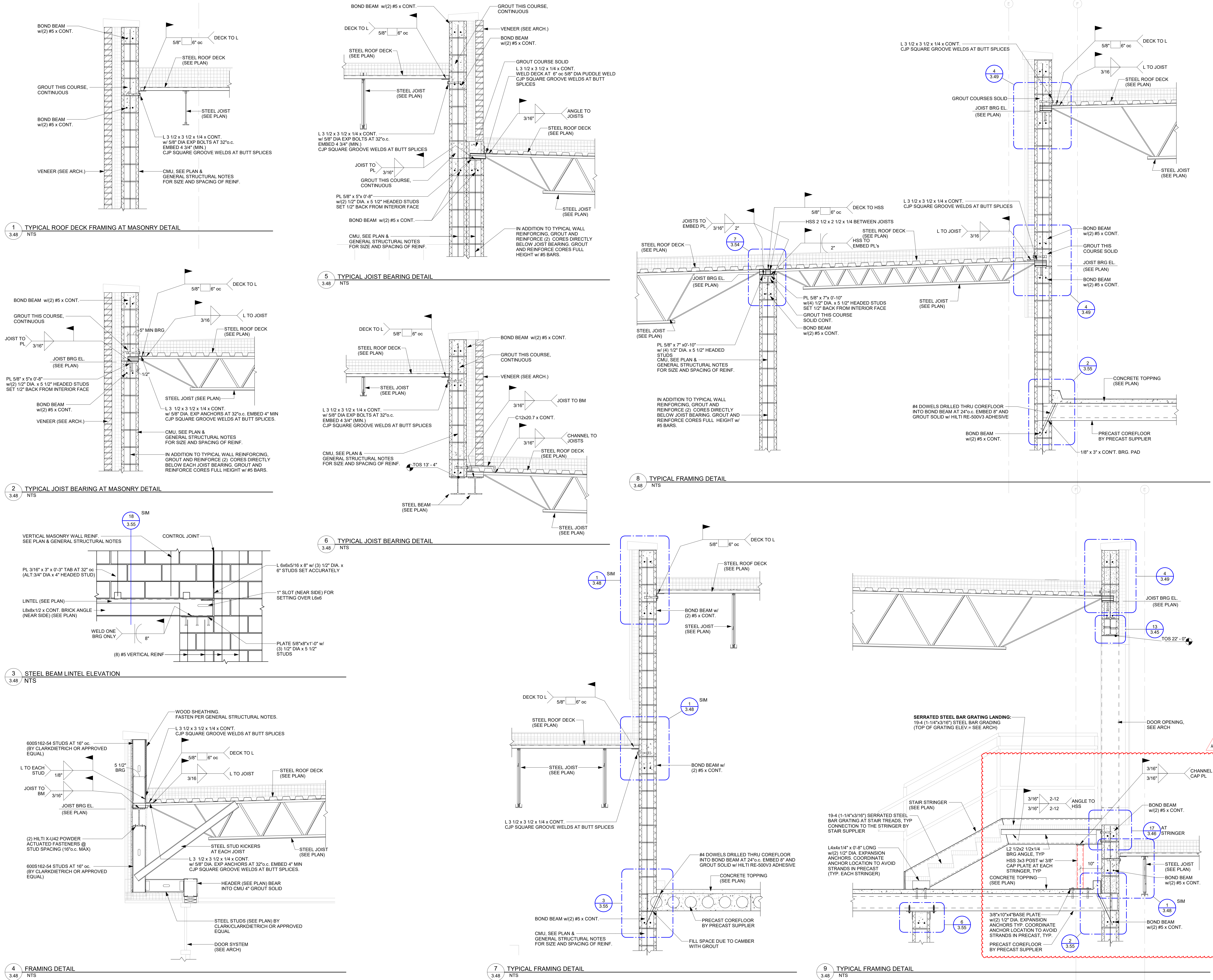


BRANDON VALLEY ELEMENTARY SCHOOL

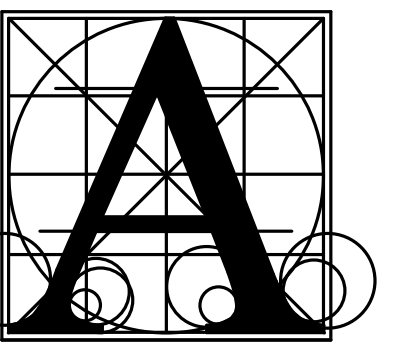
STRUCTURAL DETAILS

Project	SEA Job. No. AI 230600
date	07/01/2024
revision	
drawn	RDM
checked	
Checker	
MARK DATE DESCRIPTION	
AD 1 7/23/2024 ADDENDA 1	

3.48



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BRANDON VALLEY ELEMENTARY SCHOOL

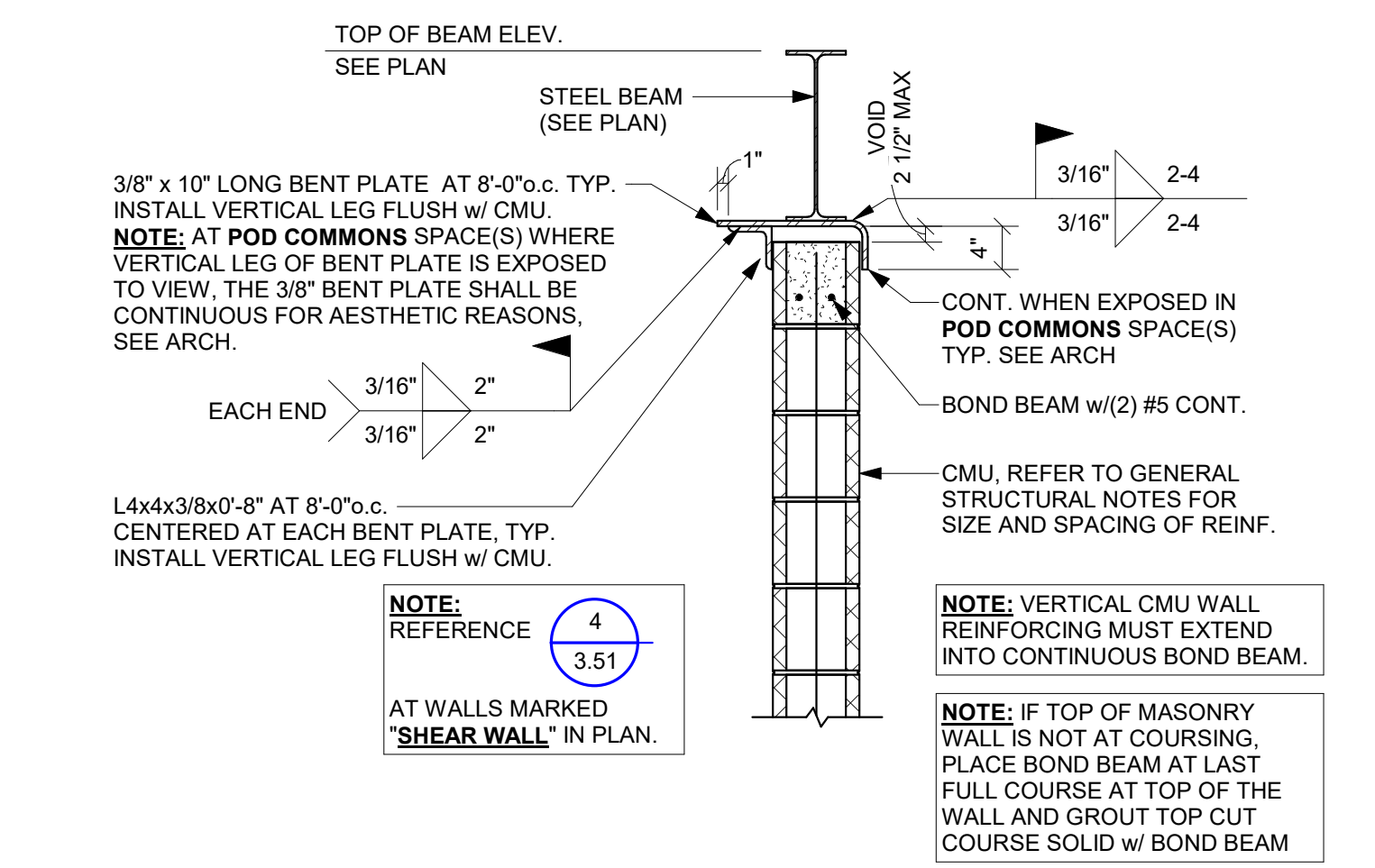
STRUCTURAL DETAILS

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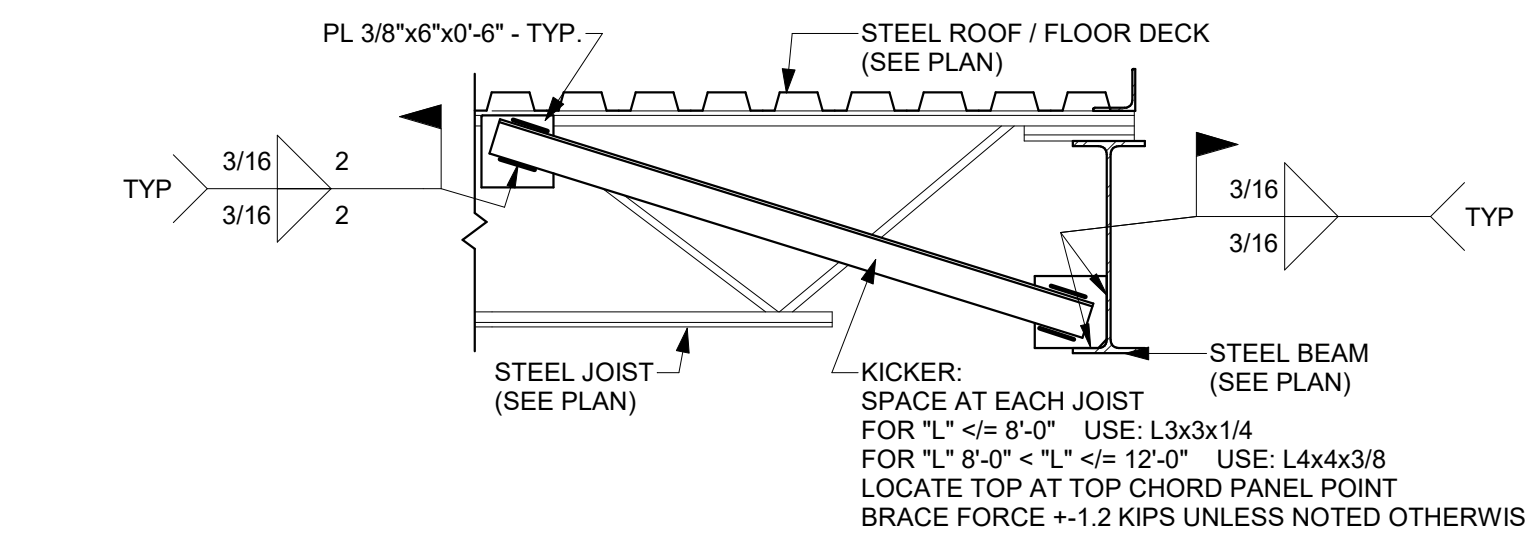
revision
drawn RDM checked MAS
date 07/01/2024
SEA Job. No. AI 230600
Anchor Location (Number) _____
STRANDS IN PRECAST (TYP. EACH STRINGER) _____

MARK	DATE	DESCRIPTION
AD 1	7/23/2024	ADDENDA 1

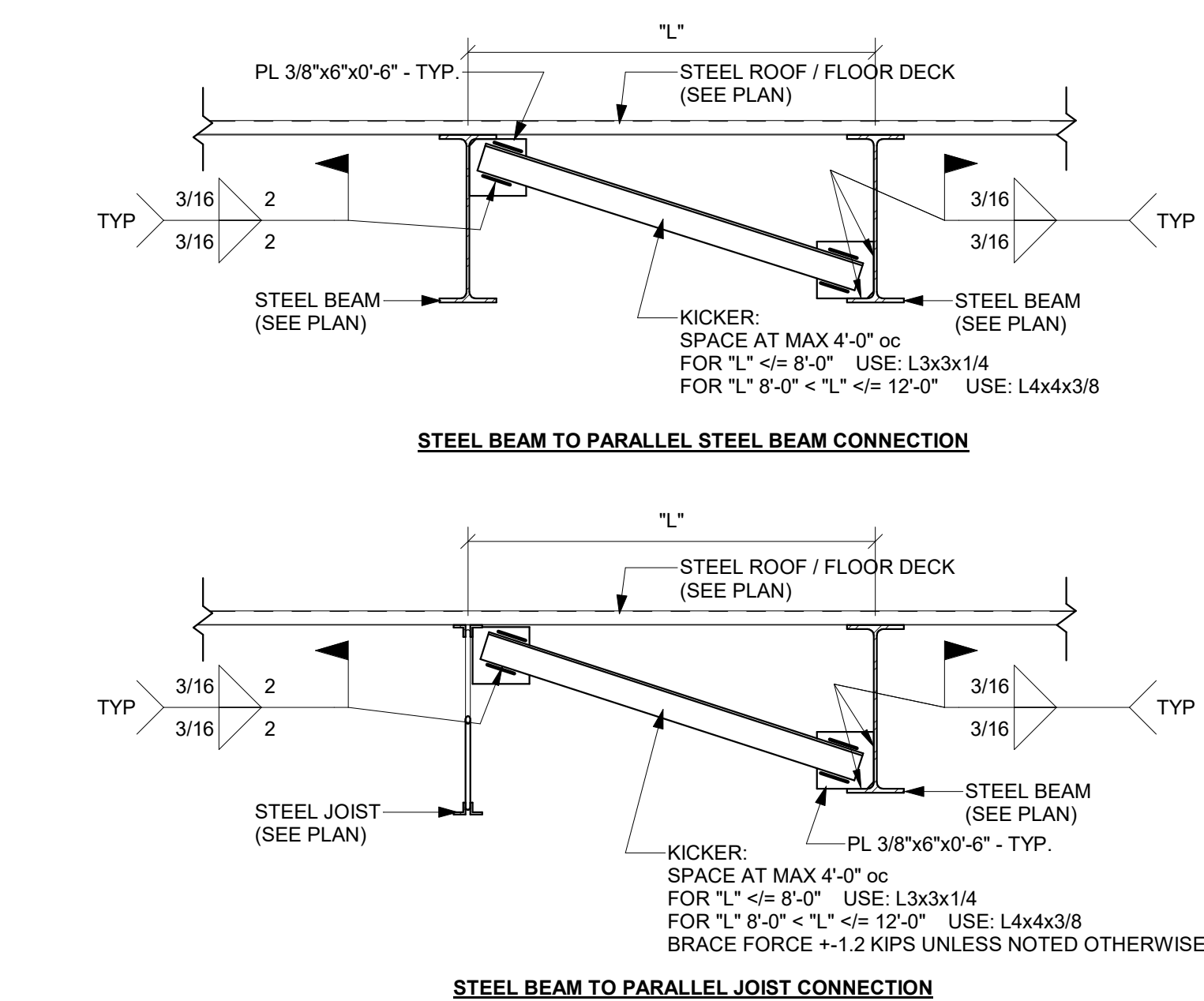
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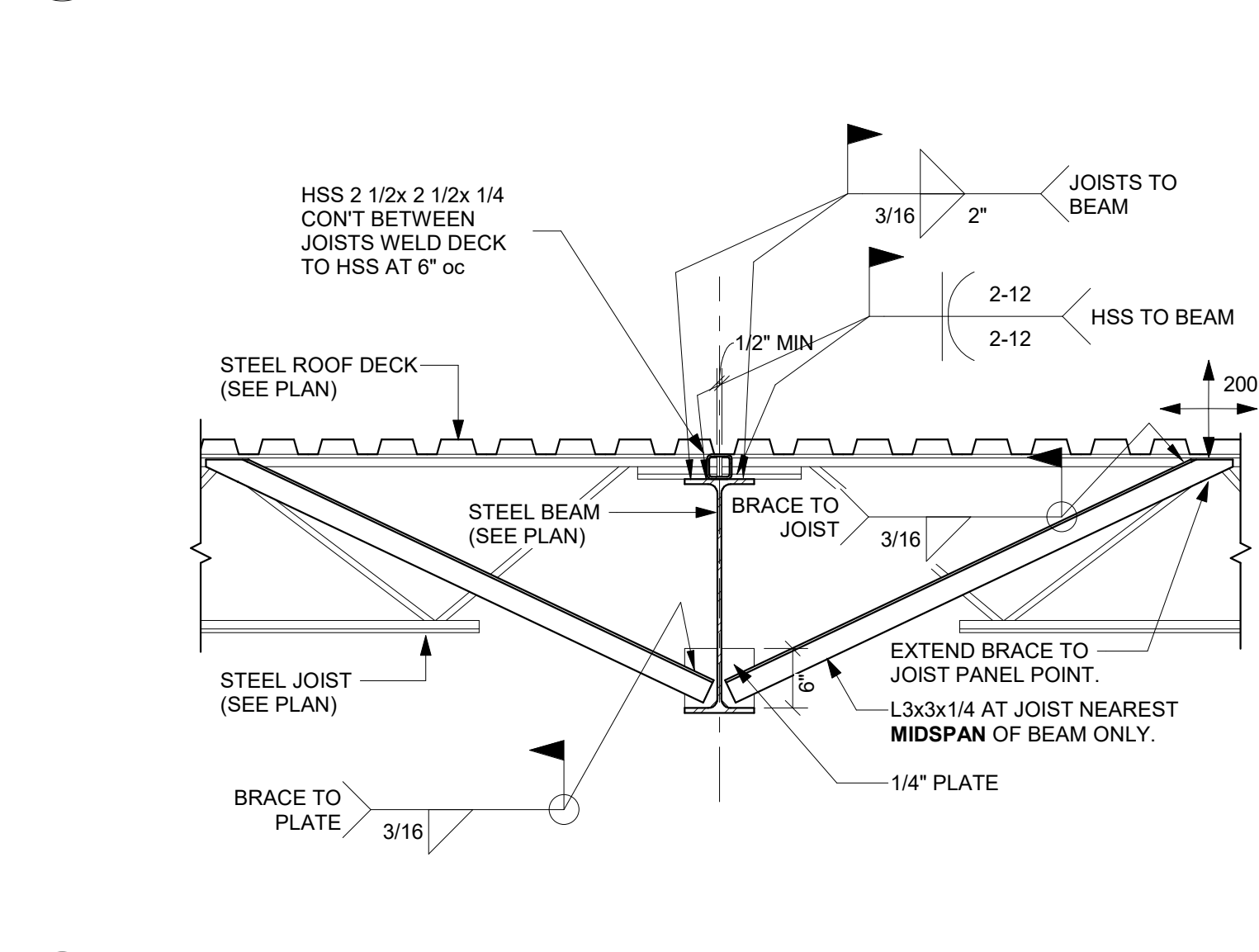
1 TYPICAL TOP OF CMU TO UNDERSIDE OF STEEL BEAM BRACE DETAIL
3.51 NTS



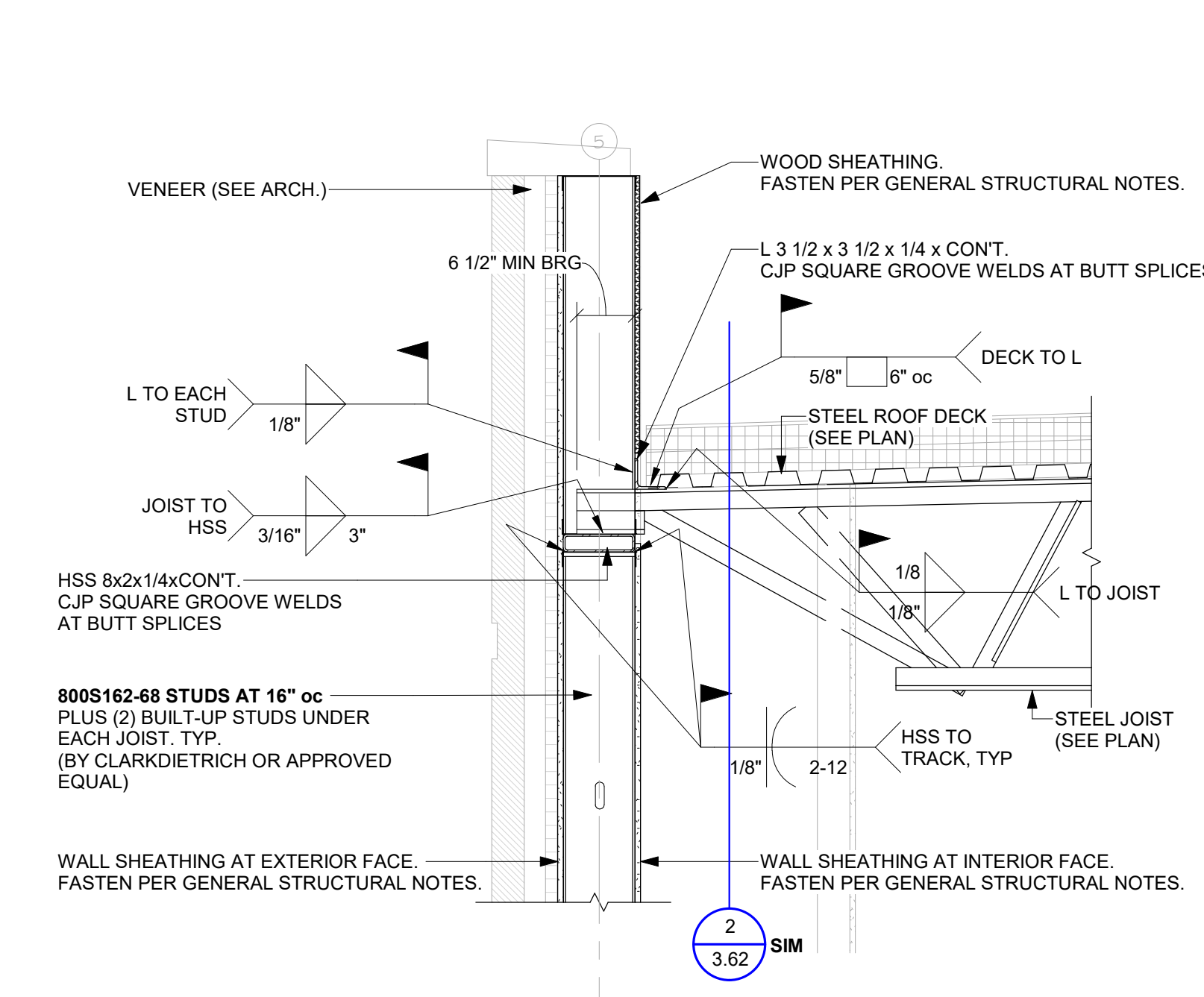
2 TYPICAL KICKER DETAILS
3.51 NTS



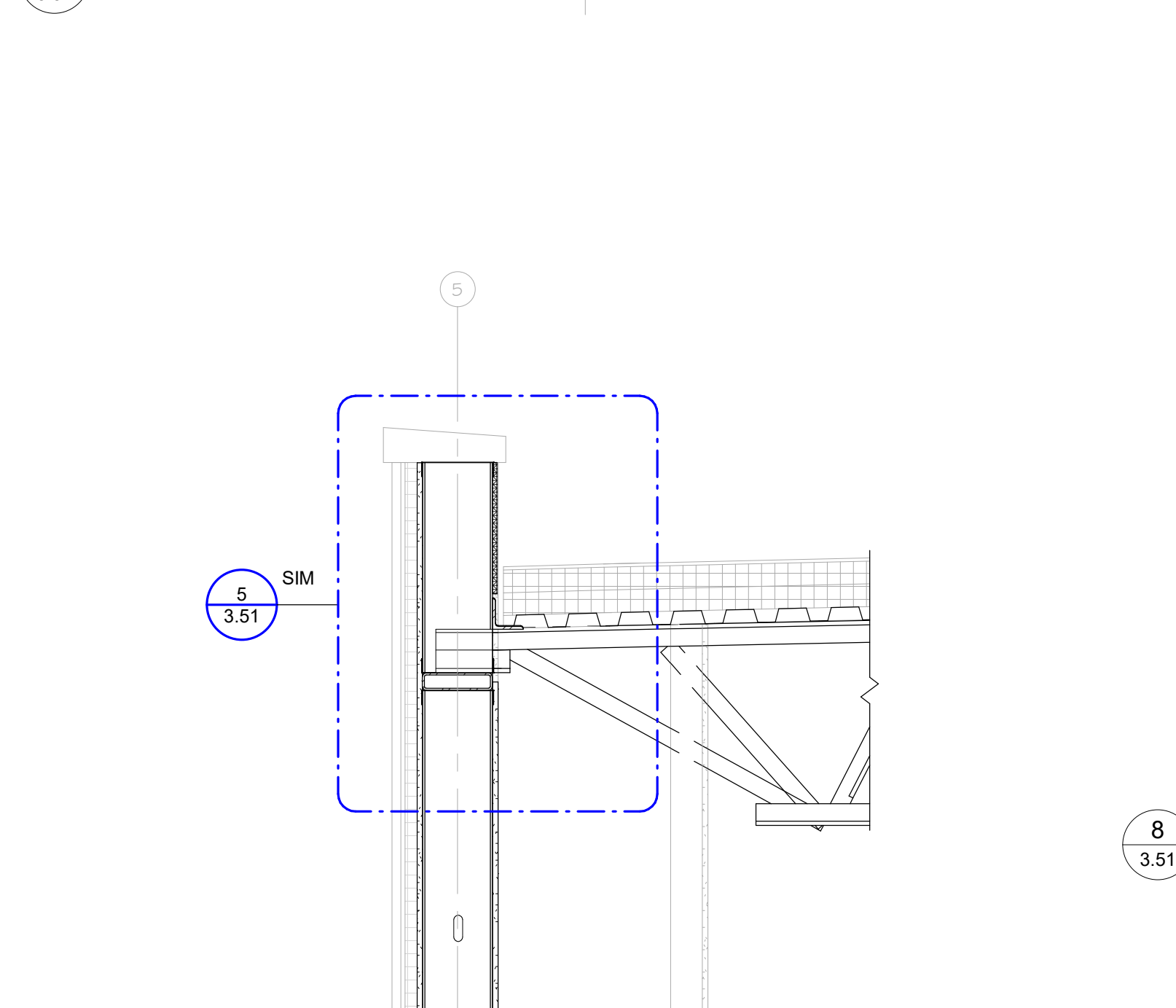
3 TYP. DBL. JOIST BRG. ON STEEL BEAM
3.51 NTS



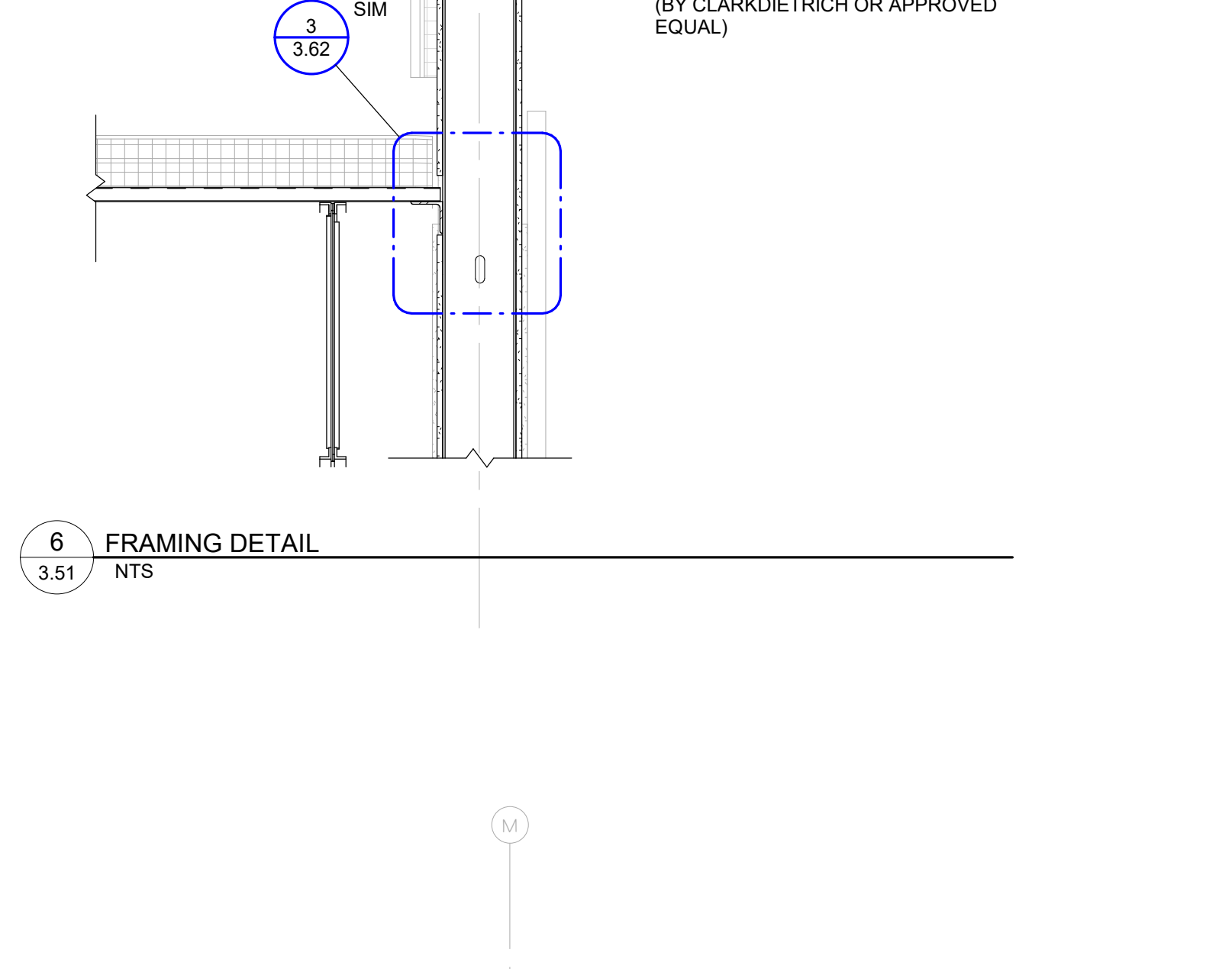
4 TYP TOP OF CMU SHEAR WALL TO UNDERSIDE OF STEEL BEAM DETAIL
3.51 NTS



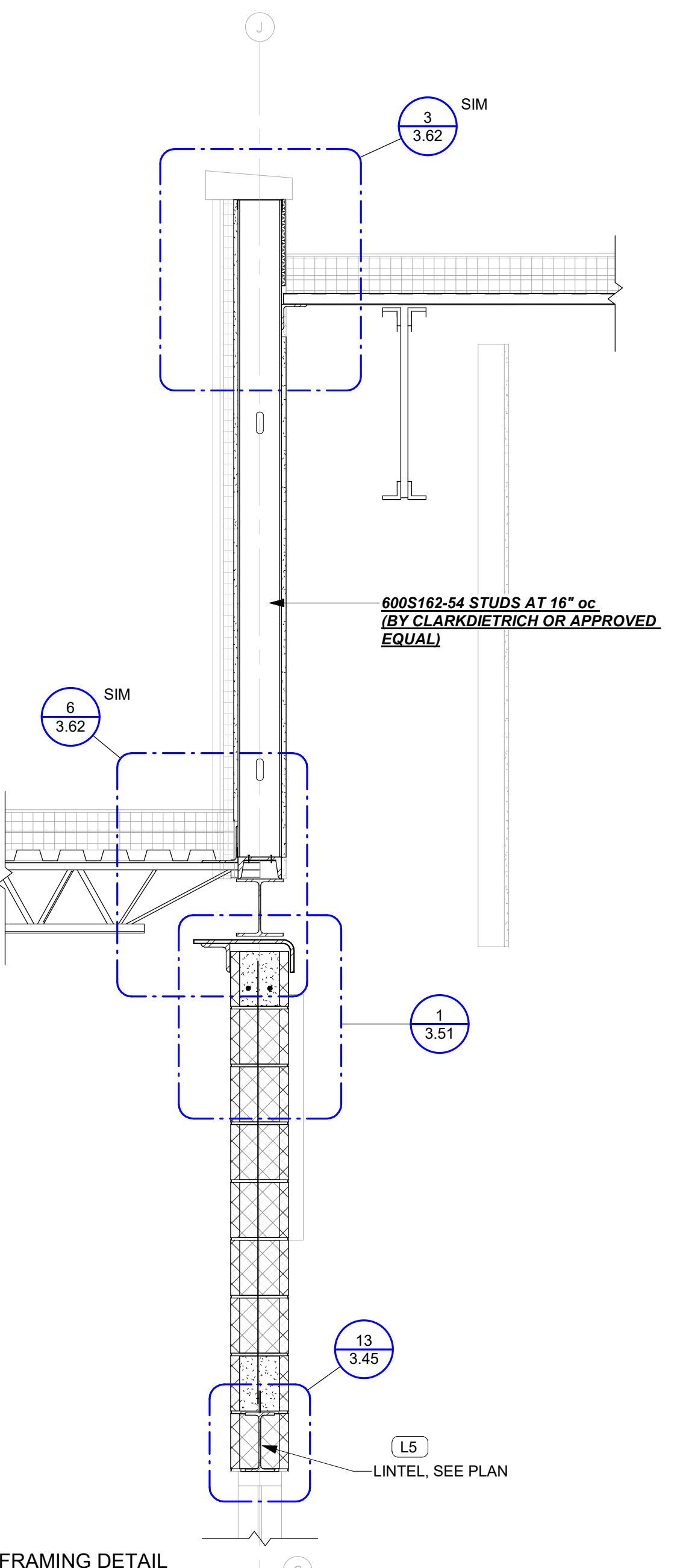
5 TYP ROOF JOIST TO EXT. STEEL STUD WALL AT MEDIA CENTER DETAIL
3.51 NTS



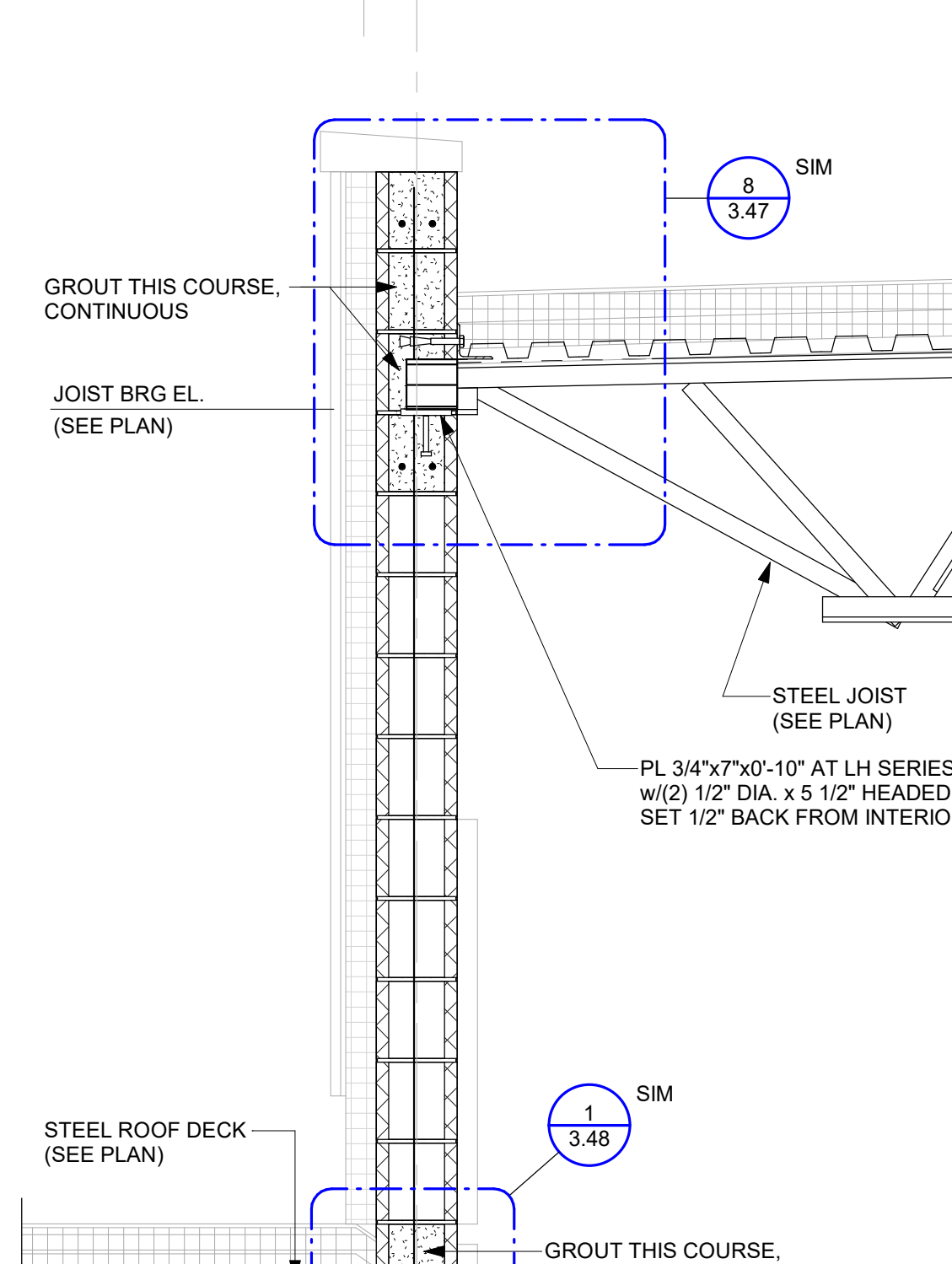
6 FRAMING DETAIL
3.51 NTS



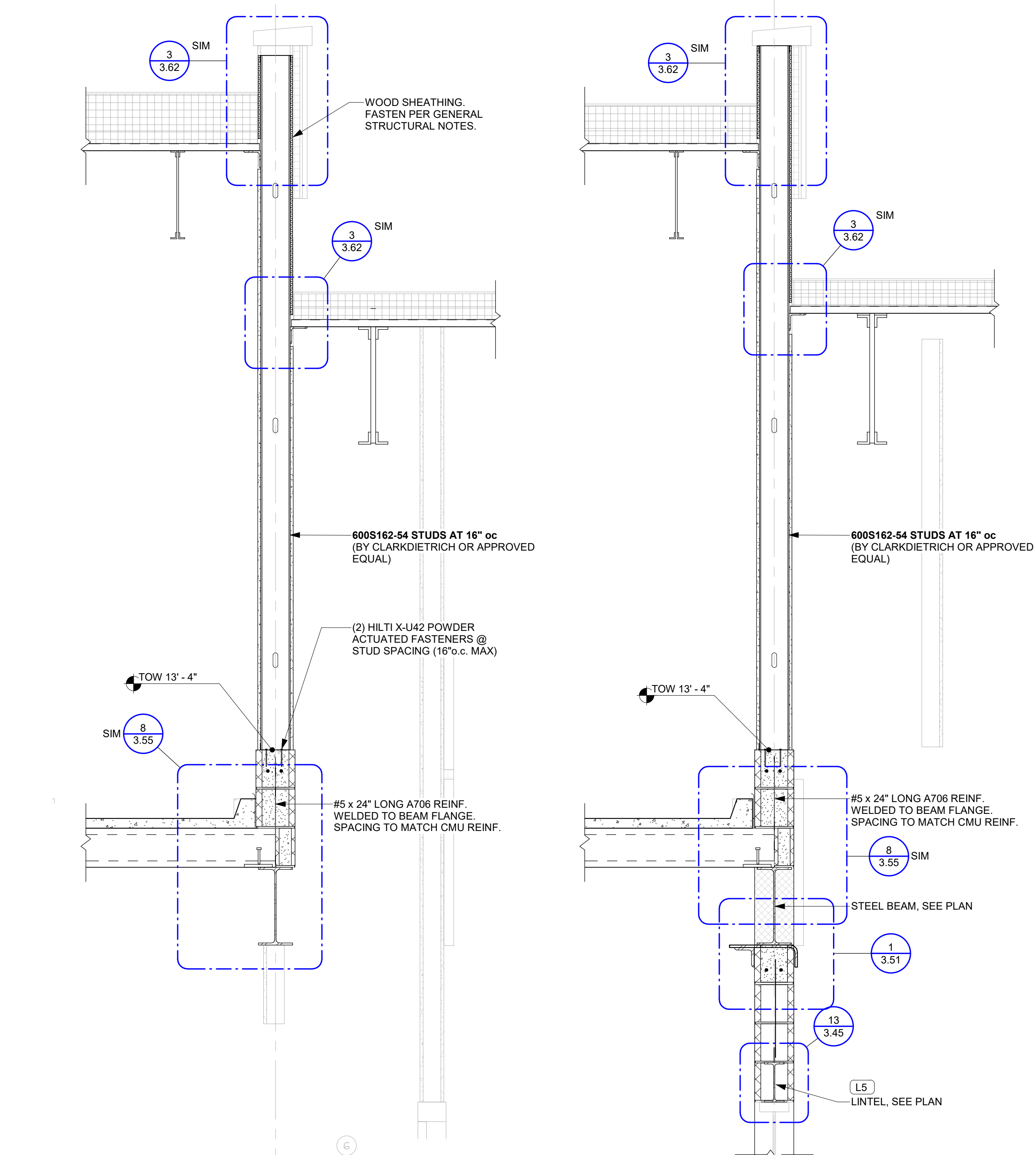
7 FRAMING DETAIL
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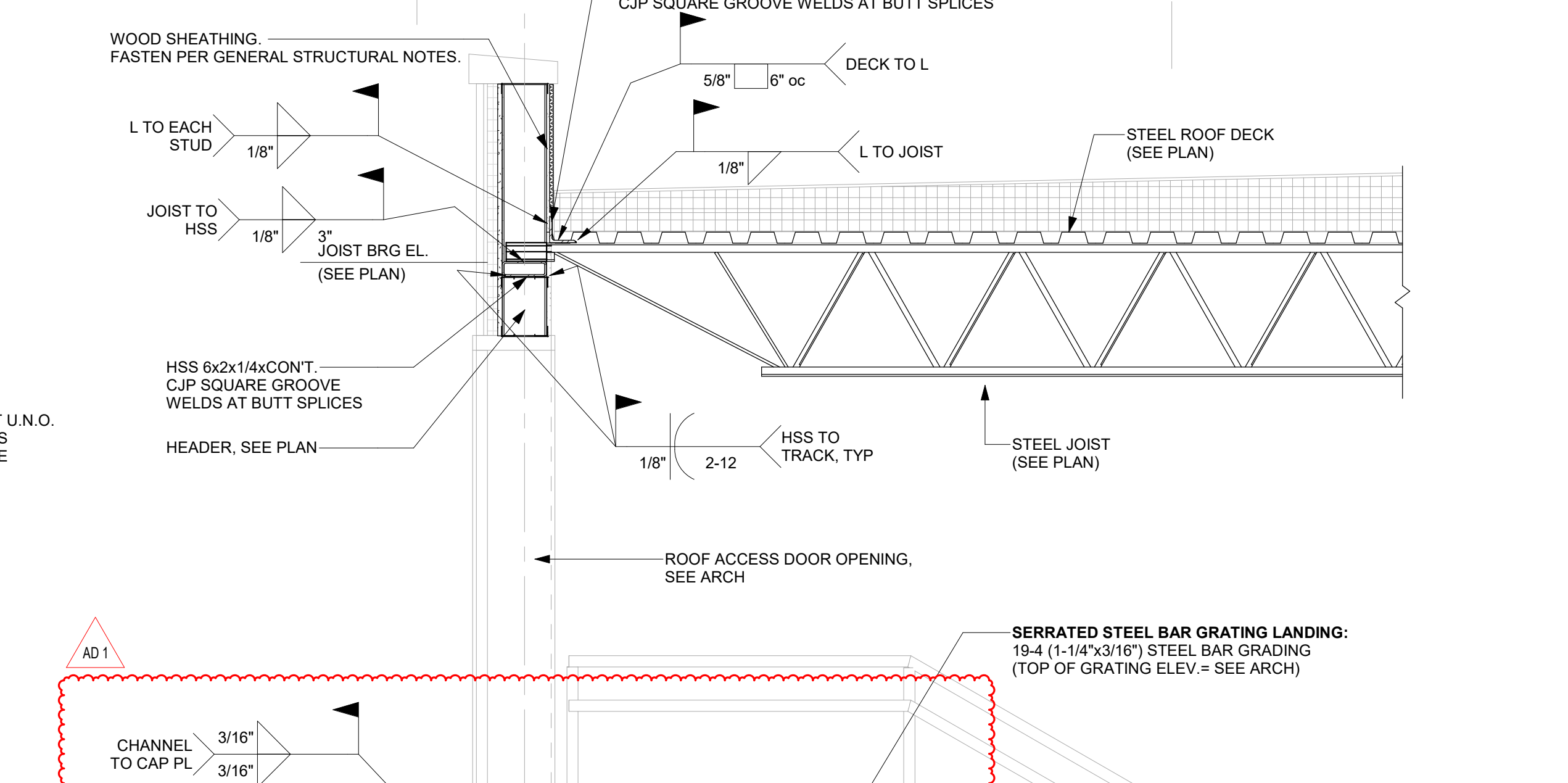
8 FRAMING DETAIL
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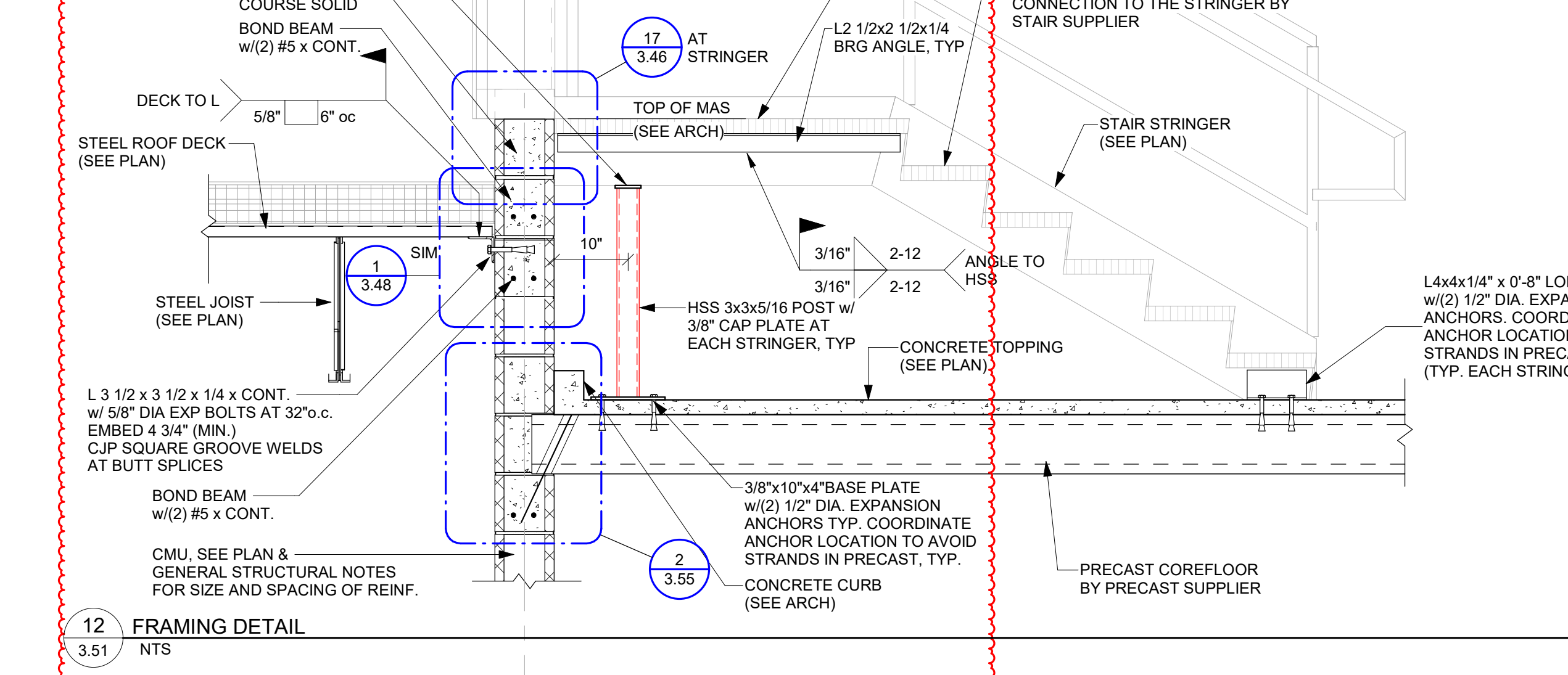
9 FRAMING DETAIL
3.51 NTS



10 MECHANICAL MEZZANINE FRAMING DETAIL
3.51 NTS



11 MECHANICAL MEZZANINE FRAMING DETAIL
3.51 NTS



12 FRAMING DETAIL
3.51 NTS

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