

**CONCRETE:**

- Minimum 28 day compressive strengths pounds per square inch (psi): pads & footings – unreinforced 2500, reinforced 3000; slab on grade – 3500. Unless plasticisers are used, slump shall be 4". No water shall be added at the job site.
- All concrete exposed to weather shall have 5% minimum and 7% maximum entrained air.
- All reinforcement shall be grade 60, deformed, conform to ASTM A-615, A-616, A-617 or A-706, and located within a 1/2" of the position shown in the project drawings and/or these specifications. Structural rebars shall not be welded.
- Unless noted otherwise, horizontal bars shall be lap spliced as follows: #3 – 16", #4 – 24", #5 – 36".
- Reinforcement shall be secured so as not to move while concrete is being poured. Cover shall be: Cast against earth – 3"; other bars #6 & larger – 2"; all other bars – 1 1/2".
- Welded wire reinforcement (WWR) shall be used as shown in the project drawings. WWR shall conform to ASTM A-185 and be within the top third of the slab depth. Lap WWR 2 cross wires plus 2".
- Remove all vegetation, roots, topsoil debris and any soft material encountered from beneath the slab on grade and/or foundations. All fill shall be a well graded granular material such as pit run sand and gravel or crushed stone. Do not use potentially expansive materials.
- Place all fill in lifts no higher than 8" and compact with equipment expressly designed for soil compaction to 95% Modified Proctor Density.
- Except for buildings where migration of moisture through the slab will not be detrimental, and for particularly dry building sites, a 6 mil polyethylene vapor retarder with joints lapped 6 inches minimum shall be placed between the base course or subgrade and the concrete floor slab. On particularly wets sites under floor and/or perimeter drains shall be installed as required.
- Formwork shall be clean & lubricated before pouring. Forms and skirt boards shall be braced by the concrete contractor as required to remain straight & true during pouring. All untreated wood shall be removed after pouring.
- Concrete shall be consolidated by vibration or equal so that it is thoroughly worked around rebars, into corners, etc., so there is no honeycombing, pitting, nor planes of weakness. Vibrators shall not be used to transport concrete within forms.
- The interior slab shall have a troweled finish. Exterior flatwork shall have a non-slip broom finish. Premature drying of the concrete shall be prevented by application of an approved curing compound or equal.
- Concrete shall not be placed when air temperature is below 40° F unless in accordance with Chapter 14 of "Design and Control of Concrete Mixtures" by the Portland Cement Association. (A free copy is available from the engineer.)
- The concrete contractor shall install perimeter insulation as shown in the drawings or other approved manner.
- The concrete contractor shall not damage structure, ducts, water lines, et. al.
- Excess concrete shall not be dumped at the jobsite. Removal of such concrete shall be by the concrete contractor.
- The concrete contractor shall provide pads for mechanical and electrical equipment. Size, location and thickness (4" minimum) shall be coordinated with the appropriate contractor.
- The concrete contractor shall provide a 4" min. thick landing at each service door. The top of the landing shall be equal to the top of the interior floor slab. The landing shall slope outward 1/4"/12" maximum. Minimum width perpendicular to the building shall be 5'. Minimum length parallel to the building: 3/0 door – 5', 6/0 door 7'. Landings shall be located so that parallel to the building there is 2' from the latch side of the door to the edge of the landing.
- As required by local regulation, the concrete contractor shall obtain the appropriate permits, notify the building authority of construction progress, and ensure that inspections are made.
- Included in his scope of work, the concrete contractor shall provide exterior flatwork, ramps, et.al. as noted under "ACCESSIBLE ROUTE" in these specifications.

**WOOD STRUCTURE:**

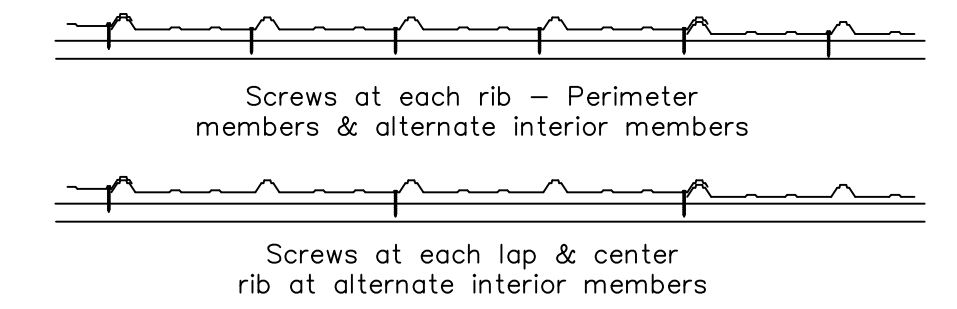
- General applying to all: unless specifically noted otherwise in these drawings,
  - NO ONE shall cut, notch nor drill ANY headers, beams, posts, girts, purlins and flanges of 1 joists.
  - The WEBS of I-joists may only be cut in strict accordance with the manufacturer's instructions.
  - Vertical wood studs are permitted to be cut or notched to a depth not exceeding 25 percent of its width. Cutting or notching of studs to a depth not greater than 40 percent of the width of the stud is permitted in nonbearing partitions supporting no loads other than the weight of the partition.
  - Any member repairs or replacement shall be in accordance with the written instructions of the engineer and at the expense of the those damaging the structure, including engineering fees.
  - Wood trusses shall not cut, notched, drilled, spliced or otherwise altered without approval from a licensed professional engineer.
  - Notching at the ends of rafters or ceiling joists shall not exceed one-fourth the depth. Notches in the top of or bottom of the rafter or ceiling joist shall not exceed one-sixth the depth and shall not be located in the middle one-third of the span, except that a notch not exceeding one-third of the depth is permitted in the top of the rafter or ceiling joist not further from the face of the support than the depth of the member. Hole bored in rafters or ceiling joists shall not be within 2 inches of the top and bottom and their diameter shall not exceed one-third the depth of the member.
- Dimension lumber shall be designed in accordance with the latest edition of the National Design Specification for Wood Construction (ANSI/AF&PA NDS) and its supplement.
- Metal plate connected wood trusses shall be designed in accordance with the latest edition of the National Design Standard for Metal Plate Connected Wood Truss Construction (ANSI/TPI 1).
- All members shall be the size, grade, and species as shown on these drawings.
- SYP shall designate Southern Pine lumber kiln dried to 19% moisture content.
- MSR shall designate Machine Stress Rated lumber.
- LVL or Micro=Lam shall designate Laminated Veneer Lumber.
- SPF shall designate Spruce-Pine-Fir lumber surface dry.
- PT shall designate pressure preservative treated lumber.
- Nail-Lam shall designate posts fabricated from three or more plies of 2x6 (minimum) #1 SYP, PT where in ground contact
- PLBM shall designate plated beams which are fabricated by stacking MSR lumber and joining with metal connector plates.
- Pressure preservative treated wood shall be: a) treated with waterborne preservative, b) treated in accordance with standard C2 of the American Wood Preservers Association for above ground use, or ground contact as applicable and c) bear the quality mark of an approved inspection agency.
- Unless Noted, bracing shall be 2x4 #2 SPF located as shown on the plans and attached as shown in the fastener schedules.
- Unless noted otherwise, all sidewall bearing posts shall be carefully notched for truss bearing. The bearing surface shall be smooth, flush, and in tight contact with the truss.

**SITE PLAN NOTES:**

- Provide accessible parking stalls per code. (One minimum) Stalls shall be located on the shortest accessible route to an accessible building entrance.
- Each required entrance or exit shall be accessible.
- This is not a boundary survey, drainage plan, grading plan, excavation plan, utility plan nor landscaping plan. All or any of these that may be required to comply with local requirements shall be provided by others.
- This is a location plan for the purposes of demonstrating building code compliance only and is based on information supplied by the owner and/or contractor. Property lines shall be field verified by a registered land surveyor as required.
- It is the responsibility of each contractor and each subcontractor to ensure that all utilities, including but not limited to gas lines, electric cables, water lines, et. al., are located before any excavation work is begun. **CALL BEFORE YOU DIG.**
- It is the responsibility of the contractor laying out the building to field verify the location and orientation of the building with the owner.
- All roofs, paved areas, yards, etc. shall drain into a separate storm sewer system, or an approved place of disposal.

**STEEL PANELS used as SIDING, ROOFING, and TRIM:**

- Shall be fabricated from 0.0149 inches minimum nominal thickness steel with galvanized or galvalume coating.
- Shall be prefinished with siliconized polyester or, Kynar 500 fluorocarbon paint system, or unfinished galvalume.
- Shall be fastened with #9 (minimum) self drilling wood screws equipped with neoprene rubber gaskets penetrating 1 1/4" into the lumber supports. Screws into treated lumber shall be stainless steel all others galvanized.
- Unless noted otherwise, all screws shall be installed in the flats except that screws attaching trims over the siding or roofing shall be installed through the ribs.
- Unless noted otherwise, the sheeting fastener pattern shall be as shown below.



**ERECTION:**

- It is the responsibility of each contractor and/or the owner to properly receive and store materials without damaging them.
- Post-frame buildings shall be erected in accordance with:
  - the 2013 (updated March 2015) edition of the "BCSI Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses" as published by the Truss Plate Institute (TPI) and the Structural Building Components Association (SBCA), including "BCSI –B10 Post-Frame Truss Installation & Bracing";
  - "Accepted Practices for Post-Frame Building Construction: Framing Tolerances" distributed by the National Frame Builders Association;
  - "Accepted Practices for Post-Frame Building Construction: Metal Panel and Trim Installation Tolerances" distributed by the National Frame Builders Association.
- Post Backfill: shall be the inorganic portion of the excavated soil in accordance with ASABE EP Section 4.3.2 compacted to at least its pre-excavation density. Soil Type shall be a minimum of TYPE 4 FIRM SOIL (firm silty / clayey sand).

**TOWN & COUNTRY STRUCTURAL FRAMING FASTENER SCHEDULE**

MEMBER TO MEMBER	MEMBER	FASTENER	IN THIS BEARING POST MEANS BEARING POST. 'STUB POST' MEANS BLOCKING BETWEEN TRUSS & HEADER. REMARKS
Ceats to post	8	GALV	CALVANIZED (GALV)
Skirt to post	3	GALV	
Girts to post	2	GALV	
Truss to stub post	8	GALV	2X6 & 8 HEADERS
Truss to stub post	10	GALV	2X10 & GIR HDRS
Truss heel to post	7	GALV	w/ bolts as shown
Truss bracing to truss	2		
T brace to truss web	1		o.c.
End truss heel/top chord to post	6	GALV	
End truss bottom chord to post	3	GALV	
Purlin to truss	1		In long purlin at lap
Purlin to purlin at laps	4		Clinched
Supports & Headers to post	4	GALV	Double no of nails at intermediate bearing
2x6	4		
2x8 & 2x10	5		post. See prints for larger &/ LVL heads.
2x12	6		
Knee brace to post	5	GALV	
Knee brace to each truss chord	5		Clinched
Joist hanger to post	1	GALV	EACH HOLE
Joist hanger to header	1		Each hole
Corner brace to girts & post	2		Clinch at girts
Multiple ply header ply to ply	1		o.c. staggered
Fascia to post	2	GALV	
Fascia to truss	2		
2x4 blocking to truss	2		Bird & overhang blocks
Boxing to headers	1		12" o.c.

**PROPOSED BUILDING DATA**

USE GROUP: B  
 CONSTRUCTION TYPE: V-B  
 BUILDING AREA: 11,952 SF  
 ALLOWABLE AREA TABLE 506.2: 9,000 SF  
 BUILDING PERIMETER: 476 LF  
 OPEN PERIMETER: 476 LF  
 If = (F/P - 0.25) W/30  
 P = 476  
 F = 476  
 If = (476/476 - 0.25) 30/30  
 If = .75  
 Aa = (9,000 + (9,000 x .75))  
 Aa = 9000 + 6,750  
 Aa = 15,750 SF (ALLOWABLE AREA)  
 TOTAL OCCUPANT LOAD: 37 PERSONS  
 SEE ROOM SCHEDULE ON PAGE #4  
 FOR OCCUPANT LOAD CALCULATIONS

**REFERENCED CODES**

- 2015 INTERNATIONAL BUILDING CODE
- 2015 INTERNATIONAL ENERGY CONSERVATION CODE
- 2014 ILLINOIS PLUMBING CODE
- 2014 NATIONAL ELECTRICAL CODE
- 2015 INTERNATIONAL MECHANICAL CODE
- 2015 INTERNATIONAL FUEL GAS CODE
- 2015 INTERNATIONAL FIRE CODE
- 1997 ILLINOIS ACCESSIBILITY CODE

**SEISMIC DESIGN CRITERIA**

Seismic Importance Factor – 1.0  
 Seismic Design Category – B  
 Site Class – D  
 Mapped Accelerations  
 SS – 0.111  
 S1 – 0.054  
 Spectral Response  
 SDS – 0.118  
 SD1 – 0.086

**SNOW LOADS**

Ground snow PSF..... 30  
 Snow exposure factor... 1.0  
 Thermal factor ..... 1.1  
 Snow importance factor. 1.0  
 Flat roof snow PSF..... 23.1  
 Roof slope ..... 14.0  
 Roof slope factor ..... .93  
 Sloped roof snow PSF... 21.55

**ROOF DESIGN LOADS:**

Roof live load----- 20 PSF  
 Top chord dead load--- 7  
 Bottom chord live load-- 0  
 Bottom chord dead load-- 5

**FOUNDATION DESIGN CRITERIA:**

Required allowable soil bearing pressure ----- 2000 PSF  
 Field verify

**WIND DESIGN CRITERIA:**

Basis (3) second gust  
 Basic wind speed --- 105 MPH  
 Importance factor – 1.0  
 Wind exposure ---- C  
 2a, Length End Zone – 14'  
 Internal Press Coeff -- 0.18  
 C+C Press roof/siding-- 28.2 PSF

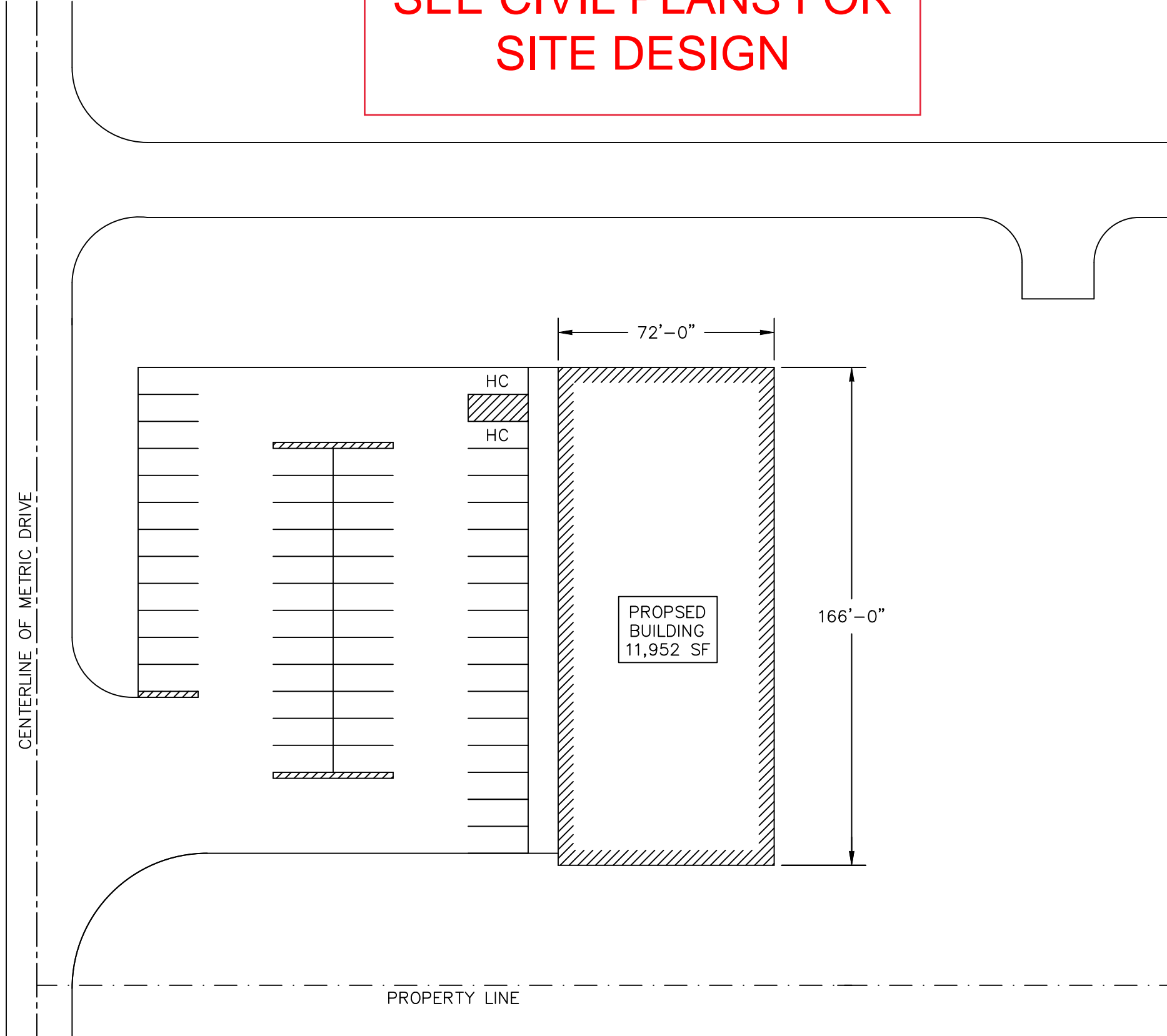
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Designed in Accordance with the 2015 IBC Section 2306: ASABE EP 484.2-Diaphragm Design of Metal Clad Post Rectangular Buildings  
 ASABE EP 486.1-Shallow Post Foundation Design  
 ASABE 559-Design Requirements and Bending Properties

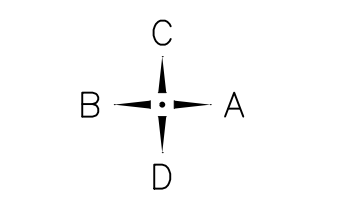
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 APPROVED: \_\_\_\_\_

SEE CIVIL PLANS FOR SITE DESIGN

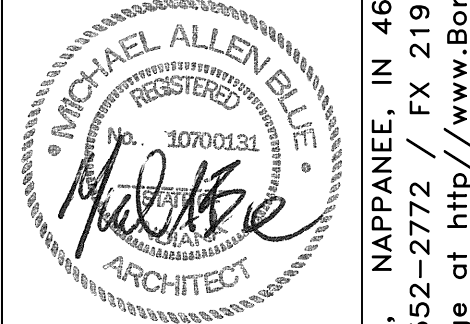


PROJECT ADDRESS  
 13825 METRIC DRIVE  
 ROSCOE, ILLINOIS 61079

**SITE COMPLIANCE PLAN**  
 SCALE: 1" = 40'-0"



FIELD VERIFY LOCATION & ORIENTATION OF BUILDING WITH OWNER



1/20/26

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 PROJECT  
**402-14-232**  
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CREATED : 31.Dec.25  
 SAVED : 09.Jan.26

REVISIONS	

**MB402232.DWG**

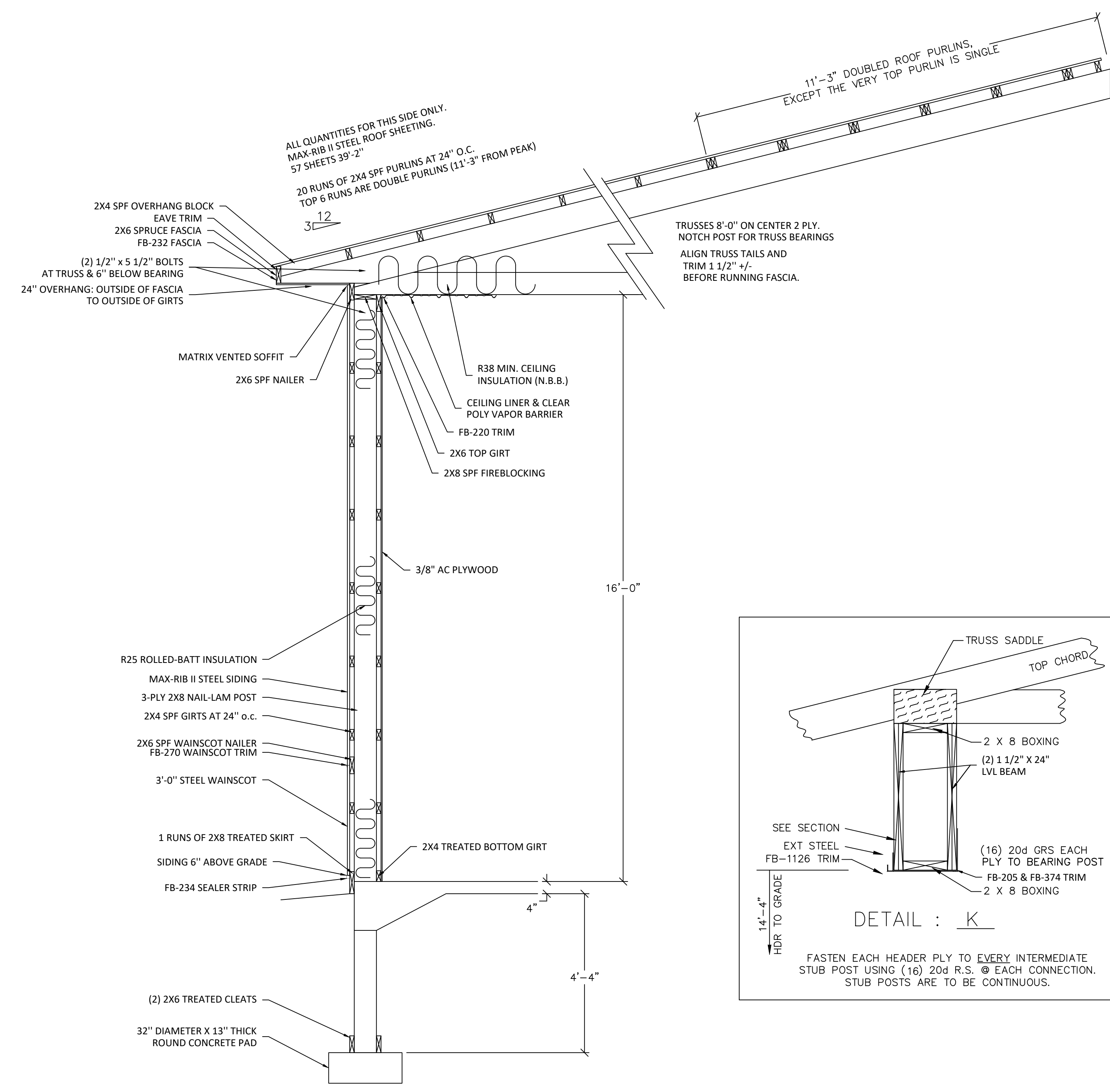
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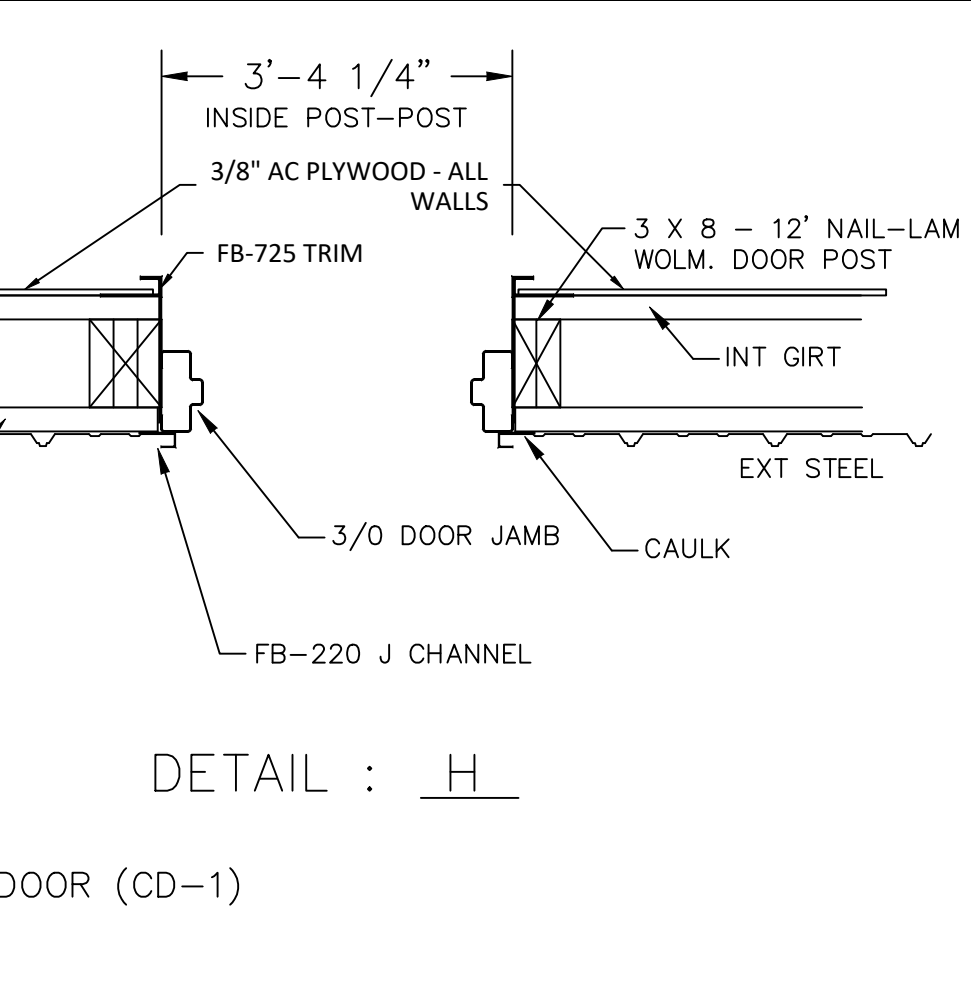
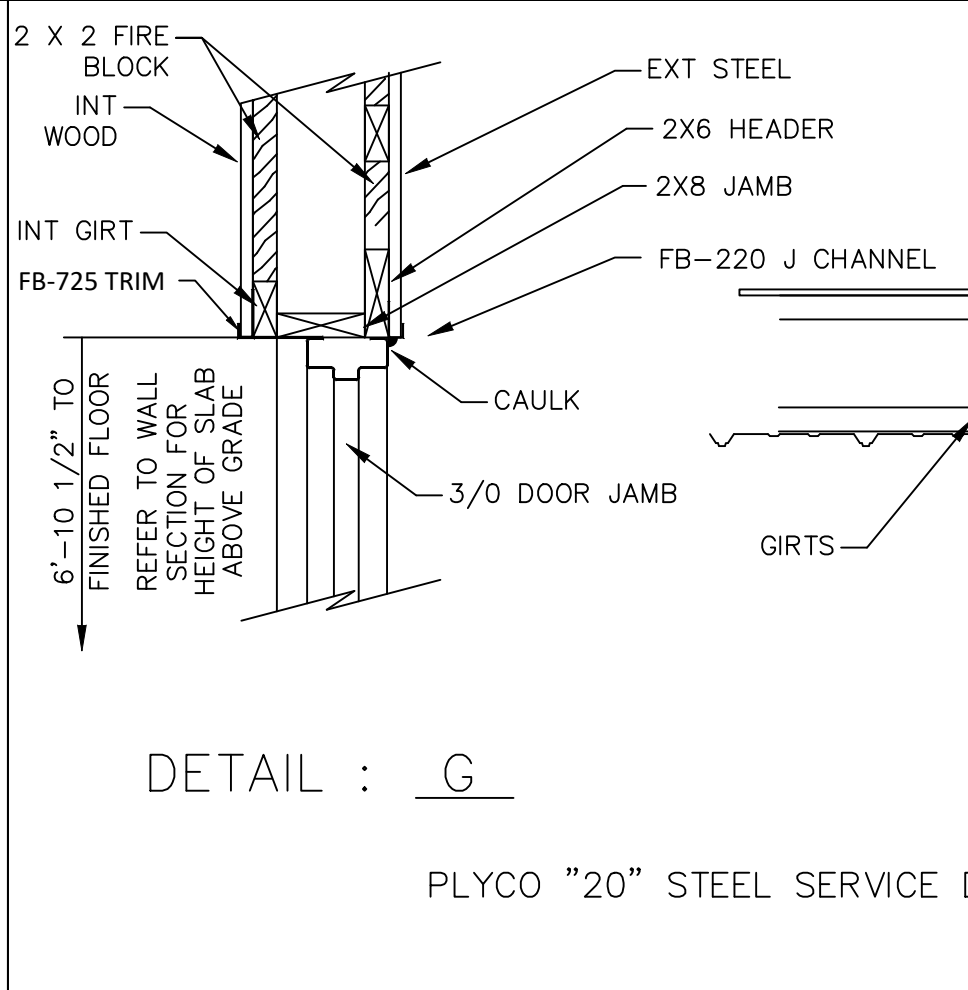
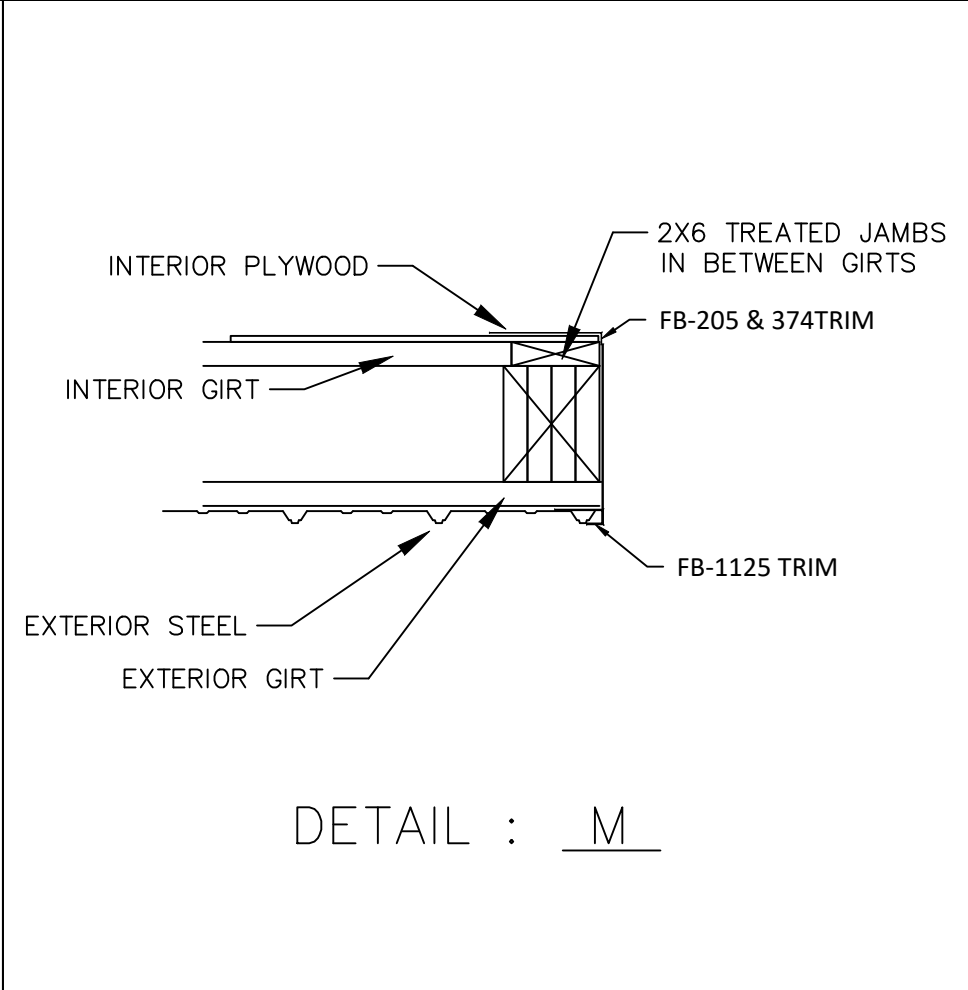
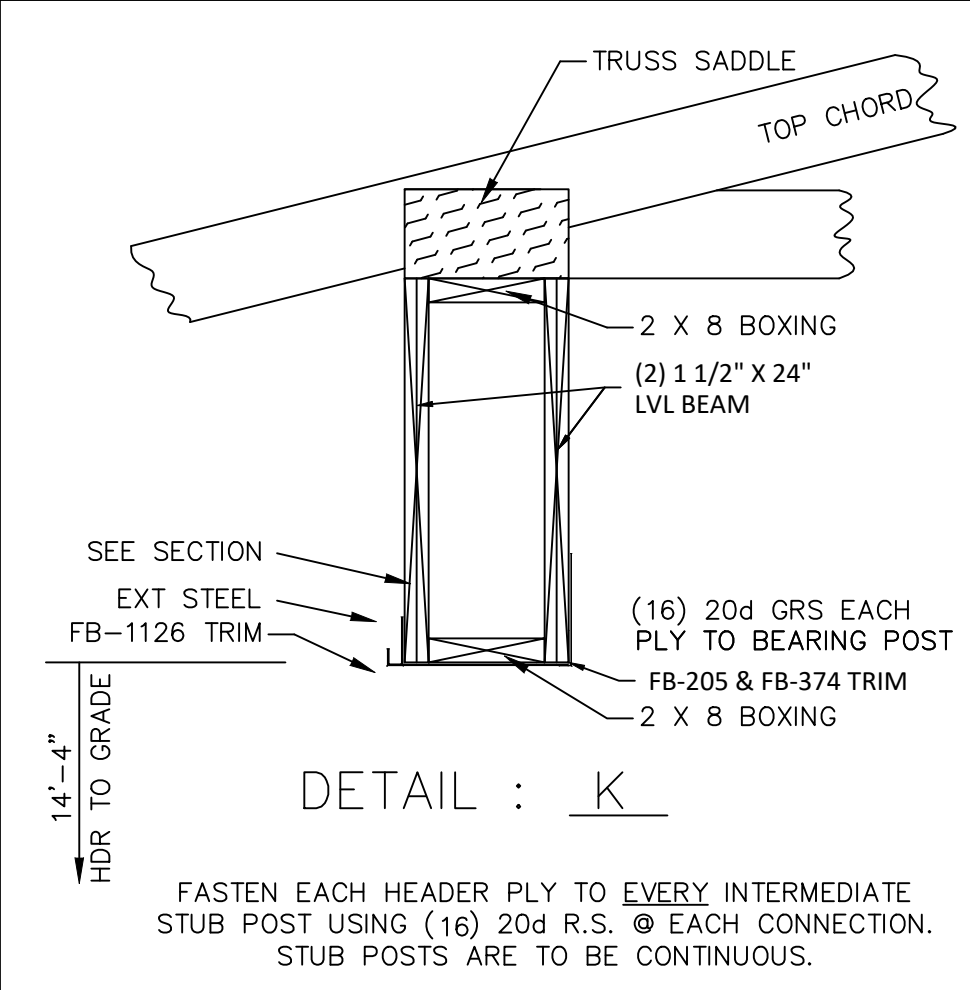
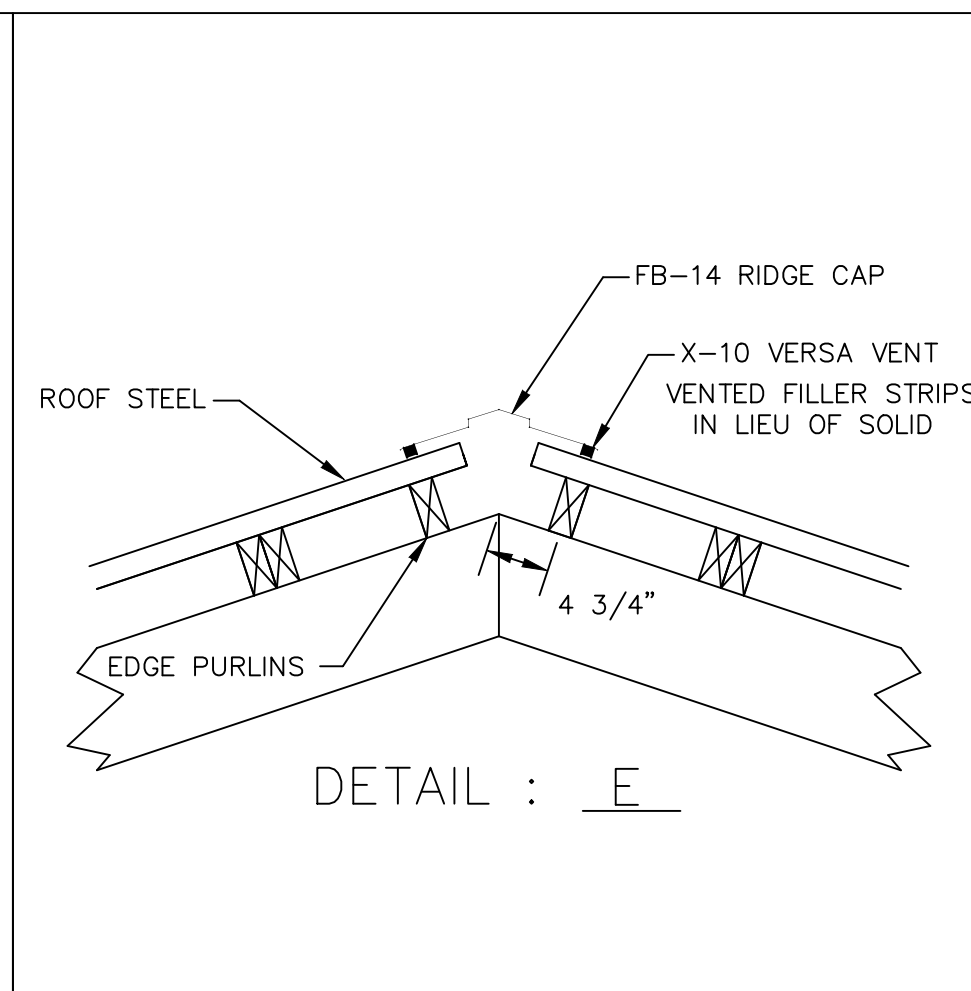
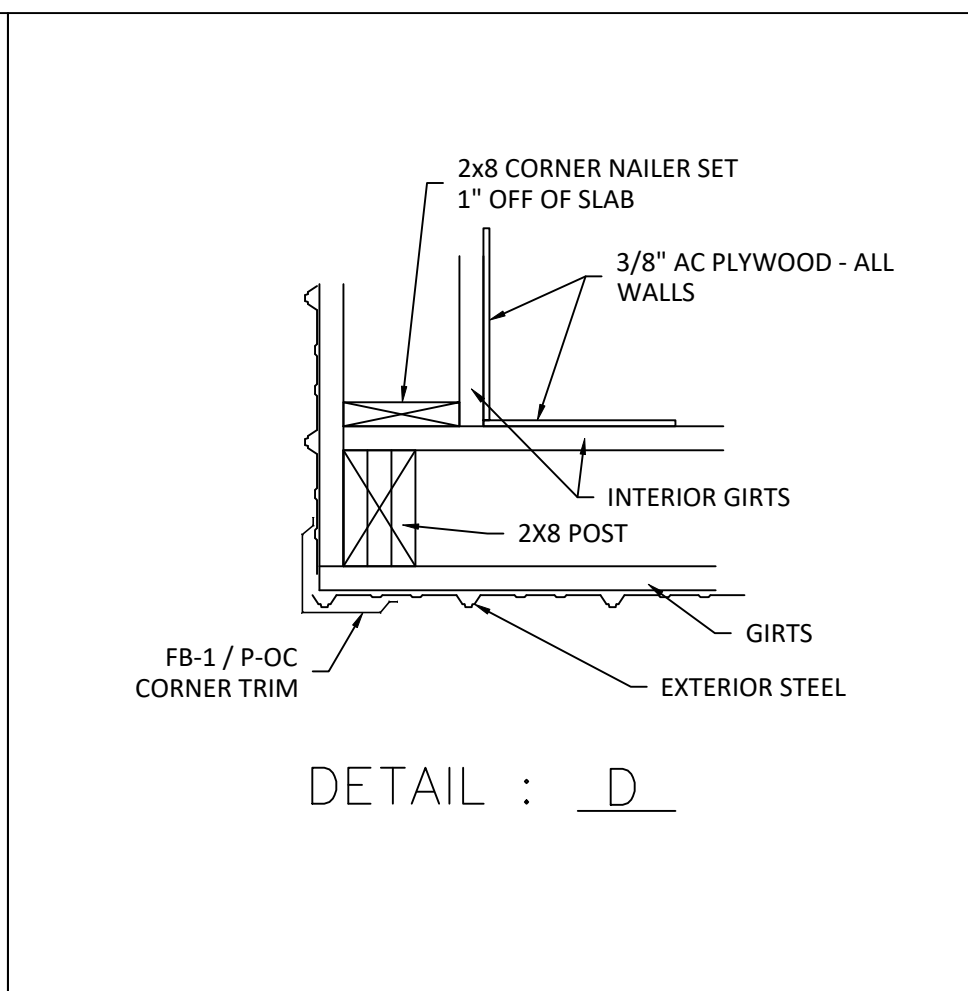
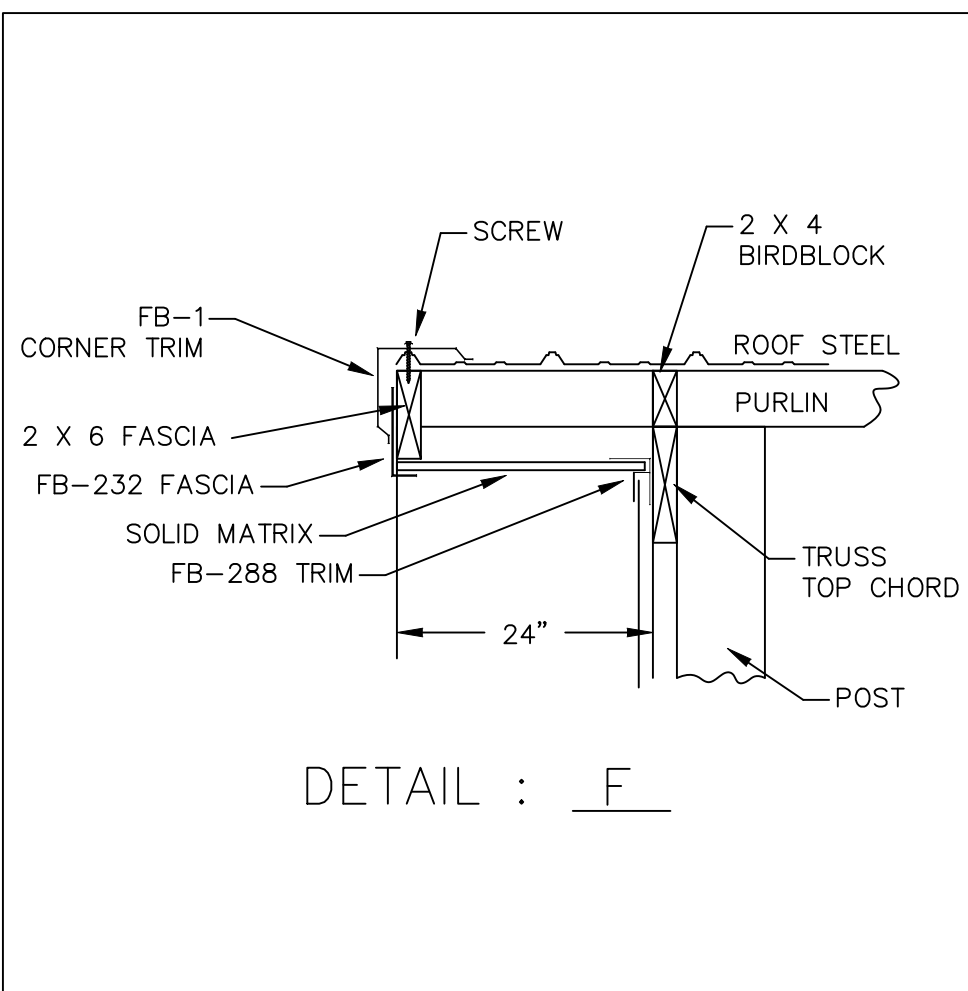


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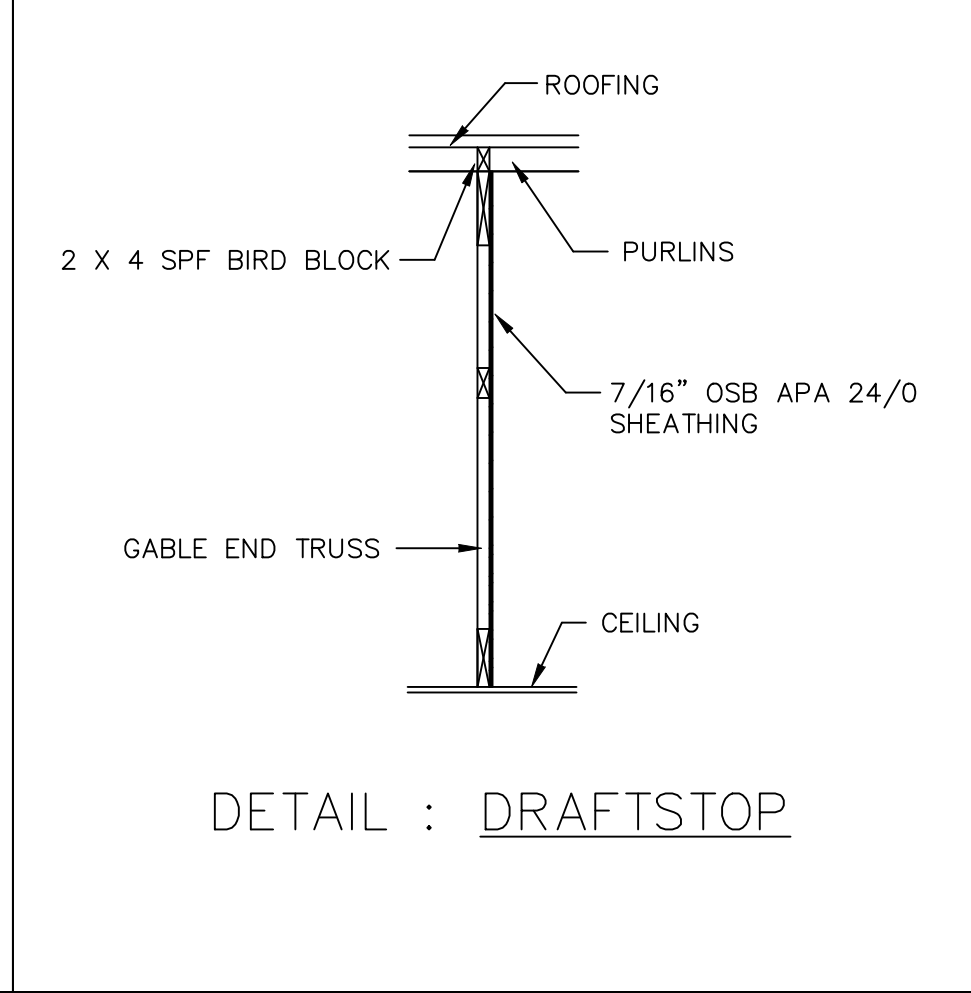
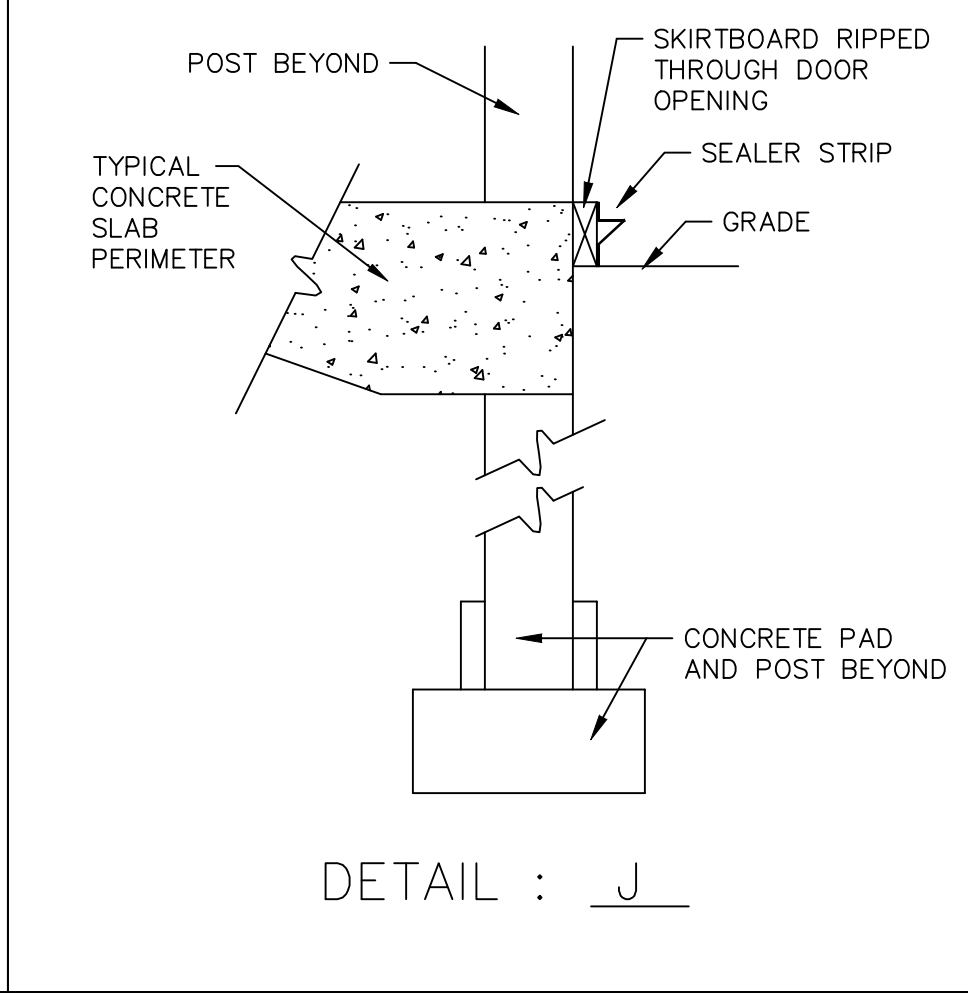
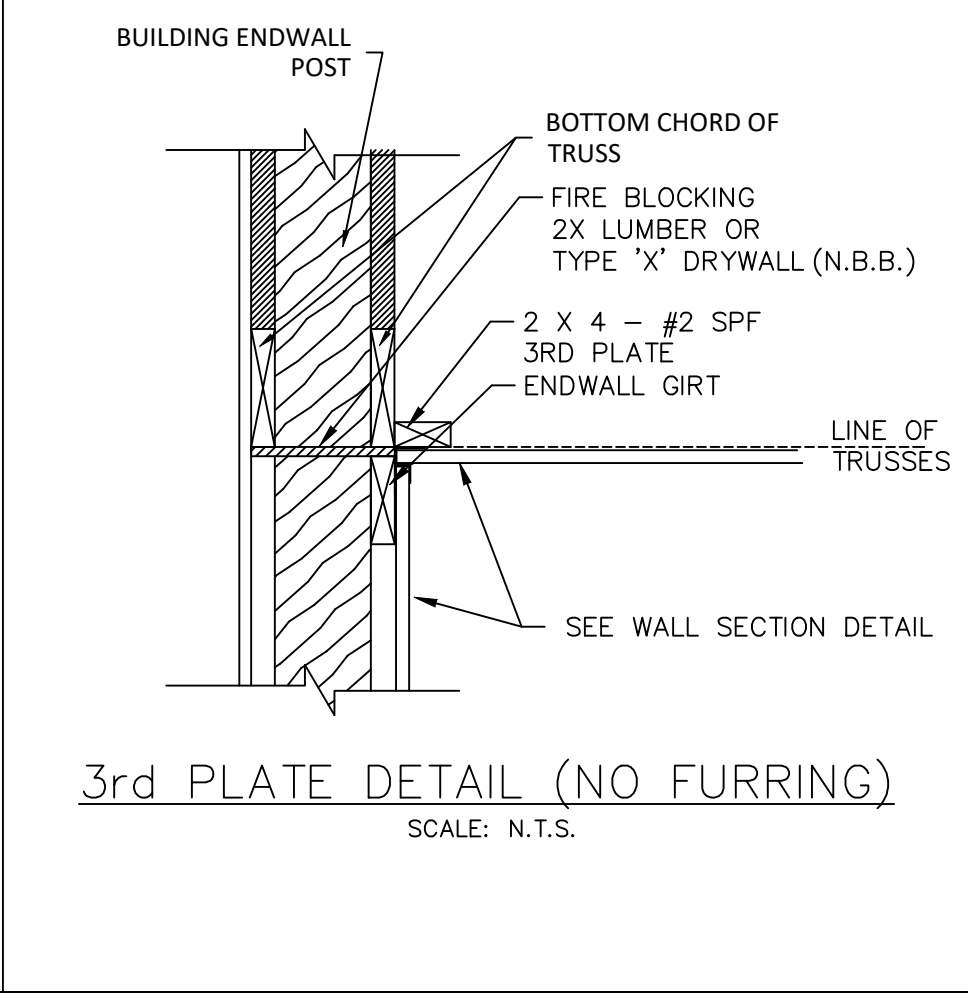
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 APPROVED: \_\_\_\_\_



WALL SECTION



PLYCO "20" STEEL SERVICE DOOR (CD-1)



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 see our internet homepage at <http://www.Borkholder.com>

MICHAEL ALLEN BLEW  
 REGISTERED ARCHITECT  
 No. 107001831  
 1/20/26

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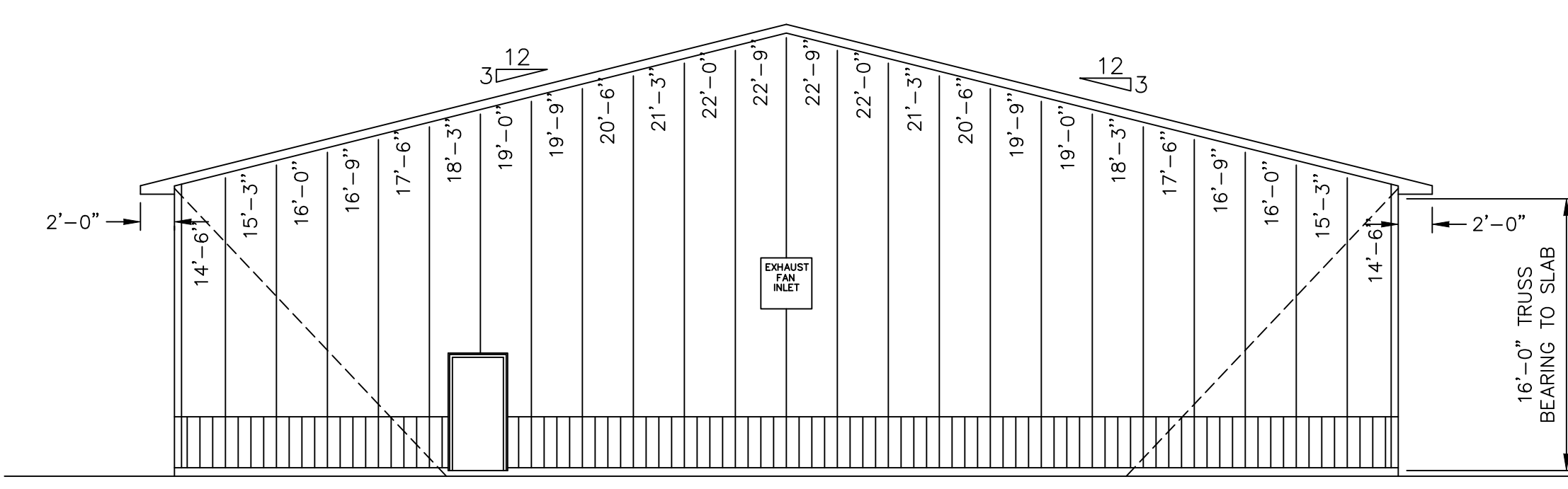
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3 OF 9

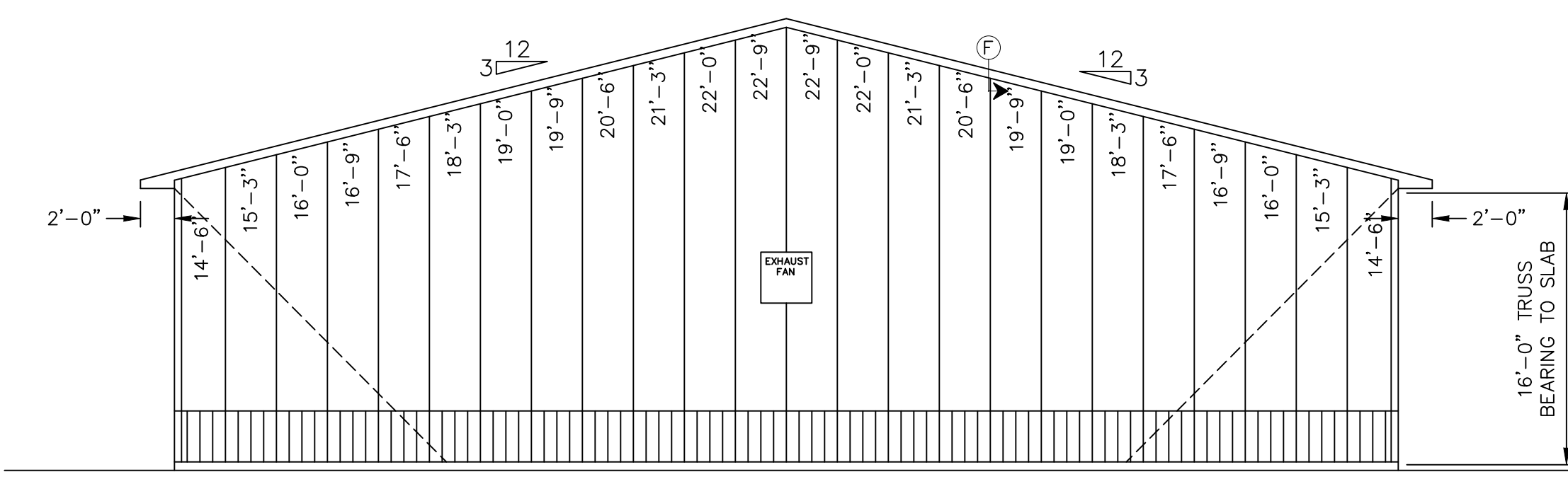


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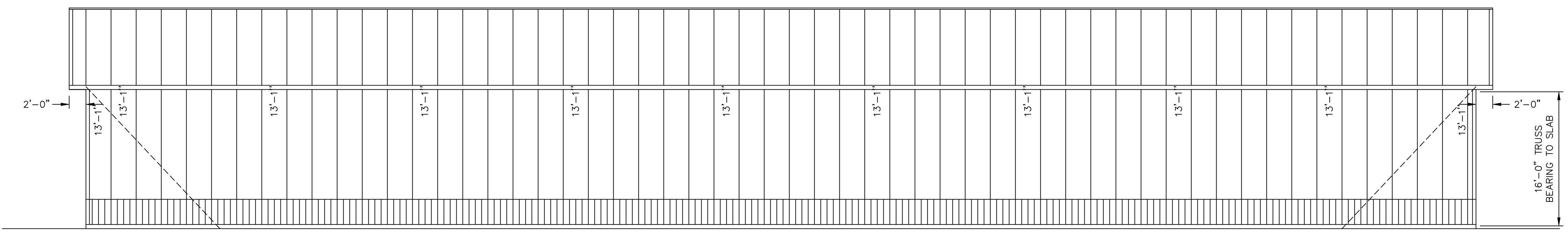
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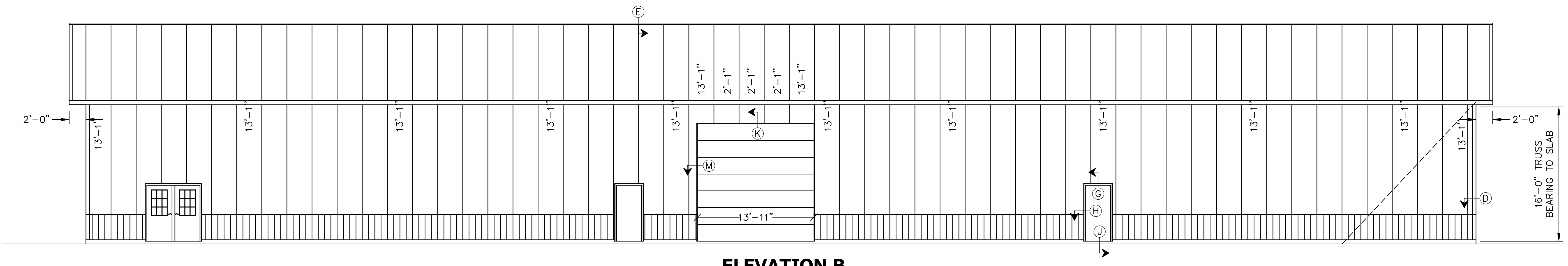
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 SCALE: 1/8" = 1'-0"



**ELEVATION D**  
 SCALE: 1/8" = 1'-0"



**ELEVATION A**  
 SCALE: 1/8" = 1'-0"



**ELEVATION B**  
 SCALE: 1/8" = 1'-0"

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

5 OF 9

**Nail-Lam Posts**

1. Nail-Lam Posts are shop manufactured from 3 or more plies of 2x6 or larger Southern Pine Lumber. Each ply has a treated bottom section joined to an untreated top section by means of glue finger joint. The plies are joined to one another with stainless steel wire nails.

2. Always turn the strong direction perpendicular to the girts as shown in figure 103-1.

3. Avoid damaging or warping the posts by always storing them so that the strong direction is turned up. On the job, keep the posts dry and out of direct sun light.

4. Always install the post so that the treated portion is down.

5. Notch the posts for truss bearing by removing one of the outside plies with a smooth, level cut. There should be no nails within the top 18" of the posts, but be careful for misplaced nails anyway. Alternate method is Center Ply Removed.

6. As soon as the truss is set, install 2 bolts as shown in figure 103-2 or screws as shown in 103-2a.

7. Never use nail-lam posts so that they are exposed to the weather in the finished building.

8. Never use nail-lam posts as an isolated unbraced column.

9. Nail the 2x6 treated cleats to the bottom of post with (3) 20d galvanized R.S. nails per cleat. See figure 202-2.

**Side & End Wall Framing**

1. A critical dimension is the truss bearing height. This is the measurement from the bottom of the skirt board to the bottom of the truss.

2. On Midwestern and Town & County Buildings, Stagger the notched side of the post down the length of the building to match the length of the purlins. See Figure 203-4.

3. Put a 2x4 on the truss top chord and read the NOTCH DEPTH on a framing square placed as shown in figure 203-5. Be sure to allow 1 1/2" between the square and the heel of the truss (the thickness of the fascia).

4. Locate the bottom of the notch by measuring up to the truss bearing height grade. See figure 203-6.

5. Locate the top of the fascia by measuring up the NOTCH DEPTH from the base of the notch.

6. Put a line on the post to match the roof pitch and cut off the excess post. Mark the 1 1/2" horizontal base cut and make it a circular saw set at 1 1/2" depth. (This cut must be smooth) On solid sawn posts, finish notch by making the vertical cut (do not over cut below the base).

7. CORNER BRACING - Install the corner braces at each end at intervals shown on the elevations. Cut the brace to bear on the face of the posts and toenail the ends of the brace to the post. Nail at each intermediate girt from inside to outside and clinch as required. See figure 203-9.

8. Nail the end truss to the face of the posts as noted in the fastener schedule.

**Roof Framing**

1. Set and temporarily brace the trusses as shown in HIB-98.

2. Install as much of the permanent bracing as you can as you set the trusses.

**Permanent roof bracing:**

CONTINUOUS LATERAL BRACING - Carefully examine the Truss Design Drawing to find the location of the web braces and bottom chord bracing. Run the bracing continuous down the length of the building. Nail as noted in the fastener schedule.

TEE BRACES - A Tee brace may be specified on the print or the Truss Design Drawing instead of a Continuous Lateral Brace, especially on widely spaced trusses. While the truss is on the ground, measure these webs and cut the member specified on the prints and material list 12" shorter. Position the brace within 6" of the joint so they form a "T" and nail as shown in the fastener schedule.

VERTICAL SWAY BRACING - Locate the vertical sway bracing as shown on the post setting plan. Run it as a cross brace between the top chord of the truss and the bottom chord of another about 8' away. Install it in line with a web, not necessarily straight up and down. Nail as shown in the fastener schedule.

WIND BRACING - After the purlins are run, put a 2x4 in the location shown on the post setting plan. Mark the 2x4 and cut it to fit tightly between the top chords of the trusses. Nail the ends of the braces to the trusses and nail the braces to each purlin. Nail as shown in the fastener schedule.

4. Running purlins on 8' on center trusses:

Turn the 2x4 purlins on edge and stagger the lengths down the building.

Attach the 2x4 spruce roof purlins to the truss top chord as shown in Figure 206-4. Space the purlins as noted on the wall section.

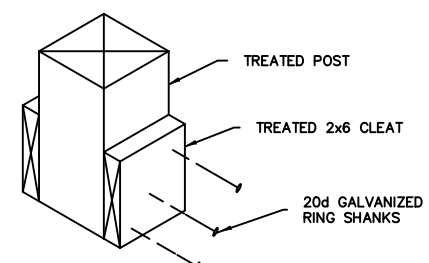


Figure 202-2

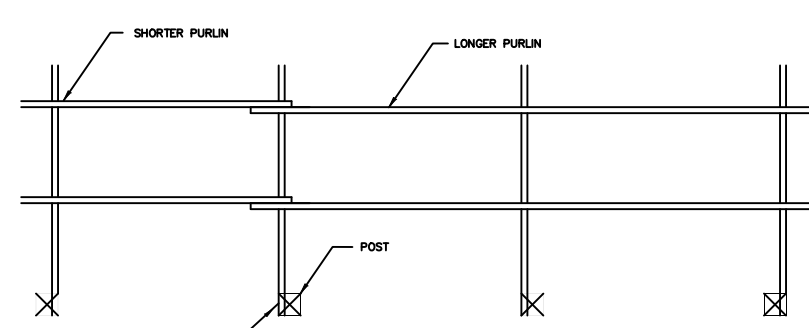


Figure 203-4  
Town & Country

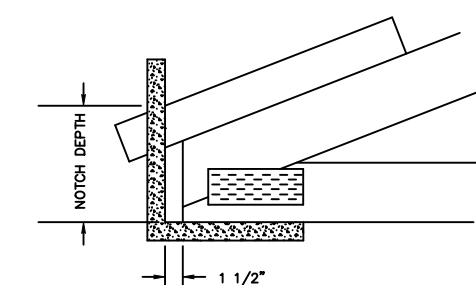


Figure 203-5  
Town & Country Notch Depth

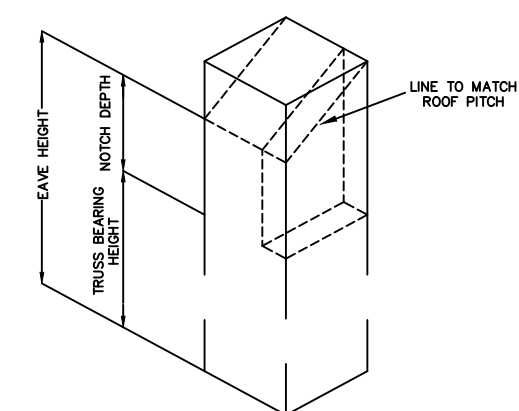


Figure 203-6

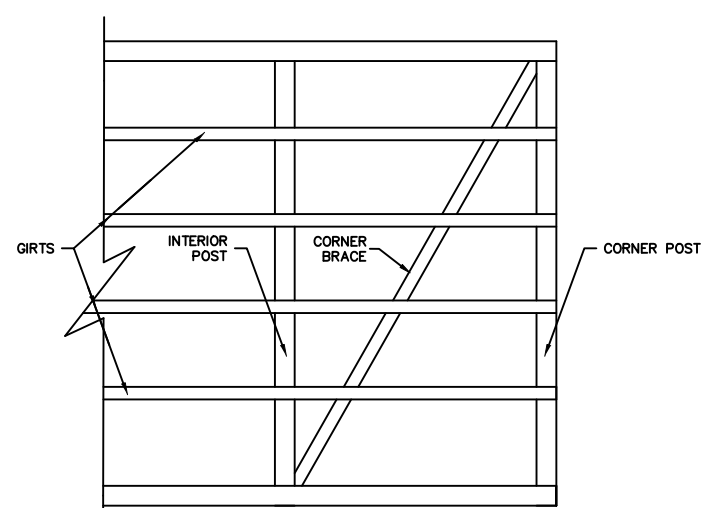


Figure 203-9

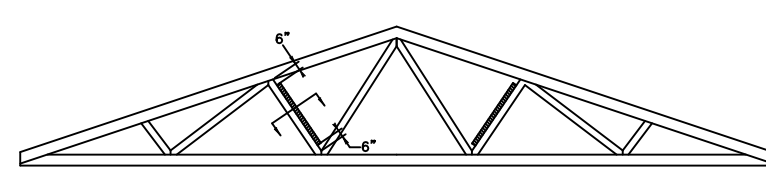


Figure 206-1

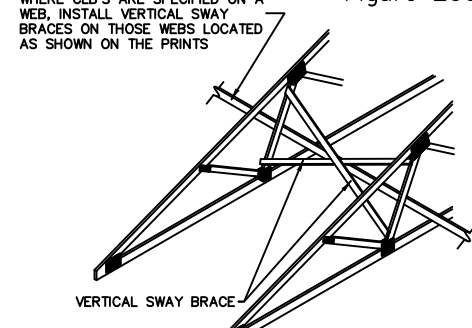


Figure 206-2

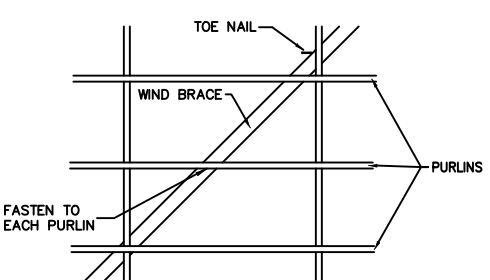
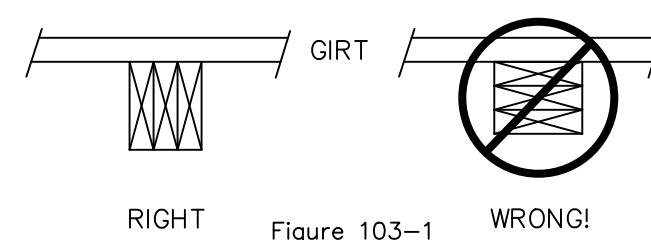


Figure 206-3



RIGHT WRONG!  
Figure 103-1

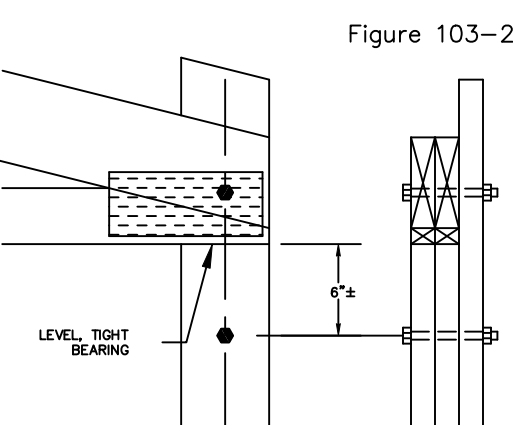


Figure 103-2

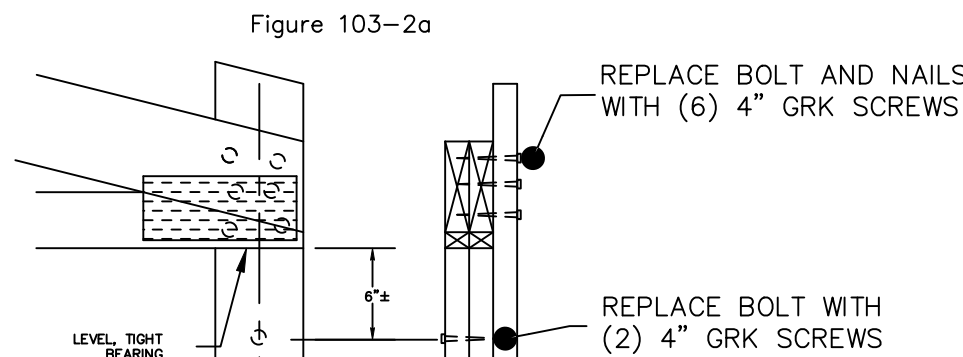


Figure 103-2a

**Eave Overhang Framing**

1. Measure the eave overhang from the outside face of the girts (or truss supports) to the outside face of the fascia.

2. Unless noted otherwise on the prints, always chalk a straight line down the building and trim the truss tails about 1 1/2" before running the fascia. See figure 208-1.

3. Cut one piece of the fascia into short and long pieces to use on opposite ends of the buildings.

4. On 8' on center trusses cut, fit and nail a 2x4 overhang block on top of the truss top chord to provide extra nailing for the fascia. See figure 208-2.

5. On longer overhangs, use a 2x4 return and runner as shown in figure 208-3.

**Gable Overhang Framing**

Gable framing and fasteners are some of the most important details on a post frame building. At the gable, the load from the roof diaphragm must be transferred to the end wall diaphragms. SO IT IS VITAL THAT YOU TAKE NO SHORT CUTS!

1. Always build gable overhangs so the fascia is 1/4" to 1/2" higher than a level purlin. Over time it will go down.

2. Gable overhangs - 8' on center truss: Run the purlins past the end truss and allow 1 1/2" for the fascia. Nail the purlins to the end truss as usual. Field cut 2x4 bird blocks and run them between the purlins. Add a 2x4 nailer below the top chord between the webs. See Figure 209-2.

**Connections**

1. Connections are critical. Each piece of lumber used in the design of this post frame building is there for a structural purpose. Each piece is under relatively high stress at design loads. For these structures to be safe, all connections must be made carefully and correctly.

2. The bearing on the short posts that support headers the bearing surface must be smooth, flush, and in tight contact with the headers.

3. An end connection is at the end of the piece of lumber. An intermediate connection is where a piece of lumber is fastened to another member at a point between the ends. For an example see figure 210-1.

4. Power driven nails.  
.131 x 3 may be substituted 1:1 for 16d sinkers  
(2) .131 x 3 may be substituted for one 20d ring shank.  
Always use galvanized nails into treated material.

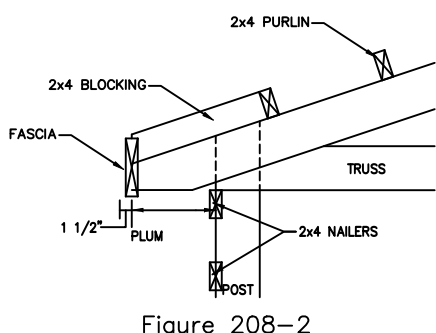


Figure 208-2  
Town & Country

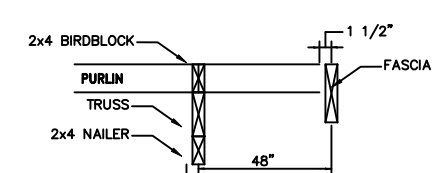


Figure 209-2

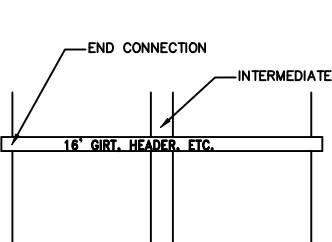


Figure 210-1

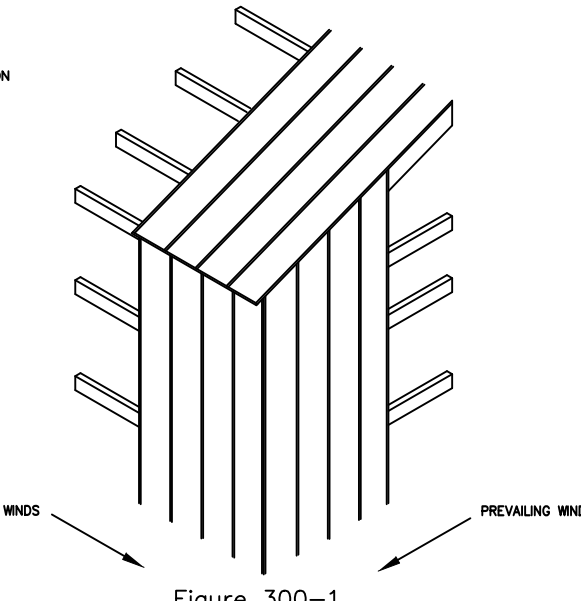


Figure 300-1

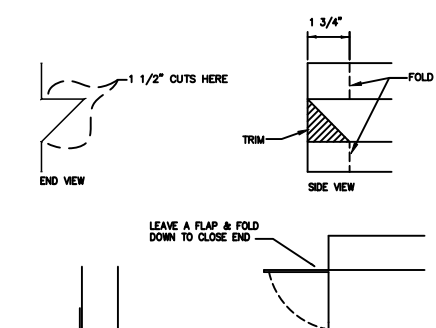


Figure 300-2

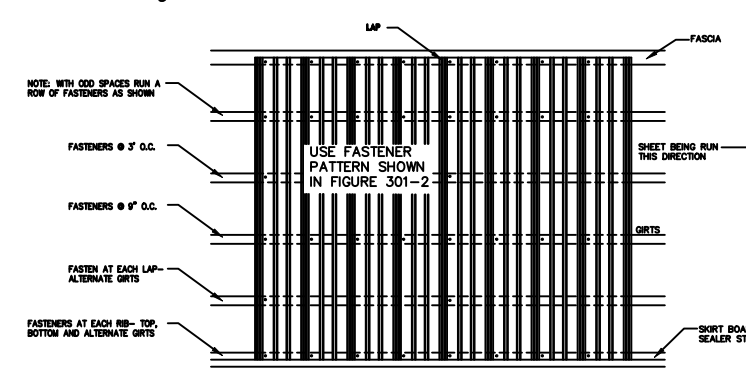


Figure 300-3

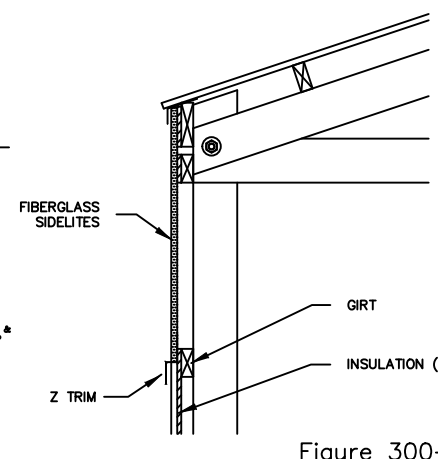


Figure 300-4

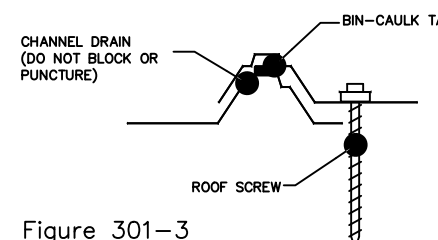


Figure 301-3

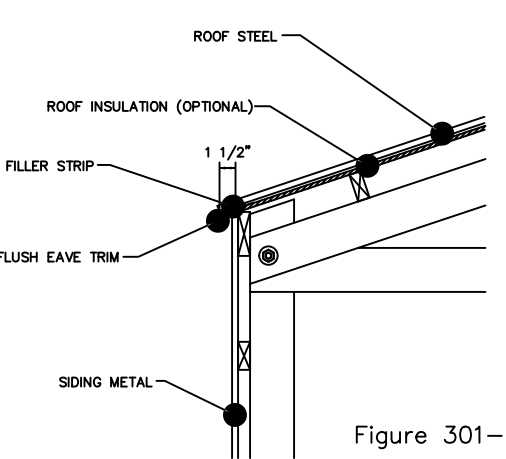


Figure 301-1

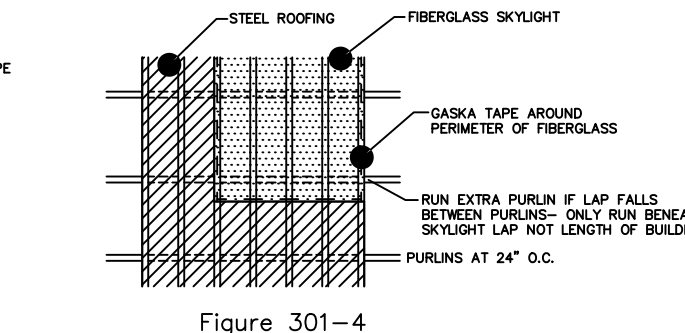


Figure 301-4

**Metal Siding**

1. Metal comes from the supplier cut to length as much as possible. You should not have to make cuts in the metal other than splitting a piece or two down the middle, or cutting the slope on a gable.

2. Metal comes from the manufacturer in bundles. These bundles are shipped to the job site without being broken in Borkholder's yard.

3. It is very important to dust any metal shavings off the steel. These can rust and ruin the steel.

4. Always run siding and roofing into the prevailing winds. In most areas this means starting on the east and laying the sheets to the west, or starting on the north and laying to the south. Most severe summer storms move from southeast to northeast. See figure 300-1.

**RUNNING SIDING:**

The standard is for the bottom of the siding to be 4" above the bottom of the skirt board. If a different dimension is given on the prints follow it.

Chalk a line on the skirt board at the bottom of the siding. Match the horizontal flat part of the rodent barrier (sealer strip) with this line. The bottom of the siding sits on the rodent barrier.

Fasten the rodent barrier to the skirt board at 30" on center top and bottom. Use galvanized roofing nails on top, under the metal siding. Use siding screws on the bottom leg which will be exposed.

At corners, run one piece of the rodent barrier square, and lap the other piece and trim it. At doors or openings the flat part should be folded down to form a closed end. See figure 300-2.

6. The sheets must be started and overlapped correctly. See the fastener pattern, figure 300-3.

7. Chalk a line to keep the fasteners straight. Install the screws as shown in the fastener patterns. After siding is run, carefully wipe the chalk off. Chalk lines will not wash off in the rain.

8. Install the screws with a drill gun. Be sure that the drill head is the correct size and the clutch is properly adjusted.

9. As an alternate you can pre-drill the sheets of siding while they are in the bundle. Use a small bit and brush off the shavings.

**GABLE STEEL:**

On flush gable 8' on center truss style buildings install the FB-162 bird block trim before running the gable steel.

Cut the gable steel to match the roof pitch.

11. Polycarbonate sidelights are a contract option. See figure 300-4.

**Metal Roofing**

1. Flush eave trim is installed AFTER the ridge insulation (if any) and BEFORE the roofing.

2. Locate the center of the purlins accurately with chalk lines. Install the screws square to the roof surface and DO NOT MISS THE PURLIN.

3. If you miss the purlin, NEVER TRY TO ANGLE THE FASTENER. Back the screw out and replace with 3/4" x #14 "goof" screw.

**METAL ROOFING APPLICATION:**

Tack the filler strips along the top of the fascia and position the first sheet of steel at the eave and gable. The first sheet must be lined up square and true with the building. See figure 301-1.

With two piece steel temporarily secure the first piece in position and lay up the next piece to the ridge. Be sure to hold alignment.

Check the alignment a final time and then install the remaining filler strips and roof sheets. Follow the fastener pattern shown in figure 301-2.

Install lap tape on all steel roofs with two piece metal and/or pitches lower than 3:12.

Then run 2 rows across the top of the lower sheet at the butt joint in two piece roofs (above and below fasteners). Remember, do NOT run it through the channel drain.

On pitches lower than 3:12 - run the lap tape the length of the sheet as shown in figure 301-2.

Install skylights like the two piece metal. Use lap tape around the skylight as shown in installation figure 301-4.

**Service Doors**

1. The rough opening (RO) of doors provided by Borkholder will be shown on the prints.

2. The RO of doors NOT provided by Borkholder will NOT be shown on the prints. You must obtain the RO from the door supplier.

3. The service door framing consists of a 2x6 header, 2x6 or 2x8 top boxing, and a 2 ply nail-laminated door post. A threshold framing package is optional.

4. Install the framing as shown in figure 402-1. You must add blocking between the girts from scrap. (You should have at least the cut off from three girts figured to run through the door opening). When rigid insulation is installed under the siding, be sure to block out so that the face of the blocking matches the face of the insulation.

5. You must be very careful to square the opening. Always measure from corner to corner in the same way you squared the building lay out.

6. You must also be very careful that the opening is plumb. Check both directions, parallel and perpendicular to the wall.

7. Mount all service doors so that the thresholds will set at the top of the floor slab.

8. The optional threshold package consist of (2) treated 2x4's and (1) treated 2x6.

9. Install the optional threshold package as shown in figure 402-2.

10. Cut one treated 2x4 to fit between the door posts and the other so it can be nailed to the outside face of the posts. Then nail the 2x4's together, place them level at 1 1/2" below the top of slab and fasten.

11. Cut the 2x6 to fit between the door posts, and secure to the 2x4's. With rigid insulation under the siding, be sure to move the nose of the 2x6 out so it matches the thickness of the insulation.

12. Trim the opening out as shown on the prints. NEVER SPLICE THE TRIM ABOVE THE DOOR. If you do, rain water will drip where the trim is spliced.

13. Be sure to install the trims at the top corner as shown in figure 402-3, and caulk so that the insulation is weather tight.

14. Install the doors in accordance with the manufacturer's instructions.

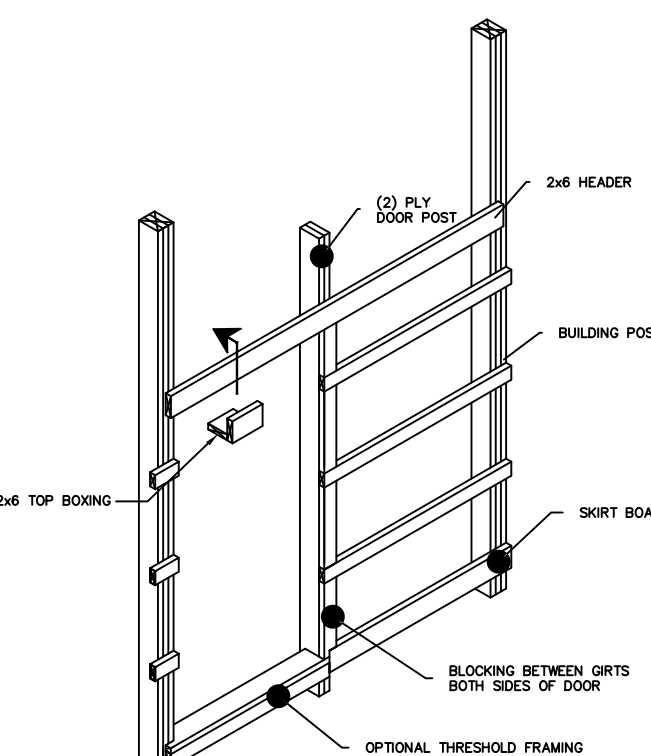


Figure 402-1

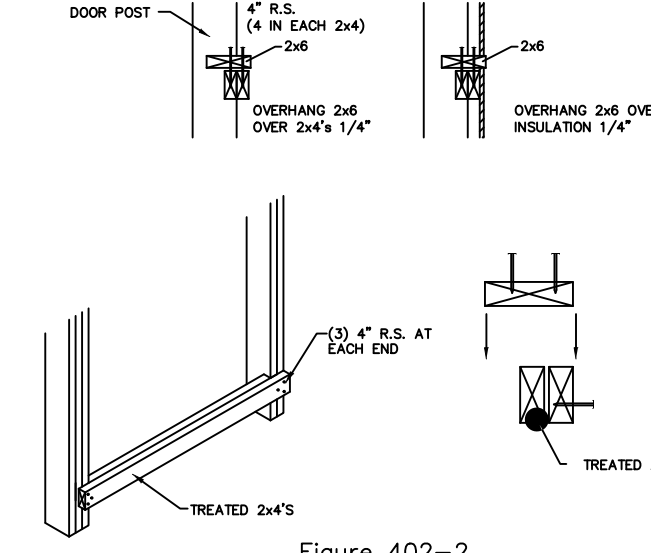


Figure 402-2

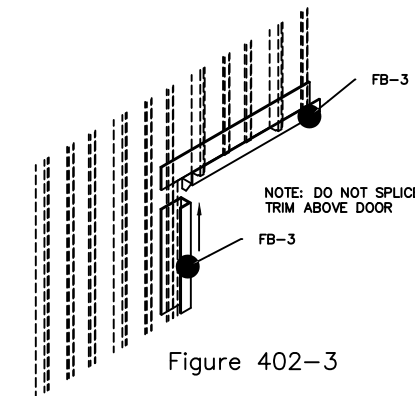


Figure 402-3

**NOTES:**

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DRAWN BY: MIKEB/GREGL

CHECKED :

APPROVED:

786 U.S. 6 WEST - NAPPANEE IN 48559  
800-552-2778 / 800-552-2772 / FX 219-773-2897  
see our internet homepage at http://www.Borkholder.com

1/20/26

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A BUILDING DESIGNED ESPECIALLY FOR:  
**LENSING MUSEUM**

PROJECT  
**HAASE BUILDERS**  
402-14-232

DEALER  
USE THESE PLANS WITH THE BORKHOLDER CONSTRUCTION MANUAL

CREATED : 31.Dec.25

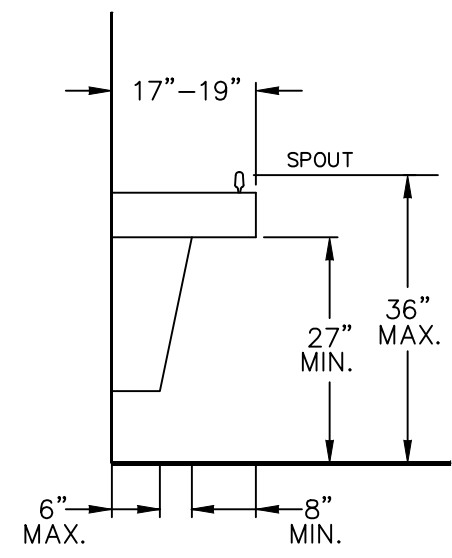
SAVED : 09.Jan.26

REVISIONS

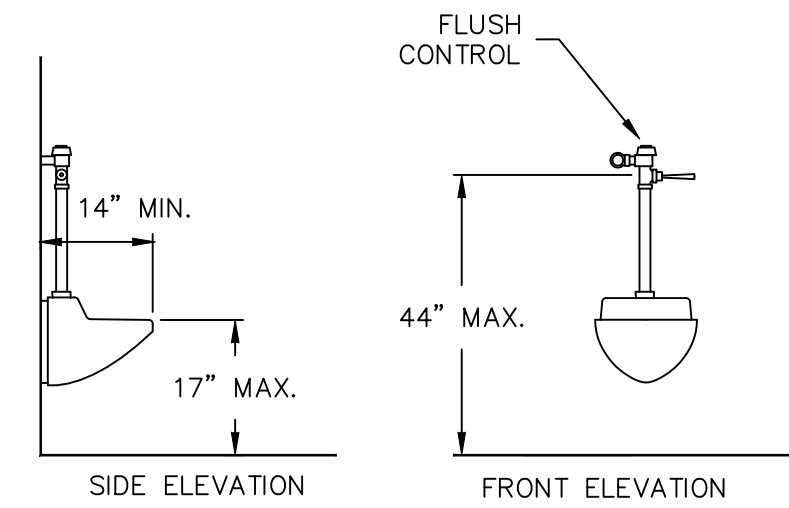
MB402232.DWG

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

6 OF 9

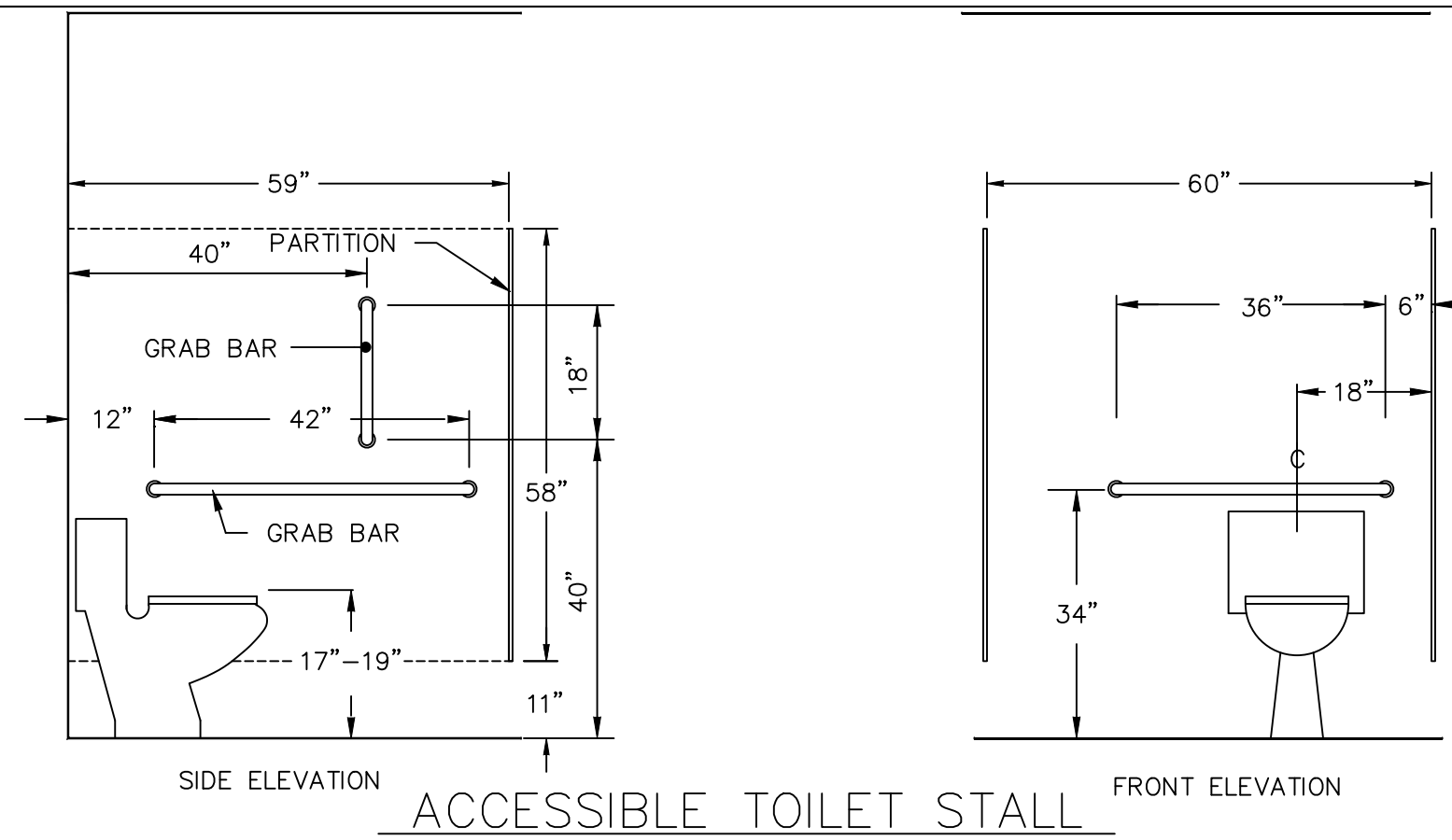


ACCESSIBLE DRINKING FOUNTAIN



NOTE: A MIN. CLEAR FLOOR SPACE OF 30" X 48" SHALL BE PROVIDED IN FRONT OF ACCESSIBLE URINAL.

ACCESSIBLE URINAL



ACCESSIBLE TOILET STALL

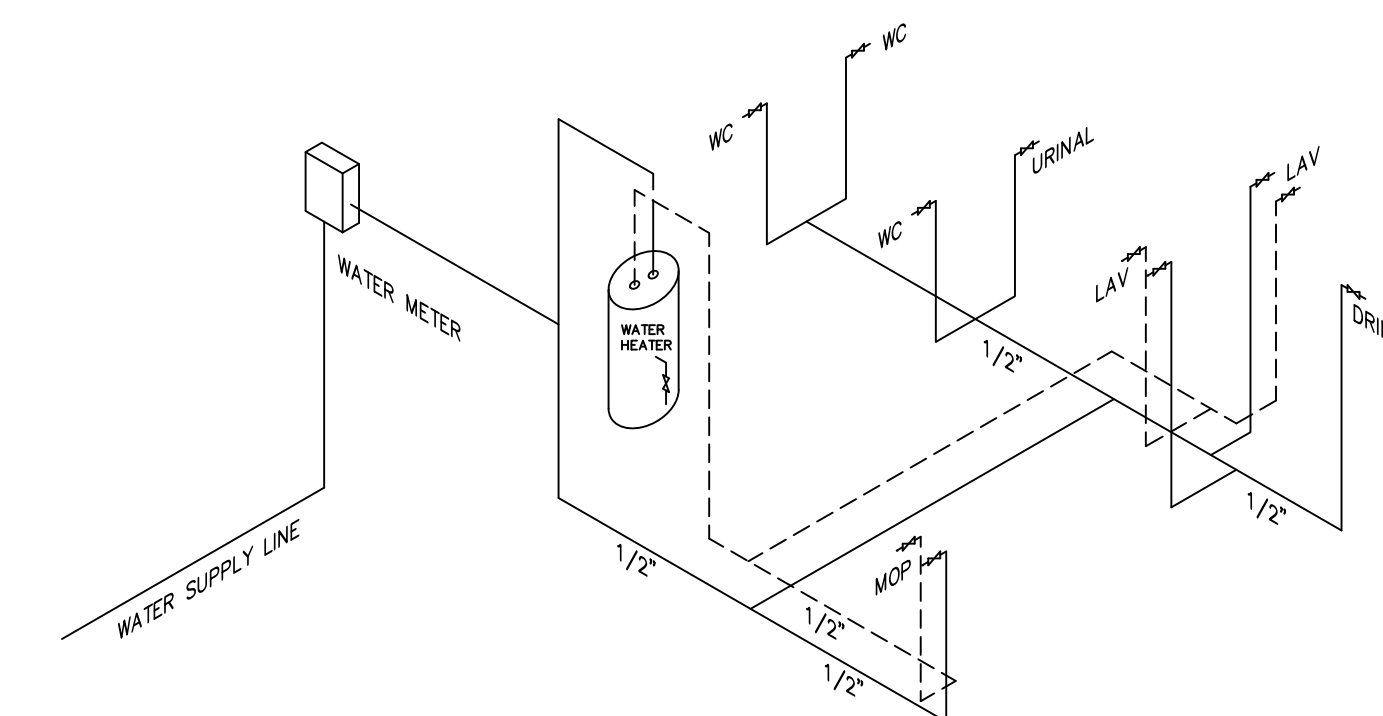
NOTES:  
This Drawing is the Property of Borkholder Buildings and shall be copied Only for this Project. Any additional use or copying may be done Only with written authorization from Borkholder Buildings.  
**GENERAL PLAN NOTES**

- 1) THE WATER HEATER SHALL SIT ON THE DECK ABOVE ROOM 105
- 2) LAVATORIES SHALL BE PROVIDED WITH AN AUTOMATIC SAFETY WATER MIXING DEVICE TO PREVENT SUDDEN UNANTICIPATED CHANGES IN WATER TEMPERATURE OR EXCESSIVE WATER TEMPERATURES. THE AUTOMATIC DEVICE SHALL COMPLY WITH ASME1070 OR 1017 AND SHALL BE ADJUSTED TO A MAXIMUM SETTING OF 110 DEGREES FARENHEIT.
- 3) THE TOILET PAPER DISPENSER SHALL BE PLACED 7-9" IN FRONT OF THE TOILET TO THE CENTER OF THE DISPENSER.
- 4) THE OWNER SHALL PROVIDE A BOTTLED WATER COOLER IN EACH TENANT SPACE IN LIEU OF THE REQUIRED DRINKING FOUNTAIN.

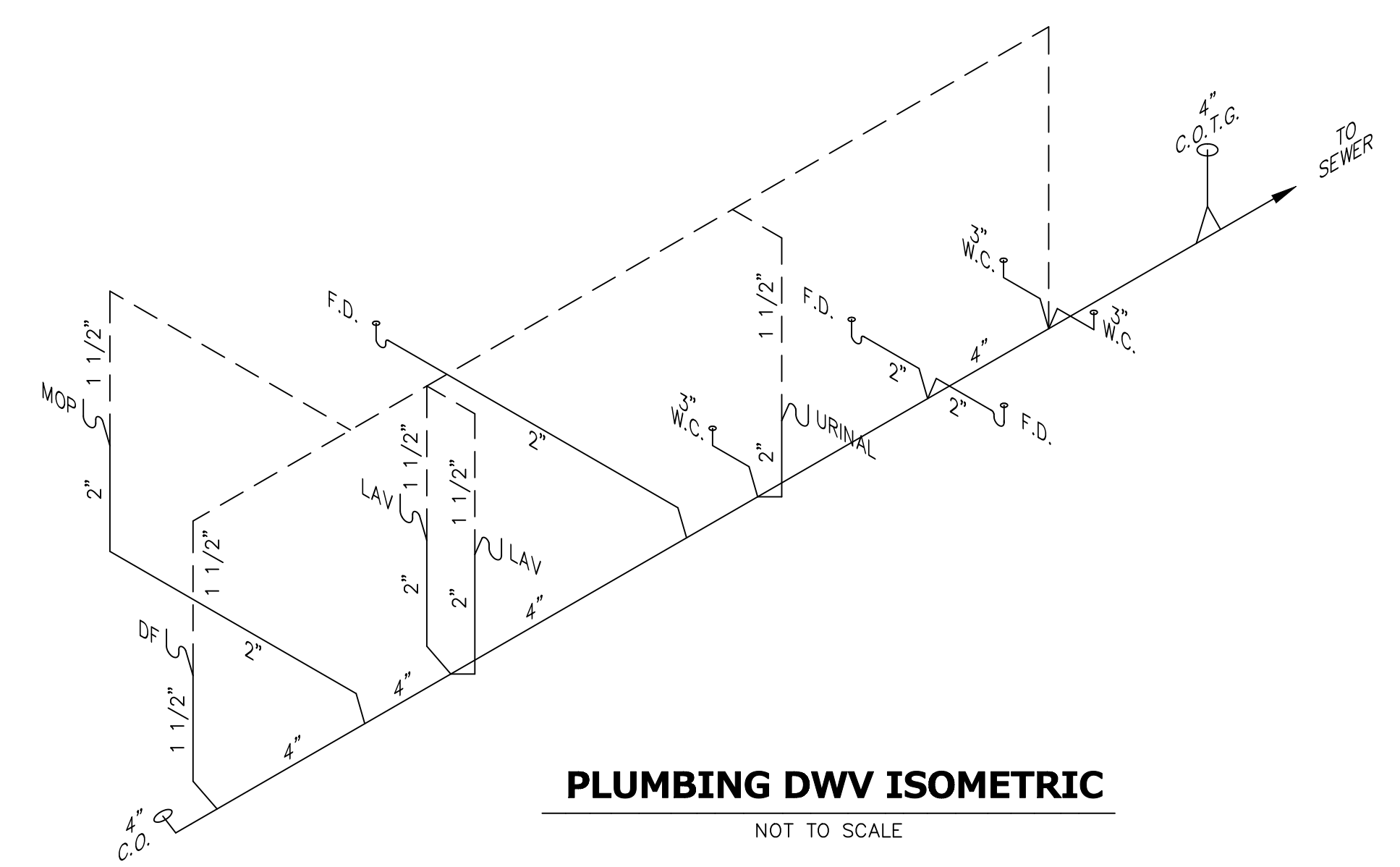
DRAWN BY: MIKEB/GREGL  
CHECKED :  
APPROVED:

- PLUMBING:
1. The Plumbing Contractor (P.C.) shall provide and install all drain, supply lines, plumbing fixtures, appliances (as noted) et.al., as shown on the building drawings and these specifications. All plumbing work shall be performed by plumbers properly licensed in Indiana.
  2. All plumbing work shall be in accordance with the Illinois Plumbing Code, 2014 edition with local amendments. All appliances shall be installed in accordance with manufacturer's instructions.
  3. Plumbing supply lines shall be copper, Type K below grade, Type L above.
  4. The minimum supply line size to a single fixture shall be 1/2"Ø; 3/4"Ø to a flush valve.
  5. The cold and hot water distribution systems shall be graded to permit drainage of all piping at cold water service valves, at fixtures, or other drainage valves.
  6. Shut off valves shall be installed at water heater and fixtures.
  7. The P.C. shall supply and install 16 gauge cover plates to protect the supply lines from puncture.
  8. Drainage pipe shall be ABS, cast iron, copper or PVC ASTM-D 1785 Schedule 40.
  9. All lines shall be protected from freezing in accordance with the U.P.C. Exterior hose bibs shall be frost-free and equipped with an approved anti-backflow device. The P.C. shall verify the number and location of hose bibs with the owner.
  10. Floor drains shall be Wade W-1120-CD cast iron floor drain with integral trap, spigot side outlet, floor level cleanout, integral clamping collar and satin nickel bronze strainer, or approved equal.
  11. It is the responsibility of the P.C. to notify the building authority and ensure that local inspections are made.
  12. Where dissimilar metals are joined, the P.C. shall provide dielectric insulating connections especially manufactured to prevent electrolysis.
  13. The P.C. shall paint all plumbing penetrations of the roof to match the roof color.

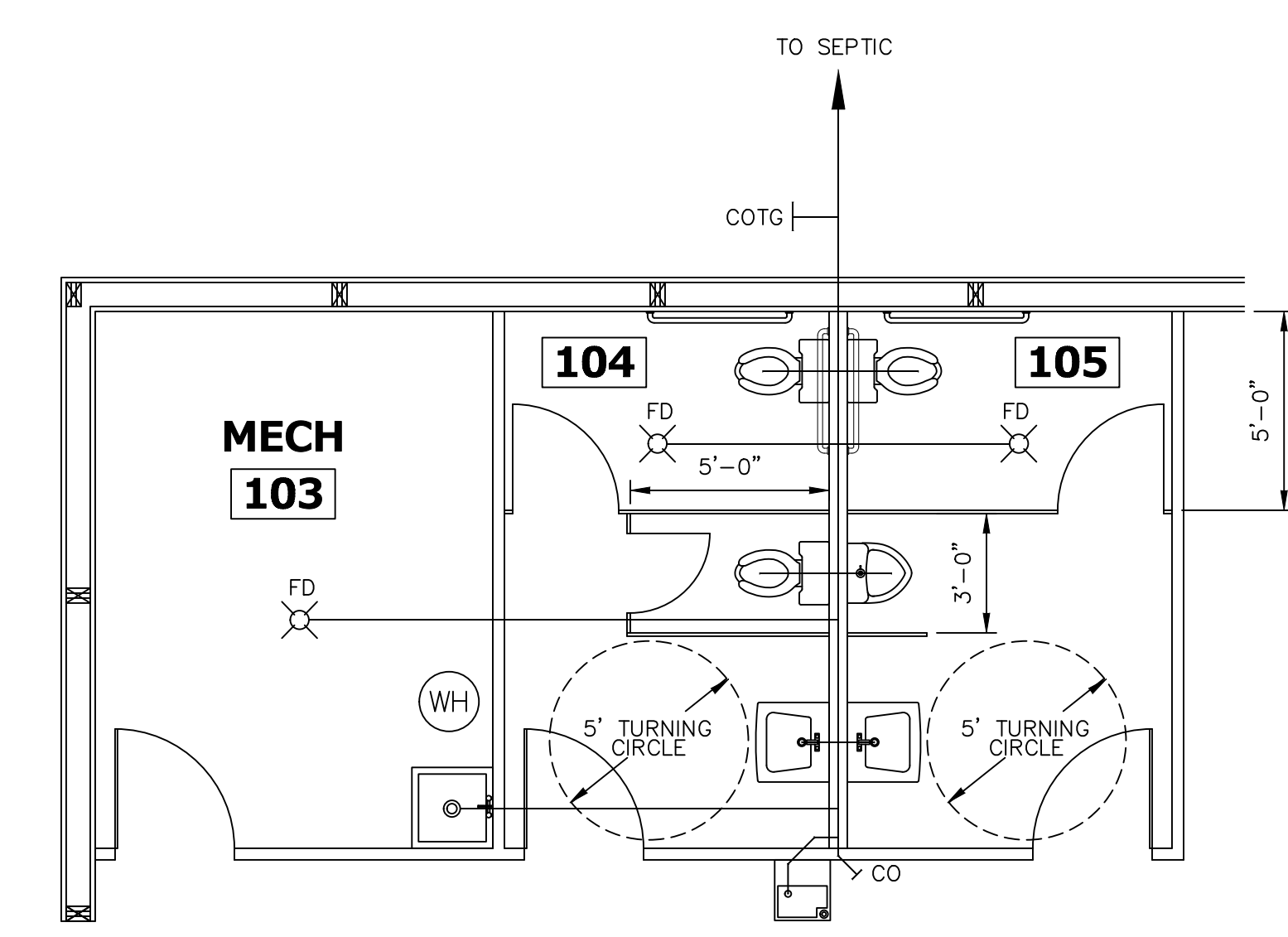
PLUMBING FIXTURE SCHEDULE		
SYMBOL	DESCRIPTION	REMARKS
	ACCESSIBLE LAVATORY - WALL-HUNG VITREOUS CHINA	FAUCET TO BE EITHER CONVENTIONAL ONE-QUARTER-TURN LEVER-OPERATED, PUSH-TYPE, OR AUTOMATICALLY CONTROLLED. HOT WATER AND DRAIN PIPES SHALL BE INSULATED OR OTHERWISE PROTECTED.
	ACCESSIBLE FLUSH TANK TOILET - 1.6 GPF ELONGATED 18" RM HEIGHT, PRESSURE-ASSISTED FLUSH ACTION, VITREOUS CHINA; FLOOR MOUNTED	
	FIBERGLASS MOP SERVICE SINK - FLOOR MOUNTED WITH CENTER DRAIN	FAUCET WITH BUCKET HOOK 30" LONG HOSE WITH STEEL CLAMP MOP HANGER WITH 3 CLAMPS
	ELECTRIC WATER HEATER - 30 GAL. 4500 WATTS	
	WHEELCHAIR ACCESSIBLE DRINKING FOUNTAIN WITH SELF-CLOSING FRONT PUSH BAR; STAINLESS STEEL	MOUNT WITH SPOUT AT 36" A.F.F. MAX.
	ACCESSIBLE URINAL - 1.5 GPF URINAL WALL HUNG; VITREOUS CHINA	WITH "SLOAN" FLUSH VALVE ALL EXPOSED PIPES TO BE CHROME



PLUMBING SUPPLY ISOMETRIC  
NOT TO SCALE



PLUMBING DWV ISOMETRIC  
NOT TO SCALE



ENLARGED PLUMBING PLAN  
SCALE: 1/4" = 1'-0"

786 U.S. 6 WEST, NAPPANEE, IN 46550  
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A BUILDING DESIGNED ESPECIALLY FOR:  
**LENSING MUSEUM**

DEALER: **HAASE BUILDERS**  
PROJECT: **402-14-232**  
USE THESE PLANS WITH THE BORKHOLDER CONSTRUCTION MANUAL

CREATED : 31.Dec.25  
SAVED : 09.Jan.26

NO.	REVISIONS

**ELECTRICAL:**

- The Electric Contractor (EC) shall provide a complete operating electric system including all wiring and devices. All electric work shall conform with this jurisdiction's latest adopted edition of the National Electric Code (NEC) ANSI/NFPA 70 and adopted amendments.
- Additions, alterations, renovations, et. al. shall not cause any existing electric systems nor equipment to become unsafe, hazardous or overloaded.
- The EC shall provide line voltage hook-ups as required for the other contractors.
- The EC shall verify the location of switches, recepts, devices, et.al. by examining all the drawings and specifications so that a switch is not located behind a door or the like. The EC shall contact the engineer should any aspect of the drawings and/or specifications be incomplete or unclear.
- All components and equipment shall be listed and bear the label of an approved agency. Installation shall conform with the listing and the manufacturer's instructions. The installation instructions shall be kept on the job site.
- The installation of all electric devices shall conform with the Americans with Disabilities Act (ADA). The highest operable part of switches, outlets, receptacles, etc. shall be located 48" maximum above the finish floor. The lowest operable part shall be 15" minimum (18" as noted elsewhere) above the finish floor.
- The EC shall verify the size, compatibility and suitability of all equipment using the manufacturer's data on the actual equipment supplied.
- The EC shall field verify the size and location of the service entrance and sub-panels.
- The EC shall cut erected lumber only in accordance with this project's structural specifications. The EC shall pay for any required repairs including engineering fees.
- All conductors and grounds shall be copper. 120V branch circuit home runs shall not exceed 75' with #12 AWG nor 110' with #10 AWG. Conductors shall be sized so voltage drop is less than 2% in branch circuits and 3% in feeders.
- Where more than (3) conductors are run in a raceway, the allowable load per conductor shall be decreased and/or wire sizes increased per the NEC. On a 208V 3Ø (4) wire circuit where the major portion of the load is electric discharge lighting, data processing or similar equipment, the neutral conductor shall be counted as a current carrying conductor.
- Direct buried conductors shall be protected where they exit the ground with rigid nonmetallic conduit or equal.
- General lighting and receptacles shall be run on 20A 120V circuits with #12 AWG minimum wire size. Branch circuit conductors shall have an ampacity not less than the maximum load to be served. Conductors of multioutlet branch circuits supplying receptacles shall have an ampacity of not less than the rating of the branch circuit.
- Branch circuits shall be protected by listed overcurrent protective devices having a rating or setting in conformance with Sections 210 and 240 of the NEC.
- The EC shall provide lighted exit signs and/or means of egress emergency lighting where shown on the drawings.
- The equipment for emergency means of egress lighting and/or lighted exit signs shall be fed by the same branch circuit serving the normal lighting in the area, and shall be connected ahead of any local switches.
- Lighted exit signs shall be constantly illuminated and have letters at least 6" tall and 3/4" wide of approved colors. Directional arrows shall be included as required.
- Lighted exit signs and/or means of emergency egress lighting shall have 90 minutes of reserve battery power that will turn on automatically if primary power goes off. The battery pack shall automatically recharge from line voltage.
- The EC shall label each panel box and provide a legible directory on the inside of each panel door showing circuit numbers and a complete description of all outlets and fixtures on each circuit.
- Sufficient access and working space shall be provided and maintained about all electrical equipment to permit ready and safe operation and maintenance. All motors shall have disconnect switches within sight of the motor.
- All circuits, equipment, fixtures, enclosures, et.al, shall be grounded by approved electrical connection and/or bonding to the system ground. The grounding system shall conform to Section 250 of the NEC.
- Outlet boxes in fire rated walls shall be steel and less than 16 square inches (SI) in area. The combined openings area shall not exceed 100 SI per 100 Sq. Ft. of wall. Outlet boxes on opposite sides of the wall shall be separated by not less than 24". Fire rated membranes may be penetrated by outlet boxes of any material provided they are tested for use in fire rated assemblies and are installed in accordance with the test.
- WIRING METHOD:** a) Shall be used consistently throughout the entire building. b) May be any method conforming to the NEC and these specifications for ALL areas. c) No wiring or spark generating device shall be placed within 18" of the floor in areas where a motor vehicle could be present. All receptacles in such areas shall be GFI. d) Wiring shall be run in metal raceways in: assembly buildings, fire rated assemblies, in areas where motor vehicles could be present and in all other areas as required by the NEC.
- LIGHTING FIXTURES:** a) All fluorescent ballasts shall have integral thermal protection. b) All recessed fixtures shall be listed as suitable for contact with insulation. c) All fixtures in areas where motor vehicles could be present that are less than 12' above floor shall be constructed to prevent escape of sparks, etc
- The EC shall obtain the proper permit, make the proper notifications and ensure local inspections are made.

ELECTRICAL SYMBOL LEGEND			
A		HI-BAY LED 14000 LUMENS	100
B		150 CFM EXHAUST FAN / LIGHT	200
C		EXTERIOR WALL-MOUNTED LED ON PHOTOCELL	25
D		SURFACE-MOUNTED LED	20

ELECTRICAL SYMBOL LEGEND	
	SINGLE POLE TOGGLE SWITCH
	3 WAY TOGGLE SWITCH
	120V DUPLEX RECEPTACLE
	120V GROUND FAULT RECEPTACLE
	120V GROUND FAULT RECEPTACLE WEATHER PROOF
	FUSED DISCONNECT BOX
	SURFACE MOUNT SERVICE PANEL - SIZE INDICATED ON DRAWINGS
	EMERGENCY LIGHT - BATTERY POWERED
	COMBINATION EXIT SIGN & EMERGENCY BATTERY LT - CONNECT TO BLDG WIRING
	REMOTE HEAD EXT-EMERGENCY LIGHT - BATTERY POWERED LISTED FOR WET LOCATIONS
	OCCUPANY SENSOR

**NOTES:**

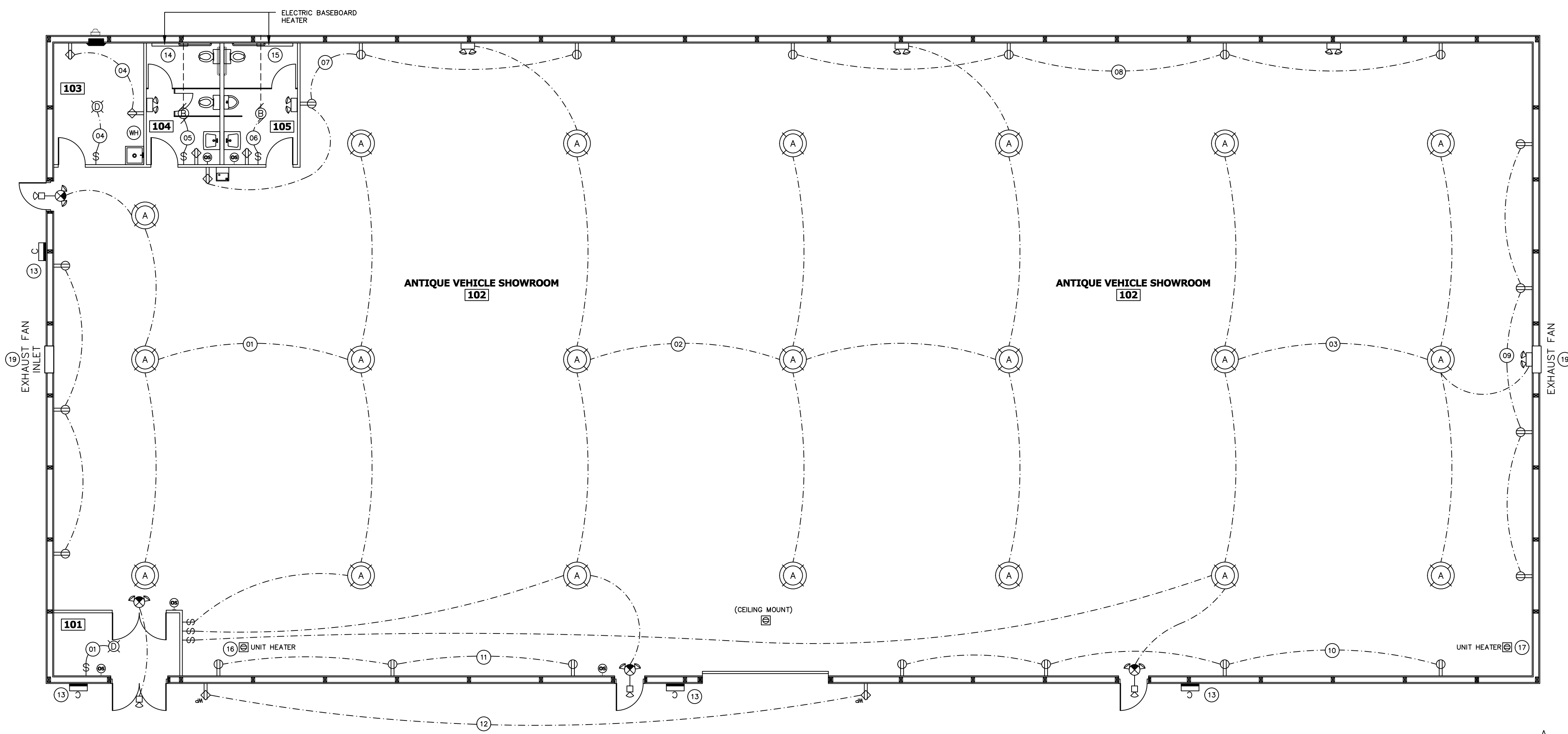
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NO.	ROOM NAME
101	VESTIBULE
102	VEHICLE SHOWROOM
103	MECHANICAL
104	WOMEN'S RESTROOM
105	MEN'S RESTROOM

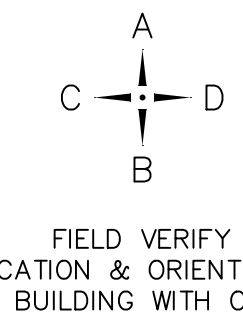
**NEW PANEL**  
120/240V., 200A., 1Ø . 3 WR.,  
24 SPACE PANEL

200 AMP					
	(VA)	AWG	BRKR	BRKR	(VA)
1	LIGHTS	620	#12	20A-1P	20A-1P #12 900
3	LIGHTS	600	#12	20A-1P	20A-1P #12 740
5	WOMEN'S RESTROOM	560	#12	20A-1P	20A-1P #12 560
7	RECEPTS	1440	#12	20A-1P	20A-1P #12 1440
9	RECEPTS	1440	#12	20A-1P	20A-1P #12 1440
11	RECEPTS	1080	#12	20A-1P	20A-1P #12 720
13	EXTERIOR LIGHTS	100	#12	20A-1P	20A-1P #12 500
15	ELECTRIC HEATER	500	#12	20A-1P	20A-1P #12 500
17	ELECTRIC HEATER	500	#12	20A-1P	20A-1P #12 1500
19	EXHAUST FAN & DAMPER	500	#12	20A-1P	
21	SPARE	-	-	-	
23	SPARE	-	-	-	

15,640 WATTS TOTAL / 240 = 65 AMPS



**ELECTRICAL PLAN**  
SCALE: 1/8" = 1'-0"



DRAWN BY: **MIKEB/GREGL**  
CHECKED : \_\_\_\_\_  
APPROVED: \_\_\_\_\_

**ARCHITECT**  
MICHAEL ALLEN BILLET  
REGISTERED ARCHITECT  
107002131  
1/20/26

786 U.S. 6 WEST - NAPPANEE IN 48550  
800-552-2776 / 800-552-2772 / FX 219-773-2897  
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A BUILDING DESIGNED ESPECIALLY FOR:  
**LENSING MUSEUM**

DEALER  
**HAASE BUILDERS**  
PROJECT  
**402-14-232**  
USE THESE PLANS WITH THE BORKHOLDER CONSTRUCTION MANUAL

CREATED : 31.Dec.25  
SAVED : 09.Jan.26

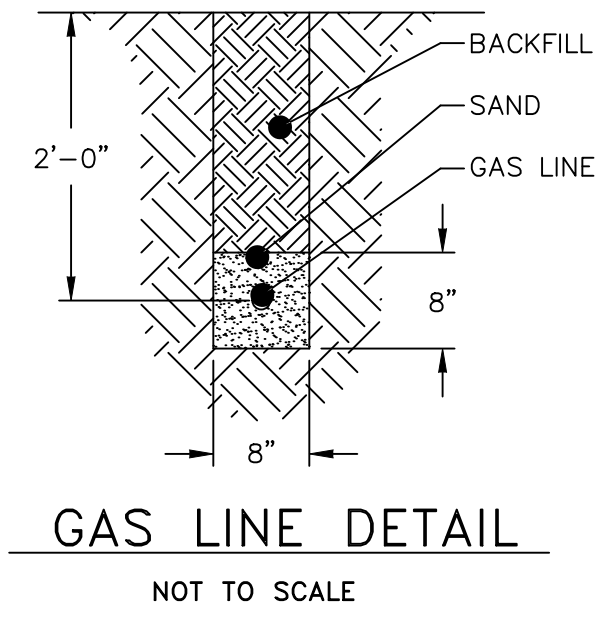
REVISIONS	

**MB402232.DWG**  
Scale: 1/8" = 1'-0"

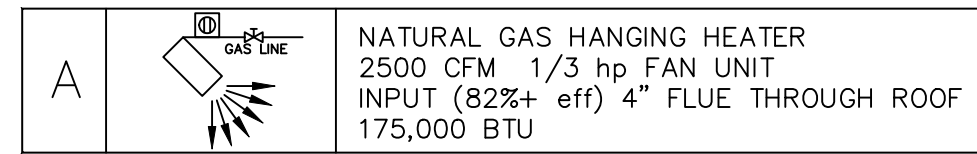
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MECHANICAL:

- The Mechanical Contractor (M.C.) shall provide all materials necessary to form a complete working heating system.
- The M.C. shall provide all low voltage wiring to thermostats or other controls in accordance with the National Electric Code. The Electrical Contractor shall provide line voltage hook-up.
- The M.C. shall cooperate fully with the contractor and coordinate his work with the other subcontractors as required for the proper execution of the project.
- All mechanical work shall be in accordance with the Indiana Mechanical Code, 2008 edition (IMC 2006 & Indiana amendments).
- All mechanical equipment shall be installed according to the manufacturer's instructions. Gas-fired equipment shall be vented in accordance with the I.M.C.
- The M.C. shall provide framing and fire blocking as required by the gas vent's listing where the vent penetrates the ceiling and roofing; and to keep all blown insulation 6" away from flues or vents through the attic.
- Gas piping material shall be new standard weight wrought black iron or steel. No gas piping shall be installed below finish floor under the structure. Listed gas shutoff valves shall be provided at the entrance and at each individual appliance so as to isolate it from the gas piping system.
- The M.C. shall cut no erected lumber without the written permission of the engineer.
- It is the responsibility of the M.C. to make the proper notifications to the local building authorities and to ensure that local inspections are made.
- Where applicable any Thermax ceiling insulation shall be replaced by drywall within 12" of the furnace vent.
- Thermostats for combined heating and cooling systems shall have a maximum setting of 85 degrees F., a minimum setting of 55 degrees F., and shall operate the heating and cooling system in sequence. They shall be adjustable to provide a temperature range of up to 10 degrees F. between full heating and full cooling.
- Thermostats for heating only shall have a maximum setting of 75 degree F. and a minimum setting of 55 degrees F.
- The M.C. and each equipment supplier shall verify the size and compatibility of all such equipment as well as the sizes of ducts, gas lines, flues, combustion air openings, et.al. using the manufacturer's data on the actual equipment provided.
- The unit heaters shall be supported per the manufacturer's instructions and the furnace listing. Steel angles shall be run on top of the bottom chords of at least two trusses (Maximum reaction of 200 pounds). The angles shall support the steel hangers from the unit heater. Clearances shall be per the unit's listing and these minimums: 18" sides, front, and rear; 12" top.
- Each single heating or cooling system circulating air in excess of 2000 CFM shall be equipped with an automatic shutoff to close down the air moving equipment when smoke is detected.



NOT TO SCALE



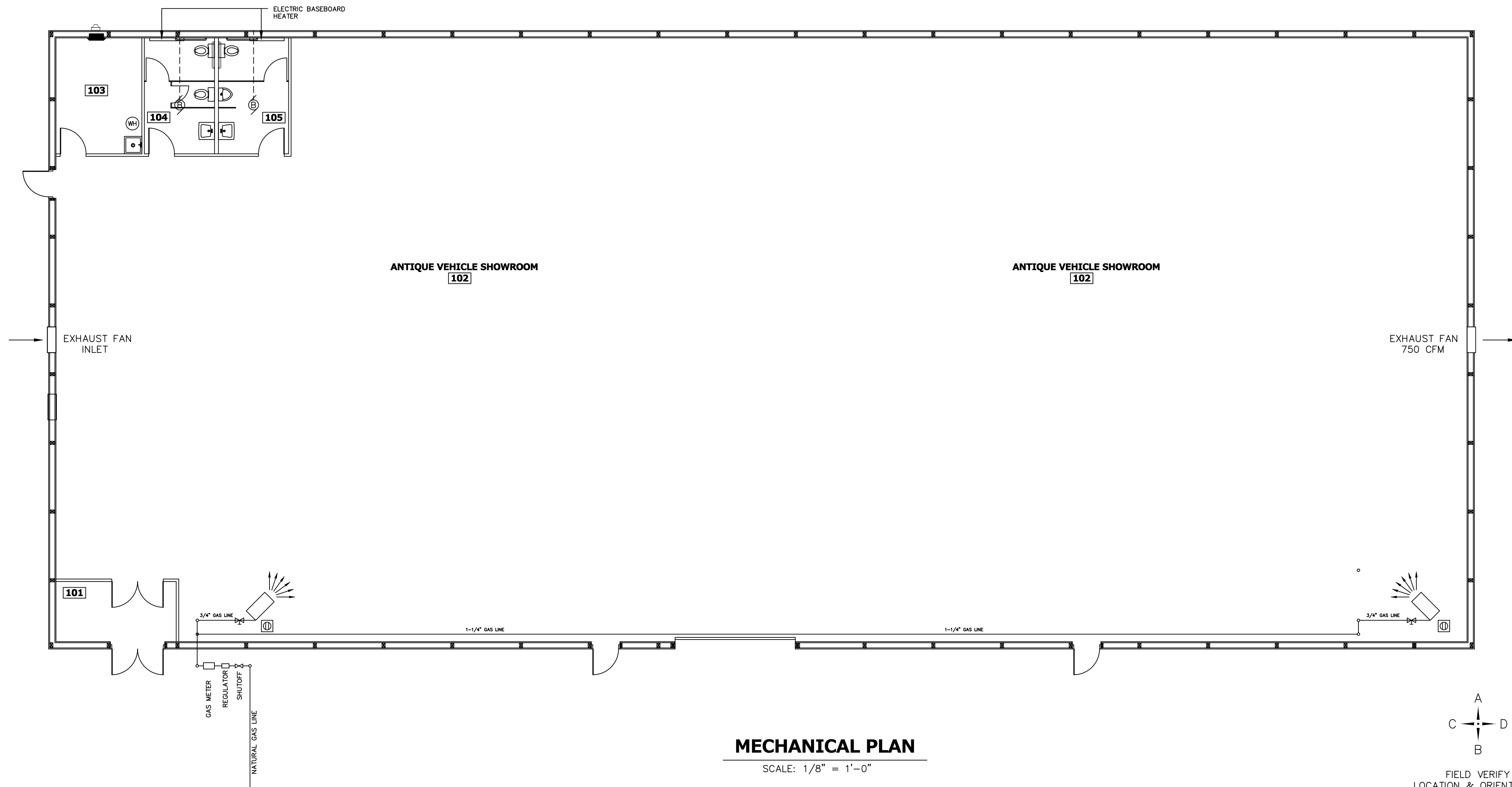
MECHANICAL PLAN NOTES

- GAS PIPING IS SIZED USING SCHEDULE 40 METALIC PIPE.
- GAS SUPPLY PRESSURE IS FIGURED LESS THEN 2 PSI (W.C. - 0.5 IN) WITH (SPECIFIC GRAVITY - 0.60)
- THE EXHAUST FAN SHALL BE WIRED TO AND OCCUPANCY SENSOR THAT TURNS ON WHEN THE BUILDING IS OCCUPIED.

NOTES:

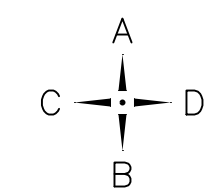
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NO.	ROOM NAME
101	VESTIBULE
102	VEHICLE SHOWROOM
103	MECHANICAL
104	WOMEN'S RESTROOM
105	MEN'S RESTROOM



MECHANICAL PLAN

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



FIELD VERIFY LOCATION & ORIENTATION OF BUILDING WITH OWNER

DRAWN BY: MIKEB/GREGL  
 CHECKED : \_\_\_\_\_  
 APPROVED: \_\_\_\_\_



1/20/26

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