STRUCTURAL DESIGN CRITERIA

Risk Category: III

Mezzanine(s):
- Dead Load: DL = 65 PSF
- Live Load(s):
  - Corridors & Lobbies: LL = 80 PSF
  - Restrooms: LL = 60 PSF +15 PSF Partitions
  - Office: LL = 50 PSF +15 PSF Partitions
  - Light Storage: LL = 125 PSF
  - Assembly: LL = 100 PSF

Roof:
- Dead Load: DL = 5 PSF (Assumed & to be Verified by PEMB Designer)
  - Collateral = 10 PSF
- Ground Snow Load: Pg = 32 PSF
- Flat Roof Snow Load: Pf = 25 PSF
- Snow Exposure Factor: Ce = 1.0
- Snow Importance Factor: I = 1.1
- Thermal Factor: Ct = 1.0
- Rain Intensity: i = 1.74 In/hr (9 PSF)

Wind:
- Basic Wind Speed: V = 109 MPH (3 Sec Gust)
- Importance Factor: I = 1.0
- Wind Exposure: "C"
- Internal Pressure Coeff: GCpi = 0.18(±)
- Component and Cladding Pressure: P = See Table Below

Components And Cladding Wind Pressures (PSF) Ultimate Design Loads

Tributary Area	Typical Conditions		Corner Conditions	
	Positive Pressure	Negative Pressure	Positive Pressure	Negative Pressure
10 SF	+27 PSF	-29 PSF	+27 PSF	-36 PSF
50 SF	+24 PSF	-26 PSF	+24 PSF	-30 PSF
100 SF	+23 PSF	-25 PSF	+23 PSF	-28 PSF
500 SF	+20 PSF	-22 PSF	+20 PSF	-22 PSF

Seismic:
- Procedure: Equivalent Lateral Force
- Site Class: D
- Importance Factor: I = 1.25
- Seismic Design Category: D
- Spectral Response Accelerations: Ss = 1.49; S1 = 0.55
- Spectral Response Coeff: SDS = 0.99; SD1 = 0.64
- Basic Seismic-Force-Resisting System:
- Pre-Engineered Metal Building:
  - PEMB Design By Others
  - Steel Ordinary Moment Frames
  - R=3.5, Omega=3.0, Cd=3.0, Cs=0.354
  - Steel Ordinary Concentrically Braced Frames
  - R=3.25, Omega=2.0, Cd=3.25, Cs=0.381
- Mezzanine:
  - Steel Ordinary Concentrically Braced Frames
  - R=3.25, Omega=2.00, Cd=3.25, Cs=0.381
  - Seismic Base Shear = 249 KIPS

PERMITTED STORY DRIFTS OF PEMB STRUCTURE

Level	Story Height	Elastic	Inelastic
MEZZANINE	15' - 4"	1.06"	3.45"
HIGH ROOF	19' - 8"	1.36"	4.43"

Soils:
Net Allowable Soil Pressure = 1500 PSF, per Soils Report by AGEC, Project Number 1240393, Dated July 30, 2024.

GENERAL

1. All details, sections, and notes shown on the drawings are intended to be typical and shall apply to similar situations elsewhere unless noted or shown otherwise. Notes and details on drawings shall take precedence over these General Notes. General Notes shall take precedence over the Specifications.
2. Refer to the Specifications for information not covered by these General Notes or the Structural Drawings.
3. See the Architectural Drawings for dimensions, doors, windows, non-bearing interior and exterior walls, elevations, slopes, stairs, curbs, drains, recesses, depressions, railings, waterproofing, finishes, chamfers, kerfs, etc.
4. All design, construction, and inspection shall be in conformance with the 2021 International Building Code (IBC) including all referenced standards therein.
5. The Contractor shall verify all dimensions and conditions at the site.
6. All omissions or conflicts between the various elements of the working drawings and/or Specifications shall be brought to the attention of the Architect and/or Structural Engineer before proceeding with any work involved.
7. The Structural Drawings shall be used in conjunction with the entire set of Construction Drawings. This means that detailing and shop drawing production for structural elements will require information that is contained on the Architectural and/or other consultants' drawings. The Structural Drawings may not show all dimensions, slopes, elevations, depressions, mechanical housekeeping pads, etc. The Contractor shall verify all dimensions that are shown on the Structural Drawings with the Architectural and/or other consultants' drawings. Any discrepancies shall be brought to the attention of the Architect and/or Structural Engineer before proceeding with any work involved.
8. Drawings indicate the finished product. They do not indicate a method of construction. Contractor shall take all precautions necessary to protect the structure during construction. Such precautions shall include, but not be limited to, bracing, shoring for construction equipment, etc.
9. The Contractor shall be responsible for compensating the Owner for any changes made as a result of a deviation from the Contract Documents, deviation from the Specifications, faulty materials, or faulty workmanship.
10. Options are for the Contractor's convenience. The Contractor shall be responsible for coordinating all required design changes. Cost associated with any design work initiated by the option shall be borne by the Contractor.
11. Contractor shall be responsible for safety and protection within and adjacent to the job site.
12. Temporary shoring and bracing shall be provided wherever necessary to support all loads to which the structure may be subjected including wind and soil loads. Such bracing shall be left in place as long as may be required for safety or until all structural elements are complete.
13. During and after construction the Contractor and/or Owner shall keep loads on the structure within the limits of the design loads.
14. Observation visits to the job site by field representatives of Calder Richards Consulting Engineers shall neither be construed as inspection nor approval of construction.
15. Sizes, locations, and anchorages of equipment shall be verified in the field with equipment manufacturers (suppliers) prior to placing concrete or fabricating steel.
16. Thermal or moisture protection, furnishings, doors, windows, equipment, mechanical, electrical, finishes, siding, paneling, and veneers are not part of the responsibility of the Structural Engineer.

STRUCTURAL DEFERRED SUBMITTALS

Contractor shall submit Drawings and Calculations for the following items bearing the seal of a Professional Engineer Licensed in the State of the project to Architect/Engineer before submitting to jurisdiction for review and permitting.

Items:
1. Design-Build Stairs, Ladders, and Railings
2. Attachment of Mechanical Unit to Support
3. Cold Formed Metal Studs
4. Pre-Engineered Metal Building

SHOP DRAWING SUBMITTALS

1. Contractor shall review and verify all Shop Drawings to ensure they comply with the requirements of the Contract Documents. Engineer will review the Shop Drawings for general conformance with the design concept. This review by the Engineer shall not be construed as approval. The Contractor shall verify all shop drawing dimensions with Structural and Architectural plans and details.
2. Provide Shop Drawings to the Engineer for review for the following, but not limited to:
   A. Concrete Foundation Reinforcement
   B. Wall Reinforcement
   C. Deck Reinforcement
   D. Steel Decking
   E. Concrete Mix Design
   F. Structural Masonry Elements
   G. Structural Steel
   H. Pre-Engineered Metal Building
   I. Design-Build Stairs, Ladders, and Railings
3. Refer to the Architectural Drawings for Shop Drawing submittals required for non-structural elements.

STRUCTURAL OBSERVATION

Calder Richards Consulting Engineers shall be notified by the Contractor 5 business days before the completion of the items listed in this section so that Structural Observation may be scheduled and performed in accordance with IBC Section 1704.6. The observations will be performed at the discretion of Calder Richards Consulting Engineers.

1. After forms, reinforcement, anchor bolts, and embeds in place for footings (before pouring).
2. After forms, reinforcement, anchor bolts, and embeds in place for foundation walls (before pouring).
3. After foundation walls poured and before placing masonry.
4. After masonry block and reinforcement in place for first lift (before grouting).
5. After steel floor framing and decking in place (before covering and pouring concrete over decking).
6. After steel roof framing and decking in place (before covering).
7. Steel connections of the lateral-force-resisting system.

FOOTINGS

1. All footings shall bear on original undisturbed earth or on engineered fill down to undisturbed earth compacted to 95% of maximum relative density based on ASTM D1557. Such fill shall be placed in layers not to exceed 6" in depth after compaction and shall extend down to in-situ granular soils. Unless noted otherwise, follow all recommendations in the soils report.
2. Footing elevations shown on plan are top of footings and are minimum depth. Different or unusual conditions shall be reported to the Architect and/or Engineer before proceeding.
3. Exterior wall footings shall bear at a minimum depth of 2'-6" below finished exterior grade to achieve frost depth requirements.
4. NO footings shall be placed in water or on frozen ground.
5. Any soil condition encountered during excavation that is contrary to the conditions used for design of footings as outlined in the referenced Soils Report or on the drawings shall be brought to the attention of the Architect before proceeding.
6. DO NOT back fill behind foundation walls until top and bottom decks have been completed and attained their design strengths.
7. Back fill both sides of foundation walls at same time to prevent overturning.
8. Wall footings, where not shown otherwise, shall be 12" thick with an 8" spread each side of wall and provided with (1) #5 x continuous at bottom for each 8" of footing width.
9. Where a pipe passes through an interior or exterior foundation wall, step the footing down to pass below pipe and then step back up to indicated elevation. Provide pipe sleeve through foundation wall.
10. All footing excavations shall be examined by a Geotechnical Engineer for verification of adequate bearing conditions before placing concrete.

REINFORCING STEEL

1. All reinforcement shall be detailed and placed in accordance with ACI Detailing Manual 315R (Current Version) and ACI Standard 318 (Current Version).
2. Reinforcing steel shall be ASTM A615 Grade 60.
3. Welded wire fabric shall conform to ASTM A185. Lap one mesh tie.
4. All reinforcement shall be securely tied and held in place.
5. Provide accessories recommended by the CRSI necessary to properly support reinforcing at positions shown on plans.
6. Reinforcing bars that are to be welded, including Deformed Bar Anchors (DBA) shall comply with ASTM A706 or another weldable grade and shall be welded in accordance with the AWS recommendations.
7. All continuous reinforcement shall terminate with a 90 degree turn or a separate corner bar. All splices shall have a minimum lap or embedment per Reinforcing Schedule.
8. Where the length of a bar is given and it is to be hooked, the hook shall be in addition to the length given, unless shown otherwise.
9. Cover to main reinforcement from adjacent surfaces shall be as follows unless shown otherwise:
   A. Cast against and permanently in contact with ground .... 3"
   B. Exposed to weather or in contact with ground (#6 and larger) .... 2"
   C. Exposed to weather or in contact with ground (#5 and smaller) .... 1-1/2"
   D. Not exposed to weather or in contact with ground (slabs, joists, and walls #11 and smaller) .... 3/4"
   E. Not exposed to weather or in contact with ground (beams, columns, pedestals and tension ties)........... 1-1/2"
   F. In all cases minimum cover shall not be less than the diameter of adjacent bars.
10. Prior to fabrication and placement, Shop Drawings for all reinforcing steel shall be reviewed by the Structural Engineer.

CONCRETE

1. Concrete shall attain the following minimum compressive strengths at 28 days:
   - Footings .... 3500 PSI
   - Foundation Walls .... 4000 PSI
   - Interior Slabs on Grade .... 4000 PSI
   - Suspended Slabs .... 4000 PSI
2. The various concrete items are assigned to the following Exposure Categories and Classes per Section 19.3 of ACI 318 (Current Version):
   - Footings F1, S0, W0, C1
   - Foundation Walls F1, S0, W0, C1
   - Interior Slabs on Grade F0, S0, W0, C1
   - Suspended Slabs F0, S0, W0, C1

   See Table 19.3.1.1 of ACI 318 (Current Version) for explanations of Categories and Classes listed above.
3. A Statement of Mix Design for all concrete shall be submitted to and reviewed by the Structural Engineer prior to commencing work. All mix designs shall incorporate requirements and restrictions found in Section 19.3 & Tables 19.3.1.1, 19.3.2.1, and 19.3.3.1 of ACI 318 (Current Version). If two or more requirements are in conflict, the more restrictive requirement shall be followed.
4. All concrete work shall be placed, cured, stripped, and protected as directed by the specifications and ACI Standards and Practices.
5. Before concrete is poured, check with all trades to ensure proper placement of all openings, sleeves, curbs, conduits, bolts, inserts, etc, relative to work. NO aluminum conduit nor product containing aluminum nor any other material injurious to concrete shall be embedded in concrete.
6. Continuous top and bottom bars in walls over openings shall be spliced as follows:
   A. Top bars - At mid-span
   B. Bottom bars - Over support
7. Where openings larger than 16" in any direction occur in walls or slabs, provide same size additional, full length reinforcing at each side of opening equal to 1/2 the number of bars interrupted by the opening. Space additional bars at 4 x bar diameter.
8. Construction Joints and Control Joints:
   A. Refer to drawings for typical construction joint details.
   B. Provide a continuous tool-roughened surface at top of all walls and footings, unless noted otherwise.
   C. All horizontal and vertical construction joints shall have a continuous 2"x4" keyway along the joint, unless noted otherwise, see details.
   D. Provide reinforcing dowels to match the member reinforcing at the joint, unless noted otherwise.
   E. Slabs and beams shall not have joints in horizontal plane.
   F. Construction joints for slabs on steel deck shall not exceed a distance of 80'-0" in any direction.
   G. Control joints shall be complete within 12 hours of concrete placement.
9. All slabs on grade shall be placed in alternate panels with a maximum width of 90 times the slab thickness in any direction. Construction joints shall not exceed 125'-0" OC in any direction; refer to typical details on drawings. Unless otherwise noted, slabs on grade shall be 4" thick and shall be reinforced with 6x6-W1.4xW1.4 welded wire fabric, centered in slab.
10. Provide a #3 nosing bar in all stair treads.
11. Forms, screeds, and beams supporting suspended concrete shall be cambered 1/4 inch per 10 feet of span to compensate for Dead Load deflections.
12. Where exterior slabs on grade abut walls or columns, provide 3/8" pre-formed expansion joint with sealant.
13. Where interior masonry walls do not bear on a footing provide a typical thickened slab (12" thick x 16" wide) under wall. Reinforce with (2) #4 x continuous. Dowel wall reinforcing to slab.
14. Admixtures:
   A. Air-entraining admixtures (when used), shall comply with ASTM C260.
   B. Calcium chloride shall not be added to concrete mix.

MASONRY (CMU)

1. Concrete masonry units shall be mediumweight (105 PCF - 125 PCF), Grade N units conforming to ASTM Designation C90 and shall have a minimum compressive strength of 2000 PSI on the net section (Design strength, f'm = 2000 PSI).
2. Mortar shall conform to ASTM C270, Type "S" (Section 2103.2 of the International Building Code). Use Portland Cement, Type I or II. Follow the proportion method of ASTM C270.
3. All masonry shall be reinforced with both horizontal and vertical reinforcement. All grouted block cells or brick cavities with reinforcement shall be grouted full using *2500* PSI grout. Grout shall conform to the requirements of ASTM C476. Cells shall be aligned to preserve unobstructed vertical cavities of 2"x3" minimum. **DO NOT SOLID GROUT WALLS UNLESS SPECIFICALLY NOTED ON THE PLANS.**
4. Grout shall have 3/8" maximum size coarse aggregate with a slump between 8 and 11 inches so the concrete will flow into the block cells without leaving voids.
5. All horizontal reinforcing at ends of walls shall terminate with a hook around vertical reinforcing.
6. Reinforcement Protection (Cover):
   A. Joint reinforcement shall have not less than 5/8" mortar coverage from the exposed face.
   B. Other reinforcement shall have a minimum coverage between the face shell and the bar of one bar diameter over all the bars, but not less than 3/4" when masonry is exposed to weather or soil. Minimum coverage shall be 2" from the outside face of masonry.
7. Continue vertical reinforcing bars in masonry columns through foundation wall into footings with matching bars and dowels. Enclose these bars with same size ties at same spacing as in masonry column. Provide matching dowels for vertical bars in masonry walls to structure below.
8. Continue horizontal reinforcement in walls through masonry columns and pilasters. This reinforcement shall have matching dowels, corner bars, at corners and at intersections of the walls with required lap lengths.
9. Unless noted otherwise, hollow cells at all four (4) sides of openings in walls shall be grouted and reinforced with (2) #5, minimum, with 2'-10" projection beyond edges of openings at each end.
10. Horizontal bars shall be placed in bond beams filled with grout at the top of all walls and at 48" OC maximum between top of wall and foundation. Bond beam units and reinforcing shall continue uninterrupted around all corners and wall intersections. Where structural steel columns or beams interrupt the continuity of a bond beam, dowels matching bond beam reinforcement shall be welded to the structural steel to provide continuity.
11. In addition ladder-type reinforcing consisting of #9 wire for each face shell of each wythe shall be used at 16" OC horizontally in all masonry walls. Reinforcement shall be for total width of cavity walls.
12. All vertical reinforcing bars shall lap with bars of the same size and spacing that extend down to structure below. Place all bars securely prior to grouting.
13. Stop grout pours 1/2" below top of block units between grout lifts.
14. All anchor bolts must be placed in grouted cells.
15. Where beams bear on concrete block walls, block cells shall be filled with grout 1'-4" wide to foundation and reinforced with a #5 each cell, unless otherwise shown.
16. An additional vertical bar (matching wall reinforcement) shall be placed at each corner, end of wall, and jamb of all openings.
17. All steel joist, joist girder, and steel beam pockets in masonry shall be grouted solid unless otherwise indicated on the drawings.
18. No masonry shall be laid when the temperature of the outside air is below 40 degrees Fahrenheit, unless approved methods are used during construction to prevent damage to the masonry. Such methods shall include protection of the masonry for a period of at least 48 hours.
19. All reinforcing shall be in place prior to grouting. Vertical reinforcing bars shall be held in position at the top, bottom and at intervals not farther apart than 200 bar diameters. Provide wire ties at all lap splices.
20. All masonry walls shall have vertical control joints at: Major changes in wall height, at changes in wall thickness, and at building construction joints. Provide matching control joints for brick veneer. Consult Architectural Drawings for locations. Where joint locations are not shown on the drawings the Contractor shall submit proposed locations to Architect / Engineer for review.

STRUCTURAL STEEL

1. All structural steel and structural steel work shall comply with the AISC "Steel Construction Manual" (Current Version) containing the specifications for the design, fabrication and erection of structural steel buildings, including the "Code of Standard Practices".
2. All wide flange structural steel shall be ASTM A992 and all miscellaneous shapes shall be ASTM A36, unless noted otherwise.
3. Structural steel tubing shall conform to ASTM A500 Grade C; Yield Stress = 50 KSI.
4. Structural steel pipe columns shall conform to ASTM A53, Grade B; Yield Stress = 35 KSI.
5. Use A325 Bolts for steel-to-steel connections, F1554 GR36 for Anchor Bolts, and A307 Bolts for all other connections (unless specified otherwise on drawings). Use 3/4" diameter minimum.
6. All welds shall be made with E70XX electrodes and by welders certified by AWS Standards within the past 12 months; provide written certification if requested. All welds shall have a minimum Charpy V-Notch toughness of 20 foot-pound at 0° F, unless noted otherwise on the plans.
7. All high-strength bolts shall be tightened to the appropriate minimum bolt tension in accordance with AISC "Specifications for Structural Joints using ASTM A325 or A490 Bolts." The preferred method of tightening is by use of "Twist off type tension control bolt assemblies." "Direct Tension Indicator" and the Turn-of-Nut method may also be used.
8. Connections indicated as slip critical shall comply with AISC "Specification for Structural Joints using ASTM A325 or A490 Bolts." Bolts in a slip critical connection shall be pre-tensioned to at least the minimum tension in this specification. Contact surface of bolted parts shall be a minimum of Class A.
9. All moment connections (shown on plans by a solid triangle at the end of the beam) shall conform to the IBC Requirements for Special Moment Resisting Space Frames (SMRSF).
10. All beam connections, not shown to be moment connections and not detailed otherwise shall be made using AISC Steel Construction Manual "Single Plate Connections" Table with the maximum number of rows shown for that beam.
11. Unless noted otherwise, composite beams longer than 30'-0" supporting floor systems shall be cambered 1/4 inch per 10 feet of span.
12. Unless shown otherwise provide 3/4" x 7 1/2" x 12" Bearing Plates on 1" grout with (2) 3/4" diameter Anchor Bolts under all steel beams that bear on masonry walls.
13. All Headed Stud Anchors (HSA) shall comply with ASTM A108 and be welded with automatically timed stud welding equipment with arc shields per AWS D1.1, Section 7. **FILLET WELDING OF HEADED STUDS IS NOT PERMITTED.**
14. Where steel deck is perpendicular to beams, studs shall be welded through deck to beam.
15. Numbers that are shown in parentheses at beams are the number of headed stud connectors that are to be spaced equally between intersection beams or lines shown on plan. Where deck is perpendicular to beams, studs shall not be spaced closer than 12" OC. When number of studs exceeds length of beam in feet, one half of additional studs shall be placed with (2) per row beginning at each end of beam. Where beams are parallel to deck, studs shall not be spaced closer than 6" OC. Provide (2) rows of studs beginning at each end where required to maintain the 6" minimum spacing.
16. Mechanical roof top units shall be placed over additional or special joists as shown on drawings. The weight, size and location of all proposed units and curbs shall be submitted to the Architect / Engineer for verification before fabrication of steel.
17. Frames for roof openings and supports for roof mounted mechanical equipment are indicated on drawings for bid purposes only. Upon receipt of mechanical submittals, the contractor shall furnish steel supplier supplementary drawings or other information necessary to layout and detail this portion of the work. Other steel work shall not be delayed by this portion of the work. Shop drawings shall be submitted to engineer for review.

COMPOSITE METAL FLOOR DECK

1. Steel floor deck shall comply with the latest requirements of the Steel Deck Institute, SDI. Submit Evaluation Report with shop drawings.
2. Steel floor deck shall be 2" deep x 20 gage minimum Galvanized (G60, where indicated) composite Type "W" deck with interlocking side seams. The following minimum properties must be satisfied:
   - Fy = 50 KSI
   - I = 0.422 in^4/ft
   - Sp = 0.323 in^3/ft
   - Sn = 0.333 in^3/ft
3. The typical floor slab is 3" thick (5" overall) normalweight concrete. Reinforce slab with 6x6-W2.9xW2.9 welded wire fabric minimum, unless noted otherwise. Provide chairs to ensure indicated placement of welded wire fabric above deck. Place welded wire fabric 1" below top of concrete, unless noted otherwise.
4. Attach deck to supporting framing members with 3/4" diameter puddle welds spaced as follows:
   - 12" OC to supports perpendicular to deck corrugations (4 welds per sheet).
   - 12" OC to all supports parallel to deck corrugations.
5. Headed stud welds may take the place of puddle welds where studs are welded through the deck to the top flange of beams.
6. Attach interlocking seams with button punch at 36" OC between adjacent pieces of deck.
7. Where possible, all deck shall be (3) span continuous minimum. In areas where (3) span conditions are not possible, the deck shall meet the loading criteria for the span condition. The Contractor shall provide heavier gage deck and/or shoring as required.
8. Deck shall have a minimum bearing length of 2".
9. Conduits are permitted in deck slabs provided they do not hinder any required fire rating and comply with the following requirements per the SDI Floor Deck Design Manual:
   - Conduit shall not exceed 1" diameter, or 1/3 the concrete thickness over the top of the deck flutes.
   - Conduit shall not be placed within the ribs of the composite deck or within 6" of headed stud anchors.
   - No crossovers are allowed.
   - Conduit spacing shall be at least 18" apart with 3/4" minimum cover above and below.
   - Conduit shall not be made of or coated with aluminum.

LIGHT GAGE METAL FRAMING

1. Design, fabrication, and erection of light-gage metal framing shall comply with requirements of: AISC "Manual of Steel Construction", AWS "Structural Welding Code", AISI "Specification for the Design of Cold Formed Steel Structural Members", and ICC-ES Report ESR-3064P.
2. Framing shown on plans are minimum sizes and conditions. Substitution of framing members shall be approved by Architect and Engineer. They shall have capacity for gravity loads and lateral loads equal to or better than specified framing members and shall be ICC-ES approved.
3. All components shall be galvanized according to requirements of ASTM A-653 for minimum G-60 coating.
4. All 16 and 18 gage studs, and all track, bridging, end closures and accessories shall be formed from steel that corresponds to the minimum requirements of ASTM A-653, with a minimum yield of 33 KSI for 18 gage and 50 KSI for 16 gage, for studs and 33 KSI for runners, bridging, end closures and accessories.
5. All welds shall be accomplished using 1/8" AWS Type 6013 or 7014 rod with a welding heat of 60 to 110 amperes depending on the gage of material and the fit of the parts. Wire tying of framing components is not permitted.
6. Adequate lateral bracing must be provided during construction.
7. Unless noted otherwise, metal framing members at load bearing, shear walls and exterior walls shall be 18 gage for studs, 16 gage for top and bottom runner. 16 gage for studs at holdowns.
8. Runner Tracks: Install continuous tracks sized to match studs. Align tracks accurately to layout at base and tops of studs. Unless indicated otherwise, secure tracks as recommended by stud manufacturer for type of construction involved, except do not exceed 24" OC spacing for nail or powder-driven fasteners, or 16" OC for other types of attachment. Provide fasteners at corners and ends of track.
9. Fastenings: Fastening of components shall be with self-drilling screws or by welding. Screws and welds shall be of sufficient size to ensure the strength of the connection. Wire tying of components shall not be permitted. All welds shall be touched up with a zinc-rich paint. Fastening of plywood diaphragms and sill plates shall be as indicated in structural notes and details.
10. Stud sections used as rafters or joists shall be unpunched.
11. All non-load bearing walls shall be erected so as to allow for proper deflection of structure above. The tops of all such walls shall be horizontally braced to the structure above at a maximum of 8'-0" OC.

PRE-ENGINEERED METAL BUILDING FRAME

1. The complete design of Pre-Engineered Metal Building (PEMB) including all components shown or not shown on the drawings shall be accomplished by the Building Manufacturer.
2. The design shall be made by a Professional Engineer registered in the State where the project is constructed and they shall affix their Registration Number and Seal to all shop drawings and calculations. They shall submit shop drawings and calculations to Architect / Engineer for review. Calculations shall include all building reactions on the foundations. These reactions shall be reviewed for compliance with the foundation design. Design of the building shall be in accordance with the Recommended Design Practices Manual of the Metal Building Manufacturers Association (MBMA) and in accordance with MBMA Specifications.
3. The building and all of its components shall be designed for the following Dead and Live Loads:
   A. Actual weight of steel structure.
   B. 10 PSF Dead Load (Collateral Load) in addition to actual weight.
   C. Roof Snow Load indicated in the Design Criteria Section + Drift on the Low Roof and other applicable areas and/or unbalanced loading as per IBC.
   D. Any additional loads and reactions that are shown or noted on the drawings, see Plan Notes.
   E. Wind Loads as required by the IBC and per the stated Design Criteria.
   F. Seismic Loads as required by the IBC and per the stated Design Criteria.
   G. Thru-wall fan and other equipment, see MEP Drawings and Details.
   H. Suspended unit heaters and other equipment, see MEP Drawings and Details.
4. See plan for additional design notes (i.e. future expansion loads, suspended loads, etc.).
5. Provide braced bays only where indicated. Submit proposed locations to Architect for approval before fabrications. Rigid frame column bases shall be designed for a pinned base condition unless noted otherwise. No diagonal bracing shall be used at endwalls unless indicated. Provide portal frames as required. Provide turnbuckles on all rod "X" bracing.
6. Where rigid frames are indicated at endwalls, design frames for clear span condition with no intermediate supports. Interior endwall columns shall be for lateral load only.
7. No live load reduction shall be taken for the design of the rigid frames.
8. Where member sizes and gages are shown they shall be considered a minimum size. The manufacturer shall not use smaller or lighter gages, or omit framing where indicated. They shall use only larger size and heavier gages if their design indicates these are required to meet the loading criteria.
9. The vertical deflection of girts and purlins shall be limited to 1/240 of the span. Deflection of rigid frames shall be limited to 1/360 of the span. Deflections shall be based on Total Load (Dead Load plus Live Load). Horizontal drift deflections due to wind and seismic loading shall be limited as per the IBC.

PRE-ENGINEERED STEEL STAIRS

1. All steel stairs are Design-Build unless specifically designed and detailed on the Structural Drawings. The notes below apply to pre-engineered steel stairs only.
2. Design stairs, including framing members, connections (including those to building structure), treads, handrails, and landings, and provide for lateral restraint complying with the Contract Documents and Governing Code. The building lateral resisting system may be utilized for stair lateral restraint provided load paths to the building lateral resisting system are indicated in the calculations and connections shown on the shop drawings.
3. At connections to the structure, provide stabilizing elements such as braces and stiffener plates. Do not impose eccentric loading, twisting, or warping to the structural members. Provide material and install stabilizing elements at no additional cost to the owner.
4. Submit shop drawings and structural calculations stamped and signed by a Professional Engineer registered in the State where the project is constructed for review by the project Architect, Engineer and Building Official.

MASONRY VENEER ANCHORAGE

1. Brick veneer shall be anchored to the structural wall by one of the following anchors:
   A. Corrugated sheet metal anchors shall be at least 7/8" wide, have a base metal thickness of at least 0.03", and shall have corrugations with a wavelength of 0.3" to 0.5" and an amplitude of 0.06" to 0.10".
   B. Sheet metal anchors shall be at least 7/8" wide, have a base metal thickness of at least 0.06" and shall have corrugations of corrugated sheet metal anchors or be bent, notched, or punched to provide equivalent performance in pull-out and push-through.
   C. Wire anchors shall be at least wire size W1.7 and have ends bent to form an extension from the bend at least 2" long.
   D. Adjustable anchors shall consist of sheet metal anchors and/or wire components as listed above and shall have a maximum of 1/16" clearance between connected parts, detailed to prevent disengagement, and where pintle anchors are used the legs shall have a minimum wire size of W2.8 with no more than a 1 1/4" offset.
2. Embed anchors in the mortar joint or grout and extend into the veneer a minimum of 1.5", with at least 5/8" mortar cover to the outside face.
3. Space anchors as follows: Provide at least one corrugated anchor, wire, or adjustable two-piece for each 2 sq ft of veneer and for other anchors provide one anchor for each 2.63 sq ft. Space anchors at a maximum of 32" OC horizontally and 18" OC vertically. Provide additional anchors around all openings larger than 16". Space anchors around perimeter of opening at a maximum of 36" OC. Place anchors within 12" of openings.
4. Provide continuous single-wire horizontal joint reinforcement of W1.7 wire (minimum) at 18" on center maximum. Provide wire reinforcing at each anchor bed joint.
5. Mortar bed joint thickness shall be at least twice the thickness of the embedded anchor.
6. All veneer ties and joint reinforcement must be hot dip galvanized.
7. Attach each anchor to wood framing with a corrosion-resistant 8d common nail or alternate fastener with equivalent or greater pullout strength. For corrugated sheet metal anchors, locate the nail or fastener within 1/2" of the 90 degree bend in the anchor. Maintain a maximum distance between the inside face of the veneer and the outside face of the solid sheathing of 1" when corrugated anchors are used. Maintain a maximum distance between the inside face of the veneer and the wood stud or wood framing of 4.5" when other anchors are used. Maintain a 1" minimum air space.
8. Attach each anchor to steel framing with Hohmann & Barnard, Inc (HB) HB-213 SI Connector with (2) screws to metal studs at 16" OC each way. Pintle section shall be as noted above. HB-213 seismic pintle may be substituted for the wire pintle at the contractor's option.
9. Attach each anchor to masonry backup with HB 220 Ladder Mesh Reinforcement Adjustable Wall Tie Assembly by Hohmann & Barnard, Inc with 9 GA joint reinforcement in mortar joint of CMU and a HB-213 SIS pintle section with Seismic Clip in brick mortar joint spaced 16" OC horizontally.
10. Attach each anchor to concrete backup with HB-213 SIS with (2) screws spaced 16" OC each way, pintle section shall be as noted above.

DRILL & EPOXY ANCHORS

1. Use HILTI HIT-HY 200 adhesive system or approved equivalent for concrete and solid grouted masonry connections.
2. Use HILTI HIT-HY 270 adhesive system or approved equivalent for all hollow unit CMU connections and unreinforced masonry walls, including multi-wythe walls.
3. Anchor rods shall be ASTM F1554 Grade 36 (unless noted otherwise in drawings) with diameter indicated, threaded and galvanized.
4. Provide screen tubes for ungrouted masonry units or unreinforced masonry walls.
5. Anchor capacity is dependent upon spacing between adjacent anchors and proximity of anchors to edge of concrete. Install anchors in accordance with spacing and edge clearances indicated on the drawings.
6. Substitution requests for alternate products must be approved in writing by the Structural Engineer prior to use. The contractor shall provide calculations demonstrating the substituted product is capable of achieving the performance values of the specified product. Substitutions will be evaluated by the product having an ICC-ES report showing compliance with the relevant building code for seismic uses, load resistance, installation category, and availability of comprehensive installation instructions.
7. The contractor shall arrange for an anchor manufacturer's representative to provide onsite installation training for all of their anchoring products specified. The contractor shall provide the engineer with documentation showing their personnel have received training prior to commencement of work.
8. Ten percent of all anchors placed shall be randomly tested to 100% of manufacturer's specified allowable load. If any anchor fails it shall be replaced and retested at no additional cost to the owner. If an anchor fails, 100% of all other anchors installed by that same crew shall be tested at no additional cost to the owner.

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PROFESSIONAL STAMP
PROFESSIONAL STRUCTURAL ENGINEER 9-12-2024 HENNING T. UNGERMAN #7801713 STATE OF UTAH
09/12/2024

CONSULTANT INFORMATION
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CANYONS SCHOOL DISTRICT

PROJECT TITLE AND ADDRESS
CCHS FIELDHOUSE & SOCCER FIELD
12943 SOUTH 700 EAST
DRAPER, UTAH 84020

REVISIONS

△	DESCRIPTION	DATE

PROJECT INFORMATION

DATE:	SEPTEMBER 12, 2024
PROJECT #:	23-013
PM / PA:	KJM
PIC:	CLL

DRAWING SET STATUS
BID SET

THIS DRAWING SET IS INTENDED TO BE PRINTED IN COLOR

SHEET TITLE
STRUCTURAL NOTES PART 1

SHEET NUMBER
S001

Special Inspection - Steel Construction (IBC 1705.2)

Item	C/P ◄(A)
INSPECTION TASKS PRIOR TO WELDING (AISC 360-16, TABLE N5.4-1; AISC 341-16, TABLE J6.1)	
Welder qualification records and continuity records	C
Welding procedure specifications (WPSs) available	C
Manufacturer's certification for welding consumables available	C
Material identification (Type / Grade)	P
Welder identification system ◄(B)	P
Fit-up of groove welds (including joint geometry)	P
Fit-up of CJP groove welds of HSS, T-, Y-, and K- joints	C
Configuration and finish of access holes	P
Fit-up of fillet welds	P
Checking welding equipment	P
INSPECTION TASKS DURING WELDING (AISC 360-16, TABLE N5.4-2; AISC 341-16, TABLE J6.2)	
Control and handling of welding consumables	P
No welding over cracked tack welds	P
Environmental conditions	P
Welding procedure specification followed	P
Welding techniques	P
Placement and installation of HSAs	C
INSPECTION TASKS AFTER WELDING (AISC 360-16, TABLE N5.4-3; AISC 341-16, TABLE J6.3)	
Welds cleaned	P
Size, length, and location of welds	C
Welds must meet visual acceptance criteria	C
Arc strikes	C
k-Area ◄(C)	C
Weld access holes in rolled heavy shapes and built-up heavy shapes ◄(D)	C
Backing removed and weld tabs removed (if required)	C
Repair activities	C
Document acceptance or rejection of welded joint or member	C
No prohibited welds have been added without approval of the EOR	P
INSPECTION TASKS PRIOR TO BOLTING (AISC 360-16, TABLE N5.6-1; AISC 341-16, TABLE J7.1)	
Manufacturer's certifications available for fastener materials	C
Fasteners marked in accordance with ASTM requirements	P
Correct fasteners selected for the joint detail (Grade / Type / Bolt Length / If threads are to be excluded from shear plane)	P
Correct bolting procedure selected for joint detail	P
Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements	P
Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used	P
Protected storage provided for bolts, nuts, washers, and other fastener components	P
INSPECTION TASKS DURING BOLTING (AISC 360-16, TABLE N5.6-2; AISC 341-16, TABLE J7.2)	
Fastener assemblies, placed in all holes and washers and nuts are positioned as required	P
Joint brought to the snug-tight conditions prior to the pre-tensioning operations	P
Fastener component not turned by the wrench prevented from rotating	P
Fasteners are pre-tensioned in accordance with the RCSC specification, progressing systematically from the most rigid point toward free edges	P
INSPECTION TASKS AFTER BOLTING (AISC 360-16, TABLE N5.6-3; AISC 341-16, TABLE J7.3)	
Document acceptance or rejection of bolted connection	C

Special Inspection - Steel Construction (IBC 1705.2)

Item	C/P ◄(A)
INSPECTION OF STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL (IBC 1705.2.2 - 1705.2.4, AND TABLE 1705.2.3)	
Cold-formed steel deck:	
- A. Special inspections and qualifications of welding special inspections for cold-formed steel floor and roof deck shall be in accordance with the quality assurance inspection requirements of SDI QA/QC	C
Installation of open-web steel joists and girders:	
- A. End connections - Welding or bolted	P
- B. Bridging-horizontal or diagonal:	
- 1) Standard bridging	P
- 2) Bridging that differs from SJI specifications listed in section 2207.1 of IBC	P
NON-DESTRUCTIVE TESTING OF WELDS (AISC 360-16, SECTION N5.5)	
Ultrasonic testing (UT), magnetic particle testing (MT), penetrant testing (PT), and radiographic testing (RT), where required shall be performed by QA in accordance with AWS D1.1	-
CJP welds (Risk Category II)	P
CJP welds (Risk Category III or IV)	C
Welded joints subject to fatigue	C
OTHER STEEL INSPECTIONS (AISC 360-16, SECTION N5.7 AND N5.8)	
Inspect galvanized structural steel main members for cracks subsequent to galvanizing	P
Structural steel details	P
Anchor rods and other embedments supporting structural steel	P
TABLE NOTES:	
► (A) Continuous or periodic (C/P) refers to the frequency of inspection, which may be continuous during the task listed or periodically during the listed task, as defined in the table.	
► (B) The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be low-stress type.	
► (C) When welding of doubler plates, continuity plates or stiffeners has been performed in the k-Area, visually inspect the web k-Area for cracks within 3" of the weld.	
► (D) After heavy shapes are welded, visually inspect the weld access hole for cracks.	

Special Inspection - Masonry Construction (IBC 1705.4, TMS402, 602)

Item	R/C/P ◄(A) Level 2
QUALITY ASSURANCE (TMS 602-16, TABLE 3, TABLE 4)	
MINIMUM VERIFICATION	
Prior to construction, verification of compliance of submittals.	R
Prior to construction, verification of f'm and f'AAC, except where specifically exempted by the Code.	R
During construction, verification of slump flow and Visual Stability Index (VSI) when self consolidating grout is delivered to the project site.	R
MINIMUM INSPECTION	
As masonry construction begins, verify that the following are in compliance:	
- A. Proportions of site-prepared mortar	P
- B. Grade and size of prestressing tendons and anchorages	P
- C. Grade, type, and size of reinforcement, connectors, anchor bolts, and prestressing tendons and anchorages	P
- D. Prestressing technique	P
- E. Properties of thin-bed mortar for AAC masonry	C ◄(B) / P ◄(C)
- F. Sample panel construction	P
Prior to grouting, verify that the following are in compliance:	
- A. Grout space	P
- B. Placement of prestressing tendons and anchorages	P
- C. Placement of reinforcement, connectors, and anchor bolts	P
- D. Proportions of site-prepared grout and prestressing grout for bonded tendons	P
Verify compliance of the following during construction:	
- A. Materials and procedures with the approved submittals	P
- B. Placement of masonry units and mortar joint construction	P
- C. Size and location of structural members	P
- D. Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other constructions	P
- E. Welding of reinforcement	C
- F. Preparation, construction, and protection of masonry during cold weather (temperature below 40°F (4.4°C)) or hot weather (temperature above 90°F (32.2°C))	P
- G. Application and measurement of prestressing force	C
- H. Placement of grout and prestressing grout for bonded tendons is in compliance	C
- I. Placement of AAC masonry units and construction of thin-bed mortar joints	C ◄(B) / P ◄(C)
Observe preparation of grout specimens, mortar specimens, and/or prisms	P
TABLE NOTES:	
► (A) R denotes required. Continuous or periodic (C/P) refers to the frequency of inspection, which may be continuous during the task listed or periodically during the listed task, as defined in the table.	
► (B) Continuous inspection is required for the first 5,000 sq ft of AAC masonry.	
► (C) Periodic inspection is required after the first 5,000 sq ft of AAC masonry.	

TERMS AND ABBREVIATIONS

ABBRV	TERM
(#)	Numerical quantities when enclosed in parentheses
A/E	Architect / Engineer
AB	Anchor Bolt
ABV	Above
ADDM	Addendum
AFF	Above Finished Floor
ALUM	Aluminum
APPROX	Approximately
ARCH	Architect (Architectural)*
ASTM	American Society for Testing and Materials
B PL	Base Plate
B/B	Back to Back
bf	Beam Flange Width
BLKG	Blocking
BLW	Below
BM	Beam
BOS	Bottom of Steel
BOT	Bottom
BRG	Bearing
BTWN	Between
C TO C	Center to Center
CD	Contract Documents
CIP	Cast-In-Place
CJ	Construction Joint (Control Joint)*
CL	Centerline
CMU	Concrete Masonry Unit
COL	Column
CONC	Concrete
CONN	Connection
CONT	Continuous (Continue)*
CONTR	Contractor
COORD	Coordinate
CTR	Center
D	Depth
d	Pennyweight Nail
DB	Deck Bearing
DBA	Deformed Bar Anchor
DBL	Double
DFS	Douglas Fir - South
DIA	Diameter
DIAG	Diagonal
DIM	Dimension
DL	Dead Load
DTL	Detail
DWG	Drawing

TERMS AND ABBREVIATIONS

ABBRV	TERM
(E)	Existing
E	Modulus of Elasticity
EA	Each
EJ	Expansion Joint
EL	Elevation
ELEV	Elevator
ENGR	Engineer
EQ	Equal
EQL SP	Equally Spaced (Equal Spaces)*
EQUIP	Equipment
EQUIV	Equivalent
EST	Estimate
ETC	And so forth
EW	Each Way
EXCL	Exclude
EXP	Expansion
EXT	Exterior
(F)	Future
FDTN	Foundation
FFE	Finished Floor Elevation
FIN	Finish (Finished)*
FLR	Floor
FRMG	Framing
FSE	Finished Slab Elevation
FTG	Footing
FV	Field Verify
GA	Gage / Gauge
GALV	Galvanized
GLB	Glued Laminated Wood Beam
HGR	Hanger
HORIZ	Horizontal (Horizontally)*
HSA	Headed Stud Anchor
HSS	Hollow Structural Section
I	Moment of Inertia
ID	Inside Diameter
INT	Interior
JST	Joist
KIP (K)	Thousand Pounds
KIP FT	Thousand Foot/Pounds
KLF	KIPs per Lineal Foot

TERMS AND ABBREVIATIONS

ABBRV	TERM
LB	Pound
LHS	Left Hand Shoe
LL	Live Load
LLH	Long Leg Horizontal
LLV	Long Leg Vertical
LONG	Longitudinal
LSL	Laminated Strand Lumber
LTWT	Lightweight
LVL	Laminated Veneer Lumber
MAX	Maximum
MECH	Mechanical
MFR	Manufacturer
MIN	Minimum
MISC	Miscellaneous
N/A	Not Applicable
NTS	Not to Scale
OC	On Center
OD	Outside Diameter
OPNG	Opening
OPP	Opposite
OPT	Optional
OSB	Oriented Strand Board
P/T	Pressure Treated
PEMB	Pre-Engineered Metal Building
PERP	Perpendicular
PLF	Pounds per Lineal Foot
PSL	Parallel Strand Lumber
PT	Post Tensioned
QA	Quality Assurance
QC	Quality Control
(RE)	Remove Existing
REINF	Reinforce (Reinforced, Reinforcing)*
REQD	Required
RFI	Request for Information
RS	Rough Sawn
RTU	Roof Top Unit

TERMS AND ABBREVIATIONS

ABBRV	TERM
SCHED	Schedule
SECT	Section
SF	Square Foot (Feet)*
SGL	Single
SHTHG	Sheathing
SIM	Similar
SL	Snow Load
SOG	Slab on Grade
SPCL	Special
SPEC	Specification
SQ	Square
SSH	Short Slotted Holes
STD	Standard
STIF	Stiffener
STRUCT	Structure (Structural)*
SYMM	Symmetrical
T&B	Top & Bottom
T&G	Tongue and Groove
THRU	Through
TO FDTN	Top of Foundation
TOB	Top of Beam
TOC	Top of Concrete
TOF	Top of Footing
TOJ	Top of Joist
TOM	Top of Masonry
TOP	Top of Parapet
TOS	Top of Steel
TOW	Top of Wall
TWS	Threaded Welded Stud
TYP	Typical
UNO	Unless Noted Otherwise
VERT	Vertical (Vertically)*
W/	With
W/O	Without
WL	Wind Load
WLD	Weld (Welded)*
WWF	Welded Wire Fabric
XS	Extra Strong
XXS	Double Extra Strong

NOTES

1. * CONTEXT INDICATES WHICH ABBREVIATION TERM IS IMPLIED. CONTACT ENGINEER IF MEANING IS NOT OBVIOUS.
2. NOT ALL ABBREVIATIONS ARE USED.
3. MANY ABBREVIATIONS MAY BE MADE PLURAL BY ADDING AN S SUFFIX.
4. FOR ABBREVIATIONS NOT LISTED, REFER TO **US NATIONAL CAD STANDARD, VERSION 3.1, TERMS AND ABBREVIATIONS SECTION**, OR CONTACT ENGINEER.

A5 **TERMS & ABBREVIATIONS**
NO SCALE

1717_01

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PROFESSIONAL STRUCTURAL ENGINEER 9-12-2024 HENNING T. UNGERMAN #7801713 STATE OF UTAH
09/12/2024

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CANYONS SCHOOL DISTRICT

PROJECT TITLE AND ADDRESS
CCHS FIELDHOUSE & SOCCER FIELD
12943 SOUTH 700 EAST
DRAPER, UTAH 84020

REVISIONS

△	DESCRIPTION	DATE

PROJECT INFORMATION

DATE:	SEPTEMBER 12, 2024
PROJECT #:	23-013
PM / PA:	KJM
PIC:	CLL

DRAWING SET STATUS
BID SET

THIS DRAWING SET IS INTENDED TO BE PRINTED IN COLOR

SHEET TITLE
STRUCTURAL NOTES PART 2

SHEET NUMBER
S002

Autodesk Docs://24-013 CCHS Fieldhouse & Soccer Field/CCHS Fieldhouse & Soccer Field - S23.rvt
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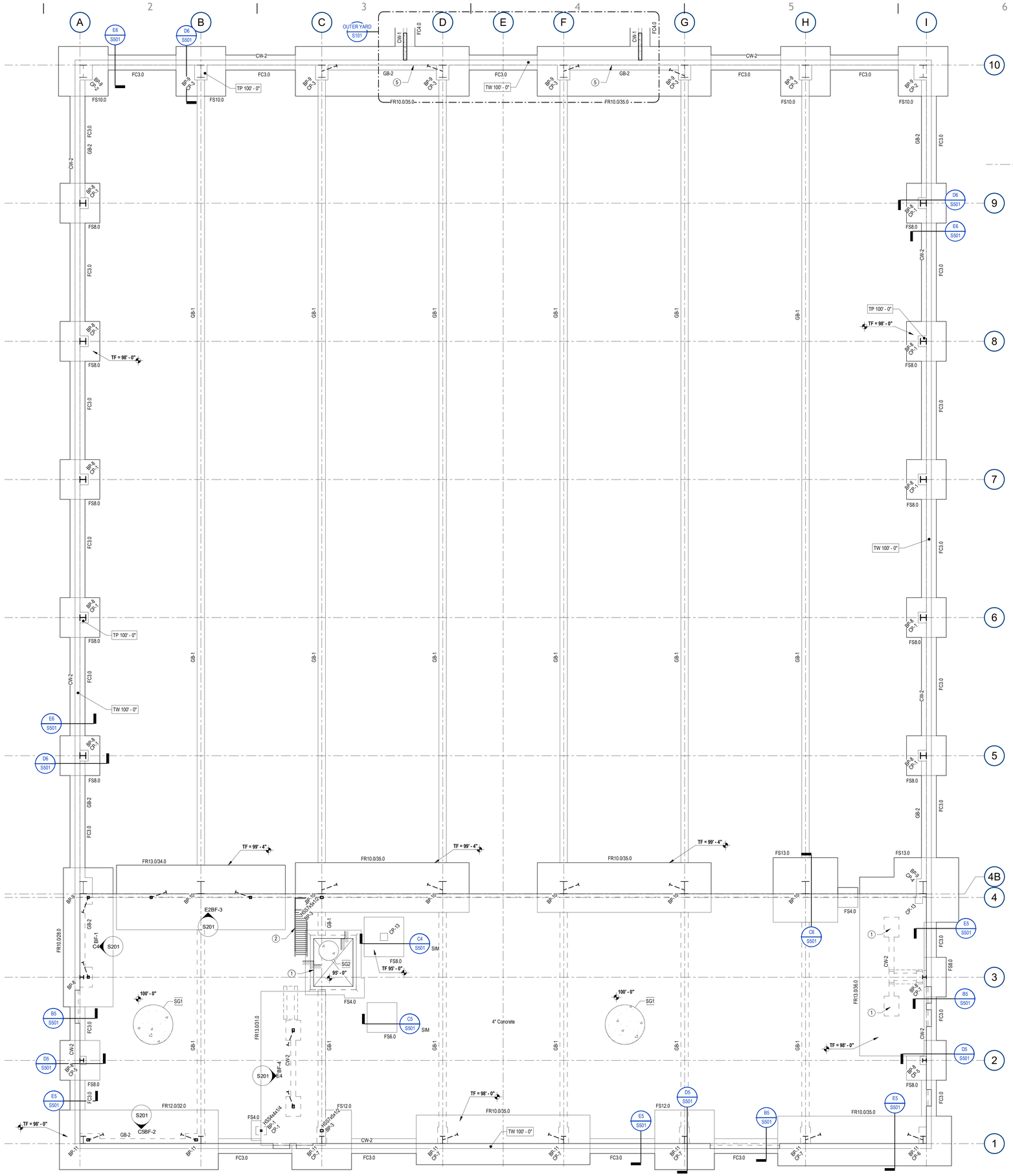

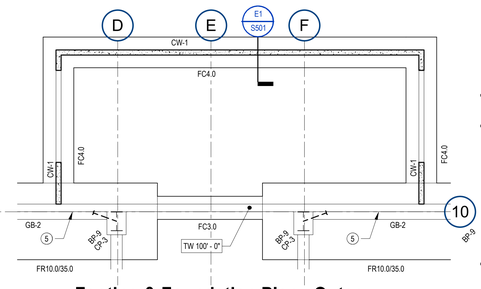

Footing & Foundation Plan - Outer Yard

1/8" = 1'-0"

NOTE: FOOTING & FOUNDATION DESIGN IS BASED ON INITIAL ESTIMATES OF PEMB COLUMN REACTIONS. STRUCTURAL FOOTINGS & FOUNDATION TO BE VERIFIED AND FINALIZED UPON COMPLETION OF PEMB DESIGN.

PLAN NOTES - FOOTING & FDTN

- # NUMBERED NOTES BELOW ARE KEYED ON PLAN.
- R# DENOTES REINFORCING KEYED ON PLAN.
- SG# DENOTES SLAB TYPES KEYED ON PLAN, SEE SCHEDULE B4/S602.
- * SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, TYPICAL.
- ** NOT ALL NOTES MAY APPLY TO AREA SHOWN ON SHEET.
- A SEE STRUCTURAL NOTES ON SHEETS S001 & S002 FOR ADDITIONAL INFORMATION.
- B TOP OF CONCRETE SLAB ELEVATION = 100'-0", UNLESS NOTED THUS: xxx'-x". SLOPE UNIFORMLY TO FLOOR DRAINS.
- C PLACE CONTROL JOINTS AND CONSTRUCTION JOINTS IN SLAB PER STRUCTURAL NOTES. SEE DETAIL A6/S501.
- D CENTER FOOTINGS ON WALLS AND COLUMNS UNLESS DIMENSIONED OTHERWISE ON PLANS.
- E SEE STRUCTURAL NOTES ON SHEET S001 FOR MINIMUM FROST COVER FOR ALL EXTERIOR FOOTINGS.
- F FOOTING ELEVATIONS SHOWN ARE BASED ON A UNIFORM GRADE 6" BELOW SLAB PLUS 2'-6" FROST COVER. COORDINATE ELEVATIONS SHOWN WITH CIVIL AND SITE PLANS FOR ANY ADDITIONAL DEPTH THAT MAY BE REQUIRED TO MAINTAIN MINIMUM FROST COVER OVER FOOTINGS.
- G SEE PLAN AND SECTIONS FOR TOP OF FOUNDATION WALL ELEVATIONS.
- H SEE DETAIL A5/S501 AN A3/S501 FOR TYPICAL CONCRETE AND MASONRY WALL REINFORCEMENT AT CORNERS AND INTERSECTIONS.
- J DO NOT PLACE BACKFILL AGAINST FOUNDATION WALLS UNTIL BRACING FLOOR IS IN PLACE OR ADEQUATE SHORING IS INSTALLED.

PLAN NOTES - FOOTING & FDTN

- K SEE DETAIL B3/S501 FOR CONTROL JOINTS IN MASONRY. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS.
- L SEE ARCHITECTURAL / SITE DRAWINGS FOR INFORMATION AND LOCATION OF SITE WALLS, STEPS, PLANTERS, RAMPS, ETC.
- M COORDINATE FOOTING W/ MECHANICAL AND ELECTRICAL DRAWINGS FOR ALL PENETRATIONS NEAR FOOTINGS. SEE A1/S501 FOR ADDITIONAL INFORMATION.
- N PROVIDE HOUSEKEEPING PADS FOR MECHANICAL/ELECTRICAL UNITS AS REQUIRED BY THE MECHANICAL/ELECTRICAL DRAWINGS. PADS TO BE POURED MONOLITHICALLY WITH THE SLAB ON GRADE OR ANCHORED WITH REBAR PER DETAIL C2/S501.
- P SEE SHEET S901 FOR BID ALTERNATE INFORMATION.
- 1 CONTRACTOR TO PROTECT AND COVER ELEVATOR PIT AND BRACED FRAME ANCHORAGE BETWEEN BASE BID AND BID ALT PHASES OF CONSTRUCTION.
- 2 SEE ARCHITECTURAL DRAWINGS FOR DETAILED ELEVATIONS AND CONFIGURATIONS OF LANDINGS AND STAIRS. AT STAIR LANDINGS, USE TYPE SL SLABS AND DL DECK, TYPICAL. SEE DETAIL D4/S511 FOR TYPICAL FRAMING SIZES & REQUIREMENTS.
- 3 ELEVATOR RAIL SUPPORT COLUMNS SHOWN FOR BID PURPOSES ONLY. COORDINATE REQUIREMENTS WITH ELEVATOR MANUFACTURER / SUPPLIER. SEE DETAIL C1/S501 FOR TYPICAL FRAMING REQUIREMENTS.
- 4 CONTRACTOR OPTION TO POST-INSTALL GRAVITY COLUMNS. SUBMIT RFI FOR POST-INSTALLATION OPTIONS. MAY ONLY UTILIZE FOR MEZZANINE COLUMNS NOT CONNECTED TO BRACED FRAMES.
- 5 DO NOT ROUTE MECHANICAL / ELECTRICAL DISTRIBUTION LINES BELOW OR THROUGH FOUNDATION WALLS WITH GRADE BEAMS.

FTG/FDTN PLAN LEGEND

- FCx.x, FSx.x, FRx.x — CONTINUOUS FOOTING, SPOT FOOTING, RECTANGULAR FOOTING TYPES RESPECTIVELY, SEE SCHEDULE **A3/S601**
- CHANGE IN ELEVATION
- xxx'-xx" — TOP OF CONCRETE SLAB ELEVATION
- TW xxx'-xx" — TOP OF WALL ELEVATION
- TP xxx'-xx" — TOP OF PIER ELEVATION
- TF xx'-xx" — TOP OF FTG ELEVATION
- SG# — CONCRETE SLAB ON GRADE, SEE SCHEDULE **B4/S602**
- FCx.x — CONCRETE FOOTING, SEE SCHEDULE **A3/S601**
- CW-# — CONCRETE FDTN WALL TYPE, SEE SCHEDULE **A5/S601**
- CP-# — RECESS IN CONCRETE FDTN WALL
- CP-# — CONCRETE PIER IN WALL, SEE SCHEDULE **B4/S601**
- SITE WALL, COORD W/ ARCH / CIVIL DWGS
- STEEL STUD WALL
- BP-# — STEEL COLUMNS: WIDE FLANGE, HSS, BASE PLATE TYPE, SEE SCHEDULE **B1/S601**

Footing & Foundation Plan

1/8" = 1'-0"

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PROFESSIONAL STAMP

STATE OF UTAH — PROFESSIONAL STRUCTURAL ENGINEER — 9-12-2024 — HENNING T. UNGERMAN — 8780171 3 — REGISTERED

09/12/2024

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PROJECT TITLE AND ADDRESS

CCHS FIELDHOUSE & SOCCER FIELD

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REVISIONS

△	DESCRIPTION	DATE

PROJECT INFORMATION

DATE:	SEPTEMBER 12, 2024
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PIC:	CLL

DRAWING SET STATUS

BID SET

THIS DRAWING SET IS INTENDED TO BE PRINTED IN COLOR

SHEET TITLE

FOOTING AND FOUNDATION

SHEET NUMBER

S101

Autodesk Docs://24-013 CCHS Fieldhouse & Soccer Field/CCHS Fieldhouse & Soccer Field - S23.rvt
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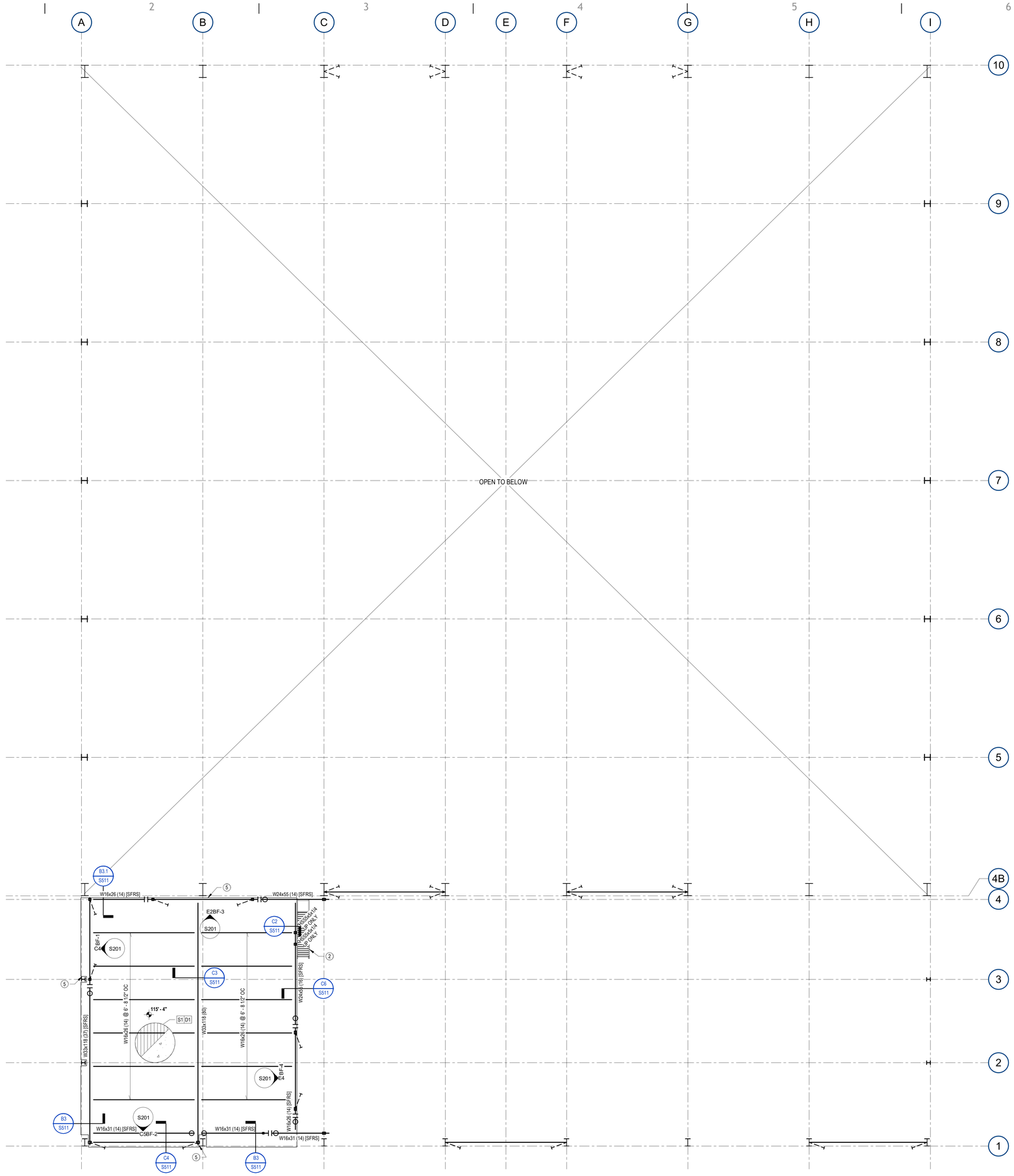

PLAN NOTES - FLOOR FRAMING

- # NUMBERED NOTES BELOW ARE KEYED ON PLAN.
- D# DENOTES DECK TYPES KEYED ON PLAN, SEE SCHEDULE B2/602.
- S# DENOTES SLAB TYPES KEYED ON PLAN, SEE SCHEDULE B4/S602.
- * SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, TYPICAL.
- ** NOT ALL NOTES MAY APPLY TO AREA SHOWN ON SHEET.
- A SEE STRUCTURAL NOTES ON SHEETS S001 & S002 FOR ADDITIONAL INFORMATION.
- B TOP OF CONCRETE SLAB ELEVATION = 115'-4", UNLESS NOTED THUS: xxx'-x"
- C SEE DETAIL A3/S602 FOR TYPICAL BEAM TO BEAM CONNECTIONS.
- D COORDINATE OPENINGS THROUGH FLOOR DECK WITH MECHANICAL DRAWINGS. FLOOR PENERATIONS SHALL HAVE ANGLE FRAMING PER DETAIL A2/S511.
- E ALL CONTINUOUS DECK ANGLES TO BE SPLICED PER DETAIL B4/S511.
- F SEE ARCHITECTURAL DRAWINGS FOR TOP OF CMU WALL ELEVATIONS.
- G SEE DETAIL B3/S501 FOR CONTROL JOINTS IN MASONRY. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS.
- H SEE STEEL ANGLE LINTEL SCHEDULE D5/S602 FOR BRICK VENEER SUPPORT OVER OPENINGS, TYP. UNO.

PLAN NOTES - FLOOR FRAMING

- J (#) FOLLOWING STEEL BEAM CALLOUT DENOTES HEADED STUD ANCHOR QUANTITY FOR COMPOSITE BEAM, SEE DETAIL A3/S511 FOR SIZE AND SPACING REQUIREMENTS.
- K SEE SHEET S901 FOR BID ALTERNATE INFORMATION.
- 1 STEP IN SLAB, SEE DETAILS B5/S511 & B6/S511. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF STEPS.
- 2 SEE ARCHITECTURAL DRAWINGS FOR DETAILED ELEVATIONS AND CONFIGURATIONS OF LANDINGS AND STAIRS. AT STAIR LANDINGS, USE TYPE SL SLABS AND DL DECK, TYPICAL. SEE DETAIL D4/S511 FOR TYPICAL FRAMING SIZES & REQUIREMENTS.
- 3 ELEVATOR RAIL SUPPORT COLUMNS (ABOVE & BELOW) SHOWN FOR BID PURPOSES ONLY. COORDINATE REQUIREMENTS WITH ELEVATOR MANUFACTURER / SUPPLIER. SEE DETAIL D3/S511 & D2/S511 FOR TYPICAL FRAMING REQUIREMENTS.
- 4 PROVIDE SHORING BELOW SINGLE SPAN DECKING PRIOR TO POURING CONCRETE.
- 5 PROVIDE 3" EXPANSION GAP BETWEEN PEMB AND MEZZANINE STRUCTURE, TYPICAL.

FLOOR FRMG PLAN LEGEND

- xxx'-xx" TOP OF CONCRETE SLAB ELEVATION
- CHANGE IN ELEVATION
- S# D# CONCRETE SLAB ON STEEL DECK W/ SPAN DIRECTION INDICATED, SEE SCHEDULES **B4/S602** & **B2/S602** RESPECTIVELY
- STEEL COLUMNS; WIDE FLANGE, TUBE, PIPE
- DEPRESSED SLAB AREAS, COORD W/ ARCHITECTURAL DRAWINGS
- MASONRY WALL
- STEEL STUD WALL
- BEAM SPLICE, SEE DETAIL **A5/S511**
- COLLECTOR BEAM CONNECTION, SEE SCHEDULE **E3/S602**
- COLLECTOR BEAM SPLICE, SEE SCHEDULE **E3/S602**
- [SFRS] SEISMIC FORCE RESISTING SYSTEM
- K ADDITIONAL POINT LOAD

Level 2 Framing Plan

1/8" = 1'-0"

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PROFESSIONAL STAMP

PROFESSIONAL STRUCTURAL ENGINEER
9-12-2024
HENNING T. UNGERMAN
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09/12/2024

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CANYONS SCHOOL DISTRICT

PROJECT TITLE AND ADDRESS

CCHS FIELDHOUSE & SOCCER FIELD

12943 SOUTH 700 EAST
DRAPER, UTAH 84020

REVISIONS

△	DESCRIPTION	DATE

PROJECT INFORMATION

DATE:	SEPTEMBER 12, 2024
PROJECT #:	23-013
PM / PA:	KJM
PIC:	CLL

DRAWING SET STATUS

BID SET

THIS DRAWING SET IS INTENDED TO BE PRINTED IN COLOR

SHEET TITLE

LEVEL 2 FRAMING PLAN

SHEET NUMBER

S102

Autodesk Docs://24-013 CCHS Fieldhouse & Soccer Field/CCHS Fieldhouse & Soccer Field - S23.rvt
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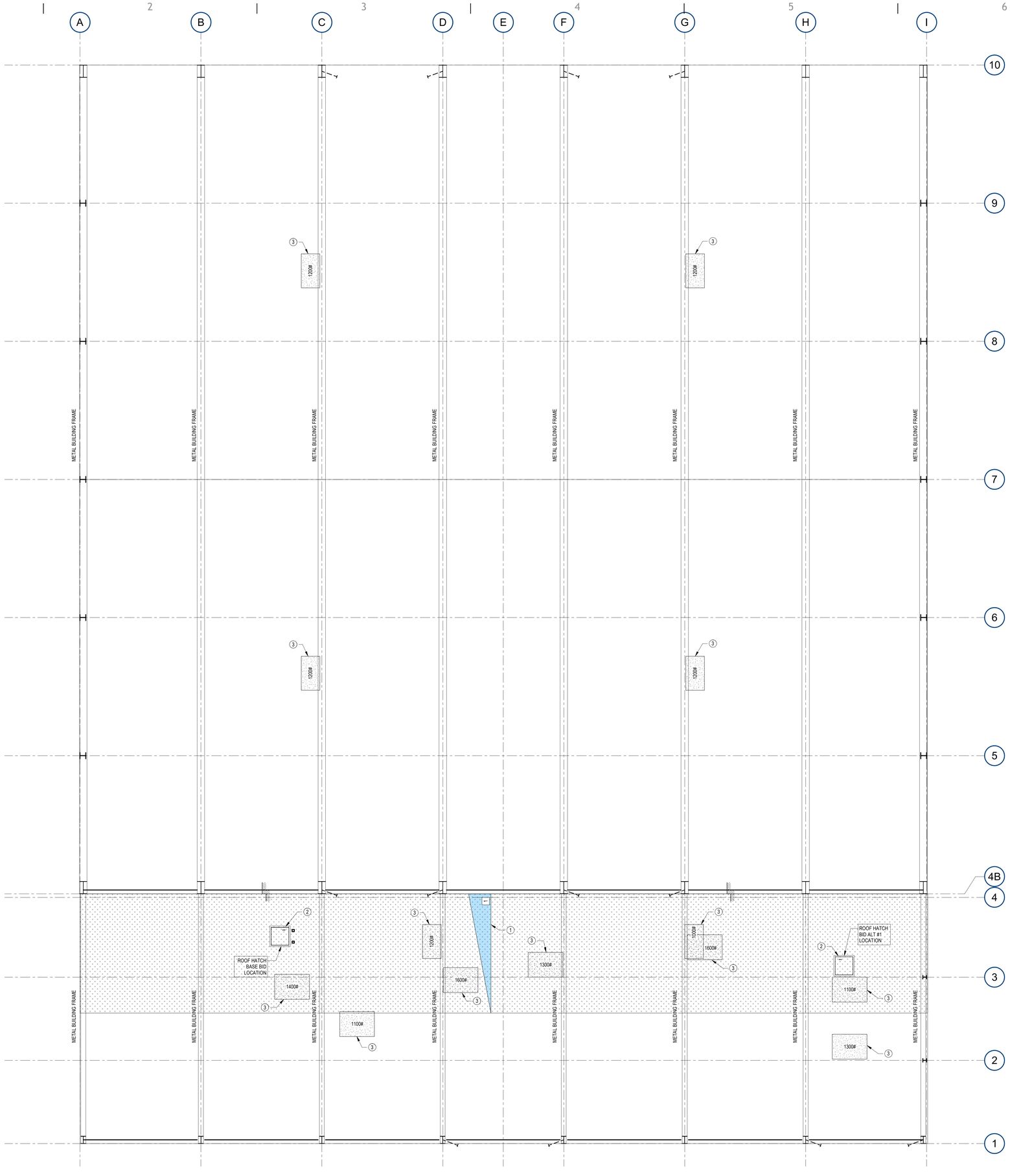


PLAN NOTES - ROOF FRAMING

- # NUMBERED NOTES BELOW ARE KEYED ON PLAN.
- * SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, TYPICAL.
- ** NOT ALL NOTES MAY APPLY TO AREA SHOWN ON SHEET.
- A SEE STRUCTURAL NOTES ON SHEETS S001 & S002 FOR ADDITIONAL INFORMATION.
- B SEE ARCHITECTURAL DRAWINGS FOR TOP OF CMU WALL ELEVATIONS.
- C SEE DETAIL B3/S501 FOR CONTROL JOINTS IN MASONRY. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS.
- D PEMB DESIGNER TO PROVIDE SUPPORT FOR ALL OPENINGS IN ROOF DECK, INCLUDING HATCHES, SKYLIGHTS, ETC.
- E PEMB DESIGNER TO PROVIDE SUPPORT FOR ALL WALLS, PARAPETS, CLADDING, SIGNS, ETC.

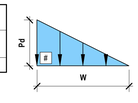
PLAN NOTES - ROOF FRAMING

- F PEMB DESIGNER TO COORDINATE WITH ARCHITECTURAL DRAWINGS AND PROVIDE SUPPORT FOR ALL ELEMENTS TO HANG FROM ROOF STRUCTURE, SUCH AS NETTING WALLS.
- 1 SNOW DRIFT LOAD DIAGRAM. DESIGN JOISTS FOR SNOW DRIFT LOAD IN ADDITION TO UNIFORM AND MECHANICAL LOADS.
- 2 ROOF HATCH OPENING. COORDINATE WITH ARCHITECTURAL DRAWINGS.
- 3 MECHANICAL ROOFTOP UNIT (SHOWN SCHEMATICALLY ONLY). DUCT PENETRATIONS BELOW UNITS NOT SHOWN. ROOF JOISTS / PURLINS AND GIRDERS SUPPORTING MECHANICAL UNITS SHALL BE DESIGNED FOR ADDITIONAL LOADS OF THE UNITS. COORDINATE WEIGHTS, SIZES AND LOCATIONS WITH MECHANICAL DRAWINGS. PEMB DESIGNER TO PROVIDE FRAMES TO SUPPORT EQUIPMENT.

ROOF FRMG PLAN LEGEND

- CHANGE IN ELEVATION
- ADDITIONAL POINT LOAD
- SNOW DRIFT AREA
- SNOW DRIFT DIAGRAM, SEE SCHEDULE **THIS SHEET**
- STEEL STUD WALL
- STEEL COLUMNS: WIDE FLANGE, TUBE, PIPE

SNOW DRIFT				
Mark	Pd - (PSF)	W - (Feet)	Notes	
1	54	24	-	



NOTES

1. ALL DRIFT LOADS TO RUN FULL LENGTH ALONG A WALL LINE, UNO.
2. DRIFT LOADS ON JOISTS THAT OCCUR 90° TO EACH OTHER SHALL BE APPLIED CONCURRENTLY EXCEPT THE TWO LOADS NEED NOT BE SUPERIMPOSED (REFER TO FIGURE 7.7-3 OF ASCE 7-16).
3. DRIFT LOAD IS IN ADDITION TO BASE REQUIRED SNOW LOAD.
4. THE DRIFT LENGTH **W** SHALL BE THE LESSER OF THAT SHOWN IN THE SCHEDULE AND THE ACTUAL LENGTH OF THE ROOF. IN EITHER CASE, THE MAGNITUDE SHALL TAPER TO 0 PSF AT THE END OF THE DRIFT LENGTH.

A6 SNOW LOAD
NO SCALE 1777_01

Roof Framing Plan
1/8" = 1'-0"

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09/12/2024

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CCHS FIELDHOUSE & SOCCER FIELD

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REVISIONS

△	DESCRIPTION	DATE

PROJECT INFORMATION

DATE:	SEPTEMBER 12, 2024
PROJECT #:	23-013
PM / PA:	KJM
PIC:	CLL

DRAWING SET STATUS

BID SET

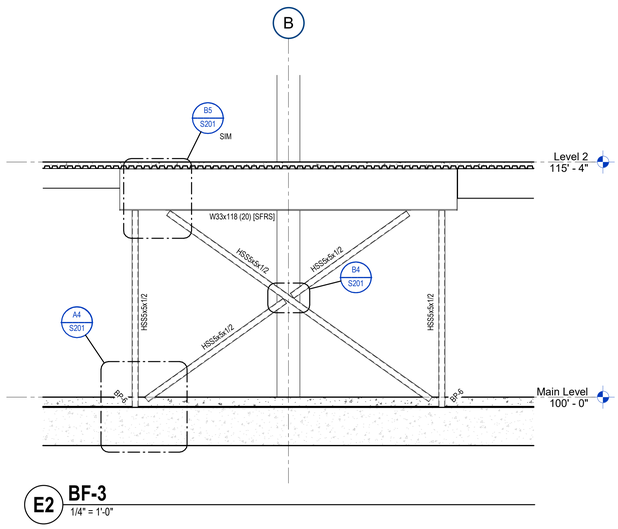
THIS DRAWING SET IS INTENDED TO BE PRINTED IN COLOR

SHEET TITLE

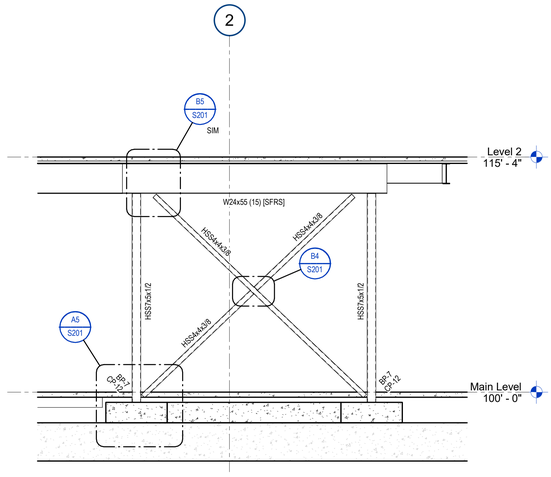
ROOF FRAMING PLAN

SHEET NUMBER

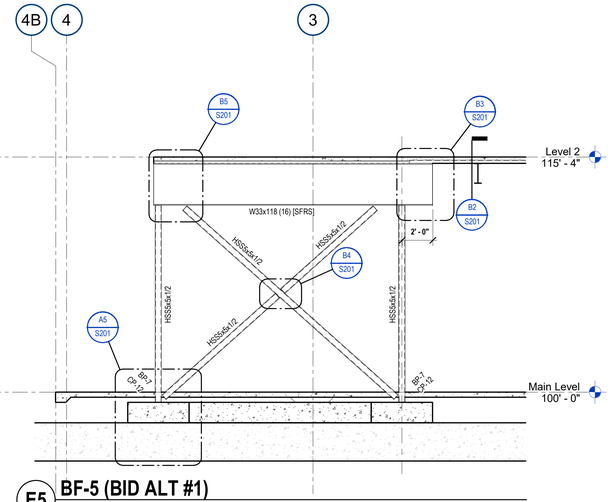
S103



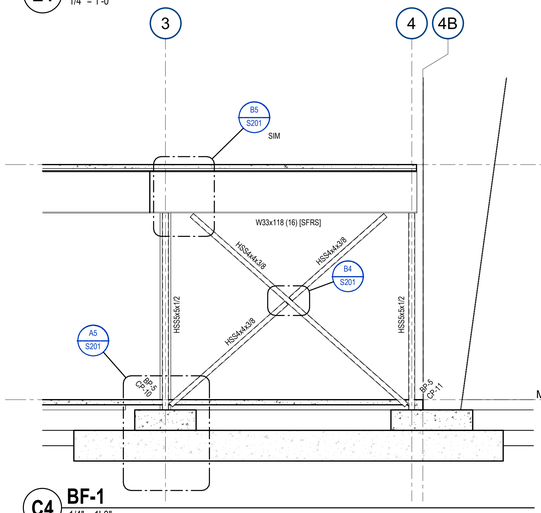
E2 BF-3
1/4" = 1'-0"



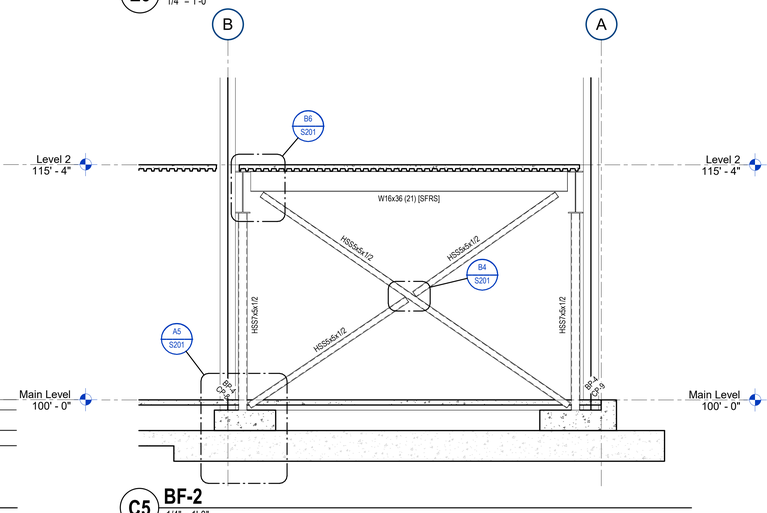
E4 BF-4
1/4" = 1'-0"



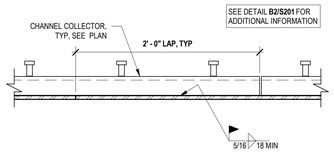
E5 BF-5 (BID ALT #1)
1/4" = 1'-0"



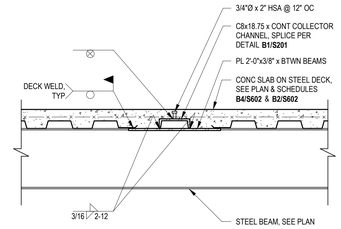
C4 BF-1
1/4" = 1'-0"



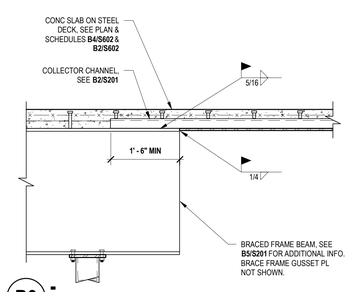
C5 BF-2
1/4" = 1'-0"



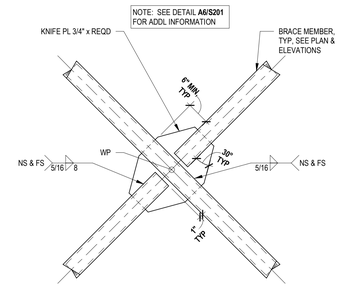
B1 -
1 1/2" = 1'-0"



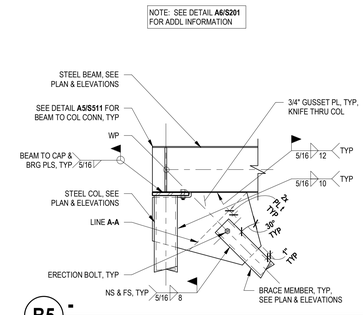
B2 -
3/4" = 1'-0"
SC4436_S



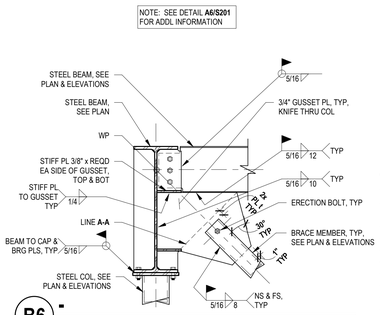
B3 -
3/4" = 1'-0"
SC4436_S



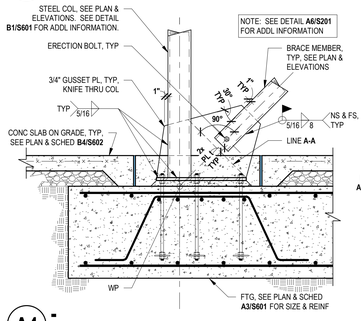
B4 -
3/4" = 1'-0"
4747_02



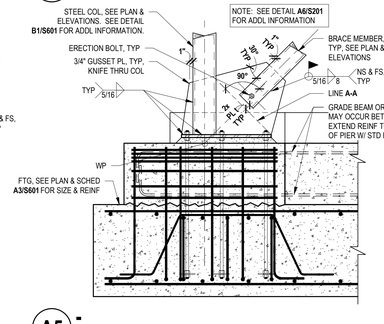
B5 -
3/4" = 1'-0"
4447_02



B6 -
3/4" = 1'-0"
4447_02



A4 -
3/4" = 1'-0"
3147_02



A5 -
3/4" = 1'-0"
3147_01

NOTES:

1. GUSSET PLATE DIMENSIONS MAY BE INCREASED WITH ENGINEER'S APPROVAL WHERE REQD DUE TO CONNECTION GEOMETRY AND TO ACHIEVE WELD LENGTH SPECIFIED.
2. WHERE MEMBER SIZE ALLOWS FOR ADDITIONAL WELD LENGTH, PROVIDE FULL WELDING OF ALL CONNECTIONS.
3. WELD LENGTH SHOWN IS MINIMUM REQUIRED. BEAMS, BRACES AND GUSSET PLATES SHALL BE CENTERED ON COLUMNS.
4. TUBE TO GUSSET WELDS OCCUR ON EACH SIDE OF EACH SLOT (4 PLACES).
5. ALL FIELD WELDS TO BE SPECIAL INSPECTED.
6. LINE **A-A** TO BE PERPENDICULAR TO BRACE CENTER LINE & OFFSET AS SHOWN. LINE **A-A** SHALL INTERSECT POINT OF GUSSET/ CONCRETE INTERSECTION OR GUSSET/BEAM INTERSECTION. LINE **A-A** SHALL BE SHOWN ON THE SUBMITTED SHOP DWGs.

A6 -
3/4" = 1'-0"

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CCHS FIELDHOUSE & SOCCER FIELD

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DRAPER, UT-HI 84020

REVISIONS

△	DESCRIPTION	DATE

PROJECT INFORMATION

DATE:	SEPTEMBER 12, 2024
PROJECT #:	23-013
PM / PA:	KJM
PIC:	CLL

DRAWING SET STATUS

BID SET

THIS DRAWING SET IS INTENDED TO BE PRINTED IN COLOR

SHEET TITLE

BRACE FRAME ELEVATIONS AND DETAILS

SHEET NUMBER

S201

Autodesk Docs://24-013 CCHS Fieldhouse & Soccer Field/CCHS Fieldhouse & Soccer Field - S23.rvt
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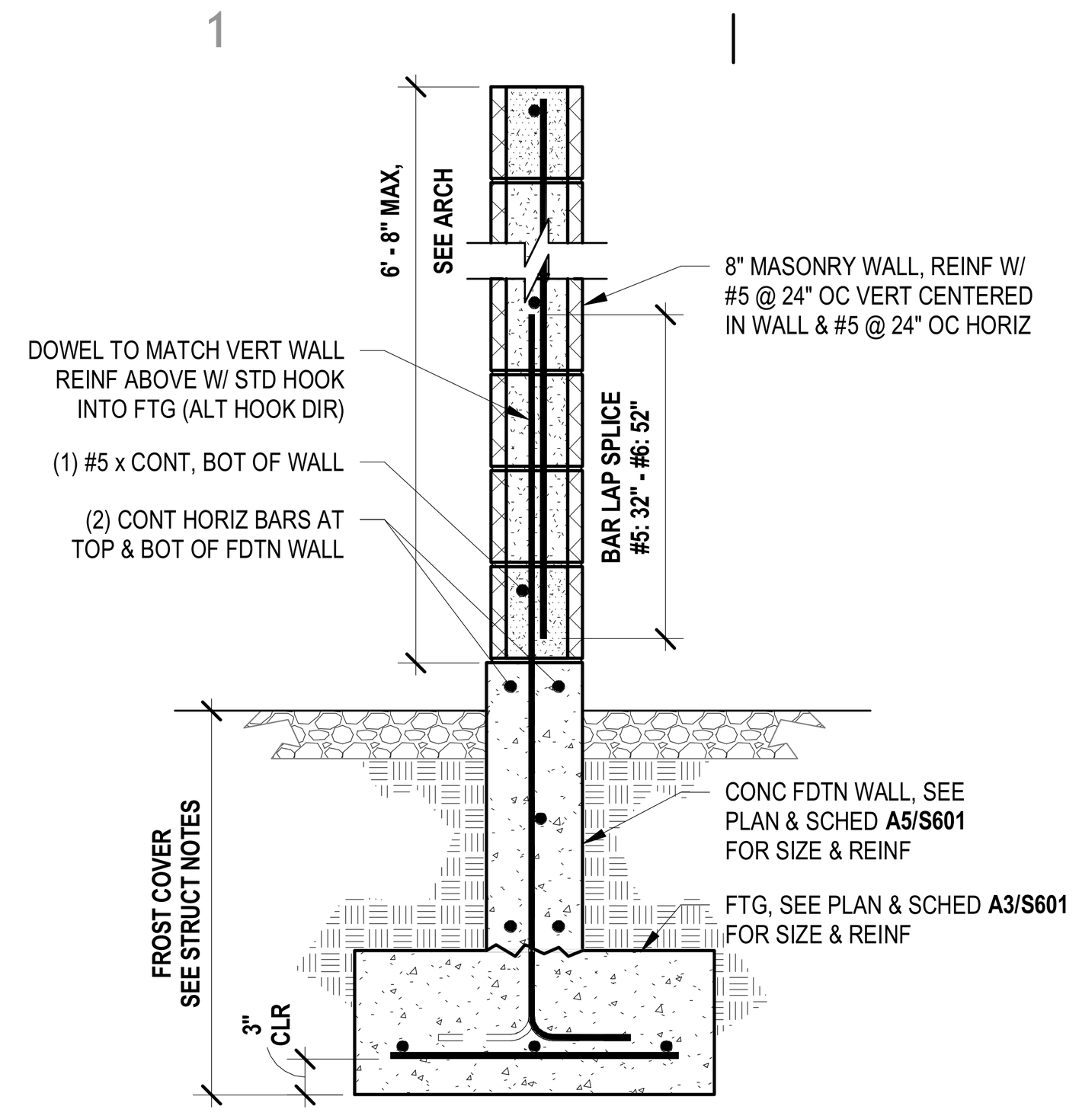
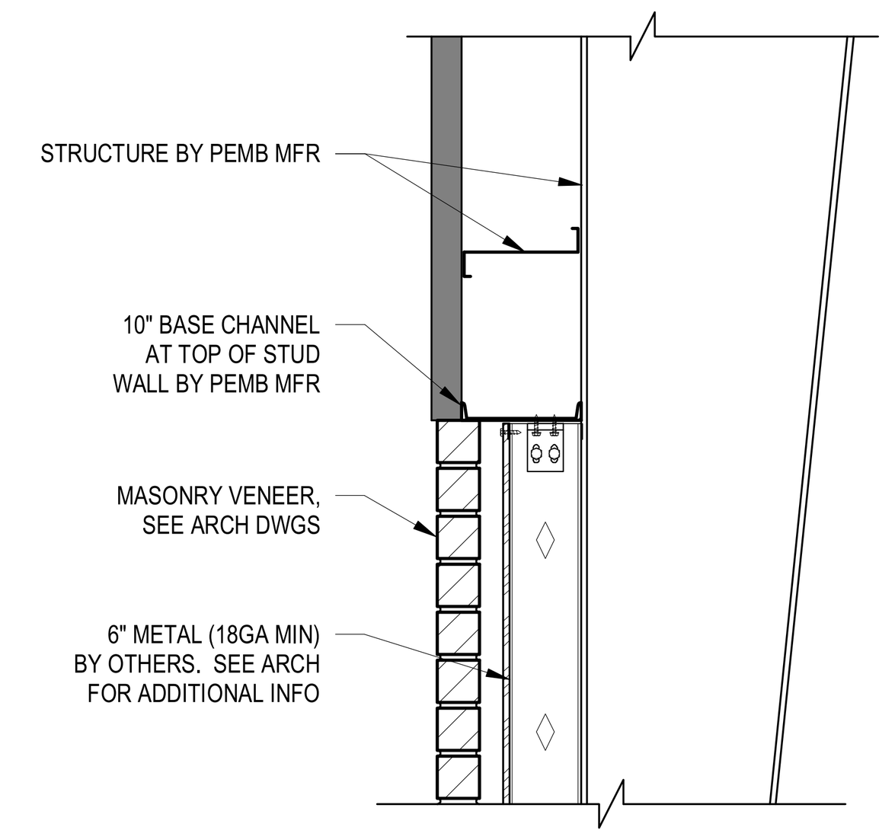
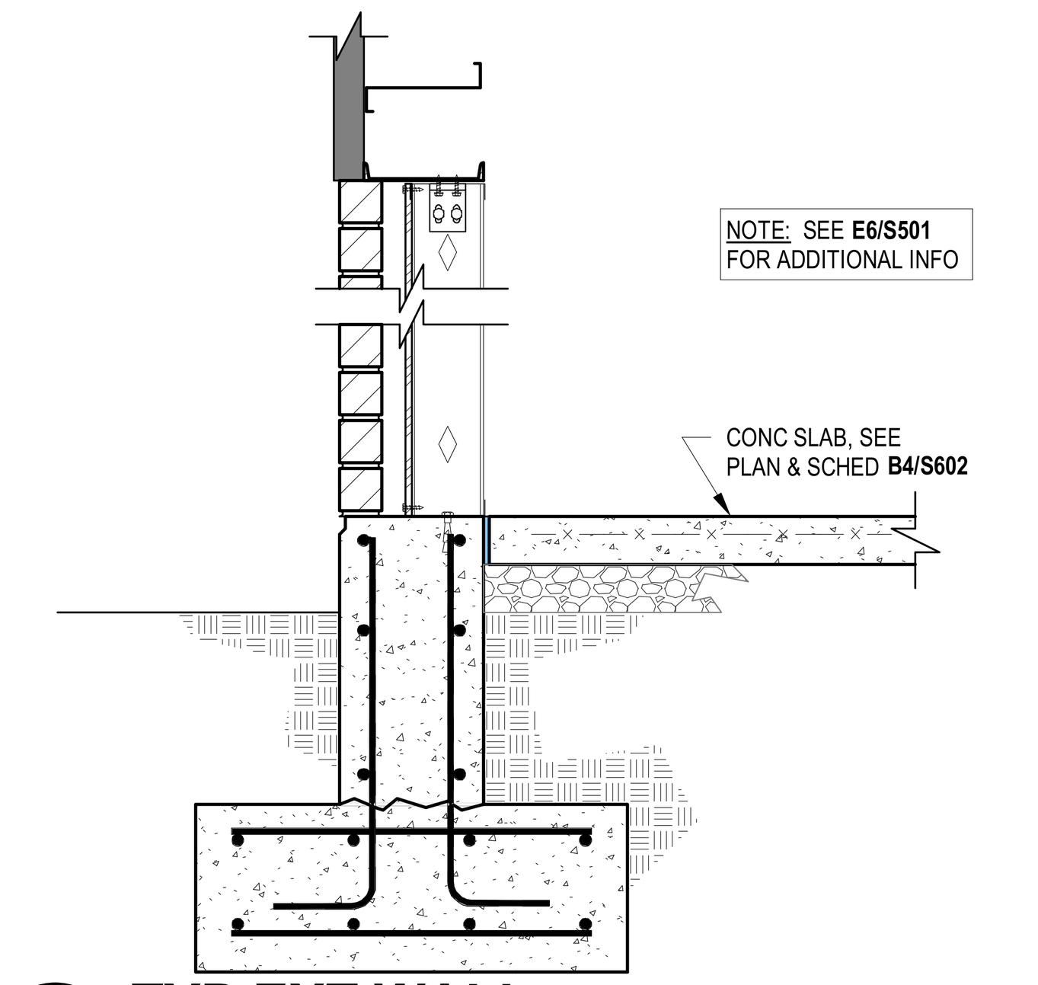


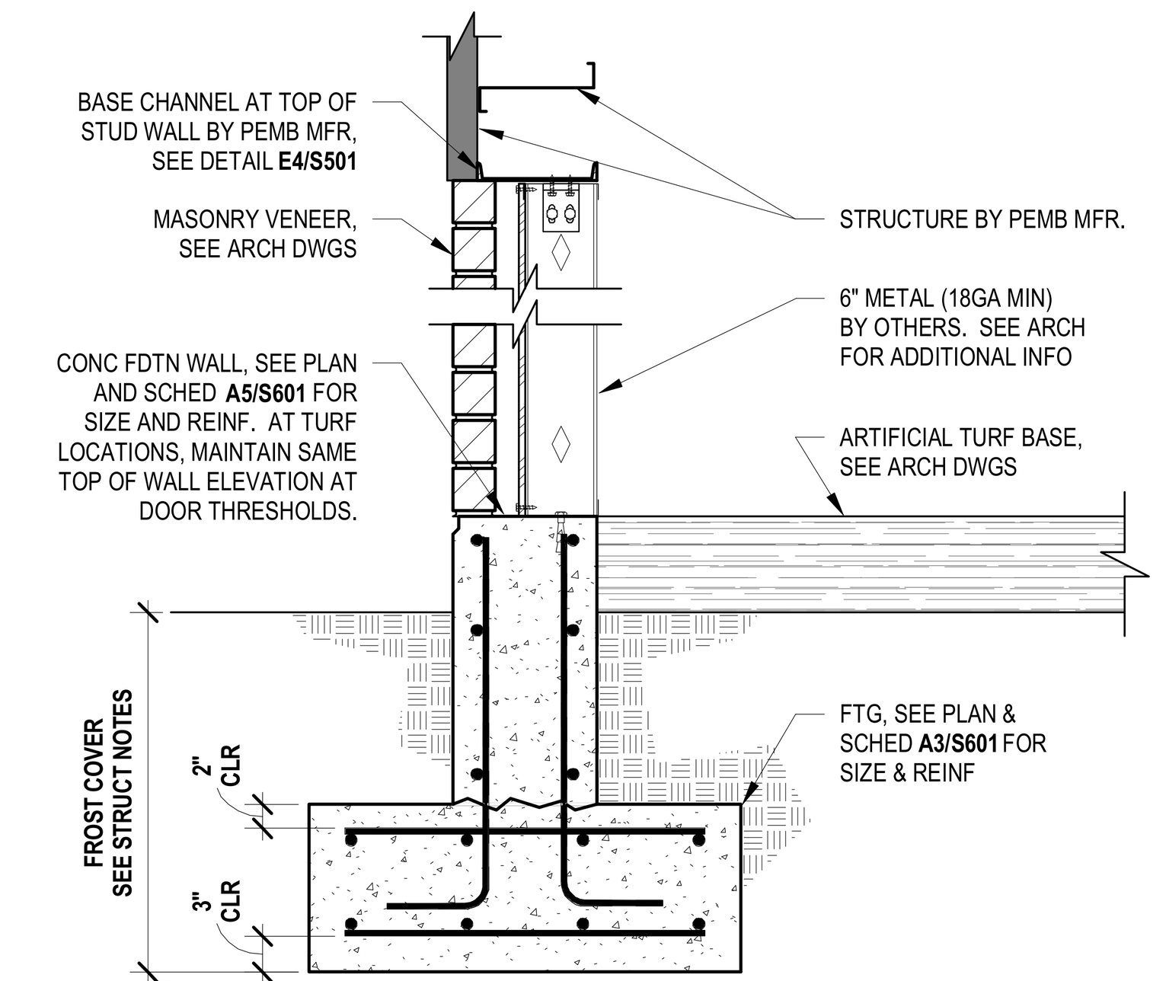
E1 SCREEN WALL
3/4" = 1'-0" 3152_01



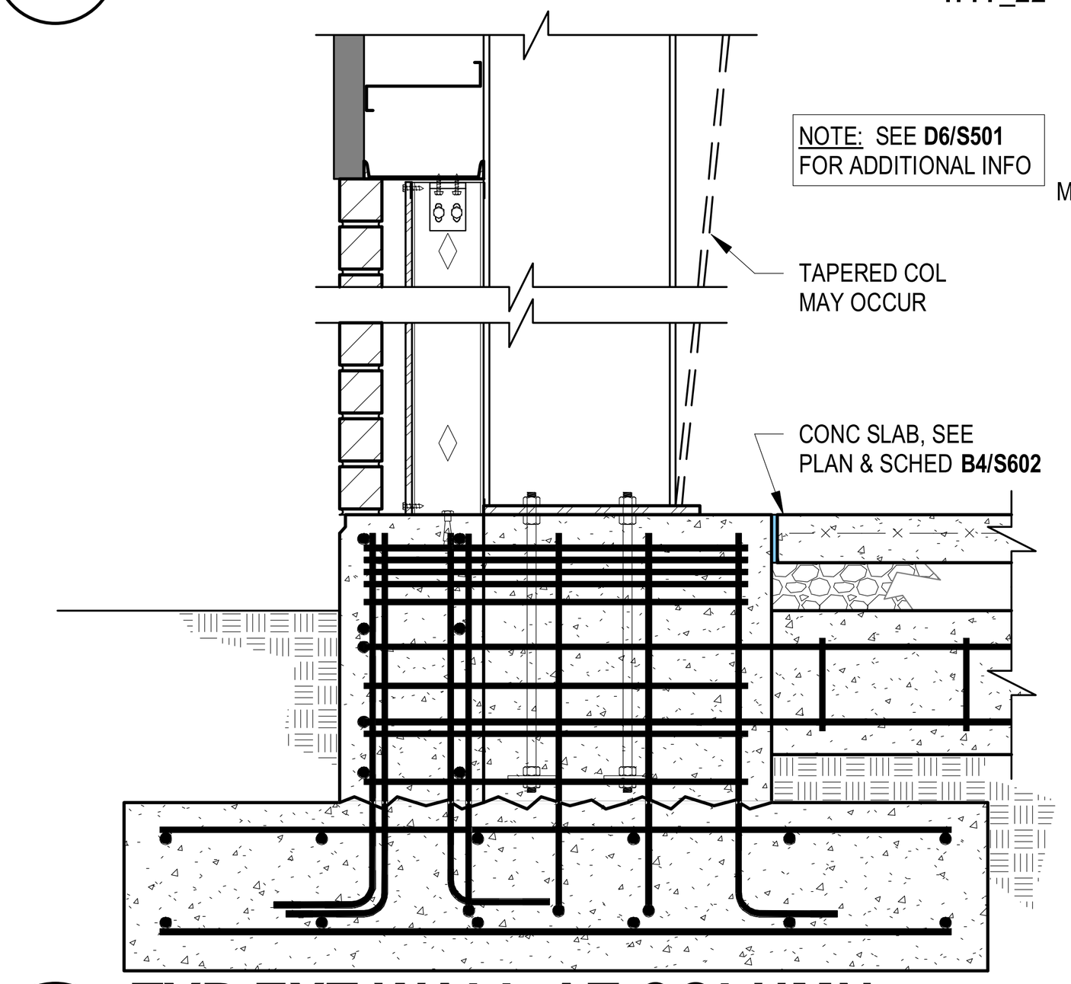
E4 TYP EXT WALL
3/4" = 1'-0"



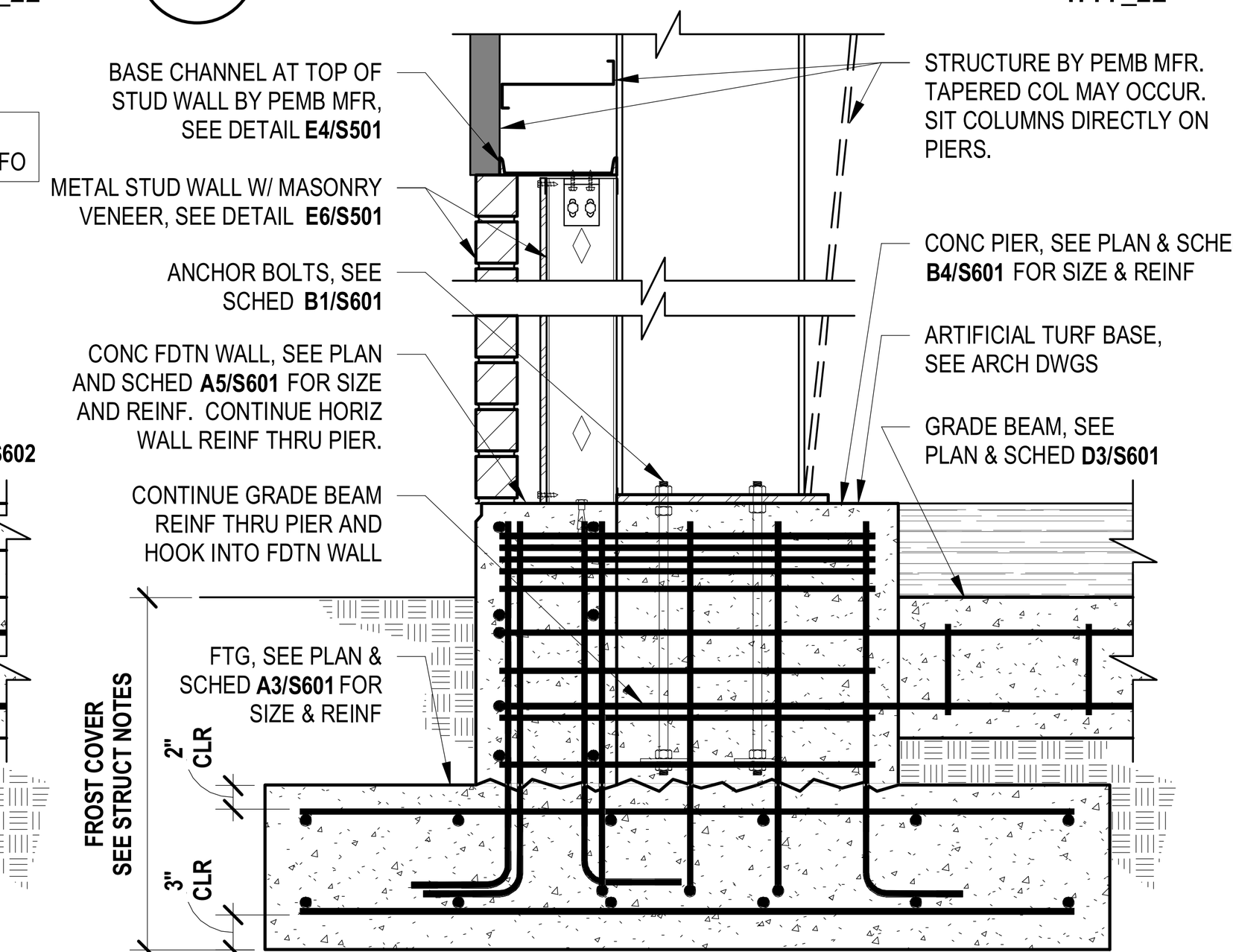
E5 TYP EXT WALL
3/4" = 1'-0" 4777_22



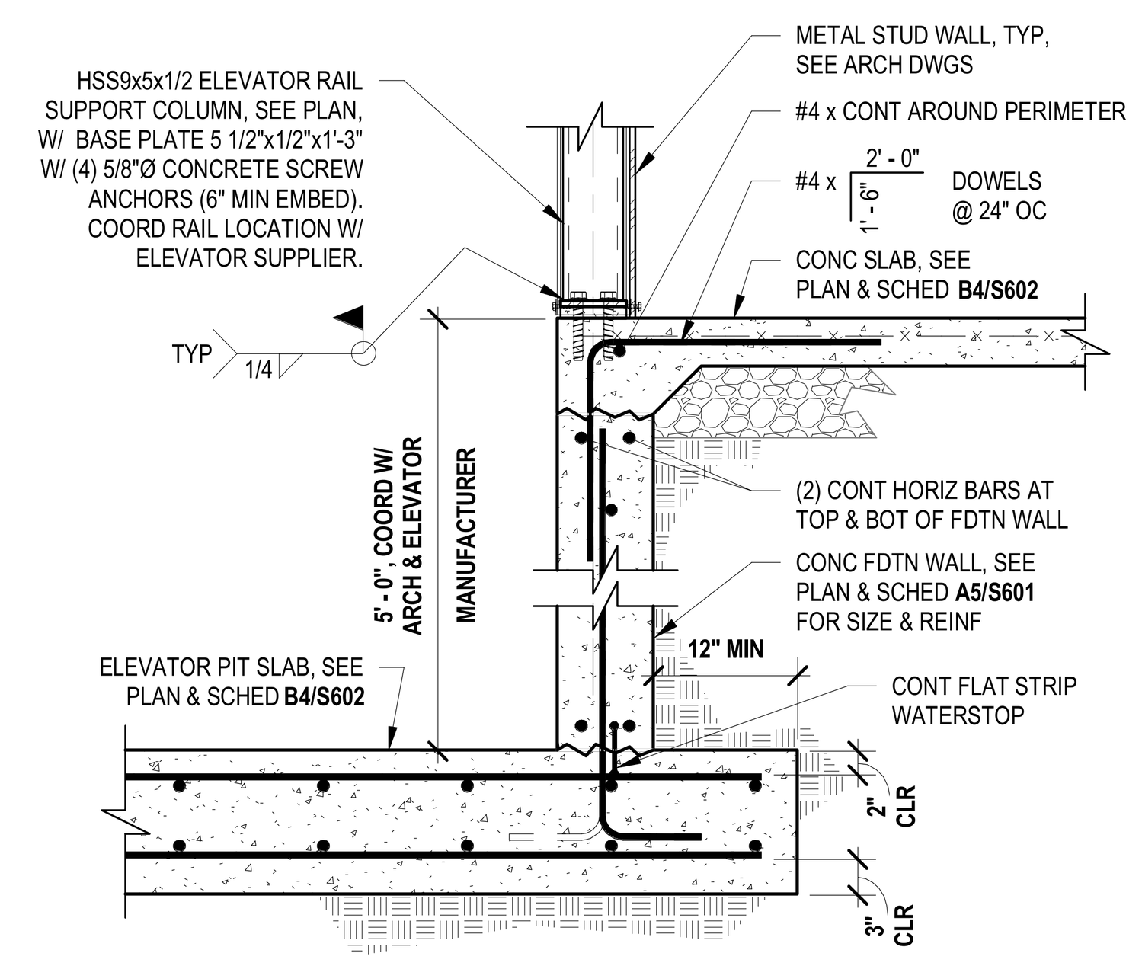
E6 TYP EXT WALL
3/4" = 1'-0" 4777_22



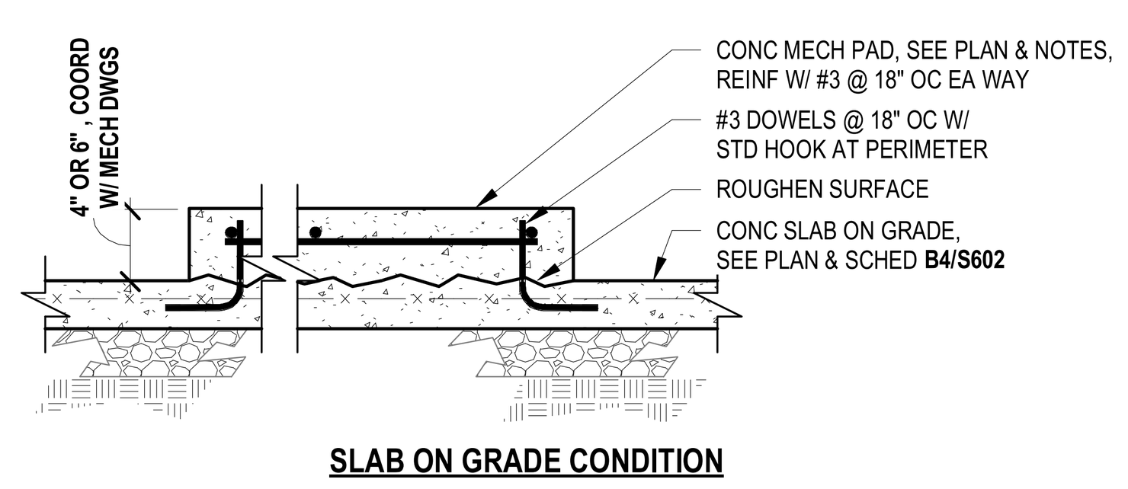
D5 TYP EXT WALL AT COLUMN
3/4" = 1'-0" 4777_22



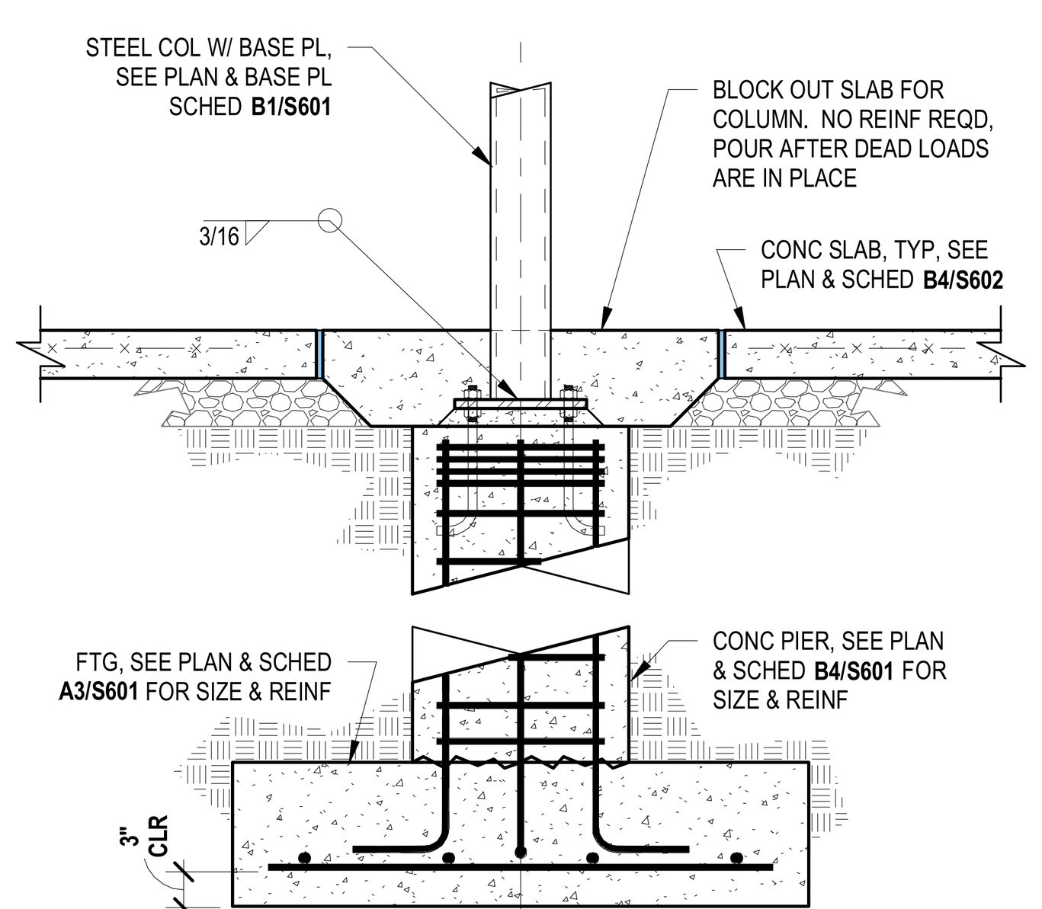
D6 TYP EXT WALL AT COLUMN
3/4" = 1'-0" 4777_22



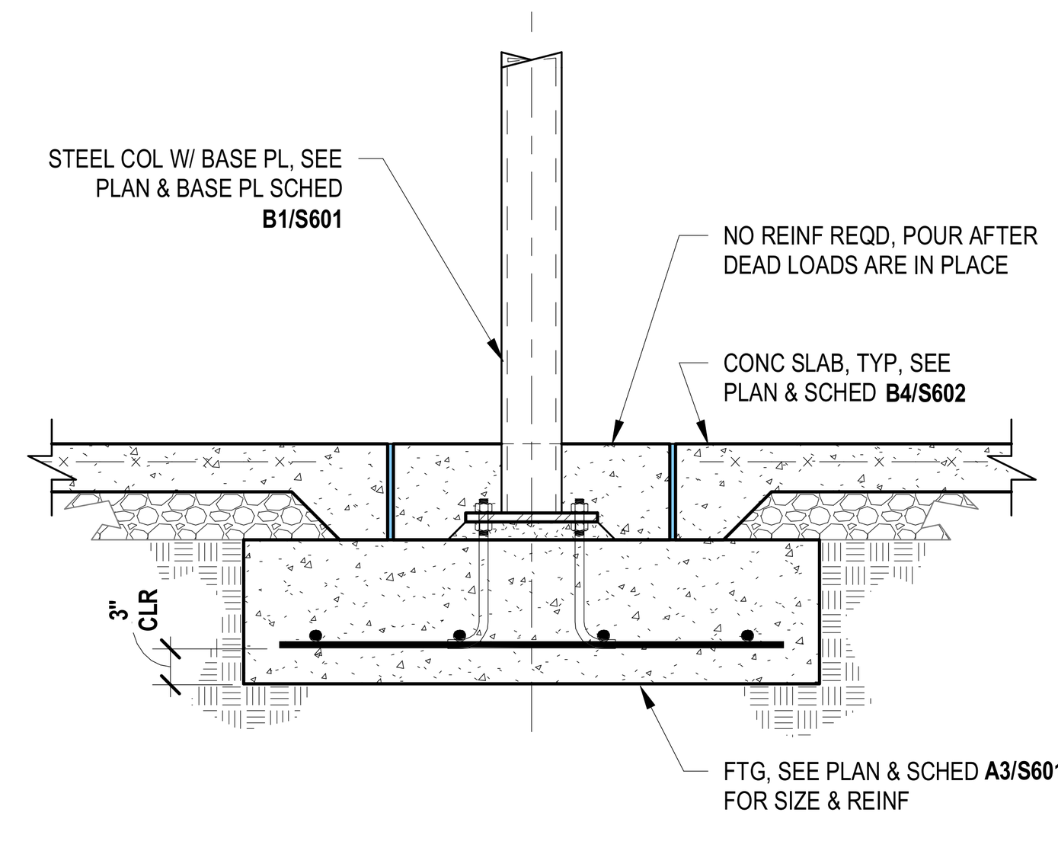
C1 ELEVATOR PIT DETAIL
3/4" = 1'-0" MPB1S300



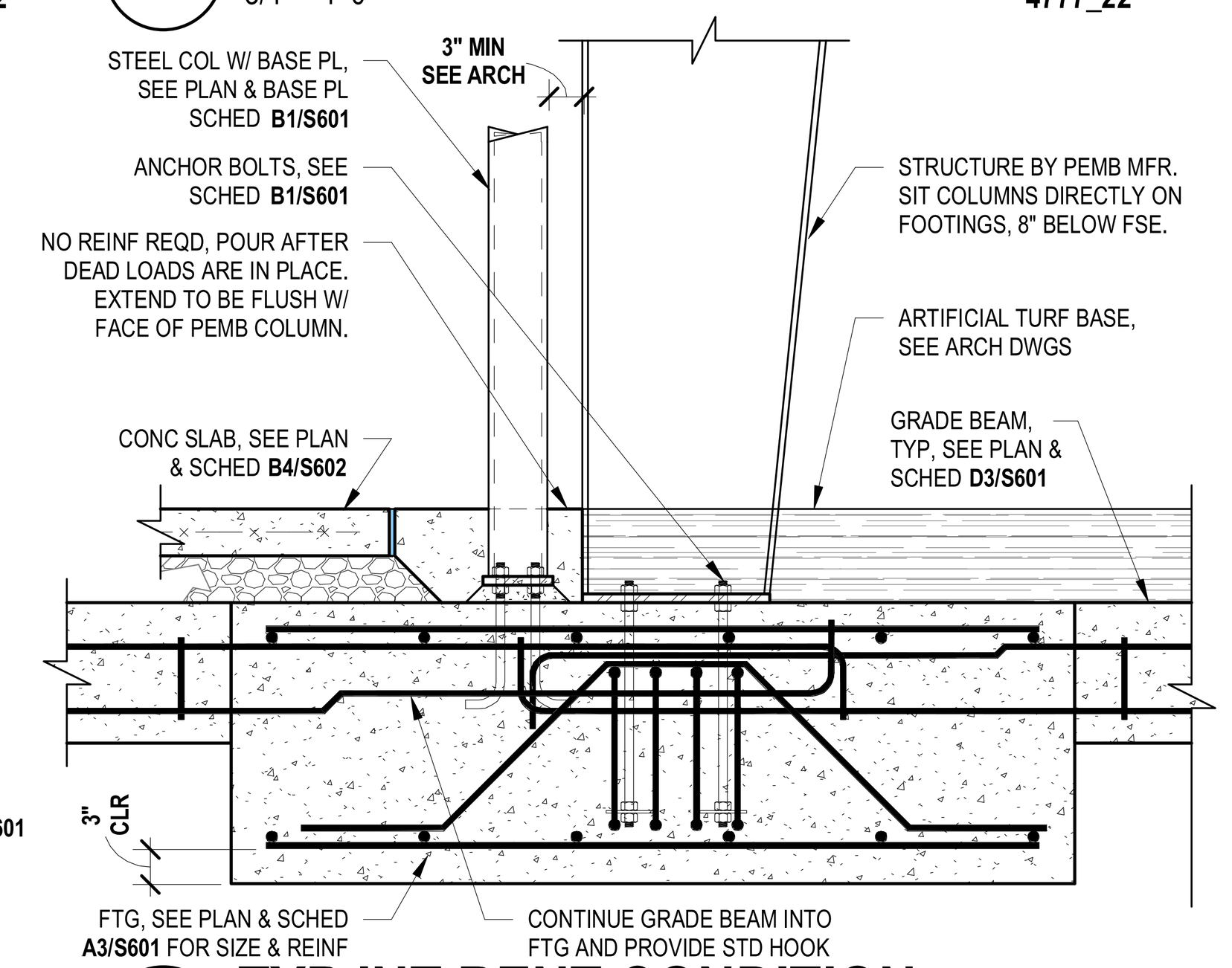
C2 MECH PAD DETAIL
3/4" = 1'-0" SC3636_E



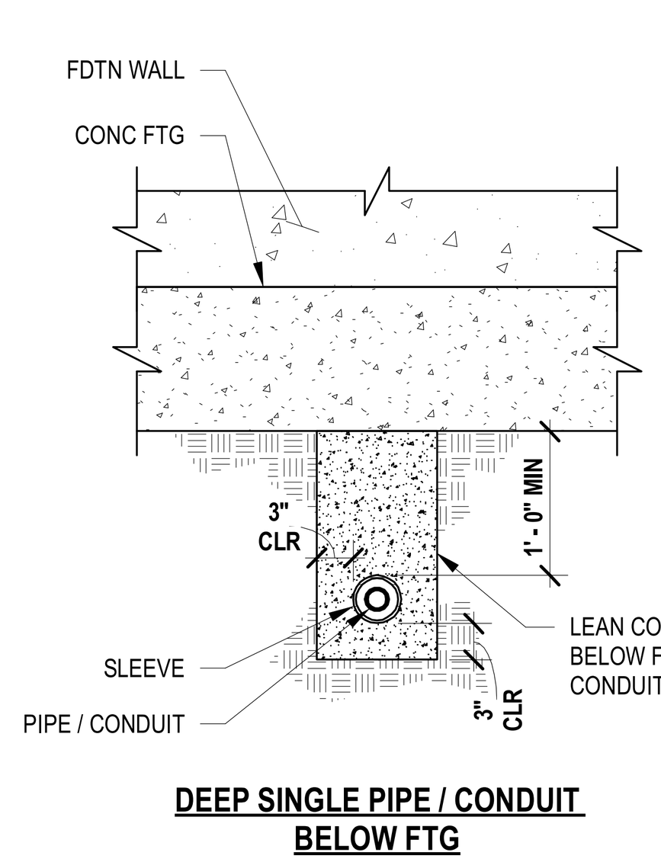
C4 -
3/4" = 1'-0" 3143_01

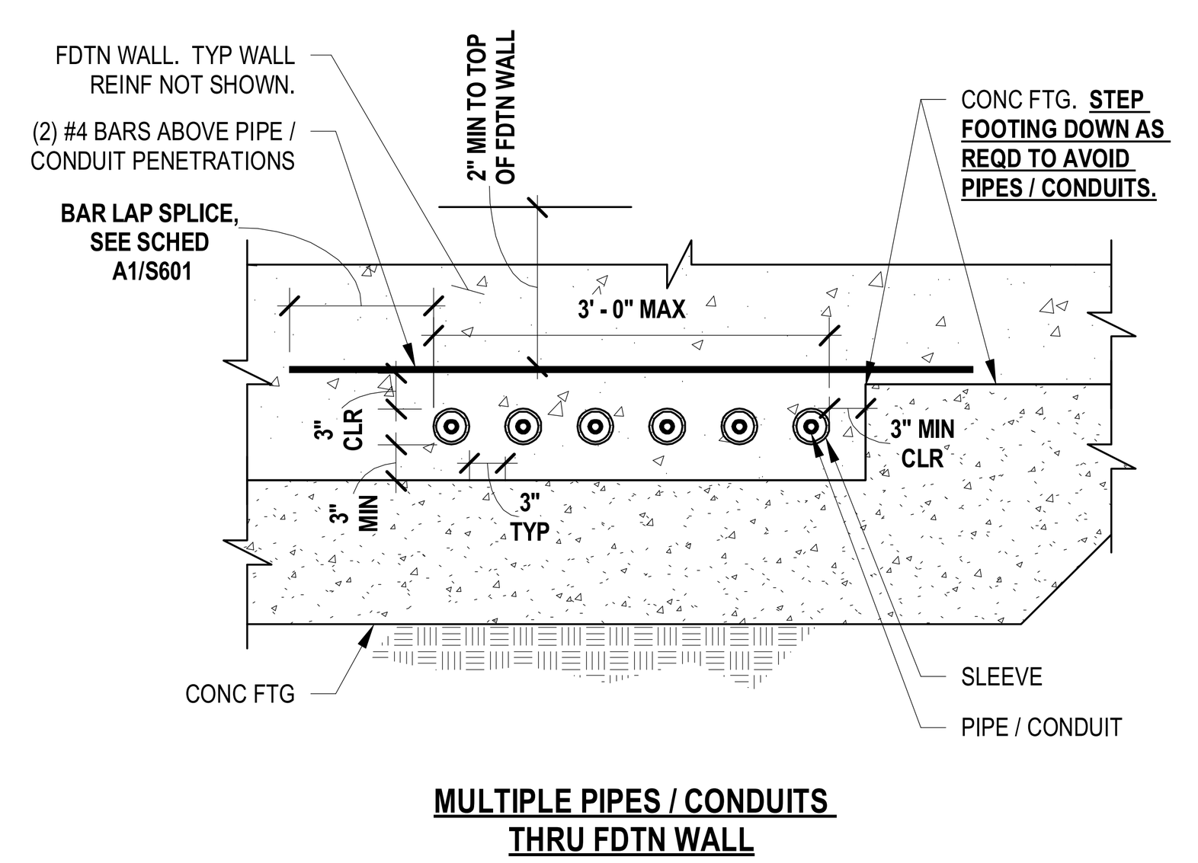


C5 TYP MEZZANINE COLUMN
3/4" = 1'-0" 3143_05A



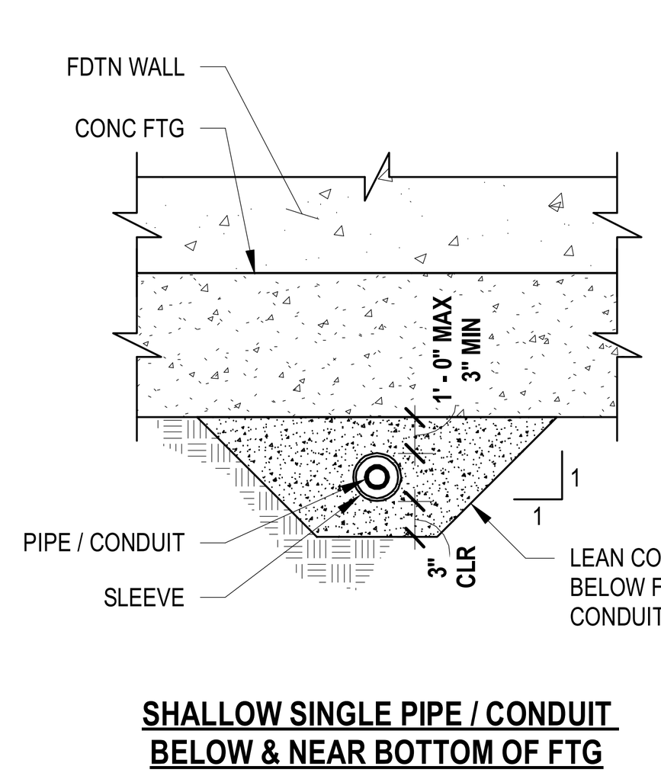
C6 TYP INT BENT CONDITION
3/4" = 1'-0" 4777_22

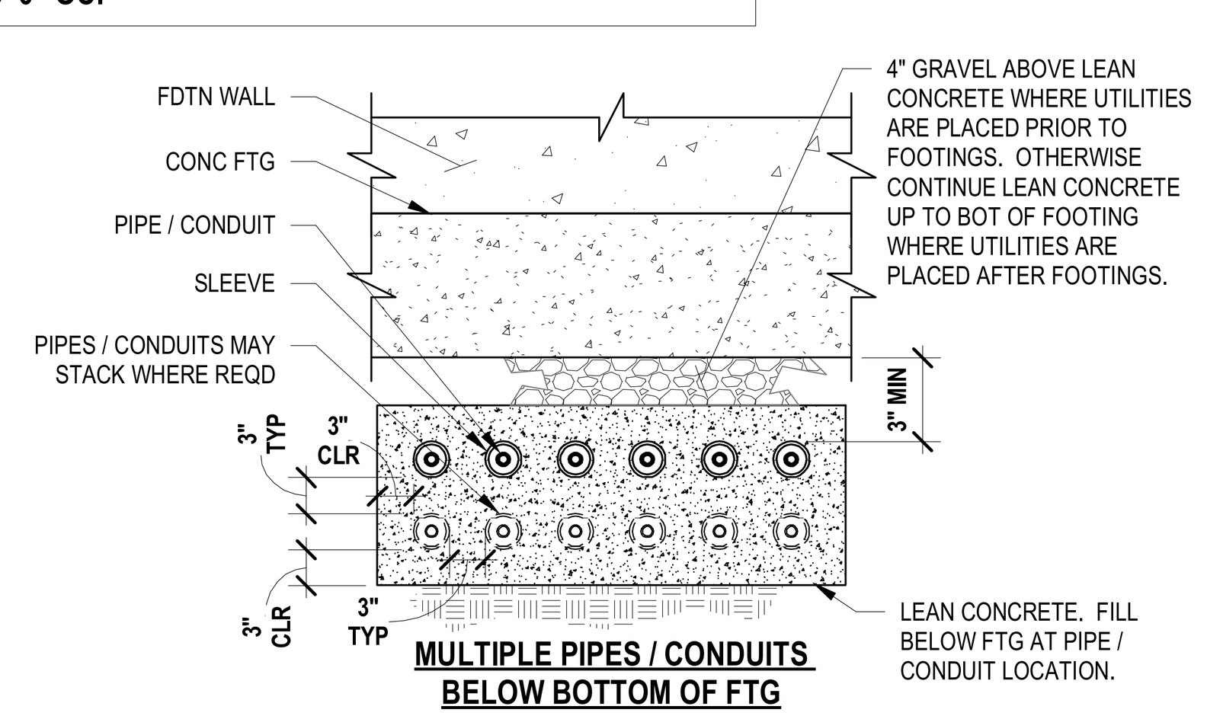




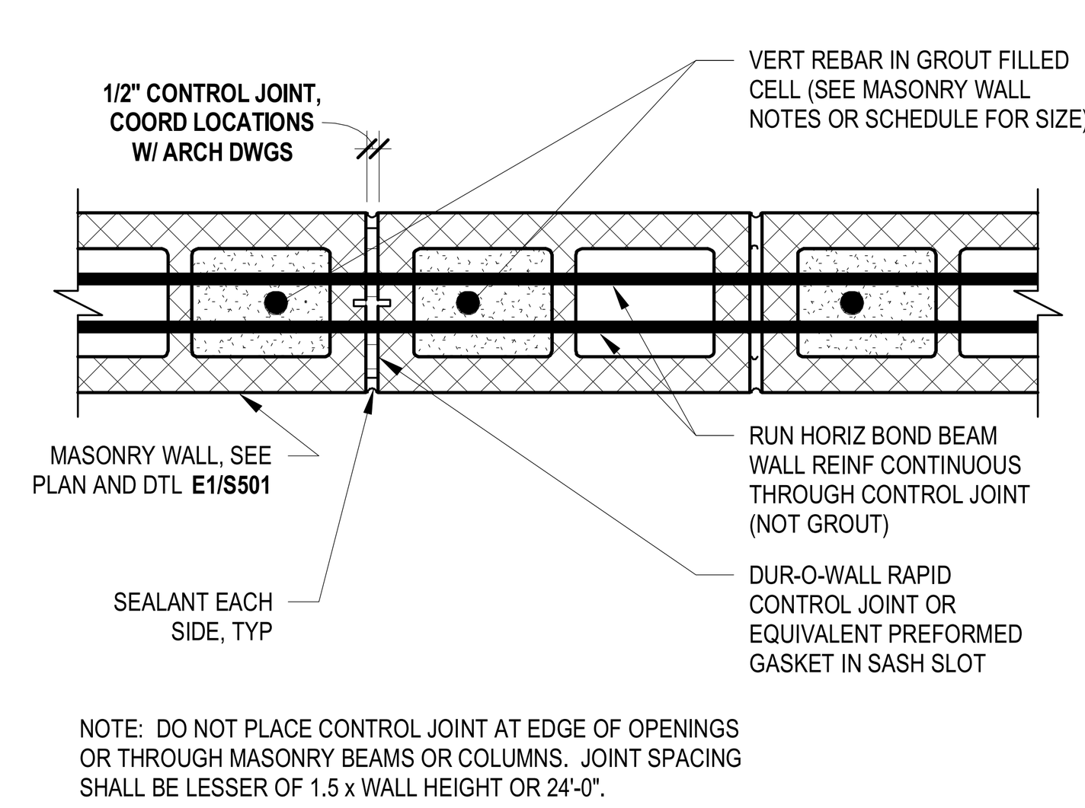
NOTES:

1. NO UTILITIES SHALL RUN THROUGH FOOTINGS.
2. NO UTILITIES SHALL RUN BELOW SPOT FOOTINGS.
3. SLEEVE INSIDE DIAMETER SHALL BE AT LEAST 1 1/2" GREATER THAN PIPE / CONDUIT OUTSIDE DIAMETER.
4. SINGLE PIPES MUST BE SPACED AT A MINIMUM OF 3'-0" OC.



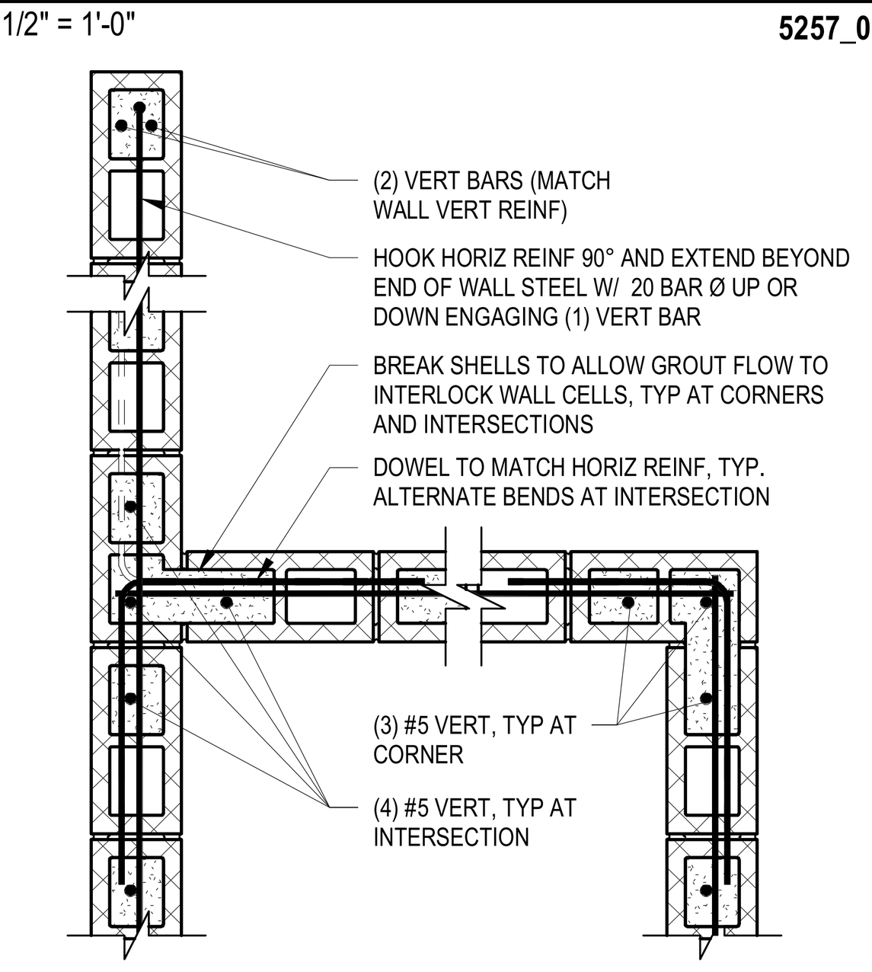


A1 PLUMBING / CONDUIT PENETRATIONS NEAR FTGS
3/4" = 1'-0" 3117_02

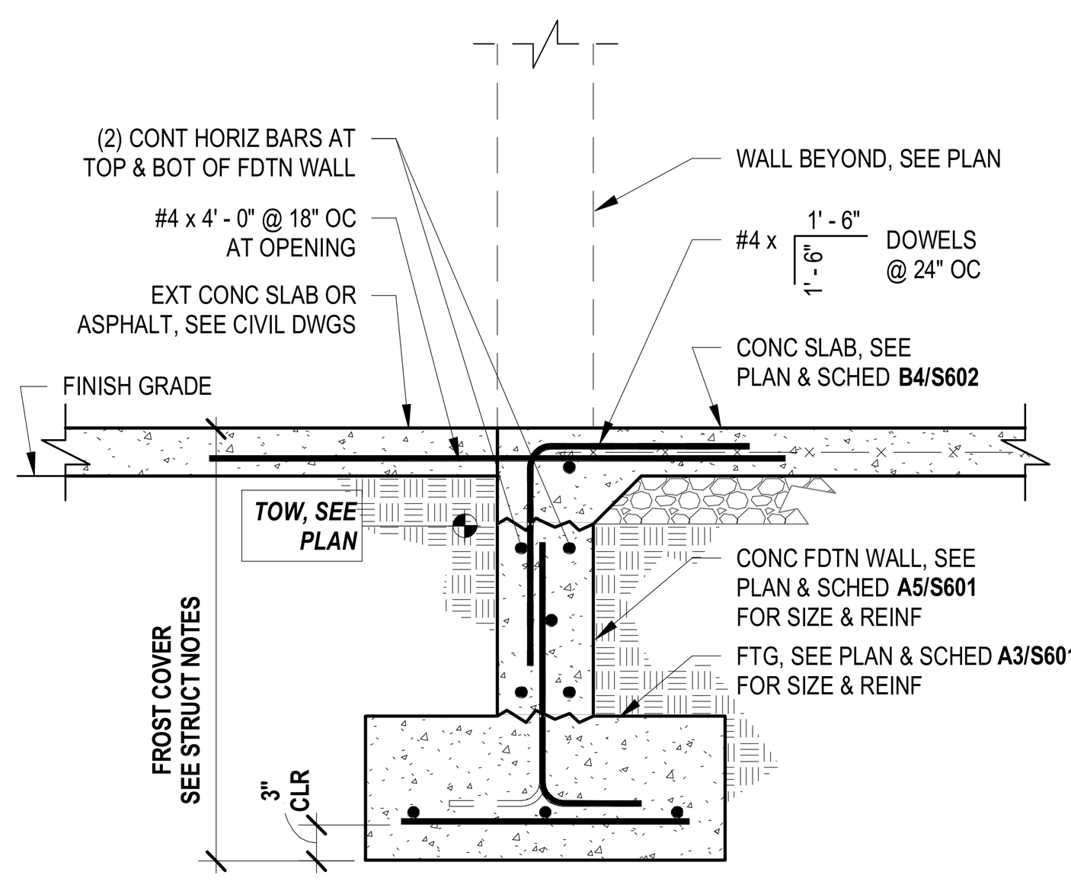


NOTE: DO NOT PLACE CONTROL JOINT AT EDGE OF OPENINGS OR THROUGH MASONRY BEAMS OR COLUMNS. JOINT SPACING SHALL BE LESSER OF 1.5 x WALL HEIGHT OR 24'-0".

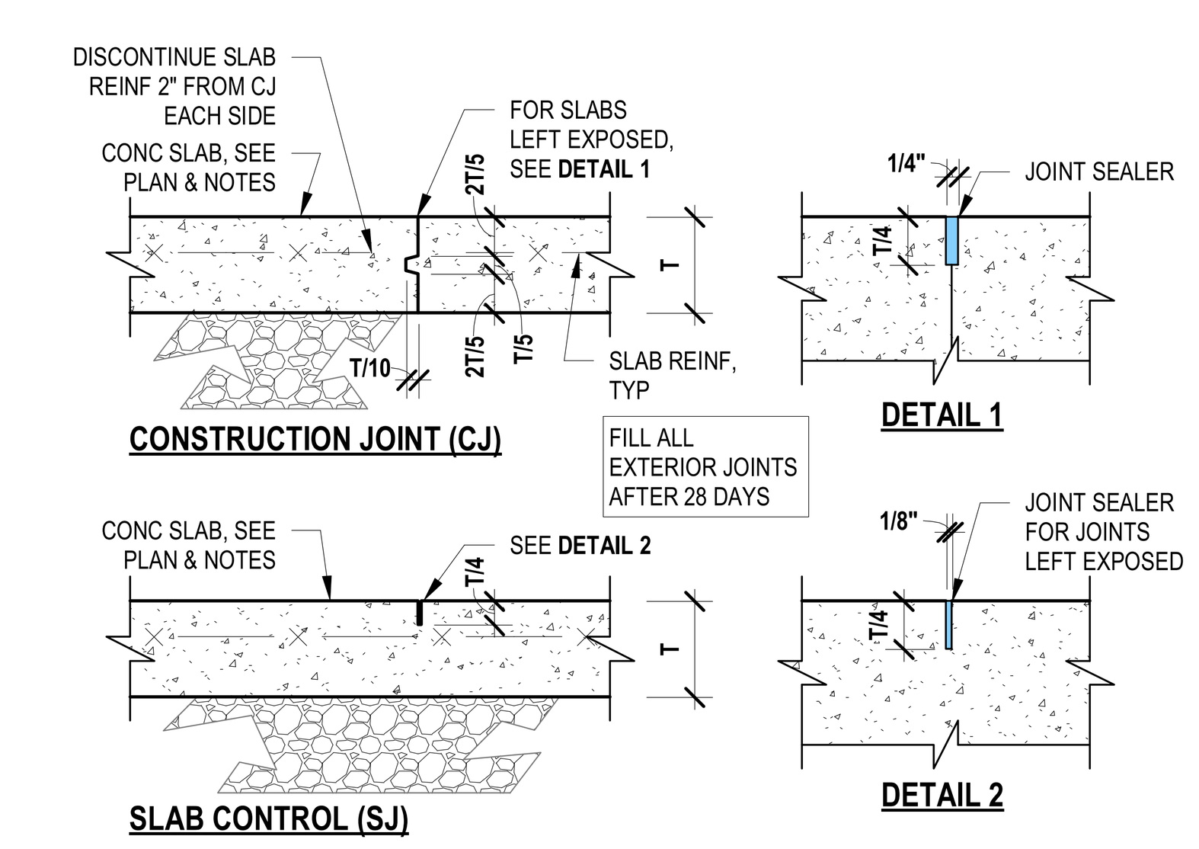
B3 TYP MASONRY CONTROL JT
1 1/2" = 1'-0" 5257_01



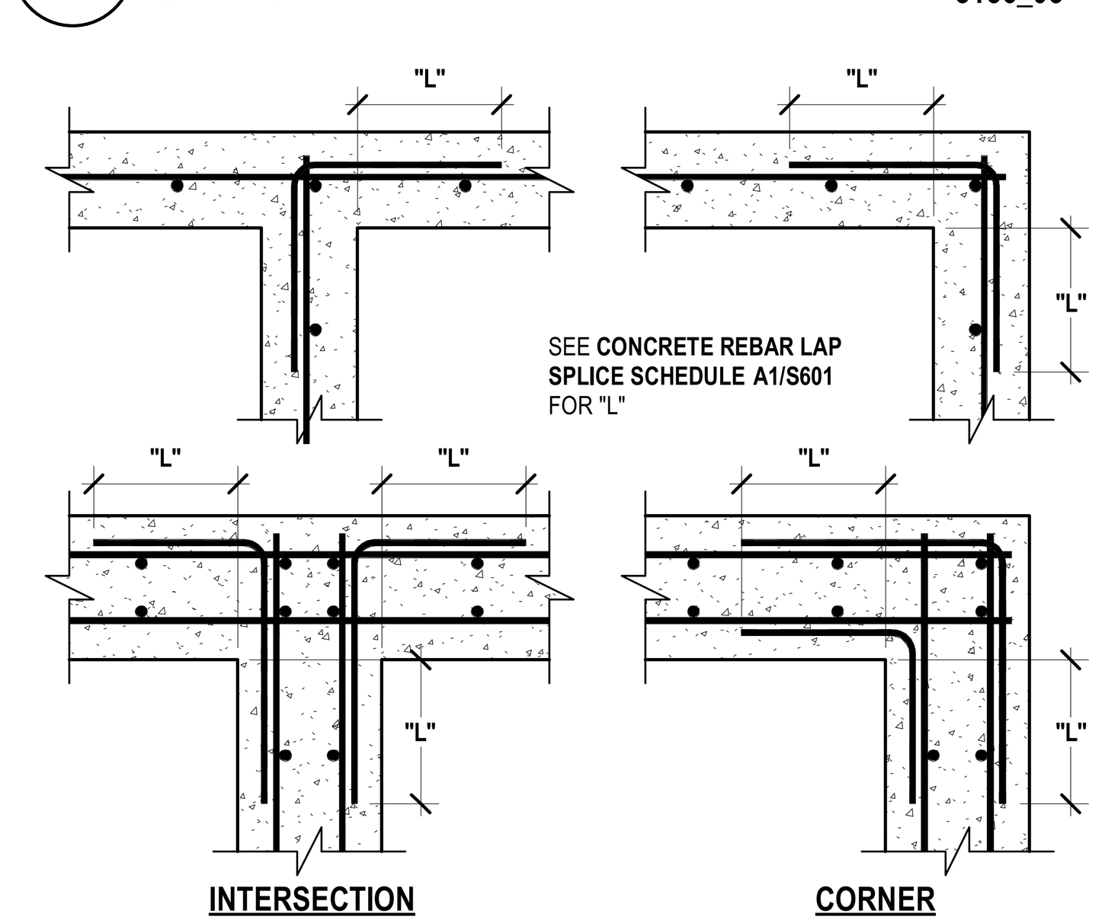
A3 MASONRY WALL DOWELS
3/4" = 1'-0" 5252_03



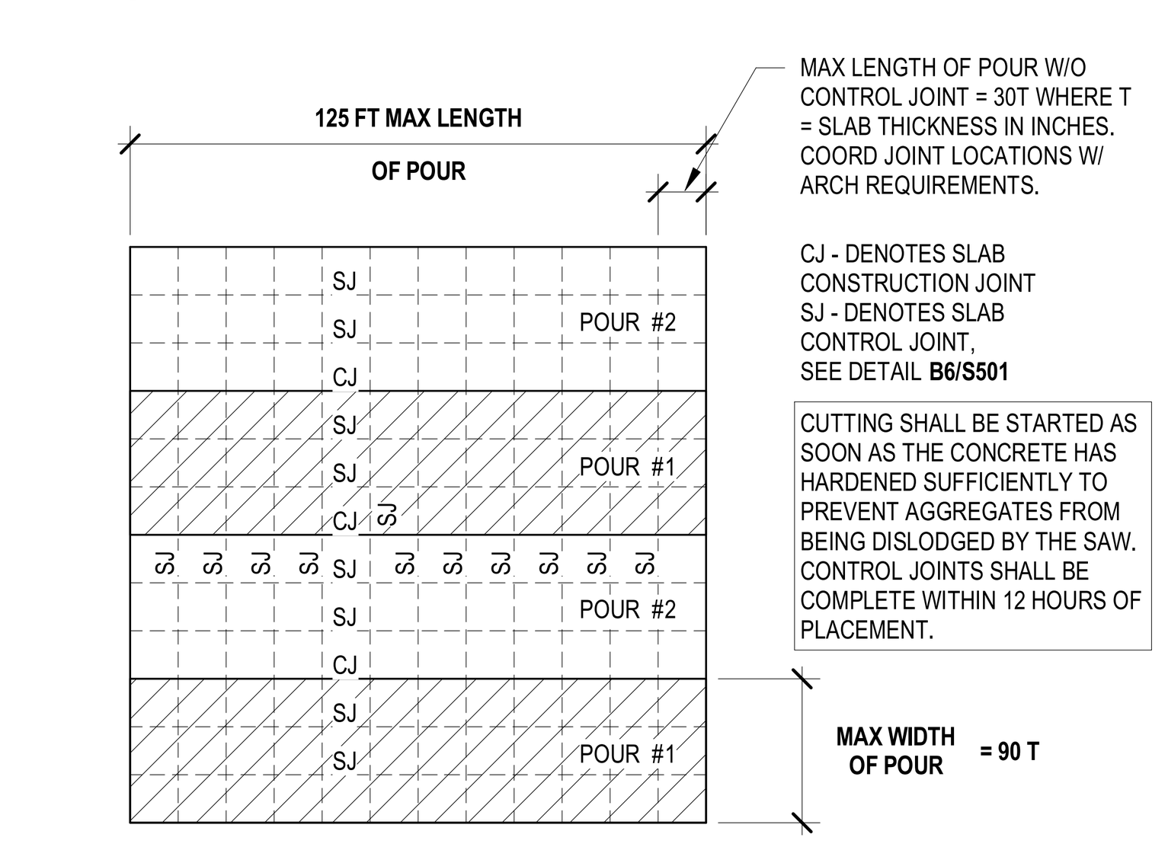
B5 EXT DOOR OPENING DETAIL
3/4" = 1'-0" 3136_03



B6 TYPICAL SLAB JOINT DETAILS
NO SCALE 3677_02



A5 CONCRETE WALL DOWELS
NO SCALE 3232_01



MAX LENGTH OF POUR W/O CONTROL JOINT = 30T WHERE T = SLAB THICKNESS IN INCHES. COORD JOINT LOCATIONS W/ ARCH REQUIREMENTS.

CJ - DENOTES SLAB CONSTRUCTION JOINT
SJ - DENOTES SLAB CONTROL JOINT. SEE DETAIL B6/S501

CUTTING SHALL BE STARTED AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO PREVENT AGGREGATES FROM BEING DISLODGED BY THE SAW. CONTROL JOINTS SHALL BE COMPLETE WITHIN 12 HOURS OF PLACEMENT.

A6 SLAB CONTROL JOINT CRITERIA
NO SCALE 3677_01

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PROFESSIONAL STAMP
PROFESSIONAL STRUCTURAL ENGINEER 9-12-2024 HENNING T. UNGERMAN #7801713 STATE OF UTAH
09/12/2024

CONSULTANT INFORMATION
CALDER RICHARDS CONSULTING ENGINEERS
www.calderrichards.com

CANYONS SCHOOL DISTRICT

PROJECT TITLE AND ADDRESS
CCHS FIELDHOUSE & SOCCER FIELD
12943 SOUTH 700 EAST
DRAPER, UTAH 84020

REVISIONS

DESCRIPTION	DATE

PROJECT INFORMATION

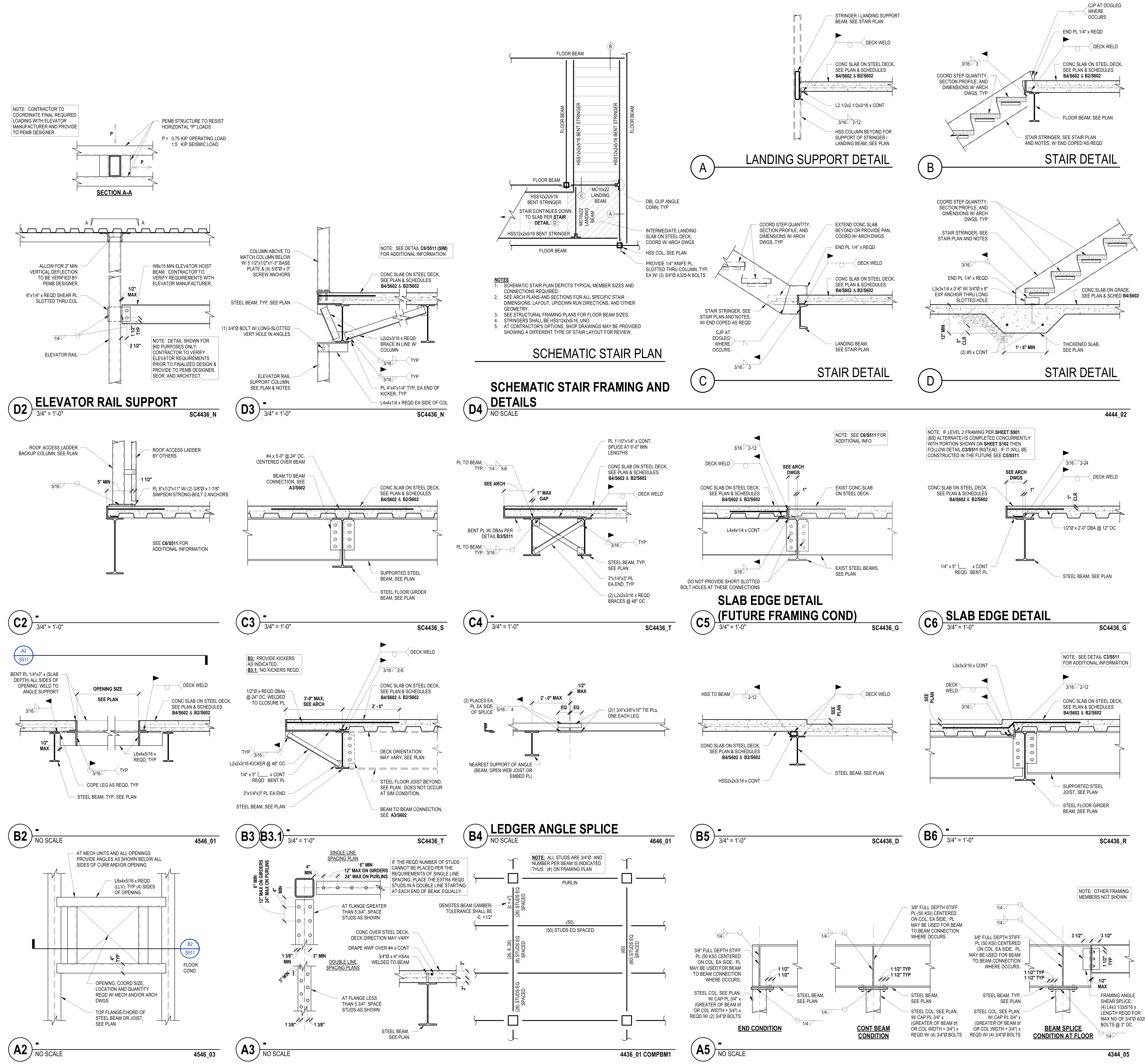
DATE:	SEPTEMBER 12, 2024
PROJECT #:	23-013
PM / PA:	KJM
PIC:	CLL

DRAWING SET STATUS
BID SET

THIS DRAWING SET IS INTENDED TO BE PRINTED IN COLOR

SHEET TITLE
STRUCTURAL DETAILS

SHEET NUMBER
S501



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PROFESSIONAL STAMP

STRUCTURAL ENGINEER, HENNING T. UNGERMAN, #7801713, STATE OF UTAH, 9-12-2024

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SHEET NUMBER

S511

Autodesk Docs://24-013 CCHS Fieldhouse & Soccer Field/CCHS Fieldhouse & Soccer Field - S23.rvt
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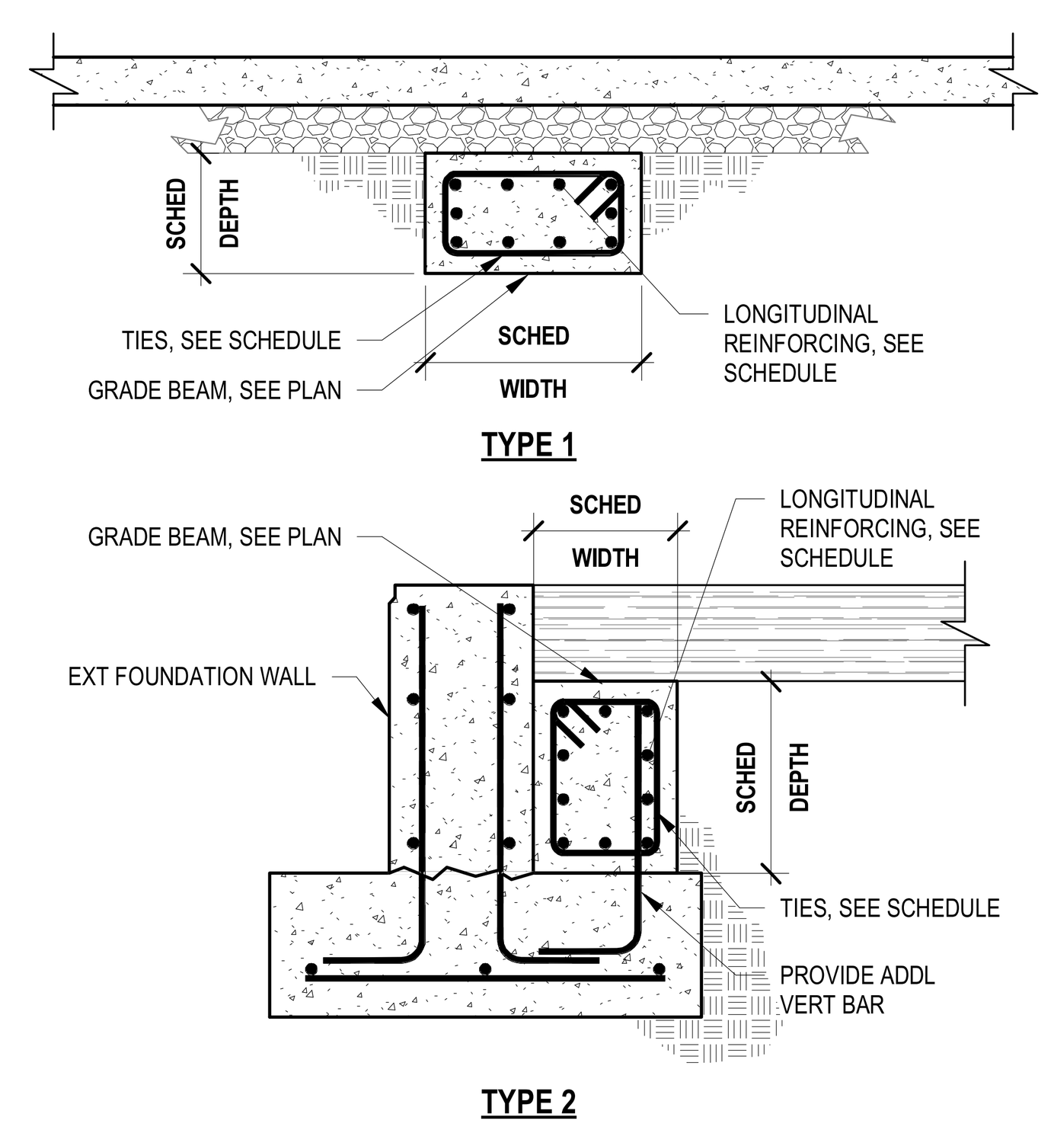
SCHEDULE - CONCRETE GRADE BEAMS

Mark	Depth	Width	Longitudinal Reinf	Ties	Configuration
GB-1	1' - 6"	1' - 6"	(10) #6 x Cont	#3 ☐ @ 9" OC	Type 1
GB-2	1' - 4"	1' - 0"	(6) #5 x Cont	#3 ☐ @ 8" OC	Type 2

GRADE BEAM NOTES:
1. REINFORCING SHALL BE CONTINUOUS THROUGH ANY INTERSECTION WALL OR FOOTING.
2. GRADE BEAMS SHALL BE IN PLACE PRIOR TO METAL BUILDING ERECTION.
3. SEE CONCRETE REINFORCING LAP LENGTH SPLICE SCHEDULE THIS SHEET FOR BAR LAP REQUIREMENTS.

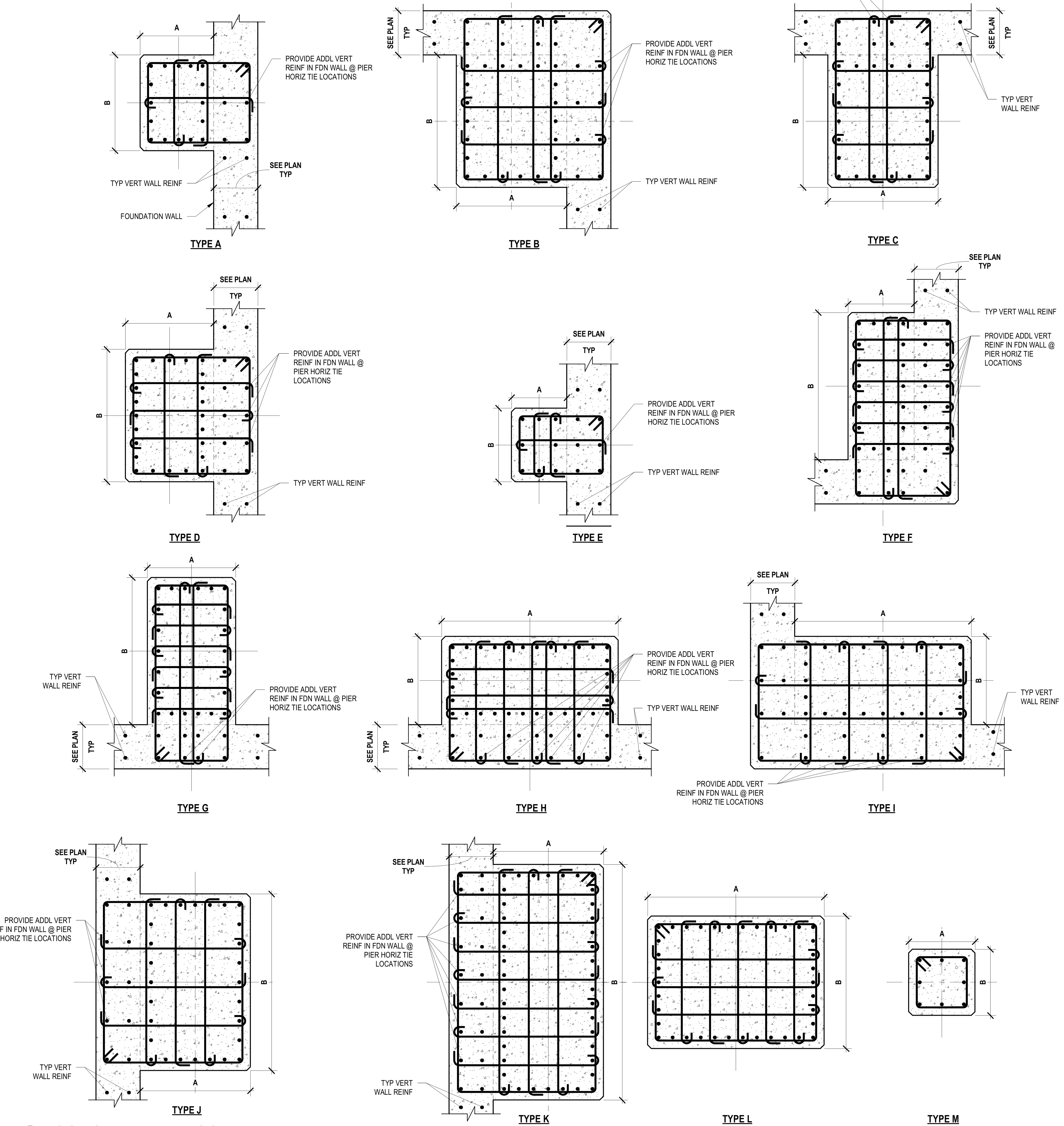


D3 **CONCRETE GRADE BEAM SCHEDULE**
3/4" = 1'-0"
4777_27

SCHEDULE - CONCRETE PIERS

Mark	Size A	Size B	Size C	Size D	Reinforcing Vertical	Reinforcing Ties	Configuration	Comments
CP-1	1'-8"	2'-2"	-	-	(16) #5	#3 @ 4" OC	Type A	
CP-2	2'-6"	3'-0"	-	-	(22) #6	#3 @ 4" OC	Type B	
CP-3	2'-6"	3'-0"	-	-	(22) #6	#3 @ 4" OC	Type C	
CP-4	2'-0"	3'-6"	-	-	(24) #6	#3 @ 4" OC	Type D	
CP-5	1'-3"	1'-8"	-	-	(8) #5	#3 @ 4" OC	Type E	
CP-6	1'-6"	3'-4"	-	-	(16) #6	#3 @ 4" OC	Type F	
CP-7	2'-0"	3'-4"	-	-	(22) #6	#3 @ 4" OC	Type G	
CP-8	4'-0"	2'-0"	-	-	(26) #6	#3 @ 4" OC	Type H	
CP-9	4'-0"	2'-0"	-	-	(26) #6	#3 @ 4" OC	Type I	
CP-10	2'-6"	4'-0"	-	-	(28) #6	#3 @ 4" OC	Type J	
CP-11	2'-6"	5'-4"	-	-	(42) #6	#3 @ 4" OC	Type K	
CP-12	4'-0"	3'-0"	-	-	(38) #6	#3 @ 4" OC	Type L	
CP-13	1'-6"	1'-6"	-	-	(8) #6	#3 @ 4" OC	Type M	

NOTES:
1. PROVIDE (4) SETS OF TIES IN TOP 5" OF PIER IN ADDITION TO TIE SPACING SHOWN.
2. EMBED COLUMN ANCHOR BOLTS PER ANCHOR BOLT OR BASE PLATE SCHEDULE.
3. NOT ALL BAR CONFIGURATIONS ARE SHOWN. PROVIDE CROSS TIES WHERE VERT REINF IS SPACED MORE THAN 6" APART OR AT EVERY OTHER VERT BAR.
4. CROSS TIES SHALL HAVE ONE END WITH A 90° HOOK AND ONE END WITH A 135° HOOK. ALTERNATE ENDS OF HOOKS ALONG VERT BARS.
5. TOP OF PIER AND TOP OF WALL MAY BE AT DIFFERENT ELEVATIONS. COORDINATE ELEVATIONS WITH PLANS AND DETAILS.

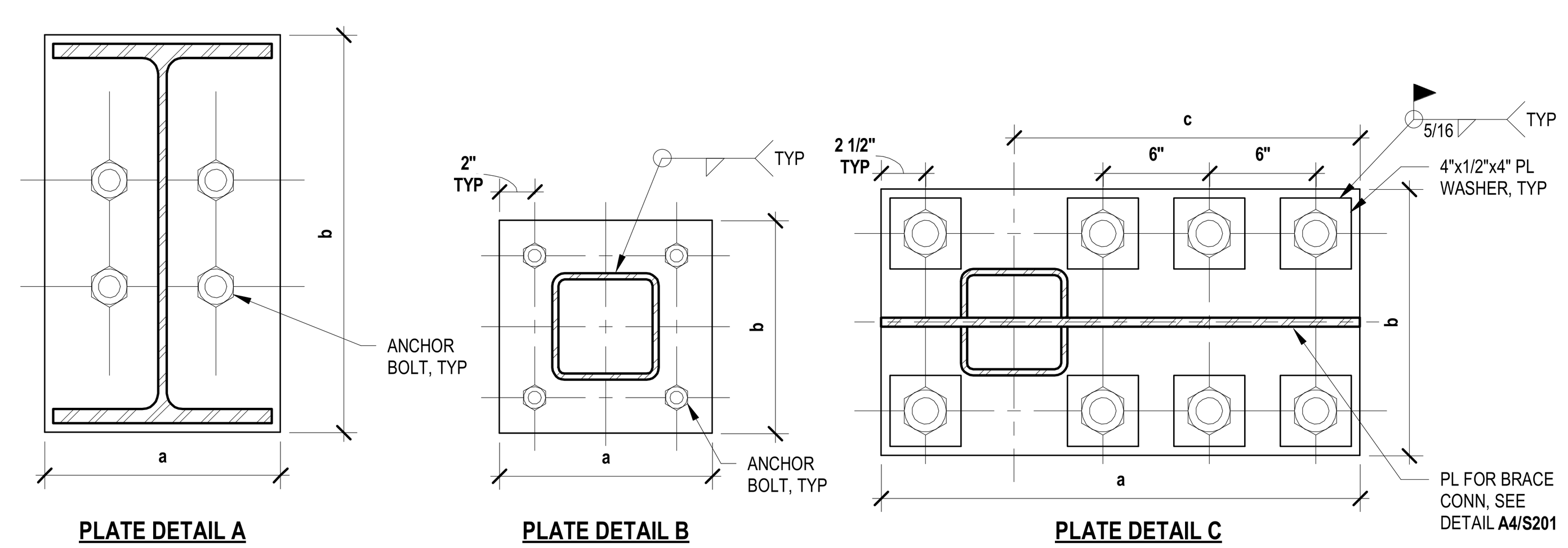


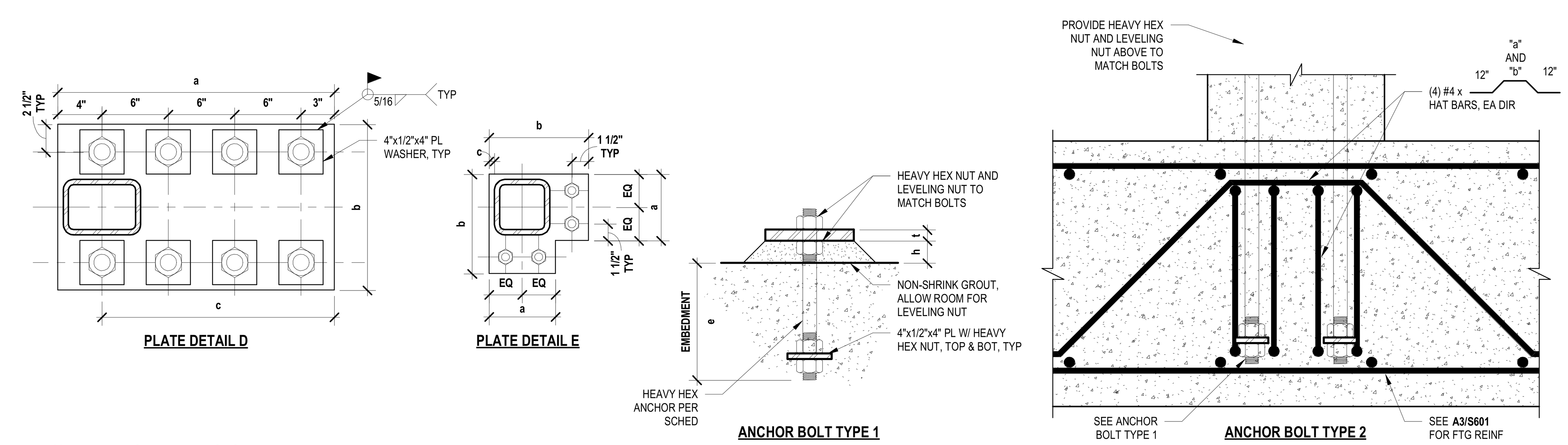
B4 **CONCRETE PIER SCHEDULE**
NO SCALE
3733_02

SCHEDULE - BASE PLATE

Mark	Plate Detail	Plate Dimensions "t"	"a"	"b"	"c"	Anchor Bolts Number	Diameter	Embed "e"	Type	Grade	Grout Depth "h"	Notes
BP-1	B	3/4"	10"	10"	-	(4)	3/4"	8 1/2"	1	F1554 GR36	1 1/2"	
BP-2	B	3/4"	11"	11"	-	(4)	3/4"	8 1/2"	1	F1554 GR36	1 1/2"	
BP-3	B	7/8"	13"	11"	-	(4)	3/4"	8 1/2"	1	F1554 GR36	1 1/2"	
BP-4	D	1"	25"	16"	21"	(8)	1 1/2"	44"	2	F1554 GR55	2 1/2"	
BP-5	C	1"	24"	14"	18"	(8)	1 1/4"	44"	2	F1554 GR55	2"	
BP-6	C	1"	28"	14"	20"	(8)	1 1/2"	26"	2	F1554 GR55	2 1/2"	
BP-7	C	1"	26"	14"	19"	(8)	1 1/2"	44"	2	F1554 GR55	2 1/2"	
BP-8	A	-	-	-	-	(4)	1"	18"	-	F1554 GR36	-	SEE NOTES 9 & 10
BP-9	A	-	-	-	-	(10)	1 1/4"	44"	-	F1554 GR55	-	SEE NOTES 9 & 10
BP-10	A	-	-	-	-	(10)	1"	20"	-	F1554 GR55	-	SEE NOTES 9 & 10
BP-11	A	-	-	-	-	(4)	1"	44"	-	F1554 GR36	-	SEE NOTES 9 & 10
BP-12	E	3/4"	6"	12"	1/2"	(4)	3/4"	8 1/2"	1	F1554 GR36	1 1/2"	

BASE PLATE NOTES:
1. ALL PLATES ARE A36 STEEL, UNO.
2. NON-SHRINK GROUT SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 4,000 PSI.
3. ALL BOLTS SHALL BE THREADED FOR FULL HEIGHT ABOVE TOP OF CONCRETE AND HAVE DOUBLE NUTS WITH WASHERS AT BOTTOM.
4. CENTER ALL COLUMNS ON PLATES, UNO.
5. ALL COLUMNS SHALL BE WELDED TO BASE PLATES WITH FILLET WELDS, UNO. ALL FILLET WELDS SHALL BE AS PER AISC TABLE J2.4, 3/16" MINIMUM.
6. ALL ANCHOR BOLTS ARE 3/4"Ø, TYPE 1, UNO.
7. COLUMN SHAPES SHOWN ON DETAILS MAY NOT CORRESPOND WITH ACTUAL COLUMN SHAPE. SEE STRUCTURAL PLANS FOR COLUMN TYPE.
8. SEE PLAN AND DETAILS FOR SPECIAL BASE PLATE CONDITIONS, WHERE OCCUR.
9. PEMB MANUFACTURER TO PROVIDE BASE PLATE SIZES, THICKNESSES AND LAYOUTS.
10. ANCHORAGE IS BASED OFF OF ASSUMPTIONS MADE PRIOR TO COMPLETION OF PEMB DESIGN. ANCHOR BOLT SIZING, SPACING, AND CONFIGURATION SUBJECT TO CHANGE.





B1 **BASE PL SCHEDULE**
NO SCALE

SCHEDULE - REINFORCING SPLICE LAP LENGTHS - f'c 3000 - 5000 PSI

Bar Size	f'c = 3000psi Regular Class A	Regular Class B	Top Class A	Top Class B	f'c = 4000psi Regular Class A	Regular Class B	Top Class A	Top Class B	f'c = 5000psi Regular Class A	Regular Class B	Top Class A	Top Class B
#3	17"	22"	22"	28"	15"	19"	19"	24"	13"	17"	17"	22"
#4	22"	29"	29"	38"	18"	25"	26"	33"	17"	22"	23"	30"
#5	28"	36"	37"	48"	24"	31"	32"	42"	21"	28"	24"	37"
#6	33"	43"	45"	58"	29"	37"	39"	50"	26"	33"	35"	45"
#7	48"	63"	63"	82"	42"	55"	55"	71"	37"	48"	48"	62"
#8	55"	72"	72"	93"	48"	63"	63"	81"	42"	55"	55"	71"
#9	62"	81"	81"	105"	54"	71"	71"	92"	48"	62"	62"	80"
#10	70"	91"	91"	118"	61"	79"	79"	103"	54"	70"	70"	90"
#11	78"	101"	101"	131"	68"	88"	88"	114"	60"	77"	77"	100"

NOTES:
1. THE SCHEDULE SHOWN APPLIES TO REGULAR WEIGHT CONCRETE WITH 60ksi GRADE REINFORCING BARS.
2. TOP BARS ARE HORIZONTAL BARS WITH 12" OR MORE OF FRESH CONCRETE CAST BELOW THE BARS.
3. CLASS "A" SPLICES SHALL BE USED WHEN 50% (OR LESS) OF BARS SPLICED WITHIN LAP.
4. CLASS "B" SPLICES SHALL BE USED FOR ALL ELSE, TYPICALLY WITH SHEARWALLS, COLUMNS, BEAMS AND SLABS.
5. FOR EPOXY COATED BARS, INCREASE LAP LENGTHS AS FOLLOWS:
   TOP BARS: Ld x 1.7
   REGULAR BARS: Ld x 1.5
6. FOR BUNDLED BARS, INCREASE LAP LENGTHS AS FOLLOWS:
   BUNDLED BARS, THREE OR LESS: Ld x 1.2
   BUNDLED BARS, FOUR OR MORE: Ld x 1.33
   INDIVIDUAL BAR SPLICES WITHIN A BUNDLE SHALL NOT OVERLAP.
7. LAP SPLICES ARE NOT ALLOWED FOR TIES AND STIRRUPS.

A1 **-**
NO SCALE
3747_01

SCHEDULE - FOOTINGS

Mark	Width	Length	Thickness	Crosswise Reinforcing	Crosswise Spacing	Lengthwise Reinforcing	Lengthwise Spacing	Notes
FC3.0	3' - 0"	CONT	12"	-	-	(4) #5 x CONT	EQ	
FC4.0	4' - 0"	CONT	12"	-	-	(5) #5 x CONT	EQ	
FR10.0/28.0	10' - 0"	28' - 0"	24"	(25) #7 x 9' - 6"	EQ	(10) #7 x 27' - 6"	EQ	TOP & BOTTOM
FR10.0/35.0	10' - 0"	35' - 0"	24"	(31) #7 x 9' - 6"	EQ	(10) #7 x 34' - 6"	EQ	TOP & BOTTOM
FR12.0/32.0	12' - 0"	32' - 0"	24"	(28) #7 x 11' - 6"	EQ	(12) #7 x 31' - 6"	EQ	TOP & BOTTOM
FR13.0/31.0	13' - 0"	31' - 0"	30"	(34) #7 x 12' - 6"	EQ	(16) #7 x 30' - 6"	EQ	TOP & BOTTOM
FR13.0/34.0	13' - 0"	34' - 0"	30"	(37) #7 x 12' - 6"	EQ	(16) #7 x 34' - 6"	EQ	TOP & BOTTOM
FR13.0/36.0	13' - 0"	36' - 0"	30"	(40) #7 x 12' - 6"	EQ	(16) #7 x 35' - 6"	EQ	TOP & BOTTOM
FS4.0	4' - 0"	4' - 0"	12"	(4) #5 x 3' - 6"	EQ	(4) #5 x 3' - 6"	EQ	
FS6.0	6' - 0"	6' - 0"	12"	(4) #6 x 5' - 6"	EQ	(4) #6 x 5' - 6"	EQ	
FS8.0	8' - 0"	8' - 0"	16"	(5) #7 x 7' - 6"	EQ	(5) #7 x 7' - 6"	EQ	TOP & BOTTOM
FS10.0	10' - 0"	10' - 0"	24"	(9) #7 x 9' - 6"	EQ	(9) #7 x 9' - 6"	EQ	TOP & BOTTOM
FS12.0	12' - 0"	12' - 0"	24"	(11) #7 x 11' - 6"	EQ	(11) #7 x 11' - 6"	EQ	TOP & BOTTOM
FS13.0	13' - 0"	13' - 0"	30"	(14) #7 x 12' - 6"	EQ	(14) #7 x 12' - 6"	EQ	TOP & BOTTOM

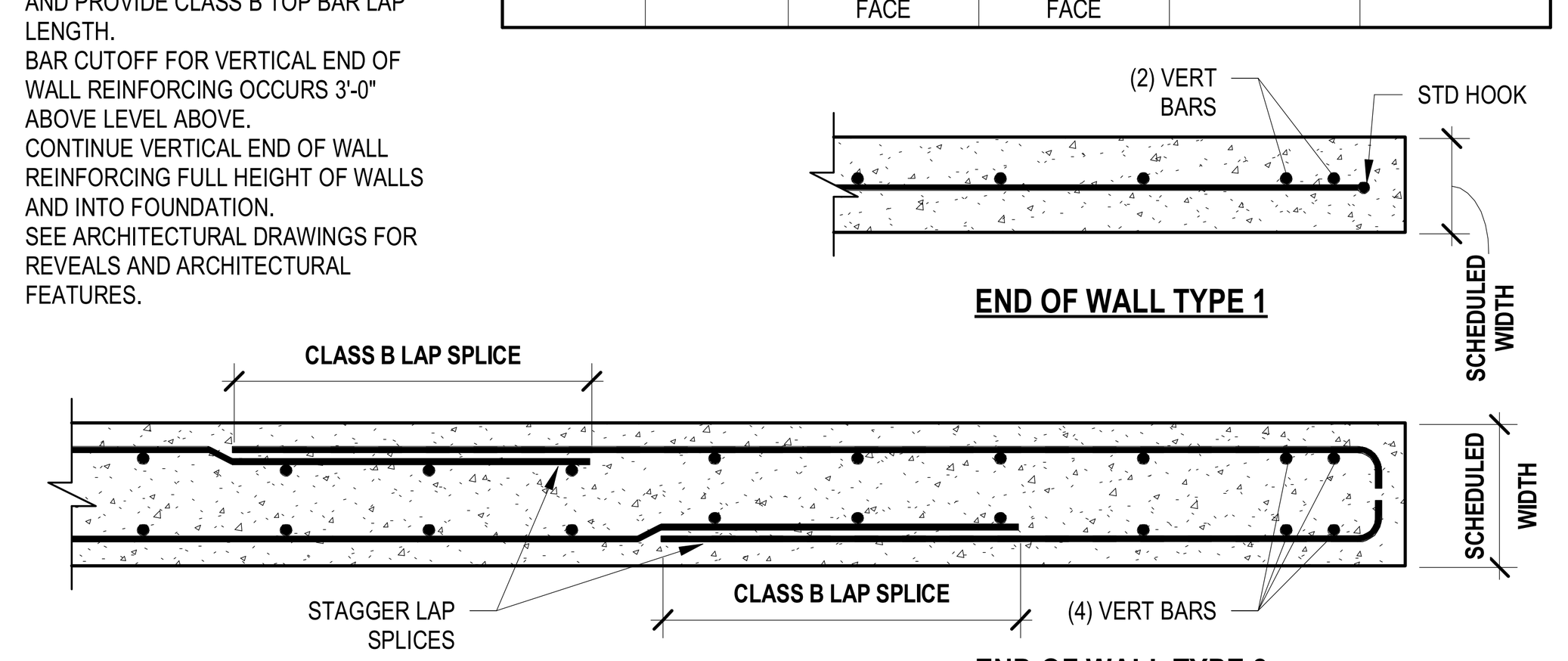
FOOTING NOTES:
1. PLACE CROSSWISE REINFORCING 3" CLEAR FROM GRADE.
2. WHERE TOP REINFORCING IS INDICATED, PLACE TOP CROSSWISE REINFORCING 2" CLEAR FROM TOP OF FOOTING AND LENGTHWISE REINFORCING UNDER CROSSWISE REINFORCING.
3. REINFORCE FOOTINGS MARKED WITH AN ASTERISK (*) EQUALLY, TOP & BOTTOM.
4. REINFORCE FOOTINGS MARKED WITH A PLUS SIGN (+), W/ #4 @ 12" OC, EACH WAY AT TOP MAT AND BOTTOM MAT AS SCHEDULED.
5. ALL CONTINUOUS FOOTINGS SHALL BE FC2.0, AND SQUARE FOOTINGS SHALL BE FS3.0, MINIMUM, UNLESS NOTED OTHERWISE ON PLANS.

A3 **FOOTING SCHEDULE**
NO SCALE
3731_01

NOTES:
1. LOCATE VERTICAL REINFORCING EACH SIDE OF ALL OPENINGS, EACH SIDE OF CONTROL JOINTS AND AT ALL ENDS AND CORNERS IN ADDITION TO SCHEDULED SPACING. SEE PLAN WHERE SPECIAL COLUMNS OCCUR AT JAMBS. DOWEL VERTICAL REINFORCING TO FOOTING OR THICKENED SLAB WHERE OCCURS W/ STD HOOK.
2. PLACE HORIZONTAL REINFORCING AT ALL SUSPENDED LEVELS. SEE PLANS, SECTIONS AND SCHEDULES FOR SPECIAL HORIZONTAL REINFORCING AT ROOFS AND OVER OPENINGS. SEE **A5/S501** FOR CORNER BAR DETAILS AND AT INTERSECTING WALLS.
3. WHERE NO MARK IS SHOWN ON PLANS, USE TYPE CW-1 FOR 8" CONC WALLS, AND TYPE CW-2 FOR 12" WALLS.
4. WHERE ONLY ONE (1) VERTICAL REINFORCING BAR IS SCHEDULED, THE BAR SHALL BE CENTERED IN THE WALL. WHERE TWO (2) BARS ARE SCHEDULED, LOCATE FACE OF REBAR AT 3**A1/S601**M EACH FACE. SEE SCHEDULE FOR BAR LAP REQUIREMENTS. MINIMUM COVER REQUIREMENTS ARE IN ADDITION TO ANY ARCHITECTURAL REVEALS OR FEATURES.
5. PROVIDE 90° HOOKS AT ALL HORIZONTAL REINFORCEMENT AND AT ALL WELD ENDS, CORNERS AND INTERSECTIONS. HOOKS SHALL ENGAGE VERTICAL REINFORCING.
6. STAGGER ALL SPLICES IN REINFORCING AND PROVIDE CLASS B TOP BAR LAP LENGTH.
7. BAR CUTOFF FOR VERTICAL END OF WALL REINFORCING OCCURS 3'-0" ABOVE LEVEL ABOVE.
8. CONTINUE VERTICAL END OF WALL REINFORCING FULL HEIGHT OF WALLS AND INTO FOUNDATION.
9. SEE ARCHITECTURAL DRAWINGS FOR REVEALS AND ARCHITECTURAL FEATURES.

SCHEDULE - CONCRETE WALLS

Mark	Thick	Reinforcing Horizontal	Reinforcing Vertical	End of Wall Reinf Type	Comments
CW-1	8"	#5 @ 15" OC	#5 @ 12" OC	1	
CW-2	12"	#5 @ 16" OC EA FACE	#5 @ 16" OC EA FACE	2	



A5 **CONCRETE WALL SCHEDULE**
NO SCALE
3732_01

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CANYONS SCHOOL DISTRICT

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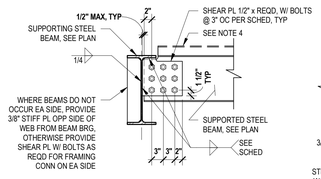
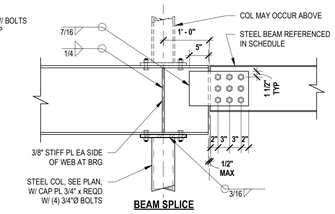
S601

SCHEDULE - BOLTED COLLECTOR CONNECTIONS			
Beam Size	Shear Bolts	Col x Row Bolt Layout	Weld Size
W16, W18	(12) 7/8"Ø	3x4	3/8"
W24	(15) 7/8"Ø	3x5	3/8"
W33	(18) 7/8"Ø	3x6	3/8"

NOTES:
1. SEE FRAMING PLANS FOR BEAM AND/OR COLUMN SIZES.
2. ALL BOLTS SHALL BE A325-N, TYP. UNO.
3. DECK AND JOISTS NOT SHOWN IN CONNECTION DETAILS BELOW.
4. BEAM MAY OCCUR HIGHER FOR DECK BEARING, COORD W/ PLAN.
5. COPE BEAM FLANGE AS REQD FOR CONNECTION.
6. ALL BOLTED CONNECTIONS SHALL USE STANDARD HOLES.
7. ALL SHEAR PLATES SHALL BE GRADE 50 STEEL (Fy = 50 KSI, Fu = ## KSI).
8. NOT ALL BEAM SIZES IN SCHEDULE ARE USED.



BEAM TO BEAM



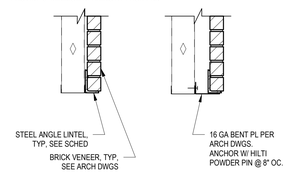
BEAM SPLICE

E3 COLLECTOR CONNECTIONS
NO SCALE

4744_03A

SCHEDULE - BRICK VENEER LOOSE STEEL ANGLE LINTEL	
Rough Opening (RO) Width	Steel Angle Lintel Size
RO WIDTH <= 4'-0"	L3 1/2x3 1/2x1/4
4'-0" < RO WIDTH <= 6'-0"	L4x4x1/4
6'-0" < RO WIDTH <= 8'-0"	L6x4x5/16 (LLV)
8'-0" < RO WIDTH <= 10'-0"	L6x4x3/8 (LLV)
10'-0" < RO WIDTH	CONTACT STRUCTURAL ENGINEER

NOTES:
1. PROVIDE 6" MINIMUM BEARING AT EACH END.

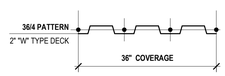


D5 STEEL ANGLE LINTEL SCHEDULE
NO SCALE

4757_01 - VENEER LINTEL ANGLE SCHEDULE

STEEL DECK SCHEDULE										
					SUPPORTS		SIDE LAP			
MARK	PROFILE	DEPTH	MIN I (in^4/ft)	MIN S (in^3/ft)	PERPENDICULAR	PARALLEL	WELDED	MECHANICAL	MIN ALLOWABLE DIAPHRAGM SHEAR CAPACITY (ASD)	NOTES
D1	20 GA "W2"	2"	0.422	0.323	3/4"Ø PW @ 36/4	3/4"Ø PW @ 12" OC	-	BUTTON PUNCH @ 36" OC	2400 PLF @ 7'-0" SPAN	
DL	20 GA "W2"	2"	0.422	0.323	3/4"Ø PW @ 36/4	3/4"Ø PW @ 12" OC	-	BUTTON PUNCH @ 36" OC	2400 PLF @ 7'-0" SPAN	TYP STAIR LANDING DECK, SEE DETAIL D4/S511

NOTES:
1. SUPPORTS SHALL BE ANY STRUCTURAL STEEL ELEMENT IN CONTACT WITH STEEL DECK.
2. PW = PUDDLE WELD - 1/2" EFFECTIVE DIAMETER MINIMUM ARC SPOT WELD AT INTERIOR FLUTES, 1" x 3/8" EFFECTIVE ARC SEAM WELD AT SUPPORTS ADJACENT TO SIDELAP.
3. TSW = TOP SEAM WELD - 1 1/2" LONG TOP SEAM WELDS BETWEEN ADJACENT PIECES OF DECKING. CRIMP SIDE SEAMS BEFORE WELDING INTERLOCKING SEAMS.
4. BP = BUTTON PUNCH - 3/16" BUTTON PUNCH BETWEEN ADJACENT PIECES OF DECK. CRIMP SEAMS BEFORE BUTTON PUNCHING INTERLOCKING SEAMS.
5. PAF = POWDER ACTUATED FASTENER:
   - HILTI X-HSN 24 AT SUPPORTS 3/16" THROUGH 3/8" THICK
   - HILTI X-ENP-19 L15 AT SUPPORTS 1/4" THICK AND GREATER
   - PNEUTEK SDK61075 AT SUPPORTS 0.113" THROUGH 0.155" THICK
   - PNEUTEK SDK63075 AT SUPPORTS 0.155" THROUGH 0.250" THICK
   - PNEUTEK K64062 AT SUPPORTS 0.187" THROUGH 0.312" THICK
   - PNEUTEK K66062 OR K66075 AT SUPPORTS 0.281" THICK AND GREATER
6. SDS = SELF-DRILLING SCREW. WHERE SIDELAPS HAVE SCREWED CONNECTION, THE DECK PROVIDED SHALL HAVE A SCREWABLE SIDE SEAM, UNO.
7. PSC = PROPRIETARY SIDELAP CONNECTION - VERCO SIDELAP CONNECTION 2 FOR VERCO PUNCHLOK II SYSTEM, ASC DELTA GRIP FOR ASC DECKS.
8. SPACING AT SUPPORTS IS NOTED AS (DECK PANEL WIDTH)/(ATTACHMENTS PER PANEL). FOR EXAMPLE: PW @ 36/4 INDICATES A 36" WIDE DECK SHEET WITH 4 PUDDLE WELDS AT EACH SUPPORT.
9. HEADED STUD ANCHORS WELDED THROUGH DECK WITH 1" MINIMUM COVER FROM EDGE OF DECK TO STUD CENTERLINE MAY BE SUBSTITUTED ONE FOR ONE FOR PW.
10. SEE PLANS FOR ADDITIONAL FASTENERS REQUIRED AT MEMBERS DENOTED AS SFRS. OMIT ATTACHMENTS WHERE DENOTED AS PROTECTED ZONES IN SFRS.
11. ALL WELDED SURFACES SHALL BE DRY BEFORE WELDING DECK OR STUDS TO SUPPORTS.
12. ALIGN AND SECURE DECK IN POSITION BEFORE WELDING OR INSTALLING FASTENERS OR STUDS.
13. ALTERNATE MEANS OF DECK ATTACHMENT ARE PERMITTED WITH APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL SUBMIT THE PROPOSED ATTACHMENT SYSTEM AND THE CODE EVALUATION REPORT DEMONSTRATING THE SYSTEM HAS THE STRENGTH TO MEET THE SPECIFIED DECK SHEAR. IF THE ALTERNATE METHOD IS APPROVED, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THE DECK TYPE AND PROFILE IS COMPATIBLE WITH THE FASTENING SYSTEM.
14. STEEL DECK SHALL COMPLY WITH LATEST REQUIREMENTS OF THE STEEL DECK INSTITUTE (SDI).
15. SUBMIT CURRENT CODE EVALUATION REPORT (ICC OR IAPMO) WITH LOAD AND LATERAL SHEAR CAPACITIES WITH SHOP DRAWINGS.
16. ALL DECK SHALL BE 3-SPAN CONTINUOUS MINIMUM WHERE POSSIBLE. IN AREAS WHERE 3-SPAN CONDITIONS ARE NOT POSSIBLE THE CONTRACTOR SHALL VERIFY UN-SHORED DECK IS PERMITTED BY THE DECK MANUFACTURER FOR THE SPAN CONDITION, SPAN LENGTH, AND DECK GAUGE. WHERE DECK DOES NOT MEET THE REQUIREMENTS FOR UN-SHORED DECK, THE CONTRACTOR SHALL EITHER PROVIDE HEAVIER GAUGE DECK TO ALLOW FOR UN-SHORED DECK OR PROVIDE SHORING.
17. STEEL DECK WITHOUT CONCRETE FILL SHALL NOT BE USED TO SUPPORT LOADS FROM PLUMBING, HVAC DUCTS, LIGHT FIXTURES, ARCHITECTURAL ELEMENTS OR EQUIPMENT OF ANY KIND, UNLESS SPECIFICALLY NOTED OTHERWISE. LIGHTWEIGHT SUSPENDED ACOUSTICAL CEILINGS WITH A TOTAL WEIGHT PER WIRE NOT EXCEEDING 5# MAY BE HUNG FROM THE STEEL ROOF DECK. THE HANGERS SHOULD BE STAGGERED TO DISTRIBUTE THE LOAD OVER MULTIPLE DECK FLUTES.
18. DECK SHALL HAVE 2" MINIMUM BEARING ON ALL SUPPORTING MEMBERS (MEMBERS PERPENDICULAR TO DECK), UNO. DECKS SHALL HAVE 1 1/2" MINIMUM BEARING AT PARALLEL MEMBERS.
19. SEE TYPICAL DETAILS FOR SUPPORT STEEL REQUIRED AT OPENINGS THROUGH STEEL DECK. OPENING SUPPORT STEEL SHALL BE INSTALLED PRIOR TO SAW CUTTING OPENINGS.
20. ROOF DECKS TO BE GALVANIZED. FLOOR DECKS TO BE PHOSPHATIZED / PAINTED, EXCEPT ABOVE AND BELOW RESTROOMS, LOCKER ROOMS, AND MECHANICAL ROOMS, PROVIDE GALVANIZED DECK.



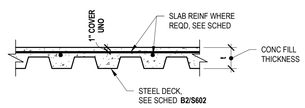
3/4"Ø PUDDLE WELD LAYOUT

B2 STEEL DECK SCHEDULE
NO SCALE

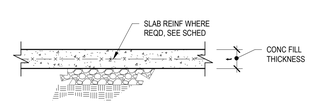
4677_03

CONCRETE SLAB SCHEDULE					
MARK	THICKNESS (t)	TYPE	REINFORCEMENT	FIRE RATING	NOTES
S1	5"	NORMAL WEIGHT	6x6 - W2.9xW2.9 WWF	1 HR	
SG1	4"	NORMAL WEIGHT	6x6 - W1.4xW1.4 WWF	-	
SG2	12"	NORMAL WEIGHT	#5 @ 12" OC EACH WAY, TOP & BOT	-	ELEVATOR PIT SLAB
SL	4"	LIGHTWEIGHT	6x6 - W1.4xW1.4 WWF	-	TYP STAIR LANDING SLAB, SEE DETAIL D4/S511

NOTES:
1. FIBER REINFORCEMENT, WHEN REQUIRED IN SCHEDULE, SHALL BE MACROSYNTHETIC FIBER REINFORCEMENT PER THE CONCRETE MATERIALS SECTION OF THE GENERAL STRUCTURAL NOTES.
2. DO NOT EMBED CONDUITS OR PIPES IN CONCRETE FILL OVER STEEL DECKS WITHOUT APPROVAL OF STRUCTURAL ENGINEER.
3. SEE PLANS AND DETAILS FOR LOCATIONS WHERE ADDITIONAL SLAB REINFORCEMENT IS REQUIRED.



CONCRETE SLAB OVER STEEL DECK PROFILE



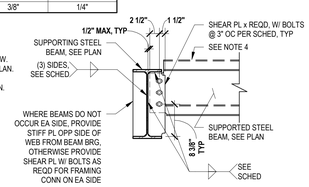
CONVENTIONAL CONCRETE SLAB PROFILE

B4 CONCRETE SLAB SCHEDULE
NO SCALE

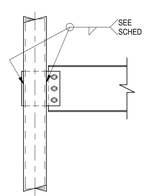
3677_06

SCHEDULE - BOLTED CONNECTION				
Beam Size	Shear Bolts	Shear Plate	Web Stiffener	Weld Size
W12	(3) 3/4"Ø	3/8"	3/8"	1/4"
W16	(4) 3/4"Ø	3/8"	3/8"	1/4"
W18	(5) 3/4"Ø	3/8"	3/8"	1/4"
W24	(6) 3/4"Ø	3/8"	3/8"	1/4"
W33	(9) 3/4"Ø	3/8"	3/8"	1/4"

NOTES:
1. SEE FRAMING PLANS FOR BEAM AND/OR COLUMN SIZES.
2. ALL BOLTS SHALL BE A325-N, TYP. UNO.
3. DECK AND JOIST NOT SHOWN IN CONNECTION DETAILS BELOW.
4. BEAM MAY OCCUR HIGHER FOR DECK BEARING, COORD W/ PLAN.
5. COPE BEAM FLANGE AS REQD FOR CONNECTION.
6. PROVIDE HORIZ SSHs IN SHEAR PL FOR BOLTED CONNECTION.
7. DIMENSIONS SHOWN ON BEAM TO BEAM ARE TO BE CONSIDERED TYPICAL FOR ALL CONDITIONS SHOWN.



BEAM TO BEAM



BEAM TO HSS COL

A3 TYPICAL BOLTED CONNECTIONS
NO SCALE

4744_03

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REVISIONS

△	DESCRIPTION	DATE

PROJECT INFORMATION

DATE:	SEPTEMBER 12, 2024
PROJECT #:	23-013
PM / PA:	KJM
PIC:	CLL

DRAWING SET STATUS

BID SET

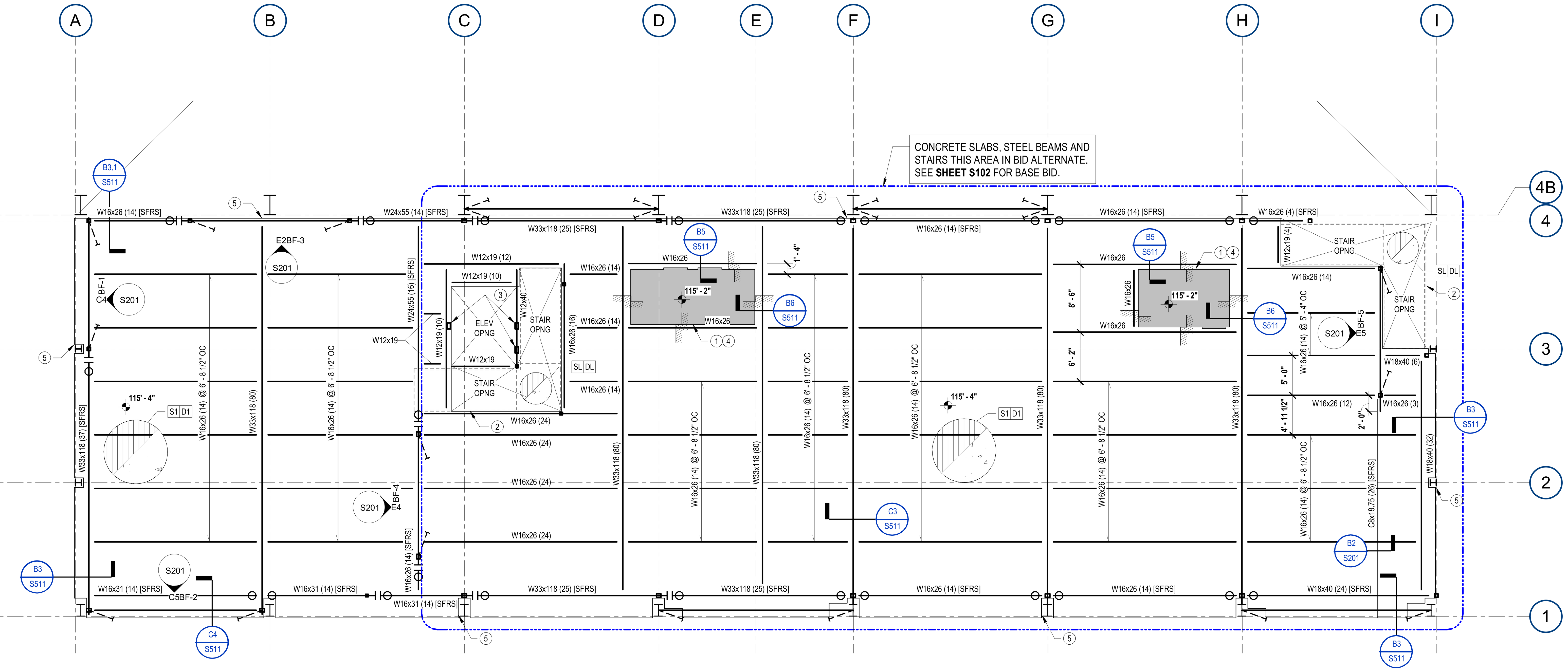
THIS DRAWING SET IS INTENDED TO BE PRINTED IN COLOR

SHEET TITLE

STRUCTURAL DETAILS AND SCHEDULES

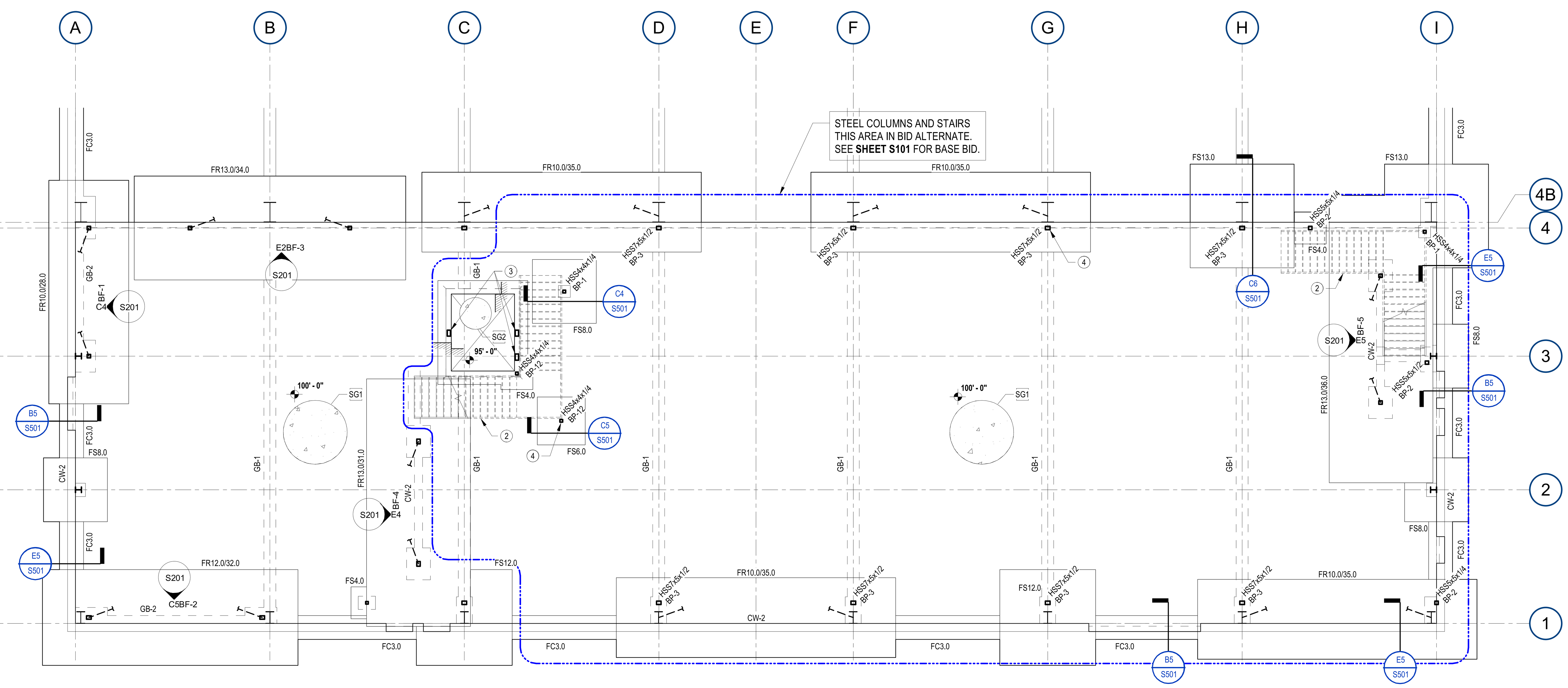
SHEET NUMBER

S602



Level 2 Framing Plan - Bid Alternate

1/8" = 1'-0"



Footing & Foundation Plan - Bid Alternate

1/8" = 1'-0"

PLAN NOTES - FLOOR FRAMING

- # NUMBERED NOTES BELOW ARE KEYED ON PLAN.
- D# DENOTES DECK TYPES KEYED ON PLAN, SEE SCHEDULE B2/602.
- S# DENOTES SLAB TYPES KEYED ON PLAN, SEE SCHEDULE B4/S602.

- * SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, TYPICAL.
- ** NOT ALL NOTES MAY APPLY TO AREA SHOWN ON SHEET.

- A SEE STRUCTURAL NOTES ON SHEETS S001 & S002 FOR ADDITIONAL INFORMATION.
- B TOP OF CONCRETE SLAB ELEVATION = 115'-4", UNLESS NOTED THUS: xxx'-x"
- C SEE DETAIL A3/S602 FOR TYPICAL BEAM TO BEAM CONNECTIONS.
- D COORDINATE OPENINGS THROUGH FLOOR DECK WITH MECHANICAL DRAWINGS. FLOOR PENERATIONS SHALL HAVE ANGLE FRAMING PER DETAIL A2/S511.
- E ALL CONTINUOUS DECK ANGLES TO BE SPLICED PER DETAIL B4/S511.
- F SEE ARCHITECTURAL DRAWINGS FOR TOP OF CMU WALL ELEVATIONS.
- G SEE DETAIL B3/S501 FOR CONTROL JOINTS IN MASONRY. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS.
- H SEE STEEL ANGLE LINTEL SCHEDULE D5/S602 FOR BRICK VENEER SUPPORT OVER OPENINGS, TYP, UNO.
- J (#) FOLLOWING STEEL BEAM CALLOUT DENOTES HEADED STUD ANCHOR QUANTITY FOR COMPOSITE BEAM, SEE DETAIL A3/S511 FOR SIZE AND SPACING REQUIREMENTS.
- K SEE SHEET S901 FOR BID ALTERNATE INFORMATION.

1. STEP IN SLAB, SEE DETAILS B5/S511 & B6/S511. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF STEPS.
2. SEE ARCHITECTURAL DRAWINGS FOR DETAILED ELEVATIONS AND CONFIGURATIONS OF LANDINGS AND STAIRS. AT STAIR LANDINGS, USE TYPE SL SLABS AND DL DECK, TYPICAL. SEE DETAIL D4/S511 FOR TYPICAL FRAMING SIZES & REQUIREMENTS.
3. ELEVATOR RAIL SUPPORT COLUMNS (ABOVE & BELOW) SHOWN FOR BID PURPOSES ONLY, COORDINATE REQUIREMENTS WITH ELEVATOR MANUFACTURER / SUPPLIER. SEE DETAIL D3/S511 & D2/S511 FOR TYPICAL FRAMING REQUIREMENTS.
4. PROVIDE SHORING BELOW SINGLE SPAN DECKING PRIOR TO POURING CONCRETE.
5. PROVIDE 3" EXPANSION GAP BETWEEN PEMB AND MEZZANINE STRUCTURE, TYPICAL.

FLOOR FRMG PLAN LEGEND

xxx'-xx"	TOP OF CONCRETE SLAB ELEVATION
	CHANGE IN ELEVATION
S# D#	CONCRETE SLAB ON STEEL DECK W/ SPAN DIRECTION INDICATED, SEE SCHEDULES **B4/S602** & **B2/S602** RESPECTIVELY
	STEEL COLUMNS: WIDE FLANGE, TUBE, PIPE
	DEPRESSED SLAB AREAS, COORD W/ ARCHITECTURAL DRAWINGS
	MASONRY WALL
	STEEL STUD WALL
	BEAM SPLICE, SEE DETAIL **A5/S511**
	COLLECTOR BEAM CONNECTION, SEE SCHEDULE **E3/S602**
	COLLECTOR BEAM SPLICE, SEE SCHEDULE **E3/S602**
[SFRS]	SEISMIC FORCE RESISTING SYSTEM
xx K	ADDITIONAL POINT LOAD

PLAN NOTES - FOOTING & FDTN

- # NUMBERED NOTES BELOW ARE KEYED ON PLAN.
- R# DENOTES REINFORCING KEYED ON PLAN.
- SG# DENOTES SLAB TYPES KEYED ON PLAN, SEE SCHEDULE B4/S602.

- * SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, TYPICAL.
- ** NOT ALL NOTES MAY APPLY TO AREA SHOWN ON SHEET.

- A SEE STRUCTURAL NOTES ON SHEETS S001 & S002 FOR ADDITIONAL INFORMATION.
- B TOP OF CONCRETE SLAB ELEVATION = 100'-0", UNLESS NOTED THUS: xxx'-x" SLOPE UNIFORMLY TO FLOOR DRAINS.
- C PLACE CONTROL JOINTS AND CONSTRUCTION JOINTS IN SLAB PER STRUCTURAL NOTES. SEE DETAIL A6/S501.
- D CENTER FOOTINGS ON WALLS AND COLUMNS UNLESS DIMENSIONED OTHERWISE ON PLANS.
- E SEE STRUCTURAL NOTES ON SHEET S001 FOR MINIMUM FROST COVER FOR ALL EXTERIOR FOOTINGS.
- F FOOTING ELEVATIONS SHOWN ARE BASED ON A UNIFORM GRADE 6" BELOW SLAB PLUS 2'-6" FROST COVER. COORDINATE ELEVATIONS SHOWN WITH CIVIL AND SITE PLANS FOR ANY ADDITIONAL DEPTH THAT MAY BE REQUIRED TO MAINTAIN MINIMUM FROST COVER OVER FOOTINGS.
- G SEE PLAN AND SECTIONS FOR TOP OF FOUNDATION WALL ELEVATIONS.
- H SEE DETAIL A5/S501 AN A3/S501 FOR TYPICAL CONCRETE AND MASONRY WALL REINFORCEMENT AT CORNERS AND INTERSECTIONS.
- J DO NOT PLACE BACKFILL AGAINST FOUNDATION WALLS UNTIL BRACING FLOOR IS IN PLACE OR ADEQUATE SHORING IS INSTALLED.
- K SEE DETAIL B3/S501 FOR CONTROL JOINTS IN MASONRY. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS.
- L SEE ARCHITECTURAL / SITE DRAWINGS FOR INFORMATION AND LOCATION OF SITE WALLS, STEPS, PLANTERS, RAMPS, ETC.
- M COORDINATE FOOTING W/ MECHANICAL AND ELECTRICAL DRAWINGS FOR ALL PENETRATIONS NEAR FOOTINGS. SEE A1/S501 FOR ADDITIONAL INFORMATION.
- N PROVIDE HOUSEKEEPING PADS FOR MECHANICAL/ELECTRICAL UNITS AS REQUIRED BY THE MECHANICAL/ELECTRICAL DRAWINGS. PADS TO BE POURED MONOLITHICALLY WITH THE SLAB ON GRADE OR ANCHORED WITH REBAR PER DETAIL C2/S501.
- P SEE SHEET S901 FOR BID ALTERNATE INFORMATION.

1. CONTRACTOR TO PROTECT AND COVER ELEVATOR PIT AND BRACED FRAME ANCHORAGE BETWEEN BASE BID AND BID ALT PHASES OF CONSTRUCTION.
2. SEE ARCHITECTURAL DRAWINGS FOR DETAILED ELEVATIONS AND CONFIGURATIONS OF LANDINGS AND STAIRS. AT STAIR LANDINGS, USE TYPE SL SLABS AND DL DECK, TYPICAL. SEE DETAIL D4/S511 FOR TYPICAL FRAMING SIZES & REQUIREMENTS.
3. ELEVATOR RAIL SUPPORT COLUMNS SHOWN FOR BID PURPOSES ONLY, COORDINATE REQUIREMENTS WITH ELEVATOR MANUFACTURER / SUPPLIER. SEE DETAIL C1/S501 FOR TYPICAL FRAMING REQUIREMENTS.
4. CONTRACTOR OPTION TO POST-INSTALL GRAVITY COLUMNS. SUBMIT RFI FOR POST-INSTALLATION OPTIONS. MAY ONLY UTILIZE FOR MEZZANINE COLUMNS NOT CONNECTED TO BRACED FRAMES.
5. DO NOT ROUTE MECHANICAL / ELECTRICAL DISTRIBUTION LINES BELOW OR THROUGH FOUNDATION WALLS WITH GRADE BEAMS.

FTG/FDTN PLAN LEGEND

FCx.x, FSx.x, FRx.x	CONTINUOUS FOOTING, SPOT FOOTING, RECTANGULAR FOOTING TYPES RESPECTIVELY, SEE SCHEDULE **A3/S601**
	CHANGE IN ELEVATION
xxx'-xx"	TOP OF CONCRETE SLAB ELEVATION
TW xxx'-xx"	TOP OF WALL ELEVATION
TP xxx'-xx"	TOP OF PIER ELEVATION
TF xx'-xx"	TOP OF FTG ELEVATION
SG#	CONCRETE SLAB ON GRADE, SEE SCHEDULE **B4/S602**
FCx.x	CONCRETE FOOTING, SEE SCHEDULE **A3/S601**
CW-#	CONCRETE FDTN WALL TYPE, SEE SCHEDULE **A5/S601**
	RECESS IN CONCRETE FDTN WALL
CP-#	CONCRETE PIER IN WALL, SEE SCHEDULE **B4/S601**
	SITE WALL, COORD W/ ARCH / CIVIL DWGS
	STEEL STUD WALL
BP-#	STEEL COLUMNS: WIDE FLANGE, HSS, BASE PLATE TYPE, SEE SCHEDULE **B1/S601**

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REVISIONS

△	DESCRIPTION	DATE

PROJECT INFORMATION

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BID SET

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SHEET TITLE

BID ALT #1 - FOOTING & FOUNDATION & LEVEL 2 FRAMING PLANS

SHEET NUMBER

S901