

# SUMMIT MAINTENANCE FACILITY BUILDING IMPROVEMENTS

CONTRACT # 8152  
Project # 11653



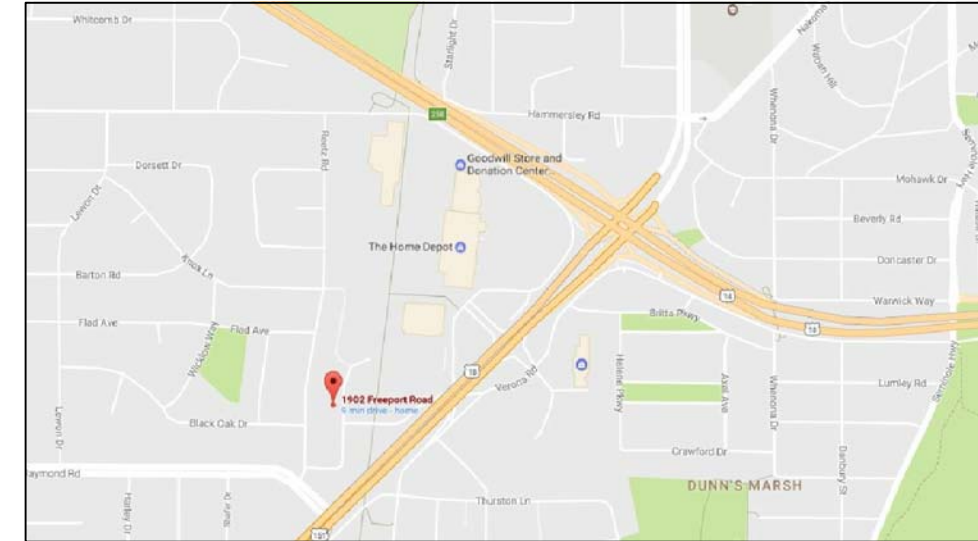
DRAWN BY: LAW  
DATE: 1/14/2018  
REVISED:

1902 FREEPORT RD.

MADISON, WI 53713

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Area Location Plan  
Not to scale

STRUCTURAL ENGINEER

HVAC ENGINEER

ARCHITECT

I hereby certify that this engineering document was prepared by me or under my direct supervision, and that I am a duly licensed Professional Engineer under the laws of the State of Wisconsin.

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Discipline: \_\_\_\_\_

WI Registration No: \_\_\_\_\_ Expiration date: \_\_\_\_\_

Sheets covered by this seal: \_\_\_\_\_

I hereby certify that this engineering document was prepared by me or under my direct supervision, and that I am a duly licensed Professional Engineer under the laws of the State of Wisconsin.

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Discipline: \_\_\_\_\_

WI Registration No: \_\_\_\_\_ Expiration date: \_\_\_\_\_

Sheets covered by this seal: \_\_\_\_\_

I hereby certify that this engineering document was prepared by me or under my direct supervision, and that I am a duly licensed Professional Engineer under the laws of the State of Wisconsin.

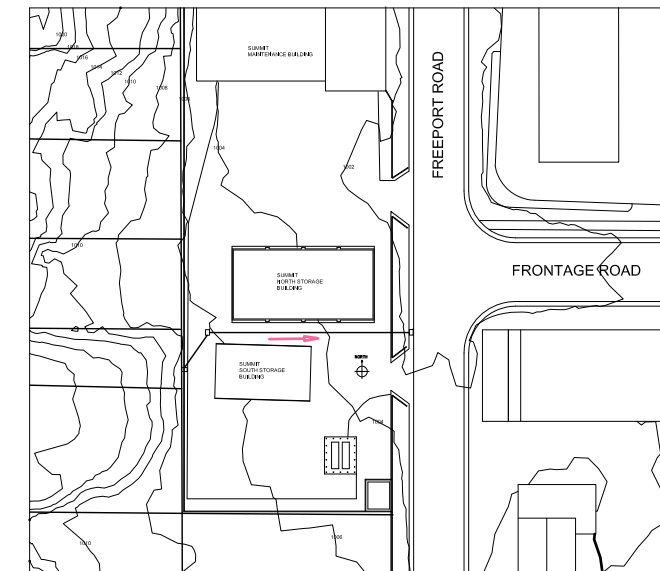
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Site Plan  
Not to scale

Summit Maintenance Facility Building Improvement

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SHT  
TS001

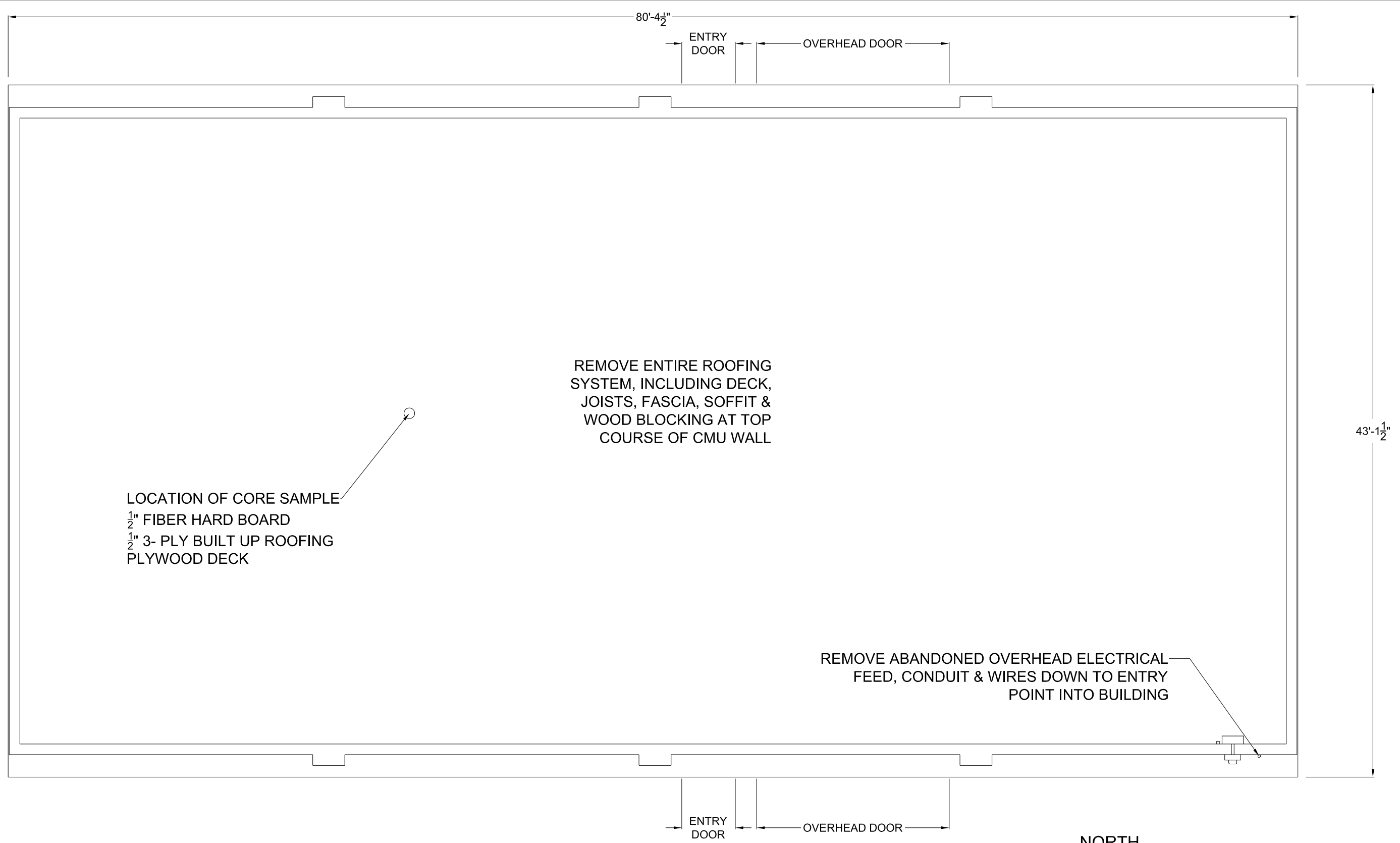


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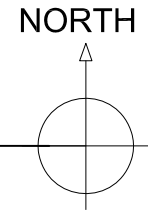
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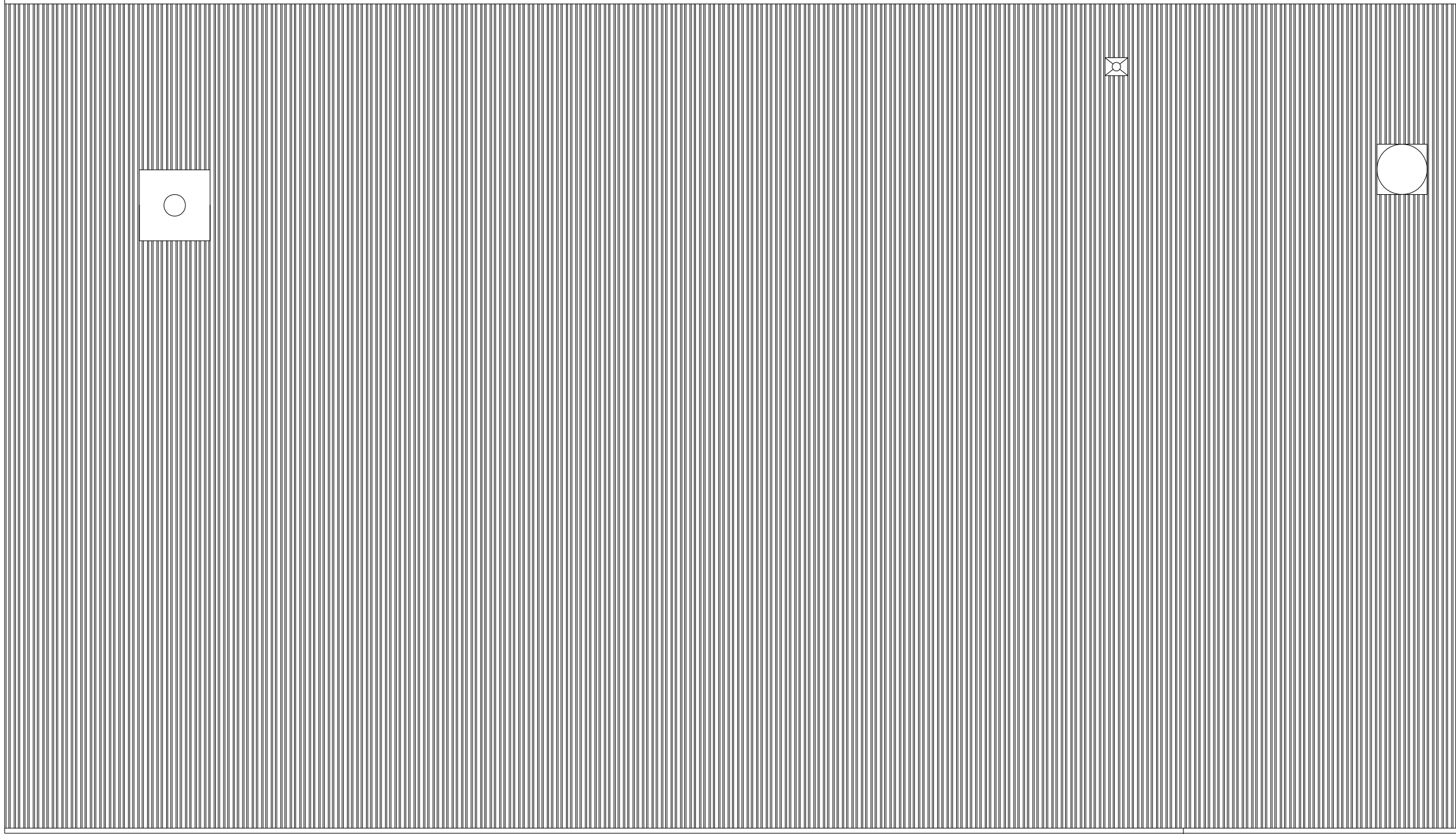
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# NORTH BUILDING - DEMOLITION ROOF PLAN

SCALE: NOT TO SCALE



NOTE, THE GRAY TAR FLASHING AROUND THE THREE ROOF PENETRATIONS & CAULK STRIPS ON THE SEAMS OF THE METAL ROOF HAVE NOT BEEN TESTED FOR ASBESTOS. BOTH MATERIALS APPEAR TO BE IN GOOD CONDITIONS, HOWEVER, IT MUST BE ASSUMED TO CONTAIN ASBESTOS. IF THESE MATERIALS ARE LEFT UNDISTURBED THE ASSUMED ASBESTOS MATERIAL COULD BE LEFT IN PLACE AND COVERED WITH A NEW ROOFING SYSTEM. NOTIFY THE PROJECT MANAGER IF THESE MATERIALS ARE DISTURBED.

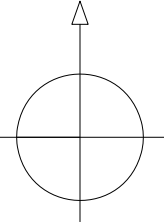


1

# SOUTH BUILDING - DEMOLITION ROOF PLAN

SCALE: NOT TO SCALE

NORTH



REMOVE EXISTING RAIN GUTTER



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AD101



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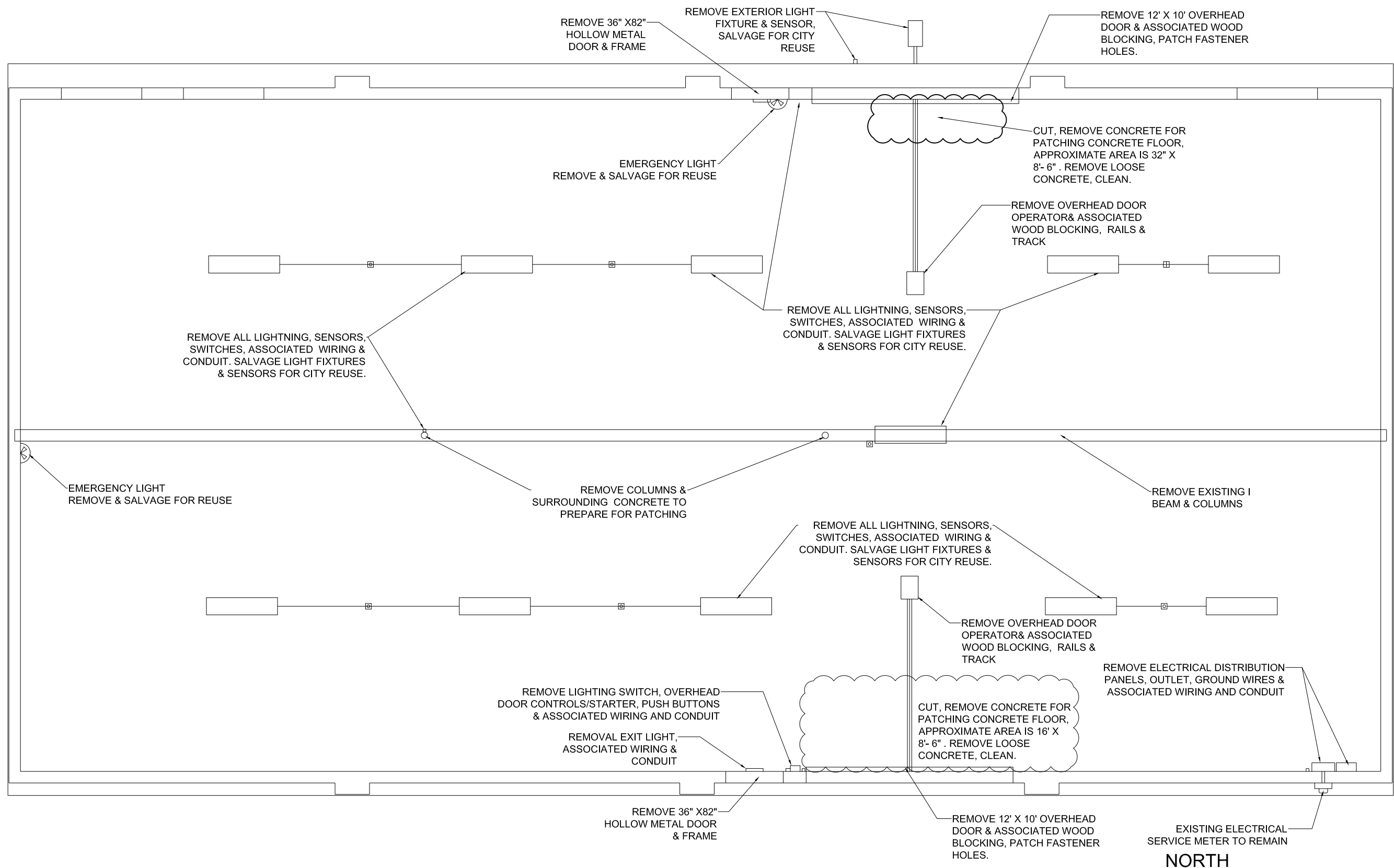
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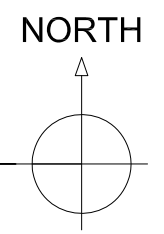
AD102



1

**NORTH BUILDING - INTERIOR DEMOLITION PLAN**

SCALE: NOT TO SCALE



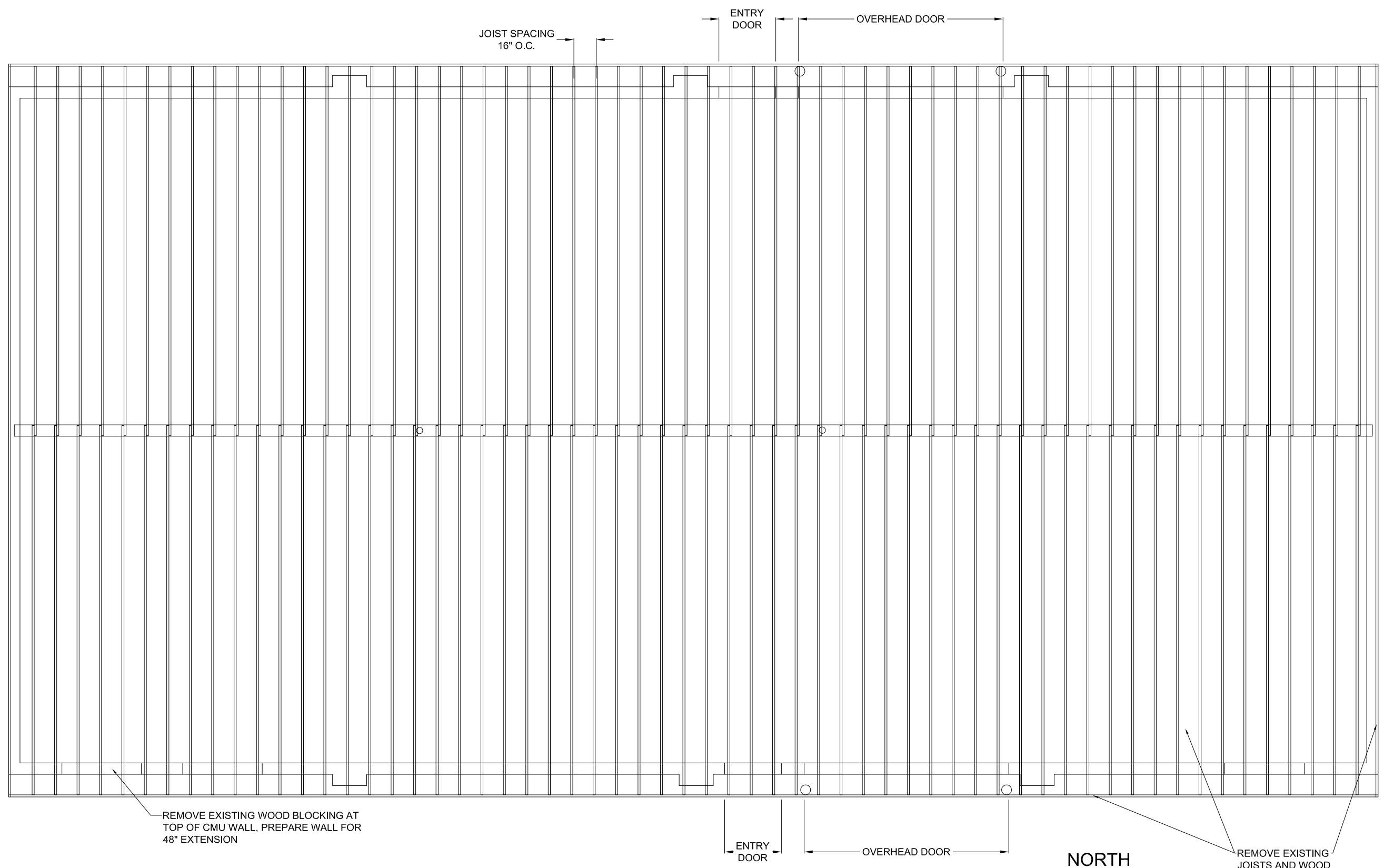


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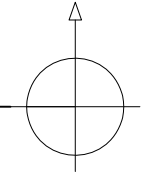
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# NORTH BUILDING - INTERIOR JOIST DEMOLITION PLAN

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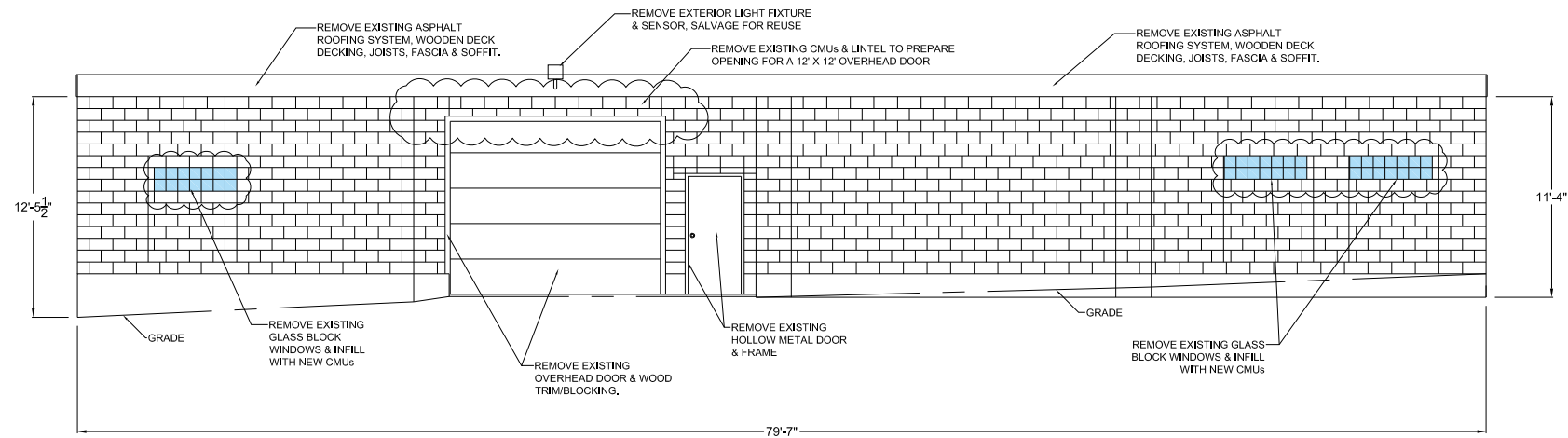


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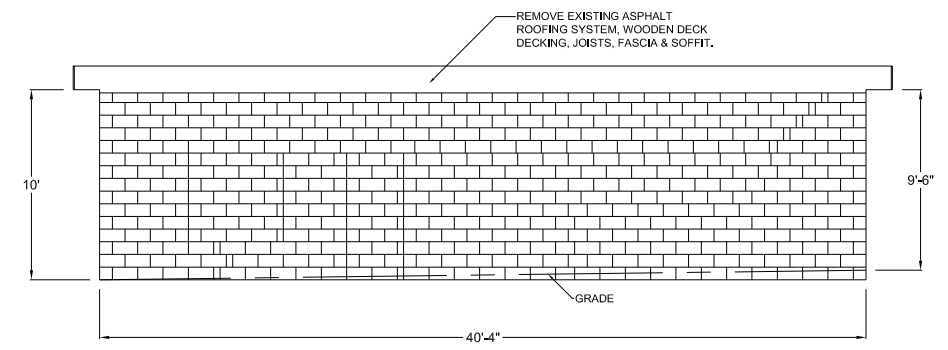
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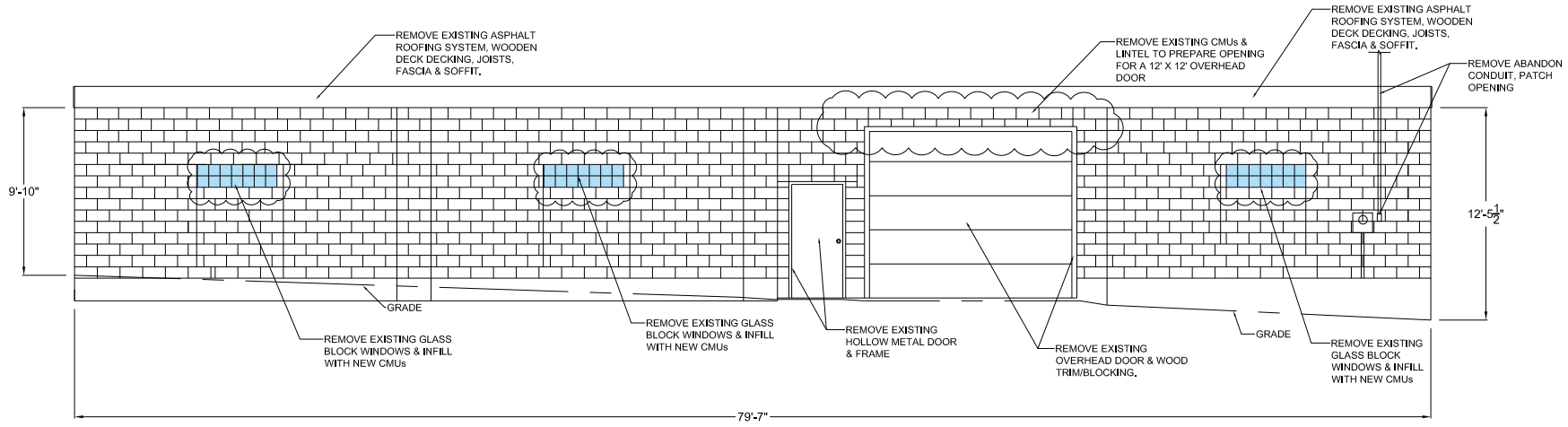
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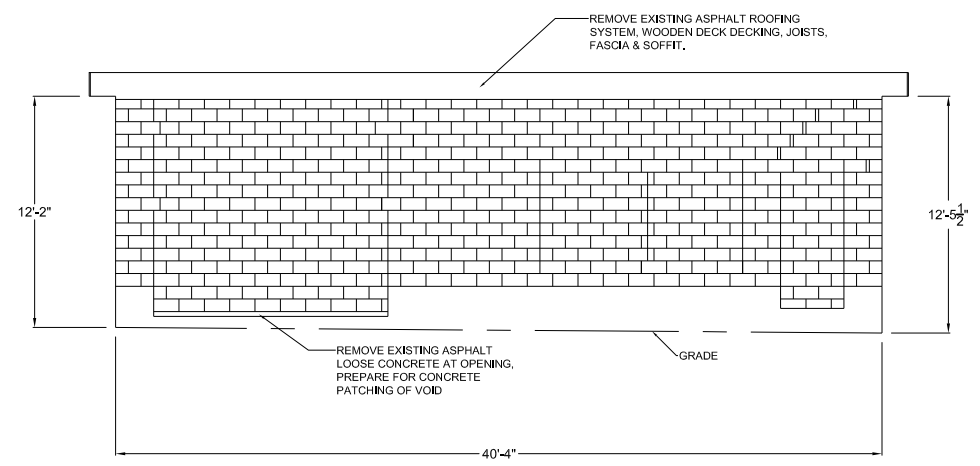
1 NORTH BUILDING - DEMO NORTH ELEVATION PLAN  
SCALE: NOT TO SCALE



2 NORTH BUILDING - DEMO WEST ELEVATION PLAN  
SCALE: NOT TO SCALE



3 NORTH BUILDING - DEMO SOUTH ELEVATION PLAN  
SCALE: NOT TO SCALE



4 NORTH BUILDING - DEMO EAST ELEVATION PLAN  
SCALE: NOT TO SCALE

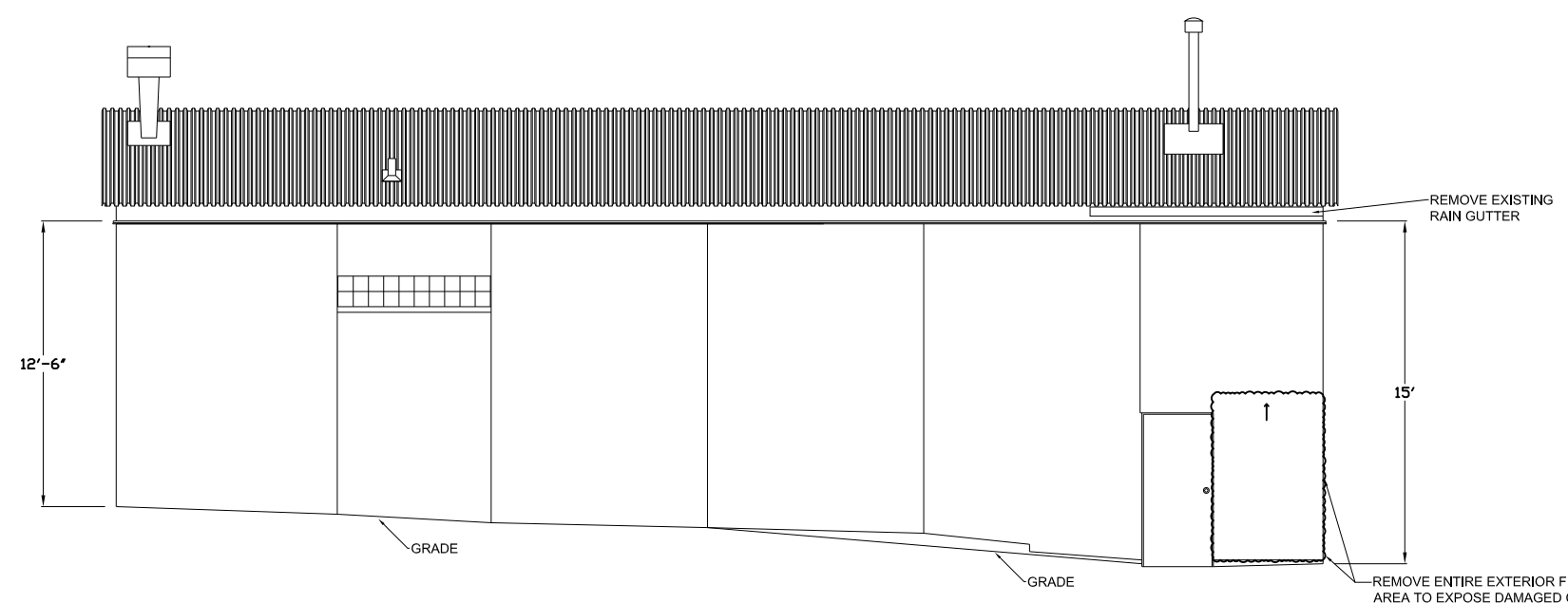


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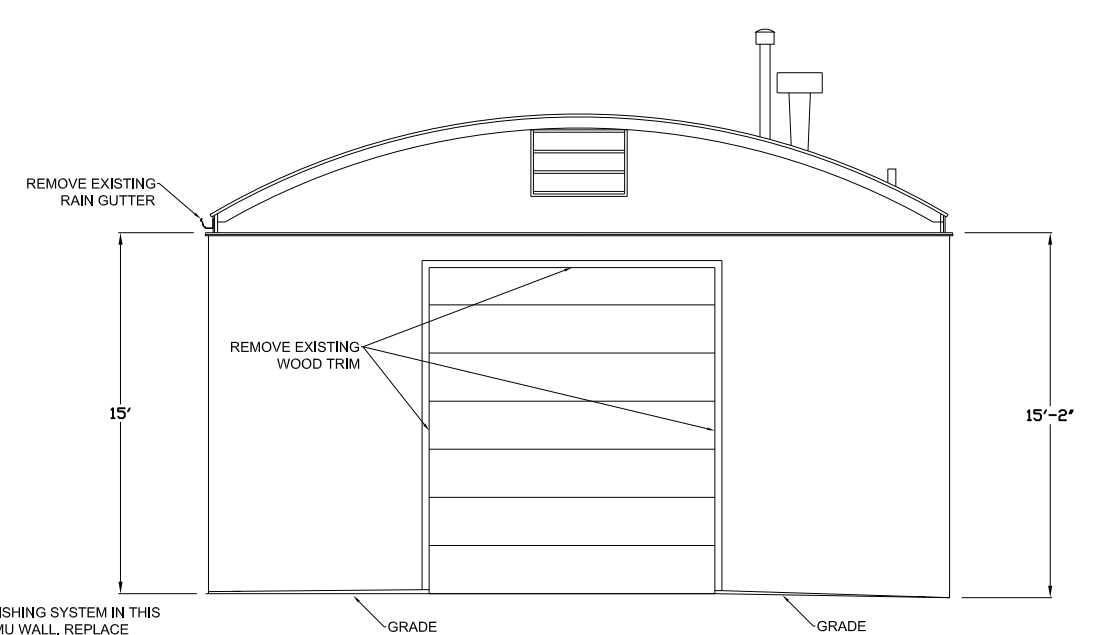
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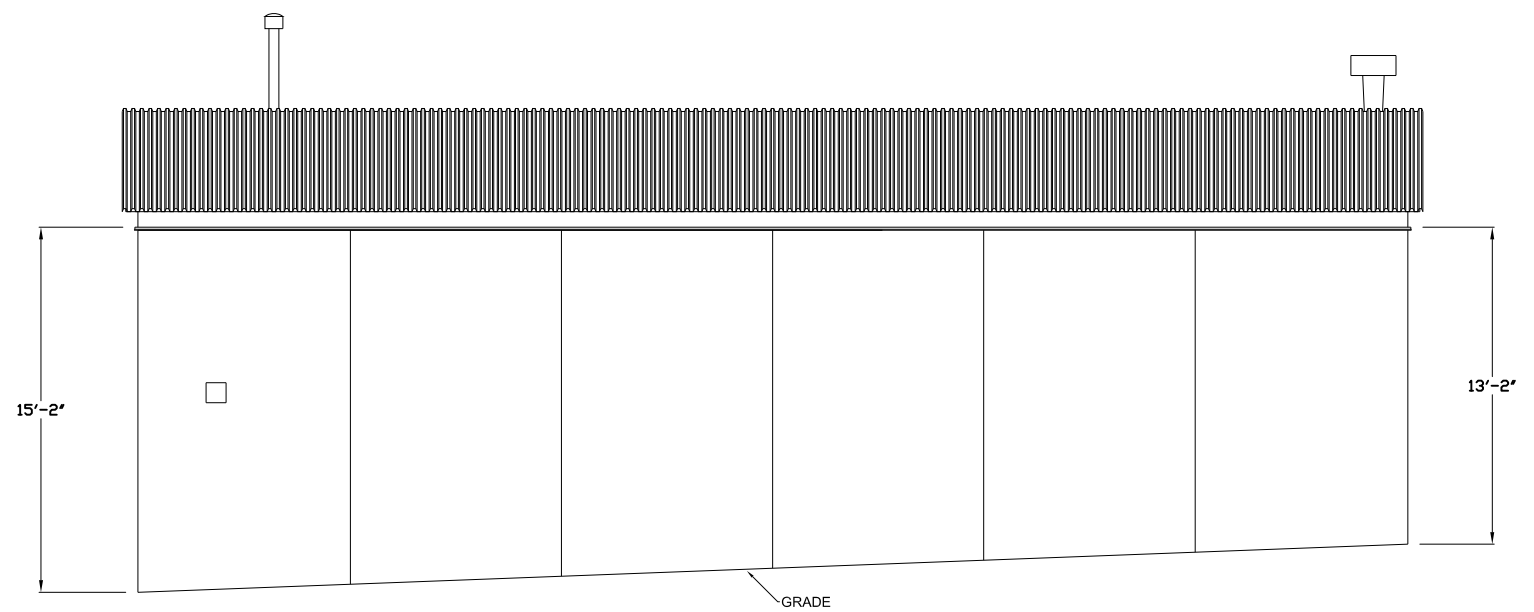


1 SOUTH BUILDING - DEMO SOUTH ELEVATION PLAN  
SCALE: NOT TO SCALE

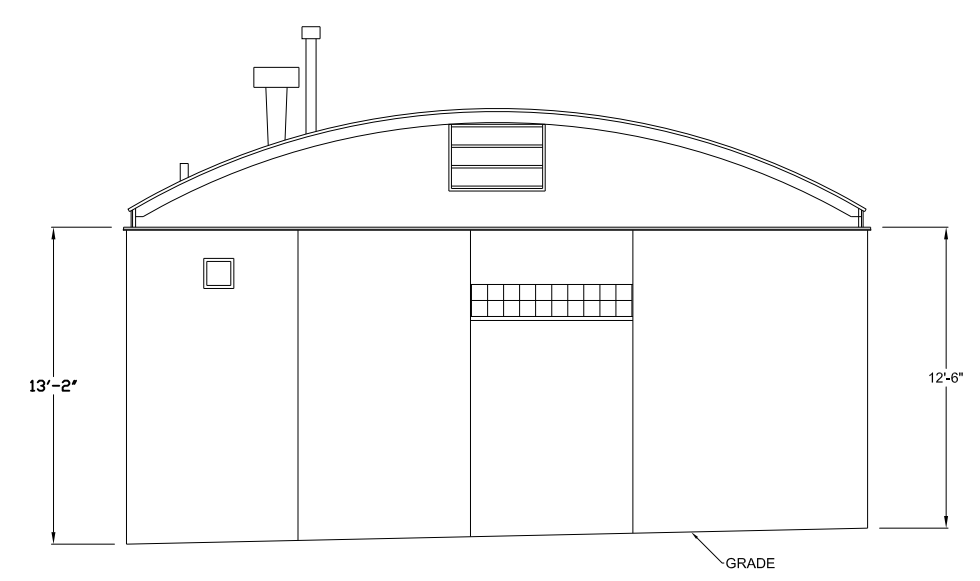


2 SOUTH BUILDING - DEMO EAST ELEVATION PLAN  
SCALE: NOT TO SCALE

REMOVE ENTIRE EXTERIOR FINISHING SYSTEM IN THIS AREA TO EXPOSE DAMAGED CMU WALL. REPLACE DAMAGED OR BROKEN CMU AS REQUIRED. TIE NEW UNITS WITH STEEL DOWELS INTO SOUND PORTIONS OF WALL. REMOVE LOOSE MORTAR JOINTS IN CMU WALL. RESET CMU WALL PLUMB & STRAIGHT. SHIM AS REQUIRED. DEEP TAMP-POINT ALL JOINTS ON BOTH SIDES OF WALL. REPOINT OPEN CRACKS EMERGING FROM THE DAMAGED AREA. INSTALL NEW EXTRUDED POLYSTYRENE INSULATION AT ORIGINAL THICKNESS REAPPLY MESH, BASE COAT AND FINISH.



3 SOUTH BUILDING - DEMO NORTH ELEVATION PLAN  
SCALE: NOT TO SCALE



4 SOUTH BUILDING - DEMO WEST ELEVATION PLAN  
SCALE: NOT TO SCALE

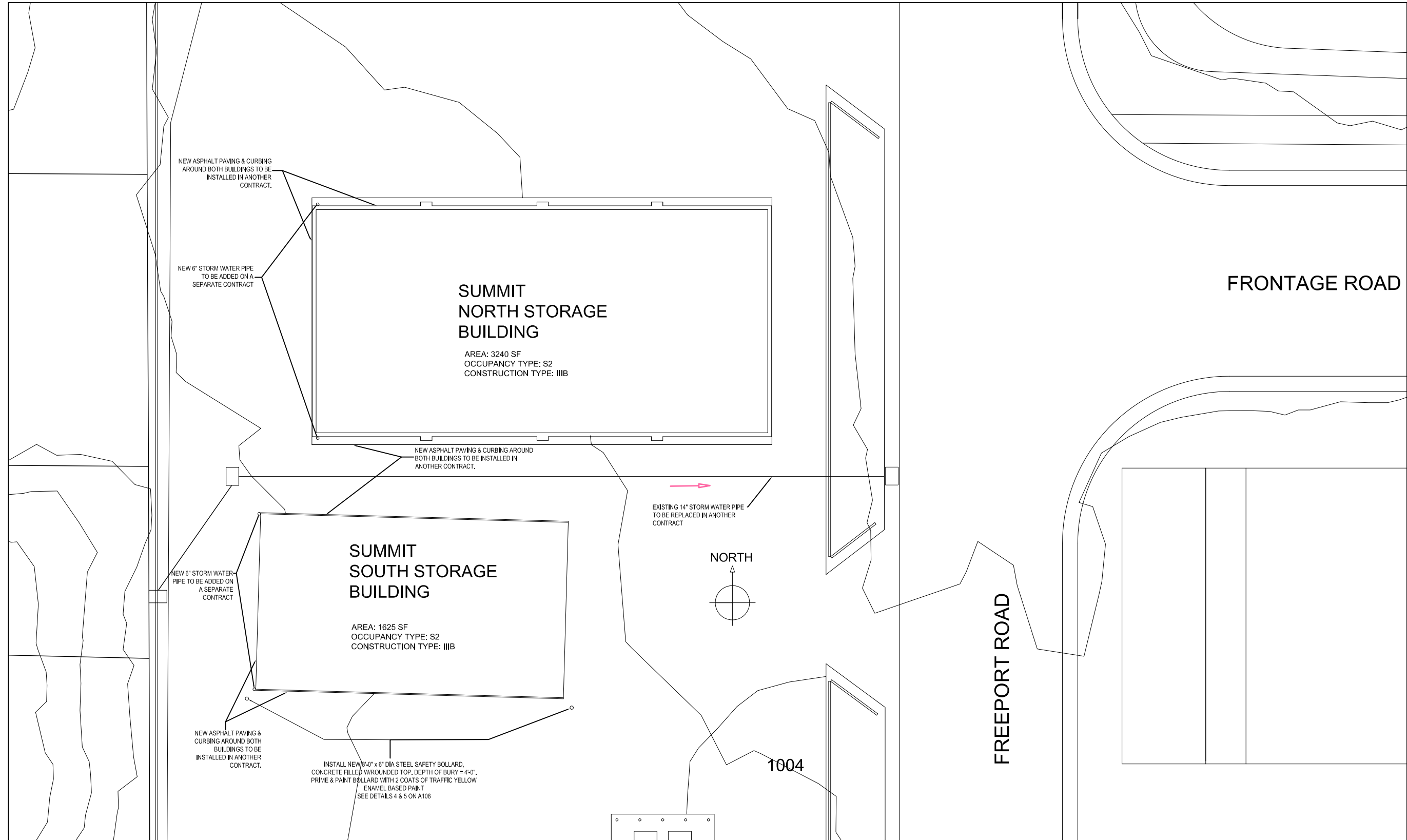


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A100



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SUMMIT FACILITY SITE PLAN

SCALE: NOT TO SCALE

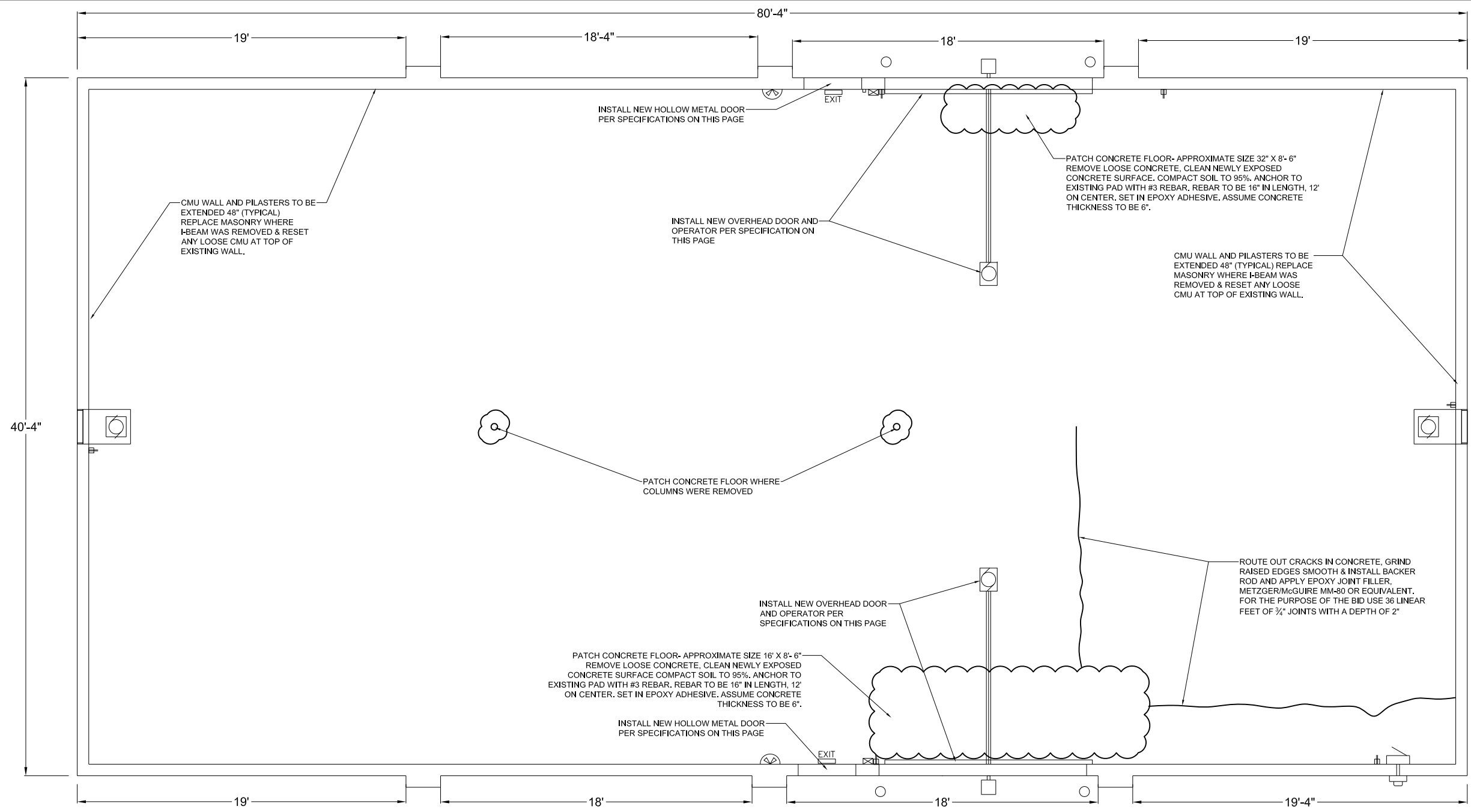




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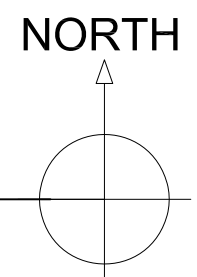
Summit Maintenance Facility Building Improvement

1902 Freeport Rd. Madison, WI CONTRACT#:8152



| OVERHEAD DOOR INSTALLATION SPECIFICATIONS  | INSULATION  | WEATHERSTRIP   |
|--|---|--|
| <p>This overhead door specification is based on the Series 591 as manufactured by Overhead Door Corporation. Other manufacturers shall be equal or better in all aspects and warranty.</p> <p><b>RELATED WORK</b><br/>           Opening preparation, miscellaneous wood blocking or structural metal work, access panels, finish or field painting, field electrical wiring, wire, conduit, fuses and disconnect switches are in the Scope of Work of other divisions or trades and will be the responsibility of the General contractor to provide all labor and materials to ensure proper conditions for installation of the door and operator.</p> <p><b>SECTIONS</b><br/>           Sections will be roll-formed, hot dipped, galvanized steel exterior no less than .016". Sections will be manufactured by a continuous foamed-in-place polyurethane lamination process resulting in a metal/foam/metal sandwich of homogeneous polyurethane insulation. Sections will have a nominal thickness of 1-5/8" and will incorporate an EPDM rubber thermal break to prevent heat or cold conductivity. Sections will have a shiplap rabbet.</p> | <p><b>INSULATION</b><br/>           Insulation will be a rigid, foamed-in-place, polyurethane core free of CFCs and HCFCs and will be fully encapsulated in nonpermeable materials to prevent loss of thermal efficiency over time. The insulation will have a minimum R-Value of 14.86, U-Value of .067 - calculated values based on certified test data.</p> <p><b>AIR INFILTRATION</b><br/>           All doors will be constructed with a maximum air infiltration rating of .08 cfm per square foot of door at 15 mph.(ASTM-E-283-73)</p> <p><b>END STILES</b><br/>           End stiles will be 16 gauge steel.</p> <p><b>TRACK</b><br/>           Track is 2" and angle mounted.</p> <p><b>HARDWARE</b><br/>           Hinges and fixtures will be galvanized steel. Full-floating ball-bearing rollers will have hardened steel races. Roller sizes will be adequate for design requirements and limitations.</p> | <p><b>WEATHERSTRIP</b><br/>           Bottom weather-strip will be EPDM rubber bulb-type strip.</p> <p><b>FINISH</b><br/>           Finish will be 2 coat baked-on polyester with a white interior and exterior.</p> <p><b>OPERATION</b><br/>           Operation will be electric operator type. The basis of design is the heavy duty worm-in-oil gear transmission type, LiftMaster GH Series. If spacing allows, mount this operator in the jackshaft position on the wall, if not possible it is permissible to mount in the trolley position.<br/>           Provide NEMA 1 type wall mounted pushbutton controls, monitored dual-sided photo eye entrapment device and two 3-button remote control devices for each door.<br/>           Voltage shall be 120 V single phase. Verify with the Electrical Contractor. The installation contractor shall specify the motor HP requirements base on the manufacturer's recommendations for the door size and type.<br/>           Electrical disconnects shall be provided by the Electrical Contractor.</p> <p><b>INSTALLATION</b><br/>           Install the doors and operator in accordance with manufacturer's instructions and standards, using an authorized distributor.</p> |

| HOLLOW METAL DOOR & FRAME SPECIFICATIONS   |
|--|
| <p><b>STEEL FRAME</b><br/>           -30610 18GA (or heavier) Galvanized Frame with Existing Wall<br/>           Anchors Steel Frame Primed</p> <p><b>STEEL DOOR</b><br/>           -30610 18GA (or heavier) Galvanized HC Steel Door Primed<br/>           -Ball bearing hinges with non-removable pins, non-ferrous (brass/stainless)<br/>           -Schlage AL-series commercial lockset<br/>           -Grade 1 Commercial Closer<br/>           -Latchguard.<br/>           -Door sweep and threshold.</p> <p>Reuse existing key cylinder (Schlage 6-pin knob lock existing)</p> |



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NORTH BUILDING - FLOOR PLAN, INTERIOR REPAIRS & DOOR SCHEDULE

SCALE: NOT TO SCALE

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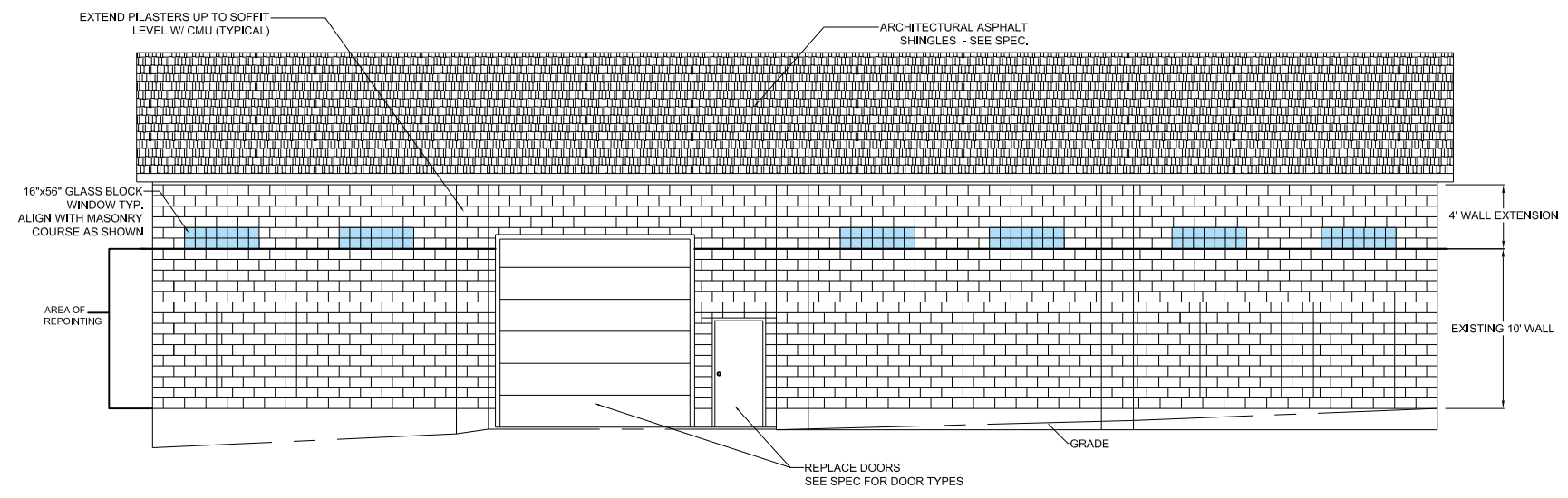
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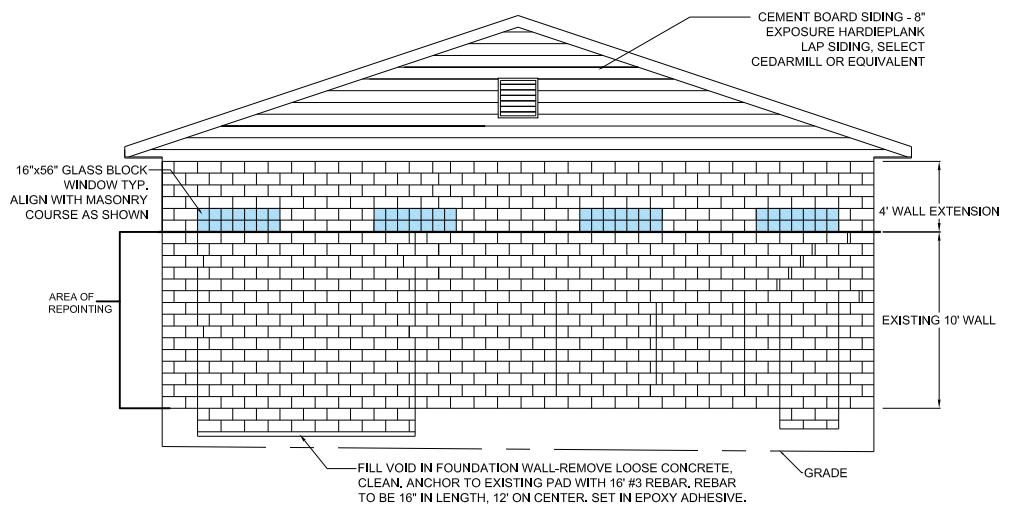
CONTRACT#:8152

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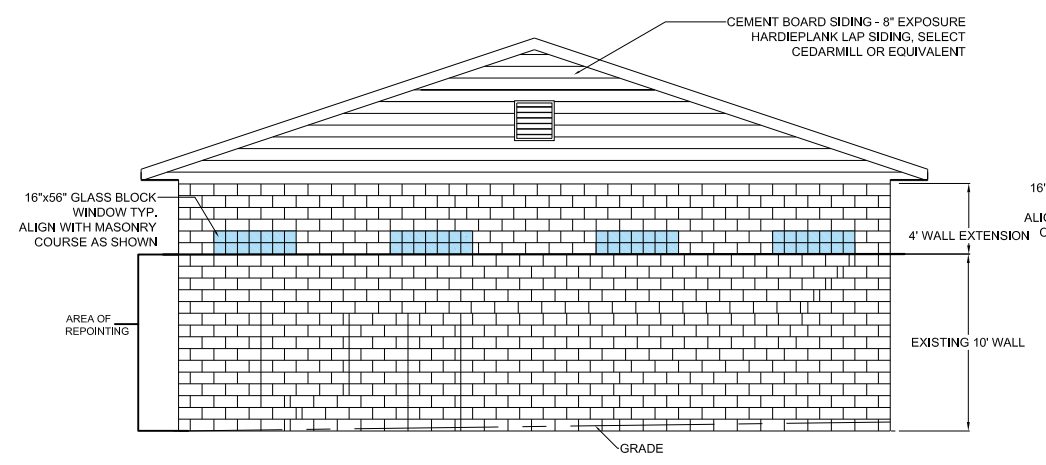
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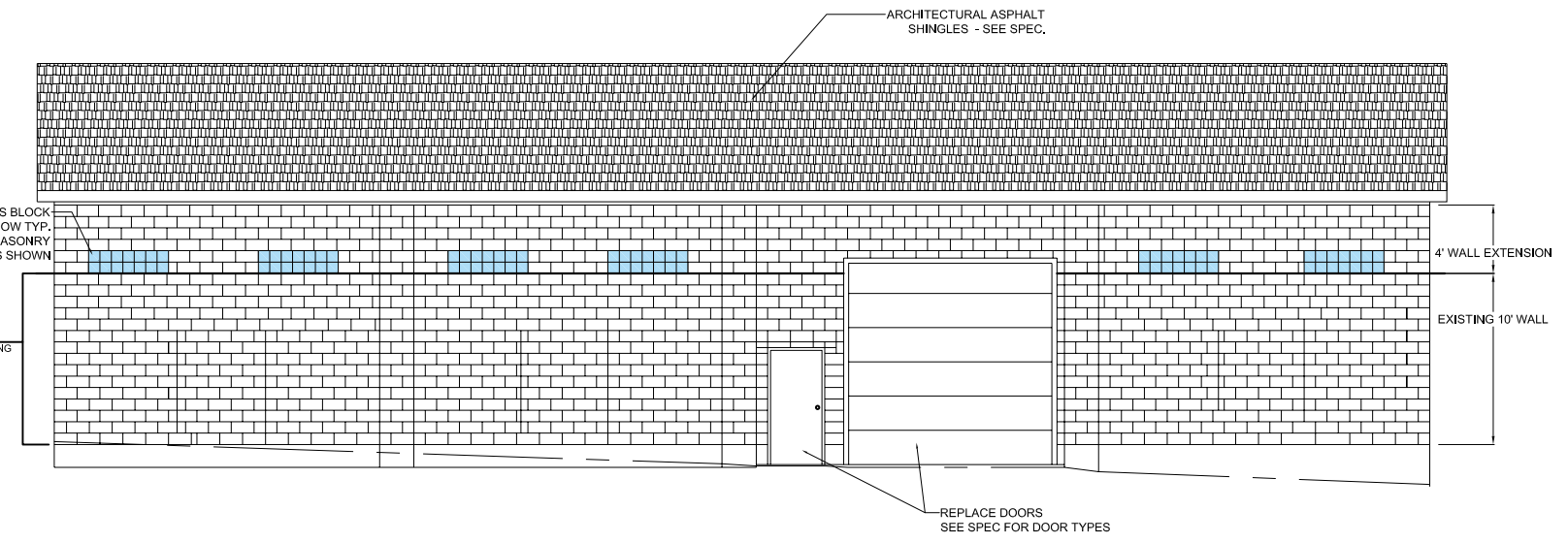
**1** NORTH BUILDING - NORTH EXTERIOR ELEVATION  
SCALE: NOT TO SCALE



**2** NORTH BUILDING - EAST EXTERIOR ELEVATION  
SCALE: NOT TO SCALE



**3** NORTH BUILDING - WEST EXTERIOR ELEVATION  
SCALE: NOT TO SCALE



**4** NORTH BUILDING - SOUTH EXTERIOR ELEVATION  
SCALE: NOT TO SCALE



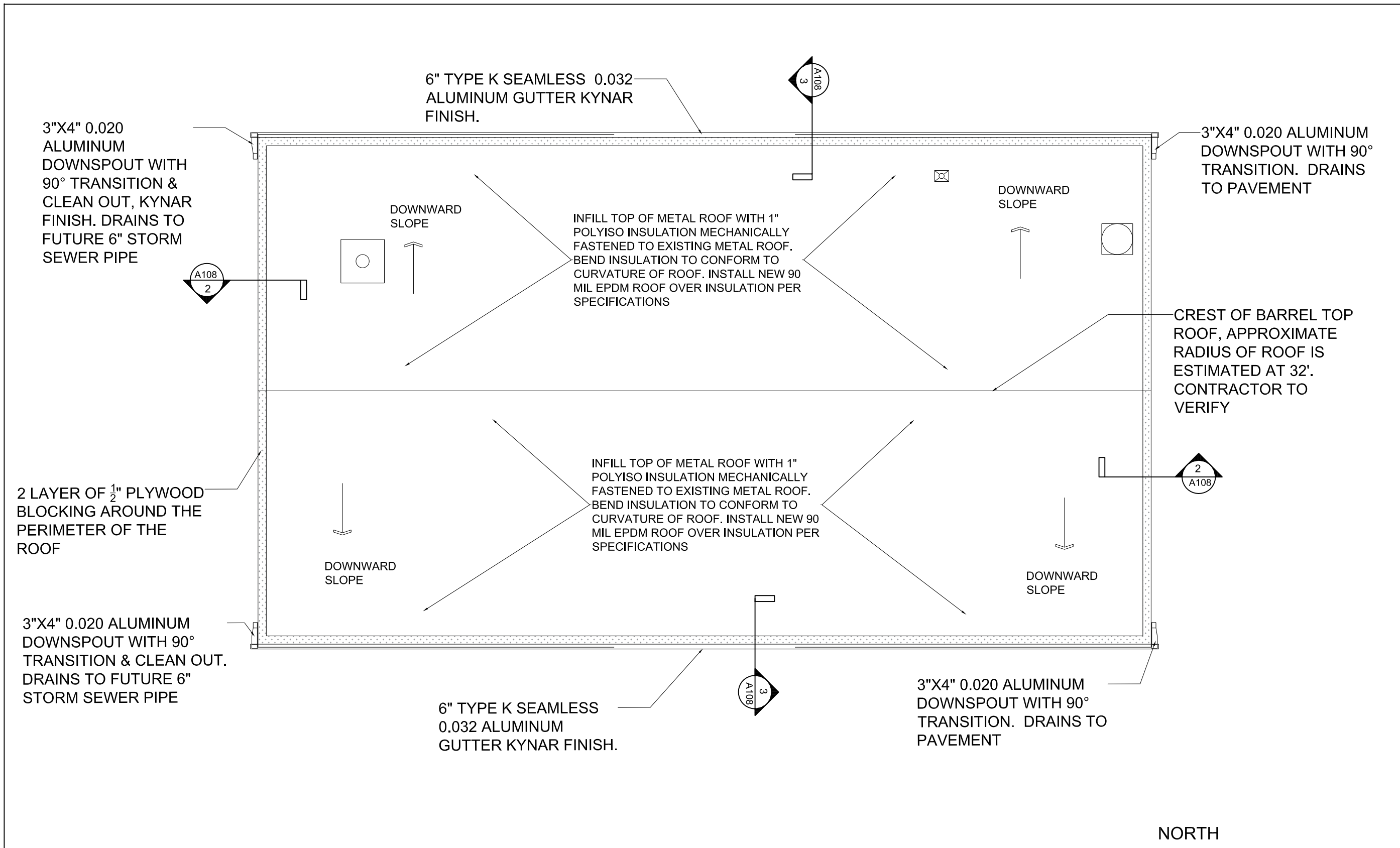


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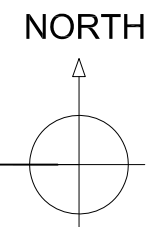
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**SOUTH BUILDING - ROOF PLAN**

SCALE: NOT TO SCALE



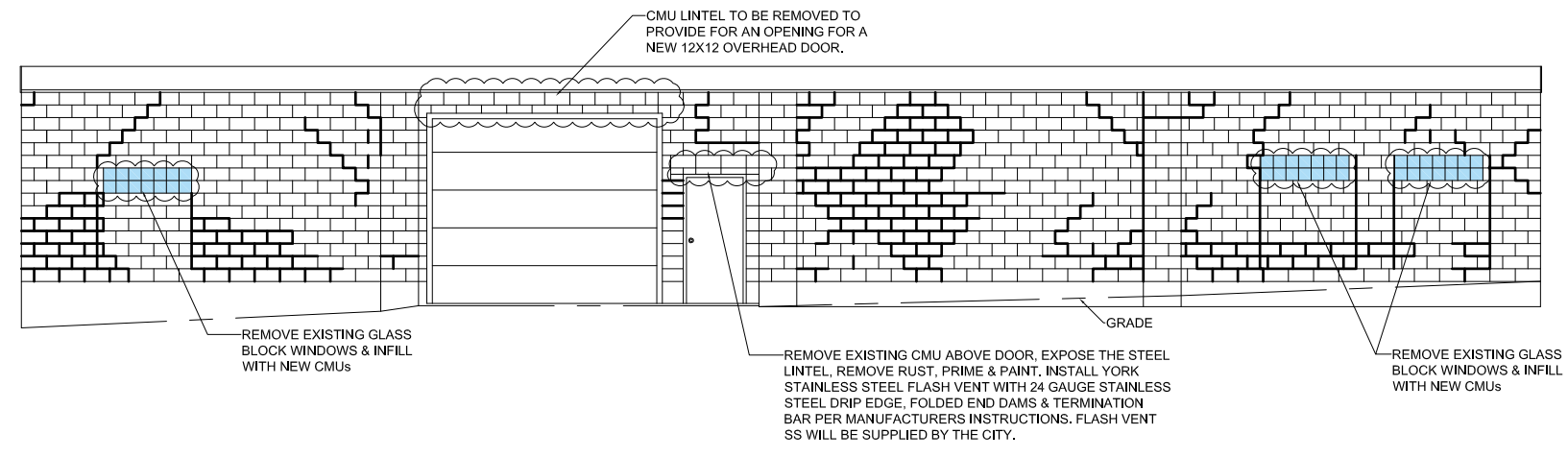


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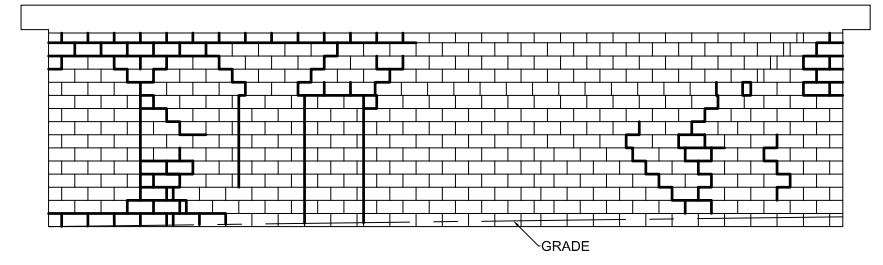
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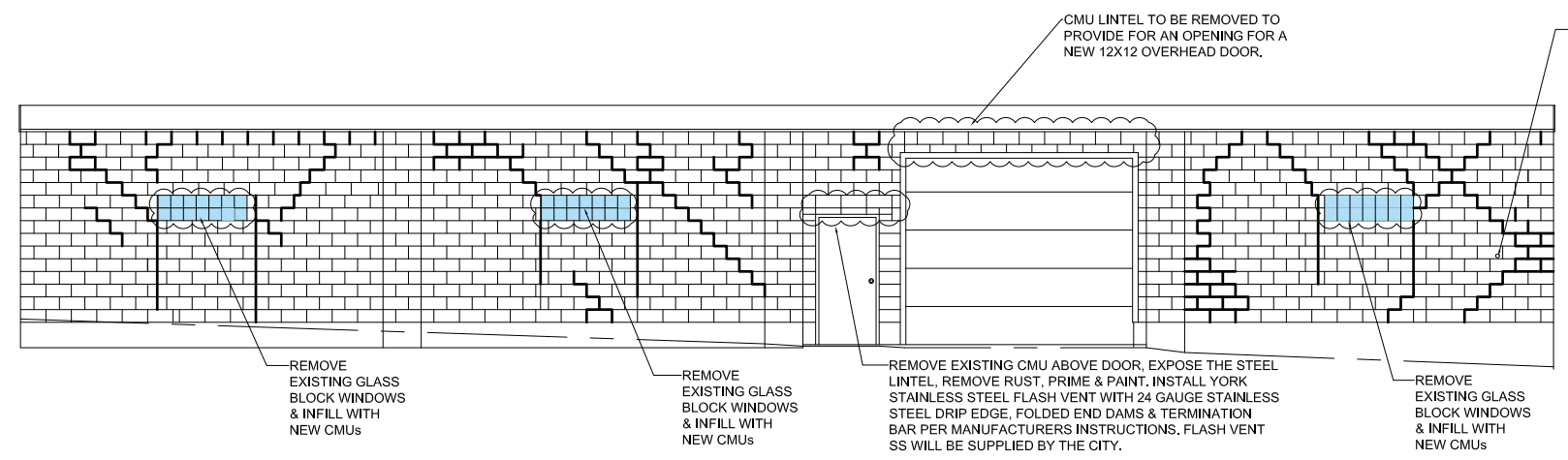
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1 NORTH BUILDING - NORTH ELEVATION, REPOINTING & MASONRY REPAIRS  
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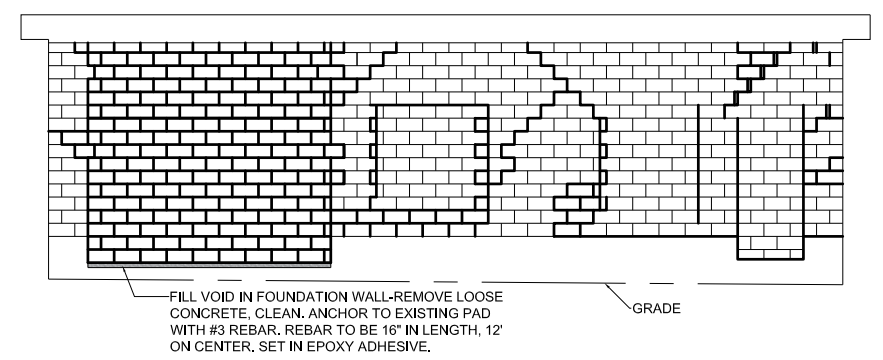
2 NORTH BUILDING - WEST ELEVATION, REPOINTING & MASONRY REPAIRS  
SCALE: NOT TO SCALE



3 NORTH BUILDING - SOUTH ELEVATION, REPOINTING & MASONRY REPAIRS  
SCALE: NOT TO SCALE

INDICATES AREA OF RE-POINTING MORTAR JOINTS. FOR THE PURPOSE OF BIDDING, INCLUDE IN THE LUMP SUM BID THESE AREAS PLUS AN ADDITIONAL 300 LINEAR FEET.

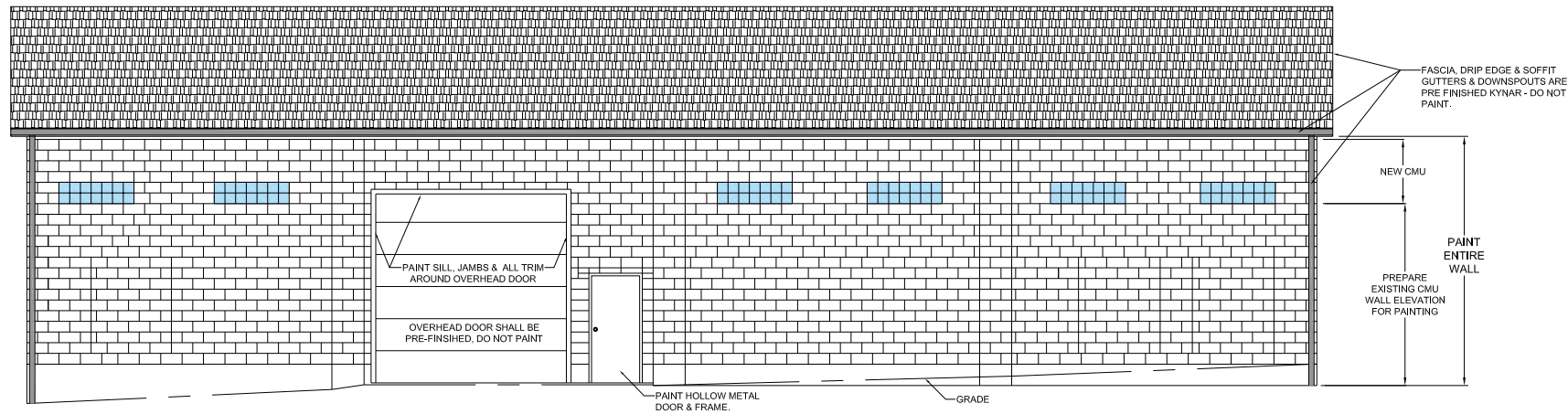
PATCH HOLE IN CMU WHERE CONDUIT WAS REMOVED. INSPECT REMAINDER OF BUILDING AND PROVIDE MISCELLANEOUS PATCHING OF HOLES & BROKEN OR DETERIORATED SECTIONS OF MASONRY.



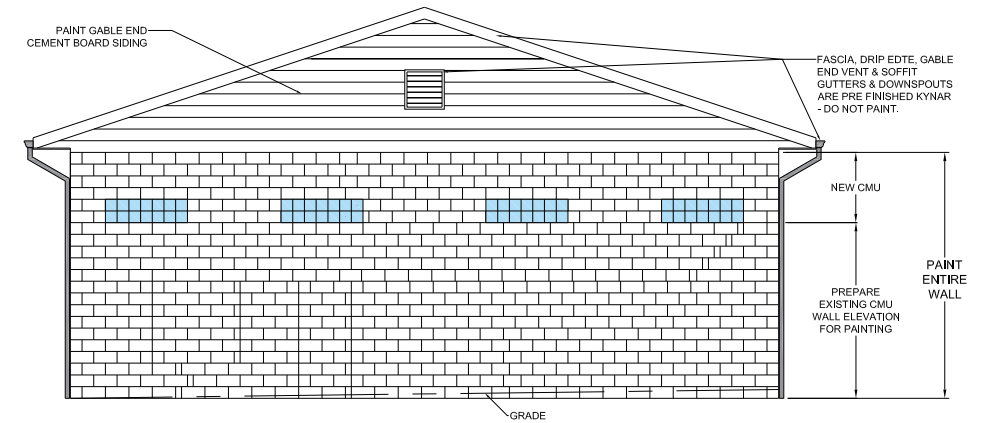
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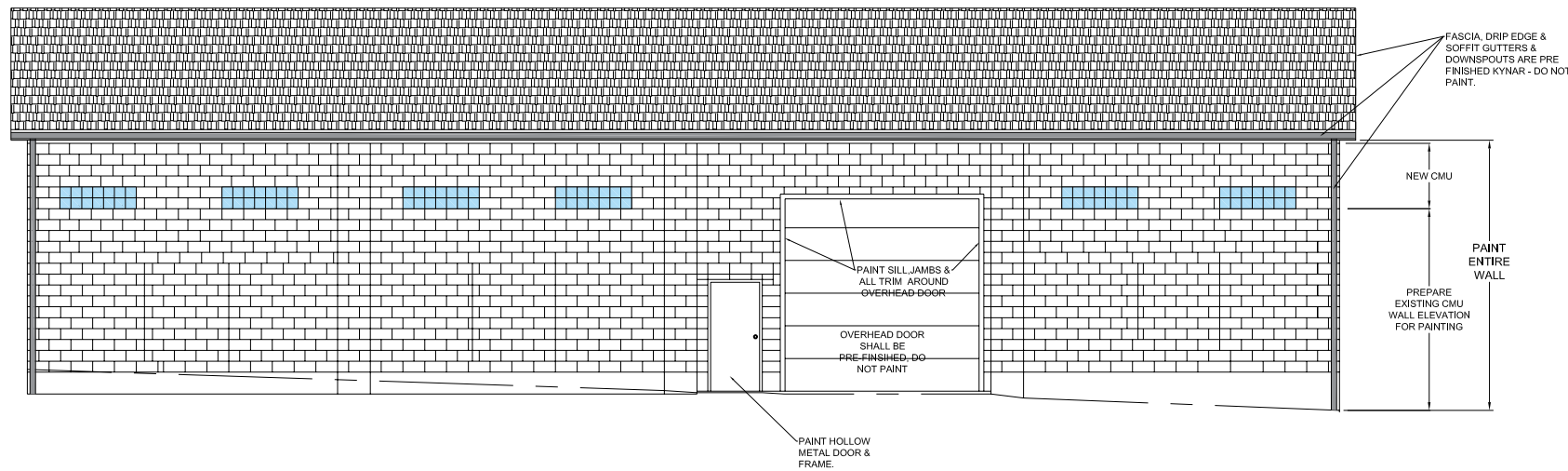
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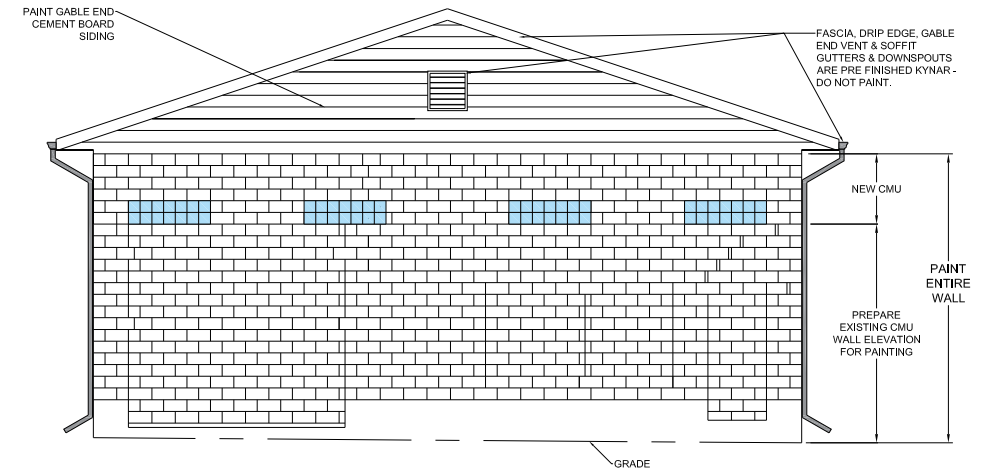
1 NORTH BUILDING - NORTH ELEVATION PAINTING SCHEDULE  
SCALE: NOT TO SCALE



2 NORTH BUILDING - WEST ELEVATION PAINTING SCHEDULE  
SCALE: NOT TO SCALE



2 NORTH BUILDING - SOUTH ELEVATION PAINTING SCHEDULE  
SCALE: NOT TO SCALE



2 NORTH BUILDING - EAST ELEVATION PAINTING SCHEDULE  
SCALE: NOT TO SCALE

| SHERWIN WILLIAMS PAINT SCHEDULE        | PAINT TYPE  | SURFACE TYPE/APPLICATION  |
|--|---|---|
| PRIMER RX                              | Interior/exterior acrylic peel bonding primer         | Primer for bare wood & spot painting previously painted wood.                         |
| PRO INDUSTRIAL, DMT ACRYLIC SEMI-GLOSS | Interior/exterior multi-purpose acrylic               | Finish coat for all metal, gable ends, overhead door, bollards, metal doors & frames. |
| RESILIENCE EXTERIOR SATIN ACRYLIC      | Exterior 100% acrylic finish                          | Finish coat for all exterior wood   |
| LOXON CONDITIONER                      | 100% Acrylic emulsion conditioner                     | Surface prep primer/conditioner for exterior CMU & other masonry substrate wall.      |
| LOXON XP                               | Exterior high build finish coating                    | Finish coat for stucco & CMU walls. Apply two coats.                                  |
| PRO INDUSTRIAL, MULTI-SURFACE ACRYLIC* | Interior/exterior self priming acrylic finish coating | Finish coat for interior CMU walls. Apply two coats.                                  |
| SEALANT-SOUDALSEAL 50 LM               | Polyester sealant                                     | All sealant joints that will be covered by paint.                                     |

NOTE:  
THE CONTRACTOR HAS THE OPTION TO PROVIDE AN ALTERNATE AS LONG AS IT IS EQUIVALENT IN ALL PROPERTIES. THE SUBMITTAL MUST INCLUDE A LETTER FROM THE MANUFACTURER STATING THAT THE COATINGS ARE EQUIVALENT

FINAL COLOR TO BE SELECTED BY THE OWNER

THE CONTRACTOR SHALL INSTALL SEALANT JOINTS AS NOTED ON THE PLAN SET. ADDITIONAL SEALANT JOINTS SHALL BE APPLIED AS NECESSARY PER STANDARD CONDITIONS AND BUILDING CONSTRUCTION PRACTICES.

\* INCLUDE INTERIOR PAINTING OF BUILDING IN BID

EXTERIOR WALL SURFACE PREPARATION FOR PAINTING

PREPARE SUBSTRATE TO THE FOLLOWING STANDARD;  
SSPC-SP 6 / NACE No. 3 Commercial Blast Cleaning  
When viewed without magnification, the surface shall be free of all visible oil, grease, dust, dirt, mill scale, rust, coating, oxides, corrosion products and other foreign matter of at least 66-2/3% of unit area, which shall be a square 3 in. x 3 in. (9 sq. in.). Light shadows, slight streaks, or minor discolorations caused by stains of rust, stains of mill scale, or stains of previously applied coating in less than 33-1/3% of the unit area is acceptable.

Summit Maintenance Facility Building Improvement

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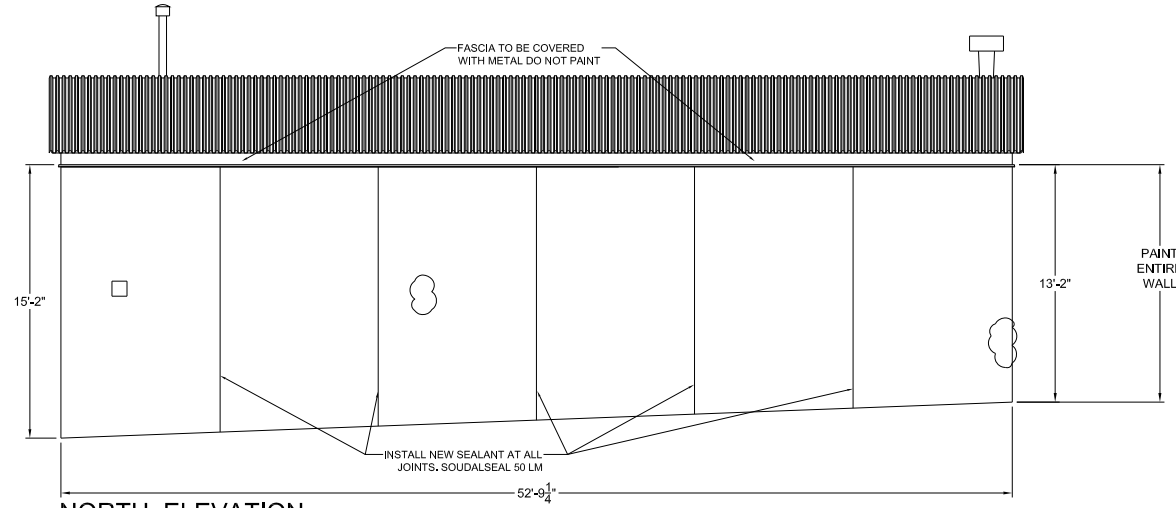


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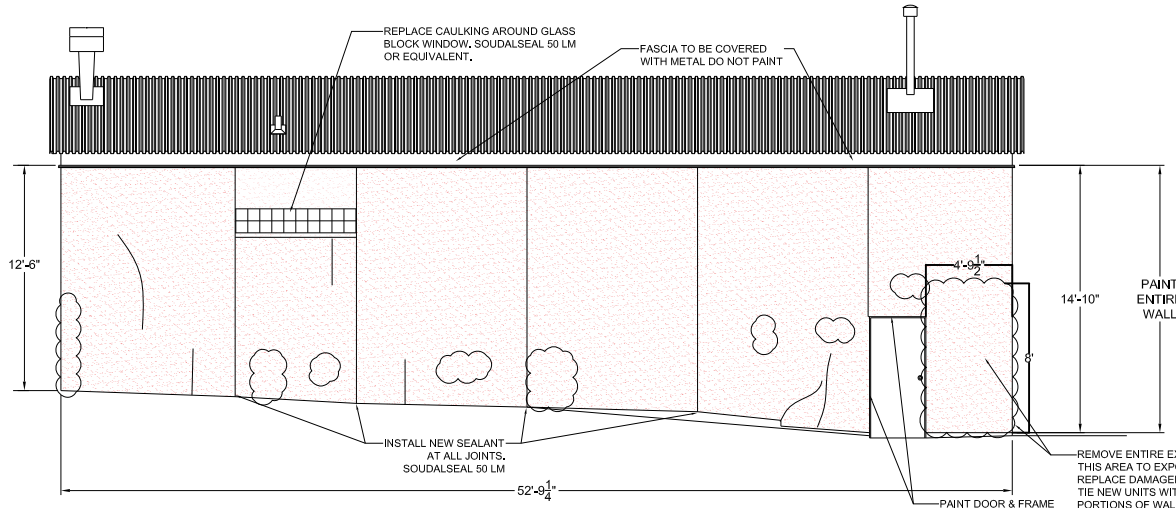
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NORTH ELEVATION



SOUTH ELEVATION

REPAIR TO DIRECT APPLIED FINISHING SYSTEM( DAFS)

REPAIRS TO SECTIONS THAT WILL RECEIVE AN ENTIRE TOPCOAT (SOUTH & EAST ELEVATIONS)

**CRACK REPAIR-**  
REMOVE THE FINISH COAT DOWN TO THE MESH AND BASE COAT. REMOVAL OF THE FINISH COAT SHOULD EXTEND A MINIMUM OF 3" BEYOND THE CRACK. INSPECT THE BASE COAT FOR ADHESION TO THE SUBSTRATE AND INSTALL FASTENERS TO SECURE AS REQUIRED. INSTALL NEW MESH & BASE COAT BUILD UP TO THE THICKNESS TO THE TOP OF THE SURROUNDING FINISH COAT. APPLY THE NEW FINISH COAT OVER THE ENTIRE WALL SECTION.

**PUNCTURE OR PHYSICAL DAMAGE REPAIR-**  
REMOVE ALL LOOSE MATERIAL AROUND THE DAMAGED AREA. INSPECT THE BASE COAT FOR ADHESION TO THE SUBSTRATE AND INSTALL FASTENERS TO SECURE AS REQUIRED. REMOVE THE FINISH COAT A MINIMUM OF 3" FROM THE DAMAGED AREA INCLUDING AREAS WHERE NEW FASTENERS WERE INSTALLED. REBUILD DAMAGED AREA OF PANEL AS NECESSARY. REPLACE ANY SECTIONS OF MISSING OR DAMAGED FOAM INSULATION WITH EQUIVALENT MATERIAL. INSTALL NEW MESH AND BASE COAT. BUILD UP THE THICKNESS TO THE TOP OF THE SURROUNDING FINISH COAT. APPLY THE NEW FINISH COAT OVER THE ENTIRE SECTION.

**SPOT REPAIRS (NORTH & WEST ELEVATIONS)**

**CRACK REPAIR-**  
REMOVE THE FINISH COAT DOWN TO THE MESH & BASE COAT. REMOVAL OF THE FINISH COAT SHOULD EXTEND A MINIMUM OF 3" BEYOND THE CRACK. INSPECT THE BASE COAT FOR ADHESION TO THE SUBSTRATE & INSTALL FASTENERS TO SECURE AS REQUIRED. APPLY A NEW FINISH COAT TO THE REPAIR AREA BEING CAREFUL TO BLEND THE NEW FINISH TO MATCH THE EXISTING.

**PUNCTURE OR PHYSICAL DAMAGE REPAIR-**  
REMOVE ALL LOOSE MATERIAL AROUND THE DAMAGED AREA. INSPECT THE BASE COAT FOR ADHESION TO THE SUBSTRATE AND INSTALL FASTENERS TO SECURE AS REQUIRED. REMOVE THE EXISTING FINISH COAT A MINIMUM OF 3" FROM THE DAMAGED AREA INCLUDING AREAS WHERE NEW FASTENERS WERE INSTALLED. REBUILD DAMAGED AREA OF PANEL AS NECESSARY. REPLACE ANY SECTIONS OF DAMAGED FOAM INSULATION WITH EQUIVALENT MATERIAL. INSTALL A NEW MESH & BASE COAT BUILD. TAPER THIS BASE COAT TO THE EDGE OF THE EXISTING FINISH COAT. APPLY A NEW FINISH COAT TO THE REPAIR AREA BEING CAREFUL TO BLEND THE NEW FINISH TO MATCH THE EXISTING.

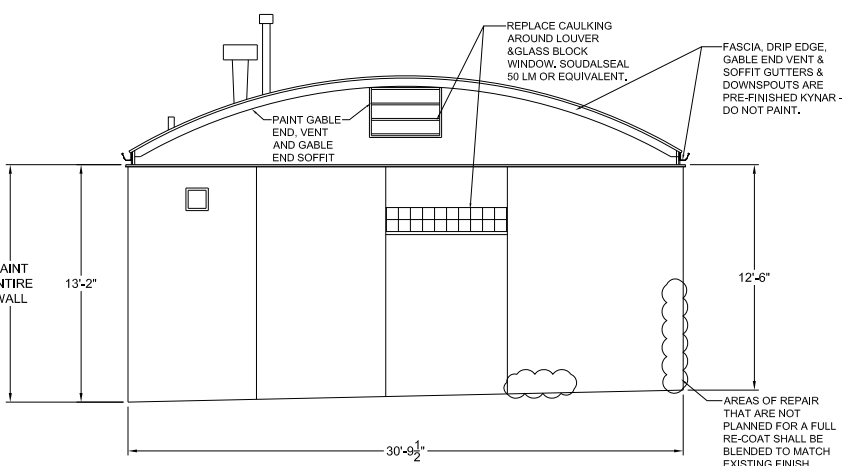
NOTE: THE ABOVE PROCEDURES ARE A GENERAL OUTLINE OF THE WORK THAT IS EXPECTED. CONTRACTORS ARE REQUIRED TO FOLLOW "BEST PRACTICES" AND MANUFACTURER'S INSTRUCTIONS TO OBTAIN THE PROPER REPAIRS. USE BASE COATS AS SPECIFIED BELOW WITH THE APPROPRIATE FINISH COAT.

- ACCEPTABLE REPAIR PRODUCTS  
1. DRYVIT- 100 % ACRYLIC BASE COAT NCB, <http://www.dryvit.com/>  
2. STO CORP-100 % ACRYLIC BASE COAT RFP, <http://www.stocorp.com/>  
3. PAREX- 100 % ACRYLIC BASE COAT 302 ABC N1, <http://www.parexusa.com/>

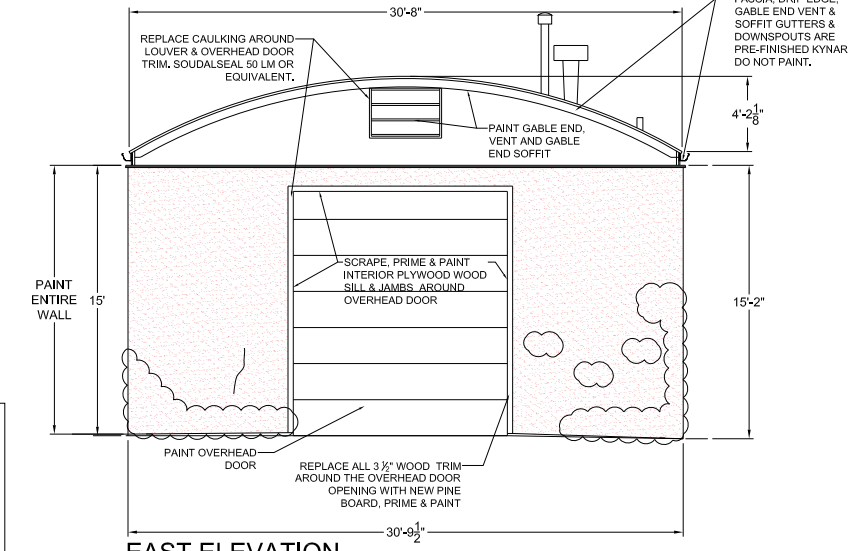
REPAIR LEGEND

- AREA OF EXTERIOR WALL THAT WILL RECEIVE A COMPLETE APPLICATION OF A PREMIUM BASE COAT (HIGH ACRYLIC CONTENT, OR NCB, WHICH IS AN 100% ACRYLIC BASE COAT), REINFORCING MESH & FINISH COAT. AREAS SHALL BE CHECKED FOR DELAMINATING FROM THE SUBSTRATE AND FASTENERS SHALL BE INSTALLED TO STABILIZE THE AREA.
- INDICATE VISIBLE CRACKS
- INDICATES AREAS WHERE EXISTING INSULATION IS EXPOSED DUE TO PUNCTURES OR PHYSICAL DAMAGE, THESE AREAS SHALL BE REBUILT AS NECESSARY & PATCHED.

NOTE: THE AREAS INDICATED ABOVE ARE SPECIFIC AREAS OF REPAIR THAT WERE NOTED IN ORDER TO INFORM THE CONTRACTOR OF THE TYPE OF REPAIRS THAT ARE EXPECTED. AT THE PRE BID MEETING, THE FULL ELEVATIONS OF THIS BUILDING WILL BE MADE VISIBLE. AT THIS TIME, THE CONTRACTOR SHALL INSPECT THE ELEVATIONS & INCLUDE ALL DEFECTS THAT ARE PRESENT IN THE LUMP SUM BID.



WEST ELEVATION



EAST ELEVATION

| SHERWIN WILLIAMS PAINT SCHEDULE        | PAINT TYPE  | SURFACE TYPE/APPLICATION  |
|--|---|---|
| PRIMER RX                              | Interior/exterior acrylic peel bonding primer         | Primer for bare wood & spot painting previously painted wood.                         |
| PRO INDUSTRIAL, DMT ACRYLIC SEMI-GLOSS | Interior/exterior multi-purpose acrylic               | Finish coat for all metal, gable ends, overhead door, bollards, metal doors & frames. |
| RESILIENCE EXTERIOR SATIN ACRYLIC      | Exterior 100% acrylic finish                          | Finish coat for all exterior wood   |
| LOXON CONDITIONER                      | 100% Acrylic emulsion conditioner                     | Surface prep primer/conditioner for exterior CMU & other masonry substrate wall.      |
| LOXON XP                               | Exterior high build finish coating                    | Finish coat for stucco & CMU walls. Apply two coats.                                  |
| PRO INDUSTRIAL, MULTI-SURFACE ACRYLIC  | Interior/exterior self priming acrylic finish coating | Finish coat for interior CMU walls. Apply two coats.                                  |
| SEALANT                                |   |   |
| SOULDALSEAL 50 LM                      | Polyester sealant                                     | All sealant joints that will be covered by paint.                                     |

NOTE:  
THE CONTRACTOR HAS THE OPTION TO PROVIDE AN ALTERNATE AS LONG AS IT IS EQUIVALENT IN ALL PROPERTIES. THE SUBMITTAL MUST INCLUDE A LETTER FROM THE MANUFACTURER STATING THAT THE COATINGS ARE EQUIVALENT

FINAL COLOR TO BE SELECTED BY THE OWNER

THE CONTRACTOR SHALL INSTALL SEALANT JOINTS AS NOTED ON THE PLAN SET. ADDITIONAL SEALANT JOINTS SHALL BE APPLIED AS NECESSARY PER STANDARD CONDITIONS AND BUILDING CONSTRUCTION PRACTICES.

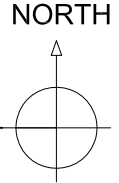
EXTERIOR WALL SURFACE PREPARATION FOR PAINTING

PREPARE SUBSTRATE TO THE FOLLOWING STANDARD;  
SSPC-SP 6 / NACE No. 3 Commercial Blast Cleaning  
When viewed without magnification, the surface shall be free of all visible oil, grease, dust, dirt, mill scale, rust, coating, oxides, corrosion products and other foreign matter of at least 66-2/3% of unit area, which shall be a square 3 in. x 3 in. (9 sq. in.). Light shadows, slight streaks, or minor discolorations caused by stains of rust, stains of mill scale, or stains of previously applied coating in less than 33-1/3% of the unit area is acceptable.

1

SOUTH BUILDING - DAFS REPAIR & PAINTING SCHEDULE

SCALE: NOT TO SCALE



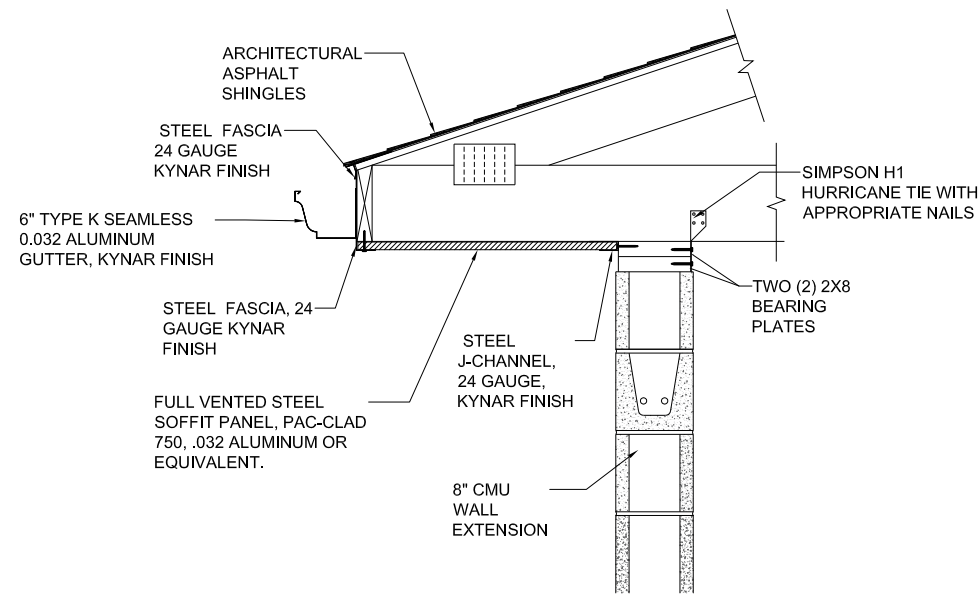


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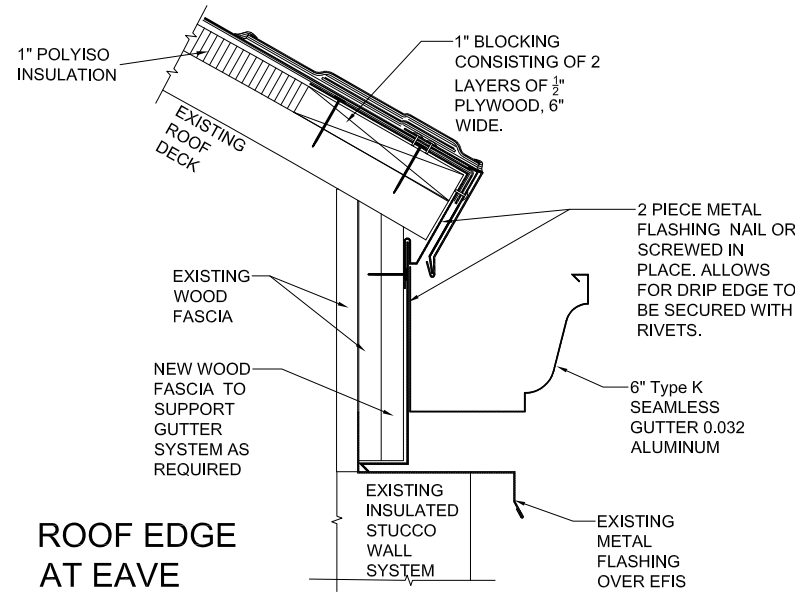
Summit Maintenance Facility Building Improvement

1902 Freepport Rd. Madison, WI CONTRACT#:8:152

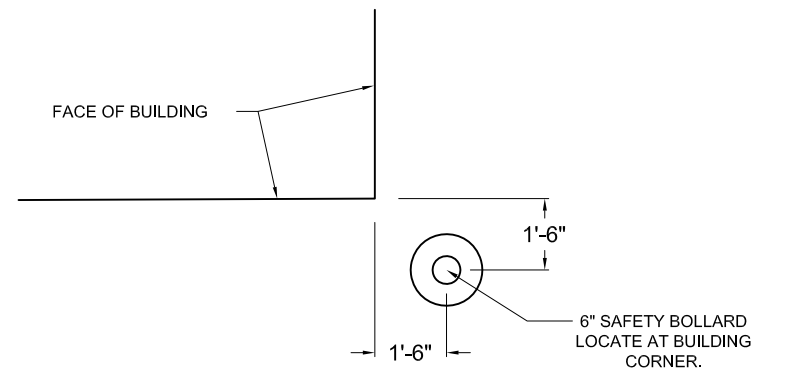
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 A108



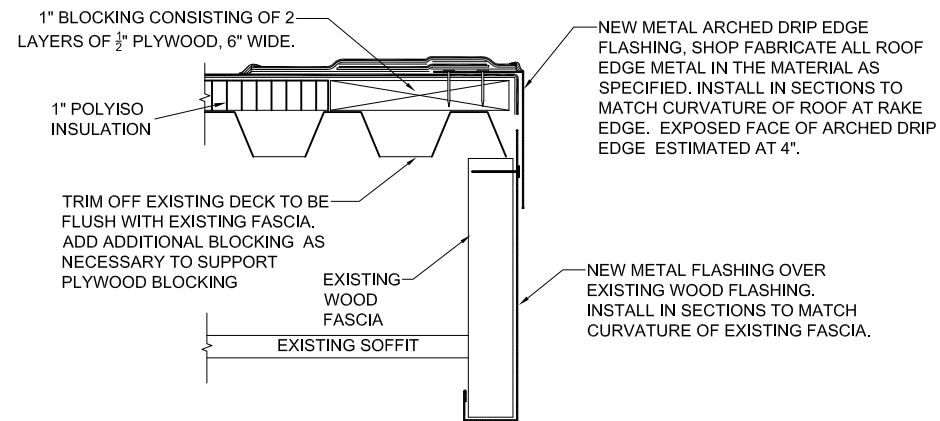
**1**  
**A108** ROOF EAVE DETAIL- NORTH BUILDING NOT TO SCALE



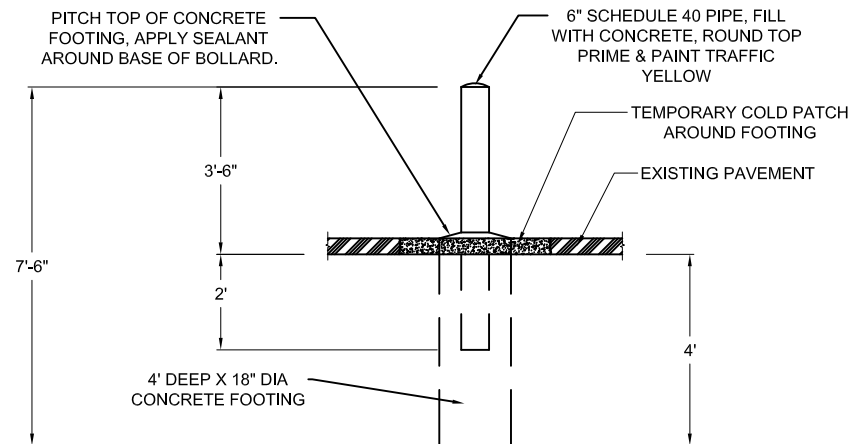
**3**  
**A108** ROOF EAVE DETAIL- SOUTH BUILDING NOT TO SCALE



**5**  
**A108** SAFETY BOLLARD LOCATION DETAIL NOT TO SCALE



**2**  
**A108** ROOF RAKE DETAIL- SOUTH BUILDING NOT TO SCALE



**4**  
**A108** SAFETY BOLLARD DETAIL NOT TO SCALE

GABLE END- ROOF EDGE AT RAKE





DRAWN BY: PBS

DATE: 1/15/2018

REVISED:

# Summit Maintenance Facility Building Improvement

CONTRACT#:8152

1902 Freeport Rd. Madison, WI

SHT

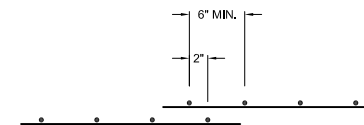
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### MASONRY NOTES:

- MASONRY CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL REQUIREMENTS OF THE "SPECIFICATION FOR MASONRY STRUCTURES" (TMS 602-05 / ACI 530.1-05 / ASCE 6-05).
- PROVIDE LEVEL B QUALITY ASSURANCE PROGRAM FOR ALL MASONRY CONSTRUCTION PER TABLE 1.15.2 AND AS REQUIRED IN CHAPTER 1. INSPECTION REPORTS SHALL BE FURNISHED TO THE ENGINEER.
- PROVIDE UNIT MASONRY THAT DEVELOPS NET-AREA COMPRESSIVE STRENGTH (fm) AT 28 DAYS AS SPECIFIED IN "MATERIAL DESIGN PROPERTIES". DETERMINE NET-AREA COMPRESSIVE STRENGTH (fm) BY THE UNIT STRENGTH METHOD.
- BOND BEAMS, PILASTERS, LINTELS, AND REINFORCED WALL CELLS SHALL BE FILLED WITH CONCRETE GROUT HAVING  $f_c = 3,000$  PSI, UNO, COARSE AGGREGATE SHALL BE PEA GRAVEL.
- USE ONLY U-SHAPED LINTEL BLOCK FOR MASONRY LINTELS AND BOND BEAMS. PROVIDE 8" (MIN.) DEEP CONTINUOUS BOND BEAM AT ALL BEARING LOCATIONS FOR STRUCTURAL FLOOR AND ROOF MEMBERS AND WHERE INDICATED ON THE DRAWINGS. GROUT BOND BEAMS SOLID AND REINFORCE WITH (2) #5, UNO. PROVIDE CORNER BARS TO MATCH. SEE MASONRY BAR SPLICE SCHEDULE.
- GROUT CELLS SOLID AT REINFORCING, BOND BEAMS, INSERTS, ANCHORS, STAIR CONNECTIONS, ELEVATOR GUIDE RAILS, AND SIMILAR LOCATIONS.
- CONCRETE GROUT PLACEMENT IN REINFORCED MASONRY WALLS, PILASTERS, OR PIERS SHALL FOLLOW THE PROCEDURES DESCRIBED IN NCMA TEK MANUAL 3-2A FOR EITHER LOW-LIFT OR HIGH-LIFT GROUTING, FILLING CORES WITH MORTAR IS NOT PERMITTED. THE BARS OR PROVIDE VERTICAL BAR POSITIONERS.
- CLEANOUTS SHALL BE PROVIDED IN THE BOTTOM COURSE OF MASONRY FOR EACH GROUT POUR, WHEN THE LIFT EXCEEDS 5 FEET.
- GROUTING SHALL BE STOPPED 1-1/2" BELOW THE TOP OF A COURSE SO AS TO FORM A KEY AT THE POUR JOINT.
- CENTERLINE OF REINFORCING SHALL BE 3" MAXIMUM FROM BOTTOM OF LINTEL BLOCK.
- THE FIRST COURSE OF MASONRY ABOVE THE LINTELS SHALL BE LAID WITH FULL MORTAR BEDDING, AT BEARING WALLS, GROUT END CELL SOLID TO FLOOR BELOW, SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR SPECIAL BOND BEAM AND LINTEL CONDITIONS. SHORE LINTELS AND DOOR / WINDOW FRAMES UNTIL MORTAR AND GROUT ACHIEVE SPECIFIED STRENGTH. DO NOT PLACE CONTROL OR EXPANSION JOINTS AT LINTEL BEARING POINTS OR ANYWHERE WITHIN THE LINTEL.
- FOR STEEL LINTELS BEARING ON MASONRY:
  - WHEN BEARING PERPENDICULAR TO MASONRY WALL, GROUT AN AREA 4 CELLS WIDE, 4 COURSES DEEP, UNLESS NOTED OTHERWISE.
  - WHEN BEARING PARALLEL TO MASONRY WALL, GROUT EACH CELL UNDER BEAM BEARING TO FOUNDATION AND PROVIDE (1) #5 BAR IN THE END CELL, UNLESS NOTED OTHERWISE. PROVIDE 16" BEARING AT EACH END FOR SPANS GREATER THAN 10'-0"; 8" BEARING FOR SPANS LESS THAN 10'-0".
- FOR WALL REINFORCING:
  - ALL REINFORCING SHALL CONFORM TO ASTM A615, GRADE 60.
  - WALL REINFORCING SHALL BE PLACED AT CENTER OF CORE, UNO.
  - SECURE IN PLACE BEFORE GROUTING, CONTINUE VERTICAL REINFORCING FLOOR-TO-FLOOR AND FLOOR-TO-ROOF.
  - REFER TO MASONRY BAR SPLICE SCHEDULE FOR REQUIRED REINFORCING LAPS.
  - FOR 6", 8", 10", AND 12" CMU WALLS, PROVIDE (1) #5 FULL HEIGHT IN CENTER OF CELL AT CORNERS, INTERSECTIONS, WALL ENDS, OPENING JAMBS, AS WELL AS EACH SIDE OF EXPANSION AND CONTROL JOINTS IN ADDITION TO WALL REINFORCEMENT DEPICTED ON PLANS, SECTIONS, AND DETAILS.
  - BOND BEAM REINFORCING SHALL BE CONTINUOUS AT CONTROL JOINTS.
- HORIZONTAL JOINT REINFORCING (DUR-WALL) SHALL BE PROVIDED AS FOLLOWS:
  - AT 16" O/C VERTICALLY FOR RUNNING BOND WALLS.
- VERTICAL CELLS THAT WILL BE GROUTED SHALL HAVE A VERTICAL ALIGNMENT TO MAINTAIN A CONTINUOUS UNOBSTRUCTED CELL AREA NOT LESS THAN 3" X 4".
- FACE SHELLS AND WEB FORMING CELLS SHALL BE FULL-BEDDED IN THE STARTING COURSE ON FOUNDATIONS AND IN ALL COURSES OF PIERS AND PILASTERS.
- CMU SHALL BE LAID IN RUNNING BOND WITH TYPE S MORTAR.
- WALL REINFORCEMENT SCHEDULE:
  - 12" CMU; #5 VERT. BAR IN GROUTED CORE @ 32" O/C.
  - 8" CMU; #4 VERT. BAR IN GROUTED CORE @ 32" O/C.

### CONCRETE REINFORCEMENT NOTES:

- ALL CONCRETE REINFORCING STEEL TO BE ASTM A615 GRADE 60, ALL WELDED WIRE MESH (WWM) TO BE ASTM A185.
- ALL REINFORCING SHALL BE DETAILED AND PLACED IN ACCORDANCE WITH ACI 315 AND 315R (MOST CURRENTLY ADOPTED EDITION).
- PROVIDE MINIMUM COVER PER ACI 318, 7.7.1. ALSO SEE "MILD REINFORCING STEEL PROTECTION" NOTES.
- WIRE SPACERS, CHAIRS, TIES, ETC. FOR SUPPORT OF STEEL REINFORCING SHALL BE PROVIDED BY THE CONCRETE CONTRACTOR TO ENSURE REINFORCING IS PLACED AND MAINTAINED IN THE PROPER POSITION DURING CONCRETE PLACEMENT.
- ALL HOOKS IN STEEL REINFORCING SHALL BE ACI STANDARD HOOKS, UNO.
- TERMINATE NON-CONTINUOUS STEEL REINFORCING WITH AN ACI STANDARD HOOK IF REQUIRED EMBEDMENT SHOWN ON DRAWINGS CANNOT BE OBTAINED.
- ALL LAPS SHALL BE CLASS "B" PER ACI 318 UNO UNO ON THE DESIGN DRAWINGS, OR UNLESS THE DETAILER TAKES SPECIAL CARE TO PROVIDE STAGGERED LAPS. USE TOP BAR LENGTHS FOR ALL HORIZONTAL WALL BARS AND FOR TOP BARS IN SLABS AND BEAMS OVER 12" DEEP. USE CLASS "B" LAP FOR BARS AT WALL CORNERS AND INTERSECTIONS PER DETAILS.
- STEEL REINFORCING SPLICES OF ADJACENT BARS SHALL BE STAGGERED SUCH THAT SPLICES ARE 4' APART, MINIMUM.
- OPENINGS IN CONCRETE WALLS AND SLABS SHALL BE REINFORCED AS DETAILED OR, AS A MINIMUM, WITH TWO (2) #5 BARS PLACED ALONG SIDES AND EXTENDING 2'-0" BEYOND CORNERS UNLESS OTHERWISE NOTED. PROVIDE ONE (1) #5 BAR X 4'-0" LONG DIAGONALLY AT EACH CORNER PLACED IN EACH FACE OF WALL OR SLAB THICKER THAN 6". SEE DETAILS.
- PROVIDE REINFORCEMENT AT FOOTING STEPS AS SHOWN ON DETAILS.
- WELDING OF STEEL REINFORCEMENT IS NOT PERMITTED.
- WELDED WIRE MESH (WWM) SHALL BE SUPPLIED IN FLAT SHEETS ONLY AND SHALL BE LAPPED AND / OR ANCHORED TO DEVELOP  $F_y$  PER ACI 315.



### WOOD TRUSS NOTES:

- THE DESIGN AND FABRICATION OF ALL WOOD TRUSSES SHALL COMPLY WITH "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION", AMERICAN FOREST & PAPER ASSOCIATION (AFPA), AND "DESIGN SPECIFICATIONS FOR METAL PLATE CONNECTED WOOD TRUSSES", TRUSS PLATE INSTITUTE.
- TRUSSES SHALL BE DESIGNED AND FABRICATED TO CARRY ALL LOADS INCLUDING ROOF UPLIFT DUE TO WIND IMPOSED AS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH THE 2009 IBC AND ASCE 7-05.
- TRUSS MANUFACTURER MAY NOT DEVIATE FROM THE FRAMING PLANS UNLESS PRIOR APPROVAL FROM THE ARCHITECT / ENGINEER HAS BEEN GIVEN. IT IS THE TRUSS MANUFACTURER'S RESPONSIBILITY TO SEEK SUCH APPROVAL PRIOR TO MANUFACTURE AND INSTALLATION OF FRAMING MEMBERS.
- TRUSS MANUFACTURER SHALL PROVIDE A COMPLETE SYSTEM, INCLUDING ALL MISCELLANEOUS ITEMS REQUIRED TO COMPLETE THE SYSTEM. THIS INCLUDES PROVIDING DOUBLE, TRIPLE, OR GREATER NUMBER OF COMBINED TRUSSES REQUIRED TO SUPPORT ALL REQUIRED LOADS.
- CONTRACTOR SHALL STORE TRUSSES IN A VERTICAL POSITION RESTING ON LEVEL BEARING ENDS ABOVE THE GROUND ALLOWING AIR TO CIRCULATE. PROTECT MATERIALS FROM WEATHER AND OTHER SITE CONSTRUCTION DAMAGE.
- INSTALL HURRICANE CLIPS AT EACH ROOF TRUSS BEARING LOCATION.

### WOOD TRUSS SHOP DRAWINGS SHALL SHOW THE FOLLOWING INFO:

- INFORMATION WHICH THE RESPONSIBLE BUILDING DESIGN PROFESSIONAL WILL CHECK FOR CODE COMPLIANCE WITH CONTRACT DOCUMENTS:
  - ERECTION PLAN; SHOWING DIMENSIONED LOCATIONS, SPACING OF TRUSSES, AND TRUSS IDENTIFICATION.
  - BEARING DETAILS; SHOWING BEARING LENGTH, WIDTH, AND DEPTH INDICATING CONFORMANCE TO DESIGN CALCULATIONS.
  - DESIGN LOADS; ALL DEAD AND LIVE LOADS SHALL BE SHOWN ON THE FRAMING PLAN OR TRUSS ELEVATION INDICATING CONFORMANCE TO THE TRUSS CALCULATIONS.
  - ALL PERMANENT BRACING; SHOW TOP CHORD, BOTTOM CHORD, AND WEB MEMBER BRACING ON FRAMING PLAN AND TRUSS ELEVATIONS. SUPPLIER AND INSTALLER OF THIS BRACING SHALL ALSO BE INDICATED.
  - TRUSS DIMENSIONS; SHOW DEPTH, SPAN, BEARING, HEIGHT, AND SLOPES AT ALL CRITICAL POINTS.
- INFORMATION THAT SHALL BE THE RESPONSIBILITY OF THE FABRICATOR AND TRUSS DESIGNER AND SHALL BE PROVIDED WITH THE SHOP DRAWING SUBMITTAL:
  - MEMBER DESIGN; INCLUDING WEB CONFIGURATION, MEMBER SIZE, GRADE OF LUMBER, FABRICATED SPLICES, AND MEMBER BRACING REQUIRED BY TRUSS DESIGN.
  - MEMBER CONNECTIONS; DESIGN AND INDICATE ALL NECESSARY HARDWARE FOR PROPER INSTALLATION OF TRUSSES INCLUDING, BUT NOT LIMITED TO, GIRDER PLY CONNECTIONS, HEADER-TO-TRUSS, TRUSS-TO-GIRDER, AND TRUSS-TO-TRUSS CONNECTIONS, TIE-DOWNS, AND FIELD SPLICES.
  - INTERIOR CONNECTIONS; DESIGN AND SHOW DETAIL OF WEB AND CHORD CONNECTIONS, INCLUDING CONNECTOR PLATE SIZES, CAPACITIES, AND BOLT SIZES.
  - ERECTION PLAN; SHOW SPACING AND LAYOUT OF ANY TEMPORARY BRACING REQUIRED FOR ERECTION.
  - STATE SUBMITTAL: SUBMIT THREE (3) SETS OF COMPLETE TRUSS STRUCTURAL CALCULATIONS STAMPED AND SIGNED BY A WISCONSIN REGISTERED PROFESSIONAL ENGINEER TO THE PROJECT ARCHITECT / ENGINEER AND OBTAIN ALL APPROVALS NECESSARY FOR CONFORMANCE TO STATE BUILDING CODE. VERIFY SUBMITTAL AND APPROVAL BY SENDING A COPY OF THE APPROVED DOCUMENTS TO THE BUILDING DESIGN PROFESSIONAL.
  - PROVIDE ANY COMPONENT DESIGN AND SUBMITTALS REQUIRED BY AUTHORITIES HAVING JURISDICTION OVER THE PROJECT.
  - PROVIDE CONTRACTOR / INSTALLER WITH ALL DATA NECESSARY FOR PROPER INSTALLATION.

### WOOD TRUSS BRACING NOTES:

- TRUSS ERECTOR SHALL INSTALL ALL BRACING CALLED FOR ON THE STRUCTURAL FRAMING PLAN, TRUSS SHOP DRAWINGS, OR SPECIFIED BELOW. ALL BRACING SHOWN OR DESCRIBED SHALL BE MINIMUM 2X4 WITH (2) 16D IN EVERY TRUSS IT CROSSES.
- ERECTION BRACING SHALL BE PROVIDED IN ACCORDANCE WITH TPI PUBLICATION BWT-76 "BRACING WOOD TRUSSES, COMMENTARY AND RECOMMENDATIONS". DESIGNER/FABRICATOR SHALL INDICATE ALL NECESSARY CONSTRUCTION / ENGINEERED BRACING ON ERECTION PLAN.
- TRUSS PICKUP POINTS SHALL FOLLOW APPENDIX TO BWT-76.
- ALL TRUSS TOP CHORDS SHALL BE CONTINUOUSLY BRACED BY THE ROOF OR FLOOR DECKING.
- ALL TRUSS WEB MEMBERS SHALL BE BRACED AT 4'-0" O/C UNLESS CALCULATIONS INDICATE OTHERWISE.
- BOTTOM CHORD BRACING SHALL BE 8'-0" O/C MAXIMUM UNLESS MANUFACTURER / DESIGNER SPECIFIES OTHERWISE. CONTINUOUS SHEATHING DIRECTLY APPLIED TO THE BOTTOM CHORD WILL SATISFY THIS BRACING REQUIREMENT.
- ALL ROOF TRUSS HORIZONTAL BRACING SHALL BE SECURELY ANCHORED TO SOLID END WALLS AND STIFFENED @ 20'-0" O/C WITH EITHER:
  - DIAGONAL BRACING EXTENDED TO A SHEAR WALL PARALLEL TO THE ORIGINAL BRACING. SEE BRACING DETAILS.
  - 1/2" THK APA RATED SHEATHING EXTENDED TO ROOF DECK OR SHEAR WALLS.

### DESIGN DATA:

#### DESIGN CODE(S):

2015 WCB - WISCONSIN COMMERCIAL BUILDING CODE  
2015 IBC - INTERNATIONAL BUILDING CODE

#### WIND LOAD INFORMATION:

BASIC WIND SPEED (NOMINAL) 81.3 MPH  
BUILDING OCCUPANCY CATEGORY I  
WIND LOAD IMPORTANCE FACTOR (Iw) 1.00  
WIND EXPOSURE C  
INTERNAL PRESSURE COEFFICIENTS ± 0.18  
HORIZONTAL MWFRS SIMPLE DIAPHRAGM

#### TRANSVERSE DIRECTION:

INTERIOR ZONE: WALL 15.7 PSF  
ROOF -3.7 PSF  
END ZONE: WALL 23.5 PSF  
ROOF -6.7 PSF

#### LONGITUDINAL DIRECTION:

INTERIOR ZONE: WALL 11.6 PSF  
WALL 17.5 PSF

#### COMPONENTS AND CLADDING (GROSS WIND PRESSURES)

(FOR ZONE DEFINITION & DIAGRAMS SEE DESIGN GUIDE ASCE / SEI 7-10 SECTION 6)

| WIDTH OF PRESSURE COEFFICIENT ZONE (A) | 4.0 FT.   | 10 SF     | 50 SF     | 100 SF |
|--|-----------|-----------|-----------|--------|
| <b>ROOF (GABLE / H/P / MONOSLOPE):</b> |           |           |           |        |
| NEGATIVE ZONE 1                        | -18.2 PSF | -17.0 PSF | -16.5 PSF |        |
| NEGATIVE ZONE 2                        | -31.8 PSF | -25.7 PSF | -23.2 PSF |        |
| NEGATIVE ZONE 3                        | -46.7 PSF | -39.7 PSF | -36.6 PSF |        |
| POSITIVE ALL ZONES                     | 16.0 PSF  | 16.0 PSF  | 16.0 PSF  |        |
| <b>WALLS:</b>                          |           |           |           |        |
| NEGATIVE ZONE 4                        | -21.5 PSF | -18.5 PSF | -16.5 PSF |        |
| NEGATIVE ZONE 5                        | -26.6 PSF | -20.6 PSF | -16.5 PSF |        |
| POSITIVE ZONE 4 & 5                    | 19.8 PSF  | 16.9 PSF  | 16.0 PSF  |        |
| <b>PARAPETS:</b>                       |           |           |           |        |
| CORNER ZONE                            | N/A       | N/A       | N/A       |        |
| INTERIOR ZONE                          | N/A       | N/A       | N/A       |        |
| <b>OVERHANGS / CANOPIES:</b>           |           |           |           |        |
| INTERIOR ZONE                          | -37.0 PSF | -37.0 PSF | -37.0 PSF |        |
| CORNER ZONE                            | -62.2 PSF | -48.1 PSF | -42.0 PSF |        |

#### SEISMIC LOAD INFORMATION:

SEISMIC USE GROUP / OCCUPANCY CATEGORY I  
SEISMIC LOAD IMPORTANCE FACTOR (Ie) 1.00  
SEISMIC SITE CLASS (ASSUMED) D  
MAPPED SPECTRAL RESPONSE ACCELERATION (Sa) 0.085  
MAPPED SPECTRAL RESPONSE ACCELERATION (S1) 0.046  
SPECTRAL RESPONSE COEFFICIENT (Sds) 0.091  
SPECTRAL RESPONSE COEFFICIENT (Sd1) 0.074  
SEISMIC DESIGN CATEGORY B  
BASIC SEISMIC FORCE RESISTING SYSTEM - ORDINARY PLAIN MASONRY SHEAR WALLS  
RESPONSE MODIFICATION FACTOR 1.5  
SEISMIC RESPONSE COEFFICIENT (Cs) 0.06  
DESIGN BASE SHEAR 0.06 W  
ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE ANALYSIS

#### SNOW LOAD INFORMATION:

GROUND SNOW LOAD 30 PSF  
SNOW EXPOSURE FACTOR (Ce) 1.00  
OCCUPANCY CATEGORY I  
SNOW LOAD IMPORTANCE FACTOR (Is) 0.8  
THERMAL FACTOR (Ct) 1.20  
FLAT ROOF SNOW LOAD (Pfl) 20.2 PSF  
BALANCED SNOW LOAD (Ps) 20.2 PSF  
UNBALANCED SNOW LOADS:  
WINDWARD SNOW LOAD 6.0 PSF  
LEEWARD SNOW LOAD (RIDGE TO 7.68') 37.3 PSF  
LEEWARD SNOW LOAD (7.68' TO EAVE) 20.2 PSF

#### SOIL LOAD INFORMATION:

ALLOWABLE NET SOIL BEARING PRESSURE 2,000 PSF (ASSUMED)  
SOILS REPORT AVAILABLE NO  
FOOTING SIZE SEE CALCULATIONS - MIN 10" WIDE

#### ROOF TRUSS DESIGN LOADS:

DESIGN / BALANCED SNOW LOAD (Ps) 20.2 PSF  
UNBALANCED SNOW LOADS SEE SNOW LOAD INFORMATION  
DESIGN DEAD LOADS:  
TOP CHORD 10 PSF  
BOTTOM CHORD 4 PSF  
DEFLECTION LIMITS:  
LIVE LOAD L / 360  
TOTAL LOAD L / 240  
COORDINATE SIZE AND LOCATION OF RTUs, IF ANY, WITH SUPPLIER

### SHOP DRAWING NOTES:

- STRUCTURAL SHOP DRAWINGS, UNLESS NOTED OTHERWISE, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. CONSTRUCTION DOCUMENTS SHALL NOT BE REPRODUCED FOR USE AS SHOP DRAWINGS.
- PRIOR TO SUBMITTAL, THE CONTRACTOR SHALL REVIEW THE SHOP DRAWINGS AND MAKE ANY CORRECTIONS REQUIRED. THE CONTRACTOR SHALL STAMP AND SIGN THE DRAWINGS THAT HE HAS REVIEWED THEM, CONTRACTOR SHALL CLOUD OR FLAG ALL ITEMS NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND SHALL VERIFY ALL DIMENSIONS.
- ANY SHOP DRAWINGS RECEIVED WITHOUT THE CONTRACTOR'S SIGNED REVIEW STAMP, OR OTHER EVIDENCE THAT THE CONTRACTOR HAS NOT THOROUGHLY REVIEWED THE DRAWINGS PRIOR TO SUBMITTAL, SHALL BE IMMEDIATELY RETURNED WITHOUT ENGINEER'S REVIEW.
- ANY CHANGES, SUBSTITUTIONS OR DEVIATIONS FROM THE ORIGINAL CONTRACT DRAWINGS SHALL BE CLOUDED BY THE MANUFACTURER OR FABRICATOR, ANY CHANGES, SUBSTITUTIONS, OR DEVIATIONS WHICH ARE CLOUDED OR FLAGGED BY SUBMITTING PARTIES SHALL NOT BE CONSIDERED APPROVED AFTER THE ENGINEER'S REVIEW, UNLESS SPECIFICALLY NOTED BY THE ENGINEER.
- THE APPROVED SHOP DRAWINGS DO NOT REPLACE THE ORIGINAL CONTRACT DRAWINGS. ITEMS OMITTED OR SHOWN INCORRECTLY ARE NOT TO BE CONSIDERED CHANGES TO THE ORIGINAL CONTACT DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE ITEMS OMITTED OR SHOWN INCORRECTLY ARE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DRAWINGS.
- SHOP DRAWING REVIEW IS ONLY INTENDED FOR GENERAL CONFORMANCE TO THE DESIGN CONCEPT AND CONSTRUCTION DOCUMENTS.
- SHOP DRAWING WILL BE RETURNED FOR RESUBMITTAL IF MAJOR ERRORS ARE FOUND DURING REVIEW.
- ALLOW A MINIMUM OF (10) WORKING DAYS FOR REVIEW OF SHOP DRAWINGS BY THE STRUCTURAL ENGINEER.
- SHOP DRAWINGS SHALL BE FURNISHED FOR ALL STRUCTURAL COMPONENTS INCLUDING, BUT NOT NECESSARILY LIMITED TO:
  - CONCRETE MIX DESIGN
  - CONCRETE REINFORCEMENT
  - PRECAST CONCRETE COLUMNS, BEAMS, AND FLOOR PLANK
  - STRUCTURAL STEEL
  - FLOOR TRUSSES
  - ROOF TRUSSES

### GENERAL STRUCTURAL NOTES:

- ALL MATERIALS, CONSTRUCTION, AND DETAILS SHALL CONFORM TO THE FOLLOWING:
  - PLANS AND SPECIFICATIONS
  - 2015 INTERNATIONAL BUILDING CODE
  - OSHA REGULATIONS
  - ALL LOCAL AND SAFETY CODES
- CONTRACTOR SHALL CROSS CHECK WITH ARCHITECTURAL, HVAC, AND PLUMBING PLANS FOR OTHER DETAILS, DIMENSIONS, ELEVATIONS, INSERTS, STEEL, STAIRS, AND BRICK LEDGES, ETC. ARCHITECT OR ENGINEER SHALL BE NOTIFIED OF ANY VARIANCE BEFORE CONTRACTOR BEGINS WORK. RESOLVE APPARENT DEFICIENCIES, OMISSIONS, CONTRADICTIONS, INCONSISTENCIES AND AMBIGUITIES IN CONTRACT DOCUMENTS WITH ARCHITECT / ENGINEER DURING THE BID PERIOD. IF ANY SUCH CONDITION CANNOT BE RESOLVED DURING THE BID PERIOD, SUBMIT BID USING THE INTERPRETATION RESULTING IN THE GREATEST COST AND RESOLVE SUCH ITEMS PRIOR TO BEGINNING THE WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON NEW OR EXISTING STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.
- THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNING AND FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION MEANS AND/OR SEQUENCES. THE STRUCTURAL ENGINEER ASSUMES NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION.
- DIMENSIONS SHOWN ON ARCHITECTURAL DRAWINGS SUPERCEDE DIMENSIONS SHOWN ON STRUCTURAL PLANS. RESOLVE DISCREPANCIES W/ ENGINEER BEFORE PROCEEDING. DO NOT SCALE THE DRAWINGS.
- THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION. NOTIFY THE ARCHITECT AND ENGINEER OF ANY DISCREPANCY IMMEDIATELY.
- IN NO CASE SHALL STRUCTURAL REPAIRS, CORRECTIONS, ALTERATIONS OR WORK AFFECTING A STRUCTURAL MEMBER BE MADE UNLESS APPROVED BY THE ENGINEER. SUBMIT DETAILS AND CALCULATIONS PREPARED BY A PROFESSIONAL ENGINEER AND PAID FOR BY THE CONTRACTOR. A/E DESIGN OR REVIEW IS CONTRACTOR'S EXPENSE.
- THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL BUILDING MATERIALS AND COMPONENTS. COMPONENT LOCATIONS ARE SHOWN FOR DESIGN INTENT. NOT EXACT LOCATION, UNLESS NOTED SPECIFICALLY. INDEPENDENTLY PREPARED SHOP DRAWINGS ARE REQUIRED OF ALL TRADES FOR COORDINATION AND BEST PRACTICE. ERRORS OR OMISSIONS IN INSTALLATION DUE TO CONTRACTOR'S FAILURE TO COORDINATE THE WORK WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES BUT IS NOT LIMITED TO THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS, OR TIE-DOWNS AS MAY BE NECESSARY. ALL CONSTRUCTION AND ERECTION TO CONFORM TO OSHA REQUIREMENTS.
- CONSTRUCTION MEANS AND METHODS ARE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE ENGINEERED AND PROVIDED BY THE TRADE CONTRACTOR REQUIRING SUCH. SUCH WORK INCLUDES BUT IS NOT LIMITED TO:
  - EVALUATION OF STRUCTURE FOR CONSTRUCTION EQUIPMENT LOADS SUCH AS CEMENT BUGGIES, FORKLIFTS, MATERIAL STOCKPILES, ETC.
  - EVALUATION OF STRUCTURE AND INSTALLATION OF ANY NECESSARY SHORING FOR MOVING LOADS DURING INSTALLATION OF HEAVY EQUIPMENT.
- CONNECTORS:
  - FOR EXTERIOR AND INTERIOR APPLICATIONS WHERE EXPOSED TO MOISTURE (E.G. WOOD DECKS AND POSTS), WHERE PRESSURE TREATED WOOD IS USED, AND FOR INTERIOR CORROSIVE ENVIRONMENTS ALL CONNECTORS SHALL BE HOT DIPPED GALVANIZED PER ASTM A 153A / 153M INCLUDING EXPANSION BOLTS, ANCHOR BOLTS, JOIST HANGERS, AND NAILS.
  - CONNECTION DESIGN TO STRUCTURAL MEMBERS AND EVALUATION OF STRUCTURAL MEMBER ADEQUACY BY A REGISTERED PROFESSIONAL ENGINEER SHALL BE PROVIDED BY ALL TRADE SUBCONTRACTORS REQUIRING THE CONNECTION.
  - INSTALLER OF ANCHORS OR CONNECTIONS TO STRUCTURE IS RESPONSIBLE FOR ANCHOR DESIGN AND DETERMINATION OF STRUCTURAL COMPONENT ADEQUACY. DO NOT CUT REINFORCING BARS, PRESTRESS REINFORCING IN PRECAST MEMBERS, OR DAMAGE OTHER EMBEDMENTS.
- ALL SUPPORTS, FRAMING, SUB-FRAMING, LIGHT GAGE FRAMING, MISCELLANEOUS STEEL FRAMING, METAL FABRICATIONS, BRACING, BRACKETS, HANGERS, CONNECTORS, EMBEDMENTS, FASTENERS, AND ATTACHMENTS NOT SHOWN ON THE STRUCTURAL DRAWINGS ARE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE ENGINEERED AND PROVIDED BY THE TRADE CONTRACTOR REQUIRING THE ITEM. COMPLY WITH GOVERNING CODES.
- WHERE DIMENSIONS OR WEIGHTS OF EQUIPMENT OR SYSTEMS ARE VARIABLE FROM MANUFACTURER TO MANUFACTURER, VERIFY DIMENSIONS AND WEIGHTS SHOWN ON DRAWINGS WITH SELECTED MANUFACTURER PRIOR TO ORDERING MATERIALS. NOTIFY ARCHITECT / ENGINEER OF DISCREPANCIES.
- DO NOT SUSPEND POINT LOADS FROM ROOF OR FLOOR DECKS, POINT LOADS INCLUDE, BUT ARE NOT LIMITED TO: HANGERS FOR CEILINGS, PIPES, DUCTS, STEEL STUDS, EQUIPMENT, ETC. CONTRACTOR INSTALLING SUCH POINT LOADS SHALL PROVIDE SUB-FRAMING TO TRANSFER LOAD TO THE STRUCTURE SUPPORTING DECK.

### MATERIAL DESIGN PROPERTIES:

#### REINFORCING STEEL STRENGTHS:

BAR (ASTM A 615, GRADE 60)  $F_y = 60,000$  PSI  
WELDED WIRE MESH (ASTM A 185)  $F_y = 65,000$  PSI

#### STRUCTURAL MASONRY STRENGTHS:

ASTM C 90, GRADE N CMU  $f_m = 1,500$  PSI  
MORTAR (ASTM C 270)  
TYPE M (BELOW GRADE)  $f_u = 2,500$  PSI  
TYPE S (ABOVE GRADE)  $f_u = 1,800$  PSI  
GROUT (ASTM C 476)  
BOND BEAMS (PEA GRAVEL)  $f_c = 3,000$  PSI  
MASONRY WALLS & PIERS (PEA GRAVEL)  $f_c = 3,000$  PSI

# STRUCTURAL NOTES

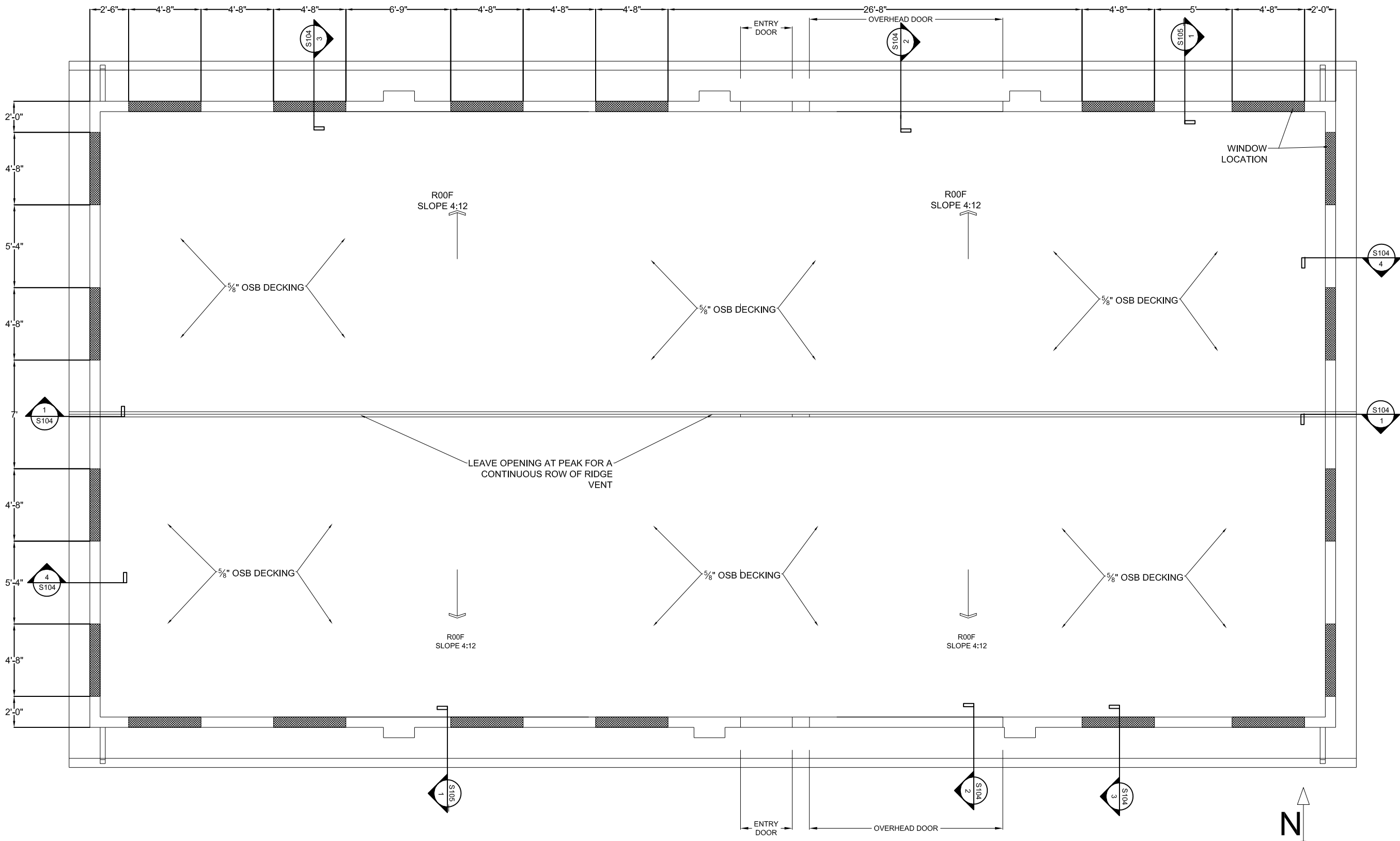


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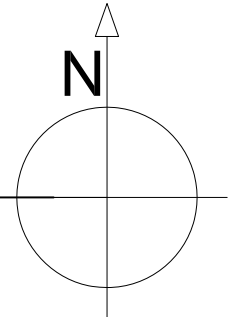
SHT  
S101



1

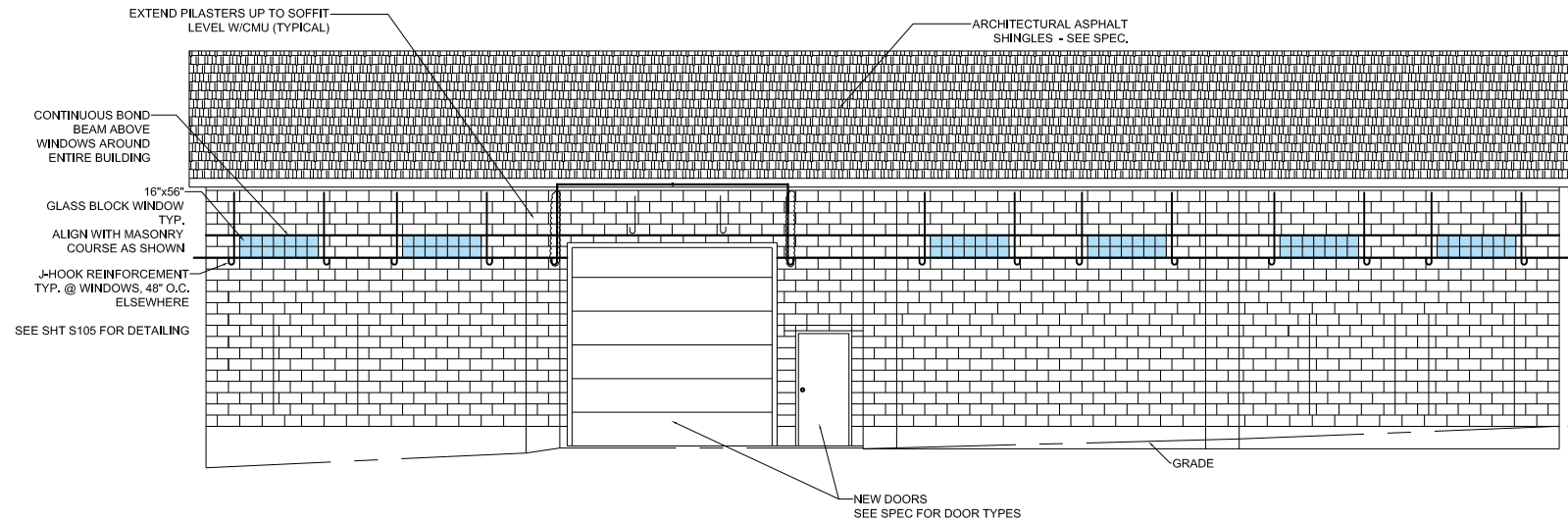
# NORTH BUILDING - ROOF PLAN

SCALE: NOT TO SCALE

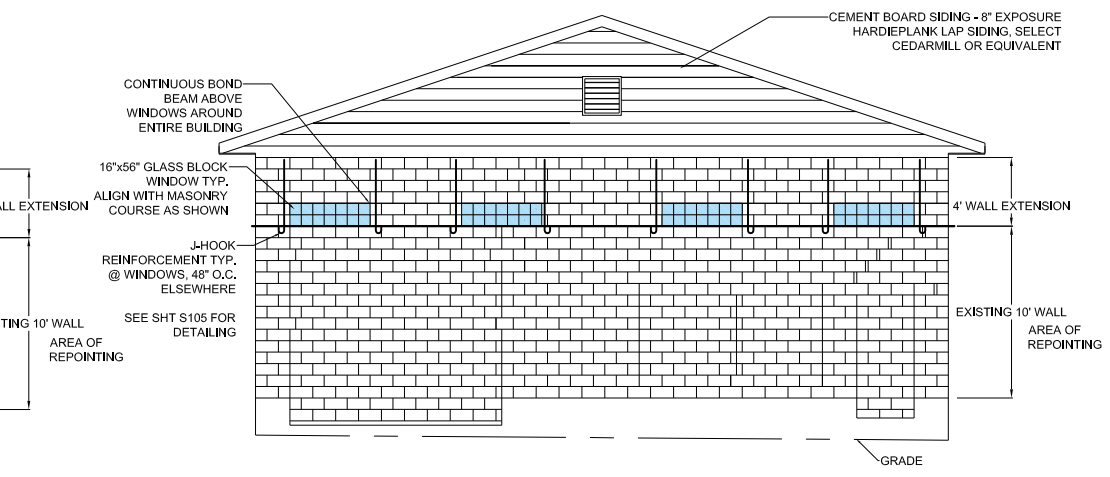




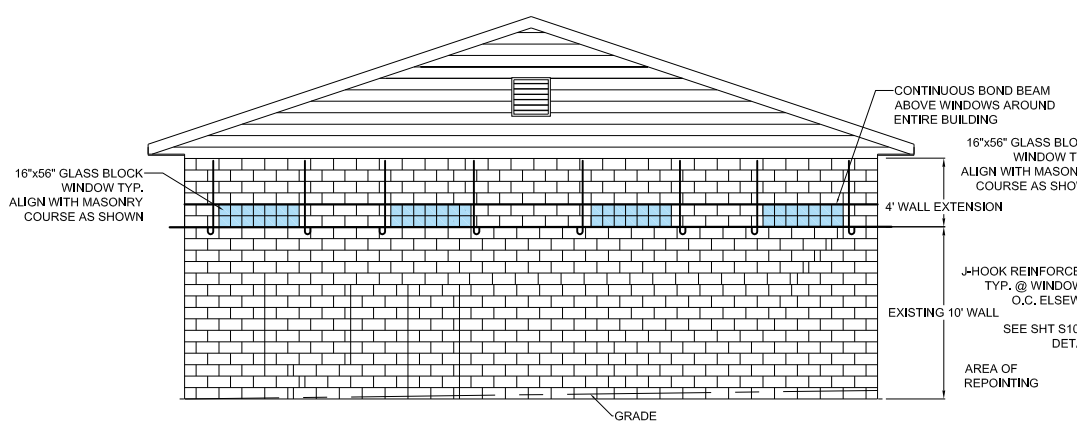
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 DATE: 1/12/2018  
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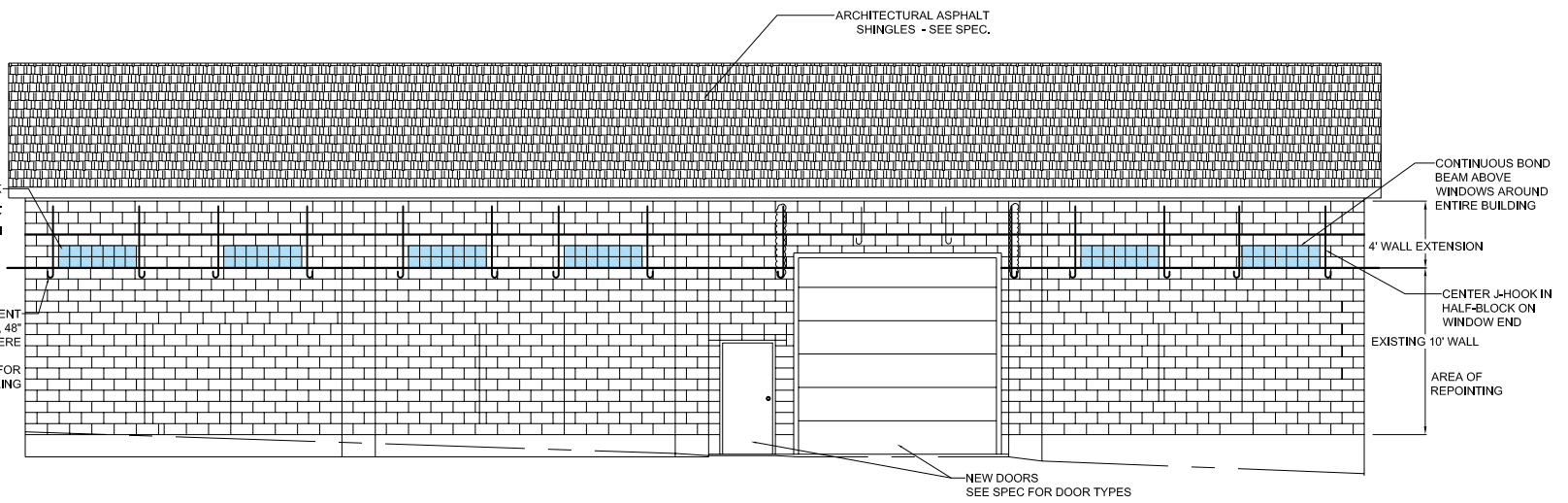
**1** NORTH BUILDING - NORTH STRUCTURAL ELEVATION  
 SCALE: NOT TO SCALE



**2** NORTH BUILDING - EAST STRUCTURAL ELEVATION  
 SCALE: NOT TO SCALE



**3** NORTH BUILDING - WEST STRUCTURAL ELEVATION  
 SCALE: NOT TO SCALE



**4** NORTH BUILDING - SOUTH STRUCTURAL ELEVATION  
 SCALE: NOT TO SCALE

NOTE: J-HOOKS MAY BE INSTALLED GREATER THAN 48" ON CENTER AT EACH END OF THE GLASS BLOCK WINDOWS AS SHOWN. THEY SHALL BE INSTALLED IN THE ADJOINING CMU UNITS APPROXIMATELY 4 INCHES FROM THE GLASS BLOCK. FOR ALL OTHER LOCATIONS INCLUDING THE DOOR LINTELS, J-HOOKS SHALL BE EVENLY SPACED WITH A MAXIMUM SPACING OF 48" ON CENTER. ALL J-HOOKS SHALL BE INSTALLED AT THE ELEVATION NOTED IN DETAIL 2/S104 & 1/S105 WITH SHORTER J-HOOK LENGTHS TO COMPENSATE FOR THE SHORTER DISTANCE AT THE LINTELS.

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SHT  
 S102

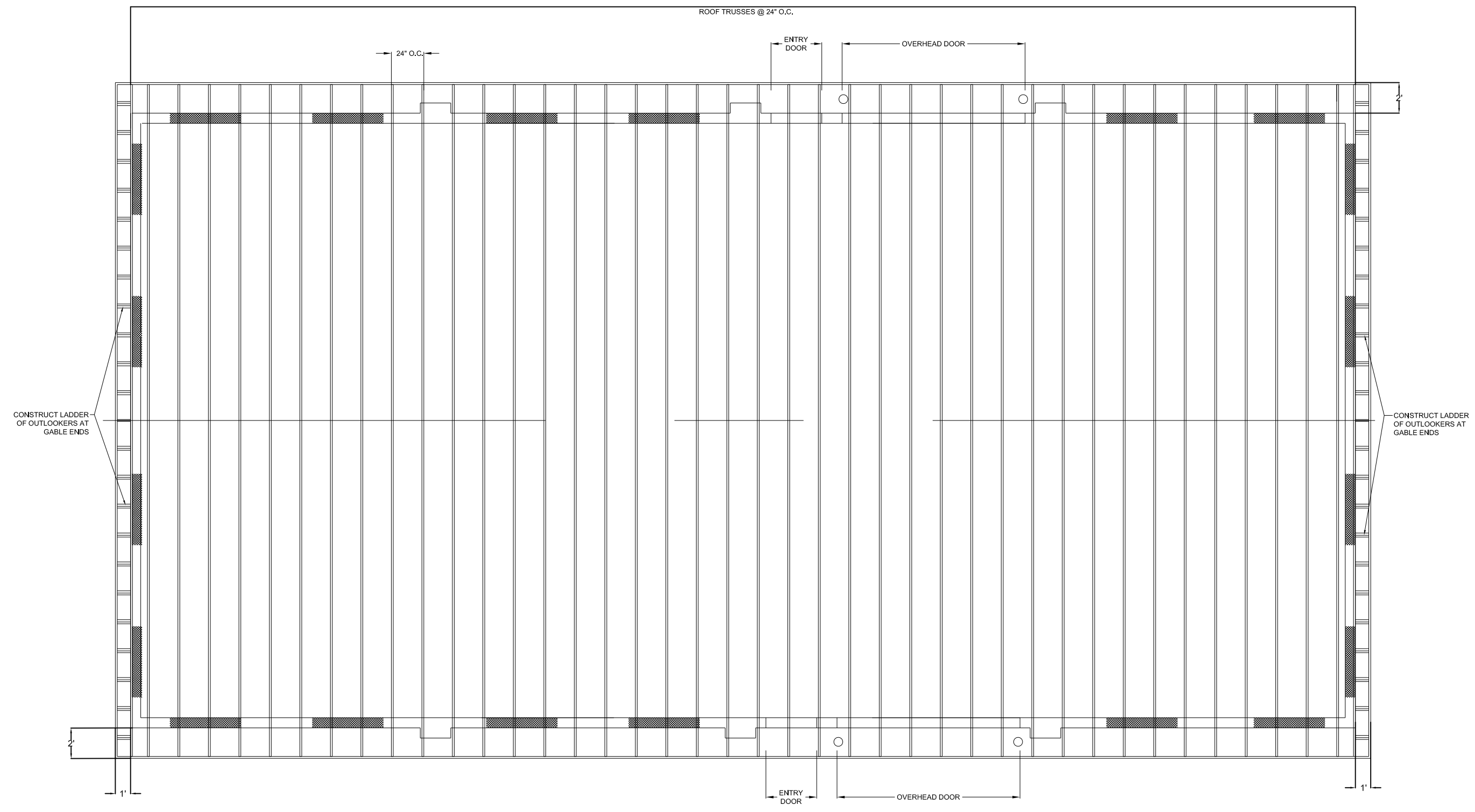


DRAWN BY: PBS  
DATE: 1/10/2018  
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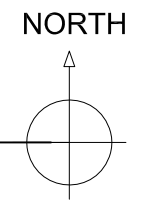
SHT  
S103



1

# NORTH BUILDING - ROOF FRAMING PLAN

SCALE: NOT TO SCALE



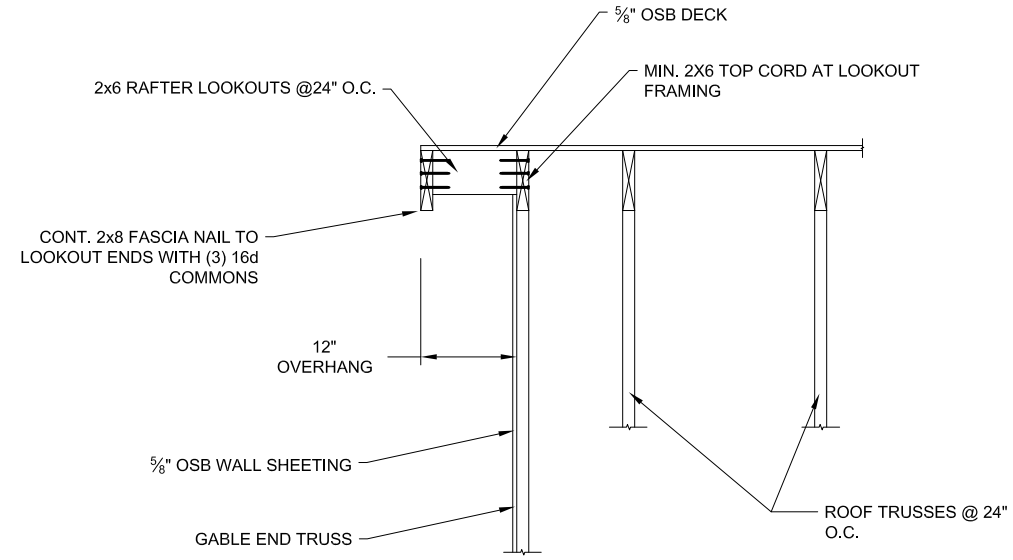


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DATE: 1/12/2018  
REVISED:

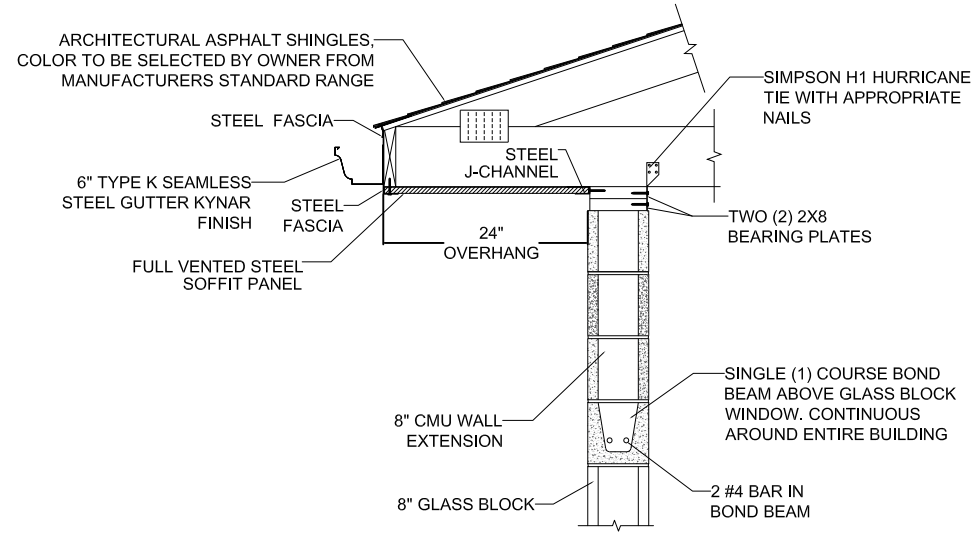
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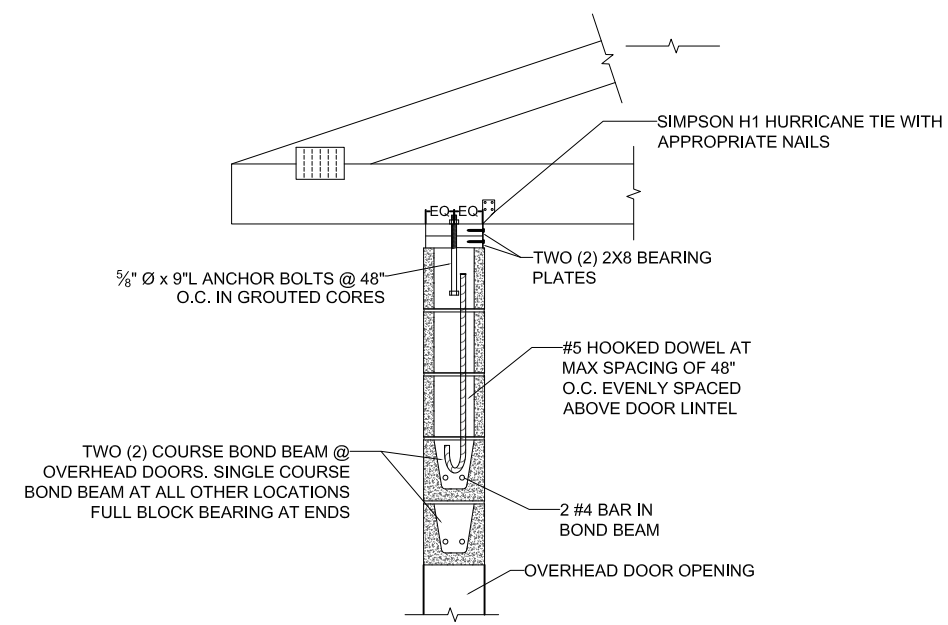
SHT  
S104



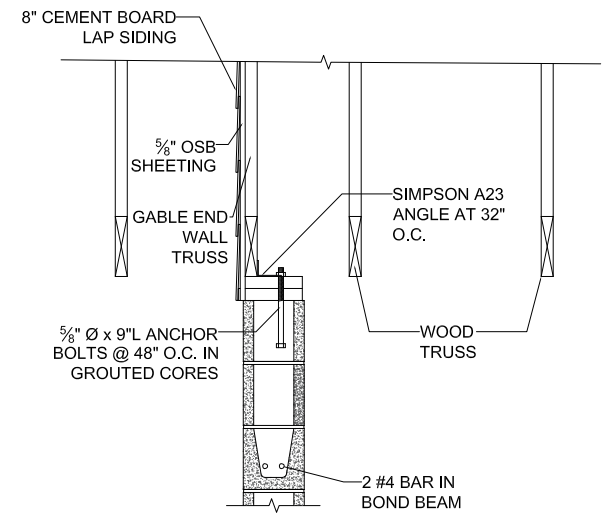
1 GABLE END FRAMING  
S104 1/2" = 1'-0"



3 CMU WALL @ GLASS BLOCK WINDOW  
S104 1/2" = 1'-0"



2 CMU WALL EXTENSION @ O.H. DOOR  
S104 1/2" = 1'-0"



4 TRUSS TO END WALL CONNECTION  
S104 1/2" = 1'-0"

# NORTH BUILDING - STRUCTURAL DETAILS

NOTE: ALL DIMENSIONS SHOULD BE FIELD VERIFIED BY CONTRACTOR



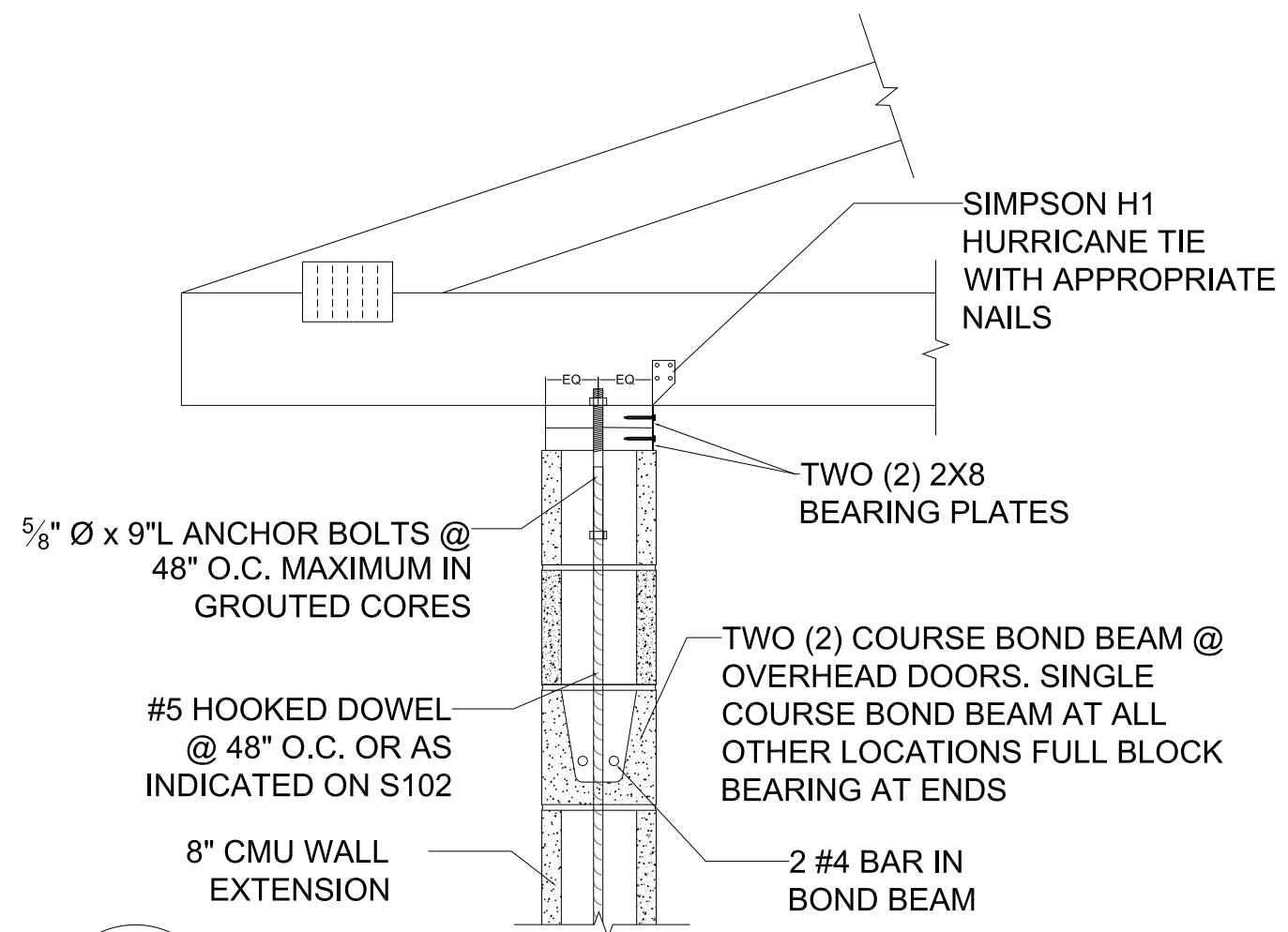
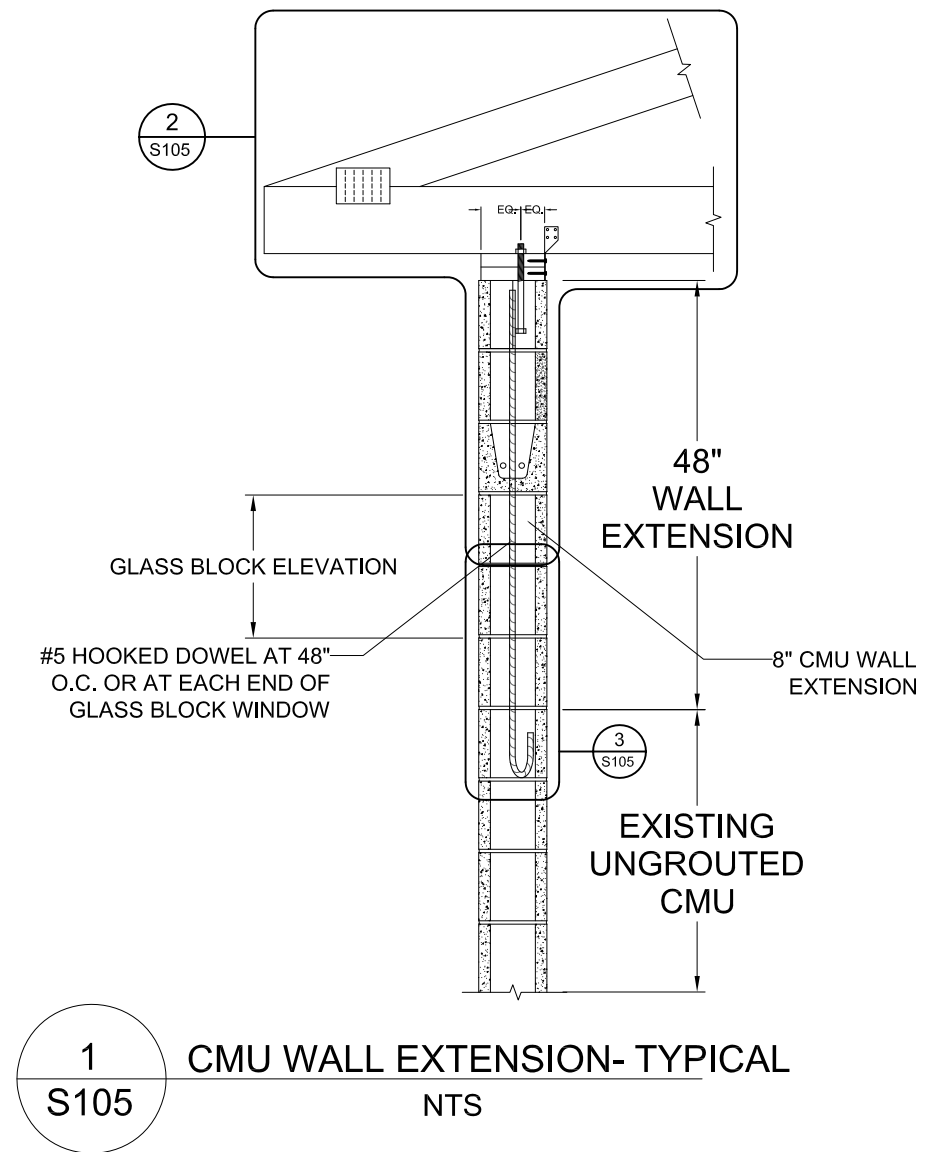
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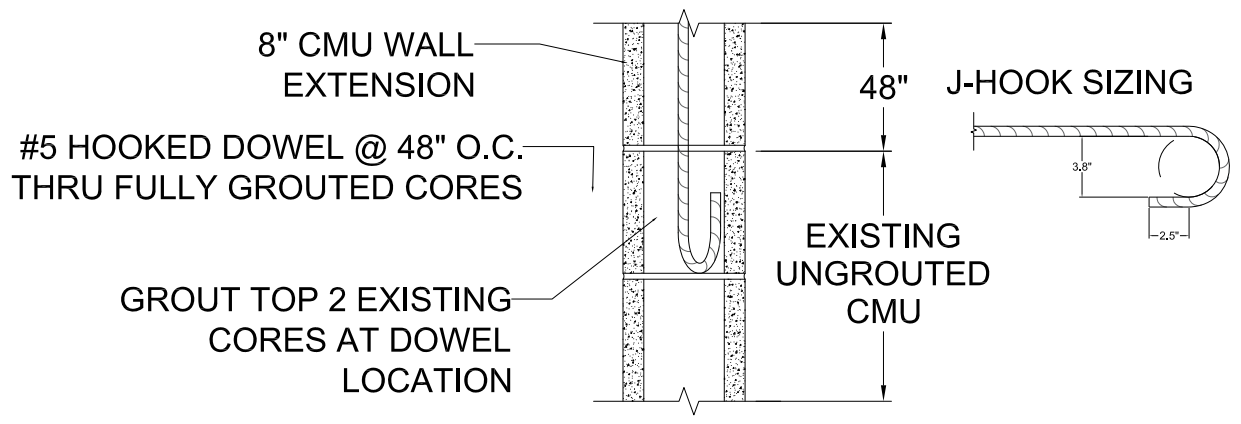
SHT  
 S105



2  
S105

CMU WALL EXTENSION- TYPICAL

1"=1'0"



3  
S105

CMU WALL EXTENSION- TYPICAL

1"=1'0"

# NORTH BUILDING - WALL DETAILS



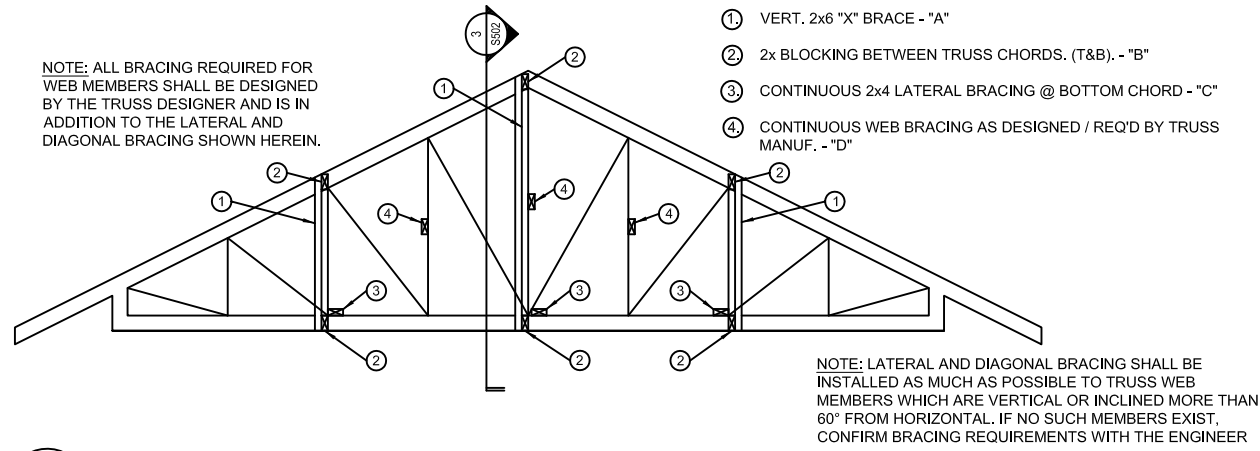
DRAWN BY: PBS  
 DATE: 1/14/2018  
 REVISED:

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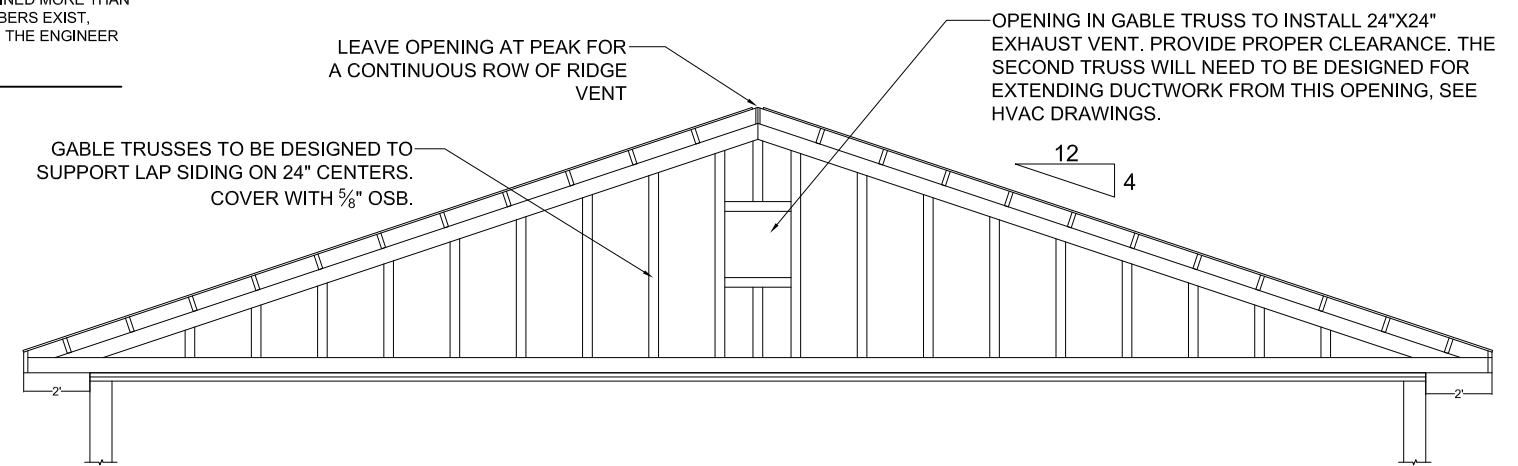
1902 Freeport Rd. Madison, WI CONTRACT#:8152

SHT

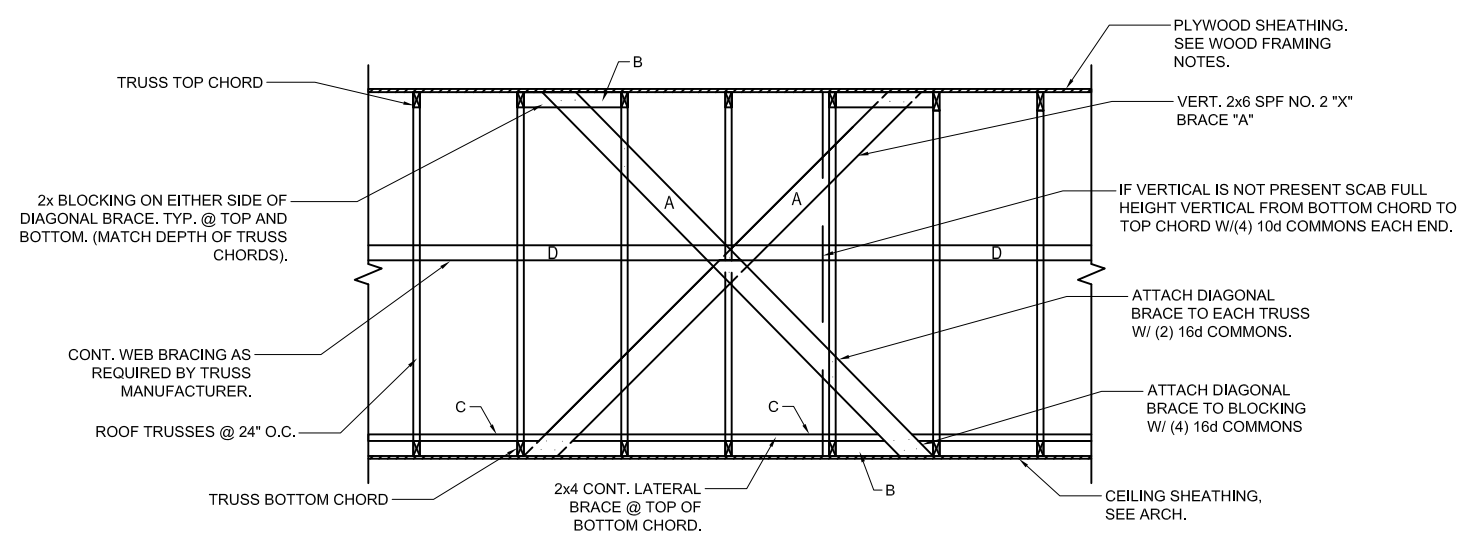
S106



1 PERMANENT DIAGONAL TRUSS BRACING  
 S106 NOT TO SCALE



3 TYPICAL GABLE END TRUSS  
 S106 NOT TO SCALE



2 PERMANENT DIAGONAL ROOF TRUSS BRACING  
 S106 NOT TO SCALE

NORTH BUILDING - TRUSS DETAIL 1

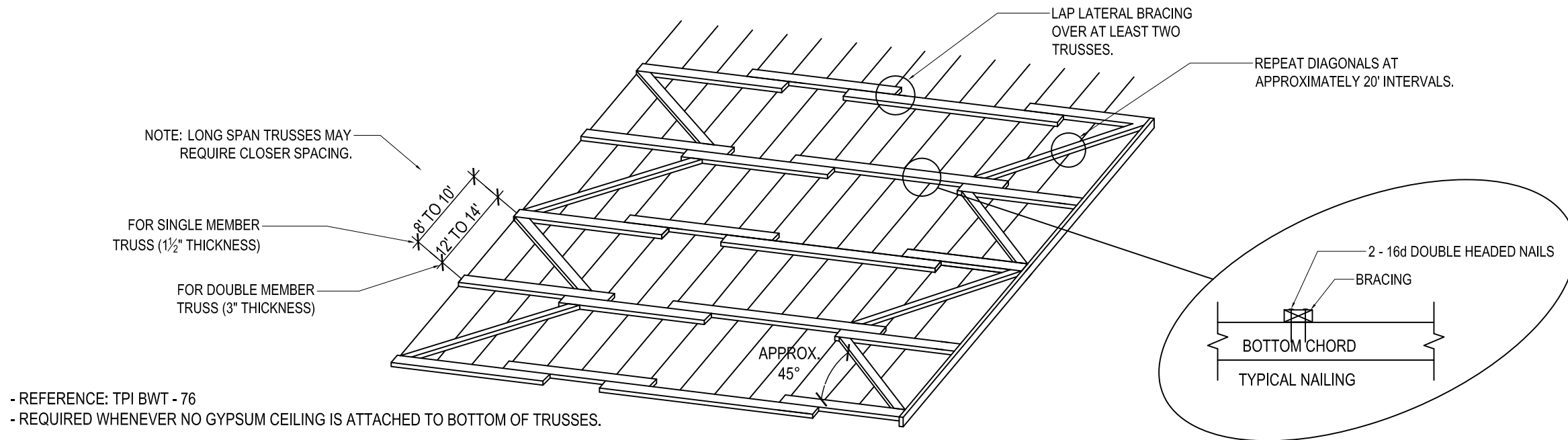


DRAWN BY: PBS  
 DATE: 1/12/2018  
 REVISED:

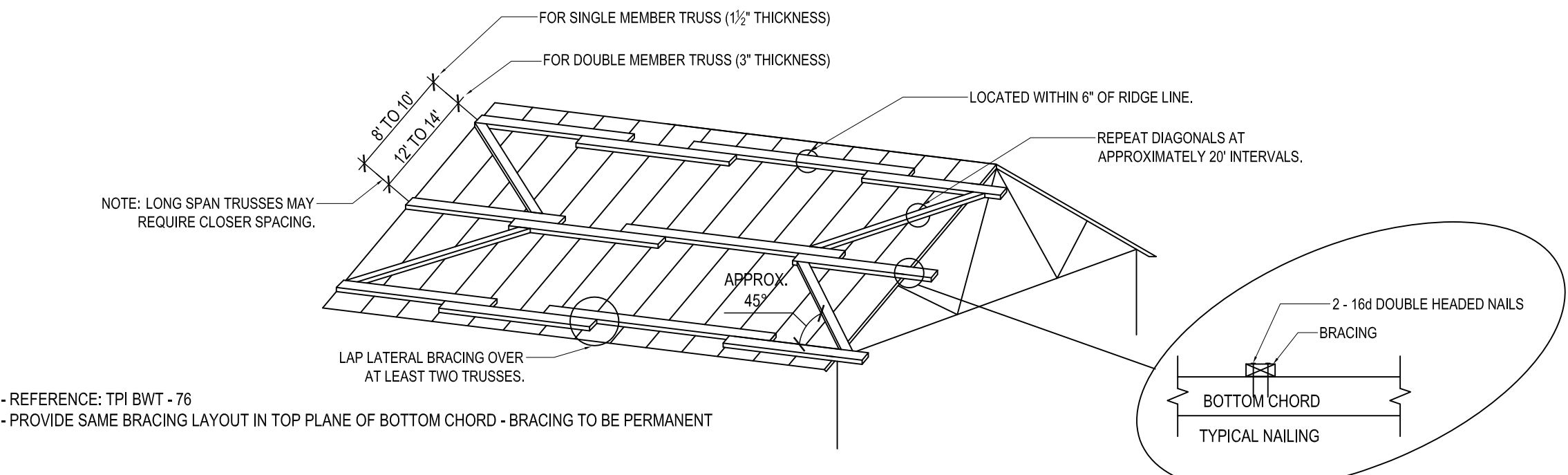
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SHT  
 S107



**1** PERMANENT BOTTOM CHORD GABLE TRUSS BRACING  
 S107 1/4" - 1'-0"



**2** TEMPORARY TOP CHORD TRUSS BRACING  
 S107 1/4" - 1'-0"

**NORTH BUILDING - TRUSS DETAIL 2**



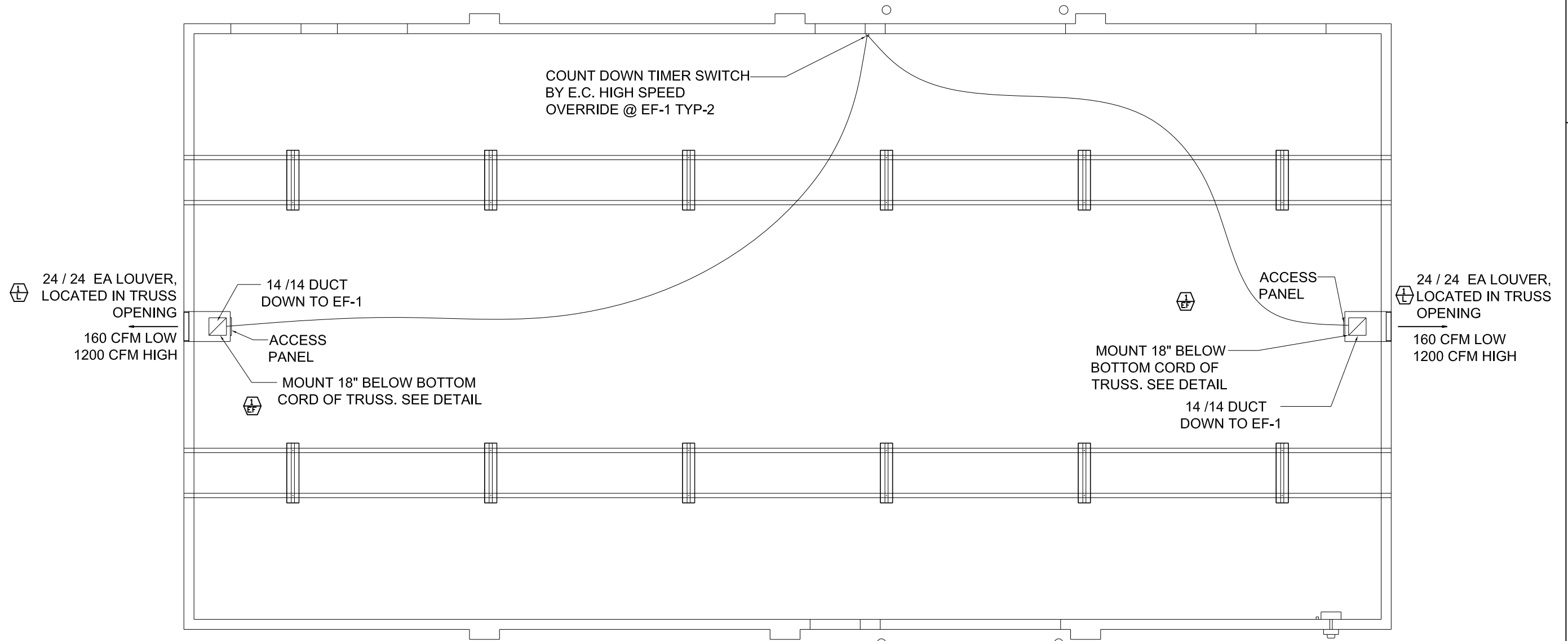


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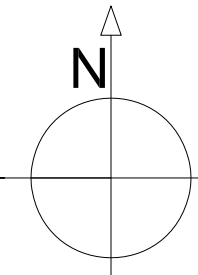
SHT  
M100



1

NORTH BUILDING - HVAC FLOOR PLAN

SCALE: NOT TO SCALE



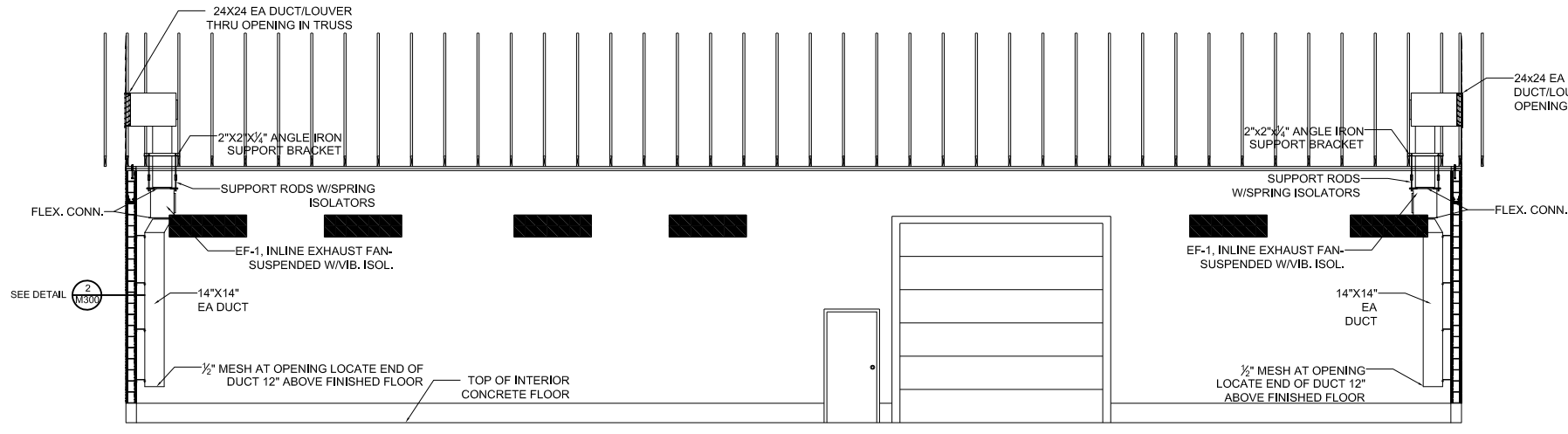


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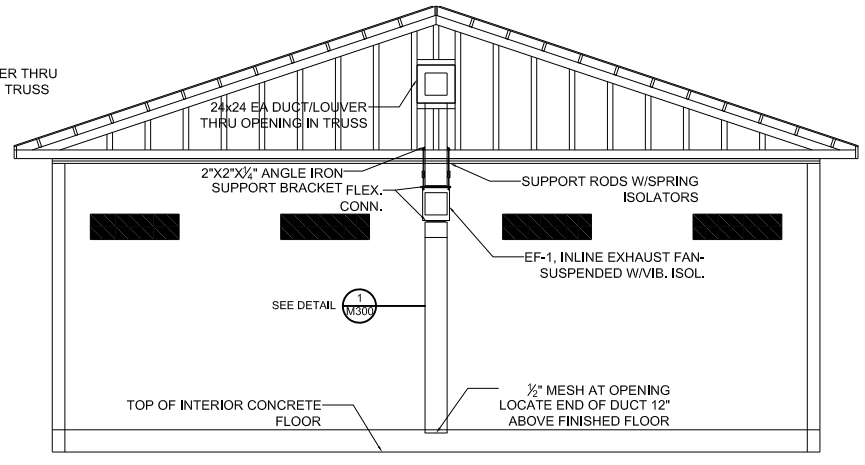
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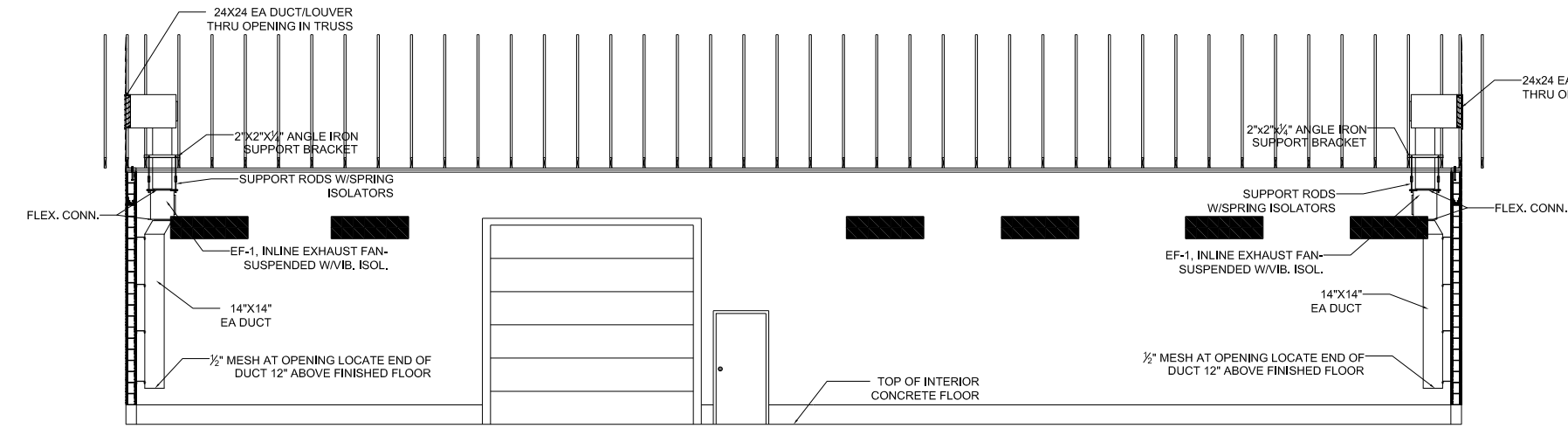
SHT  
 M200



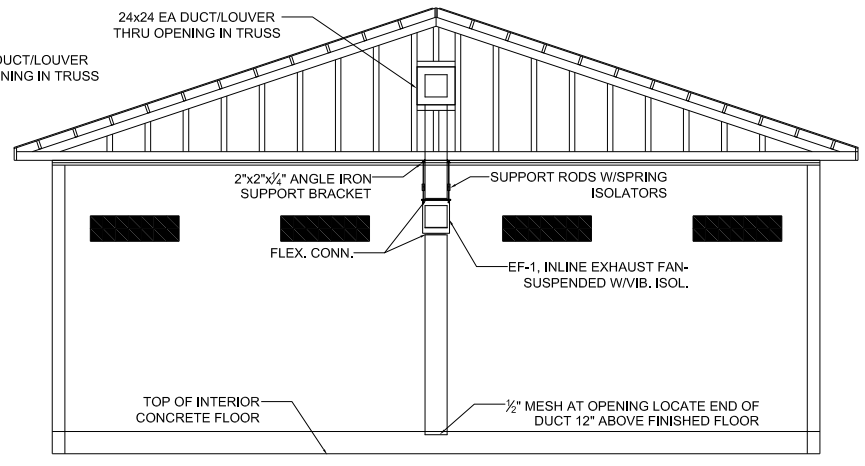
**1** NORTH BUILDING - NORTH INTERIOR HVAC ELEVATION  
 SCALE: NOT TO SCALE



**2** NORTH BUILDING - WEST INTERIOR HVAC ELEVATION  
 SCALE: NOT TO SCALE



**3** NORTH BUILDING - SOUTH INTERIOR HVAC ELEVATION  
 SCALE: NOT TO SCALE



**4** NORTH BUILDING - EAST INTERIOR HVAC ELEVATION  
 SCALE: NOT TO SCALE



## LOUVER SCHEDULE

| TAG | MANUFACTURER  | MODEL | TYPE  | METAL         | LOUVER<br>DEPTH x W x HT | FREE<br>AREA S.F. | SERVICE        | REMARKS |
|-----|---------------|-------|-------|---------------|--------------------------|-------------------|----------------|---------|
| L-1 | VENT PRODUCTS | 2730  | STAT. | EXT.<br>ALUM. | 4" x 24" x 24"           | 1.76              | EXHAUST<br>AIR | ①②      |

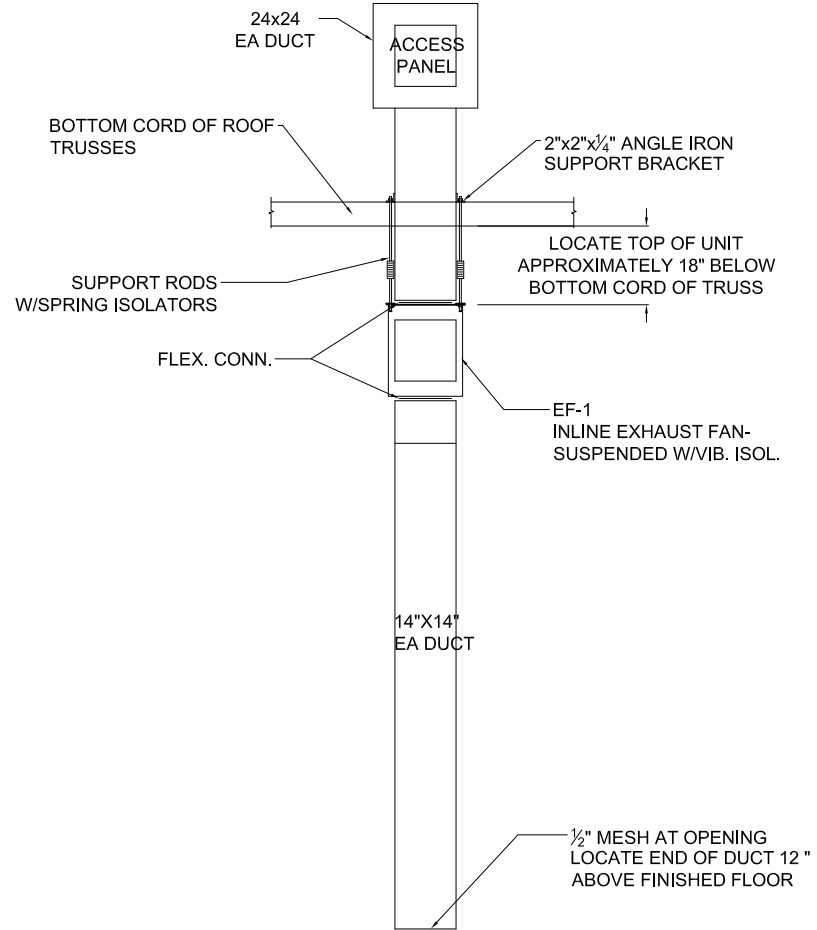
- ① BIRD SCREEN - ALUM.
- ② POWDER COAT BAKED ENAMEL FINISH; FINAL COLOR SELECTION BY ARCHITECT.

## EXHAUST FANS SCHEDULE

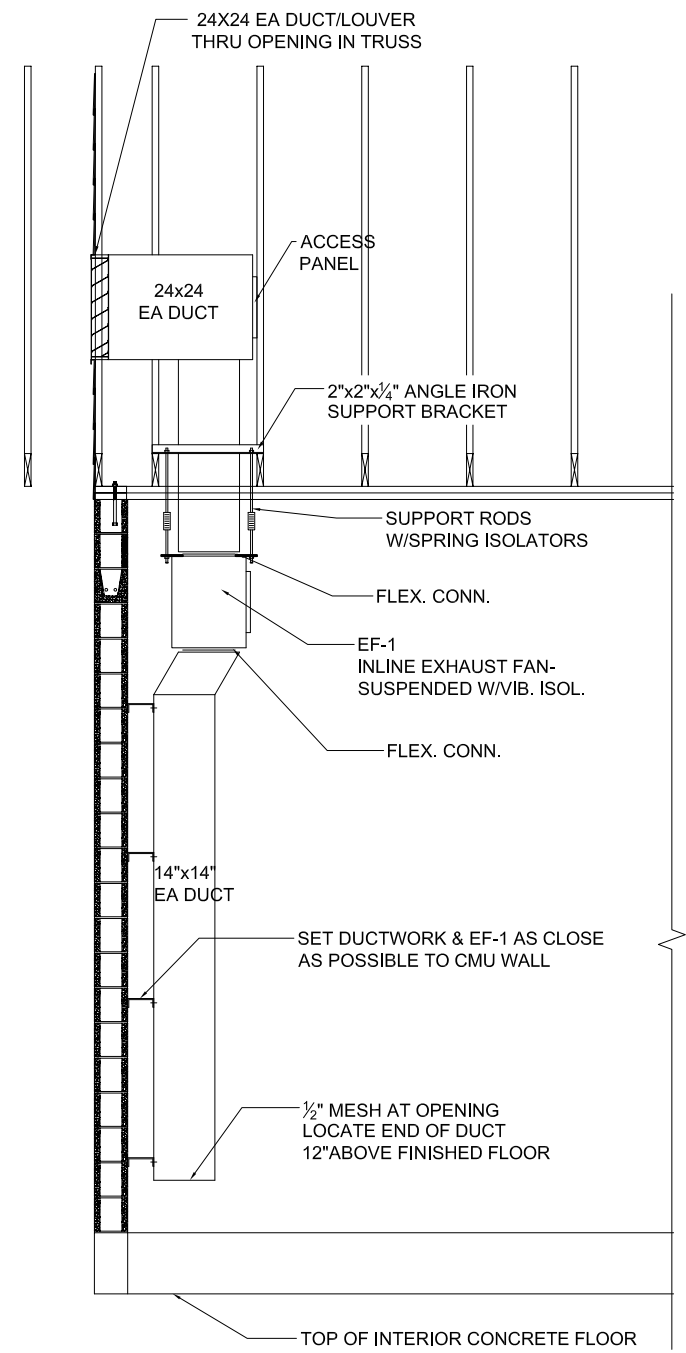
|                        |                                 |
|------------------------|---------------------------------|
| TAG                    | EF-1                            |
| MANUFACTURER           | GREENHECK                       |
| MODEL NO.              | SQ-100-VG                       |
| AREA SERVED            | STORAGE<br>BLDG                 |
| CFM                    | 160/1200 (LO/HIGH)              |
| ESP *WG                | 1/4"                            |
| RPM                    | 1567 (HIGH)                     |
| MOUNTING               | SPRING VIB.<br>HANGERS          |
| DRIVE                  | DIRECT                          |
| SONES (INLET/RADIATED) | 10.0/7.9                        |
| <u>ELECTRICAL:</u>     |                                 |
| MOTOR HP (BHP)         | 1/4 (0.13)                      |
| FAN F.L.A.             | 3.7                             |
| VOLTAGE/PHASE          | 115/1                           |
| CONTROL                | LOW-CONTINUOUS<br>HIGH-TIMER SW |
| <u>REMARKS:</u>        | INLINE EF<br>①②③④               |

NOTE: ALL EF LINE VOLTAGE CONTROLS WIRED BY E.C.

- ① TWO-SPEED MOTOR CONTROL.
- ② ECM MOTOR WITH UNIT-MOUNTED POTENTIOMETERS FOR BALANCING.
- ③ SPRING/NEOPRENE VIBRATION ISOLATION HANGERS.
- ④ NEMA 1 DISCONNECT SWITCH UNIT-MOUNTED.



1 EA1 ELEVATION DETAIL TYPICAL  
M300 SIDE VIEW NOT TO SCALE



2 EF-1 ELEVATION DETAIL -TYPICAL  
M300 END VIEW NOT TO SCALE

# HVAC DETAIL & SCHEDULES

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SHT  
 M300

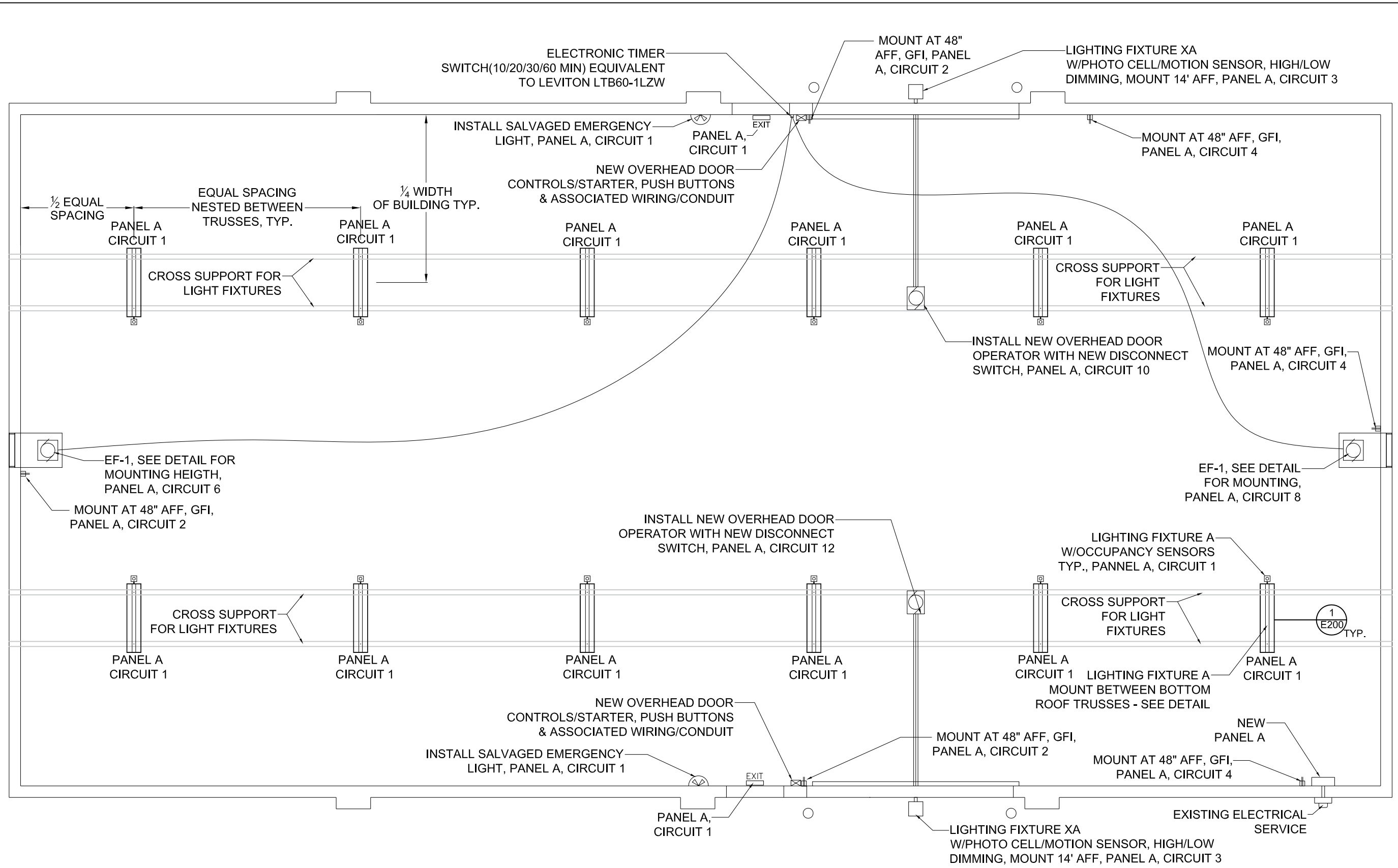


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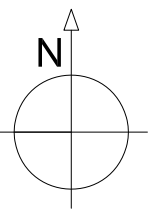
SHT  
 E100



1

NORTH BUILDING - ELECTRICAL FLOOR PLAN

SCALE: NOT TO SCALE





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DATE: 1/12/2018  
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CONTRACT#: 8152

1902 Freepport Rd. Madison, WI

SHT  
E200

### ELECTRICAL MOTOR/EQUIPMENT SCHEDULE

|                   |                                  |
|-------------------|----------------------------------|
| TAG               | 1                                |
| PANEL NO.         | A                                |
| CIRCUIT           | 8                                |
| BREAKER           | 15                               |
| POLE              | 1                                |
| <b>WIRING</b>     |                                  |
| NO. ①             | 2+G (#12)                        |
| TYPE              | THHN                             |
| SIZE              | #12                              |
| COND.             | 1/2"                             |
| <b>ELECTRICAL</b> |                                  |
| HP                | 1/4                              |
| VOLT              | 115                              |
| PHASE             | 1                                |
| FLA (MCA)         | 3.7 (4.6)                        |
| <b>STARTER</b>    |                                  |
| TYPE              | N.R.                             |
| SIZE              | -                                |
| BY                | -                                |
| <b>CONTROL</b>    | LOW SPEED-CONT<br>HI SPEED-TIMER |
| TYPE              |                                  |
| BY                | E.C.                             |
| <b>DISCONNECT</b> | w/UNIT                           |
| TYPE              |                                  |
| SIZE              | -                                |
| FUSE              | -                                |
| BY                | H.C.                             |
| <b>REMARKS</b>    | EXHAUST FAN<br>EF-1<br>②         |

E.C. = ELECTRICAL CONTRACTOR  
H.C. = HVAC CONTRACTOR  
P.C. = PLUMBING CONTRACTOR  
G.C.=GENERAL CONTRACTOR  
N.R.=NOT REQUIRED  
H.D.=HEAVY DUTY

① PROVIDE GREEN WIRE GROUND TO ALL MOTORS AND EQUIPMENT PER NEC 250-95.  
② PROVIDE ELECTRONIC TIMER SW (10/20/30/60 MIN) FOR EF-1 HIGH SPEED OVERRIDE CONTROL. COORDINATE WIRING WITH HVAC TRADE.

### LIGHTING FIXTURE SCHEDULE

| TAG | LAMPS |      |       |             | MOUNTING     | MFR. & MODEL   | REMARKS   |
|-----|-------|------|-------|-------------|--------------|--|---|
|     | NO.   | TYPE | WATTS | DESCRIPTION |              |  |   |
| A   | -     | LED  | 75    | W/FIXTURE   | SURFACE      | LITHONIA - MSL-8000LM-SBL-MVOLT-GZ10-40K-80 CRI-LBOTU-WH   | (1)(2)(4) 4 FT LOW BAY LED 8000L, 4K                |
| XA  | -     | LED  | 20    | W/FIXTURE   | SURFACE/WALL | LITHONIA - DSXW1-LED-10C-530-40K-TFTM-MVOLT-PIR1FC3V-DDBXD | (1)(3)(5) EXT. WALL LIGHT 2200L, 4K W/HI/LOW DIM-PC |
| ⊗   | -     | LED  | 1     | W/FIXTURE   | SURFACE      | LITHONIA - LV-S-W-1-R-120-ELN-CW                           | (1)(3)(4)(6) EXIT LIGHT W/BATTERY BACKUP            |

**LAMP ABBREVIATIONS:**  
LED=LIGHT EMITTING DIODE

**REMARKS:**

① LED LAMPING/DRIVER.  
② INTEGRAL LOW-BAY OCCUPANCY SENSOR (PIR).  
③ WET LOCATION UL LISTED.  
④ LOW-TEMP OPERATION (-20°F).  
⑤ HIGH/LOW OCCUPANCY SENSOR DIMMING W/PHOTOCELL.  
⑥ EMERGENCY BATTERY BACKUP.

ALL VOLTAGES ARE 120 VOLT UNLESS INDICATED OTHERWISE.

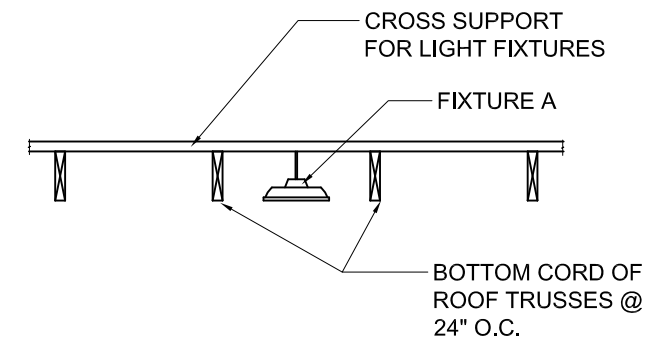
|                   |                      |                        |         |
|-------------------|----------------------|------------------------|---------|
| PANEL 'A'         |                      | AIC=22K W/SERVICE GRND |         |
| AMPS MAIN         | 100                  | VOLTS                  | 120/240 |
|                   | 100                  | PHASE                  | 1       |
| MOUNTING LOCATION | SURFACE STORAGE BLDG |                        |         |

| BRKR | DESCRIPTION       | CIRCUIT |     | PHASELOADS |      | CIRCUIT |      | DESCRIPTION           | BRKR |   |
|------|-------------------|---------|-----|------------|------|---------|------|-----------------------|------|---|
|      |                   | WATT    | NO. | A          | B    | NO.     | WATT |                       | A    | P |
| 20 1 | INTERIOR LTS      | 900     | 1   | 1440       |      | 2       | 540  | RECEPT                | 20   | 1 |
| 20 1 | EXTERIOR BLDG LTS | 40      | 3   |            | 580  | 4       | 540  | RECEPT                | 20   | 1 |
|      |                   |         | 5   | 430        |      | 6       | 430  | EXHAUST FAN EF-1 WEST | 15   | 1 |
|      |                   |         | 7   |            | 430  | 8       | 430  | EXHAUST FAN EF-1 EAST | 15   | 1 |
|      |                   |         | 9   | 800        |      | 10      | 800  | OHD OPERATOR NORTH    | 20   | 1 |
|      |                   |         | 11  |            | 800  | 12      | 800  | OHD OPERATOR SOUTH    | 20   | 1 |
|      |                   |         | 13  |            |      | 14      |      |                       |      |   |
|      |                   |         | 15  |            |      | 16      |      |                       |      | 1 |
|      |                   |         | 17  |            |      | 18      |      |                       |      | 1 |
|      |                   |         | 19  |            |      | 20      |      |                       |      | 1 |
|      |                   |         | 21  |            |      | 22      |      |                       |      | 1 |
|      |                   |         | 23  |            |      | 24      |      |                       |      |   |
|      |                   |         |     | 2670       | 1840 |         |      |                       |      |   |

ESTIMATED DEMAND LOAD: 4,480 WATTS  
18.7 AMPS

TOTAL CONNECTED LOADS: 4,480 WATTS  
18.7 AMPS

| ELECTRICAL SYMBOL SCHEDULE  | SYMBOL GRAPHIC |
|---|----------------|
| Duplex Receptacle, GFI, INSTALL AT 48" OFF FLOOR  |                |
| Occupancy Sensor  |                |
| Emergency Light Fixture, Salvaged   |                |
| Motor Connection, See Equipment Schedule for type, wiring, etc.   |                |
| Exit Light Sign, LED  |                |
| Lighting Fixture A, Interior  |                |
| Lighting Fixture XA, Exterior   |                |
| Electrical Panel A  |                |
| Existing Electrical Meter   |                |
| Overhead Door Controls, Starter, & Push Buttons as supplied by manufacturer, Installation responsibility by G.C. New electrical disconnect supplied by the E.C. |                |



1 LIGHT FIXTURE MOUNTING DETAIL  
E200 NOT TO SCALE

## LIGHTING DETAIL & SCHEDULES