

ADDENDUM No. 01

to

CONTRACT DOCUMENTS

for

CORTLAND COUNTY AIRPORT – CHASE FIELD

CORTLAND, NEW YORK

**CONVENTIONAL AIRCRAFT STORAGE HANGAR BUILDING
WITH OFFICES**

NYSDOT P.I.N. 3903.11

M-J PROJECT NO.: 19046.03

January 21, 2026

**Cortland County Airport -Chase Field
Conventional Aircraft Storage Hangar Building with Offices
Addendum No. 01**

CORTLAND COUNTY AIRPORT – CHASE FIELD

CONVENTIONAL AIRCRAFT STORAGE HANGAR BUILDING WITH OFFICES

TABLE OF CONTENTS

1. Instructions
2. Revisions/Clarifications to Contract Documents
3. Attachments

ADDENDUM No. 01

January 21, 2026

1. INSTRUCTIONS TO ALL HOLDERS OF CONTRACT DOCUMENTS

Your attention is directed to the following interpretations of changes in and additions to the Contract Documents for the construction of the **Conventional Aircraft Storage Hangar Building with Offices** at the Cortland County Airport – Chase Field in Cortland, New York.

Please indicate receipt of this addendum (including date) on page P-5 of the Bid Proposal documents.

2. REVISIONS/CLARIFICATIONS TO THE CONTRACT DOCUMENTS

(1) Change to Drawings:

- a. REMOVE Drawings UT-01, DT-01, A100, A102, A200, A300, A301, S001, S002, S003, S101, S102, S201, S202, M000, P000 and P001 and REPLACE with the attached Drawings UT-01, DT-01, A100, A102, A200, A300, A301, S001, S002, S003, S101, S102, S201, S202, M000, P000 and P001.

(2) Change to Specifications:

- a. ADD specification 054000 Cold Form Metal Framing to the Division 05 – Metals specifications listed in the Table of Contents.
- b. REMOVE Insurance Specifications and REPLACE with attached Insurance Specifications.
- c. REMOVE specifications 011000 Summary, 015000 Temporary Facilities and Controls, 015100 Temporary Utilities, 033000 Cast-In-Place Concrete, 042000 Unit Masonry, and 051200 Structural Steel Framing, and REPLACE with attached specifications 011000 Summary, 015000 Temporary Facilities and Controls, 015100 Temporary Utilities, 033000 Cast-In-Place Concrete, 042000 Unit Masonry, and 051200 Structural Steel Framing.
- d. ADD attached specification 054000 Cold-Formed Metal Framing.
- e. REMOVE specification 133420 Metal Building Systems (Architectural) and REPLACE with the attached specification 133420 Metal Building Systems (Architectural).

(3) Responses to RFIs:

- 1. Mezzanine layout on DWG S102 shows 12” light gauge metal joists (likely Ceess) at 12” o.c. Are we to follow this design or can we estimate with OWSJs at larger spacings? Also, can you please provide clear height requirements below mezzanine.

Cortland County Airport -Chase Field
Conventional Aircraft Storage Hangar Building with Offices
Addendum No. 01

Answer: Bid as designed. Substitution of metal joists is not acceptable.

2. We are adjusting mezzanine loads to : DL=60psf (5" concrete), LL=125psf(storage mezz), partition=0psf (due to LL>80psf), Collateral=15psf (DWG S001). Is this acceptable?

Answer: Loads are updated on attached Drawing S001.

3. We must qualify that we are deviating from the seismic design category "D" shown on DWG S001 (shown below). Category "D" does not use the highlighted values below. A seismic design category "D" would infer a high seismic location, but the Sds & Sd1 values are consistent with a low seismic location (Category A, B or C). If seismic design category "D" is required, then we also qualify that the building steel & mezzanine steel are to be structurally independent of each other due to the additional code restrictions on ordinary steel moment frames in category "D".

Answer: Project is in seismic design category A.

4. Please provide loading/weight of bi-fold door.

Answer: Basis of design, Schweiss bifold door, is attached. Schweiss is not the only door manufacturer. The project will consider other bifold door manufacturers. The attached is provided to provide the bidder with an estimate of the door loading/weight in reply to the RFI. It is the bidder's responsibility to integrate the structural loading of the bifold door with the Pre-engineered building.

5. Please provide current plan holders listing for the project.

Answer: See attached.

6. Follow-up question regarding the scope. The specifications reference access control, but during the pre-bid meeting it was mentioned that there is no security or fire scope included. I just wanted to confirm and clarify that point.

Answer: Access control is specified in specification 087100 – Door Hardware as standalone electronic keypad lock. There is no fire alarm scope as not required by building code.

7. If access control is part of the project, is it anticipated to be a centralized system, and would it include card readers?

Answer: Access control is not a centralized system and are not the type with card readers.

8. During the prebid, I did not observe any existing security cameras. Given that this is an airport facility, is video surveillance something Cortland County has considered or may be interested in including, either now or in a future phase?

Answer: No.

9. Question #1. Specification 133419 "Metal Building Systems, Metal Building Structural Frame and Supplemental framing" is listed in specification section #133420 under "Related Requirements" but has not been provided. Please provide.

Answer: Refer to the updated specification 133420 attached. The reference to Specification 133419 is removed as there is no Specification 133419. Refer to the Structural Drawings for the Pre-engineered Metal Building structural specification requirements.

Cortland County Airport -Chase Field
Conventional Aircraft Storage Hangar Building with Offices
Addendum No. 01

10. Question #2. Specification section 051200, 2.03 Finish. A, B, C list conflicting final finishes. Please clarify the final finish required for the structural steel members of the mezzanine and the Metal Building structural components. Is a shop primer sufficient?
Answer: Yes.
11. Question #3. Specification 133419 (*# is typo – meant 133420*) section 3.02 item C calls for the gutters to be sloped. In a typical eave condition for a Pre-Engineered Building the gutters would be installed level. Please confirm that is acceptable.
Answer: Level is acceptable.
12. Question #4. Varco Pruden Buildings is one of the major manufacturers of pre-engineered building systems. Is a metal building system manufactured by Varco Pruden acceptable?
Answer: Building manufacturers shall meet the contract document specifications requirements.
13. Question #5. Details 4 and 5 on page A-301 show thermal blocks on the roof purlins. The use of thermal blocks with an exposed fastener roof panel is not a manufacturer approved detail. To provide this thermal block detail a standing seam metal roof system would need to be specified, similar to a Varco Pruden SSR roofing system.
Answer: A Thermal Break between roof panel and steel framing is required. Roofing panels are to remain an exposed fastener PBR profile. Products exist to work with this type of roofing panel installation.
14. Question #6. Please clarify exterior wall assembly (siding and insulation) shown on details 4 and 5 on page A301. The 2” rigid board insulation and the 1” thermal blocks shown are not standard metal building details. Also, please clarify (By Others) note?
Answer: Proposed building is climate controlled. 2020 NYS Energy Code, TABLE C402.1.3; calls for R13 continuous insulation for “Metal Building”, in all Climate Zones. ‘By others’ note answered in the attached revised Drawing A301.
15. Question #7. Specification 133419 (*# is typo – meant 133420*) section 2.02 Assemblies item A and B reference “sub-girt framing/anchorage assembly” for wall and roof panels. These “sub-girts” are not shown on the details on page A-301. Please explain what you are looking for with this specification.
Answer: Refer to the Structural Drawings, Details, and the criteria for “Delegated Design” of these building frame elements.
16. Question #8. Please provide the gauge thickness required for the metal roof and wall panels. Industry standard would typically be 26 or 24 gauge for wall panels and 24 gauge for roof panels.
Answer: Refer Specification Section 133420 for panel gauge(s).
17. 4/S201 are the CMU block cavities filled with cement or mortar? Please specify what is in the CMU block cavities.

Cortland County Airport -Chase Field
Conventional Aircraft Storage Hangar Building with Offices
Addendum No. 01

Answer: All cells are filled with grout.

18. Drawing E101. Does detail #2 need to be included under note #3?

Answer: Keyed Notes on this plan refer to all details on the plan. To clarify County and Contractor work, follow the following:

- All lighting and power outlets, and related branch circuits, in Tenant Storage Room 204, General Storage Room 203 and Common Area Room 201 are provided and installed by the County.
- All lighting and power outlets, and related branch circuits, in Tenant Space Room 112, Meeting Room 111, Office Room 110, Corridor Room 108, Restroom Room 107, Utility Room 106, Kitchenette Room 104 and Lobby/Lounge Room 103 are provided and installed by the County.
- Water heater and related re-circulating pump are provided, installed and powered by the County.
- All communications and electrical equipment, lighting and power outlets, and related branch circuits in Storage Room 102, Electrical Room 113 and Aircraft Hangar Room 101 are provided and installed by the Electrical Contractor.

19. Drawing E104. Are the lights and light controls in the tenant space supplied by the electrical contractor but installed by the owner?

Answer: No. Lights and light controls in the Tenant Space Room 112 are provided and installed by the Owner.

20. Drawing E101. Is the work at the utility room (106) supplied by the electrical contractor but installed by the owner?

Answer: No. Work in Utility Room 106 is provided and installed by the County.

21. Is the HVAC electrical work supplied by electrical contractor but installed by the owner?

Answer: No. HVAC electrical work regardless of location is provided and installed by the electrical contractor.

22. How far outside of building do we need to bring to grade since county is doing a lot of outside work?

Answer: The County will be performing the site work from the exterior face of the proposed building's foundation. Note the 1'-6" concrete apron at the bi-fold door shown on 5/201 is by the General Construction Contractor. The soil materials outside the building foundation's exterior face and below the 1'-6" concrete slab are provided and installed the County.

23. Who will be responsible for restoration of the ground surfaces related to the utility work?

Answer: County will restore the ground surfaces with turf or pavements, as applicable, following utility work.

Cortland County Airport -Chase Field
Conventional Aircraft Storage Hangar Building with Offices
Addendum No. 01

24. Will NYSEG excavate the trench, install the gas service and backfill the trench for the gas service?

Answer: Yes.

25. Is the power company running the electrical and is the gas company running the gas to the building? Or is the County dealing with this? And if so is there a cost for them to do so if so how much is the cost?

Answer: Electrical service is by National Grid. The details of the National Grid service are being finalized and will be clarified in a future Addendum.

Gas service is by NYSEG.

Both National Grid and NYSEG costs to install services will be paid for by contract allowances through the Mechanical (HVAC) Contractor for the gas and the Electrical Contractor for the electric. A revised bid form moving these two (2) allowances from the General Construction Contractor's bid to the Mechanical and Electrical contractors will be provided in future Addendum.

26. Question #1- As per the Single Line Diagram (Sheet E600), Panel P1 is indicated as 3-Phase, 4-Wire, 100A MLO, whereas the Panel Schedule (Sheet E601) identifies Panel P1 as 1-Phase, 3-Wire, 100A MCB. Similarly, Panel TN is shown as 3-Phase, 4-Wire on the Single Line Diagram (Sheet E600), while the Panel Schedule (Sheet E602) specifies it as 1-Phase, 3-Wire. Since the Main Distribution Panel (MDP) is shown as 1-Phase, 3-Wire, please confirm the correct phase and wiring configuration for Panels P1 and TN to be followed for construction

Answer: P1 and TN are single phase equipment. Awaiting National Grid to confirm single phase service. Updates will be shown in a future addendum.

27. Question #2- Sheet E103 indicates (2) FAA L-810(L) LED obstruction lights. Please confirm whether these lights are to be provided by us or not?

Answer: Obstruction lights are provided and installed by the Electrical Contractor. Refer to [AC 150/5345-43J, Specification for Obstruction Lighting Equipment, 3/11/2019 \(errata updates 4/29/2019\)](#) for the lighting material specifications.

28. Question #3- As per Single Line Diagram (Sheet E600), the Panel M1 is specified as 200A MCB while on the Panel Schedule (Sheet E601), it is specified as 225A MCB. Confirm which one should be preferred?

Answer: M1 is 225A MCB, changes will be shown in future addendum

29. Question #4- On Sheet E-600, a 100 kVA pad mounted transformer is indicated; however, the transformer location is not shown on the plans. Kindly clarify and provide the exact location of the transformer for coordination and installation.

Answer: National Grid has yet to confirm single phase service to allow the utility transformer to be finalized. Updates will be provided in future addendum.

30. Question #5- On Sheet E600, under Utility Notes – Division of Work (Contractor Responsibilities), the contractor is required to provide a concrete pad. However, the size and dimensions of the concrete pad are not indicated on any of the contract drawings.

Cortland County Airport -Chase Field
Conventional Aircraft Storage Hangar Building with Offices
Addendum No. 01

Answer: National Grid has yet to provide design plans to finalize utility transformer pad dimensions. Updates will be provided in future addendum.

31. Question #1. There are two Allowances listed on the bid form assigned to the General Contractor and described in section 012100 but they are for work attributed to (1) Heating and (2) Electrical Services. Why are these assigned to the GC when you will have both an HC and an EC prime contract on board that handle these types of work?

Answer: Update to the Bid Proposal form and allowance specification will be provided in future addendum. In addition to confirming the allowance costs for the electrical service, the Bid Proposal and Allowance form will be updated to attribute the gas service to the Mechanical (HVAC) contractor and the electrical service to the Electrical Contractor.

32. Question #2. Section 015000 Temporary Facilities and Controls states for temporary utilities the existing may not be used but the new utilities can be used. Section 015100 Temporary Utilities states cost for utility company invoices are by all contractors (how is that going to be divided up?). Then it states the install, maintenance, and removal of the temp electric is by EC, connect to existing utilities. Please clarify. Is each contractor going to get billed for electric power used on the job? And temp lighting is by all contractors?

Answer: See attached updated specifications 015000 and 015100. Electrical contractor to provide temporary power from National Grid with 4 submeters, one for each contractor. Each contractor will be billed for the electric power they use on the job. Temporary lighting is by the General Construction Contractor.

33. Question #3. Foundation Plan Note-3 on S101 indicates the foundation sizes and anchor bolts are subject to change after final reactions from the Pre-Engineered Metal Building (PEMB) are developed. How is any Cost Difference going being handled if there is a change?

Answer: If the concrete foundations and anchor bolts change because of the PEMB structural reactions, the changes will be handled by Supplemental General Provision 19 entitled Payment for Extra Work.

34. Question #4. Foundation Plan Note-6 on S101 indicates we are to provide sono-tube piers for the exterior door canopy if it cannot be wholly supported by the PEMB columns. At present, this exterior door canopy appears to be non-existent; we don't know the potential size or shape of this future work by others.

Answer: See attached revised Structural Drawings for canopy. Sono-tube piers are removed.

35. Question #5. For the mezzanine (S102), there are two braced bays: column-line B/4 to 5, and column-line A.7/1 to 1.8. Refer to Brace Elevations drawing S301. Along those exact same column lines, we are to construct a partition type-1 in line with the columns. Please provide a detail of how the brace-rods and turn-buckles can be accommodated within the 1-hour-rated 6" stud-framed partition, in those sections.

Answer: Contractor to field fit the bracing through the stud wall framing.

Cortland County Airport -Chase Field
Conventional Aircraft Storage Hangar Building with Offices
Addendum No. 01

36. Question #6. Structural Drawings S501: please provide a basis-of-bid Anchor Bolt length for the PEMB bolts; and should we assume four bolts per pier / column base?
Answer: Refer to note in detail Typical Footing and Pier Section on S004. "Assume 1-1/4" diameter, cast in place extending to 3" above bottom of footing." for your estimate. (4) anchor bolts per baseplate should be assumed though the final anchor bolt design will be determined with the approved PEMB submittal.
37. Question #7. Section 033000 Concrete lists every imaginable option for admixtures and supplements to the concrete, inclusive of Barrier-One and a topical application of a moisture-mitigation membrane. There is no Room Finish Schedule or indication of what the owner is planning for floor finishes. Please define whether or not we need to include Barrier-One or some other option in the floor slab mix.
Answer: Refer to the attached updated specification 033000.
38. Question #8. What gauge are the 12" light-ga metal joists for the mezzanine framing, and how are they connected to the structural steel framing (detail1/S202)? They don't appear to set on top of the steel, how are they connected within the steel framing?
Answer: Design of the cold form joists and connections is delegated to and supplied by the cold form steel contractor and supplier.
39. Question #9. Fencing Work (Permanent Fence): there is a 20' wide double-leaf swinging gate being cut into the side of the existing fence for use as "temporary construction entrance". None of the existing fence is noted for removal after installation of the permanent fence and relocation of the 32' slider. Should the "temporary construction gate" be left in place after construction, or is it to be removed and a 20' opening left permanently?
Answer: 20' temporary construction entrance gate is removed at the end of the project. See attached updated Drawing UT-01 indicating fence and temporary gate to be removed.
40. Question #10. Utility Drawing UT-01 and National Grid Electrical Service Allowance in GC Contract: How is the incoming Overhead Electric Service being terminated and anchored at the building? Are any special structural provisions necessary for the PEMB to accept and support an electrical service mast attached to the side of the building?
Answer: The project is coordinating the design of the electric service with National Grid. The questions will be reviewed with National Grid. Answers will be relayed in future addendum.
41. Question #11. Site and Utility Plan UT-01: If the owner is handling all the exterior sitework and improvements, who is responsible for the two concrete exit pads and the 4' sidewalk at the perimeter of the building? If this is GC work, please provide sizes, thickness, reinforcement, and details.
Answer: County will provide all exterior paving, except the 1'-6" concrete slab on grade shown on the Structural Drawings exterior of the bifold door.

Cortland County Airport -Chase Field
Conventional Aircraft Storage Hangar Building with Offices
Addendum No. 01

42. Question #12. Site and Utility Plan UT-01: If the owner is handling all the exterior sitework and improvements, who is responsible for the concrete-filled steel pipe bollards?
Answer: General Construction Contractor is responsible for the concrete filled steel pipe bollards.
43. Question #13. Detail 2/A301: the detail of the Stair refers to the Structural Drawings; there is no information on the S-drawings regarding the Stairs; please provide details and sizing of the stair & railing elements.
Answer: Stringer sizes and connections provided on updated Drawing S102. Treads, risers and handrails to be detailed by the fabricator.
44. Question #14. 2/A100 and 2/A101: the partition on the inboard side of Stair 109 is grayed out as By Owner at the first-floor level; but the second-floor level the partition is tagged as type-2 (by GC). What is the stair handrail to be anchored to without the first-floor level partition?
Answer: Attached Drawing A100 updated.
45. Question #15. 3/A400, 1-hour Partition Type-1 and sections 4 & 5 on A301: the 1-hour rated partition is detailed to be extended to and firestopped against the structure above, which is polyester faced batt insulation. Is this going to work for a one-hour rated partition? This partition may or may not fall in line with the bottom of a purlin, and certainly won't as it follows column-line 1.8.
Answer: Do not install insulation where top of partition meets roof assembly. Trim insulation system to terminate at partition face, secure and seal.
46. Question #16. Section 4 and 5 on A301: why are the PEMB Girts labeled as "By Others"? Who will be supplying and installing the girts for the pre-engineered metal building?
Answer: Refer to the updated drawing A301 where the note "By Others" has been revised. The General Construction Contractor along with their PEMB subcontractor/supplier will be supplying and installing the girts.
47. Question #17. Door Schedule on A400: the FINISH for the HM doors and frames is listed as "painted"; is the Painting of HM doors and frames by Owner during their final fit-out and finishing of the hangar, not by GC?
Answer: Scope for painting is outlined in Spec Section 099000 Painting and Coating.
48. Question #18. P1, P3A, and P3B details on S501: the terminations of the tie-rods within the primary piers refer us to a section detail 2 on S201; there is no such detail found.
Answer: Section 2/201 shows thickened slab with (4) tie beam bars.
49. Wall sections 4 and 5 on A301 are unclear on whether or not the perimeter rigid foundation insulation is full height of the foundation wall and full perimeter, and if the under-slab rigid insulation is full coverage under the entirety of the floor slab. (the notes are muddled)
Answer: Foundation insulation is to be full-height. Under slab insulation is to be continuous beneath the entire floor slab.

Cortland County Airport -Chase Field
Conventional Aircraft Storage Hangar Building with Offices
Addendum No. 01

50. Floor Deck notes on S001 for Installation requests 5/8" puddle welds for the metal decking. Does this welding requirement apply to attaching the 20 gauge decking to the cold-form metal joists, or just where it bears on structural steel elements? What is the basis-of-bid gauge of the CFMF joists?
Answer: Updated to #12 self-drilling screws for deck to cold form steel. Final cold-form joist design is delegated to the General Construction Contractor and their cold-form steel subcontractor & cold-form steel manufacturer. Mezzanine design loads are as follows: Live load: 125 psf storage load. Dead Load: 15 psf. Seismic design category A.
51. Site & Utility Plan UT-01 indicates the Finish Floor Slab Elevation will be 1171.00'. Who is responsible for stripping the site and the structural fill & rough grading to raise the grade to the appropriate sub-grade level for the construction? The site appears to be about a foot low, on average.
Answer: The County will strip the site. The General Construction Contractor will be responsible for imported soil materials described as crushed stone, structural fill and slab sub base on Drawing S001 within the interior of the building foundation. The County will be responsible for imported soil materials outside the building foundation.
52. Trench Drain in Hangar: A100 refers us to the Plumbing Drawings for the trench drain info. P000 indicates the trench Drain is by the PC and defines it as a 10' x 2' double-wall fiberglass unit complete with grating. S101 shows a section detail 3/S201 and defines it as a formed concrete recess with embedded perimeter edge angle and bar-grating. Is the Trench Drain to be provided by the PC as a manufactured unit, or by the GC made up of misc. metals?
Answer: Yes. Provided by the PC as a manufactured unit. See Sanitary/Storm Drainage Accessories schedule on Drawing P000.
53. Back Wall of Hangar, column-line 1: we need bay-spacing, location / quantity of posts along the back wall of the PEMB hangar, which will necessitate pilasters and footers along the 8" grade beam foundation. Something to anchor the side-wall girts.
Answer: Question is asking for the design of the PEMB. The PEMB is a delegated design. Refer to requirements on the structural drawings S-001 and S-002.
54. Which of the PEMB Bays are to be Braced Bays?
Answer: Question is asking for the design of the PEMB. The PEMB is a delegated design. Refer to requirements on the structural drawings S-001 and S-002.
55. Please confirm the owner is furnishing and installing water heaters, floor cleanouts, floor drains, toilets, water closets, lavatories, sinks, faucets, flushometers, fixture supplies, and water stops per P plans.
Answer: Yes
56. Please confirm the owner is furnishing and installing all domestic water piping, valves, strainers, backflow preventers etc. per P plans.

**Cortland County Airport -Chase Field
Conventional Aircraft Storage Hangar Building with Offices
Addendum No. 01**

Answer: No. All domestic up to and including the ball valve shown on 3/P100 is by the Plumbing Contractor. Attached drawing P100 updated.

57. Please confirm the owner is flushing and sanitizing all domestic water piping.

Answer: Yes.

58. Please confirm the owner is furnishing all domestic water piping insulation.

Answer: Yes

59. Is there a finish floor spec for the concrete floor?

Answer: Refer to the updated Specification 033000 provided in this Addendum.

60. Is there an exterior man door canopy? Structural drawings show footings.

Answer: Yes. Refer to attached updated Architectural and Structural drawings.

61. Please clarify Sitework scope to be completed by Owner.

Answer: Owner will perform stripping of topsoil, erosion & sediment control, cut and fills outside the building footprint, pavements, pavement markings, topsoil, seeding and mulching.

62. Does the owner complete all asphalt paving?

Answer: Yes.

63. Does the owner complete all concrete paving/sidewalk?

Answer: Contractor installs 1'-6" concrete apron at the bifold door. All other pavements are provided and installed by the Owner.

64. No spec on the windows. Is this an Owner furnished & installed item?

Answer: No.

65. Do you have any better documentation that clearly outlines the scope for the electrical contractor? Things like who is supplying the light fixtures, what work will be done by the country and what is our responsibility? Will we be responsible for the electric infrastructure for the HVAC units and plumbing system?

Answer: Refer to previous RFI #18 to clarify scope of electrical contractor and owner. Electrical contractor will be responsible for the electric power to all equipment on the Equipment Schedule on Drawing E102, except for the water heater and re-circulating pump are powered by the County.

66. Who provides and installs the concrete pad for the heat pumps on M100 and M101?

Answer: Mechanical Contractor provides concrete pad and crushed stone as detailed.

67. Clarification related to questions about local codes. Codes to be followed are provided on the drawings.

3. ATTACHMENTS

- (1) Pre-Bid Meeting Minutes/Sign-In Sheet
- (2) Plan Holders List (January 20, 2026)

Cortland County Airport -Chase Field
Conventional Aircraft Storage Hangar Building with Offices
Addendum No. 01

- (3) Specifications referenced in Section 2 above.
- (4) Bifold door information.
- (5) Drawings referenced in Section 2 above.

END OF ADDENDUM

GENERAL. The Contractor shall procure and maintain at his own expense, and without additional cost to the Owner, until final acceptance of the work covered by this Contract, insurance for liability for damages imposed by law, of the kinds and in the amounts as hereinafter provided. Insurance shall be obtained from insurance companies authorized to do work in the State of New York and approved by **COUNTY OF CORTLAND** and it shall cover all operations under the Contract whether performed by the Contractor or by his subcontractors. Before commencement of the work, the Contractor shall furnish to the Engineer, certificates (in six copies) of insurance in forms satisfactory to the Owner, and indicating compliance with the requirements of this Provision.

The Contractor shall furnish a copy of this Provision to his insurance broker in order to assure that the policies to be furnished conform exactly to the requirements stated below. The kinds and amounts of insurance, as required solely by the Owner in accordance with the Owner's direction, follow.

ENDORSEMENTS. Policies listed in this Contract must be endorsed, as specified for each policy, as follows, unless such coverage is provided for in the policy:

1. To remove explosion, collapse, and underground hazards exclusion.
2. It is understood and agreed that, if during the course of the work employees of the **COUNTY OF CORTLAND** are loaned or assigned to the Contractor to perform work in connection with the Contract, such employees are to be considered as employees of the Contractor for the purpose of this insurance.
3. Whereby, the coverage provided under these policies must not be affected if **COUNTY OF CORTLAND** performs work in connection with the project, of which the Contract may be only a part, by means of its own employees or if the Owner directs or supervises the work to be performed by the Contractor, but any work which may be performed on the project by the Owner by its own forces under its supervision shall not be covered under these policies.
4. To provide that the policies shall not be changed or cancelled until twenty (20) days written notice has been given to the **COUNTY OF CORTLAND**.

INSURANCE COVERAGE TO BE PROVIDED.

1. WORKMEN'S COMPENSATION INSURANCE - The policy shall cover the obligations of the Contractor under the current provisions of the Federal and State Workmen's Compensation Law for all operations under the Contract, whether performed by him or by his subcontractors, and including Employer's Liability coverage. The Contract shall be void and of no effect unless the person or corporation making or executing same shall secure and maintain such compensation coverage.

This policy must be endorsed in accordance with Endorsement 4 as recited above.

2. CONTRACTOR'S COMPREHENSIVE BODILY INJURY AND PROPERTY DAMAGE LIABILITY

- a. Bodily Injury and Property Damage Liability (Combined Single Limit) - The minimum amount of such insurance shall provide \$1 million liability for any one occurrence and an aggregate policy limit of \$3 million for all occurrences.
- b. Property Damage Liability - The minimum amount of such insurance shall provide \$1,000,000 for any one occurrence and an aggregate policy limit of \$3,000,000 on account of all occurrences.
- c. Comprehensive General Liability including Contractors Liability; Contingent Liability; Contractual Liability; Completed Operations and Products Liability all on the occurrence basis with Personal Injury Coverage and broad form Property Damage.

This policy must be endorsed in accordance with Endorsements 1, 2, 3, and 4 as recited above.

3. COMPREHENSIVE AUTOMOBILE LIABILITY FOR BODILY INJURY AND PROPERTY DAMAGE - The same limits of Section 2 shall be provided for claims arising out of the operation of owned, non-owned, and hired automobiles, motorcycles, and trucks as are provided in the Bodily Injury and Property Damage Policies.

This policy must be endorsed in accordance with Endorsement 4 as recited above.

4. CONTRACTOR'S PROTECTIVE LIABILITY - The preceding Bodily Injury and Property Damage Policies must be so written as to include contingent bodily injury and contingent property damage coverage for claims arising from the operations of a subcontractor.

This policy shall be endorsed in accordance with Endorsements 1, 2, 3, and 4 as recited above.

5. EXCESS GENERAL AND AUTOMOBILE LIABILITY. Umbrella liability insurance shall be provided in a minimum amount of \$5,000,000.

6. OWNER'S PROTECTIVE BODILY INJURY LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE - This policy shall be issued in the name of **COUNTY OF CORTLAND** and its successor or successors, whose principal office is located at **60 CENTRAL AVENUE, CORTLAND, NEW YORK 13045**. The policy must cover the legal liability of **COUNTY OF CORTLAND** (the insured), for damages on account of bodily injuries to the public and damage to the property of others caused by the work to be performed under the Contract, with respect to all operations by the Contractor and/or all his subcontractors, including omissions and supervisory acts of **COUNTY OF CORTLAND**. The minimum amount of such

insurance shall provide \$1,000,000 for any one occurrence and an aggregate policy limit of \$3,000,000 for all occurrences.

This policy must be endorsed in accordance with Endorsements 1, 2, 3, and 4 as recited above.

Whenever the estimated aggregate losses covered by the property damage insurance policies under 2, 3, and 6 above, equals or exceeds 50 percent of the aggregate policy limit, as estimated or determined by **COUNTY OF CORTLAND** such policy shall upon ten (10) days written notice by **COUNTY OF CORTLAND** be endorsed to restore the initial aggregate policy limits or shall be replaced by another policy having the same limit.

7. **BUILDER'S RISKS**

The Contractor shall procure and maintain a Builders' Risk policy in a form such as ISO form CP 00 20 10 90 or a policy form providing equivalent coverage, covering all risks in completed value form. Such policy shall cover the total value of the work performed in accordance with the contract, as well as the value of any equipment, supplies and/or materials to be installed in the contract that may be in storage (on or off the Site) or in transit. The policy shall cover the cost of removing debris, including demolition as may be legally necessary by the operation of any law, ordinance or regulation, and property of the State held in their care, custody and/or control. The Builders' Risk policy shall contain endorsements that provide for the following:

- The County and the Contractor shall be named as loss payees for the work in order of precedence, as their interest may appear; and
- In the event the loss occurs at an occupied facility, the policy shall permit occupancy without the consent of the insurance company; and
- In the event that the insurance policy has been issued by a mutual insurance company, the following language shall be included: "The County is not liable for any premium or assessment under this policy of insurance. The First Named Insured is solely liable therefore."

Any required Builders' Risk policy shall be written to cover specific structures identified in the Contract Proposal to the specified value for the completed structure(s). Self-insured retention / deductibles shall not exceed \$250,000 or 20% of the total value of work performed and equipment, supplies and materials at the location of the Work as well as at any off-site storage locations. **(Addendum 1)**

All the aforesaid insurance policies the insurers named therein shall be subject to the approval of **COUNTY OF CORTLAND**.

Items 2, 3, 4, 5 and 7 shall list **COUNTY OF CORTLAND**, McFarland-Johnson, Inc., and the State of New York as additional insured. **(Addendum 1)**

**SECTION 011000
SUMMARY**

PART 1 GENERAL

1.01 PROJECT

- A. Project Name: Conventional Aircraft Storage Hangar Building with Offices
- B. Owner's Name: Cortland County.
- C. The Project generally consists of the following:
 - Construction of a new aircraft hangar building with office spaces.
 - Demolition and construction of site fencing.
 - Construction of utilities to the new building.
 - Site work, outside the new building, by Owner.
 - Select interior work building work by Owner.

1.02 CONTRACT DESCRIPTION

- A. Contract Type: Multiple prime contracts based on a Wick's Law as follows:
 - Contract 1, General Construction
 - Contract 2, Plumbing Construction
 - Contract 3, Mechanical Construction
 - Contract 4, Electrical Construction
- B. The work of the contracts is identified in Part II Division of Work of this specification.
- C. The work of this project is to be completed as multiple prime contracts with Cortland County with subcontractors performing various tasks of the prime contract for the prime contractors. The prime contractors will provide a mix of lump sum and allowance costs as provided in the Proposal document for the items contained within the project.

1.03 DESIGN/MANAGEMENT IDENTIFICATION

- A. OWNER or SPONSOR
Cortland County
4267 Traction Drive
Cortland New York 13045
- B. ENGINEER
McFarland Johnson
49 Court Street
Binghamton, NY 13901
- C. ARCHITECT
L2studio Architecture
134 Court Street
Binghamton, NY 13901

D. RESIDENT PROJECT REPRESENTATIVE

Watson Engineering, P.C.

4500 NY-434

Apalachin, NY 13732

E. SPECIAL INSPECTIONS

Atlantic Testing Laboratories

6085 Court Street Road

Syracuse, NY 13206

1.03 DESCRIPTION OF ALTERATIONS WORK

- A. Scope of demolition, removal and construction work is shown on drawings and the technical specifications.
- B. The project includes the items identified in Section 1.01C of this specification.

1.04 OWNER OCCUPANCY

- A. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

1.05 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas noted on Drawings.
- B. Arrange use of site and premises to allow:
 - 1. Owner occupancy.
 - 2. Work by Others.
 - 3. Use of site and premises by the public.
- C. Provide access to and from site as required by law and by Owner:
 - 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 - 2. Do not obstruct roadways, sidewalks, or other public ways without permit.
- D. Existing building spaces may not be used for storage.
- E. Utility Outages and Shutdown:
 - 1. Limit disruption of utility services to hours approved by Owner.
 - 2. Do not disrupt or shut down life safety systems without 7 days' notice to Owner.
 - 3. Limit shutdown of utility services to 8 hours at a time, arranged at least 24 hours in advance with Owner.
 - 4. Prevent accidental disruption of utility services to other facilities.

1.06 WORK SEQUENCE

- A. Work of all trades within the construction area shall occur at the same time with coordination taking place between the prime contractors.
- B. Coordinate construction schedule and operations with Owner.

1.07 APPLICABLE SPECIFICATION SECTIONS

- A. Unless otherwise noted, all provisions of the sections listed below apply to all contracts.
- B. Section 012000 - Price and Payment Procedures
- C. Section 012100 - Allowances.
- D. Section 012200 - Lump Sum Items

- E. Section 013000 - Administrative Requirements.
- F. Section 013216 - Construction Progress Schedule.
- G. Section 014000 - Quality Requirements.
- H. Section 014200 - References
- I. Section 015000 - Temporary Facilities and Controls.
- J. Section 015100 - Temporary Utilities
- K. Section 015213 - Field Offices and Sheds.
- L. Section 016000 - Product Requirements.
- M. Section 017000 - Execution and Closeout Requirements.
- N. Section 017800 - Closeout Submittals.
- O. Bidding Requirements, Proposals and Contract Forms (**Addendum 1**)
- P. Division 1 – Specifications (**Addendum 1**)
- Q. General Provisions (**Addendum 1**)

PART II – DIVISION OF WORK

2.1 ALL PRIME CONTRACTS

- A. The following requirements apply to all prime contracts. The requirement below must be included in bidding any or all the proposal items.
 - 1. All existing conditions must be verified in the field. The Owner takes no responsibility for actual conditions found deviating from the drawings. If existing condition interferes with Contract Work, Contractor is responsible to eliminate the condition.
 - 2. The work associated with this contract involves working immediately adjacent to the airport, which will remain operational during the project. Extreme care must be taken so that the existing airport operations are not impacted. Any work that may affect the current facility operations will need to be scheduled and approved by Owner prior to commencing work.
 - 3. Extreme care is to be taken to avoid any unplanned interruptions to the existing facilities operations. Any work to be performed that may impact on the operations of the facility will be done on a planned basis utilizing off-shift and weekend hours at the cost of the prime contractors.
 - 4. All work & requirements noted in Part I above.
 - 5. All equipment and materials, fuel, oil, and repairs for equipment utilized in this scope of work.
 - 6. Provide daily clean up of work, staging areas, and private and public roads. Place debris in container(s) provided by the General Construction Contractor. Any hazardous debris shall be handled in strict accordance with all laws and regulations by prime contractors. Contractor must comply with Owner's verbal and written requests to maintain a clean jobsite. Failure to maintain a clean jobsite may lead to a

notice to remedy and potential back charges to cover costs incurred by others to perform cleanup efforts.

7. All testing as required by specification and/or local code. Steel, soil, concrete, masonry and pavement testing is by others. **(Addendum 1)**
8. Provide all scaffolding, fall protection, hoisting, and any other labor, material, or equipment necessary to complete this scope of work.
9. All labor and material to provide weather protection required to perform the work and protect the finished work.
10. Maintenance of all staging areas as it pertains to this scope of work.
11. Compliance with the Airport site specific safety policies.
12. Attend a pre-installation meeting as indicated in the project drawings and specifications or as required by Engineer.
13. Attend meetings as described in Specification Section 013000 – Administrative Requirements.
14. All requirements on Drawing GN-01 General Notes.
15. Obtain all permits and coordinate all required inspections.
16. Cleanup, removal, and cost of any hazardous materials, oil contaminated materials, spills, or leaks.
17. Protect their own work as well as the work of others when performing this scope of work.
18. Provide temporary power for the specific work of the contractor and contractor's subcontractors.
19. Provide temporary lighting to meet all OSHA requirements and provide sufficient light for completion of work by all trades.
20. Sub-metering for all temporary electric used during construction.
21. On-site storage for tools and materials will be provided by the prime contractors. A logistics plan for staging and storing will be developed between the prime contractors and Owner. If the prime contractors require additional road access, lay down, or storage space beyond what is indicated on the drawings, it will be at their own expense.
22. Use the designated roads and gates when entering and exiting the jobsite.
23. Comply with OSHA requirements for personal and job site safety pertaining to their specific scope of work.
24. Provide schedules in accordance with Specification Section 013216 entitled Construction Progress Schedule.
25. Repair any damage to site-specific Storm Water Pollution Prevention Plan work.
26. All water, electric, phone, data, costs for wiring, equipment, piping, etc., are the responsibility of each individual Contractor for construction trailer services unless specifically noted.
27. The building permit by Owner. Any special permits are the responsibility of the prime contractors.

28. Submit a list of daily on-site employees on monthly basis to Resident Project Representative.
29. Provide up-to-date Insurance Certificates before starting work on site. Contractor is required to provide updated certificates prior to expiration or cancellation of the previous certificate.
30. Unless otherwise specifically noted, provide all cutting and patching to allow for the completion of their work. All patching must restore the original finish to as good or better condition.
31. Provide temporary utilities, equipment and material storage, vehicle parking, field office and site maintenance as described in Section 015000 Temporary Facilities and Controls.
32. Submit daily work reports to Resident Project Representative in email format including number of personnel working, subcontractors working on site and number of subcontractor personnel, work completed, any issues that prevented work from being completed as scheduled, equipment on site, and weather conditions.
33. Coordination with the Owner for Owner installed work.

2.2 GENERAL CONSTRUCTION CONTRACT

- A. In addition to the requirements for All Prime Contracts described above, furnish and install all labor, material, supervision, engineering, administration, project management, equipment, layout, deliveries, trucking, hoisting, supplies, mock-ups, rigging, shop drawings, submittals, and all other items related and required to complete all Work in accordance with the Contract Documents and all applicable codes, laws, and regulations having jurisdiction.
- B. The Contractor represents they have expertise in the performance of work and assure all systems to be complete, functional, and installed in accordance with the best practices consistent with premium quality material and workmanship. The Scope of Work includes, but is not limited to the following:
 1. All work shown and described in the Drawings List as follows:
 - a. CS01-Construction Safety and Phasing Plan
 - b. CS02-Construction Safety and Phasing Plan Details
 - c. UT01-Site and Utility Plan
 - d. DT-01-Site and Utility Details
 - e. DT-02 Site and Utility Details
 - f. A001-Life Safety Floor Plan Diagram & Code Compliance Information
 - g. A100-First Level Floor Plan
 - h. A101-Mezzanine Level Floor Plan
 - i. A102-Roof Plan & Details
 - j. A103-First Level Reflected Ceiling Plan
 - k. A104 -Mezzanine Level Reflected Ceiling Plan

- l. A200-Exterior Elevations
 - m. A300-Building Sections
 - n. A301-Wall Section, Details
 - o. A400-Interior Elevations, Partition Types, Schedules
 - p. S001-Standard Notes
 - q. S002-Standard Notes
 - r. S003-Typical Details
 - s. S004-Typical Details
 - t. S101-Foundation Plan
 - u. S102-Mezzanine Plan
 - v. S201-Foundation Sections
 - w. S202-Mezzanine Sections
 - x. S301-Brace Elevations
 - y. S501-Pier Details
2. All work required and described specifications sections and Divisions as below. See Table of Contents for the listing of specifications in each Division.
 - a. Special Provision 2 – Construction Safety and Phasing Plan
 - b. Division 03 – Concrete in its entirety.
 - c. Division 04 – Masonry in its entirety.
 - d. Division 05 – Metals in its entirety.
 - e. Division 06 – Woods, Plastics, and Composites in its entirety.
 - f. Division 07 – Thermal and Moisture Protection in its entirety.
 - g. Division 08 – Openings in its entirety.
 - h. Division 09 – Finishes in its entirety.
 - i. Division 13 – Special Construction in its entirety.
 - j. Division CIVIL – Civil specifications
3. Contractor is responsible for all layout, survey, and elevations to perform the scope of work detailed in this section (Part II – Division of Work).
4. Any dust control and street cleaning that may be required by Contractor's use of the site.
5. Contractor shall provide all flagmen, traffic control, and coordinate deliveries around local peak traffic periods.
6. Contractor will provide all necessary trash removal for the site for all prime contractors.
7. Please note the following comments as related to the "Prime Contract" scope of work:

- a. All required engineering and design as it applies to this scope of work.
 - b. Specification section 015000 Temporary Facilities and Controls specifies items to be provided.
8. Contractor is responsible to disconnect, drain, cap, and otherwise make safe for demolition all utilities.
 9. Contractor will be required to adhere to all FAA-mandated crane identification and operational procedures to ensure the safe and efficient travel of air traffic and aircraft navigational aids.
 - ~~10. Coordination with NY State Electric and Gas (NYSEG) to provide new gas service to the new building. (Addendum 1)~~
 - ~~11. Coordination with National Grid to provide service to new hangar building. (Addendum 1)~~

2.3 PLUMBING CONSTRUCTION CONTRACT

- A. In addition to the requirements for All Prime Contractors described above, furnish and install all labor, material, supervision, engineering, administration, project management, equipment, layout, deliveries, trucking, hoisting, supplies, mock-ups, rigging, shop drawings, submittals, and all other items related and required to complete all Work in accordance with the Contract Documents and all applicable codes, laws, and regulations having jurisdiction.
- B. The Contractor represents they have expertise in the performance of work and assure all systems to be complete, functional, and installed in accordance with the best practices consistent with premium quality material and workmanship. The Scope of Work includes, but is not limited to the following:
 1. All work shown and described in the Drawings List as follows:
 - a. P000-Plumbing General Notes and Schedules
 - b. P100-First Level Floor Plan Sub Slab Sanitary
 - c. P101-Plumbing First Floor Hangar Trench
 2. Note the specification of the plumbing work on the drawings. No separate Division 22 specifications are provided.
 3. Coordination with General Construction Contractor for installation of sanitary and water services.

2.4 MECHANICAL CONSTRUCTION CONTRACT

- A. In addition to the requirements for All Prime Contractors described above, furnish and install all labor, material, supervision, engineering, administration, project management, equipment, layout, deliveries, trucking, hoisting, supplies, mock-ups, rigging, shop drawings, submittals, and all other items related and required to complete all Work in accordance with the Contract Documents and all applicable codes, laws, and regulations having jurisdiction.
- B. The Contractor represents they have expertise in the performance of work and assure all systems to be complete, functional, and installed in accordance with the best practices

consistent with premium quality material and workmanship. The Scope of Work includes, but is not limited to the following:

1. All work shown and described in the Drawings List as follows:
 - a. M000-Legend and Notes
 - b. M001-Mechanical Schedules
 - c. M100-First Level Floor Plan
 - d. M101-Mezzanine Plan
 - e. M200-Mechanical Details
 - f. M201-HP-1 Piping and Wiring Detail
 - g. M202-HP-2 Piping and Wiring Detail
 - h. M300-Mechanical Controls
2. All work required and described specifications sections and Divisions as below. See Table of Contents for the listing of specifications in each Division.
 - a. Division 23 – Heating, Ventilation, and Air-Conditioning (HVAC)
3. Coordination with General, Plumbing and Electrical Construction Contractors for the installation of related work. **(Addendum 1)**
4. Coordination with NY State Electric and Gas (NYSEG) to provide new gas service to the new building. **(Addendum 1)**

2.5 ELECTRICAL CONSTRUCTION CONTRACT

- A. In addition to the requirements for All Prime Contractors described above, furnish and install all labor, material, supervision, engineering, administration, project management, equipment, layout, deliveries, trucking, hoisting, supplies, mock-ups, rigging, shop drawings, submittals, and all other items related and required to complete all Work in accordance with the Contract Documents and all applicable codes, laws, and regulations having jurisdiction.
- B. The Contractor represents they have expertise in the performance of work and assure all systems to be complete, functional, and installed in accordance with the best practices consistent with premium quality material and workmanship. The Scope of Work includes, but is not limited to the following:
 1. All work shown and described in the Drawings List as follows:
 - a. E000-Electrical Notes & Legend
 - b. E101- Floor Power Plans
 - c. E102-RCP Power Plans
 - d. E103-Rooftop Power Plan
 - e. E104-Lighting Plans
 - f. E105-Normal Photometric Calcs
 - g. E106-EM Photometric Calcs
 - h. E400-Lightning Protection Plan

- i. E401-Lightning Details
 - j. E600-Electrical One-Line Diagram
 - k. E601-Panel Schedules
 - l. E602-Panel Schedules
 - m. E700-Electrical Details
2. All work required and described specifications sections and Divisions as below. See Table of Contents for the listing of specifications in each Division.
- n. Division 26 – Electrical
3. Coordination with National Grid to provide service to new hangar building.
(Addendum 1)

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 011000

SECTION 015000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL**1.01 SECTION INCLUDES**

- A. Temporary utilities.
- B. Temporary sanitary facilities.
- C. Temporary Controls: Barriers, enclosures, and fencing.
- D. Vehicular access and parking.
- E. Waste removal facilities and services.
- F. Field offices.
- G. Temporary fire watch.
- H. Site Maintenance.

1.02 RELATED REQUIREMENTS

- A. Section 015100 – Temporary Utilities.

1.03 TEMPORARY UTILITIES - SEE SECTION 015100

- ~~BA. Existing facilities may not be used.~~
- ~~CB. New permanent facilities may be used.~~ Refer to Section 015100 (**Addendum 1**)

1.04 TEMPORARY COMMUNICATION

- A. Cost: By Prime Contractor.

1.05 BARRIERS – BY GENERAL CONSTRUCTION CONTRACTOR

- A. Provide and maintain barriers and signage to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide and maintain barricades and covered walkways required by governing authorities for public rights-of-way and for safe public access to existing building.
- C. Provide exterior fencing and barriers to separate the work site from the active aviation apron.
- D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.06 FENCING – BY GENERAL CONSTRUCTION CONTRACTOR

- A. Construction: Commercial and maintain grade chain link fence.
- B. Provide and maintain a swing gate as shown on drawings with chain and lock to access the secure area. Coordinate gate, lock, and badging with airport and other contractors.

1.07 EXTERIOR ENCLOSURES– BY GENERAL CONSTRUCTION CONTRACTOR

- A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.08 INTERIOR ENCLOSURES

- A. Not used

1.09 VEHICULAR ACCESS AND PARKING – ALL CONTRACTORS

- A. Coordinate access and haul routes with Owner.
- B. Provide and maintain access to fire hydrants, free of obstructions.
- C. Provide means of removing mud from vehicle wheels before entering streets. Mud removal area to be used by All Contractors.
- D. Contractor employees shall park in the designated Staging Area shown on the Contract Plans.
- E. Existing parking areas may not be used for construction parking, unless Owner authorizes.

1.10 WASTE REMOVAL – BY GENERAL CONSTRUCTION CONTRACTOR

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition. Waste facilities/dumpsters to be provided for all Contractors.
- B. Provide containers with lids throughout construction area for use by all Contractors. Trash containers to be emptied to site dumpsters daily.
- C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.11 ENGINEER FIELD OFFICES

- A. Not used.

1.12 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS - ALL CONTRACTORS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition.
- D. Restore new permanent facilities used during construction to specified condition.

1.13 FIRE PROTECTION - ALL CONTRACTORS

- A. All Contractors shall be responsible for providing their own temporary fire watch when work results require a fire watch.
- B. All Contractors to provide and maintain fire extinguishers throughout construction area to meet OSHA and site specific safety plan requirements.

1.14 SITE MAINTENANCE – BY GENERAL CONSTRUCTION CONTRACTOR

- A. Lawn maintenance: By Owner.
- B. Dust Control. Provide water truck to eliminate dust from work areas outside the building.
- B. Provide snow removal, sanding, and salting to provide a safe work environment for Contractors and allow access to work areas, staging, trailers, etc.

1.15 TEMPORARY SANITARY FACILITIES – BY GENERAL CONSTRUCTION CONTRACTOR

- A. Provide and maintain temporary toilet facilities for all contractors.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 015000

SECTION 015100
TEMPORARY UTILITIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary Utilities: Electricity, lighting, heat, ventilation, and water.

1.02 RELATED REQUIREMENTS

- A. Section 015000 - Temporary Facilities and Controls:
1. Temporary sanitary facilities required by law.

1.03 TEMPORARY ELECTRICITY – ALL CONTRACTORS

- A. Responsibilities: ~~Costs for utility company invoices are by all Contractors, as required for the work.~~ Installation, maintenance and removal of all temporary electrical systems service as summarized below is to be accomplished by the Electrical Contractor. Electrical Contractor to provide submeters for each of the General Construction Contractor, Mechanical Contractor and Plumbing Contractor. Electrical Contractor to coordinate with the utility company. **(Addendum 1)**
- B. Electrical Contractor to ~~Connect to~~ connect to the existing utility (National Grid) electric service. **(Addendum 1)**
- C. All contractors to reimburse electric utility service provider. **(Addendum 1)**

1.04 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES – ALL CONTRACTORS BY GENERAL CONSTRUCTION CONTRACTOR (Addendum 1)

- A. Provide and maintain incandescent lighting for construction operations to achieve a minimum lighting level of 2 watt/sq ft.
- B. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
- C. Maintain lighting and provide routine repairs.

1.05 TEMPORARY HEATING – BY GENERAL CONSTRUCTION CONTRACTOR

- A. Cost of Energy: By Prime Contractor.
- B. Provide heating devices and heat as needed to maintain specified conditions for construction operations.
- C. Maintain minimum ambient temperature of 50 degrees F in areas where construction is in progress, unless indicated otherwise in specifications.

1.06 TEMPORARY VENTILATION – BY GENERAL CONSTRUCTION CONTRACTOR

- A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent the accumulation of dust, fumes, vapors or gases.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 015100

**SECTION 03 3000
CAST-IN-PLACE CONCRETE**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete formwork.
- B. Concrete building frame members.
- C. Concrete for composite floor construction.
- D. Elevated concrete slabs.
- E. Floors and slabs on grade.
- F. Concrete shear walls and foundation walls.
- G. Concrete foundations and anchor bolts for pre-engineered building.
- H. Concrete reinforcement.
- I. Joint devices associated with concrete work.
- J. Miscellaneous concrete elements, including equipment pads and equipment pits.
- K. Concrete curing.

1.02 REFERENCE STANDARDS

- A. ACI CODE-318 - Building Code Requirements for Structural Concrete and Commentary; 2019 (Reapproved 2022).
- B. ACI PRC-211.1 - Selecting Proportions for Normal-Density and High Density-Concrete - Guide; 2022.
- C. ACI PRC-302.1 - Guide to Concrete Floor and Slab Construction; 2015.
- D. ACI PRC-304 - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000 (Reapproved 2009).
- E. ACI PRC-306 - Guide to Cold Weather Concreting; 2016.
- F. ACI PRC-308 - Guide to External Curing of Concrete; 2016.
- G. ACI PRC-347 - Guide to Formwork for Concrete; 2014 (Reapproved 2021).
- H. ACI SPEC-117 - Specification for Tolerances for Concrete Construction and Materials; 2010 (Reapproved 2015).
- I. ACI SPEC-301 - Specifications for Concrete Construction; 2020.
- J. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2025.
- K. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2024a.
- L. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2024.
- M. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 50 mm [2 in.] Cube Specimens); 2024.
- N. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2020.
- O. ASTM C150/C150M - Standard Specification for Portland Cement; 2024.
- P. ASTM C157/C157M - Standard Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete; 2017.
- Q. ASTM C173/C173M - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method; 2024a.
- R. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2024.

- S. ASTM C476 - Standard Specification for Grout for Masonry; 2023.
- T. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2024.
- U. ASTM C595/C595M - Standard Specification for Blended Hydraulic Cements; 2021.
- V. ASTM C618 - Standard Specification for Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2025a.
- W. ASTM C881/C881M - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete; 2020a.
- X. ASTM C1602/C1602M - Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete; 2022.

1.03 SUBMITTALS

- A. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.
 - 1. For curing compounds, provide data on method of removal in the event of incompatibility with floor covering adhesives.
- B. Mix Design: Submit proposed concrete mix design.
- C. Fabrication Shop Drawings: Detailed drawings indicating reinforcement sizes, locations and cut lengths
- D. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.
- E. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.04 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI SPEC-301 and ACI CODE-318.
 - 1. Maintain one copy of each document on site.
- B. Follow recommendations of ACI PRC-305 when concreting during hot weather.
- C. Follow recommendations of ACI PRC-306 when concreting during cold weather.
- D. For slabs indicated to receive membrane-forming, moisture emission-reducing, curing and sealing compound, do not proceed with application unless manufacturer's representative is present for every day of placement.

PART 2 PRODUCTS

2.01 FORMWORK

- A. Formwork Design and Construction: Comply with guidelines of ACI PRC-347 to provide formwork that will produce concrete complying with tolerances of ACI SPEC-117.
- B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
 - 1. Form Facing for Exposed Finish Concrete: Contractor's choice of materials that will provide smooth, stain-free final appearance.
 - 2. Form Facing for Exposed Finish Concrete: Steel.
 - 3. Earth Cuts: Do not use earth cuts as forms for vertical surfaces. Natural rock formations that maintain a stable vertical edge may be used as side forms.
 - 4. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.
 - 5. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches of concrete surface.

2.02 REINFORCEMENT MATERIALS

- A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
 - 1. Type: Deformed billet-steel bars.

2. Finish: Unfinished, unless otherwise indicated.
- B. Reinforcement Accessories:
1. Tie Wire: Annealed, minimum 16 gauge, 0.0508 inch.
 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.
 3. Provide stainless steel, galvanized, plastic, or plastic coated steel components for placement within 1-1/2 inches of weathering surfaces.
 4. Coupler Systems: Mechanical devices for splicing reinforcing bars; capable of developing full steel reinforcing design strength in tension and compression.

2.03 CONCRETE MATERIALS

- A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
1. Acquire cement for entire project from same source.
- B. Fine and Coarse Aggregates: ASTM C33/C33M.
1. Acquire aggregates for entire project from same source.
- C. Fly Ash: ASTM C618, Class C or F.

2.04 ADMIXTURES

- A. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
- B. Air Entrainment Admixture (exterior exposed concrete only): ASTM C260/C260M.
- C. High Range Water Reducing Admixture: ASTM C494/C494M Type F.
- D. Retarding Admixture: ASTM C494/C494M Type B.
- E. Shrinkage Reducing Admixture: For on-site production of concrete with Type S cement in accordance with ASTM C494/C494M.

2.05 BONDING AND JOINTING PRODUCTS

- A. Latex Bonding Agent: Non-redispersable acrylic latex, complying with ASTM C1059/C1059M, Type II.
- B. Epoxy Bonding System:
1. Complying with ASTM C881/C881M and of Type required for specific application.
- C. Waterstops: PVC, complying with COE CRD-C 572.
- D. Slab Isolation Joint Filler: 1/2-inch thick, height equal to slab thickness, with removable top section forming 1/2-inch deep sealant pocket after removal.
- E. Slab Construction Joint Devices: Combination keyed joint form and screed, galvanized steel, with rectangular or round knockout holes for conduit or rebar to pass through joint form at 6 inches on center; ribbed steel stakes for setting.

2.06 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI PRC-211.1 recommendations.
1. Replace as much Portland cement as possible with fly ash, ground granulated blast furnace slag, silica fume, or rice hull ash as is consistent with ACI recommendations.
- B. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI SPEC-301.
1. For trial mixtures method, employ independent testing agency acceptable to Architect for preparing and reporting proposed mix designs.
- C. Admixtures: Add acceptable admixtures as recommended in ACI PRC-211.1 and at rates recommended or required by manufacturer.
- D. Normal Weight Concrete:
1. Compressive Strength: As indicated on drawings
 2. Fly Ash Content: Maximum 15 percent of cementitious materials by weight.

3. Water-Cement Ratio: Maximum 40 percent by weight.
4. Total Air Content: 4 percent, determined in accordance with ASTM C173/C173M.
5. Maximum Slump: 3 inches.
6. Maximum Aggregate Size: As indicated on drawings

PART 3 EXECUTION

3.01 PREPARATION

- A. Formwork: Comply with requirements of ACI SPEC-301. Design and fabricate forms to support all applied loads until concrete is cured and for easy removal without damage to concrete.
- B. Prepare existing concrete surfaces to be repaired according to ICRI 310.2R
- C. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent in accordance with bonding agent manufacturer's instructions.
 1. Use epoxy bonding system for bonding to damp surfaces, for structural load-bearing applications, and where curing under humid conditions is required.
 2. Use latex bonding agent only for non-load-bearing applications.
- D. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Comply with ASTM E1643. Lap joints minimum 6 inches. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.

3.02 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

- A. Comply with requirements of ACI SPEC-301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

3.03 PLACING CONCRETE

- A. Place concrete in accordance with ACI PRC-304.
- B. Place concrete for floor slabs in accordance with ACI PRC-302.1.
- C. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.
- D. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.04 SLAB JOINTING

- A. Locate joints as indicated on drawings.
- B. Anchor joint fillers and devices to prevent movement during concrete placement.
- C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.

3.05 CURING AND PROTECTION

- A. Comply with requirements of ACI PRC-308. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
- C. Surfaces Not in Contact with Forms:
 1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than seven days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
 2. Final Curing: Begin after initial curing but before surface is dry.

END OF SECTION

SECTION 04 2000 UNIT MASONRY

PART 1 GENERAL

1.01 REFERENCE STANDARDS

- A. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2025.
- B. ASTM C90 - Standard Specification for Dry-Cast Loadbearing Concrete Masonry Units; 2024a.
- C. ASTM C91/C91M - Standard Specification for Masonry Cement; 2025.
- D. ASTM C140/C140M - Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units; 2025.
- E. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar; 2025.
- F. ASTM C150/C150M - Standard Specification for Portland Cement; 2024.
- G. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2025a.
- H. ASTM C476 - Standard Specification for Grout for Masonry; 2023.
- I. ASTM C1714/C1714M - Standard Specification for Preblended Dry Mortar Mix for Unit Masonry; 2019a.
- J. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2025.
- K. ASTM D4637/D4637M - Standard Specification for EPDM Sheet Used in Single-Ply Roof Membrane; 2015, with Editorial Revision (2022).
- L. ASTM E11 - Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves; 2024.
- M. ASTM E154/E154M - Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover; 2008a (Reapproved 2025).
- N. ASTM E514/E514M - Standard Test Method for Water Penetration and Leakage Through Masonry; 2020.
- O. BIA Technical Notes No. 7 - Water Penetration Resistance – Design and Detailing; 2017.
- P. BIA Technical Notes No. 28B - Brick Veneer/Cold-Formed Steel Framed Walls; 2025.
- Q. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2022, with Errata (2024).

1.02 SUBMITTALS

- A. Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, and masonry accessories.

1.03 QUALITY ASSURANCE

- A. Comply with provisions of TMS 402/602, except where exceeded by requirements of Contract Documents.

PART 2 PRODUCTS

2.01 CONCRETE MASONRY UNITS

- A. Concrete Block: Comply with referenced standards and as follows:
 - 1. Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depth of 8 inches.
 - 2. Load-Bearing Units: ASTM C90, normal weight.
 - a. Solid block, as indicated.

2.02 MORTAR AND GROUT MATERIALS

- A. Masonry Cement: ASTM C91/C91M, Type N.

2.03 REINFORCEMENT AND ANCHORAGE

- A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi), deformed billet bars; galvanized.

2.04 MORTAR AND GROUT MIXING

- A. Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.
 - 1. Interior, loadbearing masonry: Type N.
- B. Grout: ASTM C476; consistency required to fill completely volumes indicated for grouting; fine grout for spaces with smallest horizontal dimension of 2 inches or less; coarse grout for spaces with smallest horizontal dimension greater than 2 inches.

PART 3 EXECUTION

3.01 COLD AND HOT WEATHER REQUIREMENTS

- A. Comply with requirements of TMS 402/602 or applicable building code, whichever is more stringent.

3.02 COURSING

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
- C. Concrete Masonry Units:
 - 1. Bond: Running.
 - 2. Coursing: One unit and one mortar joint to equal 8 inches.
 - 3. Mortar Joints: Concave.

3.03 PLACING AND BONDING

- A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
- B. Lay hollow masonry units with face shell bedding on head and bed joints.
- C. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.

3.04 REINFORCEMENT AND ANCHORAGE - GENERAL, SINGLE WYTHE MASONRY, AND CAVITY WALL MASONRY

- A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches on center.
- B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
- C. Place continuous joint reinforcement in first and second joint below top of walls.
- D. Embed longitudinal wires of joint reinforcement in mortar joint with at least 5/8 inch mortar cover on each side.
- E. Lap joint reinforcement ends minimum 6 inches.
- F. Reinforce stack bonded unit joint corners and intersections with strap anchors 16 inches on center.

3.05 GROUTED COMPONENTS

- A. Lap splices minimum 24 bar diameters.
- B. Support and secure reinforcing bars from displacement. Maintain position within 1/2 inch of dimensioned position.
- C. Place and consolidate grout fill without displacing reinforcing.

END OF SECTION

**SECTION 05 1200
STRUCTURAL STEEL FRAMING**

PART 1 GENERAL

1.01 REFERENCE STANDARDS

- A. AISC (MAN) - Steel Construction Manual; 2023, with Errata (2025).
- B. AISC 303 - Code of Standard Practice for Steel Buildings and Bridges; 2022, with Errata (2025).
- C. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.
- D. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2024.
- E. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.
- F. ASTM A242/A242M - Standard Specification for High-Strength Low-Alloy Structural Steel; 2024.
- G. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2021.
- H. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2023.
- I. ASTM A563/A563M - Standard Specification for Carbon and Alloy Steel Nuts (Inch and Metric); 2021a.
- J. ASTM A992/A992M - Standard Specification for Structural Steel Shapes; 2022.
- K. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2023.
- L. ASTM F436/F436M - Standard Specification for Hardened Steel Washers Inch and Metric Dimensions; 2024.
- M. ASTM F1554 - Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength; 2020.
- N. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2020.
- O. AWS B2.1/B2.1M - Specification for Welding Procedure and Performance Qualification; 2021, with Errata (2023).
- P. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2025.
- Q. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel AC172; 2019, with Editorial Revision (2025).
- R. RCSC (HSBOLT) - Specification for Structural Joints Using High-Strength Bolts; Research Council on Structural Connections; 2020.

1.02 SUBMITTALS

- A. Shop Drawings:
 - 1. Indicate profiles, sizes, spacing, locations of structural members, openings, attachments, and fasteners.
 - 2. Connections not detailed.
 - 3. Indicate cambers and loads.
 - 4. Indicate welded connections with AWS A2.4 welding symbols. Indicate net weld lengths.
- B. Manufacturer's Mill Certificate: Certify that products meet or exceed specified requirements.
- C. Mill Test Reports: Indicate structural strength, destructive test analysis and non-destructive test analysis.

- D. Fabricator Test Reports: Comply with ASTM A1011/A1011M.
- E. Materials Test Reports: Submit independent test results or engineered performance analysis of structural thermal-break pad performance in bearing or slip-critical connections where shear and moment loads are applied.
- F. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before start of scheduled welding work.
- G. Designer's Qualification Statement.
- H. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is accredited under IAS AC172.

1.03 QUALITY ASSURANCE

- A. Fabricate structural steel members in accordance with AISC (MAN) "Steel Construction Manual."
- B. Fabricator: Company specializing in performing the work of this section with minimum 5 years of documented experience.
- C. Welder Qualifications: Welding processes and welding operators qualified in accordance with AWS D1.1/D1.1M and no more than 12 months before start of scheduled welding work.
- D. Fabricator Qualifications: A qualified steel fabricator that is accredited by the International Accreditation Service (IAS) Fabricator Inspection Program for Structural Steel in accordance with IAS AC172.
- E. Erector: Company specializing in performing the work of this section with minimum 5 years of documented experience.
- F. Design connections not detailed on drawings under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State in which the Project is located.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Steel Angles and Plates: ASTM A36/A36M.
- B. Steel W Shapes and Tees: ASTM A992/A992M.
- C. Rolled Steel Structural Shapes: ASTM A992/A992M.
- D. Steel Shapes, Plates, and Bars: ASTM A242/A242M high-strength, corrosion-resistant structural steel.
- E. Cold-Formed Structural Tubing: ASTM A500/A500M, Grade B.
- F. Pipe: ASTM A53/A53M, Grade B, Finish black.
- G. Structural Bolts and Nuts: Carbon steel, ASTM A307, Grade A and galvanized in compliance with ASTM A153/A153M Class C.
- H. Unheaded Anchor Rods: ASTM F1554, Grade 36, plain, with matching ASTM A563/A563M nuts and ASTM F436/F436M Type 1 washers.
- I. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
- J. Grout: ASTM C1107/C1107M; Non-shrink; premixed compound consisting of non-metallic aggregate, cement, water reducing and plasticizing agents.
 - 1. Minimum Compressive Strength at 48 Hours: 2,000 pounds per square inch.
 - 2. Minimum Compressive Strength at 28 Days: 7,000 pounds per square inch.
- K. Shop and Touch-Up Primer: Fabricator's standard, complying with VOC limitations of authorities having jurisdiction.

2.02 FABRICATION

- A. Shop fabricate to greatest extent possible.

- B. Continuously seal joined members by continuous welds. Grind exposed welds smooth.
- C. Fabricate connections for bolt, nut, and washer connectors.
- D. Develop required camber for members.

2.03 FINISH

- A. Shop prime structural steel members. Do not prime surfaces that will be fireproofed, field welded, in contact with concrete, or high strength bolted.

PART 3 EXECUTION

3.01 ERECTION

- A. Erect structural steel in compliance with AISC 303.

3.02 FIELD QUALITY CONTROL

- A. High-Strength Bolts: Provide testing and verification of field-bolted connections in accordance with RCSC (HSBOLT) "Specification for Structural Joints Using High-Strength Bolts," testing at least 10 percent of bolts at each connection.

END OF SECTION

**SECTION 05 4000
COLD-FORMED METAL FRAMING**

PART 1 GENERAL

1.01 REFERENCE STANDARDS

- A. AISI S100 - North American Specification for the Design of Cold-Formed Steel Structural Members; 2016, with Supplement (2020).
- B. AISI S201 - North American Standard for Cold-Formed Steel Framing - Product Data; 2017.
- C. AISI S240 - North American Standard for Cold-Formed Steel Structural Framing; 2015, with Errata (2020).
- D. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.
- E. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.
- F. ASTM A1003/A1003M - Standard Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members; 2015.
- G. ASTM C1007 - Standard Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories; 2020 (Reapproved 2024).
- H. AWS B2.1/B2.1M - Specification for Welding Procedure and Performance Qualification; 2021, with Errata (2023).
- I. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.02 SUBMITTALS

- A. Product Data: Provide data on cold-formed steel structural members; include material descriptions and base steel thickness.
- B. Product Data: Provide manufacturer's data on factory-made connectors and mechanical fasteners, showing compliance with requirements.
- C. Shop Drawings: Indicate component details, framed openings, bearing, anchorage, loading, welds, and type and location of fasteners, and accessories or items required of related work.
- D. Design Data:
 - 1. Shop drawings signed and sealed by a professional structural engineer.
 - 2. Design calculations sufficient to demonstrate compliance with design criteria; signed and sealed by a professional structural engineer.
 - 3. Details and calculations for factory-made connectors, signed and sealed by a professional structural engineer.
- E. Manufacturer Reports: Include research reports indicating compliance with applicable building codes.
- F. Designer's Qualification Statement.
- G. Manufacturer's Qualification statement.
- H. Testing Agency Qualification Statement.
- I. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated no more than 12 months before the start of scheduled welding work.
- J. SSMA Manufacturer Qualification: Submit documentation of manufacturer association membership.
- K. SSFSA Manufacturer Qualification: Submit documentation of manufacturer association membership.
- L. Testing Agency Qualification statement.

1.03 QUALITY ASSURANCE

- A. Designer Qualifications: Design framing system under direct supervision of a professional structural engineer experienced in designing this work and licensed in the State in which the Project is located.

PART 2 PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Design Requirements: Design cold-formed framing systems, components and connectors to withstand specified design loads in compliance with ICC (IBC), ASCE 7, AISI S100, and AISI S240.
- B. Regulatory Requirements: Comply with applicable building code criteria for loads, including seismic loads.
- C. Design Criteria: In accordance with applicable codes.
 - 1. Floor Live Loads:
 - a. Minimum Uniformly Distributed: 125 psf.
 - b. Minimum Concentrated: 1,000 lbs.
 - 2. Live load deflection meeting the following, unless otherwise indicated:
 - a. Floors: Maximum vertical deflection under live load of 1/480 of span.
 - b. Roofs: Maximum vertical deflection under live load of 1/240 of span.
 - c. Exterior Walls: Maximum horizontal deflection under wind load of 1/180 of span.
 - d. Design nonaxial loadbearing framing to accommodate not less than 1/2 in vertical deflection.
 - 3. Seismic Criteria: Comply with ASCE 7 and with local authorities having jurisdiction:
 - 4. Able to tolerate movement of components without damage, failure of joint seals, undue stress on fasteners, or other detrimental effects when subject to seasonal or cyclic day/night temperature ranges.
 - 5. Able to accommodate construction tolerances, deflection of building structural members, and clearances of intended openings.

2.02 MATERIALS

- A. Material and Product Requirements Criteria: AISI S201.
- B. Steel Sheet: ASTM A1003/A1003M, subject to the ductility limitations indicated in AISI S240.
 - 1. Structural Grade: As required to meet design criteria.
 - 2. Corrosion Protection Coating Designation: CP 60 in accordance with AISI S240.

2.03 STRUCTURAL FRAMING COMPONENTS

- A. Wall Studs and Track Sections: AISI S240; c-shaped studs and u-shaped track sections in stud-matching nominal width and compatible height.
 - 1. Structural Grade, Corrosion Protection, Thickness, Depth, and Gauge as indicated by CFS engineer & detailer
 - 2. Provide components fabricated from ASTM A1011/A1011M Designation SS (structural steel).
- B. Jamb Studs: AISI S240; manufactured, engineered, c-shaped with wide flanges, designed to replace conventional double-stud framing at openings.
 - 1. Structural Grade, Corrosion Protection, Thickness, Depth, and Gauge as indicated by CFS engineer & detailer
- C. Headers: AISI S240; manufactured, engineered one-member or two-member assemblies, with wide flanges, designed to replace conventional box or nested header framing at openings.
 - 1. Structural Grade, Corrosion Protection, Thickness, Depth, and Gauge as indicated by CFS engineer & detailer
 - 2. Jamb Mounting Clips: Manufacturer's standard.
 - 3. Cripple Stud Clips: Manufacturer's standard.
 - 4. Products:

- D. Joists: AISI S240; manufactured, engineered open-web steel joists.
 - 1. Structural Grade, Corrosion Protection, Thickness, Depth, and Gauge as indicated by CFS engineer & detailer

2.04 CONNECTIONS

- A. Performance Requirements: Provide connections in compliance with requirements of AISI S240.
- B. Steel Sheet: ASTM A1003/A1003M, subject to the ductility limitations indicated in AISI S240.
 - 1. Structural Grade: As required to meet design criteria.
 - 2. Corrosion Protection Coating Designation: CP 60 in accordance with AISI S240.
- C. Structural Performance: Maintain load and movement capacity required by applicable building code and specified design criteria.
- D. Movement Connections: Provide mechanical anchorage devices that accommodate movement using slotted holes, shouldered screws or screws and anti-friction or stepped bushings, while maintaining structural performance of framing. Provide movement connections where indicated on drawings.
- E. Bridging Connections: Provide mechanical load-transferring devices that accommodate wind load torsion and weak axis buckling induced by axial compression loads. Provide bridging connectors where indicated on the drawings.

2.05 MISCELLANEOUS CONNECTIONS

- A. Self-Drilling, Self-Tapping Screws, Bolts, Nuts and Washers: Hot-dip galvanized per ASTM A153/A153M.
- B. Anchorage Devices: Powder actuated.
- C. Welding: Comply with AWS D1.1/D1.1M.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

- A. Install structural members and connections in compliance with ASTM C1007.

3.02 INSTALLATION OF STUDS

- A. Install wall studs plumb and level.

3.03 INSTALLATION OF JOISTS AND PURLINS

- A. Install framing components in accordance with manufacturer's instructions.
- B. Place joists at 12 inches on center; not more than 2 inches from abutting walls, and connect joists to supports using fastener method.

END OF SECTION

**SECTION 133420
METAL BUILDING SYSTEMS (ARCHITECTURAL)**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Metal wall and roof panels including gutters and downspouts.
- B. Exterior doors and windows.

1.02 RELATED REQUIREMENTS

- A. Section 079200 - Joint Sealants: Sealing joints between accessory components and wall system.
- B. Section 081113 - Hollow Metal Doors and Frames.
- C. Section 083300-Lift Strap Bi-Fold Doors

1.03 REFERENCE STANDARDS

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.
- B. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018 (Reapproved 2024).
- C. ASTM C991 - Standard Specification for Flexible Fibrous Glass Insulation for Metal Buildings; 2025a.
- D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2024.
- E. ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials; 2024a.
- F. IAS AC472 - Accreditation Criteria for Inspection Programs for Manufacturers of Metal Building Systems; 2024.
- G. MBMA (MBSM) - Metal Building Systems Manual; 2024.
- H. UL 580 - Standard for Tests for Uplift Resistance of Roof Assemblies; Current Edition, Including All Revisions.

1.04 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on profiles, component dimensions, fasteners and doors & windows.
- C. Shop Drawings: Indicate layout, general construction details, anchors and methods of anchorage, and installations of roof/wall panels, doors/windows, gutters/downspouts, flashings/fascias/trim.
- D. Manufacturer's Qualification Statement: Provide documentation showing metal building manufacturer is accredited under IAS AC472.
- E. Erector's Qualification Statement.
- F. Project Record Documents: Record actual locations of concealed components and utilities.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in the manufacture of products similar to those required for this project.
 - 1. Not less than three years of documented experience.
- B. Erector Qualifications: Company specializing in performing the work of this section with minimum _____ years experience.

1.06 WARRANTY

- A. See Section 017800 - Closeout Submittals for additional warranty requirements.
- B. Correct defective Work within a five year period after Date of Substantial Completion.
- C. Provide five year manufacturer warranty for roofing and wall panels, doors/windows.
 - 1. Include coverage for exterior pre-finished surfaces to cover pre-finished color coat against chipping, cracking or crazing, blistering, peeling, chalking, or fading. Include coverage for weather tightness of building enclosure elements after installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Metal Buildings Systems:
 - 1. Butler Manufacturing Company: www.butlermfg.com/#sle.
 - 2. Ceco Building Systems: www.cecobuildings.com/#sle.
 - 3. MBCI; www.mbc.com/#sle.

2.02 ASSEMBLIES

- A. Wall System: Preformed metal panels of vertical profile, with sub-girt framing/anchorage assembly, insulation, and liner sheets, and accessory components.
- B. Roof System: Preformed metal panels oriented parallel to slope, with sub-girt framing/anchorage assembly and insulation, and accessory components.
- C. Roof Slope: 1 inches in 12 inches (1/12).

2.03 PERFORMANCE REQUIREMENTS

- A. Installed Thermal Resistance of Wall System: R-value of R-13 plus R-13 ci (RSI-value of ____).
- B. Installed Thermal Resistance of Roof System: R-value of R-19 plus R-11 LS (RSI-value of ____).
- C. Provide drainage to exterior for water entering or condensation occurring within wall or roof system.
- D. Permit movement of components without buckling, failure of joint seals, undue stress on fasteners or other detrimental effects, when subject to temperature range of -10 to 120 degrees F (____ degrees C).
- E. Size and fabricate wall and roof systems free of distortion or defects detrimental to appearance or performance.

2.04 MATERIALS - WALLS AND ROOF

- A. Insulation: Batt glass fiber type, faced with reinforced white vinyl, ASTM E84 Class A, flame spread index of 25 or less where exposed, friction fit.
 - 1. Sizes as indicated on the Drawings.
- B. Metal Building Type, Factory Applied, Vapor-Barrier Insulation Facings: Water vapor permeance no greater than 0.10 perm (5.7 ng/(Pa s sq m)) when tested in accordance with ASTM E96/E96M; flame spread index of 25 or less, and smoke developed index of 40 or less when tested in accordance with ASTM E84.
- C. Fasteners: Manufacturer's standard type, galvanized to comply with requirements of ASTM A153/A153M, finish to match adjacent surfaces when exterior exposed.
- D. Sealant: Manufacturer's standard type.
- E. Trim, Closure Pieces, Caps, Flashings, Gutters, Downspouts, Fascias and Infills: Same material, thickness and finish as exterior sheets; brake formed to required profiles.

2.05 COMPONENTS

- A. Doors and Frames: Manufacturer's standard.

1. Exterior Doors/Frames in Metal Building Envelope, only.
- B. Interior Doors and Frames: See Section 081113.
- C. Windows: Manufacturer's standard.
 1. Frame: Aluminum, extruded.
 - a. Thermally broken.
 2. Glazing: 1" thick, insulated.
 - a. Clear & transparent.
 - b. Factory-glazed.
 3. Thermal Resistance: U-factor 0.33.
 4. Color: As selected from the Manufacturer's standard color offering
 5. Manufacturer: A.J. Manufacturing, 905 Series (fixed-pane), High-Performance Thermal Window. www.ajdoor.com.
 - a. Substitutions: See Section 016000-Product Requirements.

2.06 FABRICATION - WALL AND ROOF PANELS

- A. Siding: Minimum 24 gauge metal thickness, PBR profile, ____ inch (____ mm) deep, lapped edges.
- B. Roofing: Minimum 24 gauge metal thickness, PBR profile, lapped edges.
- C. Liner: Minimum 26 gauge metal thickness, V crimped profile, lapped V edges.
- D. Flashings, Closure Pieces, Fascia: Same material and finish as adjacent material, profile to suit system.
- E. Fasteners: To maintain load requirements and weather tight installation, same finish as cladding, non-corrosive type.

2.07 FABRICATION - GUTTERS AND DOWNSPOUTS

- A. Fabricate of same material and finish as roofing metal.
- B. Form gutters and downspouts of Box Eave profile and size indicated to collect and remove water. Fabricate with connection pieces.
- C. Form sections in maximum possible lengths. Hem exposed edges. Allow for expansion at joints.
- D. Fabricate support straps of same material and finish as roofing metal, color as selected.

2.08 FINISHES

- A. Exterior Surfaces of Wall Components and Accessories: Precoated enamel on steel of modified silicone finish, _____ color as selected from manufacturer's standard range.
- B. Interior Surfaces of Wall Components and Accessories: Precoated enamel on steel of modified silicone finish, _____ color as selected from manufacturer's standard range.

PART 3 EXECUTION

3.01 ERECTION - WALL AND ROOF PANELS

- A. Install in accordance with manufacturer's instructions.
- B. Exercise care when cutting prefinished material to ensure cuttings do not remain on finish surface.
- C. Fasten cladding system to structural supports, aligned level and plumb.
- D. Locate end laps over supports. End laps minimum 2 inches (50 mm). Place side laps over bearing.
- E. Provide expansion joints where indicated.
- F. Use exposed fasteners.
- G. Install insulation and vapor retarder utilizing _____ for attachment.

- H. Install sealant and gaskets, providing weather tight installation.

3.02 ERECTION - GUTTERS AND DOWNSPOUTS

- A. Rigidly support and secure components. Join lengths with formed seams sealed watertight. Flash and seal gutters to downspouts.
- B. Apply bituminous paint on surfaces in contact with cementitious materials.
- C. Slope gutters minimum 1/16 inch/ft (____ mm/m).
- D. Install splash pads under each downspout.

3.03 INSTALLATION - ACCESSORY COMPONENTS IN WALL SYSTEM

- A. Install door frames, doors, overhead doors, and windows and glass in accordance with manufacturer's instructions.

3.04 TOLERANCES

- A. Siding and Roofing: 1/8 inch (3 mm) from true position.

END OF SECTION

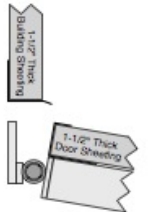
ADDENDUM 1 - CORTLAND COUNTY HANGAR - BASIS OF DESIGN - PROVIDED TO ANSWER QUESTIONS ON DOOR WEIGHT AND LOADS.

Door Width	Door Height	Wdg.	Overall Height	Door Style	Drive Type	Lift Type	Truss	Hinge Style	Tot W - Inches	Tot H - Inches
73'-0.00"	22'-0.00"	54"	26'-6.00"	SCHWEISS	Bottom Drive	Strap Lift	Internal	Single Hinges	880"	318"
NOT FOR CONSTRUCTION				1. We are providing PRELIMINARY SPECS primarily for you to pass on to your Building Manufacturer / Engineer / Architect / Contractor for the overall size and hinge locations for this door.						
				2. These are PRELIMINARY SPECS and the WEIGHTS and REACTIONS will change, therefore DO NOT design or manufacture the Doors Building Header and the Doors Building Side Columns using these Preliminary Spec Weights and Reactions.						
PRELIMINARY SPECS				3. FINAL SPECS will be provided with the FINAL WEIGHTS AND REACTIONS after contract and engineering are finalized. ONLY use FINAL WEIGHTS AND REACTIONS to design and manufacture the Doors Building Header and the Doors Building Side Columns.						

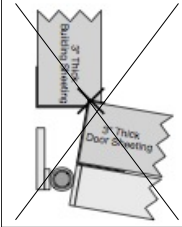
PRELIMINARY - Bi-Fold Door Specifications

	Inches	Feet & Inches	
A-	876.00"	73'- 0.00"	Clear Opening between side columns or finished clear opening. (steel or wood
AA-	888.00"	74'- 0.00"	Total distance to stay back with the building sheeting on the side columns.
B-	264.00"	22'- 0.00"	Clear Opening from bottom truss to finished floor - or total height opening.
C-	318.00"	26'- 6.00"	Distance from finished floor to the very top of hinge (B+D=C).
CCC-	306.00"	25'- 6.00"	When using stubs to attach your bi-fold door to - the stub columns should hang no lower than 12 inches below the C measurement. NOTIFY SCHWEISS if stub columns are lower than 12".
(Steel Only) IMPORTANT			
D-	54.00"	4'- 6.00"	Distance from top of clear height to top of single hinges.
E-	53.00"	4'- 5.00"	Distance from top of clear height to center of mounting hole for single hinges.
F-	320.00"	26'- 8.00"	Distance from finished floor to the building sheeting line above the door. Hold the sheeting to this elevation from the finished floor. These Specs are designed for up to 1-1/2" Thick Sheeting Panels and Trim. When using 2" Thick Insulated Panel and Trim Add 2" to F Measurement Above. When using 3" Thick Insulated Panel and Trim Add 3" to F Measurement Above.
IMPORTANT -			It is the Contractors/Owners Responsibility to Ensure the Door Sheeting does not collide with the Building Sheeting - See Illustrations S1 and S2 on the right of this page.
H-	317.00"	26'- 5.00"	Distance from the finished floor to the center of single hinge bolt holes. YOU WILL BOLT THROUGH YOUR HEADER AT THIS HEIGHT
H2-	1/2 x 6 HB		Header Bolts Schweiss providing, unless otherwise specified by customer / contractor.

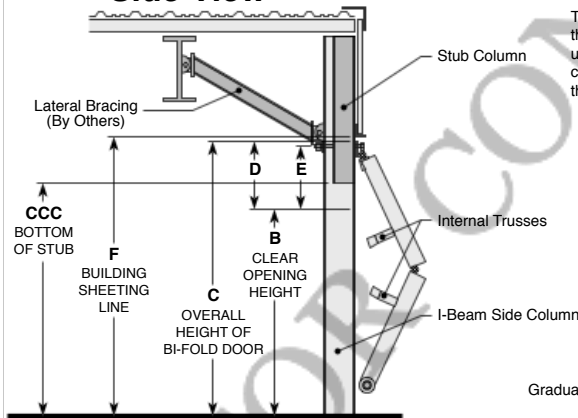
S1 - Clears



S2 - Collision



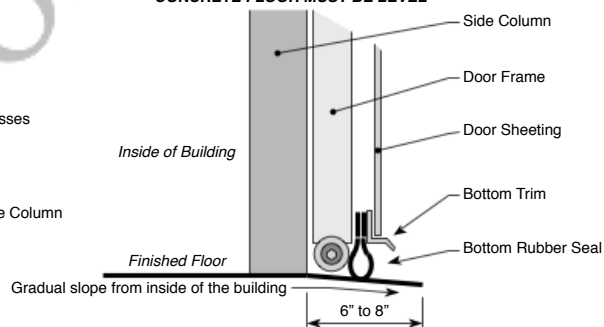
Side View



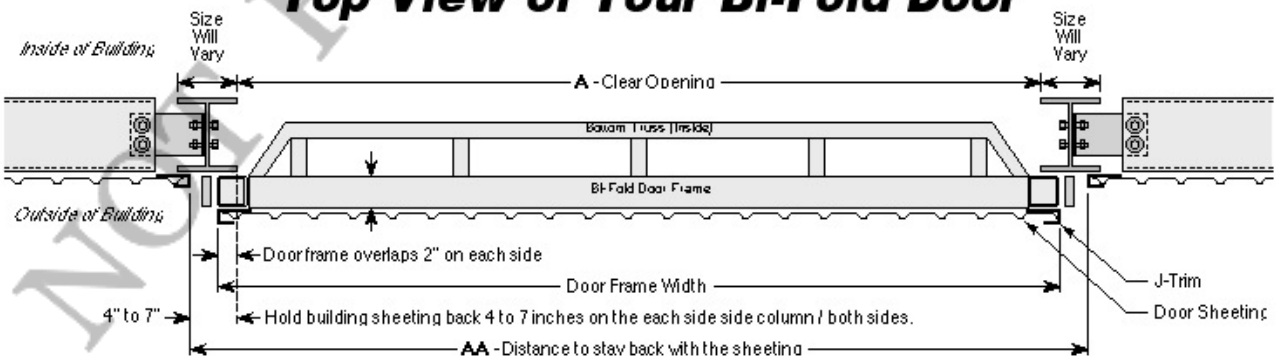
Your Concrete Floor

There must be a solid base or floor under the door frame. The door rests on the face of the building column or building line. To provide a weather tight seal under the bifold door and to keep moisture out of the building, have the concrete floor extend beyond the opening 6 to 8 inches sloping away from the building.

CONCRETE FLOOR MUST BE LEVEL



Top View of Your Bi-Fold Door



Order Number:

Bid Number: 41025-JG

Door Width	Door Height	Wdg.	Overall Height	Door Style	Drive Type	Lift Type	Truss	Hinge Style	Tot W - Inches	Tot H - Inches
73'-0.00"	22'-0.00"	54"	26'-6.00"	SCHWEISS	Bottom Drive	Strap Lift	Internal	Single Hinges	880"	318"

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PRELIMINARY - Design Criteria - Required Door Information

Building Code	2024 IBC	Building Code - (Default is 2012 IBC)
Wind Speed	115 mph	3 second gust - (Default is 115 mph)
Risk Category	II	II, III, or IV - (Default is II) - (2009 IBC = Standard Occupancy)
Wind Exposure	C	Exposure - (Default is C)
Wind Type	Main Wind	Component Wind or Main Wind Force (MWFRS) - (Component if less than 700sqft.)
Enclosure	Enclosed	Enclosed or Partially Enclosed - (Default is Enclosed)
Topographic Factor - Kzt	1	Must Be Provided by the Engineer of Record- (Default is 1)
Building Height	27'	Mean Roof Height or Eave Height for Building with Roof Slope of 10 Degrees or Less.
Roof Slope	1 : 12	Roof Slope - (Default is 1 : 12)
Door Operational Wind Speed	30 mph	Maximum Wind Speed for Door Operation is: 30 mph
Do not operate door if wind speed exceeds the maximum door operating speed. Door must be closed with floor pins and locks engaged when unattended or when wind speed is expected to exceed the maximum door operating speed.		

PRELIMINARY - Technical Information For Your Bi-Fold Door

A1-	13	Number of Hinges
A2-	11	Number of Lift Points Distributed Equally.
A3-	460-3PH	Electrical System with Up/Stop/Down Switch and Power Unit on the (LI) - Left/Inside

WARNING - These are PRELIMINARY WEIGHTS that will change due to Final Engineering, if you pass these on to your Building Manufacturer / Engineer / Architect / Contractor, please inform them that these are not the FINAL WEIGHTS. DO NOT manufacture the Doors Building Header or the Doors Building Side Columns using these PRELIMINARY SPEC WEIGHTS.

Door Weights		
B1-	11310 lbs	Structural Framing Weight
B2-	1924 lbs	Exterior Sheeting & Trim Weight (29ga. = 0.82 psf. -- 26ga. = 0.99 psf.)
B3-		Liner Sheeting & Trim Weight (29ga. = 0.82 psf. -- 26ga. = 0.99 psf.) / 2 If Only Bottom Half
B4-		Insulation Weight (4" Blanket = 0.5 psf. -- 6" Blanket = 0.65 psf.)
B5-		Optional - added accessories
B6-	13234 lbs	Estimated Total Door Weight

PRELIMINARY - Door Reactions

DOOR CLOSED		END HINGES		CENTER HINGES	
	Column React. at Base (lbs.)	Side Column and 1st Hinge Loc. from Each End (lbs.)		Interior Hinges (lbs.)	
	(Cx)	(Ax)	(Ay)	(Ax)	(Ay)
Dead Load	0	0	607 ~	0	1213 ~
WINDWARD WALL 115 MPH WIND LOAD					
Internal Pressure	3001 <	275 <	0	550 <	0
Internal Suction	7911 <	725 <	0	1450 <	0
LEEWARD WALL					
Internal Pressure	6410 >	588 >	0	1175 >	0
Internal Suction	1500 >	138 >	0	275 >	0
DOOR OPEN		END HINGES		CENTER HINGES	
	Roller Forces (lbs.) Ea. Side	Side Column and 1st Hinge Loc. from Each End (lbs.)		Interior Hinges (lbs.)	
	(Bx)	(Ax)	(Ay)	(Ax)	(Ay)
Dead Load	9600 <	880 >	607 ~	1760 >	1213 ~
WINDWARD WALL 30 MPH MAXIMUM WIND FOR DOOR OPERATION					
Internal Pressure	1189 <	118 <	72 ~	235 <	144 ~
Internal Suction	697 <	69 <	42 ~	138 <	84 ~
LEEWARD WALL					
Internal Pressure	806 >	80 >	49 ~	159 >	98 ~
Internal Suction	314 >	31 >	19 ~	62 >	38 ~

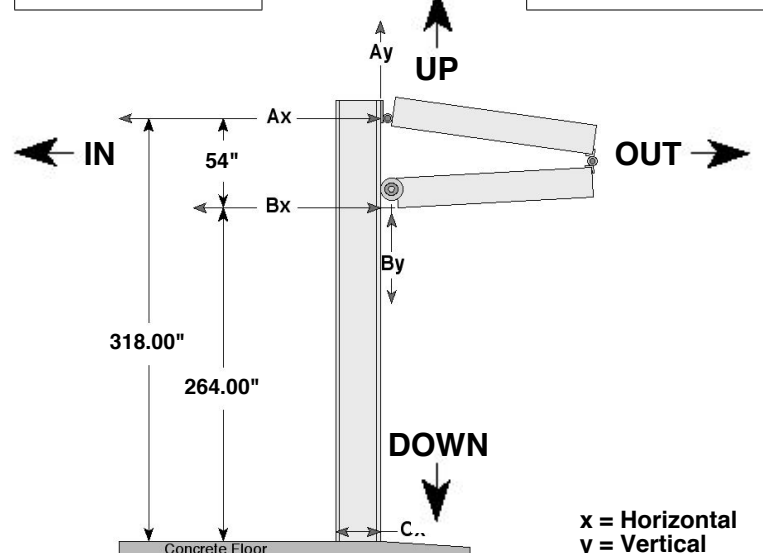
Important Note:

When your bi-fold door is opening or in the wide open position, the door tends to pull away from the building at the hinge line also putting stress on each building column where the roller moves along the column flange. The building manufacturer/contractor/owner is responsible to ensure that the building structure is capable of handling all the imposed loads. All materials not supplied by Schweiss are the full responsibility of others!

41025 9:50

WIND DIRECTION
→
LEEWARD WALL

WIND DIRECTION
←
WINDWARD WALL



Order Number:

Bid Number: 41025-JG

Door Width	Door Height	Wdg.	Overall Height	Door Style	Drive Type	Lift Type	Truss	Hinge Style	Tot W - Inches	Tot H - Inches
73'-0.00"	22'-0.00"	54"	26'-6.00"	SCHWEISS	Bottom Drive	Strap Lift	Internal	Single Hinges	880"	318"

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Minimum Bi-Fold Door Header Requirements

1. Maximum Allowable Vertical Deflection $L / 180$ Maximum under Dead + Live Load or Dead + Snow Load Combinations. Vertical Frame Deflection must be held so that the door will open when the full snow load is applied to the building.
2. Deflection Increases from 0 at Door Side Columns to the maximum allowable deflection at the center of the door.
3. Maximum Allowable Horizontal Frame Drift is $H / 60$ in the plane of the wall containing the door.

Minimum Bi-Fold Door Side Column Requirements

4. $L / 90$ (Wind Load) Maximum Allowable Inward or Outward Deflection of Your Buildings Bi-Fold Door Side Columns:
5. $L / 180$ (Dead Load of Door)
6. 1-1/8" Recommended Minimum Flange Thickness of Your Buildings Bi-Fold Door Side Columns:

Information for Building Designers

Designing the Door Side Column for Bi-Fold Doors.

7. The door side column must be designed to withstand the roller forces as the door opens. Due to the door roller the column flange must be designed to limit the deflection of the flange as the door opens.
8. The door side columns and door header must be on the same plane - flush with each other.

Design the door side columns for:

9. Major axis bending due to the Roller Forces (Bx) shown on the Door Reactions Chart.
10. Axial load by the building framing on the door side column (including the dead load of the door).
11. Design for combined major axis bending and axial load per the provisions of the governing building code, The 2005 Manual of Steel Construction Chapter H.

Deflection Requirements for door side column:

12. Design the door side column for the same deflection requirements as required by the building code.

General Design Notes:

13. The door side columns, header and bracing should be designed by a qualified Professional Engineer.
14. Specific building conditions other than those indicated in the Spec Sheets may exist which require further engineering consideration.
15. Schweiss is not responsible for the size or design of the door header and side columns for your building. All materials not supplied by Schweiss are the full responsibility of others.
16. Door Dead Load is applied to the building when the door is open or closed.
17. It is the building designers responsibility to combine the door reactions with the appropriate load combinations.

Upgrade Equipment - Customer's Choice

You may add any accessory to your Bi-Fold Door, Schweiss strongly recommends these accessories be used on every door. Only included with your order if the box is checked

1. ☐ Top Override Jiggle Switches
2. ☐ Side Latch Jiggle Switches
3. ☐ Electric Photo Eye Sensors
4. ☐ 3 Button Automatic Switch
5. ☐ Door Base Safety Edge
6. ☐ Warning Lights and Horn
7. ☐ Emergency Back-Up Hand Crank

Read the Schweiss

"Safety Information and Operation Manual"

The Schweiss Bi-Fold Doors Safety Information and Operation Manual should be read by anyone involved in the design, specifications, selection or purchase of an industrial bi-fold door operator or automated bi-fold door system.

Call Us If You Have Any Questions

If you have any questions or comments about your bi-fold door's safe operation or its design, call us at the numbers listed at the top of the page and talk to our knowledgeable staff at the factory.

Order Number:

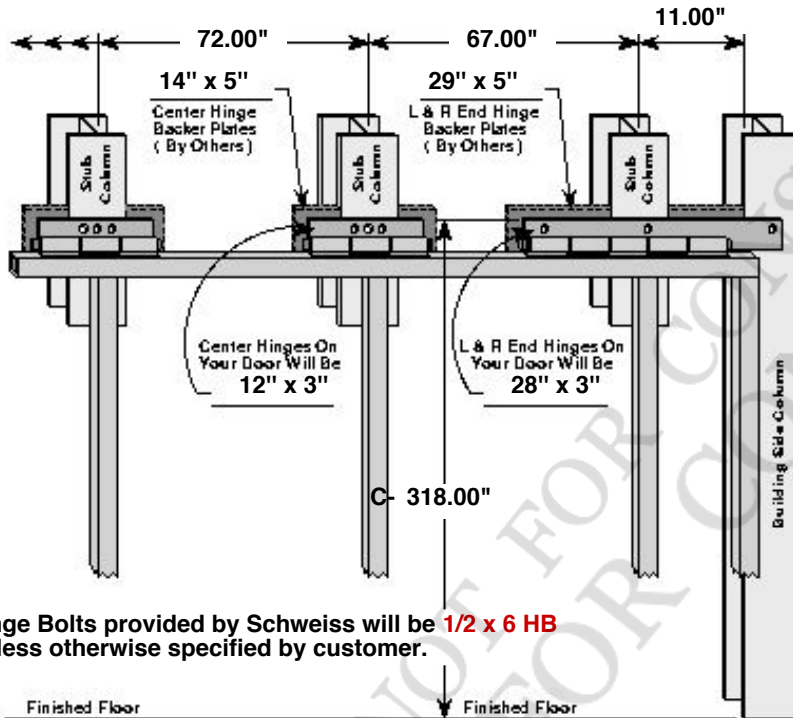
Bid Number: 41025-JG

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Attaching Bi-Fold Door To Your Building

Typical I-Beam Building Side Column With Stub Columns

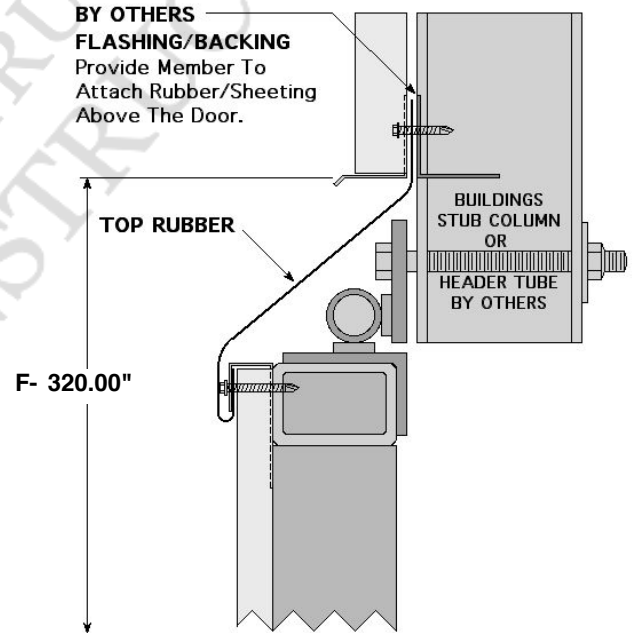
- Bolt Through Side Columns and Stub Columns.
- Hinge Backer Plate Provided By Building Manufacturer/Owner/Contractor.
- Hinge Backer Plate Thickness Determined By Building Manufacturer.
- Recommended Hinge Backer Plate Sizes - See Below...



Hinge Bolts provided by Schweiss will be 1/2 x 6 HB
Unless otherwise specified by customer.

Sheeting Above Your Bi-Fold Door

- Sheet above door at the height shown below.
- Provide proper backing to attach sheeting and door top rubber to at this height.



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Owners / Building Manufacturers / Engineers / Architects / Contractors:

When working with contractors or construction companies **it is your responsibility to pass** this information on to them. The Building Manufacturer / **Engineer / Architect** / Contractor / Owner is responsible to ensure that the building structure is capable of handling all the imposed loads. All materials not supplied by Schweiss are the full responsibility of others!

Building Manufacturer / Engineer / Architect / Contractor / Owner is responsible for ensuring that the correct version of the A-1 thru A-7 Spec Sheets are being used for their door. Schweiss Distributing is **Not** liable for the **Building Manufacturer / Engineer / Architect / Contractor / Owner** using an obsolete or PRELIMINARY version of the A-1 thru A-7 Spec Sheets.

I have read through the FINALIZED Spec Sheets A-1, A-2, A-3, A-4, A-5, A-6, A-7 and agree to them.

Customer: _____
SIGNATURE REQUIRED

Thank You :
Sales Person _____ *JB*

Order Number:

Bid Number: 41025-JG

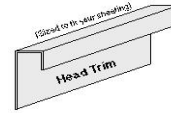
Door Width	Door Height	Wdg.	Overall Height	Door Style	Drive Type	Lift Type	Truss	Hinge Style	Tot W - Inches	Tot H - Inches
73'-0.00"	22'-0.00"	54"	26'-6.00"	SCHWEISS	Bottom Drive	Strap Lift	Internal	Single Hinges	880"	318"

External Sheeting and Trim Provided By: Customer Responsibility

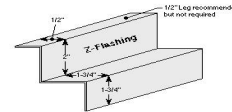
Leave your end wall open or un-sheeted until the door is installed! If the end wall is to be fully sheeted before the door is completed, do not nail or fasten the bottom of the sheets above the door frame.

NOTE: SD = Sheeting Depth

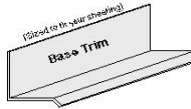
A 75' H-Trim 26g. - 3xSDx1



B 75' Z-Trim 26g. - 1x2xSDx1.75

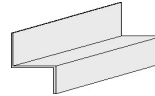


C 75' B-Trim 26g. - 2.75xSDx.75



	Qty	Length	
D	25	156.75"	Sheeting
E	25	152.75"	Sheeting

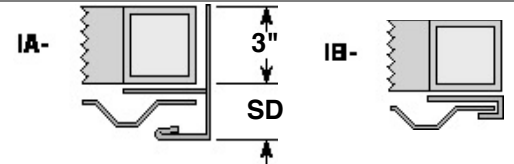
F
H2
G



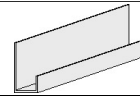
H 1,112 1" Fine Thread Tek Screws w/ Seal Washer

I 55' F-Trim 26g. - 3x2.75xSDx1

Customers choice on side trim style.
Either style works well.
If provided by Schweiss you will
receive IA "F-Trim".



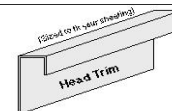
J



Liner Sheeting and Trim Prov. By: Customer Responsible

Flash For Liner Sheeting = Not Set-Up for Liner Sheeting

K



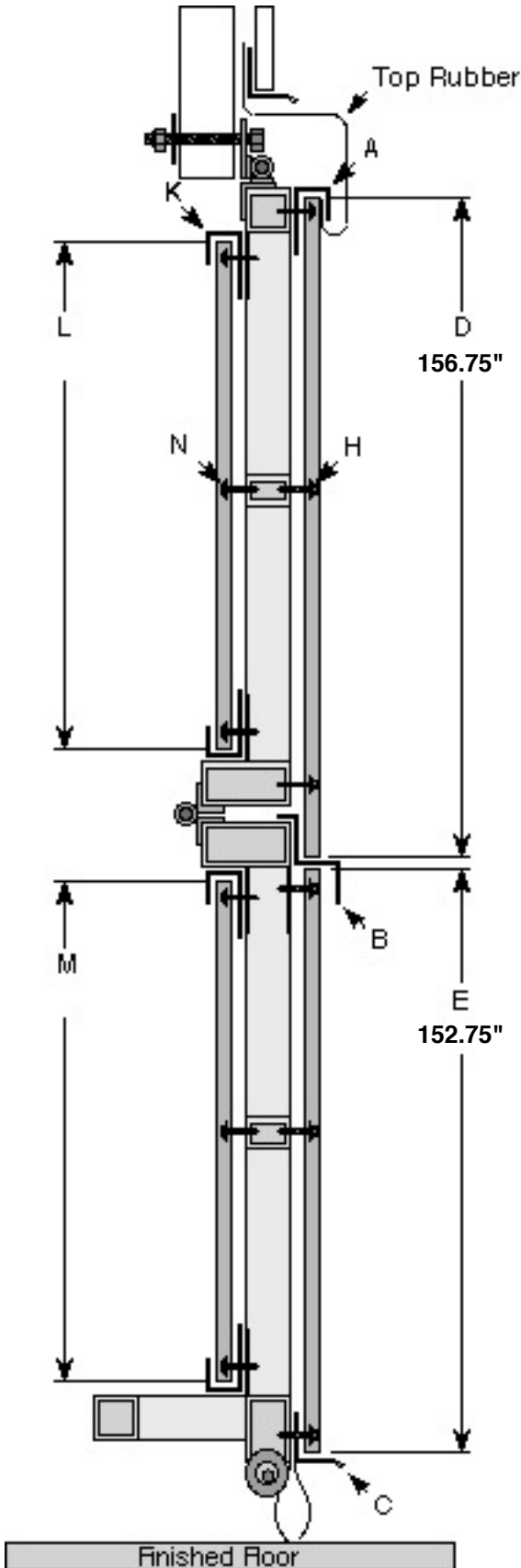
Qty Length

L

M

N

Hinge Bolts provided by Schweiss will be **1/2 x 6 HB**
Unless otherwise specified by customer.



Order Number:

Bid Number: 41025-JG

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DETAILED DRAWING OBSTRUCTIONS INSIDE OF THE DOORS CLEAR OPENING

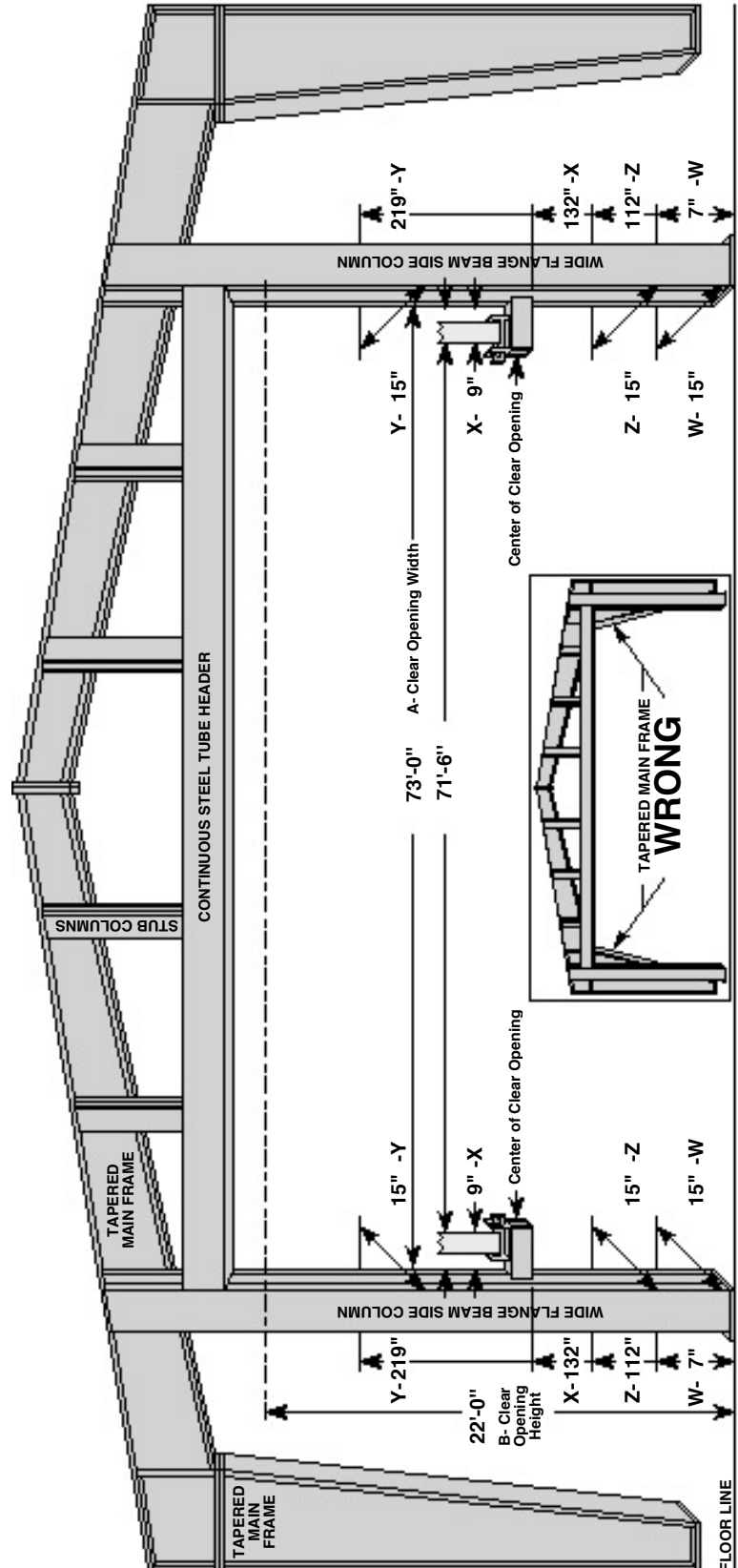
Door Opening - Internal Clearance Required

When the bi-fold door comes with internal trusses and/or automatic side latches, the building manufacturer must provide the proper internal clearances inside of the doors clear opening. Schweiss is calling out the distances below and it is the customers/building manufacturers responsibility to ensure these clearances are met for your door to function properly. Pass this information on to your building manufacturer.

VERY IMPORTANT: Keep This Area Clear of Obstructions

There must be no obstacles or obstructions inside of your clear opening at the dimensions listed below.
Examples: No Tapered Main Frames, Interior Walls, etc....

- | | |
|------------------------------|------------------------------|
| W - Bottom Truss..... | - Allow 15" back at 7" up. |
| X - Strap Latches..... | - Allow 9" In at 132" up. |
| Y - Top Internal Truss..... | - Allow 15" back at 219" up. |
| Z - Bottom Internal Truss... | - Allow 15" back at 112" up. |



Schweiss Dist. Inc.
72121 470th Street
Hector, MN 55342
800-746-8273
Bifold.com



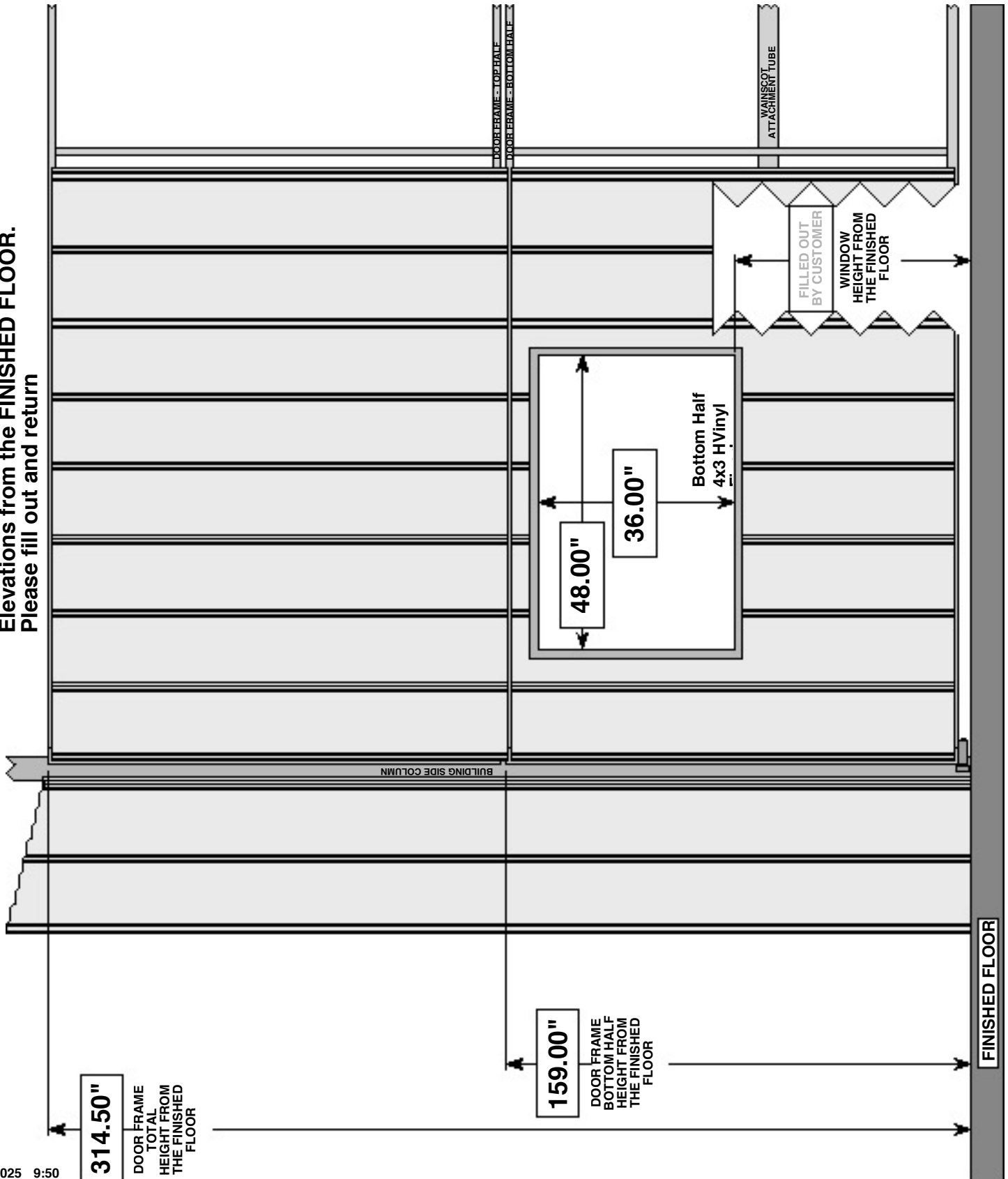
BIFOLD DOOR SPECS
PHONE: 507-426-8273 / FAX: 507-426-7408 / SchweissDoors.com

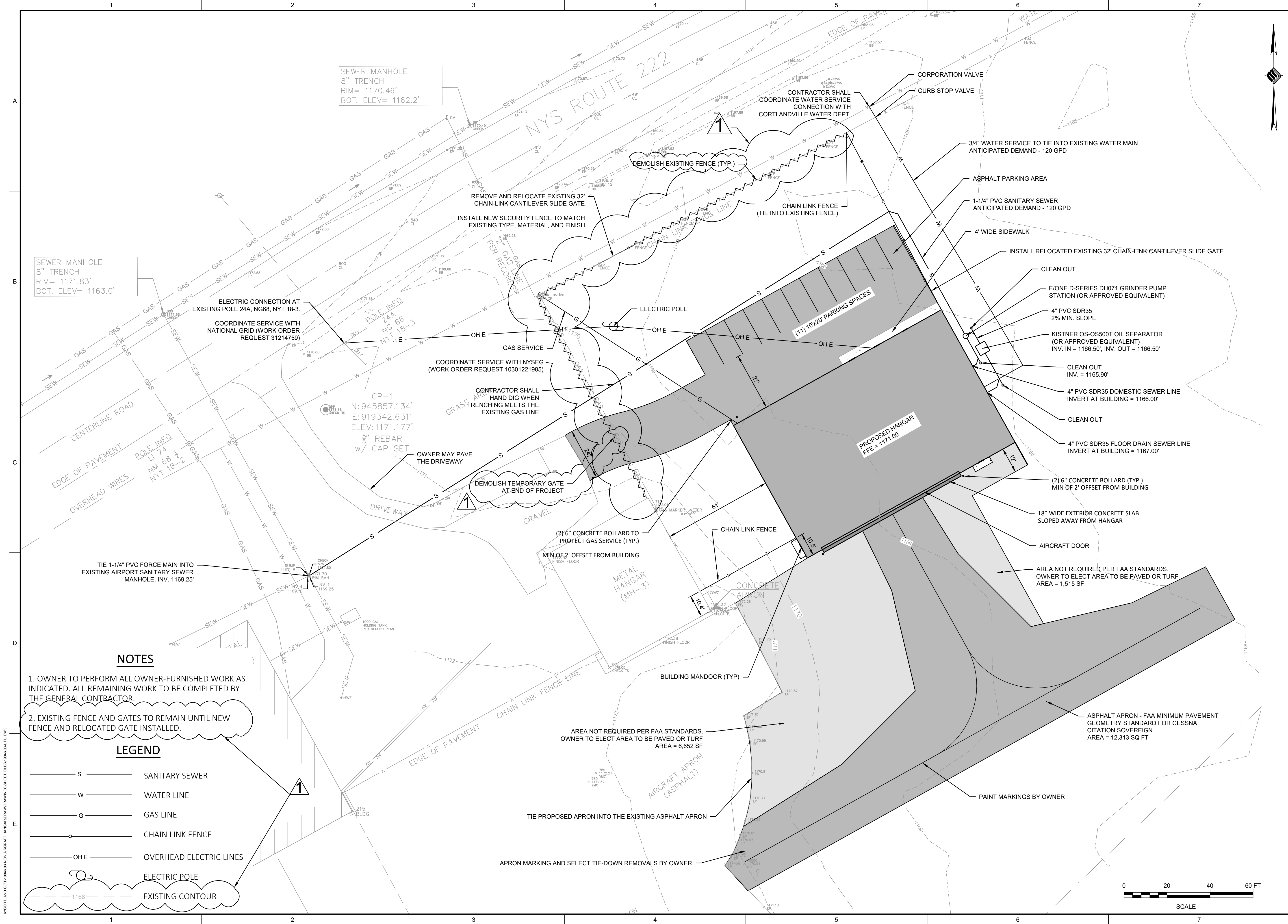
WINDOW
WAINSCOT
SPEC
SHEET

Order Number:			Bid Number:			Bid Date:			4/10/25		
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WINDOW ELEVATIONS and/or WAINSCOT ELEVATIONS

Elevations from the FINISHED FLOOR.
Please fill out and return





McFARLAND JOHNSON
125 NAGOG PARK, SUITE 220
ACTON, MASSACHUSETTS 01720

L2 STUDIO
LOMBARDINI+LAYTON
architects
134 COURT STREET
BINGHAMTON, NY 13901
607.217.7013
www.L2studioarch.com

Cortland County Airport
922 West State Road,
Cortland, NY 13045

PROJECT:
CONVENTIONAL AIRCRAFT STORAGE
HANGAR BUILDING WITH OFFICES

REVISIONS		
NO.	DATE	DESCRIPTION
1	1/20/2026	Addendum 1

STAMP

PROJECT MILESTONE
Issued For Bid - Not For Construction

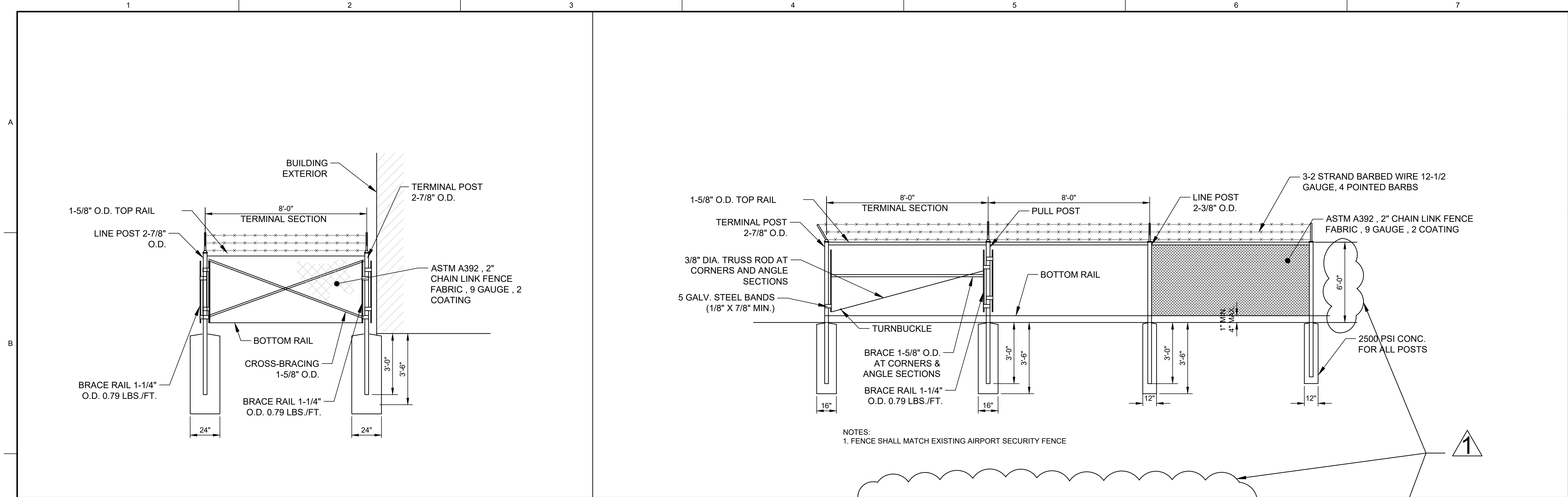
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECT DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

DRAWN	KM
DESIGNED	KM
CHECKED	AF
SCALE	1:20
DATE	12/22/2025
PROJECT	19046.03

DRAWING TITLE

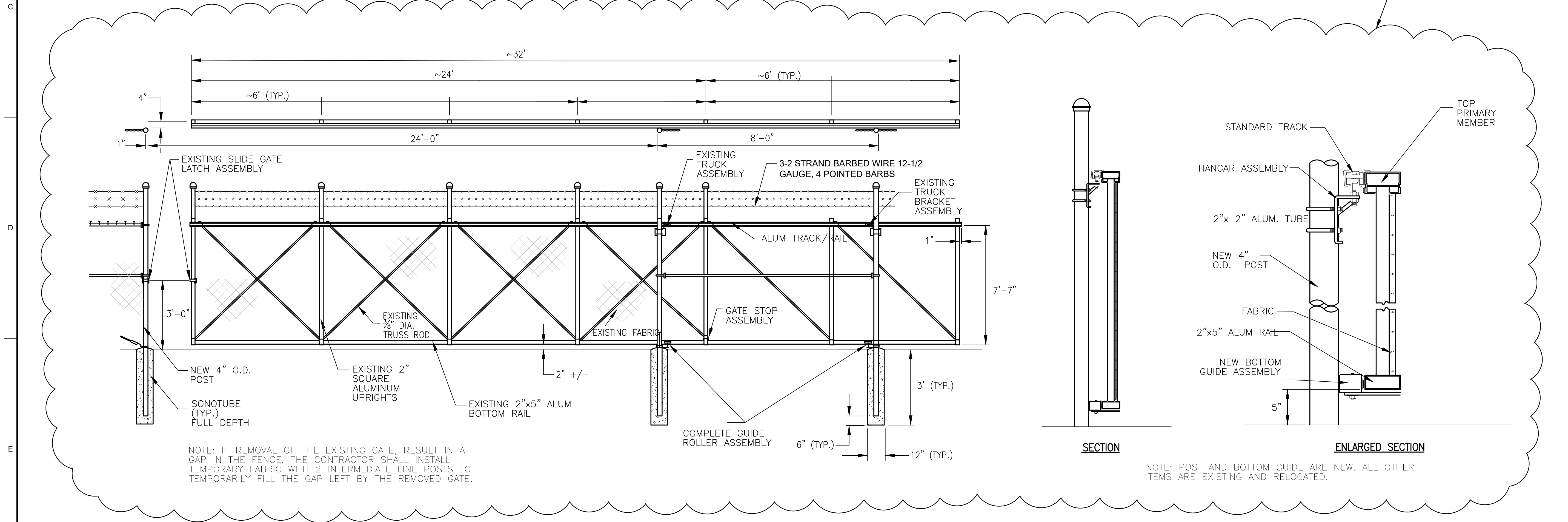
SITE AND UTILITY PLAN

DRAWING NUMBER
UT-01
OF



PERMANENT SECURITY FENCE TIE-IN TO BUILDING

PERMANENT 6' SECURITY FENCE WITH BARBED WIRE



32' ALUMINUM CANTILEVERED SLIDE GATE DETAIL (EXISTING GATE TO BE RELOCATED)

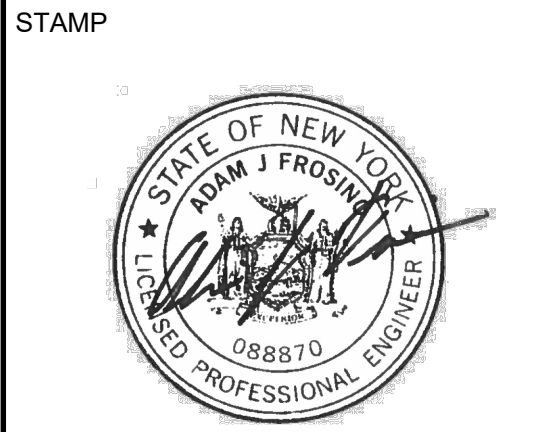

McFARLAND JOHNSON
125 NAGOG PARK, SUITE 220
ACTON, MASSACHUSETTS 01720


L2 STUDIO
LOMBARDINI+LAYTON
architecture
134 COURT STREET
BINGHAMTON, NY 13901
607.217.7013
www.L2studioarch.com

CLIENT: Cortland County Airport
922 West State Road,
Cortland, NY 13045

PROJECT: CONVENTIONAL AIRCRAFT STORAGE
HANGAR BUILDING WITH OFFICES

REVISIONS		
NO.	DATE	DESCRIPTION
1	1/19/2026	ADDENDUM 1



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Issued For Bid - Not For Construction

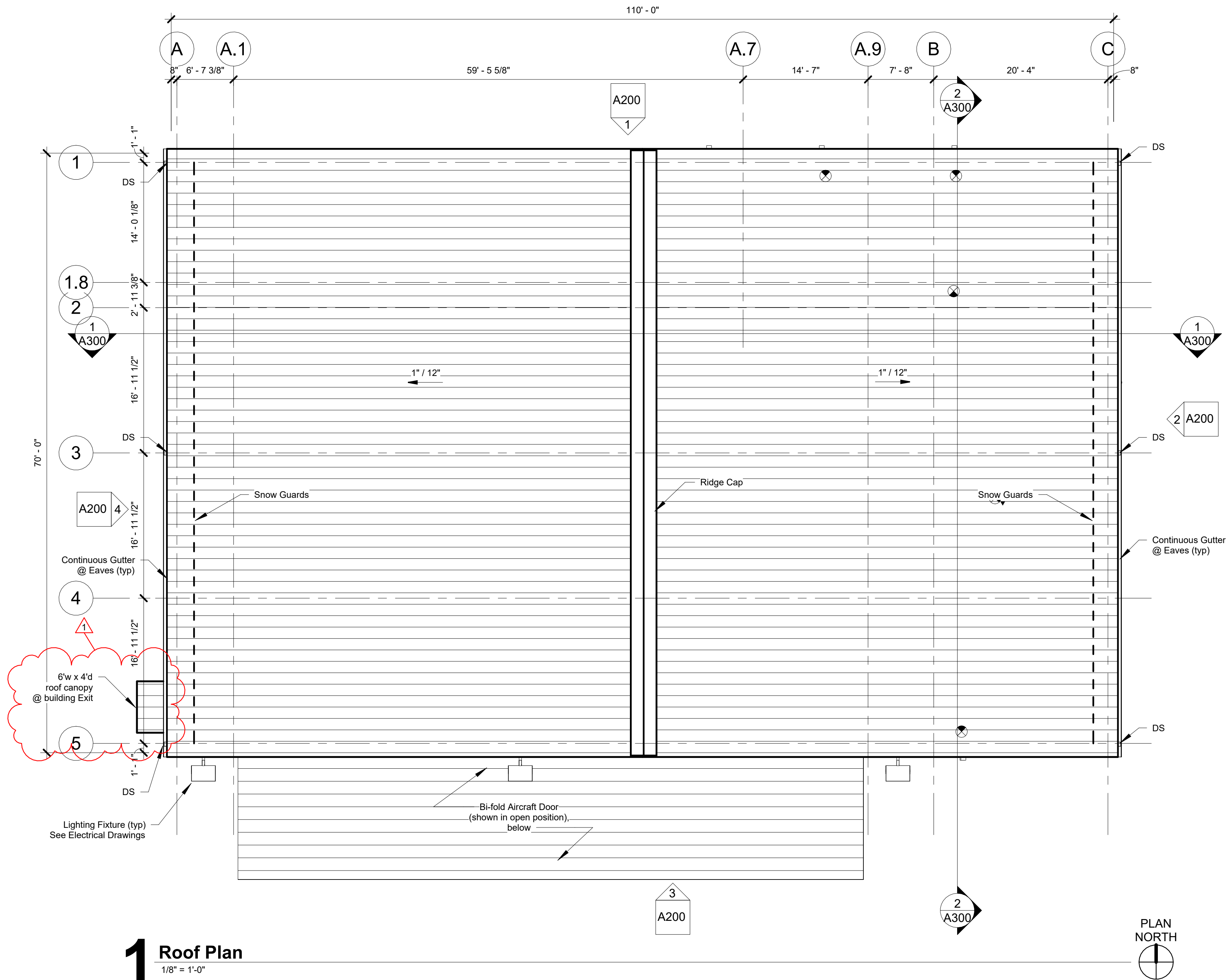
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CHECKED	AF
SCALE	NTS
DATE	12/22/2025
PROJECT	19046.03

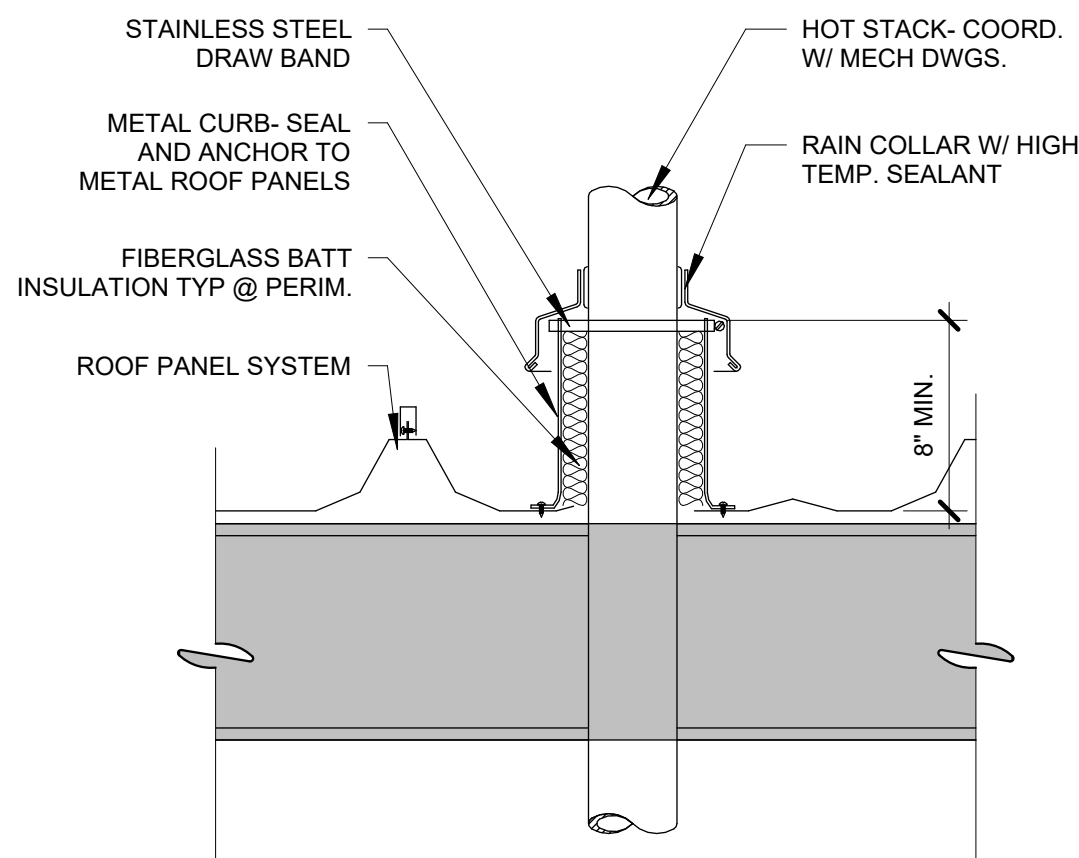
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SITE AND UTILITY
DETAILS

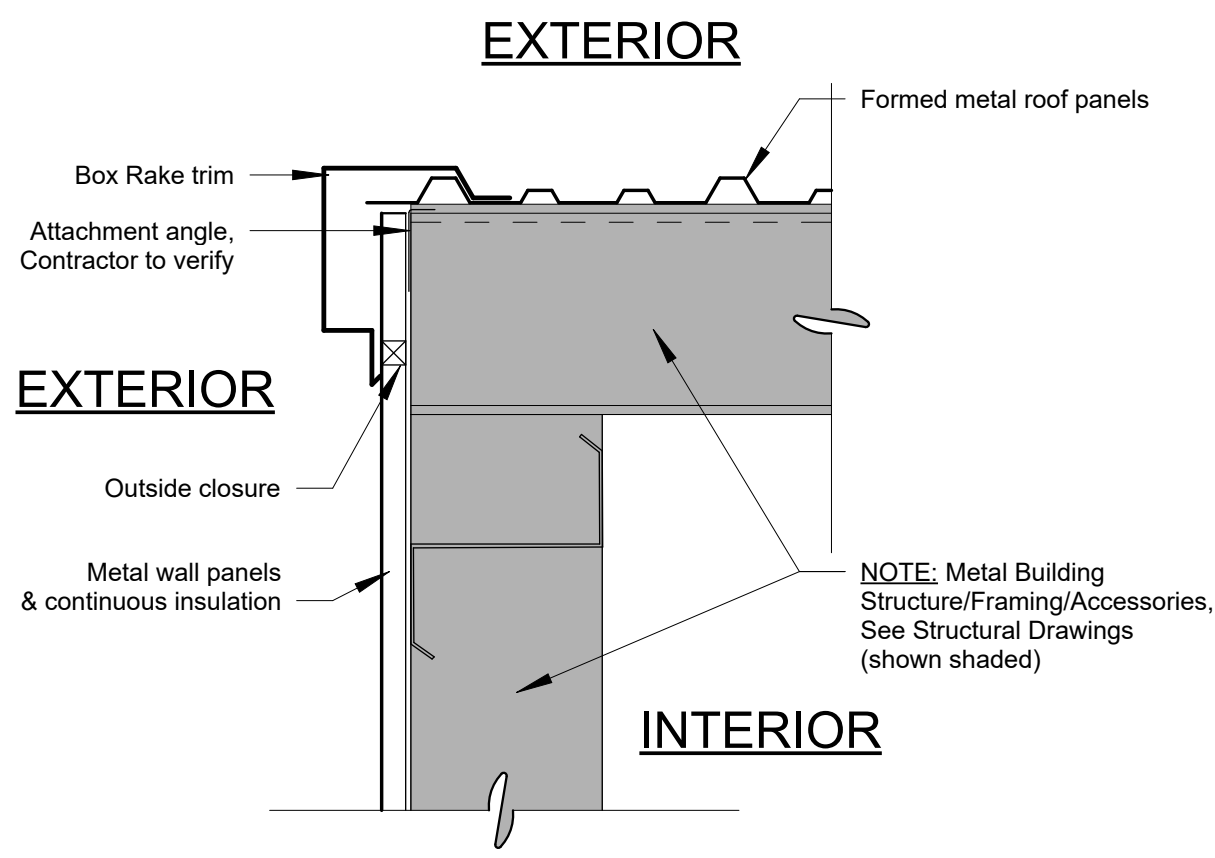
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DT-01
OF



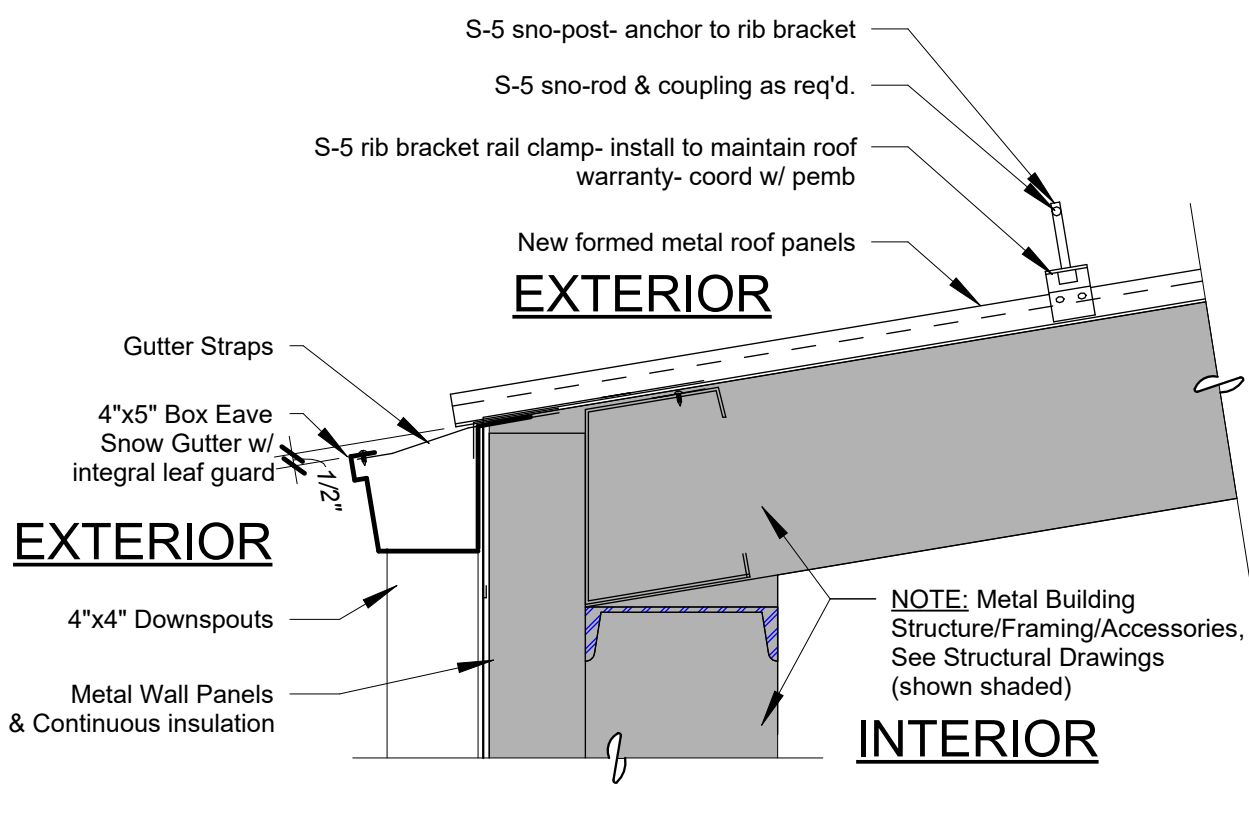
1 Roof Plan
1/8" = 1'-0"



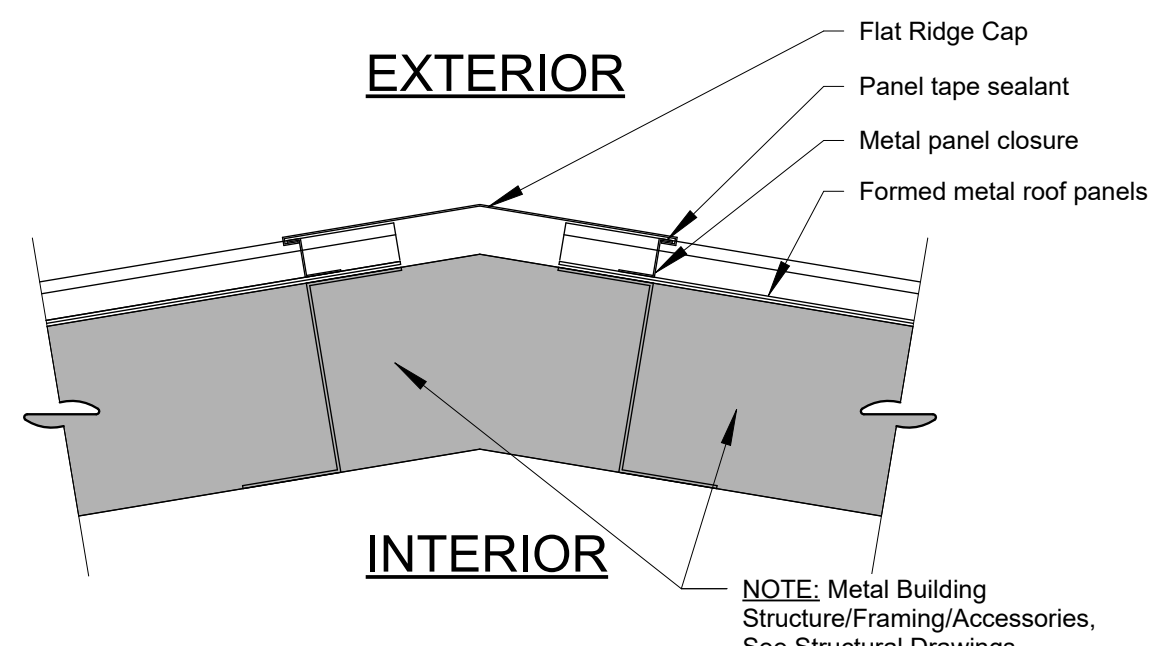
5 Hot Vent Detail
1 1/2" = 1'-0"



4 Rake Detail
1 1/2" = 1'-0"



3 Eave Detail
1 1/2" = 1'-0"



2 Ridge Detail
1 1/2" = 1'-0"

REVISIONS		
NO.	DATE	DESCRIPTION
1	1/01/2021	Addendum 01



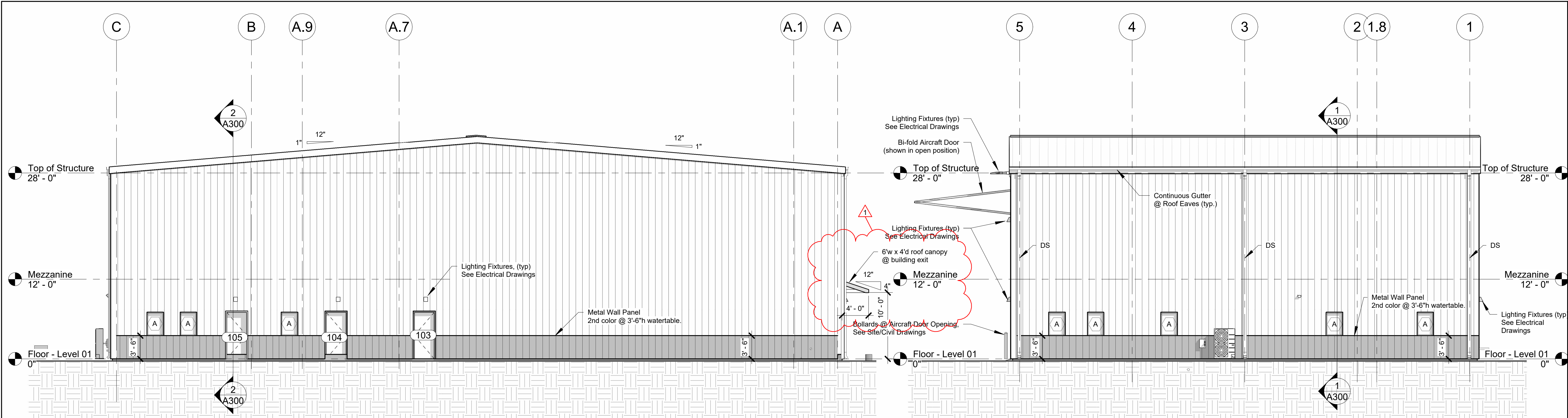
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DRAWN	Author
DESIGNED	Designer
CHECKED	Checker
SCALE	AS NOTED
DATE	2025.12.22
PROJECT	25.012

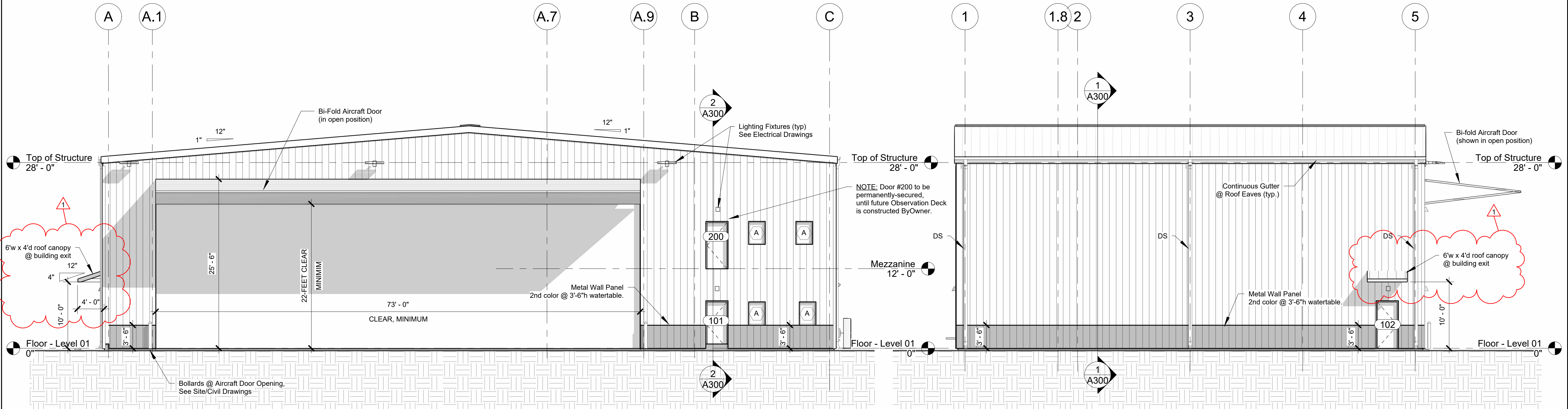
DRAWING TITLE
Roof Plan & Details

DRAWING NUMBER
A102



1 Building Elevation - North
1/8" = 1'-0"

2 Building Elevation - East
1/8" = 1'-0"



3 Building Elevation - South
1/8" = 1'-0"

4 Building Elevation - West
1/8" = 1'-0"



McFARLAND JOHNSON
49 COURT STREET, SUITE 240
BINGHAMTON, NY 13901



L2 STUDIO
LOMBARDINI LAYTON
architecture
134 COURT STREET
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**CONVENTIONAL AIRCRAFT STORAGE
BUILDING WITH OFFICES**

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NO.	DATE	DESCRIPTION
1	1/01/2021	Addendum 01

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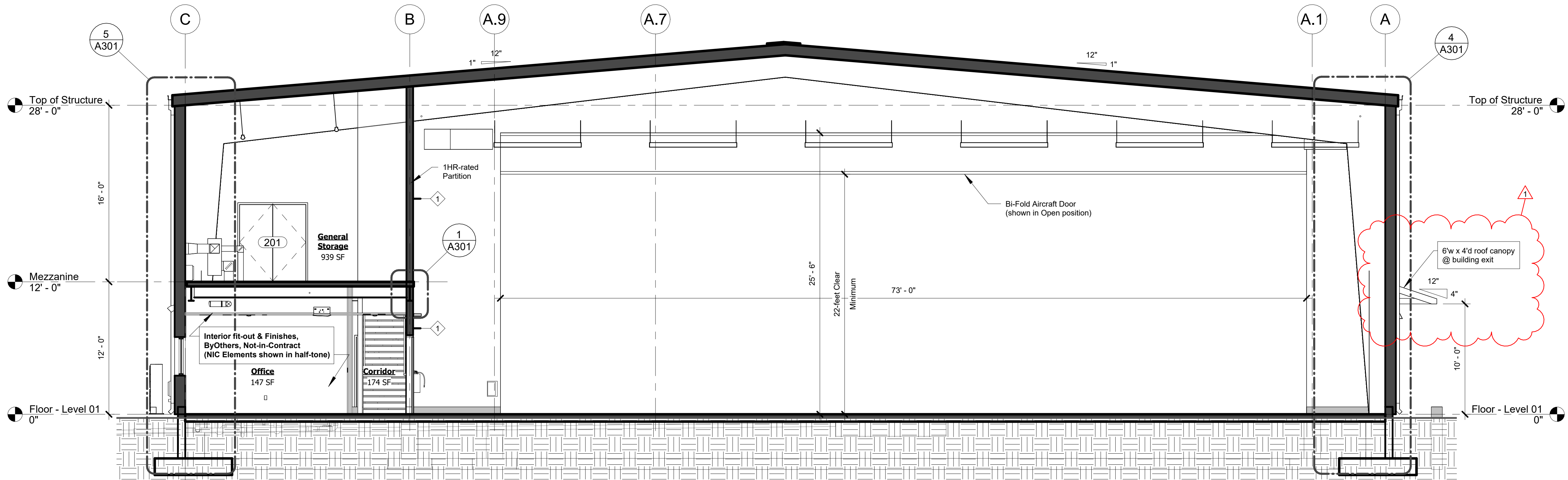
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SCALE	AS NOTED
DATE	2025.12.22
PROJECT	25.012

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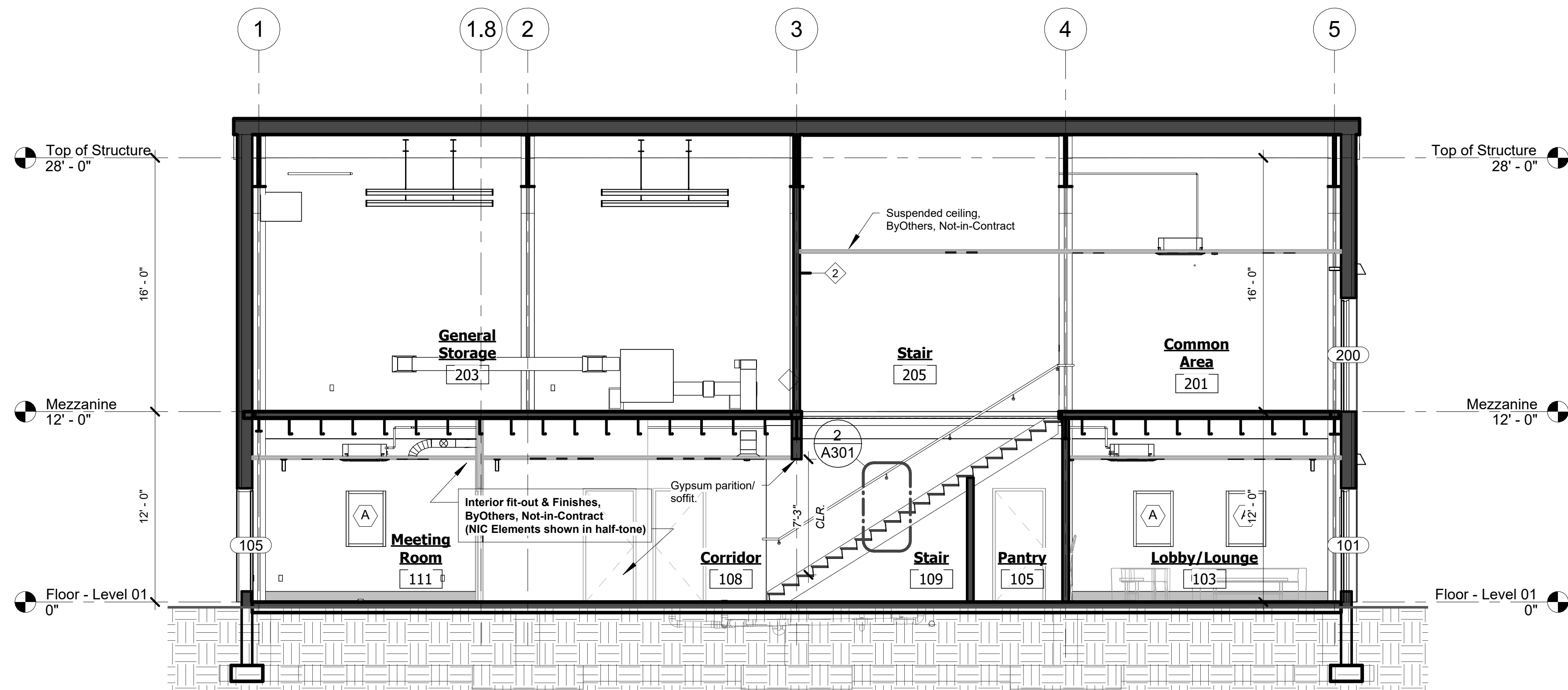
Exterior Elevations

DRAWING NUMBER

A200



1 Building Section - East/West
3/16" = 1'-0"



2 Building Section - North/South
3/16" = 1'-0"



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LOMBARDING LAYTON
ARCHITECTURE
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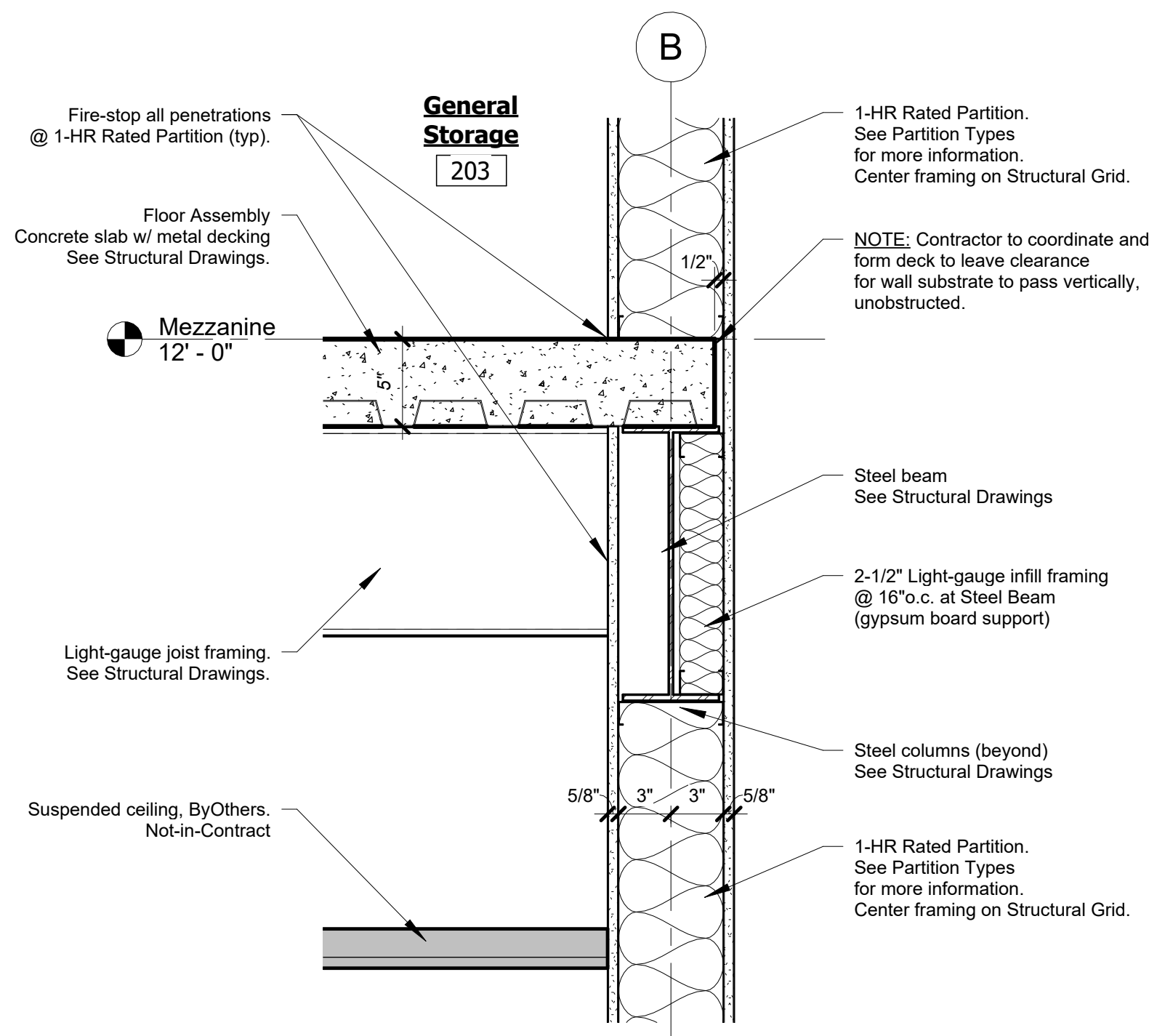
DRAWN	Author
DESIGNED	Designer
CHECKED	Checker
SCALE	AS NOTED
DATE	2025.12.22
PROJECT	25.012

DRAWING TITLE

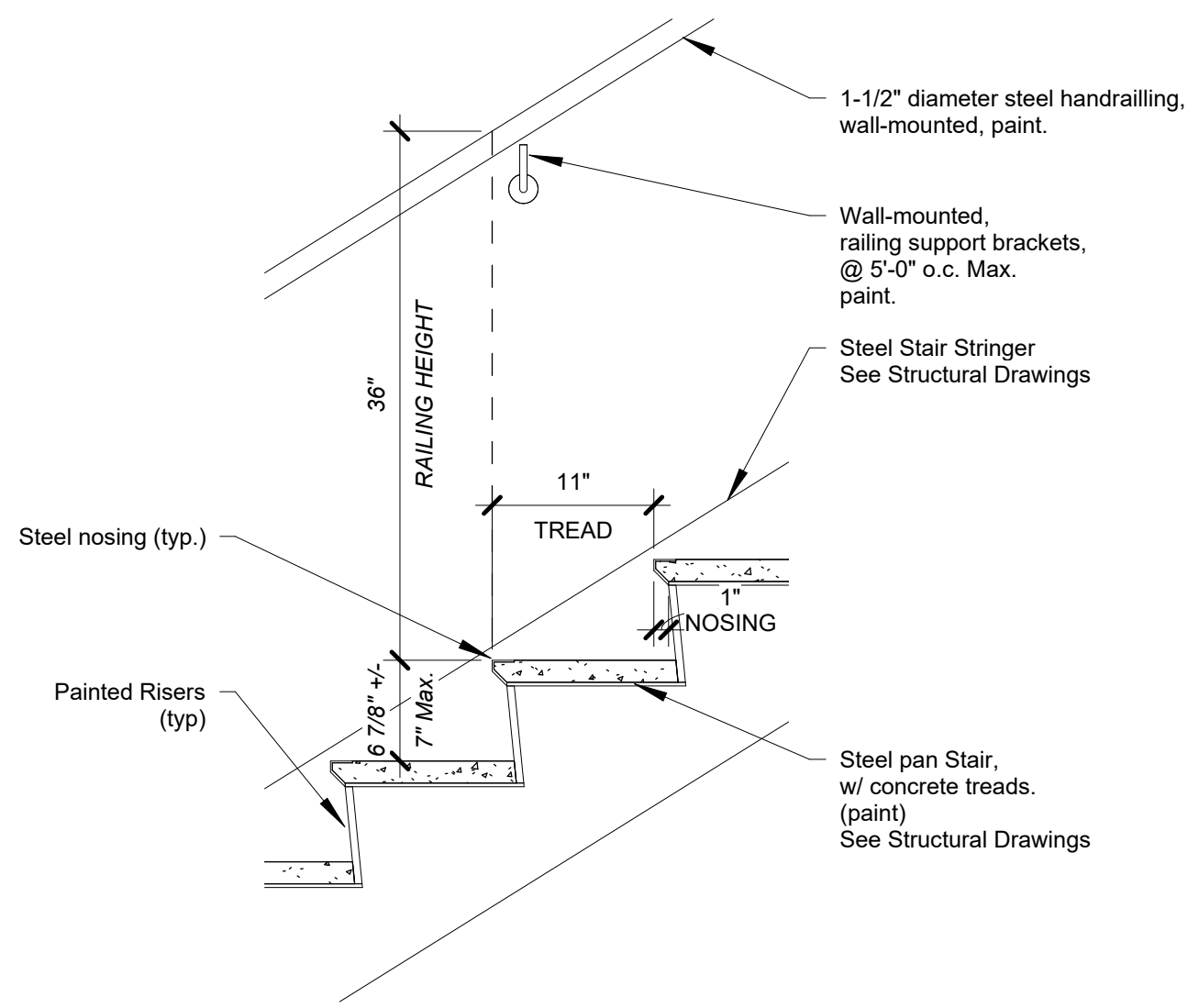
Building Sections

DRAWING NUMBER

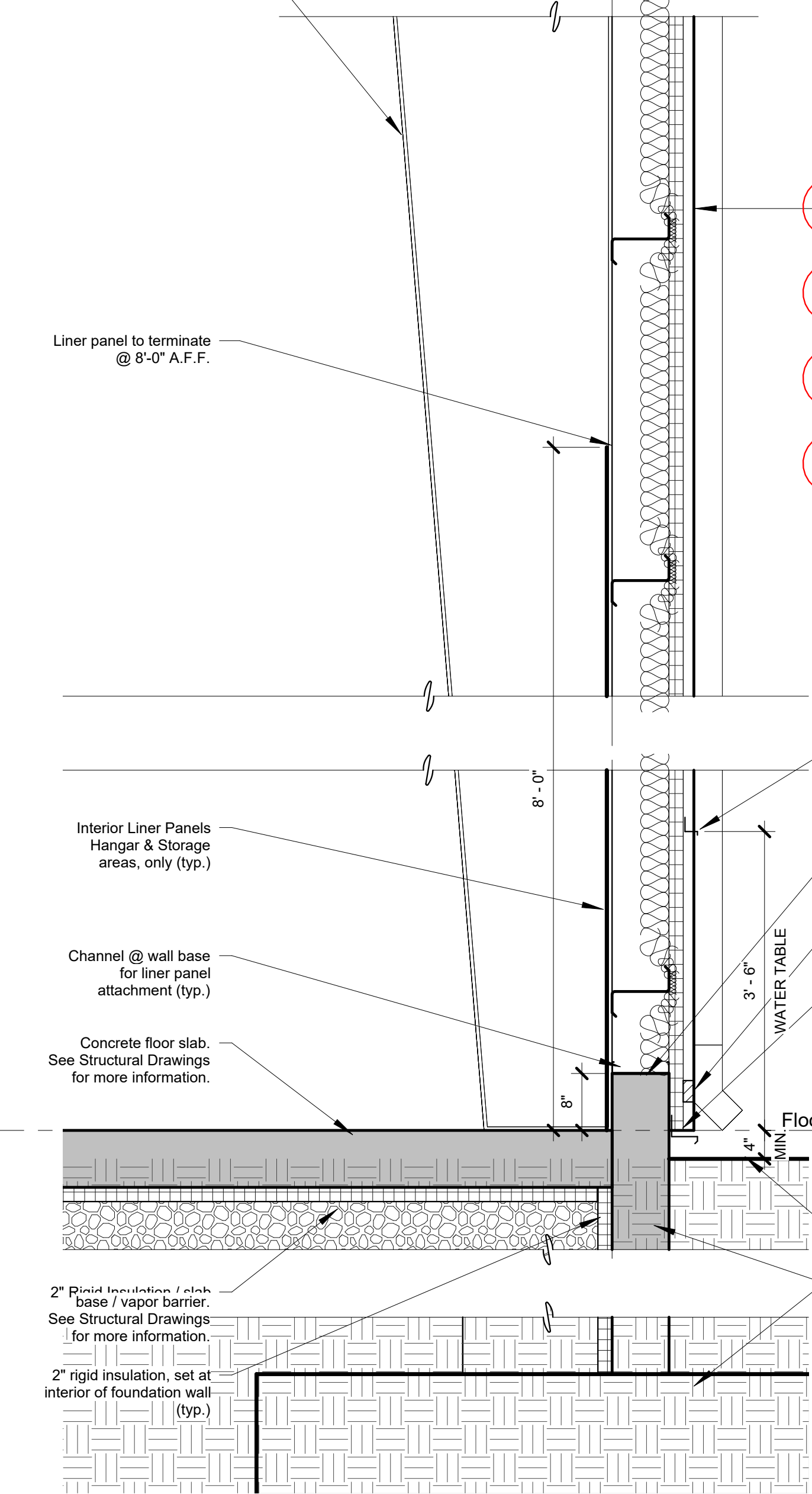
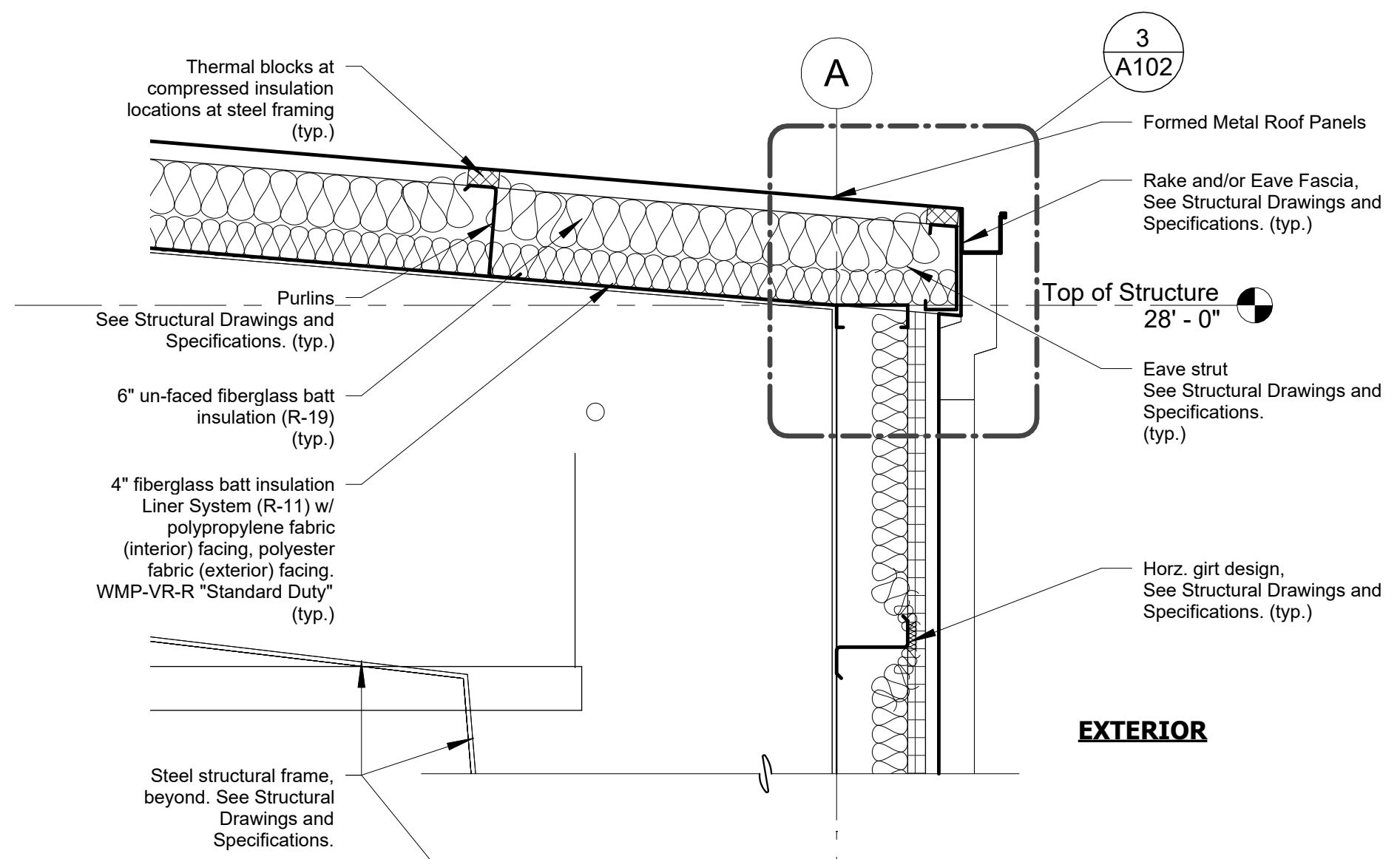
A300



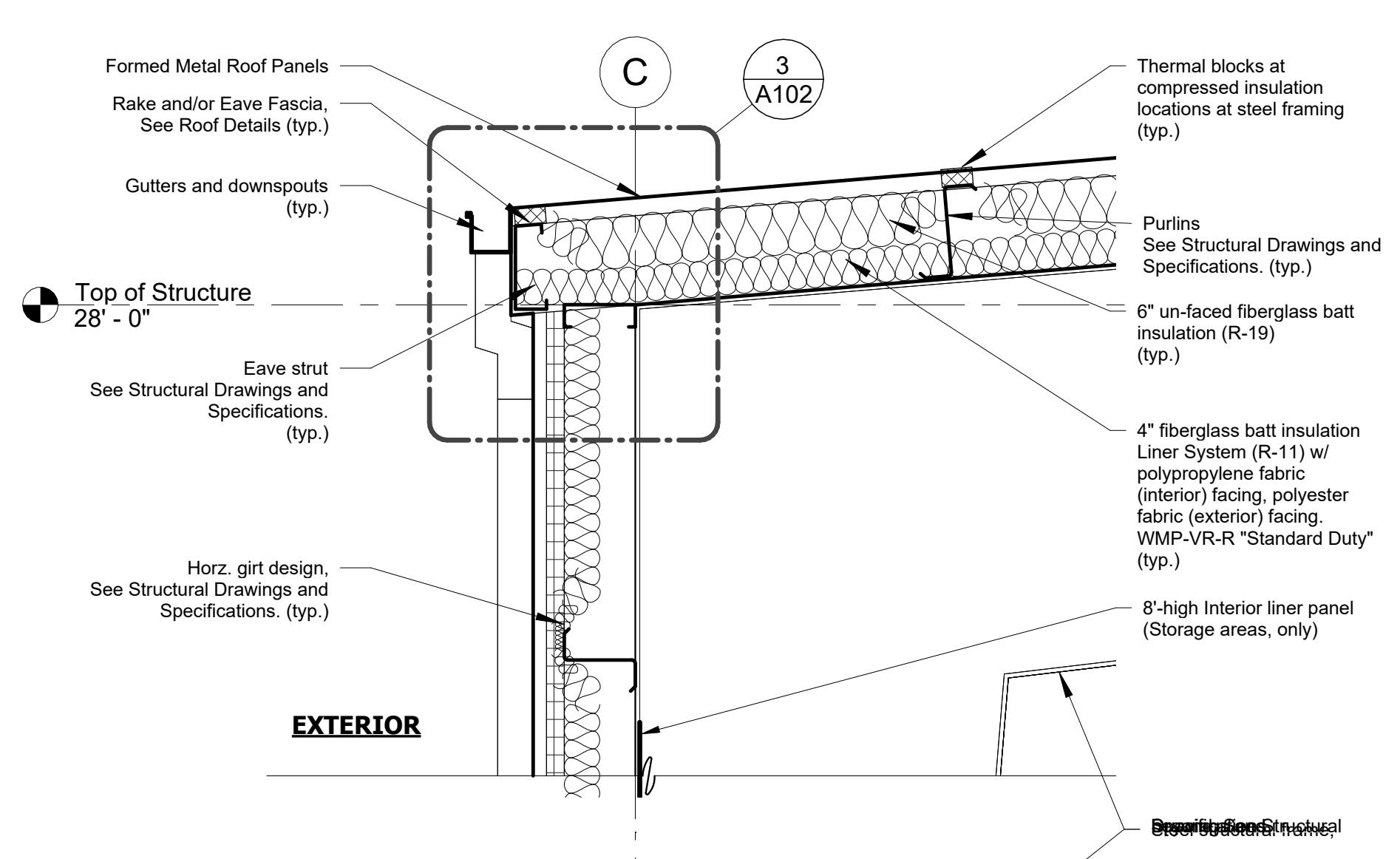
1 Section Detail @ Mezzanine Floor
1 1/2" = 1'-0"



2 Stair/Railing Detail
1" = 1'-0"



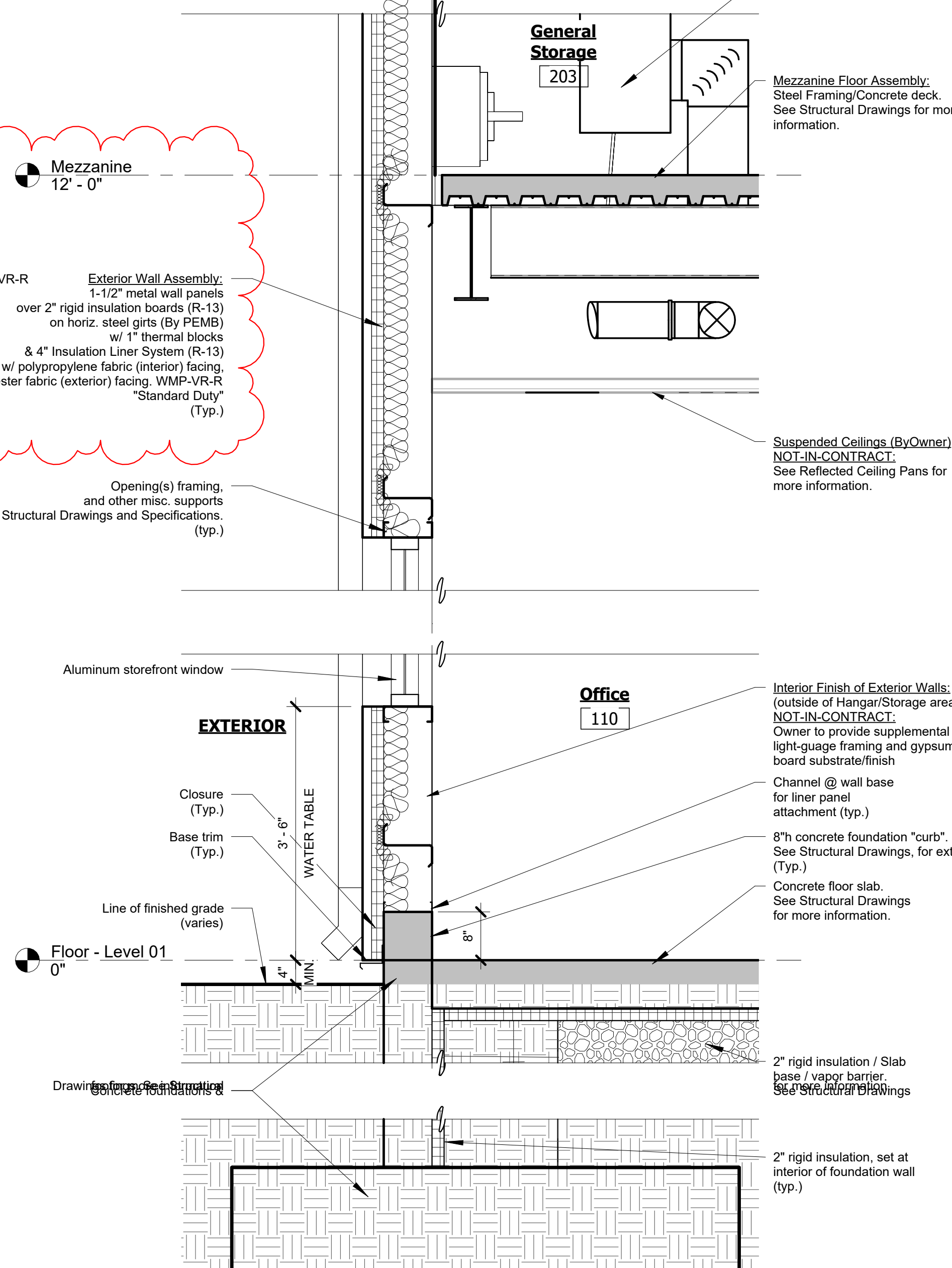
4 Wall Section - Typical
3/4" = 1'-0"



Exterior Wall Assembly:
1-1/2" metal wall panels over 2" rigid insulation boards (R-13) on horiz. steel girts (By PEMB) w/ 1" thermal blocks & 4" Insulation Liner System (R-13) w/ polypropylene fabric (interior) facing, polyester fabric (exterior) facing, WMP-VR-R "Standard Duty" (Typ.)

Exterior Wall Assembly:
1-1/2" metal wall panels over 2" rigid insulation boards (R-13) on horiz. steel girts (By PEMB) w/ 1" thermal blocks & 4" Insulation Liner System (R-13) w/ polypropylene fabric (interior) facing, polyester fabric (exterior) facing, WMP-VR-R "Standard Duty" (Typ.)

Opening(s) framing, and other misc. supports See Structural Drawings and Specifications. (typ.)



5 Wall Section @ Mezzanine
3/4" = 1'-0"


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49 COURT STREET, SUITE 240
BINGHAMTON, NY 13901


LOMBARDI LAYTON
architects
134 COURT STREET
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CONVENTIONAL AIRCRAFT STORAGE BUILDING WITH OFFICES

CLIENT: PROJECT:

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DRAWN	Author
DESIGNED	Designer
CHECKED	Checker
SCALE	AS NOTED
DATE	2025.12.22
PROJECT	25.012

DRAWING TITLE

Wall Section, Details

DRAWING NUMBER

A301

GENERAL NOTES

1.

ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO THE BUILDING CODE REFERENCED IN THE DESIGN BASIS AND THAT BUILDING CODE'S REFERENCED CODES AND STANDARDS.

2.

THE STRUCTURAL DRAWINGS SHALL BE UTILIZED IN CONJUNCTION WITH DRAWINGS FROM OTHER DESIGN TRADES, SUCH AS ARCHITECTURAL, MECHANICAL, ELECTRICAL, ETC. THE CONTRACTOR IS TO INFORM THE ENGINEER OF ANY CONFLICTS BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER DRAWINGS.

3.

THE STRUCTURAL GENERAL NOTES AND STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS. IN CASE OF ANY CONFLICTS BETWEEN THE NOTES, DRAWINGS AND SPECIFICATION, THE STRICTEST REQUIREMENTS PRESIDE. THE CONTRACTOR IS TO INFORM THE ENGINEER OF ANY CONFLICTS.

DRAWINGS

1.

APPLY DETAILS, SECTIONS AND NOTES ON THE DRAWINGS WHERE CONDITIONS ARE SIMILAR TO THOSE INDICATED. AT FEATURES THAT ARE NOT FULLY DETAILED OR SPECIFIED, THEIR CONSTRUCTION IS TO BE SIMILAR TO WHAT IS SHOWN OR SPECIFIED AT OTHER SIMILAR CONDITIONS.

2.

DETAILS LABELED "TYPICAL" AND NOTES INCLUDING THE WORD "TYPICAL (OR TYP.)" APPLY AT ALL CONDITIONS THAT ARE SIMILAR IN NATURE, UNLESS NOTED OTHERWISE.

3.

USE DIMENSIONS INDICATED ON DRAWINGS. DO NOT SCALE DRAWINGS.

4.

CENTERLINES OF COLUMNS, BEAMS, GRADE BEAMS, WALLS, FOUNDATIONS, AND OTHER FRAMING MEMBERS COINCIDE WITH ESTABLISHED GRIDLINES, UNLESS NOTED OTHERWISE.

5.

BEAMS, JOISTS, RAFTERS, ETC. ARE ASSUMED TO BE SPACED EQUALLY IF NOT INDICATED OTHERWISE.

EXISTING CONDITIONS

1.

THE CONTRACTOR IS TO FIELD VERIFY ALL EXISTING CONDITIONS. THE CONTRACTOR IS TO INFORM THE ENGINEER OF ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE STRUCTURAL DRAWINGS, AND OF ANY CONDITIONS THAT MAY NOT HAVE BEEN VISIBLE PRIOR TO CONSTRUCTION. DO NOT COMMENCE SHOP DRAWINGS OR FABRICATION UNTIL ALL EXISITNG CONDITIONS HAVE BEEN VERIFIED.

TEMPORARY CONDITIONS

1.

THE STRUCTURE HAS BEEN DESIGNED SUCH THAT IT IS STABLE ONCE ALL ELEMENTS OF THE LATERAL LOAD-RESISTING SYSTEM ARE IN PLACE. THIS INCLUDES ELEMENTS SUCH AS FOUNDATIONS, COLUMNS, BEAMS, BRACES, DECKING AND WELDING. THE CONTRACTOR IS RESPONSIBLE FOR THE TEMPORARY STABILITY OF THE STRUCTURE.

2.

THE STRUCTURE HAS NOT BEEN DESIGNED TO ACCOMMODATE ANY CONSTRUCTION LOADING THAT HAS NOT BEEN INDICATED IN THE DESIGN BASIS OR ON THE PLANS. THIS INCLUDES LOADS SUCH AS CONSTRUCTION VEHICLES, LIKE CRANES AND MANLIFTS, OR LOADS DUE TO THE STORAGE OF MATERIALS, LIKE PALLETS OF DRYWALL, PLYWOOD OR STONE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE STRUCTURAL CAPACITY OF ANY ELEMENTS THEY INTEND TO LOAD BEYOND THE STATED LOADS. THE CONTRACTOR IS TO SUBMIT DESIGN CALCULATIONS, SIGNED AND SEALED BY A REGISTERED DESIGN PROFESSIONAL, INDICATING AS SUCH.

SUBMITTALS

1.

THE CONTRACTOR IS TO PREPARE AND TRANSMIT ALL SUBMITTALS TO THE ENGINEER AND/OR ARCHITECT WITH ADEQUATE TIME TO REVIEW PRIOR TO CONSTRUCTION OR FABRICATION. THE CONTRACTOR IS ALSO TO PREPARE AND KEEP CURRENT A LIST OF ALL SUBMITTALS AND A SUBMITTAL SCHEDULE.

2.

THE REUSE OR REPRODUCTION OF ANY PORTION OF THESE DOCUMENTS FOR USE AS SHOP DRAWINGS IS STRICTLY PROHIBITED WITHOUT THE WRITTEN PERMISSION OF MCFARLAND+JOHNSON, INC.

3.

SHOP DRAWINGS ARE TO BE PREPARED IN ACCORDANCE WITH THE STANDARDS GOVERNING THE TYPE OF WORK.

4.

SUBMITTALS REQUIRING REVIEW BY THE STRUCTURAL ENGINEER INCLUDE:

A. SHOP DRAWINGS.

B. DESIGN CALCULATIONS.

C. MIX DESIGNS, AND MATERIAL CERTIFICATES.

D. PRODUCT DATA, REPORTS AND OTHER LITERATURE.

5.

SHOP DRAWINGS ARE TO BE PROVIDED FOR ALL STRUCUTRAL ELEMENTS. SHOP DRAWINGS ARE TO INCLUDE ITEMS SUCH AS:

A. PLANS, ELEVATIONS AND SECTIONS.

B. LAYOUT OF BEAMS, COLUMNS, WALLS, DECKING, ANCHOR BOLTS, ETC.

C. LAYOUT OF EMBEDDED ITEMS.

D. LAYOUT OF SLAB/FLOOR/ROOF DECK AND WALL OPENINGS ALONG WITH BEAM PENETRATIONS.

E. FASTENING, ATTACHMENTS, SHOP WELDING AND FIELF WELDING.

F. LAYOUT AND MAGNITUDE OF ANY LOADING ON THE STRUCTURE.

6.

DEFERRED SUBMITTALS ARE THOSE WHERE THE DESIGN OF SPECIFIC ELEMENTS AND THEIR ATTACHMENTS HAS NOT BEEN COMPLETED AS PART OF THE CONSTRUCTION DOCUMENTS BUT ARE DELEGATED TO THE DESIGN BY A SPECIALTY OR SUB-CTRACTED ENGINEER. DEFERRED SUBMITTALS ON THIS PROJECT INCLUDE:

A. COLD-FORMED METAL FRAMING.

B. STAIR FRAMING.

C. STRUCTURAL STEEL CONNECTIONS.

D. STRUCTURAL STEEL BRACING CONNECTIONS AND GUSSET PLATES.

E. METAL FABRICATIONS.

7.

THE CONTRACTOR IS TO ENGAGE A REGISTERED DESIGN PROFESSIONAL TO PROVIDE DESIGN OF ELEMENTS AS PART OF A DEFERRRED SUBMITTAL. CALCULATIONS ARE TO BE SIGNED AND SEALED BY A REGISTERED DESIGN PROFESSIONAL.

8.

DEFERRED SUBMITTALS ARE TO INCLUDE AT A MINIMUM BOTH SHOP DRAWINGS AND CALCULATIONS. THEY ARE TO BE SUBMITTED TO THE ENGINEER, ARCHITECT AND BUILDING OFFICIAL.

TESTING AND INSPECTIONS

1.

THE OWNER IS TO ENGAGE AN INDEPENDENT TESTING LABORATORY TO PROVIDE INSPECTIONS AS REQUIRED PER THE STATEMENT OF SPECIAL INSPECTIONS. REFER TO THE SPECIFICATIONS.

DESIGN BASIS

1. THE CONSTRUCTION DOCUMENTS ARE BASED ON THE REQUIREMENTS OF THE 2020 NEW YORK STATE BUILDING CODE.

RISK CATEGORY (PER IBC)

1. BUILDING:

II

DEAD LOADS

1. SUPERIMPOSED DEAD LOADS TO ACCOUNT FOR GENERAL ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION SYSTEMS HAVE BEEN APPLIED AS FOLLOW:

A. MEZZANINE : 15 PSF

B. ROOF: 7 PSF

2. SUPERIMPOSED DEAD LOADS TO ACCOUNT FOR SPECIFIC ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION COMPONENTS ARE NOTED ON RELEVANT PLANS, SECTIONS AND DETAILS. COMPONENT LOADS MAY NOT BE COMPLETE AT THE TIME OF DRAWING ISSUANCE AND SHOULD BE VERIFIED WITH THE EOR PRIOR TO FABRICATION OF SUPPORTING ELEMENTS.

LIVE LOADS

1. DESIGN LIVE LOADS HAVE BEEN APPLIED AS FOLLOWS. REFERENCE TO ARCHITECTURAL PLANS FOR EXTENTS OF BUILDING AREAS. CONCENTRATED LOADS HAVE BEEN APPLIED AS UNIFORMLY DISTRIBUTED ON AN AREA OF 2.5 SQUARE FEET, UNLESS NOTED OTHERWISE.

A. ASSEMBLY: 100 PSF

B. BALCONIES: 1.5 LL OF AREA SERVED, NOT TO EXCEED 100 PSF

C. HANDRAILS: 50 LBS/FT

D. OFFICES: 50 PSF

E. OFFICE CORRIDORS: 80 PSF

F. RESIDENTIAL AREAS: 40 PSF

G. STAIRWELLS/EXITS: 100 PSF

H. MEZZANINE STORAGE 125 PSF

2. A PARTITION LIVE LOAD OF 15 PSF HAS BEEN APPLIED AT AREAS WHERE PARTITIONS MAY BE ERRECTED OR REARRANGED, EXCEPT AT AREAS WHERE THE UNIFORM LIVE LOAD EXCEEDS 80 PSF.

SNOW LOADS

1. SNOW LOADING HAS BEEN DETERMINED PER ASC 7-22, CHAPTER 7. CRITERIA IS AS FOLLOWS:

A. GROUND SNOW LOAD, Pg: 86 PSF

B. SNOW EXPOSURE FACTOR, Ce: 1.0

C. THERMAL FACTOR, Ct: 1.2

D. FLAT ROOF SNOW LOAD, Pf: 73 PSF

WIND LOADS

1. BUILDING WIND LOADING HAS BEEN DETERMINED PER ASC 7-22, CHAPTERS 26 AND 28. CRITERIA IS AS FOLLOWS:

A. WIND EXPOSURE CATEGORY: C

B. ULTIMATE BASIC WIND SPEED, V: 110 MPH

C. INTERNAL PRESSURE COEFFICIENT, GCpi: ±0.18

2. COMPONENTS AND CLADDING WIND PRESSURES HAVE BEEN DETERMINED PER ASC 7-22, CHAPTER 30, ON AN ELEEMNT BY ELEMENT BASIS.

A. DESIGNERS OF ELEMENTS ENGINEERED AS PART OF A DEFERRED SUBMITTAL THAT ARE SUBJECT TO WIND LOADING, ARE TO DETERMINE COMPONENT AND CLADDING WIND PRESSURES SPECIFIC TO THOSE ELEMENTS PER ASC 7-22, CHAPTER 30 OR ANOTHER RELEVANT WIND LOADING PROCEDURE.

SEISMIC LOADS

1. BUILDING SEISMIC LOADING HAS BEEN DETERMINED PER ASC 7-22, CHAPTERS 11 AND 12. CRITERIA IS AS FOLLOWS:

A. SHORT PERIOD SPECTRAL ACCELERATION, Ss: 0.150g

B. ONE SECOND PERIOD SPECTRAL ACCELERATION, S1: 0.043g

C. SITE CLASS: D

D. SHORT PERIOD SPECTRAL RESPONSE ACCELERATION, Sds: 0.130g

E. ONE SECOND PERIOD SPECTRAL ACCELERATION, SD1: 0.060g

F. SEISMIC IMPORTANCE FACTOR, ie: 1.0

G. SEISMIC DESIGN CATEGORY: A

H. SEISMIC FORCE-RESISTING SYSTEM: STEEL ORDINARY CONCNETRICALLY BRACED FRAMES

I. RESPONSE MODIFICATION FACTOR, R: 3.25

J. ANALYTICAL PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

2. SEISMIC FORCES ON STRUCTURAL AND NON-STRUCTURAL COMPONENTS AND THEIR ATTACHEMENTS HAVE BEEN DETERMINED PER ASC 7-22, CHAPTERS 11, 12 AND 13.

A. DESIGNERS OF ELEMENTS AS PART OF A DEFERRED SUBMITTAL ARE TO DETERMINE SEISMIC LOADING SPECIFIC TO THOSE ELEMENTS PER ASC 7-22, CHAPTERS 11, 12 AND 13 OR ANOTHER RELEVANT SEISMIC LOADING PROCEDURE.

FOUNDATION LOADS AND SOIL CAPACITY

1. FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL REPORT PREPARED BY ATLANTIC TESTING LABORATORIES DATED SEPTEMBER 16, 2025. FOUNDATION LOADS AND SOIL CAPACITIES DETERMINED IN THE REPORT ARE AS FOLLOWS:

A. SPREAD FOOTING CAPACITY:

1. ALLOWABLE SOIL BEARING PRESSURE: 3000 PSF

B. BELOW GRADE WALL LOADING:

1. COEFFICIENT OF ACTIVE LATERAL EARTH PRESSURE, Ka: 0.31

ELEMENT DEFLECTIONS AND BUILDING MOVEMENT

1. DESIGN OF STRUCTURAL ELEMENTS FOR SERVICEABILITY IS BASED ON GUIDANCE FROM IBC CHAPTER 16 AND IS TO INCLUDE MANUFACTURER CRITERIA FOR SPECIFIC FINISHES. DESIGNERS OF ELEMENTS AS PART OF A DEFERRED SUBMITTAL THAT ARE SUPPORTING FINISHES, ARE TO DESIGN FOR THE MINIMUM OF THE DESIGN CRITERIA OUTLINED BELOW OR THE SPECIFIC MANUFACTURER REQUIREMENTS FOR THOSE FINISHES. MINIMUM DESIGN CRITERIA IS AS FOLLOWS:

A. TYPICAL BEAM/GIRDER DEFLECTION

1. SUPPORTING TYPICAL CEILING AND FLOOR FINISHES INCLUDING SHEETROCK, DROPPED CEILINGS, CARPET, VINYL AND HARDWOOD FLOORS:

1. TOTAL LOAD: LENGTH/240

2. LIVE/SNOW LOAD: LENGTH/360

B. SPANDREL BEAM DEFLECTION

1. ABOVE OR BELOW COLD-FORMED WALLS:

1. TOTAL LOAD: LENGTH/240

2. LIVE/SNOW LOAD: LENGTH/360

2. ABOVE OR BELOW GLASS CURTAIN WALLS:

1. TOTAL LOAD: LENGTH/240

2. LIVE/SNOW LOAD: LENGTH/600 OR 0.5"

C. COLD-FORMED WALL ELEMENTS

1. AT FLEXIBLE CLADDING:

1. 0.42"WIND LOAD (ULTIMATE): HEIGHT/240

2. AT BRITTLE CLADDING:

1. 0.42"WIND LOAD (ULTIMATE): HEIGHT/600

D. MEMBERS SUPPORTING GLASS

1. 0.6"WIND LOAD (ULTIMATE): 1/175 GLASS EDGE OR 3/4"

FUTURE VERTICAL EXPANSION

1. THE BUILDING DESIGN AS PART OF THIS SET OF DOCUMENTS DOES NOT INCLUDE ANY ALLOWANCES FOR FUTURE VERTICAL BUILDING EXPANSION.

COLD WEATHER CONSTRUCTION PROCEDURES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTINUOUSLY PROTECT SOILS, CONCRETE, MASONRY AND OTHER BUILDING MATERIALS FROM DAMAGE DUE TO COLD TEMPERATURES UNTIL THE BUILDING HAS BEEN TURNED OVER TO THE OWNER. THIS SHALL INCLUDE TEMPORARY ENCLOSURES, INSULATED BLANKETS AND TEMPORARY HEATING.

2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE ANY DAMAGED OR DEFECTIVE WORK, IN A MANNER APPROVED BY THE ENGINEER.

3. ALL PROTECTIVE AND CORRECTIVE WORK SHALL BE AT THE EXPENSE OF THE CONTRACTOR.

CRUSHED STONE

1. PRIOR TO PLACING CRUSHED STONE, ALL ORGANIC MATERIAL, TOPSOIL, DEBRIS AND ANY OTHER DELETTERIOUS MATERIAL SHALL BE REMOVED.

2. CRUSHED STONE SHALL BE AN APPROVED MATERIAL MEETING THE REQUIREMENTS OF NYSDOT NUMBER 1 AND 2.

3. THE MATERIAL SHALL BE PLACED IN MAXIMUM 8" LIFTS AND COMPACTED.

4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN, FROM A TESTING FIRM APPROVED BY THE ENGINEER, A SIEVE ANALYSIS FOR THE PROPOSED CRUSHED STONE. THE PROCEDURE SHALL BE REPEATED UNTIL A MATERIAL MEETING THE ABOVE REQUIREMENTS IS PROVIDED.

5. IT IS IMPORTANT THAT CRUSHED STONE NOT BE IN CONTACT WITH A SUB-SLAB VAPOR BARRIER. CRUSHED STONE WILL PUNCTURE THE VAPOR BARRIER, MAKING IT INEFFECTIVE.

STRUCTURAL FILL

1. PRIOR TO PLACING GRAN

STRUCTURAL STEEL

1.

THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE SITE, ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS AND THE SPECIFICATIONS.
2.

ALL STRUCTURAL STEEL WORK SHALL COMPLY WITH THE FOLLOWING CODES AND STANDARDS AND ANY OTHER CODES, STANDARDS, OR OTHER DOCUMENTS REFERENCED THEREIN. VERSIONS OR EDITIONS SHALL BE AS REFERENCED BY THE BUILDING CODE INDICATED IN THE DESIGN BASIS.

a.

AISC (AMERICAN INSTITUTE OF STEEL CONSTRUCTION) SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS – AISC 360

b.

AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES – AISC 303

c.

AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS – AISC 341

d.

RCSC (RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS) SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS

e.

AWS (AMERICAN WELDING SOCIETY) STRUCTURAL WELDING CODE – STEEL – AWS D1.1
3.

ALL WELDING SHALL CONFORM TO THE "STRUCTURAL WELDING CODE - ANSI/AWS D1.1" OF THE AMERICAN WELDING SOCIETY.
4.

STEEL MATERIALS SHALL CONFORM TO THE FOLLOWING:

a.

STRUCTURAL SHAPES
ASTM A992, FY = 50,000 PSI (WIDE FLANGE SHAPES)
ASTM A992, FY =50,000 PSI (ANGLES, CHANNELS,S-SHAPES, ETC.)

b.

BOLTS
ASTM A325

c.

NUTS
ASTM A563

d.

WASHERS
ASTM F436

e.

COLUMN ANCHOR RODS
ASTM F1554, HEADED, GRADE 50 GALVANIZED

f.

STEEL PIPE
ASTM A53, TYPE E OR S, GRADE B, FY = 35,000 PSI

g.

STRUCTURAL TUBING
ASTM A500, GRADE B, FY = 46,000 PSI FOR RECTANGULAR SQUARE SECTIONS, FY= 42,000 PSI FOR ROUND SECTIONS.

h.

HEADED STUDS
ASTM A108
5.

ALL SHOP CONNECTIONS SHALL BE BOLTED OR WELDED. ALL FIELD CONNECTIONS SHALL BE BOLTED EXCEPT WHERE WELDING IS SPECIFICALLY CALLED FOR. BOLTS SHALL BE 3/4" DIA. MINIMUM WITH OPEN HOLES 1/16" LARGER, EXCEPT FOR COLUMN GROUT PLATES WHICH ARE 3/16" LARGER AND COLUMN BASE PLATES WHICH ARE 5/16" LARGER.
6.

TIGHTEN ALL BOLTS PER THE REQUIREMENTS OF RCSC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS". THE JOINT TYPE FOR ALL JOINTS IS SNUG-TIGHTENED UNLESS NOTED OTHERWISE.
7.

THE DESIGN OF ALL CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE STEEL FABRICATOR. COMPLETE CALCULATIONS SHALL BE PREPARED BY A REGISTERED PROFESSIONAL ENGINEER AND SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO ANY FABRICATION. CONNECTIONS NOT DETAILED SHALL BE DESIGNED FOR THE LOADS INDICATED ON THE DRAWINGS. LOADS GIVEN IN THE AISC UNIFORM LOAD TABLES OR AS INDICATED IN THE MINIMUM CONNECTION DETAILS WHICH EVER IS GREATER. THE CONNECTION DESIGN SHALL INCLUDE EXTERIOR TUBE COLUMN REINFORCEMENT OR PLATE DIAPHRAGMS TO TRANSFER THE LOADS TO THE TUBE COLUMNS WITHOUT INDUCING LOCAL BUCKLING OF THE TUBE WALLS AND WITHOUT EXCESSIVE DEFORMATION.
8.

ALL STRUCTURAL STEEL SHALL BE SHOP PAINTED (MINIMUM 1.5 MILS DRY FILM THICKNESS) WITH AN APPROVED RUST INHIBITIVE PRIME PAINT. STEEL SHALL BE THOROUGHLY CLEANED PRIOR TO PAINTING. FIELD TOUCH UP WITH THE SAME PAINT WILL BE REQUIRED. ALL STEEL WHICH IS EXPOSED TO WEATHER, WATER, OR CHEMICALS IS TO BE HOT DIPPED GALVANIZED. PROVIDE VENT HOLES IN PIECES AS NECESSARY, LOCATE AS TO PROVIDE POSITIVE DRAINAGE. IN ELEMENTS WHICH PENETRATE A WATERPROOFING MEMBRANE, SEAL ALL VENT HOLES AFTER GALVANIZATION TO A WATER TIGHT CONDITION. DO NOT GALVANIZE PORTIONS OF PIECES TO BE FIELD WELDED.
9.

UNLESS OTHERWISE NOTED, PROVIDE LOOSE LINTELS OVER OPENINGS IN MASONRY WALLS FOR EACH 4" OF THICKNESS AS FOLLOWS:

1-L3 1/2 X 3 1/2 X 1/4 (LENGTH = M.O. + 8") FOR OPENINGS UP TO AND INCLUDING 4'-0"

1-L6X3 1/2 X 5/16 (LENGTH = M.O. + 12") FOR OPENINGS GREATER THAN 4'-0" TO 6'-0"

EXTERIOR LINTELS SHALL BE HOT DIPPED GALVANIZED.
10.

THE STRUCTURAL STEEL CONTRACTOR SHALL PROVIDE ALL NECESSARY GUYING AND BRACING REQUIRED TO ERECT AND HOLD THE STEEL FRAME PLUMB AND SQUARE UNTIL THE ROOF DECK AND WALLS ARE INSTALLED.
11.

THERE WILL BE NO FIELD BURNING, CUTTING OR OTHER ALTERATIONS OF PRIMARY STRUCTURAL STEEL. WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER.
12.

NO MASONRY CONSTRUCTION SHALL BE ALLOWED IN AN AREA WHERE THE STRUCTURAL STEEL WORK IS NOT COMPLETE, SPECIFICALLY INCLUDING PLUMBING AND ALIGNMENT.
13.

ALL FLOOR DECKING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AND THE STEEL DECK INSTITUTE SPECIFICATIONS, UNLESS OTHERWISE NOTED. ALL EDGES OF THE DECKING SHALL BE PROPERLY SUPPORTED. HOLES UP TO 8" IN DIAMETER MAY BE CORED IN THE SLAB AFTER THE SLAB CONCRETE IS 14 DAYS OLD. GROUPS OF HOLES UP TO 8" IN DIAMETER AND ALL LARGER HOLES SHALL BE FRAMED WITH A L4X4X1/4 ANGLE BEARING ON STRUCTURAL SUPPORTS, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
14.

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION FOR THE FOLLOWING ITEMS:

STRUCTURAL STEEL

FLOOR DECKING

IT IS REQUIRED THAT THE STRUCTURAL STEEL SUBCONTRACTOR PREPARE COMPLETE ERECTION DRAWINGS. REVISING OR PHOTOCOPIING OF THESE STRUCTURAL DRAWINGS WILL NOT BE PERMITTED.
15.

ALL STRUCTURAL STEEL FABRICATION AND ERECTION MUST COMPLY WITH THE LATEST REQUIREMENTS OF OSHA 29 CFR PART 1926.

CONCRETE

1.

ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS AND THE SPECIFICATIONS.
2.

ALL CONCRETE WORK SHALL COMPLY WITH THE LATEST RECOMMENDATIONS AND SPECIFICATIONS OF THE AMERICAN CONCRETE INSTITUTE (ACI) AND THE LOCAL BUILDING CODES.

ACI 211.1

RECOMMENDED PRACTICE FOR SELECTING PROPORTIONS FOR NORMAL WEIGHT CONCRETE

ACI 212

GUIDE FOR USE OF ADMIXTURES IN CONCRETE – COMMITTEE REPORT

ACI 214

GUIDE TO EVALUATION OF STRENGTH TEST RESULTS OF CONCRETE

ACI 301

SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS

ACI 302

RECOMMENDED PRACTICE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION

ACI 304

GUIDE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE

ACI 305

RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING

ACI 306

RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING

ACI 308

RECOMMENDED PRACTICE FOR CURING CONCRETE

ACI 309

RECOMMENDED PRACTICE FOR CONSOLIDATION OF CONCRETE

ACI 315

MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES

ACI 318

BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE

ACI 347

RECOMMENDED PRACTICE FOR CONCRETE FORMWORK
3.

ALL CONCRETE SHALL BE NORMAL WEIGHT HAVING A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH THE FOLLOWING REQUIREMENTS:

A.

PORTLAND CEMENT - ASTM C150, TYPE I/II.

B.

AGGREGATE - ASTM C33, 1" MAXIMUM SIZE FOR STRUCTURAL CONCRETE. USE 1 1/2" AGGREGATE FOR ALL SLABS-ON-GRADE.

C.

WATER - POTABLE WITH A MAXIMUM WATER CEMENT RATIO OF 0.50.

D.

SLUMP - 3" TO 5".

E.

ADMIXTURES - USE AIR ENTRAINING AGENT CONFORMING TO ASTM C260 WITH 4-6% TOTAL AIR (REDUCE AIR CONTENT TO 2% FOR INTERIOR SLABS-ON-GRADE). USE WATER REDUCING AGENT CONFORMING TO ASTM C494 IN ALL CONCRETE.

F.

DESIGN MIX - SUBMIT A CURRENT (MAXIMUM 18 MONTHS OLD) DESIGN MIX OF THE EXACT SAME MIX TO BE USED ON THE PROJECT, WITH 28 DAY COMPRESSIVE STRENGTH TESTS, TO THE ENGINEER FOR REVIEW PRIOR TO STARTING CONSTRUCTION. THE MIX SUBMITAL SHALL BE DONE IN ACCORDANCE WITH ACI 301.
4.

ALL REINFORCING STEEL SHALL COMPLY WITH ASTM A615, GRADE 60 EXCEPT AS NOTED OTHERWISE. WELDED WIRE FABRIC TO CONFORM TO ASTM A1064. WELDED WIRE FABRIC TO BE FURNISHED IN FLAT SHEETS, NOT ROLLS.
5.

LAP ALL BARS 48 DIAMETERS MINIMUM AT SPLICES UNLESS INDICATED OTHERWISE ON THE DRAWINGS. TOP BARS TO BE SPLICED AT MIDSPAN AND BOTTOM BARS AT SUPPORTS. WELDED WIRE FABRIC TO BE LAPPED ONE FULL MESH AT SIDES AND ENDS.
6.

REINFORCEMENT SHALL BE SECURELY TIED IN ITS PROPER PLACE BEFORE AND DURING POURING OPERATIONS USING APPROVED CHAIRS AND SPACERS AS REQUIRED. NO BARS SHALL BE CUT OR OMITTED IN THE FIELD WITHOUT THE APPROVAL OF THE ENGINEER. USE PLASTIC TIPPED ACCESSORIES IN CONCRETE EXPOSED TO WEATHER, WATER OR VIEW.
7.

WHERE CONTINUOUS BARS ARE CALLED FOR, INDICATED OR REQUIRED, THEY SHALL BE RUN CONTINUOUSLY AROUND CORNERS, DOWELED INTO INTERSECTING WALLS AND LAPPED AT NECESSARY SPLICES WITH SPLICES STAGGERED WHEREVER POSSIBLE.
8.

THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:

CONCRETE CAST AGAINST EARTH

3"

FORMED CONCRETE EXPOSED TO EARTH OR WEATHER

1 1/2"

#5 (#16) AND SMALLER

1 1/2"

#6 (#19) AND LARGER

2"

CONCRETE NOT EXPOSED TO EARTH OR WEATHER

3/4"

SLABS, WALLS AND JOISTS

3/4"

BEAMS AND COLUMNS

1 1/2"
9.

THE CONCRETE CONTRACTOR SHALL INSTALL (OR GIVE OTHER TRADES AMPLE OPPORTUNITY TO INSTALL) ALL ANCHORS, BOLTS, PLATE, NAILERS, SLOTS, CHASES, PIPE SLEEVES, ETC., AS REQUIRED BY OTHER TRADES. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE SETTING SCREEDS AND FORMS. FORM RELEASE OIL TO BE AN APPROVED LIQUID.
10.

SLABS AND BEAMS SHALL BE POURED MONOLITHICALLY EXCEPT WHERE OTHERWISE SHOWN AND SHALL BE FINISHED AS INDICATED IN THE SPECIFICATIONS (ON THE PLANS). CONSTRUCTION JOINTS IN ELVATED SLABS SHALL BE LOCATED SO THAT EACH INDIVIDUAL POUR DOES NOT EXCEED ACI STANDARDS. SLABS ON GRADE SHALL BE POURED WITH A MAXIMUM DISTANCE BETWEEN CONSTRUCTION OR SAW JOINTS OF 30 FEET UNLESS NOTED OTHERWISE. ALLOW FOR A MINIMUM OF 7 DAYS BETWEEN ADJACENT POURS.
11.

CONTRACTOR SHALL REPAIR, AT HIS EXPENSE, ALL CONCRETE SLAB DEFECTS SUCH AS CURLING OR CRACKING. GRINDING, PATCHING, ETC. REPAIR PROCEDURES SHALL BE APPROVED BY THE ENGINEER PRIOR TO STARTING WORK.
12.

CHAMFER EDGES OF EXPOSED BEAMS AND COLUMNS.
13.

CONCRETE TEMPERATURE DURING THE FIRST SEVEN DAYS SHALL BE MAINTAINED BETWEEN 50 DEG. F AND 90 DEG. F. RAPID DRYING MUST BE PREVENTED.
14.

CURING

A.

HORIZONTAL SURFACES SHALL BE KEPT CONTINUOUSLY MOIST FOR A MINIMUM OF SEVEN DAYS.

B.

VERTICAL SURFACES SHALL RECEIVE TWO COATS (ONE AT TIME OF STRIPPING AND ANOTHER THREE DAYS LATER) OF AN APPROVED CURING COMPOUND.
15.

CONTRACTOR TO DESIGN, FURNISH AND INSTALL ALL TEMPORARY SHEETING, SHORING AND BRACING NECESSARY TO SAFELY COMPLETE THE CONSTRUCTION.
16.

SHOP DRAWINGS PREPARED IN ACCORDANCE WITH ACI STANDARDS WILL BE REQUIRED FROM THE CONTRACTOR FOR REINFORCING STEEL PRIOR TO CONSTRUCTION. THE REUSE OR REPRODUCTION OF ANY PORTION OF THESE DOCUMENTS FOR USE AS SHOP DRAWINGS IS STRICTLY PROHIBITED WITHOUT THE WRITTEN PERMISSION OF MCFARLAND- JOHNSON, INC.
17.

THE OWNER WILL EMPLOY A QUALIFIED ENGINEERING TESTING FIRM TO PERFORM STANDARD FIELD TESTING OF THE CONCRETE WORK. CONCRETE SHALL BE TESTED FOR:

A)

COMPRESSIVE STRENGTH (4 – 6"x12" CYLINDERS: ONE AT 7 DAYS, 2 AT 28 DAYS AND RETAIN ONE FOR 56 DAYS FOR TESTING IN THE EVENT THE 28 DAY RESULTS DO NOT MEET SPECIFICATIONS). TAKE ONE SET OF FOUR (4) CYLINDERS FOR EACH PLACEMENT AND NOT LESS THAN ONE SET FOR EACH 50 CUBIC YARDS.

B)

SLUMP (BEFORE AND AFTER PLASTICIZER IF USED).

C)

TEMPERATURE (AIR AND CONCRETE).

D)

AIR CONTENT.

E)

UNIT WEIGHT.
- COLD FORMED STEEL FRAMING
1.

STEEL STUDS AND JOISTS SHALL BE COLD ROLLED C-SHAPED MEMBERS OF THE TYPE, SIZE AND MINIMUM GAGE AS SHOWN ON THE DRAWINGS. THE DESIGN OF LIGHT GAUGE METAL IS A DELEGATED DESIGN AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PROVIDE COMPLETE CALCULATIONS AND SHOP DRAWINGS AS PART OF A DEFERRED SUBMITTAL. ALL STUDS AND JOISTS SHALL BE MARKED WITH THE MANUFACTURER'S NAME, GAGE OF MATERIAL AND YIELD STRENGTH.

2.

STEEL SHALL COMPLY WITH ASTM A1003, TYPE H GRADE 33 OR GRADE 50 AS REQUIRED BY STRUCTURAL PERFORMANCE. WITH A GALVANIZED FINISH COMPLYING WITH G60 COATING WEIGHT.

3.

ALL WORK SHALL MEET THE REQUIREMENTS OF THE LATEST EDITIONS OF THE FOLLOWING STANDARDS:

A.

AMERICAN IRON AND STEEL INSTITUTE (AISI) SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS.

B.

AMERICAN WELDING SOCIETY (AWS) D1.3 STRUCTURAL WELDING CODE - SHEET STEEL.

C.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).

D.

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION.

E.

ALL PERTINENT FEDERAL, STATE AND LOCAL CODES.

4.

PROVIDE AND INSTALL TRACKS, BLOCKING, BRIDGING, CLIP ANGLES AND OTHER ACCESSORIES, AS NEEDED TO PROVIDE A COMPLETE SYSTEM AND AS RECOMMENDED BY MANUFACTURER. TRACKS SHALL BE OF THE SAME GAGE AND SIZE AS THE STUDS UNLESS OTHERWISE NOTED ON THE DRAWINGS.

5.

THE DESIGN OF ALL FASTENERS IS A DELEGATED DESIGN AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. PROVIDE COMPLETE CALCULATIONS AND FABRICATION AND INSTALLATION REQUIREMENTS AS PART OF DEFERRED SUBMITTAL.

6.

PROVIDE NUTS, BOLTS, WASHERS, SCREWS AND OTHER FASTENERS WITH CORROSION RESISTANT FINISH.

7.

INSTALL JOISTS DIRECTLY OVER BEARING STUDS. PROVIDE WEB STIFFENERS AND JOIST BRIDGING AS SHOWN ON DRAWINGS AND AS REQUIRED. PROVIDE END BLOCKING WHERE JOISTS ENDS ARE NOT OTHERWISE RESTRAINED. STUDS IN LOAD BEARING WALLS SHALL BE SEATED TIGHT AGAINST TRACK WEBS.

8.

CHECK FRAMING FOR ACCURATE SPACING/ALIGNMENT AND OPENINGS BEFORE INSTALLING FLOOR, CEILING AND WALL SHEATHING.

9.

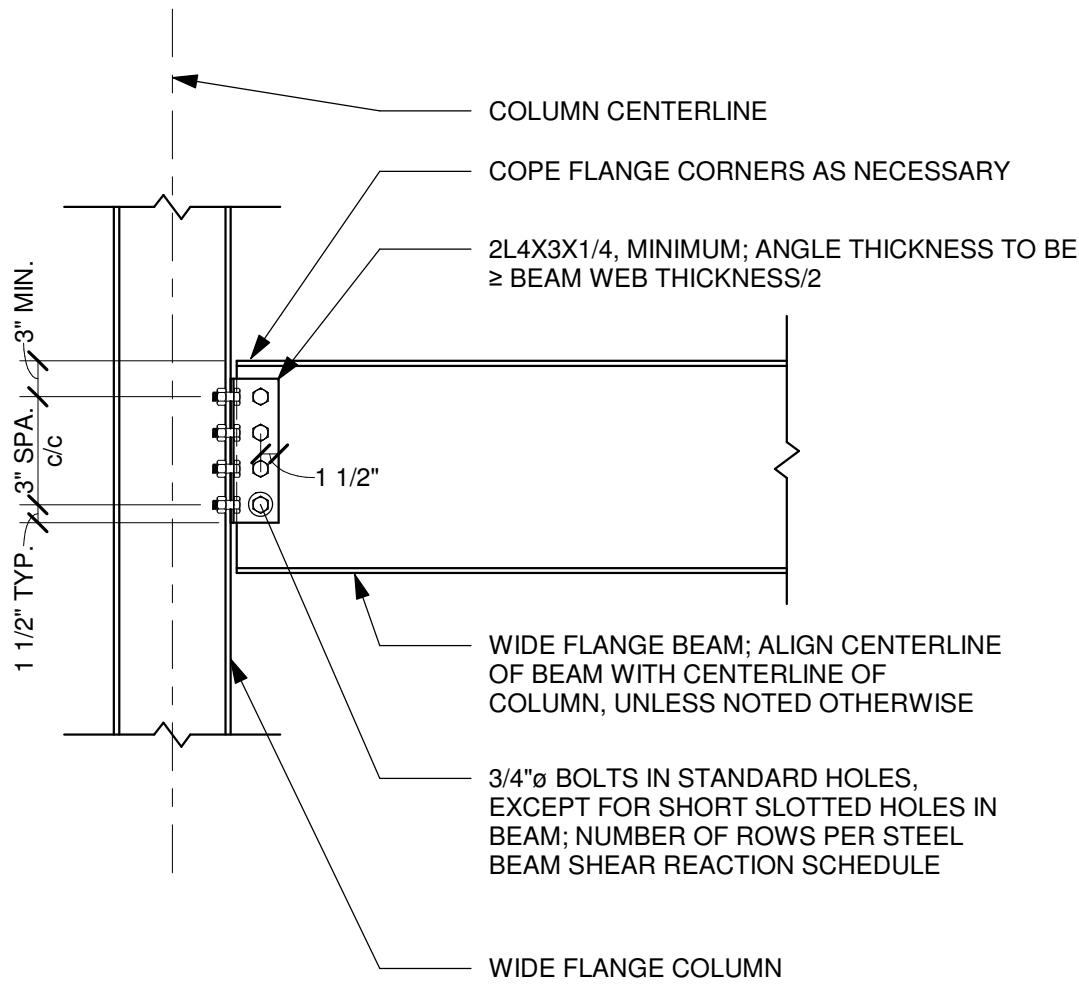
EXTERIOR STUD WALLS USED IN CONJUNCTION WITH MASONRY VENEERS SHALL BE LIMITED TO A LATERAL DEFLECTION OF L/800 DUE TO WIND LOAD. OTHER EXTERIOR STUD WALLS SHALL BE LIMITED TO A LATERAL DEFLECTION OF L/360 DUE TO WIND. JOISTS SHALL BE LIMITED TO A VERTICAL DEFLECTION OF L/360 DUE TO SNOW LOAD OR LIVE LOAD.

10.

THE WALL FRAMING SYSTEM SHALL BE DESIGNED AND DETAILED TO ACCOMMODATE VERTICAL MOVEMENT OF BUILDING FRAMING MEMBERS.

11.

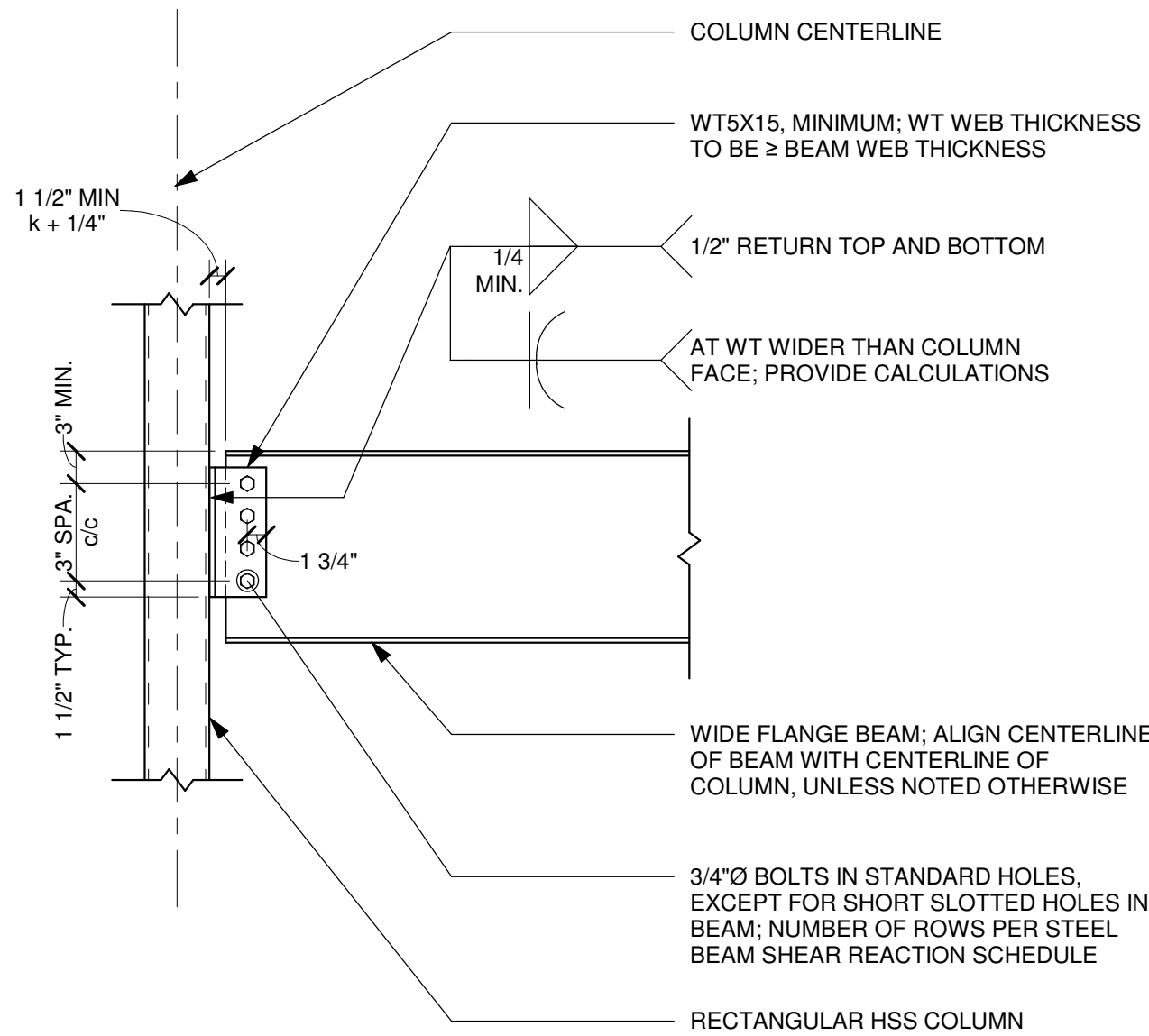
ALL WALLS SHALL BE PROVIDED WITH 16 GAGE CONTINUOUS HORIZONTAL COLD ROLLED CHANNEL BRIDGING FASTENED AT EACH STUD INSIDE THE STUD KNOCKOUTS. ALTERNATIVELY, CONTINUOUS TWO INCH 18 GAGE (MINIMUM) STRAP BRIDGING SHALL BE APPLIED ON EACH SIDE OF EACH STUD. SPACING OF ROWS SHALL BE: FIRST ROW AT 5', THE BALANCE AT 4' O.C. LOCATE SOLID BRIDGING AT EACH END OF WALL AND 10' O.C. IN BETWEEN.
- | SCHEDULE OF SPECIAL INSPECTION SERVICES | | | | | |
|--|---|-----|---------------------------------|-------|----------------|
| PROJECT | APPLICABLE TO THIS PROJECT | | | | |
| MATERIAL / ACTIVITY | SERVICE | Y/N | EXTENT | AGENT | DATE COMPLETED |
| 1704.2.5.1 Inspection of Fabricators | | | | | |
| Verify fabrication/quality control procedures | In-plant review (3) | Y | Periodic | | |
| 1705.1.1 Special Cases/work unusual in nature, including but not limited to alternative materials, systems, unusual design applications, materials and systems with special manufacturer's requirements | | | | | |
| Submittal review, shop (3) and/or field inspection | | N | | | |
| 1705.2 Steel Construction | | | | | |
| 1. Fabricator and erector documents (Verify reports and certificates as listed in AISC 360, Chapter IV, paragraph 3.2 for compliance with construction documents) | Submittal Review | Y | Each submittal | | |
| 2. Material verification of structural steel | Shop (3) and field inspection | Y | Periodic | | |
| 3. Embedments (Verify diameter, grade, type, length, embedment. See 1705.3 for anchors) | Field inspection | Y | Periodic | | |
| 4. Verify member locations, trusses, bracing, and application of joint details at each connection comply with construction documents | Field inspection | Y | Periodic | | |
| 5. Structural steel welding | | | | | |
| a. Inspection tasks Prior to Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table NS 4-1) | Shop (3) and field inspection | Y | Observe or Perform as noted (4) | | |
| b. Inspection tasks During Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table NS 4-2) | Shop (3) and field inspection | N | Observe or Perform as noted (4) | | |
| c. Inspection tasks After Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table NS 4-3) | Shop (3) and field inspection | Y | Observe or Perform as noted (4) | | |
| d. Nondestructive testing (NDT) of welded joints (see Commentary) | | | | | |
| 1) Complete joint penetration groove welds 5/16" or greater in risk category III or IV | Shop (3) or field ultrasonic testing - 100% | N | Periodic | | |
| 2) Complete joint penetration groove welds 5/16" or greater in risk category II | Shop (3) or field ultrasonic testing - 10% of welds minimum | N | Periodic | | |
| 3) Welded joints subject to fatigue when required by AISC 360, Appendix 3, Table A-3.1 | Shop (3) or field radiographic or Ultrasonic testing | N | Periodic | | |
| 4) Fabricator's NDT reports when fabricator performs NDT | Verify reports | N | Each submittal (5) | | |
| 6. Structural steel bolting | | | | | |
| a. Inspection tasks Prior to Bolting (Observe, or perform tasks for each bolted connection, in accordance with QA tasks listed in AISC 360, Table NS 5-1) | Shop (3) and field inspection | N | Observe or Perform as noted (4) | | |
| b. Inspection tasks During Bolting (Observe the QA tasks listed in AISC 360, Table NS 5-2) | | N | Observe (4) | | |
| 1) Pre-tensioned and slip-critical joints | | | | | |
| a) Turn-of-nut with matching markings | | N | Periodic | | |
| b) Direct tension indicator | | N | Periodic | | |
| c) Twist-off type tension control bolt | | N | Periodic | | |
| d) Turn-of-nut without matching markings | | N | Continuous | | |
| a) Calibrated wrench | | N | Continuous | | |
| e) Shop-tight joints | | Y | Periodic | | |
| c. Inspection tasks After Bolting (Perform tasks for each bolted connection in accordance with QA tasks listed in AISC 360, Table NS 6-3) | | Y | Perform (4) | | |
- | SCHEDULE OF SPECIAL INSPECTION SERVICES | | | | | |
|---|---|---------|------------|---------------|----------------|
| PROJECT | APPLICABLE TO THIS PROJECT | | | | |
| MATERIAL / ACTIVITY | SERVICE | Y/N | EXTENT | AGENT | DATE COMPLETED |
| 1704.2.2 Cold-formed Steel Deck | | | | | |
| 1. Inspection of cold-formed steel floor and roof deck in accordance with the quality assurance inspection requirements of SDI QA/QC. | Field inspection | Y | Periodic | | |
| 1705.3 Concrete Construction | | | | | |
| 1. Inspection of reinforcing steel and prestressing steel installation | Shop (3) and field inspection | Y | Periodic | | |
| a. Reinforcing bar welding | | | | | |
| 1. Verify weldability of reinforcing bars other than ASTM A706 | Field inspection | N | Periodic | | |
| b. Inspect single pass fillet welds, maximum 5/16" | Field inspection | N | Periodic | | |
| c. Inspect all other welds. | Field inspection | N | Continuous | | |
| 2. Inspection of anchors cast in concrete | Shop (3) and field inspection | Y | Periodic | | |
| a. Inspect anchors post-installed in hardened concrete members | | N | | | |
| b. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads | Field inspection | N | Continuous | | |
| b. Mechanical anchors and adhesive anchors not defined in 4-a | Field inspection | N | Periodic | | |
| 3. Verify use of approved design mix | Shop (3) and field inspection | Y | Periodic | | |
| 4. Fresh concrete sampling, uniform slump and air content tests and determine temperature of concrete | Shop (3) and field inspection | Y | Continuous | | |
| 5. Inspection of concrete and admixture placement for proper application techniques | Shop (3) and field inspection | Y | Continuous | | |
| 6. Inspection for maintenance of specified curing temperature and techniques | Shop (3) and field inspection | Y | Periodic | | |
| 7. Verification of in-situ concrete (strength, prior to placing of tendons in post-tensioned concrete and prior to removal of shoring and forms from beams and structural slabs) | Review field testing and laboratory reports | N | Periodic | | |
| 10. Inspection of formwork for shape, location and dimensions | Field inspection | N | Periodic | | |
| 1705.6 Soils | | | | | |
| 1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity. | Field inspection | Y | Periodic | | |
| 2. Verify excavations are extended to proper depth and have reached proper material. | Field inspection | Y | Periodic | | |
| 3. Perform classification and testing of controlled fill materials. | Field inspection | Y | Periodic | | |
| 4. Verify use of proper materials, densities, and fill thicknesses during placement and compaction of controlled fill | Field inspection | Y | Continuous | | |
| 5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly. | Field inspection | Y | Periodic | | |
| INSPECTION AGENTS | | | | | |
| FIRM | | ADDRESS | | TELEPHONE NO. | |
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |
| <small>Notes: 1. The inspection and testing agency(ies) shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official prior to commencing work. The qualifications of the Special Inspector(s) and/or testing agencies may be subject to the approval of the Building Official under the Design Professional.</small> | | | | | |
| <small>2. The list of Special Inspectors may be submitted as a separate document. If noted as above.</small> | | | | | |
| <small>3. Special Inspections are required under Section 1704.2.5 and are not required under the following: 1. Inspections are approved in accordance with SDI Section 1704.2.5.1.</small> | | | | | |
| <small>4. Observe on a random basis, operations need not be delayed pending these inspections. Perform these tasks for each welded joint, bolted connection, or steel element.</small> | | | | | |
| <small>5. NDT of welds completed in an approved fabricator's shop may be performed by that fabricator when approved by the AHJ. Refer to AISC 360, NS.</small> | | | | | |
| <small>Are Requirements for Seismic Resistance included in the Statement of Special Inspections? Yes <input type="checkbox"/> No <input type="checkbox"/></small> | | | | | |
| <small>Are Requirements for Wind Resistance included in the Statement of Special Inspections? Yes <input type="checkbox"/> No <input type="checkbox"/></small> | | | | | |
| DATE: | | | | | |
-
- McFARLAND JOHNSON
49 COURT STREET, SUITE 240
BINGHAMTON, NY 13901
-
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ARCHITECTURE
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- | NO. | DATE | DESCRIPTION |
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| 1 | 01/19/26 | Addendum 1 |
- STAMP
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- PROJECT MILESTONE
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- DRAWN B. RIBBANS
- DESIGNED C. PHILLIPS
- CHECKED C. PHILLIPS
- SCALE AS NOTED
- DATE 12/22/2025
- PROJECT 19046.03
- DRAWING TITLE
- STANDARD NOTES
- DRAWING NUMBER
- S002



NOTE: SAME DETAIL AT BEAM TO WIDE FLANGE COLUMN WEB.

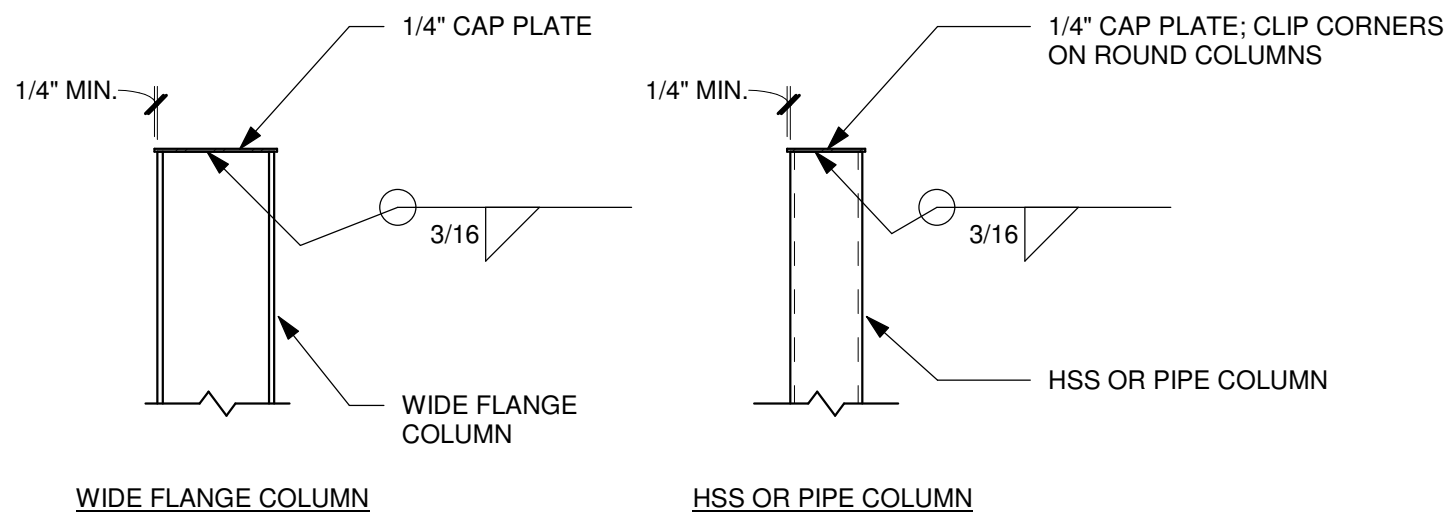
TYPICAL DETAIL OF BEAM TO WIDE FLANGE COLUMN SHEAR CONNECTION

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



TYPICAL DETAIL OF BEAM TO RECTANGULAR HSS COLUMN CONNECTION

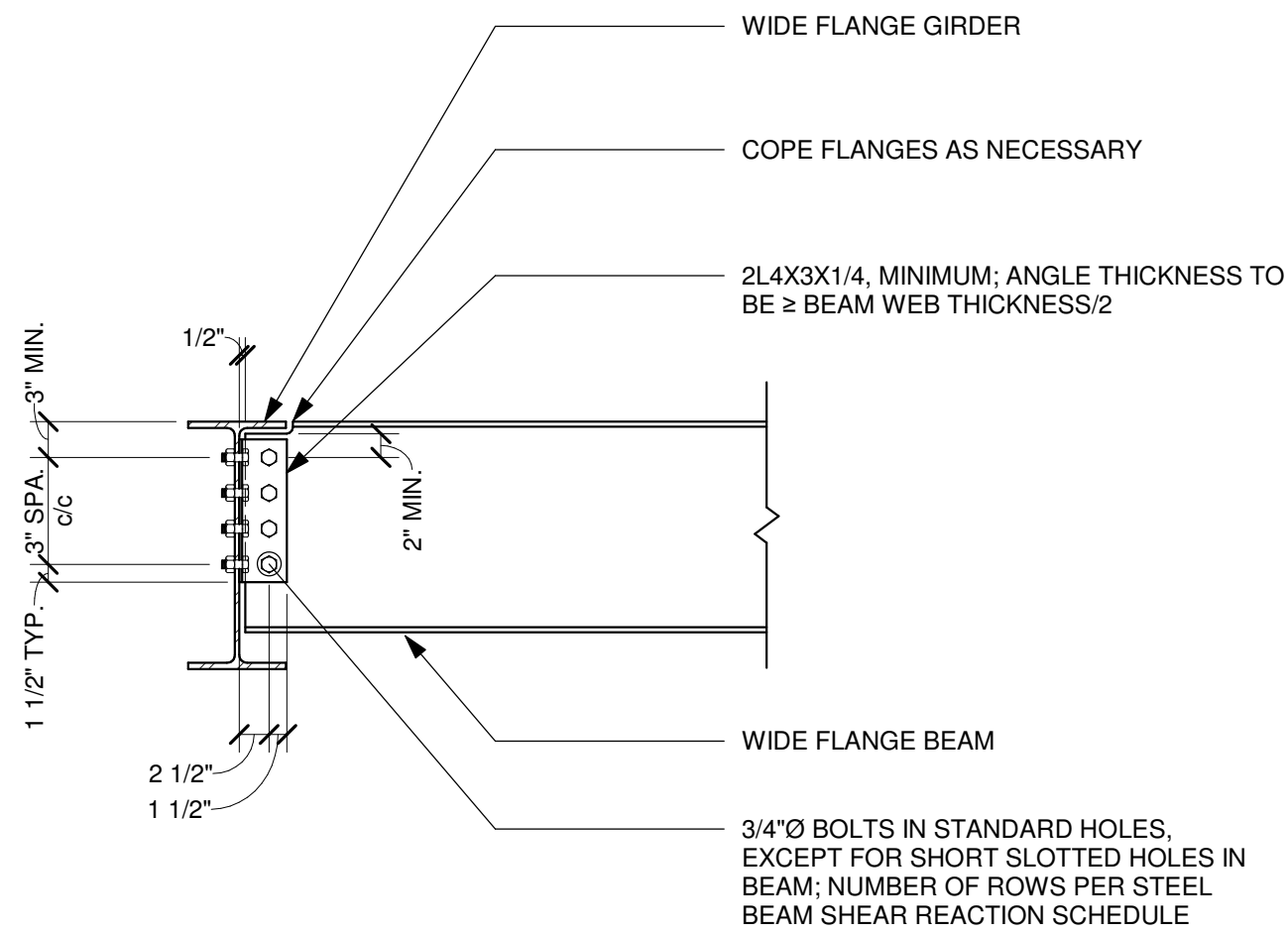
SCALE: 3/4" = 1'-0"



NOTE: TOP OF CAP PLATE TO ALIGN WITH TOP OF STEEL AND/OR DECK BEARING, UNLESS NOTED OTHERWISE.

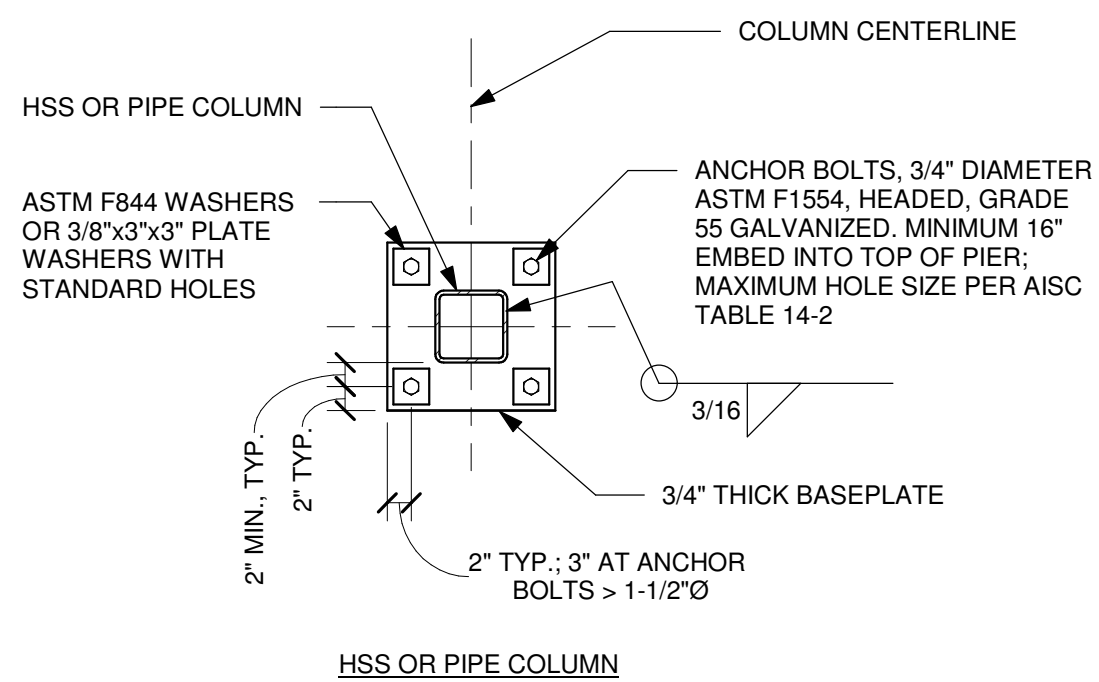
TYPICAL DETAIL OF COLUMN CAP PLATE

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



TYPICAL DETAIL OF BEAM TO BEAM SHEAR CONNECTION

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



TYPICAL DETAIL OF COLUMN BASEPLATES

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

STEEL BEAM SHEAR REACTION SCHEDULE		
BEAM SIZE	MINIMUM CAPACITY (Rn/Q)	MINIMUM NUMBER OF ROWS OF BOLTS
W8	15 K	2
W10	20 K	2
W12 & C12	25 K	3
W14	30 K	3
W16	35 K	4
W18	45 K	4

NOTES:

- CONNECTIONS FOR ALL BEAMS SHALL HAVE MINIMUM ALLOWABLE CAPACITIES AND NUMBER OF BOLTS AS LISTED ABOVE. SEE PLANS FOR BEAMS REQUIRING LARGER REACTIONS THAN SHOWN ABOVE. INDICATED ON PLAN AT BEAM END AS FOLLOWS: 80K.
- CONTRACTOR TO PROVIDE STAMPED CALCULATIONS FOR THE FOLLOWING CONNECTIONS:
 - CONNECTIONS AT LOCATIONS WITH LOADS GREATER THAN MINIMUM INDICATED IN SCHEDULE ABOVE.
 - CONNECTIONS NOT SPECIFICALLY DETAILED IN EITHER TYPICAL DETAILS OR SECTIONS.
 - ANY CONTRACTOR MODIFICATIONS TO TYPICAL CONNECTIONS.
 - ALL SINGLE PLATE CONNECTIONS.

STEEL BEAM SHEAR REACTION SCHEDULE

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



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TYPICAL DETAILS

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CHECKED C. PHILLIPS

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DATE 12/22/2025

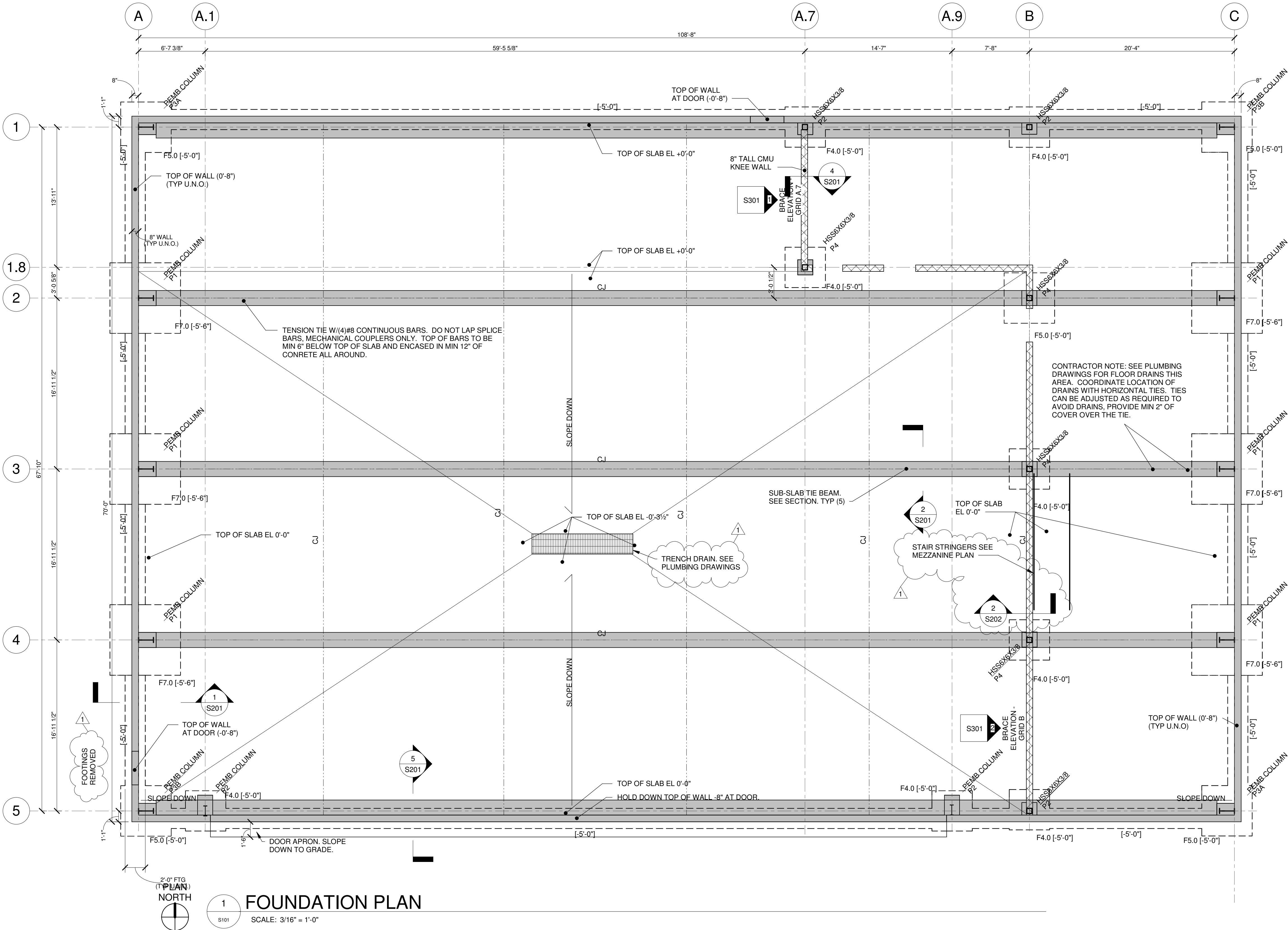
PROJECT 19046.03

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FOUNDATION PLAN

DRAWING NUMBER

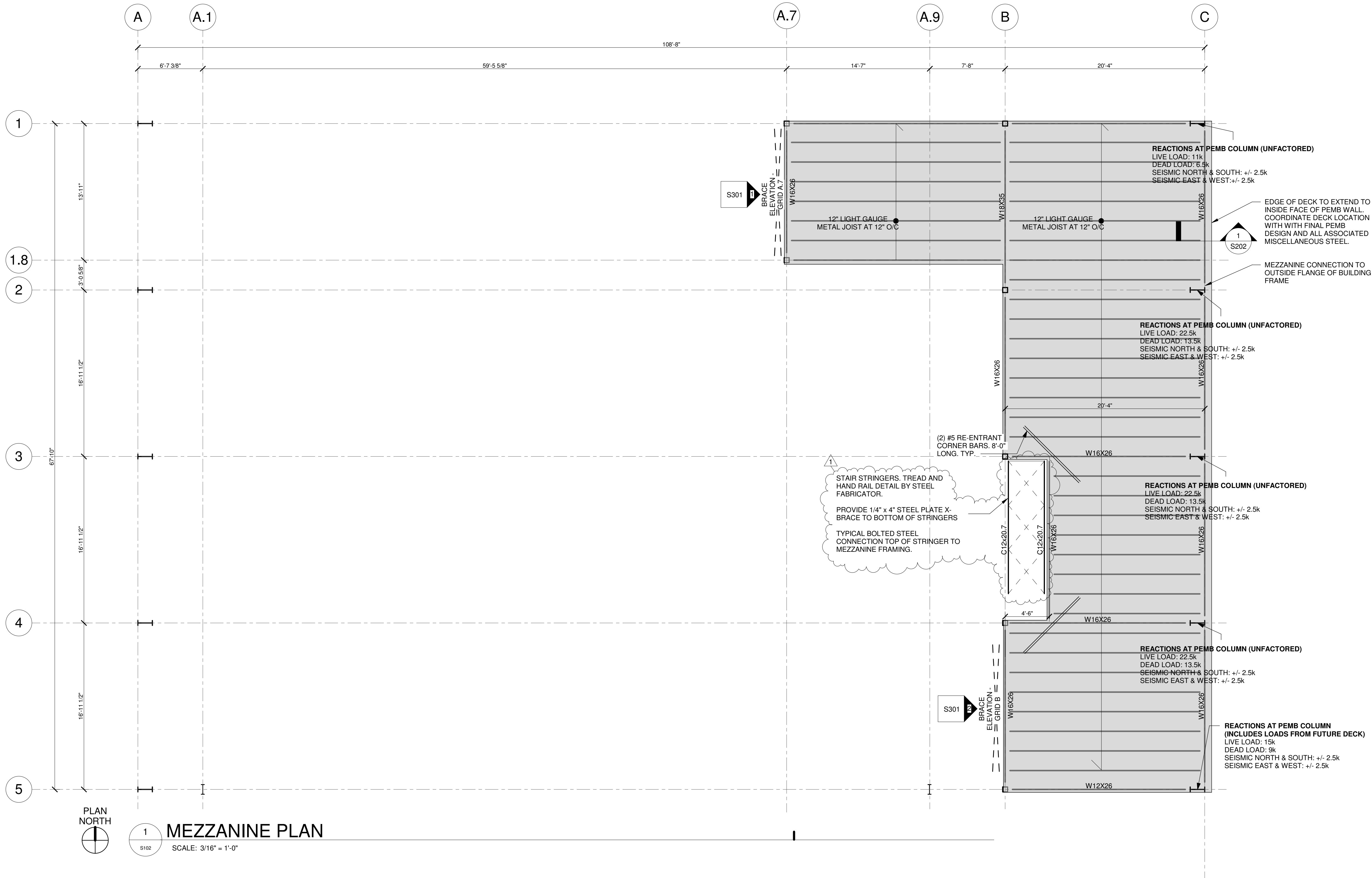
S101



FOUNDATION PLAN

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

- ELEVATION TOP OF SLAB-ON-GRADE = 0'-0" (RELATIVE REFERENCE) UNLESS NOTED AS (+) OR (-) ON FOUNDATION PLAN. SLAB SLOPES 3/4" TO DRAIN IN HANGAR BAY.
- CONCRETE SLAB-ON-GRADE SHALL BE 8" THICK REINFORCED WITH #5 BARS AT 12" O.C. EACH WAY TOP & BOTTOM.
- PROVIDE ASTM E1745 CLASS A VAPOR BARRIER DIRECTLY UNDER SLAB. TAPE SEAMS AND SEAL PENETRATIONS.
- ELEVATION BOTTOM OF FOOTING INDICATED AS []. SPREAD FOOTING SIZES ARE INDICATED BY FX.X. SEE SCHEDULE ON S004. FOUNDATIONS HAVE BEEN DESIGNED PRIOR TO PEMB FRAMING. FOUNDATION SIZES AND ANCHOR BOLTS ARE SUBJECT TO CHANGE PROCEEDING FINAL PEMB DESIGN AND PROVIDED LOADS FROM MANUFACTURER.
- LOCATE SLAB-ON-GRADE CONTROL JOINTS AS SHOWN ON PLAN, NOTED "CJ". CONSTRUCTION JOINTS MAY BE SUBSTITUTED FOR CONTROL JOINTS WHERE CONTRACTOR INTENDS TO END CONCRETE POURS.
- ANY ADDITIONAL FRAMING FOR HANGAR DOOR IS NOT IN SCOPE. PEMB DESIGNER TO PROVIDE ALL HANGERS, BRACING, CONNECTIONS OR ANY OTHER ACCESSORY STEEL REQUIRED TO SUPPORT HANGAR DOOR. PEMB MANUFACTURER, DOOR VENDOR AND ARCHITECT TO COORDINATE FINAL DOOR OPENING SIZE, COLUMN LOCATIONS, FRAMING SIZES, AND ANY MISCELLANEOUS STEEL AT DOOR OPENING.
- PROVIDE SONO-TUBE FOOTINGS IF PEMB MANUFACTURER REQUIRES COLUMNS TO SUPPORT EXTERIOR DOOR CANOPY. COORDINATE FINAL LOCATIONS WITH PEMB MANUFACTURER. OMIT FROM SCOPE IF COLUMNS ARE NOT REQUIRED. BOTTOM OF FOOTINGS TO BE -5'-0" BELOW GRADE. TOP OF FOOTING TO BE 0'-8". DIAMETER TO BE COORDINATED WITH COLUMN BASE PLATE.



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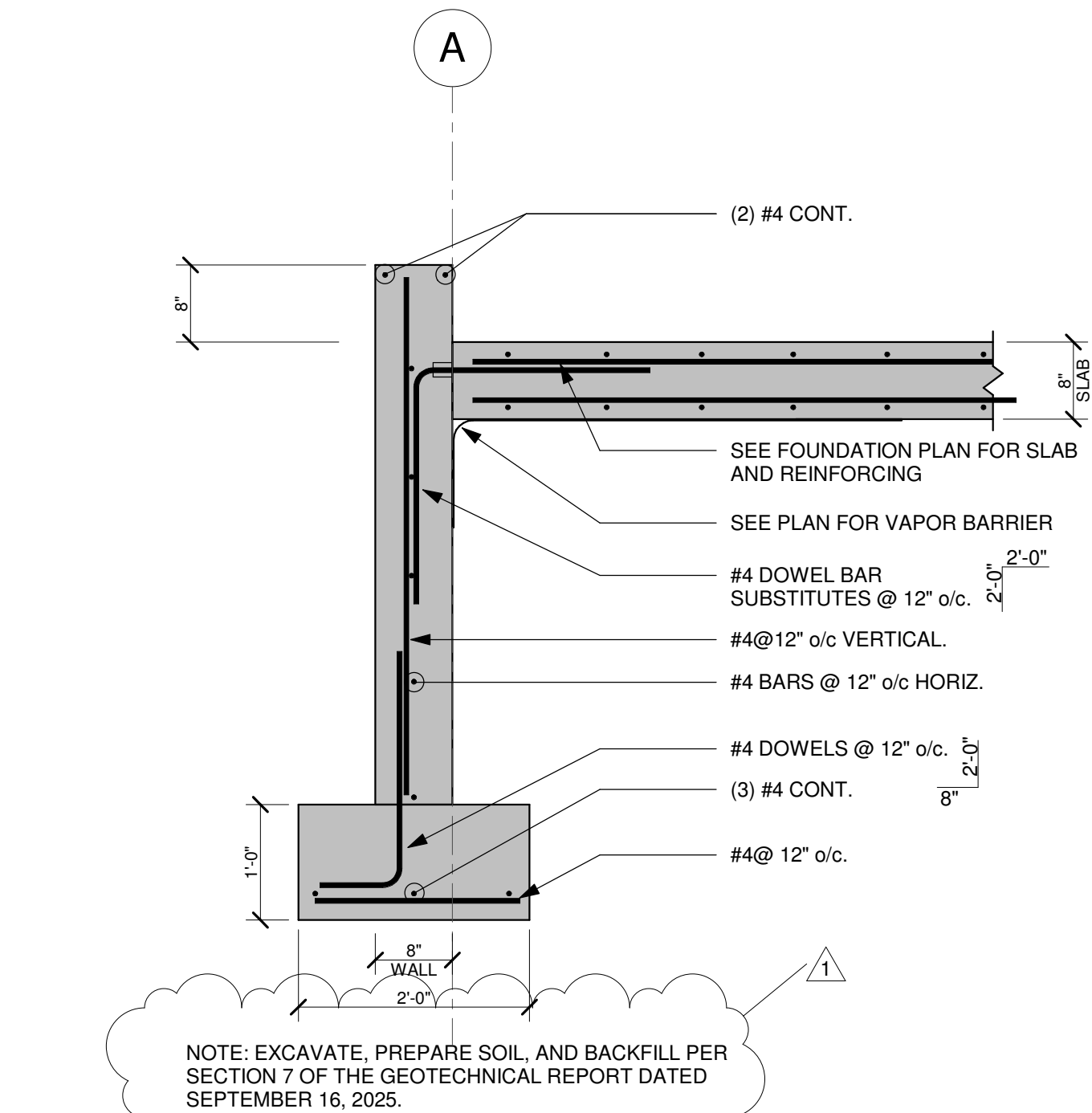
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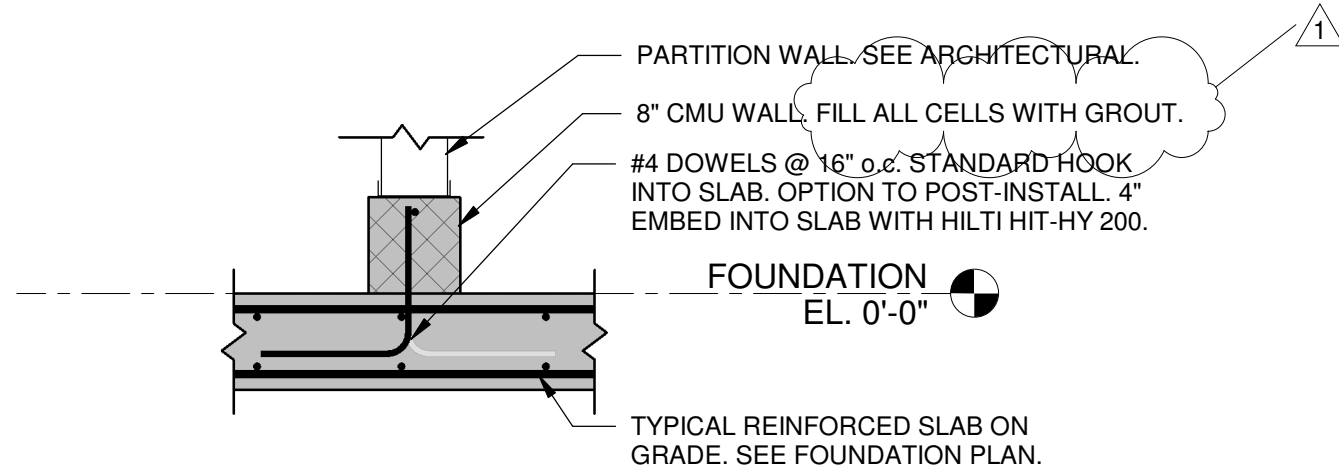
MEZZANINE PLAN

DRAWING NUMBER

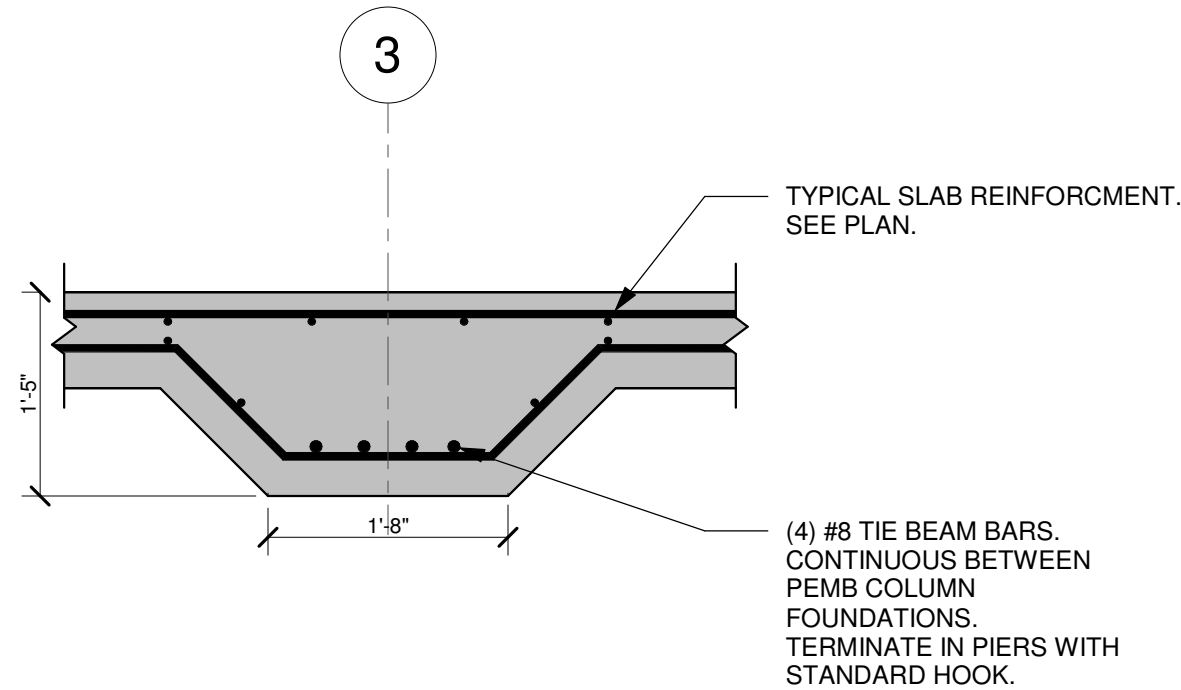
S102



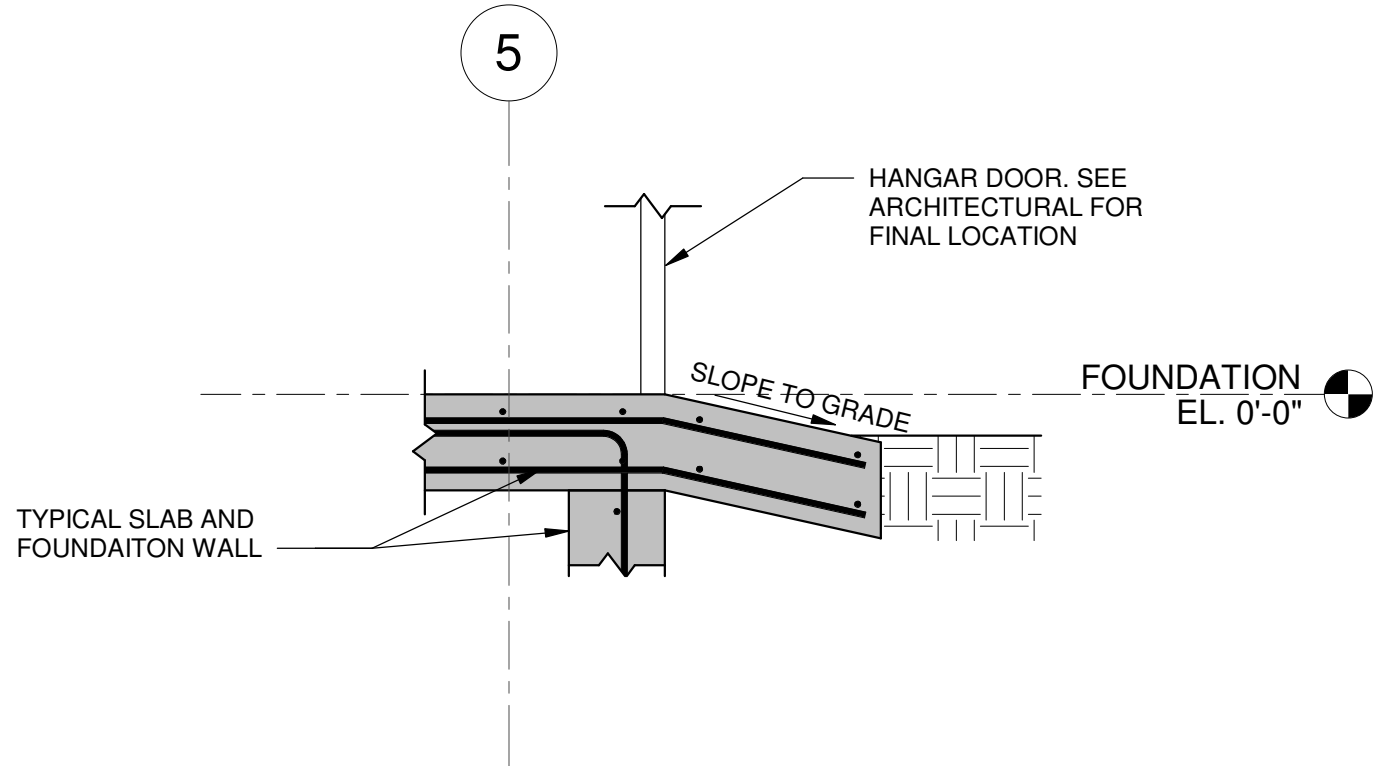
1 SECTION
SCALE: 3/4" = 1'-0"



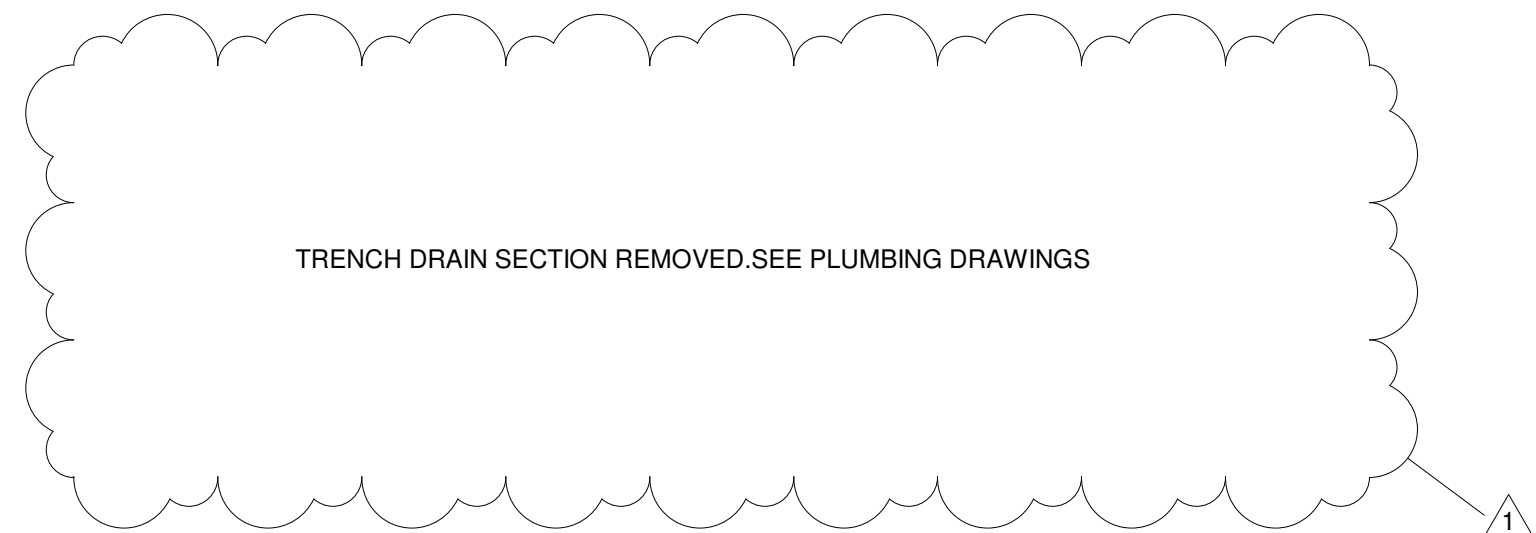
4 SECTION
SCALE: 3/4" = 1'-0"



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



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



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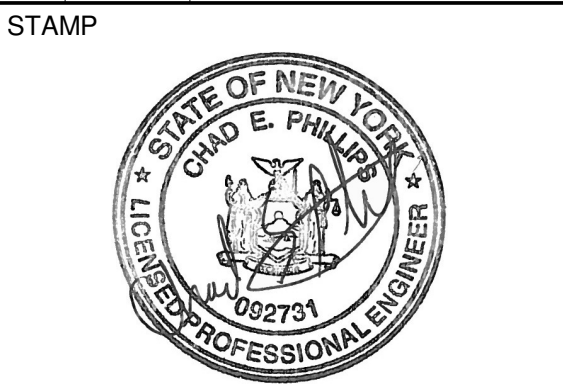
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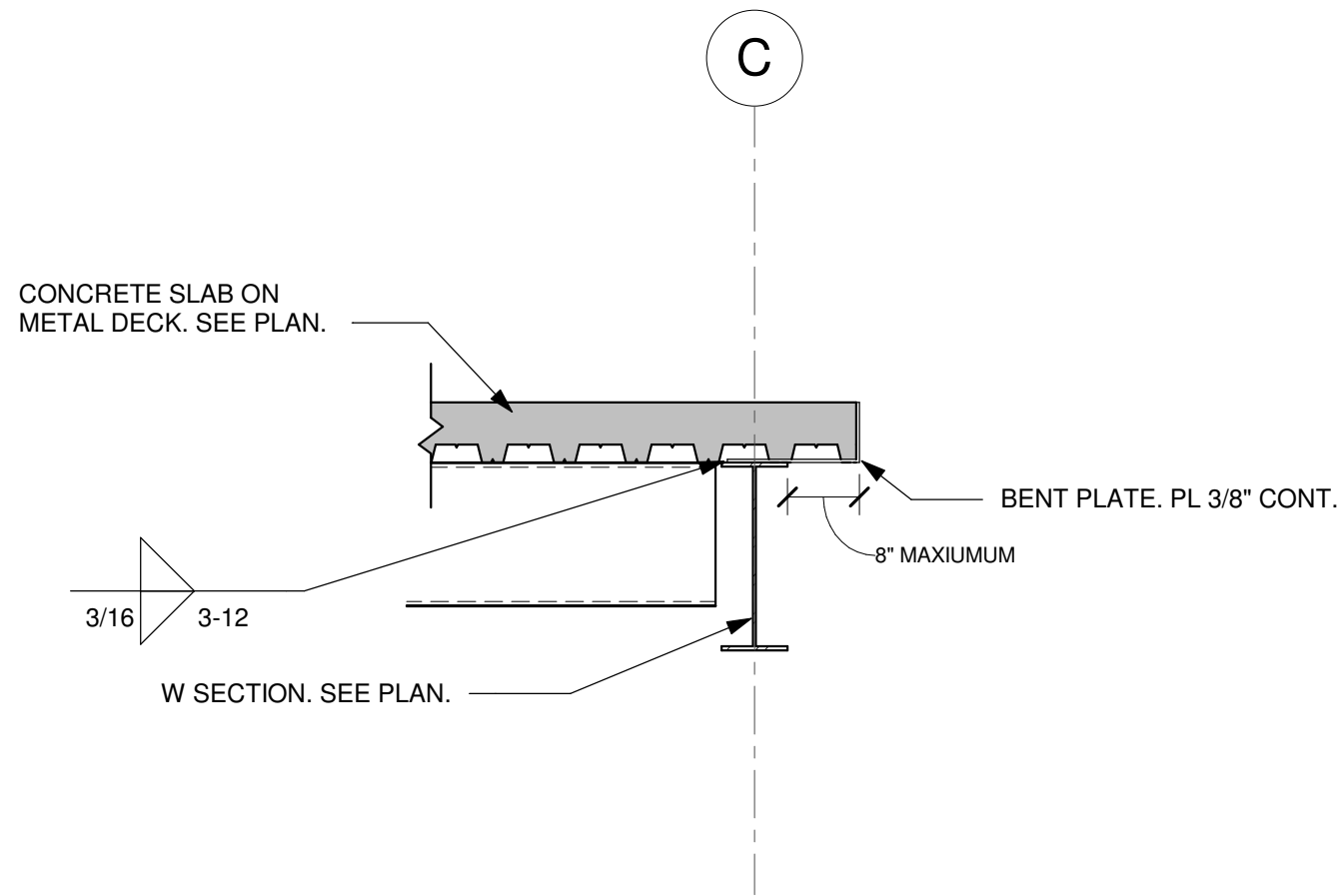
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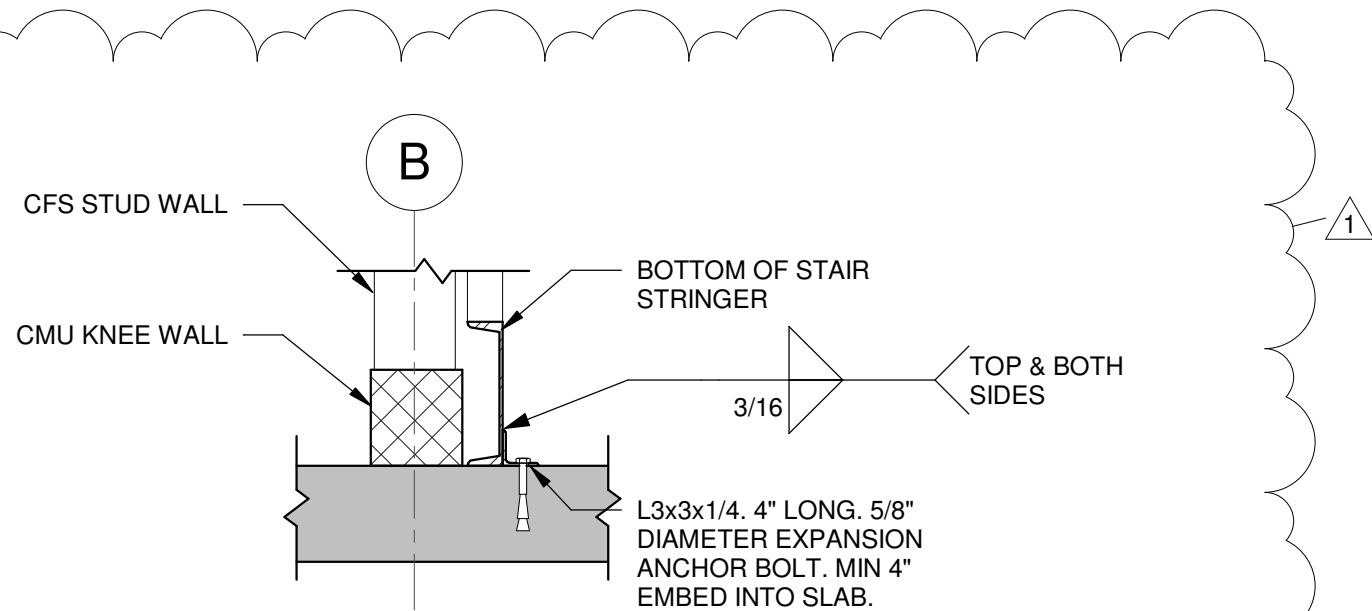
FOUNDATION SECTIONS

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S201



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



2
SECTION
SCALE: 3/4" = 1'-0"



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MEZZANINE SECTIONS

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S202

GENERAL ABBREVIATIONS

AC	AIR CONDITIONING	HWR	HOT WATER RETURN
ACCU	AIR COOLED CONDENSING UNIT	HWS	HOT WATER SUPPLY
ACV	AUTOMATIC CONTROL VALVE	HWUH	HOT WATER UNIT HEATER
AD	ACCESS DOOR	HX	HEAT EXCHANGER
ADD'L	ADDITIONAL	HZ	HERTZ
ADL	ACoustical DUCT LINER	IN	INCHES
AF	AIR FILTER	KW	KILOWATT
AF	ABOVE FINISHED FLOOR	LAT	LEAVING AIR TEMPERATURE
AP	ACCESS PANEL	LCP	LOCAL CONTROL PANEL
ARCH	ARCHITECT	LD	LINEAR DIFFUSER
AS	AIR SEPARATOR	LF	LINEAR FEET
ATC	AUTOMATIC TEMPERATURE CONTROL	LPC	LOW PRESSURE CONDENSATE
ATV	ATMOSPHERIC VENT	LPS	LOW PRESSURE STEAM
AAV	AUTOMATIC AIR VENT	LUVR	LOUVER
AVS	AIR VOLUME TRAVERSE STATION	LVDR	LOUVERED DOOR
B	BOILER	LWT	LEAVING WATER TEMPERATURE
BAS	BUILDING AUTOMATION SYSTEM	MAU	MAKE UP AIR UNIT
BBD	BOILER BLOW DOWN	MCC	MOTOR CONTROL CENTER
BDP	BACKDRAFT DAMPER	MECH	MECHANICAL
BDT	BLOWDOWN TANK	MEZZ	MEZZANINE
BF	BOILER FEED WATER SYSTEM	MFR	MANUFACTURER
BFP	BOILER FEED PUMP	MIN	MINIMUM
BHP	BRAKE HORSEPOWER	MU	MAKEUP WATER
BLDG	BUILDING	MTD	MOUNTED
BOD	BOTTOM OF DUCT	MAV	MANUAL AIR VENT
BOP	BOTTOM OF PIPE	MOD	MOTOR OPERATED DAMPER
BSMT	BASEMENT	N/A	NOT APPLICABLE
CC	COOLING COIL	NC	NORMALLY CLOSED
CD	CEILING DIFFUSER	NIC	NOT IN CONTRACT
CF	CEILING FAN	NO	NORMALLY OPEN
CFM	CUBIC FEET PER MINUTE	NO	NUMBER
CHEM	CHEMICAL FEED	NTS	NOT TO SCALE
CL	CENTERLINE	OA	OUTSIDE AIR
CLG	CEILING	OAI	OUTSIDE AIR INTAKE
CO	CLEAN-OUT	OD	OUTSIDE DIAMETER
COL	COLUMN	OED	OPEN ENDED DUCT
CONC	CONCRETE	P	PUMP
CONN	CONNECTION	PC	PUMPED CONDENSATE
CONTR	CONTRACTOR	PCF	POUNDS PER CUBIC FOOT
CP	CONDENSATE PUMP	PD	PRESSURE DROP
CUF	CUBIC FEET	PHC	PREHEAT COIL
CUH	CABINET UNIT HEATER	PLBG	PLUMBING
CV	CONSTANT VOLUME SUPPLY AIR TERMINAL	PRS	PRESSURE REDUCING STATION
CVE	CONSTANT VOLUME EXHAUST AIR TERMINAL	POS	PROVIDED BY OTHER SECTION
D	DRAIN	PSIA	POUNDS PER SQUARE INCH ABSOLUTE
DB	DRY BULB TEMPERATURE	PSID	POUNDS PER SQUARE INCH DIFFERENTIAL
DDC	DIRECT DIGITAL CONTROL	PSIG	POUNDS PER SQUARE INCH GAUGE
DDCFP	DIRECT DIGITAL CONTROL FIELD PANEL	RD	REFRIGERANT DISCHARGE (HOT GAS)
DIA	DIAMETER	RET	RETURN
DIFF	DIFFUSER	REQ'D	REQUIRED
DIM	DIMENSION	REQS	REQUIREMENTS
DN	DOWN	RF	RETURN FAN
DOV	DRAIN OFF VALVE	RG	RETURN GRILLE
DU	DEAERATOR UNIT	RH	RELATIVE HUMIDITY
DX	DIRECT EXPANSION	RHC	REHEAT COIL
(E)	EXISTING	RL	REFRIGERANT LIQUID
EA	EACH	RLF	RELIEF
EAT	ENTERING AIR TEMPERATURE	RM	ROOM
EF	EXHAUST FAN	RPM	REVOLUTIONS PER MINUTE
EFF	EFFICIENCY	RR	RETURN REGISTER
EG	EXHAUST GRILLE	RS	REFRIGERANT SUCTION
ELEC	ELECTRICAL	RTU	ROOF TOP UNIT
ELEV	ELEVATION	SA	SOUND ATTENUATOR
EMER	EMERGENCY	SCH	SCHEDULE
ER	EXHAUST REGISTER	SCR	SCREEN
ESP	EXTERNAL STATIC PRESSURE	SD	SUPPLY DIFFUSER
ET	EXPANSION TANK	SDET	SMOKE DETECTOR
EWT	ENTERING WATER TEMPERATURE	SF	SUPPLY FAN
EXH	EXHAUST	SG	SUPPLY GRILLE
EXP	EXPANSION	SGD	SLIDE GATE DAMPER
F	FAN	SMS/R	SNOW MELT SUPPLY AND RETURN PIPE
FA	FREE AREA	SPECS	SPECIFICATIONS
FAI	FRESH AIR INTAKE	SQ	SQUARE
FB	FAN BOX	SQFT	SQUARE FEET
FCU	FAN COIL UNIT	SR	SUPPLY REGISTER
FCV	FLOW CONTROL VALVE	SS	STAINLESS STEEL
FD	FIRE DAMPER (W/ ACCESS DOOR)	STDBY	STANDBY POWER
FG	FIBERGLASS	STL	STEEL
FLEX	FLEXIBLE	SUP	SUPPLY
FLDR	FLOOR DRAIN	T	TEMPERATURE
FOP	FIREFIGHTERS OVERRIDE PANEL	TA	THROW-AWAY
FPM	FEET PER MINUTE	TAV	THERMOSTATIC AIR VENT
FT	FEET	TEL	TELEPHONE
FTR	FIN TUBE RADIATION	TEMP	TEMPERATURE
FURN	FURNISHED	TG	TRANSFER GRILLE
GA	GAUGE	TOD	TOP OF DUCT
GAL	GALLONS	TOP	TOP OF PIPE
GALV	GALVANIZED	TR	TRANSFER
GIC	GENERAL CONTRACTOR	TYP	TYPICAL
GRV	GRAVITY INTAKE VENT	UC	UNDERCUT DOOR
GRV	GRAVITY RELIEF VENT	UH	UNIT HEATER
GRD	GRADE (GROUND)	V	VENT
GWB	GYPSTUM WALL BOARD	VD	VOLUME DAMPER
GWS/R	GLYCOL WATER SUPPLY AND RETURN	VAV	VARIABLE VOLUME SUPPLY AIR TERMINAL
H	HUMIDIFIER	VFD	VARIABLE FREQUENCY DRIVE
HC	HEATING COIL	VVE	VARIABLE VOLUME EXHAUST AIR TERMINAL
HD	HEAD	W	WIDTH
HGT	HEIGHT	W/	WITH
HP	HORSEPOWER	WB	WET BULB TEMPERATURE
HPS	HIGH PRESSURE STEAM	WG	WATER GAUGE
HR	HOUR	WMS	WIRE MESH SCREEN
HRH	HYDRONIC RADIANT HEATER	W/O	WITHOUT
HV	HEATING & VENTILATING UNIT	W.R.T.	WITH RESPECT TO
HW	HOT WATER		
HWH	HOT WATER HEATER		

CONTROLS LEGEND

BI	BINARY INPUT	SA	SUPPLY AIR
BO	BINARY OUTPUT	RA	RETURN AIR
AI	ANALOG INPUT	EA	EXHAUST AIR
AO	ANALOG OUTPUT	OA	OUTSIDE AIR
N.O.	NORMALLY OPEN		END SWITCH
N.C.	NORMALLY CLOSED		AIRFLOW SENSOR
	WATER TEMPERATURE SENSOR		MOTORIZED DAMPER
	AIR TEMPERATURE SENSOR		2-POSITION DAMPER
	HUMIDITY SENSOR		SMOKE DETECTOR
	CARBON DIOXIDE SENSOR		DIFFERENTIAL PRESSURE SENSOR
	FREEZSTAT		VARIABLE FREQUENCY DRIVE
	WATER FLOW METER		MOTOR STARTER
	MOTOR		TWO-WAY CONTROL VALVE
	CURRENT TRANSDUCER		ZONE THERMOSTAT
	OUTSIDE AIR TEMPERATURE SENSOR WITH SUN SHIELD		ZONE SENSOR
	OUTSIDE AIR HUMIDITY SENSOR		CARBON MONOXIDE SENSOR
	FAN		NITROGEN DIOXIDE SENSOR
	HOT WATER COIL		CIRCULATING PUMP
	DIRECT EXPANSION COIL		HOT WATER BOILER
	GAS FURNACE		VARIABLE AIR FLOW TERMINAL DAMPER
	AIR FILTER		AQUASTAT
	PUSH BUTTON		
	TOGGLE SWITCH		

PIPING LEGEND

	SHUTOFF VALVE
	BALANCING VALVE
	PRESSURE REDUCING VALVE
	CHECK VALVE
	STRAINER W/BALL VALVE, HOSE BIBB & CAP (GATE VALVE FOR STEAM)
	ANGLE VALVE (SECTION VIEW)
	2 WAY CONTROL VALVE, MODULATING ACTUATOR
	SAFETY RELIEF VALVE
	UNION (AS INDICATED BY PIPE SIZE - SEE SPEC.)
	FLANGE
	END CAP
	EXPANSION JOINT
	PIPE GUIDE
	ANCHOR
	PIPE RISE
	PIPE DROP
	PIPE BREAK
	TRIPLE DUTY VALVE
	OPEN BALL VALVE
	CLOSED BALL VALVE
	POINT OF CONNECTION/DISCONNECTION
	EXISTING PIPING SYSTEM
	DEMOLITION PIPING SYSTEM
	NEW PIPING SYSTEM

AIR DISTRIBUTION LEGEND

DOUBLE LINE	
	SUPPLY DUCT UP
	SUPPLY DUCT DOWN
	STANDARD RADIUS ELBOW (R = W) SUPPLY/RETURN/EXHAUST
	SPLIT TAKE-OFF W/ BRANCH DAMPERS
	RETURN/EXHAUST DUCT DOWN
	ELBOW W/ TURNING VANES
	DUCT TRANSITION
	TAKEOFF TO SUPPLY DIFFUSER
	CEILING DUCT MTD. DIFF/GRILLE
	CEILING DUCT MTD. GRILLE
	SIDEWALL DUCT MTD. REG/GRILLE SA. OR EXH.
	OPEN END DUCT W/ 1/4"x1/4" WMS
	VAV BOX W/ SOUND ATTENUATOR & HEATING COIL
	MOD
	MOTORIZED DAMPER
	VD
	MANUAL VOLUME DAMPER
	FD
	SELF-CLOSING FIRE DAMPER W/ACCESS DOOR
	SFD
	COMBINATION SMOKE/FIRE DAMPER W/ACCESS DOOR
	BD
	BACKDRAFT DAMPER
	ROOF EXHAUST FAN SHOWN ON ROOF
	ROOF EXHAUST FAN SHOWN ON FLOOR PLAN
	RETURN OR EXHAUST AIR FLOW
	SUPPLY AIR FLOW
	TEMPERATURE SENSOR
	HUMIDITY SENSOR OR HUMDISTAT
	THERMOSTAT
	POINT OF CONNECTION/DISCONNECTION
	EXISTING DUCTWORK TO REMAIN
	EXISTING DUCTWORK BEING REMOVED
	NEW DUCTWORK

APPLICABLE CODES

THE FOLLOWING ARE THE CURRENTLY ADOPTED CODES AT THE TIME THESE CONTRACT DOCUMENTS WERE PREPARED:

BUILDING CODE	2020 NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE ("UNIFORM CODE") WHICH INCORPORATES THE FOLLOWING: <ul style="list-style-type: none">2020 BUILDING CODE OF NEW YORK STATE2020 FIRE CODE OF NEW YORK STATE
PLUMBING CODE	2020 PLUMBING CODE OF NEW YORK STATE
MECHANICAL CODE	2020 MECHANICAL CODE OF NEW YORK STATE
ENERGY CODE	2020 ENERGY CONSERVATION CODE OF NEW YORK STATE <u>VARIABLE REFRIGERANT SYSTEM:</u> <ul style="list-style-type: none">IECC, TABLE C403.3.2(2) MINIMUM EFFICIENCY REQUIREMENTS: ELECTRICALLY OPERATED HEAT PUMPS:<ul style="list-style-type: none">1. MINIMUM EFFICIENCY FOR AIR CONDITIONERS-AIR COOLED SYSTEMS BETWEEN 65,000 btuh & 130,000 btuh:<ul style="list-style-type: none">A. REQUIRED IEER = 11.8, DESIGN IEER = 21.1 <u>NATURAL GAS UNIT HEATER SYSTEM:</u> <ul style="list-style-type: none">IECC, TABLE C403.3.2(4) MINIMUM EFFICIENCY REQUIREMENTS: WARM AIR UNIT HEATERS:<ul style="list-style-type: none">1. MINIMUM EFFICIENCY FOR WARM AIR NATURAL GAS UNIT HEATER SYSTEMS (ALL CAPABILITIES):<ul style="list-style-type: none">A. REQUIRED EFFICIENCY = 80%, DESIGN EFFICIENCY = 83%
ACCESSIBILITY	2010 ADA STANDARDS FOR ACCESSIBLE DESIGN
FUEL GAS CODE	2020 FUEL GAS CODE OF NEW YORK STATE
LIFE SAFETY	2024 EDITION OF NFPA 101, LIFE SAFETY CODE
OTHER	VARIOUS NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES AND STANDARDS AS REFERENCED BY THE CODES LISTED ABOVE



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REVISIONS

NO.	DATE	DESCRIPTION
1	01/21/26	Addendum 1

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PROJECT	19046.03

DRAWING TITLE

Legend and Notes

DRAWING NUMBER

M000

ABBREVIATIONS	
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AP	ACCESS PANEL
ARCH	ARCHITECT/ARCHITECTURE/ARCHITECTURAL
BFP	BACKFLOW PREVENTER
BT	BATHTUB
BTU	BRITISH THERMAL UNITS
BV	BALL VALVE
CFH	CUBIC FEET PER HOUR
CO	CLEANOUT
CP	CIRCULATION PUMP
CS	CIRCUIT SETTER/BALANCE VALVE
CV	CHECK VALVE
CWS	COLD WATER SUPPLY
F	DEGREES FAHRENHEIT
DCV	DOUBLE CHECK VALVE BACKFLOW PREVENTER
DF	DRINKING FOUNTAIN
DN	PIPE DOWN, PASSING THROUGH FLOOR
DROP	PIPE DOWN, NOT PASSING THROUGH FLOOR
DSN	DOWNSPOUT NOZZLE
DWH	DOMESTIC WATER HEATER
DWV	DRAIN, WASTE, AND VENT
EC	ELECTRICAL CONTRACTOR
EFF	EFFICIENCY
ELEV	ELEVATION
ET	EXPANSION TANK
ETR	EXISTING TO REMAIN
EW	EYE-WASH/FACE-WASH
EW	ELECTRIC WATER COOLER
EWS	EMERGENCY WASH STATION
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FIRE	FINISHED FLOOR ELEVATION
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FS	FLOOR SINK
FT	FOOT/FEET
FW	FILTERED WATER
GAS	NATURAL GAS OR LP (BELOW 14" W.C.)
GC	GENERAL CONTRACTOR
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GAS PRESSURE REGULATOR
GT	GREASE TRAP
HB	HOSE BIBB
HP	HORSEPOWER
HPG	HIGH PRESSURE GAS OR LP (GREATER THAN 10 PSI, DEFINED BY PROJECT)
HWR	HOTWATER RETURN
HWS	DOMESTIC HOT WATER SUPPLY
INV	PIPE INVERT
IN	INCHES
IN W.C.	INCHES WATER COLUMN
IPS	INTERNATIONAL PIPE STANDARD
IW	INDIRECT WASTE
KW	KILOWATT
L	LAVATORY
LS	LAUNDRY SINK
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MIX	MIXING VALVE
MPG	NATURAL GAS OR LP (GREATER THAN 14 IN W.C., DEFINED BY PROJECT)
MS	MOP SINK
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NO	NORMALLY OPENED
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OWS	OIL WATER SEPARATOR
OST	STORM DRAIN – OVERFLOW/SECONDARY
PC	PLUMBING CONTRACTOR
PD	PUMPED DISCHARGE
PDD	POOL DECK DRAIN
PF	PRISON/SECURITY COMBI-FIXTURE
PG	PRESSURE GAUGE
PH	PHASE (ELECTRICAL)
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
QTY	QUANTITY
RD	ROOF DRAIN
RISE	PIPE UP, NOT THROUGH FLOOR/ROOF DECK ABOVE
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
RTU	ROOF TOP UNIT
S	SINK
SAN	SANITARY PIPE
SAN-G	SANITARY PIPE – GREASE LADEN
SE	SEWAGE EJECTOR
SF	SQUARE FEET
SH	SHOWER
SP	SUMP PUMP
ST	STORM DRAIN
STR	STRAINER
T	THERMOMETER
T&P	TEMPERATURE AND PRESSURE
TD	TRENCH DRAIN
TP	TRAP PRIMER
TWS	TEPID WATER SUPPLY (65-90F)
TYP	TYPICAL
U	URINAL
UOI	UNLESS OTHERWISE INDICATED
V	SANITARY VENT
VB	VACUUM BREAKER
VIR	VALVE IN RISER
VOLT	VOLTAGE
VTR	SANITARY VENT THROUGH ROOF
WC	WATER CLOSET
WCO	WALL CLEANOUT
WHA	WATER HAMMER ARRESTOR
WM	WATER METER

PIPE AND FITTING MATERIALS PERMITTED PER NYS		
WATER SERVICE PIPE		
MATERIAL	PIPE STANDARD	FITTING STANDARD
COPPER OR COPPER-ALLOY PIPE	ASTM B42, ASTM B302	ASSE 1061; ASME B 16.15; ASTM B 16.18; ASTM B 16.22 ASME B 16.23; ASME B 16.26 ASME 16.29
POLYETHYLENE (PE) PLASTIC TUBING	ASTM D 2737; CSA B137.1	ASTM F 2389; CSA B137.11
WATER DISTRIBUTION PIPE		
MATERIAL	PIPE STANDARD	FITTING STANDARD
COPPER OR COPPER ALLOY TUBING (TYPE L)	ASTM B75; ASTM B88; ASTM B251, ASTM B447	ASSE 1061; ASME B 16.15; ASTM B 16.18; ASTM B 16.22 ASME B 16.23; ASME B 16.26 ASME 16.29
UNDERGROUND BUILDING DRAINAGE AND VENT PIPE		
MATERIAL	PIPE STANDARD	FITTING STANDARD
CAST IRON PIPE	ASTM A 74; ASTM A 888; CISPI 301	ASTM B 16.4; ASTM B 16.12; ASTM A 74; ASTM A 888; CISPI 301
ABOVE-GROUND BUILDING DRAINAGE AND VENT PIPE		
MATERIAL	PIPE STANDARD	FITTING STANDARD
CAST IRON PIPE	ASTM A 74; ASTM A 888; CISPI 301	ASTM B 16.4; ASTM B 16.12; ASTM A 74; ASTM A 888; CISPI 301
POLYVINYL CHLORIDE (PVC) PLASTIC PIPE (TYPE DWV)	ASTM D 2665; ASTM D 2949; ASTM F 1488; CSA B181.2	ASTM D 2665; ASTM D 3311; ASTM F 1866

SANITARY/STORM DRAINAGE ACCESSORIES					
TAG	DESCRIPTION	MANUFACTURER	MODEL	DRAIN SIZE	NOTES
TD-1	TRENCH DRAIN	ACO	AQUADUCT	4"	1
FCO-1	FLOOR CLEANOUT	WATTS	CO-1200-R	4"	2
FD-1	FLOOR DRAIN	WATTS	FD-100-A7-6	3"	3
NOTES: 1. 10"x2" DOUBLE WALL FIBERGLASS DRAIN WITH LEAK DETECTION PORT AND GRATE FOR F-LOADING. INSTALL PER MANUFACTURER'S INSTRUCTIONS. 2. PROVIDE LINE SIZE FLOOR CLEANOUT UP TO 4". 3. PROVIDE WITH ASSE 1072 COMPLIANT MECHANICAL TRAP SEAL.					

APPLICABLE CODES

THE FOLLOWING ARE THE CURRENTLY ADOPTED CODES AT THE TIME THESE CONTRACT DOCUMENTS WERE PREPARED:

BUILDING CODE	2020 NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE ("UNIFORM CODE") WHICH INCORPORATES THE FOLLOWING: <ul style="list-style-type: none">2020 BUILDING CODE OF NEW YORK STATE2020 FIRE CODE OF NEW YORK STATE
PLUMBING CODE	2020 PLUMBING CODE OF NEW YORK STATE
MECHANICAL CODE	2020 MECHANICAL CODE OF NEW YORK STATE
ENERGY CODE	2020 ENERGY CONSERVATION CODE OF NEW YORK STATE
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OTHER	VARIOUS NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES AND STANDARDS AS REFERENCED BY THE CODES LISTED ABOVE



GENERAL NOTES:

- THESE GENERAL PLUMBING NOTES SHALL APPLY TO ALL P SERIES DRAWINGS, IN COORDINATION WITH DIVISION 22 SECTIONS, AND FRONT END (DIVISION 0 AND 1) REQUIREMENTS. ALL WORK ASSOCIATED WITH THE P SERIES DRAWINGS SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID CONFLICTS.
- ALL WORK SHALL BE PERFORMED IN COOPERATION WITH THE OWNER (AND/OR OWNER'S REPRESENTATIVE) AND THE ARCHITECT/ENGINEER. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE CONSTRUCTION SCHEDULE ESTABLISHED BY THE OWNER AND ARCHITECT, AND SHALL IMMEDIATELY REPORT ANY DELAYS IN MATERIALS RECEIPT INCLUDING CIRCUMSTANCES CAUSING DELAYS.
- CONTRACT DRAWINGS FOR THE PLUMBING WORK ARE DIAGRAMMATIC, INTENDED TO CONVEY THE SCOPE OF WORK AND TO INDICATE THE GENERAL ARRANGEMENT AND APPROXIMATE LOCATION OF EQUIPMENT, PIPING, AND ACCESSORIES. THE INSTALLING CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND VERIFYING ALL CONDITIONS, DIMENSIONS, AND LOCATIONS PRIOR TO BIDDING PROJECT. CHECK PROJECT DRAWINGS PRIOR TO INSTALLATION FOR INTERFERENCES WITH OTHER TRADES. SHOULD THE CONTRACTOR FIND SUCH INTERFERENCES, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING HIS WORK WITH OTHERS. THE OWNER RESERVES THE RIGHT TO MAKE REASONABLE CHANGES PRIOR TO ROUGH-IN WITHOUT ADDED EXPENSE. DIMENSIONS INDICATED ARE SUBJECT TO VERIFICATION OF EXACT SITE CONDITIONS AT THE TIME OF INSTALLATION.
 - THE CONTRACTOR SHALL INSTALL ALL PIPING, EQUIPMENT, FIXTURE, ETC. IN A WORKMAN MANNER WITH QUALIFIED PLUMBERS.
- ALL PLUMBING WORK SHALL BE INSTALLED PER LOCAL PLUMBING CODE, HEALTH CODE, FIRE CODE, ENERGY CONSERVATION CODE, AND BUILDING CODE. ALL WORK SHALL COMPLY TO ACCORDANCE OF LOCAL, STATE AND FEDERAL REGULATIONS AND OTHER AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR RESPONSIBLE FOR PAYING FOR ALL FEES ASSOCIATED WITH OBTAINING PERMITS, INSPECTIONS, ETC.
- THE PLUMBING CONTRACTOR SHALL BE LICENSED IN THE LOCAL JURISDICTION PRIOR TO BIDDING ON PROJECT. CONTRACTOR TO CONTACT CITY/TOWNSHIP TO VERIFY LICENSE TO ENSURE THEY ARE CURRENT.
- ALL PLUMBING EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS. ANY CONFLICTS WITH INSTALLATION AND MANUFACTURER RECOMMENDATIONS SHALL BE REPORTED TO ENGINEER.
- CUTTING AND PATCHING - ALL NOTES BELOW HOLD THE COMMON CONDITION "UNLESS OTHERWISE NOTED".
 - FOR NEW CONSTRUCTION:** ALL CUTTING AND PATCHING THROUGH ALL WALL, CEILING, ETC. SHALL BE PROVIDED BY PLUMBING CONTRACTOR IN COORDINATION WITH THE GENERAL WORK. ALL PAINTING AND FINISHING SHALL BE DONE BY GENERAL CONTRACTOR. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH GENERAL CONTRACTOR.
 - OPENINGS MADE POST-FINISH:** IF AN OPENING IS REQUIRED IN A FINISHED SURFACE, AFTER COMPLETION, DUE TO LACK OF COORDINATION OR PROPER SCHEDULE MAINTENANCE, THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CUTTING AND PATCHING REQUIRED TO FINISH SPECIFIC PLUMBING WORK AND RESTORE THE FINISHED SURFACE TO PREVIOUS CONDITION.
 - UNDERGROUND PIPING FOR FINISHED CONCRETE FLOORS:** UNLESS OTHERWISE NOTES, TRENCHING, EXCAVATION, BACKFILLING, COMPACTION, AND RESTORATION OF FINISHED FLOORING SYSTEM SHALL BE PERFORMED BY THIS CONTRACTOR.
 - EQUIPMENT OPENINGS:** OPENINGS REQUIRED FOR REMOVAL OF EXISTING EQUIPMENT OR INSTALLATION OF NEW EQUIPMENT SUPPLIED UNDER THIS CONTRACT SHALL BE CUT AND PATCHED BY THIS CONTRACTOR.
- FURNISH AND INSTALL ALL NEW EQUIPMENT AND MATERIALS AS DESCRIBED HEREIN. ANY MATERIAL, OPERATION, METHOD, OR DEVICE MENTIONED, LISTED OR NOTED WITHIN THIS SPECIFICATION SHALL BE FURNISHED BY THIS CONTRACTOR UNLESS SPECIFICALLY MENTIONED AS BEING FURNISHED OR INSTALLED BY OTHERS.
- ALL PIPING PENETRATING ALL FIRE-RATED WALLS, CEILINGS, FLOORS, ROOFS, ETC. SHALL BE FIRE STOPPED IN ACCORDANCE WITH DIVISION 7.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE COMPLETE AND OPERABLE SYSTEMS, INCLUDING OPERATIONAL PROPERTIES TO THE EXTENT NECESSARY TO LINK MULTIPLE COMPONENTS OF THE SYSTEMS TOGETHER AND TO INTERFACE WITH SYSTEMS PROVIDED BY OTHERS. THE PLUMBING CONTRACTOR SHALL GUARANTEE ALL SYSTEMS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
 - THE CONTRACTOR SHALL PROVIDE OWNER WITH ALL NECESSARY OPERATION AND MAINTENANCE MANUALS, SHOP DRAWINGS, WIRING DIAGRAMS, AND WARRANTY PAPERWORK UPON COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL LOCATE ACCESS PANEL IN NON-ACCESSIBLE CEILING AND WALLS FOR ALL VALVES, SHOCK ABSORBERS, CLEANOUTS AND ALL OTHER ITEMS THAT REQUIRE ACCESS TO PROPERLY MAINTAIN OR SERVICE.
- THE CONTRACTOR IS RESPONSIBLE FOR TESTING, AND ADJUSTING ALL PLUMBING EQUIPMENT INDICATED IN THE PLUMBING DRAWINGS.
- THE MINIMUM SLOPE OF ALL INTERIOR SEWER LINES SHALL BE 1/4 INCH PER FOOT FOR SIZES 2-1/2" AND SMALLER, 1/8 INCH PER FOOT FOR SIZES 3"-6", AND 1/16 INCH PER FOOT FOR SIZES 8" AND GREATER. SEE SCHEDULE LOCATED ON DRAWING FOR CONNECTION SIZES FOR SANITARY, VENT, COLD, AND HOT WATER PIPING. SEE SCHEDULE FOR PIPING MATERIALS.
- ALL PIPING PENETRATIONS THROUGH EXPOSED WALLS SHALL BE PROVIDED WITH CHROME ESCUTCHEONS AND SEAL TO WALL OR CEILING.
- UPON COMPLETION OF PROJECT, THE CONTRACTOR SHALL FLUSH AND SANITIZE THE DOMESTIC HOT, RECIRCULATION AND COLD WATER PIPING IN ACCORDANCE WITH LOCAL AND NEW YORK, PLUMBING CODE.
- EQUIPMENT CONNECTIONS:
 - ALL EQUIPMENT SHALL BE PROVIDED WITH UNIONS AND SHUT-OFF VALVES WHETHER DETAILED OR NOT.
 - ALL PLUMBING FIXTURES SHALL BE PROVIDED WITH SHUT OFF VALVES.
 - THIS CONTRACTOR SHALL MAKE FINAL PLUMBING CONNECTIONS TO PIPING/EQUIPMENT FURNISHED BY OTHERS, UNLESS OTHERWISE NOTED.
- ALL PENETRATIONS THROUGH ROOFING MEMBRANE AND ROOF DECKING SHALL BE PERFORMED BY AN INSTALLER CERTIFIED BY THE ROOFING SYSTEM MANUFACTURER TO MAINTAIN ROOF SYSTEM WARRANTY.
- FOR PROJECTS WITH APPROVED USE OF PVC AND CPVC PIPING, SUCH PIPING SHALL BE PROHIBITED IN THE FOLLOWING LOCATIONS.
 - AREAS OF ASSEMBLY.
 - RETURN AIR PLENUMS.
 - EXIT DISCHARGE CORRIDORS.
 - STAIRS.
- RODENTPROOFING - IN OR ON STRUCTURES WHERE OPENINGS HAVE BEEN MADE IN FLOORS CEILINGS, OR WALLS FOR THE PASSAGE OF PIPE, SUCH OPENINGS SHALL BE CLOSED AND PROTECTED WITH APPROVED METAL COLLARS THAT ARE SECURELY FASTENED TO THE ADJOINING STRUCTURE.
- STRUCTURAL SAFETY - IN THE PROCESS OF INSTALLING OR REPAIRING ANY PART OF A PLUMBING OR DRAINAGE SYSTEM, THE FINISHED FLOOR, WALLS, CEILINGS, TILE OR ANY OTHER PART OF THE BUILDING OR PREMISES THAT MUST BE CHANGED OR REPLACED SHALL REMAIN IN A STRUCTURALLY SAFE CONDITION IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING CODE OF NEW YORK.
- PROTECTION OF PIPES AND PLUMBING SYSTEM COMPONENTS - PIPING AND OTHER SYSTEM COMPONENTS SHALL BE INSTALLED IN SUCH A MANNER SO AS TO PREVENT CORROSION, BREAKAGE, FREEZING, AND PHYSICAL DAMAGE BY OTHER BUILDING COMPONENTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING CODE OF NEW YORK.
- PROTECTION OF WATER QUALITY - A POTABLE WATER SUPPLY SYSTEM SHALL BE DESIGNED, INSTALLED, AND MAINTAINED IN SUCH A MANNER SO AS TO PREVENT CONTAMINATION FROM NON-POTABLE LIQUIDS, SOLIDS, OR GASES BEING INTRODUCED INTO THE POTABLE WATER SYSTEM THROUGH CROSS-CONTAMINATION OR ANY OTHER PIPING CONNECTIONS TO THE SYSTEM.
- FLOODPROOFING - PLUMBING SYSTEMS AND EQUIPMENT IN STRUCTURES ERRECTED IN AREAS PRONE TO FLOODING SHALL BE CONSTRUCTED IN SUCH A MANNER THAT THE COMPONENTS OF THE SYSTEM SHALL BE CAPABLE OF RESISTING HYDROSTATIC LOADS AND STRESSES IN THE EVENT OF FLOODING.
- EXISTING SITE UTILITIES - UNDERGROUND UTILITY LOCATIONS ARE NOT GUARANTEED, NOR IS THERE ANY GUARANTEE THAT ALL EXISTING UTILITIES, WHETHER FUNCTIONAL OR ABANDONED, WITHIN THE PROJECT AREA ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE FOR ALL DAMAGES RESULTING FROM THE CONTRACTOR'S WORK. **CONTRACTOR SHALL CONTACT DIG SAFELY NEW YORK (DSNY) - 800-962-7962 FOR STAKEOUT REQUESTS.**



McFARLAND JOHNSON

49 COURT STREET, SUITE 240
BINGHAMTON, NY 13901



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DESIGNED	CJZ
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DRAWING TITLE

Plumbing General Notes
and Schedules

DRAWING NUMBER

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LOMBARDINI+LAYTON
architecture
134 COURT STREET
BINGHAMTON, NY 13901
607.217.7013
www.L2studioarch.com

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DRAWING TITLE

First Level Floor Plan
Sub Slab Sanitary

DRAWING NUMBER

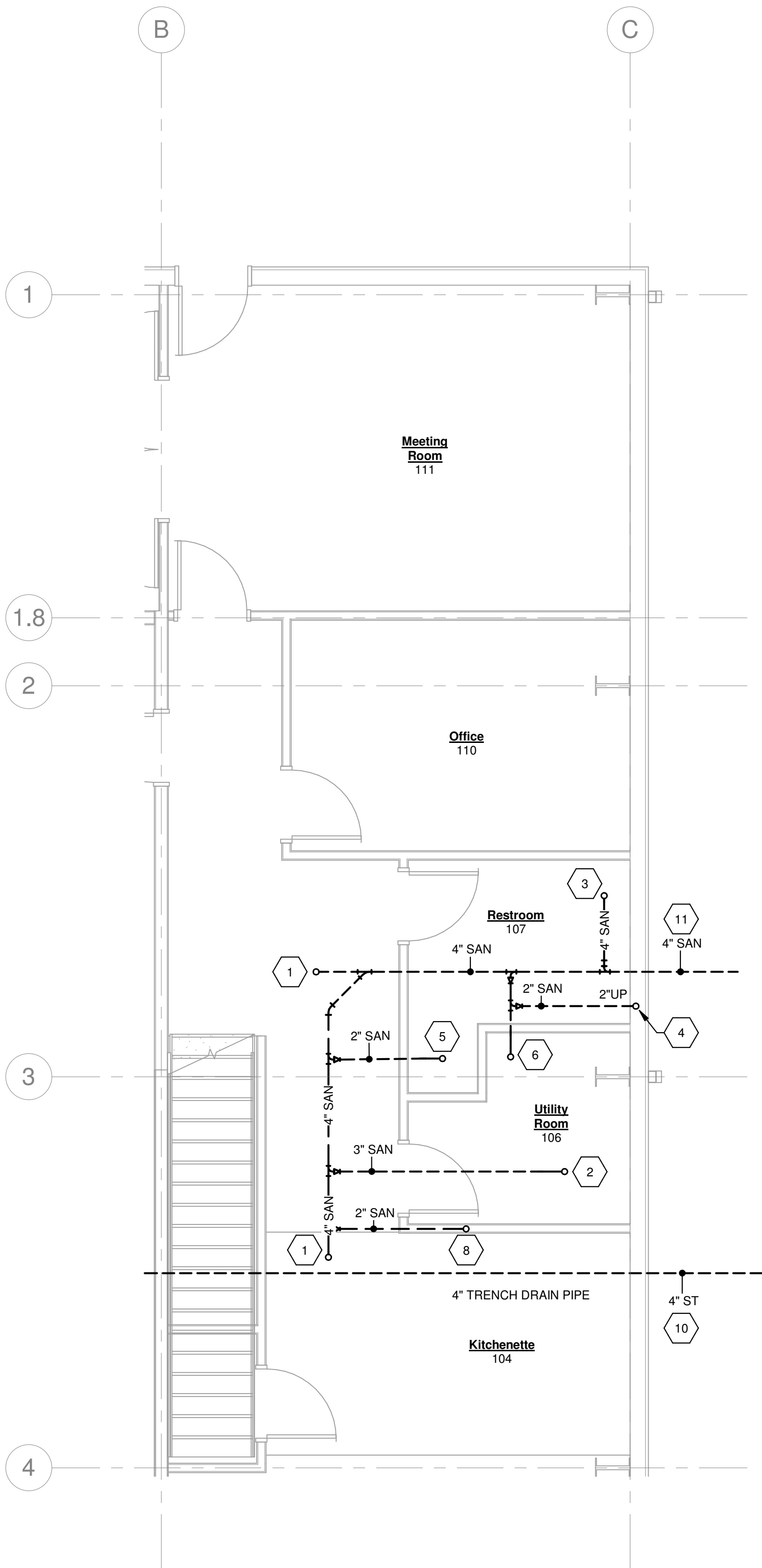
P100

PLUMBING KEYED NOTES #

1. PROVIDE 4" SAN UP THROUGH SLAB OWNER-PROVIDED FLOOR CLEANOUT
2. PROVIDE 3" TRAPPED SAN FOR OWNER-PROVIDED FLOOR DRAIN. EXTEND 3" SAN UP THROUGH SLAB.
3. PROVIDE 4" SAN UP THROUGH SLAB OWNER-PROVIDED WATER CLOSET.
4. PROVIDE 2" SAN UP THROUGH SLAB OWNER-PROVIDED LAVATORY.
5. PROVIDE 2" TRAPPED SAN FOR OWNER-PROVIDED FLOOR DRAIN. EXTEND 2" SAN UP THROUGH SLAB.
6. PROVIDE 3" TRAPPED SAN FOR OWNER-PROVIDED MOP SINK. EXTEND 3" SAN UP THROUGH SLAB.
7. WATER HEATER PROVIDED BY OWNER. PLUMBING AND ELECTRICAL DESIGN: A.O. SMITH-ENS-40, 40 GALLON, ELECTRIC, 208-230 VAC, 1-ph.
8. PROVIDE 2" SAN UP THROUGH SLAB OWNER-PROVIDED SINK.
9. BUILDING COLD WATER SERVICE PROVIDED BY OWNER. SEE DETAIL 3/P100.
10. SEE CIVIL PLANS FOR CONTINUATION OF 4" ST.
11. SEE CIVIL PLANS FOR CONTINUATION OF 4" SAN.
12. SEE CIVIL PLANS FOR CONTINUATION OF 3/4" CWS.

PLUMBING GENERAL NOTES

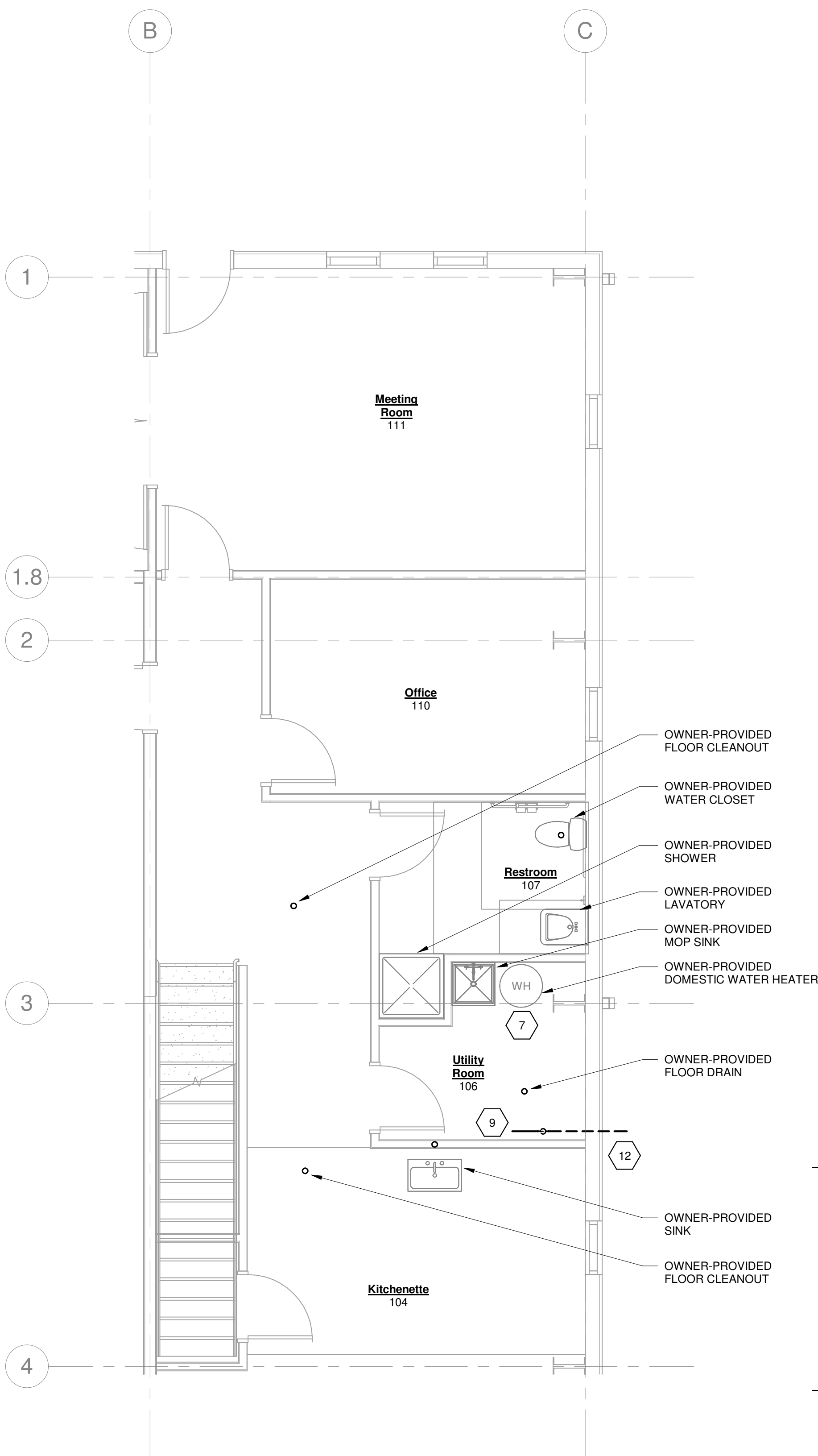
1. CONTRACTOR TO INSTALL ALL BELOW SLAB SANITARY AND VENT PIPING.
2. CONTRACTOR TO INSTALL TRENCH DRAIN AND ASSOCIATED SANITARY AND VENT PIPING.
3. PLUMBING FIXTURES SHOWN ARE FOR COORDINATION PURPOSES ONLY (SINK, SHOWER, SERVICE SINK, LAVATORY, WATER CLOSET AND WATER HEATER). OWNER TO PROVIDE ALL PLUMBING FIXTURES.



1 First Level Floor Plan - Sub Slab Sanitary

1/4" = 1'-0"

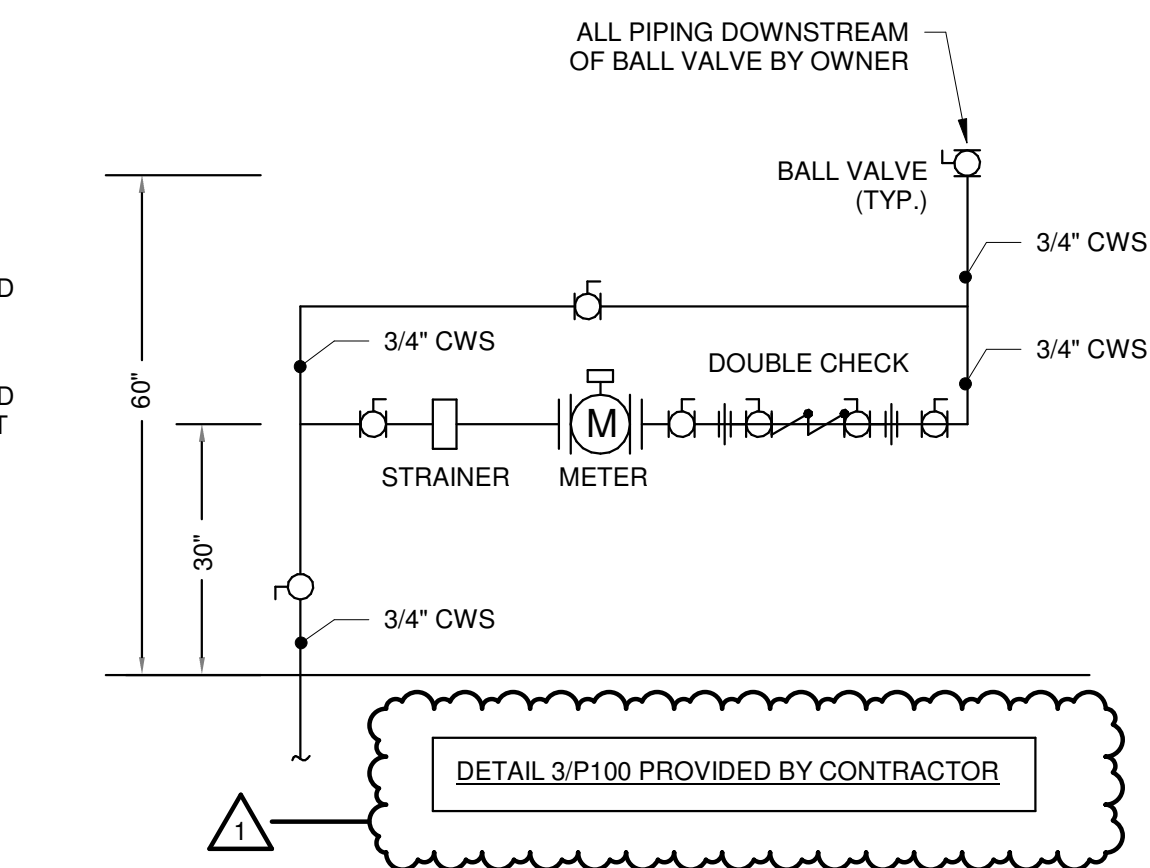
GRAPHIC SCALE (ft)



2 First Level Floor Plan - Fixture Locations

1/4" = 1'-0"

GRAPHIC SCALE (ft)



3 DOMESTIC WATER SERVICE

NOT TO SCALE