

ADDENDUM NUMBER THREE (3)**CATAWBA COUNTY****BLACKBURN RESOURCE RECOVERY FACILITY OPERATOR'S BUILDING****PROJECT NO. 26.00701**

This Addendum Number 3 (Three) is issued this the 28th day of October 2026, to all parties who hold a set of Bid Documents for the project entitled: “**BLACKBURN RESOURCE RECOVERY FACILITY OPERATOR'S BUILDING**”. This Addendum Number 3 (Three) shall become part of the Contract Documents and its receipt acknowledged on the bid documents at the time of bidding.

The following additions, revisions, and/or clarifications shall be made to the Contract Documents:

Bid Documents:

1. Project Manual: The below information includes changes, revisions, and updates to the project manual from the original bidding documents.
 - a. Bid Schedule: Line Item 13 has been changed to Class 350 DIP
 - b. Section 013000: Item 13 in the Measurement and Payment has been updated to reflect a change in material for the sanitary sewer line from SCH 40 PVC to Class 350 DIP.
 - c. Section 22000: Remove paragraphs 3.5.H and I.
2. Drawings: The below information includes changes, revisions, and updates to the drawings from the original bid set.
 - a. *Sheet A110*: Revisions made to Roof Assembly B.
 - b. *Sheet A310*: Revisions made to details 14, 17, and 18 clarifying changes to Roof Assembly B.
 - c. *Sheet A410*: Revisions made to details 9, 10, and 15 clarifying changes in the required window type.
 - d. *Sheet S001-S301*: Revisions made to notes on wall anchoring system.
 - e. *Sheet P601*: On the Plumbing Fixture – Equipment Connection Specification Schedule, for P-3AH and P-3BH change the mixing valve reference to **TMV-1**. For P-4H changing the mixing valve reference to **TMV-2**.
 - f. *Sheet P601*: On the Plumbing Fixture – Equipment Connection Specification Schedule, for P-2H change from rear spud to **top spud**.

Questions

1. The minutes from the pre-bid meeting in Addendum No. 1 mentioned that more information would be provided on the aluminum-clad wood windows. Please see below.
 - a. After further consideration, the operable windows have been replaced with fixed storefront windows. Please see revised Sheet A401 for further information.

2. Bid Item 10 calls for a gate valve on the 1" water tie-in. Is a 1" ball valve acceptable?
 - a. Yes. Provide a 1-inch full-port ball valve in lieu of the 1-inch gate valve shown on Drawing C300 and identified in Bid Item 10.
3. Addendum No. 1 says clean asphalt, concrete and dirt can go to the County at no charge. Does that include the brick from the demolished screen wall, or does the brick go across the scales?
 - a. Yes. Clean, demolished brick can be brought to the landfill at no charge.
4. C300 and the bid schedule show 1 inch PVC water. Sections 221000 and 332660, paragraph 2.7, call for Type K copper or a civil HDPE option. Please confirm pipe material, class and joints, and the drawn gate valve versus the small ball valve required by Section 332660.
 - a. Provide 1-inch Schedule 40 PVC water service piping as indicated on Sheet C-300 and the Bid Schedule. Provide compatible Schedule 40 PVC fittings with solvent-cemented joints. Provide a 1-inch full-port ball valve in lieu of the gate valve shown. Where Sections 221000 and 332660 conflict with this clarification regarding the above items, this RFI response shall govern.
5. C300 shows water below the nearby sewer at the building. Please provide the approved separation and crossing detail. Section 332660, paragraph 3.3, calls for 24 inch crossing clearance; Section 332700 calls for 18 inches, with ferrous piping where water crosses below sewer.
 - a. Utility separations should be a minimum of 18-inches clear vertical separation, measured from outside of pipe to outside of pipe, between the water and sanitary sewer services at crossings. Water above sewer is preferred where practicable. Where the water service crosses below the sanitary sewer, comply with the applicable protective piping requirements of Section 332700. The 18-inch minimum vertical clearance shall govern in lieu of the conflicting 24-inch requirement indicated in Section 332660.
6. C300 shows shallow 4-inch Sch40 sewer into SSMH9500. Section 332700, page 36, paragraphs D through F, prohibits 4-inch services into manholes and requires Class 350 DIP below 3 feet cover. Please confirm the approved material, cover and tie in detail. Also resolve 100 LF drawn versus 101 LF bid and whether P101's two opposing cleanouts are additional to C300's two. Please confirm the building and site scope boundary.
 - a. Revise the sanitary sewer service shown on Drawing C300 from 4-inch Schedule 40 PVC to 4-inch Class 350 ductile iron pipe (DIP). Provide compatible fittings and joints.
 - b. Connect the 4-inch sanitary sewer service to SSMH9500 as indicated on Drawing C300 using a watertight connection.
 - c. The Bid Schedule will be revised to reflect the 4-inch Class 350 DIP sanitary sewer service and associated quantity. The revised Bid Schedule shall govern for

bidding purposes. The Contractor shall include all piping, fittings, connections, and incidental work necessary to provide a complete sanitary sewer service as shown and clarified.

- d. Cleanouts shown on Drawings P101 and C300 at the building/site interface are not intended to represent duplicate installations. Provide the cleanouts necessary for a complete installation at the locations indicated. Coordinate the building plumbing and site utility work to avoid gaps or duplication of work.
7. Please reconcile P101 note 10 and P601 mixing valve tags.
 - a. Refer to drawing revision to the fixture schedule on Sheet P601 in this addendum.
8. Also confirm the master valve arrangement: the scheduled $\frac{3}{4}$ inch Watts LFN170 M3 CSUT requires 3 GPM minimum, versus 0.5 GPM lavatories. If the LFUSG CS valves receive 110°F master distribution, their stated 120°F minimum hot inlet needs resolution.
 - a. Provide master tempering valve and mixing valves as shown on the plumbing drawings.
9. P601 pairs a rear spud Sloan SU1019 urinal with a top spud Royal 186 valve. Please confirm a compatible assembly and whether the tank WC schedule governs P101 note 7.
 - a. Urinal and flush valve need to have top spud arrangement.
10. Please also identify the primer assembly and distribution serving all six floor drains.
 - a. Trap primer assembly selection to be made by the contractor based on the number of floor drains served.
11. Please confirm plumbing final electrical connections under Section 220503, paragraph 1.2.
 - a. Refer to Section 220503 and detail 1/P001 for plumbing/ electrical division of work.
12. Please confirm the approved test requirements where Sections 220000 and 221000 differ.
 - a. Tests shall be performed as required by Section 221000.
13. Does the Section 332700 deflection test apply to the 4-inch service?
 - a. No. The deflection/mandrel testing requirements of Section 332700 do not apply to the 4-inch Class 350 DIP sanitary sewer service. Provide other testing required by the Contract Documents for the completed sanitary sewer service.
14. On plan sheet S-101, framing note #1, there is a shearwall schedule noted to be on plan sheet S0.3. There is not a shearwall schedule in the structural plans, and we could not find one anywhere in the plans. Could someone please let us know where the shearwall schedule is located.
 - a. Upon consideration, the shearwall note will not be applicable on this project. The steel track shall be attached to the slab per Note H-4 ($\frac{1}{2}$ " diameter x 6" Titan

screws at 32" on center). Structural sheets have been revised to reflect this clarification.

15. Division 7 - Is the WRB shown on the plans actually Tyvek, or is it a true air barrier?
 - a. Please see specification section 07 25 00 Water Resistive Barrier for additional information on the assembly. The assembly is airtight.
16. Division 7 - EIFS; the plans indicate that a Reflectit coating is to be used with the EIFS entrance vestibules shown. Is it this accurate?
 - a. Reflectit Coating shall be required for this project bid.
17. Are the installer qualifications listed in Specification 07 26 19 Section 1.08 required or are there any exceptions?
 - a. The referenced requirements can be disregarded. However, the installer must install the product per manufacturer requirements and attend any pre-installation meetings and/or trainings required by the manufacturer prior to installation.
18. Does the ground wire going around the outside of the building need to be a 4/0 or 2/0 ?
 - a. Per Detail 6 on E501 the ground wire circumventing the building will be 4/0.
19. Do the aluminum windows have casements?
 - a. The aluminum windows have been revised to be fixed. Please see the attached revised sheet A401.
20. Plumbing pipe material preferences? Copper vs. Pex vs. PVC vs. Cast Iron
 - a. Please refer to plumbing piping specification Section 221000.
21. Fire Alarm Interface: Section 230503 references fire-alarm shutdown of the air-handling unit. Please confirm whether AHU-1 requires a fire-alarm shutdown interface for this project. If required, please identify the necessary devices, connection points, and division of responsibility between the HVAC and fire-alarm contractors.
 - a. AHU-1 will not require a fire-alarm shutdown interface.
22. HVAC Controls: Sheet M001 specifies a programmable thermostat and factory-mounted DDC controls, while Section 237300 references standalone operation or BACnet connectivity. Please confirm whether the HVAC controls are intended to operate as a standalone system or connect to an existing County building automation system. If integration is required, please provide the existing system information and the required integration scope.
 - a. HVAC controls are intended to operate as a standalone system and not be tied into an existing system.
23. Article 17 of the Instructions to Bidders states that bids shall remain valid for 90 days. Is there any chance this can be changed to 30 days? In this current volatile and inflationary economic environment, this is an extensive amount of time.
 - a. In order to provide time for review and consideration of the bids as well as time for the County to enter into an agreement with the selected bidder, bids shall remain valid for 90 days.

24. We do not see a specification for the traffic mat to be installed in Vestibules 105 and 108.
 - a. The entrance system's basis of design is MatShield Pro Grid System 70152 (MatShield Pro with Carpet) or approved equal.
25. Addendum No.1 suggests the windows will be revised to be fixed aluminum storefront window forthcoming in Addendum No.2. However, Addendum No.2 does not address this matter.
 - a. Addendum No. 2 was pushed through prior to all questions being answered in order to notify potential bidders as soon as possible of the change in the bid opening and question deadline. Additional information on the windows have therefore been included within this addendum. Please see the attached revised Sheet A401.
26. Is there a specification for snowguards for the metal roofing system?
 - a. Snow guards are to be provided by the metal roofing manufacturer or approved equal.
27. There is a minimum order amount for the insulated roof panels (approx. 500 sf). Is there a requirement to use insulated roof panels over the two very small roofs (approx. 75 sf on area)?
 - a. Please see the attached revised Sheets A110, A310, and A401 showing a revised Roof Assembly B and the attached specification Section 074500.
28. CMFM delegated design and shop drawing requirements: Please confirm that the structural cold-formed metal wall framing has been fully designed by the Engineer of Record and that delegated structural engineering is not required. Specification Section 05 40 00 requires shop drawings; please confirm whether signed-and-sealed calculations are required for wall framing. (Reference: S001, S002, S101; Specification 05 40 00, 1.05.)
 - a. The light gage wall framing design is complete. Delegated design is only required for the CFS roof trusses (sealed shop drawings are required for trusses).
29. Plywood sheathing attachment to CFMF: Structural Sheet S001 specifies plywood sheathing attached to 2x stud walls, while S101 and A310 identify cold-formed steel wall framing. Please confirm the intended sheathing substrate and provide the required fastener type, size, spacing, and attachment details for typical exterior walls and designated shear walls. (Reference: S001, Section F, Notes 4–5; S101; A310)
 - a. The sheathing attachments in notes F.3 and F.5 are correct and intended for steel studs (16 gage). Disregard note F.5 as no designated shear walls are required.
30. Missing shear wall schedule and details: Sheet S101 references Sheet S0.3 for the plywood shear wall schedule, hold-down requirements, and strapping details. Sheet S0.3 was not included in the provided structural drawing package. Please provide the missing schedule and details, including shear wall locations, sheathing requirements, hold-downs, and strapping. (Reference: S101, Framing Plan Notes 1–3)
 - a. Our reference notes have been corrected. No designated shear walls required for this building.

31. Interior partition bearing status and stud gauge: Please confirm that typical interior partitions are non-load-bearing and may be constructed with 20-gauge studs at 16 inches O.C. per Section 09 22 16. Identify any interior walls requiring structural framing and clarify the specification's reference to 18-gauge studs at structural stud walls versus the 54-mil studs indicated on S101. (Reference: S101, Note 7; A101, A310; Specification 09 22 16, 2.02)
 - a. Interior walls are non-load bearing (trusses bear on perimeter walls). 54-mil studs are required for exterior walls.
32. Roof deflection and load-bearing wall connections: Section 05 40 00 requires wall framing to accommodate 3/4-inch vertical roof deflection using a double-slip track or approved alternative, while S101 identifies perimeter walls as load-bearing. Please clarify where the deflection requirement applies and provide connection details that accommodate required movement while maintaining the structural load path. (Reference: S101, S002; Specification 05 40 00, 1.04; Specification 054400, 2.01)
 - a. No deflection track is required for exterior walls.
33. Roof truss-to-wall connections and supplemental reinforcement: Please confirm responsibility for reviewing delegated roof truss reactions and designing and furnishing any supplemental CFMF wall studs, reinforced tracks, bearing components, and truss-to-wall connections required by the final truss design. Confirm whether the structural details provided are intended to accommodate the final delegated reactions. (Reference: S002, S101; Specification 054400, 1.05 and 3.01(H))
 - a. Engineer of Record will need to review signed and sealed roof truss package to ensure substantial resistance for attachment to walls.
34. Ceiling joist framing and support conditions: Architectural Roof Assembly B identifies 3-5/8-inch minimum 20-gauge ceiling joists at 16 inches O.C. Please confirm the required support and connection details, permissible spans, and whether these members are structural ceiling joists or non-load-bearing ceiling framing. (Reference: A110, Roof Assembly B; Specification 09 22 16, 3.03)
 - a. Please see revised Sheet A110 in Addendum No.3. The roof framing must consist of structural members. Please refer to Sheet S101 for additional information.
35. Roof decking and sheathing responsibility: Section 054400 references Section 061000 for roof sheathing, while architectural roof assemblies include different roofing systems. Please confirm the required roof decking or sheathing for each assembly and identify the responsible trade. (Reference: A110; Specification 054400, 1.02(B))
 - a. The structural roof sheathing shall be 5/8" rated sheathing. Please see revised Sheet A110. Both roof assemblies to use structural plywood roof sheathing. See structural drawings for additional information.
36. Stud-to-track and jamb connection requirements: Please confirm that the structural framing connection details on S002 govern load-bearing CFMF construction, including stud-to-track fasteners and jamb/header configurations, and clarify whether the specification's clip-and-tie language imposes additional requirements. Confirm that

crimped connections under Section 09 22 16 apply only to non-load-bearing partitions. (Reference: S002; Specification 05 40 00, 3.02; Specification 09 22 16, 3.02)

- a. The details on Sheet S002 are intended to cover the CFS typical connections. The Engineer of Record will need to review the truss shop drawings.
37. SFIA certification and installer qualifications: Section 054400 requires SFIA-accredited contractors and fabricators, along with installer certification documentation. Please confirm whether these qualifications are mandatory for roof truss installation or whether equivalent qualifications will be accepted. (Reference: Specification 054400, 1.05(D) and 1.06)
- a. Equivalent qualifications can be submitted.
38. Architectural and specification coordination: Please confirm that the architectural and structural drawings are the latest coordinated bidding documents. Additionally, clarify whether the masonry veneer reference in Section 05 40 00 applies to the project, identify the governing specification for non-load-bearing partitions, and confirm the applicable editions of the referenced framing standards. (Reference: A201, A301, A310; Specifications 05 40 00 and 09 22 16)
- a. The drawings in the bid package and revised through subsequent addendums are the latest coordinated bidding documents. For masonry questions, please refer to Section 04 22 00.

This Addendum Number Three (3) is issued this the 28th day of October 2026.



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26.00701



END OF ADDENDUM NO. 3

BID SCHEDULE

ITEM #	DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL AMOUNT
SECTION A - BASE BID					
1	Mobilization/General Requirements	1	LS		
2	Demolition	1	LS		
3	Erosion Control	1	LS		
4	Earthwork	1	LS		
5	Concrete Sidewalk - 4"	175	SY		
6	Heavy Duty Asphalt Paving	590	SY		
7	Concrete Paving - 6"	35	SY		
8	Striping & Signage	1	LS		
9	Angle Wheel Stops	45	LF		
10	Tie-in to Existing Water Line	1	LS		
11	PVC Water Line	30	LF		
12	Tie-in to Existing Manhole	1	LS		
13	4" Class 350 DIP Sewer Line	110	LF		
14	Sewer Cleanouts	2	EA		
15	Rip Rap Outlet	1	LS		
16	Precast Concrete Endwall	1	LS		
17	12" HDPE Pipe	55	LF		
18	8" Trench Drain	50	LF		
19	4" HDPE Pipe	130	LF		
20	Storm Structures	1	EA		
21	Operator's Building	1	LS		
22	Undercut Excavation	75	CY		
23	Washed Stone	100	Tons		
24	Landscaping	1	LS		

TOTAL BID

01700.1 SCOPE

This section covers the method of measurement and payment for items of work under this contract.

01700.2 GENERAL

The total Bid Price for each section of the contract shall cover all work required by the Contract Documents. All costs in connection with the proper and successful completion of the work including furnishing all materials, equipment, supplies, and appurtenances; providing all construction equipment, and tools; and performing all necessary labor and supervision to fully complete the work, shall be included in the unit and Lump Sum prices bid. All work not specifically set forth as a pay item in the Bid Form shall be considered a subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the prices bid.

01700.3 ESTIMATED QUANTITIES

All estimated quantities stipulated in the Bid Form or other Contract Documents are approximate and are to be used only: a) as a basis for estimating the probable cost of the work and b) for the purpose of comparing the bids submitted for the work. The actual amounts of work done and materials furnished under unit price items may differ from the estimated quantities. In some cases a unit price item has been added to the bid schedule for the purpose of establishing a cost basis in the event work associated with that item is required. No guarantee is expressed or implied that the quantities shown in the bid schedule shall be required to fulfill the Contract. The basis of payment for work and materials will be the actual amount of work done and materials furnished. The Contractor agrees that he will make no claim for damages, anticipated profits, or otherwise on account of any difference between the amounts of work actually performed and materials actually furnished and the estimated amounts thereof.

01700.4 WORK ITEMS

The following describes the method of measurement and payment for the bid items shown in the Bid Schedule.

SECTION A – BASE BID

Item 1 - Mobilization

Work associated with Mobilization shall be paid for at the Lump Sum price as listed in the bid schedule. Partial payments for the item "Mobilization" will be made with the first and second partial pay estimates paid on the contract, and will be made at the rate of 50% of the Lump Sum price for "Mobilization" on each of these partial pay estimates. The amount for "Mobilization" in the approved schedule of values shall not exceed 5% of the total project bid. Mobilization shall include, but is not limited to, all costs for Contractor's bonds, insurance, temporary office facilities, sanitary and power, and all other miscellaneous costs.

Item 2 – Demolition

Work associated with Demolition shall be paid for at the Lump Sum price as listed in the bid schedule. The Lump Sum price for Demolition shall include all materials, equipment, and labor required to completely clear and grub those areas requiring earthwork operations or other construction activities and the disposal of all removed material. The demolished material may be accepted at the landfill for disposal. The work shall include, but is not limited to, removal of existing asphalt paving, the removal of several trees and site features in the surrounding area, the demolition and removal of a brick screen wall, removal of vegetative material, and the removal of any other debris in those areas to receive construction activities.

Item 3 - Erosion Control

Work included in this line item of payment shall include all Erosion Control items shown on the Drawings.

The quantity of erosion control will be paid for at the contract Lump Sum price in accordance with the Contract Documents. The Lump Sum price will be the full compensation for all labor, equipment, and materials necessary for erosion control including but not limited to silt fence, silt fence outlets, and pipe/structure inlet protection as described in these specifications and/or shown on the Drawings. Repair, maintenance, and removal of these erosion control measures is included in this item.

In addition to these control measures, this item covers seeding, fertilizing, and mulching of disturbed areas. The County will retain 20% of the Lump Sum cost until a satisfactory stand of grass has been established on the disturbed areas of the site. The Lump Sum price shall include all cost for

materials, equipment, and labor for providing an acceptable stand of grass on all disturbed areas of the project in accordance with the specifications. The work shall include, but is not limited to, surface preparation, seeding, fertilizer, and mulching.

Item 4 - Earthwork

This item will be paid for on a Lump Sum basis. The Lump Sum price will be the full compensation for excavating, transporting, and stockpiling soil materials. The work includes, but is not limited to, excavation of cut material, excavation for building foundations and slab, borrow material, placement of structural fill, compacted subgrade for various paving surfaces, finish grading, diversions ditches and erosion control measures and structures. This item shall include all materials, equipment, and labor for the complete installation of earthwork.

Item 5 – Concrete Sidewalk – 4”

Work associated with this line item shall be paid for at the unit price per square yard for the Concrete Sidewalk listed in the Bid Schedule. The unit price per square yard shall include all materials, equipment, and labor for the complete installation of the concrete sidewalk as described in these Specifications and/or shown on the Drawings. The work shall include, but is not limited to, excavation, fine grading, formwork, aggregate base, concrete, steel reinforcing fabric, installation, expansion joints, curing, and maintenance during the construction period. Removal of the forms, backfilling against the slab, and fine grading to tie the slab into the surrounding site at the proposed grades shall be considered incidental to this bid item.

Item 6 - Heavy Duty Asphalt Paving

Work associated with this line item shall be paid for at the per square yard unit price for Heavy Duty Asphalt Paving as listed in the Bid Schedule. The unit price per square yard shall include all materials, equipment, and labor for the complete installation Heavy Duty Asphalt Paving as described in these Specifications and/or shown on the Drawings. The work shall include, but is not limited to, subgrade preparation, 8” Compacted Aggregate Base Course (CABC), 2.5” – Type I19.0C Asphalt Binder Course, and 1.5” – Type S9.5C Asphalt Surface Course. Application of a tack coat, as required, is considered incidental to this bid item. Grading of shoulders where applicable is considered incidental to this bid item.

Item 7 - Concrete Paving - 6"

Work associated with this line item shall be paid for at the unit price per square yard for the Concrete Paving – 6" as listed in the Bid Schedule. The unit price per square yard shall include all materials, equipment, and labor for the complete installation of the Concrete Paving – 6" as described in these Specifications and/or shown on the Drawings for the Concrete Paving Section – 6". The work shall include, but is not limited to, excavation, fine grading, formwork, aggregate base, concrete, steel reinforcing, installation, expansion joints, curing, and maintenance during the construction period. Removal of the forms, backfilling against the slab, and fine grading to tie the slab into the surrounding site at the proposed grades shall be considered incidental to this bid item.

Item 8 - Striping & Signage

Work associated with this line item shall be paid for at the Lump Sum price as listed in the Bid Schedule. The Lump Sum price shall include all materials, equipment, and labor for the complete installation of the Pavement Markings and Signage as described in these Specifications and/or shown on the Drawings. The work shall include, but is not limited to, layout of pavement marking, furnishing paint material, placement of marking material and protection of work until such time as pavement markings have sufficiently cured for traffic, sign procurement, and sign installation.

Item 9 – Angle Wheel Stops

The work associated with installing Angle Stops shall be paid for at the unit price per linear foot installed as listed in the bid schedule. The unit price per linear foot shall include all materials, equipment and labor for the complete installation of the Angle Stops as described in the specifications and/or shown on the Drawings.

Item 10 – Tie-In to Existing Water Line

This item of work shall include the connection of the proposed water line to the existing water line as shown on the Contract Documents. The lump sum price shall include excavation and subgrade prep, cutting of the existing line, preparation and installation of miscellaneous valves and fittings, connection of the proposed water line to the existing water line, as

well as equipment and labor to perform the connection as described in the specifications and/or shown on the Drawings.

Item 11 – PVC Water Line

Work associated with this line item shall be paid for at the unit price per linear foot for the installation of the PVC Water Line as listed in the Bid Schedule. The unit price per linear foot shall include all materials, equipment, and labor for the complete installation of the water line as described in these specifications and/or shown on the Drawings. The work shall include, but is not limited to, excavation, installation of the line, temporary pavement restoration, backfill and compaction, and pressure testing and disinfection of the line.

Item 12 – Tie-in to Existing Manhole

This item of work shall include the connection of the proposed sewer line to the existing manhole as shown on the Contract Documents. The lump sum price shall include excavation and subgrade prep, cutting an entrance hole in the existing manhole, connection of the sewer pipe to the manhole, grouting of pipe opening, backfill, and any fine grading necessary to provide proper surface restoration.

Item 13 – 4” Class 350 DIP Sewer Line

Work associated with this line item shall be paid for at the unit price per linear foot for the 4” Class 350 DIP Sanitary Sewer Collection Line as listed in the Bid Schedule. The unit price per linear foot shall include all materials, equipment, and labor for the complete installation of the Class 350 DIP Sanitary Sewer Collection Line as described in these specifications and/or shown on the Drawings. The work shall include, but is not limited to, excavation, installation of the line, and backfill and compaction.

Item 14 – Sewer Cleanouts

This item of work shall include furnishing and installing sewer cleanout structures at locations shown on the Contract Documents. This item will be paid for by the actual number of structures installed at the unit price for each. The unit bid price shall include excavation, installation, and backfill and compaction around the structures as shown on the Contract Documents. The quantity of sewer cleanouts will be paid for each cleanout installed as shown on the drawings.

Item 15 – Rip Rap Outlet

This item of work shall include the furnishing and placement of rip rap (all types) w/ filter fabric underlayment, at locations directed by the Engineer and as shown on the Drawings. Rip rap for storm drainage pipe outlet protection shall be paid for under this line item.

The lump sum price shall include full compensation for excavation, furnishing, hauling, placing, shaping and compacting rip rap, including geotextile fabric underlayment. No additional payment shall be made for rip rap that must be maintained or replaced due to sedimentation.

Item 16 – Precast Concrete Endwall

This item of work shall include furnishing and installing pre-cast concrete endwalls at the locations and per standard endwall detail shown on the Contract Documents. The lump sum price shall include excavation and subgrade prep, installation of endwall, grouting of pipe opening, backfill, and any fine grading necessary to provide proper drainage for all standard concrete endwalls.

Item 17 – 12” HDPE Pipe

Measurement of HDPE storm drainage pipe shall be the actual number of linear feet of pipe installed, complete in place and accepted, measured from the starting point to the finish point of each section of line.

Storm drainage pipe shall be paid for at the unit price bid per linear foot for 12” HDPE pipe shown on the plans. The unit price bid for pipe shall include all excavation and temporary trench support if necessary, dewatering, pipe installation including tie-in to proposed structures, connection to storm drainage structures, backfill including washed stone around the pipe per detail, concrete slope anchors, backfill and compaction above pipe, testing, removal and disposal of accumulated sediment during construction.

Item 18 – 8” Trench Drain

Measurement of 8” trench drain shall be the actual number of linear feet of drain installed, complete in place and accepted, measured from the starting point to the finish point of each section of line.

The trench drain shall be paid for at the unit price bid per linear foot for 8” trench drain shown on the plans. The unit price bid for the drain shall include all excavation and temporary trench support if necessary, dewatering, drain installation including tie-in to proposed structures, connection to storm drainage structures, backfill including washed stone around the drain, concrete slope anchors, backfill and compaction around the drain, testing, and removal and disposal of accumulated sediment during construction.

Item 19 – 4” HDPE Pipe

Measurement of HDPE storm drainage pipe shall be the actual number of linear feet of pipe installed, complete in place and accepted, measured from the starting point to the finish point of each section of line.

Storm drainage pipe shall be paid for at the unit price bid per linear foot for 4” HDPE pipe shown on the plans. The unit price bid for pipe shall include all excavation and temporary trench support if necessary, dewatering, pipe installation including tie-in to proposed structures, connection to storm drainage structures, backfill including washed stone around the pipe per detail, concrete slope anchors, backfill and compaction above pipe, testing, and removal and disposal of accumulated sediment during construction.

Item 20 – Storm Structures

This item of work shall include furnishing and installing storm structures at locations shown on the Contract Documents. This item will be paid for by the actual number of structures installed at the unit price for each. The unit bid price shall include excavation, installing the structures and when applicable steps, installation of frames, grates, and hoods as shown on the Contract Documents, backfill and compaction, and removal and disposal of accumulated sediment during construction. Storm drainage pipes shall be

cut flush with the inside face of the structure walls with the gap between pipe and structure wall to be grouted smooth. The quantity of storm structures will be paid for each stormwater structure installed as shown on the drawings.

Item 21 – Operator’s Building

Work associated with this line item shall be paid for at the Lump Sum price for the Operator’s Building as listed in the Bid Schedule. The Lump Sum price shall include all materials, equipment, and labor for the complete installation of the Operator’s Building as described in these Specifications and/or shown on the Drawings. The work shall include, but is not limited to, building foundation/floor slabs, foundation drains, framing, windows, doors, roofing, exterior siding and finish work, gutters and drains, handicap/exit signs, hardware, interior finish work, countertops, cabinetry, electrical service, electrical installation and connections, mechanical and HVAC fixture installation, plumbing and fixtures, clean outs, security lighting integral to the building, and all applicable permitting.

The Operator’s Building will be paid for at the lump sum bid price for the complete building and appurtenances. The Contractor shall submit a detailed schedule of values for the building to cover all items required under this bid item. The schedule of values will be used to determine the value of the monthly invoice for payment requests. The sum of the schedule of values shall be equal to the lump sum bid amount.

Item 22 – Undercut Excavation

The quantity of undercut excavation to be paid for will be by cubic yard measured by the average end area method, based on measurements made following excavation. The quantity measured will be paid for at the Contract price for undercut unsuitable material, and disposal onsite. Work associated with this line item shall consist of the removal and disposal of residual soil deemed unsuitable during trench excavation or proofrolling prior to fill placement and placing in a location onsite as directed by the Engineer. The unit price bid per cubic yard of undercut excavation shall include all costs for excavation and hauling costs as well as all cost for the disposal onsite.

Item 23 – Washed Stone

Work associated with this line item shall consist of providing and placement of washed stone to replace material removed as part of undercut excavation and with prior approval of Engineer, substantiating the need for washed

stone. Washed stone shall be from an approved source provided by the Contractor. Washed stone used for HDPE or other pipe bedding per the plans and standard details will not be paid for under this item.

Washed stone shall be paid for at the unit bid price for the total number tons used as extra pipe bedding, backfill, and/or permanent means of dewatering. Washed stone used for temporary dewatering for various components of the project, or erosion control, shall not be paid under this line item. The Contractor shall provide the Engineer haul tickets for each load of washed stone to be paid under this line item.

Item 24 - Landscaping

Work associated with Landscaping shall be paid for at a Lump Sum price. The Lump Sum price shall include all materials, equipment and labor for the complete installation of the Landscaping as required by the Catawba County Planning Department. The work shall include, but is not limited to, supplying, excavation, planting, backfilling, staking, mulching, and proper care during the construction period. Dead or diseased plantings shall be replaced as necessary throughout the one (1) year warranty period.

END OF SECTION

**SECTION 074500
THERMOPLASTIC MEMBRANE ROOFING**

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and other Division 1 Specifications Sections, apply to this section.

1.02 SUMMARY

- A. This Section includes the following:
 - a Thermoplastic membrane roofing.
 - b Cover board.
 - c Roof insulation.
 - d Gypsum Underlayment
- B. Related Sections include the following: 1.
 - a Division 7 Section "Reroofing Preparation."
 - b Division 7 Section "Sheet Metal Flashing and Trim."

1.03 PERFORMANCE REQUIREMENTS

- A. Provide a roofing system that complies with the requirements of Underwriters' Laboratories, Inc. for a Class A roof covering.
- B. Provide roofing system meeting wind uplift requirements as follows: 1.
 - a Field: -26 psf
 - b Perimeters: -44 psf
 - c Corners: -66 psf

1.04 SUBMITTALS

- A. Materials List: Give written notification of the brand name and manufacturer of each material proposed for use and include a statement that all proposed materials meet the specification requirements. Obtain approval prior to placing orders.
 - a Submittal of catalog cut sheets, etc. in lieu of the materials list required above is not acceptable.
- B. Manufacturers' Installation Instructions: As follows:
 - a Instructions for membrane and flashing installation.
- C. Manufacturer Certificates: As follows:
 - a System Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - b Material Certificates: Original document signed by a responsible officer of the firm, notarized, on manufacturer's standard letterhead, certifying materials furnished for project comply with the referenced standard. Specifically reference the project and applicable compliance standard on certificate.
- D. Polyisocyanurate Insulation Certificate: Signed by insulation manufacturer stating that polyisocyanurate insulation shipped to this project complies with requirements listed in Part 2.
- E. Warranties: As specified in this Section.

1.05 DELIVERY STORAGE AND HANDLING

- A. Deliver all materials to site in original containers bearing manufacturers' name and type of material. All materials used in roof membrane must have appropriate Underwriters' Laboratories, Inc. labels.
- B. Supply and keep all materials dry at all times prior to application.
- C. Store all insulation and tapered edge strips in dry, covered storage, or on platforms, and with weatherproof coverings. Coverings shall be waterproof breathable type material such as heavy canvas. Insulation wrappers are not sufficient. Materials which are not stored under specified covers are subject to removal from the site at Architect's or Owner's discretion.
- D. Store all roll goods on end on clean floors or platforms. Do not use flattened rolls or rolls with ends damaged.
- E. Materials which, in the opinion of the Engineer, have been prematurely exposed to the weather are subject to immediate removal by the contractor and replaced with new materials at contractor's expense. Engineer may, at Engineer's option, mark such materials with paint or other indelible materials while they remain on-site.
- F. Store solvent bearing materials in dry, cool storage and keep lids tight on partially used containers to prevent escape of solvents.

1.06 WARRANTIES

- A. Installer's Warranty: Installer's warranty, on form included in these specifications, signed by roofing Installer, properly executed and printed on Installer's letterhead form.
 - a Warranty Period: Two (2) years from date of Final Completion.
- B. Roofing System Guarantee: Manufacturer's Standard Form without monetary limitation in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. Period includes roof leaks.
 - a Roofing system guarantee includes roofing membrane, base flashings, cover board, roof insulation, perimeter edge metal and other components of roofing system.
 - b Guarantee Period:
 - i Base Bid: Twenty (20) years from date of final completion. Nothing herein is to be interpreted or construed as changing any provisions of the specifications except as stated herein.
 - ii Alternate 1: Thirty (30) years from date of final completion. Nothing herein is to be interpreted or construed as changing any provisions of the specifications except as stated herein.
 - c System shall include a 72 mph warranty.
 - d A separate membrane warranty shall be included must cover deterioration and weathering of membrane regardless of leaks.
 - e Conflicts for all warranties shall be resolved in Buncombe County, North Carolina.

1.07 ROOF SURFACE REFLECTIVITY REQUIREMENTS

- A. Upon conclusion of roofing work, the specified membrane shall meet the following LEED v4 minimum Solar Reflectivity Index values:
 - a Initial SRI: 82
 - b 3 year aged SRI: 64

- B. Should membrane be considered suspect by the owner and engineer, contractor will extract up to 5 samples of the in place membrane. Sample locations will be designated by the Engineer. Contractor shall repair patch locations in accordance with manufacturer requirements at no additional cost to the owner. Architect will send samples for testing in accordance with ASTM E 1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.
- C. If results are found to be lower than the specified initial SRI, costs for testing will be deducted from contract sum. and contractor will be required to clean as reasonably possible without damaging the membrane.
- D. If results are found to be lower than the specified initial SRI, costs for testing will be deducted from contract sum. and contractor will be required to clean as reasonably possible without damaging the membrane.

PART 2 – PRODUCTS

2.01 GENERAL

- A. Listed in this section are specifications for materials required generally for use in accomplishing the work specified. Materials not listed may also be required.
- B. Except as specifically noted herein, all reference standards included herein are to be presumed to be the latest published editions of such standards available as of the issue date of these specifications.
- C. Brand or manufacturer names are used as standards of quality where no other appropriate reference is available. The Architect (or Owner) will consider substitution of materials of equal quality and properties provided a written request accompanied by substantiating data is received by him at least 10 days prior to bid date.
- D. Where a generic product or a general manufacturer's product is specified and more than one such product is offered by the manufacturer, it is understood that only the manufacturer's premium materials are approved for this project.
- E. All roofing system components used on this project shall be compatible and approved for use by the roofing system manufacturer and shall qualify for the specified roofing system guarantee.

2.02 MANUFACTURERS

- A. For purposes of these documents, the roof system manufacturer is defined as the manufacturer of the primary roof membrane. The roof system is intended to encompass, but is not necessarily limited to, all components above the structure including roof insulation, metal panels, membrane and metal flashings and any proprietary flashing/components of the system manufacturer. Subject to compliance with the material specifications of these documents, all materials are to be supplied by the same manufacturer.
- B. All materials used in systems to be covered by a Manufacturer's Guarantee must be supplied by the same manufacturer, unless the manufacturer issuing the guarantee waives this requirement in writing.
- C. The following material manufacturers are approved for this project. Such approval does not relieve the Contractor from the requirement to supply materials which meet all other requirements of these Specifications.
 - a Carlisle
 - b Sika-Sarnafil
 - c Soprema

- D. Alternate manufacturers shall meet all requirements of these specifications, including warranty, fire rating and length of production.

2.03 FLEXIBLE SHEET MEMBRANE MATERIALS

- A. Membrane: Polyvinyl chloride (PVC) complying with ASTM D4434/D4434M, Type II, sheet contains reinforcing fibers or reinforcing fabrics.
 - a Thickness: 60 mil, 0.060 inch, minimum.
 - b Color: White
- B. Adhesive: Solvent-based contact adhesive.
- C. Base Flashing: As recommended by membrane manufacturer.
- D. Walkpads: As recommended by membrane manufacturer.
- E. Pre-fabricated Flashing Components: Provide other pre-fabricated components as required, such as corner flashing, vent stacks, etc.
- F. Miscellaneous Products: Sealants, preformed sealant pockets, primers and cleaners supplied by the membrane manufacturer.

2.04 ROOF INSULATION MATERIALS

- A. Polyisocyanurate Roof Insulation: Rigid, cellular polyisocyanurate thermal insulation with core formed by using HCFCs as blowing agents complying with ASTM C 1289, Type II, with glass-fiber mat on both major surfaces. Maximum board size shall be 4' x 4' for adhered boards and 4x8 for mechanically attached boards. No organic facers shall be used.
- B. Polyisocyanurate insulation shall be manufactured to meet the following requirements in addition to the requirements above:
 - a Min. Compressive Strength: 20 psi
 - b Dimensional Stability: 2% maximum linear change when conditioned at 158°F and 97% relative humidity
 - c Min. Curing Time: 24 hrs. plus 24 hrs. for each inch of thickness at a minimum of 60°F before shipment from manufacturer
 - d Maximum Board thickness: 3 inches
- C. Contractor shall submit a statement from manufacturer of polyisocyanurate insulation stating they will certify compliance of material shipped to this project with these requirements.
- D. High Density Cover Board: ASTM C 1289, Type II, Class 4, Grade 2, minimum compressive strength 109 psi: Board size: 4' x 4'. E.
- E. Gypsum Underlayment: ASTM C 1177, non-structural board, glass mat embedded, water- resistant gypsum core, factory primed, 5/8 inch thick. 1. Maximum board size: 4' x 8'.
- F. Tapered Edge Strips: ASTM C 208, wood fiberboard, 1-1/2 inch at thick edge.
- G. Insulation Adhesive: Two component, low rise polyurethane foam, approved by membrane manufacturer for insulation and substrates on this project.

2.05 ROOF INSULATION MATERIALS

- A. Termination Bar: Extruded aluminum bar, 1 inch by 1/8 inch, with pre-punched holes at 6 inches on center.
- B. Insulation Fasteners and Plates: Plated steel fastener and 3 inch diameter round or 3 inch square steel plate as manufactured by or specifically recommended by the roof system manufacturer. Fasteners should be capable of resisting specified uplift pressure.

- C. Masonry Anchors: Stainless steel screw anchor for use in concrete, brick or concrete masonry units manufactured with threads for cutting into walls of pre-drilled opening to provide tight friction fit, 1/4 inch diameter, 1.5 inch minimum length.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Inspect all surfaces to receive work specified herein. Application of materials constitutes approval of the substrate as being satisfactory.
- B. Do not proceed with roofing until all vents, drains, curbs, cants, blocking, nailing strips, and projections through the roof deck have been installed.

3.02 EXAMINATION

- A. Do not apply materials on wet or damp surfaces, over dust, dirt, or other foreign matter.
- B. Accomplish application of roofing materials so that each area will be complete at the end of each workday.
- C. Protect edges and incomplete flashings against water entry at all times. Remove cut-offs and temporary protection prior to resumption of work.
- D. Where work detailing affects adjacent roof areas, contractor is to coordinate with existing roofing manufacturer as to not affect the existing manufacturer's warranty.
- E. Contractor shall by all means necessary, prevent odors from entering building.

3.03 GYPSUM UNDERLAYMENT APPLICATION

- A. Furnish and install new 5/8 inch thick gypsum underlayment over metal decks.
- B. Clean deck surfaces of all dirt, dust and other foreign matter.
- C. On metal decks, apply gypsum insulation with long dimension of units across deck ribs. On open rib steel decks, ends of units must bear on deck surface.
- D. Apply gypsum with end joints staggered approximately one-half the length of units.
- E. Fit all gypsum units snugly to each other and to all vertical surfaces.

3.04 INSULATION APPLICATION

- A. Furnish and install new base insulation, tapered polyisocyanurate insulation, and cover board as specified herein.
- B. Refer to Roof System Schedule for all locations to receive base layer, tapered polyisocyanurate insulation and cover board.
- C. Clean surfaces of all dirt, dust and other foreign matter.
- D. Over gypsum underlayment, fasten base layer insulation with the number of fasteners as required by the manufacturer to meet the specified wind pressures.
- E. Provide insulation fasteners of lengths sized to engage top flange of metal deck a minimum of 3/4 inch and a maximum of 1-1/2 inches.
- F. Fasteners shall be a minimum of 6 inches away from any edge of board.
- G. Insulation Adhesive over Insulation:
 - a. Set each layer of insulation in cold fluid applied adhesive with ribbons spaced as directed by the manufacturer to meet the specified wind pressures.
 - b. Set each layer of insulation in cold fluid applied adhesive with ribbons spaced at 6 inches on center and continuous at edge of each board in the perimeter (8 feet from edges).
 - c. Set each layer of insulation in cold fluid applied adhesive with ribbons spaced at 4 inches on center and continuous at edge of each board in the corners (8 feet from edges).
- H. Stagger all joints off those of preceding layer.
- I. Fit all insulation units snugly to each other and to all vertical surfaces.
- J. Apply insulation in two or more separate layers.
- K. Form crickets as specified herein:

- a. Form crickets along the upslope side of all curb mounted equipment with base widths exceeding 24 inches using factory tapered polyisocyanurate insulation and fill units and tapered edge strips.
- b. Form slope between drains using factory tapered polyisocyanurate insulation units, polyisocyanurate insulation fill units, and tapered edge strips.
- c. Start cricket construction by striking chalk lines for outer edges of tapered edge strips. Install edge strips along chalk lines, mitering and fitting at the points where lines break.
- d. Build crickets over the base layer insulation. Take special care to prevent water penetration into crickets during construction.
- e. Unless noted otherwise all crickets are to be fabricated from tapered stock as required to provide an installed slope matching that of the adjacent roof area. For example, where the roof slope is 1/4 inch per foot, crickets are to be fabricated from 1/2 inch per foot stock to provide an installed slope of 1/4 inch per foot.
- f. Adhere insulation units as described previously.
- g. Provide tapered edge strips as required along cricket edges to provide a smooth transition.
- h. Install crickets of sufficient size and slope as required to ensure complete drainage and prevent standing water. Fabricate full crickets between drains with a minimum width-to-length ratio of 0.5. Fabricate partial crickets with dimensions which would result in a minimum width-to-length ratio of 0.5 if they were extended to full size.
- i. Fabricate crickets sufficiently wide as to result in valleys with positive slopes of not less than 1/16 inch per foot.
- L. Taper insulation down to drains beginning at a point approximately 24 inches from drain. There is to be a 1 inch change from the top of the drain sump to the drain. Furnish and install drain extensions as required to elevate drain level.
- M. Form tapered insulation system using factory tapered polyisocyanurate insulation units and polyisocyanurate insulation fill units.
 - a. Provide a completed slope of 1/4 inch per foot.
 - b. Provide a starting thickness of 1/2 inch.

3.05 HIGH DENSITY COVER BOARD APPLICATION

- A. Install cover board in specified adhesive as described herein.
 - a. Follow ribbon spacing specified for insulation adhesives.
 - b. Set cover board into cold adhesive immediately after application while adhesive is still soft and tacky.
 - c. Stagger all joints off those of preceding layer.
 - d. Apply high density cover board with end joints staggered approximately one-half the length of units.
- B. Ensure full adhesion of all layers of insulation and take whatever steps necessary to achieve full adhesion including, if necessary, temporary ballasting of insulation until adhesive sets.
- C. Provide an insulation thickness at eaves as required to maintain edge metal-fascia at uniform elevation and with uniform face widths. Install additional tapered edge strips at eaves, etc. as required to meet this requirement.

3.06 MEMBRANE INSTALLATION

- A. Install membrane in strict accordance with manufacturer's recommendations.
- B. Unroll membrane and allow to relax before installing.
- C. Accurately align roofing membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer.

- D. Apply bonding adhesive to substrate and underside of roofing membrane at rate(s) required by roofing manufacturer and allow to partially dry before installing roofing membrane. Do not apply bonding adhesive to splice area of roofing membrane.
- E. Mechanically fasten roofing membrane securely at terminations, penetrations and perimeter of roofing.
- F. Apply membrane with side laps shingled with slope of roof where possible.
- G. Seams: Clean seam areas, overlap roofing membrane and hot-air weld side and end laps of roofing membrane according to manufacturer's written instructions to ensure a watertight seam installation.
 - a. Test lap edges with probe to verify seam weld continuity.
- H. Repair tears, voids and lapped seams in roofing that do not meet requirements.
- I. Contractor must perform pull tests daily to verify proper bonding at seams and maintain a daily log.
- J. Cut edge sealant shall not be used. Uncut reinforced membrane stripping shall be used instead of cut edge sealant. Stripping shall be welded a minimum of 2 inches on either side of lap.

3.07 FLASHING APPLICATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate(s) and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Weld side and end laps to ensure a watertight seam installation.
- E. At vertical terminations, terminate and seal top of sheet flashings and mechanically anchor to substrate with specified fasteners through specified termination bar approximately 1 inch below top edge and spaced not over 6 inches on center.
- F. Unless specifically stated otherwise in these specifications or on drawings all base flashings are to extend a minimum of 8 inches above finished roof level. Costs for modifications to parapets, equipment curbs, expansion joint curbs, etc. are to be included in the contractor's bid.
- G. Fasten base flashing using specified fasteners and termination bar.
- H. Follow roofing system manufacturer's instructions for installation and securement of wall flashings when wall height exceeds maximum for base flashing material.

3.08 DRAIN FLASHING APPLICATION

- A. Provide a smooth transition from the roof surface to drain clamping ring. Prepare the substrate around each roof drain to avoid membrane bridging at the sump area and possible distortion at the drain clamping ring. Use drain extensions as necessary.
- B. Locate membrane field splices a minimum of 24 inches outside drain sump.
- C. Cut the membrane so it extends approximately ½ inch beyond the attachment points of the drain clamping ring. Ensure hole is no smaller than drain leader.
- D. Provide water cut-off mastic under compression between membrane and drain base.

3.09 WALKWAY APPLICATION

- A. Install new walkway at all locations indicated on Drawings as specified herein.
- B. Install new walkway on all sides of all major equipment (motorized equipment, scuttles, or any rooftop unit with any single dimension greater than 4 feet).

- C. Adhere flexible walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

END OF SECTION

074500

MODEL: M:\PROJECTS\MC\GFC\Catawba County\Demarby Buildings\11 DWG-RVT\CatawbaCountyBldg.rvt
TEMPLATE: VERSION:

2018 APPENDIX B: STRUCTURAL DESIGN

DESIGN LOADS:

IMPORTANCE FACTORS:	SNOW (I _s)	1.0
	SEISMIC (I _e)	1.0
LIVE LOADS:	ROOF	20 psf
	MEZZANINE FLOOR	N/A psf
	FLOOR	100 psf
GROUND SNOW LOAD:	24	psf
WIND LOAD:	ULTIMATE WIND SPEED	108 MPH (ASCE-7)
	EXPOSURE CATEGORY	B

SEISMIC DESIGN CATEGORY:

☐ A ☒ B ☐ C ☐ D

PROVIDE THE FOLLOWING SEISMIC DESIGN PARAMETERS:

RISK CATEGORY (TABLE 1604.5) ☐ I ☒ II ☐ III ☐ IV

SPECTRAL RESPONSE ACCELERATION S_s .27 %g S₁ .087 %g

SITE CLASSIFICATION (ASCE 7) ☐ A ☐ B ☐ C ☒ D ☐ E ☐ F

DATA SOURCE: ☐ FIELD TEST ☐ PRESUMPTIVE ☐ HISTORICAL DATA

BASIC STRUCTURAL SYSTEM (CHECK ONE)

☒ BEARING WALL ☐ DUAL W/SPECIAL MOMENT FRAME

☐ BUILDING FRAME ☐ DUAL W/INTERMEDIATE R/C OR SPECIAL STEEL

☐ MOMENT FRAME ☐ INVERTED PENDULUM

☐ SIMPLIFIED ☐ EQUIVALENT LATERAL FORCE ☐ DYNAMIC

ARCHITECTURAL, MECHANICAL, COMPONENTS ANCHORED? ☐ YES ☐ NO

LATERAL DESIGN CONTROL: EARTHQUAKE ☐ WIND ☒

SOIL BEARING CAPACITIES:

FIELD TEST (PROVIDE COPY OF TEST REPORT) _____ psf

PRESUMPTIVE BEARING CAPACITY _____ psf

PILE SIZE, TYPE, AND CAPACITY _____ N/A

STRUCTURAL NOTES

A. GENERAL

- THE PROVIDED DRAWINGS ARE LIMITED TO THE ITEMS SPECIFIED HEREIN. NO OPINION IS OFFERED, AND NONE SHOULD BE INFERRED REGARDING OTHER ASPECTS OF THIS STRUCTURE, OR THE STRUCTURES TAKEN AS A WHOLE. ANY ASSOCIATED REMEDIES EXPRESSED OR REFERENCED ARE EXCLUSIVE TO THE ITEMS SPECIFIED HEREIN. NO WARRANTY IS EXPRESSED OR IMPLIED.
- THE DRAWINGS CONTAINED HEREIN, IN WHOLE OR IN PART, REMAIN THE PROPERTY OF MEDLOCK & ASSOCIATES ENGINEERING, PA. THE DRAWINGS MAY NOT BE USED, TRANSFERRED OR REPRODUCED FOR ANY PROJECT OTHER THAN THAT SPECIFIED WITHIN THE DRAWINGS WITHOUT WRITTEN CONSENT FROM MEDLOCK & ASSOCIATES ENGINEERING, PA.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE INTERNATIONAL BUILDING CODE, AS ADAPTED AND SUPPLEMENTED BY LOCAL REGULATIONS.
- PROTECTION AND SAFETY: THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL COMPLY THE PROTECTION AND SAFETY REQUIREMENTS OF THE STATE OF NORTH CAROLINA STATE BUILDING CODE, FEDERAL LAWS AND ALL LOCAL REGULATIONS. THE ENGINEER OR HIS EMPLOYEES ARE NOT RESPONSIBLE FOR SAFETY AND PROTECTION PROCEDURES ON THIS PROJECT.
- THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, LEVELS AND SITE CONDITIONS PRIOR TO START OF CONSTRUCTION. THEY SHALL REPORT ANY ERRORS, DISCREPANCIES OR INCONSISTENCIES TO THE ARCHITECT / ENGINEER (A/E) PRIOR TO COMMENCING WORK. THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL LAYOUT THEIR WORK FROM ESTABLISHED REFERENCE POINTS AND SHALL BE RESPONSIBLE FOR ALL MESUREMENTS AND ELEVATIONS IN CONNECTION WITH THEIR WORK.
- IN THE EVENT ANY OMISSIONS OR ERRORS APPEAR IN THE DRAWINGS, SPECIFICATIONS OR OTHER DOCUMENTS, THE GENERAL CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER IN WRITING OF SUCH ERRORS OR OMISSIONS PRIOR TO PROCEEDING WITH WORK WHICH MAY BE IN QUESTION. IF THE GENERAL CONTRACTOR OR ANY SUBCONTRACTORS FAIL TO GIVE SUCH NOTICE, HE SHALL BE HELD RESPONSIBLE FOR THE RESULTS OF ANY SUCH ERRORS OR OMISSIONS AND THE COST OF RECTIFYING THE SAME.
- NO CHANGES TO THE INFORMATION SHOWN ON THE DRAWINGS OR SUBSTITUTIONS OF MATERIALS SHALL BE MADE WITHOUT THE SPECIFIC WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
- DESIGN INFORMATION SHOWN ON THE DRAWINGS PROVIDE OVERALL DIMENSIONAL PARAMETERS AND DESCRIBE ELEMENTS TO BE CONSTRUCTED AND ARE IN-PART DIAGRAMMATIC. THE DRAWINGS ARE NOT INTENDED TO BE SCALED FOR ROUGH-IN MEASUREMENTS OR TO SERVE AS SHOP DRAWINGS OR PORTIONS THEREOF.
- PRE-ENGINEERED WOOD MEMBERS SUCH AS TRUSSES OR SIMILAR BUILDING ELEMENTS SHALL BE DESIGNED BY THE MANUFACTURER UNLESS OTHERWISE NOTED ON THE PLANS. ALL LOADING AND DEFLECTION CRITERIA SHALL BE COORDINATED WITH THE OWNER OR ARCHITECT DIRECTLY FOR APPROVAL.
- ALL INFORMATION REGARDING PRE-ENGINEERED BUILDING COMPONENTS (EG. MANUF. TRUSS LAYOUT AND LOADING) SHALL BE PROVIDED TO ENGINEER OF RECORD FOR COORDINATION AND LOAD VERIFICATION PRIOR TO CONSTRUCTION.
- NO SHOP DRAWINGS SHALL BE SUBMITTED FOR ARCHITECTURAL / STRUCTURAL ENGINEER REVIEW UNTIL AFTER THEY HAVE BEEN REVIEWED AND NOTED FOR CONSTRUCTION METHOD, DIMENSIONING AND OTHER TRADE REQUIREMENTS BY THE CONTRACTOR AND STAMPED WITH THE CONTRACTOR'S APPROVAL SEAL. THE STRUCTURAL ENGINEER ASSUMES NO RESPONSIBILITY FOR DIMENSIONS, QUANTITIES, ERRORS OR OMISSIONS AS A RESULT OF CHECKING AND REVIEWING ANY SHOP DRAWINGS. ANY ERRORS OR OMISSIONS SHALL BE RECTIFIED BY THE CONTRACTOR, IRRESPECTIVE OF RECEIPT, CHECKING OR REVIEW OF DRAWINGS BY STRUCTURAL ENGINEER REGARDLESS IF WORK IS DONE IN ACCORDANCE WITH SUCH DRAWINGS.
- THE REVIEW OF ALL STRUCTURAL SUBMITTALS BY THE STRUCTURAL ENGINEER OF RECORD SHALL BE TO INSURE THE THE INTENT HAS BEEN UNDERSTOOD AND THAT THE SPECIFIED CRITERIA HAVE BEEN USED. A COPY OF ALL STRUCTURAL SUBMITTALS WILL BE RETAINED FOR RECORD KEEPING PURPOSES ONLY. WHERE CRITICAL DIMENSIONS CANNOT BE DETERMINED FROM THE PLANS OR WHERE NEW WORK ADJOINS EXISTING CONSTRUCTION, OR WHERE ONE MATERIAL ADJOINS AN IN-PLACE MATERIAL, THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AS REQUIRED TO COMPLETE SHOP DRAWINGS AND INSTALLATION. REPORT ANY DISCREPANCIES EXCEEDING 3% BETWEEN FIELD MEASURED DIMENSIONS AND SCALED DRAWING DIMENSIONS TO ARCHITECT BEFORE PROCEEDING WITH THE WORK.
- ARCHITECT AND CONTRACTOR SHALL COORDINATE DOOR AND WINDOW OPENINGS AND INTERIOR AND EXTERIOR FINISHES.
- DEMOLITION SHALL INCLUDE REMOVAL, TRANSPORT AND DISPOSAL OF ALL WASTE MATERIAL RELATED TO THE CONSTRUCTION OF THE PROJECT TO AN APPROVED FACILITY.

B. DESIGN LOADS

LIVE LOADS:

ROOF.....	20 PSF
OFFICE.....	50 PSF
STAIRS/CORRIDORS.....	100 PSF
CORRIDORS.....	100 PSF
BALCONY.....	60 PSF

DEAD LOADS:

ROOF.....	15 PSF
FLOOR (WOOD).....	20 PSF
GROUND.....	15 PSF

WIND LOADS:

ULTIMATE WIND SPEED.....	115 MPH
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- ALL STRUCTURAL ELEMENTS DESIGNED TO SUSTAIN SPECIFIED DEAD AND LIVE LOADS IN COMBINATION SO AS TO PRODUCE THE MOST CRITICAL CONDITIONS.
- PRE-ENGINEERED SYSTEMS AND COMPONENTS SHALL BE DESIGNED BASED ON THE MINIMUM LOAD REQUIREMENT PER ASCE-7 AND THE ABOVE BASIC LOAD PARAMETERS.
- WHERE CONFLICTS OCCUR BETWEEN NOTES OR DRAWINGS, THE CONTRACTOR SHALL NOT PROCEED WITH THE AFFECTED WORK UNTIL THE STRUCTURAL ENGINEER ISSUES A CLARIFICATION.
- THE STRUCTURAL CONTRACT DRAWINGS SHALL NOT BE USED AS TEMPLATES FOR SHOP DRAWINGS UNLESS EXPLICIT APPROVAL IS PROVIDED BY THE STRUCTURAL ENGINEER IN ADVANCE OF ANY SUBMITTALS. SUBMITTALS RECEIVED THAT HAVE USED THE DRAWINGS WITHOUT APPROVAL WILL BE REJECTED WITHOUT REVIEW.

C. FOOTINGS / FOUNDATIONS

- FOUNDATION DESIGN IS BASED ON A PRESUMPTIVE ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF.
- PRIOR TO CONSTRUCTION, SUB GRADE CONDITIONS USED AS DESIGN PARAMETERS SHALL BE TESTED AND EVALUATED BY A GEOTECHNICAL ENGINEER LICENSED IN NORTH CAROLINA. ALLOW STRUCTURAL ENGINEER TO REVIEW GEOTECHNICAL REPORT PRIOR TO CONSTRUCTION.
- FOUNDATION CONDITIONS DIFFERENT TO DESIGN PARAMETERS OR TO THE GEOTECHNICAL REPORT SHALL BE REPORTED TO THE STRUCTURAL AND GEOTECHNICAL ENGINEER BEFORE FURTHER CONSTRUCTION IS ATTEMPTED.
- THE DESIGN EXCLUDES GLOBAL STABILITY OR ANY OTHER GROUND CONDITIONS. COMPETENT, GLOBAL STABILITY, OR ANY OTHER SUB GRADE CONDITIONS SHALL BE DETERMINED BY A GEOTECHNICAL ENGINEER LICENSED IN NORTH CAROLINA.
- IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ENGAGE THE SERVICES OF A GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA PRIOR TO AND DURING CONSTRUCTION AS REQUIRED BY LOCAL ORDINANCE IN AREAS DESIGNATED AS "STEEP SLOPE", "HIGH HAZARD OR MODERATE HAZARD" OR "HIGH ELEVATION OVERLAY DISTRICTS". THE GEOTECHNICAL ENGINEER SHALL PREPARE A REPORT DESCRIBING SUB-GRADE CONDITIONS, AND PERFORM GLOBAL STABILITY ANALYSIS AS REQUIRED BY LOCAL ORDINANCE. RECOMMENDATIONS BASED ON GEOTECHNICAL TESTING AND EVALUATION SHALL BE PRESENTED TO THE AUTHORITY HAVING JURISDICTION FOR REVIEW WITH THE PERMIT APPLICATION. PRIOR TO FINAL APPROVAL BY THE JURISDICTION HAVING AUTHORITY, THE GEOTECHNICAL ENGINEER SHALL PREPARE A REPORT CERTIFYING THE DESIGN RECOMMENDATIONS WERE FOLLOWED DURING CONSTRUCTION.
- IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ENGAGE THE SERVICES OF THE STRUCTURAL ENGINEER OF RECORD TO CONDUCT SPECIAL INSPECTIONS DURING CONSTRUCTION OF SITE RETAINING WALLS AS REQUIRED BY LOCAL ORDINANCE.
- THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 24" BELOW FINISHED GRADE, UNLESS OTHERWISE NOTED.
- ALL FOOTINGS SHALL BEAR ON UNDISTURBED NATIVE SOIL OR ENGINEERED FILL PER GEOTECHNICAL ENGINEER SPECIFICATIONS.
- THE GENERAL CONTRACTOR SHALL USE THE STRUCTURAL DRAWINGS TOGETHER WITH THE ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS TO LOCATE FOOTING STEPS, DEPRESSED SLABS, SLOPES, DRAINS, OUTLETS, RECESSES, OPENINGS, BOLT SETTINGS, SLEEVES, DIMENSIONS, ETC. ANY POTENTIAL CONFLICTS SHALL BE REPORTED IN WRITING TO THE ARCHITECT / ENGINEER (A/E) BEFORE PROCEEDING WITH THE WORK.
- PRIOR TO BACKFILLING, ALL RETAINING WALLS, EXCEPT THOSE DESIGNATED AS CANTILEVERS, SHALL BE SHORED UNTIL RESTRAINING FLOOR FRAMING IS IN PLACE AND CONCRETE HAS CURED FOR A MINIMUM OF 14 DAYS.

D. CONCRETE AND REINFORCING STEEL

- WORK SHALL CONFORM TO THE LATEST EDITIONS OF ACI SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301) AND BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318). CONCRETE SHALL HAVE THE FOLLOWING MINIMUM COMPRESSIVE STRENGTH (F'_c) AT 28 DAYS:

FOOTINGS.....	3000 PSI
INTERIOR SLAB ON GRADE.....	3000 PSI
EXTERIOR SLABS AND WALKS.....	4500 PSI
FOUNDATION WALLS.....	3000 PSI
- ALL EXTERIOR CONCRETE SHALL CONTAIN ENTRAINED AIR IN ACCORDANCE WITH ACI 318, TABLE 4.4.1.
- CONCRETE REINFORCEMENT BARS SHALL CONFORM TO ASTM A615, GRADE 60. REINFORCEMENT DESIGNATED AS CONTINUOUS SHALL LAP 57 BAR DIAMETER UNLESS NOTED OTHERWISE.
- WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A 1064, LATEST REVISION.
- SUPPORT REINFORCING MATERIAL ON SUITABLE CHAIRS OR CEMENTITIOUS BLOCKS SO AS NOT TO DISPLACE DURING PLACEMENT OF CONCRETE.
- PROVIDE 3" MINIMUM CONCRETE COVER TO REINFORCEMENT WHEN CONCRETE IS PLACED AGAINST EARTH, 1 1/2" MINIMUM COVER ELSEWHERE UNLESS OTHERWISE NOTED.
- CONCRETE SHALL BE CURED FOR 7 DAYS OR CURED BY USING AN APPROVED MEMBRANE CURING COMPOUND.
- THE CONTRACTOR SHALL VERIFY IN THE FIELD THE TYPE AND LOCATION OF ALL EMBEDDED ITEMS INCLUDING ANCHOR BOLTS, PIPES, SLEEVES, CONDUIT, ETC., PRIOR TO PLACING CONCRETE.
- REINFORCEMENT NOT FULLY ENCASED BY CONCRETE SHALL BE EPOXY COATED.

E. MASONRY

- DESIGN, MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH "BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES" TMS 402/602-16.
- ALL CONCRETE MASONRY UNITS SHALL BE HOLLOW CONCRETE UNITS OF ULTIMATE COMPRESSIVE STRENGTH OF 1500 PSI, GRADE N, ASTM C 90. MORTAR SHALL BE TYPE S, MEETING ASTM C 270.
- LAP ALL REINFORCING STEEL 48 BAR DIAMETERS, OR 2'-0" MINIMUM AT SPLICES. REINFORCEMENT SHALL BE PLACED AT THE CENTER OF CELLS UNLESS INDICATED OTHERWISE IN THE DETAILS.WHEN REINFORCEMENT IS LOCATED ADJACENT TO A CELL FACE, PROVIDE 3/4" CLEARANCE AND SUPPORT REBAR IN PLACE WITH SPACERS OR POSTIONERS AS REQUIRED. SPlice REINFORCEMENT AS INDICATED ONLY.
- GROUT SHALL BE IN ACCORDANCE WITH ASTM C476, STANDARD SPECIFICATIONS FOR GROUT OF MASONRY OR 3000 PSI "REA GRAVEL" CONCRETE PER SPECIFICATIONS.
- ALL VERTICAL REINFORCING BARS SHALL BE ANCHORED IN THE FOOTING, THICKENED SLAB, BEAM OR LINTEL SUPPORTING THE WALL AT THE TOP AND BOTTOM WITH STANDARD HOOKS OR BENDS AND SHALL BE CONTINUOUS THROUGHOUT THE HEIGHT OF THE WALL, WITH LAP SPLICES OF AT LEAST 48 BAR DIAMETERS FOR GRADE 60 REINFORCING STEEL OR AT LEAST 40 BAR DIAMETERS FOR GRADE 40 REINFORCING STEEL, MEETING ASTM A615.
- LAPPED BARS SHALL BE SECURED WITH WIRE TIES OR OTHER MEANS TO ENSURE THAT THE BAR IS NOT DISPLACED DURING GROUT PLACEMENT.
- GROUT ALL CELLS CONTAINING VERTICAL REINFORCEMENT IN 5'-0" MAX LIFTS. ALIGNMENT OF CELLS ARE TO BE INSPECTED AND APPROVED PRIOR TO PLACEMENT OF GROUT.
- GROUT ALL CELLS BELOW FINISHED GRADE.
- PROVIDE HORIZONTAL JOINT REINFORCEMENT IN WALLS AT 16" O.C. VERTICALLY, U.O.N. IN ADDITION, INSTALL JOINT REINFORCING IN THE FIRST TWO MORTAR JOINTS ABOVE AND BELOW OPENINGS, EXTENDING AT LEAST 24" BEYOND THE OPENING. PROVIDE HORIZONTAL JOINT REINFORCEMENT IN PARAPETS AND FREE STANDING WALLS AT 8" O.C. LAP JOINT REINFORCEMENT 6" MINIMUM.
- ALL PRECAST OR POURED LINTELS SHALL BE REINFORCED WITH TWO #4 TOP & BOTTOM BARS WITH #3 TIES @ 12" O.C. AT A MINIMUM AND HAVE A 16" MINIMUM MASONRY END BEARING.
- MASONRY WORK SHALL BE INSPECTED IN ACCORDANCE WITH ACI 530 QUALITY ASSURANCE LEVEL B.

F. STRUCTURAL LUMBER

- ALL STRUCTURAL LUMBER SHALL CONFORM TO THE MOST CURRENT APPLICABLE SPECIFICATIONS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION.
- ALL EXTERIOR SIMPSON STRONG-TIE CONNECTORS SHALL HAVE A MEDIUM LEVEL OF CORROSION RESISTANCE. AT MINIMUM (E.G. "Z-MAX" OR "HDO" HOT DIPPED GALVANIZED), THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE COMPATIBILITY OF CORROSION RESISTANT COATED CONNECTORS WITH ALL FASTENERS AND PRESERVATIVE-TREATED WOOD MEMBERS IN CONTACT WITH CONNECTOR.
- ALL ROOF SHEATHING SHALL BE 5/8" THICK APA RATED SHEATHING EXPOSURE 1 WITH #10 TEK SCREWS @ 3" O.C. AT EDGE OF SHEATHING AND #10 TEK SCREWS @ 12" O.C. AT INTERMEDIATE MEMBERS.
- ALL EXTERIOR WALLS SHEATHING (EXCEPT SHEAR WALLS) SHALL BE 15/32" THICK APA RATED SHEATHING EXPOSURE 1 ATTACHED TO 2x STUD WALLS WITH #10 TEK SCREWS @ 6" O.C. AT EDGE OF SHEATHING INCLUDING TOP AND BOTTOM PLATE AND #10 TEK SCREWS @ 12" O.C. AT INTERMEDIATE MEMBERS.
- ALL SHEAR WALL SHEATHING SHALL BE 15/32" THICK APA STRUCTURAL 1 RATED SHEATHING EXPOSURE 1 ATTACHED TO 2x STUD WALL WITH #10 TEK SCREWS @ 3" O.C. AT EDGE OF SHEATHING INCLUDING TOP AND BOTTOM PLATE AND #10 TEK SCREWS @ 12" O.C. AT INTERMEDIATE MEMBERS.
- CONNECTORS - PER SIMPSON STRONG-TIE COMPANY

G. PREFABRICATED STEEL TRUSSES

- FURNISH WHERE INDICATED ON PLAN, TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF LATEST EDITION OF SPECIFICATIONS FOR WOOD CONSTRUCTION (NDS) OF THE AMERICAN FOREST AND PAPER ASSOCIATION (AF & PA), AND DESIGN SPECIFICATIONS FOR METAL PLATE CONNECTED WOOD TRUSSES (ANSI/TPI 1) OF THE TRUSS PLATE INSTITUTE (TPI), AND CODE OF JURISDICTION.
- MANUFACTURER TRUSSES IN THE CONFIGURATION SHOWN. MOISTURE CONTENT OF LUMBER SHALL BE NO GREATER THAN 19 PERCENT AT THE TIME OF FABRICATION.
- DESIGN LOADS: ROOF TRUSSES
TOP CHORD DL = 27 PSF
TOP CHORD LL = 20 PSF
BTM CHORD DL = 10 PSF
BTM CHORD LL = 0 PSF
- TRUSS SHOP DRAWINGS SHALL BE SUBMITTED TO ARCHITECT (AND/OR STRUCTURAL ENGINEER) FOR REVIEW AND SHALL INCLUDE A MINIMUM OF THE FOLLOWING INFORMATION:
 - SPAN, DEPTH OR SLOPE, AND SPACING OF TRUSSES
 - REQUIRED BEARING WIDTH
 - DESIGN LOADS
 - DESIGN STRESSES IN EACH MEMBER
 - CONCENTRATED LOADS AND THEIR POINTS OF APPLICATION
 - REACTIONS (INCLUDING LOCATION AND DIRECTION)
 - PLATE TYPE, THICKNESS(GAGE (20 GAGE, MIN), SIZE AND LOCATION AT EACH JOINT
 - LOAD ADJUSTMENT FACTORS
 - WIND AND SEISMIC CRITERIA
 - STEEL SIZE AND GAGE
 - LOCATION OF ANY REQUIRED CONTINUOUS LATERAL BRACING
 - CALCULATED DEFLECTION RATIO AND/OR MAX DEFLECTION FOR LIVE AND TOTAL LOAD
 - LOCATION OF JOINTS
 - CONNECTION REQUIREMENTS FOR: TRUSS-TO-TRUSS GIRDERS, TRUSS PLY-TO-PLY, AND FIELD SPLICES
 - SEAL AND REGISTRATION NUMBER OF A CIVIL OR STRUCTURAL ENGINEER, LICENSED IN STATE WHERE TRUSSES ARE TO BE INSTALLED, SHALL APPEAR ON EACH TRUSS DESIGN AND ON THE TRUSS LAYOUT PLAN PREPARED BY THE TRUSS MANUFACTURER OR FABRICATOR
- TRUSSES SHALL BE HANDLED DURING FABRICATION, DELIVERY AND AT JOBSITE SO AS NOT TO BE SUBJECTED TO EXCESSIVE BENDING. TRUSSES SHALL BE UNLOADED ON SMOOTH GROUND TO AVOID LATERAL STRAIN. TRUSSES SHALL BE PROTECTED FROM DAMAGE THAT MIGHT RESULT FROM ON-SITE ACTIVITIES AND ENVIRONMENTAL CONDITIONS. PREVENT TOPPLING WHEN BANDING IS REMOVED. TRUSSES SHALL BE SET AND SECURED LEVEL AND PLUMB, AND IN CORRECT LOCATION. HANDLE DURING INSTALLATION IN ACCORDANCE WITH LATEST VERSION OF BUILDING COMPONENT SAFETY INFORMATION (BCSI 1) FROM TPI, AND ANSI/TPI 1. INSTALLATION SHALL BE CONSISTENT WITH GOOD WORKMANSHIP AND GOOD BUILDING PRACTICES AND SHALL BE RESPONSIBILITY OF TRUSS INSTALLER.
- APPARENT DAMAGE TO TRUSSES, IF ANY, SHALL BE REPORTED TO MANUFACTURER PRIOR TO INSTALLATION. TRUSSES SHALL BE HELD IN CORRECT ALIGNMENT UNTIL SPECIFIED PERMANENT BRACING IS INSTALLED.
- CUTTING AND ALTERING OF TRUSSES IS NOT PERMITTED. CONCENTRATED LOADS SHALL NOT BE PLACED ATOP TRUSSES UNTIL ALL SPECIFIED BRACING HAS BEEN INSTALLED AND DECKING IS PERMANENTLY NAILED IN PLACE. SPECIFICALLY AVOID STACKING FULL BUNDLES OF DECKING OR OTHER HEAVY MATERIALS ONTO UNSHATHED TRUSSES.
- OVERBUILD FRAMING SHALL BE GABLE END TYPE TRUSSES SPACED AT 24" ON CENTER. PLYWOOD ROOF SHEATHING SHALL BE INSTALLED ON SUPPORTING TRUSSES OR WOOD JOISTS PRIOR TO INSTALLING OVERBUILD FRAMING.
- FURNISH AND INSTALL ONE HURRICANE ANCHOR AT EACH END OF EACH ROOF TRUSS, UNLESS OTHERWISE NOTED ON PLANS OR DETAILS.

H. COLD-FORMED STEEL FRAMING

- ALL EXTERIOR CURTAIN WALL LIGHT GAGE STRUCTURAL STEEL MEMBERS SHALL BE FORMED FROM STEEL SECTIONS THAT CONFORM TO THE SPECIFICATIONS OF THE STEEL STUD MANUFACTURERS ASSOCIATION (SSMA).
- ALL LIGHT GAGE STRUCTURAL STEEL MEMBERS SHALL HAVE A MINIMUM F_y = 33 KSI, BE SPACED AT 16" O"C U.O.N., WITH GROSS SECTION PROPERTIES EQUAL TO OR EXCEEDING:

SSMA DESI	F _y	DIMENSIONS	DESIGN THICK	A _{IN2}	I _X , IN4	I _Y , IN4	S _X , IN3	S _Y , IN3	R _X , IN	R _Y , IN
WALL STUDS:										
326S162-54	50KSI	3-5/8" X 1-5/8"	0.0566	0.422	0.673	0.482	1.438	0.154	0.405	
606S162-54	50KSI	6" X 1-5/8"	0.0566	0.556	2.863	0.954	2.270	0.180	0.570	
WALL TRACK:										
362T150-54	50KSI	3-5/8" X 1-1/2"	0.0566	0.374	0.823	0.431	1.483	0.080	0.462	
600T150-54	50KSI	6" X 1-1/2"	0.0566	0.509	2.610	0.840	2.270	0.091	0.422	
CANOPY ROOF FRAME AND JOISTS & TRACK:										
1000S162-54	50KSI	10" X 1-5/8"	0.0566	0.783	9.950	1.990	3.570	0.204	0.511	
1000T150-54	50KSI	10" X 1-1/2"	0.0566	0.707	8.940	1.630	3.430	0.059	0.288	
ROOF FRAMING AND MECH PLATFORM FLOOR:										
LIGHT GAGE TRUSSES										
- FURNISH AND INSTALL CONTINUOUS MECHANICAL LATERAL BRACING AT 48" O"C OR AS REQUIRED BY THE STRUCTURAL WALL STUD MANUFACTURER, U.O.N. ON THE DRAWINGS.
- FASTEN TRACK TO SLAB W/ TITAN 1/2" * X 6" ANCHORS @ 32" O.C. AND WITHIN 8" FROM CORNERS AND DOOR OPENINGS.
- PROVIDE SIMPSON DTC DEFLECTION CLIPS WHERE SHOWN; INSTALL PER MANUF. SPECS.; TYP.

J. MISCELLANEOUS ITEMS

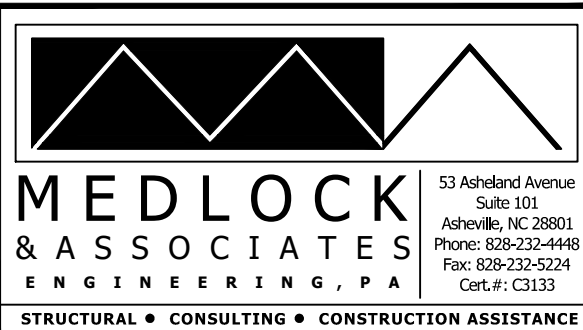
- EPOXY FOR THE SETTING OF DOWELS OR ANCHOR BOLTS SHALL BE SIMPSON SET EPOXY ADHESIVE. AS MANUFACTURED BY SIMPSON STRONG TIE OR AN APPROVED EQUIVALENT. INSTALLATION OF THE DOWELS/ ANCHOR BOLTS SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- GROUT FOR SETTING BEARING SURFACES SHALL BE NON-SHRINK.
- WALLS RETAINING EARTH, OTHER THAN WALLS DESIGNED AS CANTILEVERS, SHALL BE ADEQUATELY BRACED UNTIL CONCRETE FOR THE SUPPORTING SLABS HAS BEEN PLACED AND SUFFICIENTLY CURED.
- UNLESS SPECIFICALLY SHOWN OR NOTED ON THE DRAWINGS, NO STRUCTURAL MEMBER SHALL BE CUT, NOTCHED, BORED, OR OTHERWISE WEAKENED WITHOUT THE PERMISSION OF THE STRUCTURAL ENGINEER

TYPICAL ABBREVIATIONS

A.B.	ANCHOR BOLT	H.S.	HEADED STUD																																				
ADD'L	ADDITIONAL	HSS	HOLLOW STRUCTURAL SECTION																																				
ARCH'L	ARCHITECTURAL	JST.	JOIST																																				
BR.	BEAM	JOINT	JOINT																																				
B.P.	BASE PLATE	LT.	LIGHT																																				
BRG.	BEARING	MAS.	MASONRY																																				
BSMT.	BASEMENT	MAX.	MAXIMUM																																				
BTM.	BOTTOM	MECH.	MECHANICAL																																				
BTR.	BETTER	MANUF.	MANUFACTURER																																				
C.I.P.	CAST IN PLACE	MIN.	MINIMUM																																				
CL.	CLEAR	NOM.	NOMINAL																																				
C.MU	CONCRETE MASONRY UNIT	O.H.	OPPOSITE HAND																																				
COL.	COLUMN	O.C.	ON CENTER																																				
COMP.	COMPOSITE	P.C.	PRECAST OR PILE CAP																																				
CONC.	CONCRETE	PL.	PLATE																																				
CONST.	CONSTRUCTION	PREFAB.	PREFABRICATED																																				
CONT.	CONTINUOUS	PR.	PRESSURE TREATED																																				
COORD.	COORDINATE	REF.	REFERENCE																																				
DET.	DETAIL	REINF.	REINFORCEMENT																																				
DIA.	DIAMETER	SECT.	SECTION																																				
DWG.	DRAWING	SIM.	SIMILAR																																				
E.B.	EXPANSION BOLT	STD.	STANDARD																																				
E.O.S.	EDGE OF SLAB	STL.	STEEL																																				
E.O.W.	EDGE OF WALL	STRUCT.	STRUCTURAL																																				
EQ.	EQUAL	SQ.	SQUARE																																				
ELEV.	ELEVATION	T.O.S.	TOP OF SLAB / TOP OF STEEL																																				
EXIST.	EXISTING	T.O.W.	TOP OF WALL																																				
E.W.	EACH WAY	TRANS.	TRANSVERSE </tr <tr><td>F.F.</td><td>FINISHED FLOOR</td><td>TYP.</td><td>TYPICAL</td></tr> <tr><td>FIN.</td><td>FINISHED</td><td>U.O.N.</td><td>UNLESS OTHERWISE NOTED</td></tr> <tr><td>FLR.</td><td>FLOOR</td><td>V.L.F.</td><td>VERIFY IN FIELD</td></tr> <tr><td>FO.</td><td>FOUNDATION</td><td>VERT.</td><td>VERTICAL</td></tr> <tr><td>FTG.</td><td>FOOTING</td><td>WF</td><td>WIDE FLANGE</td></tr> <tr><td>GALV.</td><td>GALVANIZED</td><td>WOLM.</td><td>WOLMANIZED</td></tr> <tr><td>H.C.</td><td>HOLLOW CORE</td><td>WT.</td><td>WEIGHT</td></tr> <tr><td>HORIZ.</td><td>HORIZONTAL</td><td>W.W.F.</td><td>WELDED WIRE FABRIC</td></tr> <tr><td>H.O.G.</td><td>HOT DIP GALVANIZED</td><td></td><td></td></tr>	F.F.	FINISHED FLOOR	TYP.	TYPICAL	FIN.	FINISHED	U.O.N.	UNLESS OTHERWISE NOTED	FLR.	FLOOR	V.L.F.	VERIFY IN FIELD	FO.	FOUNDATION	VERT.	VERTICAL	FTG.	FOOTING	WF	WIDE FLANGE	GALV.	GALVANIZED	WOLM.	WOLMANIZED	H.C.	HOLLOW CORE	WT.	WEIGHT	HORIZ.	HORIZONTAL	W.W.F.	WELDED WIRE FABRIC	H.O.G.	HOT DIP GALVANIZED		
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22 S. PACK SQ, SUITE 301, ASHEVILLE, NC 28801

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NEW OPERATORS BUILDING FOR
CATAWBA COUNTY LANDFILL
4017 ROCKY FORD RD, NEWTON, NC 28658

INTERIM REVIEW ONLY

These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.

Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XXXXXXXXXX

KEY PLAN

REVISION 1 ANCHOR BOLT REVISION 10-26-26



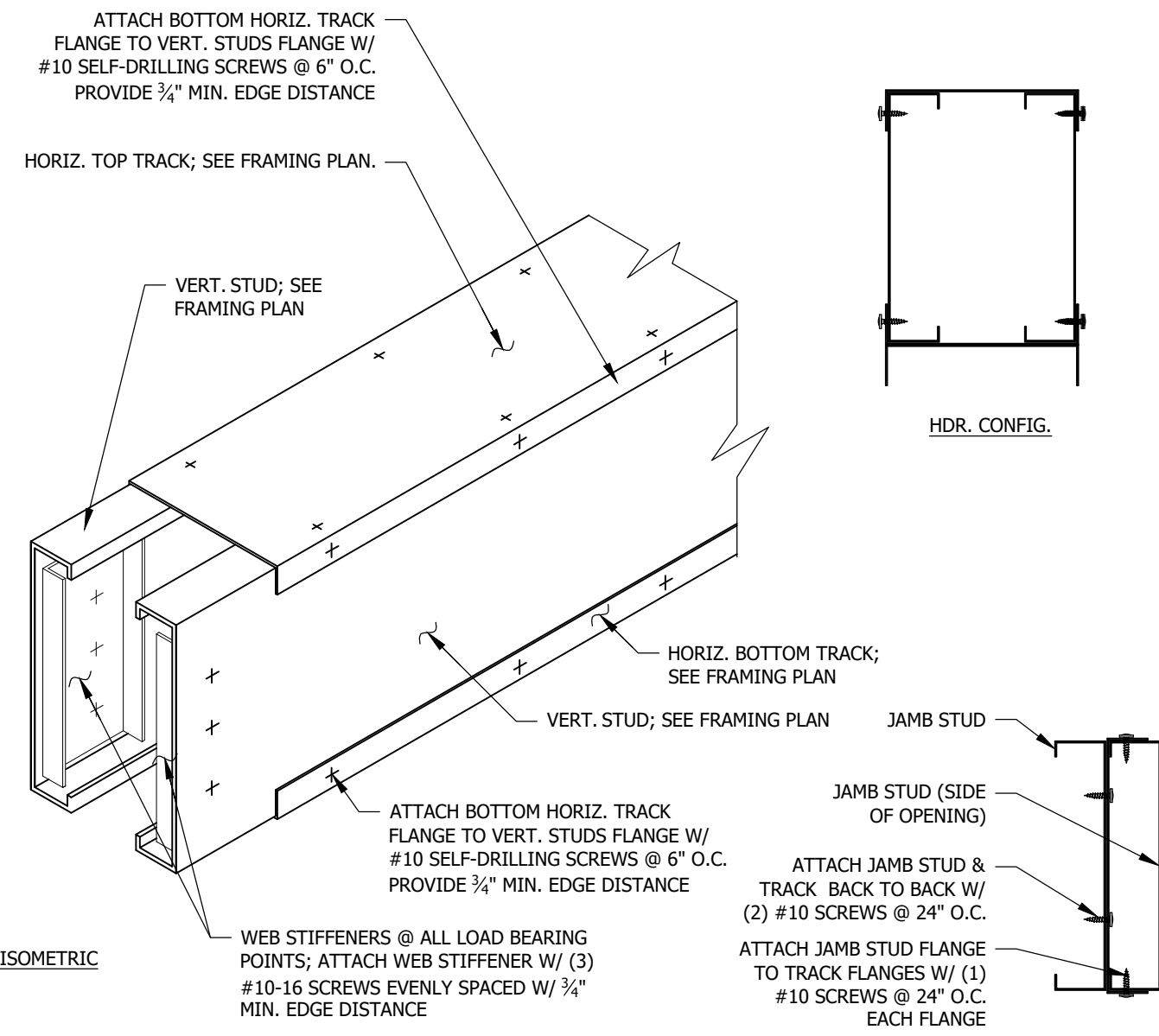
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ISSUE

SHEET TITLE
APPENDIX 'B' &
GENERAL STRUCTURAL
NOTES

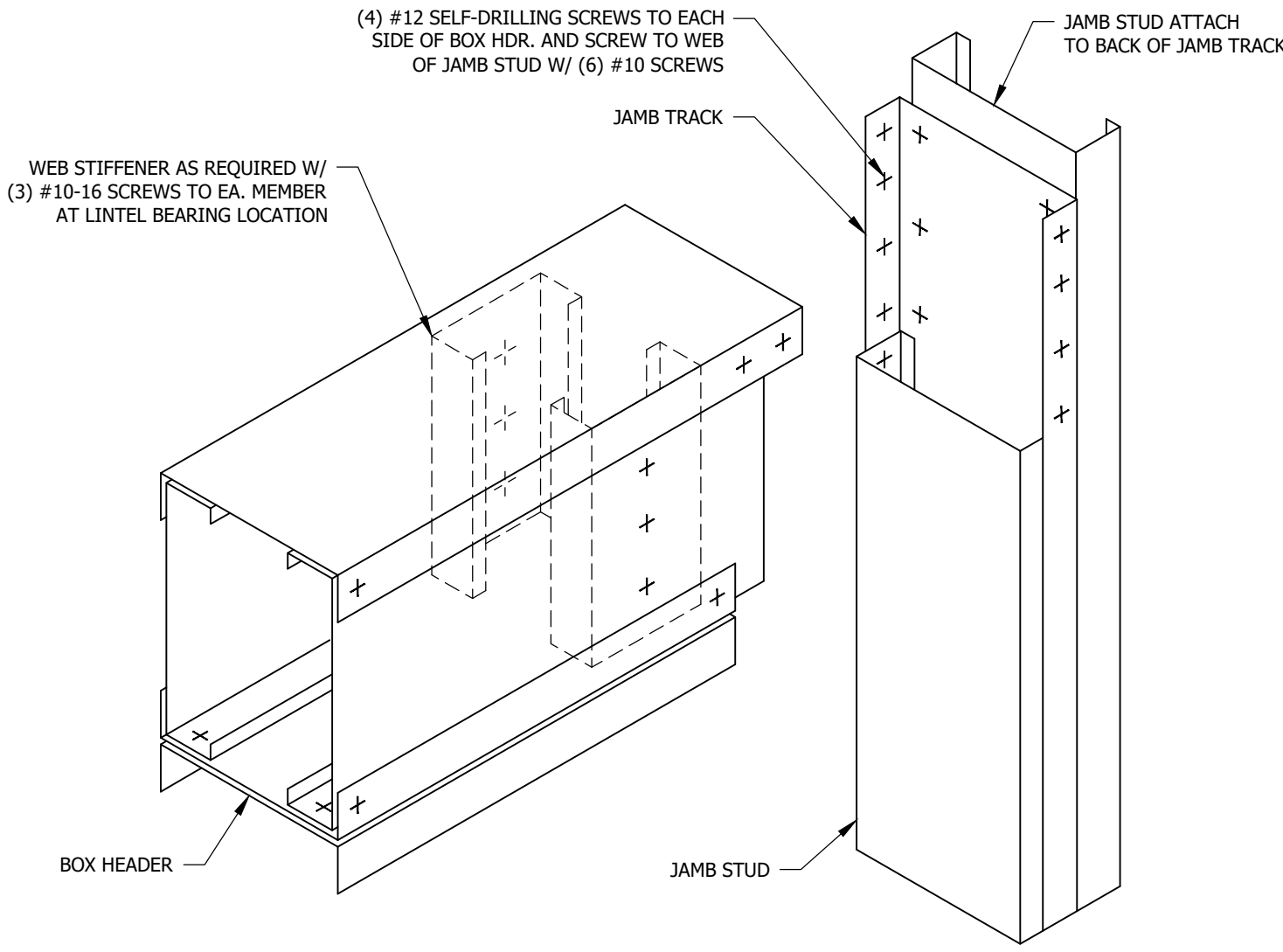
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S001

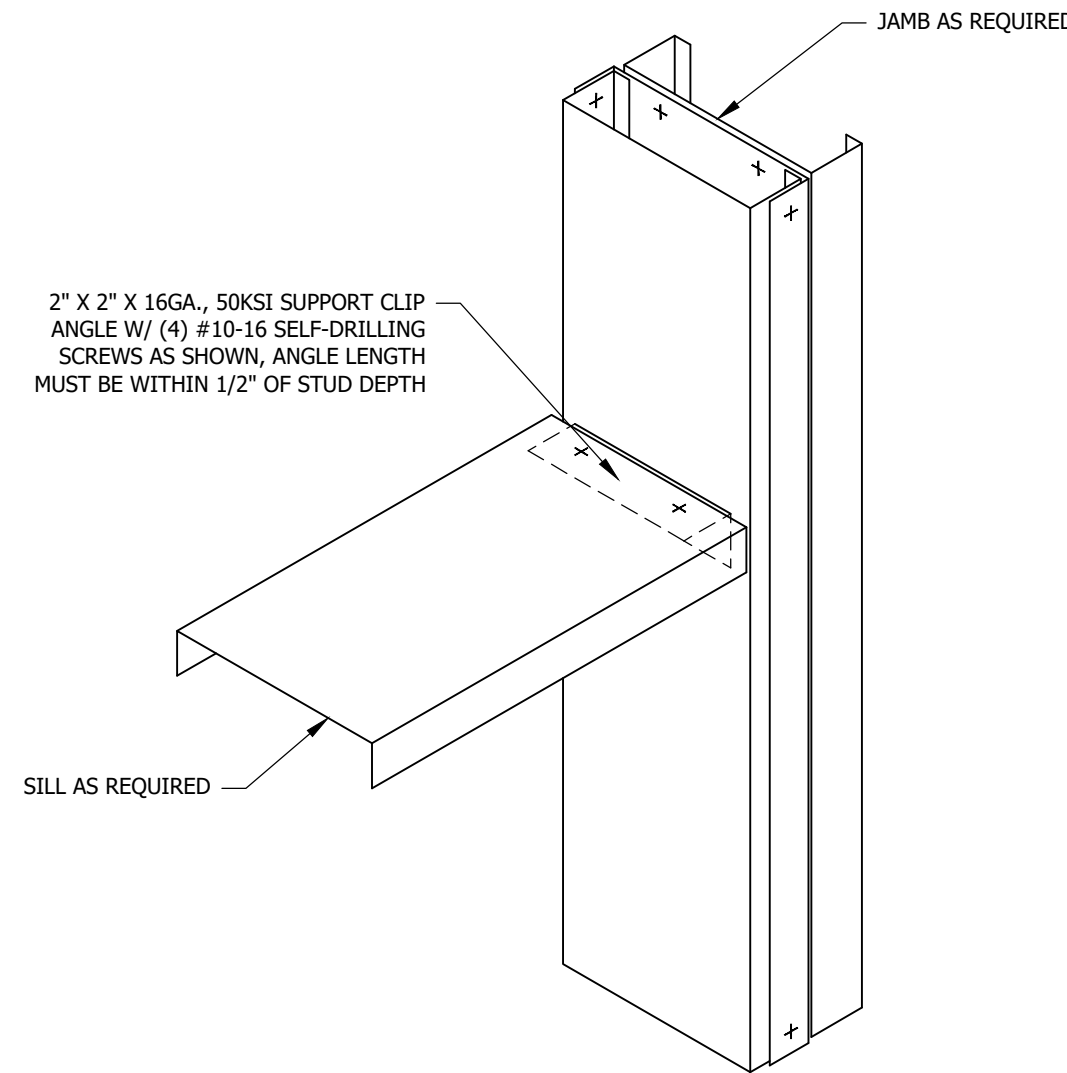
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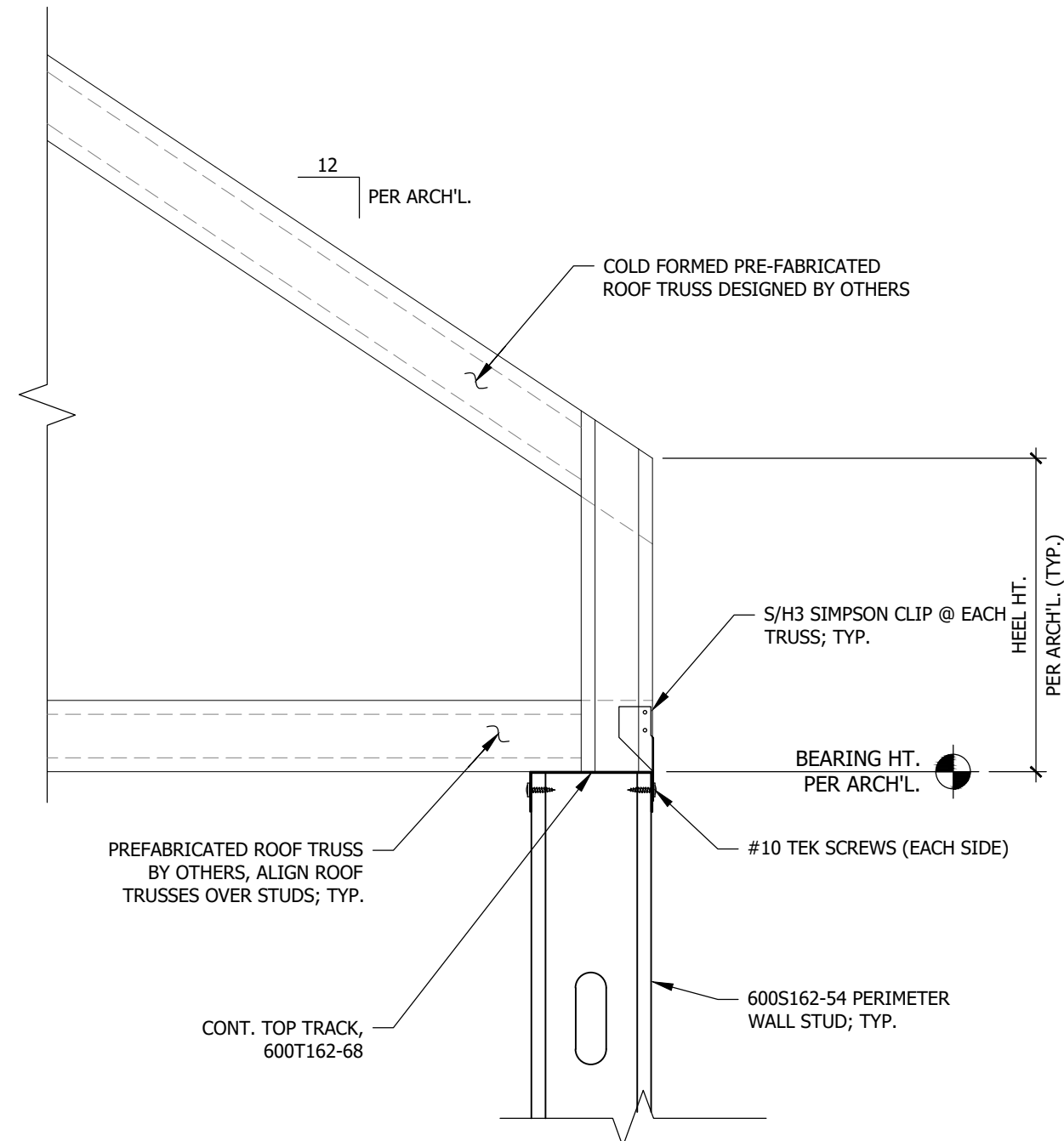
1 L.G. HEADER DETAIL (TYP.)
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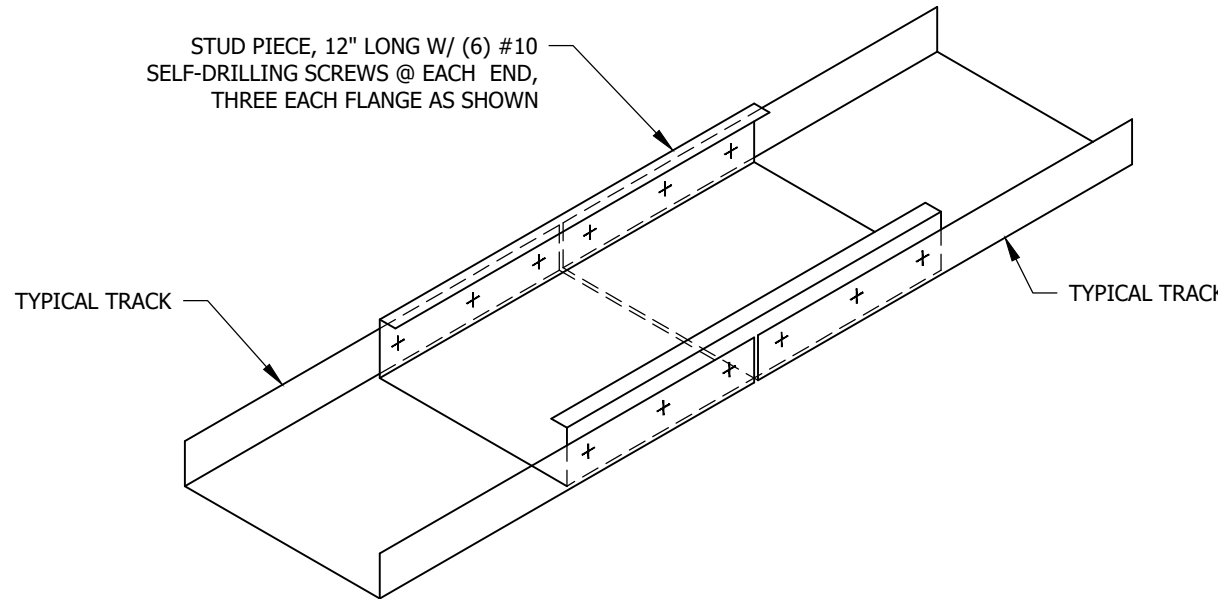
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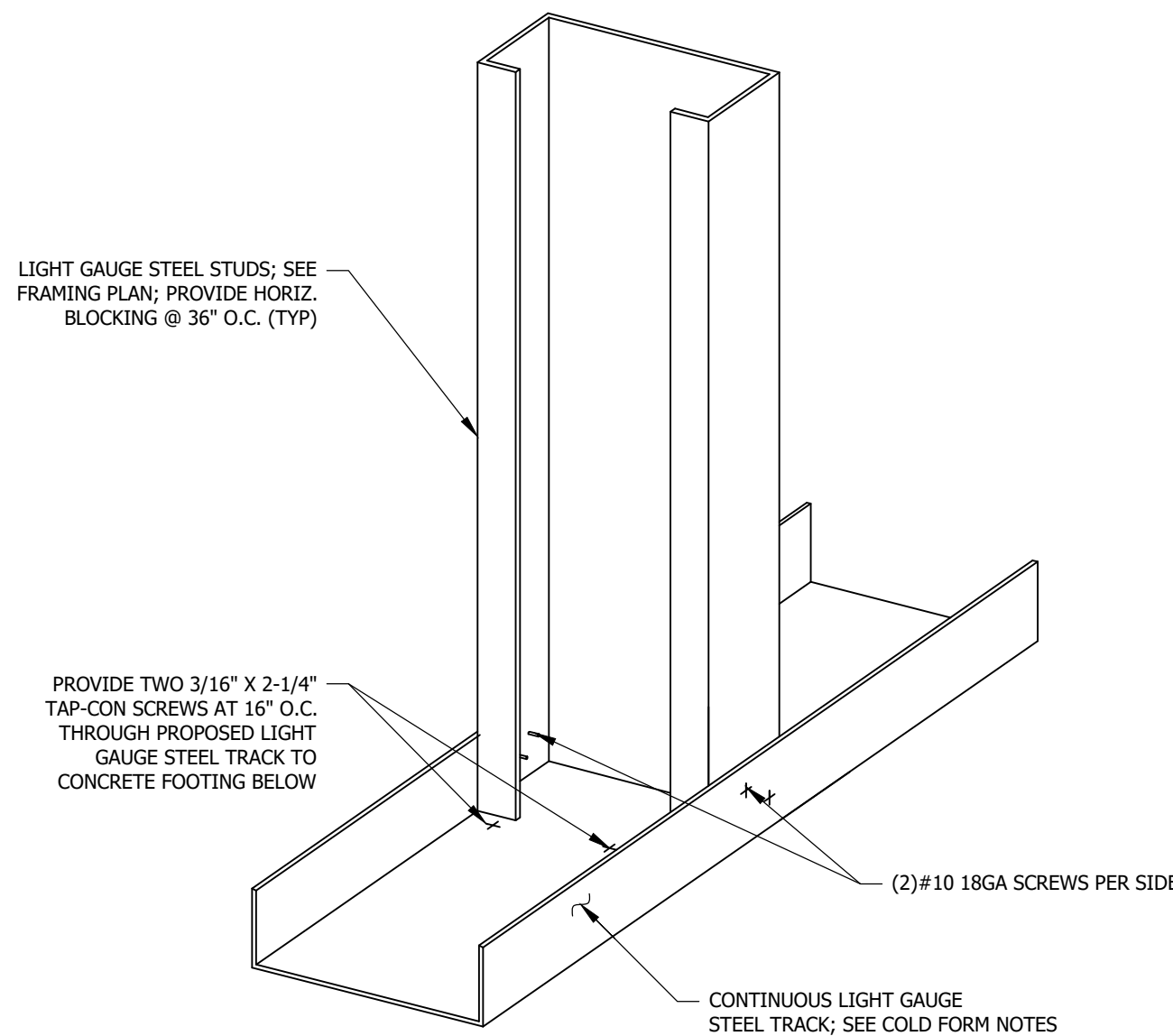
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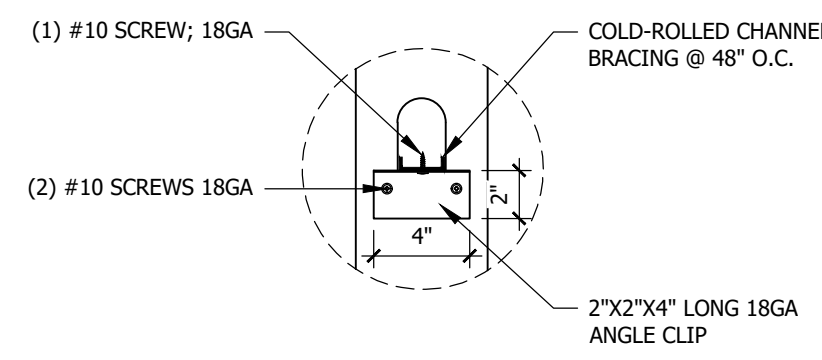
4 RAFTER CONNECTION DETAIL (TYP.)
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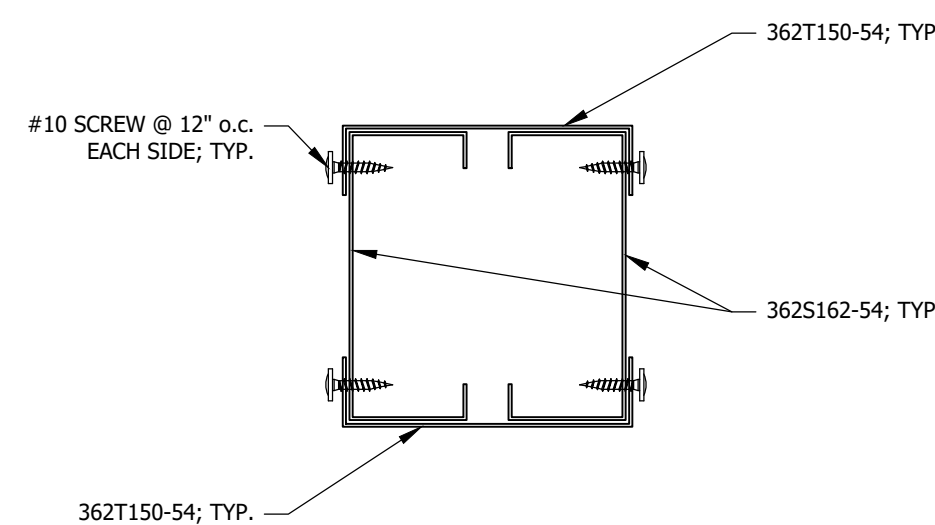
5 TRACK SPLICE DETAIL (TYP.)
S002 SCALE: 1-1/2"=1'-0"



6 L.G. STUD TO TRACK DETAIL (TYP.)
S002 SCALE: 1-1/2"=1'-0"



7 STUD WALL BLOCKING DETAIL (TYP.)
S002 SCALE: 1-1/2"=1'-0"



8 BOX COLUMN DETAIL (TYP.)
S002 N.T.S. (BOX HEADER SIMILAR)

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KEY PLAN

REVISION		
1	ANCHOR BOLT REVISION	10-26-26



DATE:
08-25-26
ISSUE

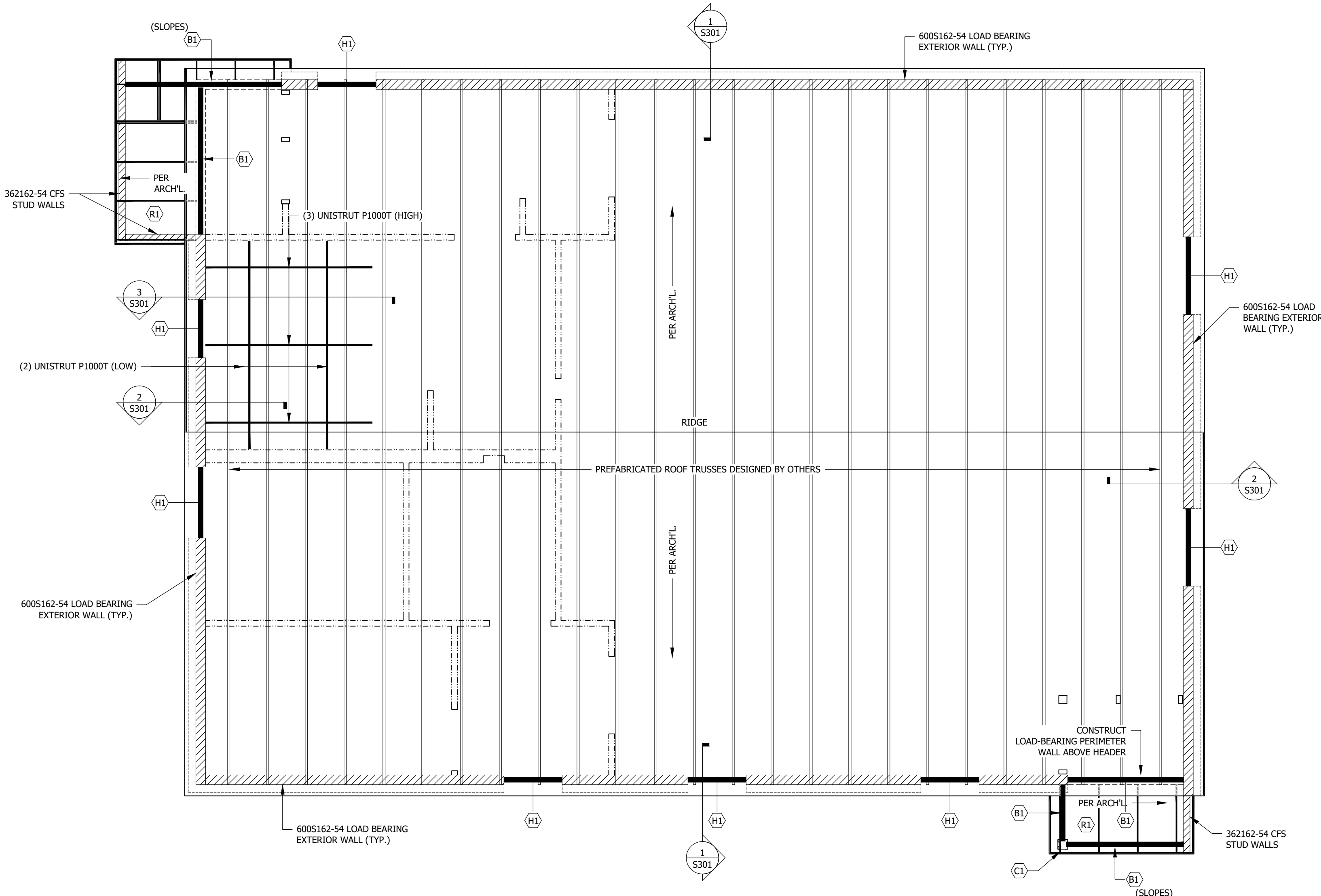
SHEET TITLE
TYPICAL LIGHT GAUGE FRAMING DETAILS

SHEET NO.

S002

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TEMPLATE VERSION: 1

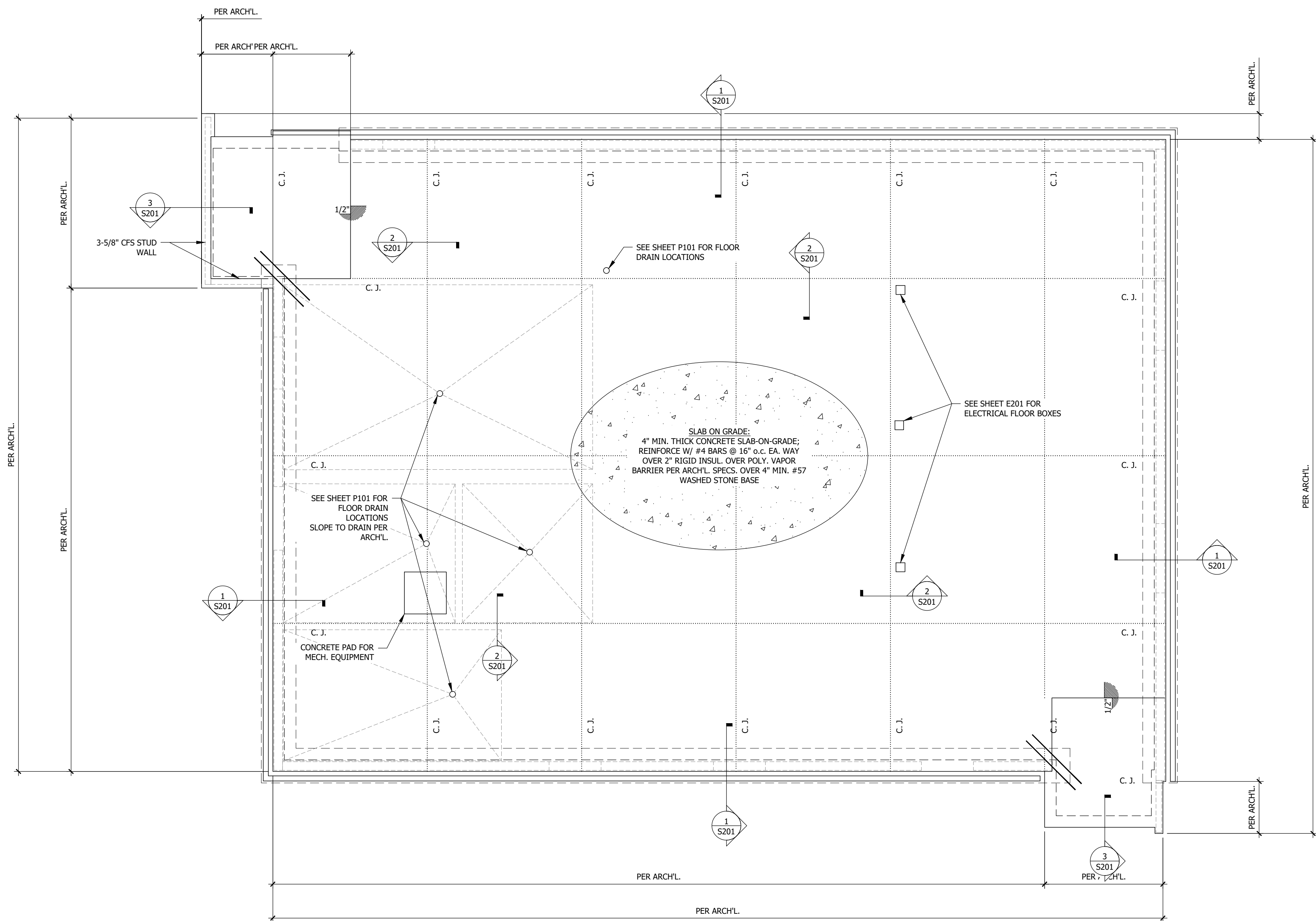
2
S101 ROOF FRAMING PLAN
SCALE: 1/4"=1'-0"



FRAMING SCHEDULE		
DESIGNATION	MEMBER SIZE	REMARKS
B1	1000S162-68 W/ 600T150-68 (BOX BEAM)	DET. 1/5002
C1	362S162-54 W/ 362T150-54 (BOX COLUMN)	DET. 8/5002
H1	HEADER 600S162-54 W/ 600T150-54 (BOX BEAM)	DET. 1/5002
R1	800S162-54 RAFTERS @ 16" O.C.	

- FRAMING PLAN NOTES:
- NO DESIGNATED SHEAR WALLS ARE REQUIRED FOR THIS PROJECT.
 - ALL PERIMETER LOAD-BEARING WALLS AND SHEAR WALLS STUDS ARE TO BE FULL HT. AND SHALL BE BALLOON FRAMED FROM PLATE TO PLATE, THERE SHALL BE NO SPLICES AT CEILING JOISTS.
 - TYPICAL PERIMETER LOAD-BEARING EXTERIOR WALL STUDS SHALL BE 600S162-54 W/ 600T150-54 TRACK.
 - SEE ARCH'L DRAWINGS FOR ALL WINDOW AND DOOR OPENING LOCATIONS AND REQ'D. ROUGH OPENING SIZES; TYP..
 - SEE ARCH'L FOR INTERIOR PARTITION WALL TYPES AND LOCATIONS; U.O.N. TYP.
 - VERIFY ALL WALL PLATE ELEVATIONS WITH ARCH'L DWGS.

1
S101 FOUNDATION PLAN
SCALE: 1/4"=1'-0"



FOUNDATION & FRAMING PLAN LEGEND		
HATCH	DESIGNATION	REMARKS
[Hatch]	CONCRETE SLAB ON GRADE	
[Hatch]	CMU FOUNDATION WALL, FILL ALL CELLS W/ 3000 PSI "PEA GRAVEL" CONCRETE	
[Hatch]	CAST-IN-PLACE CONCRETE FOUNDATION WALL	
[Hatch]	#2 SYP 2xSTUD BEARING WALLS	

- FOUNDATION PLAN NOTES:
- VERIFY ALL T.O.F. ELEVATIONS IN THE FIELD.
 - ALL DIMENSIONS ARE TAKEN FROM FACE OF CONCRETE, EDGE OF SLAB-ON-GRADE OR TO CENTERLINE OF PIER/COLUMN, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING & COORDINATING ALL DIMENSIONS W/ ARCH'L DRAWINGS & DETAILS. NOTIFY THE ENGINEER OF RECORD OF ANY DISCREPANCIES OR INCONSISTENCIES. WORK SHALL NOT CONTINUE UNTIL ENGINEER HAS ISSUED A CLARIFICATION.
 - 'HD' INDICATES SHEAR WALL HOLD DOWN LOCATIONS, SEE SHEAR WALL SCHEDULE ON SHEET S0.3.
 - 'CJ' DENOTES CONTROL JOINT, SEE DETAIL ON SHEET S2.1.
 - STEP
DENOTES STEP FOOTING, SEE TYPICAL FOOTING STEP DETAIL ON SHEET S2.1. STEP FOOTINGS W/ GRADE AS REQUIRED, LOCATIONS AND ELEVATIONS SHOWN ARE APPROXIMATE. THE GENERAL CONTRACTOR IS TO FIELD VERIFY FOOTING STEPS WITH FINAL STAMPED AND SEALED CIVIL GRADING DRAWINGS.
 - SEE DETAILS ON SHEET S6.X FOR REFERENCED COLUMN BASEPLATES.
 - PROVIDE SAWCUT CONTROL JOINTS IN CONCRETE SLAB-ON-GRADE AS REQ'D. OR SHOWN, SPACE JOINTS (IN FEET) 2-3 TIMES THE SLAB THICKNESS (IN INCHES), LOCATE JOINTS TO AVOID RE-ENTRANT CORNERS.

MArch

MASTERS

ARCHITECTURE PLLC

22 S. PACK SQ. SUITE 301, ASHEVILLE, NC 28801

MEDLOCK & ASSOCIATES

ENGINEERING, P.A.

13 Ashland Avenue
Suite 101
Asheville, NC 28801
Phone: 828-252-9998
Fax: 828-252-9999
Cell: 828-252-9999

STRUCTURAL • CONSULTING • CONSTRUCTION ASSISTANCE

NEW OPERATORS BUILDING FOR
CATAWBA COUNTY LANDFILL
4017 ROCKY FORD RD, NEWTON, NC 28658

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.
Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XXXXXXXX

KEY PLAN

REVISION	ANCHOR BOLT REVISION	10-26-26
1		



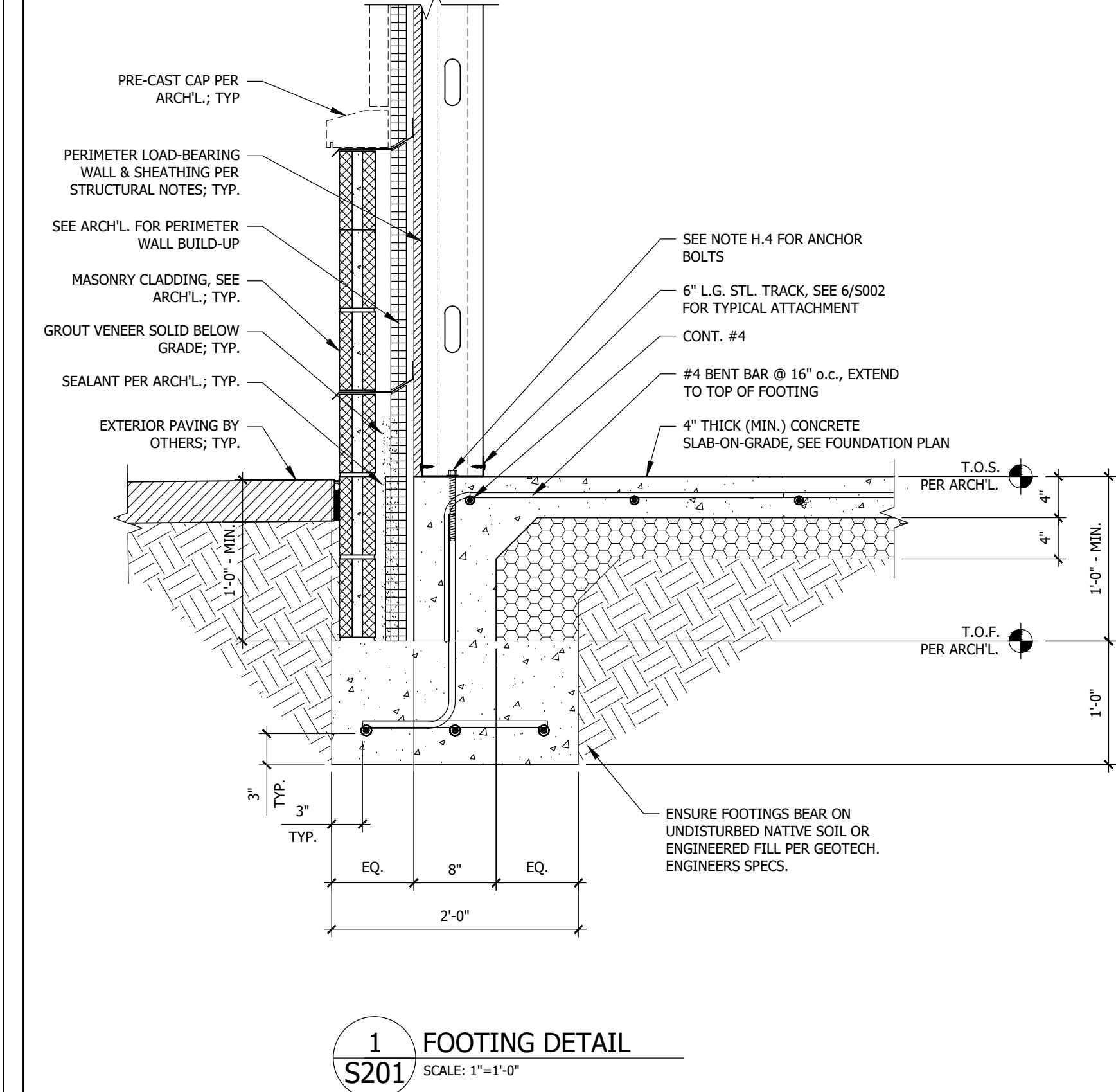
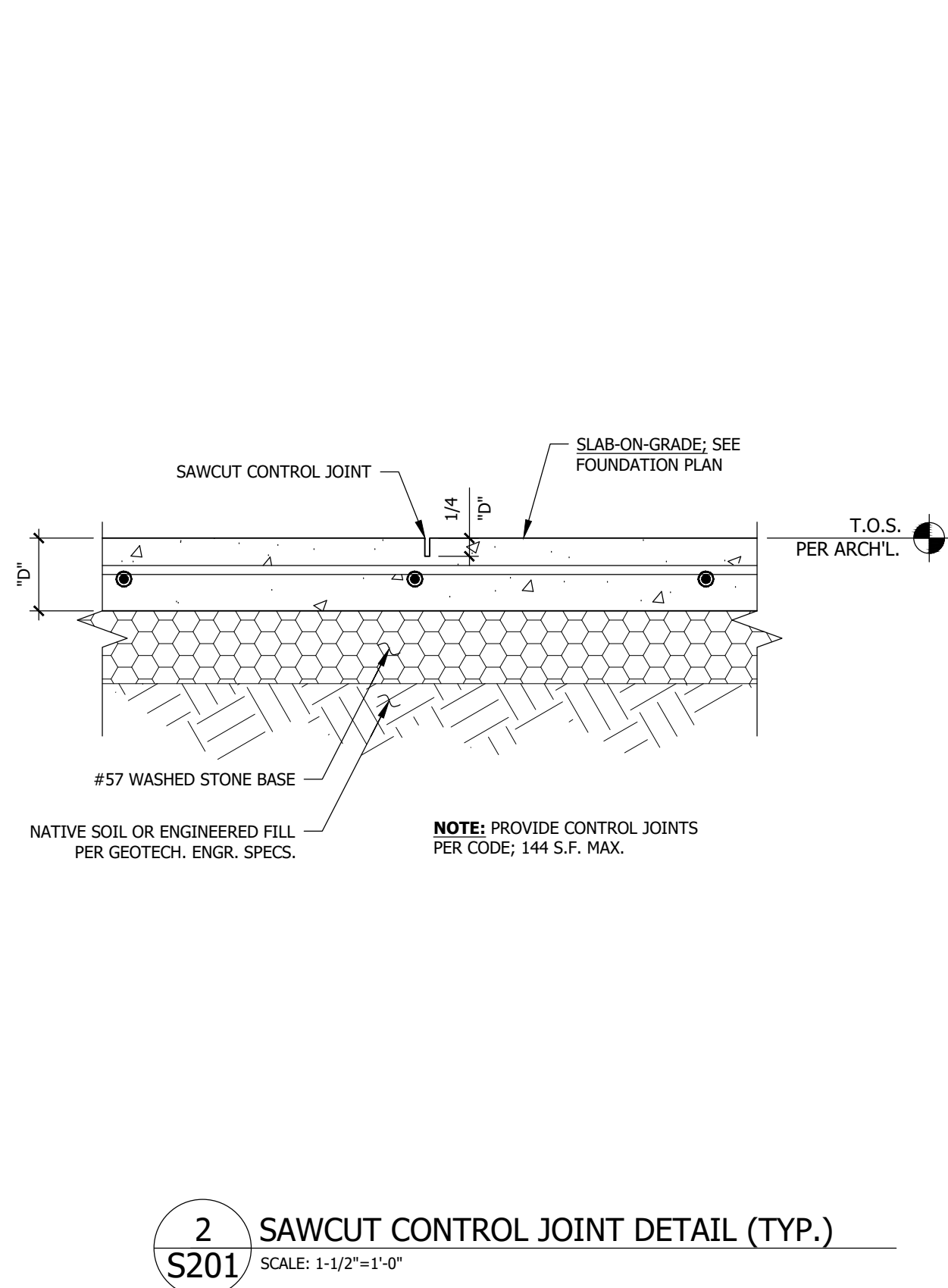
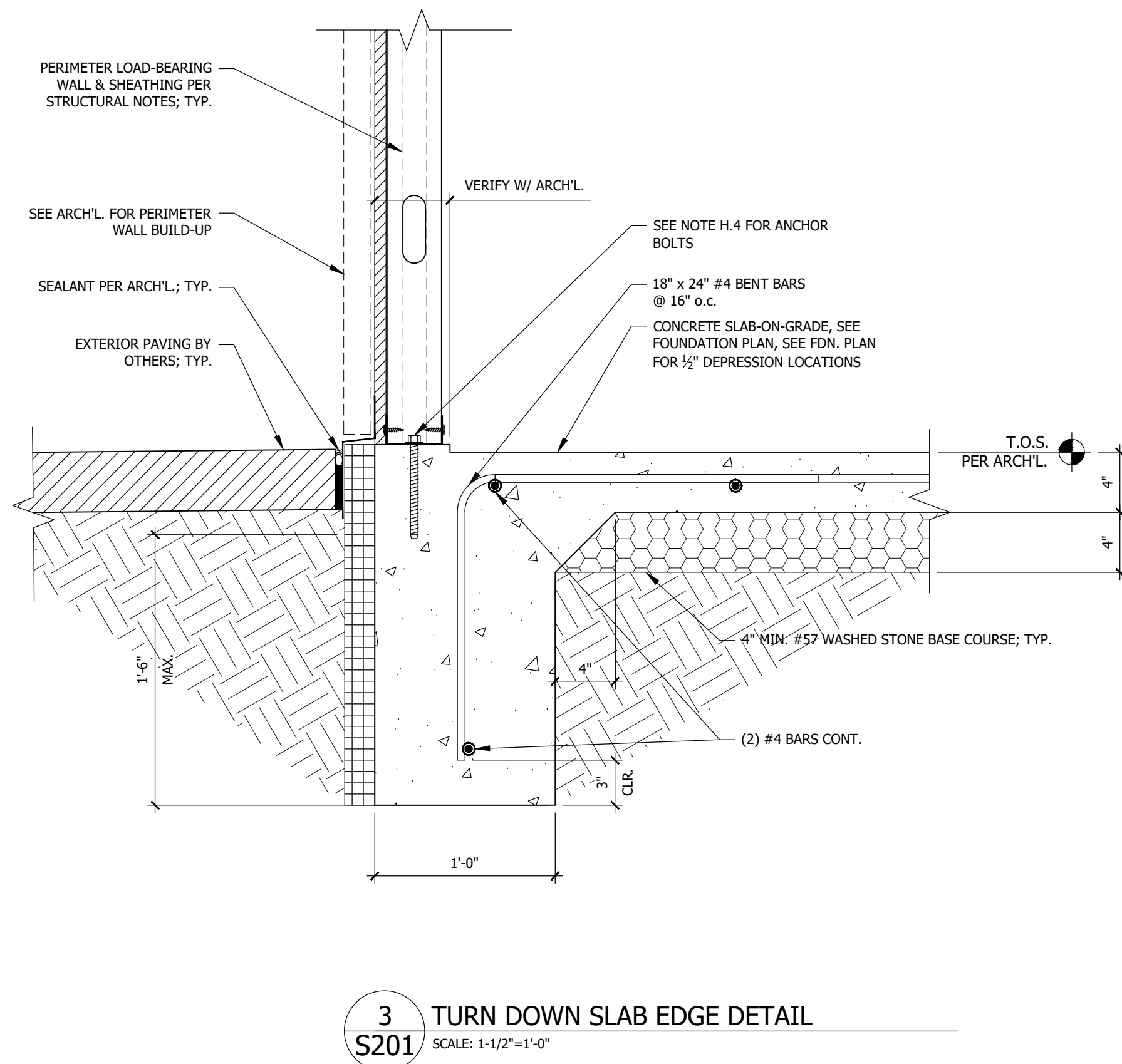
DATE:
08-25-26
ISSUE

SHEET TITLE
FOUNDATION & ROOF FRAMING PLANS

SHEET NO.

S101

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TEMPLATE VERSION:



NEW OPERATORS BUILDING FOR
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KEY PLAN

REVISION		
1	ANCHOR BOLT REVISION	10-26-26



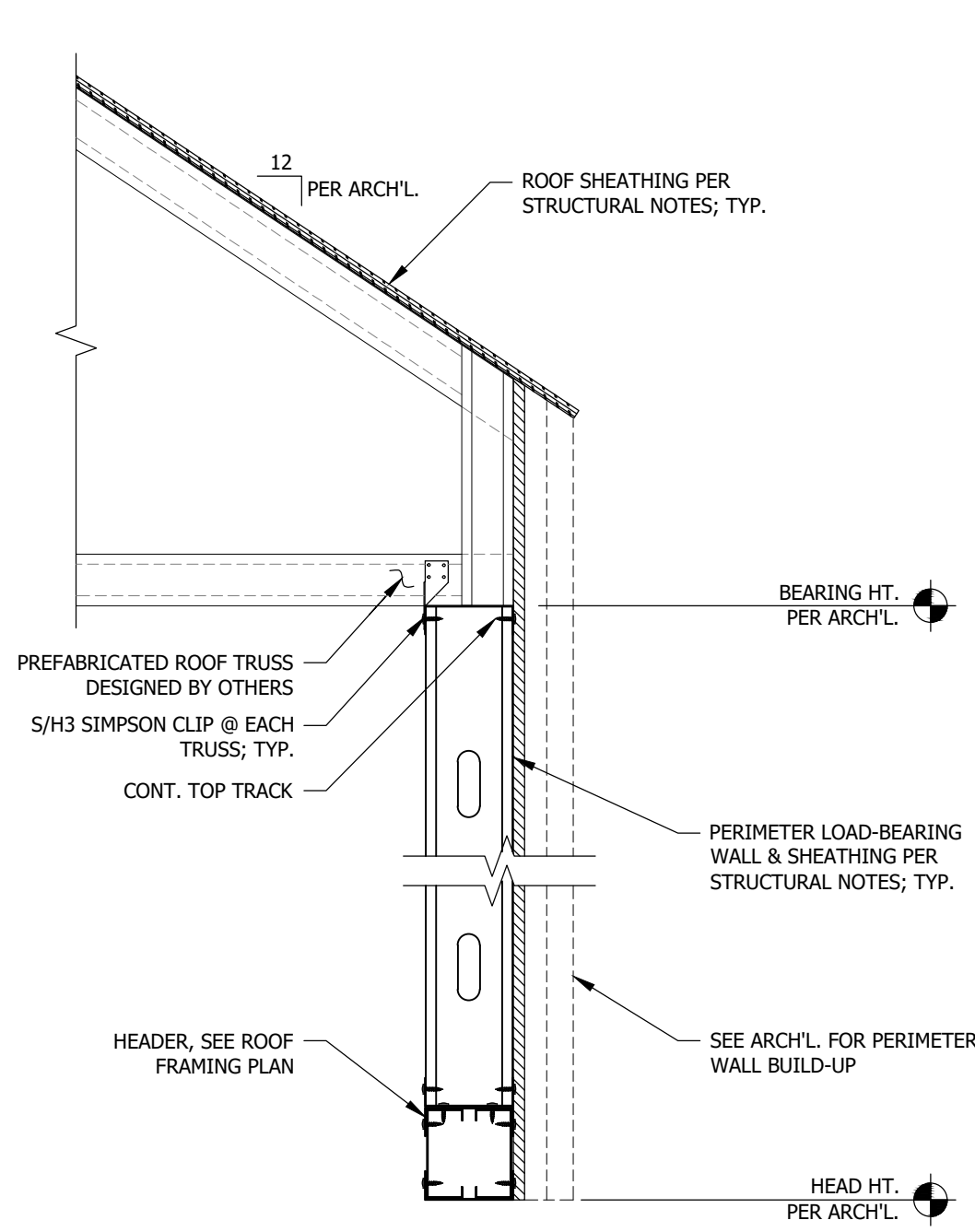
DATE
08-25-26
ISSUE

SHEET TITLE
FOUNDATION SECTIONS & DETAILS

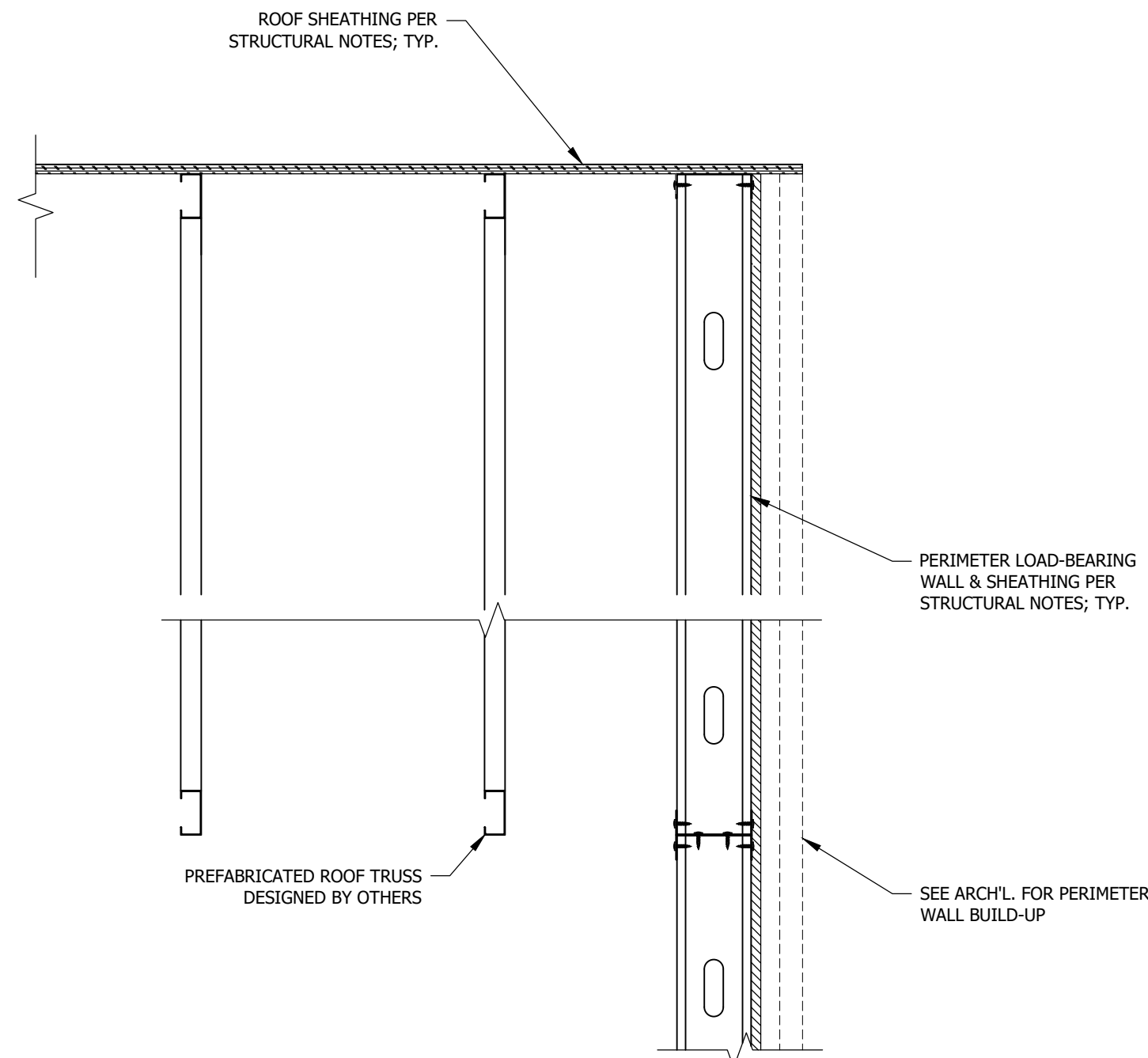
SHEET NO.

S201

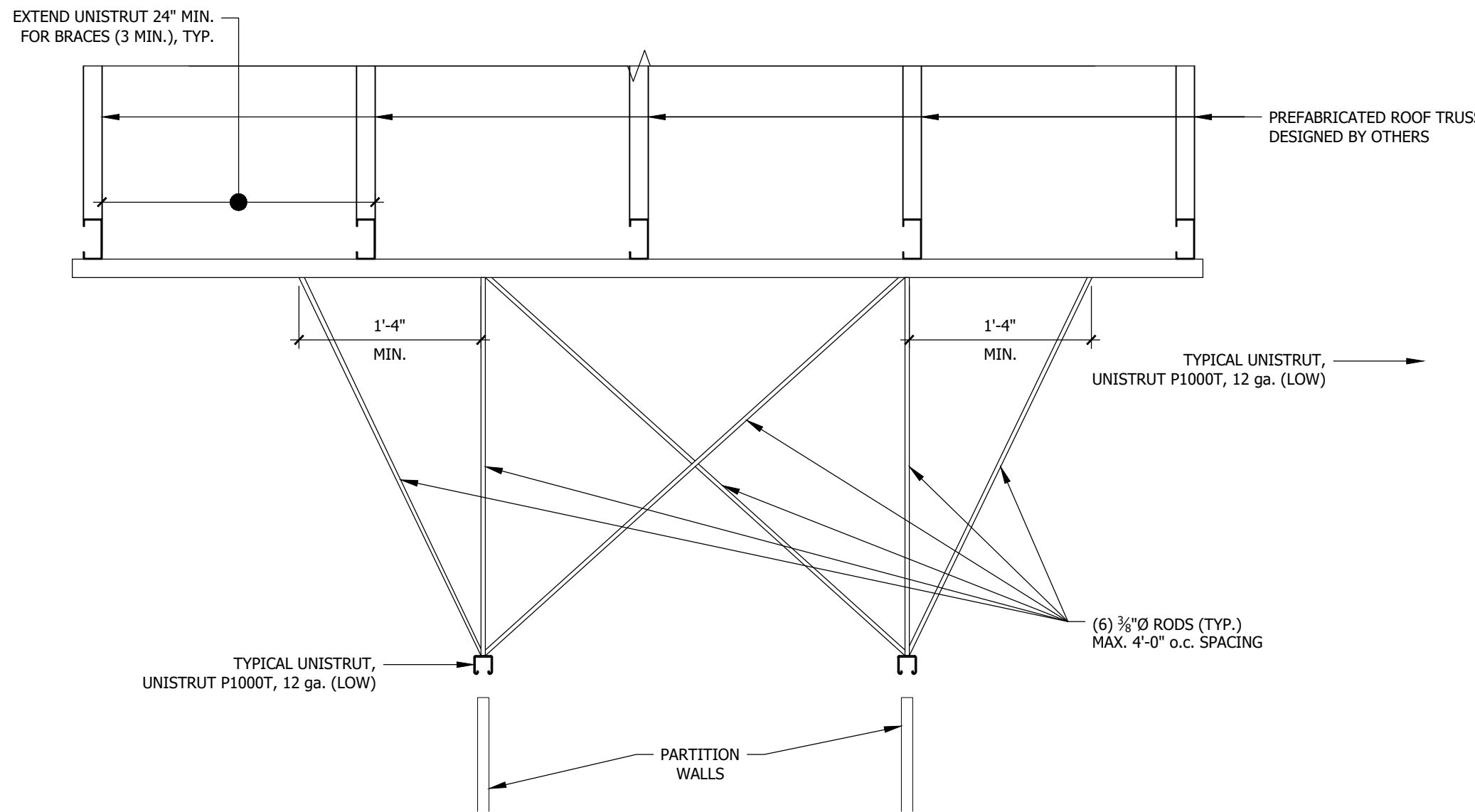
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TEMPLATE VERSION:



1 ROOF FRAMING DETAIL
S301 N.T.S.



2 ROOF FRAMING DETAIL
S301 N.T.S.



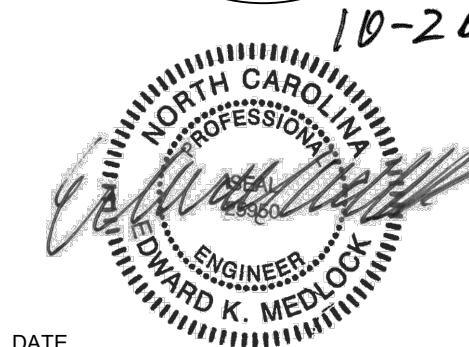
3 PARTITION FRAMING SECTION
S301 N.T.S.

NEW OPERATORS BUILDING FOR
CATAWBA COUNTY LANDFILL
4017 ROCKY FORD RD, NEWTON, NC 28658

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Date: XXXXXXXXX

KEY PLAN

REVISION		
1	ANCHOR BOLT REVISION	10-26-26

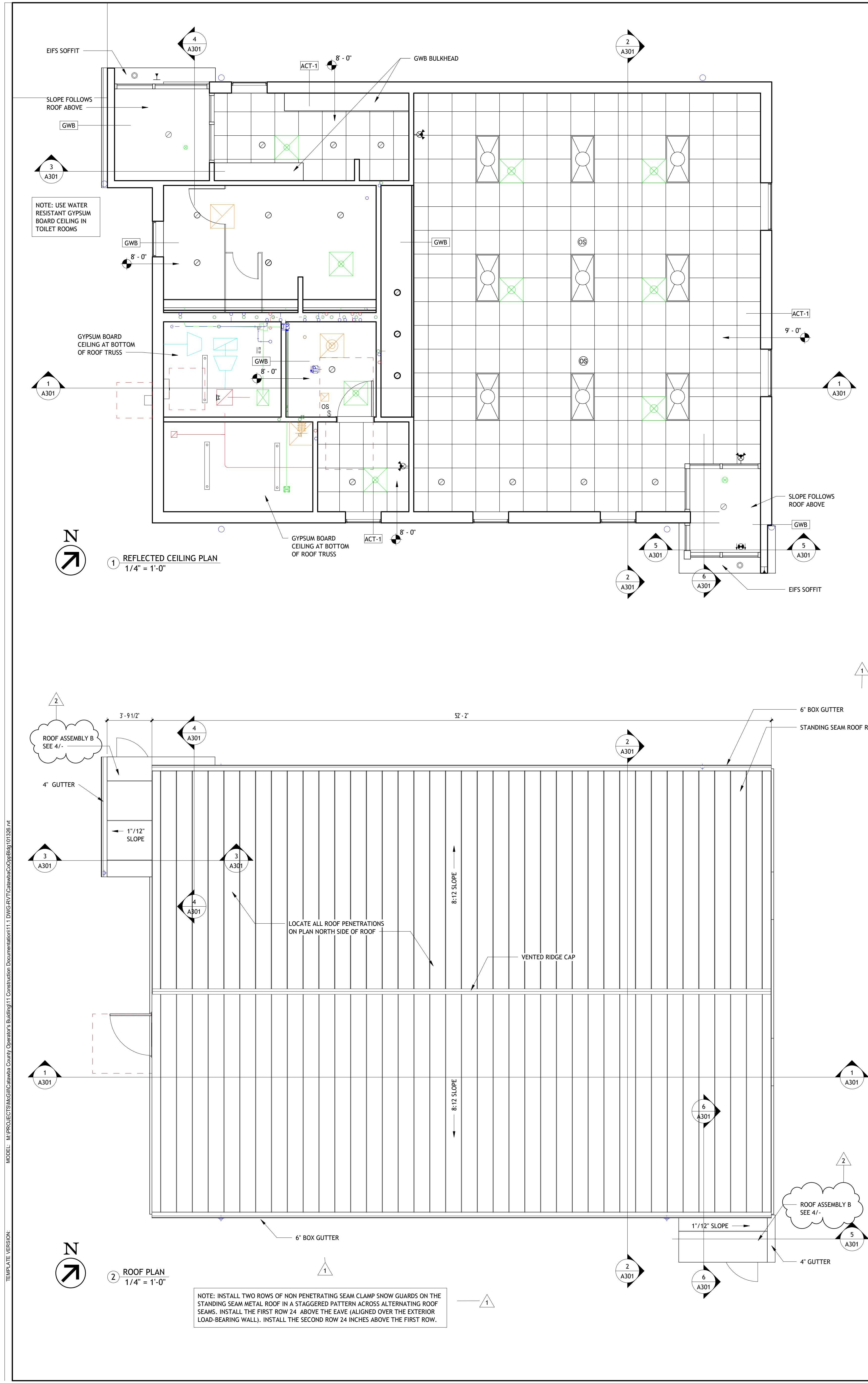


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ISSUE

SHEET TITLE
FOUNDATION SECTIONS & DETAILS

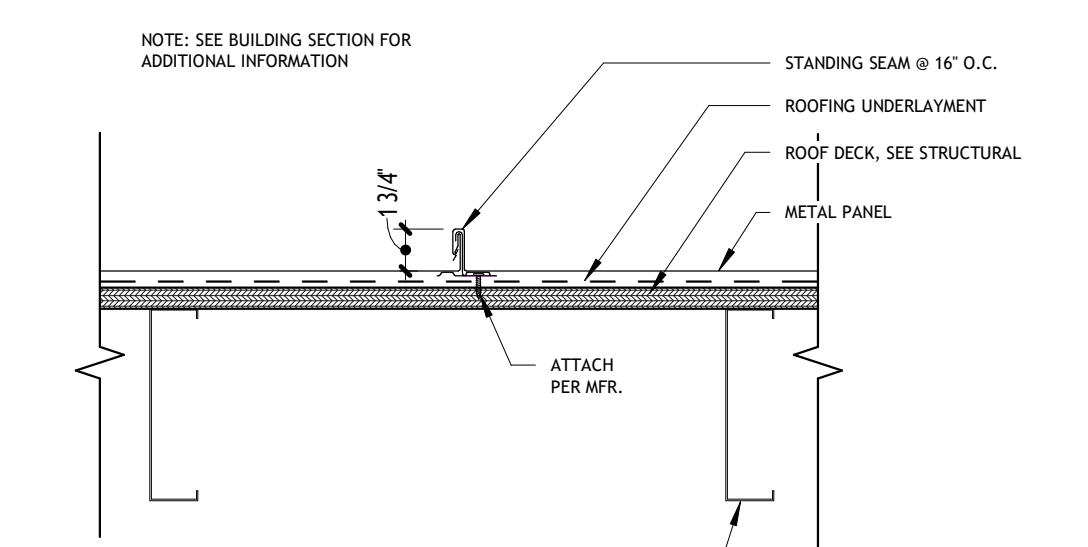
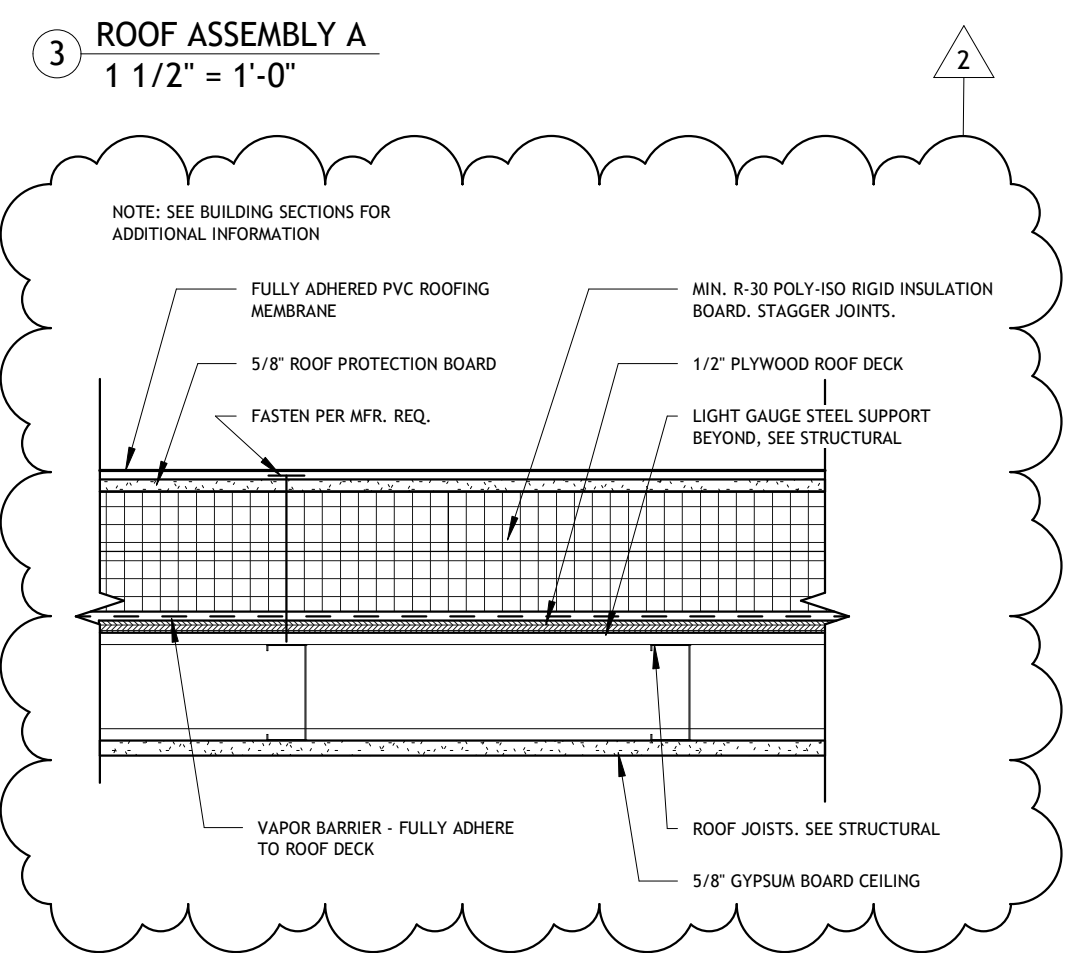
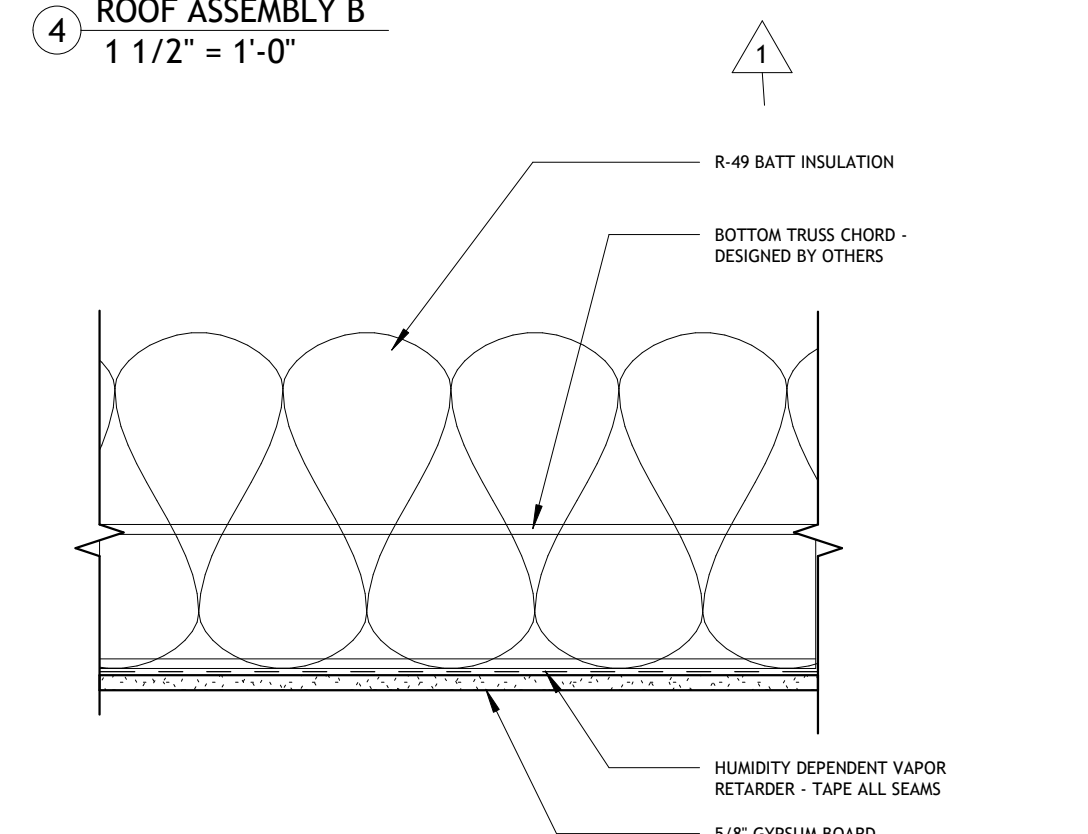
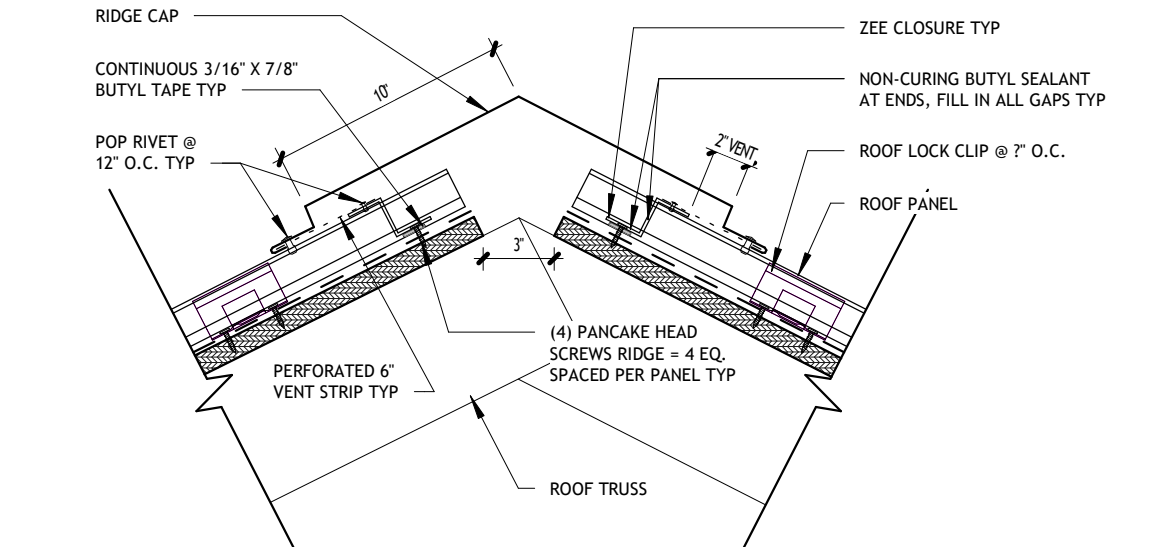
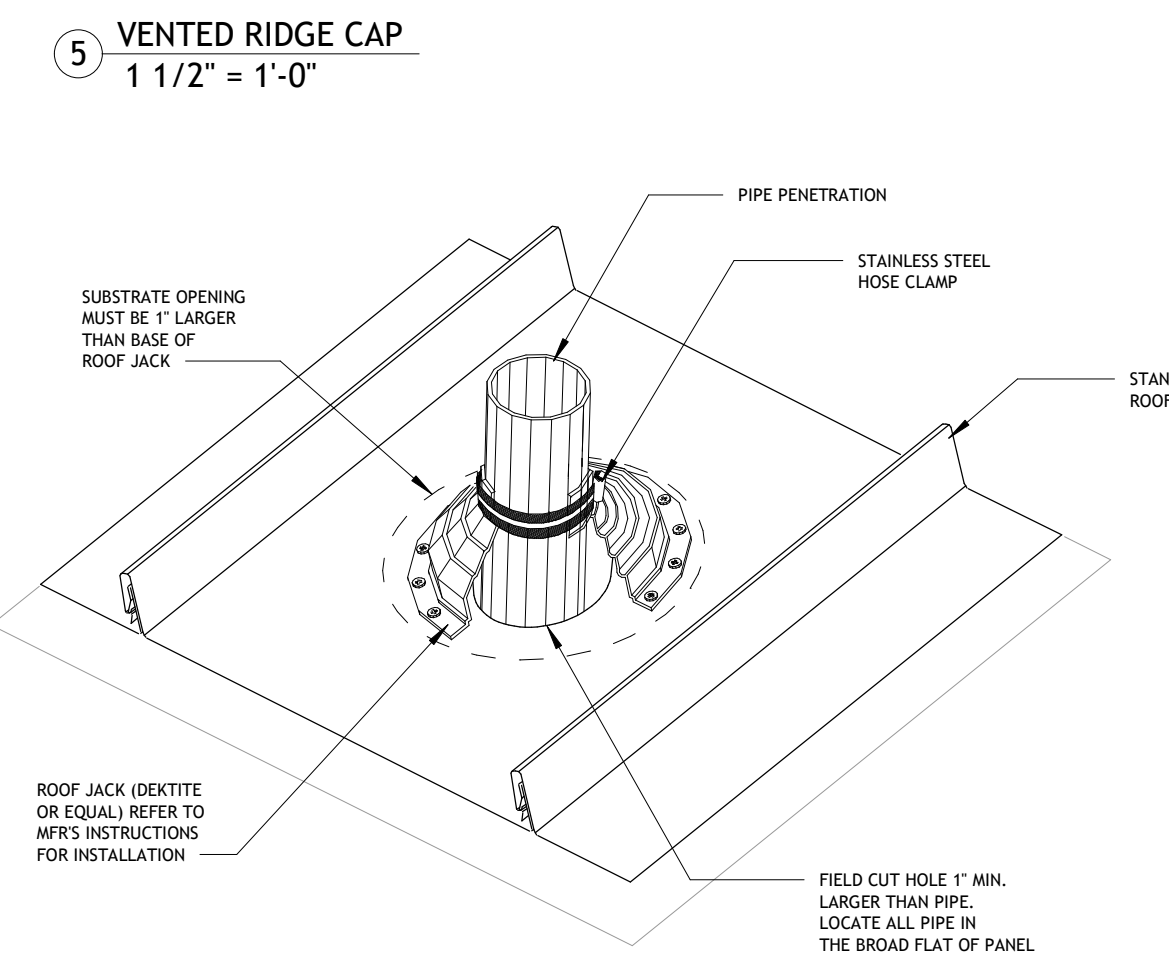
SHEET NO.

S301



CEILING LEGEND

	SUPPLY DIFFUSER SEE MECHANICAL		RECESSED CAN LIGHT SEE ELECTRICAL
	RETURN REGISTER SEE MECHANICAL		2X4 RECESSED TROFFER SEE ELECTRICAL
	EXHAUST GRILLE SEE MECHANICAL		SHOP PENDANT LIGHT @ 9'-0" A.F.F. SEE ELECTRICAL
	SUPPLY DIFFUSER SEE MECHANICAL		

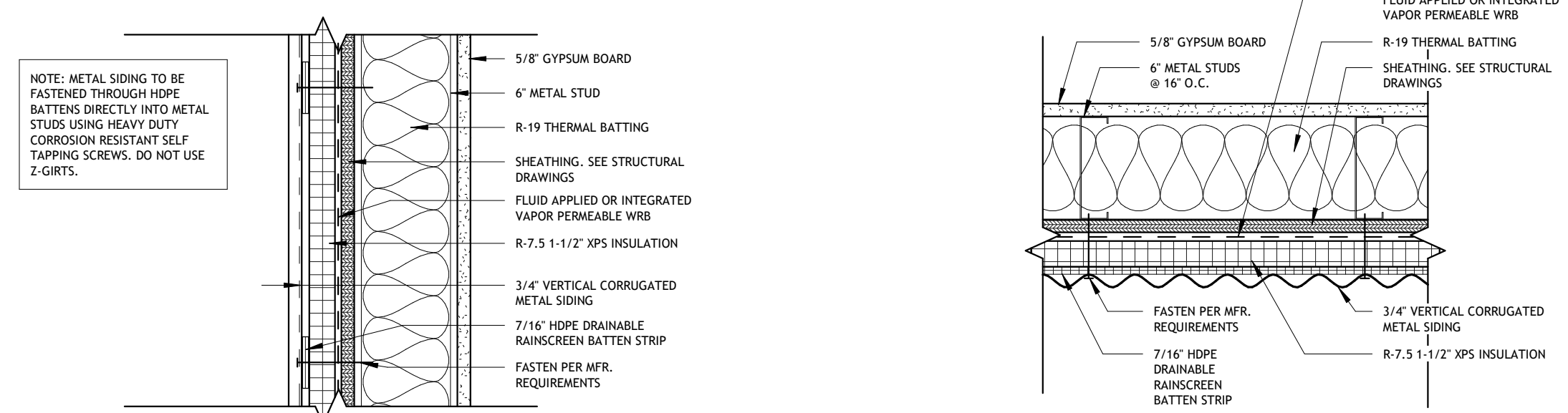


NO.	DESCRIPTION	DATE
1	ADDENDUM NO. 1	10/13/26
2	ADDENDUM NO. 3	10/23/26

DATE: 08/25/26
ISSUE

SHEET TITLE
REFLECTED CEILING
PLAN & ROOF PLAN

SHEET NO.



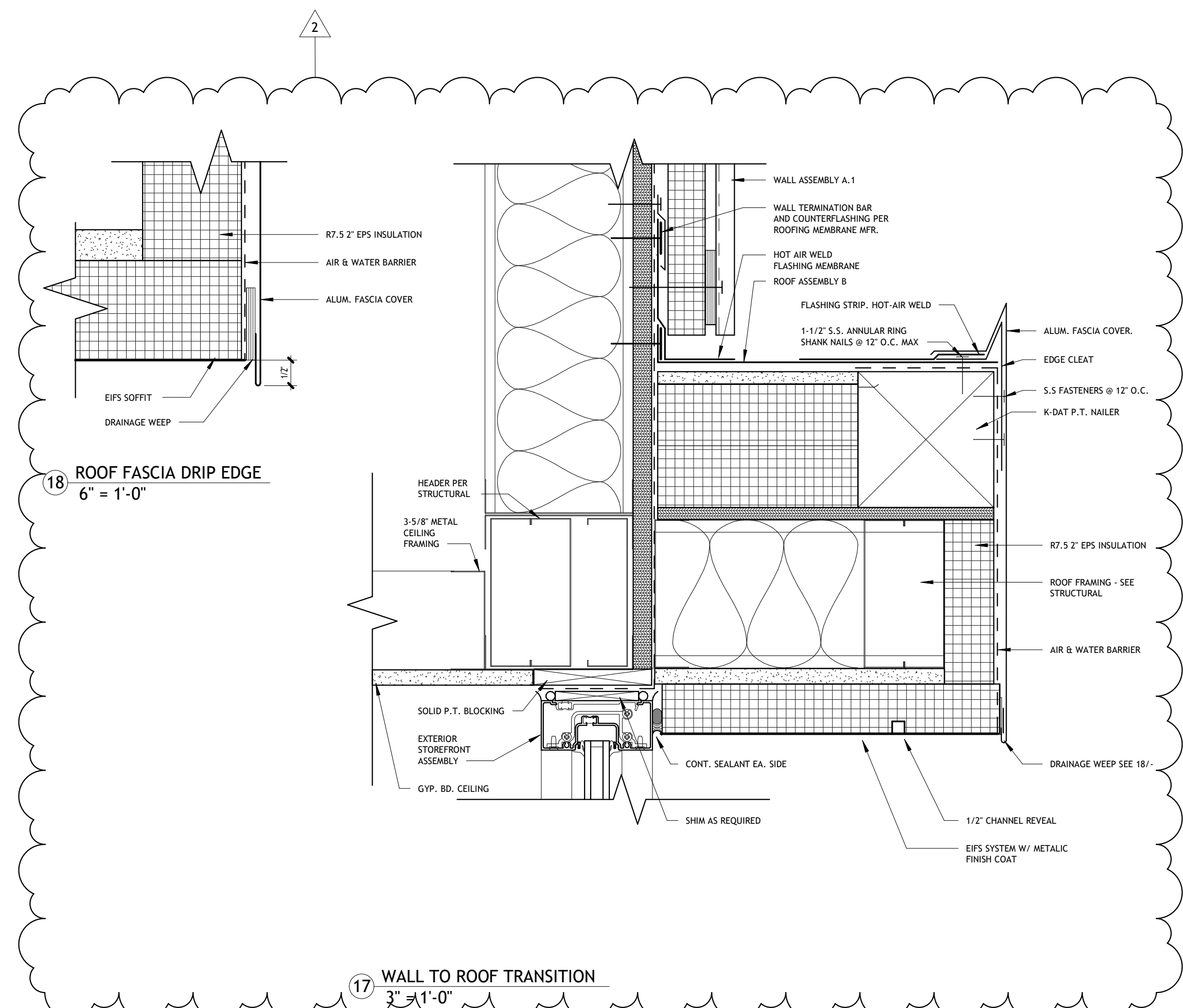
WALL ASSEMBLY A.1
1 1/2" = 1'-0"

WALL ASSEMBLY A.2
1 1/2" = 1'-0"

WALL ASSEMBLY B
1 1/2" = 1'-0"

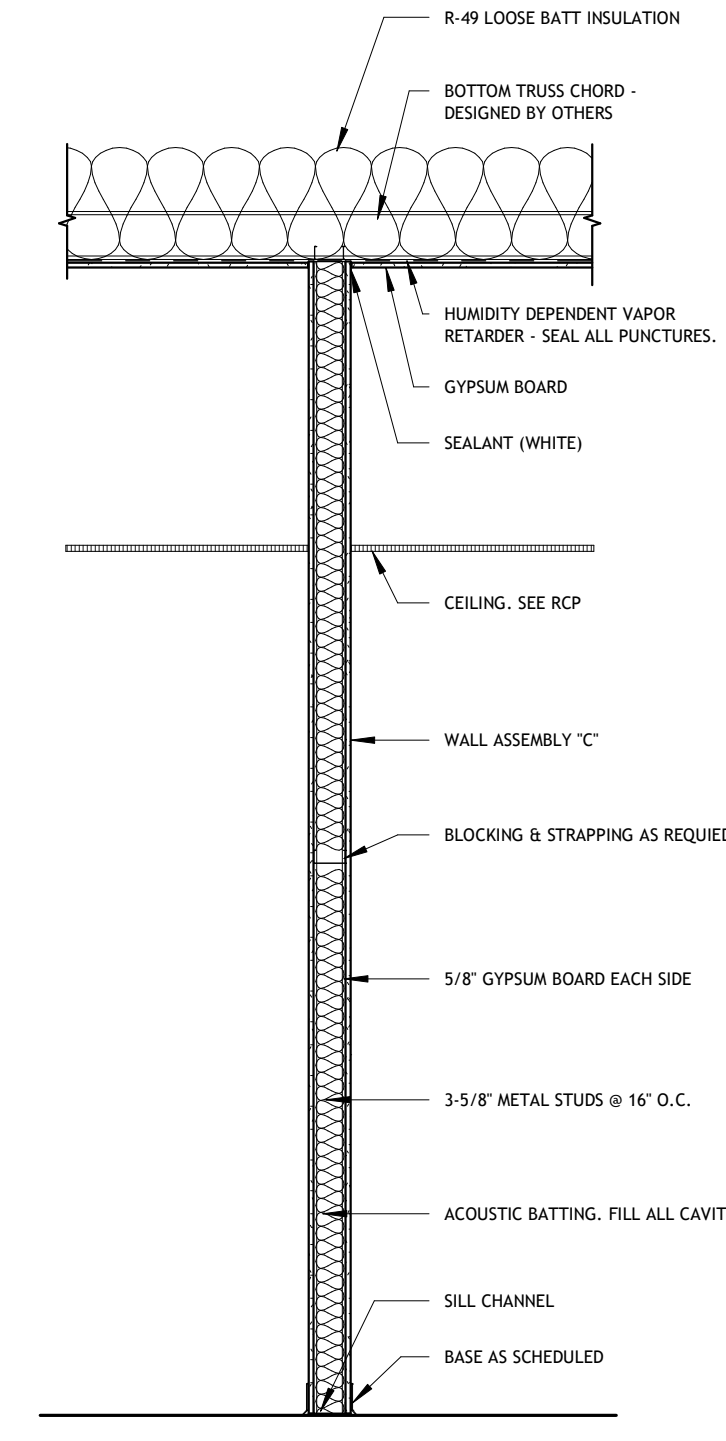
WALL ASSEMBLY C
1 1/2" = 1'-0"

WALL ASSEMBLY D
1 1/2" = 1'-0"

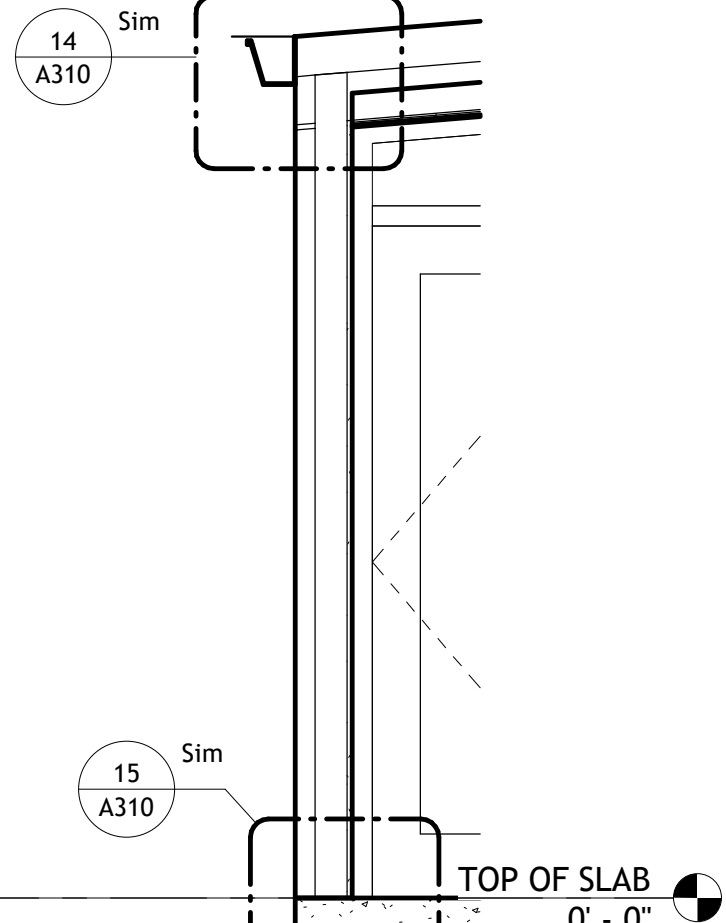


ROOF FASCIA DRIP EDGE
6" = 1'-0"

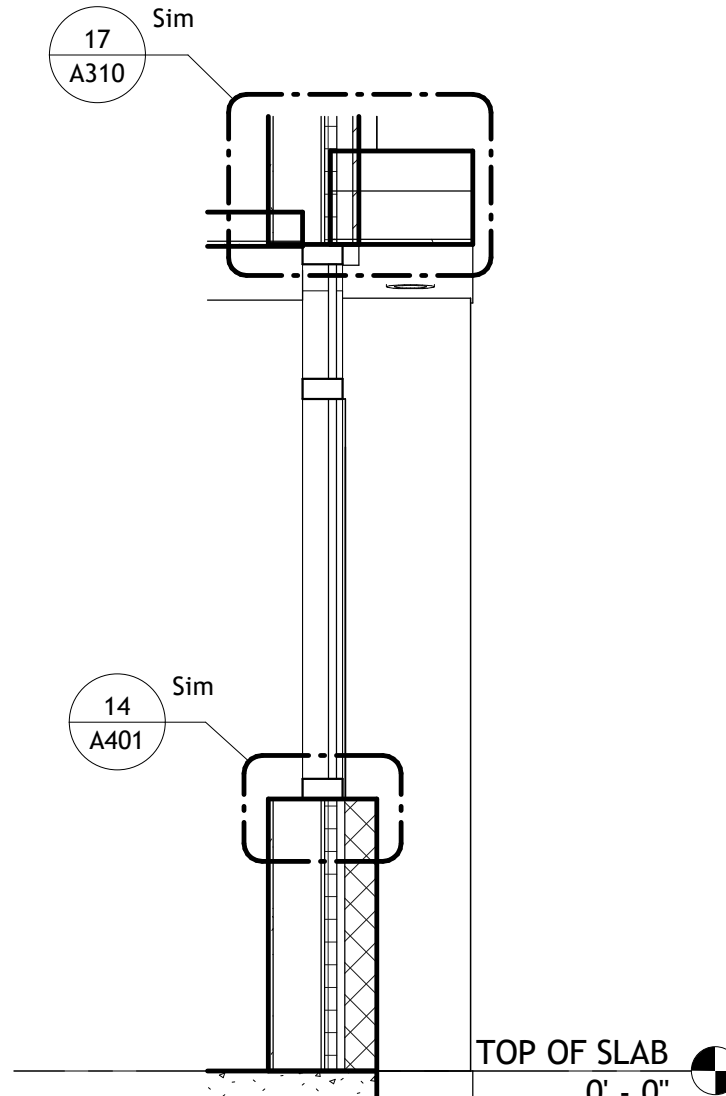
WALL TO ROOF TRANSITION
3" = 1'-0"



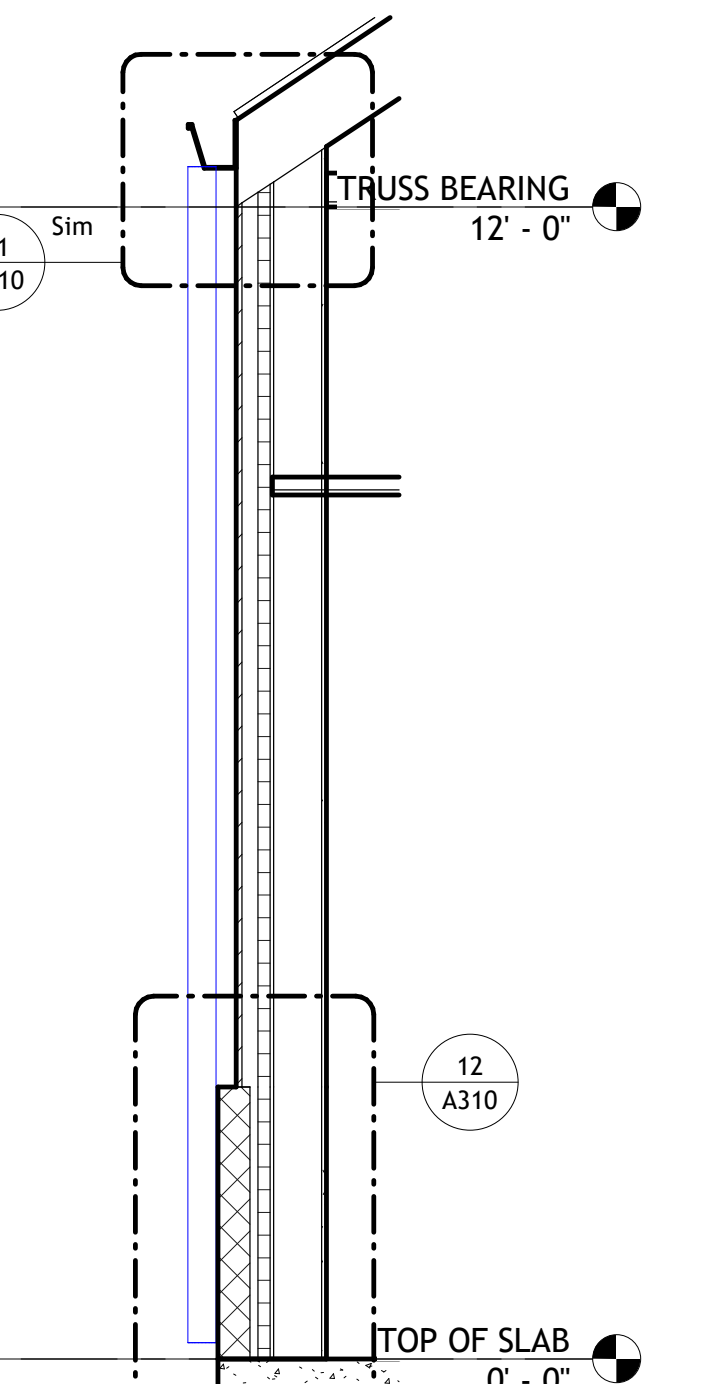
WALL SECTION - TYPE "C"
1 1/2" = 1'-0"



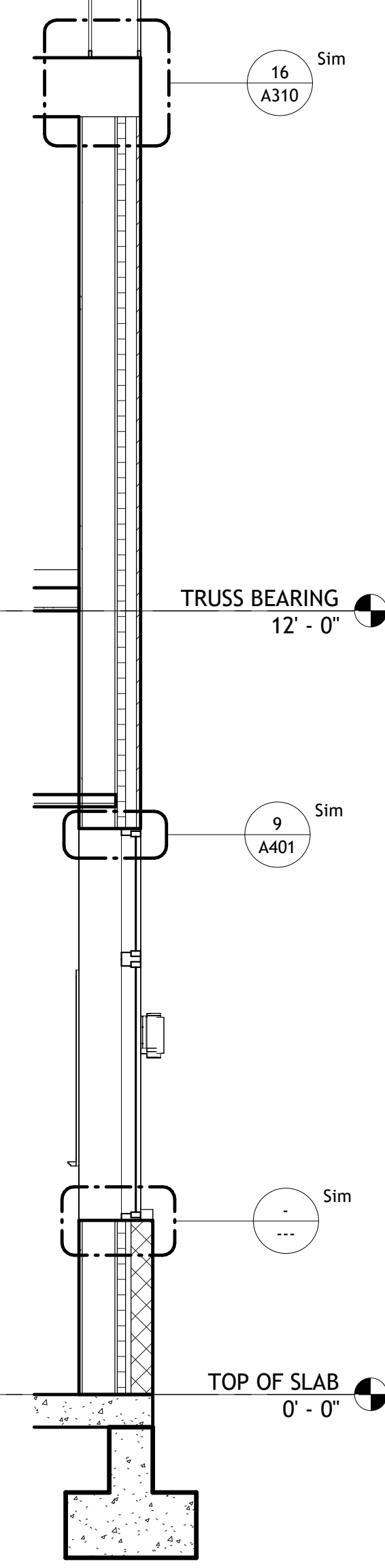
WALL SECTION C - 1
1 1/2" = 1'-0"



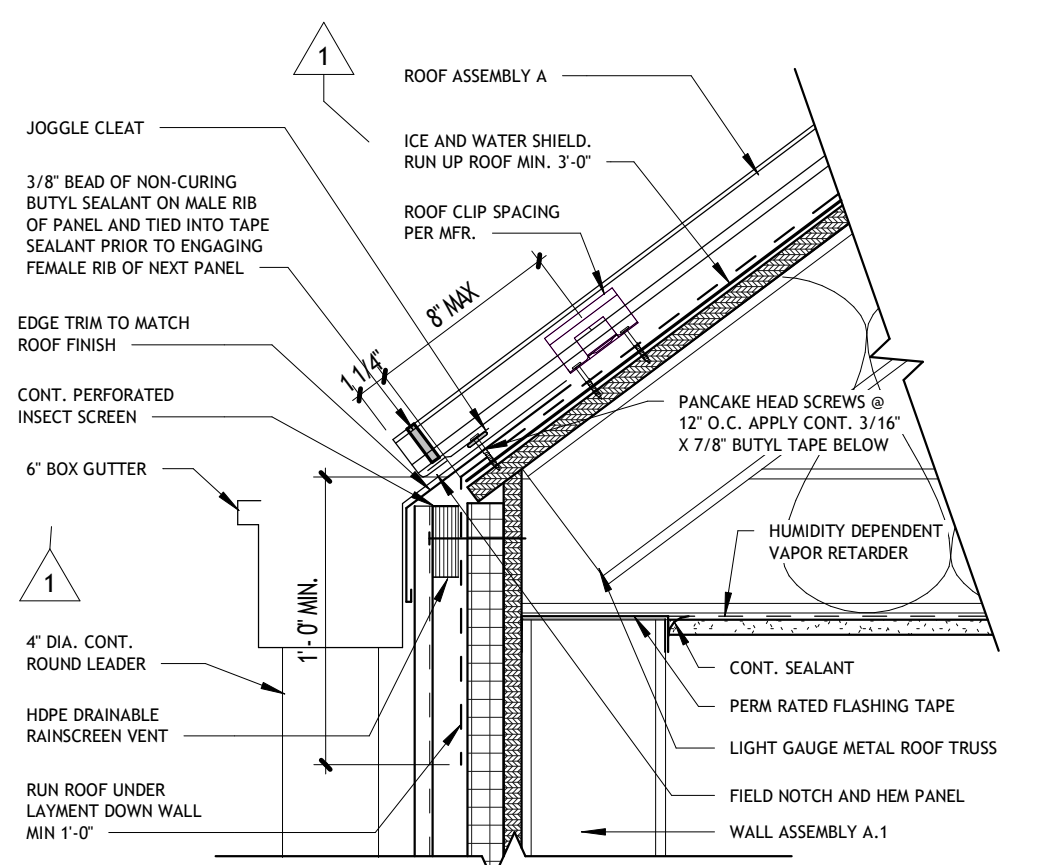
WALL SECTION A - 3
1 1/2" = 1'-0"



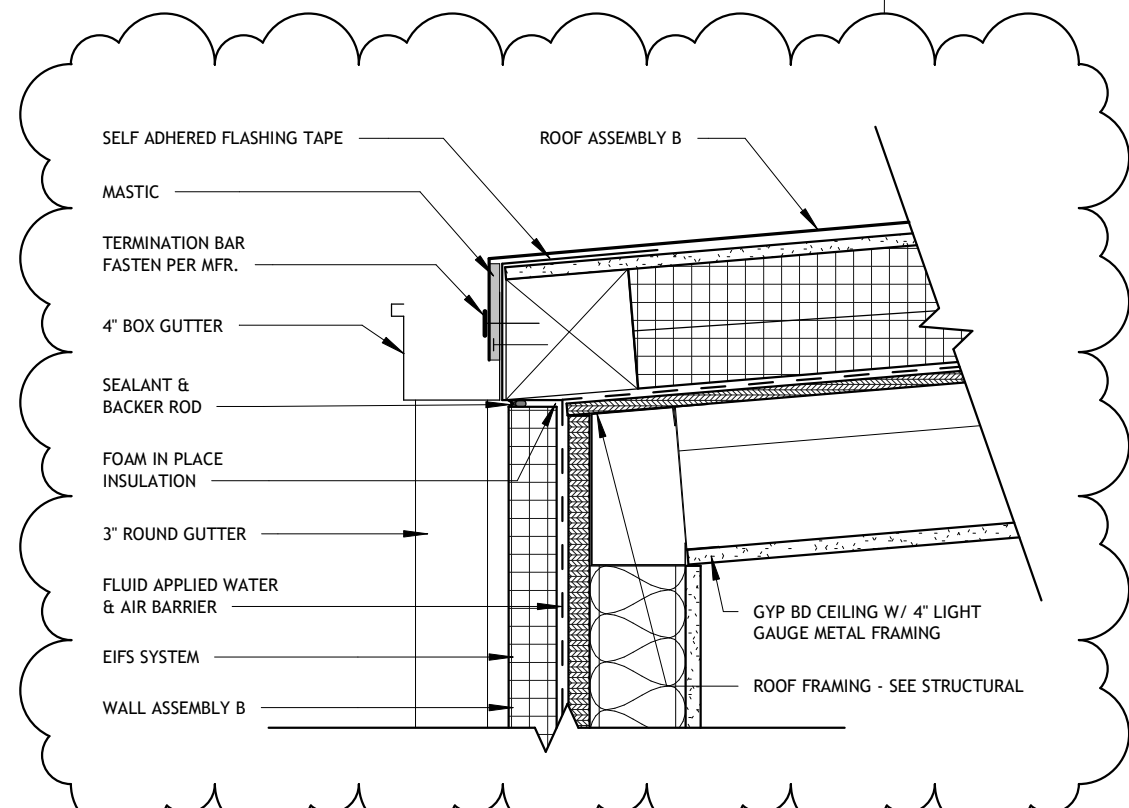
WALL SECTION A - 2
1 1/2" = 1'-0"



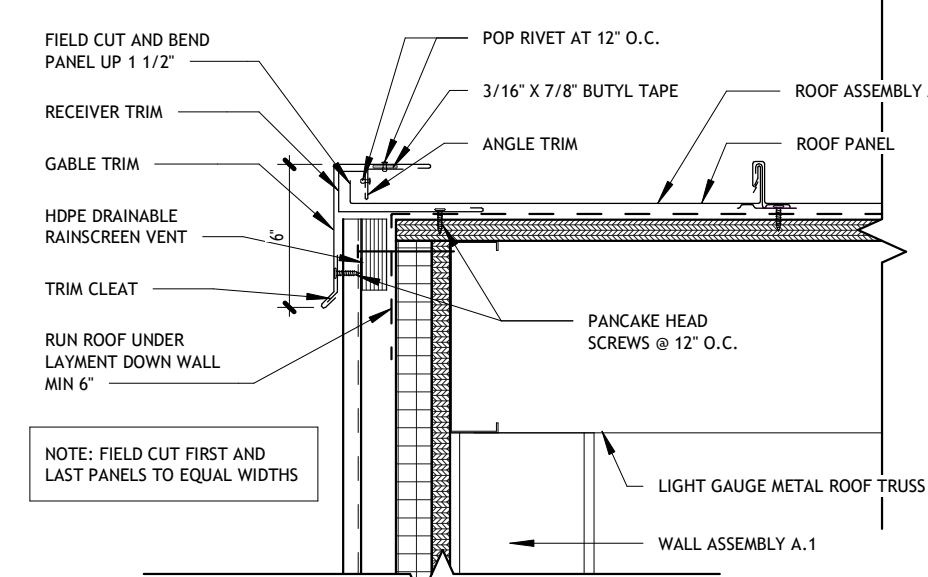
WALL SECTION A - 1
1 1/2" = 1'-0"



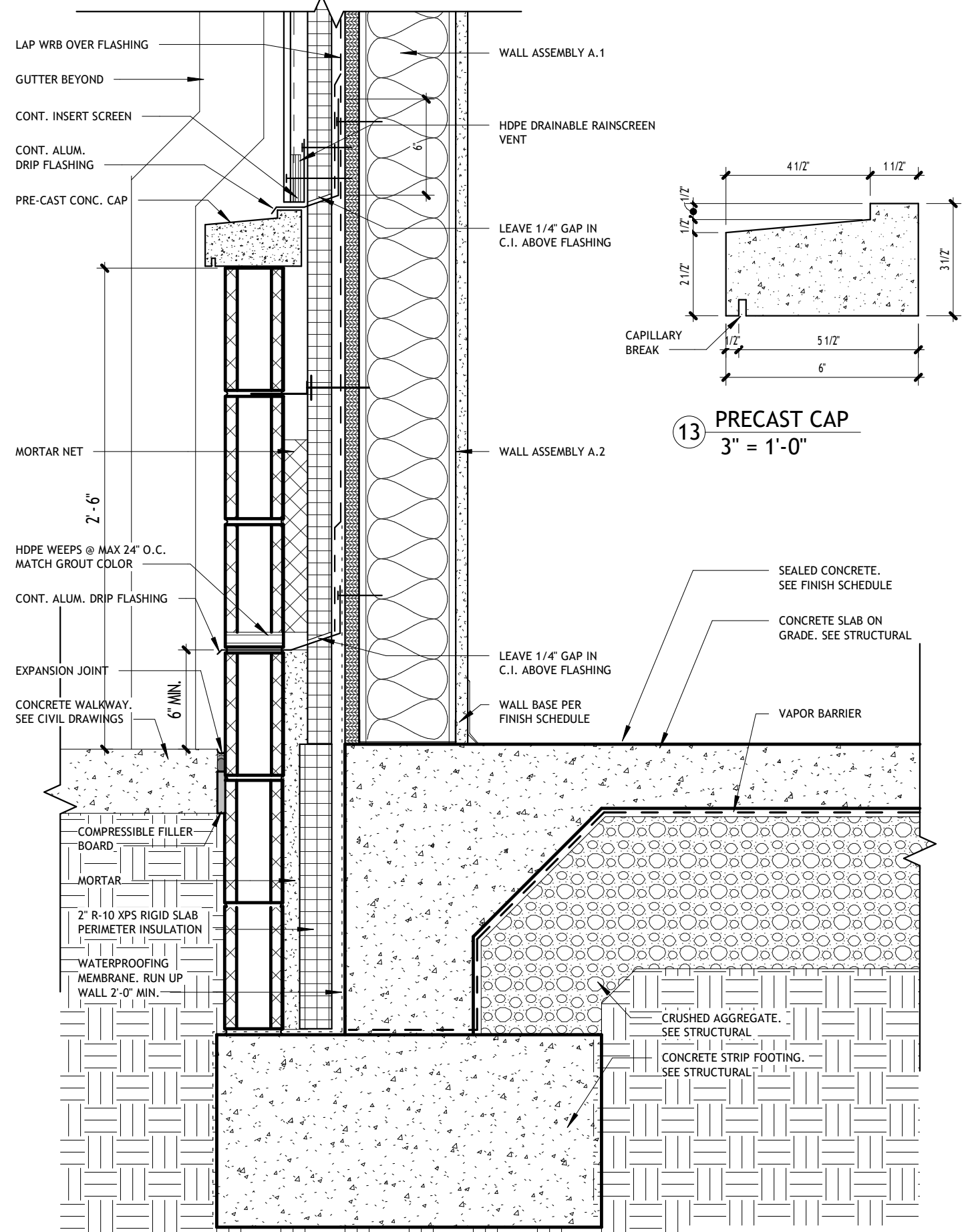
ROOF EDGE AT GUTTER
1 1/2" = 1'-0"



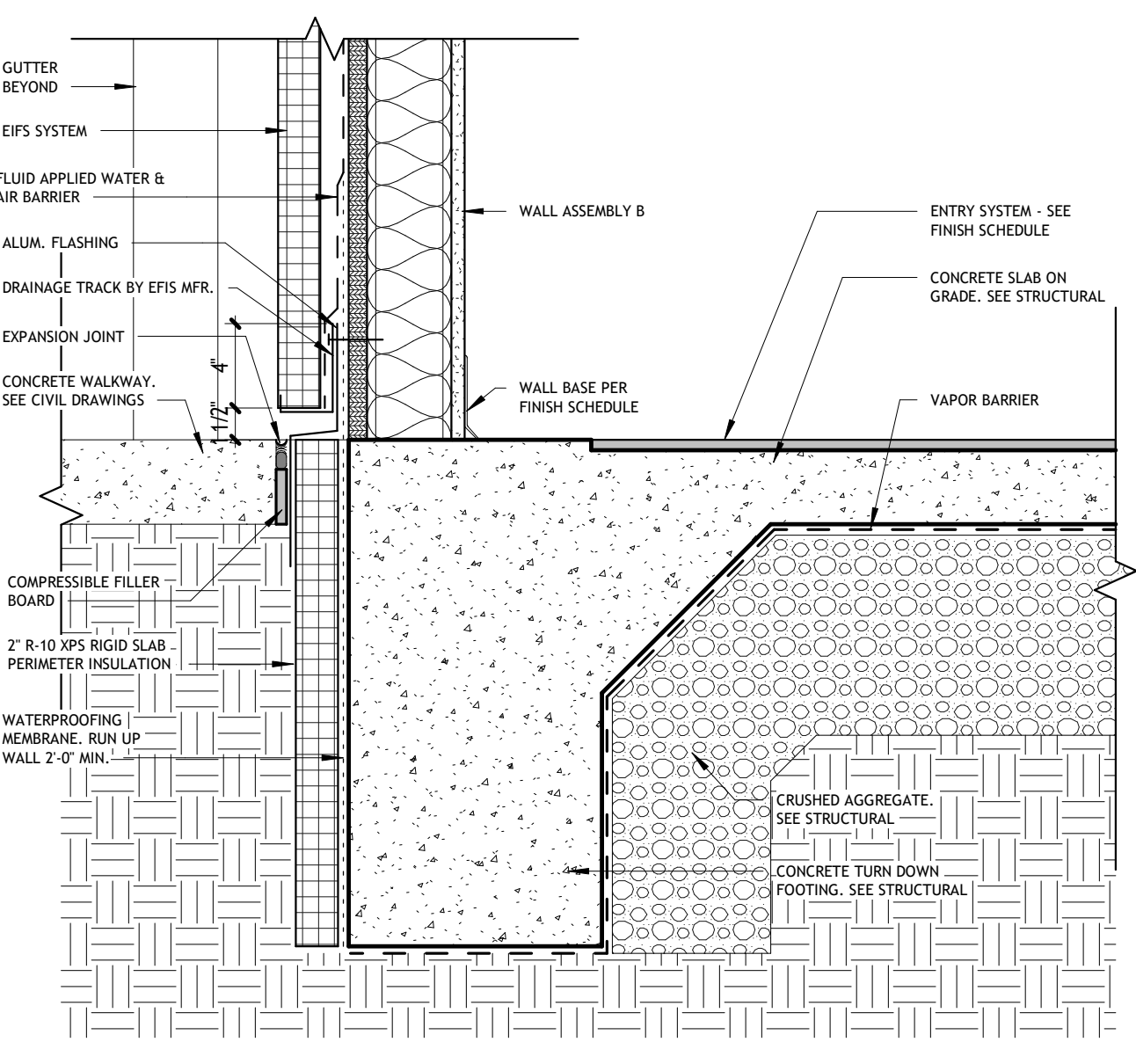
I.M.P. ROOF GUTTER
1 1/2" = 1'-0"



ROOF EDGE
1 1/2" = 1'-0"



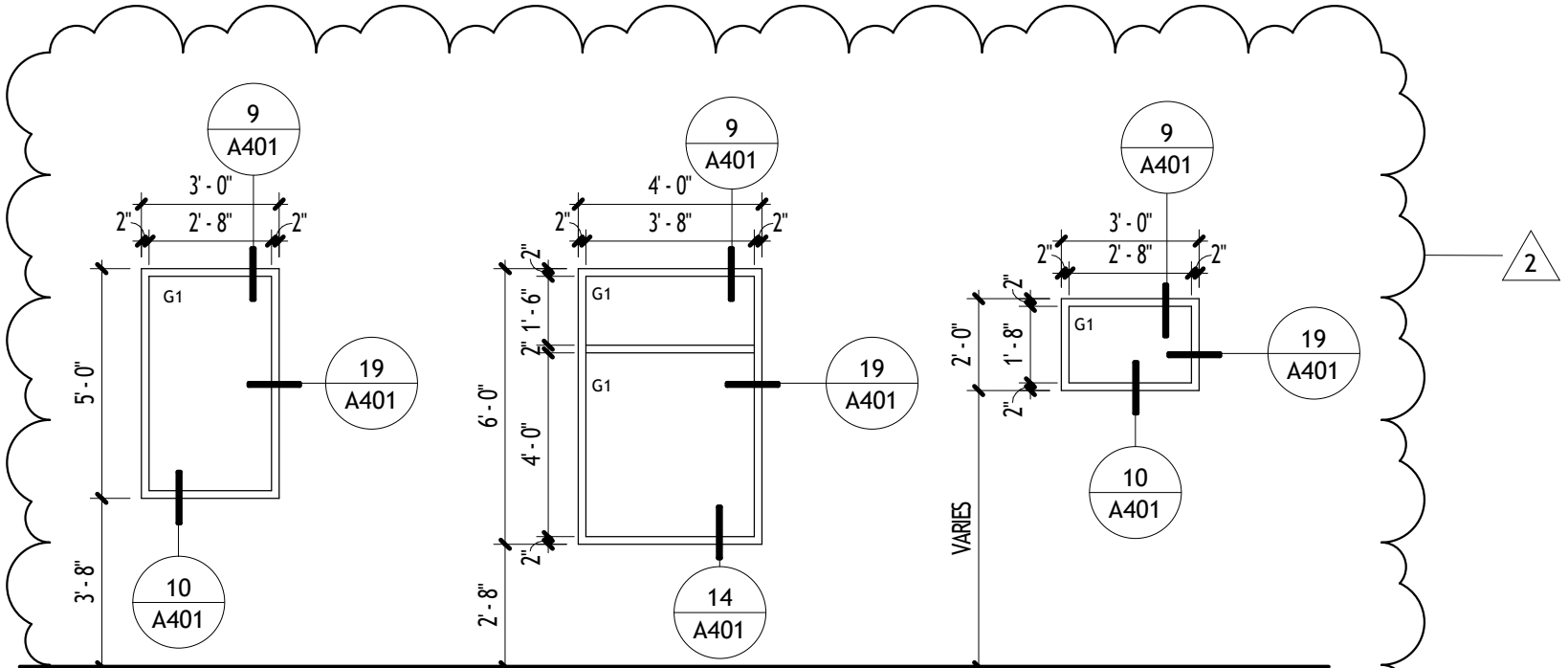
WALL ASSEMBLY A @ SLAB
1 1/2" = 1'-0"



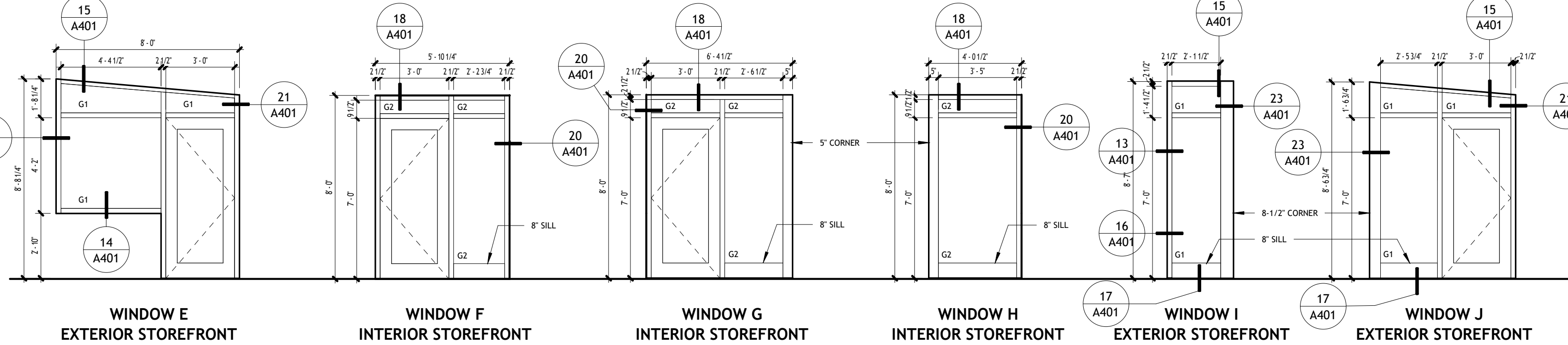
WALL ASSEMBLY B @ SLAB
1 1/2" = 1'-0"

Window Schedule										
Type Mark	Size		Material	Finish	Detail			Glazing Type	Head Height	Comments
	Width	Height			Head	Jamb	Sill			
A	3'-0"	5'-0"	ALUM STOREFRONT		9/-	19/-	10/-	G1	8'-8"	FIXED
B	4'-0"	6'-0"	ALUM STOREFRONT		9/-	19/-	14/-	G1	8'-8"	FIXED
C	3'-0"	2'-0"	ALUM STOREFRONT		9/-	19/-	10/-	G1	8'-0"	FIXED

GLAZING SCHEDULE INFORMATION	
G1	CLEAR INSULATING GLASS TYPE I LOW-E COATED, INSULATING GLASS. OVERALL UNIT THICKNESS: 1 1/4" (32 MM). MINIMUM THICKNESS OF EACH GLASS LITE: 1/4" (6 MM). OUTDOOR LITE: CLEAR HEAT-TREATED FLOAT GLASS. INTERSPACE CONTENT: (DWS ARGON). INDOOR LITE: CLEAR HEAT-TREATED FLOAT GLASS. LOW-E COATING: SPUTTERED ON SECOND SURFACE AND FOURTH SURFACE. SPACER: WARM EDGE SPACER. COLOR: BLACK. WINTER NIGHTTIME U-FACTOR: 0.30 MAXIMUM. SUMMER DAYTIME U-FACTOR: 0.17 MAXIMUM. VISIBLE DAYLIGHT TRANSMITTANCE: 51% MINIMUM. SOLAR HEAT GAIN COEFFICIENT: 0.23 MAXIMUM. EXTERNAL VISIBLE LIGHT REFLECTANCE: 12%.
G2	CLEAR, HEAT-TREATED GLASS TYPE I; FULLY TEMPERED. OVERALL UNIT THICKNESS: 1 1/4" (32 MM). MINIMUM THICKNESS OF EACH GLASS LITE: 1/4" (6 MM). INDOOR LITE: CLEAR HEAT-TREATED FLOAT GLASS. VISIBLE DAYLIGHT TRANSMITTANCE: 51% MINIMUM.

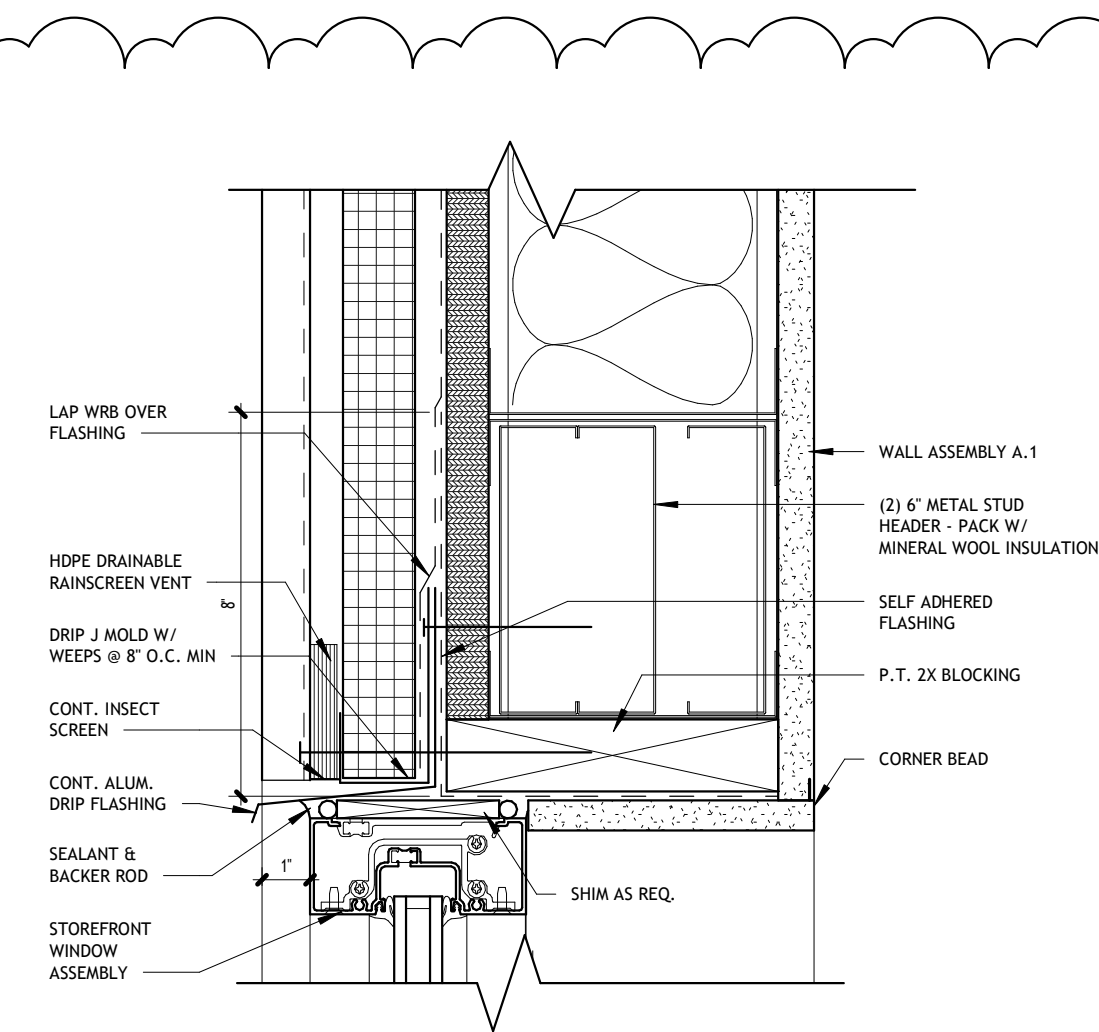


WINDOW A STOREFRONT WINDOW B STOREFRONT WINDOW C STOREFRONT

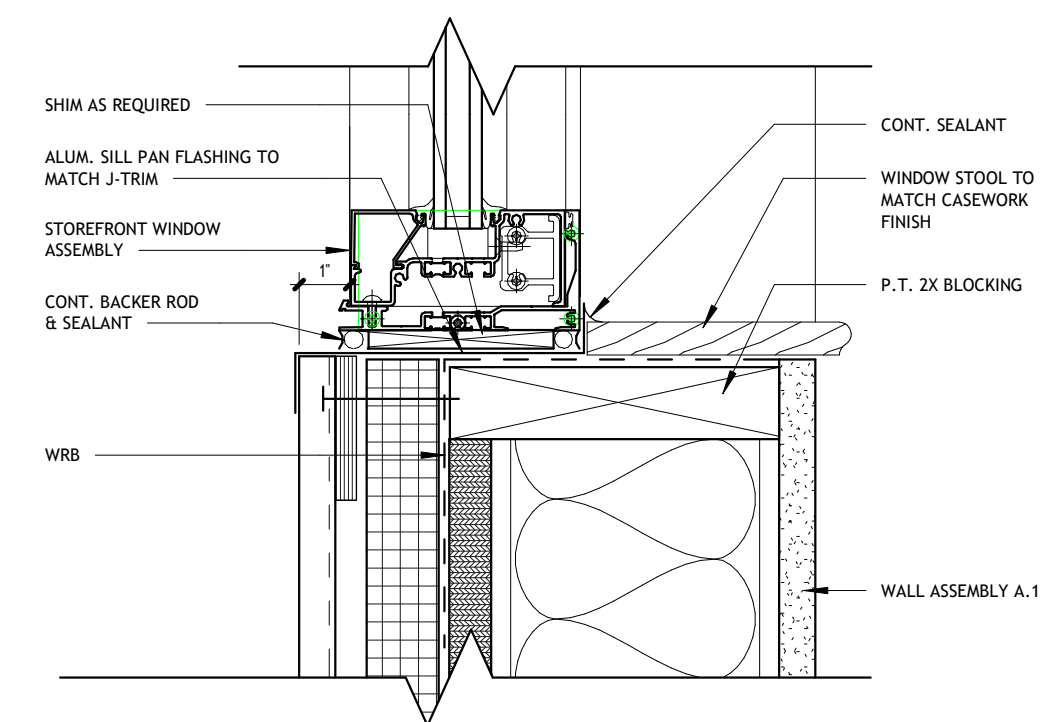


WINDOW E EXTERIOR STOREFRONT WINDOW F INTERIOR STOREFRONT WINDOW G INTERIOR STOREFRONT WINDOW H INTERIOR STOREFRONT WINDOW I EXTERIOR STOREFRONT WINDOW J EXTERIOR STOREFRONT

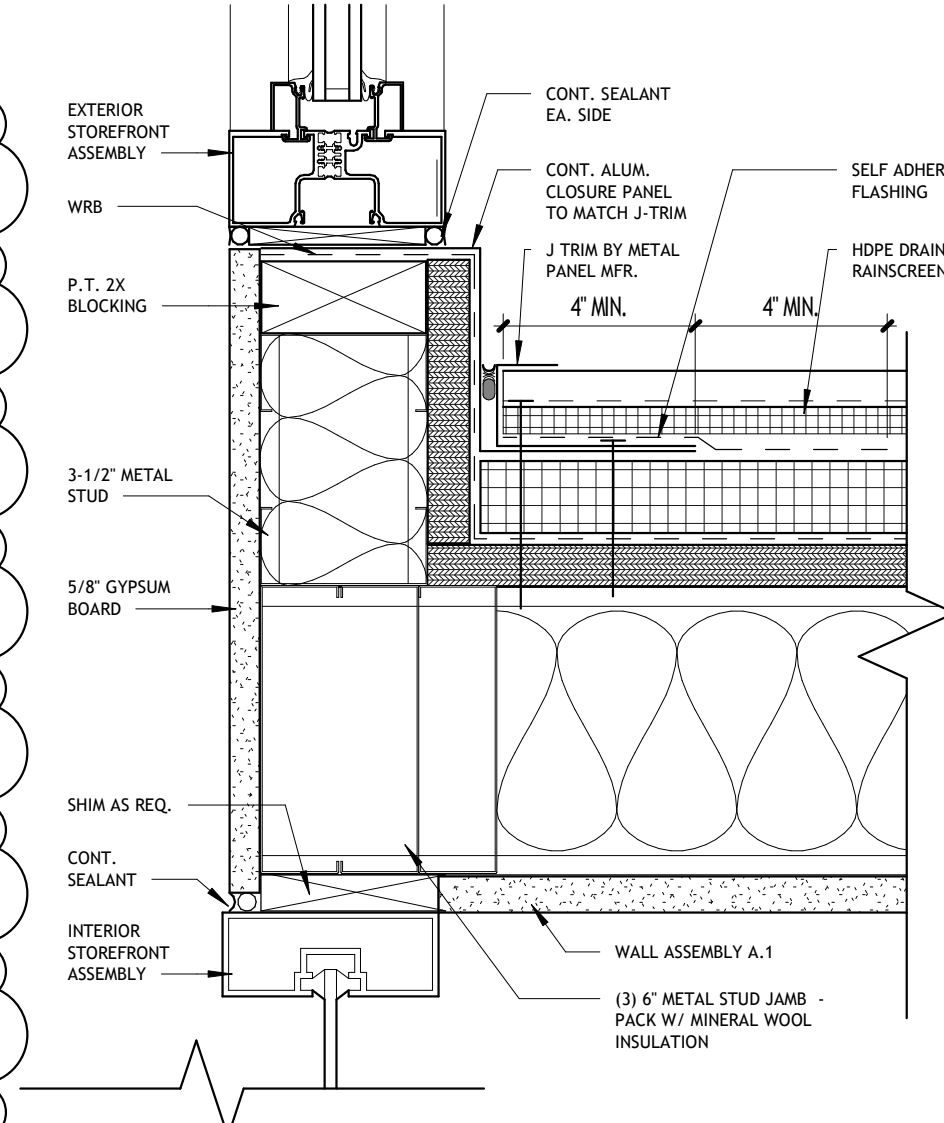
WINDOW ELEVATIONS 1/4" = 1'-0"



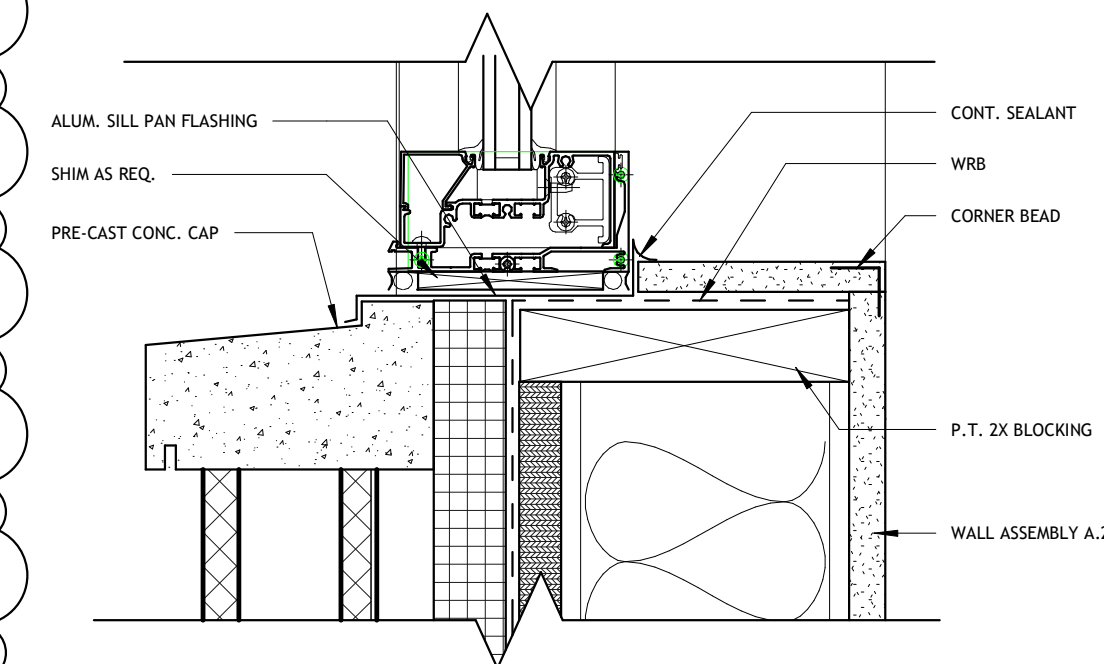
9 STOREFRONT WINDOW HEAD 3" = 1'-0"



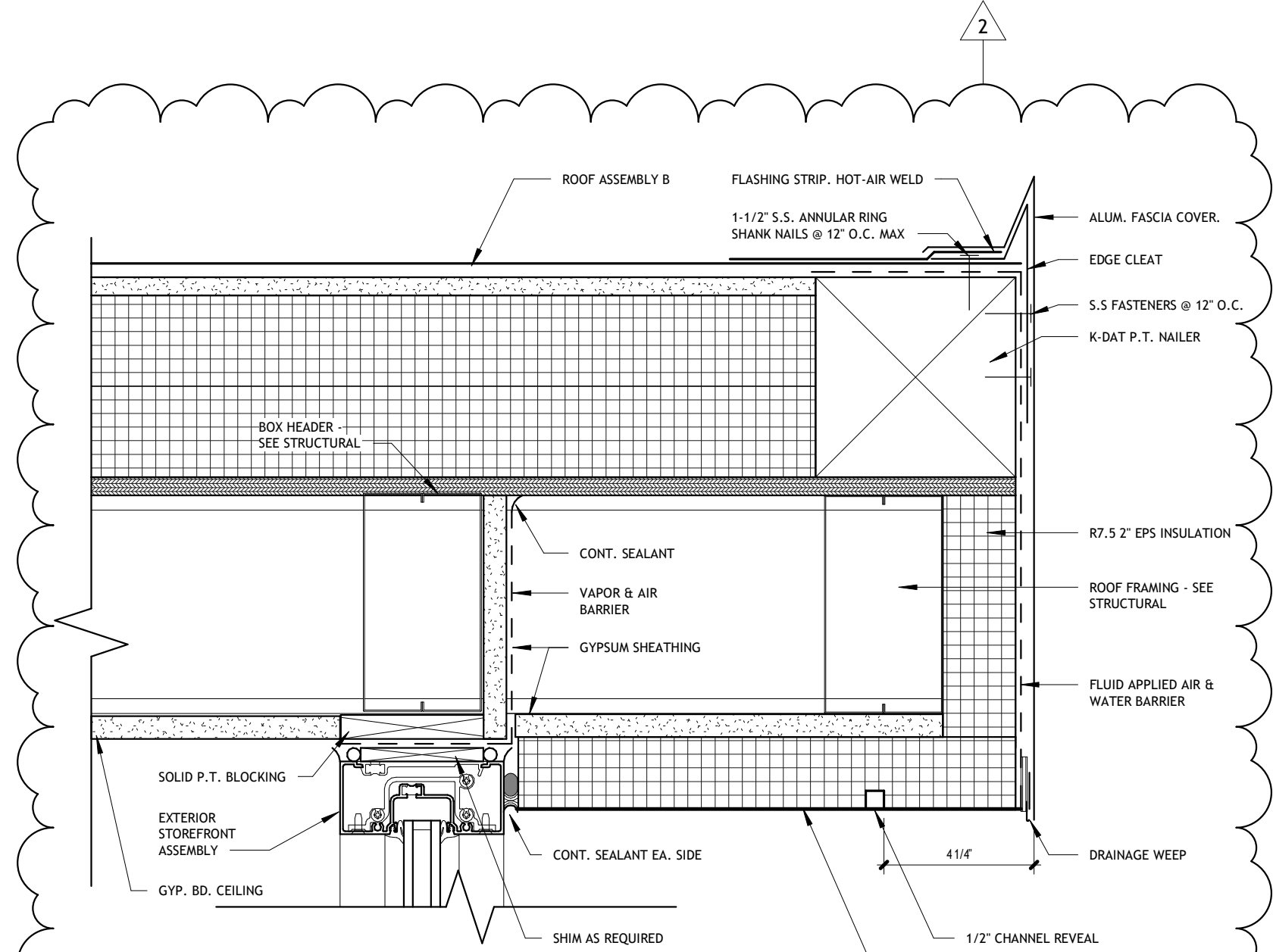
10 STOREFRONT WINDOW SILL 3" = 1'-0"



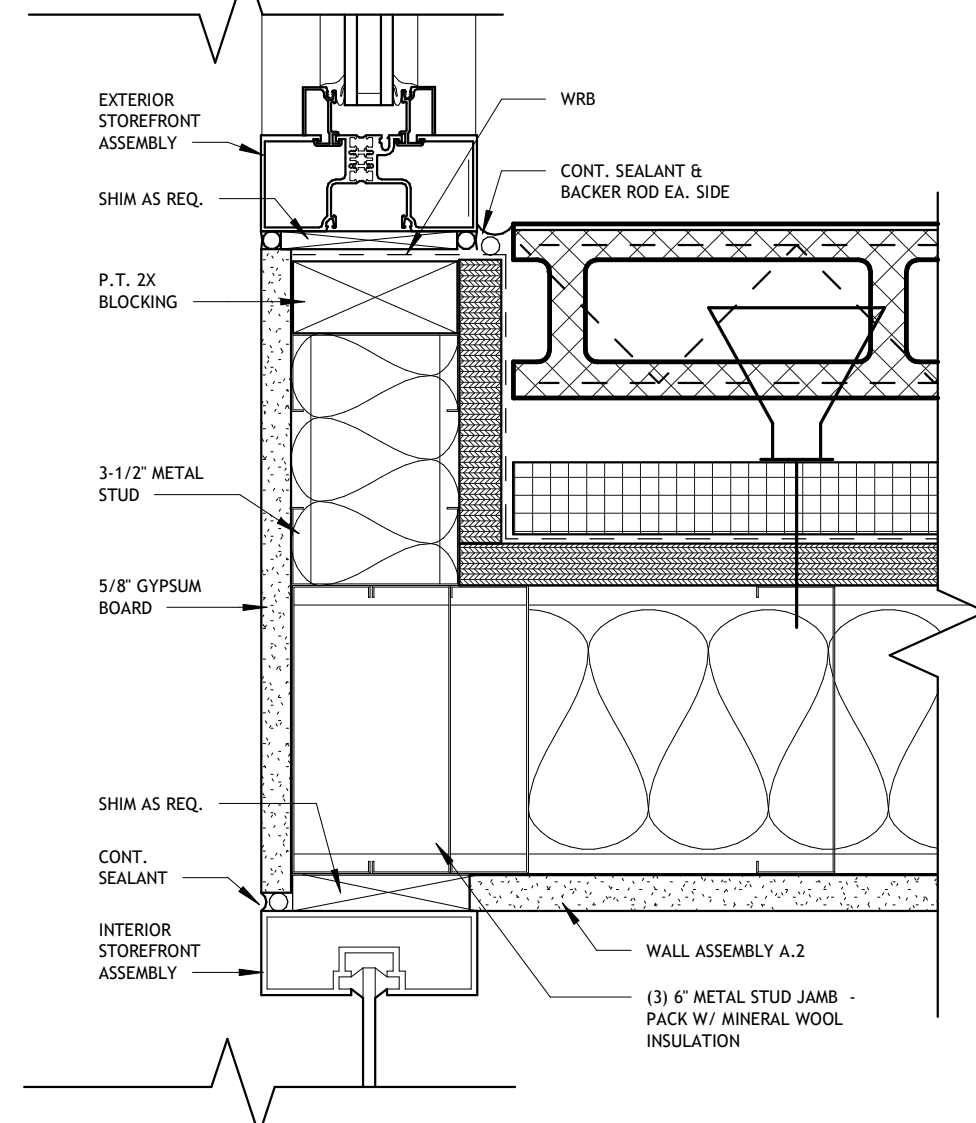
13 STOREFRONT JAMB @ WALL A.1 3" = 1'-0"



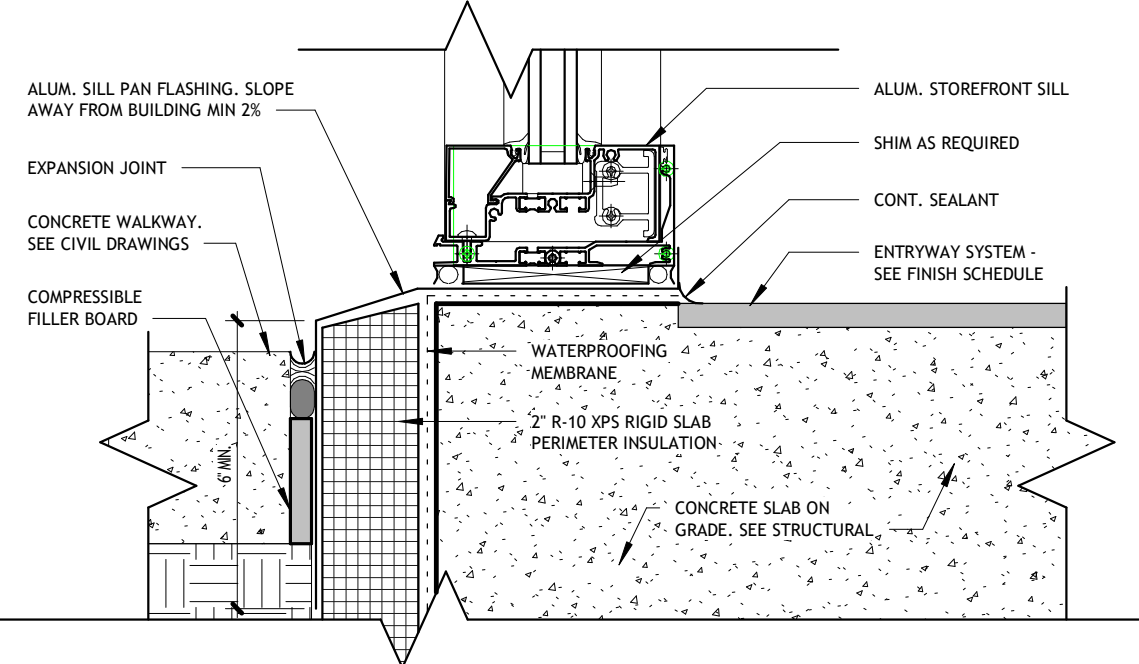
14 ALUM. STOREFRONT SILL @ CMU 3" = 1'-0"



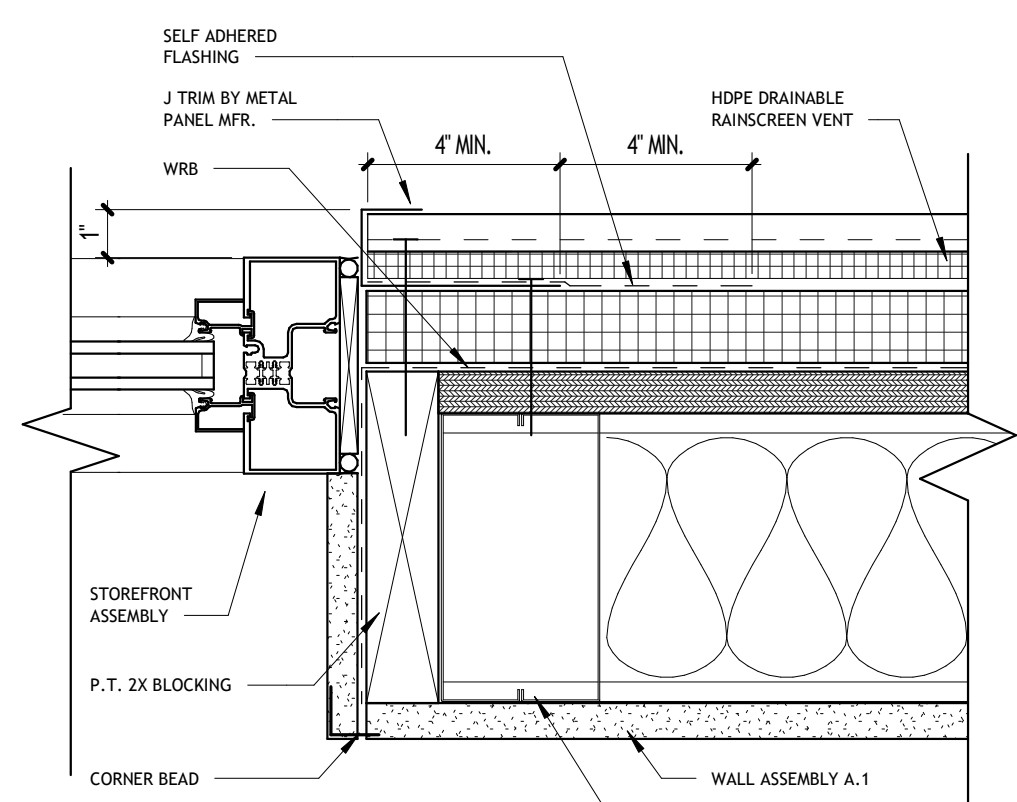
15 ALUM STOREFRONT HEAD 3" = 1'-0"



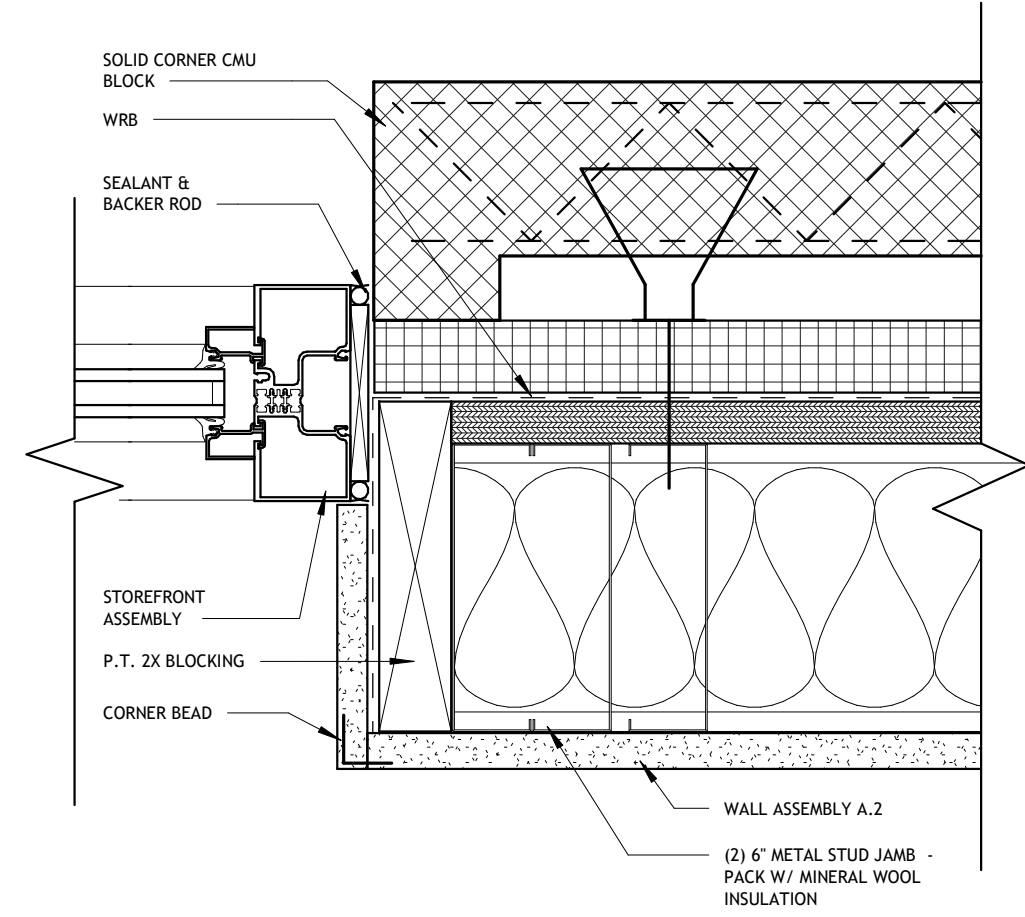
16 STOREFRONT JAMB @ WALL A.2 3" = 1'-0"



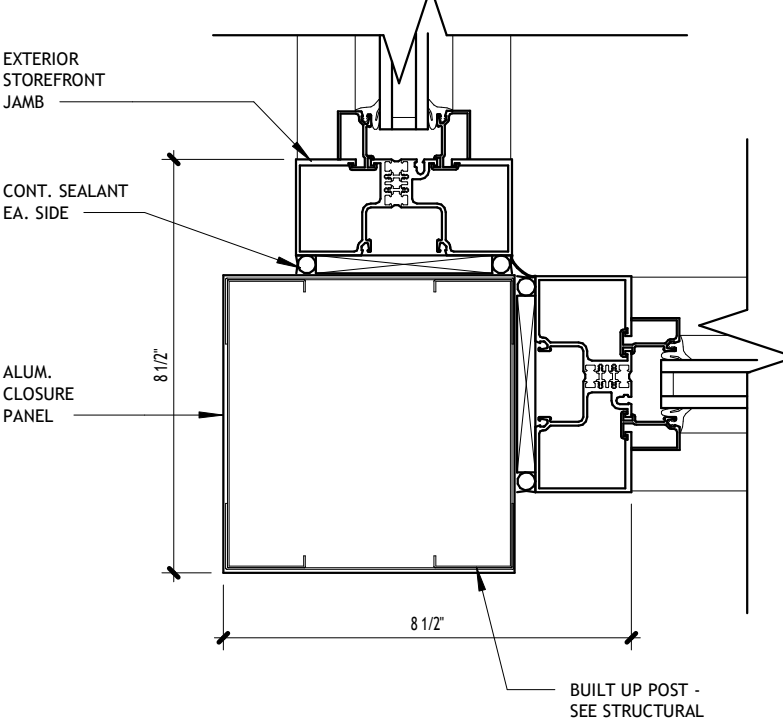
17 ALUM. STOREFRONT SILL @ SLAB 3" = 1'-0"



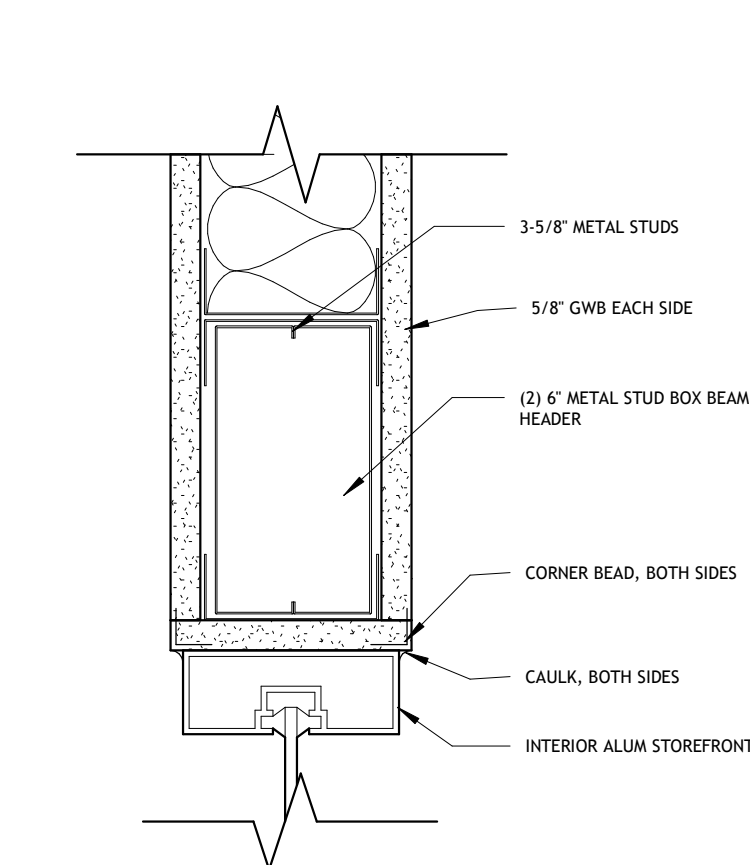
19 STOREFRONT WINDOW JAMB @ WALL A.1 3" = 1'-0"



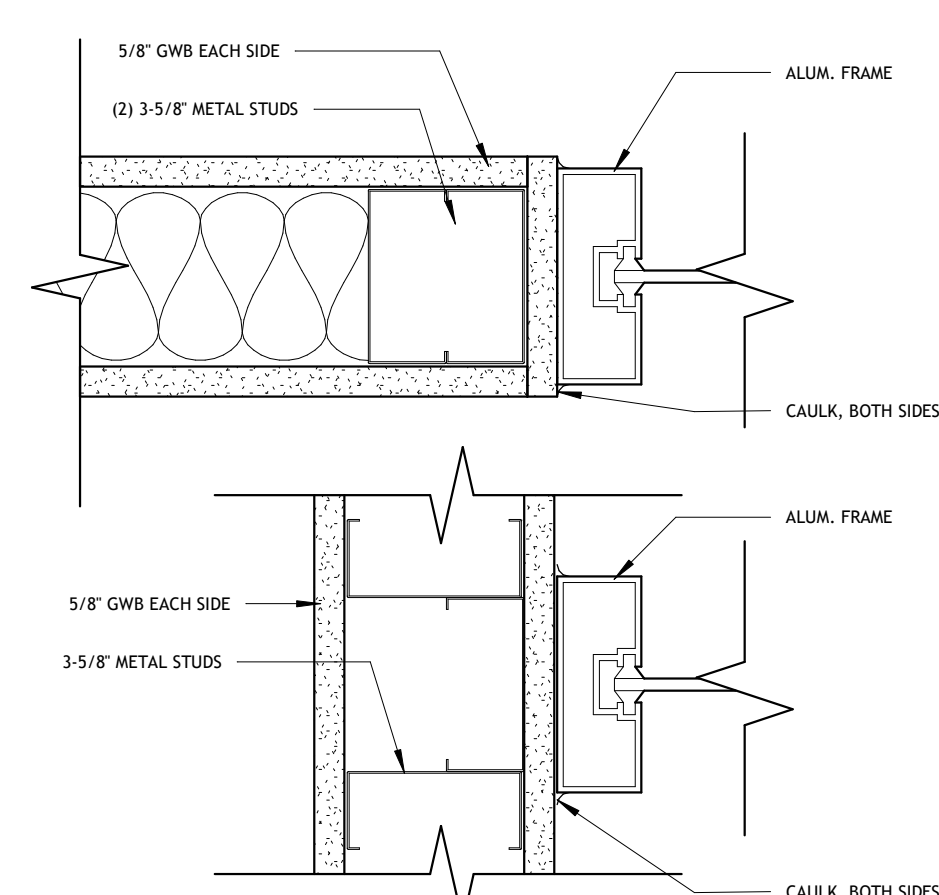
22 STOREFRONT WINDOW JAMB @ WALL A.2 3" = 1'-0"



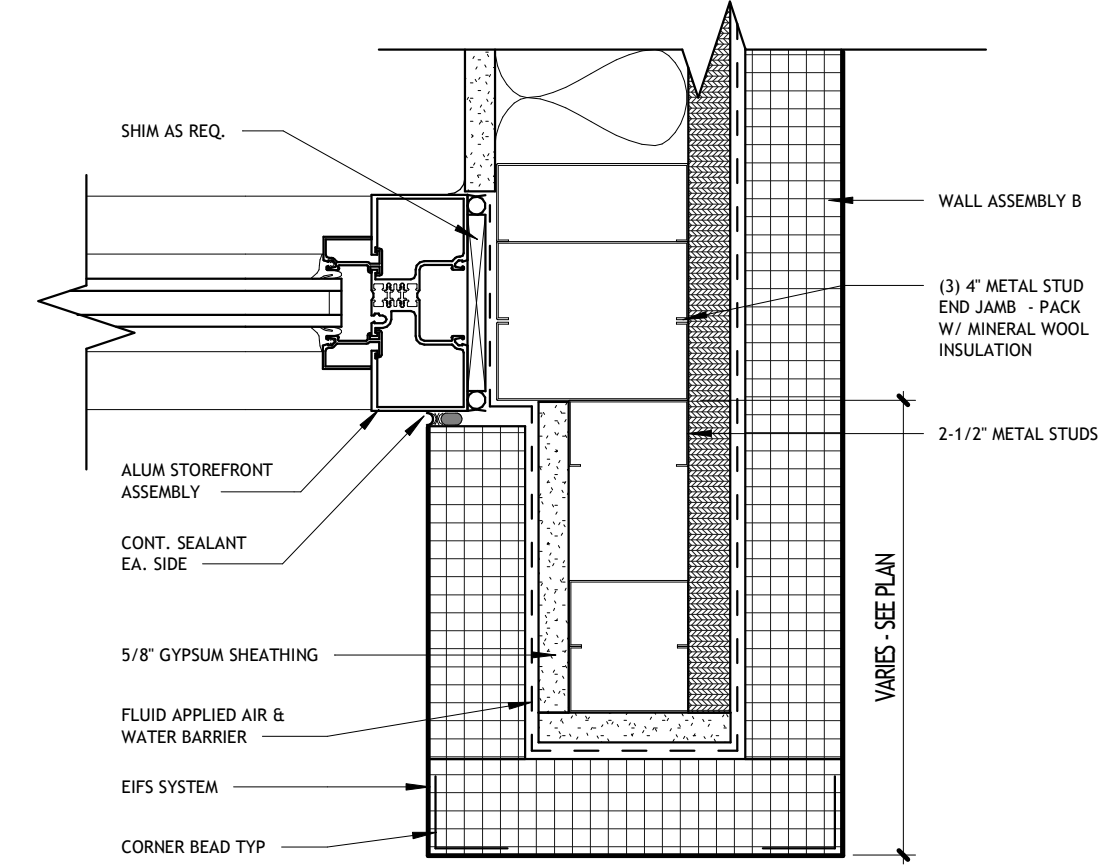
23 STOREFRONT CORNER JAMB 3" = 1'-0"



18 INTERIOR ALUM. WINDOW HEAD 3" = 1'-0"



20 INTERIOR ALUM. WINDOW JAMB 3" = 1'-0"



21 STOREFRONT JAMB @ WALL B 3" = 1'-0"

MODEL: M-PROJECTS\KSC\Catawba County Courthouse Building\11 Construction Documents\11.1 DWG-RVT\Catawba County Courthouse Building.dwg

TEMPLATE VERSION