

ADDENDUM NO. 2 - February 5, 2025

Project: Harnett County Public Schools
Flatwood Middle School

From: sfl+a Architects
333 Fayetteville Street, Suite 225
Raleigh, North Carolina 27601
(919) 573-6350



ARCHITECTS

Capital Bank Plaza

333 Fayetteville Street, Suite 225

Raleigh NC 27601

To: Prospective Bidders via Metcon, Inc.

This Addendum forms a part of the Contract Documents and modifies the original Construction Documents sealed and dated 11-08-24. Acknowledge receipt of this Addendum by writing its number and date on the Bid Form. Failure to do so may subject the bidder to disqualification.

This Addendum consists of responses to bidder RFI questions provided by Metcon via an online log.

CONTRACTOR BID QUESTIONS

- 1) There are approximately 264 RFI's from prospective bidders as of 12:05pm on 02-06-25. Please see the attached report on the following pages which includes the mentioned RFI's and responses. Substitution requests will be reviewed during submittal review.

ADDITIONAL INFORMATION

- 1) Drawing sheet revisions are tagged as #6, dated 02-05-25 and labeled "Addendum 2."
- 2) Specification revisions are noted as "Addendum 2" in the header of the revised section and the Table of Contents.

ATTACHMENTS

- 1) Metcon RFI log (16 pages, 264 Items).
- 2) 9 Specification revisions
- 3) Sheet revisions:
 - a. Civil - School Building
 - b. Structural- School Building
 - c. Architectural- School Building
 - d. Mechanical- School Building
 - e. Electrical- School Building
 - f. Fire Alarm- School Building
 - g. Electrical - Fieldhouse Building

END OF ADDENDUM 2

E

D

C

B

A

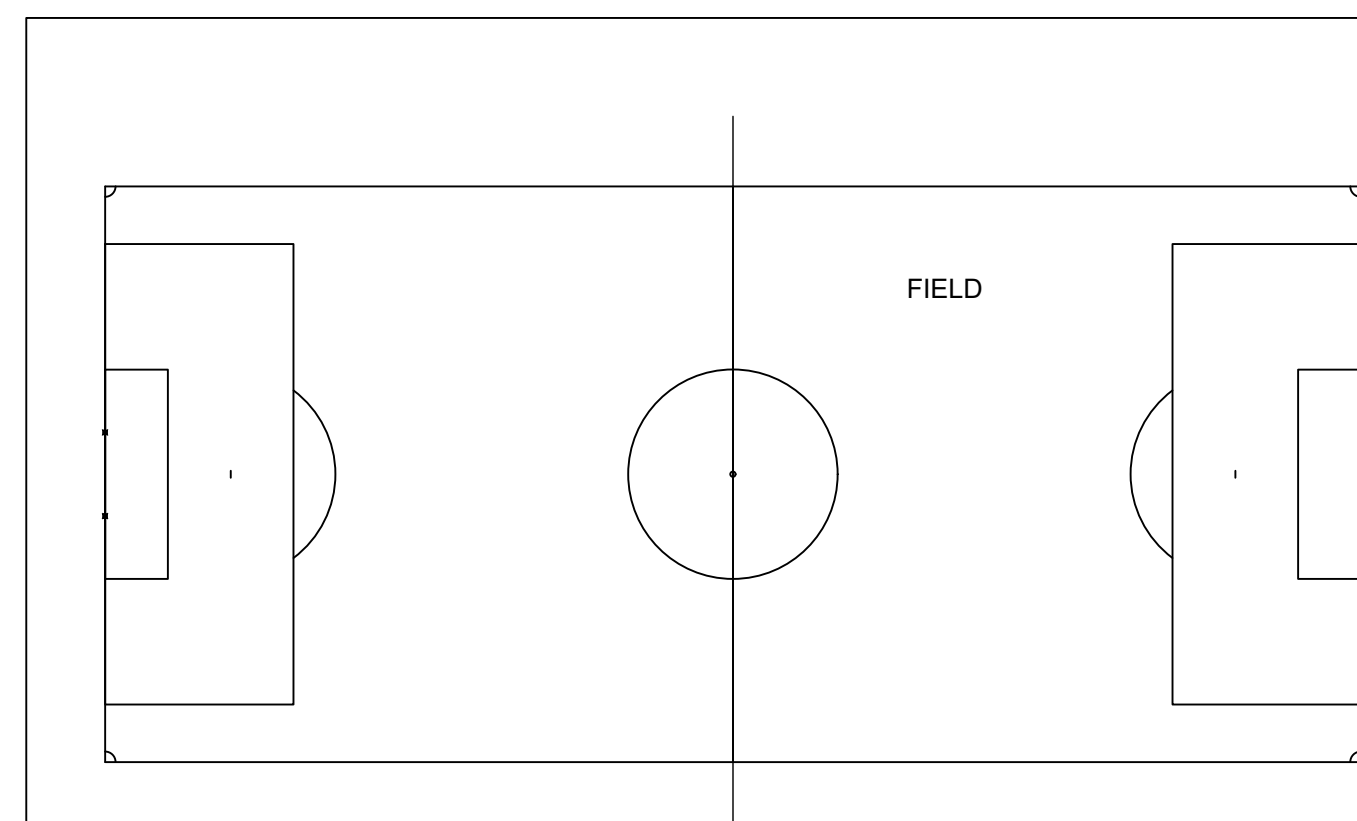
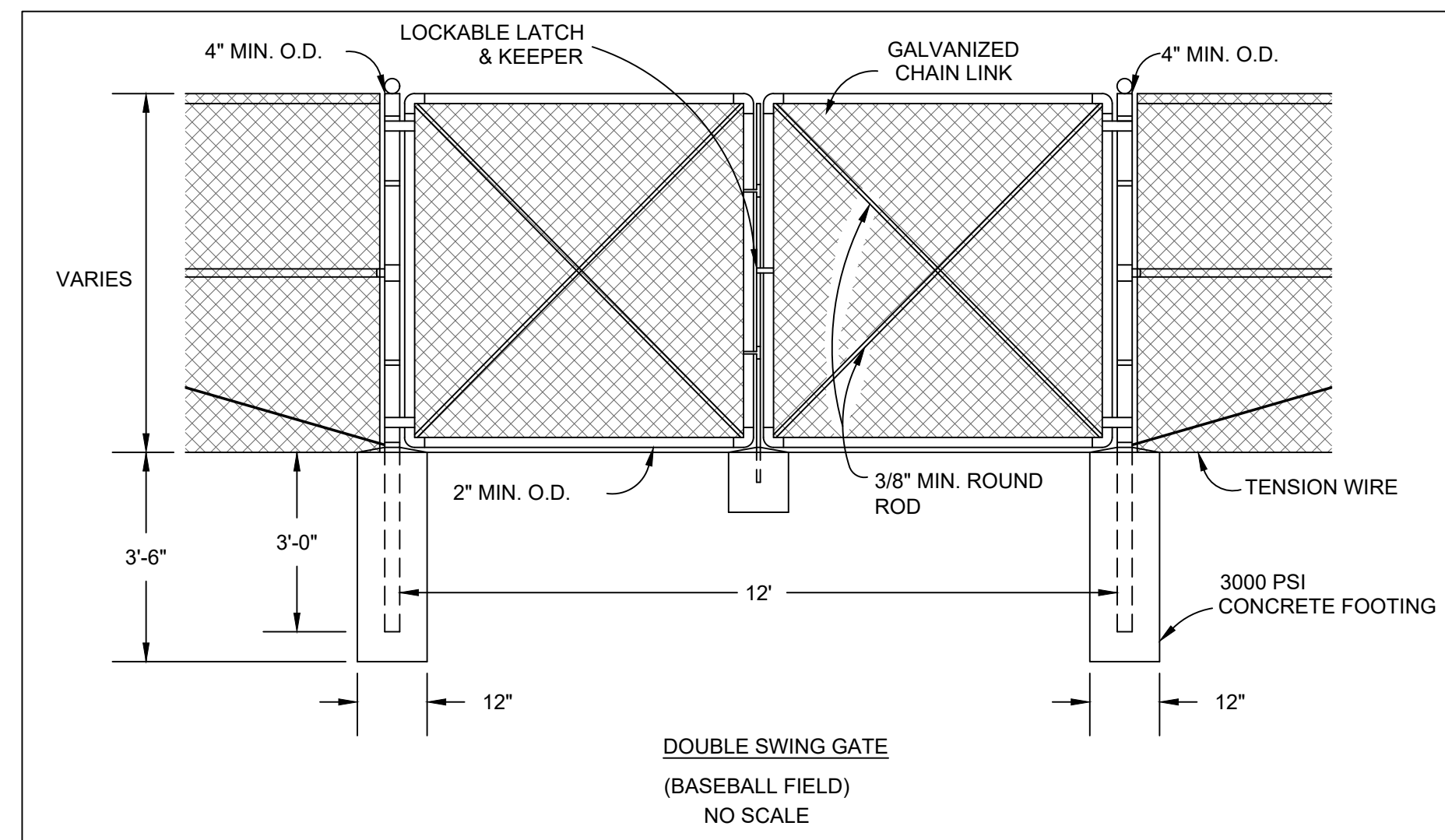
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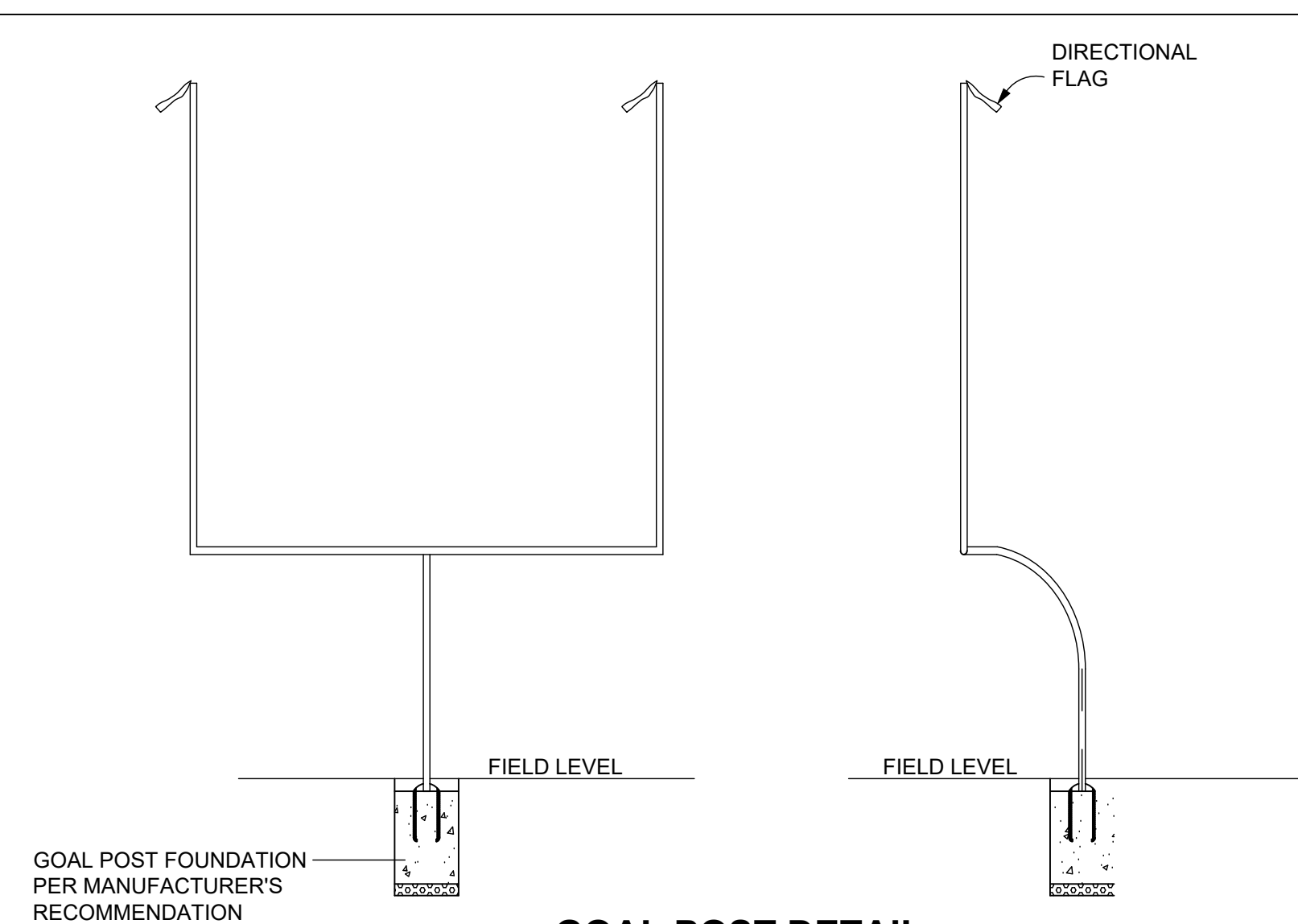
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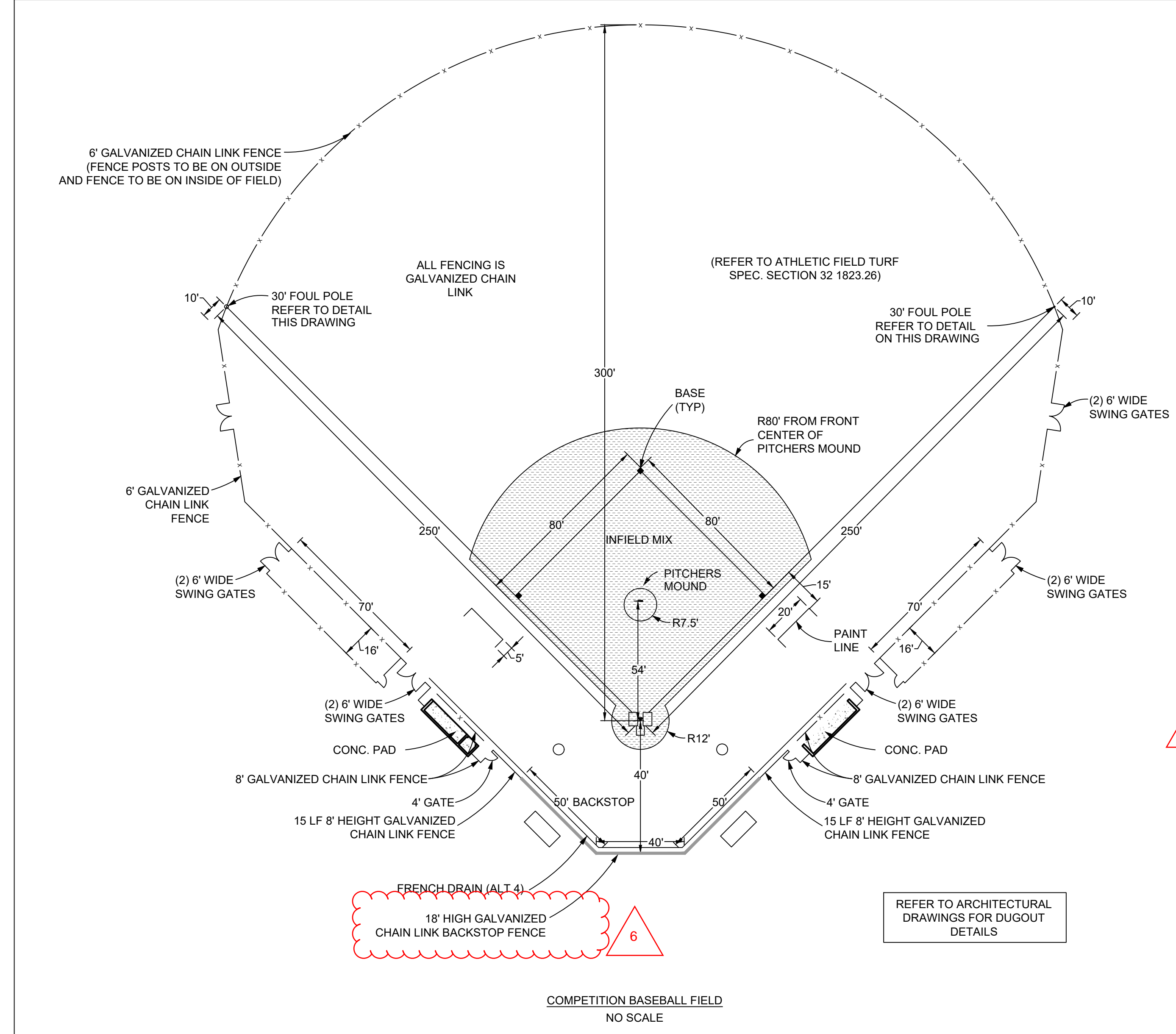
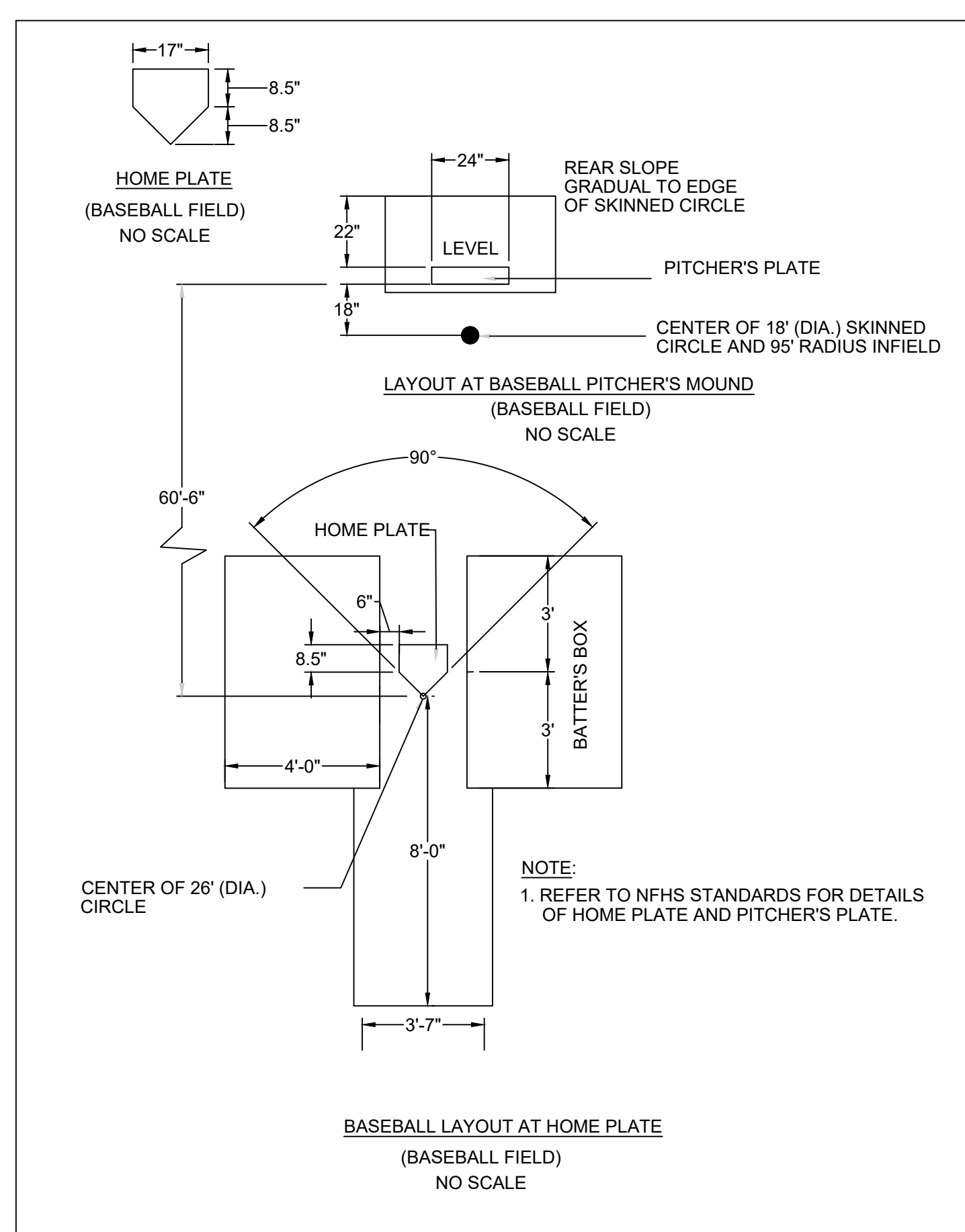
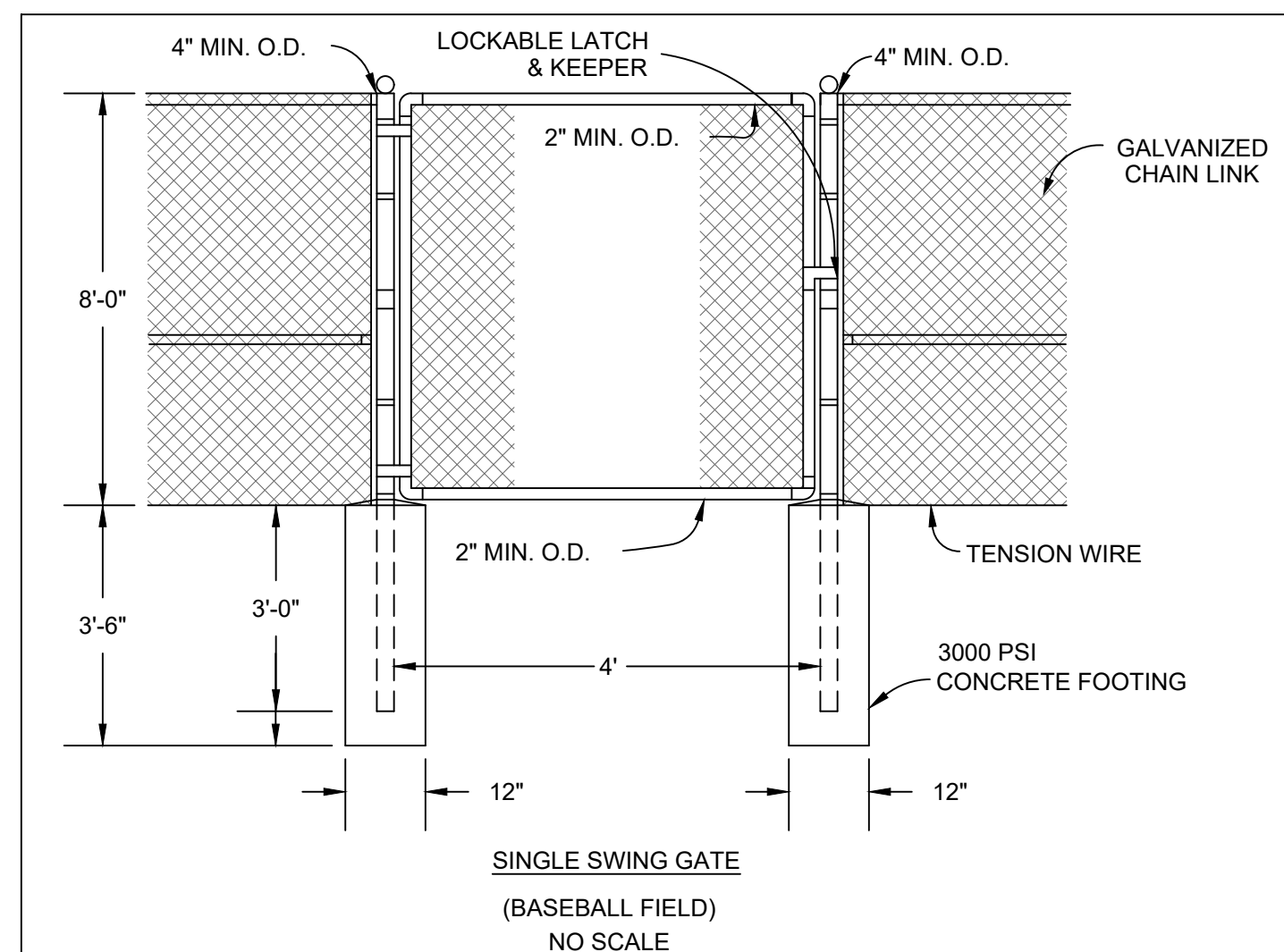
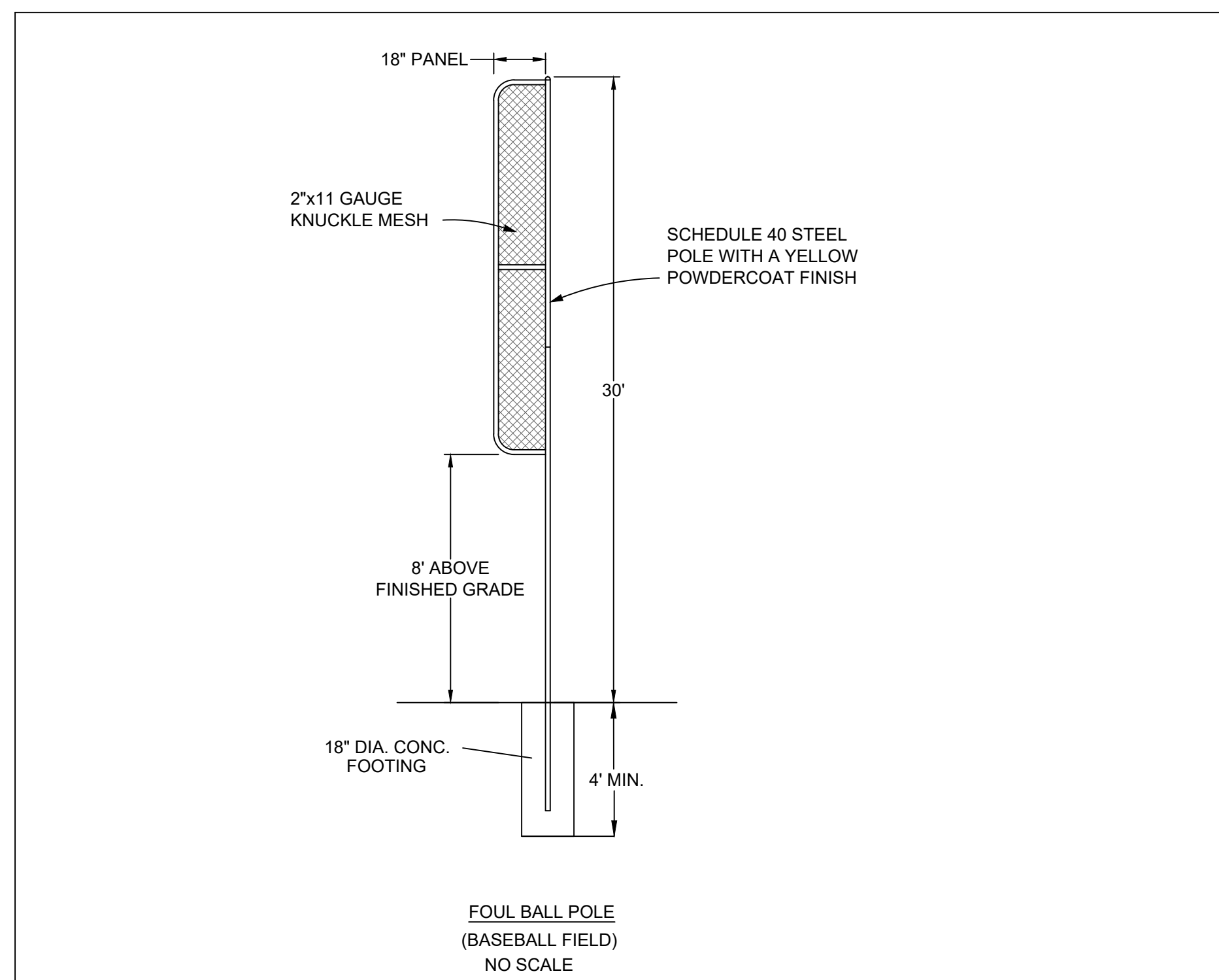
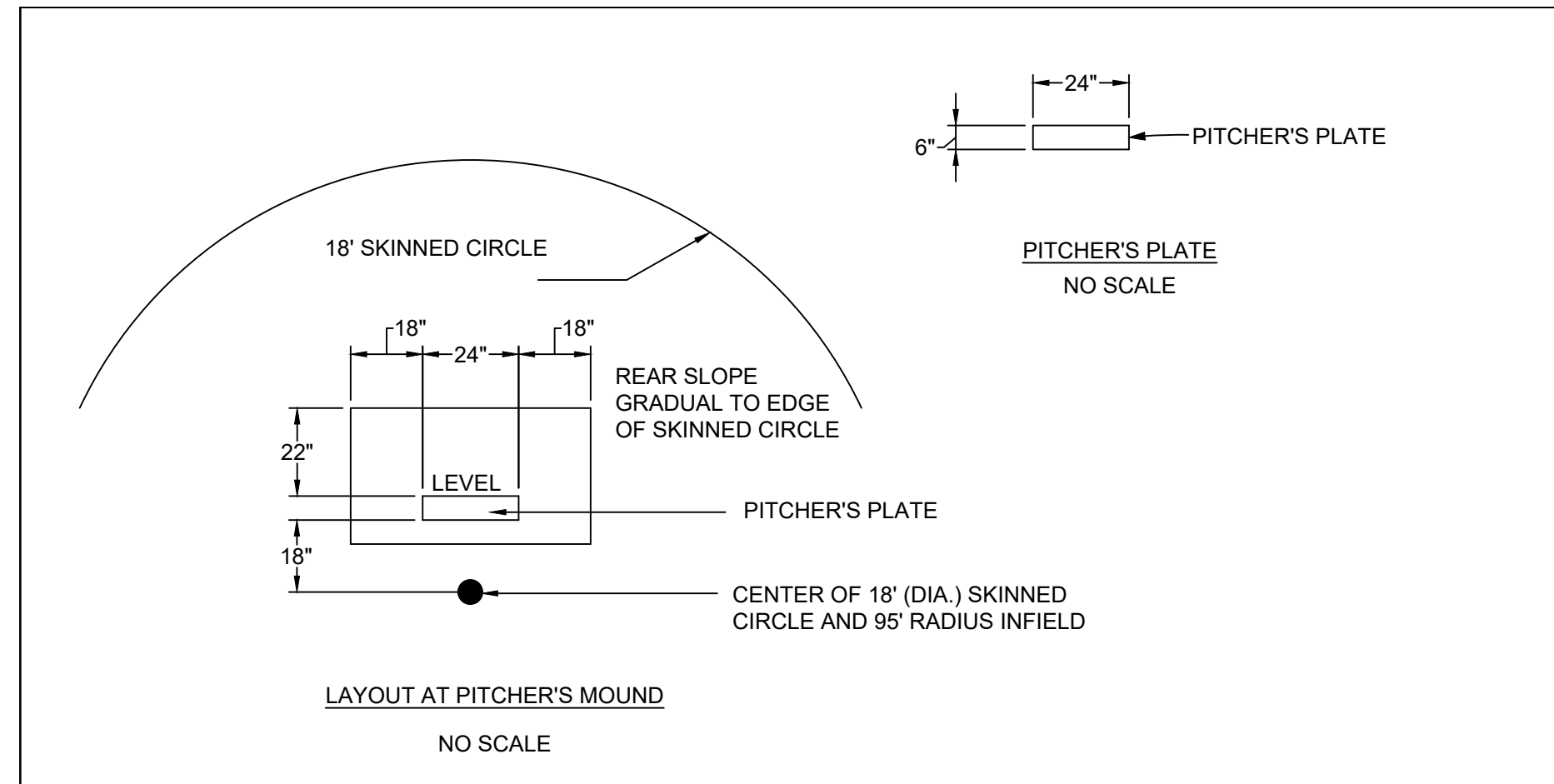
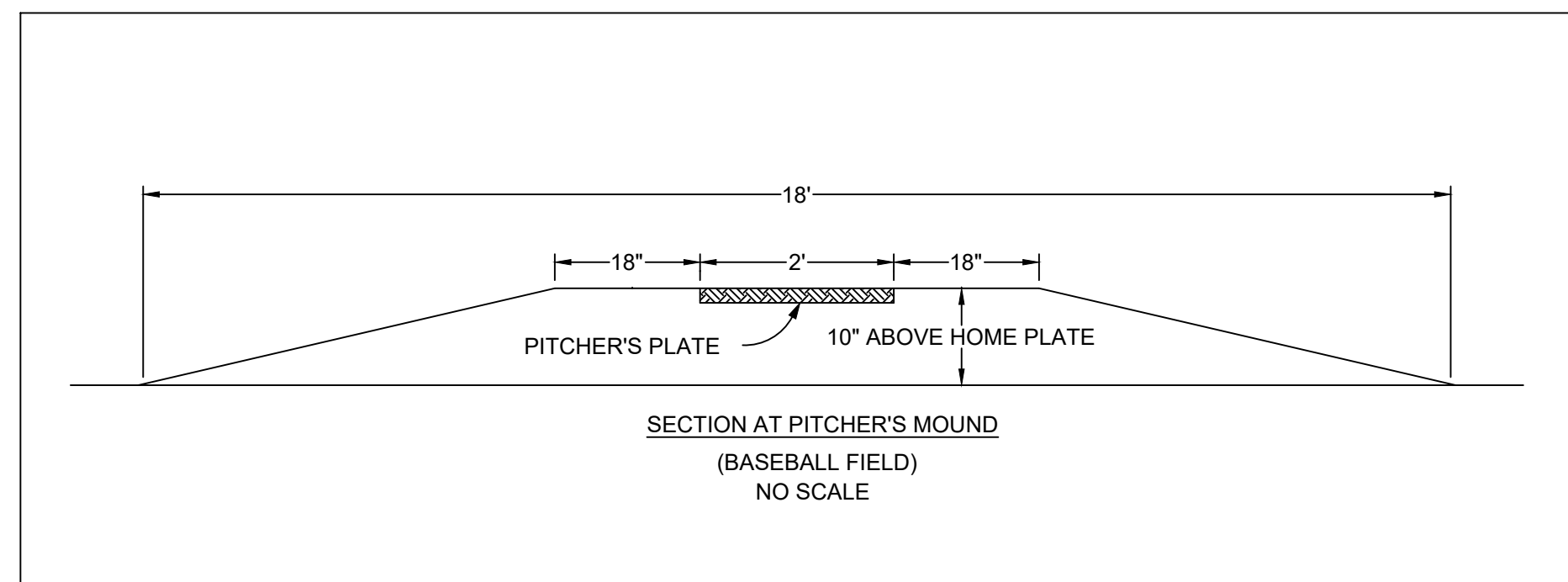
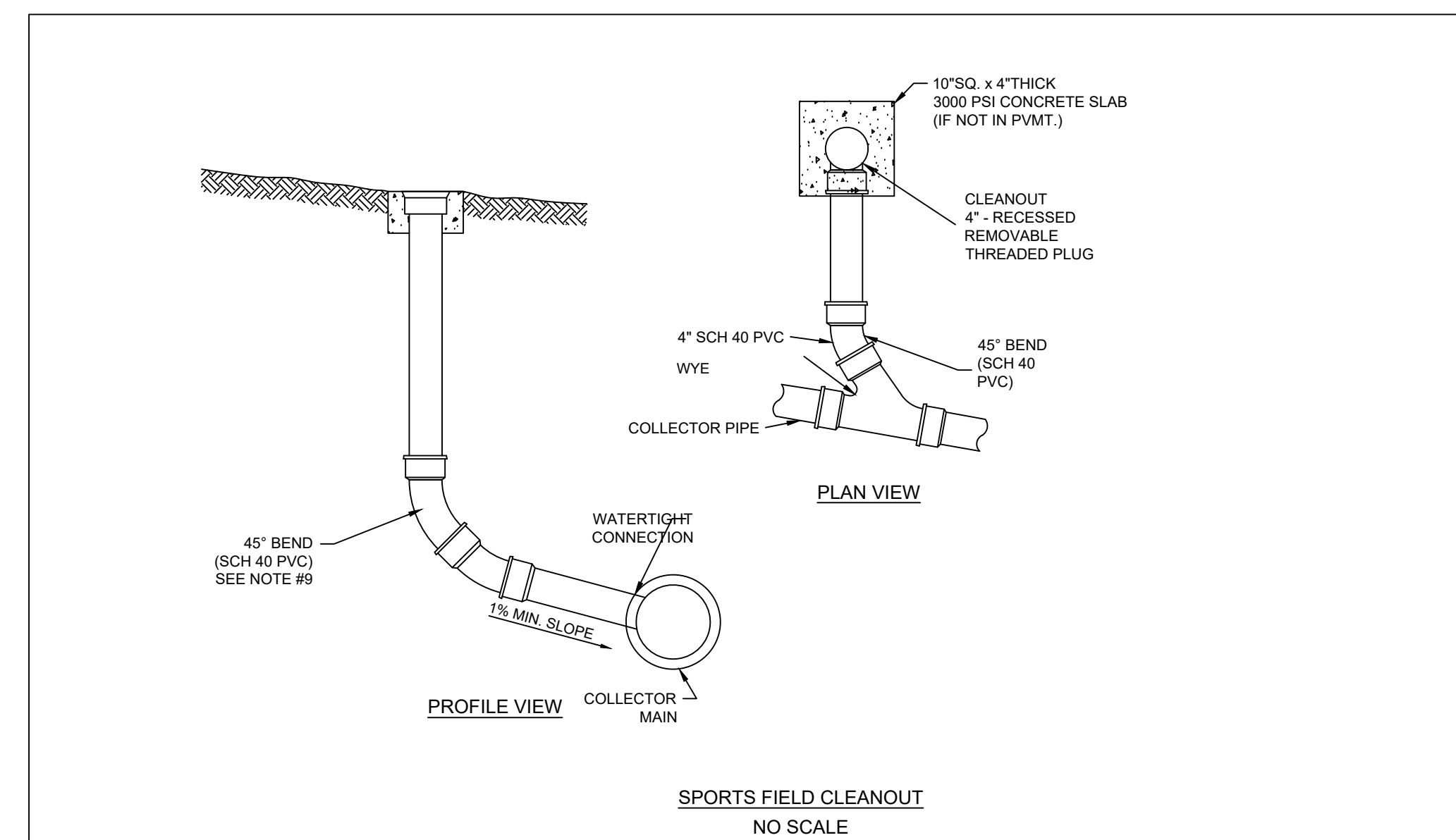
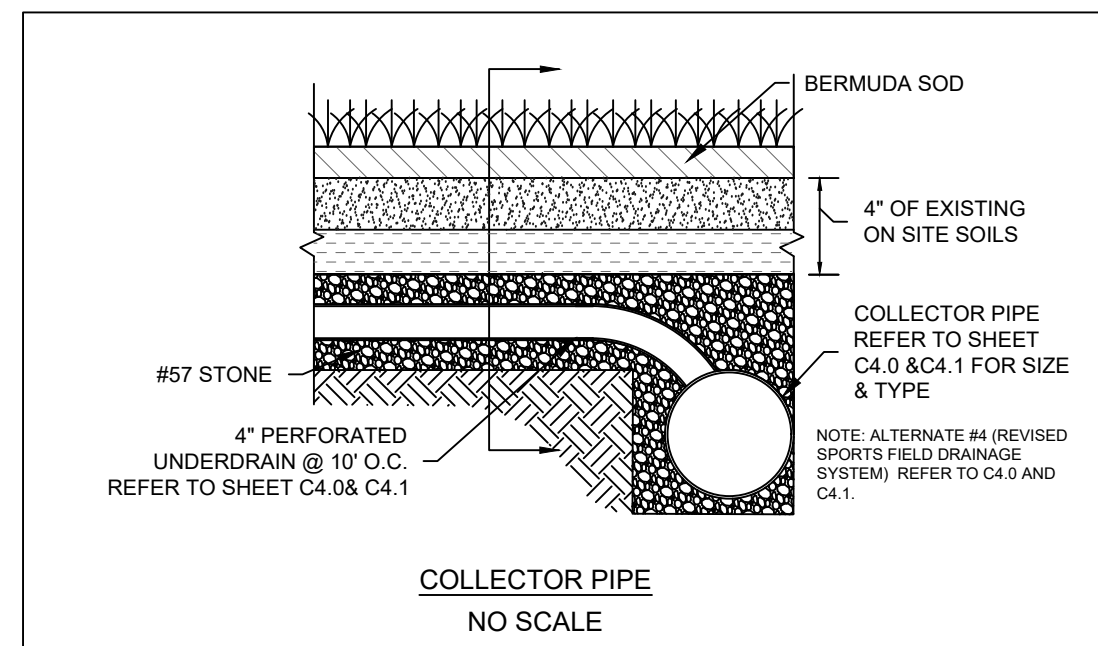
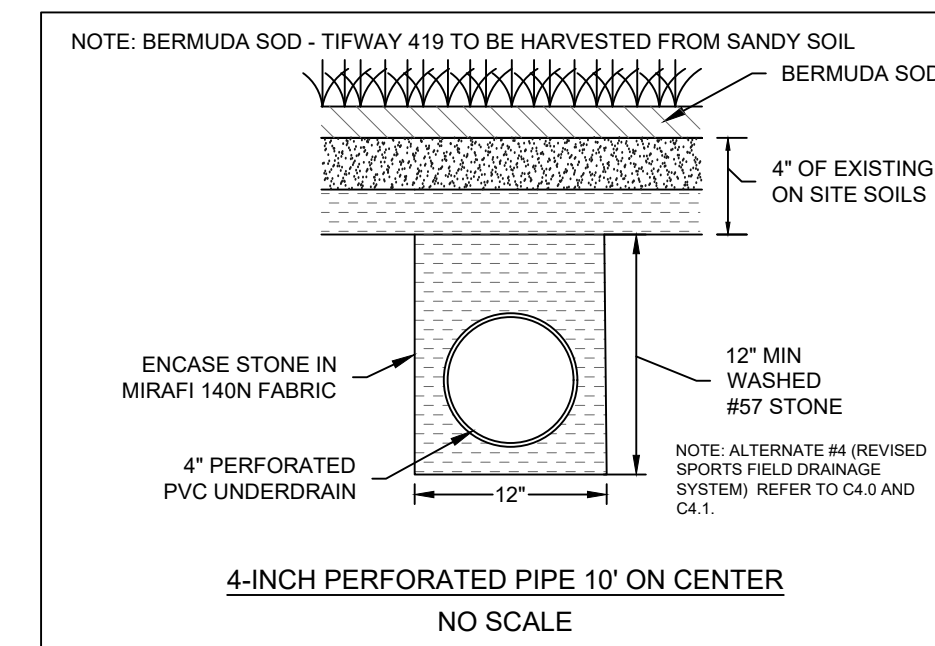


NOTES:
 1. REFER TO SPECIFICATIONS AND SITE PLAN FOR FIELD DIMENSIONS.
 2. REFER TO SPECIFICATIONS FOR SURFACE MARKING REQUIREMENTS.

FOOTBALL LAYOUT



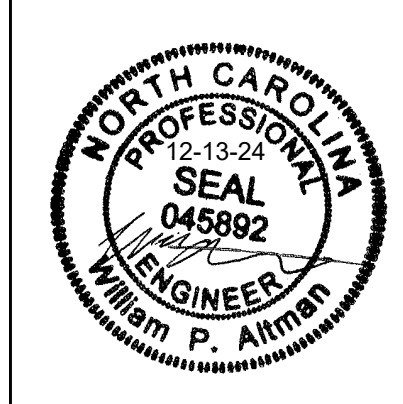
GOAL POST DETAIL
 JAYPRO HIGH SCHOOL FOOTBALL GOALPOST, MODEL #FBGP-800Y/W (SEE JAYPRO SPECS FOR DETAILS)
 NO SCALE



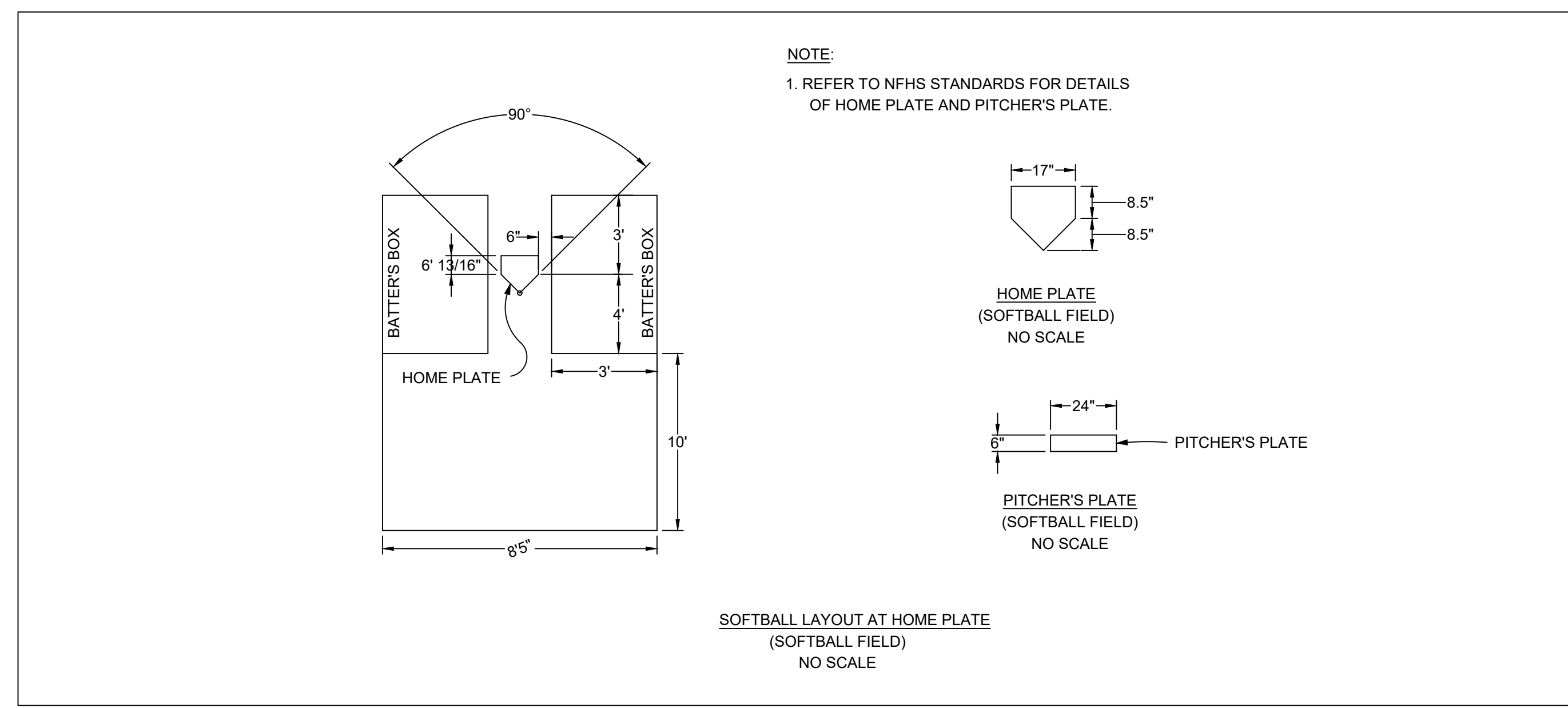
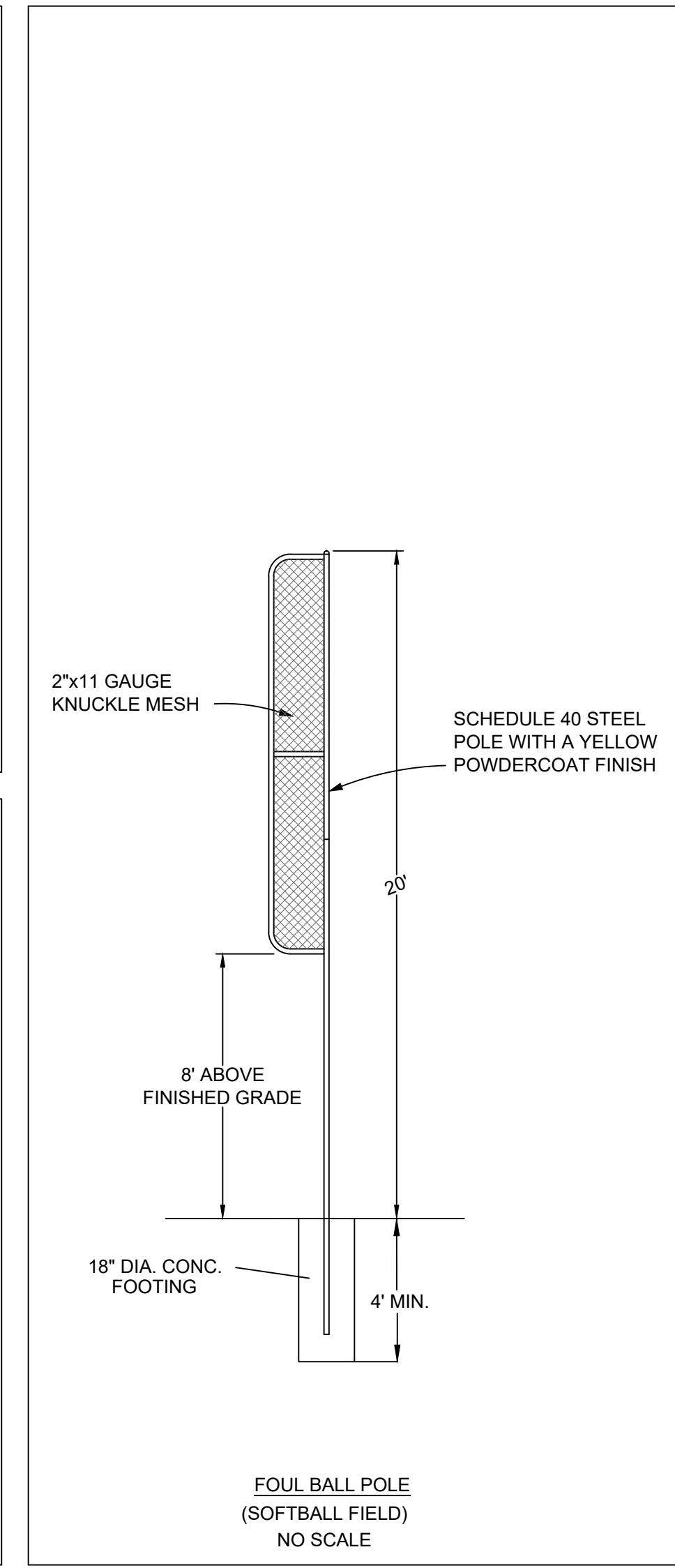
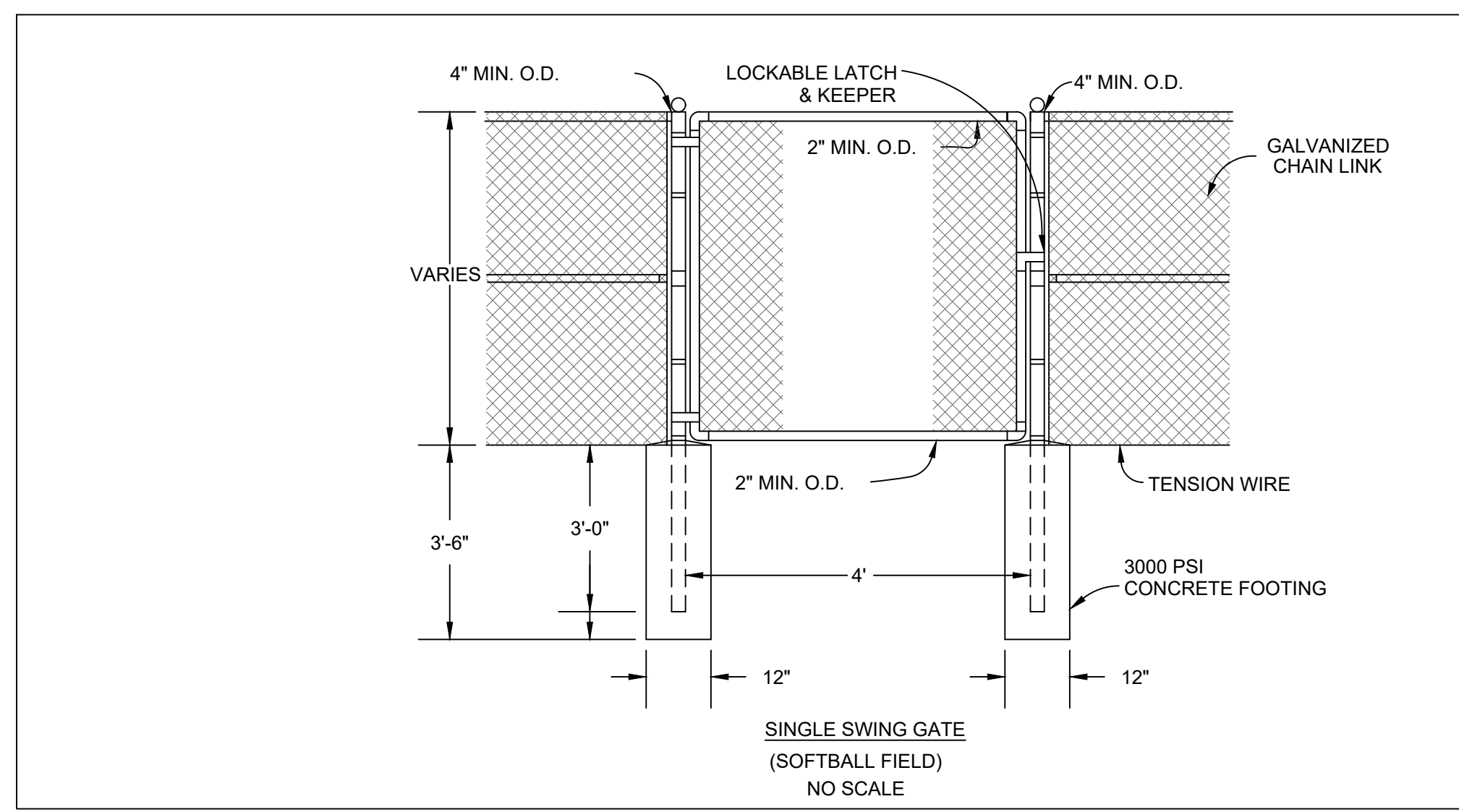
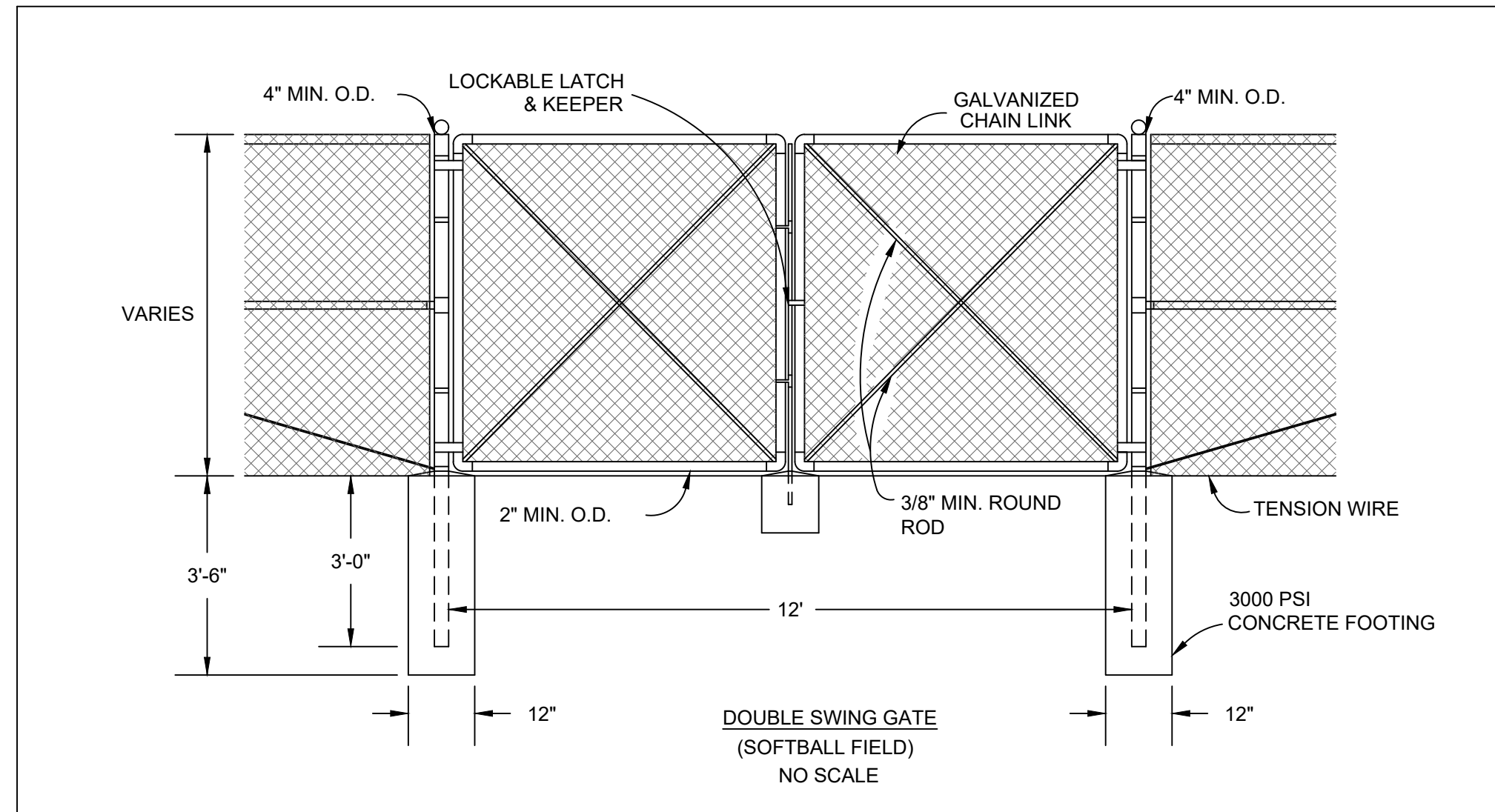
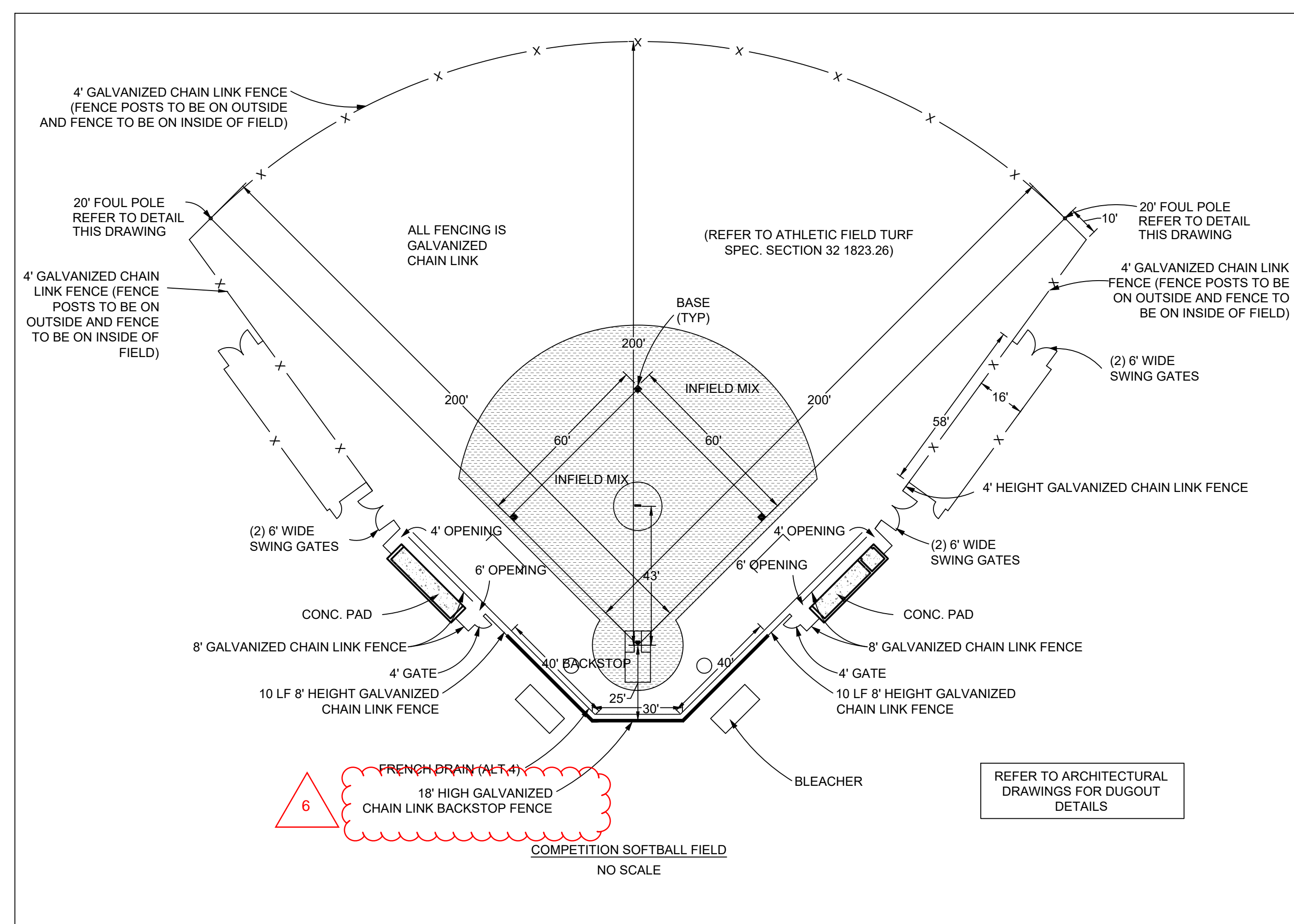
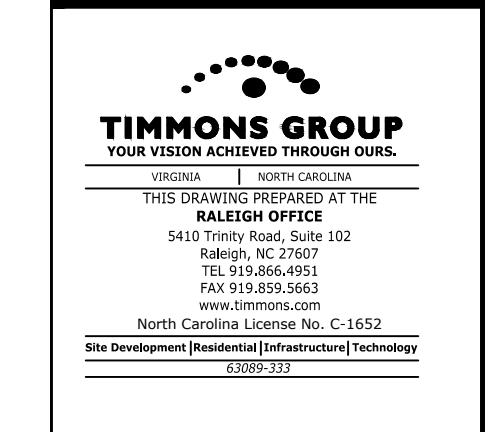
No.	Date	Description
1	12-06-24	NCDD CD
2	12-13-24	CD REVISIONS
3	12-06-24	COUNTY CD REVIEW
4	01-09-25	NCSP REVIEW
5	02-25-25	ADDITION #1
6	02-25-25	ADDITION #2

ISSUE DATE: 01-09-25
 PROJECT #: 63089
 DRAWN BY: JG
 CHECKED BY: WA

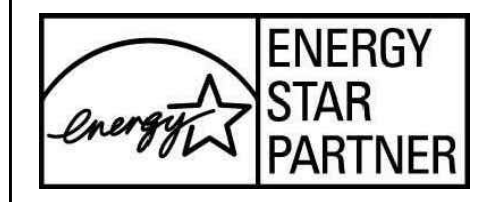
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CONSTRUCTION
DOCUMENTS



Harnett County Schools
FLATWOODS MIDDLE SCHOOL
3544 US 401 S
Lillington, NC 27546



No.	Date	Description
1	12-06-24	NCDD CD
2	12-13-24	CD REVISIONS
3	12-06-24	COUNTY CD REVIEW
4	01-09-25	NCSP REVIEW
5	02-05-25	REVISIONS
6	02-05-25	ADDENDUM 2

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NOTES AND
DETAILS

GENERAL:

- 1. PROVIDE CONSTRUCTION CONFORMING TO THE 2018 NORTH CAROLINA BUILDING CODE (2018 INTERNATIONAL BUILDING CODE WITH CAROLINA AMENDMENTS) REFERENCE TO LATEST EDITION OR OTHER STANDARDS, SPECIFICATIONS OR CODES SHALL MEET THE LATEST STANDARD OR CODE PUBLISHED AND ADOPTED BY THE LISTED BUILDING CODE.

DESIGN LOADS:

- 1. LIVE LOADS: UNIFORM 150 PSF
• ROOF = 20 PSF
• CLASSROOMS = 80 PSF
• CORRIDORS ABOVE FIRST FLOOR = 80 PSF
• FIRST FLOOR CORRIDORS = 100 PSF

SPECIAL INSPECTIONS:

- 1. IN ACCORDANCE WITH THE BUILDING CODE SECTION 1704, THE OWNER WILL RETAIN AN ARCHITECT OR SPECIAL INSPECTOR TO PERFORM INSPECTIONS PURSUANT TO THE "STATEMENT OF SPECIAL INSPECTIONS" AND THE "SCHEDULE OF SPECIAL INSPECTIONS". THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS SPECIFIED IN SECTION 1704.

FOUNDATION:

- 1. THE DESIGN OF FOUNDATIONS, RETAINING WALLS AND SLABS-ON-GRADE IS BASED ON THE FOLLOWING CRITERIA ESTABLISHED IN THE GEOTECHNICAL ENGINEERING REPORT BY TERRACON DATED MAY 16, 2024 WITH REPORT NUMBER 70245033.

REINFORCED CONCRETE:

- 1. PROVIDE REINFORCED CONCRETE CONFORMING TO THE FOLLOWING STANDARDS.
A. AISC SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, LATEST EDITION.
B. ACI 318, BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, LATEST EDITION.

Table with 3 columns: BAR SIZE, NORMAL WT. CONCRETE STRENGTH, f'c (psi), and values for 3000, 4000, 5000.

- 1. THE ABOVE LENGTHS BY 1.3 FOR TOP BARS AND BY 1.3 FOR LIGHTWEIGHT CONCRETE. WHERE BARS OF UNEQUAL DIAMETER ARE LAPPED, USE THE LAP LENGTH OF THE SMALLER BAR.

- 8. ACCURATELY INSTALL AND PROPERLY SECURE ANCHORS, BEARING PLATES, SLEEVES, AND OTHER EMBEDDED ITEMS.

WOOD FRAMING - GENERAL:

- 1. ALL WORK SHALL BE IN ACCORDANCE WITH AITC TIMBER CONSTRUCTION MANUAL AND THE AMERICAN FORESTRY ASSOCIATION (AFA) PAPER PRODUCTS, LATEST EDITION, BY THE AMERICAN FOREST & PAPER ASSOCIATION, AMERICAN WOOD COUNCIL AND "PANEL DESIGN SPECIFICATIONS" LATEST EDITION, BY APA - THE ENGINEERED WOOD ASSOCIATION.

STRUCTURAL MASONRY:

- 1. PROVIDE STRUCTURAL MASONRY CONFORMING TO THE FOLLOWING STANDARDS:
A. TMS 402, BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY
B. TMS 602, SPECIFICATIONS FOR CONCRETE MASONRY STRUCTURES, LATEST EDITION.

POST-INSTALLED ANCHORS:

- 1. GENERAL
A. PRE-CONSTRUCTION DUTIES OF THE CONTRACTOR:
a. ARRANGE FOR AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ON-SITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED.

STEEL ROOF DECK:

- 1. ROOF DECK SHALL BE DESIGNED, FABRICATED AND INSTALLED IN ACCORDANCE WITH "SDI CODE OF STANDARD PRACTICE AND COMMENTARY," SDI COSP-2012.
2. ROOF DECK SHALL BE GALVANIZED.

SUSPENSION FROM ROOF STRUCTURE:

- 1. SUBCONTRACTORS INSTALLING CONDUIT, PIPING OR EQUIPMENT SUSPENDED FROM THE STRUCTURE SHALL ATTEND A PRE-CONSTRUCTION MEETING.

SHOP DRAWINGS

- 1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS THAT ADEQUATELY DEPICT THE STRUCTURAL ELEMENTS AND CONNECTIONS SHOWN IN THE CONTRACT DOCUMENTS.

FOUNDATION:

- 1. THE DESIGN OF FOUNDATIONS, RETAINING WALLS AND SLABS-ON-GRADE IS BASED ON THE FOLLOWING CRITERIA ESTABLISHED IN THE GEOTECHNICAL ENGINEERING REPORT BY TERRACON DATED MAY 16, 2024 WITH REPORT NUMBER 70245033.

COLD-FORMED METAL FRAMING:

- 1. PROVIDE COLD-FORMED METAL FRAMING CONFORMING WITH THE FOLLOWING STANDARDS:
A. AISI NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, LATEST EDITION.

STRUCTURAL STEEL:

- 1. DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH LATEST EDITION THE "MANUAL OF STEEL CONSTRUCTION" AND THE "SPECIFICATION FOR STRUCTURAL STEEL FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION AND SPECIFICATION MANUAL DIVISION 55 (WHEN PROVIDED).

STEEL JOISTS AND JOIST GIRDERS:

- 1. STEEL JOISTS AND JOIST GIRDERS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH STEEL JOIST INSTITUTE STANDARD SPECIFICATIONS.

Table with 2 columns: SUBJECT, PROPERTY and values for BUILDING AND PAVEMENT AREAS, MAX PARTIAL SIZE, COMPOSITION.

Table with 2 columns: SUBJECT, REQUIREMENT and values for COMPACTION STANDARD, REQUIRED COMPACTION, MOISTURE CONTENT, DOUSE THICKNESS.

STEEL COMPOSITE FLOOR CONSTRUCTION:

- 1. COMPOSITE FLOOR MEMBERS ARE DESIGNED TO BE UNLINED, UNO.

STEEL JOISTS AND JOIST GIRDERS:

- 1. STEEL JOISTS AND JOIST GIRDERS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH STEEL JOIST INSTITUTE STANDARD SPECIFICATIONS.



CONSTRUCTION DOCUMENTS

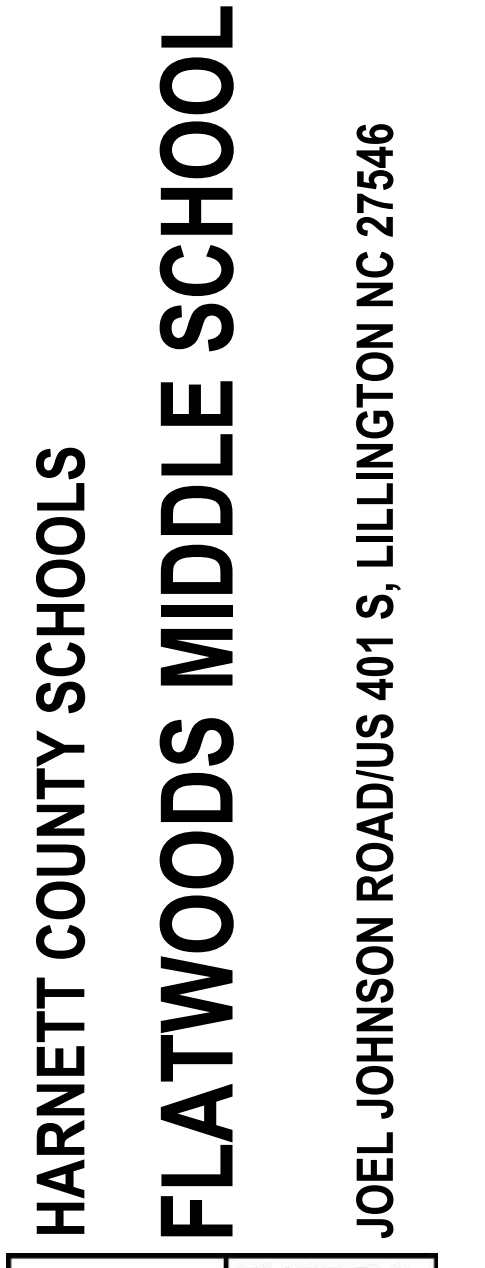


Table with 3 columns: No., Date, Description and values for ADDENDUM 1, ADDENDUM 2.

ISSUE DATE: 01/09/2025

PROJECT #: 2208
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STRUCTURAL GENERAL NOTES

S-001

...Becoming the
Leading Designer of
High Performance Facilities
in the Nation with a
Specialty in Alternative
Delivery Methods

333 Fayetteville St, Ste 235
Raleigh, NC 27601
P: 919.573.6350
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ARCHITECTS

bennett&pless
STRUCTURAL ENGINEERS

5430 Wade Park Boulevard, Suite 400
Raleigh, North Carolina 27607
919.832.5587
Project # 23.08.035



CONSTRUCTION
DOCUMENTS



1 CMU BRACING - HIGH
SCALE: 1" = 30'-0"

- CMU INTERIOR WALL BRACING PLAN NOTES:**
- REFER TO FRAMING PLANS FOR SECTIONS NOT IDENTIFIED ON THIS SHEET AND FOR SECTIONS AT EXTERIOR WALLS.
 - COORDINATE WALL TYPES WITH ARCH DWGS.
- CMU INTERIOR WALL BRACING PLAN LEGEND:**
- DENOTES CMU SHEARWALL UP TO UNDERSIDE OF ROOF DECK REFER TO DETAIL 7/S-501
 - DENOTES CMU PARTITION WALL UP TO UNDERSIDE OF FLOOR OR ROOF DECK. REFER TO DETAIL 5/S-201
 - _____ DENOTES CMU PARTITION WALL BELOW UNDERSIDE OF DECK. REFER TO DETAIL 6/S-201
 - DENOTES CMU WALL NO TOP OF WALL BRACING REQ'D

2 CMU BRACING - LOW
SCALE: 1" = 30'-0"

- CMU INTERIOR WALL BRACING PLAN NOTES:**
- REFER TO FRAMING PLANS FOR SECTIONS NOT IDENTIFIED ON THIS SHEET AND FOR SECTIONS AT EXTERIOR WALLS.
 - COORDINATE WALL TYPES WITH ARCH DWGS.
- CMU INTERIOR WALL BRACING PLAN LEGEND:**
- DENOTES CMU SHEARWALL UP TO UNDERSIDE OF ROOF DECK REFER TO DETAIL 7/S-501
 - DENOTES CMU PARTITION WALL UP TO UNDERSIDE OF FLOOR OR ROOF DECK. REFER TO DETAIL 5/S-201
 - _____ DENOTES CMU PARTITION WALL BELOW UNDERSIDE OF DECK. REFER TO DETAIL 6/S-201
 - DENOTES CMU WALL NO TOP OF WALL BRACING REQ'D

HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL
JOEL JOHNSON ROAD/US 401 S, LILLINGTON NC 27546



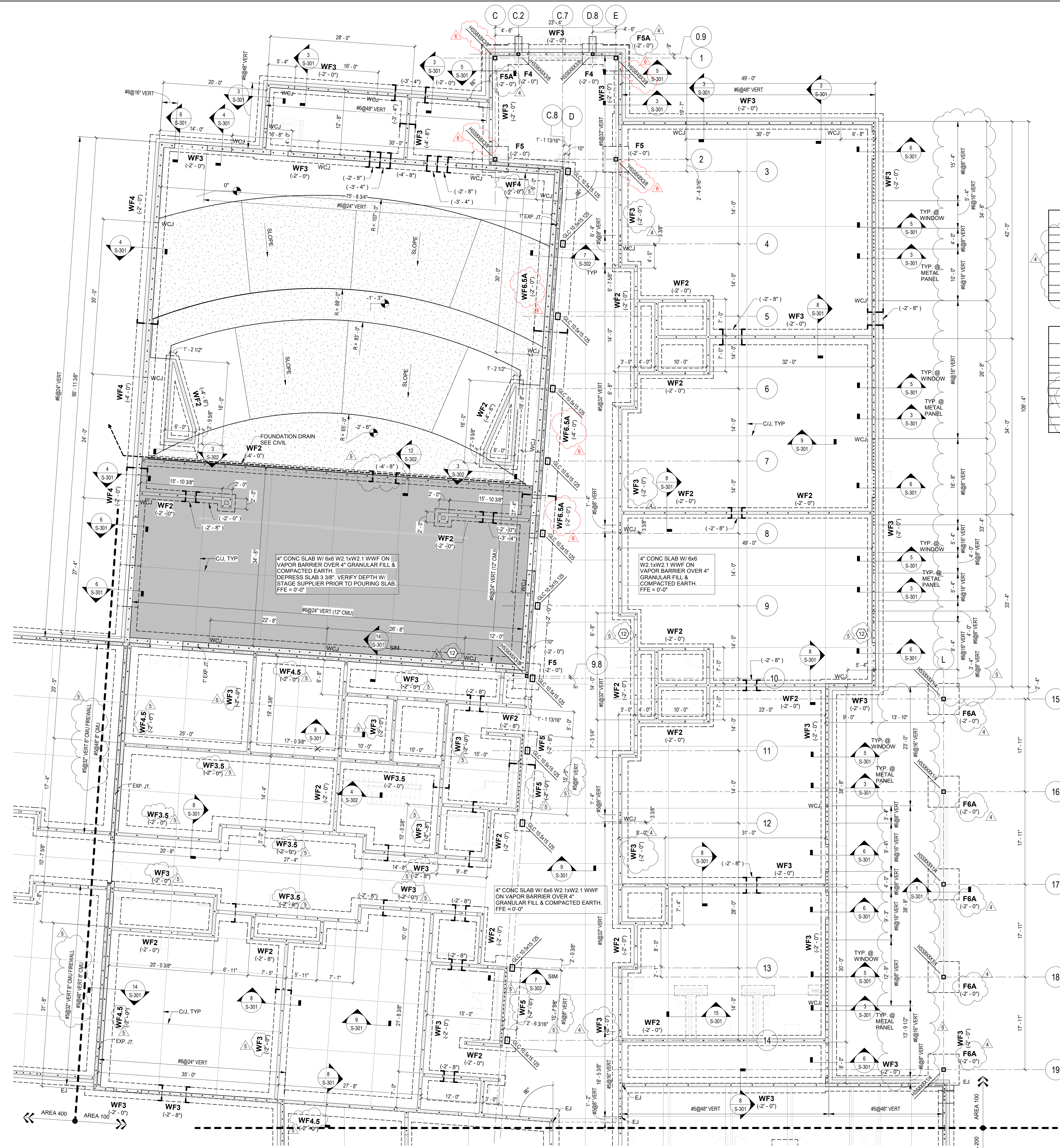
No.	Date	Description
2	12-13-24	CD REVISIONS
6	02-05-25	ADDENDUM 2

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CMU WALL BRACING
OVERALL PLAN

S-004



COLUMN FOOTING SCHEDULE (2000 PSF BEARING)

MARK	SIZE	THICKNESS	REINFORCING	REMARKS
F4	4'-0" x 4'-0"	1'-2"	(4)#5 EW BOTTOM	
F5	5'-0" x 5'-0"	1'-2"	(5)#5 EW BOTTOM	
F5A	5'-0" x 5'-0"	1'-2"	(5)#5 EW TOP & BOTTOM	
F6	6'-0" x 6'-0"	1'-2"	(6)#5 EW BOTTOM	
F6A	6'-0" x 6'-0"	1'-2"	(6)#5 EW TOP & BOTTOM	
F7	7'-0" x 7'-0"	1'-2"	(7)#5 EW BOTTOM	
F7.5	7'-6" x 7'-6"	1'-4"	(7)#6 EW BOTTOM	

WALL FOUNDATION SCHEDULE

MARK	FOUNDATION SIZE (WIDTH x THICKNESS)	REINFORCING
WF2	2'-0" x 1'-0"	#5@12" EW BOTTOM
WF3	3'-0" x 1'-0"	#5@12" EW BOTTOM
WF3.5	3'-6" x 1'-0"	#5@12" EW BOTTOM
WF4	4'-0" x 1'-0"	#5@12" EW BOTTOM
WF4.5	4'-6" x 1'-0"	#5@12" EW BOTTOM
WF5	5'-0" x 1'-0"	#5@12" EW BOTTOM
WF5A	6'-0" x 1'-0"	#5@12" EW TOP & BOTTOM
WF6	6'-0" x 1'-0"	#5@12" EW BOTTOM
WF7	7'-0" x 1'-0"	#5@12" EW BOTTOM

- FOUNDATION PLAN NOTES:**
- NUMBER IN PARENTHESIS DENOTES TOP OF FOOTING BELOW FIN. FLOOR ELEVATION = 0'-0" (REF. 162.0).
 - #F DENOTES COLUMN/SPREAD FOOTING. SEE S-111 FOR SCHEDULE.
 - SEE S-201, S-202, AND S-203 FOR CMU WALL REINFORCING REQUIREMENTS.
 - IN ADDITION TO REINFORCING SHOWN ON THE DRAWINGS, PROVIDE (1) VERT. BARS/SAME SIZE AS WALL REIN. BARS) IN JAMBS OF ALL DOORS AND WINDOWS AND (1) #6 BAR EACH SIDE OF EXPANSION AND CONTROL JOINTS. SEE ARCHL FOR JOINT LOCATIONS. SEE DETAIL 4/S-301.
 - STEP DENOTES STEPPED FOOTING. SEE 11/S-301 FOR DETAIL. G.C. COORDINATE STEP LOCATIONS AND DEPTH W/ FLUMING CONTRACTOR PRIOR TO FOOTING EXCAVATION. CONTRACTOR'S OPTION: TOP OF FOOTING ELEVATIONS MAY BE LOWERED BETWEEN STEP LOCATIONS TO REDUCE THE NUMBER OF STEPS REQUIRED. SUBMIT FOR APPROVAL.
 - PROVIDE #5@48" VERTICAL @ INTERIOR CMU WALLS U.O.N. SEE FOUNDATION PLAN FOR VERTICAL REINFORCING IN EXTERIOR CMU WALLS. REBAR SHOWN ON PLAN IS NOT DRAWN TO SCALE. REFER TO TEXT CALLOUTS FOR REBAR SPACING.
 - REFER TO ARCHL DRAWINGS FOR INTERIOR WALL DIMENSIONS NOT SHOWN ON STRUCTURAL.
 - PROVIDE BOND BEAMS IN MASONRY WALLS @ 8'-0" MAX AND TOP COURSE OF ALL WALLS.
 - PROVIDE CORNER BARS IN BOND BEAMS AT WALL CORNERS AND INTERSECTIONS. LAP 2'-0".
 - VERIFY ELEVATOR PIT DEPTH AND DIMENSIONS W/ ELEVATOR SUPPLIER PRIOR TO EXCAVATION. SEE DETAIL 12/S-301.
 - WCU DENOTES WALL CONTROL JOINT FOR WALLS WITHOUT CONTROL JOINTS IDENTIFIED ON PLAN. JOINTS SHALL BE PLACED AT MAXIMUM 30'-0" ON CENTER.
 - PROVIDE PIPE SLEEVE FOR SANITARY PIPE UNDER FOOTINGS. REFER TO PLUMBING DRAWINGS FOR PIPE ELEVATION AND INVERT. BACKFILL WITH LEAN CONCRETE.

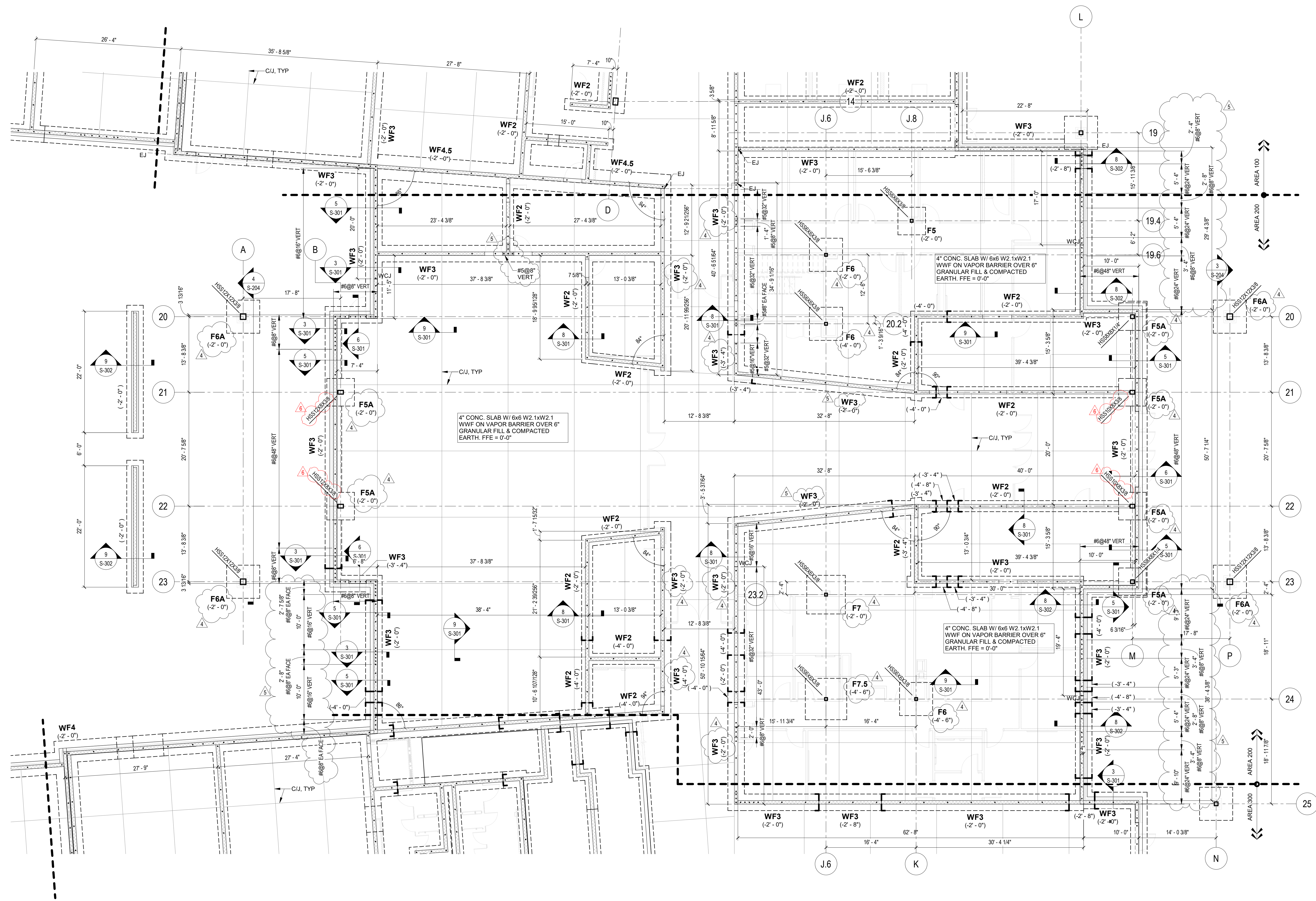
1 FOUNDATION AND SLAB PLAN AREA 100
S-111 SCALE: 1/8" = 1'-0"



No.	Date	Description
1	12-13-24	CD REVISIONS
2	01-09-25	NCDPI CD
3	01-30-25	ADDENDUM 1
4	02-05-25	ADDENDUM 2

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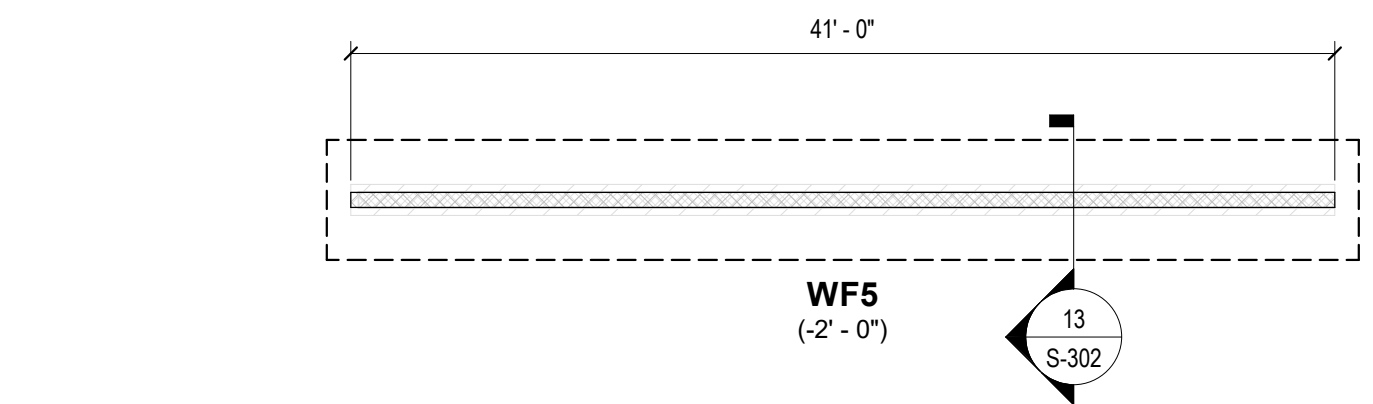
FOUNDATION AND SLAB PLAN AREA 100



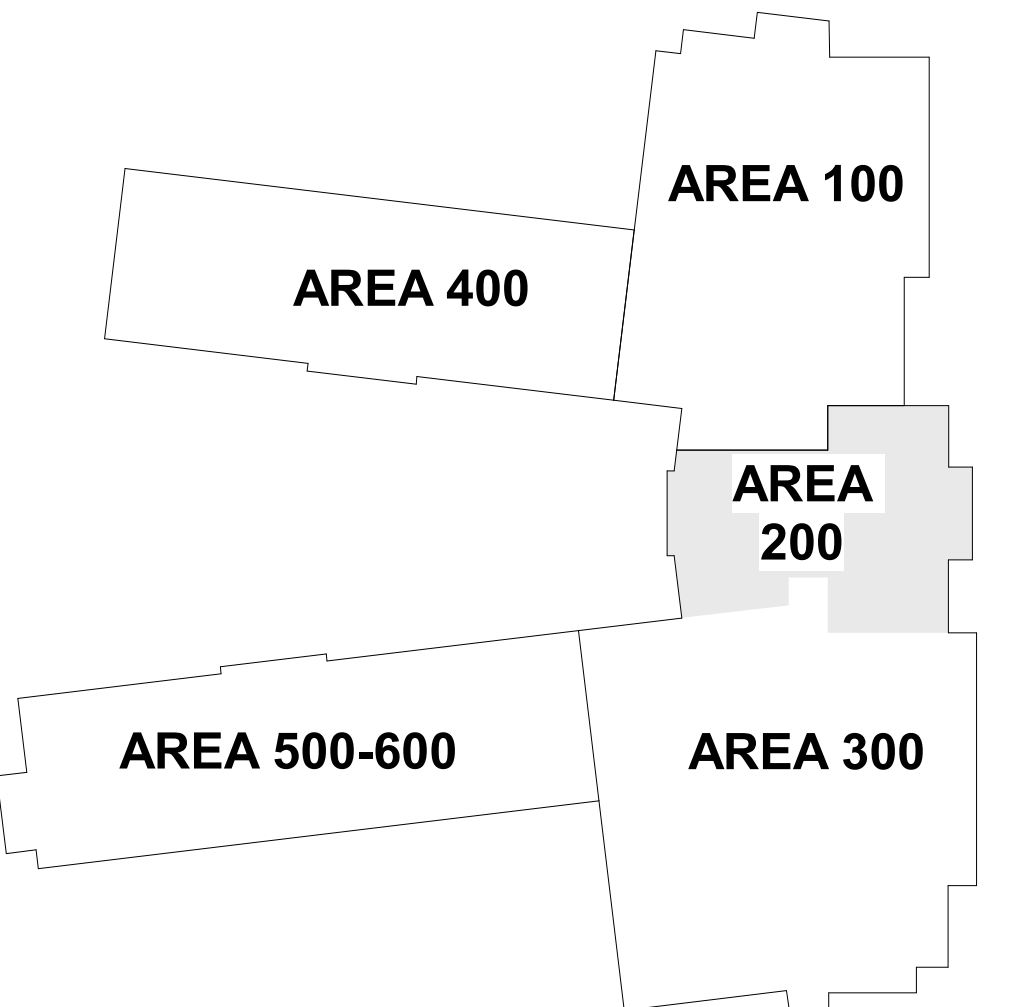
1 FOUNDATION AND SLAB PLAN AREA 200
S-112 SCALE: 1/8" = 1'-0"

FOUNDATION PLAN NOTES:

1. NUMBER IN PARENTHESIS DENOTES TOP OF FOOTING BELOW FIN. FLOOR ELEVATION + 0'-0" (REF: +82'-0").
2. F# DENOTES COLUMN/SPREAD FOOTING. SEE S-111 FOR SCHEDULE.
3. SEE S-201, S-202, AND S-203 FOR CMU WALL REINFORCING REQUIREMENTS.
4. IN ADDITION TO REINFORCING SHOWN ON THE DRAWINGS, PROVIDE (1) VERT. BARS (SAME SIZE AS WALL REIN. BARS) IN JAMBS OF ALL DOORS AND WINDOWS AND (1) #6 BAR EACH SIDE OF EXPANSION AND CONTROL JOINTS. SEE ARCH'L FOR JOINT LOCATIONS. SEE DETAIL 4/S-201.
5. F# T DENOTES STEPPED FOOTING. SEE 11/S-301 FOR DETAIL. G.C. COORDINATE STEP LOCATIONS AND DEPTH W/ PLUMBING CONTRACTOR PRIOR TO FOOTING EXCAVATION. CONTRACTOR'S OPTION: TOP OF FOOTING ELEVATIONS MAY BE LOWERED BETWEEN STEP LOCATIONS TO REDUCE THE NUMBER OF STEPS REQUIRED. SUBMIT FOR APPROVAL.
6. PROVIDE #5@48" VERTICAL @ INTERIOR CMU WALLS U.D.N. SEE FOUNDATION PLAN FOR VERTICAL REINFORCING IN EXTERIOR CMU WALLS. REBAR SHOWN ON PLAN IS NOT DRAWN TO SCALE. REFER TO TEXT CALLOUTS FOR REBAR SPACING. REFER TO ARCH'L DRAWINGS FOR INTERIOR WALL DIMENSIONS NOT SHOWN ON STRUCTURAL.
7. PROVIDE BOND BEAMS IN MASONRY WALLS @ 8'-0" MAX AND TOP COURSE OF ALL WALLS.
8. PROVIDE CORNER BARS IN BOND BEAMS AT WALL CORNERS AND INTERSECTIONS.
9. PROVIDE CORNER BARS IN BOND BEAMS AT WALL CORNERS AND INTERSECTIONS. LAP 2'-0".
10. VERIFY ELEVATOR PIT DEPTH AND DIMENSIONS W/ ELEVATOR SUPPLIER PRIOR TO EXCAVATION. SEE DETAIL 12/S-301.
11. WCJ DENOTES WALL CONTROL JOINT. FOR WALLS WITHOUT CONTROL JOINTS IDENTIFIED ON PLAN, JOINTS SHALL BE PLACED AT MAXIMUM 30'-0" ON CENTER.
12. PROVIDE PIPE SLEEVE FOR SANITARY PIPE UNDER FOOTINGS. REFER TO PLUMBING DRAWINGS FOR PIPE ELEVATION AND INVERT. BACKFILL WITH LEAN CONCRETE.



2 ENTRANCE SIGN PLAN
S-112 SCALE: 1/8" = 1'-0"



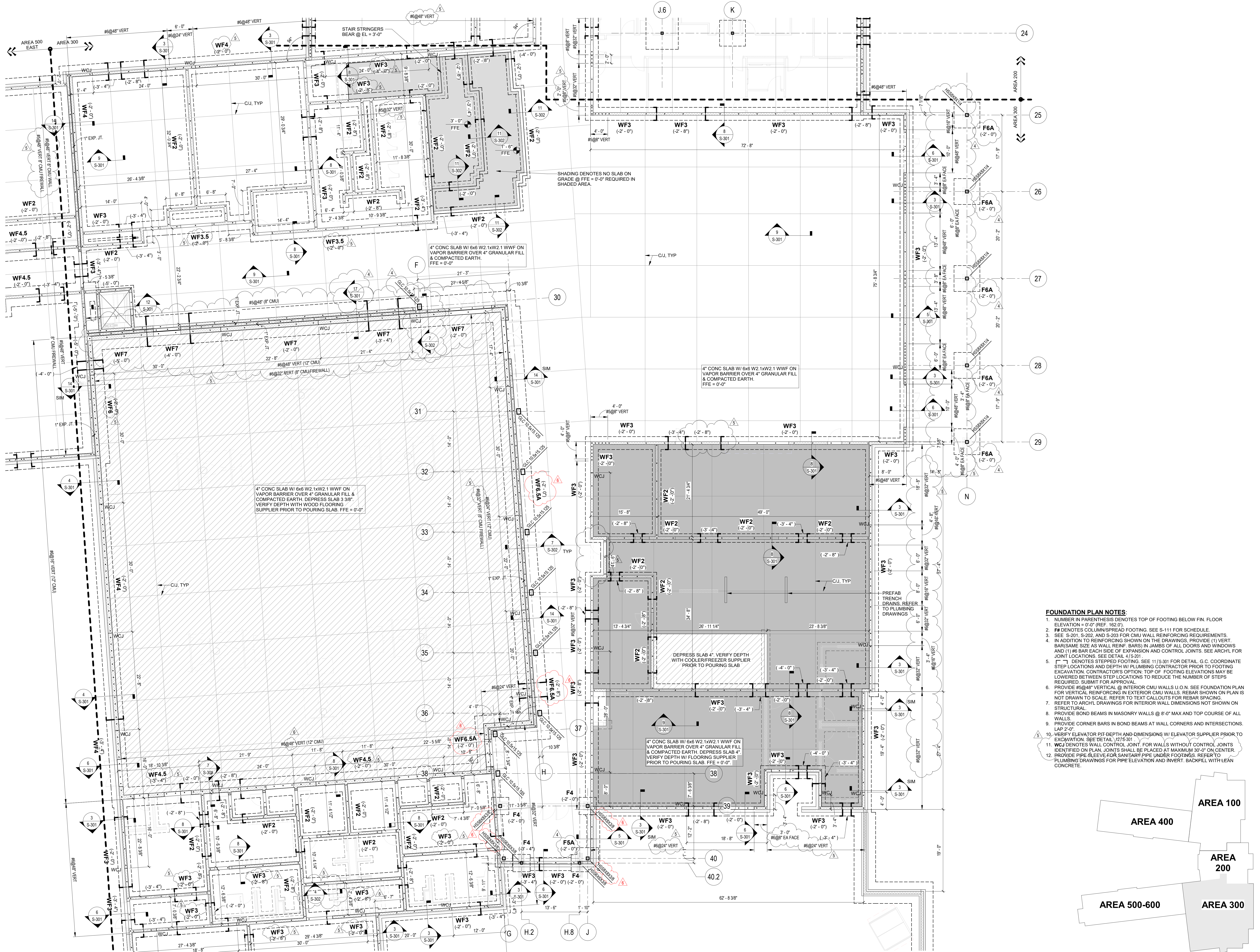
No.	Date	Description
4	01-09-25	NCIPCI CD
5	01-30-25	ADDENDUM 1
6	02-05-25	ADDENDUM 2

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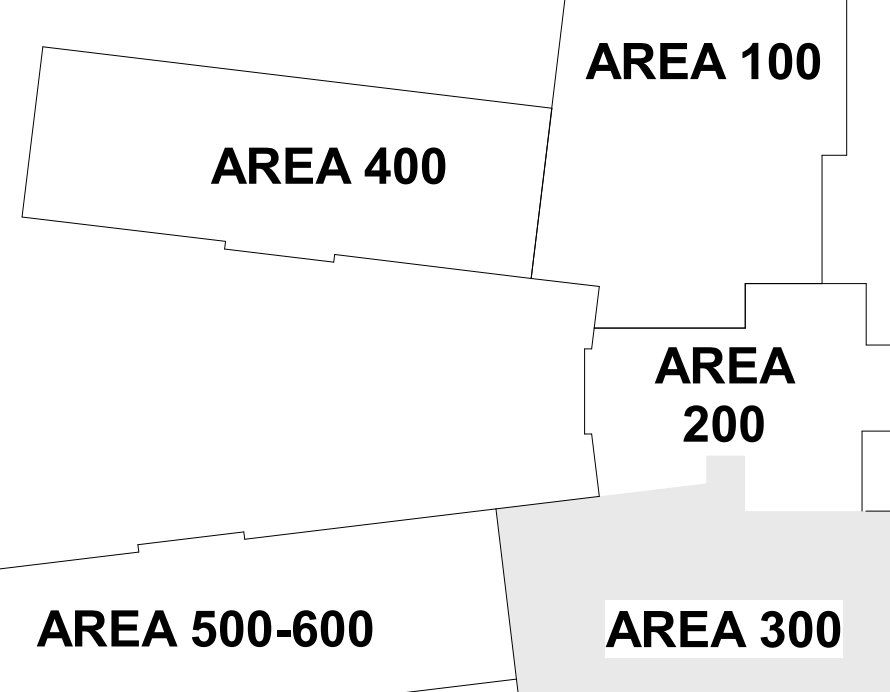
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FOUNDATION AND
SLAB PLAN AREA
200



1 FOUNDATION AND SLAB PLAN AREA 300
SCALE: 1/8" = 1'-0"

- FOUNDATION PLAN NOTES:**
- NUMBER IN PARENTHESIS DENOTES TOP OF FOOTING BELOW FIN. FLOOR ELEVATION = 9'-0" (REF. 182.0)
 - FR DENOTES COLUMN/SPREAD FOOTING. SEE S-111 FOR SCHEDULE.
 - SEE S-201, S-202 AND S-203 FOR CMU WALL REINFORCING REQUIREMENTS.
 - IN ADDITION TO REINFORCING SHOWN ON THE DRAWINGS, PROVIDE (1) VERT. BAR(S) SAME SIZE AS WALL REINF. BARS IN JAMBS OF ALL DOORS AND WINDOWS AND (1) #6 BAR EACH SIDE OF EXPANSION AND CONTROL JOINTS. SEE ARCH. FOR JOINT LOCATIONS. SEE DETAIL 4/S-301
 - [] DENOTES STEPPED FOOTING. SEE 11/S-301 FOR DETAIL. G.C. COORDINATE STEP LOCATIONS AND DEPTH W/ PLUMBING CONTRACTOR PRIOR TO FOOTING EXCAVATION. CONTRACTOR'S OPTION: TOP OF FOOTING ELEVATIONS MAY BE LOWERED BETWEEN STEP LOCATIONS TO REDUCE THE NUMBER OF STEPS REQUIRED. SUBMIT FOR APPROVAL.
 - PROVIDE #5@4" VERTICAL @ INTERIOR CMU WALLS U.O.N. SEE FOUNDATION PLAN FOR VERTICAL REINFORCING IN EXTERIOR CMU WALLS. REBAR SHOWN ON PLAN IS NOT DRAWN TO SCALE. REFER TO TEXT CALLOUTS FOR REBAR SPACING.
 - REFER TO ARCH. DRAWINGS FOR INTERIOR WALL DIMENSIONS NOT SHOWN ON STRUCTURAL.
 - PROVIDE BOND BEAMS IN MASONRY WALLS @ 8'-0" MAX AND TOP COURSE OF ALL WALLS.
 - PROVIDE CORNER BARS IN BOND BEAMS AT WALL CORNERS AND INTERSECTIONS. LAP 2'-0"
 - VERIFY ELEVATOR PIT DEPTH AND DIMENSIONS W/ ELEVATOR SUPPLIER PRIOR TO EXCAVATION. SEE DETAIL 12/S-301
 - WCJ DENOTES WALL CONTROL JOINT. FOR WALLS WITHOUT CONTROL JOINTS IDENTIFIED ON PLAN, JOINTS SHALL BE PLACED AT MAXIMUM 30'-0" ON CENTER.
 - PROVIDE PIPE SLEEVE FOR SANITARY PIPE UNDER FOOTINGS. REFER TO PLUMBING DRAWINGS FOR PIPE ELEVATION AND INVERT. BACKFILL WITH LEAN CONCRETE.



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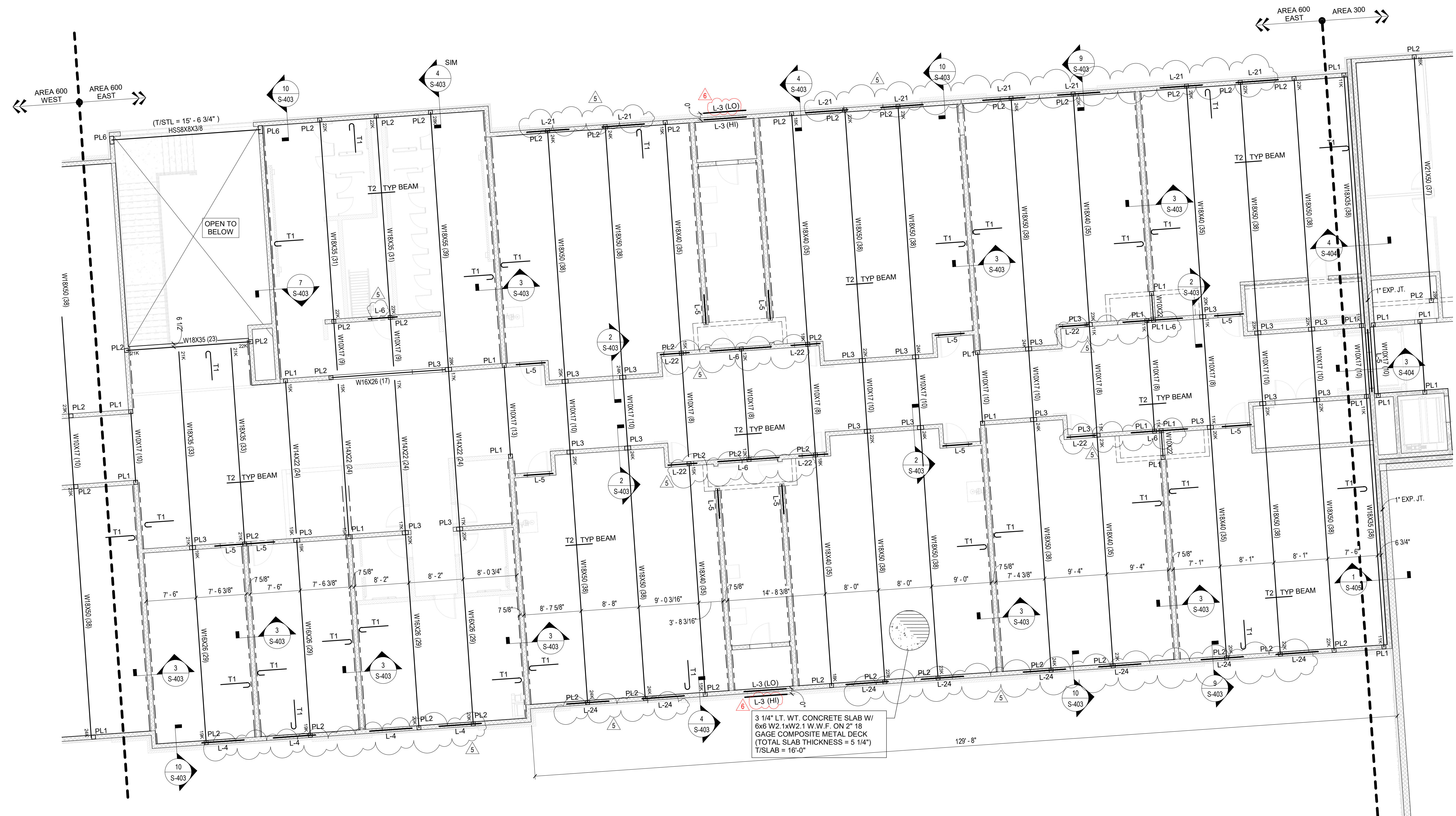
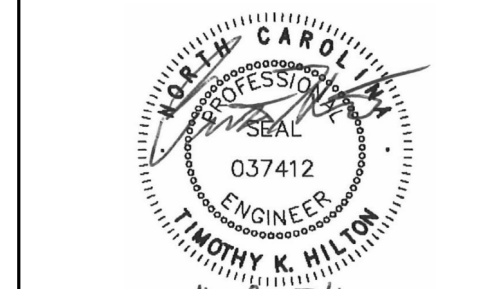
HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL
JOEL JOHNSON ROAD/US 401 S, LILLINGTON NC 27546



No.	Date	Description
4	01-09-25	NC DPI CD
5	01-30-25	ADDENDUM 1
6	02-05-25	ADDENDUM 2

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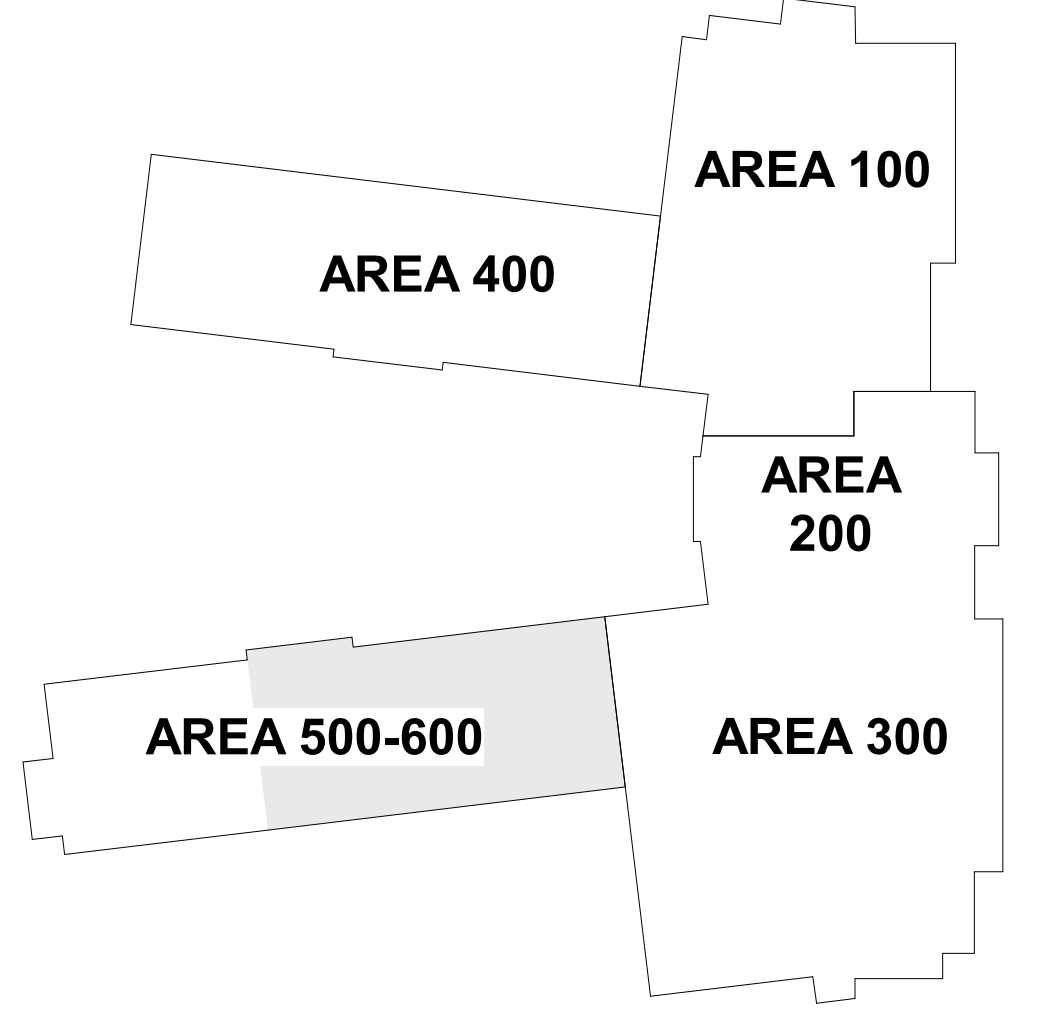
FOUNDATION AND
SLAB PLAN AREA
300



1 SECOND FLOOR FRAMING PLAN AREA 600 EAST
S-125A SCALE: 1/8" = 1'-0"

SECOND FLOOR PLAN NOTES:

- REFER TO PLAN FOR TOP OF SLAB ELEVATION.
- ALL ELEVATIONS ARE REFERENCED FROM FIRST LEVEL FINISHED FLOOR (0'-0") U.O.N.
- TOP OF STEEL = 5 1/4" BELOW FIN. FL. U.O.N.
- NUMBERS IN PARENTHESIS DENOTES QUANTITY OF 3/4"Ø x 4" STUDS EQUALLY SPACED ON BEAM. SEE 8/S-401 FOR COMPOSITE BEAM LEGEND.
- NUMBERS SHOWN THUS, \curvearrowright , DENOTES BEAM VERTICAL SHEAR REACTION IN KIPS. BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF 10k VERTICAL SHEAR U.O.N. ON PLAN. NOTED REACTIONS ARE SERVICE UNFACTORED LOADS.
- PL# DENOTES BEAM BEARING PLATE. SEE SCHEDULE ON S-201 - SEE DETAILS.
- T# DENOTES SLAB TOP BARS. SEE S-401 FOR SCHEDULE.
- L# DENOTES LOAD BEARING LINTEL. SEE SCHEDULE ON S-202.
- PROVIDE BOND BEAMS IN MASONRY WALLS @ 8'-0" MAX. AND TOP COURSE OF ALL WALLS. PROVIDE CORNER BARS IN BOND BEAMS IN CORNERS AND INTERSECTIONS. SEE DETAILS ON 1/S-201 AND 2/S-201.
- COORD. LOCATIONS OF FLOOR OPENINGS W/ MECH/L CONTRACTOR. SEE DETAIL 7/S-401.
- PROVIDE #5@48" VERTICAL @ INTERIOR CMU WALLS U.O.N. SEE FOUNDATION PLAN FOR VERTICAL REINFORCING IN EXTERIOR CMU WALLS.
- \blacktriangle DENOTES A MOMENT CONNECTION. NUMBERS SHOWN THUS, 15k-ft, DENOTES MOMENT IN KIPS-FT (SERVICE LOADS).
- CONSTRUCTION JOINTS IN ELEVATED CONCRETE ON METAL DECK POURS SHALL BE SUBMITTED FOR REVIEW PRIOR TO CONSTRUCTION. SEE DETAIL 2/S-401.
- FLOOR FRAMING AND COMPOSITE FLOOR DECK ARE DESIGNED TO REMAIN UNSHORED DURING CONCRETE PLACEMENT. ACCOUNT FOR AN EXPECTED DEFLECTION IN BEAMS AND GIRDERS OF UP TO 1/360 OF THE SPAN LENGTH (IN INCHES) OR 1", WHICHEVER IS LESS WHEN CALCULATING CONCRETE QUANTITIES. FINISH SUPPORTED SLABS FLAT AND LEVEL.
- \dashv DENOTES CONT. L6X4X3/8 LLV. REFER TO DETAIL 7/S-403 & 3/S-403.



HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL
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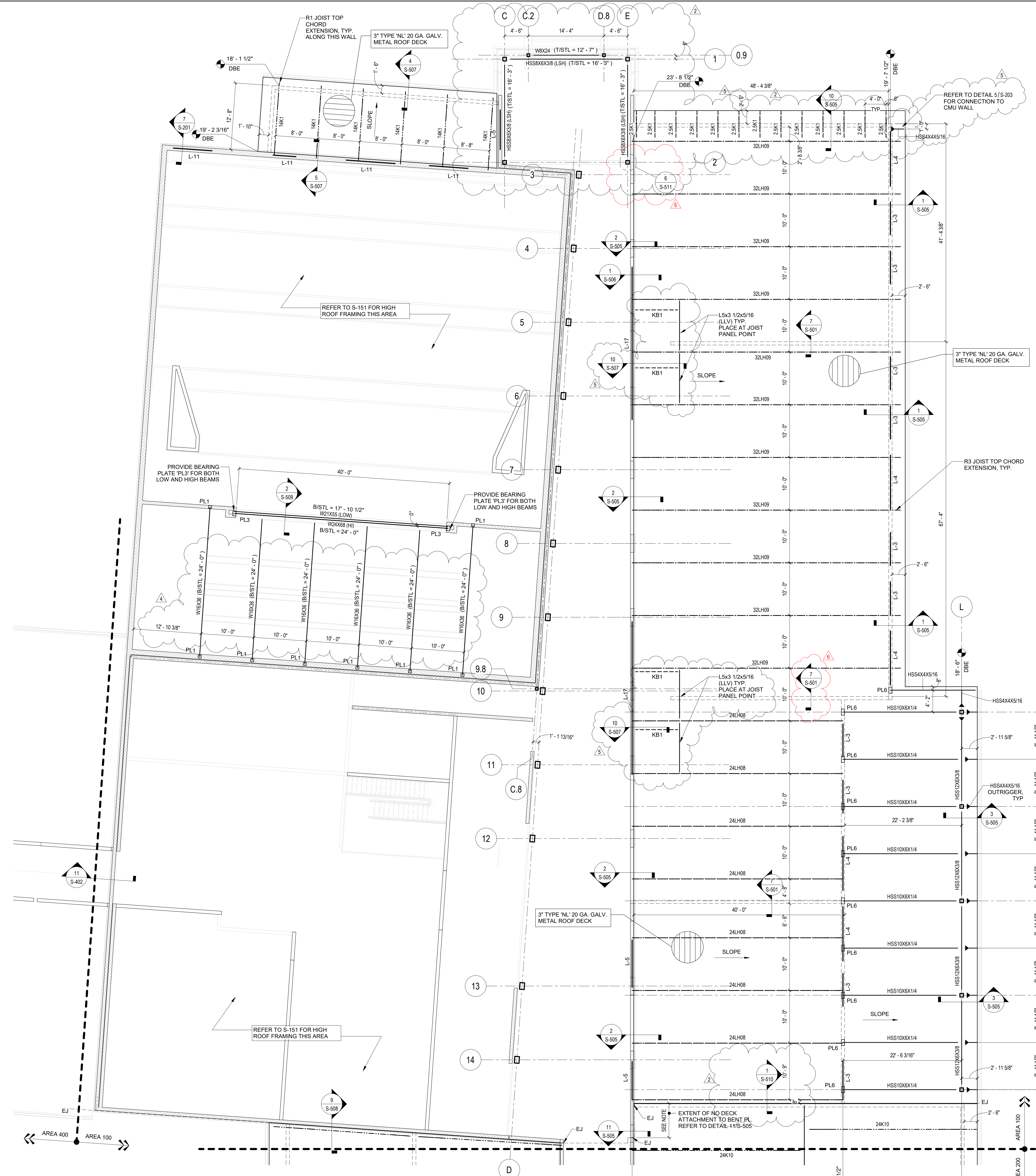


No.	Date	Description
5	01-30-25	ADDENDUM 1
6	02-05-25	ADDENDUM 2

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SECOND FLOOR
FRAMING PLAN
AREA 600 EAST



- ROOF FRAMING PLAN NOTES:**
1. DENOTES ROOF DECK BEARING ELEVATION (DBE) U.O.N. ABOVE FIRST LEVEL FIN. FLOOR ELEV. = 0'-0".
 2. LxT DENOTES TOP OF STEEL BELOW DECK BEARING ELEVATION.
 3. NUMBERS SHOWN THUS, ¹⁰, DENOTES BEAM VERTICAL REACTION IN KIPS. BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF 10K VERTICAL SHEAR U.O.N. ON PLAN. NOTED REACTIONS ARE SERVICE/UNFACTORED LOADS.
 4. PL# DENOTES BEAM BEARING PLATE. SEE SCHEDULE ON S-201. SEE DETAILS.
 5. L# DENOTES LOAD BEARING OR EXTERIOR LINTEL. SEE SCHEDULE ON S-202.
 6. PROVIDE BOND BEAMS IN MASONRY WALLS @ 8'-0" MAX. AND TOP COURSE OF ALL WALLS. PROVIDE CORNER BARS IN BOND BEAMS IN CORNERS AND INTERSECTIONS. SEE DETAILS ON 1/S-201 AND 2/S-201.
 7. DENOTES A MOMENT CONNECTION. NUMBERS SHOWN THUS, 15k-ft, DENOTES MOMENT IN KIPS-FT (SERVICE LOADS).
 8. FRAME ROOF OPENINGS W/ L4x4x5/16. COORD. LOCATION W/ MECHL CONTRACTOR. SEE DETAIL 12/S-501.
 9. DO NOT HANG ANYTHING FROM ROOF DECK.
 10. REFER TO S-501 FOR ROOF DECK ATTACHMENT PATTERN.
 11. GREY SHADED AREA IN AREA 300 DENOTES CFS JOISTS @ 18" OC TOPPED WITH 3/4" PLYWOOD TO SUPPORT CEILING AND MECHANICAL EQUIPMENT. COLD FORMED SUPPLIER SHALL PROVIDE FASTENER TYPE AND SPACING FOR CFS CONNECTIONS AS WELL AS PLYWOOD FLOORING. COLD FORMED STEEL STUD CEILING JOISTS, AS WELL AS ANY REQUIRED GIRDERS SHALL BE DESIGNED FOR THE EQUIPMENT WEIGHT IN ADDITION TO 10 PSF DEAD LOAD AND 40 PSF LIVE LOAD. COORDINATE EQUIPMENT WEIGHT AND LOCATION WITH MECHANICAL CONTRACTOR.
 12. 'KB#' DENOTES ANGLE KICKER. REFER TO DETAILS NOTED ON PLAN.

1
S-141 LOW ROOF FRAMING PLAN AREA 100
SCALE: 1/8" = 1'-0"

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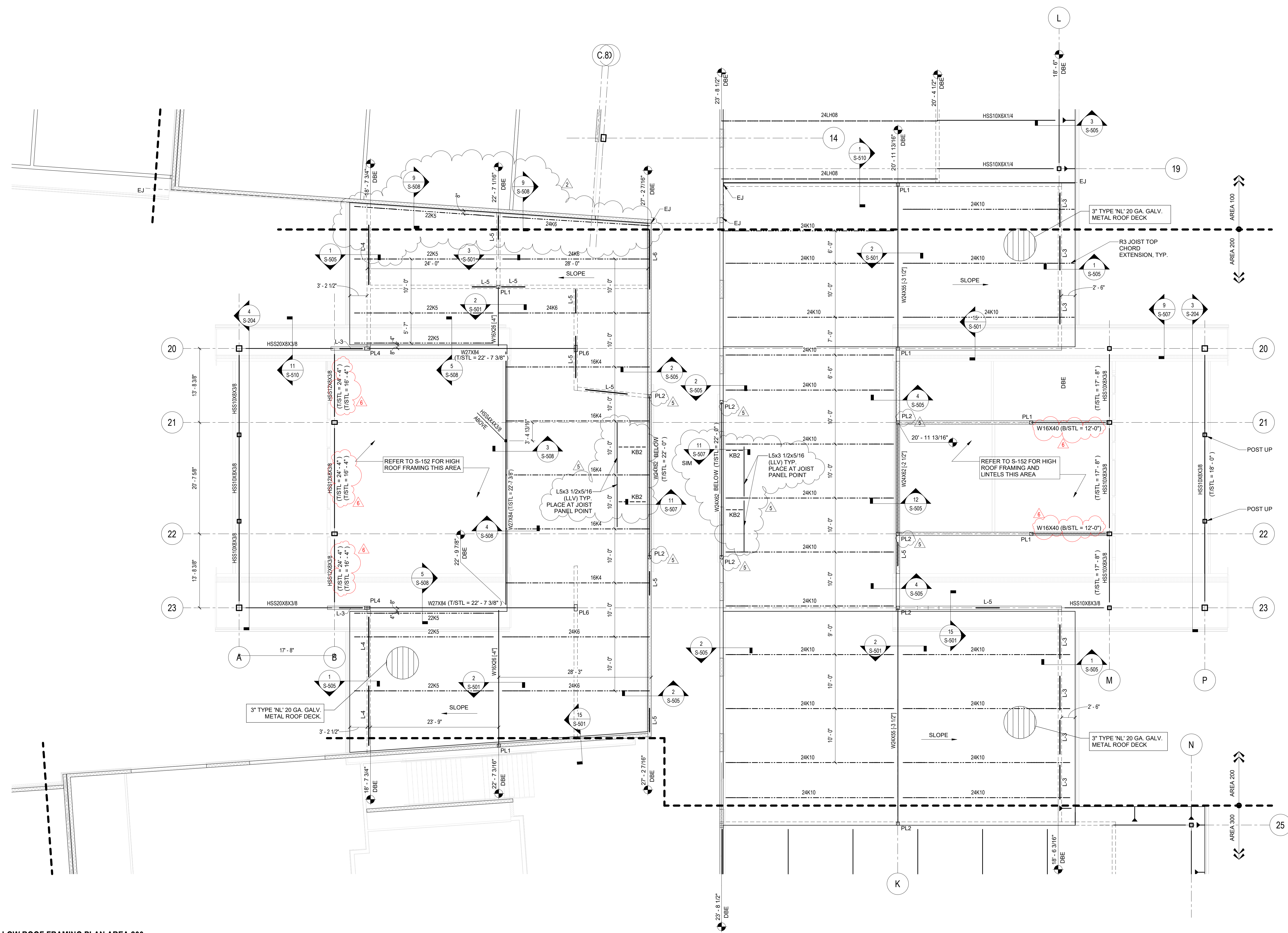
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No.	Date	Description
2	12-13-24	CD REVISIONS
4	01-09-25	NCDPI CD
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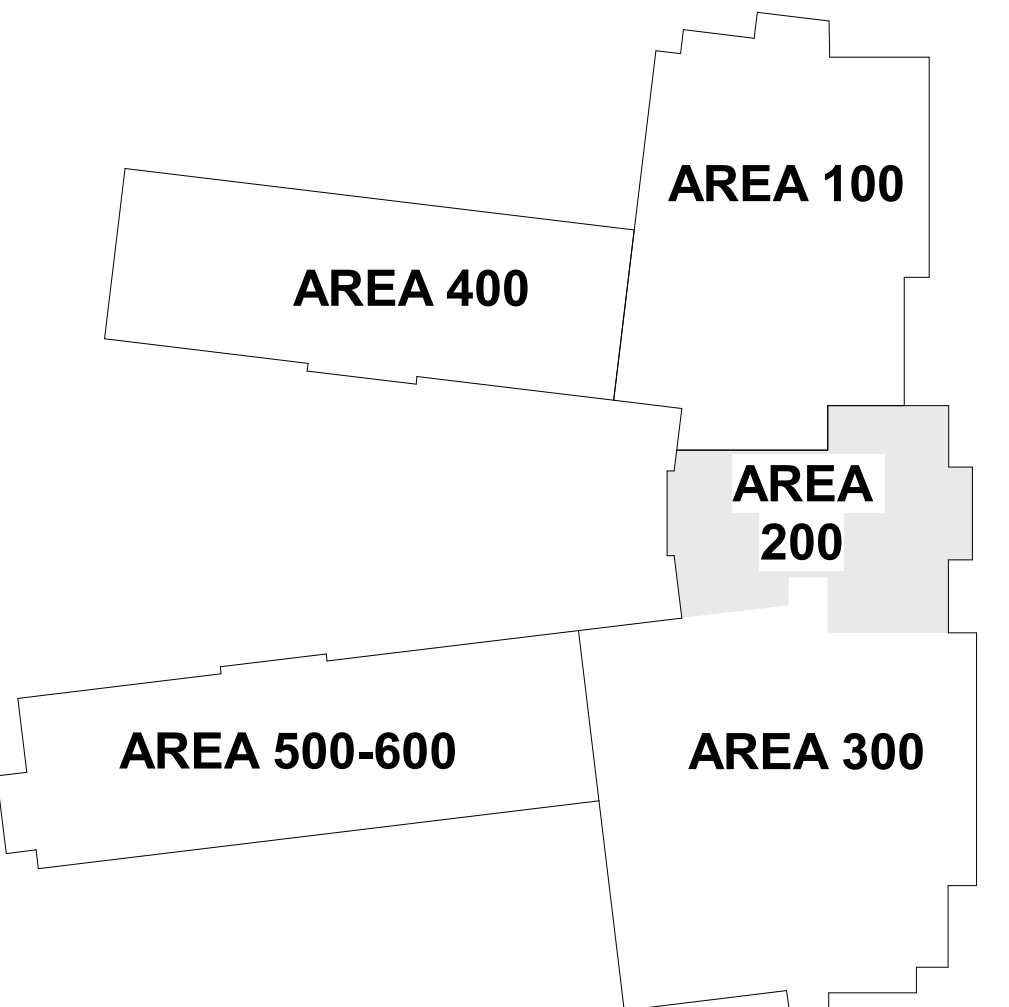
LOW ROOF
FRAMING PLAN
AREA 100



1 LOW ROOF FRAMING PLAN AREA 200
SCALE: 1/8" = 1'-0"

ROOF FRAMING PLAN NOTES:

1. DENOTES ROOF DECK BEARING ELEVATION (DBE) U.O.N. ABOVE FIRST LEVEL FIN. FLOOR ELEV. = 0'-0".
2. [X] DENOTES TOP OF STEEL BELOW DECK BEARING ELEVATION.
3. NUMBERS SHOWN THIS WAY DENOTES BEAM VERTICAL SHEAR REACTION IN KIPS. BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF 10K VERTICAL SHEAR U.O.N. ON PLAN. NOTED REACTIONS ARE SERVICE/UNFACTORED LOADS.
4. PL# DENOTES BEAM BEARING PLATE. SEE SCHEDULE ON S-201. SEE DETAILS.
5. L# DENOTES LOAD BEARING OR EXTERIOR LINTEL. SEE SCHEDULE ON S-202.
6. PROVIDE BOND BEAMS IN MASONRY WALLS @ 8'-0" MAX. AND TOP COURSE OF ALL WALLS. PROVIDE CORNER BARS IN BOND BEAMS IN CORNERS AND INTERSECTIONS. SEE DETAILS ON 1/S-201 AND 2/S-201.
7. M DENOTES A MOMENT CONNECTION. NUMBERS SHOWN THUS, 15k-ft, DENOTES MOMENT IN KIPS-FT (SERVICE LOADS).
8. FRAME ROOF OPENINGS W/ L4x4x5/16. COORD. LOCATION W/ MECHL CONTRACTOR. SEE DETAIL 12/S-501.
9. DO NOT HANG ANYTHING FROM ROOF DECK.
10. REFER TO S-501 FOR ROOF DECK ATTACHMENT PATTERN.
11. GREY SHADED AREA IN AREA 300 DENOTES CFS JOISTS @ 16" OC TOPPED WITH 3/4" PLYWOOD TO SUPPORT CEILING AND MECHANICAL EQUIPMENT. COLD FORMED SUPPLIER SHALL PROVIDE FASTENER TYPE AND SPACING FOR CFS CONNECTIONS AS WELL AS PLYWOOD FLOORING. COLD FORMED STEEL STUD CEILING JOISTS, AS WELL AS ANY REQUIRED GIRDERS SHALL BE DESIGNED FOR THE EQUIPMENT WEIGHT IN ADDITION TO 10 PSF DEAD LOAD AND 40 PSF LIVE LOAD. COORDINATE EQUIPMENT WEIGHT AND LOCATION WITH MECHANICAL CONTRACTOR.
12. KB# DENOTES ANGLE KICKER. REFER TO DETAILS NOTED ON PLAN.



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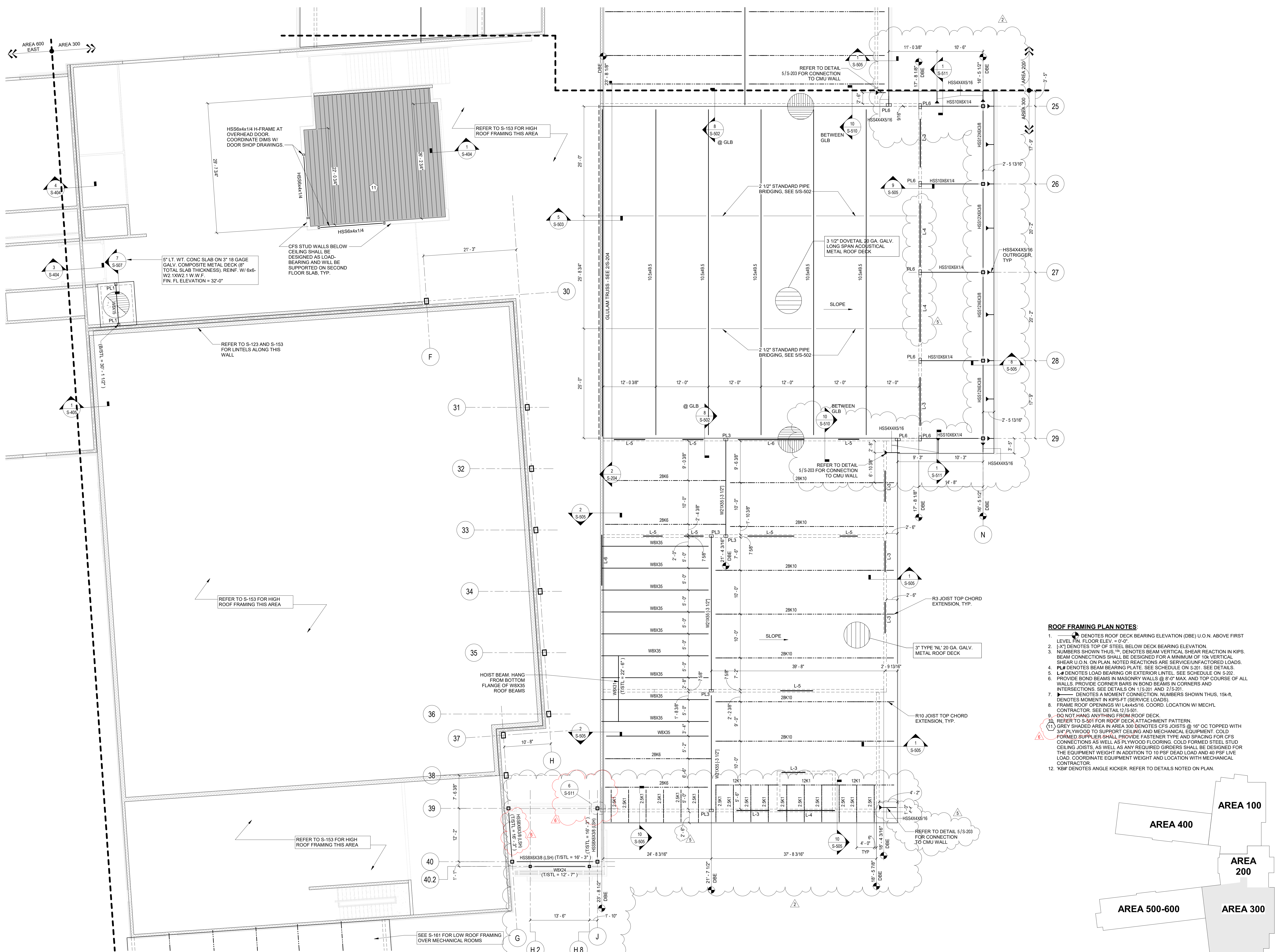
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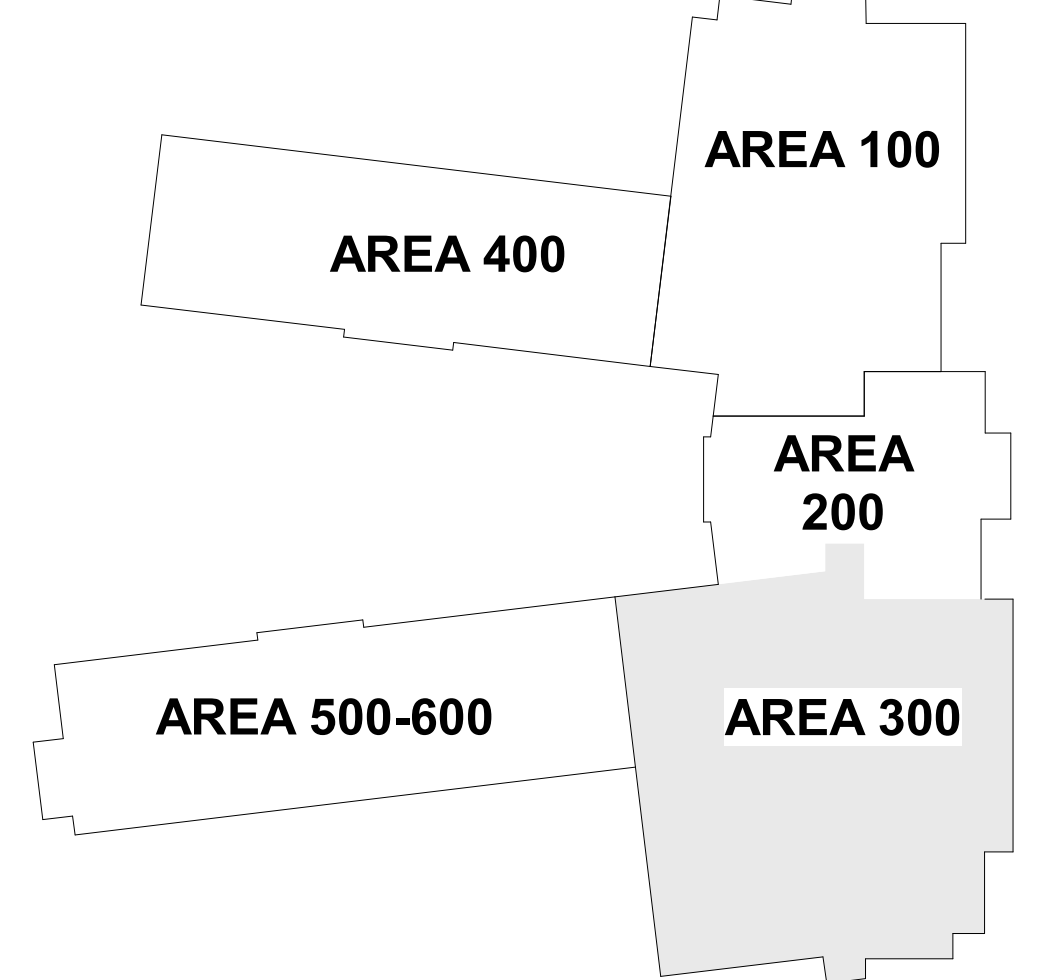
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LOW ROOF
FRAMING PLAN
AREA 200



- ROOF FRAMING PLAN NOTES:**
1. DENOTES ROOF DECK BEARING ELEVATION (DBE) U.O.N. ABOVE FIRST LEVEL FIN. FLOOR ELEV. = 0'-0\"/>
 2. [X] DENOTES TOP OF STEEL BELOW DECK BEARING ELEVATION.
 3. NUMBERS SHOWN THUS, ¹⁰, DENOTES BEAM VERTICAL SHEAR REACTION IN KIPS. BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF 10% VERTICAL SHEAR U.O.N. ON PLAN. NOTED REACTIONS ARE SERVICE/UNFACTORED LOADS.
 4. PL# DENOTES BEAM BEARING PLATE. SEE SCHEDULE ON S-201. SEE DETAILS.
 5. L# DENOTES LOAD BEARING OR EXTERIOR LINTEL. SEE SCHEDULE ON S-202.
 6. PROVIDE BOND BEAMS IN MASONRY WALLS @ 8'-0\"/>
 7. DENOTES A MOMENT CONNECTION. NUMBERS SHOWN THUS, 15k-ft, DENOTES MOMENT IN KIPS-FT (SERVICE LOADS).
 8. FRAME ROOF OPENINGS W/ L#s@#s/16. COORD. LOCATION W/ MECH'L CONTRACTOR. SEE DETAIL 5/S-501.
 9. DO NOT HANG ANYTHING FROM ROOF DECK.
 10. REFER TO S-501 FOR ROOF DECK ATTACHMENT PATTERN.
 11. GREY SHADED AREA IN AREA 300 DENOTES CFS JOISTS @ 16\"/>
 12. DENOTES ANGLE KICKER. REFER TO DETAILS NOTED ON PLAN.



1 LOW ROOF FRAMING PLAN AREA 300
SCALE: 1/8" = 1'-0"

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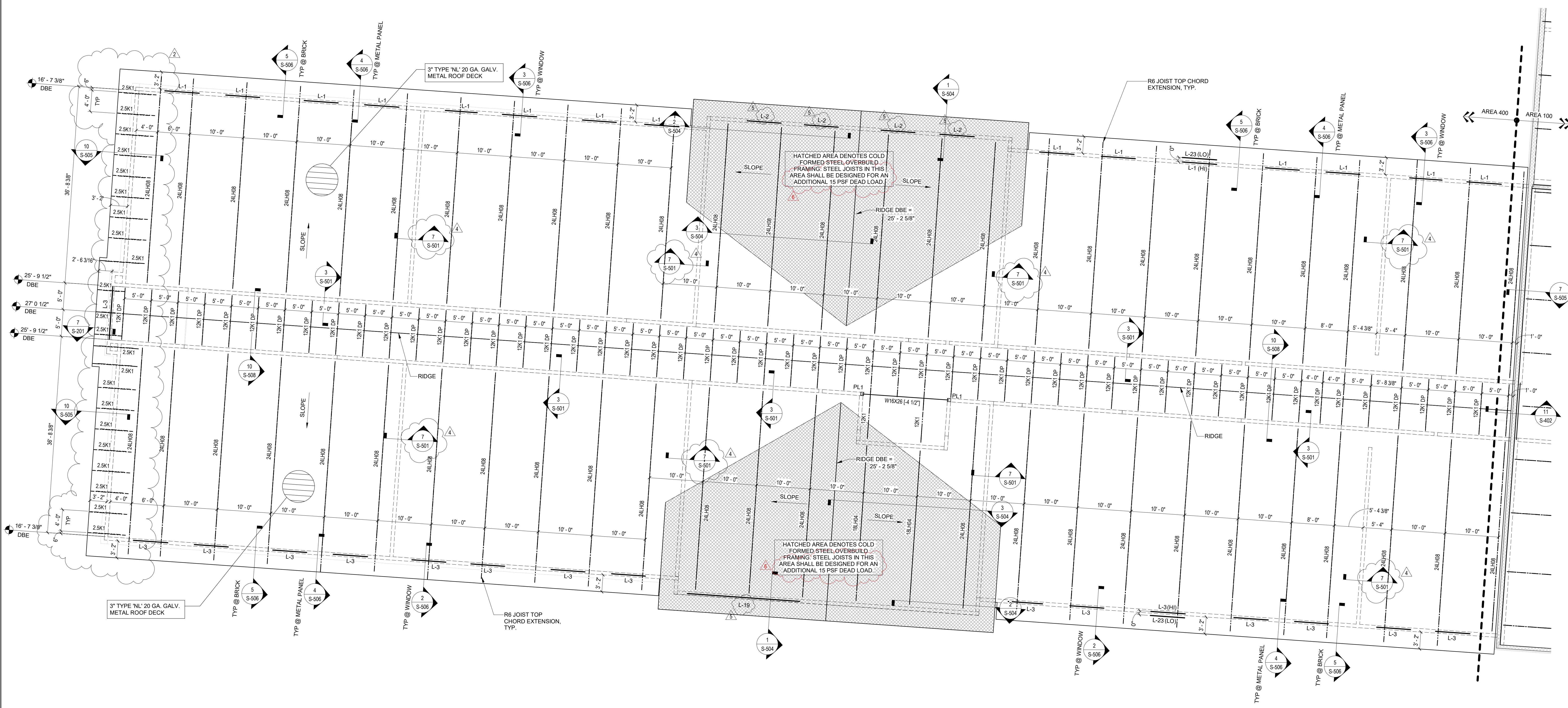
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FLATWOODS MIDDLE SCHOOL
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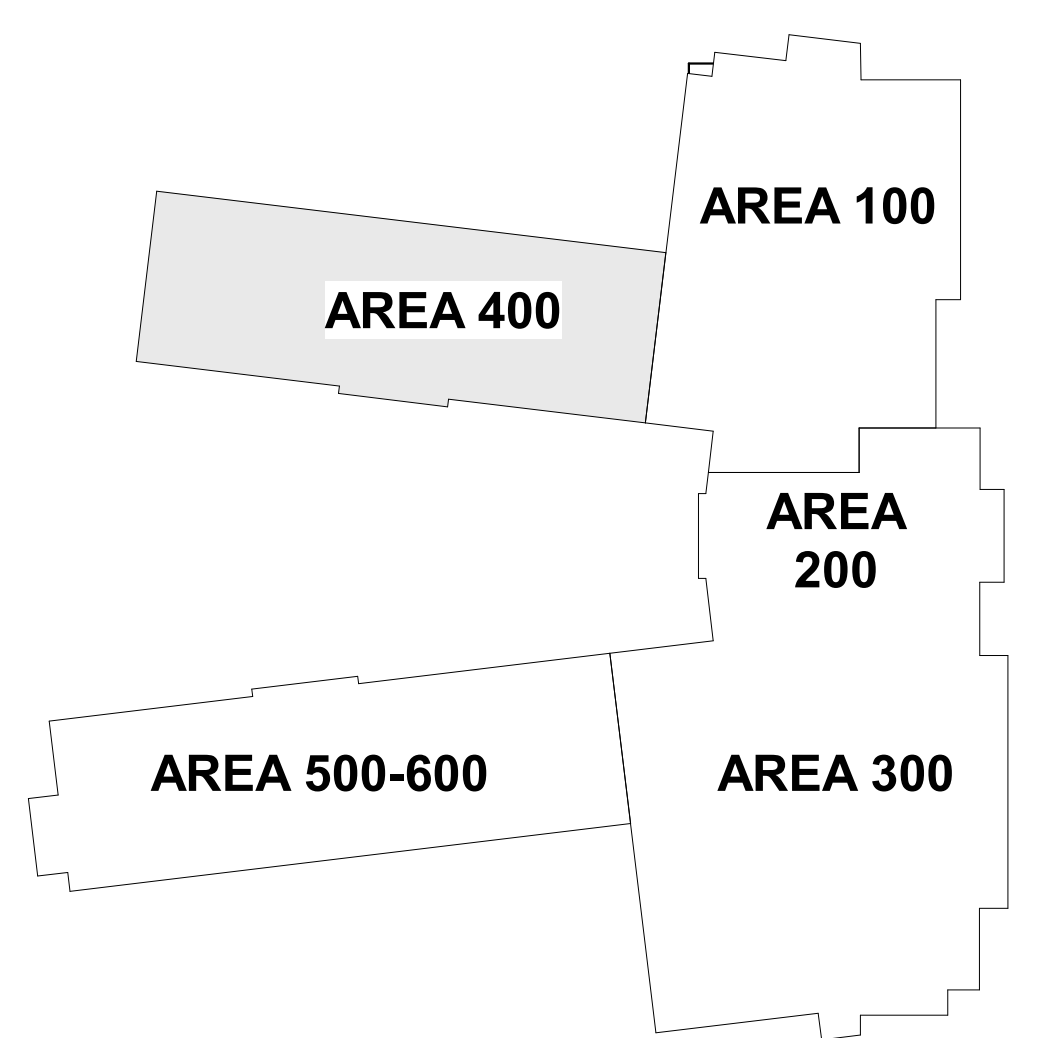
LOW ROOF FRAMING PLAN AREA 300



1
S-144 LOW ROOF FRAMING PLAN AREA 400
SCALE: 1/8" = 1'-0"

ROOF FRAMING PLAN NOTES:

1. DENOTES ROOF DECK BEARING ELEVATION (DBE) U.O.N. ABOVE FIRST LEVEL FIN. FLOOR ELEV. = 0'-0".
2. L1X1 DENOTES TOP OF STEEL BELOW DECK BEARING ELEVATION.
3. NUMBERS SHOWN THUS, ¹⁶/₁₆, DENOTES BEAM VERTICAL SHEAR REACTION IN KIPS. BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF 10K VERTICAL SHEAR U.O.N. ON PLAN. NOTED REACTIONS ARE SERVICE UNFACTORED LOADS.
4. **PL** DENOTES BEAM BEARING PLATE. SEE SCHEDULE ON S-201. SEE DETAILS.
5. **L** DENOTES LOAD BEARING OR EXTERIOR UNTEL. SEE SCHEDULE ON S-202.
6. PROVIDE BOND BEAMS IN MASONRY WALLS @ 9'-0" MAX. AND TOP COURSE OF ALL WALLS. PROVIDE CORNER BARS IN BOND BEAMS IN CORNERS AND INTERSECTIONS. SEE DETAILS ON 1/S-201 AND 2/S-201.
7. DENOTES A MOMENT CONNECTION. NUMBERS SHOWN THUS, 15k-L, DENOTES MOMENT IN KIPS-FT (SERVICE LOADS).
8. FRAME ROOF OPENINGS W/ L4x4x5/16. COORD. LOCATION W/ MECH. CONTRACTOR. SEE DETAIL 17/S-501.
9. DO NOT HANG ANYTHING FROM ROOF DECK.
10. REFER TO S-501 FOR ROOF DECK ATTACHMENT PATTERN.
11. GREY SHADED AREA IN AREA 300 DENOTES CFS JOISTS @ 16" OC TOPPED WITH 3/4" PLYWOOD TO SUPPORT CEILING AND MECHANICAL EQUIPMENT. COLD FORMED SUPPLIER SHALL PROVIDE FASTENER TYPE AND SPACING FOR CFS CONNECTIONS AS WELL AS PLYWOOD FLOORING. COLD FORMED STEEL STUD CEILING JOISTS, AS WELL AS ANY REQUIRED GIRDERS SHALL BE DESIGNED FOR THE EQUIPMENT WEIGHT IN ADDITION TO 10 PSF DEAD LOAD AND 40 PSF LIVE LOAD. COORDINATE EQUIPMENT WEIGHT AND LOCATION WITH MECHANICAL CONTRACTOR.
12. KB¹ DENOTES ANGLE KICKER. REFER TO DETAILS NOTED ON PLAN.



HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL
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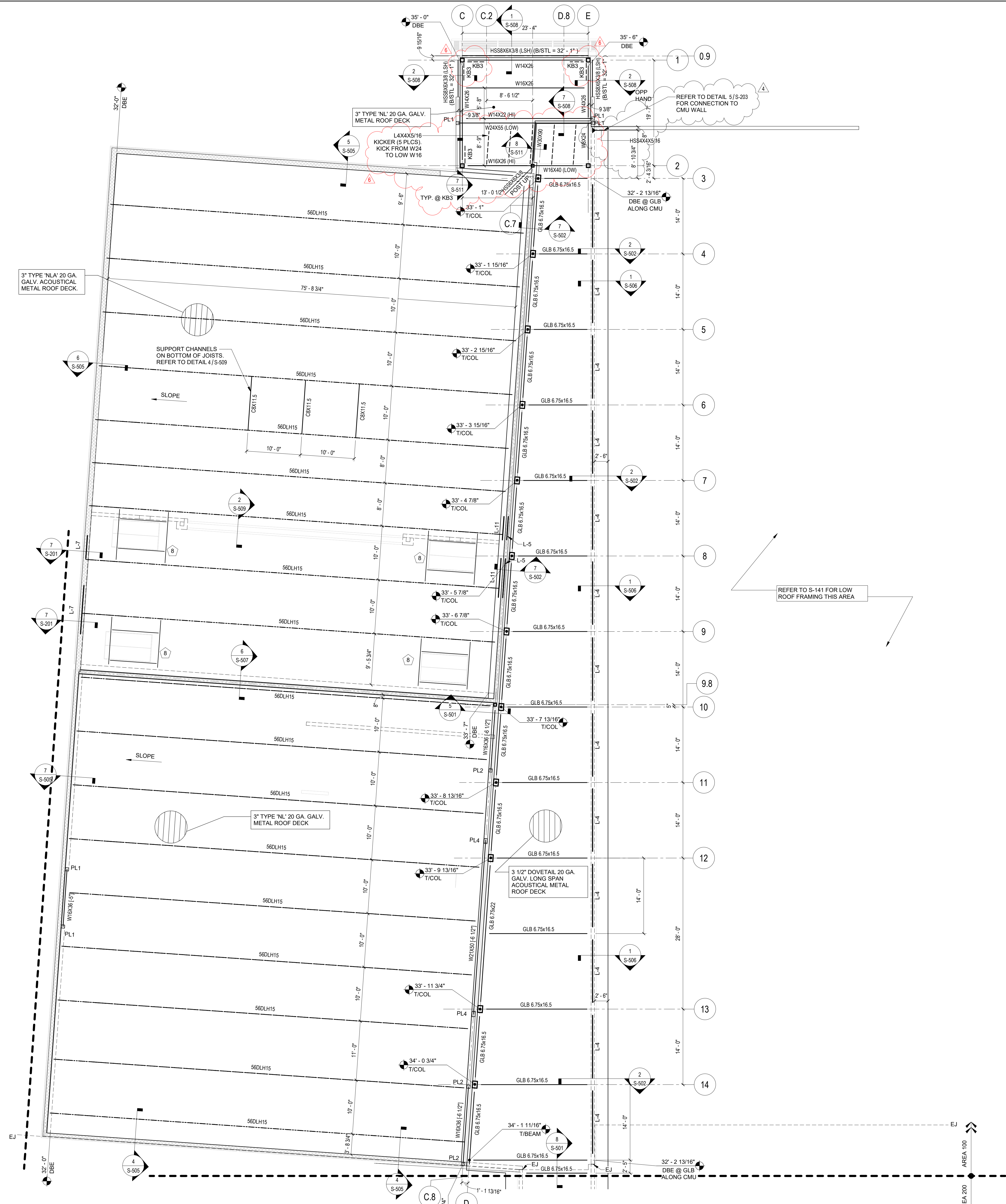
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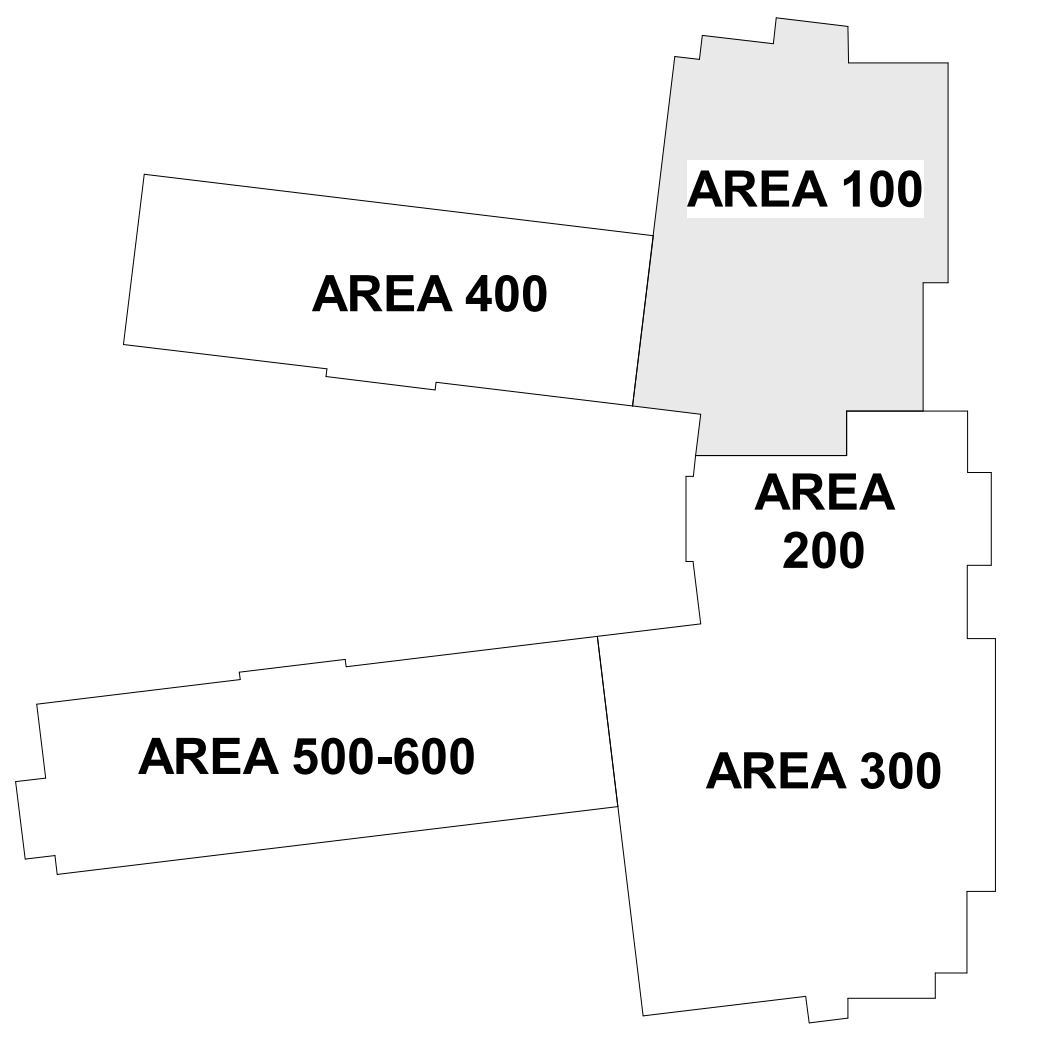
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LOW ROOF
FRAMING PLAN
AREA 400



1 HIGH ROOF FRAMING PLAN AREA 100
S-151 SCALE: 1/8" = 1'-0"

- ROOF FRAMING PLAN NOTES:**
1. DENOTES ROOF DECK BEARING ELEVATION (DBE) U.O.N. ABOVE FIRST LEVEL FIN FLOOR ELEV. + 0'-0".
 2. (-X') DENOTES TOP OF STEEL BELOW DECK BEARING ELEVATION.
 3. NUMBERS SHOWN THUS, "R", DENOTES BEAM VERTICAL SHEAR REACTION IN KIPS. BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF 10K VERTICAL SHEAR U.O.N. ON PLAN. NOTED REACTIONS ARE SERVICE/UNFACTORED LOADS.
 4. PL# DENOTES BEAM BEARING PLATE. SEE SCHEDULE ON S-201. SEE DETAILS.
 5. L-# DENOTES LOAD BEARING OR EXTERIOR LINTEL. SEE SCHEDULE ON S-202.
 6. PROVIDE BOND BEAMS IN MASONRY WALLS @ 8'-0" MAX. AND TOP COURSE OF ALL WALLS. PROVIDE CORNER BARS IN BOND BEAMS IN CORNERS AND INTERSECTIONS. SEE DETAILS ON 1/S-201 AND 2/S-201.
 7. DENOTES A MOMENT CONNECTION. NUMBERS SHOWN THUS, 15K-F, DENOTES MOMENT IN KIPS-FT (SERVICE LOADS).
 8. FRAME ROOF OPENINGS W/ L4x4x5/16. COORD. LOCATION W/ MECHL CONTRACTOR. SEE DETAIL 12/S-501.
 9. DO NOT HANG ANYTHING FROM ROOF DECK.
 10. REFER TO S-501 FOR ROOF DECK ATTACHMENT PATTERN.
 11. GREY SHADED AREA IN AREA 300 DENOTES CFS JOISTS @ 16" OC TOPPED WITH 3/4" PLYWOOD TO SUPPORT CEILING AND MECHANICAL EQUIPMENT. COLD FORMED SUPPLIER SHALL PROVIDE FASTENER TYPE AND SPACING FOR CFS CONNECTIONS AS WELL AS PLYWOOD FLOORING. COLD FORMED STEEL STUD CEILING JOISTS, AS WELL AS ANY REQUIRED GIRDERS SHALL BE DESIGNED FOR THE EQUIPMENT WEIGHT IN ADDITION TO 10 PSF DEAD LOAD AND 40 PSF LIVE LOAD. COORDINATE EQUIPMENT WEIGHT AND LOCATION WITH MECHANICAL CONTRACTOR.
 12. "KB" DENOTES ANGLE KICKER. REFER TO DETAILS NOTED ON PLAN.



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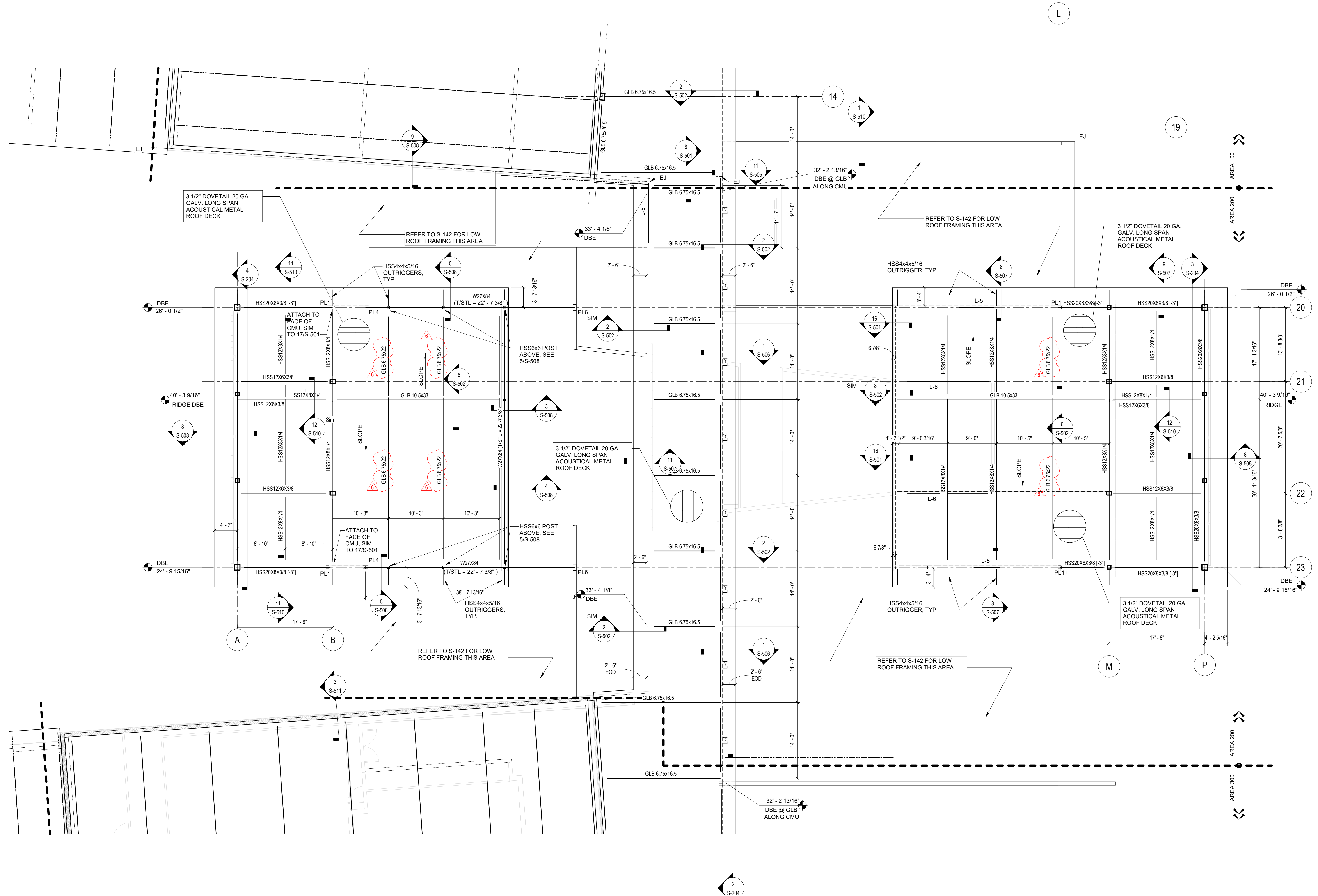
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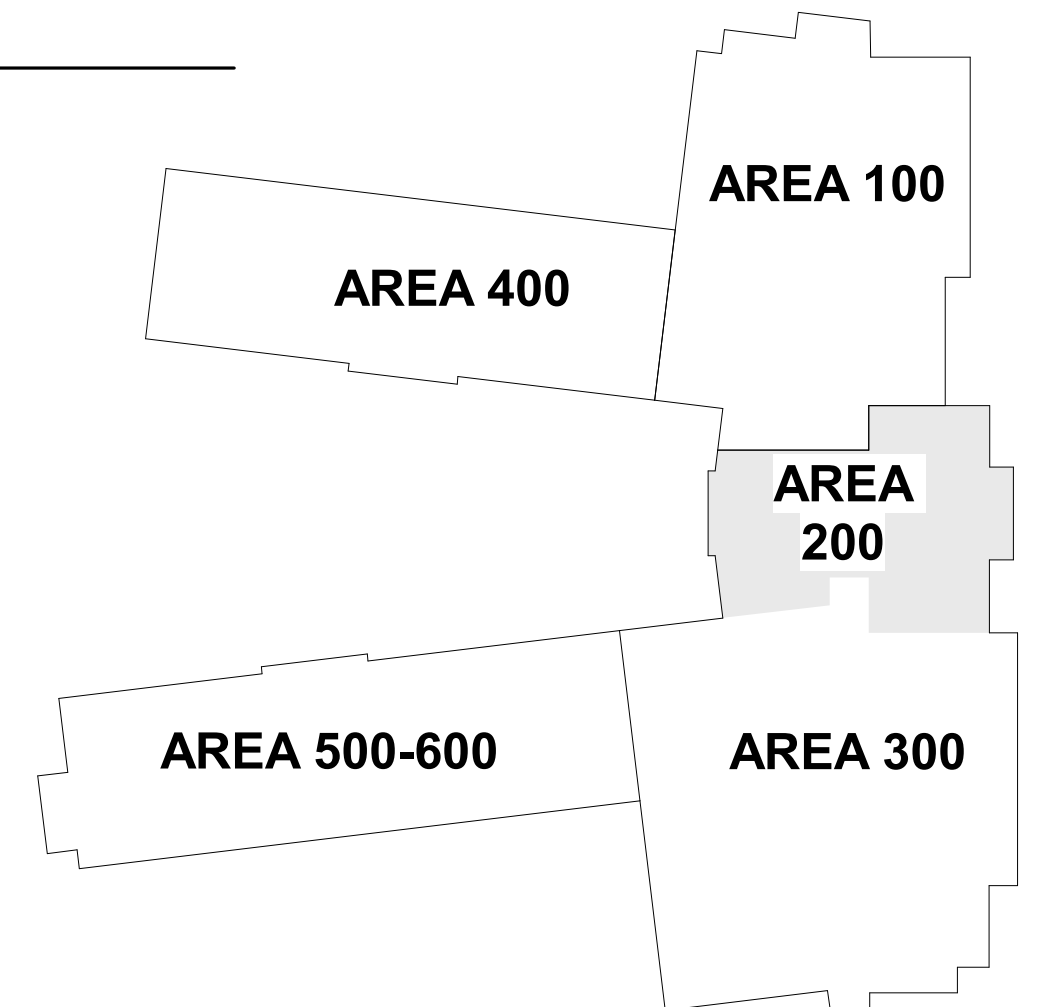
HIGH ROOF
FRAMING PLAN
AREA 100



1 HIGH ROOF FRAMING PLAN AREA 200
SCALE: 1/8" = 1'-0"

ROOF FRAMING PLAN NOTES:

1. DENOTES ROOF DECK BEARING ELEVATION (DBE) U.O.N. ABOVE FIRST LEVEL FIN. FLOOR ELEV. = 0'-0".
2. [X] DENOTES TOP OF STEEL BELOW DECK BEARING ELEVATION.
3. NUMBERS SHOWN THUS: ¹⁰ DENOTES BEAM VERTICAL SHEAR REACTION IN KIPS. BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF 10K VERTICAL SHEAR U.O.N. ON PLAN. NOTED REACTIONS ARE SERVICE/UNFACTORED LOADS.
4. PL# DENOTES BEAM BEARING PLATE. SEE SCHEDULE ON S-201. SEE DETAILS.
5. L# DENOTES LOAD BEARING OR EXTERIOR LINTEL. SEE SCHEDULE ON S-202.
6. PROVIDE BOND BEAMS IN MASONRY WALLS @ 8'-0" MAX. AND TOP COURSE OF ALL INTERSECTIONS. SEE DETAILS ON 1/5-201 AND 2/5-201.
7. \blacktriangleright DENOTES A MOMENT CONNECTION. NUMBERS SHOWN THUS, 15k-ft, DENOTES MOMENT IN KIPS-FT (SERVICE LOADS).
8. FRAME ROOF OPENINGS W/ 14x4x4x1/8. COORD. LOCATION W/ MECH. CONTRACTOR. SEE DETAIL 12/S-501.
9. DO NOT HANG ANYTHING FROM ROOF DECK.
10. REFER TO S-501 FOR ROOF DECK ATTACHMENT PATTERN.
11. GREY SHADED AREA IN AREA 300 DENOTES CFS JOISTS @ 16" OC TOPPED WITH 3/4" PLYWOOD TO SUPPORT CEILING AND MECHANICAL EQUIPMENT. COLD FORMED SUPPLIER SHALL PROVIDE FASTENER TYPE AND SPACING FOR CFS CONNECTIONS AS WELL AS PLYWOOD FLOORING. COLD FORMED STEEL STUD CEILING JOISTS, AS WELL AS ANY REQUIRE GIRDERS SHALL BE DESIGNED FOR THE EQUIPMENT WEIGHT IN ADDITION TO 10 PSF DEAD LOAD AND 40 PSF LIVE LOAD. COORDINATE EQUIPMENT WEIGHT AND LOCATION WITH MECHANICAL CONTRACTOR.
12. K# DENOTES ANGLE KICKER. REFER TO DETAILS NOTED ON PLAN.



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PROFESSIONAL ENGINEER
037412
TIMOTHY K. HICK
11-8-24

CONSTRUCTION
DOCUMENTS

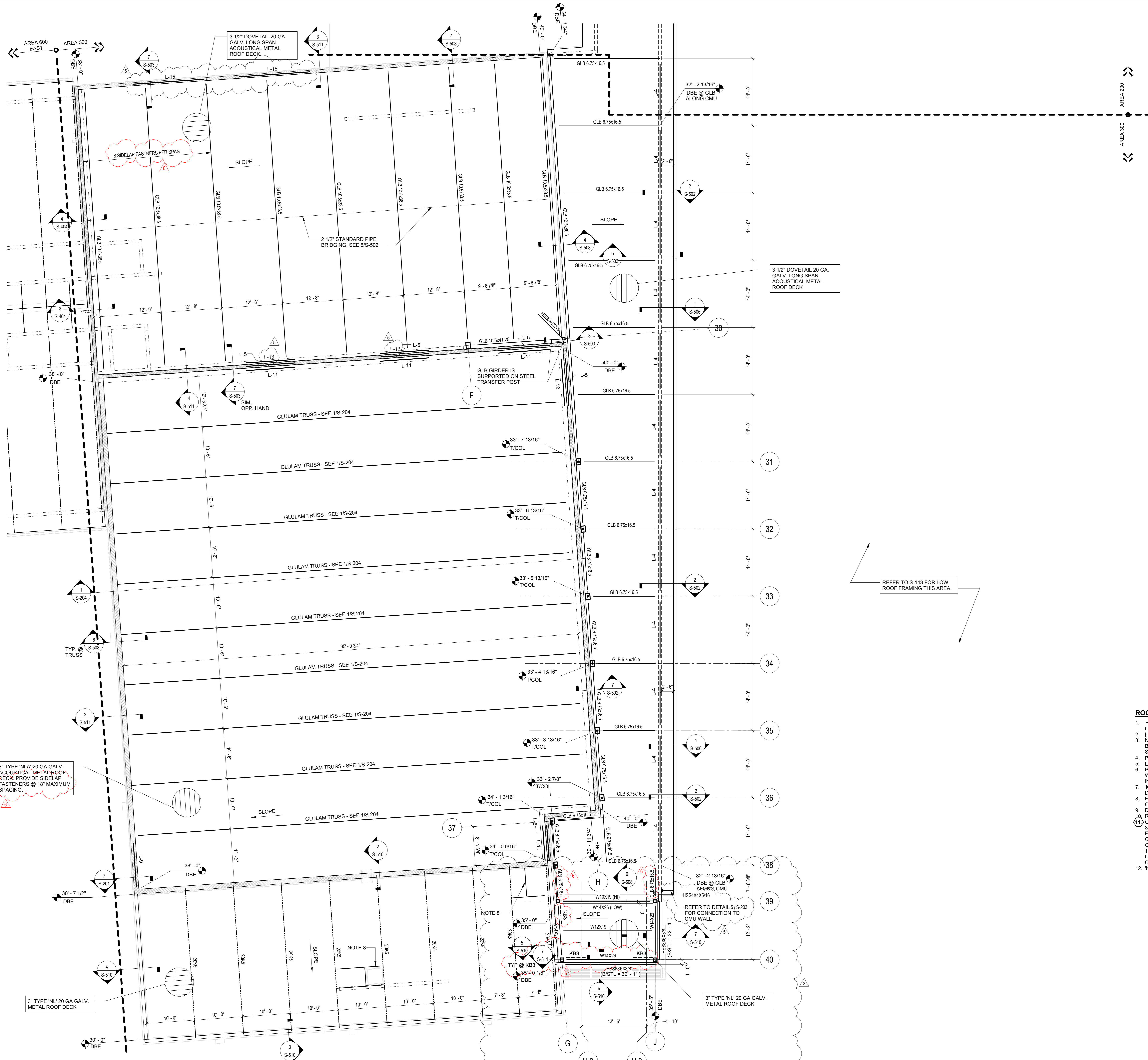
HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL
JOEL JOHNSON ROAD/US 401 S, LILLINGTON NC 27546



No.	Date	Description
6	02-05-25	ADDENDUM 2

ISSUE DATE: 01/09/2025
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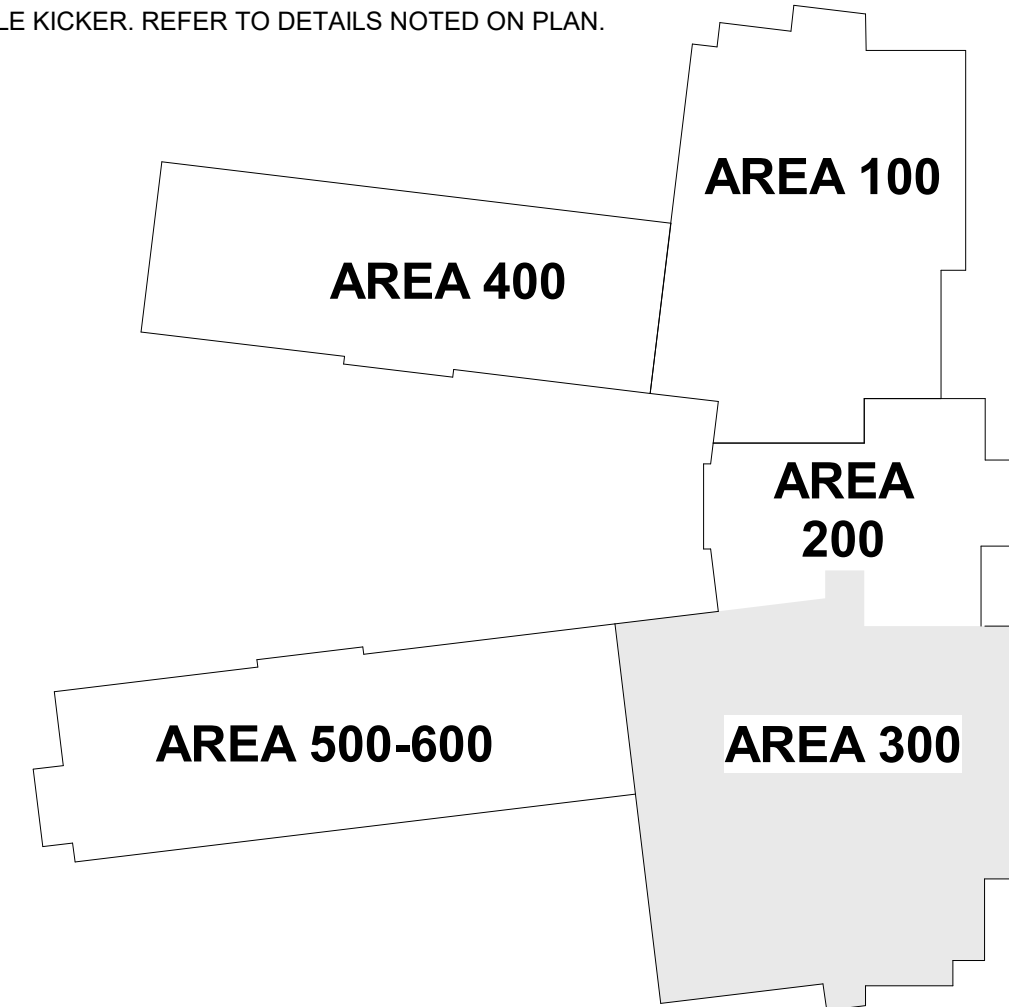
HIGH ROOF
FRAMING PLAN
AREA 200



1 HIGH ROOF FRAMING PLAN AREA 300
S-153 SCALE: 1/8" = 1'-0"

ROOF FRAMING PLAN NOTES:

1. DENOTES ROOF DECK BEARING ELEVATION (DBE) U.O.N. ABOVE FIRST LEVEL FIN FLOOR ELEV. = 0'-0".
2. LXT DENOTES TOP OF STEEL BELOW DECK BEARING ELEVATION.
3. NUMBERS SHOWN THUS: ¹⁰ DENOTES BEAM VERTICAL SHEAR REACTION IN KIPS. BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF 10K VERTICAL SHEAR U.O.N. ON PLAN. NOTED REACTIONS ARE SERVICE/UNFACTORED LOADS.
4. PL DENOTES BEAM BEARING PLATE. SEE SCHEDULE ON S-201. SEE DETAILS.
5. L DENOTES LOAD BEARING OR EXTERIOR INTEL. SEE SCHEDULE ON S-202.
6. PROVIDE BOND BEAMS IN MASONRY WALLS @ 8'-0" MAX. AND TOP COURSE OF ALL WALLS. PROVIDE CORNER BARS IN BOND BEAMS IN CORNERS AND INTERSECTIONS. SEE DETAILS ON 1/S-201 AND 2/S-201.
7. DENOTES A MOMENT CONNECTION. NUMBERS SHOWN THUS, 15k-ft, DENOTES MOMENT IN KIPS-FT (SERVICE LOADS).
8. FRAME ROOF OPENINGS W/ L4x4x9/16. COORD. LOCATION W/ MECHL CONTRACTOR. SEE DETAIL 12/S-501.
9. DO NOT HANG ANYTHING FROM ROOF DECK.
10. REFER TO S-501 FOR ROOF DECK ATTACHMENT PATTERN.
11. GREY SHADED AREA IN AREA 300 DENOTES GFS JOISTS @ 16" OC TOPPED WITH 3/4" PLYWOOD TO SUPPORT CEILING AND MECHANICAL EQUIPMENT. COLD FORMED SUPPLIER SHALL PROVIDE FASTENER TYPE AND SPACING FOR GFS CONNECTIONS AS WELL AS PLYWOOD FLOORING. COLD FORMED STEEL STUD CEILING JOISTS, AS WELL AS ANY REQUIRED GIRDERS SHALL BE DESIGNED FOR THE EQUIPMENT WEIGHT IN ADDITION TO 10 PSF DEAD LOAD AND 40 PSF LIVE LOAD. COORDINATE EQUIPMENT WEIGHT AND LOCATION WITH MECHANICAL CONTRACTOR.
12. KBV DENOTES ANGLE KICKER. REFER TO DETAILS NOTED ON PLAN.



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LARRY K. HICK
11-8-24

CONSTRUCTION
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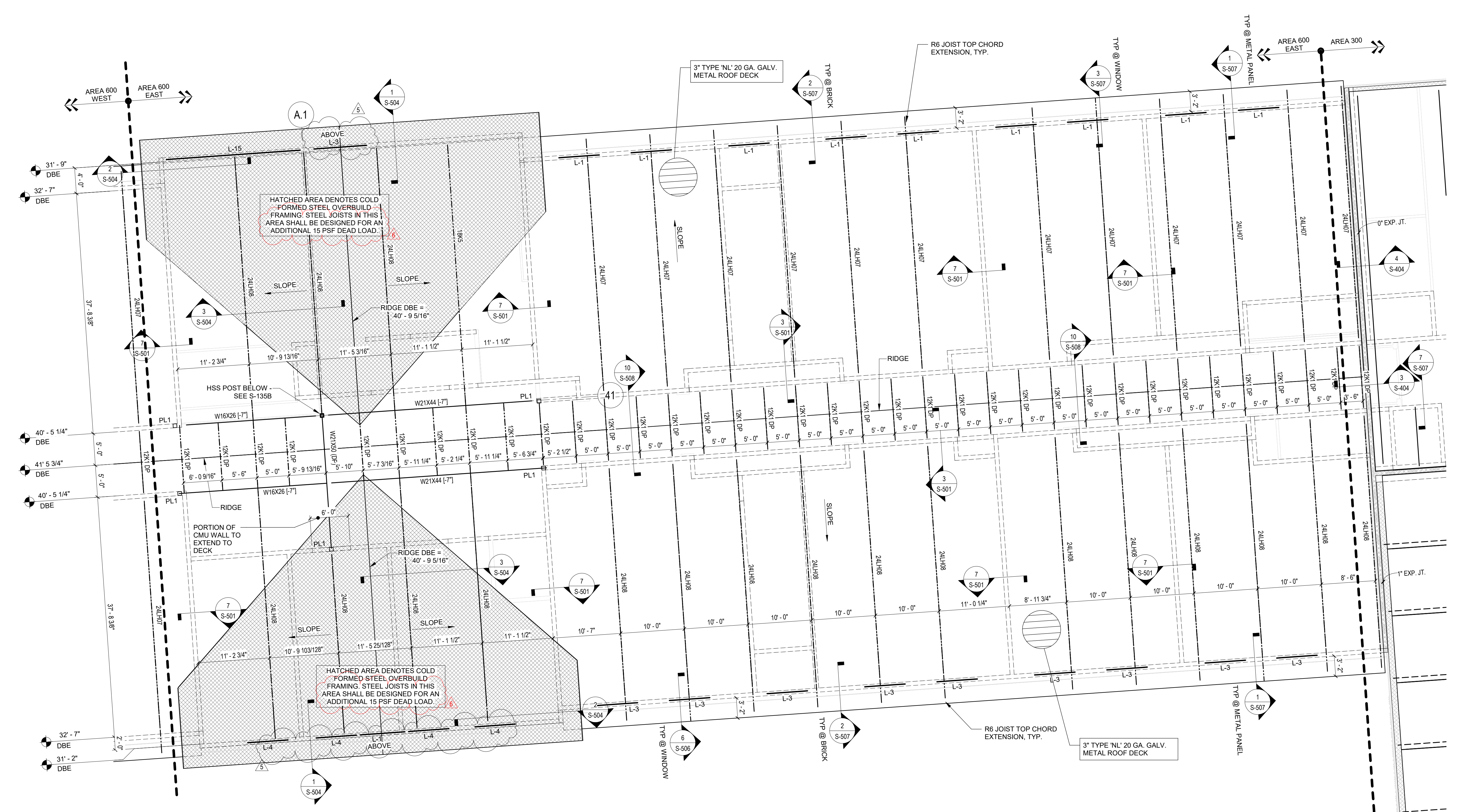
HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL
JOEL JOHNSON ROAD/US 401 S, LILLINGTON NC 27546



No.	Date	Description
1	12-13-24	CD REVISIONS
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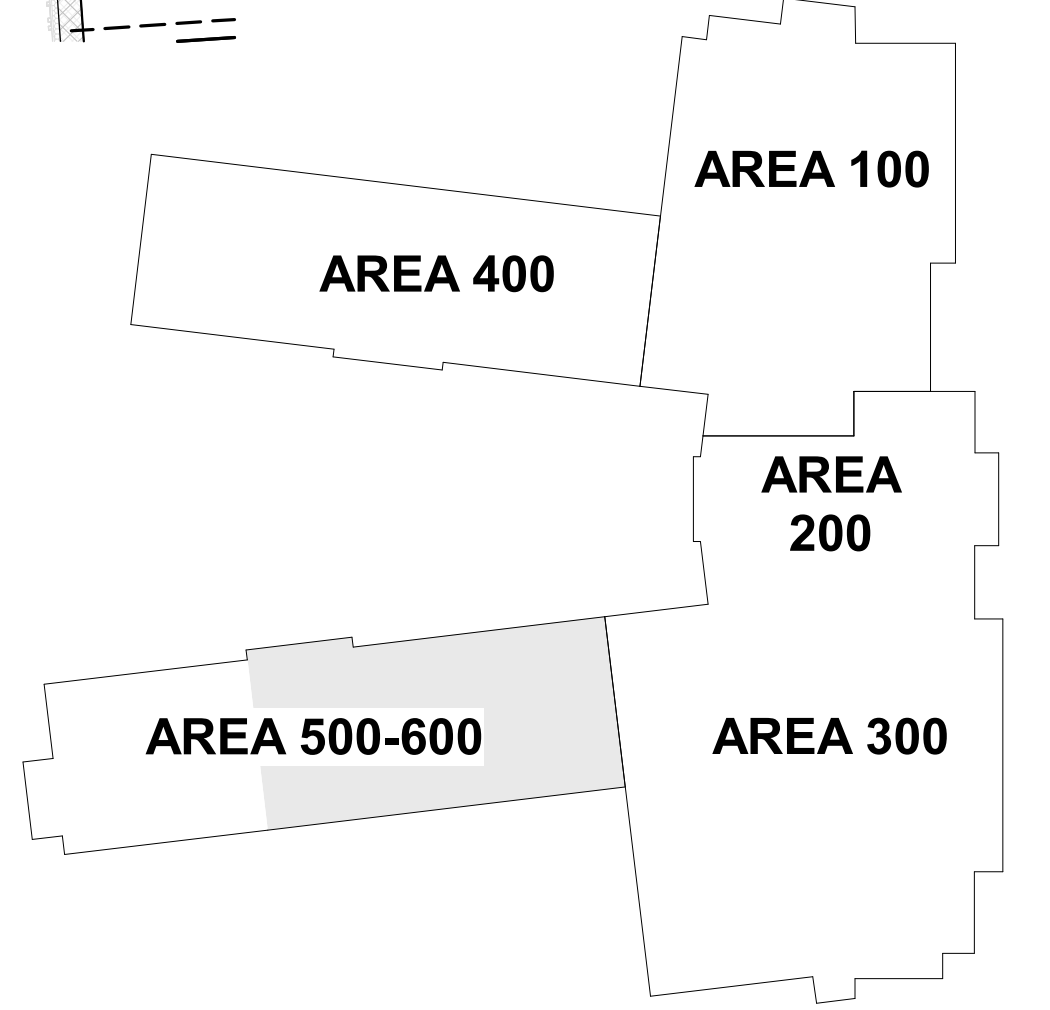
HIGH ROOF
FRAMING PLAN
AREA 300



1 HIGH ROOF FRAMING PLAN AREA 500-600 EAST
S-155A SCALE: 1/8" = 1'-0"

ROOF FRAMING PLAN NOTES:

1. DENOTES ROOF DECK BEARING ELEVATION (DBE) U.O.N. ABOVE FIRST LEVEL FIN. FLOOR ELEV. = 0'-0".
2. Lx1 DENOTES TOP OF STEEL BELOW DECK BEARING ELEVATION.
3. NUMBERS SHOWN THUS: ¹⁶ DENOTES BEAM VERTICAL SHEAR REACTION IN KIPS. BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF 10K VERTICAL SHEAR U.O.N. ON PLAN. NOTED REACTIONS ARE SERVICE UNFACTORED LOADS.
4. PL DENOTES BEAM BEARING PLATE. SEE SCHEDULE ON S-201. SEE DETAILS.
5. L# DENOTES LOAD BEARING OR EXTERIOR LINTEL. SEE SCHEDULE ON S-202.
6. PROVIDE BOND BEAMS IN MASONRY WALLS @ 9'-0" MAX. AND TOP COURSE OF ALL WALLS. PROVIDE CORNER BARS IN BOND BEAMS IN CORNERS AND INTERSECTIONS. SEE DETAILS ON 1/S-201 AND 2/S-201.
7. DENOTES A MOMENT CONNECTION. NUMBERS SHOWN THUS: 15k-ft DENOTES MOMENT IN KIPS-FT (SERVICE LOADS).
8. FRAME ROOF OPENINGS W/ L4x4x5/16. COORD. LOCATION W/ MECHL. CONTRACTOR. SEE DETAIL 12/S-501.
9. DO NOT HANG ANYTHING FROM ROOF DECK.
10. REFER TO S-501 FOR ROOF DECK ATTACHMENT PATTERN.
11. GREY SHADED AREA IN AREA 300 DENOTES CFS JOISTS @ 16" OC TOPPED WITH 3/4" PLYWOOD TO SUPPORT CEILING AND MECHANICAL EQUIPMENT. COLD FORMED SUPPLIER SHALL PROVIDE FASTENER TYPE AND SPACING FOR CFS CONNECTIONS AS WELL AS PLYWOOD FLOORING. COLD FORMED STEEL STUD CEILING JOISTS, AS WELL AS ANY REQUIRED GIRDERS SHALL BE DESIGNED FOR THE EQUIPMENT WEIGHT IN ADDITION TO 10 PSF DEAD LOAD AND 40 PSF LIVE LOAD. COORDINATE EQUIPMENT WEIGHT AND LOCATGN WITH MECHANICAL CONTRACTOR.
12. 'KB' DENOTES ANGLE KICKER. REFER TO DETAILS NOTED ON PLAN.



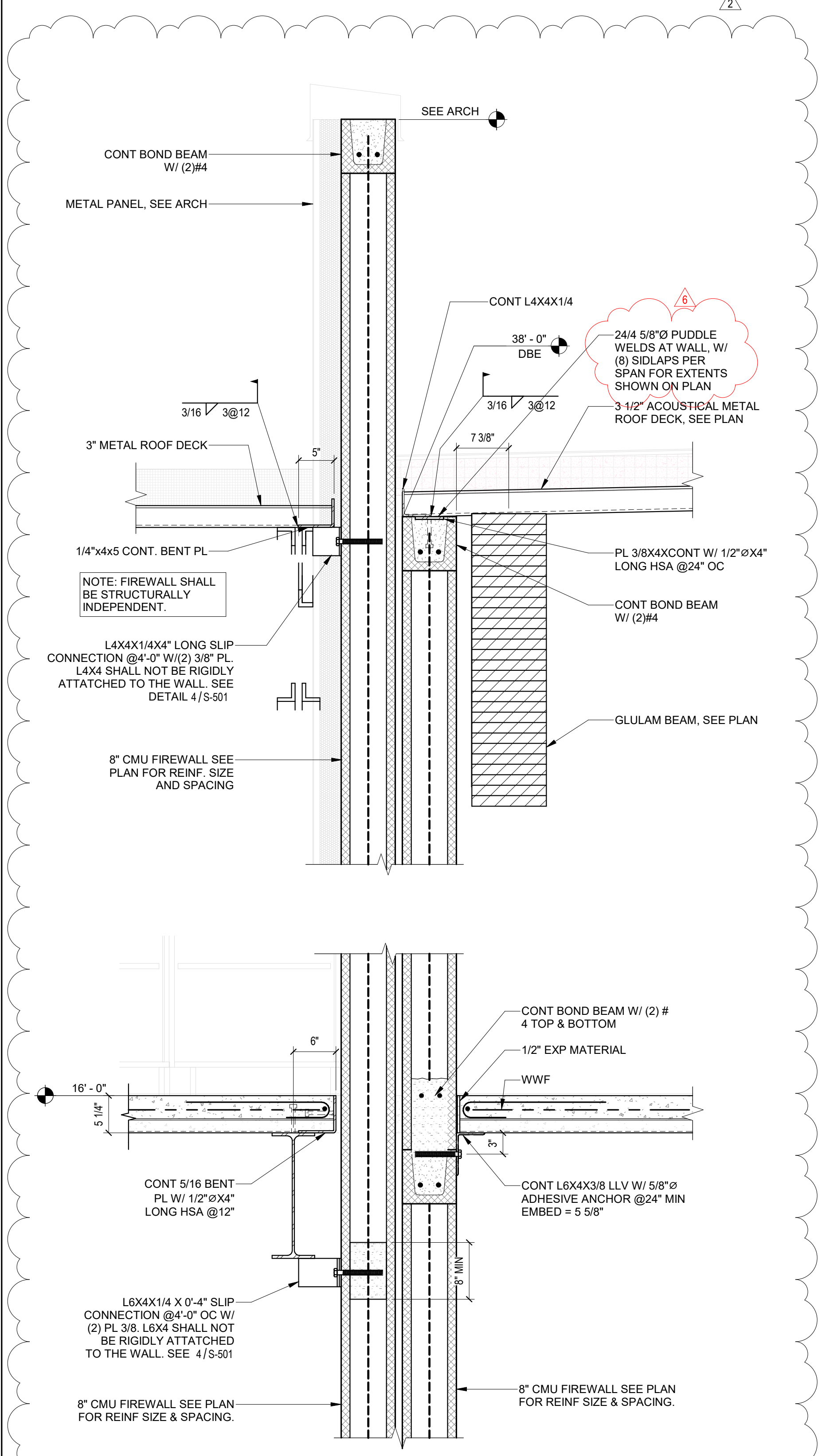
HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL
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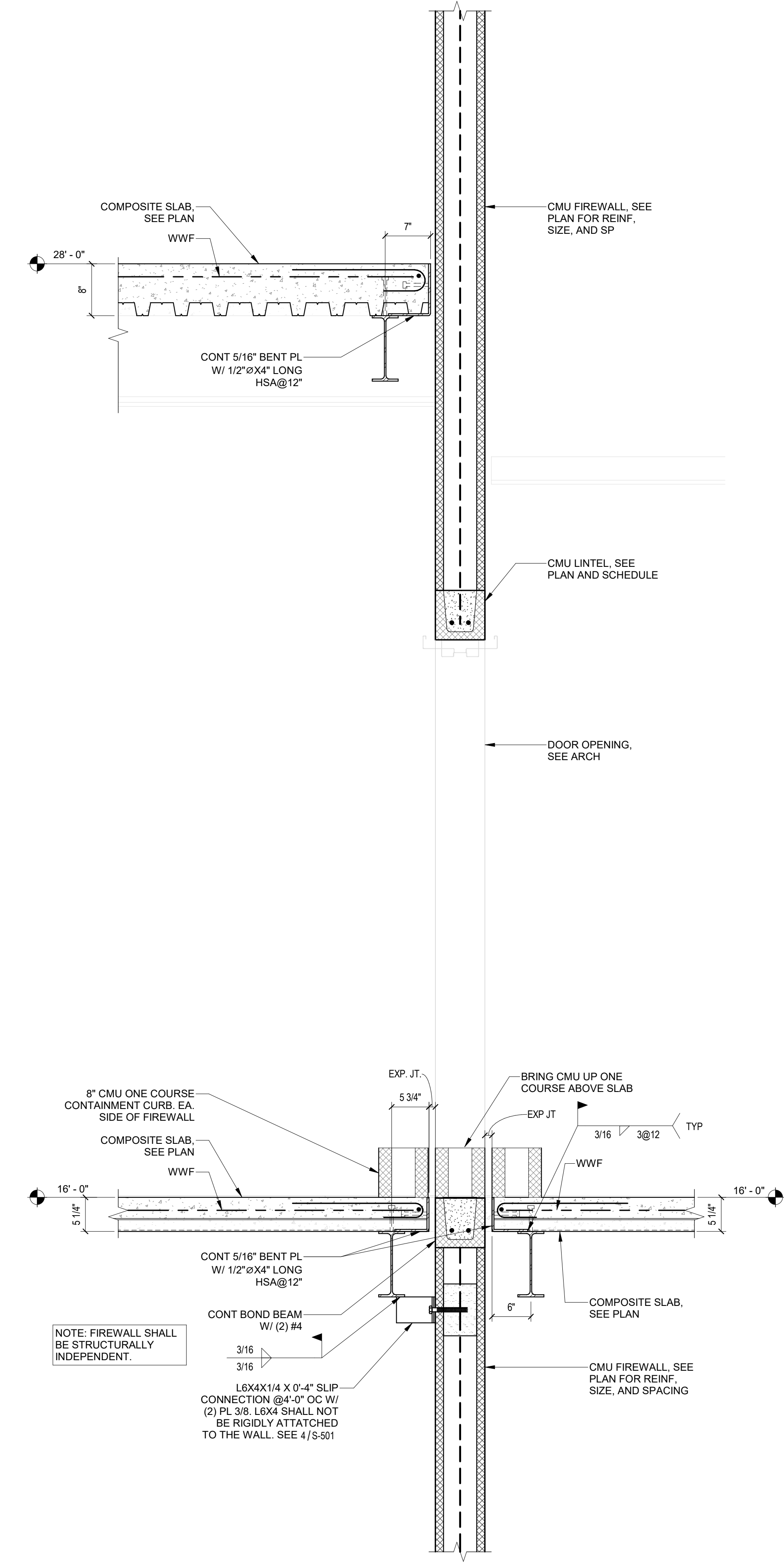
No.	Date	Description
5	01-30-25	ADDENDUM 1
6	02-05-25	ADDENDUM 2

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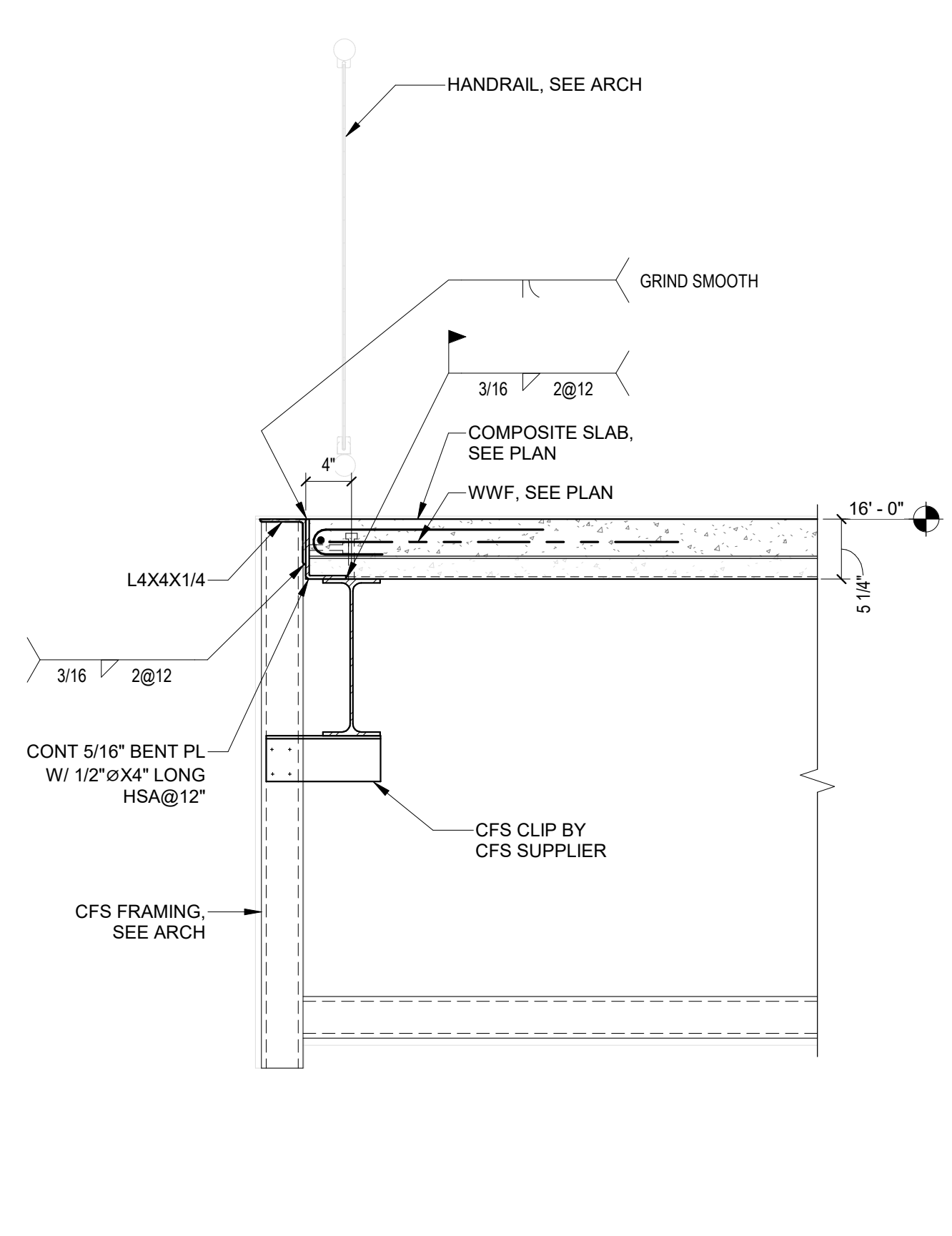
HIGH ROOF
FRAMING PLAN
AREA 500-600 EAST



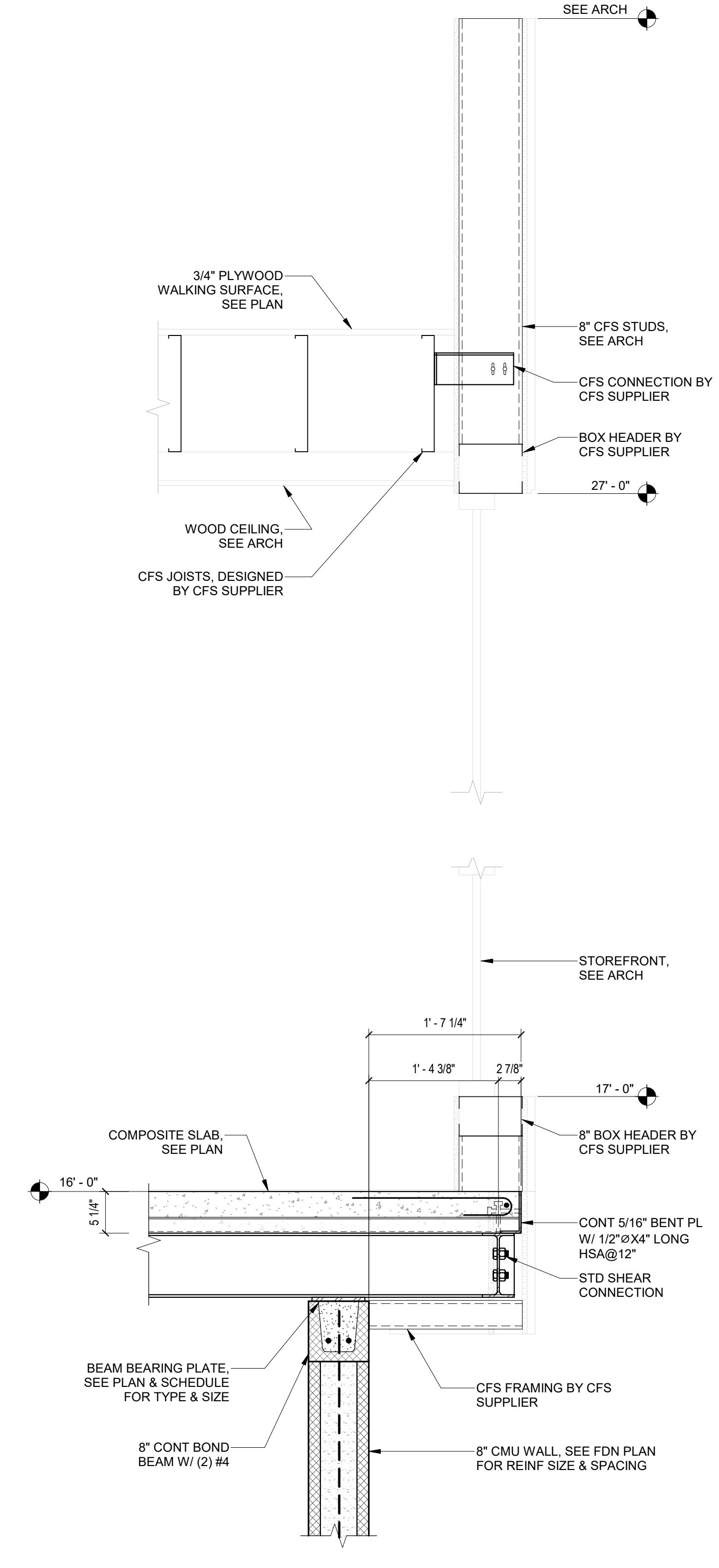
4 SECTION AT EXPANSION JOINT
S-404 SCALE: 1" = 1'-0"



3 SECTION AT EXPANSION JOINT
S-404 SCALE: 1" = 1'-0"



2 SECTION THRU FLOOR
S-404 SCALE: 1" = 1'-0"



1 SECTION THRU FLOOR
S-404 SCALE: 1" = 1'-0"

HARNETT COUNTY SCHOOLS
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FLOOR FRAMING
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EXPIRES 12/31/2024
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ENGINEER
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CONSTRUCTION
DOCUMENTS

HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL
JOEL JOHNSON ROAD/US 401 S, LILLINGTON NC 27546

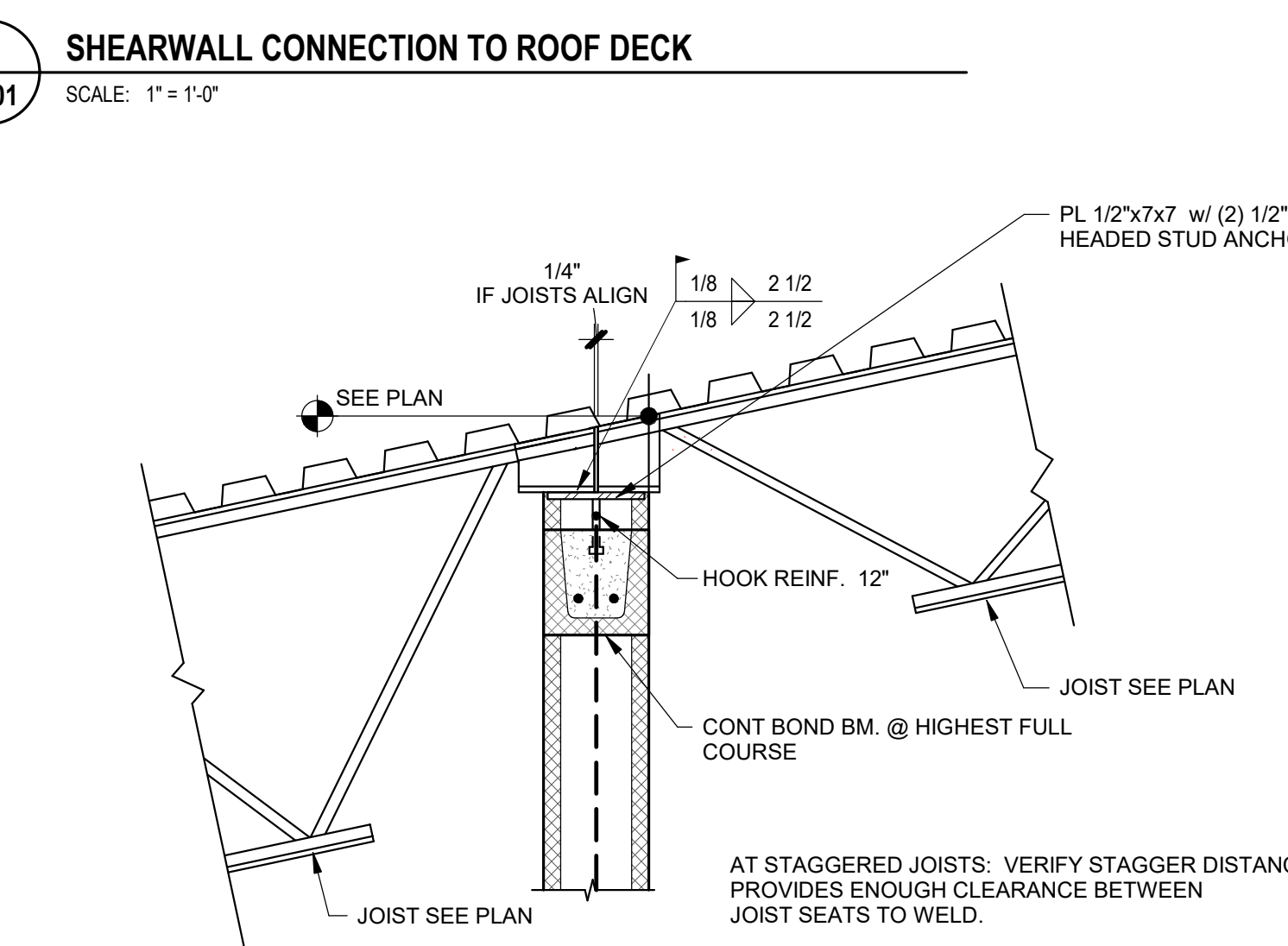
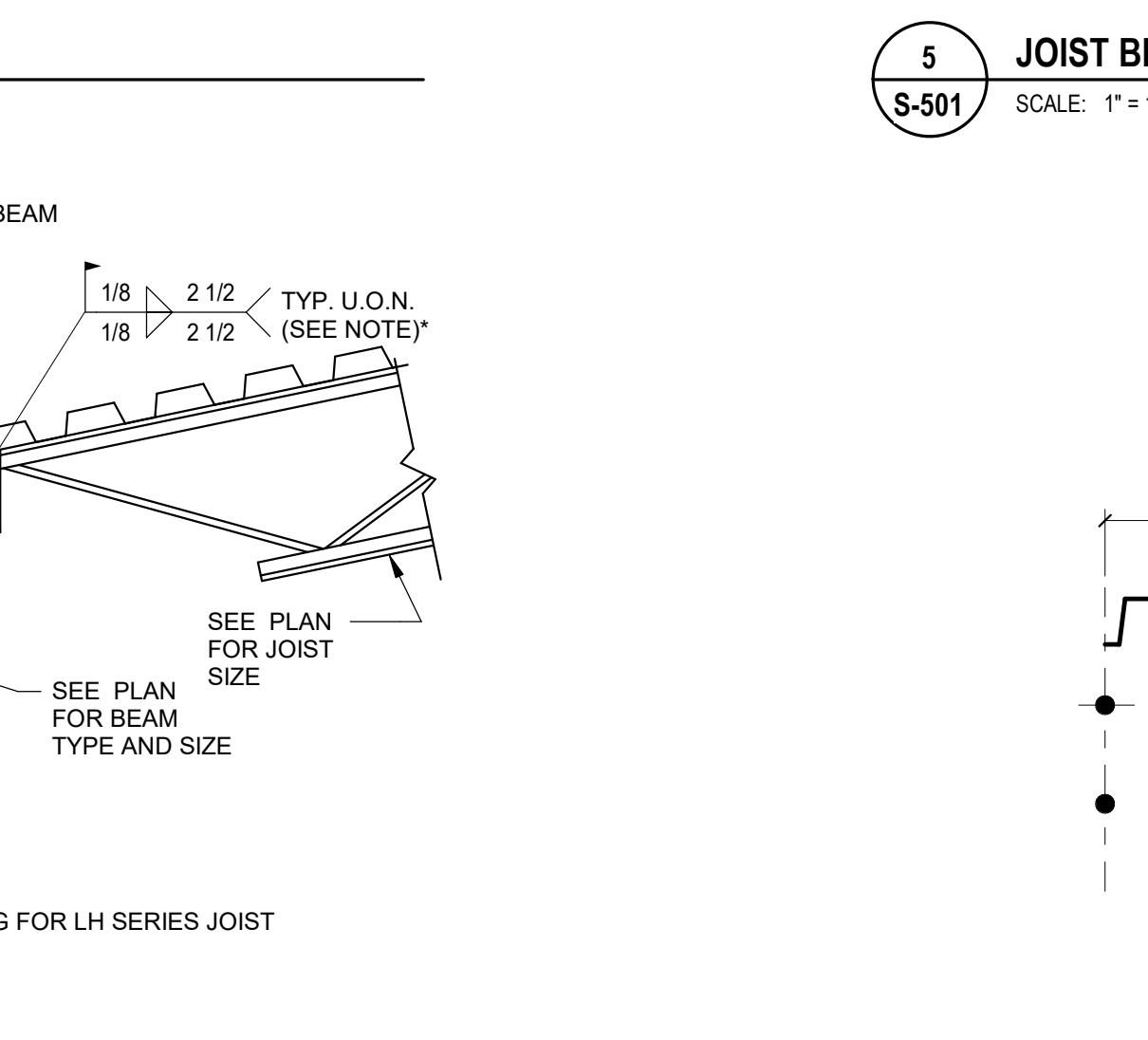
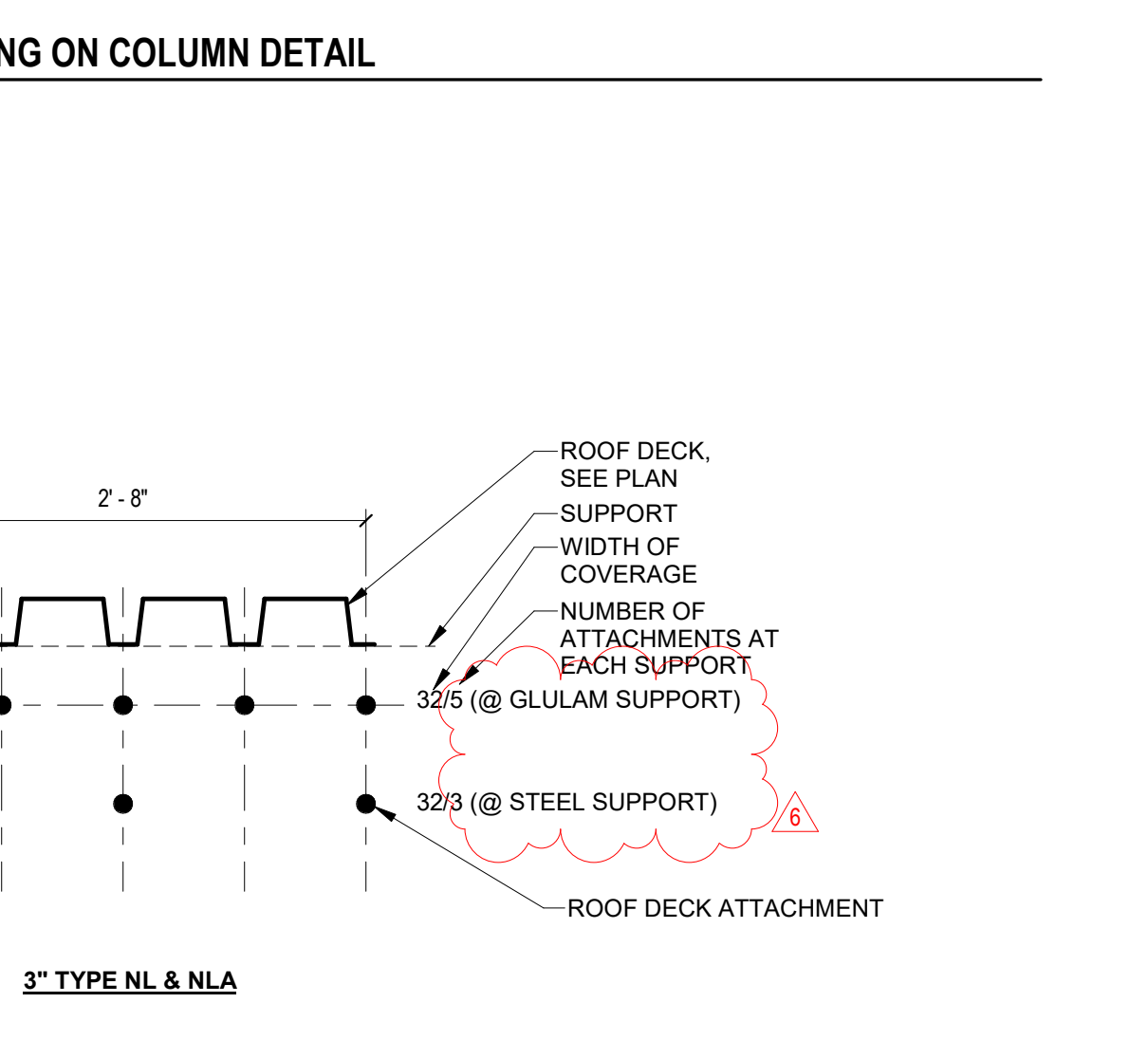
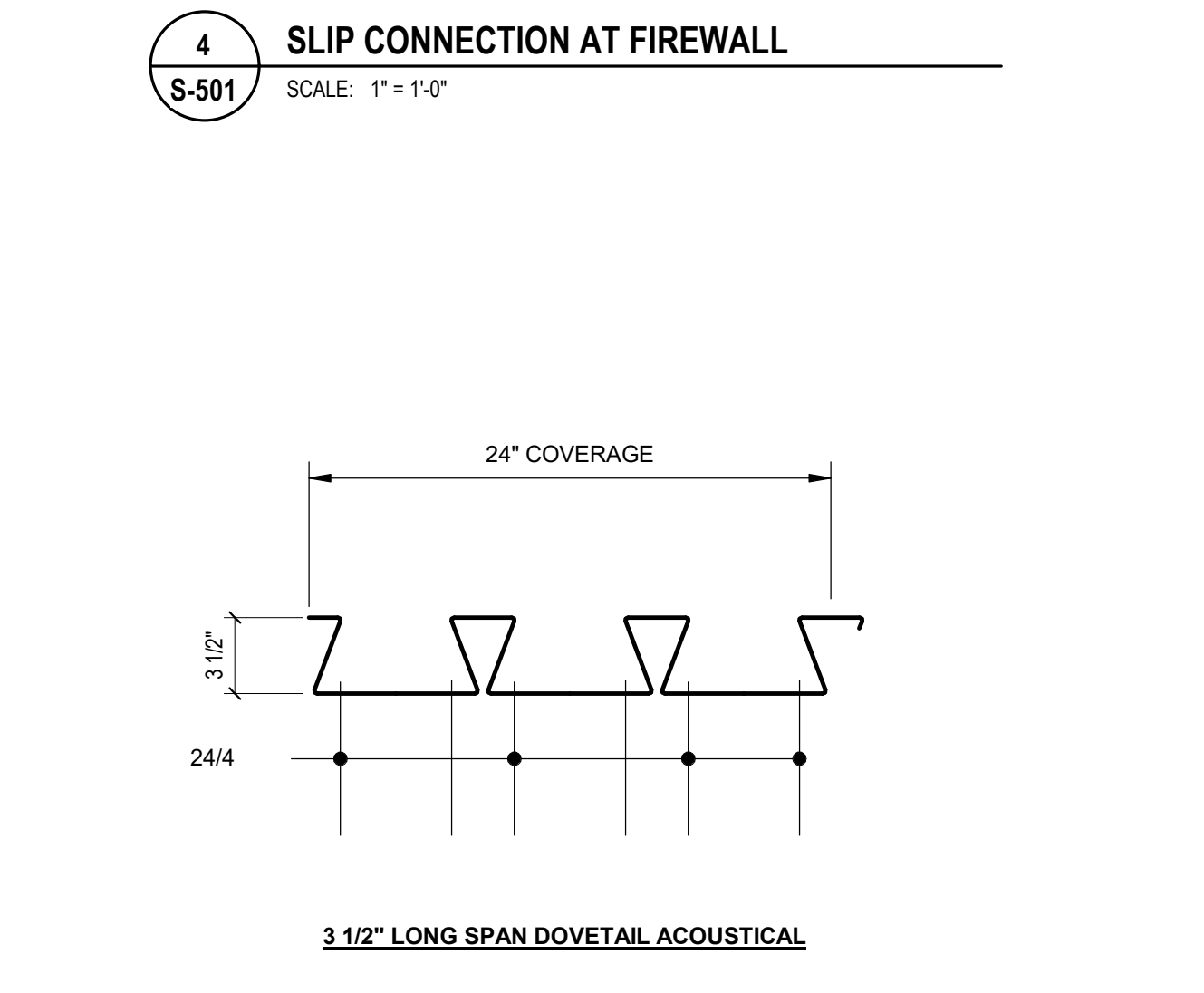
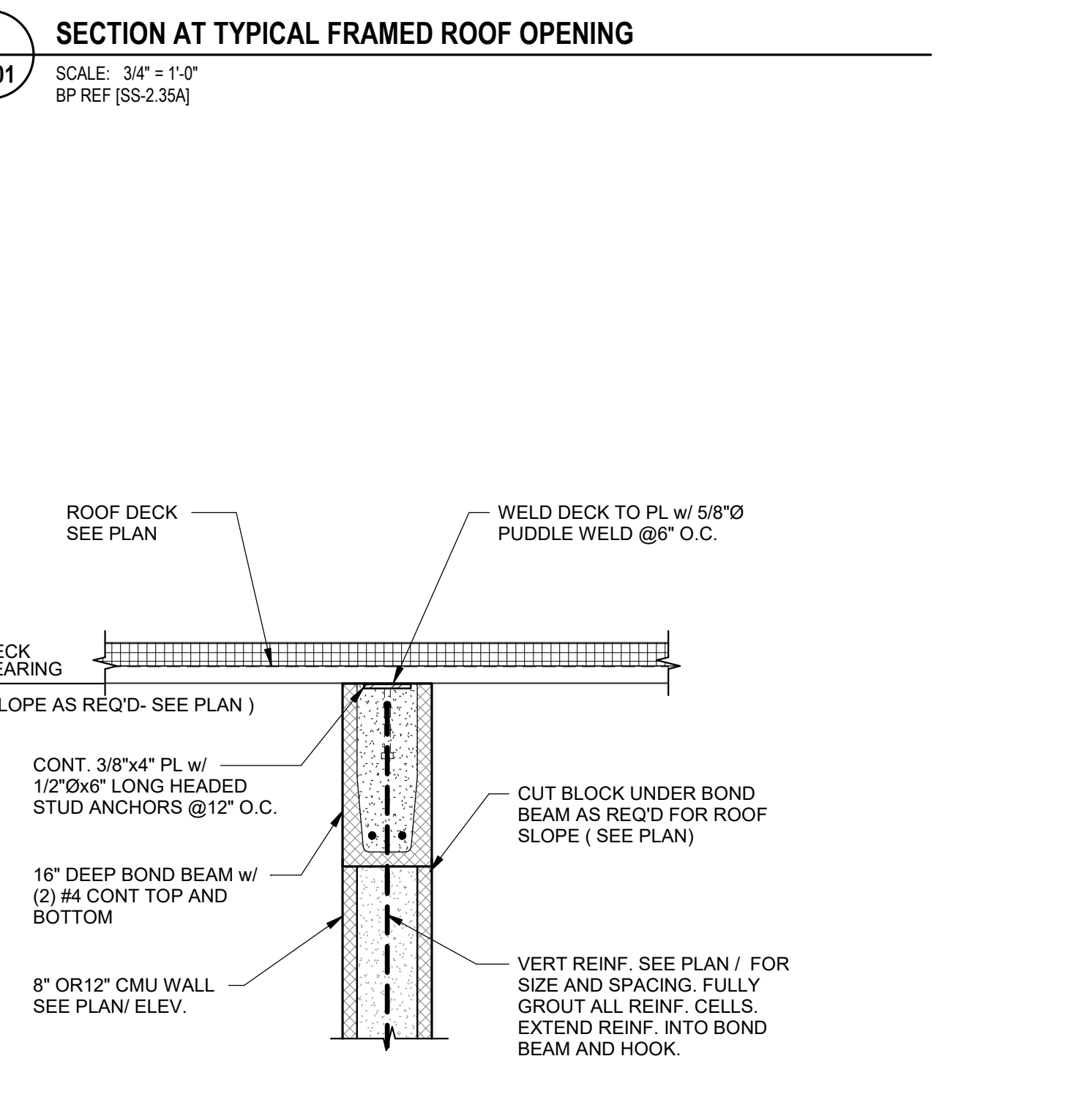
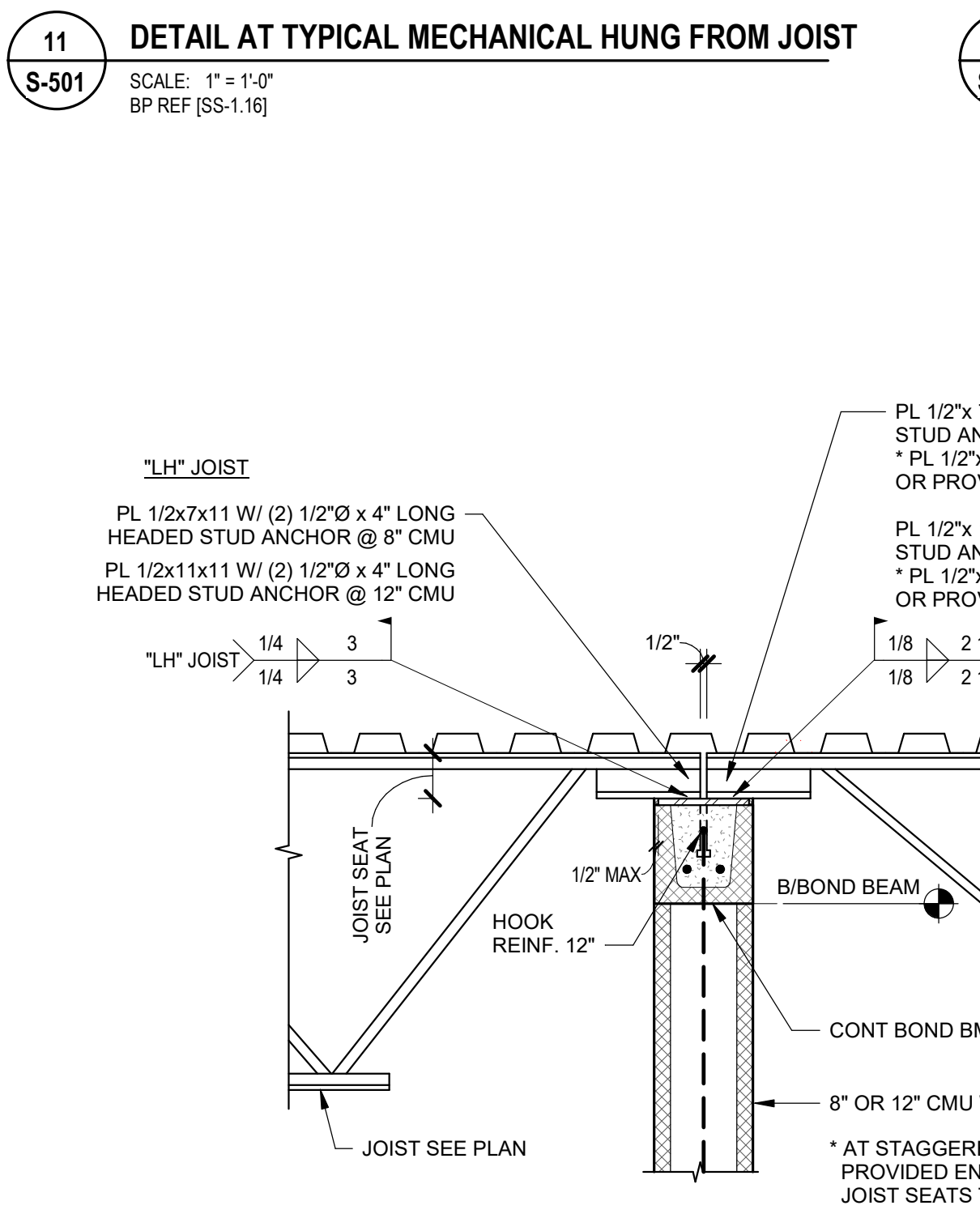
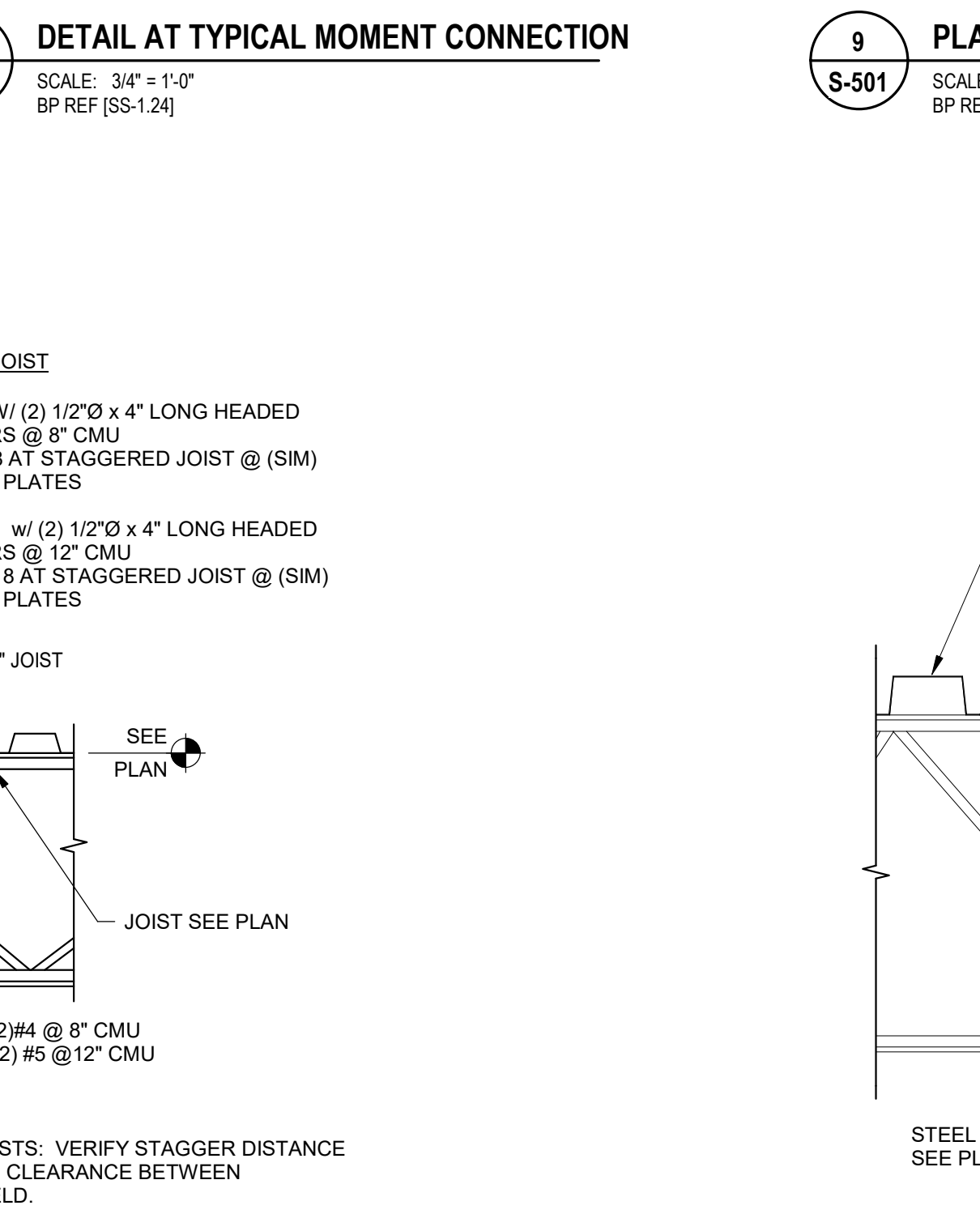
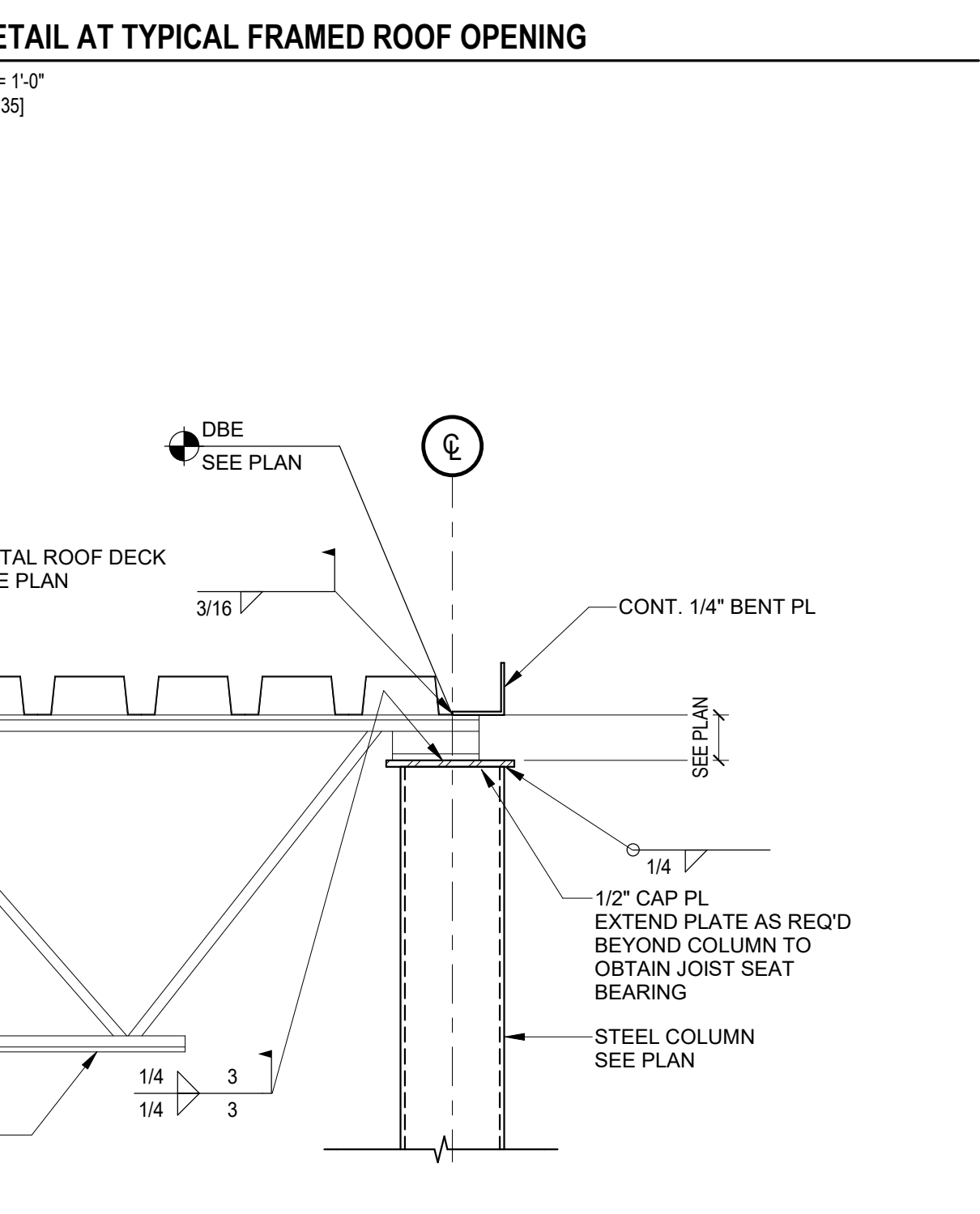
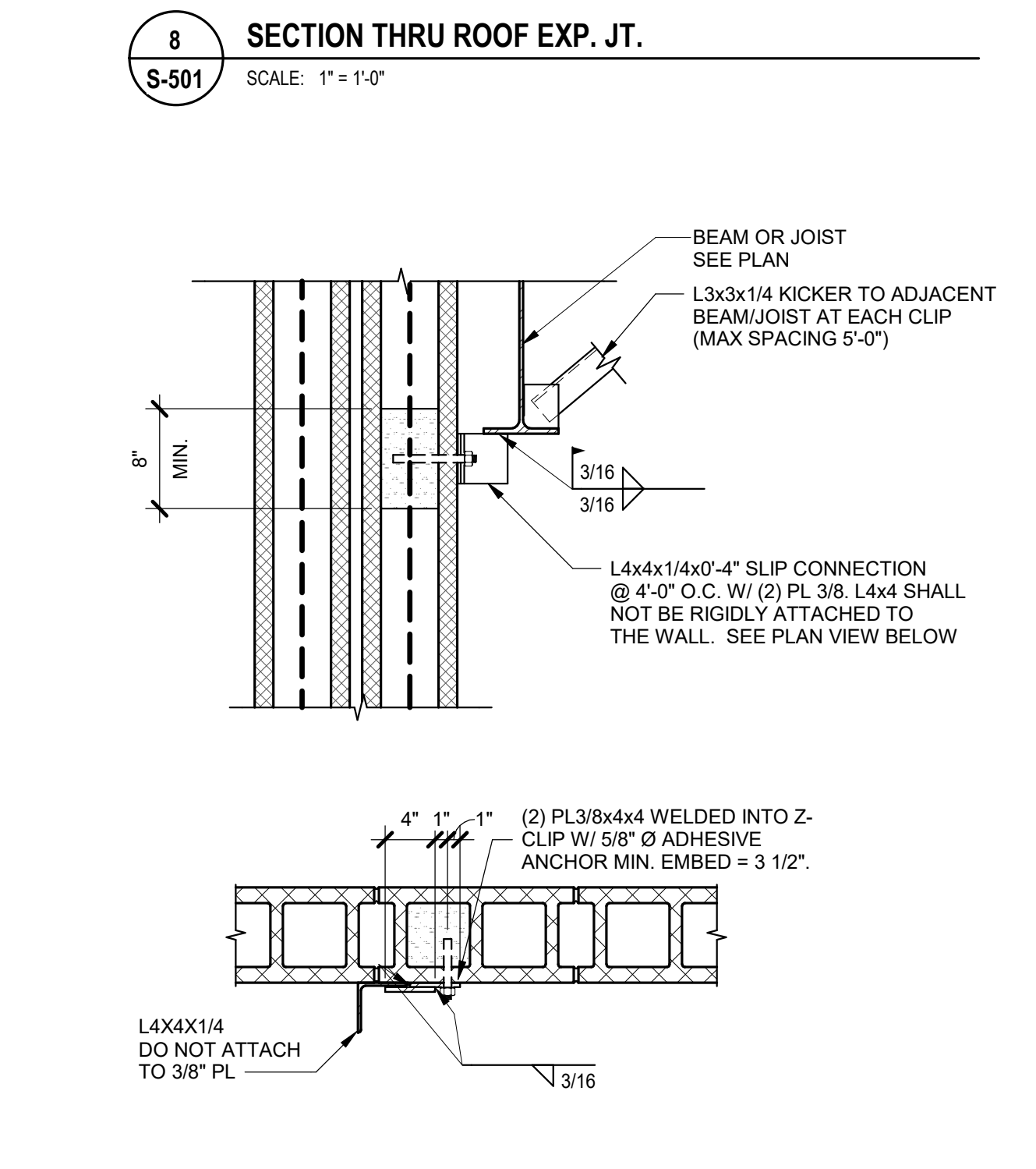
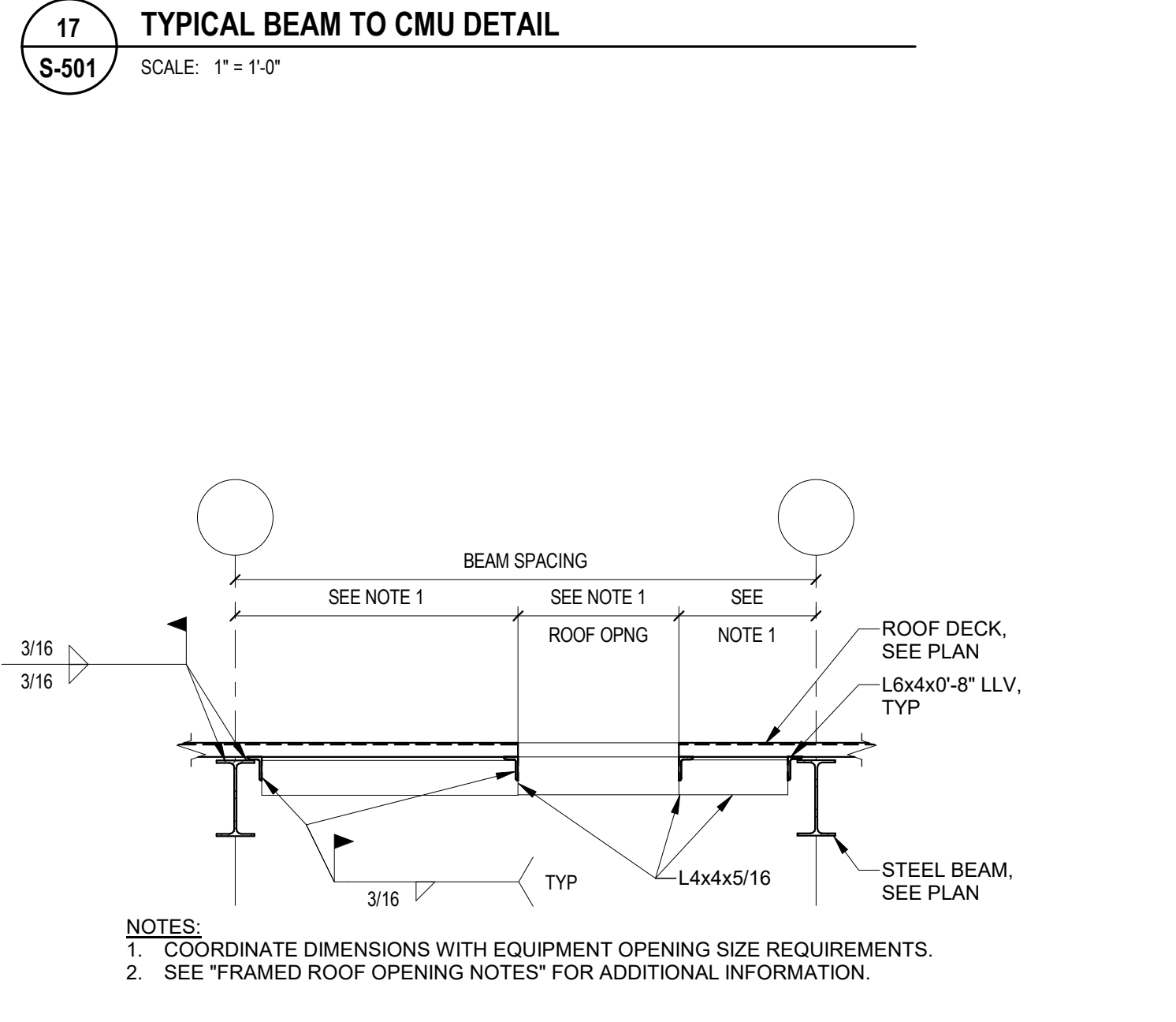
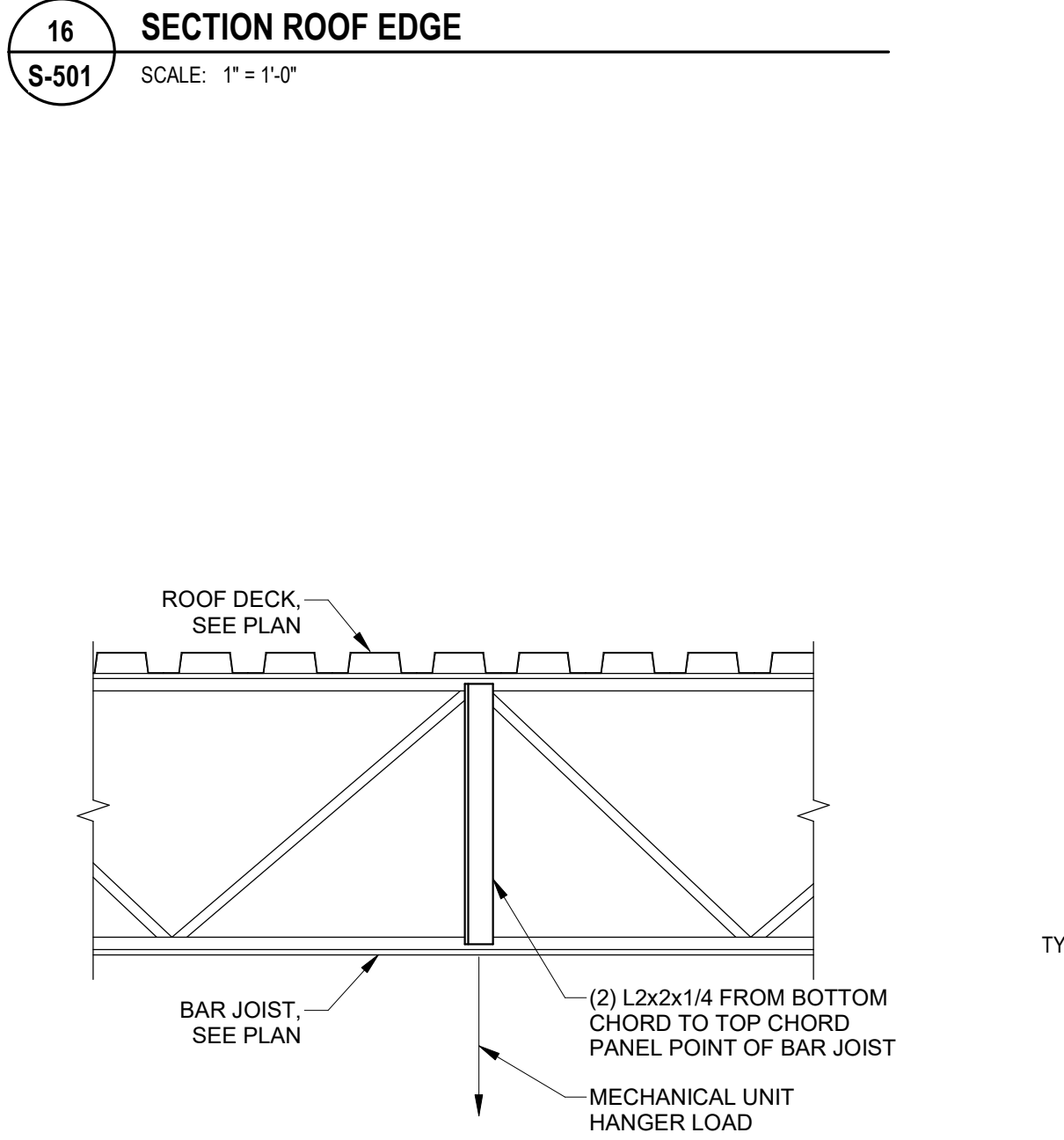
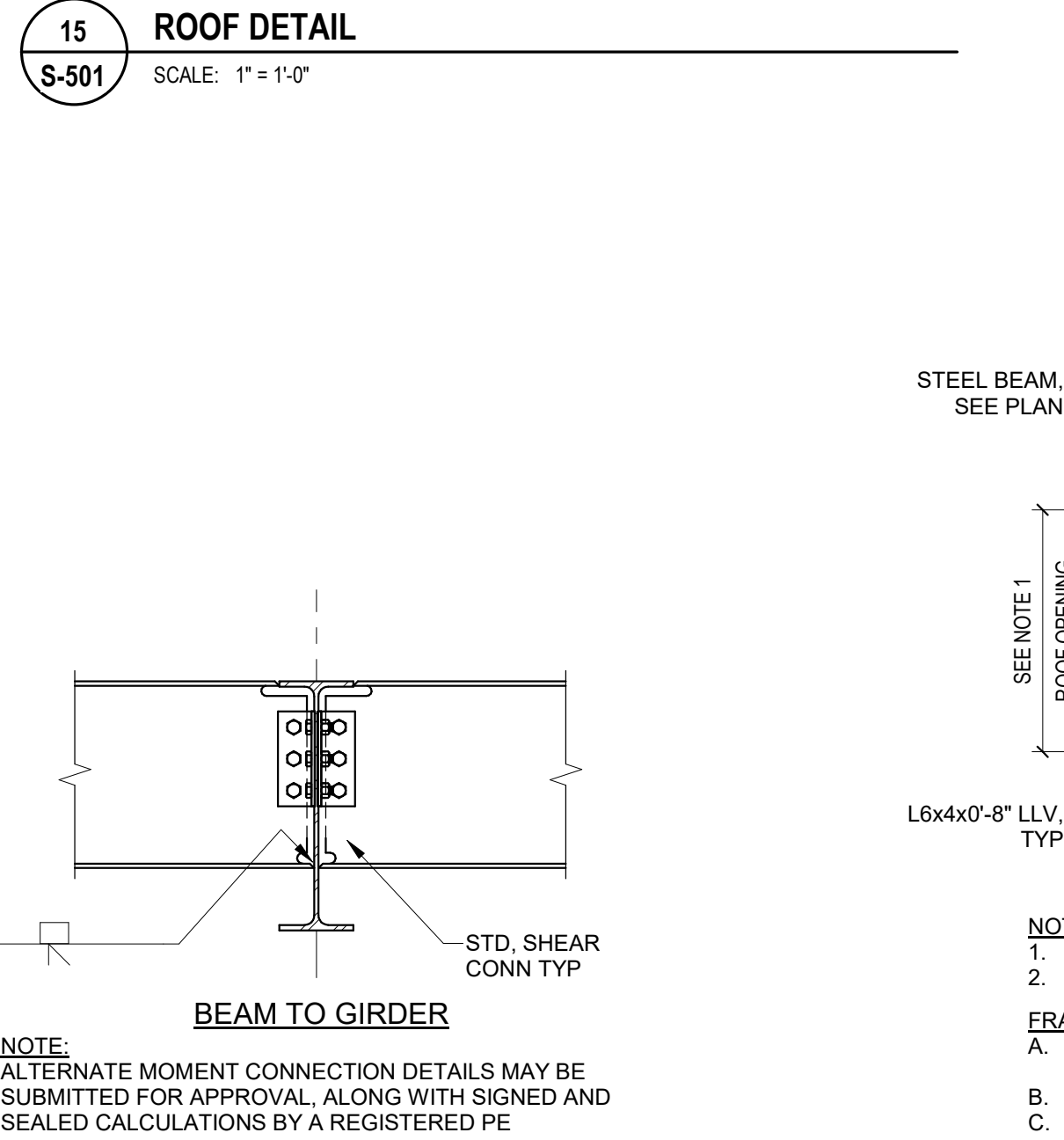
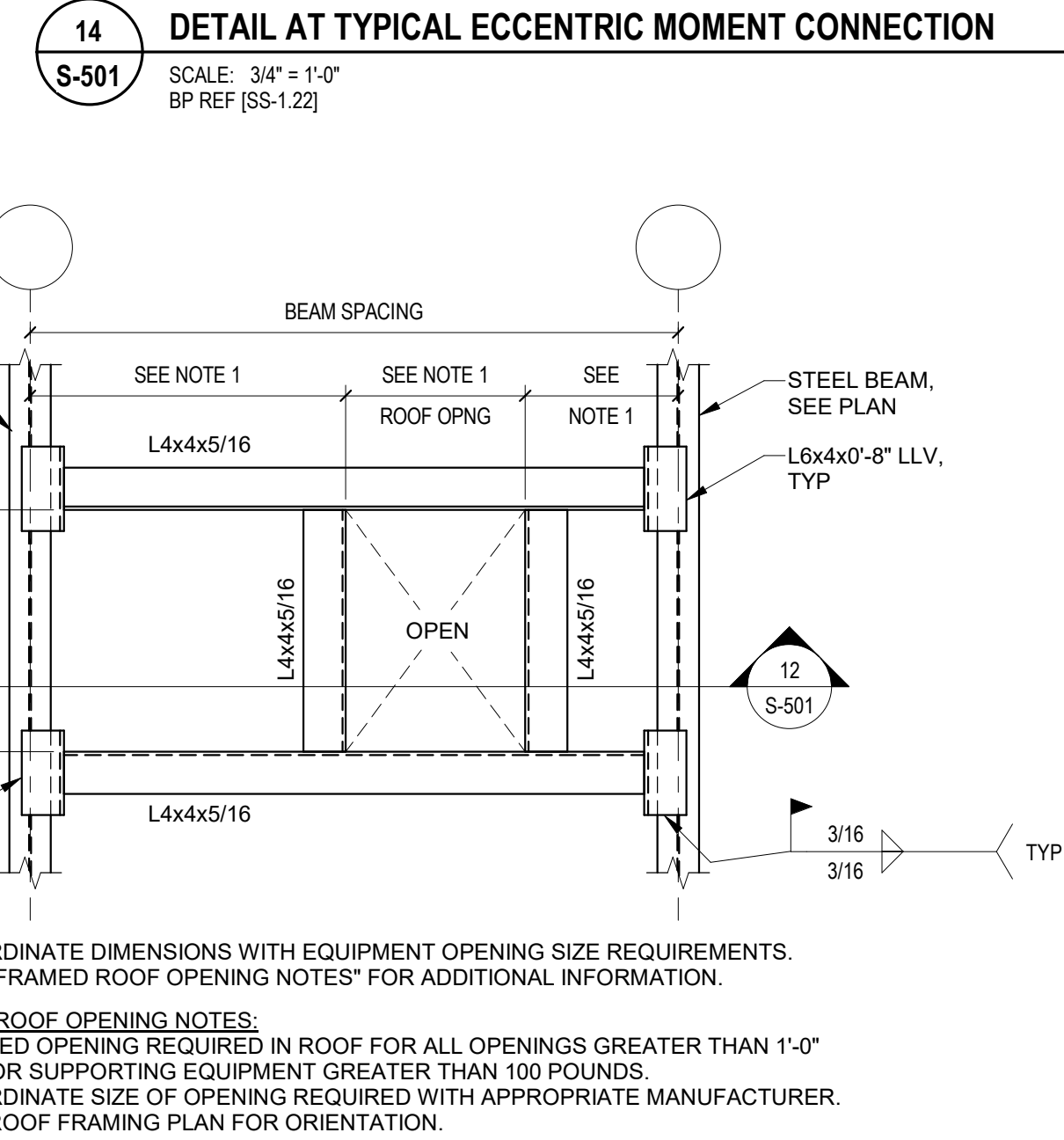
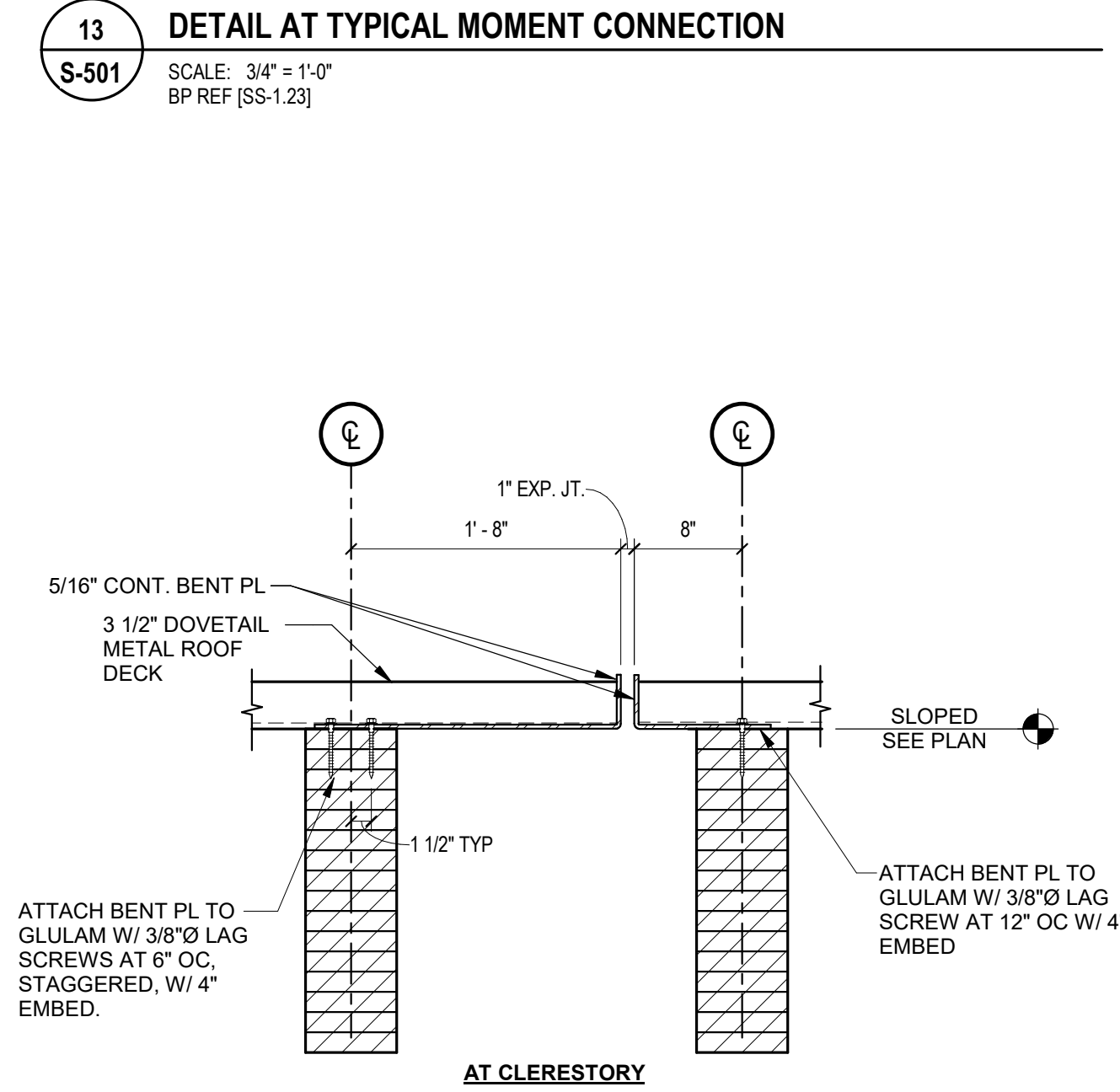
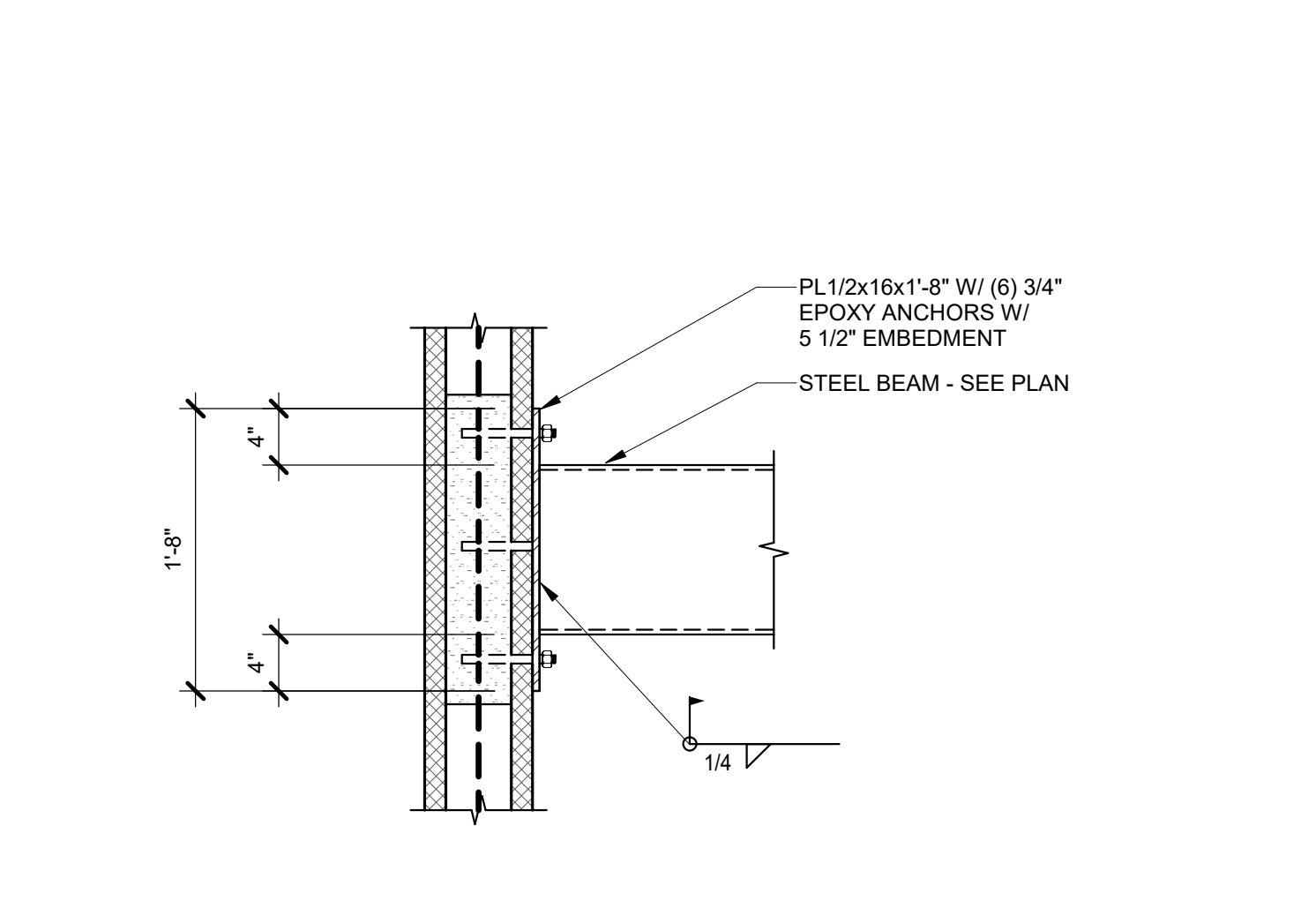
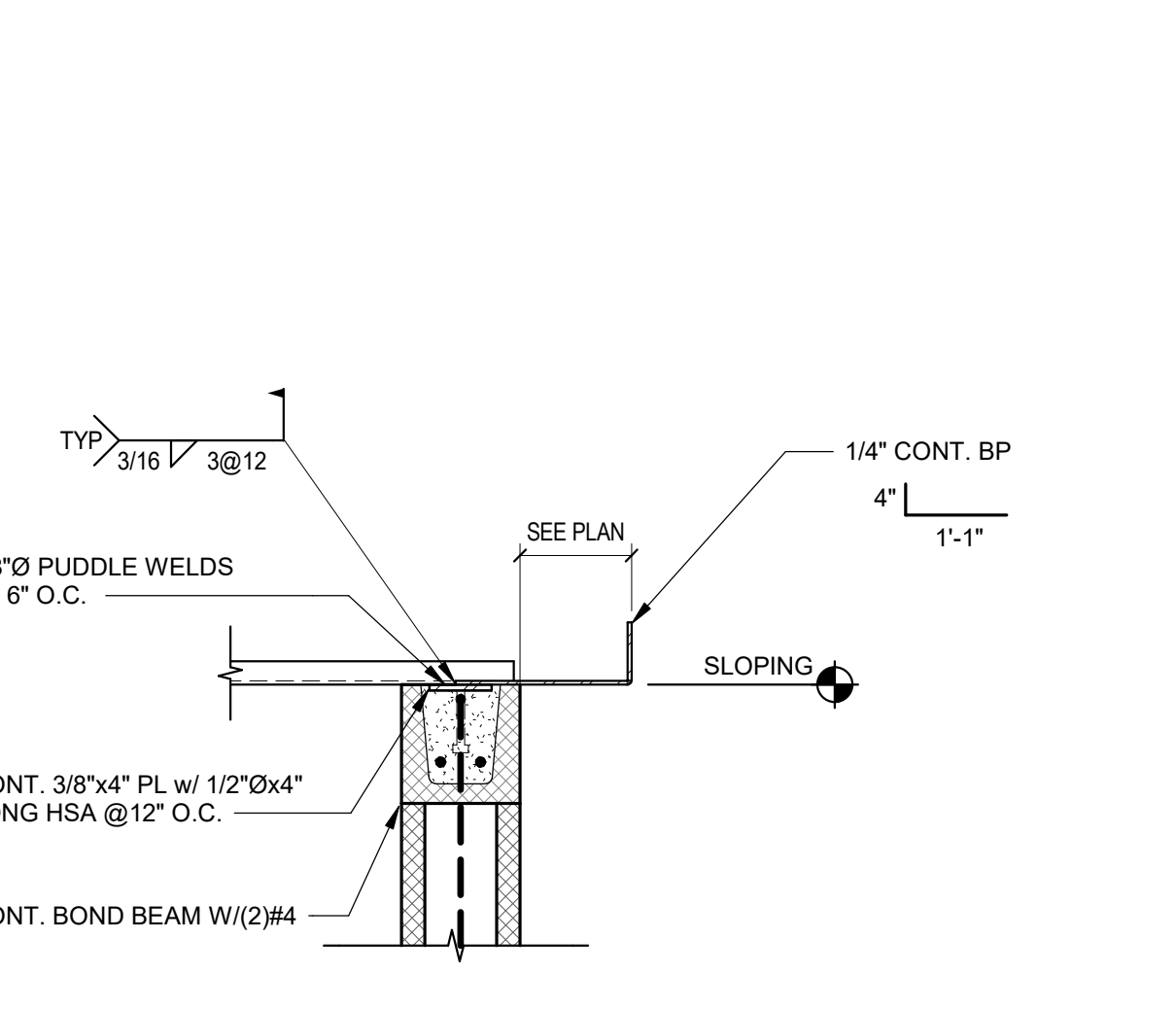
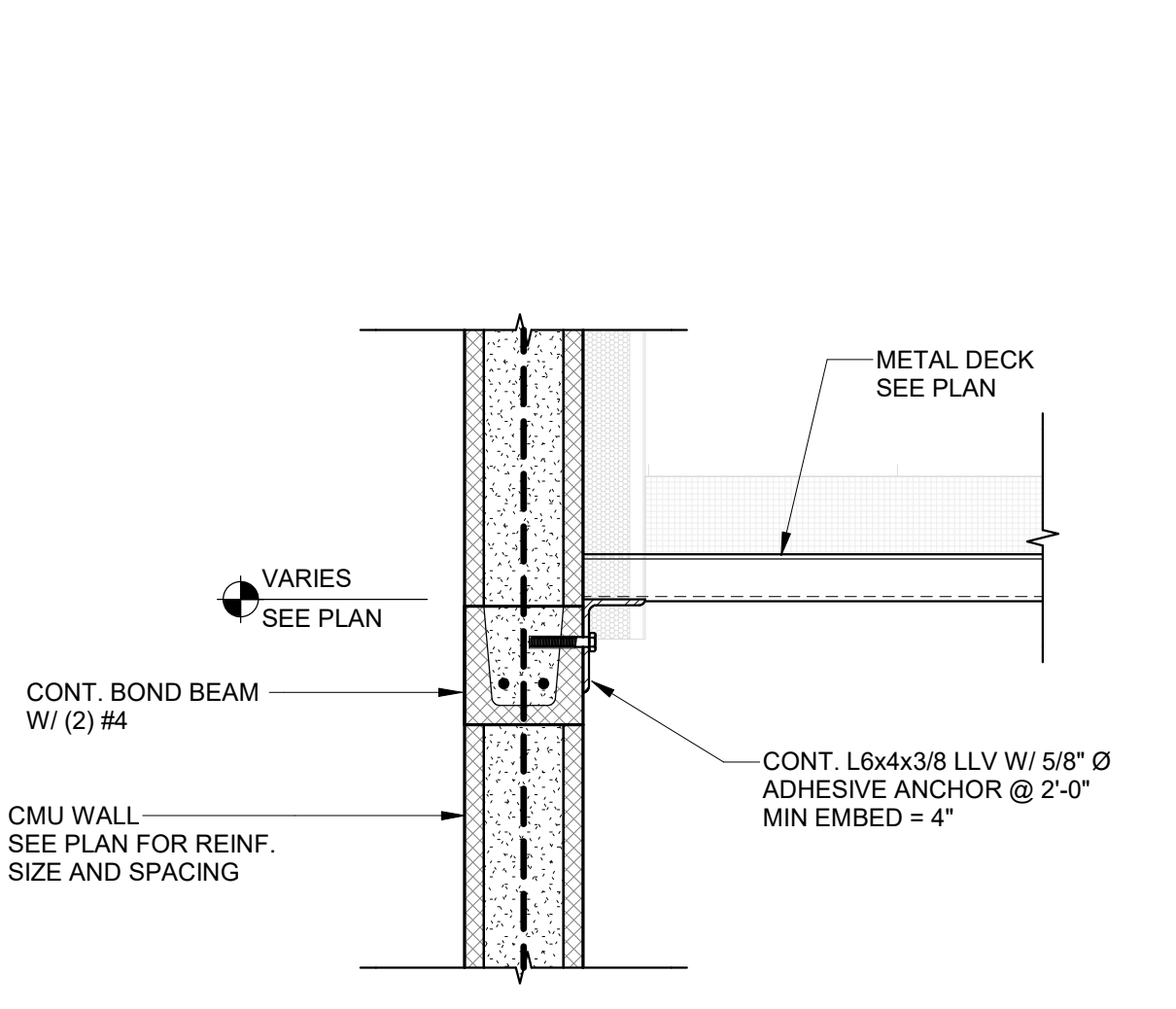
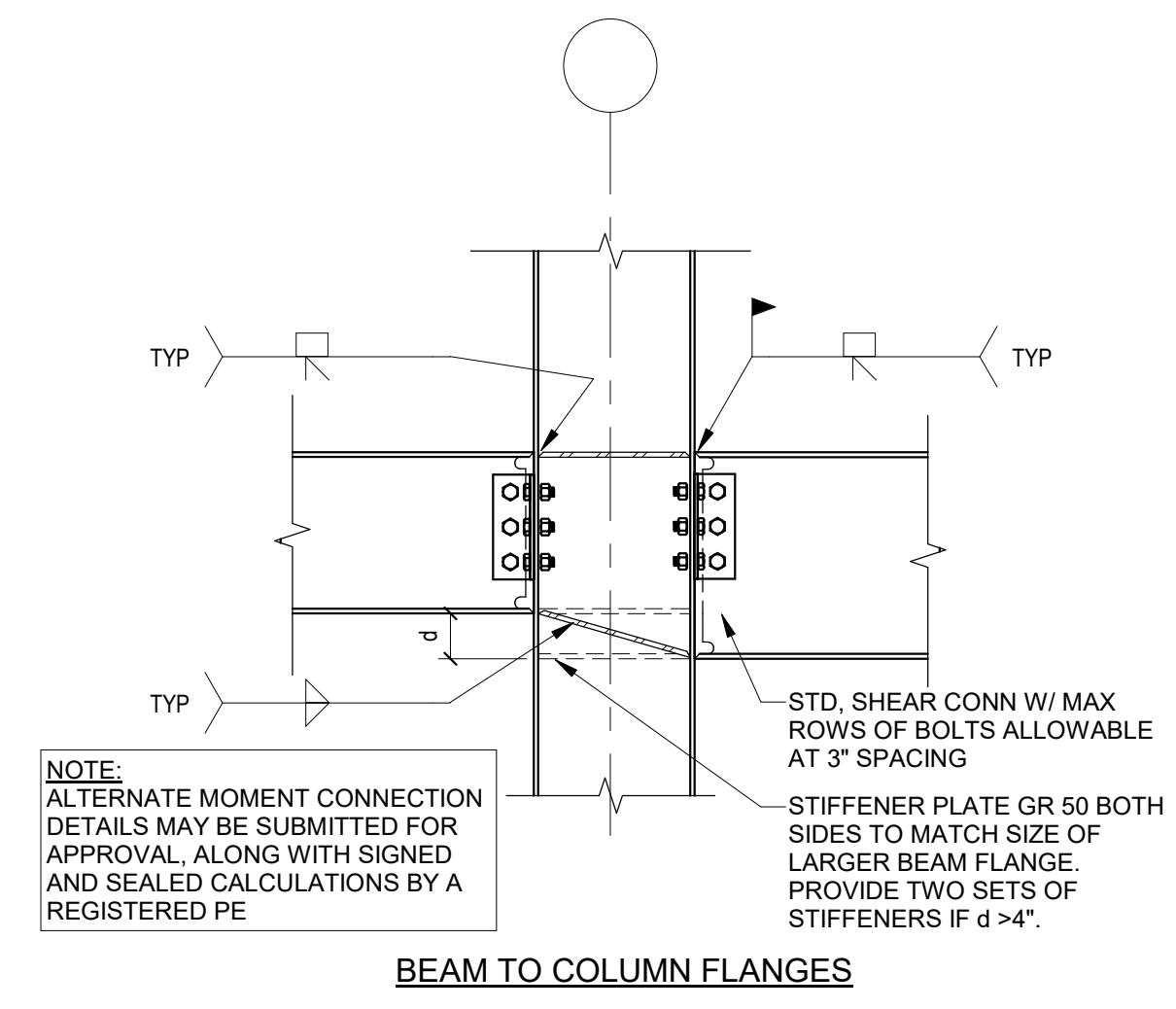
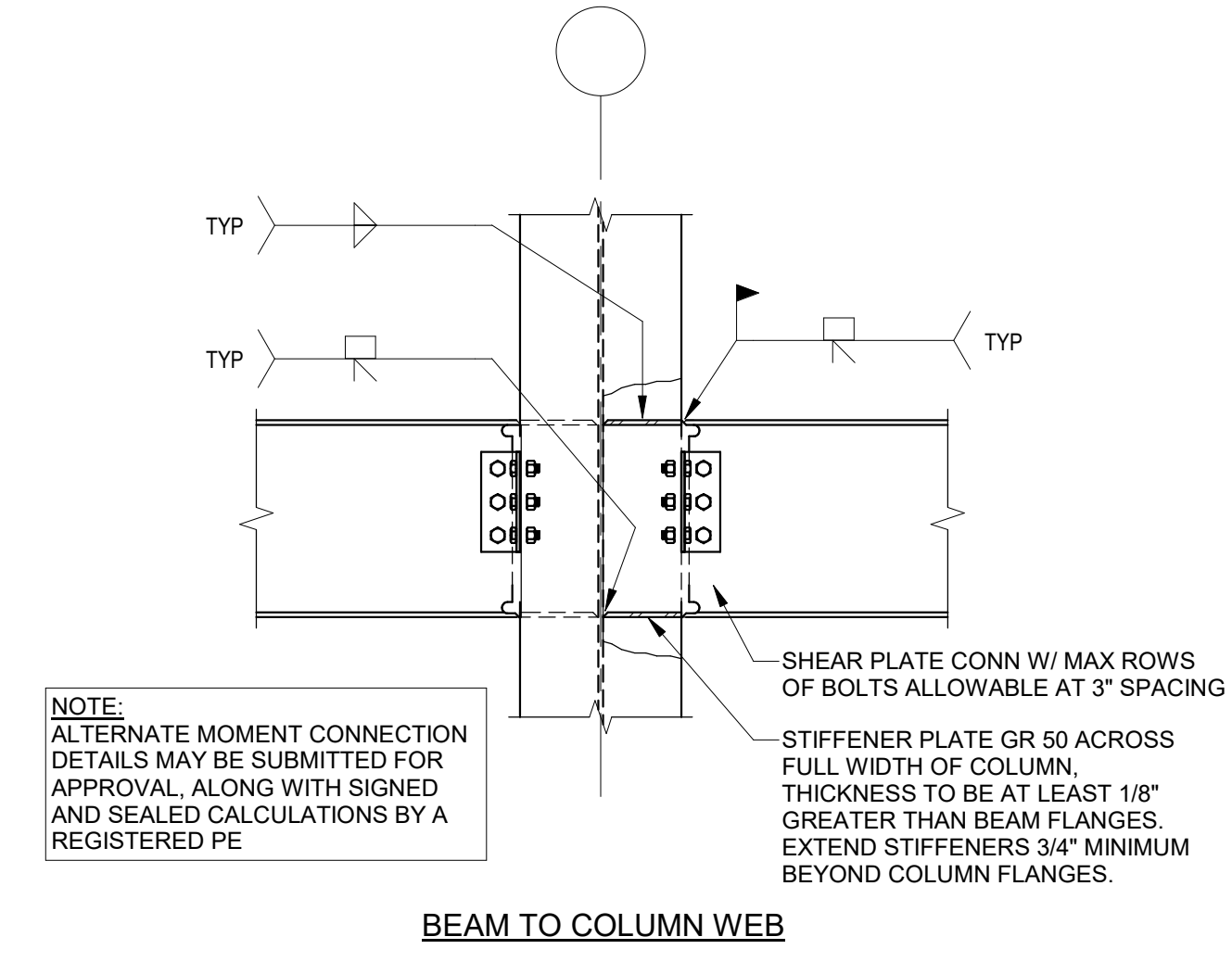
ENERGY
STAR
PARTNER

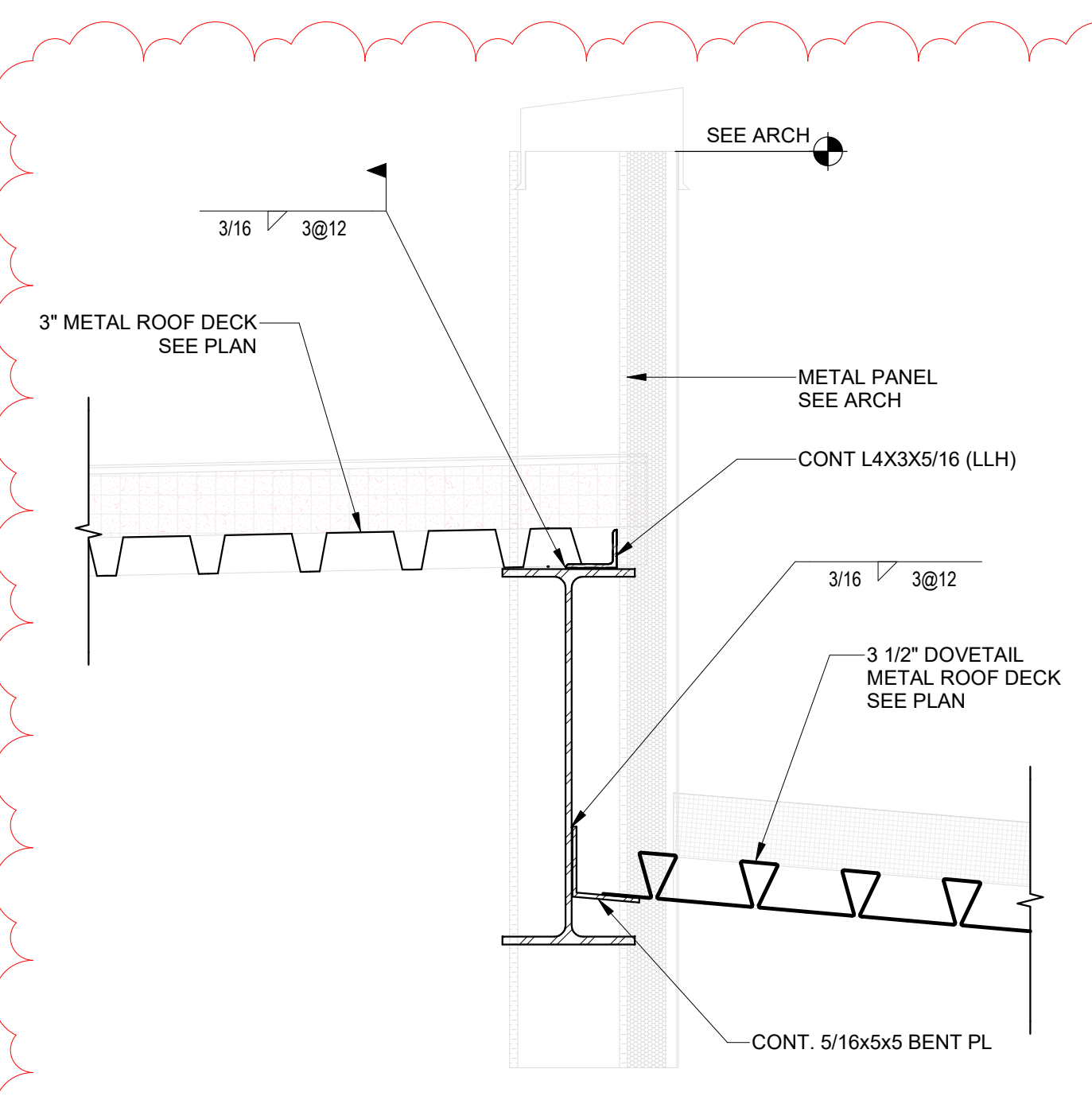
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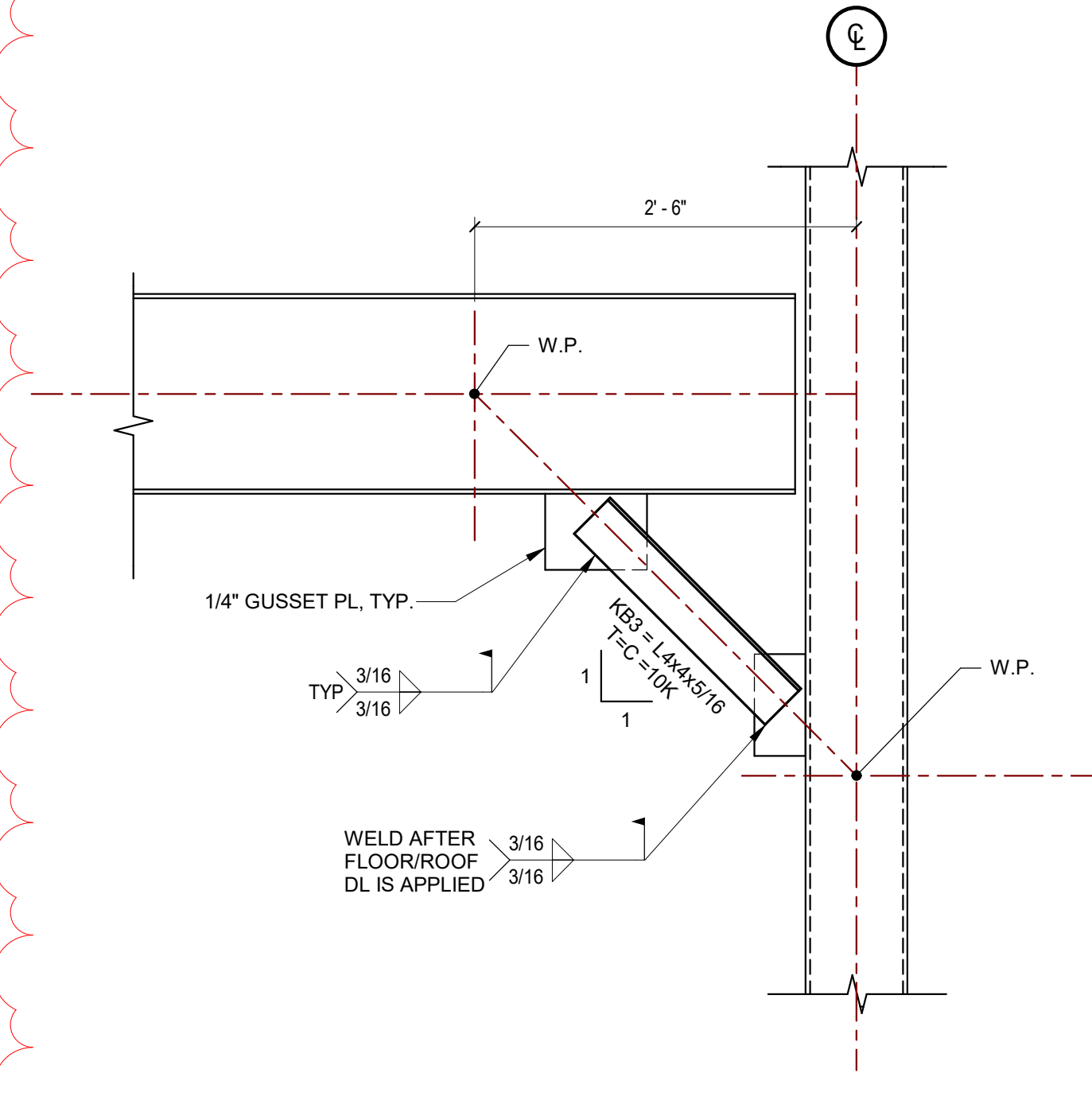
ROOF FRAMING
STEEL TYPICAL
DETAILS

S-501

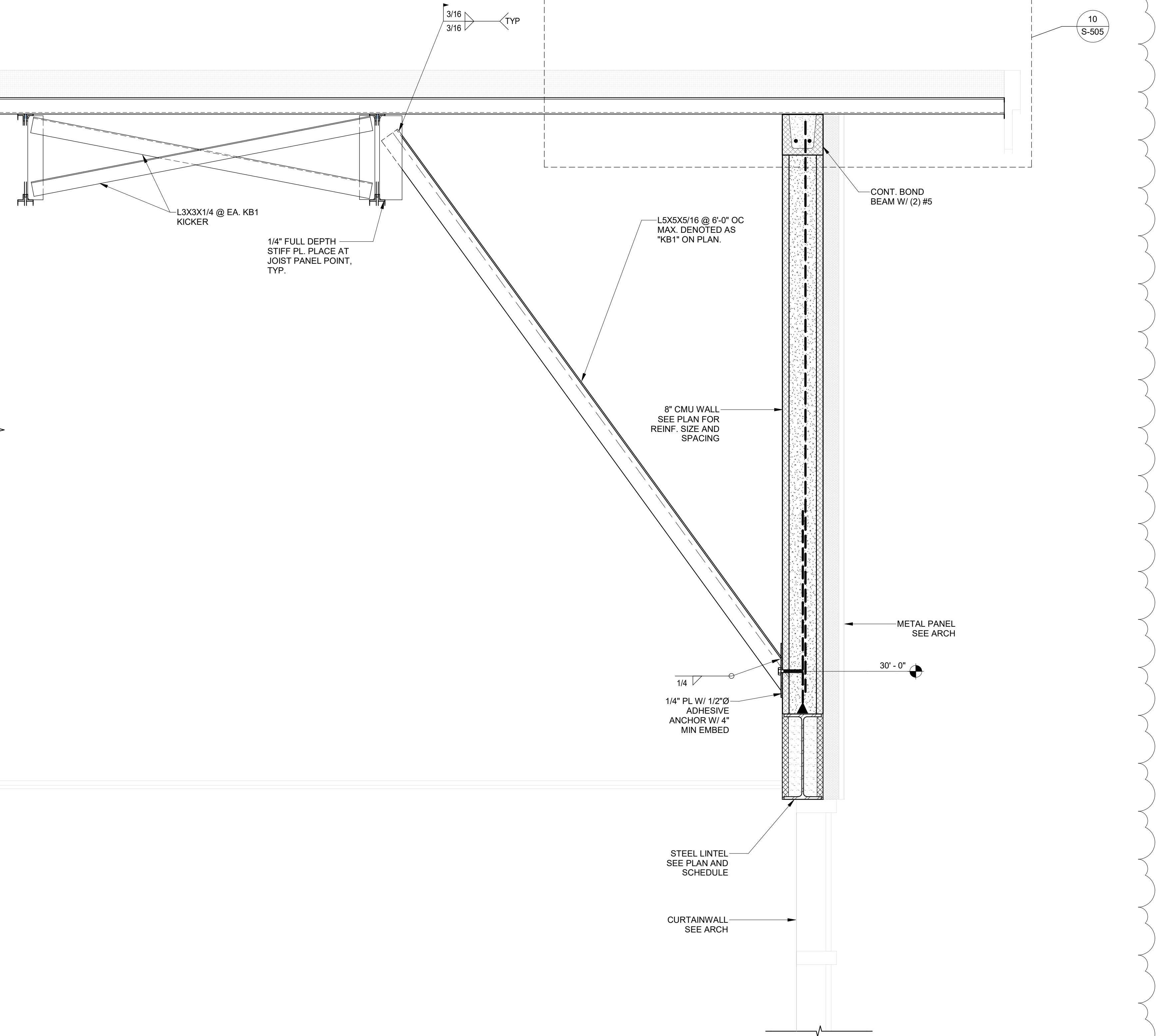




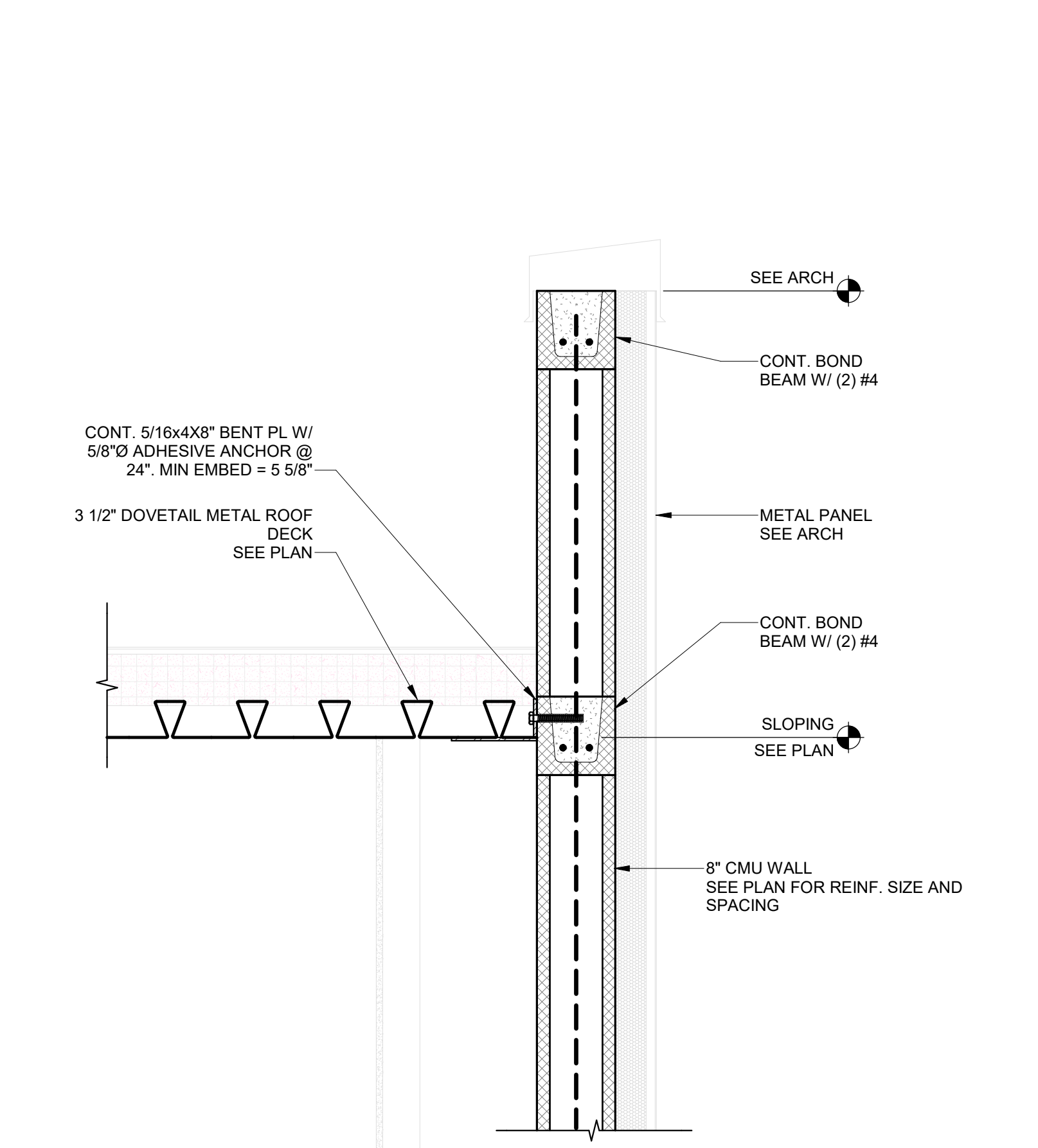
8 ROOF DETAIL
S-511 SCALE: 1" = 1'-0"



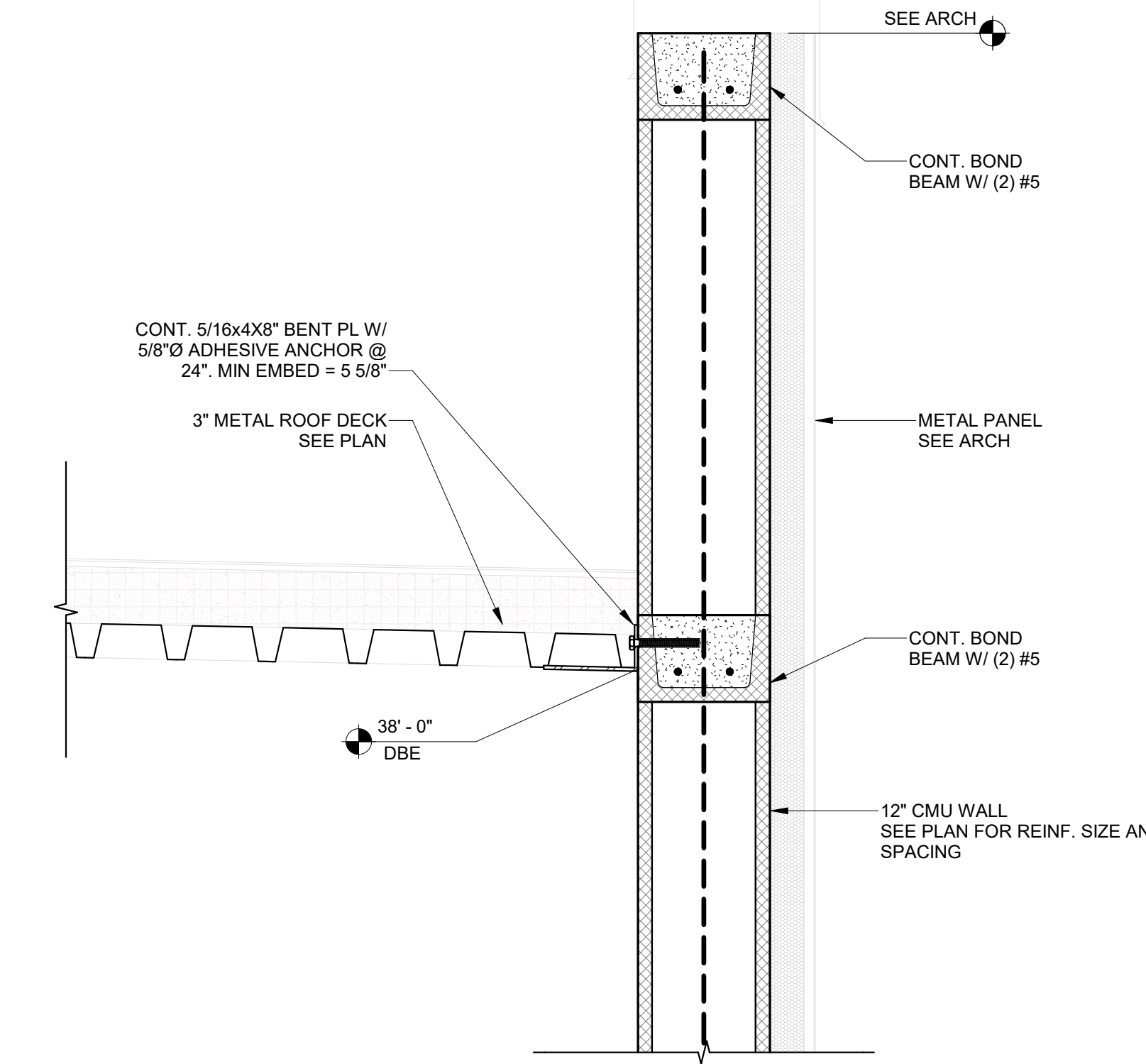
7 KNEE BRACE DETAIL
S-511 SCALE: 1" = 1'-0"



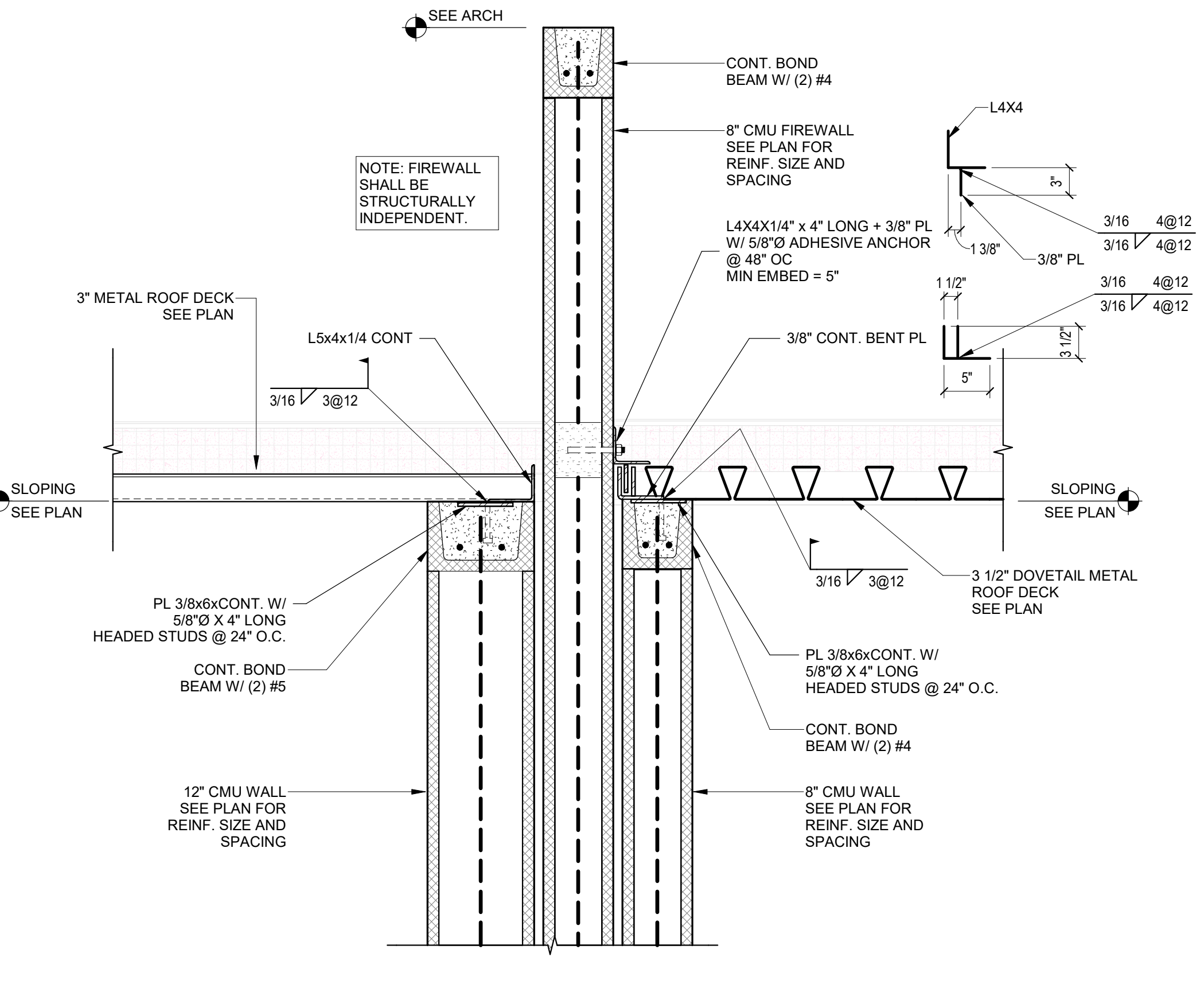
5 ROOF SECTION
S-511 SCALE: 1" = 1'-0"



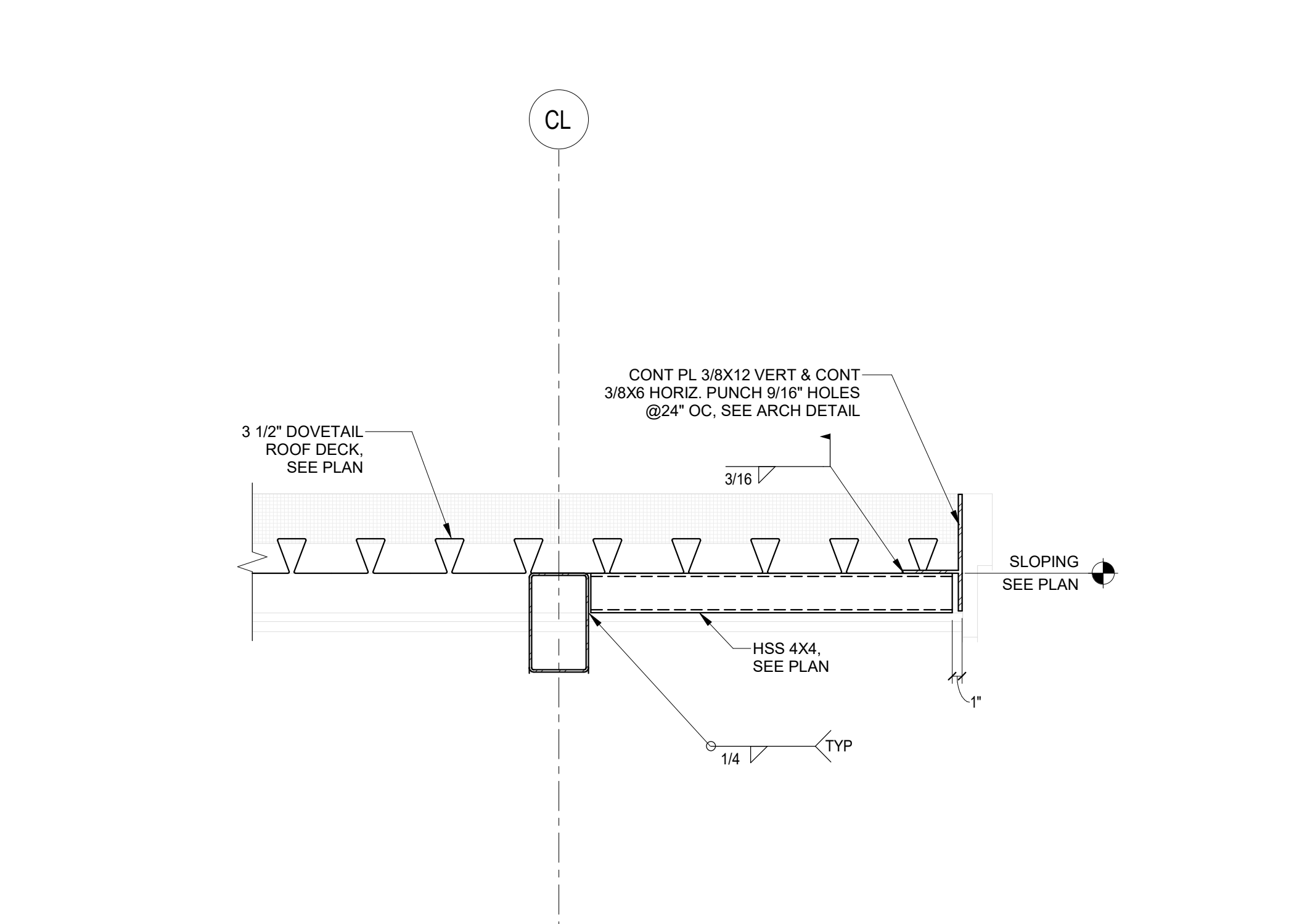
3 ROOF DETAIL
S-511 SCALE: 1" = 1'-0"



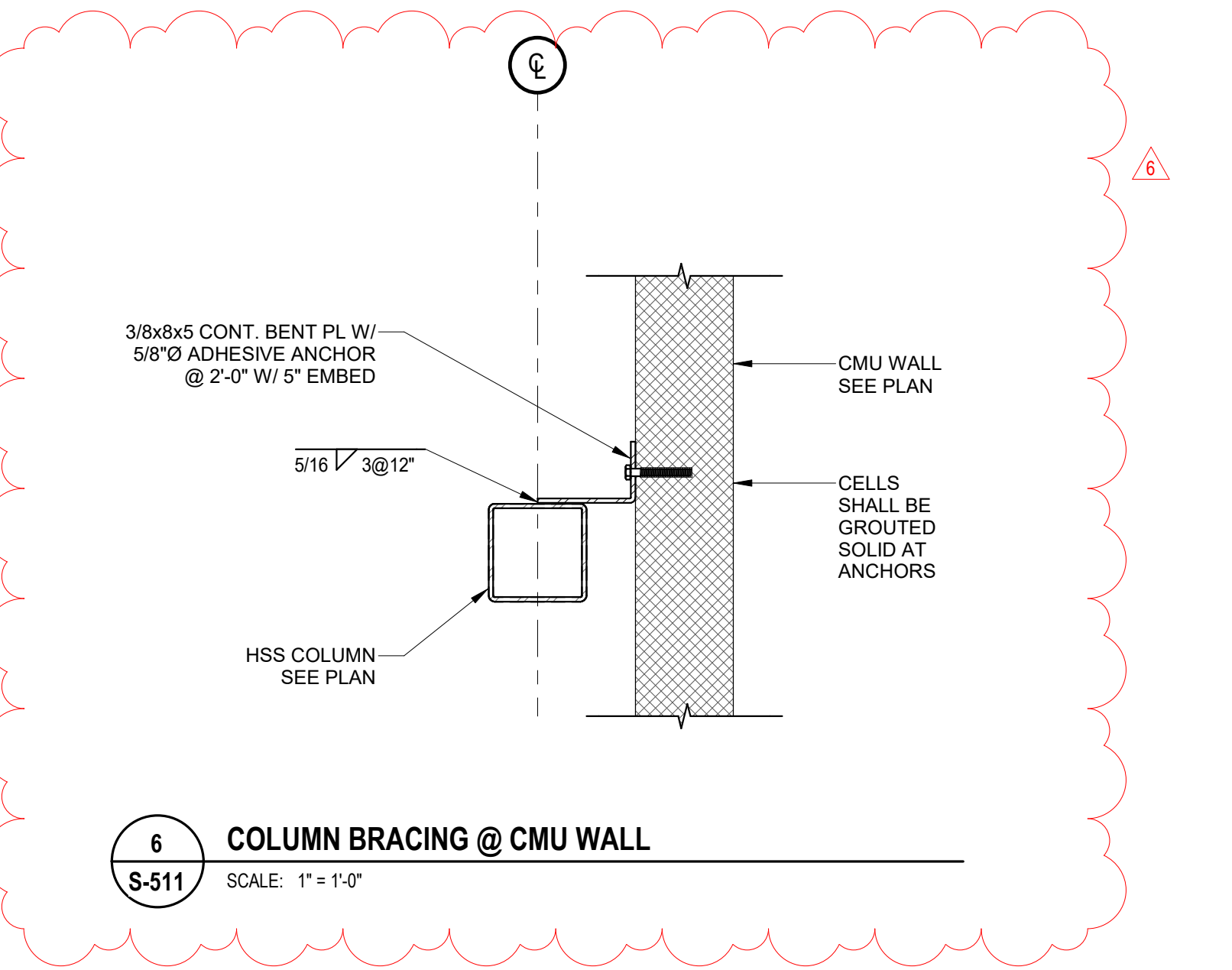
2 GYM ROOF DETAIL
S-511 SCALE: 1" = 1'-0"



4 ROOF SECTION
S-511 SCALE: 1" = 1'-0"



1 ROOF DETAIL
S-511 SCALE: 1" = 1'-0"



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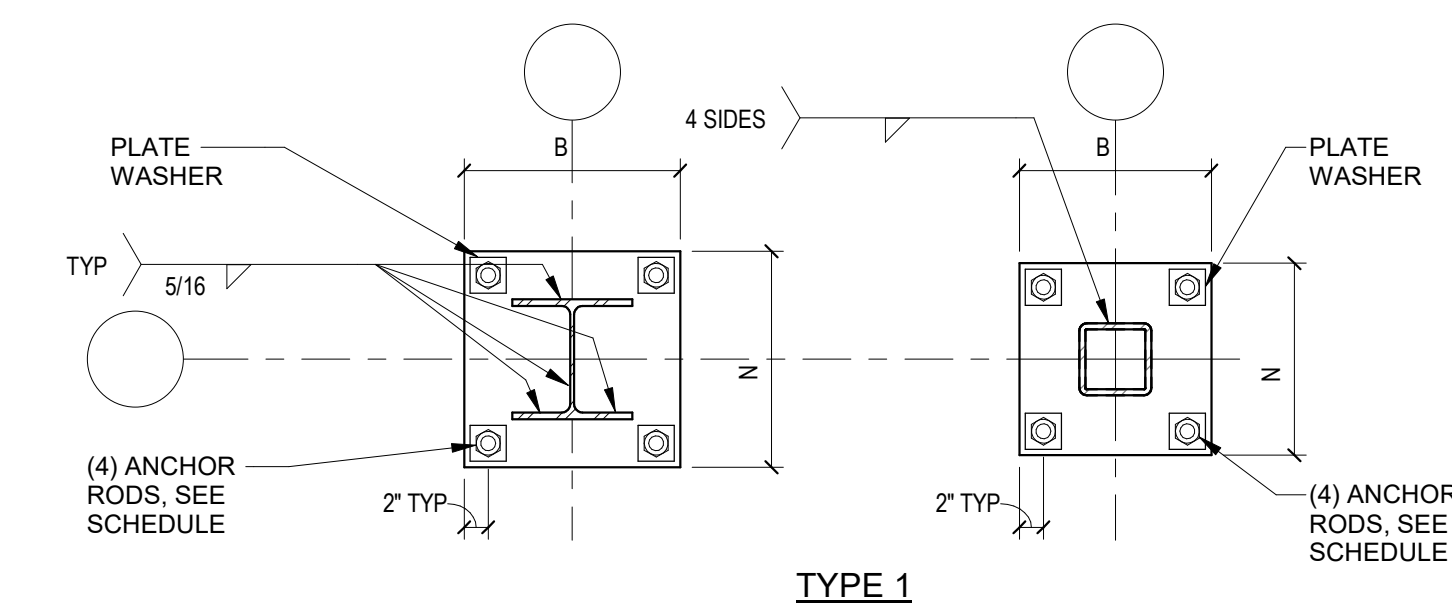
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ROOF FRAMING
DETAILS

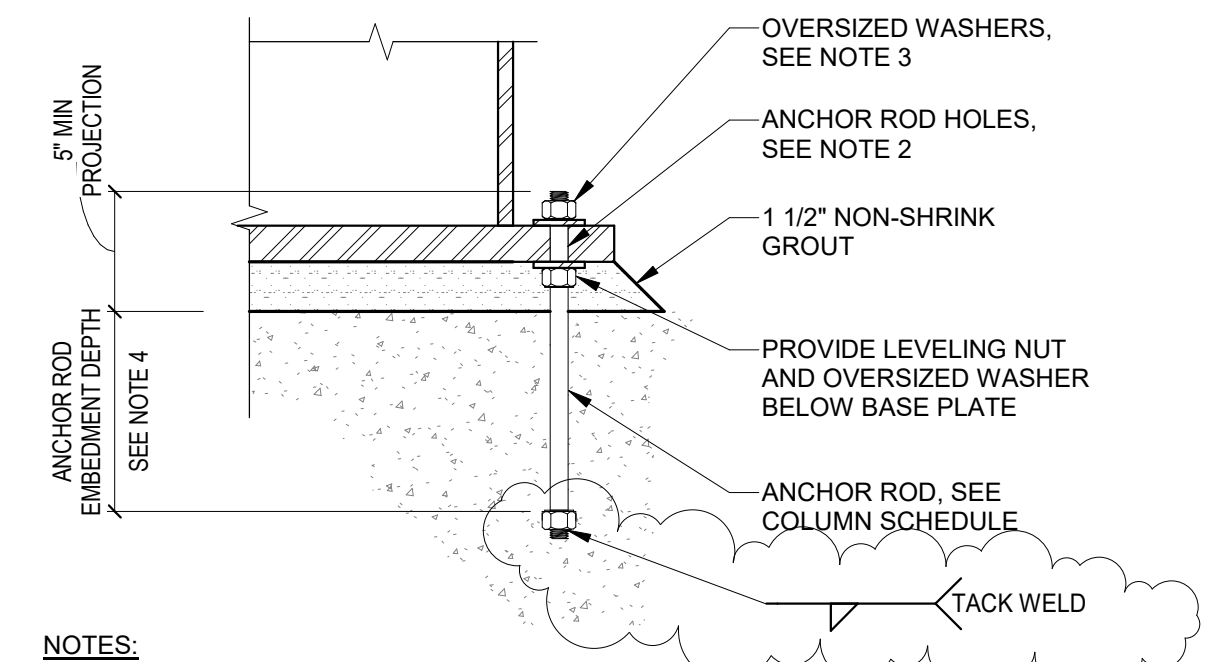
S-511

GYM ROOF BEARING																										GYM ROOF BEARING					
38' - 0"																										38' - 0"					
ROOF BEARING HEIGHT																										ROOF BEARING HEIGHT					
32' - 0"																										32' - 0"					
MECH PLATFORM 800 T/STL																										MECH PLATFORM 800 T/STL					
27' - 4"																										27' - 4"					
SECOND FLOOR																										SECOND FLOOR					
16' - 0"																										16' - 0"					
SOG - FOUNDATION																										SOG - FOUNDATION					
0"																										0"					
Column Locations	A-20	A-23	A-1-41	B-21	B(31'-8 7/8")-21(3'-4 13/16")	B-22	C-1	C-2	C.2-0.9	C.7-2	C.8-8.8	D.8-0.9	E-1	E-2	G-39	G-40	H(1'-3")-30	H.2-40.2	H.8-40.2	J-39	J-40	J.6-19.6	J.6-20.2	J.6-23.2	J.6-24	J.8-19.4	K-24	L-15	L-16	L-17	
ANCHOR BOLT	(4) 3/4"Ø	(4) 3/4"Ø		(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	
BASE PLATE SIZE	18X18X3/4"	18X18X3/4"		18X18X3/4"	18X18X3/4"	18X18X3/4"	14X14X3/4"	14X14X3/4"	12X12X3/4"	12X12X3/4"	12X12X3/4"	12X12X3/4"	14X14X3/4"	14X14X3/4"	14X14X3/4"	14X14X3/4"		12X12X3/4"	12X12X3/4"	12X12X3/4"	14X14X3/4"	14X14X3/4"	12X12X3/4"	12X12X3/4"	12X12X3/4"	12X12X3/4"	12X12X3/4"	14X14X3/4"	14X14X3/4"	14X14X3/4"	
BASE PLATE TYPE	TYPE 1	TYPE 1	SEE 11/S-403	TYPE 1	SEE 11/S-403	TYPE 1	TYPE 1	TYPE 1	TYPE 1	SEE 11/S-403	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	SEE 3/S-503	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	

GYM ROOF BEARING															GYM ROOF BEARING
38' - 0"															38' - 0"
ROOF BEARING HEIGHT															ROOF BEARING HEIGHT
32' - 0"															32' - 0"
MECH PLATFORM 800 T/STL															MECH PLATFORM 800 T/STL
27' - 4"															27' - 4"
SECOND FLOOR															SECOND FLOOR
16' - 0"															16' - 0"
SOG - FOUNDATION															SOG - FOUNDATION
0"															0"
Column Locations	L-18	L-19	M-20	M-21	M-22	M-23	N-25	N-26	N-27	N-28	N-29	P-20	P-23		
ANCHOR BOLT	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø	(4) 3/4"Ø		
BASE PLATE SIZE	14X14X3/4"	14X14X3/4"	14X14X3/4"	16X16X3/4"	16X16X3/4"	14X14X3/4"	14X14X3/4"	14X14X3/4"	14X14X3/4"	14X14X3/4"	14X14X3/4"	16X18X3/4"	18X18X3/4"		
BASE PLATE TYPE	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1	TYPE 1		



2
S-600
SCALE: 3/4" = 1'-0"
BP REF [FND-1.21]



- NOTES:
- ANCHOR ROD MATERIAL: ASTM F1554, GRADE 36, UNF
 - PROVIDE ANCHOR ROD HOLES CONFORMING TO TABLE 14-2 (AISC STEEL CONSTRUCTION MANUAL)
 - PROVIDE WASHERS CONFORMING TO TABLE 14-2 (AISC STEEL CONSTRUCTION MANUAL)
 - MINIMUM EMBEDMENT LENGTH FOR ASTM F1554, GRADE 36 ANCHOR RODS:
 - 3/4" DIA = 9"
 - 1" DIA = 12"

1
S-600
SCALE: 1 1/2" = 1'-0"
BP REF [FND-2.09]

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NC License #11-1105 Project # 23.09.035

PROFESSIONAL ENGINEER
037412
LARRY K. HICK
11-8-24
CONSTRUCTION DOCUMENTS

HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL
JOEL JOHNSON ROAD/US 401 S, LILLINGTON NC 27546



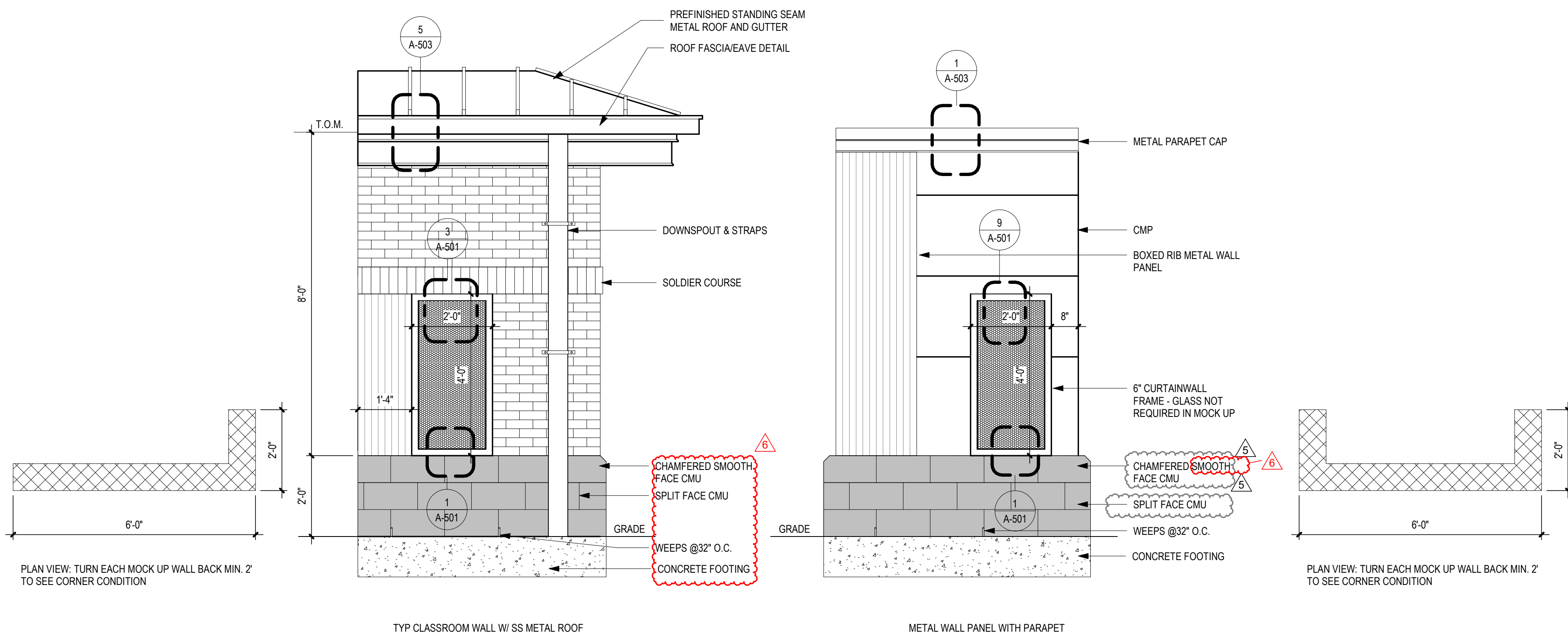
No.	Date	Description
4	01-09-25	NCDPI CD
6	02-05-25	ADDENDUM 2

ISSUE DATE: 01/09/2025
PROJECT #: 2208
DRAWN BY: MM
CHECKED BY: TH

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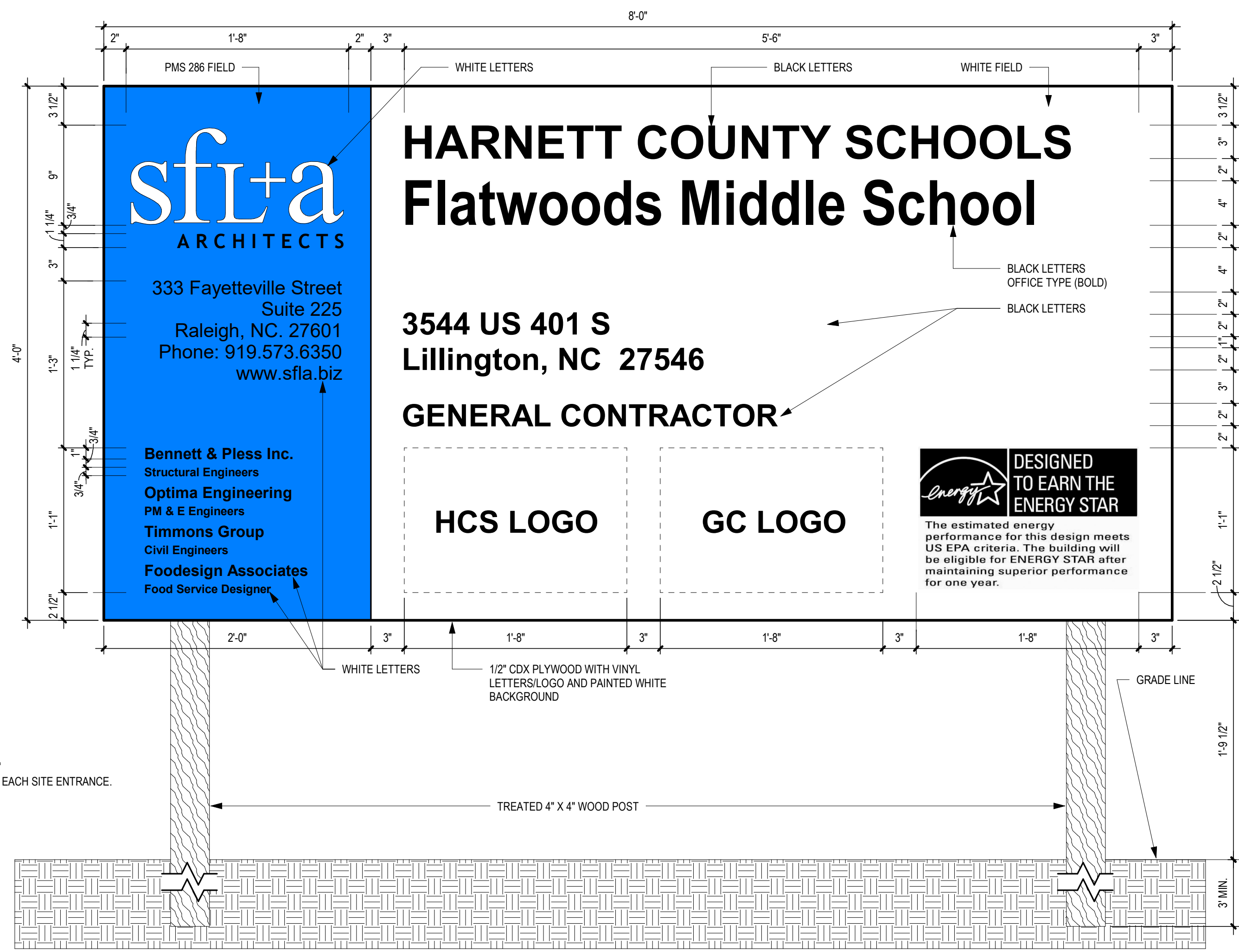
**STEEL COLUMN
SCHEDULE AND
DETAILS**

S-600



- 1) LOCATE MOCKUP PANEL SO EXTERIOR FACE IS IN THE SUNLIGHT
- 2) BRACE MOCK UP PANEL SUFFICIENTLY TO KEEP IT FROM FALLING OVER
- 3) COORDINATE MOCK UP PANEL WITH ACTUAL BUILDING ELEVATION FOR BASE, FIELD AND ACCENT BANDS

2
G-001 **MOCK UP WALL DETAIL**
SCALE: 1/2" = 1'-0"



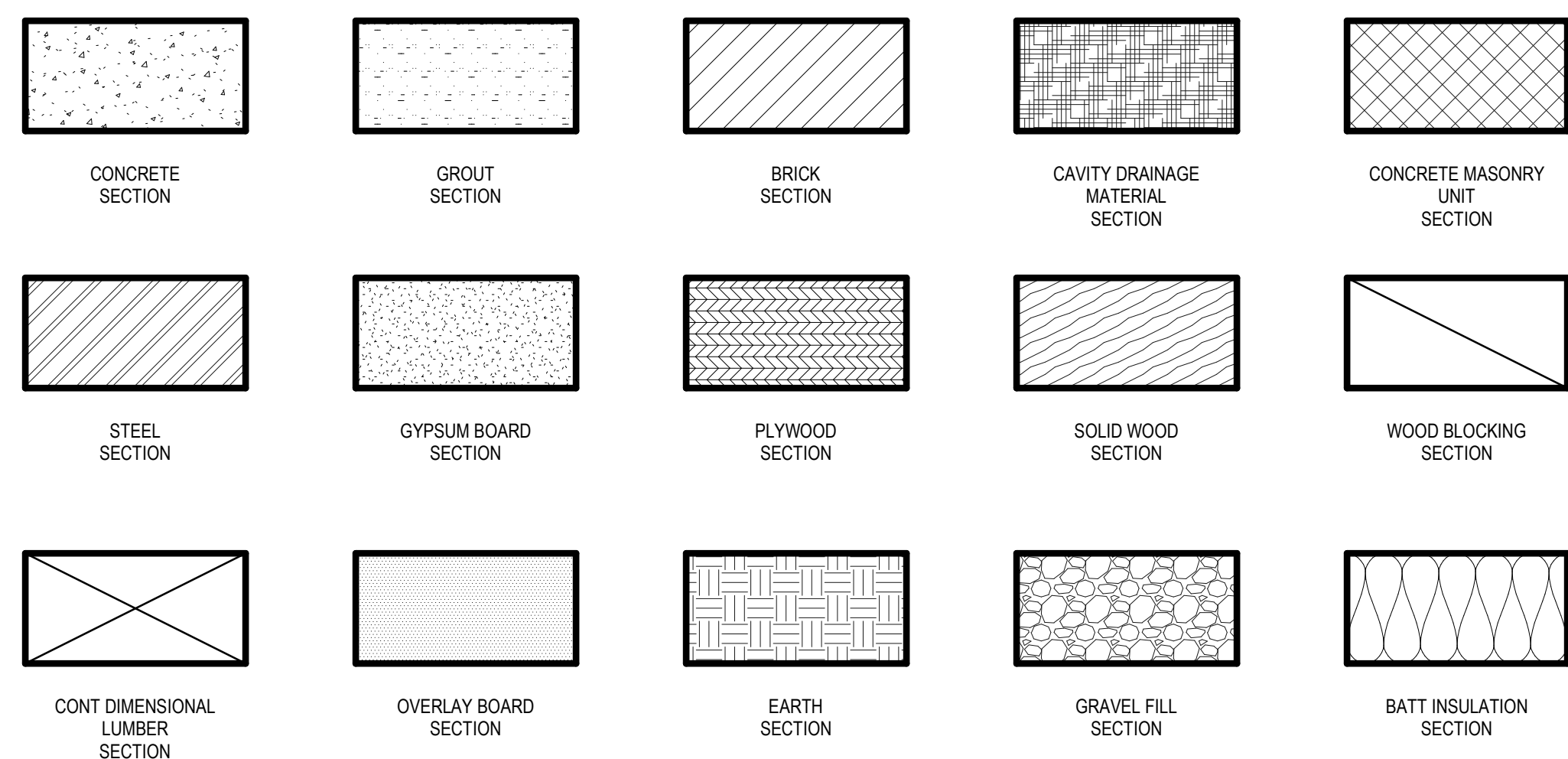
PROJECT SIGN

GC TO PROVIDE TWO ON SITE. ONE AT EACH SITE ENTRANCE.

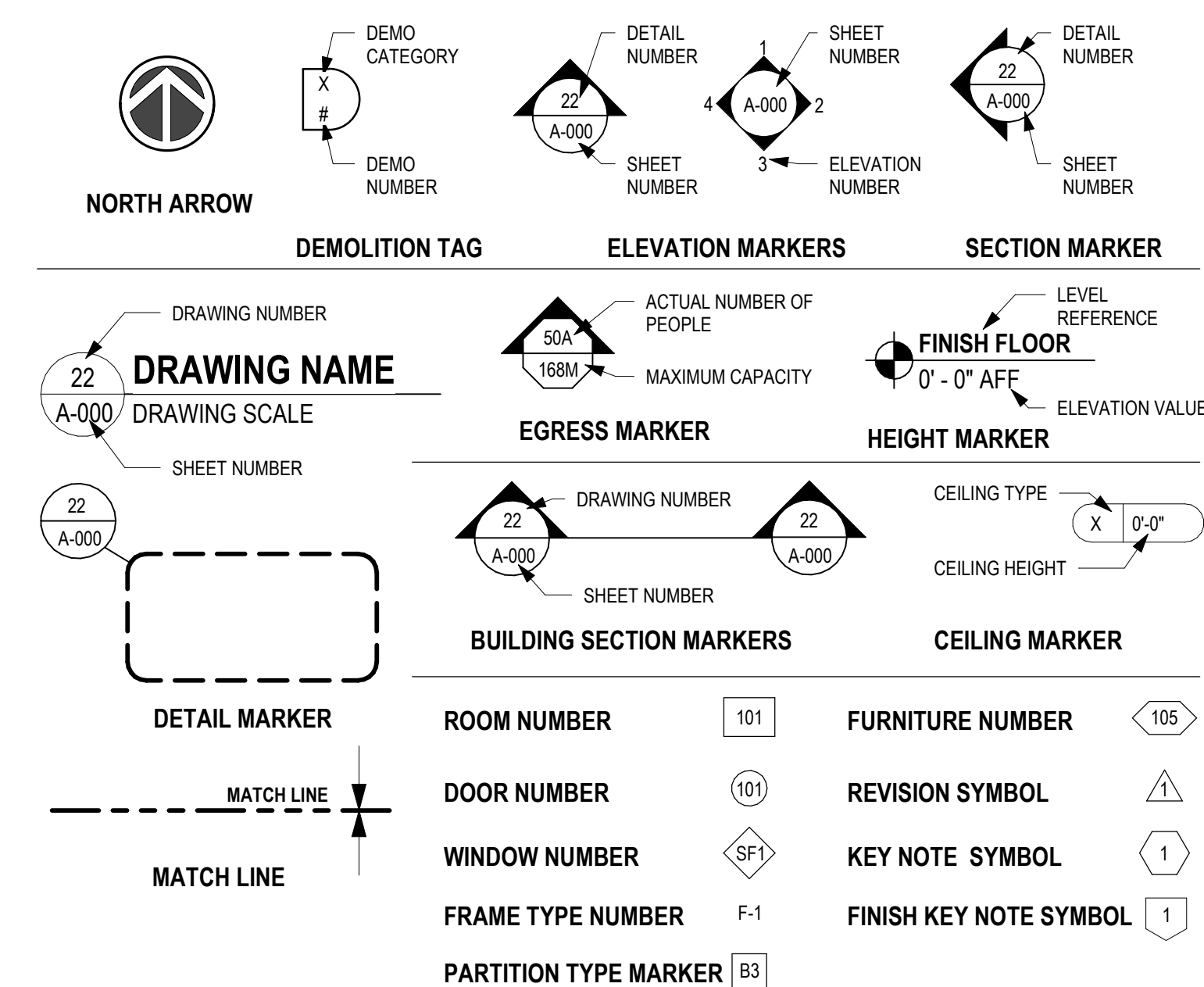
ABBREVIATIONS

AC	AIR CONDITIONING	E	EAST	L	LENGTH	S	SOUTH
AB	ANCHOR BOLT	EA	EACH	LAB	LABORATORY	SAP	SUSPENDED ACOUSTICAL PANELS
AD	AREA DRAIN	EC	ELECTRICAL CONTRACTOR	LAD	LADDER	SB	SPLASH BLOCK
ADJ	ADJUSTABLE	EJ	EXPANSION JOINT	LAV	LAWATORY	SC	SOLID CORE
AFF	ABOVE FINISHED FLOOR	ELEC	ELECTRIC	LB	LAG BOLT	SCH	SCHEDULE
ALT	ALTERNATE	ELEV	ELEVATION	LBL	LABEL	SD	STORM DRAIN
ALUM	ALUMINUM	EMER	EMERGENCY	LBS	POUND (S)	SEC	SECTION
AMP	AMPERE	ENCL	ENCLOSE (URE)	LH	LEFT HAND	SF	STORERFRONT
APPROX	APPROXIMATE	ENG	ENGINEER (ING)	LT	LIGHT	SIM	SIMILAR
ARCH	ARCHITECT (URAL)	EOD	EMERGENCY OVERFLOW DRAIN	LW	LIGHTWEIGHT	SND	SANITARY NAPKIN DISPOSAL
AUTO	AUTOMATIC	EP	ELECTRIC PANEL	LWC	LIGHTWEIGHT CONCRETE	SNV	SANITARY NAPKIN VENDOR
BB	BULLET BOARD	EQ	EQUAL	LVL	LAMINATED VENEER LUMBER	SP	SOUNDPROOF
BBSG	BEAM BEARING	EOP	EQUIPMENT	MAS	MASONRY	SPKR	SPEAKER
BD	BOARD	EST	ESTIMATE	MAT	MATERIAL (S)	SQ	SQUARE
BFF	BELOW FINISHED FLOOR	EWC	ELECTRIC WATER COOLER	MAX	MAXIMUM	SS	STAINLESS STEEL
BIT	BITUMINOUS	EXH	EXHAUST	MB	MARKER BOARD	STC	SOUND TRANSMISSION CLASS
BLDG	BUILDING	EXIST	EXISTING	MC	MECHANICAL CONTRACTOR	STD	STANDARD
BLK	BLOCK (ING)	EXP	EXPANSION	MECH	MECHANICAL	STR	STRUCTURAL
BM	BENCH MARK	EXT	EXTERIOR	MED	MEDIUM	SUS	SUSPENDED
BOD	BOTTOM OF DECK	FA	FIRE ALARM	MFR	MANUFACTURE (R)	SYM	SYMMETRICAL
BTM	BOTTOM	FB	FACE BRICK	MIN	MINIMUM	SYS	SYSTEM
BPL	BEARING PLATE	FD	FLOOR DRAIN	MIR	MIRROR	T	TREAD
BRG	BEARING	FDN	FOUNDATION	MISC	MISCELLANEOUS	T&G	TONGUE AND GROOVE
BSMT	BASEMENT	FE	FIRE EXTINGUISHER	MH	MANHOLE	TB	TACK BOARD
BTW	BETWEEN	FEC	FIRE EXTINGUISHER CABINET	MEMB	MEMBRANE	TEL	TELEPHONE
BUR	BUILT-UP ROOFING	FFE	FINISH FLOOR ELEVATION	MO	MASONRY OPENING	TG	TEMPERED GLASS
BY	BOTHWAYS	FHC	FIRE HOSE CABINET	MR	MOISTURE RESISTANT	THR	THRESHOLD
CB	CATCH BASIN	FIN	FINISH (ED)	MUL	MULLION	TP	TOILET PARTITION
CAB	CABINET	FLR	FLOOR (ING)	MTL	METAL	TOB	TOP OF BEAM
CEM	CEMENT	FLUOR	FLUORESCENT	N	NORTH	TOP	TOP OF FOOTING
CER	CERAMIC	FLEX	FLEXIBLE	NA	NOT APPLICABLE	TOP	TOP OF MASONRY
CF	CUBIC FOOT	FOB	FACE OF BRICK	NOT IN CONTRACT		TOS	TOP OF STEEL
CI	CAST IRON	FOGB	FACE OF GYPSUM BOARD	NOM	NOMINAL	TOW	TOP OF WALL
CIP	CAST-IN-PLACE	FR	FIREPROOF	NRC	NOISE REDUCTION COEFFICIENT	TS	TACK STRIP
CJ	CONTROL JOINT	FRM	FRAMING	NTS	NOT TO SCALE	TTD	TOILET TISSUE DISPENSER
CL	CENTERLINE	FRM&G	FIRE-RETARDANT FRAMING	OA	OVERALL	TYP	TYPICAL
CLG	CEILING	FRT	FOOT / FEET	OC	ON CENTER	UL	UNDERWRITERS LABORATORY
CLOS	CLOSET	FTG	FOOTING	OD	OUTSIDE DIAMETER	UNO	UNLESS NOTED OTHERWISE
CLR	CLEAR (ANCE)	FUR	FURRED (ING)	OH	OVERHEAD	UR	URNAL
CMP	COMPOSITE METAL PANEL	GA	GAGE, GAUGE	OPG	OPENING	US	UTILITY SHELF
CMT	CERAMIC MOSAIC (TILE)	GALV	GALVANIZED	OPP	OPPOSITE	V	VOLT
CMU	CONCRETE MASONRY UNIT	GB	GRAB BAR	OPPH	OPPOSITE HAND	VCT	VINYL COMPOSITION TILE
COL	COLUMN	GBL	GLASS BLOCK	OS	OVERFLOW SCUPPER	VERT	VERTICAL
CONC	CONCRETE	GC	GENERAL CONTRACT (OR)	PAR	PARALLEL	VEN	VENEEER
CONSTR	CONSTRUCTION	GCMU	GLAZED CONC. MASONRY UNIT	PBD	PARTICLE BOARD	VER	VERIFY IN FIELD
CONTR	CONTRACT (OR)	GF	GROUND FACE	PC	PLUMBING CONTRACTOR	VR	VAPOR RETARDER
CORR	CORRIDOR	GFR	GLASS FIBER RE. CONC.	PCF	POUNDS PER CUBIC FOOT	VTR	VENT THROUGH ROOF
CPT	CARPET (ED)	GL	GLASS, GLAZING	PCT	PORCELAIN CERAMIC TILE	VWC	VINYL WALL COVERING
CSMT	CASEMENT	GP	GALVANIZED PIPE	PERF	PERFORATED	W	WEST
CT	CERAMIC TILE	GYP	GYPSUM	PERM	PERMEABLE	WB	WOOD BASE
CTR	CENTER	GWB	GYPSUM WALL BOARD	PL	PLATE	WC	WATER CLOSET
CY	CUBIC YARD	HB	HOSE BIBB	PLAM	PLASTIC LAMINATE	WD	WOOD
DEMO	DEMOLISH, DEMOLITION	HC	HOLLOW CORE	PLAS	PLASTER	WG	WIRE GLASS
DET	DETAIL	HD	HEAVY DUTY	PLF	POUNDS PER LINEAL FOOT	WH	WALL HUNG
DF	DRINKING FOUNTAIN	HDR	HEADER	PT	PRESSURE TREATED	WI	WROUGHT IRON
DH	DOUBLE HUNG	HDW	HARDWARE	PRF	POWER ROOF VENT	WM	WIRE MESH
DIAM	DIAMETER	HM	HOLLOW METAL	PSF	POUNDS PER SQUARE FOOT	WIO	WITHOUT
DM	DIMENSION	HOR	HORIZONTAL JOINT REINFORCEMENT	PSI	POUNDS PER SQUARE INCH	WP	WATERPROOFING
DISP	DISPENSER	HJT	HORIZONTAL JOINT	PRT	PAPER TOWEL DISPENSER	WT	WEIGHT
DIV	DIVISION	HT	HEIGHT	PTN	PARTITION	WWF	WELDED WIRE FABRIC
DL	DEAD LOAD	HTG	HEATING	PVC	POLYVINYL CHLORIDE		
DM	DECORATIVE MASONRY	HWD	HARDWOOD	PWD	PLYWOOD		
DPR	DAMPER	HWH	HOT WATER HEATER	QT	QUARTY TILE		
DR	DOOR	HVAC	HEATING / VENTILATING / A/C	R	RISER		
DS	DOWNSPOUT	ID	INSIDE DIAMETER	RA	RETURN AIR		
DT	DRAIN TILE	IN	INCH	RAD	RADIUS		
DWG	DRAWING	INCL	INCLUDE (D), (ING)	RB	RUBBER BASE		
		INT	INTERIOR	RT	RUBBER TILE		
		INV	INVERT	RCF	REINFORCED CONCRETE PIPE		
		WB	INTERACTIVE WHITE BOARD	RD	ROOF DRAIN		
		JAN	JANITOR	REIN	REINFORCE (D), (ING)		
		JC	JANITOR'S CLOSET	REF	REFERENCE		
		JT	JOINT	REFR	REFRIGERATOR		
		JST	JOIST	REG	REGISTER		
		KD	KNOCK DOWN	REQ	REQUIRED		
		KIT	KITCHEN	RET	RETURN		
		KPL	KICK PLATE	REV	REVISION (S), REVISED		
				RH	RIGHT HAND		
				RM	ROOM		
				RO	ROUGH OPENING		

SYMBOLS LEGEND



KEY SYMBOLS LEGEND



GENERAL NOTES

1. WALL DIMENSIONS ARE TO FACE OF MASONRY, FACE OF METAL STUD, FACE OF STEEL OR CENTERLINE & STEEL COLUMN, UNLESS OTHERWISE NOTED. DETERMINE LOCATION OF WALLS NOT DIMENSIONED BY THEIR RELATION TO ADJACENT DIMENSIONED WALLS AND COLUMNS.
2. ALL EXTERIOR SIDEWALKS SHALL SLOPE AWAY FROM THE BUILDING AT 1/4" PER FOOT.
3. MAINTAIN INTEGRITY OF ACOUSTIC WALLS AND CEILINGS AT ALL WALL PENETRATIONS AND EQUIPMENT RECESSES.
4. ALL CERAMIC TILE TO HAVE CONTROL JOINTS THAT ALIGN WITH CONTROL JOINTS IN CONCRETE SLAB.
5. THERE SHALL BE NO PENETRATIONS IN THROUGH WALL FLASHING.
6. DOOR JAMB FROM INTERSECTING WALLS: STUD 6" MASONRY 4" TYPICAL UNLESS OTHERWISE NOTED.
7. CONTRACTOR SHALL AVOID THE USE OF DISSIMILAR METALS IN CONTACT WITH ONE ANOTHER AS MUCH AS POSSIBLE AND SHALL PROVIDE FELTS, BOND BREAKERS, TAPE, OR OTHER APPLICABLE MATERIAL SEPARATION WHERE SUCH CONTACT IS UNAVOIDABLE.

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CONSTRUCTION DOCUMENTS

**HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL**
3544 US 401 S, LILLINGTON NC 27546

ENERGY STAR PARTNER

No.	Date	Description
5	01-30-25	ADDENDUM 1
6	02-05-25	ADDENDUM 2

ISSUE DATE: 01-09-25
PROJECT #: 02208.000
DRAWN BY: Author
CHECKED BY: Checker
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GENERAL NOTES, ABBREVIATIONS & LEGENDS

G-001

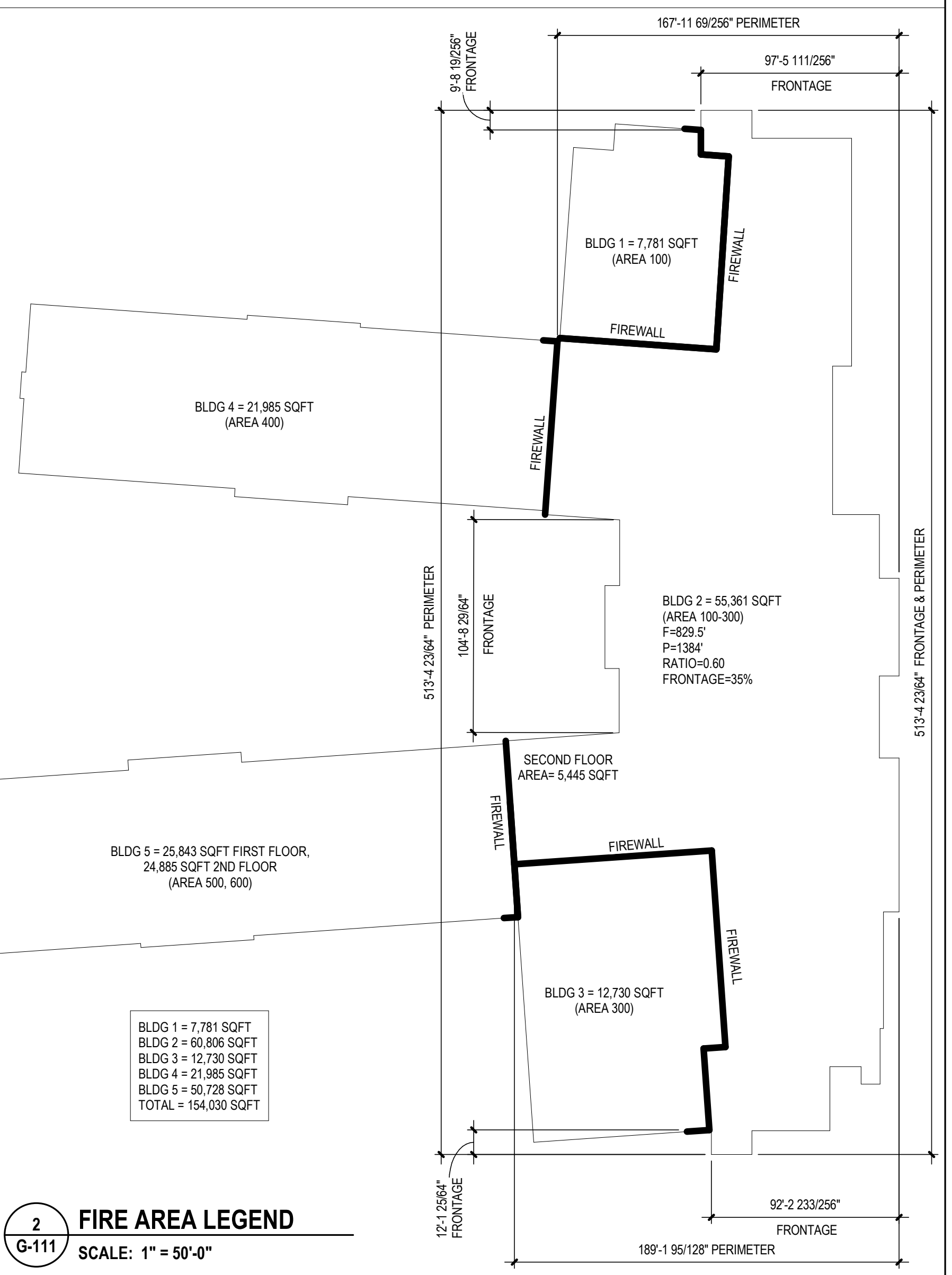


LIFE SAFETY LEGEND	
SYMBOL	DESCRIPTION
[Symbol]	1 HR FIRE RATED
[Symbol]	2 HR FIRE RATED
[Symbol]	DOOR FIRE RATING IN MINUTES
[Symbol]	DOOR WITH PANIC HARDWARE
[Symbol]	ACTUAL NUMBER OF OCCUPANTS EGRESSING THROUGH EXIT
[Symbol]	MAXIMUM NUMBER OF OCCUPANTS ALLOWED THROUGH EXIT
[Symbol]	FIRE EXTINGUISHER CABINET (250' TRAVEL DISTANCE MAX)
[Symbol]	MANUAL FIRE ALARM PULL BOX
[Symbol]	EXIT SIGN (CEILING MOUNTED) / EXIT SIGN (WALL MOUNTED)
[Symbol]	MAGNETIC HOLD OPEN
[Symbol]	36" DOOR WIDTH NOMINAL = 33.5" CLEAR (223 OCCUPANTS PER DOOR AT .15)
[Symbol]	42" DOOR WIDTH NOMINAL = 39.5" CLEAR (264 OCCUPANTS PER DOOR AT .15)
[Symbol]	48" DOOR WIDTH NOMINAL = 45.5" CLEAR (302 OCCUPANTS PER DOOR AT .15)
[Symbol]	72" DOOR WIDTH NOMINAL = 68.5" CLEAR (456 OCCUPANTS PER DOOR AT .15)
[Symbol]	84" DOOR WIDTH NOMINAL = 80.5" CLEAR (538 OCCUPANTS PER DOOR AT .15)
[Symbol]	96" DOOR WIDTH NOMINAL = 92.5" CLEAR (616 OCCUPANTS PER DOOR AT .15)
[Symbol]	108" DOOR WIDTH NOMINAL = 104.5" CLEAR (696 OCCUPANTS PER DOOR AT .15)

LIFE SAFETY GENERAL NOTES:

- SEE SHEET G-003 FOR UL DESIGNS
- SEE SHEET A-010 & FLOOR PLANS FOR PARTITION TYPES.
- DEDICATED FIRE EXTINGUISHERS SHALL BE PROVIDED IN THE FOLLOWING ROOMS: ELEVATOR EQUIPMENT ROOMS, MOP AND LDF ROOMS.
- [Symbol] DENOTES CLEAR EGRESS PATH. NO FURNITURE TO BE PLACED IN THIS PATH.

ROOM	TRAVEL DISTANCE
BLDG 1/AUDITORIUM 105	91' - 2"
BLDG 2/COLLAB 600	342' - 1"
BLDG 2/CONFERENCE 217	200' - 0"
BLDG 2/Drama 102	164' - 9"
BLDG 2/ES CS 403	206' - 7"
BLDG 2/HEALTH ROOM 317	245' - 9"
BLDG 4/MEDIA 223	180' - 6"
BLDG 4/CLASSROOM 416	147' - 5"
BLDG 4/SCIENCE 408	158' - 6"
BLDG 5/CLASSROOM 515	159' - 3"
BLDG 5/CLASSROOM 616	214' - 4"
BLDG 5/SCIENCE 504	183' - 3"
BLDG 5/SCIENCE 608	189' - 1"



FIRE AREA LEGEND	
SYMBOL	DESCRIPTION
[Symbol]	BLDG 1 = 7,781 SQFT
[Symbol]	BLDG 2 = 21,985 SQFT
[Symbol]	BLDG 3 = 12,730 SQFT
[Symbol]	BLDG 4 = 21,985 SQFT
[Symbol]	BLDG 5 = 25,843 SQFT
[Symbol]	TOTAL = 154,030 SQFT

1 FIRST FLOOR LIFE SAFETY PLAN
SCALE: 1" = 20'-0"

2 FIRE AREA LEGEND
SCALE: 1" = 50'-0"

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CONSTRUCTION DOCUMENTS

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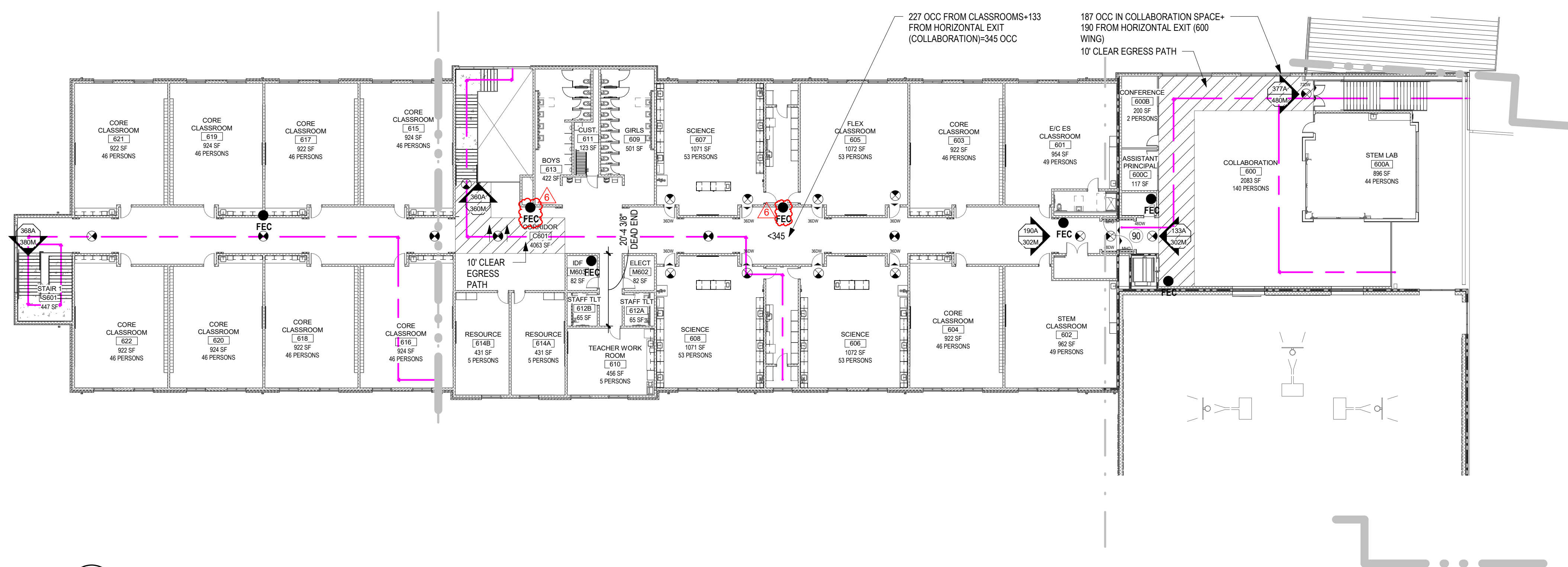


No.	Date	Description
1	12-06-24	NCCI CD
5	01-30-25	ADDENDUM 1
6	02-05-25	ADDENDUM 2

ISSUE DATE: 01-09-25
PROJECT #: 02208.000
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LIFE SAFETY PLAN-FIRST FLOOR

G-111



ROOM	TRAVEL DISTANCE
BLDG 1/AUDITORIUM 105	91' - 2"
BLDG 2/COLLAB 600	342' - 1"
BLDG 2/CONFERENCE 217	200' - 0"
BLDG 2/DRAMA 102	164' - 9"
BLDG 2/ES CS 403	206' - 7"
BLDG 2/HEALTH ROOM 317	245' - 9"
BLDG 2/MEDIA 223	180' - 6"
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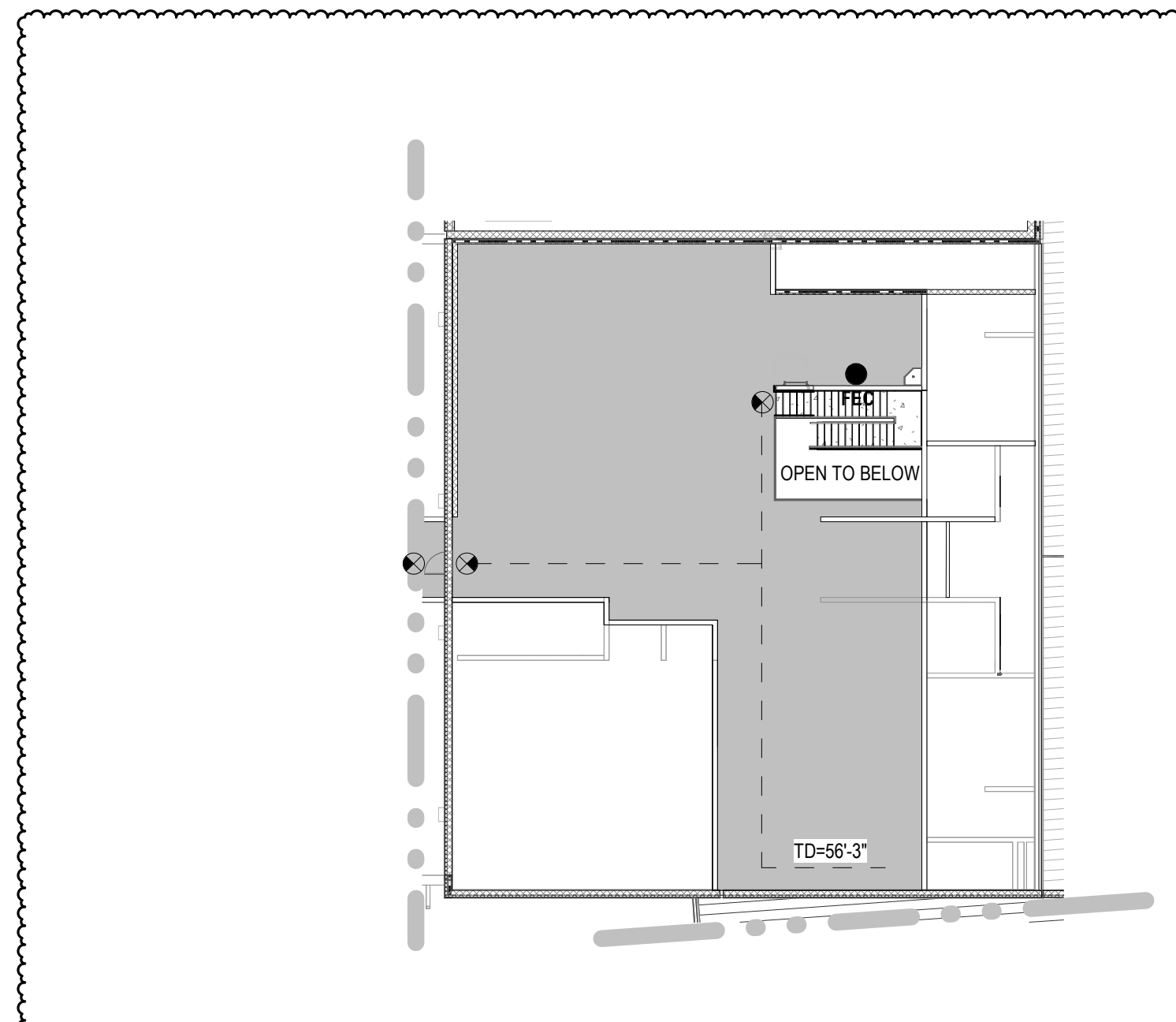
LIFE SAFETY LEGEND

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[Symbol]	72" DOOR WIDTH NOMINAL = 68.5" CLEAR (466 OCCUPANTS PER DOOR AT .15)
[Symbol]	84" DOOR WIDTH NOMINAL = 80.5" CLEAR (538 OCCUPANTS PER DOOR AT .15)
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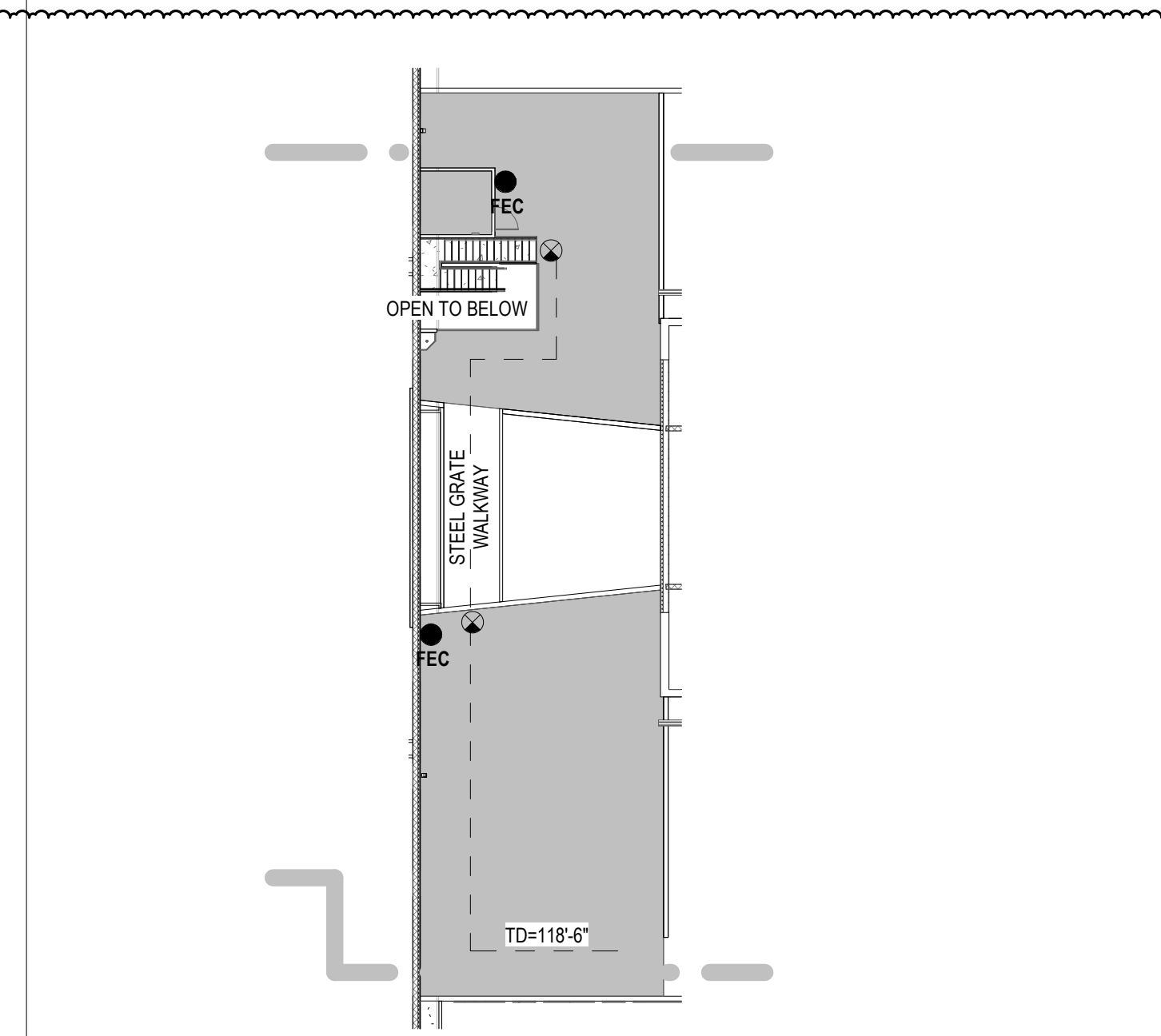
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- [Symbol] DENOTES CLEAR EGRESS PATH. NO FURNITURE TO BE PLACED IN THIS PATH.

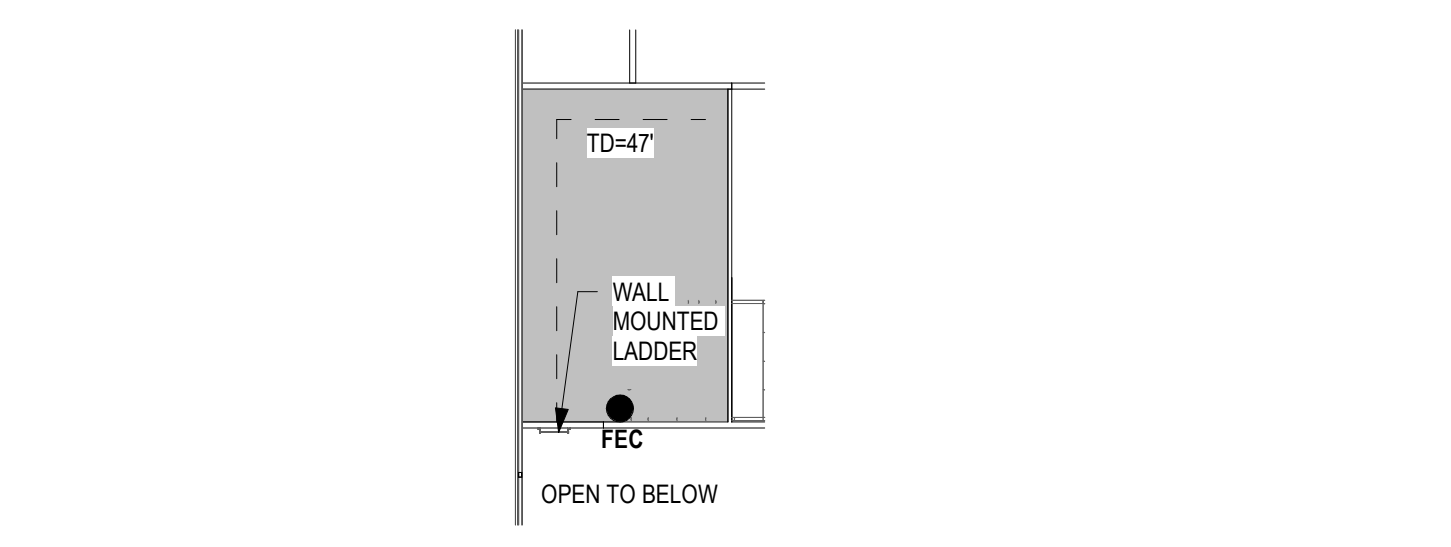
1 SECOND FLOOR LIFE SAFETY PLAN
 SCALE: 1" = 20'-0"



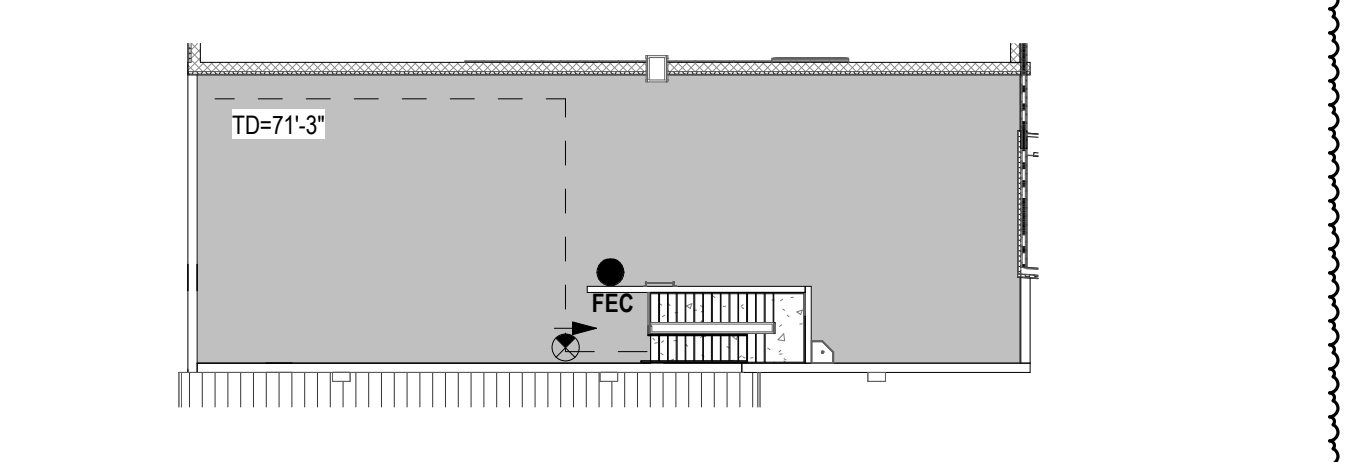
2 MECH PLATFORM - AREA 100 LIFE SAFETY PLAN
 SCALE: 1" = 20'-0"



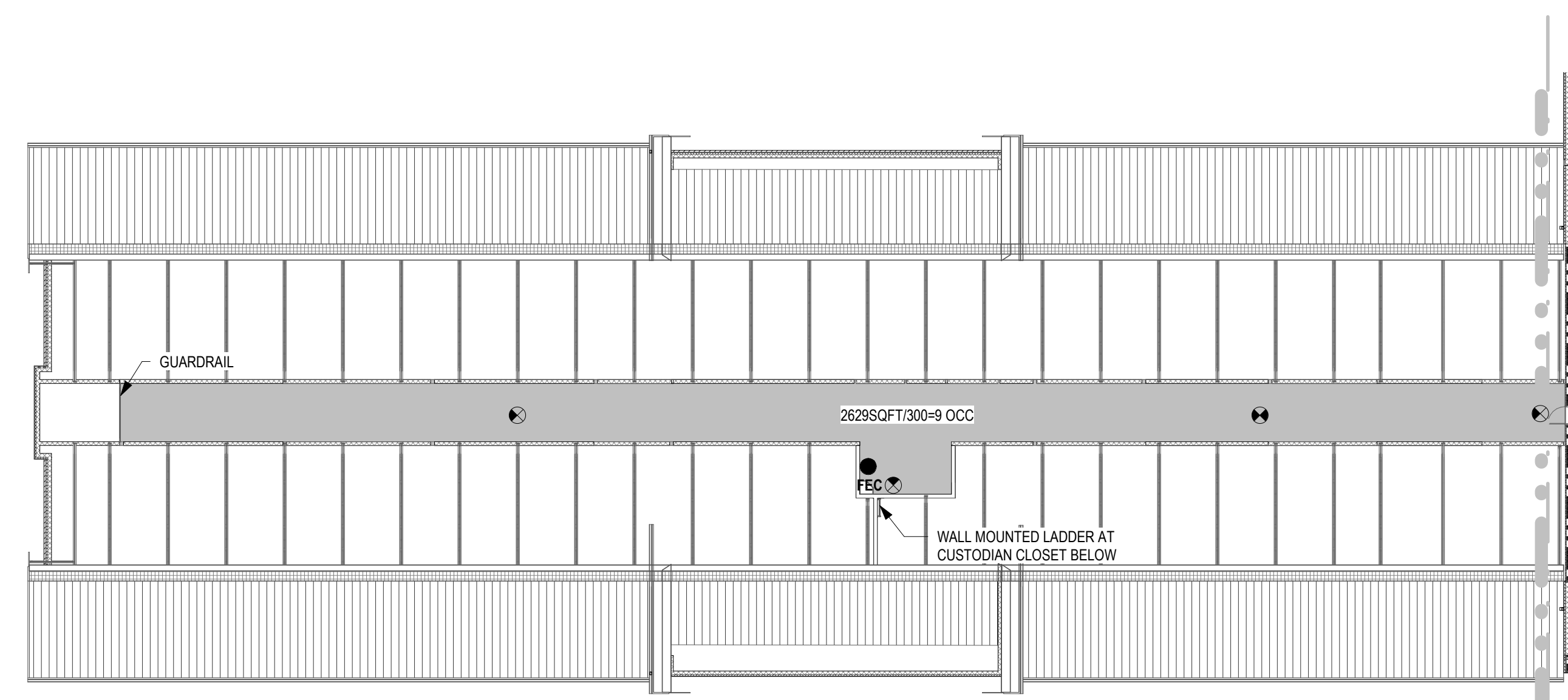
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 SCALE: 1" = 20'-0"



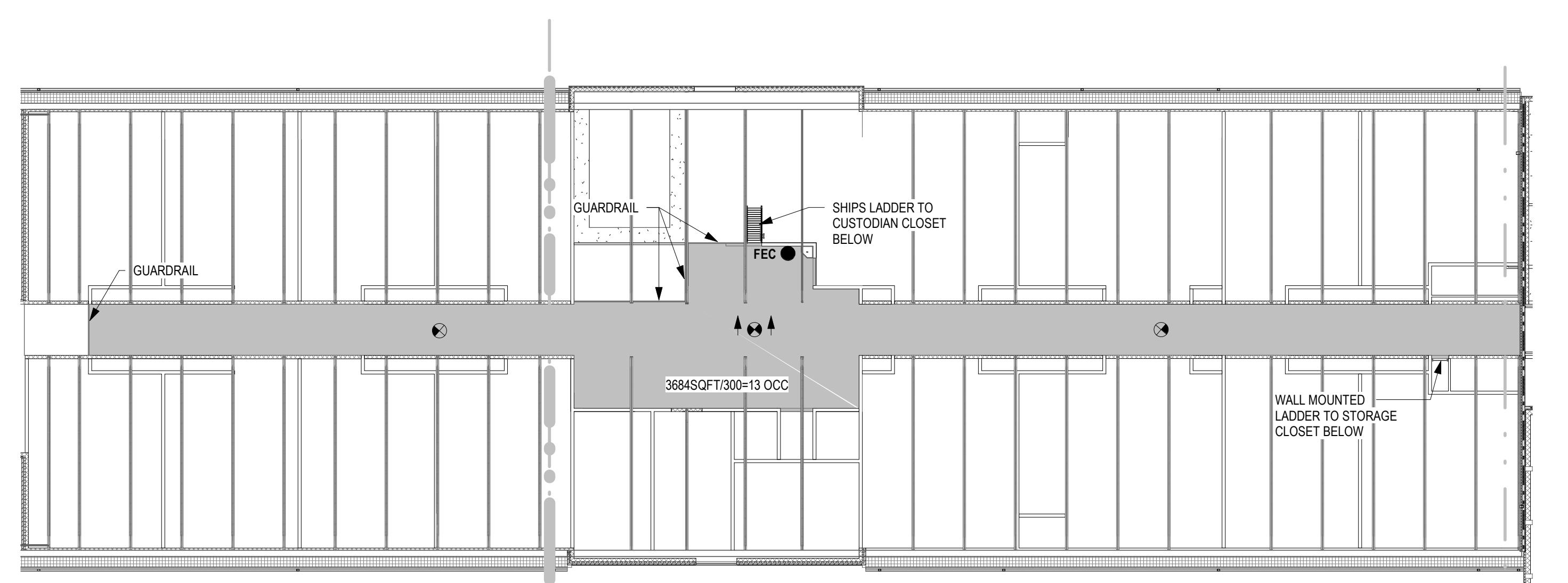
4 KITCHEN MECH PLATFORM - AREA 300 LIFE SAFETY PLAN
 SCALE: 1" = 20'-0"



5 GYM MECH PLATFORM - AREA 300 LIFE SAFETY PLAN
 SCALE: 1" = 20'-0"



6 MECH PLATFORM - AREA 400 LIFE SAFETY PLAN
 SCALE: 1" = 20'-0"



7 MECH PLATFORM - AREA 600 LIFE SAFETY PLAN
 SCALE: 1" = 20'-0"

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 EXPIRES 12/31/2024

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No.	Date	Description
4	01-09-25	NCPD CD
6	02-05-25	ADDENDUM 2

ISSUE DATE: 01-09-25
 PROJECT #: 02208.000
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 CHECKED BY: Checker
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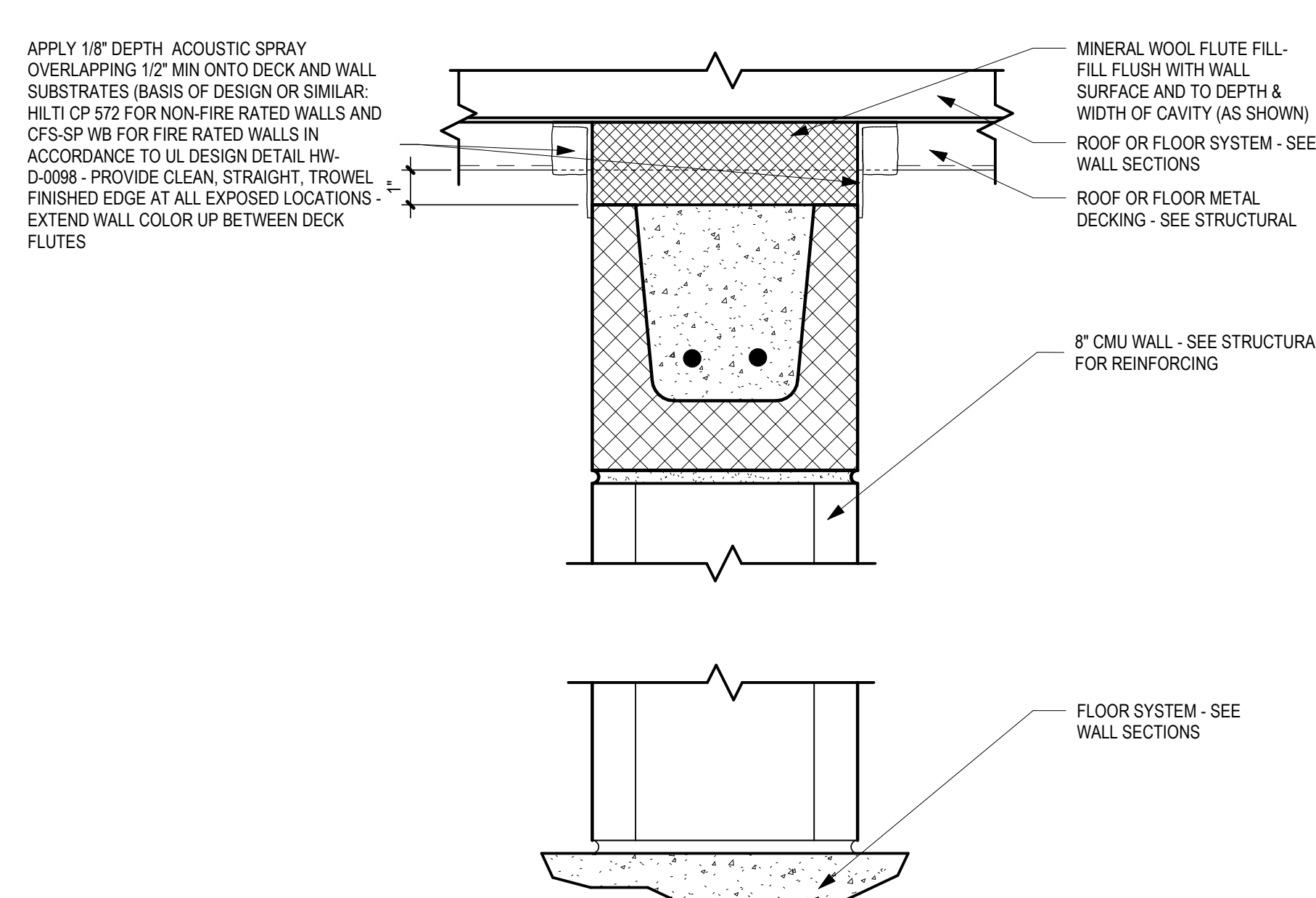
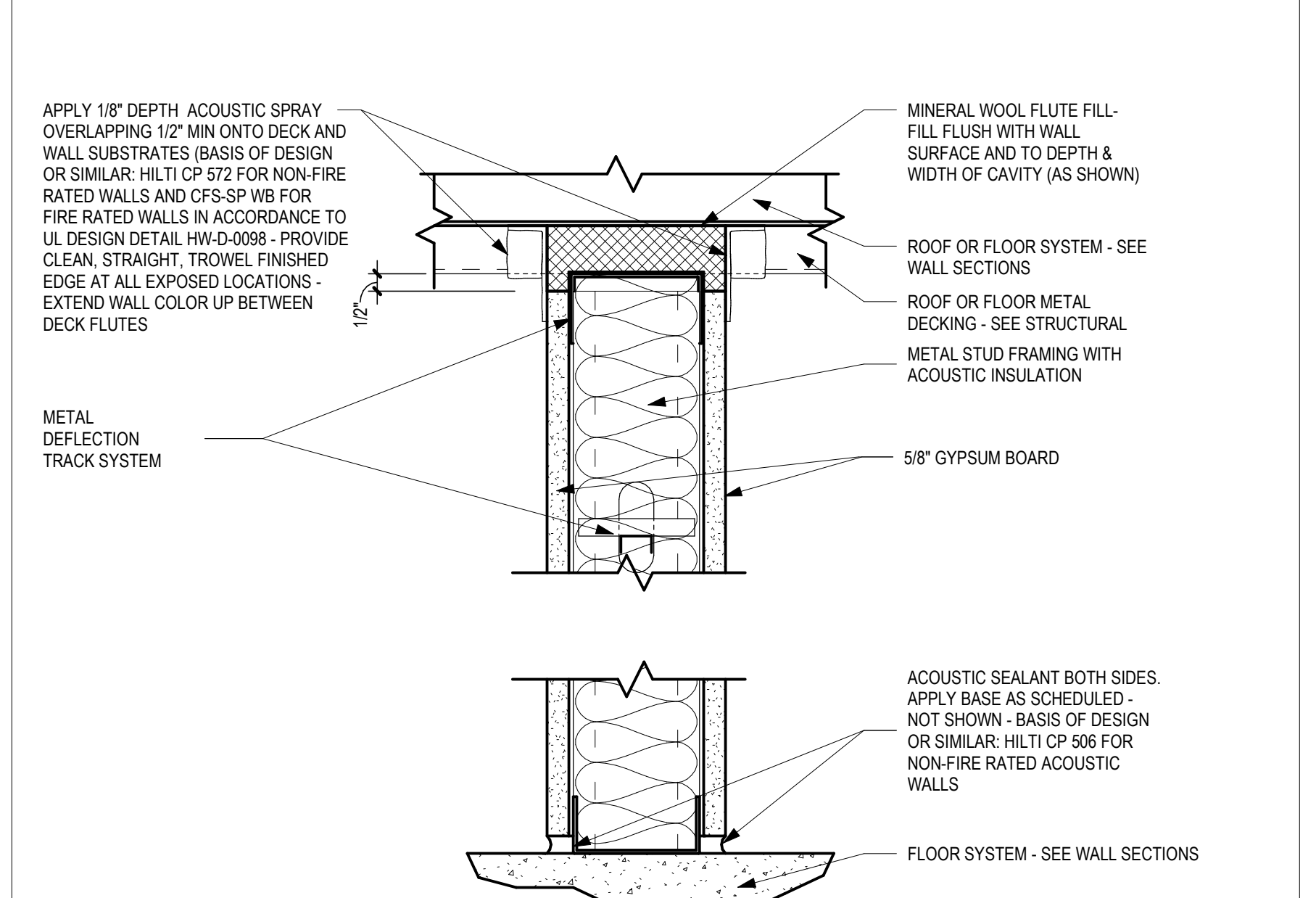
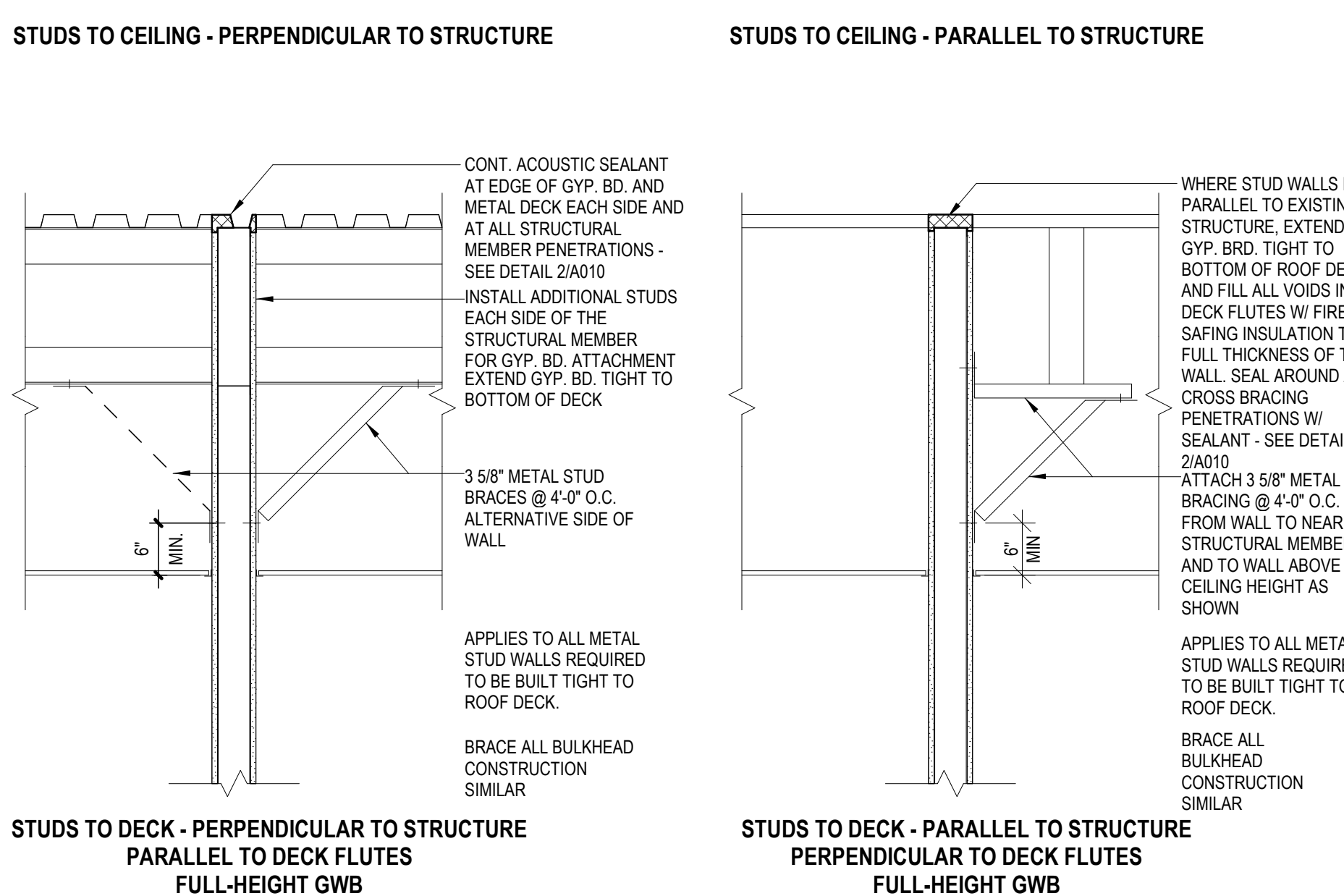
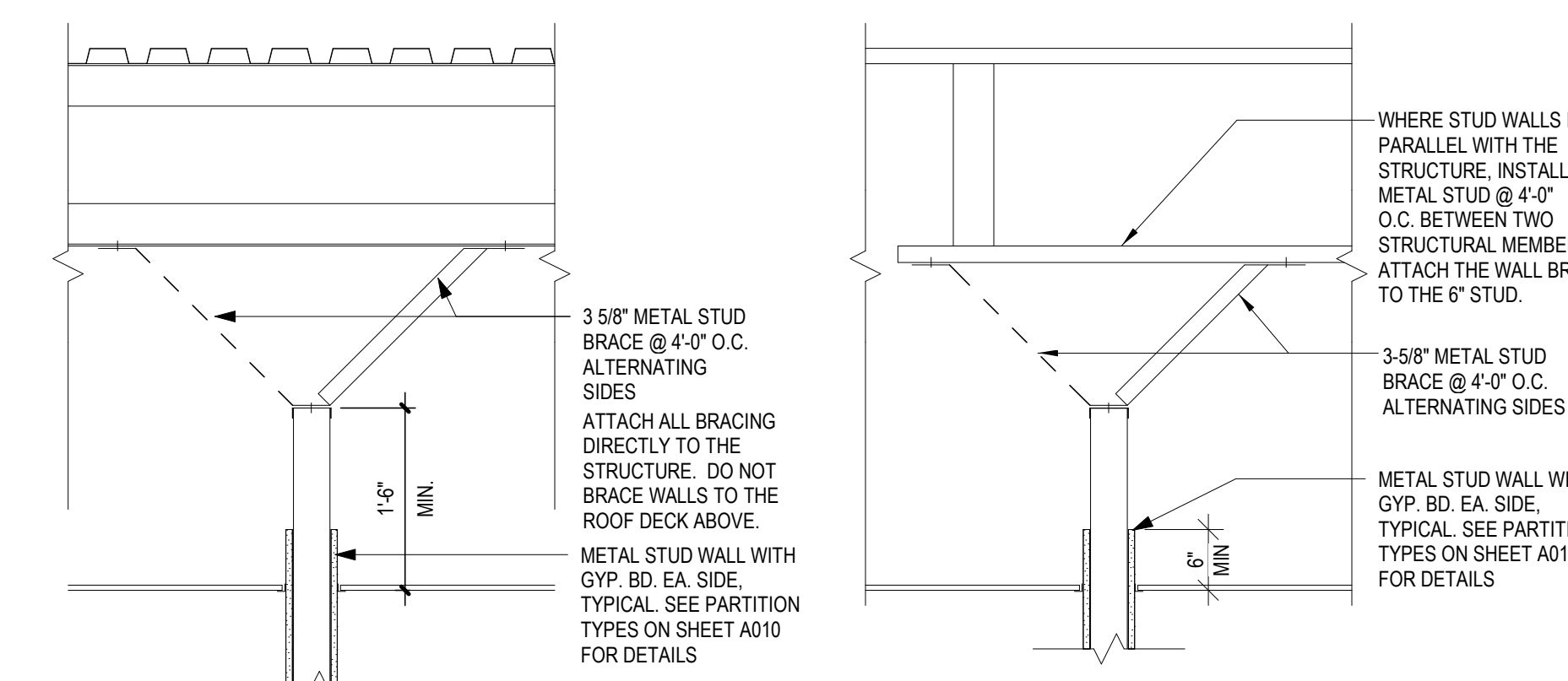
LIFE SAFETY
 PLAN-SECOND
 FLOOR & MECH
 PLATFORMS

PARTITION TYPE LEGEND METAL STUD WALLS

WALL TYPE MARKER	A3 A6	B3	C3	D3
SECTION 1 1/2" = 1'-0"	<p>SECURE TOP OF WALL TO STRUCTURE ABOVE - SEE 1& 2/A-010 FOR SIMILAR JOINT PROTECTION DETAILS</p> <p>GYPSUM BOARD THIS SIDE ONLY TO DECK ABOVE</p> <p>ACoustic INSULATION</p> <p>METAL STUDS AT 16" O.C. - COORDINATE WITH SPECS (TYP)</p> <p>ONE LAYER 5/8" GYPSUM BOARD TO STRUCTURE ABOVE - SEE 2/A-010</p> <p>ONE LAYER 5/8" GYPSUM BOARD</p> <p>SECURE BOTTOM RUNNER TO FLOOR SLAB - SEE 2/A-010</p> <p>SEE RCP FOR CEILING TYPE</p> <p>A3 = 3 5/8" METAL STUD FRAMING</p> <p>A6 = 6" METAL STUD FRAMING</p> <p>NAI = NO ACOUSTIC INSULATION - LOCATION INDICATED AT WALL TAG ON REFERENCE PLAN</p>	<p>SECURE TOP OF THE WALL TO STRUCTURE ABOVE</p> <p>ACoustic INSULATION</p> <p>METAL STUDS AT 16" O.C. - COORDINATE WITH SPECS (TYP)</p> <p>ONE LAYER 5/8" GYPSUM BOARD TO TOP OF THE WALL</p> <p>SECURE BOTTOM RUNNER TO FLOOR SLAB - SEE 2/A-010</p> <p>SEE RCP FOR CEILING TYPE</p> <p>B3 = 3 5/8" METAL STUD FRAMING</p> <p>NAI = NO ACOUSTIC INSULATION - LOCATION INDICATED AT WALL TAG ON REFERENCE PLAN</p>	<p>SECURE TOP OF THE WALL TO STRUCTURE ABOVE</p> <p>ACoustic INSULATION</p> <p>METAL STUDS AT 16" O.C. - COORDINATE WITH SPECS (TYP)</p> <p>ONE LAYER 5/8" GYPSUM BOARD TO TOP OF THE WALL</p> <p>SECURE BOTTOM RUNNER TO FLOOR SLAB - SEE 2/A-010</p> <p>SEE RCP FOR CEILING TYPE</p> <p>C3 = 3 5/8" METAL STUD FRAMING</p>	<p>TOP OF WALL SHALL BE MINIMUM 6" ABOVE FINISH CLG</p> <p>SEE RCP FOR CEILING TYPE</p> <p>SEE RCP FOR CEILING TYPE</p> <p>D3 = 3 5/8" METAL STUD FRAMING</p> <p>ACoustic INSULATION</p> <p>METAL STUDS AT 16" O.C. - COORDINATE WITH SPECS (TYP)</p> <p>ONE LAYER 5/8" GYPSUM BOARD TO TOP OF WALL</p> <p>NAI = NO ACOUSTIC INSULATION - LOCATION INDICATED AT WALL TAG ON REFERENCE PLAN</p> <p>SECURE BOTTOM RUNNER TO FLOOR SLAB - SEE 2/A-010</p>
PLAN 1/4" = 1'-0"				
DESCRIPTION	METAL STUD NONRATED WALL	METAL STUD NONRATED WALL	METAL STUD NONRATED WALL	METAL STUD NONRATED WALL ADJACENT TO CMU WALL
UL DESIGN #				

PARTITION TYPE LEGEND CONCRETE MASONRY UNIT WALLS

WALL TYPE MARKER	H8 H12	I8 J8	K8	K4	K44	MS8
SECTION 1 1/2" = 1'-0"	<p>SECURE TOP OF WALL TO STRUCTURE ABOVE - SEE 1/A-010 FOR JOINT PROTECTION</p> <p>SEE RCP FOR CEILING TYPE</p> <p>H8 = 8" CMU WALL - SEE STRUCTURAL</p> <p>H12 = 12" CMU WALL - SEE STRUCTURAL</p> <p>8" CMU WALL - SEE STRUCTURAL FOR REINFORCING</p>	<p>SECURE TOP OF WALL TO STRUCTURE ABOVE - SEE 1/A-010 FOR JOINT PROTECTION</p> <p>SEE RCP FOR CEILING TYPE</p> <p>J8 = 8" CMU WALL 2 HOUR RATED - SEE STRUCTURAL</p> <p>I8 = 8" CMU WALL 1 HOUR RATED - SEE STRUCTURAL</p> <p>8" CMU WALL - SEE STRUCTURAL FOR REINFORCING</p> <p>NOTE: STENCIL-RATED WALLS EVERY 15'-30" IN MINIMUM 2" RED LETTERING INDICATE THE RATING AND PURPOSE OF THE WALL</p>	<p>TOP OF CMU SHALL BE MINIMUM 6" ABOVE FINISH CLG. TO BEARING HEIGHT OR 42" ABOVE MECHANICAL PLATFORM (TYP). SEE STRUCTURE FOR BEARING HEIGHTS.</p> <p>BOND BEAM - SEE STRUCTURAL FOR REINFORCING</p> <p>SEE RCP FOR CEILING TYPE</p> <p>K8 = 8" CMU WALL - SEE STRUCTURAL</p> <p>CMU WALL - SEE STRUCTURAL FOR REINFORCING</p>	<p>TOP OF CMU SHALL BE MINIMUM 6" ABOVE FINISH CLG (TYP)</p> <p>4" x 8" x 16" BOND BEAM - SEE STRUCTURAL FOR REINFORCING</p> <p>SEE RCP FOR CEILING TYPE</p> <p>K4 = 4" CMU WALL (4"x8"x16") - SEE STRUCTURAL</p> <p>CMU WALL W/ BULLNOSE - SEE STRUCTURAL FOR REINFORCING</p> <p>4" x 8" x 16" FULL BLOCK AT BASE (NO BULLNOSE AT BASE)</p>	<p>BOND BEAM - SEE STRUCTURAL FOR REINFORCING</p> <p>TOP OF CMU SHALL BE MINIMUM 6" ABOVE FINISHED CEILING (TYP.)</p> <p>SEE RCP FOR CEILING TYPE</p> <p>K44 - 4"x8"x16" 4" SOLID CMU PAINTED FINISH</p> <p>K8 = 8" CMU WALL - SEE STRUCTURAL</p>	<p>SECURE TOP OF WALL TO STRUCTURE ABOVE - SEE 2/A-010 FOR JOINT PROTECTION</p> <p>ACoustic INSULATION</p> <p>ONE LAYER 5/8" GYPSUM BOARD TO STRUCTURE ABOVE - SEE 2/A-010</p> <p>6" METAL STUDS AT 16" O.C.</p> <p>ACoustic SEALANT - BASIS OF DESIGN OR SIMILAR - HLT/1 OF 506 FOR NON-FIRE RATED ACOUSTIC WALLS</p> <p>SECURE BOTTOM RUNNER TO TOP OF WALL</p> <p>BOND BEAM - SEE STRUCTURAL FOR REINFORCING</p> <p>SEE RCP FOR CEILING TYPE</p> <p>CMU WALL - SEE STRUCTURAL FOR REINFORCING</p>
PLAN 1/4" = 1'-0"						
DESCRIPTION	CONCRETE MASONRY UNIT NONRATED BEARING WALL RAN TO BEARING POINT OR ROOF/FLOOR DECKING	CONCRETE MASONRY UNIT BEARING WALL 2 HOUR FIRE RATED UP TO UNDERSIDE OF DECKING ABOVE (USED FOR 1 HOUR FIRE RATED MANSORY WALLS AS WELL)	CONCRETE MASONRY UNIT NONRATED PARTITION WALL TERMINATES AT 6" MIN ABOVE FINISH CEILING.	CONCRETE MASONRY UNIT NONRATED PARTITION WALL TERMINATES ABOVE CEILING AT 6" ABOVE FINISH CEILING - TYP (USED FOR SINK WALLS AT TOILETS UNO)	8" & 4" CONC MASONRY MASONRY UNIT NONRATED WALL TERM AT 6" ABOVE FINISH CLG WITH 8" CONCRETE MASONRY UNIT TO STRUCTURE TYP AT CORRIDOR PILASTERS	CONCRETE MASONRY UNIT NONRATED PARTITION WALL TERMINATES AT 6" ABOVE FINISH CEILING WITH METAL STUD NONRATED WALL TO STRUCTURE
UL DESIGN #		UL DESIGN #U905				



PARTITION TYPES GENERAL NOTES:

- USE MOISTURE RESISTANT GYPSUM BOARD AT ALL WALLS IN TOILET ROOMS, LOCKER ROOMS AND UTILITY ROOMS IF UTILIZED IN THOSE ROOMS.
- AT WALL TILE, INSTALL WALL TILES OVER CEMENT BOARD IN ACCORDANCE WITH THE TCNA HANDBOOK METHOD.
- "UNDERSIDE OF STRUCTURE" INDICATED AT HEAD CONDITION FOR EACH PARTITION TYPE IS DIAGRAMMATIC ONLY, AND DOES NOT INDICATE EXACT CONSTRUCTION CONDITIONS.
- INSTALL FRAMING AND GYPSUM WALL BOARD TO OFFSET AROUND STRUCTURAL MEMBERS OR OTHER OBSTRUCTIONS TO MAINTAIN FIRE RESISTIVE RATINGS.
- WHERE GYPSUM WALL BOARD EXTENDS TO THE UNDERSIDE OF STRUCTURE, STOP GYPSUM WALL BOARD 1/2" BELOW LINE OF STRUCTURE AND SEAL AS REQUIRED. DO NOT HANG METAL STUDS FROM METAL DECK.
- FIRE RESISTANT, RATED PARTITIONS TO BE INSTALLED WITH FIRESTOP SEALANT, UNLESS NOTED OTHERWISE.
- NON-RATED PARTITIONS TO BE INSTALLED WITH ACOUSTICAL SEALANT, UNLESS NOTED OTHERWISE.
- REFER TO MECHANICAL DRAWINGS FOR PIPE PENETRATIONS THROUGH ACOUSTICAL PARTITIONS AS WELL AS RATED PARTITIONS. MAINTAIN STC AND FIRE RATING OF ALL PARTITIONS
- INSTALL BLOCKING IN PARTITIONS FOR ACCESSORIES, CASEWORK, HANDRAILS, FIXTURES AND AS REQUIRED ON DRAWINGS.
- PER MOLD PREVENTION GUIDELINES, DO NOT INSTALL GYPSUM WALL BOARD IN DIRECT CONTACT WITH THE FLOOR. ALL PARTITIONS SHALL BE SHIMMED 1/2" OFF THE FLOOR WITH NON-POROUS SHIMS. PLASTIC NON-POROUS HORSESHOE SHIMS ARE RECOMMENDED. GYPSUM WALL BOARD SHIMS ARE NOT ACCEPTABLE.
- WHERE GYPSUM WALL BOARD AND WALL CONSTRUCTION DOES NOT EXTEND TO ROOF DECK OR CEILING FINISH TOP EDGE OF GYPSUM BOARD SHALL HAVE LEVEL 1" BEAD AND ALL CORNERS BEAD FOR FINISH EDGE.
- AT RATED WALL LOCATIONS, STENCIL WALLS EVERY 15'-30" IN MINIMUM 2" RED LETTERING NOTING THE WALL RATING. EXAMPLE: "2HR RATED WALL".

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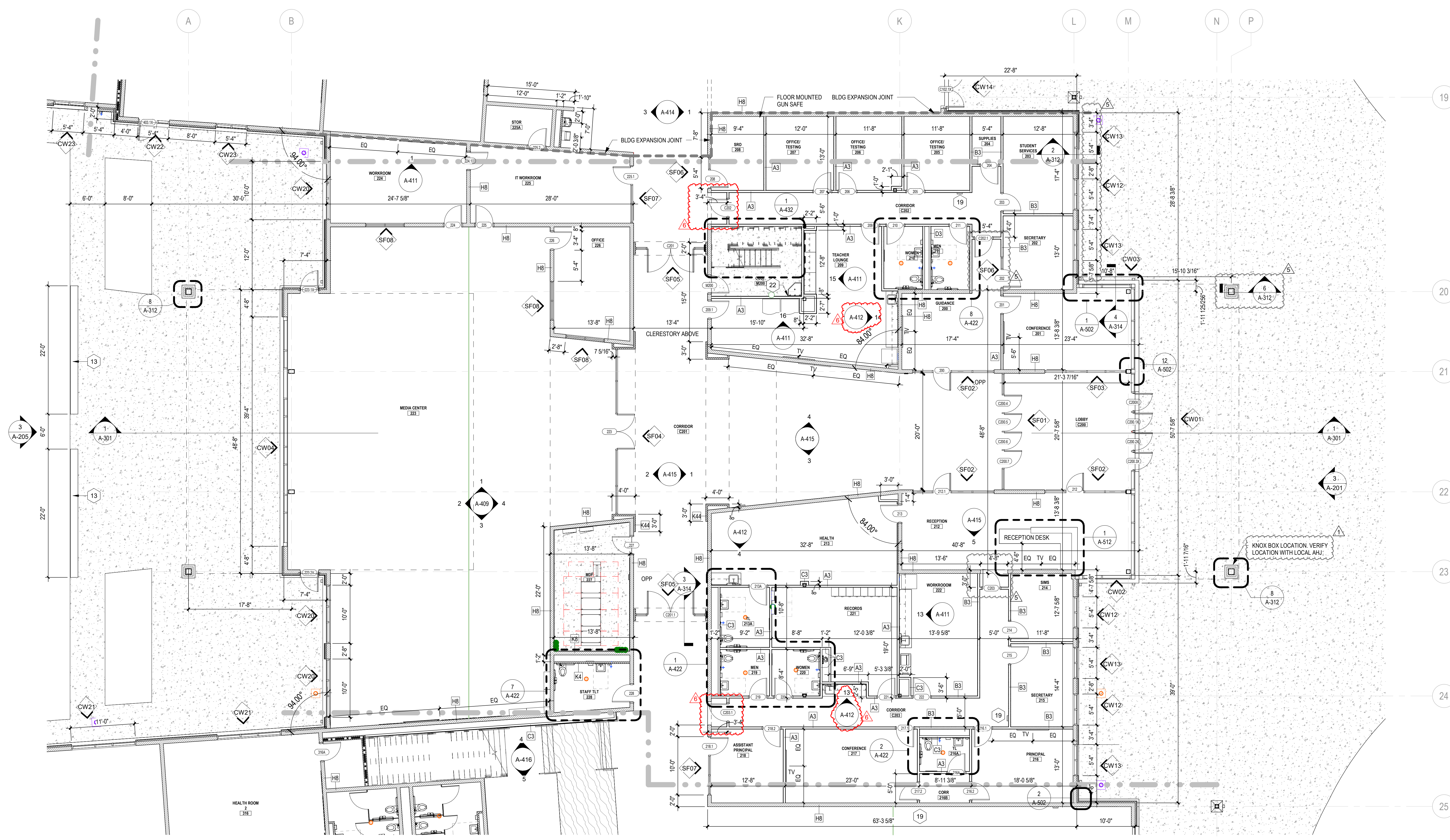
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ENERGY STAR PARTNER

No.	Date	Description
6	02-05-25	ADDENDUM 2

ISSUE DATE: 01-09-25
PROJECT #: 02208.000
DRAWN BY: Author
CHECKED BY: Checker
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WALL PARTITION TYPES



1 PARTIAL FIRST FLOOR - AREA 200
A-112 SCALE: 1/8" = 1'-0"

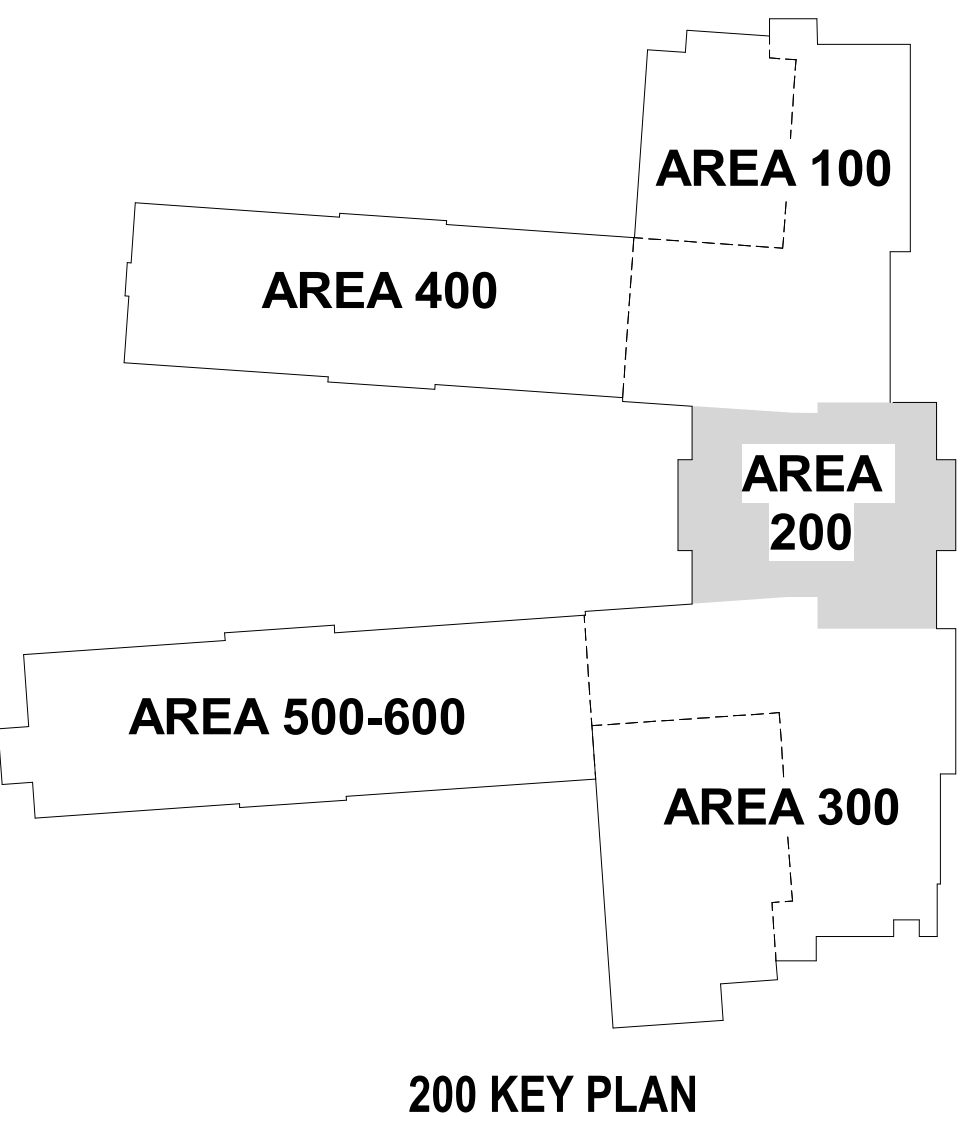
FLOOR PLAN LEGEND	
SYMBOL	DESCRIPTION
[Symbol]	1 HR RATED EXIT ENCLOSURE (FIRE BARRIER)
[Symbol]	2 HOUR RATED WALL
CJ	CJ ON MASONRY
CA	CONTROL ACCESS - SEE LOW VOLTAGE DRAWINGS
KP	KEY PAD - SEE ELECTRICAL
EJ	BUILDING EXPANSION JOINT WITH COVER
DS	DOWNSPOUT - SEE CIVIL FOR CONNECTION INFORMATION
FD	FLOOR DRAIN - SEE PLUMBING DRAWINGS
[Symbol]	WALL TAG - SEE SHEET A-010 FOR WALL PARTITION TYPES
[Symbol]	DOOR TAG - SEE SHEET A-001 AND FLOOR PLANS
[Symbol]	WINDOW TAG - SEE SHEET A-011 THROUGH A-012 ALONG WITH FLOOR PLANS CURTAIN WALL TAG - SEE SHEET A-011 THROUGH A-012 ALONG WITH FLOOR PLANS

GENERAL NOTES:

- SEE OVERALL PLAN ON A-101 FOR OVERALL BUILDING MISSING DIMENSIONS.
- SEE SHEET G-003 FOR UL DESIGNS.
- SEE SHEET A-010 FOR WALL PARTITION TYPES.
- ALL INTERIOR METAL STUD WALLS TO HAVE SOUND ATTENUATION BATTS.
- PROVIDE POSITIVE FLOOR SLOPE TO ALL FLOOR DRAINS.
- CONTROL JOINTS THAT ARE NOT SHOWN SHALL BE 25' MAX IN BRICK AND CMU WALLS.
- SEE STRUCTURAL DRAWINGS FOR TYPES AND LOCATION OF LINTELS WHERE NOT SHOWN, PROVIDE LINTELS FOR MECHANICAL, ELECTRICAL AND OTHER PENETRATIONS WHERE REQUIRED.

FLOOR PLAN KEY NOTES

- | | |
|--|--|
| 1 METAL PAN STAIRS WITH RUBBER TREADS, RISERS AND LANDINGS | 12 TEACHING WALL LOCATE TV ON CORRIDOR SIDE & WHITEBOARD ON EXTERIOR WALL SIDE. DIMENSION IS TO CENTER OF THE TV. TV AND WHITEBOARD ONLY IN SCIENCE ROOMS. REFER TO DETAIL FOR MORE INFORMATION AND INTERIOR ELEVATIONS FOR TACKBOARD INFORMATION. (OWNER PROVIDED DISPLAY TV, COORDINATE OUTLET LOCATION) |
| 2 SEE FOOD SERVICE DRAWINGS FOR SERVING LAYOUT, KITCHEN LAYOUT, AND EQUIPMENT INCLUDING COOLER AND FREEZER | 13 LOW MASONRY WALL WITH PRE-CAST CAP - SEE SHEET A-520 |
| 3 KNOX BOX - RECESSED IN EXTERIOR WALL. COORDINATE EXACT LOCATION WITH OWNER AND FIRE MARSHAL | 14 ALUMINUM TRELLIS WITH WOOD GRAIN PATTERN. COLOR TO BE SELECTED FROM MANUF FULL LINE OF PATTERNS AND COLORS. |
| 4 GLASS DISPLAY CASES | 15 FURRING WITH GYP BOARD FINISH AROUND TEACHING WALL |
| 5 SHIPS LADDER TO MECHANICAL PLATFORM, 3' WIDE TYP UNO | 16 WALL MOUNTED LADDER TO MECHANICAL PLATFORM, 3' WIDE TYP UNO |
| 6 FURNITURE (N.I.C.) - FOR VENDING, RES. APPLIANCES, AND COPIERS, PROVIDE POWER PER MFR REQ'TS | 17 MECHANICAL LOUVER - MATCH CW11 SIZE |
| 7 METAL UTILITY SHELVING IN ALL UTILITY AND STORAGE ROOMS - SEE SPECIFICATIONS. SEE FOOD DRAWINGS FOR SHELVING TYPE. | 18 42" A.F.F. GUARD RAIL - SEE A-421 THRU A-423 FOR DTLS |
| 8 KILN AND VENT BY OWNER - COORDINATE MASONRY OPENING FOR VENT AND POWER REQUIREMENTS W/ MFR REQ'TS | 19 WALL RECESSED FIRE EXTINGUISHER CABINET - SEE AS SERIES SHEET FOR DETAILS |
| 9 FIXED BASKETBALL HOOP. MAST COLOR TO BE SELECTED BY ARCHITECT. | 20 SCIENCE ROOM FE WITH FIRE BLANKET CAB W/ MSDS DISPLAY ABOVE FE |
| 10 ELECTRIC OPERATED BASKETBALL HOOP. MAST COLOR TO BE SELECTED BY ARCHITECT. | 21 SCIENCE ROOM SHOWER AND EYE WASH WITH 3x3' RECESSED FLOOR SLAB WITH DRAIN |
| 11 TWO TIER BUILT-IN BENCH SEATING, CMU WALL & SOLID SURFACE TOP | 22 UTILITY ROOM MOP SINK WITH SS WALL SPLASH GUARD & MOP HOLDER |



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REGISTERED PROFESSIONAL ARCHITECT
JAMES W. FERRELL
No. 11674
EXPIRES 12/31/25

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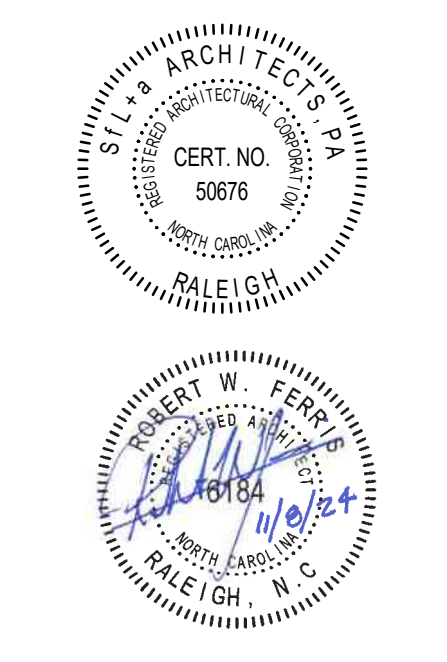


No.	Date	Description
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5	01-30-25	ADDENDUM 1
6	02-05-25	ADDENDUM 2

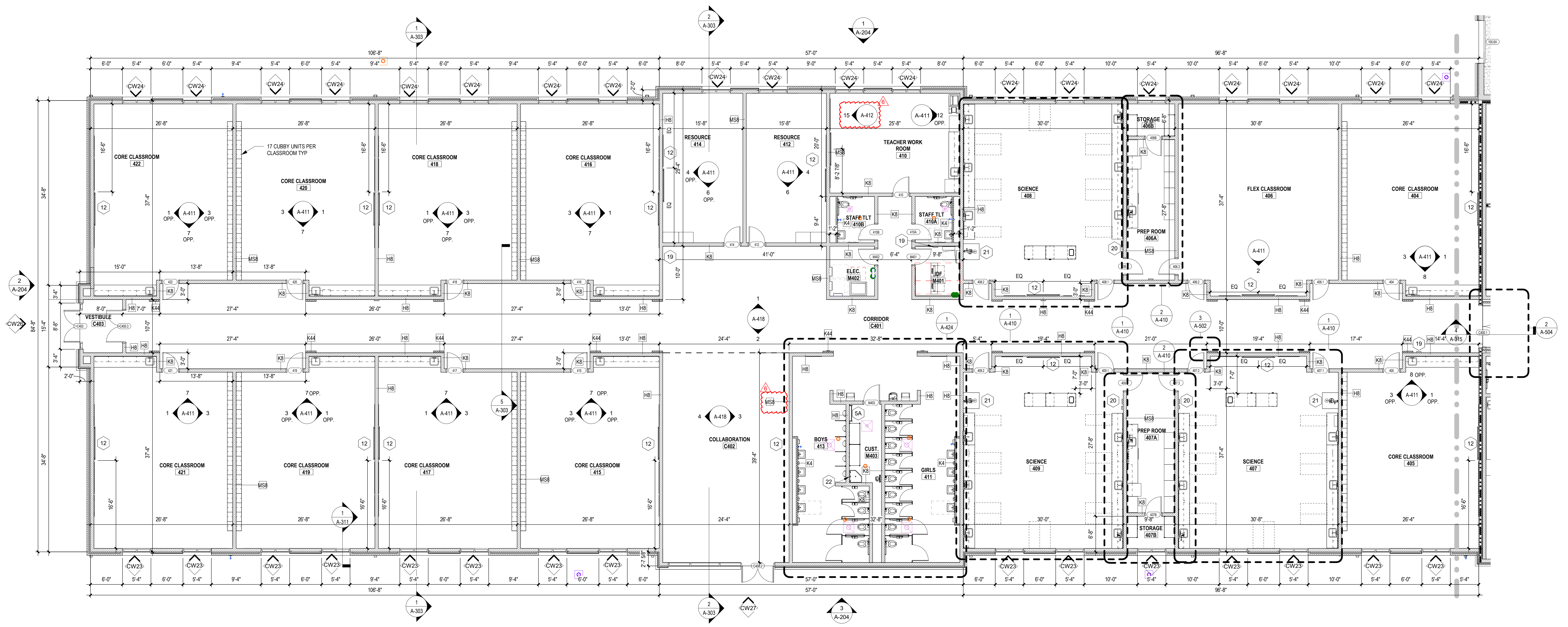
ISSUE DATE: 01-09-25
PROJECT #: 02208.000
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FLOOR PLAN AREA 200

A-112



CONSTRUCTION
DOCUMENTS



1 PARTIAL FIRST FLOOR PLAN - AREA 400
SCALE: 1/8" = 1'-0"

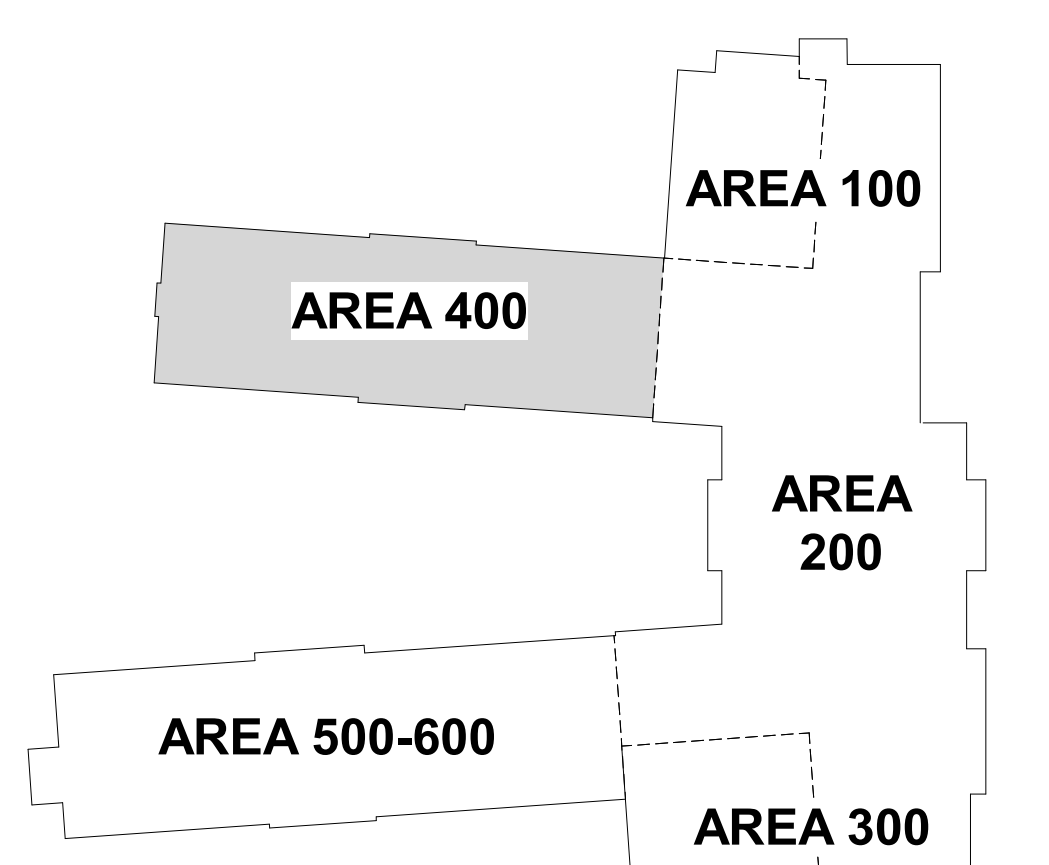
FLOOR PLAN LEGEND	
SYMBOL	DESCRIPTION
[Symbol]	1 HR RATED EXIT ENCLOSURE (FIRE BARRIER)
[Symbol]	2 HOUR RATED WALL
CJ	CJ ON MASONRY
CA	CONTROL ACCESS - SEE LOW VOLTAGE DRAWINGS
KP	KEY PAD - SEE ELECTRICAL
EJ	BUILDING EXPANSION JOINT WITH COVER
DS	DOWNSPOUT - SEE CIVIL FOR CONNECTION INFORMATION
FD	FLOOR DRAIN - SEE PLUMBING DRAWINGS
[HB]	WALL TAG - SEE SHEET A-010 FOR WALL PARTITION TYPES
[100]	DOOR TAG - SEE SHEET A-001 AND FLOOR PLANS
[W2]	WINDOW TAG - SEE SHEET A-011 THROUGH A-012 ALONG WITH FLOOR PLANS CURTAIN WALL TAG - SEE SHEET A-011 THROUGH A-012 ALONG WITH FLOOR PLANS

GENERAL NOTES:

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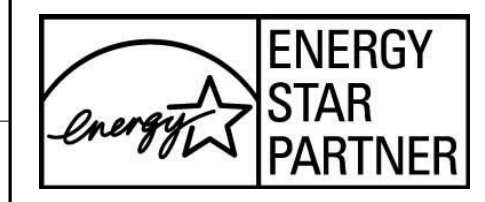
FLOOR PLAN KEY NOTES

- | | | | |
|----|--|----|---|
| 1 | METAL PAN STAIRS WITH RUBBER TREADS, RISERS AND LANDINGS | 12 | TEACHING WALL LOCATE TV ON CORRIDOR SIDE & WHITEBOARD ON EXTERIOR WALL SIDE. DIMENSION IS TO CENTER OF THE TV. TV AND WHITEBOARD ONLY IN SCIENCE ROOMS. REFER TO DETAIL FOR MORE INFORMATION AND INTERIOR ELEVATIONS FOR TACKBOARD INFORMATION. (OWNER PROVIDED DISPLAY TV, COORDINATE OUTLET LOCATION) |
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| 3 | KNOX BOX - RECESSED IN EXTERIOR WALL. COORDINATE EXACT LOCATION WITH OWNER AND FIRE MARSHAL | 14 | ALUMINUM TRELLIS WITH WOOD GRAIN PATTERN. COLOR TO BE SELECTED FROM MANUF FULL LINE OF PATTERNS AND COLORS. |
| 4 | GLASS DISPLAY CASES | 15 | FURRING WITH GYP BOARD FINISH AROUND TEACHING WALL |
| 5 | SHIPS LADDER TO MECHANICAL PLATFORM, 3' WIDE TYP UNO | 16 | WALL MOUNTED LADDER TO MECHANICAL PLATFORM, 3' WIDE TYP UNO |
| 6 | FURNITURE (N.I.C.) - FOR VENDING, RES. APPLIANCES, AND COPIERS, PROVIDE POWER PER MFR REQMTS | 17 | MECHANICAL LOUVER - MATCH CW11 SIZE |
| 7 | METAL UTILITY SHELVING IN ALL UTILITY AND STORAGE ROOMS - SEE SPECIFICATIONS. SEE FOOD DRAWINGS FOR SHELVING TYPE. | 18 | 42" A.F.F. GUARD RAIL - SEE A-421 THRU A-423 FOR DTLS |
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400 KEY PLAN

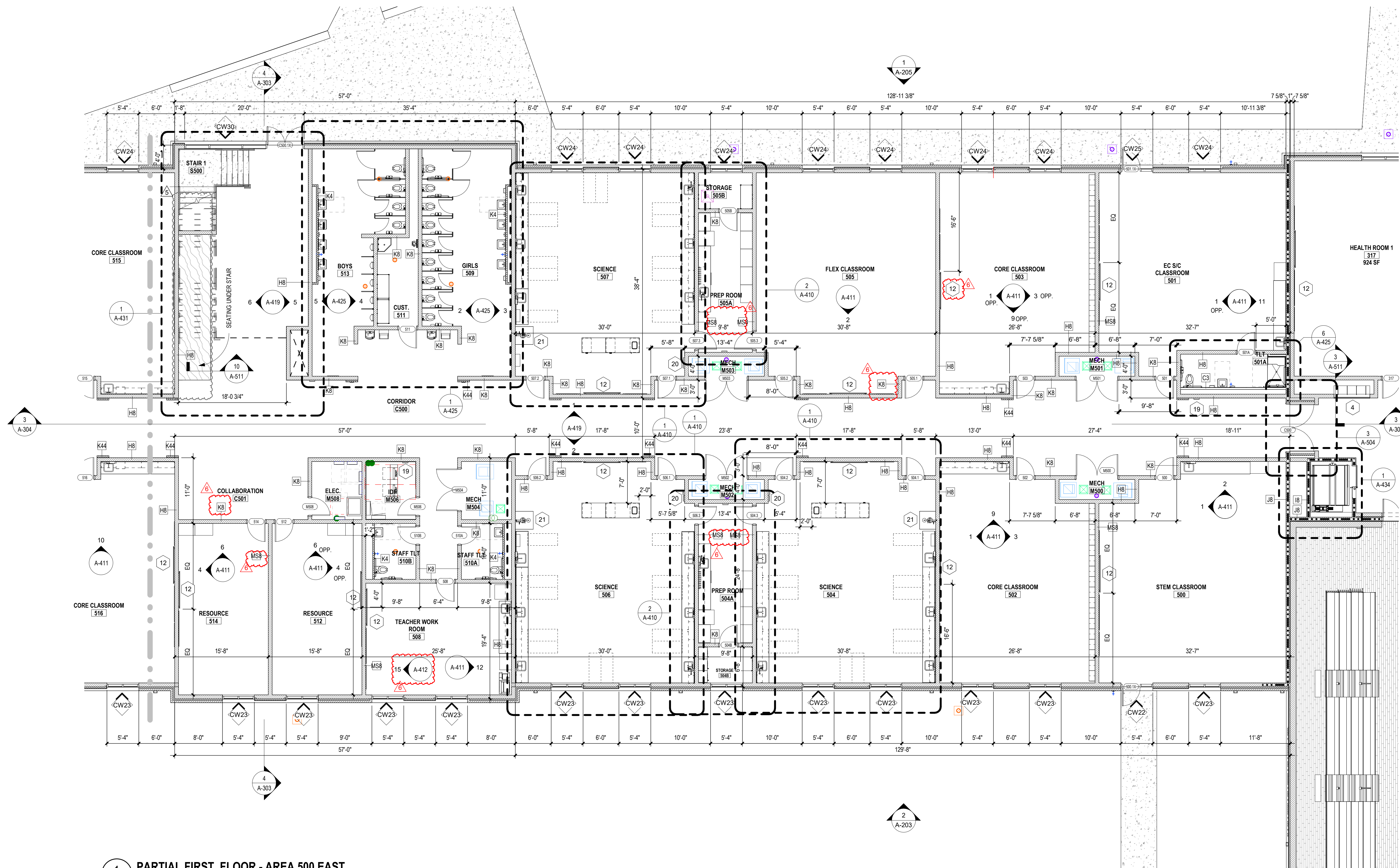
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No.	Date	Description
6	02-05-25	ADDENDUM 2

ISSUE DATE: 01-09-25
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FLOOR PLAN AREA
400

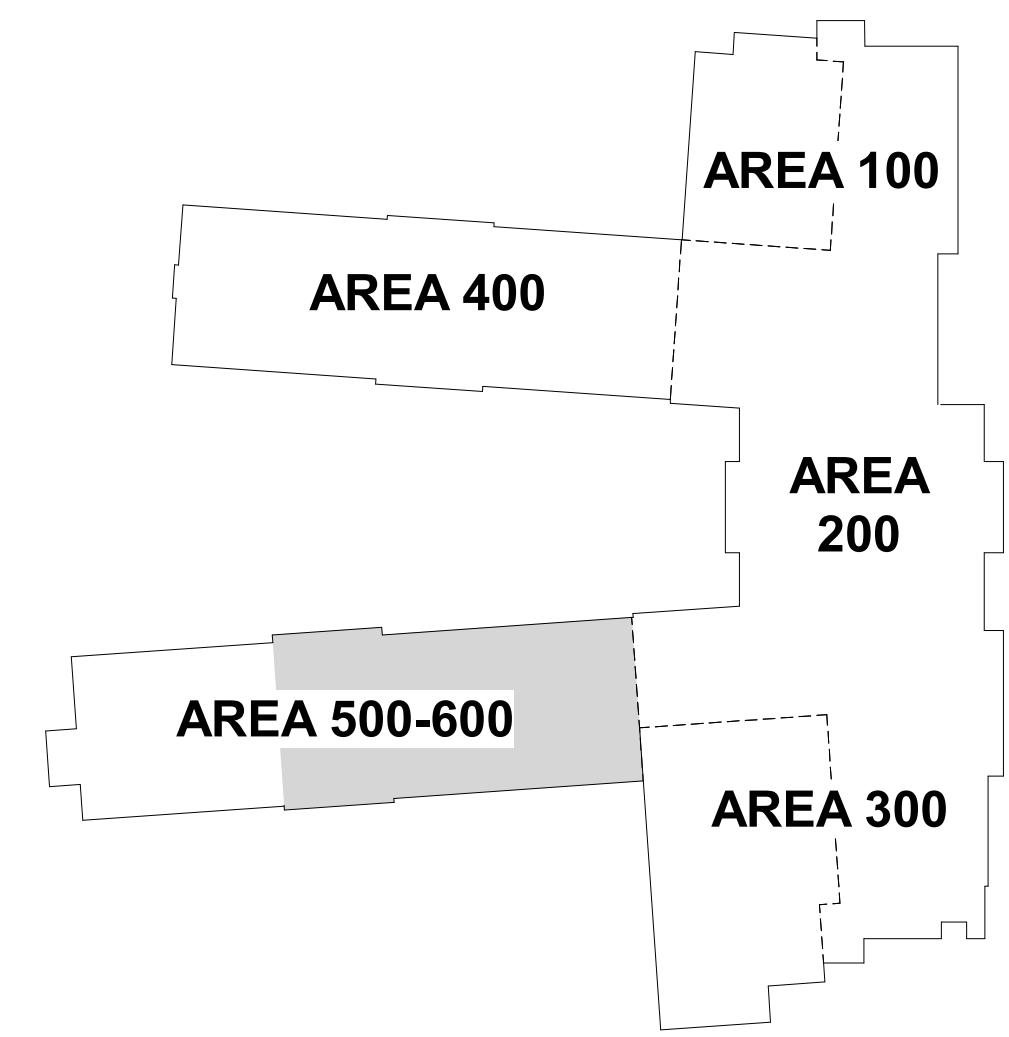


1 PARTIAL FIRST FLOOR - AREA 500 EAST
SCALE: 1/8" = 1'-0"

FLOOR PLAN LEGEND	
SYMBOL	DESCRIPTION
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4	GLASS DISPLAY CASES
5	SHIPS LADDER TO MECHANICAL PLATFORM, 3' WIDE TYP UNO
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22	UTILITY ROOM MOP SINK WITH SS WALL SPLASH GUARD & MOP HOLDER



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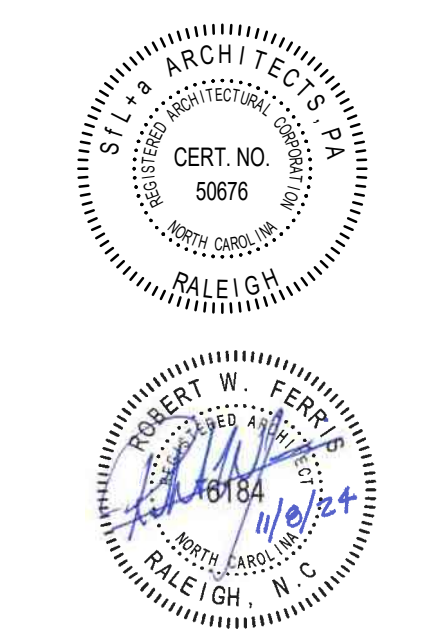


No.	Date	Description
5	01-30-25	ADDENDUM 1
6	02-05-25	ADDENDUM 2

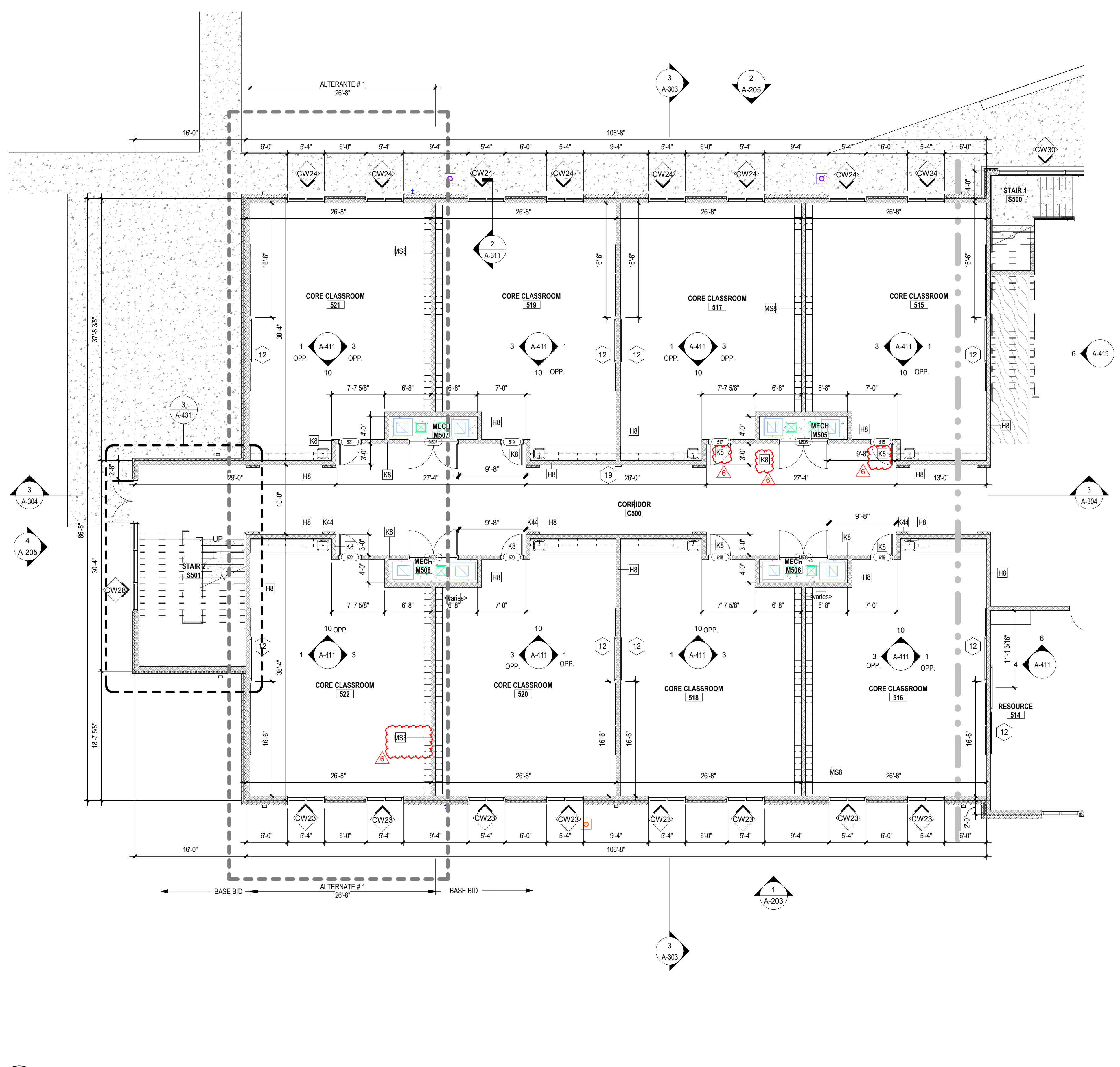
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FLOOR PLAN AREA 500 EAST

A-115.1



CONSTRUCTION
DOCUMENTS



1 PARTIAL FIRST FLOOR - AREA 500 WEST
A-115.2
SCALE: 1/8" = 1'-0"

HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL
3544 US 401 S, LILLINGTON NC 27546



No.	Date	Description
6	02-05-25	ADDENDUM 2

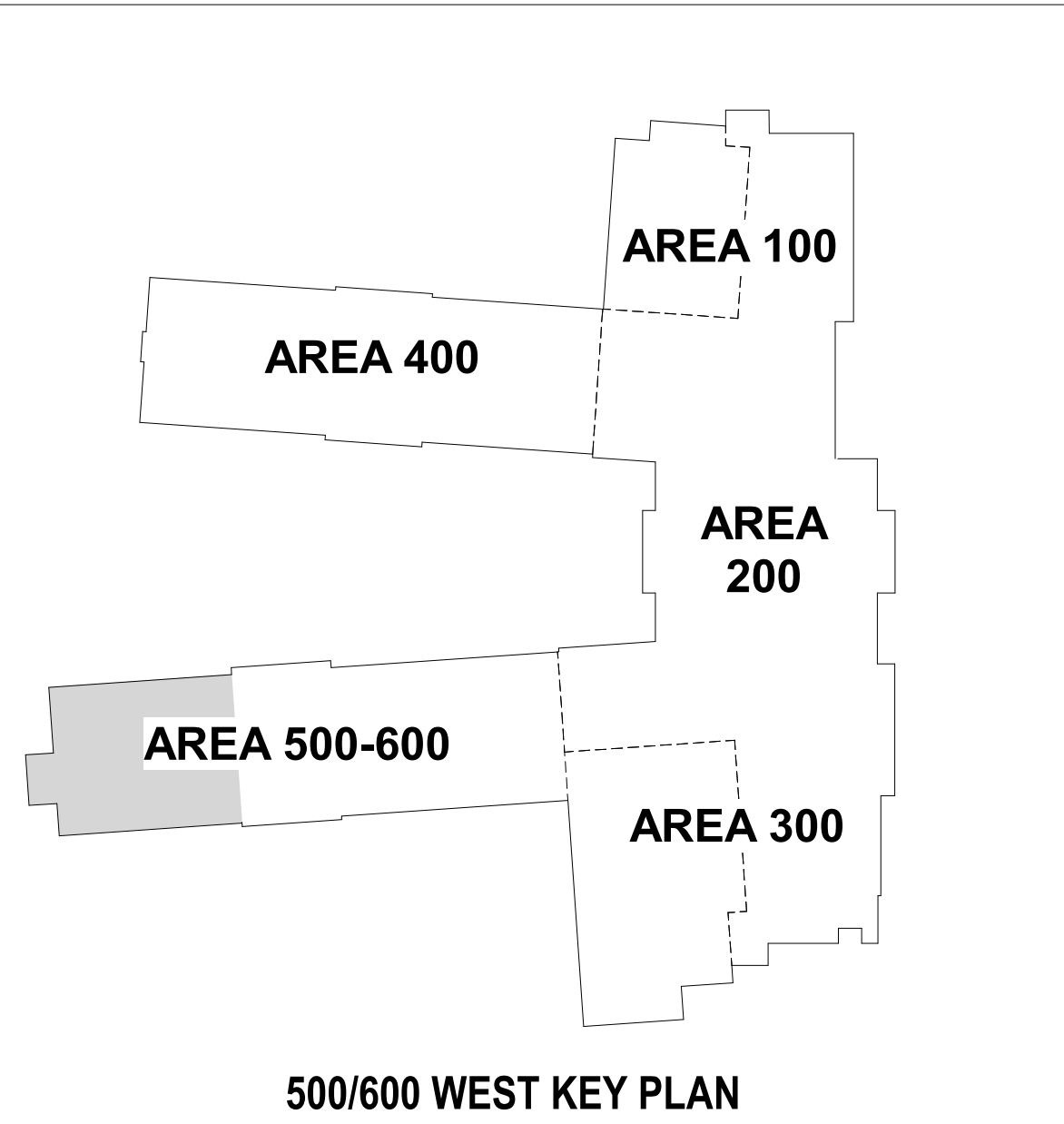
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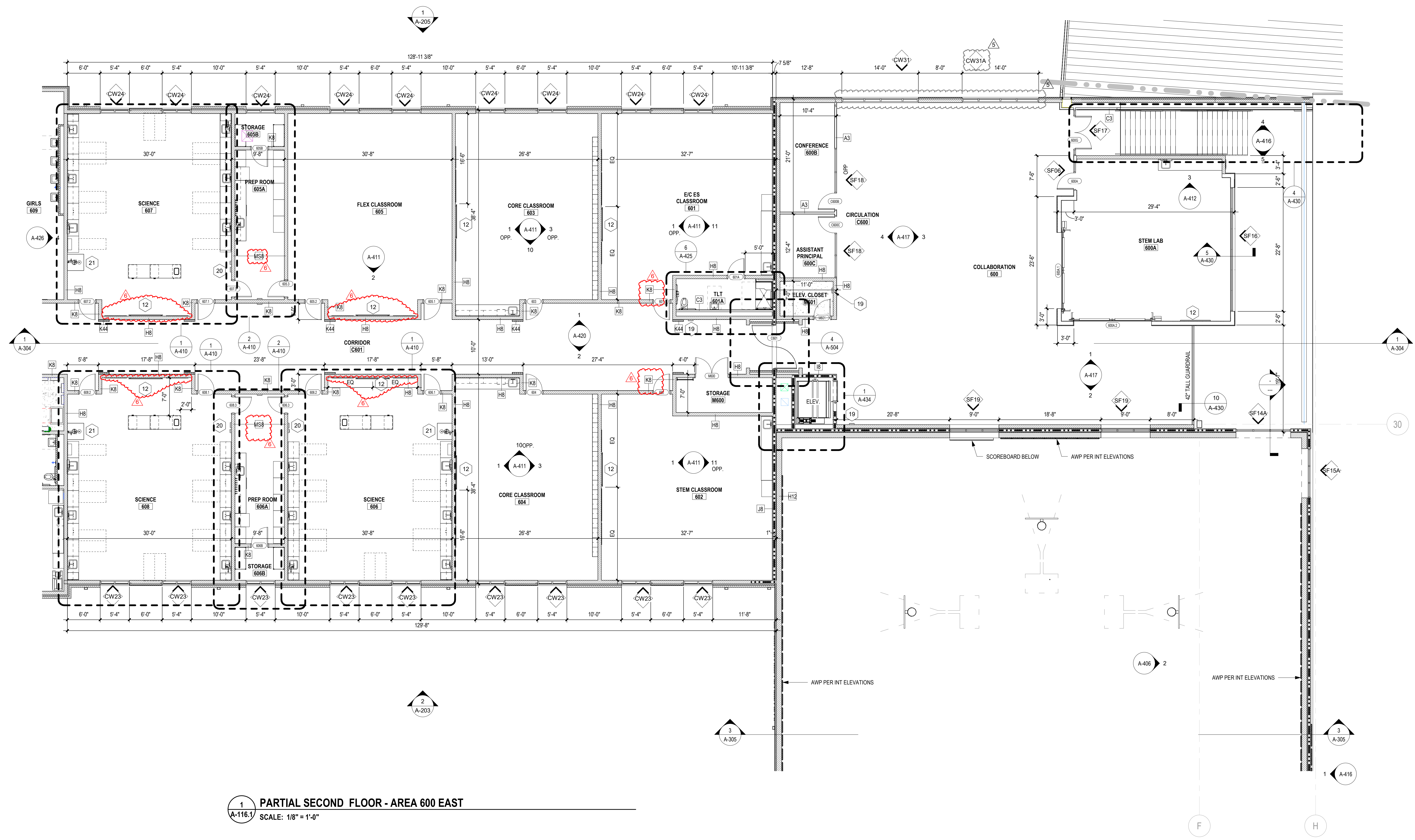
FLOOR PLAN AREA
500 WEST

A-115.2

FLOOR PLAN LEGEND	
SYMBOL	DESCRIPTION
[Symbol]	1 HR RATED EXIT ENCLOSURE (FIRE BARRIER)
[Symbol]	2 HOUR RATED WALL
[Symbol]	CJ ON MASONRY
[Symbol]	CA CONTROL ACCESS - SEE LOW VOLTAGE DRAWINGS
[Symbol]	KP KEY PAD - SEE ELECTRICAL
[Symbol]	EJ BUILDING EXPANSION JOINT WITH COVER
[Symbol]	DS DOWNSPOUT - SEE CIVIL FOR CONNECTION INFORMATION
[Symbol]	FD FLOOR DRAIN - SEE PLUMBING DRAWINGS
[Symbol]	[HB] WALL TAG - SEE SHEET A-010 FOR WALL PARTITION TYPES
[Symbol]	[100] DOOR TAG - SEE SHEET A-001 AND FLOOR PLANS
[Symbol]	[W2] WINDOW TAG - SEE SHEET A-011 THROUGH A-012 ALONG WITH FLOOR PLANS CURTAIN WALL TAG - SEE SHEET A-011 THROUGH A-012 ALONG WITH FLOOR PLANS
GENERAL NOTES:	
1. SEE OVERALL PLAN ON A-101 FOR OVERALL BUILDING MISSING DIMENSIONS.	
2. SEE SHEET G-003 FOR UL DESIGNS.	
3. SEE SHEET A-010 FOR WALL PARTITION TYPES.	
4. ALL INTERIOR METAL STUD WALLS TO HAVE SOUND ATTENUATION BATTS.	
5. PROVIDE POSITIVE FLOOR SLOPE TO ALL FLOOR DRAINS.	
6. CONTROL JOINTS THAT ARE NOT SHOWN SHALL BE 25' MAX IN BRICK AND CMU WALLS.	
7. SEE STRUCTURAL DRAWINGS FOR TYPES AND LOCATION OF LINTELS WHERE NOT SHOWN, PROVIDE LINTELS FOR MECHANICAL, ELECTRICAL AND OTHER PENETRATIONS WHERE REQUIRED.	

FLOOR PLAN KEY NOTES	
1	METAL PAN STAIRS WITH RUBBER TREADS, RISERS AND LANDINGS
2	SEE FOOD SERVICE DRAWINGS FOR SERVING LAYOUT, KITCHEN LAYOUT, AND EQUIPMENT INCLUDING COOLER AND FREEZER
3	KNOX BOX - RECESSED IN EXTERIOR WALL. COORDINATE EXACT LOCATION WITH OWNER AND FIRE MARSHAL
4	GLASS DISPLAY CASES
5	SHIPS LADDER TO MECHANICAL PLATFORM, 3' WIDE TYP UNO
5A	WALL MOUNTED LADDER TO MECHANICAL PLATFORM, 3' WIDE TYP UNO
6	FURNITURE (N.I.C.) - FOR VENDING, RES. APPLIANCES, AND COPIERS, PROVIDE POWER PER MFR REQMTS
7	METAL UTILITY SHELVING IN ALL UTILITY AND STORAGE ROOMS - SEE SPECIFICATIONS. SEE FOOD DRAWINGS FOR SHELVING TYPE.
8	KILN AND VENT BY OWNER - COORDINATE MASONRY OPENING FOR VENT AND POWER REQUIREMENTS W MFR REQMTS
9	FIXED BASKETBALL HOOP. MUST COLOR TO BE SELECTED BY ARCHITECT.
10	ELECTRIC OPERATED BASKETBALL HOOP. MUST COLOR TO BE SELECTED BY ARCHITECT.
11	TWO TIER BUILT-IN BENCH SEATING, CMU WALL & SOLID SURFACE TOP
12	TEACHING WALL. LOCATE TV ON CORRIDOR SIDE & WHITEBOARD ON EXTERIOR WALL SIDE. DIMENSION IS TO CENTER OF THE TV. TV AND WHITEBOARD ONLY IN SCIENCE ROOMS. REFER TO DETAIL FOR MORE INFORMATION AND INTERIOR ELEVATIONS FOR TACKBOARD INFORMATION. (OWNER PROVIDED DISPLAY TV, COORDINATE OUTLET LOCATION)
13	LOW MASONRY WALL WITH PRE-CAST CAP - SEE SHEET A-520
14	ALUMINUM TRELLIS WITH WOOD GRAIN PATTERN. COLOR TO BE SELECTED FROM MANUF FULL LINE OF PATTERNS AND COLORS.
15	FURRING WITH GYP BOARD FINISH AROUND TEACHING WALL
16	TELESCOPING GYM BLEACHERS - OWNER PROVIDED, COORDINATE POWER REQUIREMENTS
17	MECHANICAL LOUVER - MATCH CW11 SIZE
18	42" A.F.F. GUARD RAIL - SEE A-421 THRU A-423 FOR DTLS
19	WALL RECESSED FIRE EXTINGUISHER CABINET - SEE AS SERIES SHEET FOR DETAILS
20	SCIENCE ROOM FE WITH FIRE BLANKET CAB W/ MSDS DISPLAY ABOVE FE
21	SCIENCE ROOM SHOWER AND EYE WASH WITH 3x3 RECESSED FLOOR SLAB WITH DRAIN
22	UTILITY ROOM MOP SINK WITH SS WALL SPLASH GUARD & MOP HOLDER



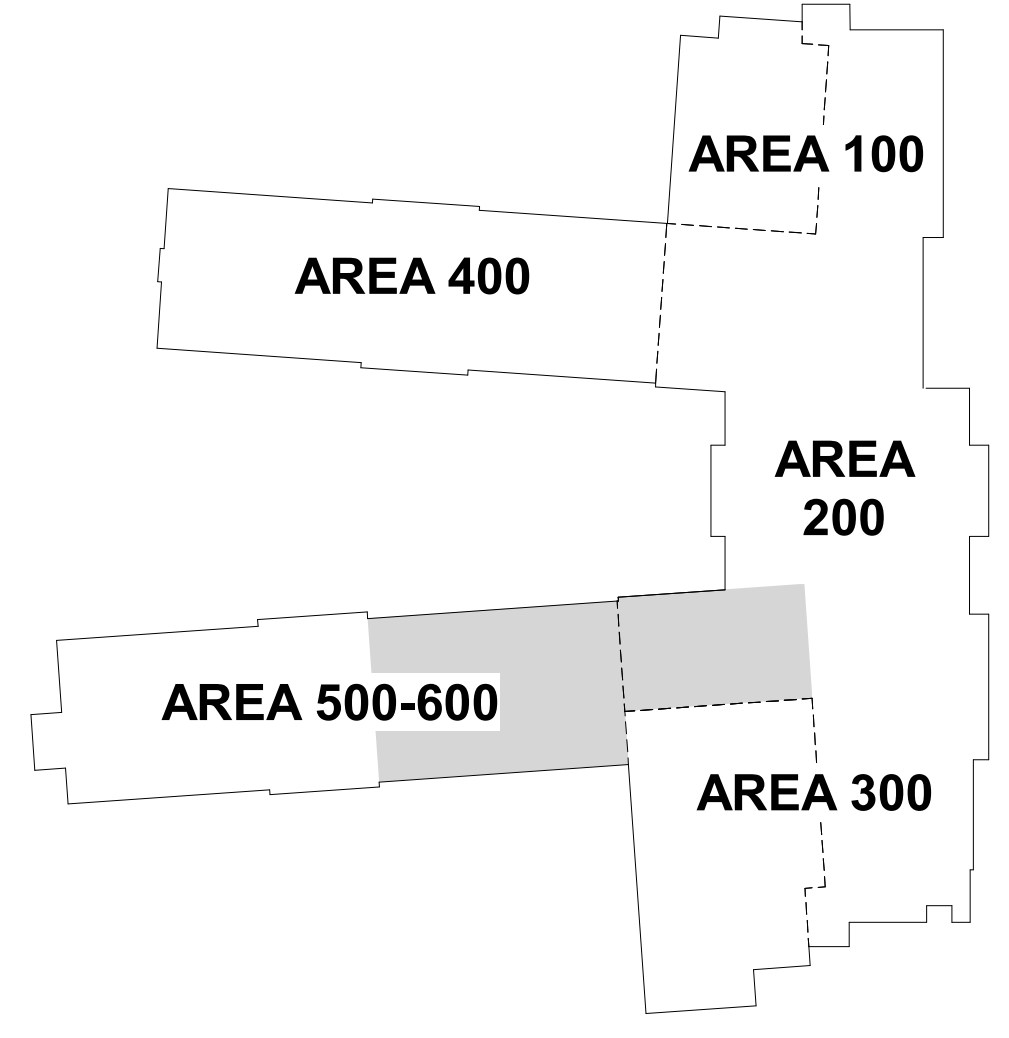


1 PARTIAL SECOND FLOOR - AREA 600 EAST
A-116.1 SCALE: 1/8" = 1'-0"

FLOOR PLAN LEGEND	
SYMBOL	DESCRIPTION
[Symbol]	1 HR RATED EXIT ENCLOSURE (FIRE BARRIER)
[Symbol]	2 HOUR RATED WALL
CJ	CJ ON MASONRY
CA	CONTROL ACCESS - SEE LOW VOLTAGE DRAWINGS
KP	KEY PAD - SEE ELECTRICAL
EJ	BUILDING EXPANSION JOINT WITH COVER
DS	DOWNSPOUT - SEE CIVIL FOR CONNECTION INFORMATION
FD	FLOOR DRAIN - SEE PLUMBING DRAWINGS
[Symbol]	WALL TAG - SEE SHEET A-010 FOR WALL PARTITION TYPES
[Symbol]	DOOR TAG - SEE SHEET A-001 AND FLOOR PLANS
[Symbol]	WINDOW TAG - SEE SHEET A-011 THROUGH A-012 ALONG WITH FLOOR PLANS CURTAIN WALL TAG - SEE SHEET A-011 THROUGH A-012 ALONG WITH FLOOR PLANS

- GENERAL NOTES:**
- SEE OVERALL PLAN ON A-101 FOR OVERALL BUILDING MISSING DIMENSIONS.
 - SEE SHEET G-003 FOR UL DESIGNS.
 - SEE SHEET A-010 FOR WALL PARTITION TYPES.
 - ALL INTERIOR METAL STUD WALLS TO HAVE SOUND ATTENUATION BATTS.
 - PROVIDE POSITIVE FLOOR SLOPE TO ALL FLOOR DRAINS.
 - CONTROL JOINTS THAT ARE NOT SHOWN SHALL BE 25' MAX IN BRICK AND CMU WALLS.
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4	GLASS DISPLAY CASES
5	SHIPS LADDER TO MECHANICAL PLATFORM, 3' WIDE TYP UNO
5A	WALL MOUNTED LADDER TO MECHANICAL PLATFORM, 3' WIDE TYP UNO
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7	METAL UTILITY SHELVING IN ALL UTILITY AND STORAGE ROOMS - SEE SPECIFICATIONS. SEE FOOD DRAWINGS FOR SHELVING TYPE.
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21	SCIENCE ROOM SHOWER AND EYE WASH WITH 3x3' RECESSED FLOOR SLAB WITH DRAIN
22	UTILITY ROOM MOP SINK WITH SS WALL SPLASH GUARD & MOP HOLDER



600 EAST KEY PLAN

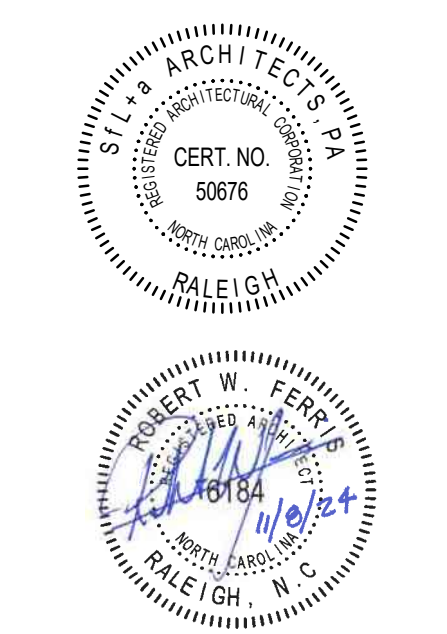
HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL
3544 US 401 S, LILLINGTON NC 27546



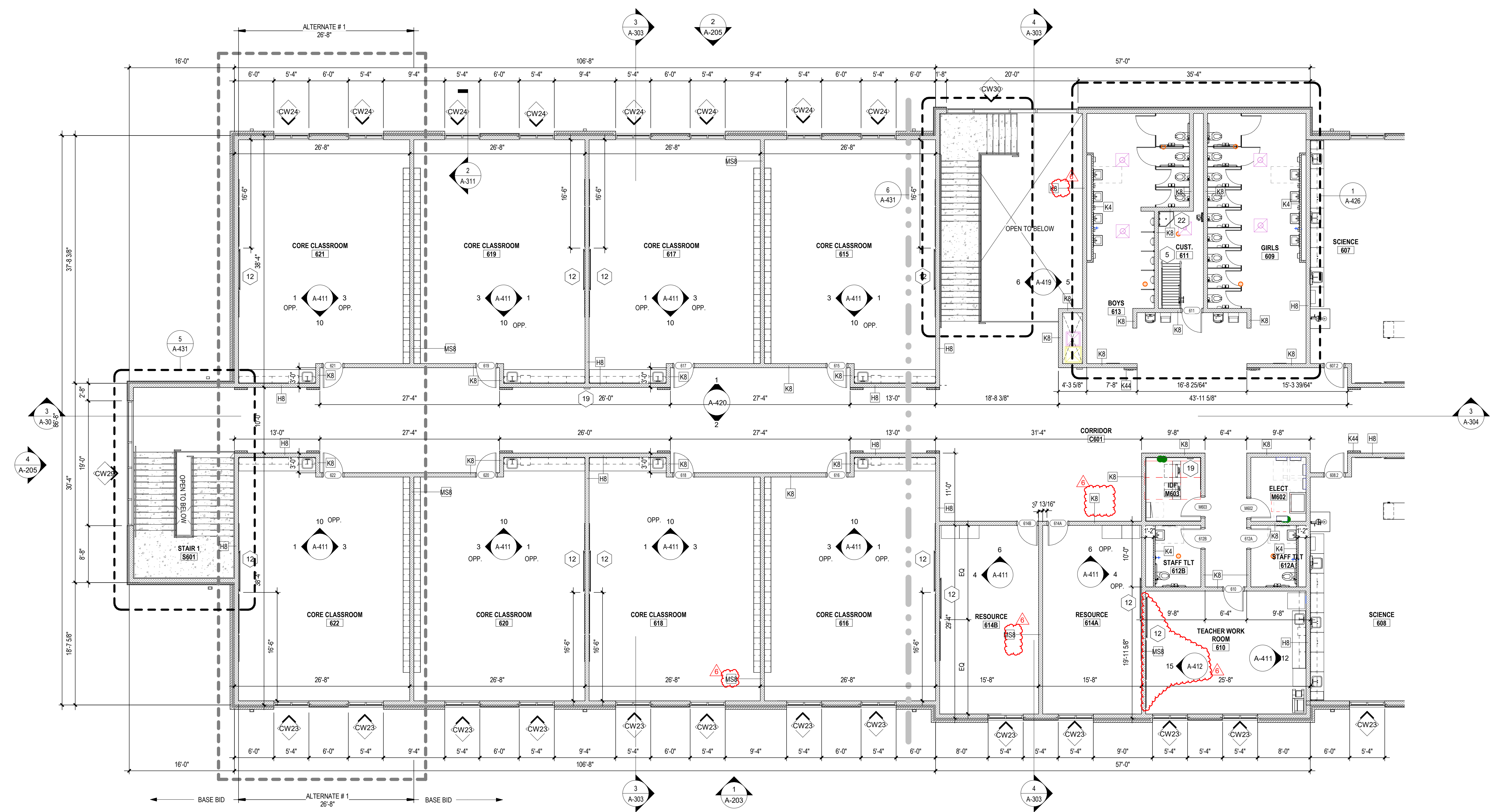
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FLOOR PLAN AREA 600 EAST



CONSTRUCTION
DOCUMENTS



1 PARTIAL SECOND FLOOR - AREA 600 WEST
SCALE: 1/8" = 1'-0"

HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL
3544 US 401 S, LILLINGTON NC 27546



No.	Date	Description
6	02-05-25	ADDENDUM 2

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FLOOR PLAN AREA
600 WEST

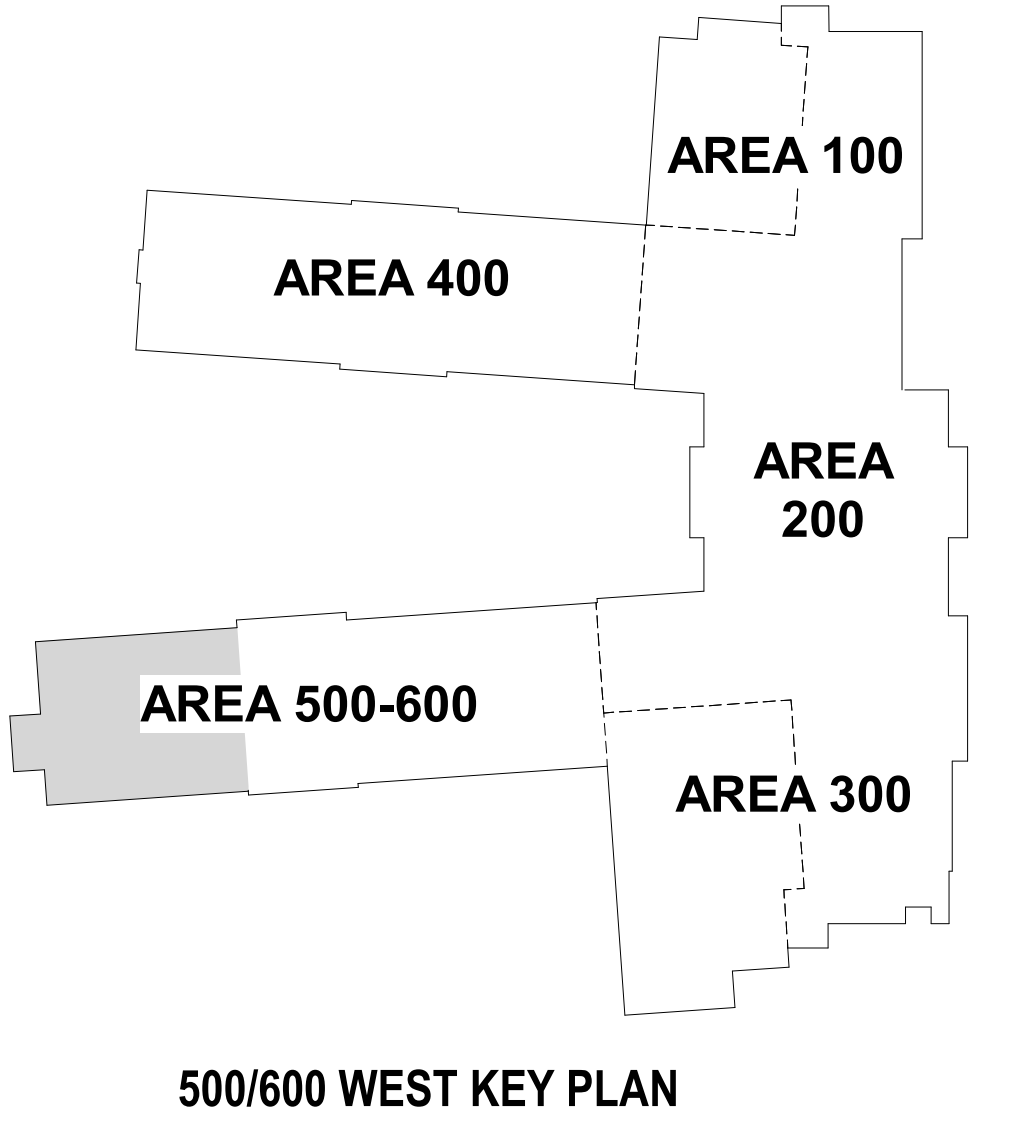
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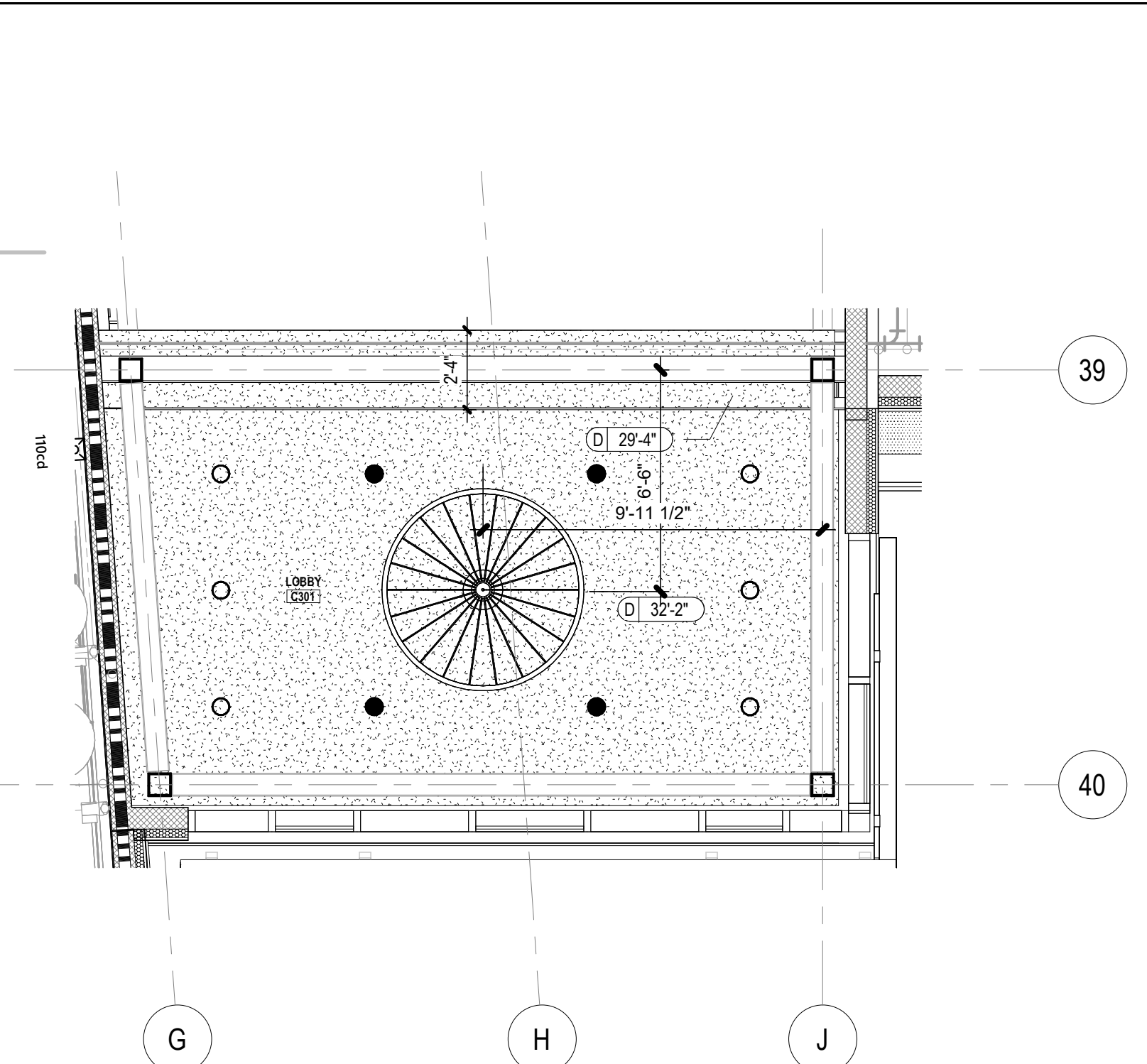
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SYMBOL	DESCRIPTION
	1 HR RATED EXIT ENCLOSURE (FIRE BARRIER)
	2 HOUR RATED WALL
CJ	CJ ON MASONRY
CA	CONTROL ACCESS - SEE LOW VOLTAGE DRAWINGS
KP	KEY PAD - SEE ELECTRICAL
EJ	BUILDING EXPANSION JOINT WITH COVER
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W2	WINDOW TAG - SEE SHEET A-011 THROUGH A-012 ALONG WITH FLOOR PLANS CURTAIN WALL TAG - SEE SHEET A-011 THROUGH A-012 ALONG WITH FLOOR PLANS

GENERAL NOTES:

- SEE OVERALL PLAN ON A-101 FOR OVERALL BUILDING MISSING DIMENSIONS.
- SEE SHEET G-003 FOR UL DESIGNS.
- SEE SHEET A-010 FOR WALL PARTITION TYPES.
- ALL INTERIOR METAL STUD WALLS TO HAVE SOUND ATTENUATION BATTS.
- PROVIDE POSITIVE FLOOR SLOPE TO ALL FLOOR DRAINS.
- CONTROL JOINTS THAT ARE NOT SHOWN SHALL BE 2" MAX IN BRICK AND CMU WALLS.
- SEE STRUCTURAL DRAWINGS FOR TYPES AND LOCATION OF LINTELS WHERE NOT SHOWN, PROVIDE LINTELS FOR MECHANICAL, ELECTRICAL AND OTHER PENETRATIONS WHERE REQUIRED.

FLOOR PLAN KEY NOTES	
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22	UTILITY ROOM MOP SINK WITH SS WALL SPLASH GUARD & MOP HOLDER





2 A-123 REFLECTED CEILING PLAN - LOBBY C301 CLERESTORY
SCALE: 1/4" = 1'-0"

REFLECTED CEILING PLAN LEGEND	
CEILING TYPE	CEILING HEIGHT
	A 8'-0"
TYPE	DESCRIPTION
	2' x 2' ACOUSTICAL CEILING TILES
	TYPE "A": TYP. PANELS, WHITE WITH WHITE GRID TYPE "B": IMPERVIOUS PANELS (HEALTH GRADE), WHITE WITH WHITE GRID
	TYPE "C": BLACK PANELS WITH BLACK GRID
	GYPSUM BOARD CEILING
	TYPE "D": TYP. GYP CEILING SYSTEM, PAINTED
	TYPE "E": GWP CEILING SYSTEM, PAINTED, EPOXY
	TYPE "F": WOOD SLAT
	EXTERIOR DOWNLIGHT (CLG MOUNTED)
	LED EXIT SIGN - CEILING MOUNTED
	LED EXIT SIGN - WALL MOUNTED
	DOWNLIGHT
	DECORATIVE PENDANT
	GYM LIGHTING - SUSPENDED PENDANT
	LINEAR FIXTURE
	2x4 ACRYLIC LAY-IN
	LINEAR PENDANT
	DIFFUSER - SEE MECHANICAL
	RETURN - SEE MECHANICAL
	DIFFUSER - SEE MECHANICAL
	DIFFUSER - SEE MECHANICAL
	CEILING ACOUSTICAL DIFFUSER PANEL
	DECORATIVE PENDANT
	ACOUSTICAL SUSPENDED SYSTEM

GENERAL NOTES

- REFER TO ELECTRICAL SHEETS FOR LIGHT FIXTURE LOCATIONS, TYPES AND ADDITIONAL INFORMATION.
- COORDINATE LOCATION OF ACCESS PANELS WITH PLUMBING CONTRACTOR.
- ALL EXPOSED STRUCTURE, PIPING, DUCT WORK, ELECTRICAL DEVICES, ETC. IN AREAS INDICATED AS EXPOSED STRUCTURE TO BE PAINTED EXCEPT MECHANICAL ROOMS - SEE FINISH PLANS.
- CONTROL JOINTS ARE NOTED IN GYP CEILINGS AS C'- CONTROL JOINTS NOT SHOWN TO BE SPACED AT 20'-0" OC (TYP)
- EAVE AND CANOPY SOFFITS TO BE 7" FLUSH METAL PANEL SYSTEM.
- INTERIOR LOUVERS TO BE PAINTED TO MATCH THE WALL OR BULKHEAD COLOR THAT THE LOUVER IS INSTALLED IN.
- ALL CLASSROOMS TO HAVE SOUND ATTENUATION BATTS ABOVE THE CEILING GRID - PROVIDE 4'-0" MINIMUM COVERAGE FROM THE PERIMETER WALLS - SEE SPECIFICATIONS.
- COORDINATE SLOPED CEILINGS TO PROVIDE 2" MINIMUM CLEARANCE OVER TOP OF WINDOW FRAME.

RCP KEY NOTES

- OPEN TO STRUCTURE ABOVE. DRYFALL PAINT ALL EXPOSED DECKING, CONDUIT, ELECTRICAL DEVICES, ETC. REFER TO FINISH SCHEDULE FOR COLORS AND LOCATIONS.
- ACOUSTICAL CLOUDS. REFER TO FINISH LEGEND FOR MORE INFORMATION.
- ACOUSTICAL SUSPENDED SYSTEM. REFER TO FINISH LEGEND FOR MORE INFORMATION.
- NOT USED.
- PRE-MANUFACTURED CANOPY SYSTEM
- PRE-MANUFACTURED LOUVERED EXTERIOR SUN CONTROL DEVICE
- ALUMINUM TRELLIS STRUCTURE WITH WOOD GRAIN TEXTURED FINISH
- KITCHEN HOOD-SEE MECH AND FOOD SERVICE DRAWINGS FOR ADDITIONAL INFORMATION. COORDINATE DIMENSIONS OF BULKHEAD WITH MANUF. REQUIREMENT.
- FIXED BASKETBALL HOOP, MAST STRUCTURE PAINTED BLACK
- ELECTRIC OPERATED BASKETBALL HOOP, MAST STRUCTURE PAINTED BLACK
- ACCESS PANEL
- COORDINATE EXACT LOCATION OF THEATRICAL LIGHTING WITH MANUF.
- OPEN TO STRUCTURE ABOVE
- STRUCTURE ABOVE CEILING TO BE DRYFOG PAINTED BLACK

1 A-123 REFLECTED CEILING PLAN-AREA 300
SCALE: 1/8" = 1'-0"

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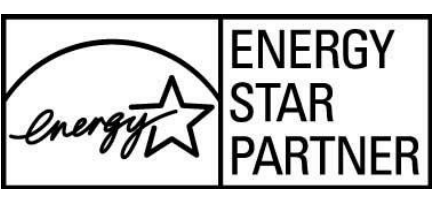
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ARCHITECTS

REGISTERED PROFESSIONAL ARCHITECT
CERT. NO. 56676
RALEIGH, NC

REGISTERED PROFESSIONAL ARCHITECT
CERT. NO. 11454
Raleigh, NC

CONSTRUCTION DOCUMENTS

HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL
3544 US 401 S, LILLINGTON NC 27546



No.	Date	Description
4	01-09-25	NCPD CD
6	02-05-25	ADDENDUM 2

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RCP - AREA 300

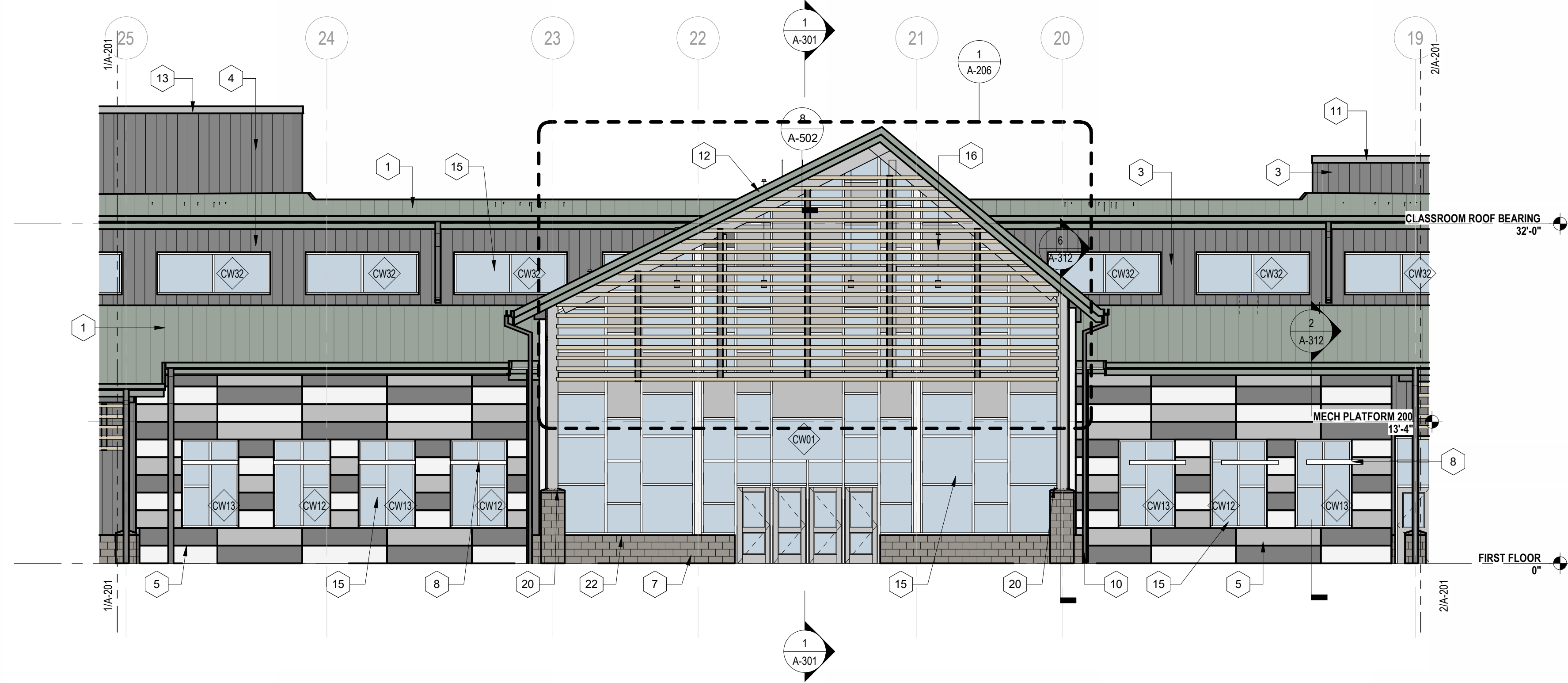
A-123

ELEVATION LEGEND	
SYMBOL	DESCRIPTION
CJ	CONTROL JOINT
EJ	BUILDING EXPANSION JOINT
(-3/8")	INDICATES PROJECTION DISTANCE FROM FACE OF BRICK - FACE OF BRICK IS (0")
(-3/8")	INDICATES RECESS DISTANCE FROM FACE OF BRICK - FACE OF BRICK IS (0")
W2	STOREFRONT CURTAIN WALL TAG - SEE SHEET A-611 & A-612 WITH FLOOR PLANS

GENERAL NOTES:

- SOLIDER COURSE ABOVE & BELOW WINDOW TO BE (-3/8") FROM FACE OF WALL U.N.O.
- DOWNSPOUTS AT PERVIOUS (GRADE) SHALL RECEIVE A CAST IRON BOOT. ALL DOWNSPOUTS AT IMPERVIOUS (SIDEWALKS) LOCATIONS SHALL RUN THROUGH SIDEWALK WITH DOWNSPOUT CONNECTOR. SEE DETAILS ON SHEET A-503.

ELEVATION KEY NOTES	
1	STANDING SEAM METAL PANEL ROOF - COLOR TBD
2	FIELD BRICK (BRK1)
3	ACCENT BRICK (BRK2) DOUBLE SOLDIER COURSE BANDING (PROJECT -3/8")
4	METAL PANEL MP-1, THREE VARYING BOX WIDTHS IN A REPEATING PATTERN
5	COMPOSITE METAL PANEL CMP-1, CMP-2, CMP-3 - 3 DIFFERENT COLORS IN REPEATING PATTERN
6	METAL PANEL MP-2, BOX RIB PATTERN 1
7	SPLIT FACE BLOCK OVER 1-3/8" AIR SPACE OVER 9" FOAMED-IN-PLACE INSULATION OVER CMU. NOMINAL DIMENSION 16" X 8" X 8" (TYPICAL UNO)
8	PRE-MANUFACTURED WINDOW MOUNTED ALUMINUM SUNSHADE
9	4" X 8" DOWNSPOUT WITH CAST IRON BOOT. TIE TO STORM DRAINS. AT PERVIOUS LOCATIONS ONLY.
10	4" X 8" DOWNSPOUT WITH PVC BOOT. AT IMPERVIOUS LOCATIONS ONLY.
11	SCUPPER WITH COLLECTION BOX AND DOWNSPOUT
12	FACIA & GUTTER
13	CONT. PRE-FINISHED METAL COPING (COLOR TO MATCH ADJACENT MATERIAL)
14	PRE-MANUFACTURED WALL MOUNTED CANOPY
15	CURTAIN WALL WITH 1" INSULATED GLAZING - SEE SHEET A-611 & A-612 FOR MORE INFORMATION
16	METAL WALL LOUVER - SEE MECHANICAL FOR SIZING. COLOR TO BE SELECTED FROM MANUF. FULL LINE OF COLORS.
17	EXTERIOR WALL LIGHT FIXTURE - SEE ELECTRICAL
18	SUN SCREEN, ATTACHED TO CURTAINWALL
19	14" HEIGHT ALUMINUM SIGNAGE LETTERS
20	CAST STONE CAP
21	COMPOSITE METAL PANEL CMP-2
22	SMOOTH FACE BLOCK BAND, T.O. BAND 2-8" AFF. PROVIDE CHAMFERED CMU AT MP, CMP & WINDOWS

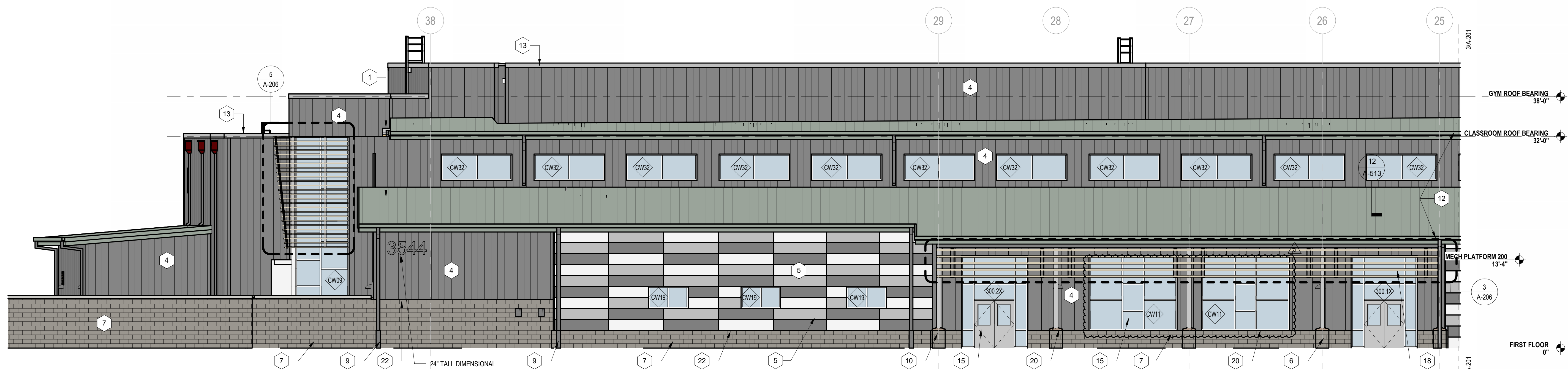


3 MAIN ENTRY EAST
A-201 SCALE: 1/8" = 1'-0"



2 MUSIC WING EAST
A-201 SCALE: 1/8" = 1'-0"

EXTERIOR ELEVATION MATERIALS LEGEND		
MANUF	COLOR	
ALL COLORS LISTED ARE BASIS OF DESIGN FOR COLOR SELECTIONS AND MUST BE REVIEWED BY ARCHITECT FOR FINAL APPROVAL.		
CMP-1	PAC CLAD	CADET GREY
CMP-2	PAC CLAD	PURE WHITE
CMP-3	PAC CLAD	SLATE GREY
MP-1	PAC CLAD	SLATE GREY
MP-2	PAC CLAD	SLATE GREY
BRK-1	PALMETTO BRICK	PEWTER
SFB-1	OLD CASTLE/ECHOLON	4106



1 CAFETERIA EAST
A-201 SCALE: 1/8" = 1'-0"



CONSTRUCTION DOCUMENTS

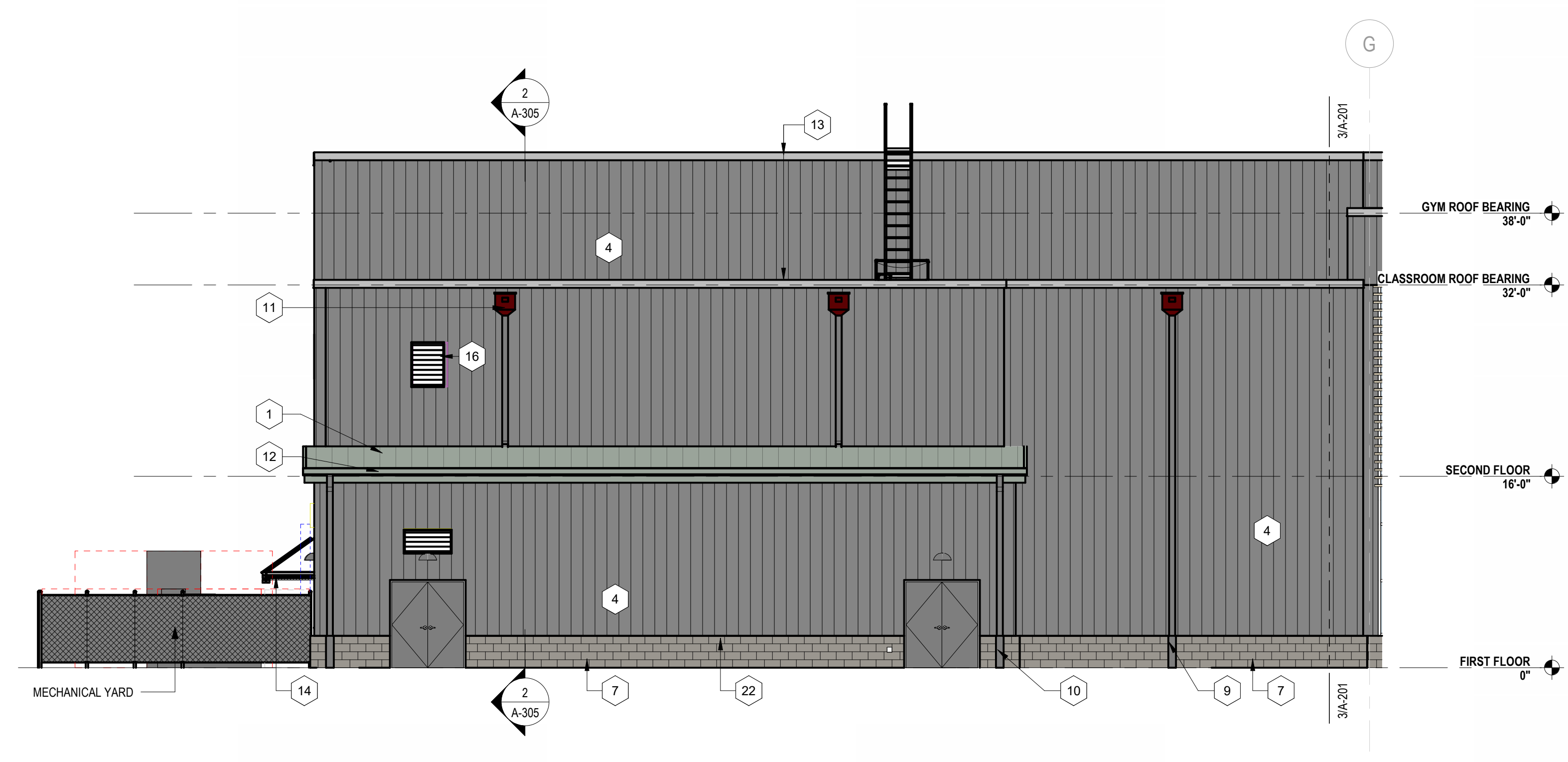
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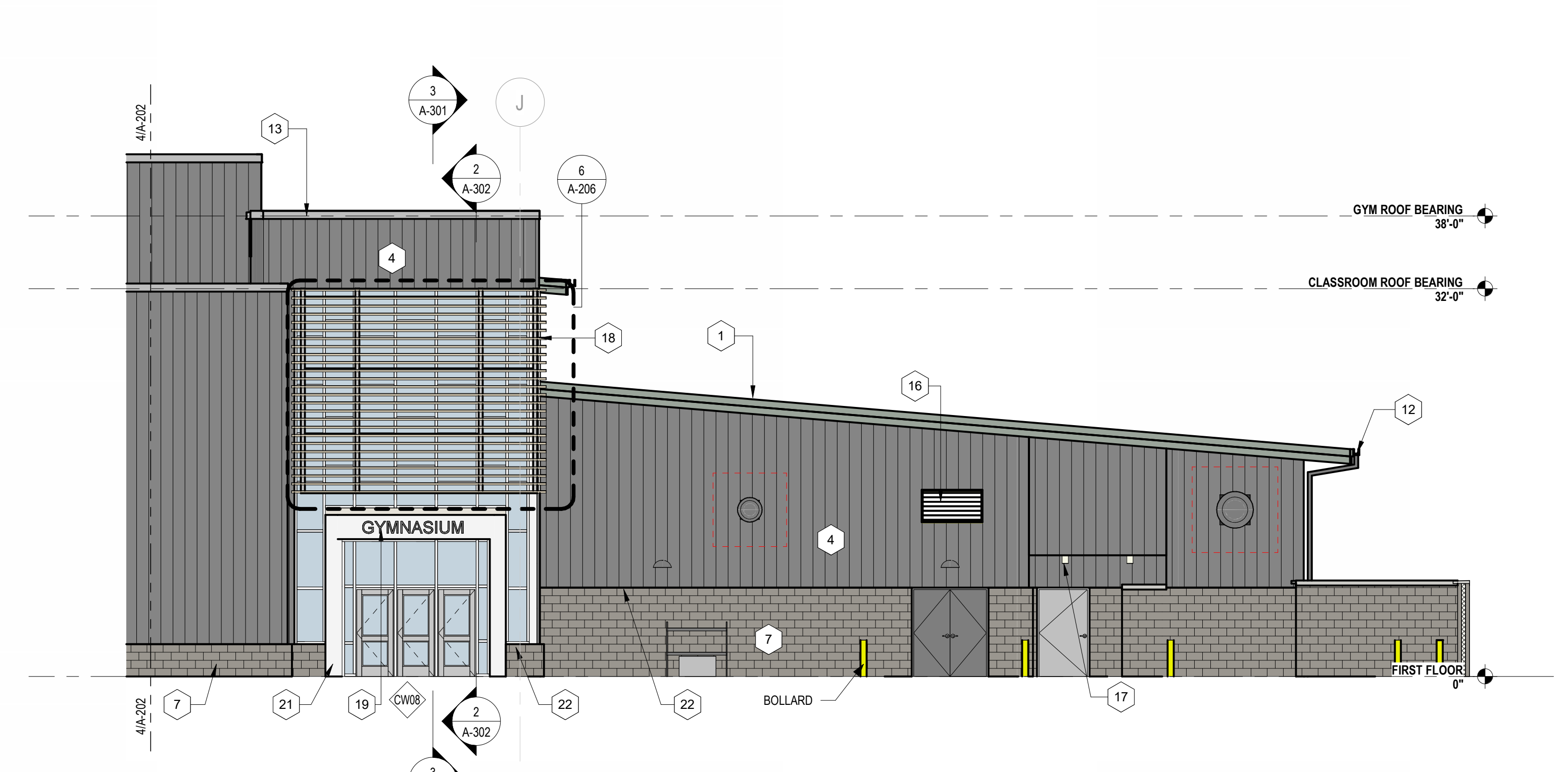
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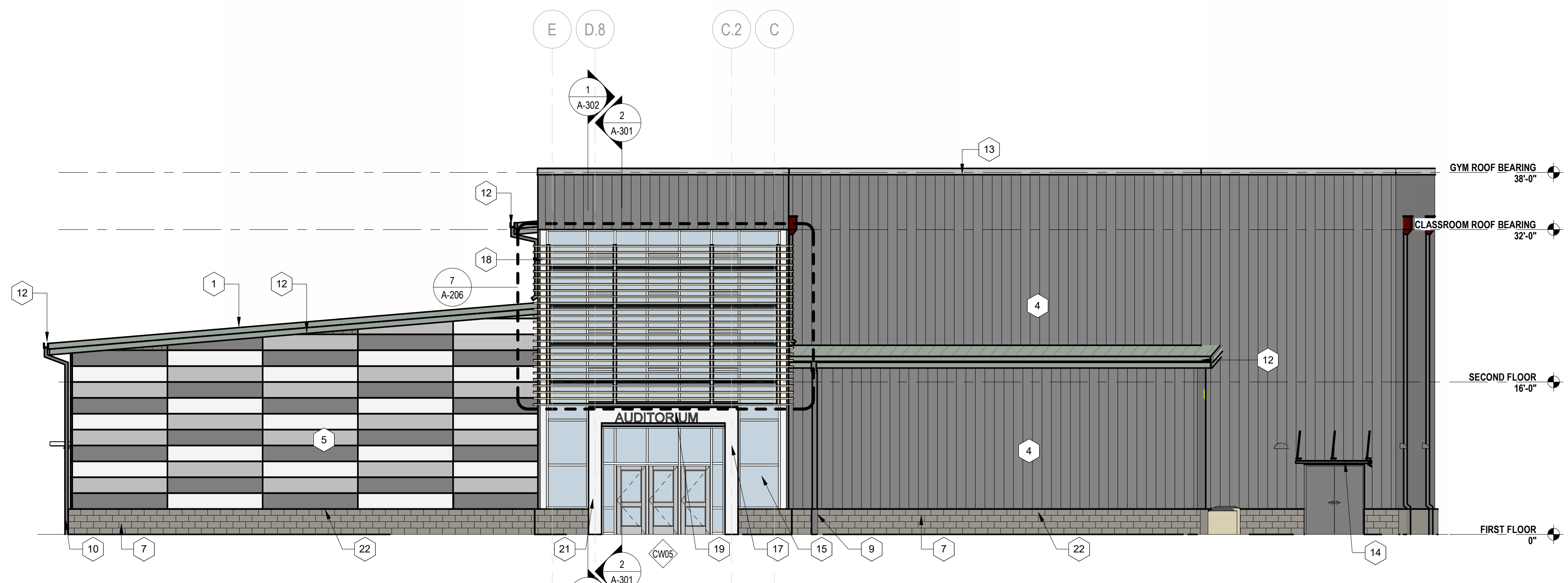
EXT. BUILDING ELEVATIONS



4 GYMNASIUM SOUTH
SCALE: 1/8" = 1'-0"

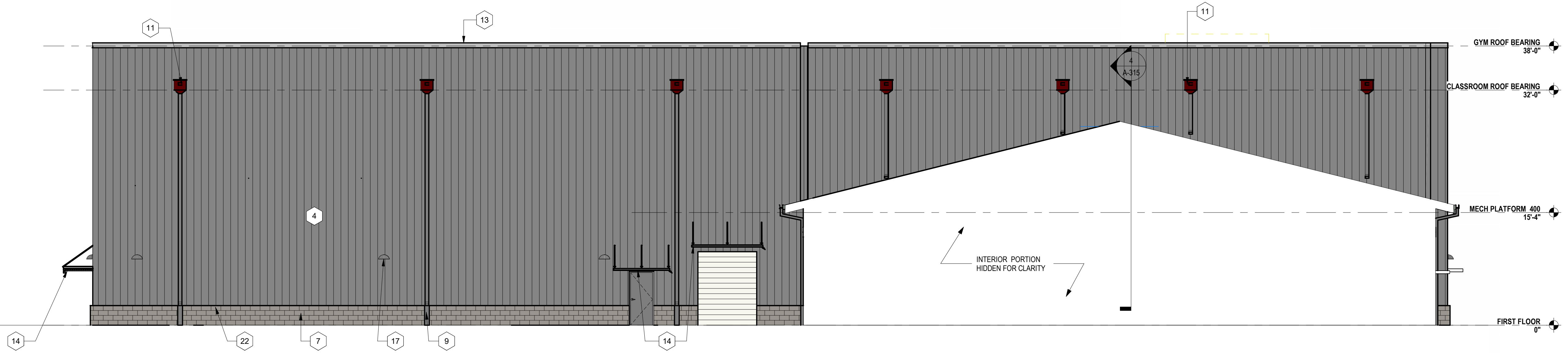


3 CAFETERIA SOUTH
SCALE: 1/8" = 1'-0"



2 MUSIC WING NORTH
SCALE: 1/8" = 1'-0"

2 MUSIC WING NORTH
SCALE: 1/8" = 1'-0"



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

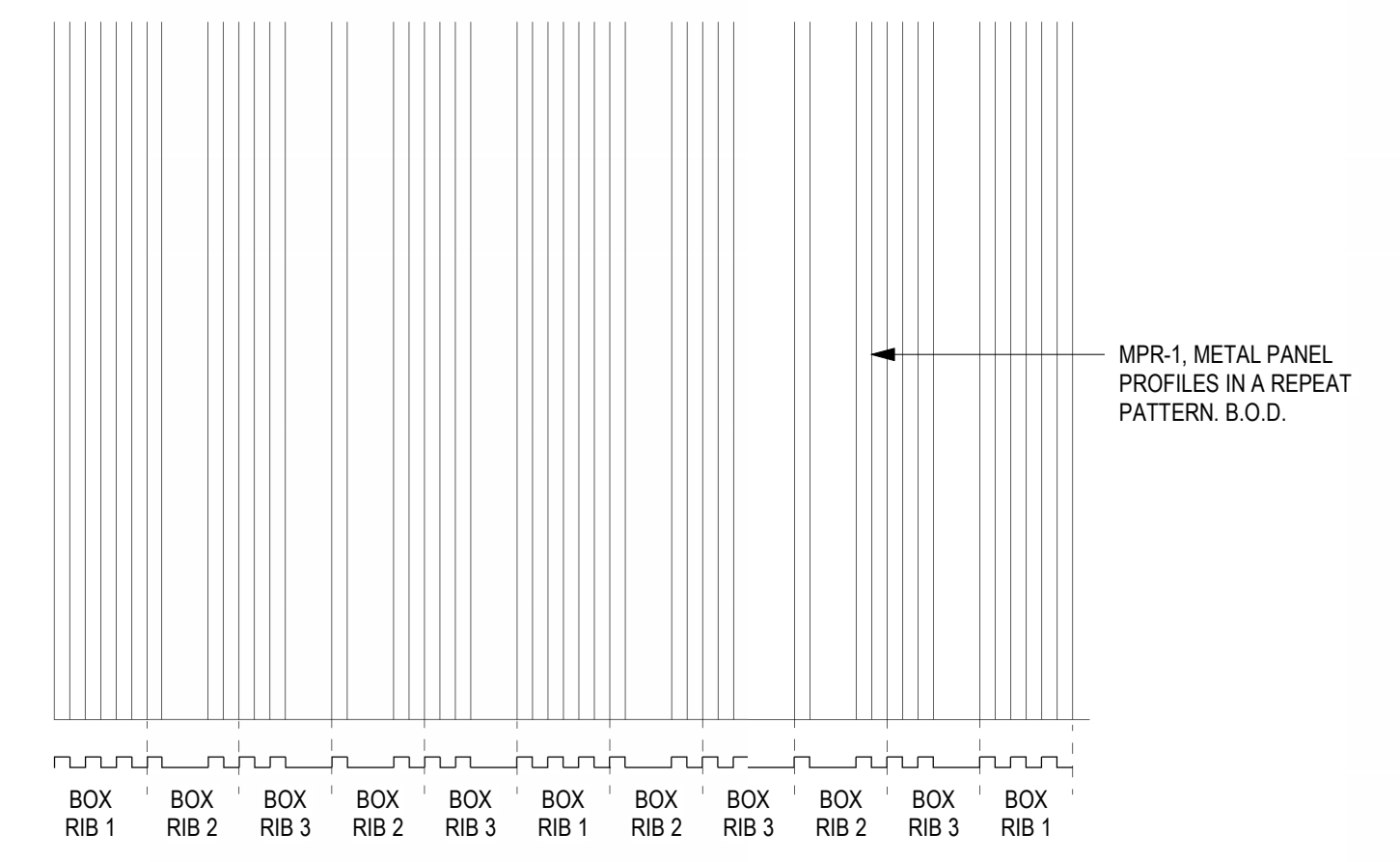
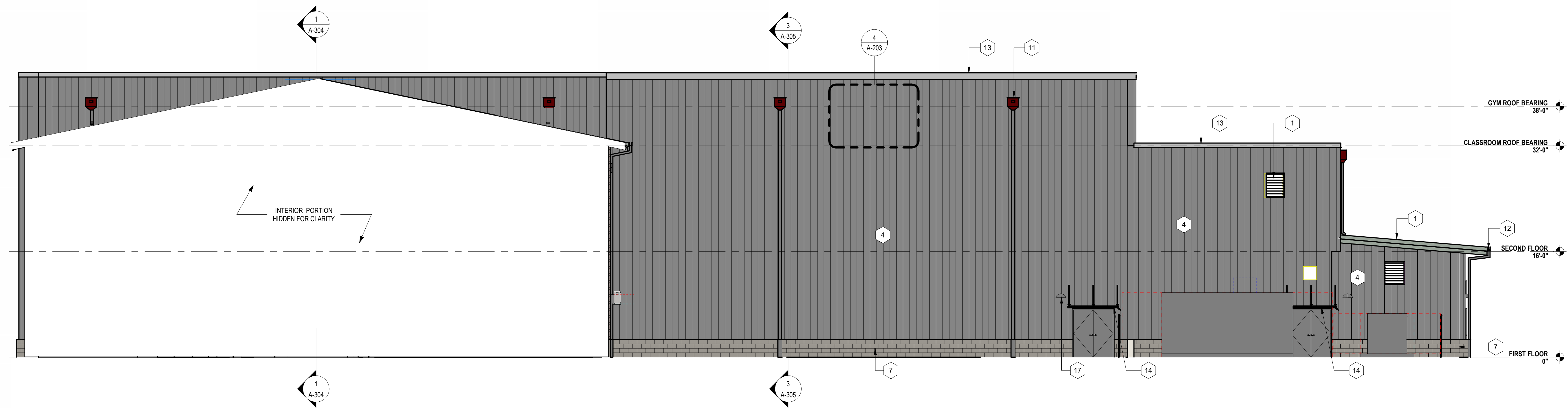
ELEVATION LEGEND	
SYMBOL	DESCRIPTION
CJ	CONTROL JOINT
EJ	BUILDING EXPANSION JOINT
(+3/8")	INDICATES PROJECTION DISTANCE FROM FACE OF BRICK - FACE OF BRICK IS (0")
(-3/8")	INDICATES RECESS DISTANCE FROM FACE OF BRICK - FACE OF BRICK IS (0")
W2	STOREFRONT/CURTAIN WALL TAG - SEE SHEET A-611 & A-612 WITH FLOOR PLANS

GENERAL NOTES:

- SOLIDER COURSE ABOVE & BELOW WINDOW TO BE (+3/8") FROM FACE OF WALL U.N.C.
- DOWNSPOUTS AT PERVIOUS (GRADE) SHALL RECEIVE A CAST IRON BOOT. ALL DOWNSPOUTS AT IMPERVIOUS (SIDEWALKS) LOCATIONS SHALL RUN THROUGH SIDEWALK WITH DOWNSPOUT CONNECTOR. SEE DETAILS ON SHEET A-503.

ELEVATION KEY NOTES	
1	STANDING SEAM METAL PANEL ROOF - COLOR TBD
2	FIELD BRICK (BRK1)
3	ACCENT BRICK (BRK2) DOUBLE SOLDIER COURSE BANDING (PROJECT +3/8")
4	METAL PANEL MP-1, THREE VARYING BOX WIDTHS IN A REPEATING PATTERN
5	COMPOSITE METAL PANEL CMP-1, CMP-2, CMP-3 - 3 DIFFERENT COLORS IN REPEATING PATTERN
6	METAL PANEL MP-2, BOX RIB PATTERN 1
7	SLIT FACE BLOCK OVER 1-3/8" AIR SPACE OVER 3" FOAMED-IN-PLACE INSULATION OVER CMU. NOMINAL DIMENSION 16" X 8" X 8" (TYPICAL UNO)
8	PRE-MANUFACTURED WINDOW-MOUNTED ALUMINUM SUNSHADE
9	4" X 6" DOWNSPOUT WITH CAST IRON BOOT. TIE TO STORM DRAINS, AT PERVIOUS LOCATIONS ONLY.
10	4" X 6" DOWNSPOUT WITH PVC BOOT. AT IMPERVIOUS LOCATIONS ONLY.
11	SCUPPER WITH COLLECTION BOX AND DOWNSPOUT
12	FACIA & GUTTER
13	CONT. PRE-FINISHED METAL COPING (COLOR TO MATCH ADJACENT MATERIAL)
14	PRE-MANUFACTURED WALL MOUNTED CANOPY
15	CURTAIN WALL WITH 1" INSULATED GLAZING- SEE SHEET A-611 & A-612 FOR MORE INFORMATION
16	METAL WALL LOUVER - SEE MECHANICAL FOR SIZING. COLOR TO BE SELECTED FROM MANUF. FULL LINE OF COLORS.
17	EXTERIOR WALL LIGHT FIXTURE - SEE ELECTRICAL
18	SUN SCREEN, ATTACHED TO CURTAINWALL
19	14" HEIGHT ALUMINUM SIGNAGE LETTERS
20	CAST STONE CAP
21	COMPOSITE METAL PANEL CMP-2
22	SMOOTH FACE BLOCK BAND, T.O. BAND 2-8" AFF. PROVIDE CHAMFERED CMU AT MP, CMP & WINDOWS.

EXTERIOR ELEVATION MATERIALS LEGEND			
	MANUF	COLOR	
ALL COLORS LISTED ARE BASIS OF DESIGN FOR COLOR SELECTIONS AND MUST BE REVIEWED BY ARCHITECT FOR FINAL APPROVAL.			
	CMP-1	PAC CLAD	CADET GREY
	CMP-2	PAC CLAD	PURE WHITE
	CMP-3	PAC CLAD	SLATE GREY
	MP-1	PAC CLAD	SLATE GREY
	MP-2	PAC CLAD	SLATE GREY
	BRK-1	PALMETTO BRICK	PEWTER
	SFB-1	OLD CASTLE/ECHELON	4106



3 GYMNASIUM WEST
A-203 SCALE: 1/8" = 1'-0"

4 MPR-1 METAL WALL PANEL PATTERN
A-203 SCALE: 1/2" = 1'-0"

ELEVATION LEGEND	
SYMBOL	DESCRIPTION
CJ	CONTROL JOINT
EJ	BUILDING EXPANSION JOINT
(+3/8")	INDICATES PROJECTION DISTANCE FROM FACE OF BRICK - FACE OF BRICK IS (0")
(-3/8")	INDICATES RECESS DISTANCE FROM FACE OF BRICK - FACE OF BRICK IS (0")
W2	STOREFRONT/CURTAIN WALL TAG - SEE SHEET A-611 & A-612 WITH FLOOR PLANS
GENERAL NOTES:	
1 SOLIDER COURSE ABOVE & BELOW WINDOW TO BE (+3/8") FROM FACE OF WALL U.N.C.	
2 DOWNSPOUTS AT PERVIOUS (GRADE) SHALL RECEIVE A CAST IRON BOOT. ALL DOWNSPOUTS AT IMPERVIOUS (SIDEWALKS) LOCATIONS SHALL RUN THROUGH SIDEWALK WITH DOWNSPOUT CONNECTOR. SEE DETAILS ON SHEET A-503.	

ELEVATION KEY NOTES	
1	STANDING SEAM METAL PANEL ROOF - COLOR TBD
2	FIELD BRICK (BRK1)
3	ACCENT BRICK (BRK2) DOUBLE SOLDIER COURSE BANDING (PROJECT +3/8")
4	METAL PANEL MP-1, THREE VARYING BOX WIDTHS IN A REPEATING PATTERN
5	COMPOSITE METAL PANEL CMP-1, CMP-2, CMP-3 - 3 DIFFERENT COLORS IN REPEATING PATTERN
6	METAL PANEL MP-2, BOX RIB PATTERN 1
7	SLIT FACE BLOCK OVER 1-3/8" AIR SPACE OVER 3" FOAMED-IN-PLACE INSULATION OVER CMU. NOMINAL DIMENSION 16" X 24" (TYPICAL LUNG)
8	PRE-MANUFACTURED WINDOW-MOUNTED ALUMINUM SUNSHADE
9	4" X 6" DOWNSPOUT WITH CAST IRON BOOT. TIE TO STORM DRAINS, AT PERVIOUS LOCATIONS ONLY.
10	4" X 6" DOWNSPOUT WITH PVC BOOT. AT IMPERVIOUS LOCATIONS ONLY.
11	SCUPPER WITH COLLECTION BOX AND DOWNSPOUT
12	FACIA & GUTTER
13	CONT. PRE-FINISHED METAL COPING (COLOR TO MATCH ADJACENT MATERIAL)
14	PRE-MANUFACTURED WALL MOUNTED CANOPY
15	CURTAIN WALL WITH 1" INSULATED GLAZING- SEE SHEET A-611 & A-612 FOR MORE INFORMATION
16	METAL WALL LOUVER - SEE MECHANICAL FOR SIZING. COLOR TO BE SELECTED FROM MANUF FULL LINE OF COLORS.
17	EXTERIOR WALL LIGHT FIXTURE - SEE ELECTRICAL
18	SUN SCREEN, ATTACHED TO CURTAINWALL
19	14" HEIGHT ALUMINUM SIGNAGE LETTERS
20	CAST STONE CAP
21	COMPOSITE METAL PANEL CMP-2
22	SMOOTH FACE BLOCK BAND, T.O. BAND 2'-8" AFF. PROVIDE CHAMFERED CMU AT MP, CMP & WINDOWS



2 CLASSROOM WING 500-600 SOUTH-RIGHT
A-203 SCALE: 1/8" = 1'-0"



1 CLASSROOM WING 500-600 SOUTH-LEFT
A-203 SCALE: 1/8" = 1'-0"

EXTERIOR ELEVATION MATERIALS LEGEND		
MANUF	COLOR	
ALL COLORS LISTED ARE BASIS OF DESIGN FOR COLOR SELECTIONS AND MUST BE REVIEWED BY ARCHITECT FOR FINAL APPROVAL.		
CMP-1	PAC CLAD	CADET GREY
CMP-2	PAC CLAD	PURE WHITE
CMP-3	PAC CLAD	SLATE GREY
MP-1	PAC CLAD	SLATE GREY
MP-2	PAC CLAD	SLATE GREY
BRK-1	PALMETTO BRICK	PEWTER
SFB-1	OLD CASTLE/ECHELON	4106

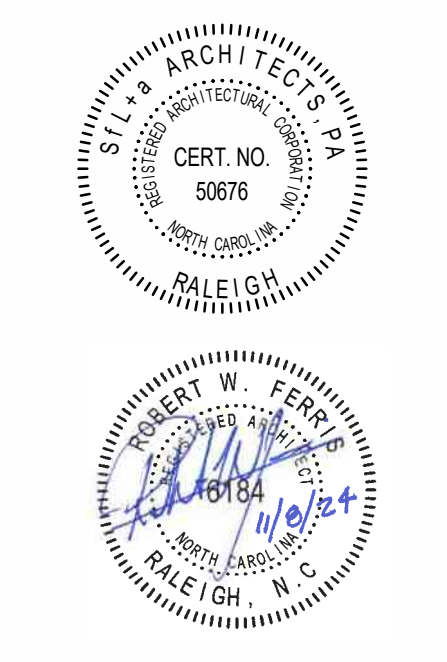
HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL
3544 US 401 S, LILLINGTON NC 27546



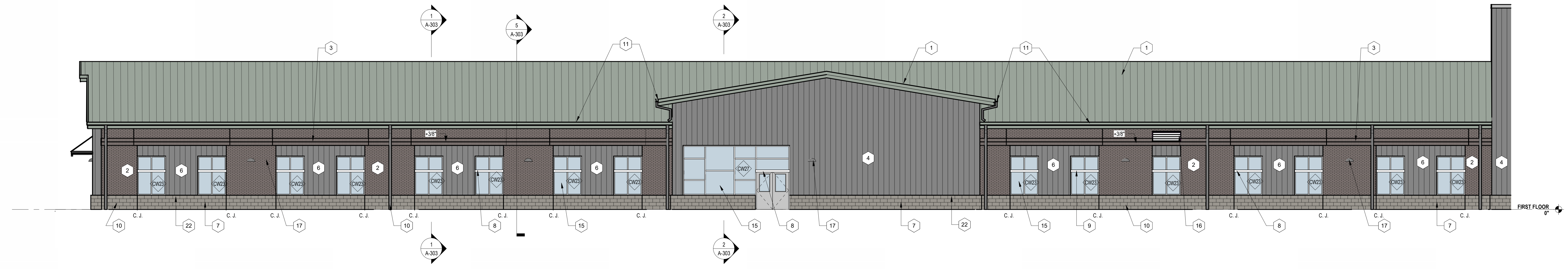
No.	Date	Description
6	02-05-25	ADDENDUM 2

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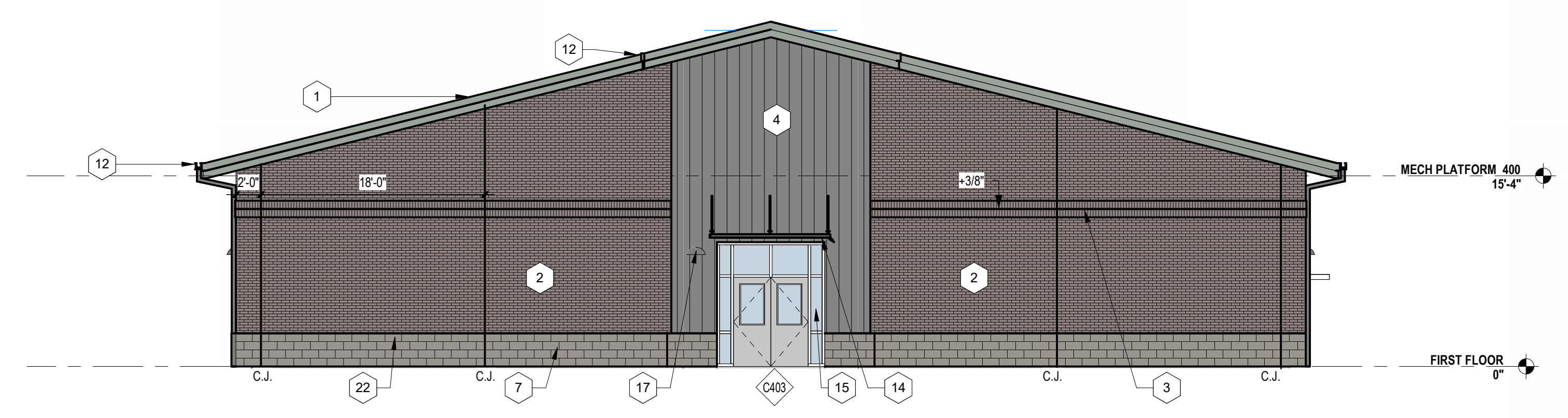
EXT. BUILDING ELEVATIONS



CONSTRUCTION DOCUMENTS



3 CLASSROOM WING 400 SOUTH
SCALE: 1/8" = 1'-0"



2 CLASSROOM WING 400 WEST
SCALE: 1/8" = 1'-0"

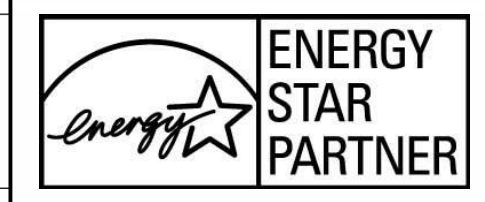
ELEVATION LEGEND		ELEVATION KEY NOTES	
SYMBOL	DESCRIPTION	1	STANDING SEAM METAL PANEL ROOF - COLOR TBD
CJ	CONTROL JOINT	2	FIELD BRICK (BRK1)
EJ	BUILDING EXPANSION JOINT	3	ACCENT BRICK (BRK2) DOUBLE SOLDIER COURSE BANDING (PROJECT +3/8")
(+3/8")	INDICATES PROJECTION DISTANCE FROM FACE OF BRICK - FACE OF BRICK IS (0")	4	METAL PANEL MP-1, THREE VARYING BOX WIDTHS IN A REPEATING PATTERN
(-3/8")	INDICATES RECESS DISTANCE FROM FACE OF BRICK - FACE OF BRICK IS (0")	5	COMPOSITE METAL PANEL CMP-1, CMP-2, CMP3 - 3 DIFFERENT COLORS IN REPEATING PATTERN
W2	STOREFRONT/CURTAIN WALL TAG - SEE SHEET A-611 & A-612 WITH FLOOR PLANS	6	METAL PANEL MP-2, BOX RIB PATTERN 1
GENERAL NOTES:		7	SLIT FACE BLOCK OVER 1-3/8" AIR SPACE OVER 3" FOAMED-IN-PLACE INSULATION OVER CMU. NOMINAL DIMENSION 16" X 8" X 8" (TYPICAL UNO)
1 SOLDIER COURSE ABOVE & BELOW WINDOW TO BE (+3/8") FROM FACE OF WALL U.N.C.		8	PRE-MANUFACTURED WINDOW-MOUNTED ALUMINUM SUNSHADE
2 DOWNSPOUTS AT PERVIOUS (GRADE) SHALL RECEIVE A CAST IRON BOOT. ALL DOWNSPOUTS AT IMPERVIOUS (SIDEWALKS) LOCATIONS SHALL RUN THROUGH SIDEWALK WITH DOWNSPOUT CONNECTOR. SEE DETAILS ON SHEET A-503.		9	4" X 6" DOWNSPOUT WITH CAST IRON BOOT. TIE TO STORM DRAINS, AT PERVIOUS LOCATIONS ONLY.
		10	4" X 6" DOWNSPOUT WITH PVC BOOT. AT IMPERVIOUS LOCATIONS ONLY.
		11	SCUPPER WITH COLLECTION BOX AND DOWNSPOUT
		12	FACIA & GUTTER
		13	CONT. PRE-FINISHED METAL COPING (COLOR TO MATCH ADJACENT MATERIAL)
		14	PRE-MANUFACTURED WALL MOUNTED CANOPY
		15	CURTAIN WALL WITH 1" INSULATED GLAZING- SEE SHEET A-611 & A-612 FOR MORE INFORMATION
		16	METAL WALL LOUVER - SEE MECHANICAL FOR SIZING. COLOR TO BE SELECTED FROM MANUF FULL LINE OF COLORS.
		17	EXTERIOR WALL LIGHT FIXTURE - SEE ELECTRICAL
		18	SUN SCREEN, ATTACHED TO CURTAINWALL
		19	14" HEIGHT ALUMINUM SIGNAGE LETTERS
		20	CAST STONE CAP
		21	COMPOSITE METAL PANEL CMP-2
		22	SMOOTH FACE BLOCK BAND, T.O. BAND 2-8" AFF. PROVIDE CHAMFERED CMU AT MP, CMP & WINDOWS

EXTERIOR ELEVATION MATERIALS LEGEND			
MANUF		COLOR	
ALL COLORS LISTED ARE BASIS OF DESIGN FOR COLOR SELECTIONS AND MUST BE REVIEWED BY ARCHITECT FOR FINAL APPROVAL.			
CMP-1	PAC CLAD	CADET GREY	
CMP-2	PAC CLAD	PURE WHITE	
CMP-3	PAC CLAD	SLATE GREY	
MP-1	PAC CLAD	SLATE GREY	
MP-2	PAC CLAD	SLATE GREY	
BRK-1	PALMETTO BRICK	PEWTER	
SFB-1	OLD CASTLE/ECHOLON	4106	



1 CLASSROOM WING 400 NORTH
SCALE: 1/8" = 1'-0"

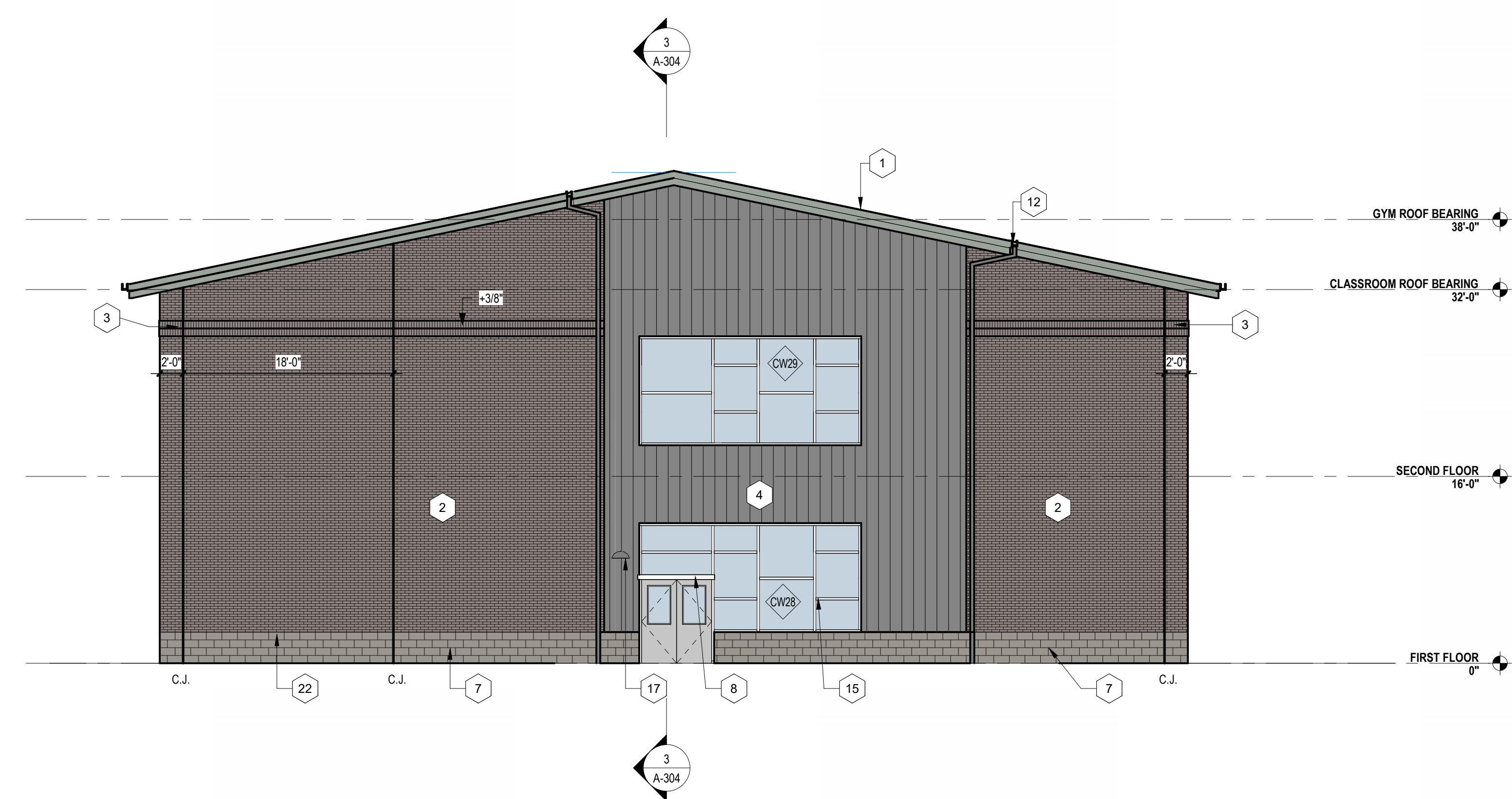
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FLATWOODS MIDDLE SCHOOL
3544 US 401 S, LILLINGTON NC 27546



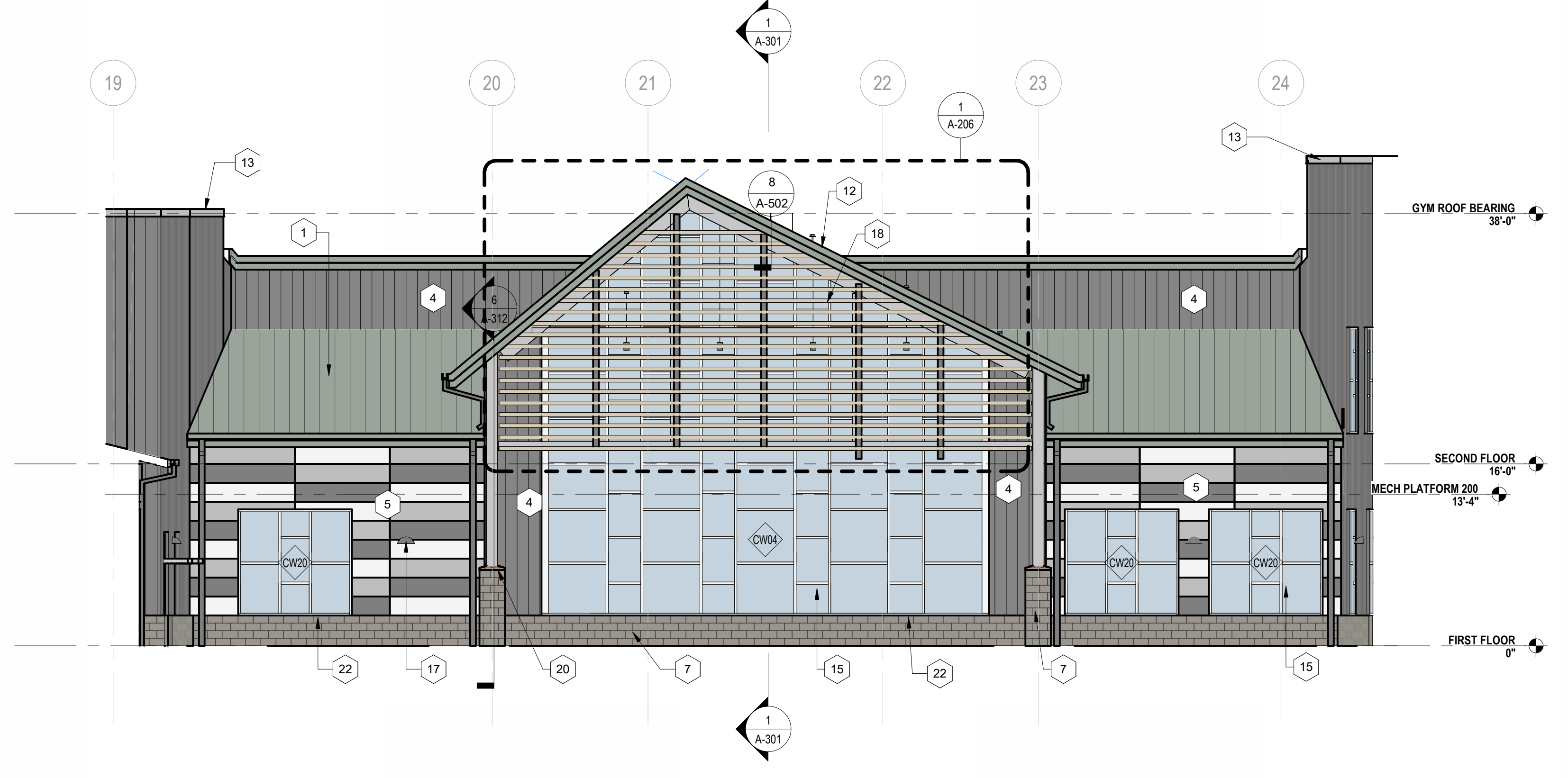
No.	Date	Description
6	02-05-25	ADDENDUM 2

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EXT. BUILDING ELEVATIONS



4 CLASSROOM WING 500-600 WEST
A-205 SCALE: 1/8" = 1'-0"



3 MEDIA WEST
A-205 SCALE: 1/8" = 1'-0"



2 CLASSROOM WING 500-600 NORTH-RIGHT
A-205 SCALE: 1/8" = 1'-0"

ELEVATION LEGEND	
SYMBOL	DESCRIPTION
CJ	CONTROL JOINT
EJ	BUILDING EXPANSION JOINT
(+3/8")	INDICATES PROJECTION DISTANCE FROM FACE OF BRICK - FACE OF BRICK IS (0")
(-3/8")	INDICATES RECESS DISTANCE FROM FACE OF BRICK - FACE OF BRICK IS (0")
W2	STOREFRONT/CURTAIN WALL TAG - SEE SHEET A-611 & A-612 WITH FLOOR PLANS

GENERAL NOTES:

- SOLIDER COURSE ABOVE & BELOW WINDOW TO BE (+3/8") FROM FACE OF WALL U.N.C.
- DOWNSPOUTS AT PERVIOUS (GRADE) SHALL RECEIVE A CAST IRON BOOT. ALL DOWNSPOUTS AT IMPERVIOUS (SIDEWALKS) LOCATIONS SHALL RUN THROUGH SIDEWALK WITH DOWNSPOUT CONNECTOR. SEE DETAILS ON SHEET A-503.

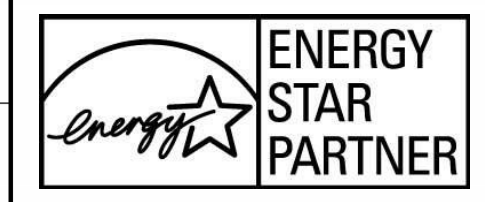
ELEVATION KEY NOTES	
1	STANDING SEAM METAL PANEL ROOF - COLOR TBD
2	FIELD BRICK (BRK1)
3	ACCENT BRICK (BRK2) DOUBLE SOLDIER COURSE BANDING (PROJECT +3/8")
4	METAL PANEL MP-1, THREE VARYING BOX WIDTHS IN A REPEATING PATTERN
5	COMPOSITE METAL PANEL CMP-1, CMP-2, CMP-3 - 3 DIFFERENT COLORS IN REPEATING PATTERN
6	METAL PANEL MP-2, BOX RIB PATTERN 1
7	SLIT FACE BLOCK OVER 1-3/8" AIR SPACE OVER 3" FOAMED-IN-PLACE INSULATION OVER CMU, NOMINAL DIMENSION 16" X 8" X 2" (TYPICAL LUNG)
8	PRE-MANUFACTURED WINDOW-MOUNTED ALUMINUM SUNSHADE
9	4" X 6" DOWNSPOUT WITH CAST IRON BOOT. TIE TO STORM DRAINS, AT PERVIOUS LOCATIONS ONLY.
10	4" X 6" DOWNSPOUT WITH PVC BOOT, AT IMPERVIOUS LOCATIONS ONLY.
11	SOUPPER WITH COLLECTION BOX AND DOWNSPOUT
12	FACIA & GUTTER
13	CONT. PRE-FINISHED METAL COPING (COLOR TO MATCH ADJACENT MATERIAL)
14	PRE-MANUFACTURED WALL MOUNTED CANOPY
15	CURTAIN WALL WITH 1" INSULATED GLAZING- SEE SHEET A-611 & A-612 FOR MORE INFORMATION
16	METAL WALL LOUVER - SEE MECHANICAL FOR SIZING. COLOR TO BE SELECTED FROM MANUF FULL LINE OF COLORS.
17	EXTERIOR WALL LIGHT FIXTURE - SEE ELECTRICAL
18	SUN SCREEN, ATTACHED TO CURTAINWALL
19	14" HEIGHT ALUMINUM SIGNAGE LETTERS
20	CAST STONE CAP
21	COMPOSITE METAL PANEL CMP-2
22	SMOOTH FACE BLOCK BAND, T.O. BAND 2'-8" AFF. PROVIDE CHAMFERED CMU AT MP, CMP & WINDOWS.

EXTERIOR ELEVATION MATERIALS LEGEND		
MANUF	COLOR	
ALL COLORS LISTED ARE BASIS OF DESIGN FOR COLOR SELECTIONS AND MUST BE REVIEWED BY ARCHITECT FOR FINAL APPROVAL.		
CMP-1	PAC CLAD	CADET GREY
CMP-2	PAC CLAD	PURE WHITE
CMP-3	PAC CLAD	SLATE GREY
MP-1	PAC CLAD	SLATE GREY
MP-2	PAC CLAD	SLATE GREY
BRK-1	PALMETTO BRICK	PEWTER
SFB-1	OLD CASTLE/ECHOLON	4106



1 CLASSROOM WING 500-600 NORTH-LEFT
A-205 SCALE: 1/8" = 1'-0"

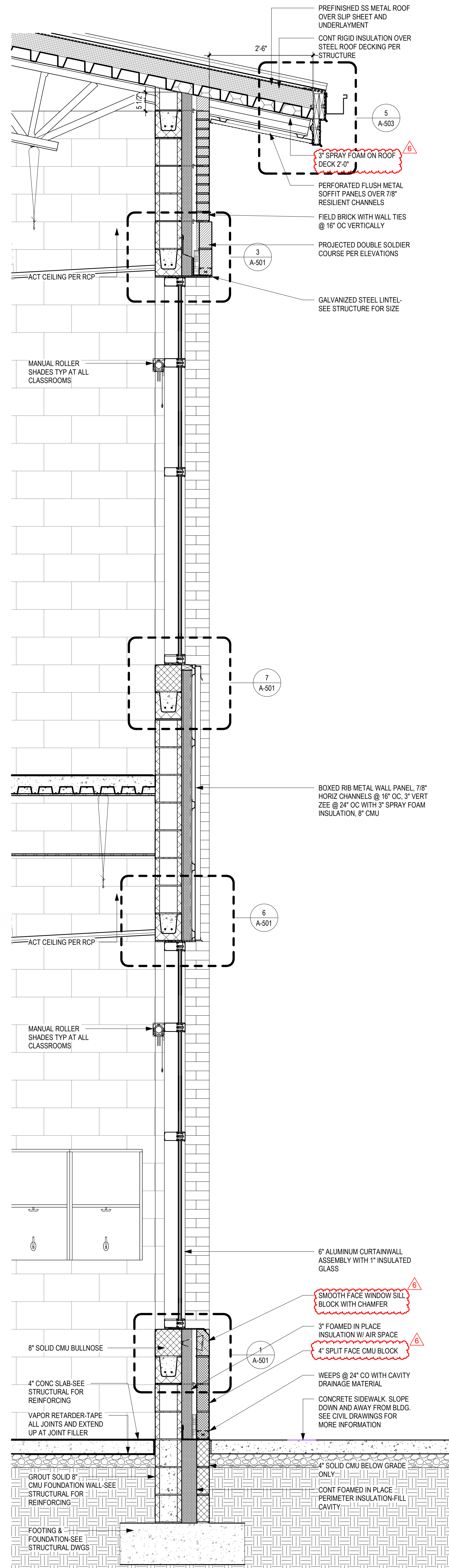
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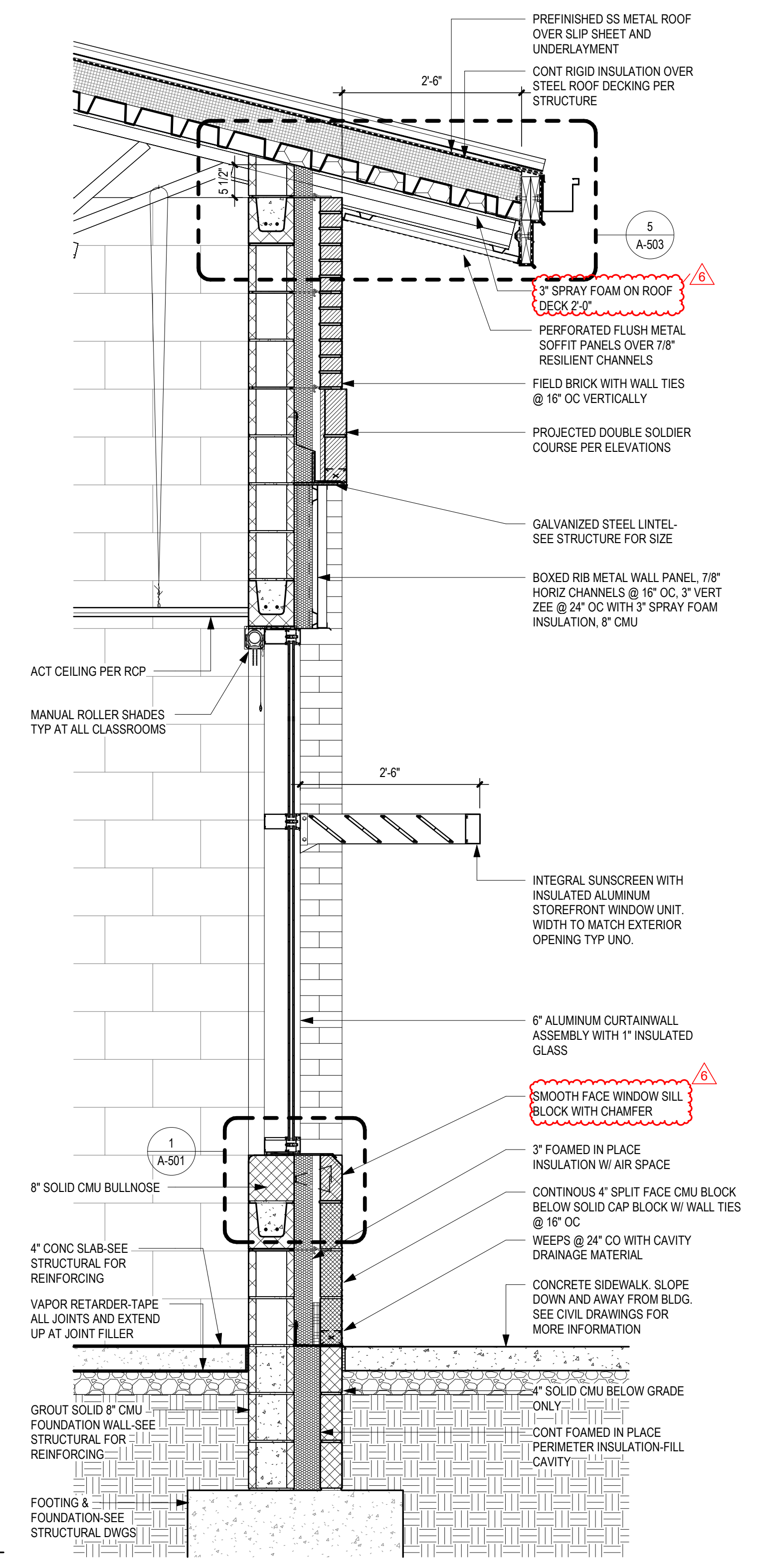
No.	Date	Description
5	01-30-25	ADDENDUM 1
6	02-05-25	ADDENDUM 2

ISSUE DATE: 01-09-25
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EXT. BUILDING
ELEVATIONS



2 TYP 500 / 600 WALL SECTION (NORTH)
A-311 SCALE: 3/4" = 1'-0"



1 TYP 400 WING WALL SECTION (SOUTH)
A-311 SCALE: 3/4" = 1'-0"

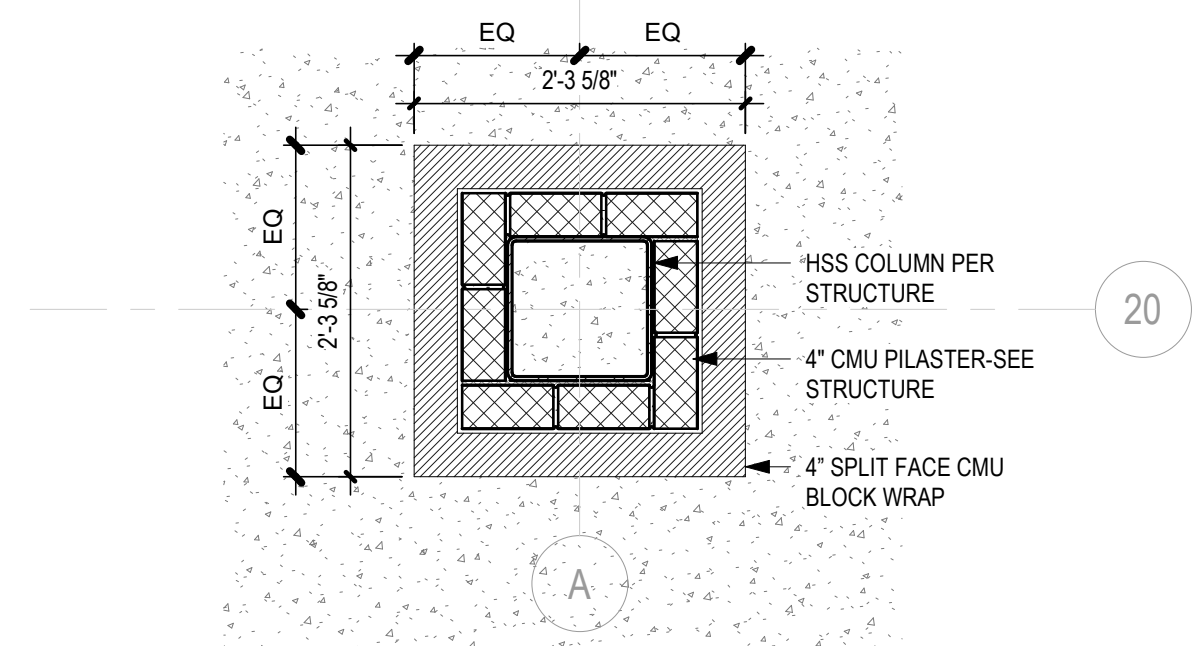
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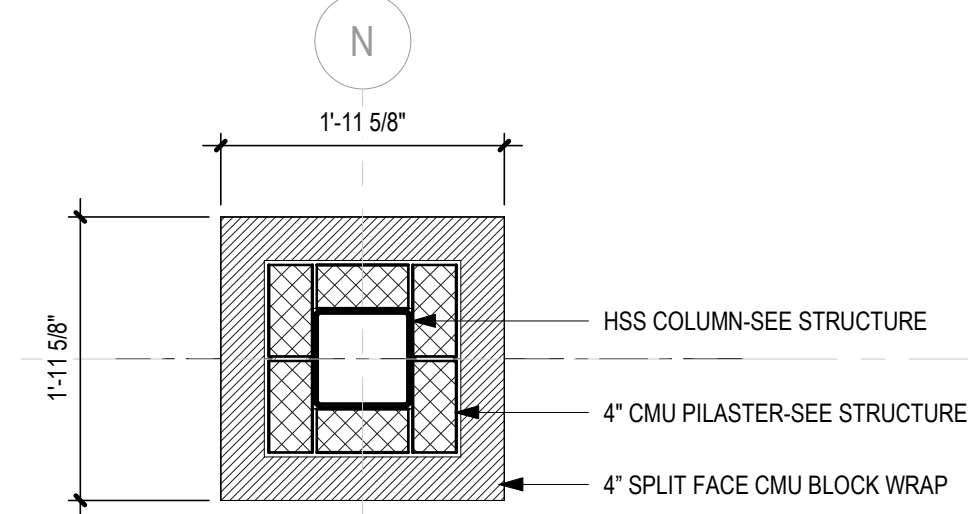
No.	Date	Description
6	02-05-25	ADDENDUM 2

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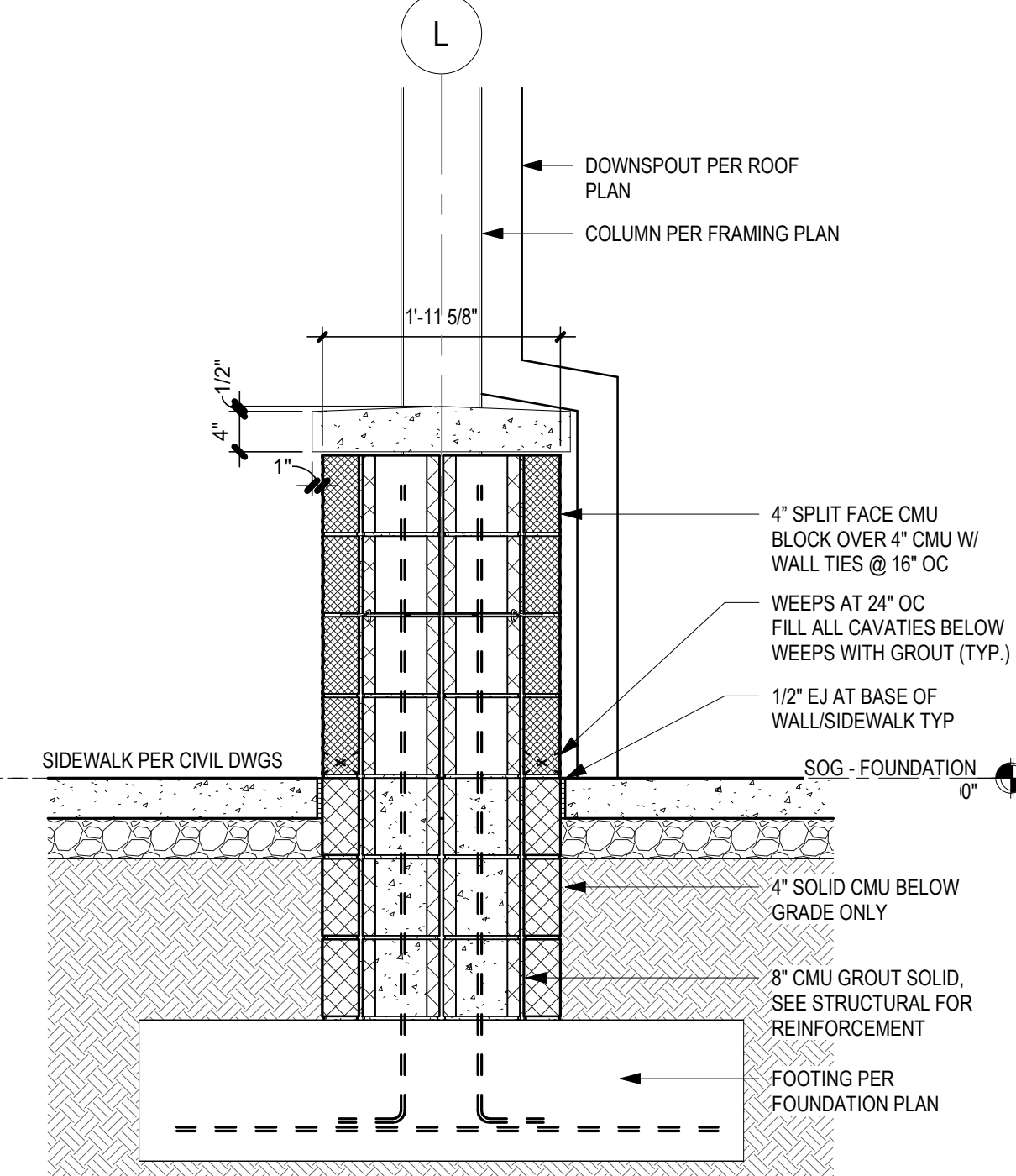
WALL SECTIONS



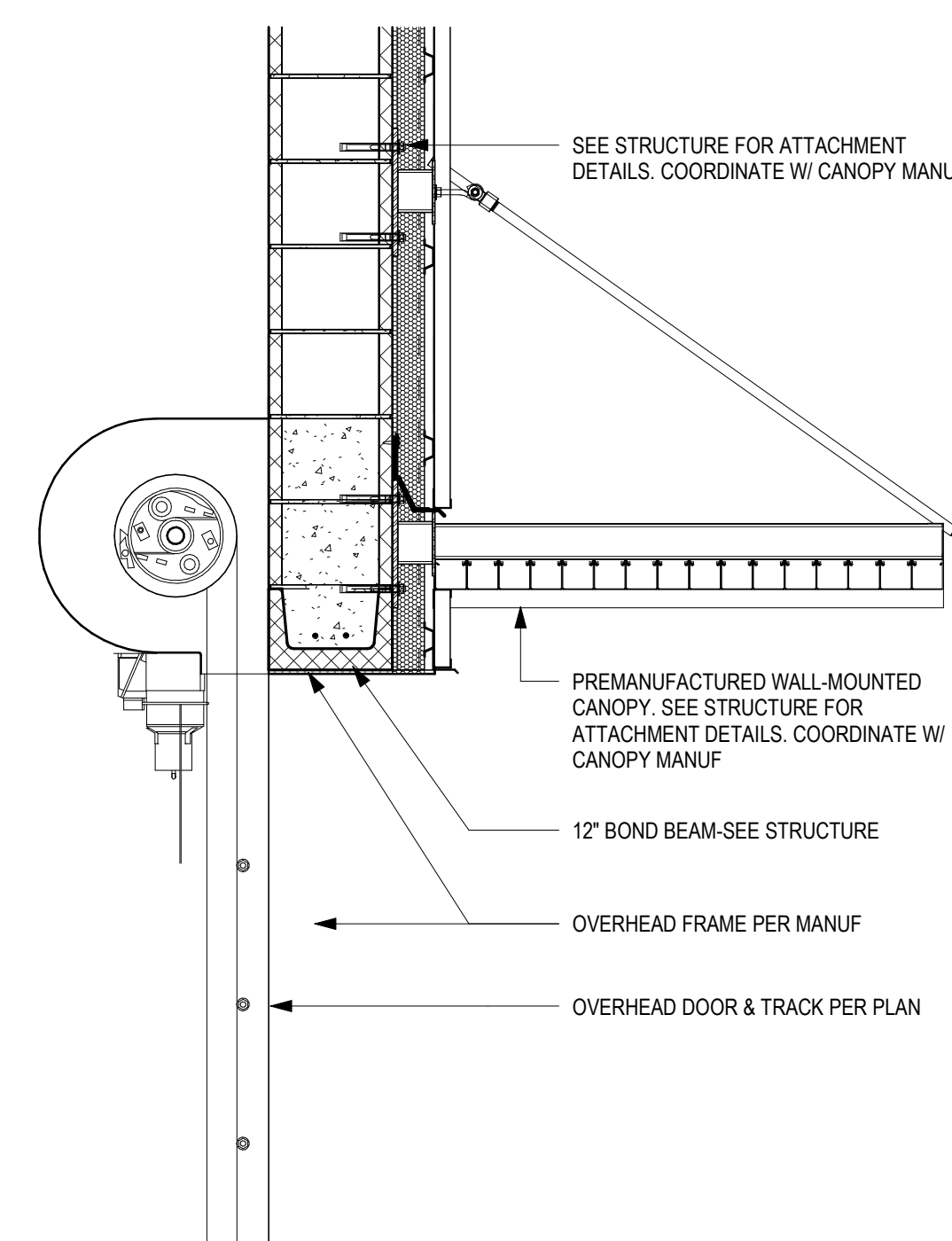
8 ENLARGED COLUMN PLAN DETAIL-AREA 200 ENTRY AND MEDIA
SCALE: 3/4" = 1'-0"



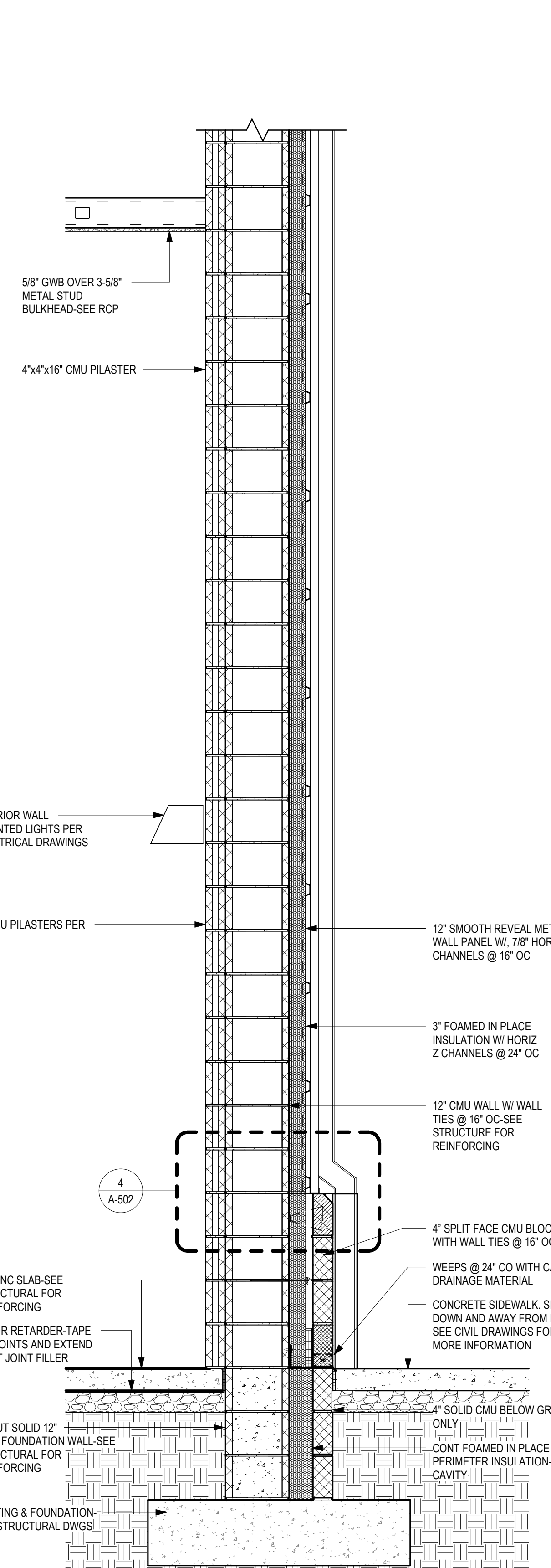
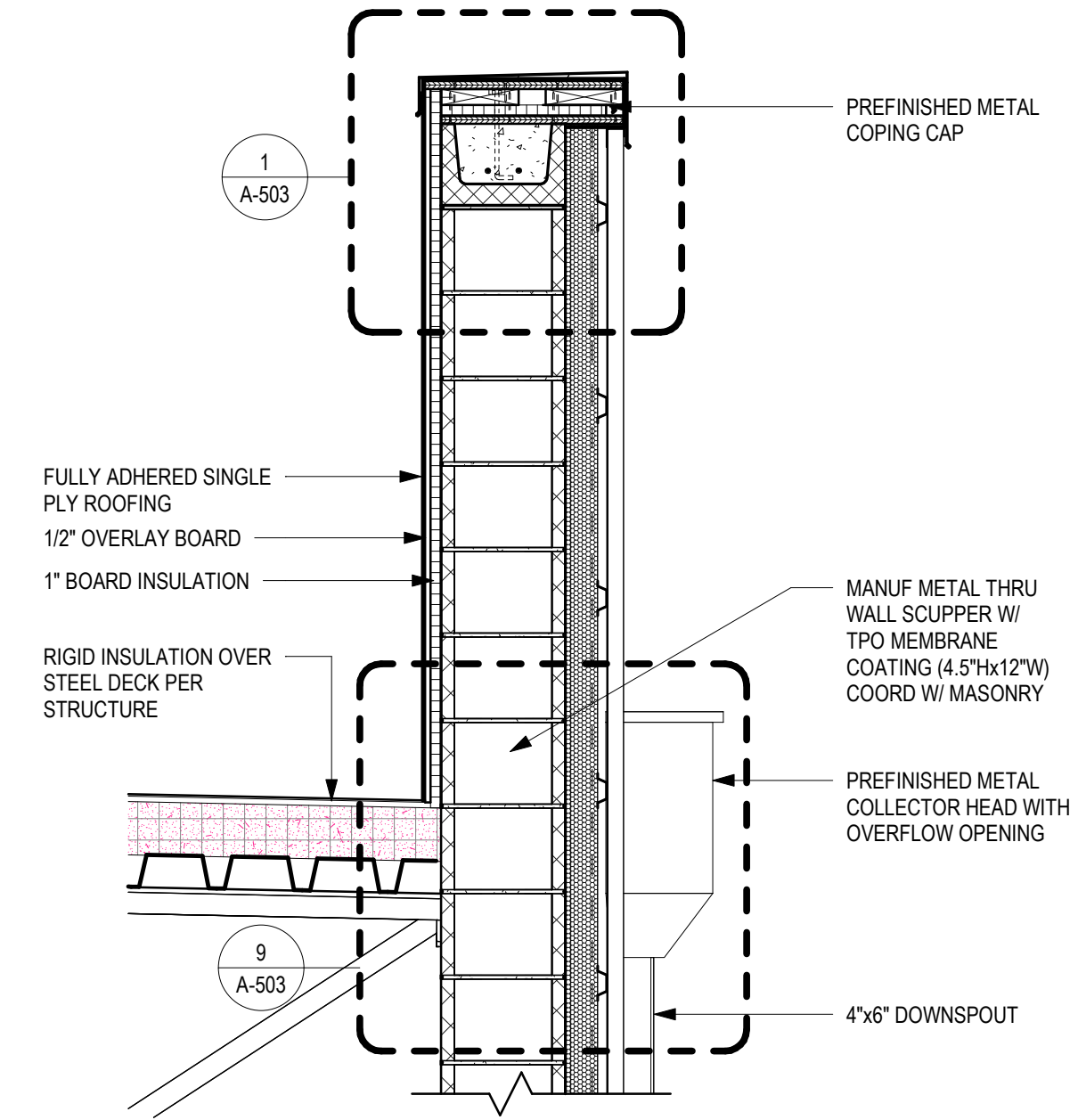
7 ENLARGED 300 COLUMN BASE PLAN
SCALE: 3/4" = 1'-0"



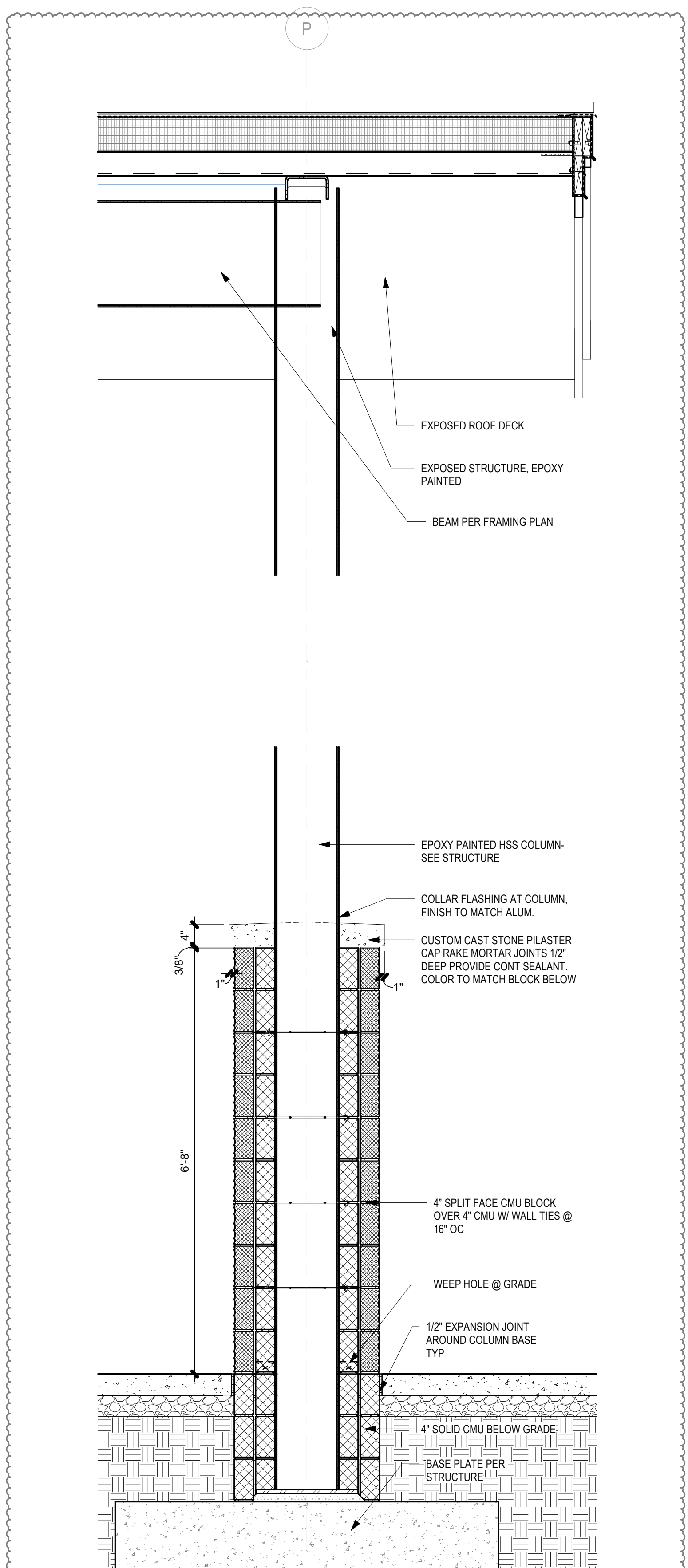
5 ART CLASSROOM EXT PORCH WALL (AREA 100)
SCALE: 3/4" = 1'-0"



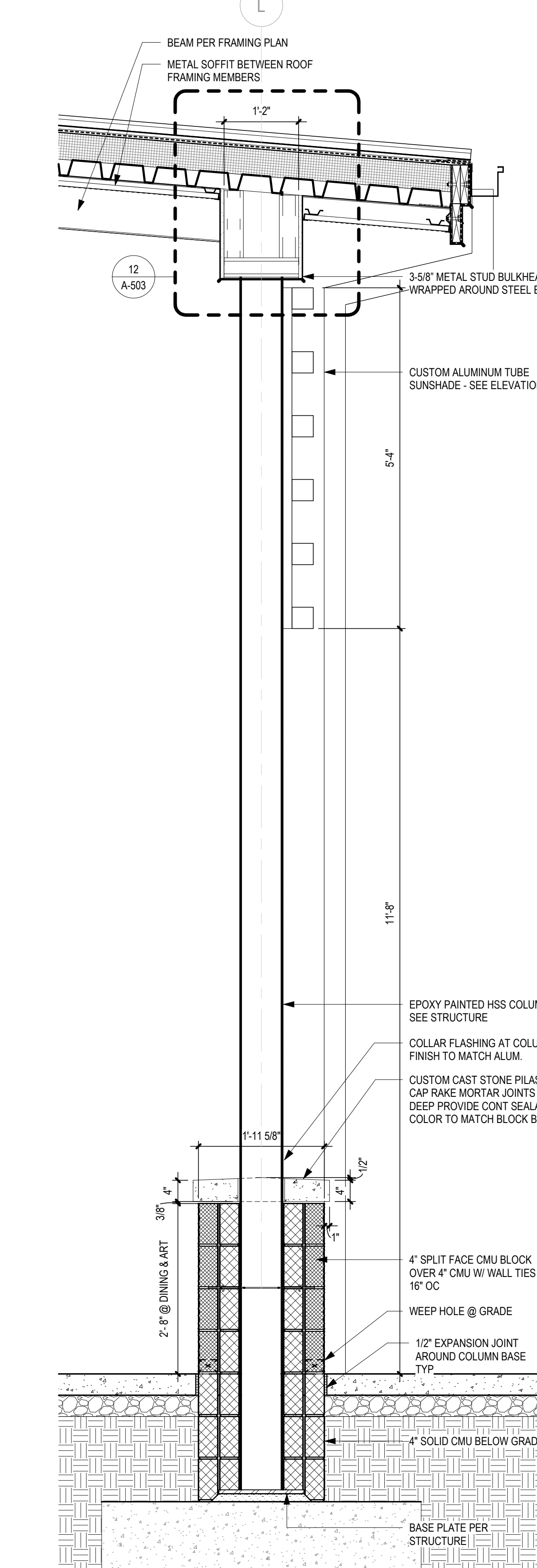
3 100 STAGE CANOPY/OH DOOR SECTION
SCALE: 3/4" = 1'-0"



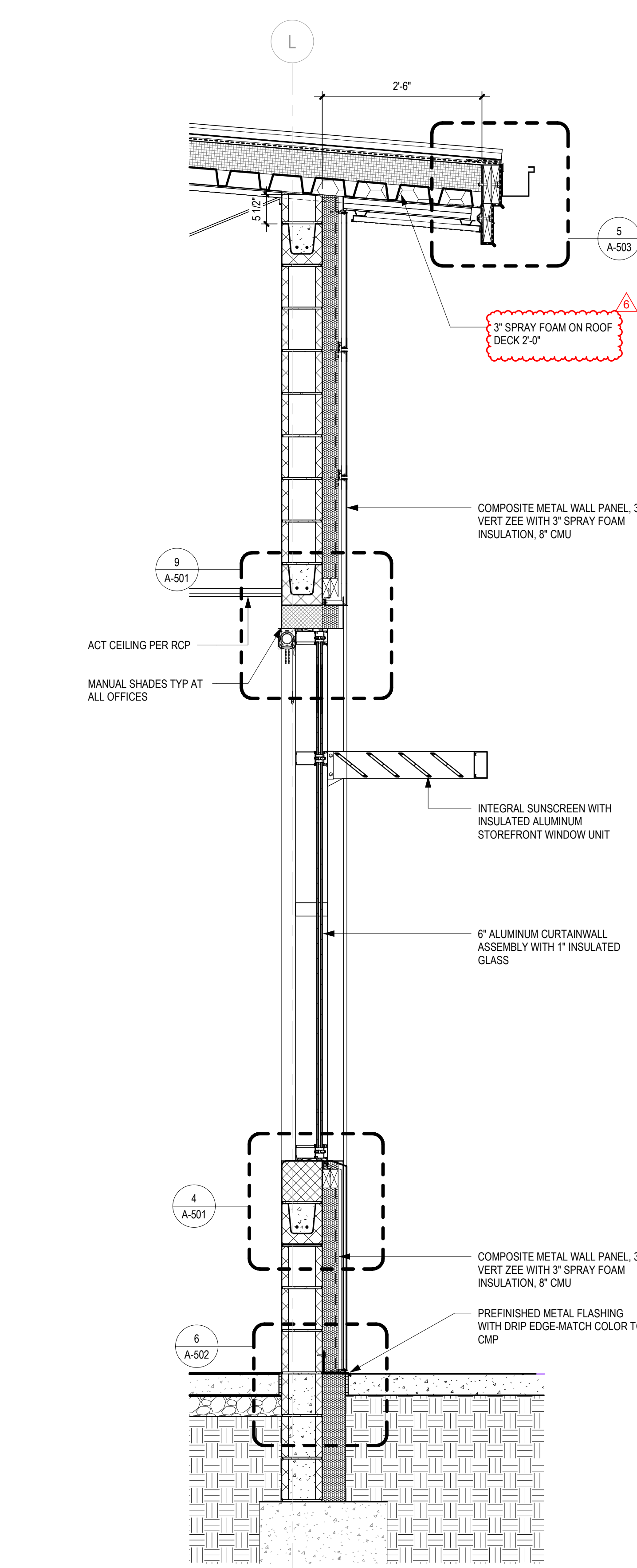
1 100 AUDITORIUM / GYMNASIUM WALL SECTION
SCALE: 3/4" = 1'-0"



6 MAIN ENTRANCE & MEDIA COLUMN BASE
SCALE: 3/4" = 1'-0"



4 100 & 300 WING COLUMN BASE SECTION
SCALE: 3/4" = 1'-0"



2 200 WING WALL SECTION
SCALE: 3/4" = 1'-0"

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CONSTRUCTION DOCUMENTS

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3544 US 401 S, LILLINGTON NC 27546

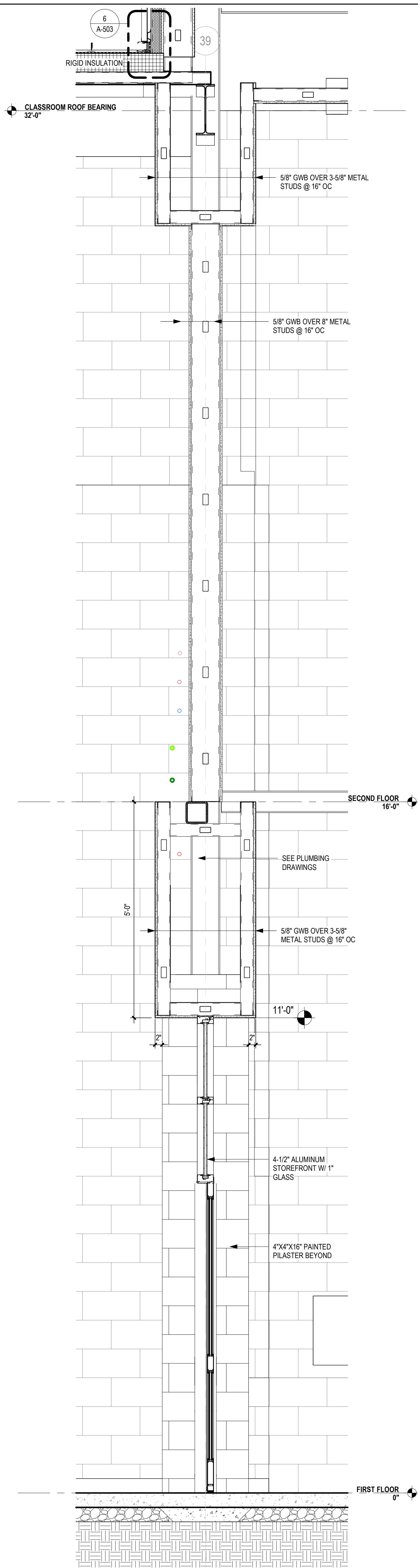


No.	Date	Description
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6	02-05-25	ADDENDUM 2

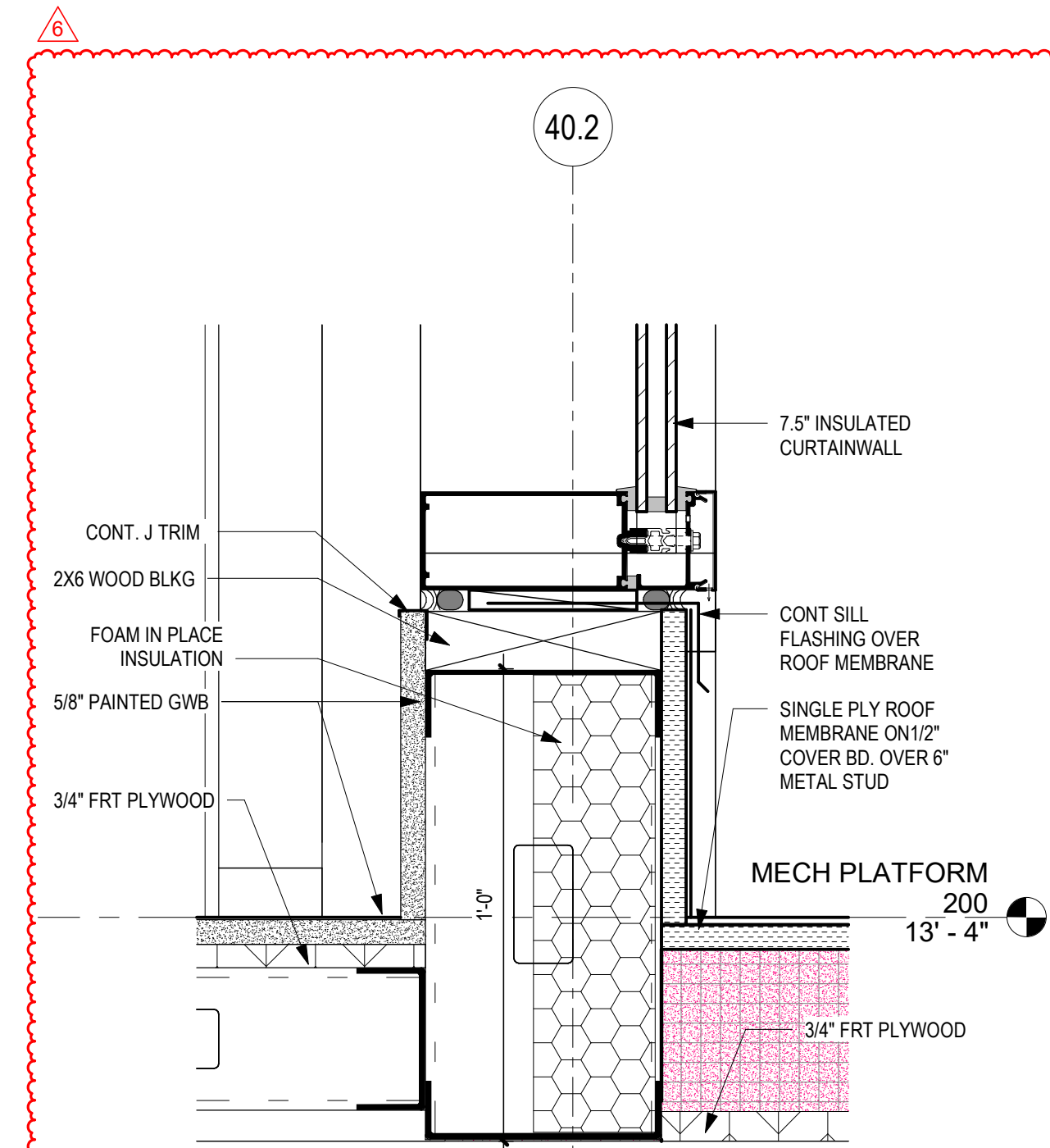
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WALL SECTIONS

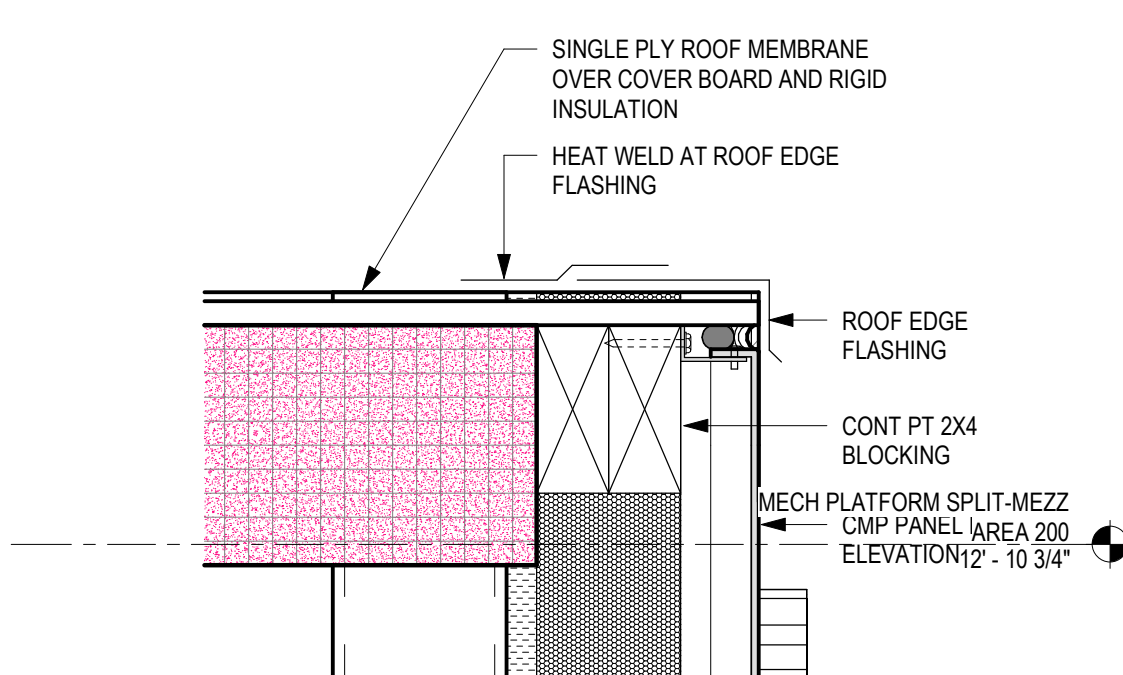
A-312



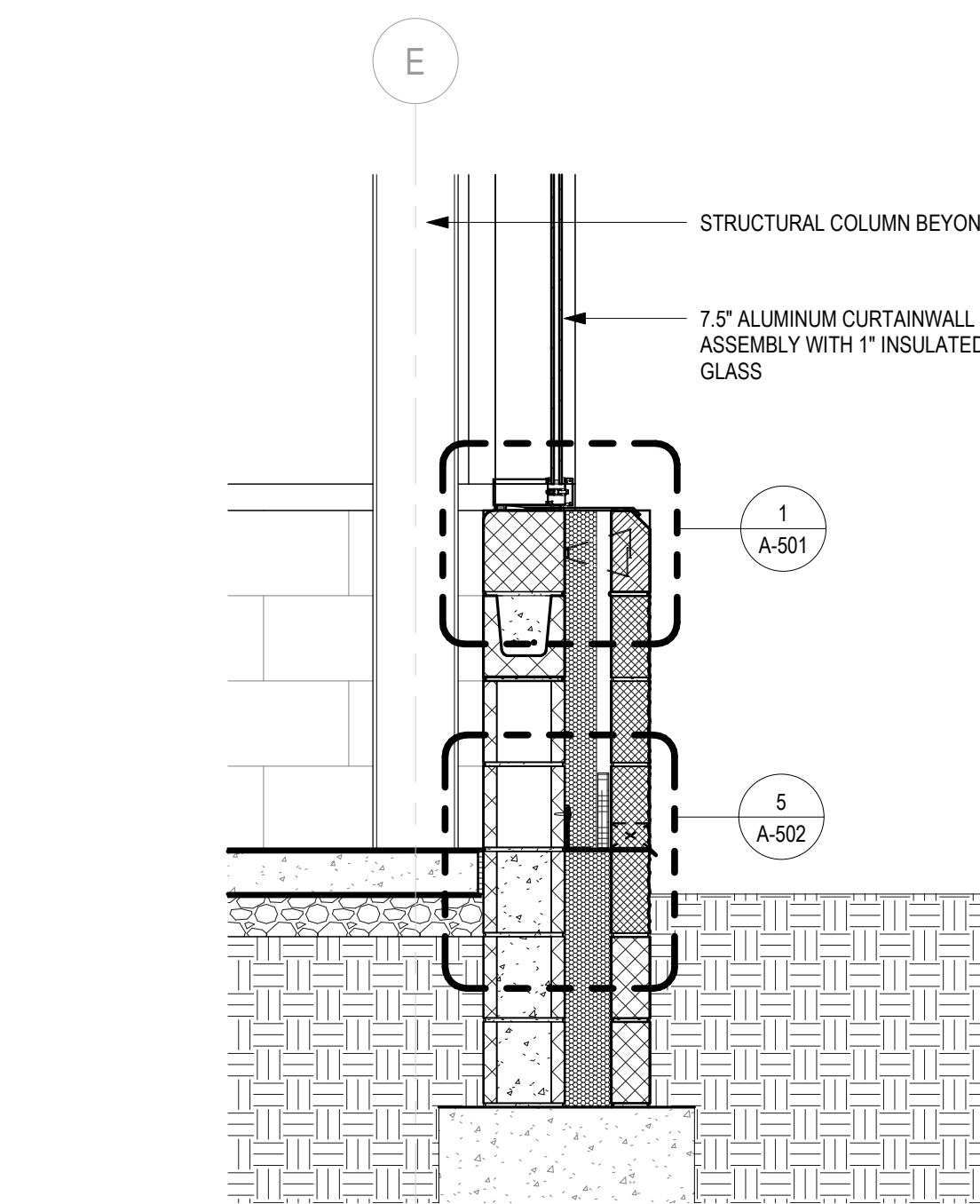
9 CORRIDOR ENTRY INT WALL SECTION
SCALE: 3/4" = 1'-0"



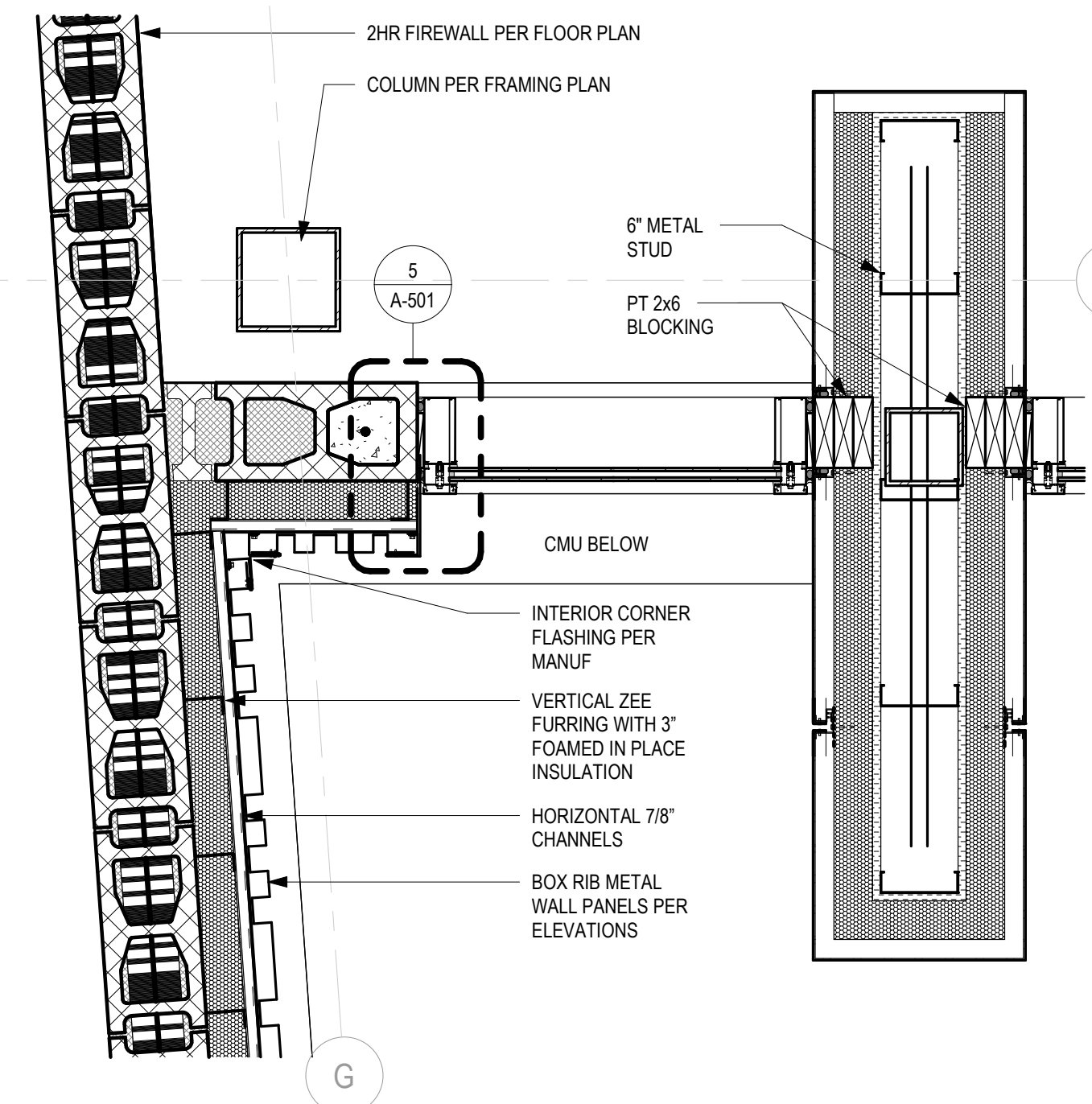
8 ENTRY ROOF/KNEEWALL TRANSITION
SCALE: 3" = 1'-0"



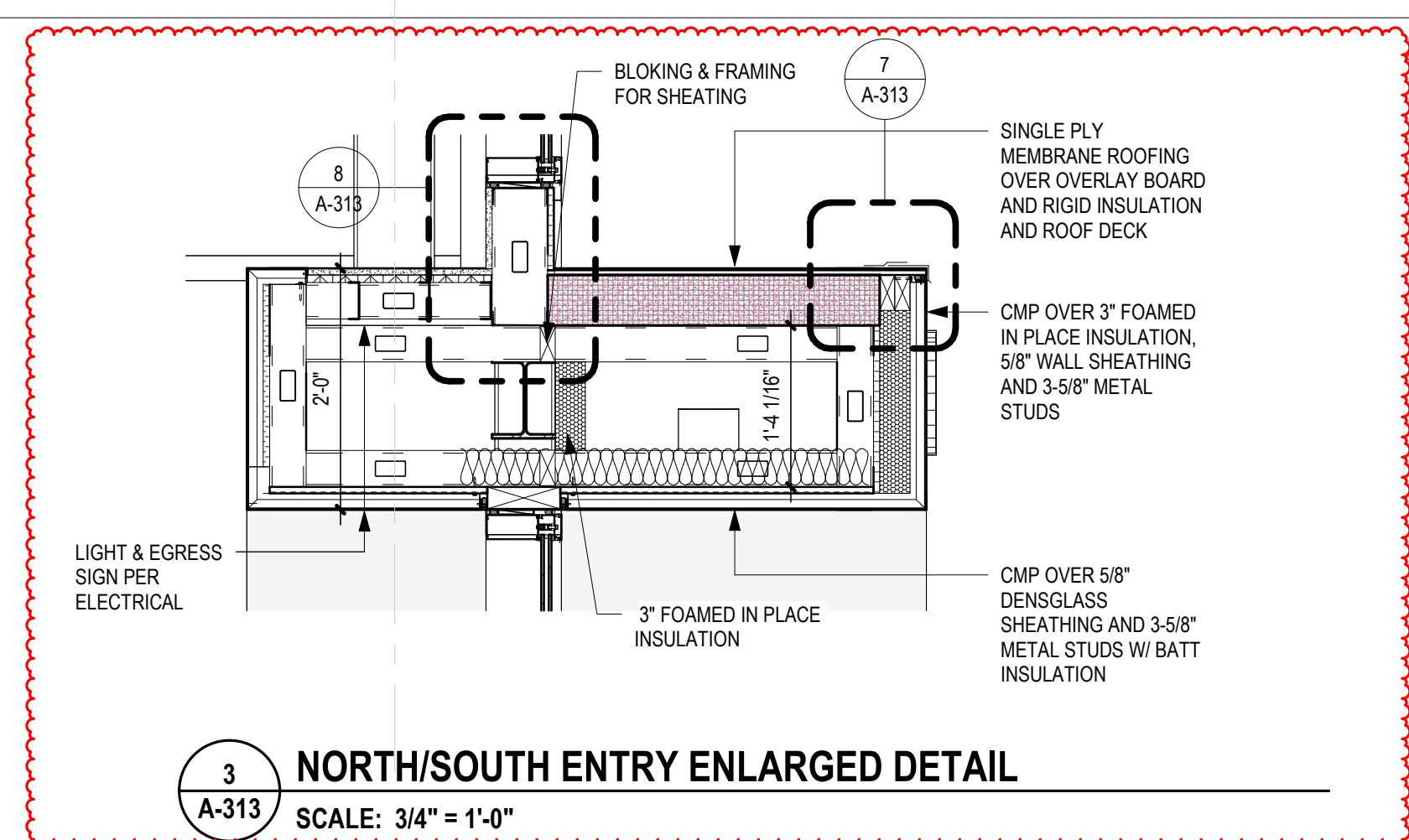
7 TPO/CMP ROOF TRANSITION
SCALE: 3" = 1'-0"



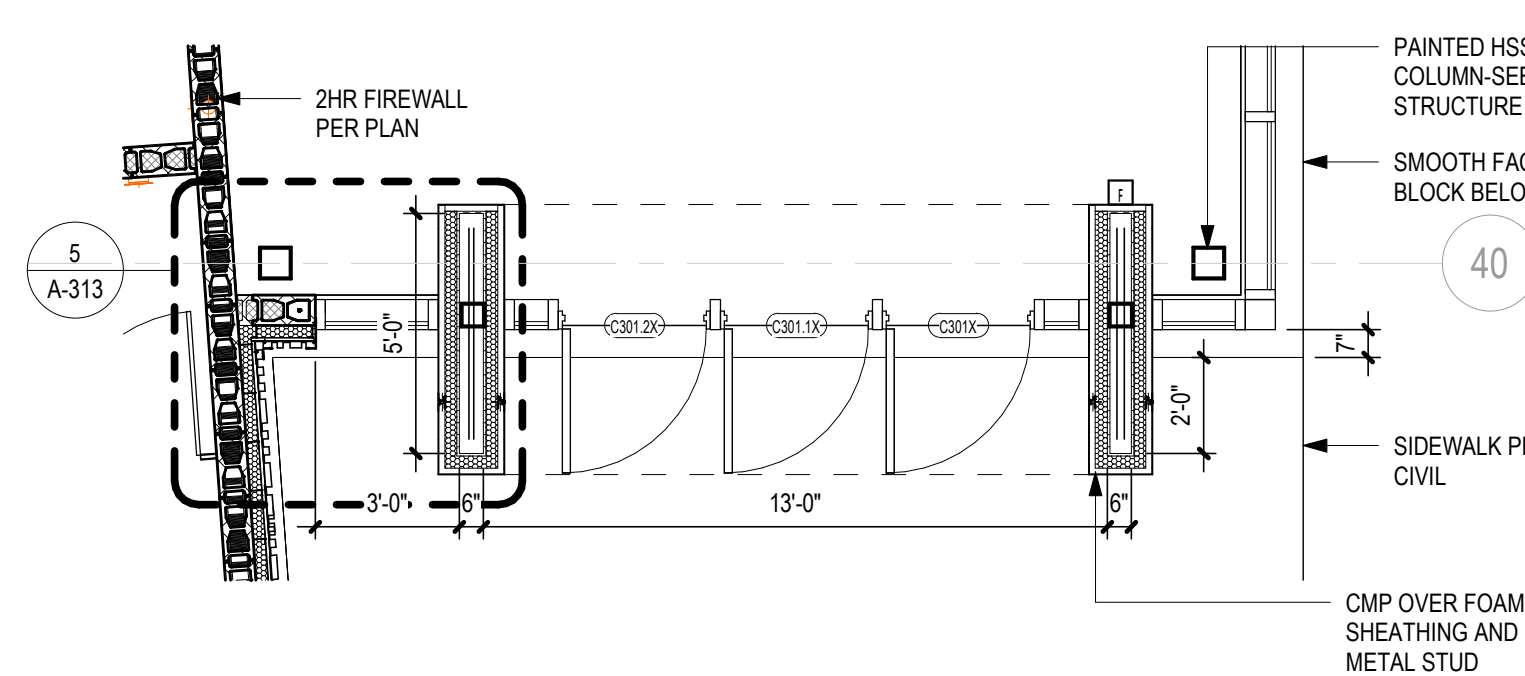
6 WALL BASE SECTION AT CURTAINWALL
SCALE: 3/4" = 1'-0"



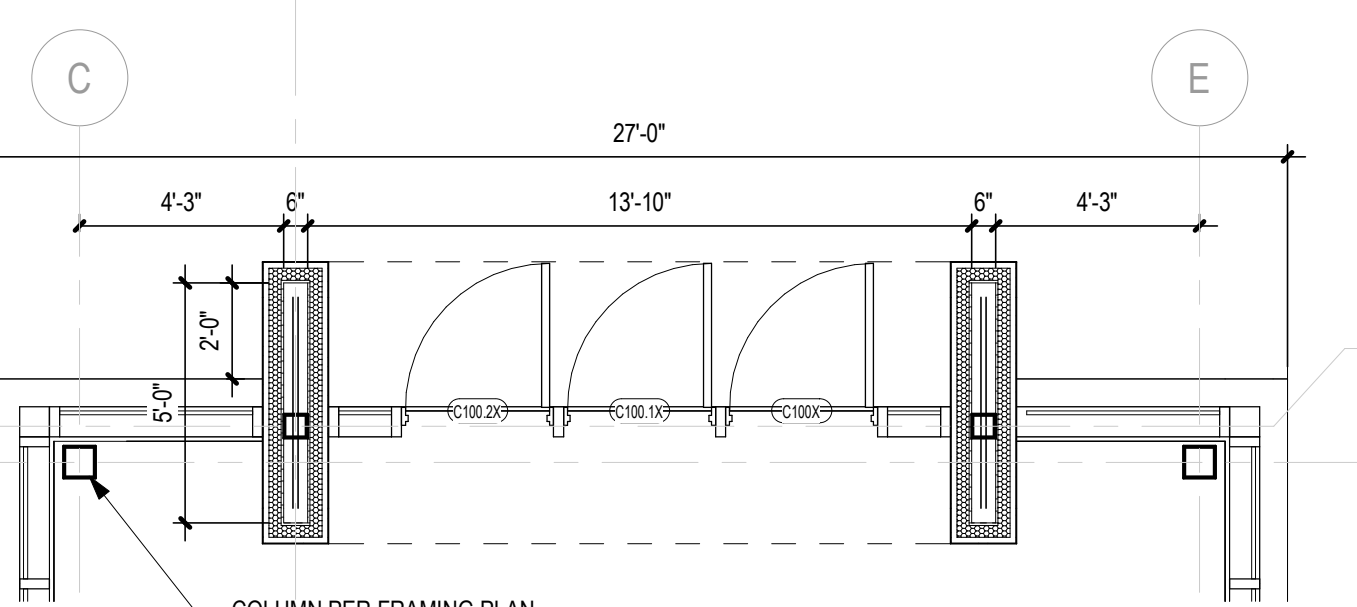
5 PLAN DETAIL AT GYM ENTRY
SCALE: 1/4" = 1'-0"



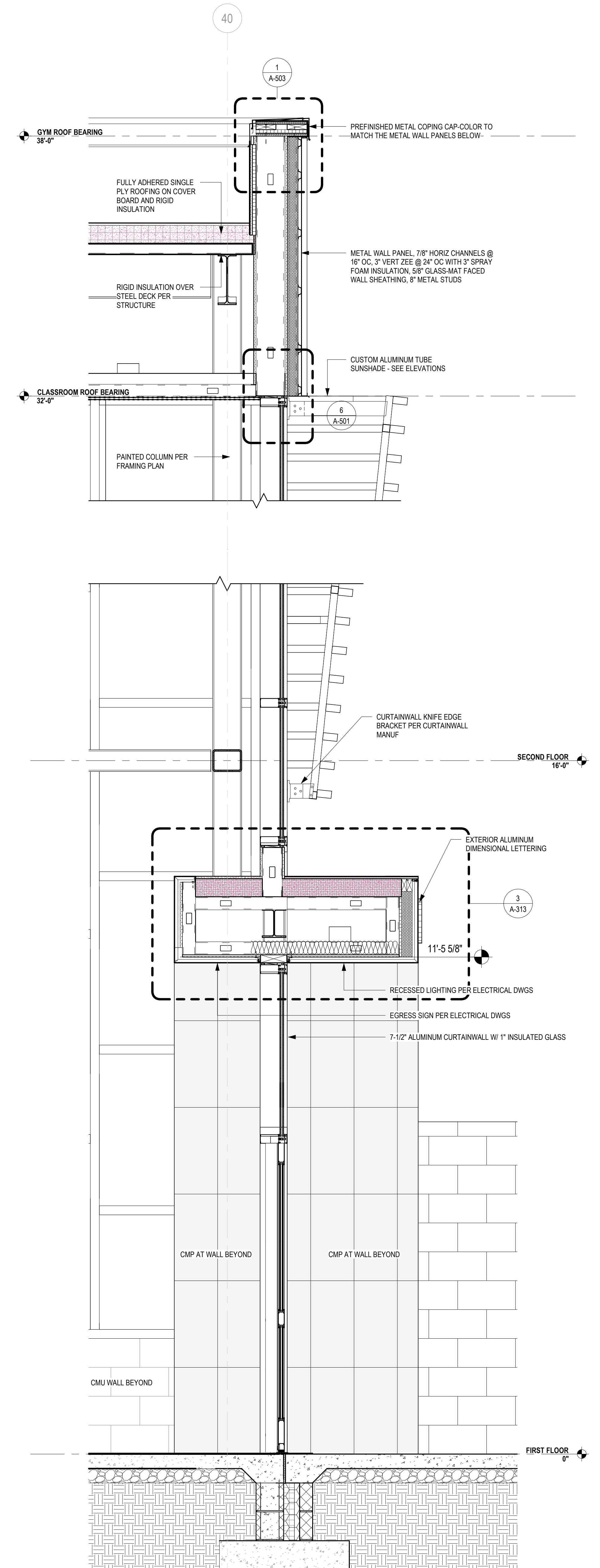
3 NORTH/SOUTH ENTRY ENLARGED DETAIL
SCALE: 3/4" = 1'-0"



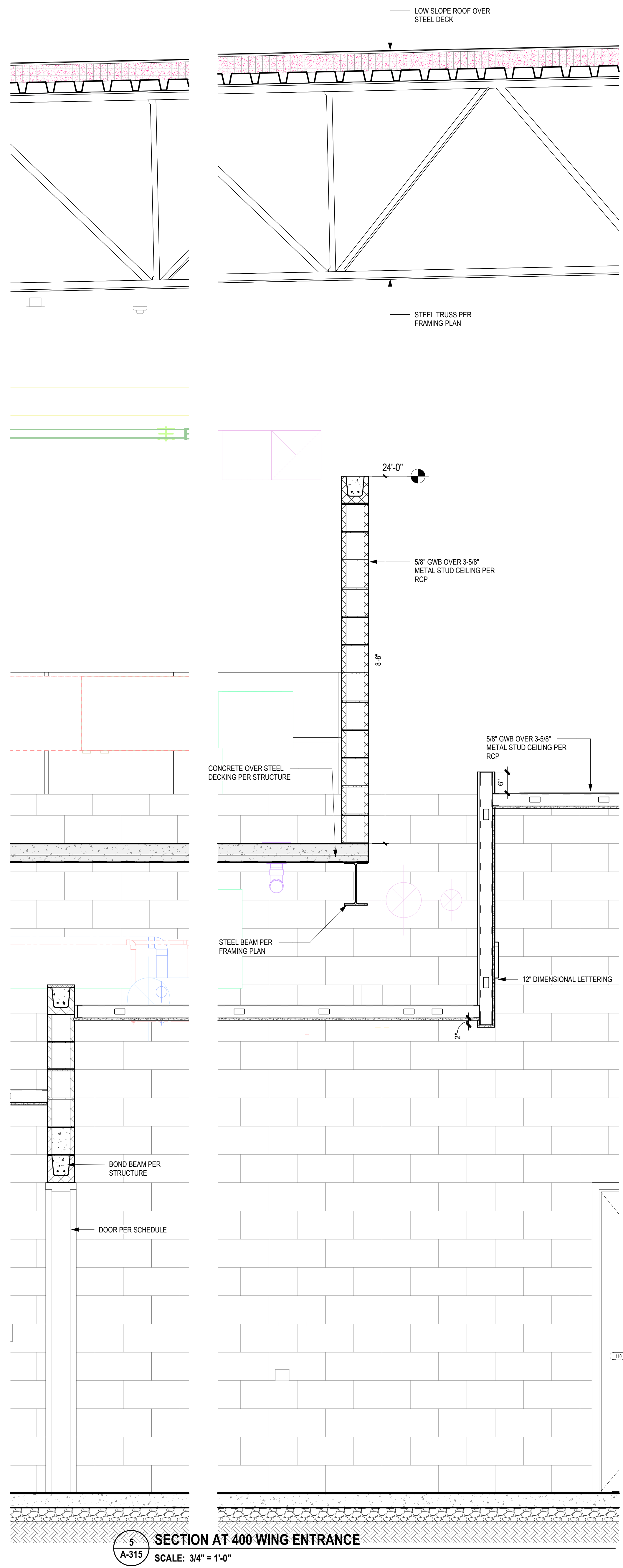
4 SOUTH GYMNASIUM ENTRANCE ENLARGED PLAN
SCALE: 1/4" = 1'-0"



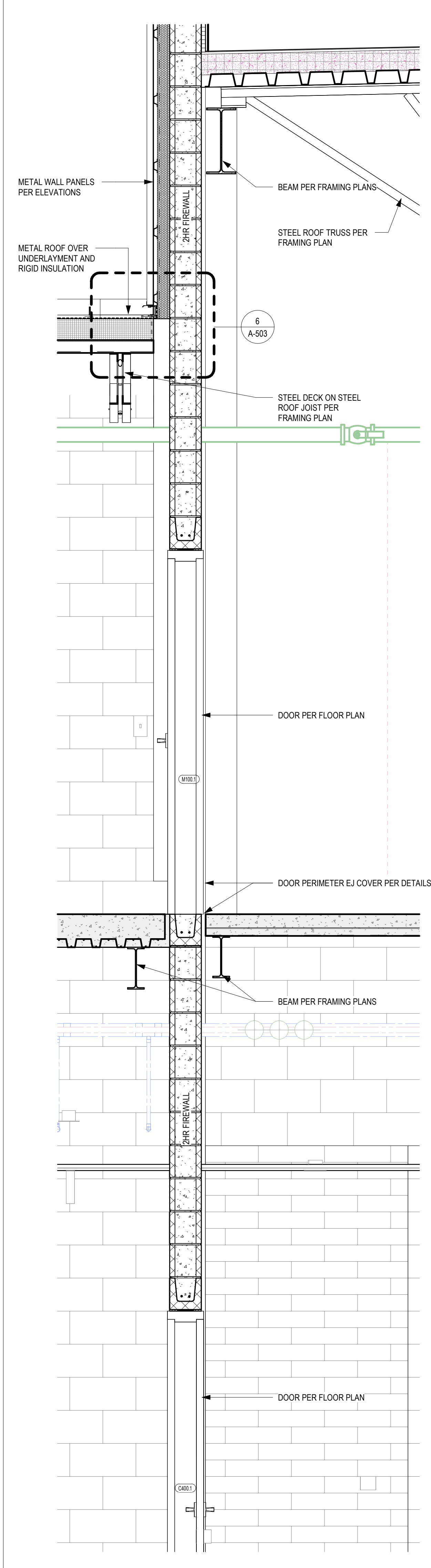
2 NORTH AUDITORIUM ENTRANCE ENLARGED PLAN
SCALE: 1/4" = 1'-0"



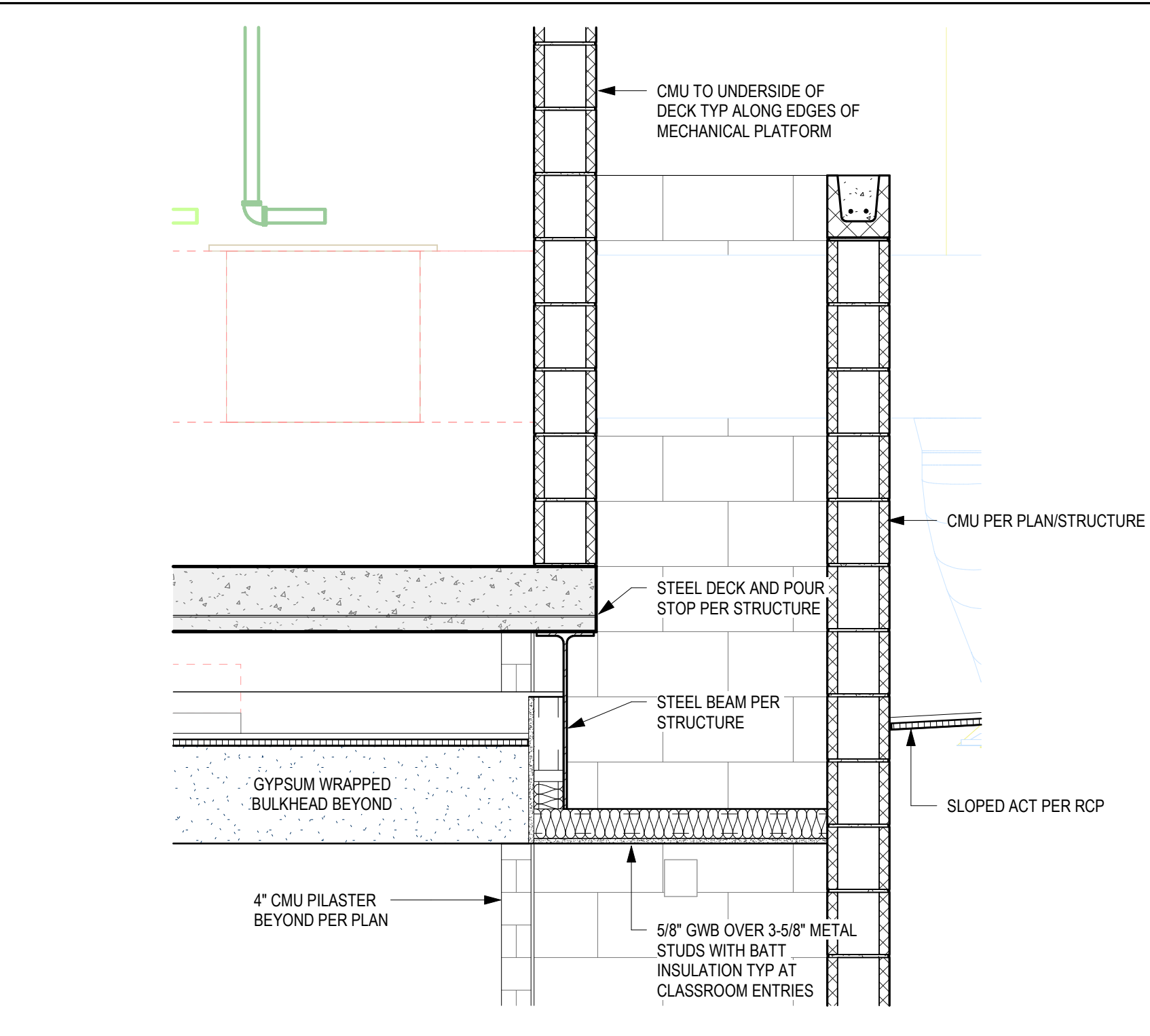
1 AUDITORIUM/GYM ENTRY WALL SECTION
SCALE: 3/4" = 1'-0"



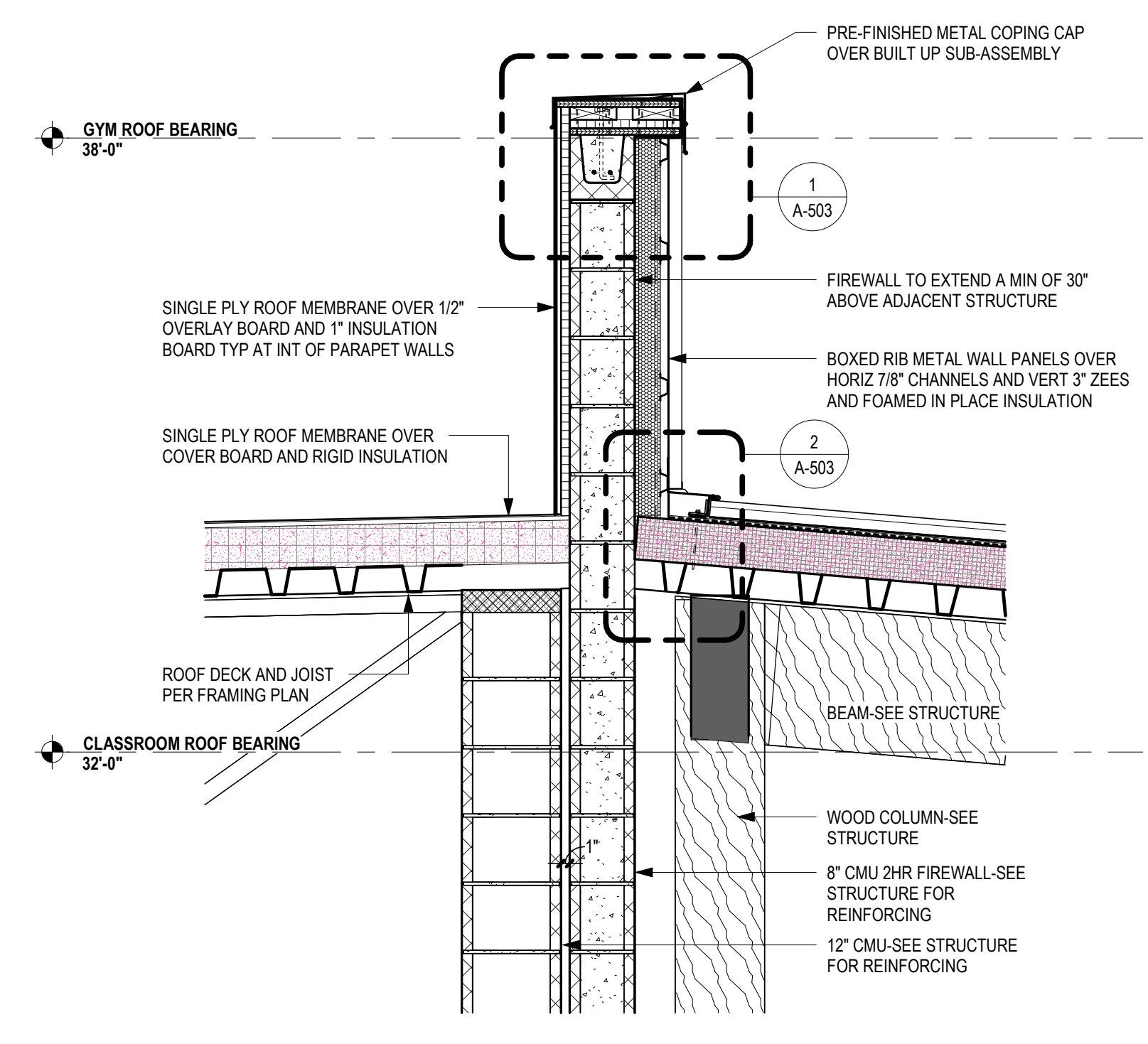
5 SECTION AT 400 WING ENTRANCE
A-315 SCALE: 3/4" = 1'-0"



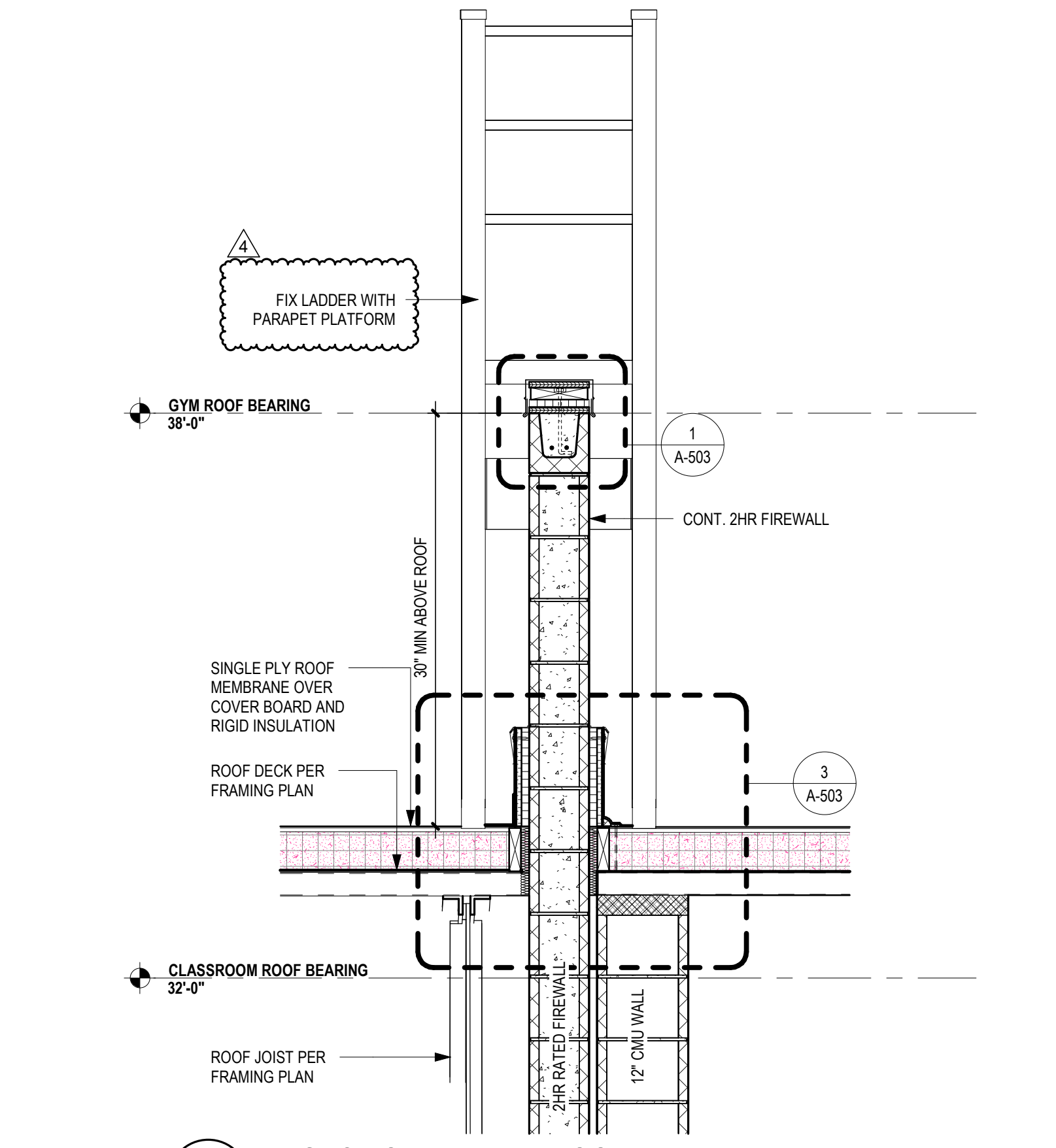
4 SECTION AT 400 WING FIREDOOR
A-315 SCALE: 3/4" = 1'-0"



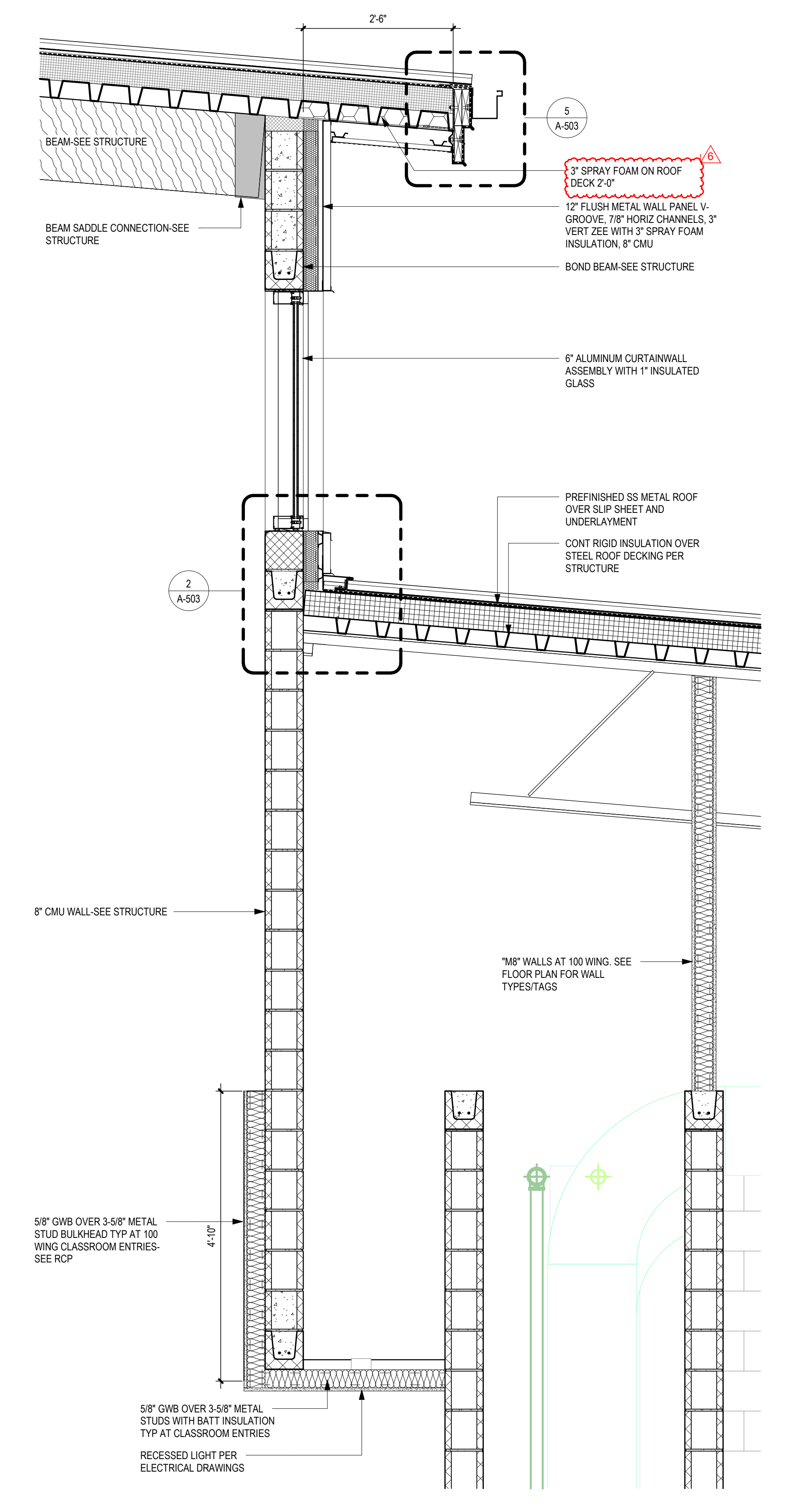
6 400/600 WING CLASSROOM ENTRY MECH SECTION
A-315 SCALE: 3/4" = 1'-0"



2 ROOF SECTION AT CLERESTORY/AUDITORIUM PARAPET
A-315 SCALE: 3/4" = 1'-0"



3 EJ SECTION AT FLAT ROOF
A-315 SCALE: 3/4" = 1'-0"



1 ROOF SECTION AT CLERESTORY-AREA 500
A-315 SCALE: 3/4" = 1'-0"

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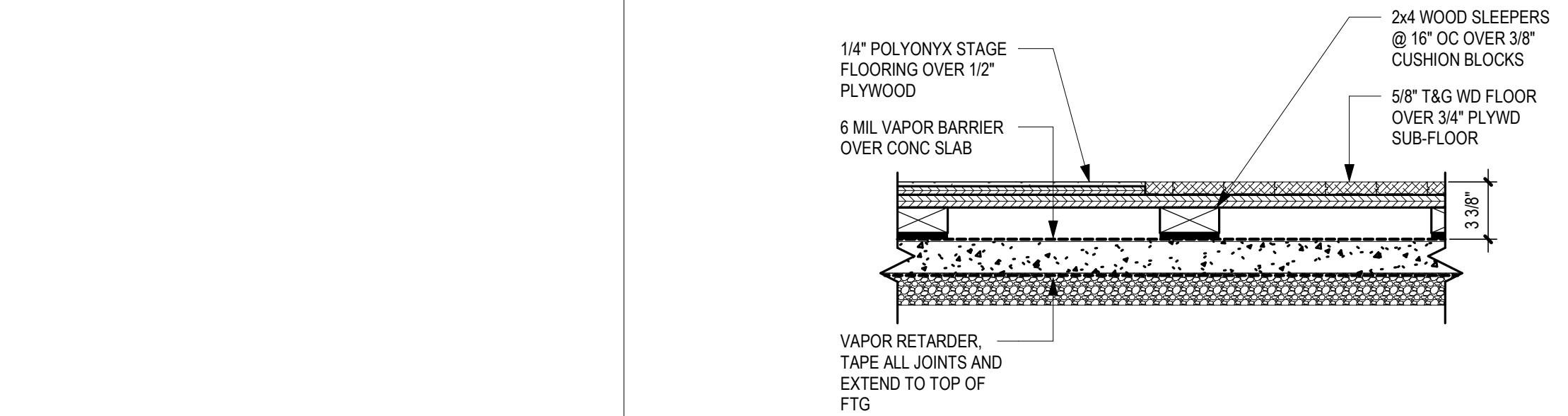


No.	Date	Description
2	12-13-24	CD REVISIONS
4	01-09-25	NC DPI CD
6	02-05-25	ADDENDUM 2

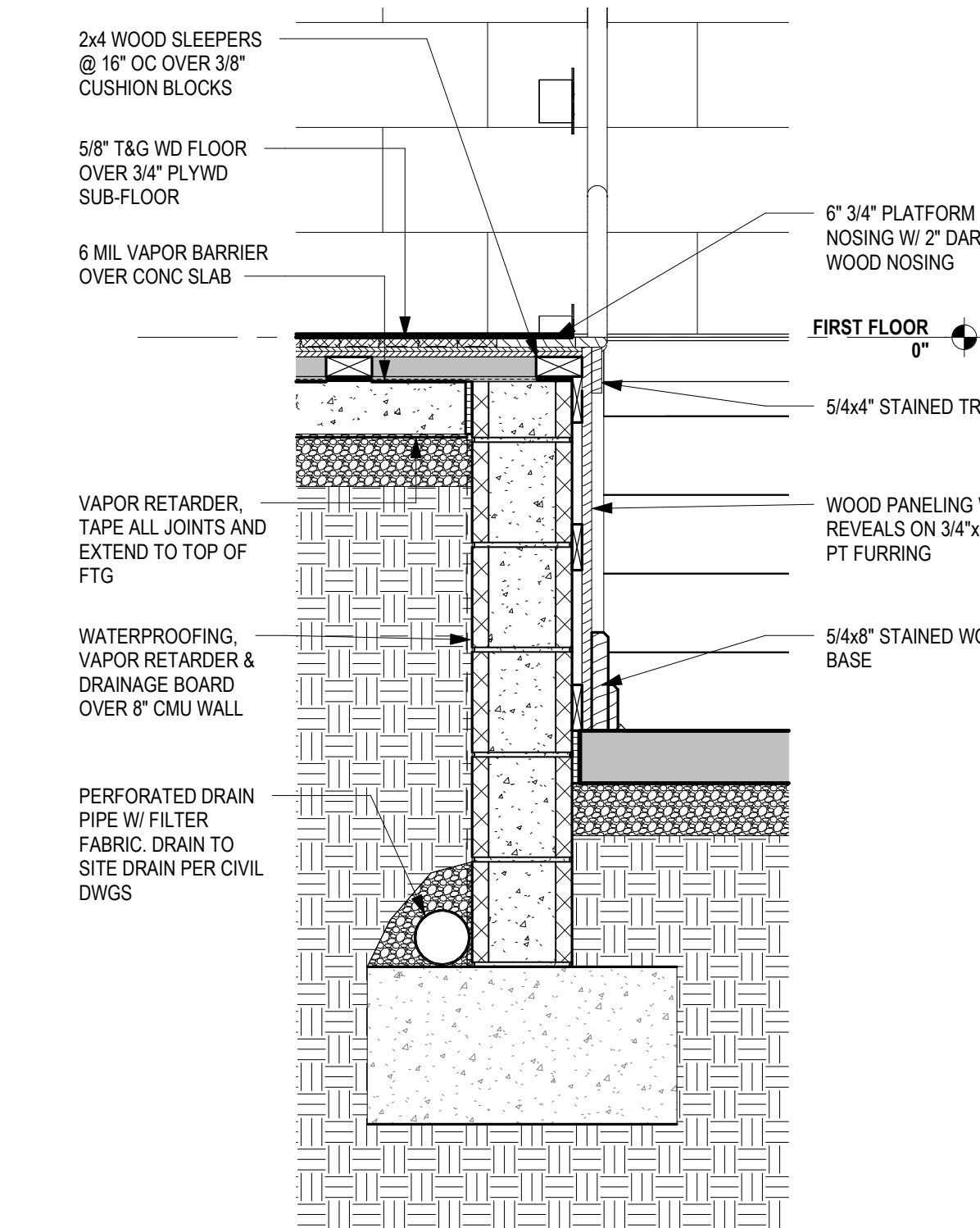
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PROJECT #: 02208.000
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WALL SECTIONS

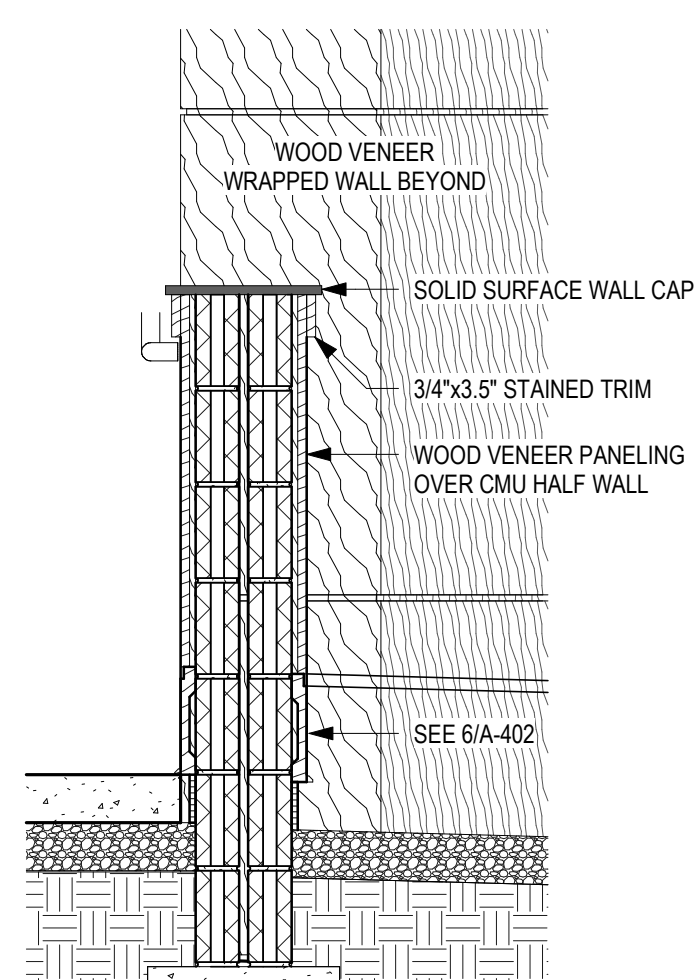
A-315



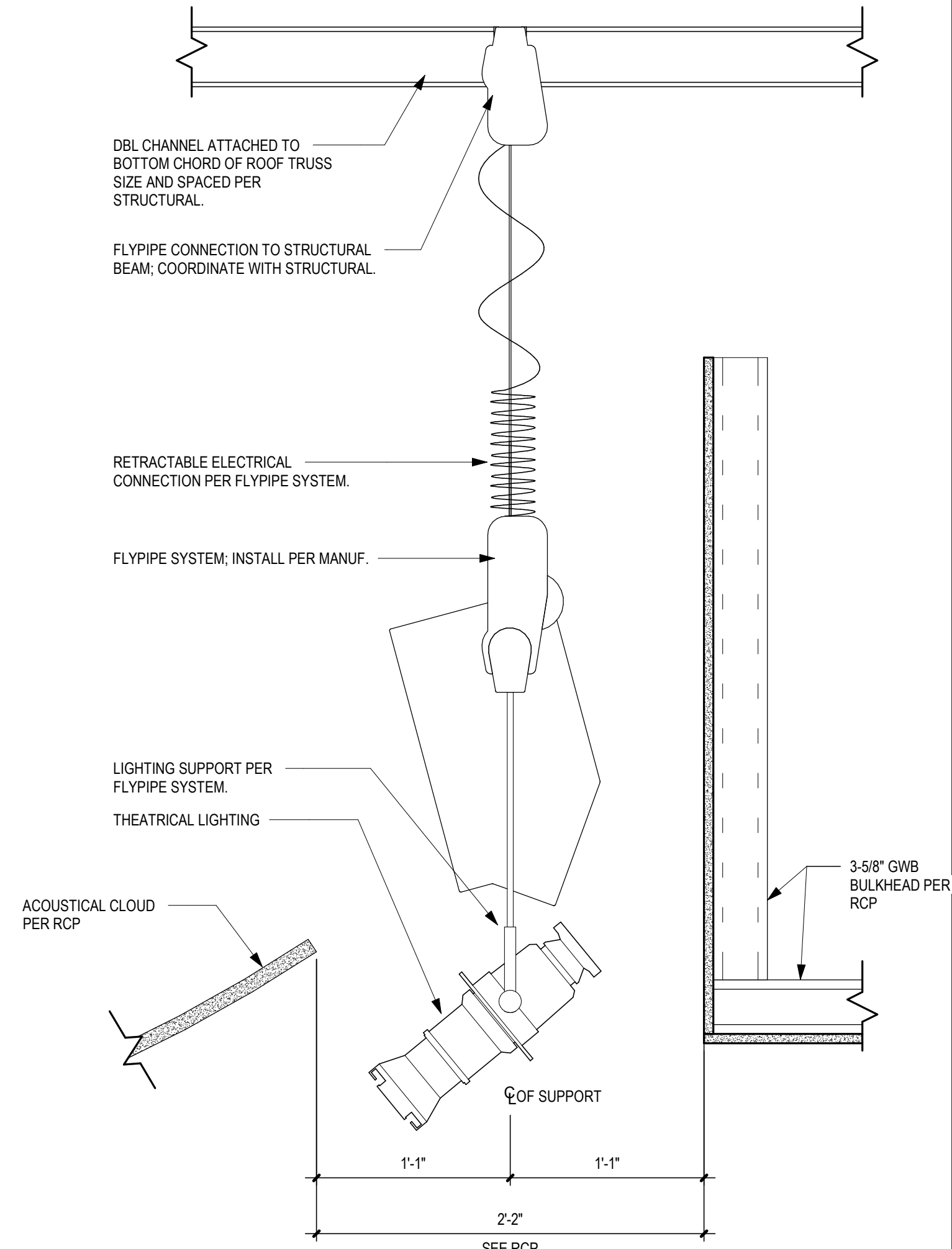
4 STAGE/APRON FLOORING TRANSITION DETAIL
SCALE: 1 1/2" = 1'-0"



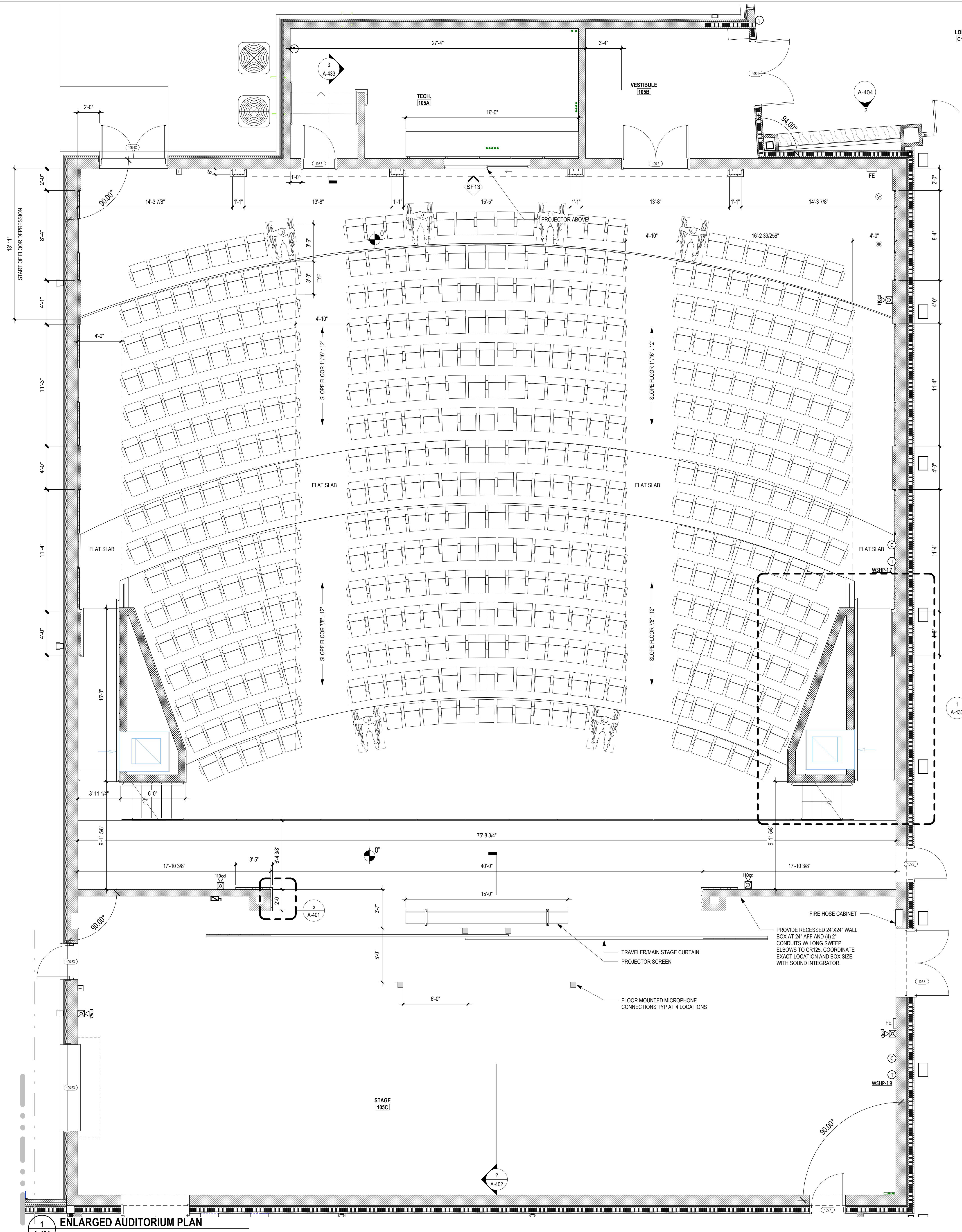
3 STAGE APRON ENLARGED DETAIL
SCALE: 1" = 1'-0"



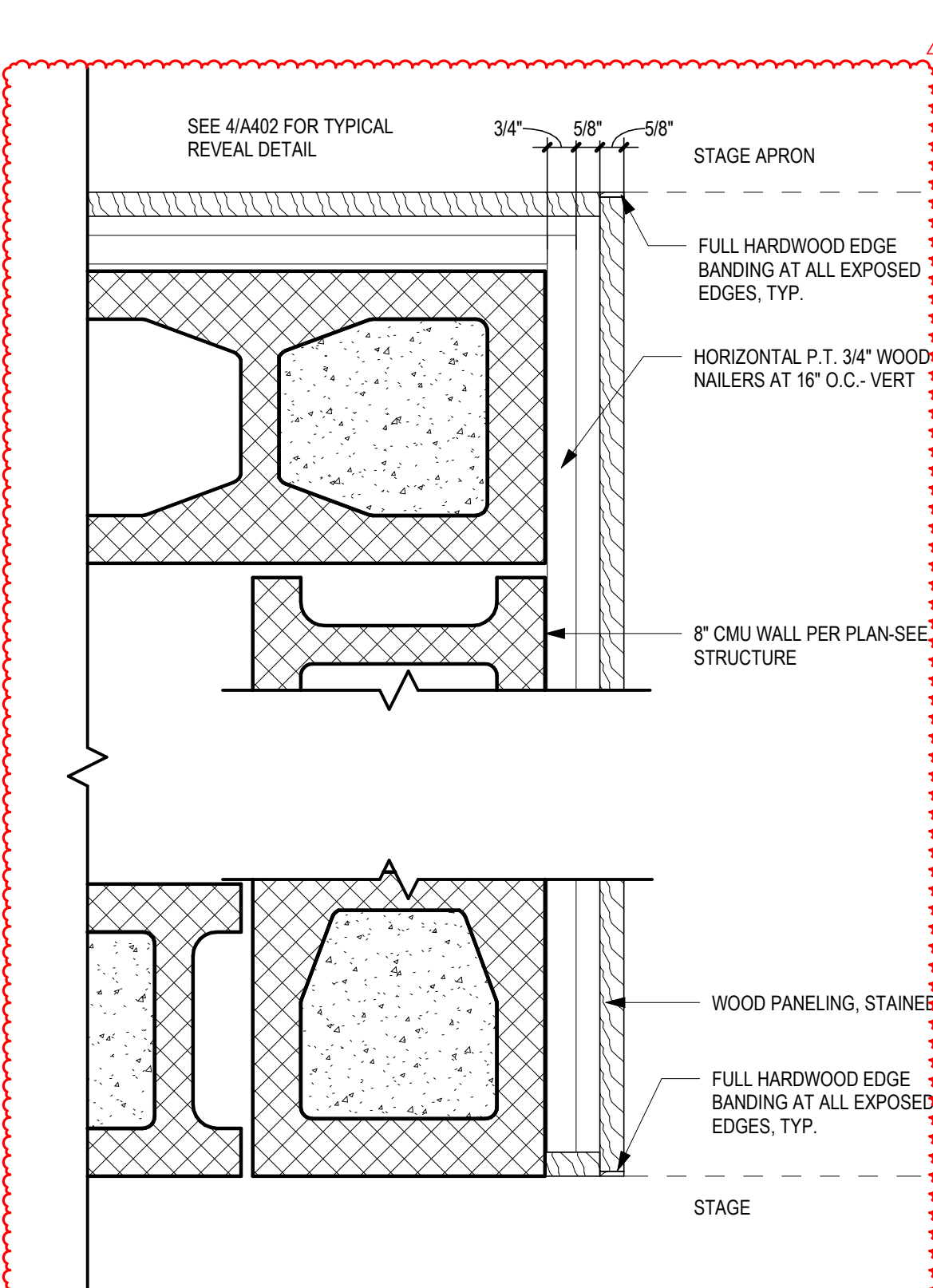
6 AUDITORIUM RAMP HALF WALL SECTION
SCALE: 3/4" = 1'-0"



2 FRONT OF HOUSE LIGHTING DETAIL
SCALE: 1 1/2" = 1'-0"



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



5 AUD PROSCENIUM JAMB
SCALE: 3" = 1'-0"

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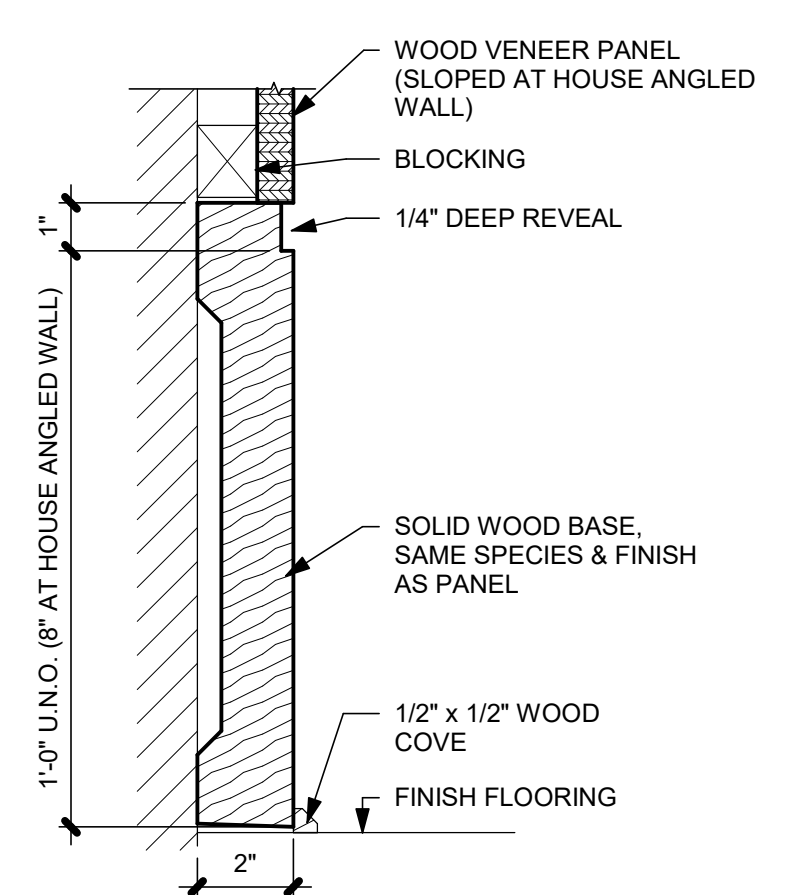


No.	Date	Description
6	02-05-25	ADDENDUM 2

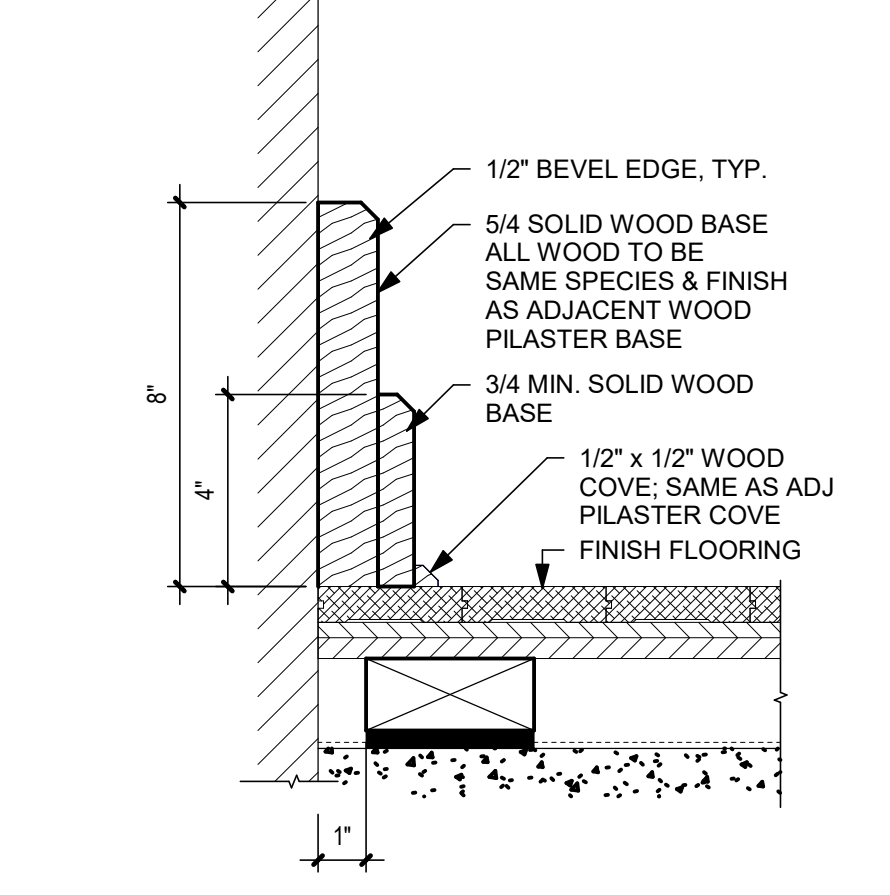
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ENLARGED AUDITORIUM PLAN

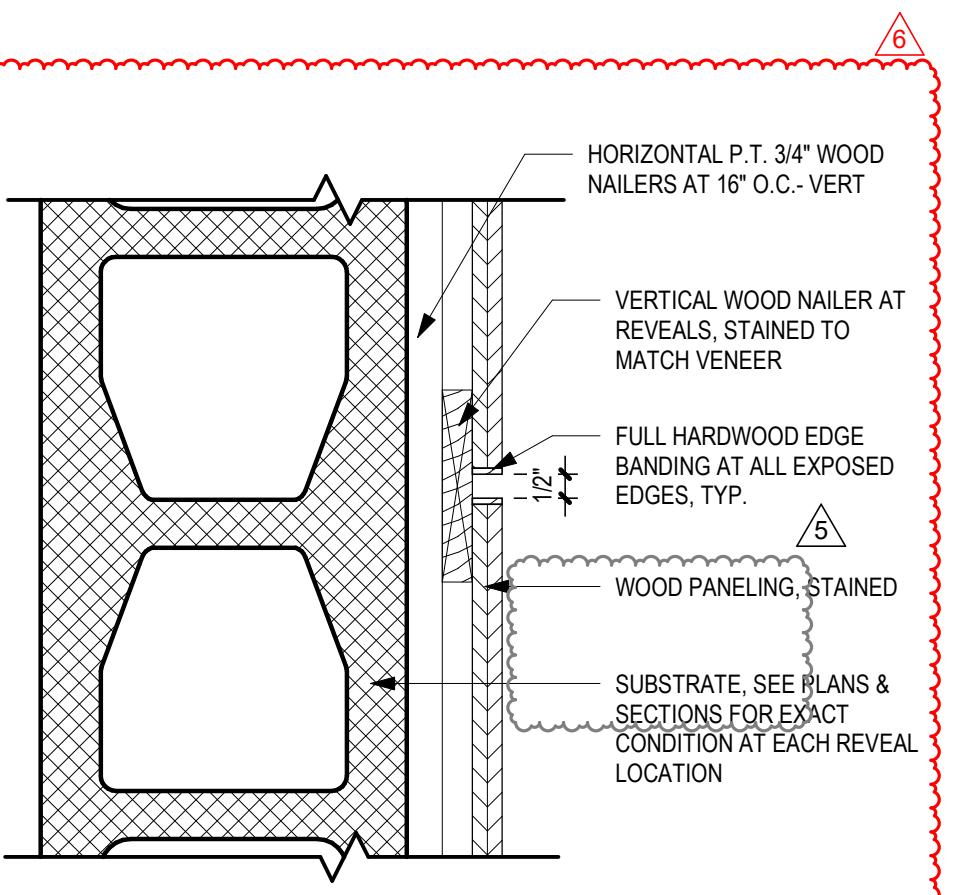
A-401



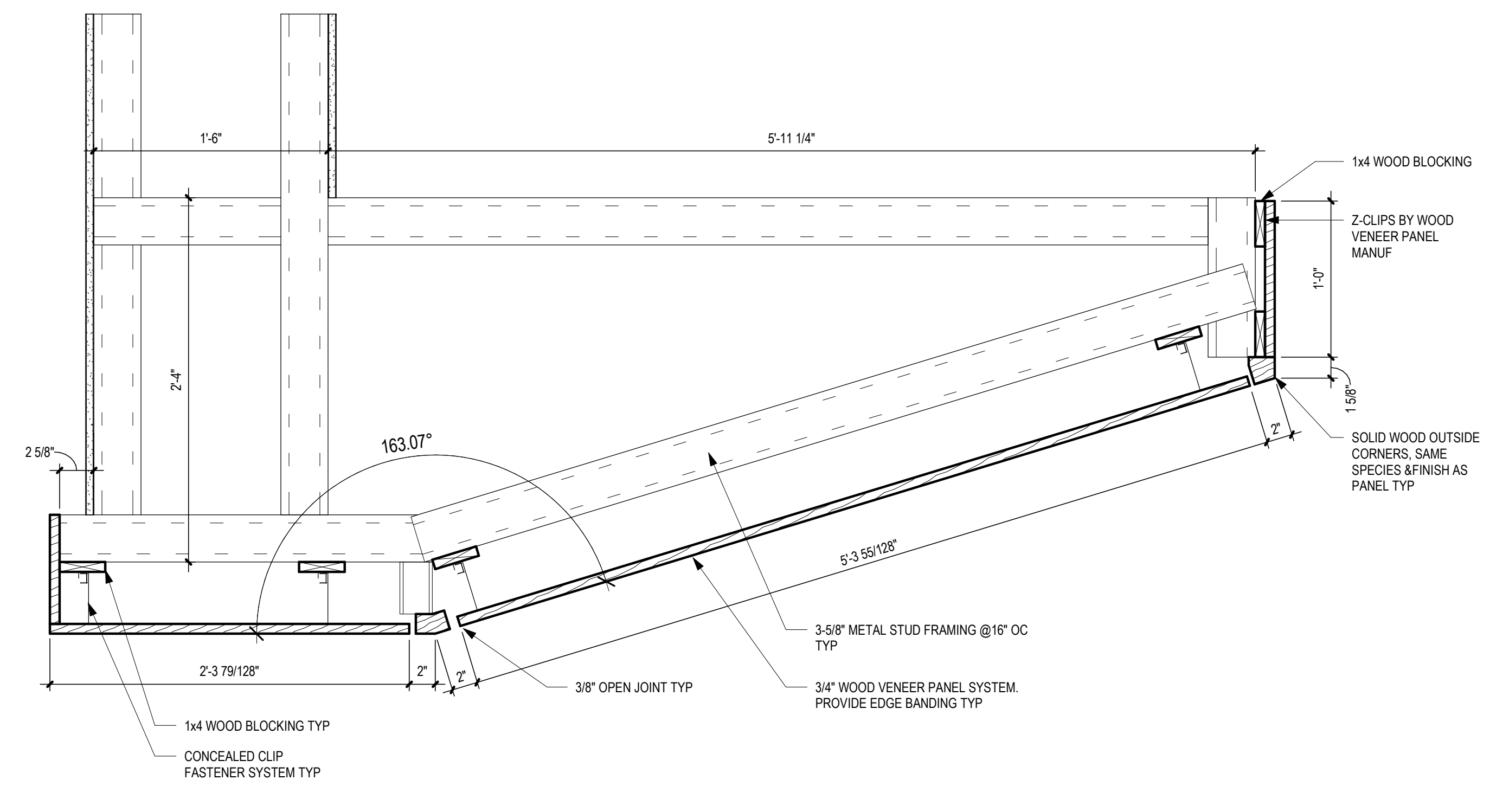
6 AUDITORIUM WOOD BASE DETAIL
SCALE: 3" = 1'-0"



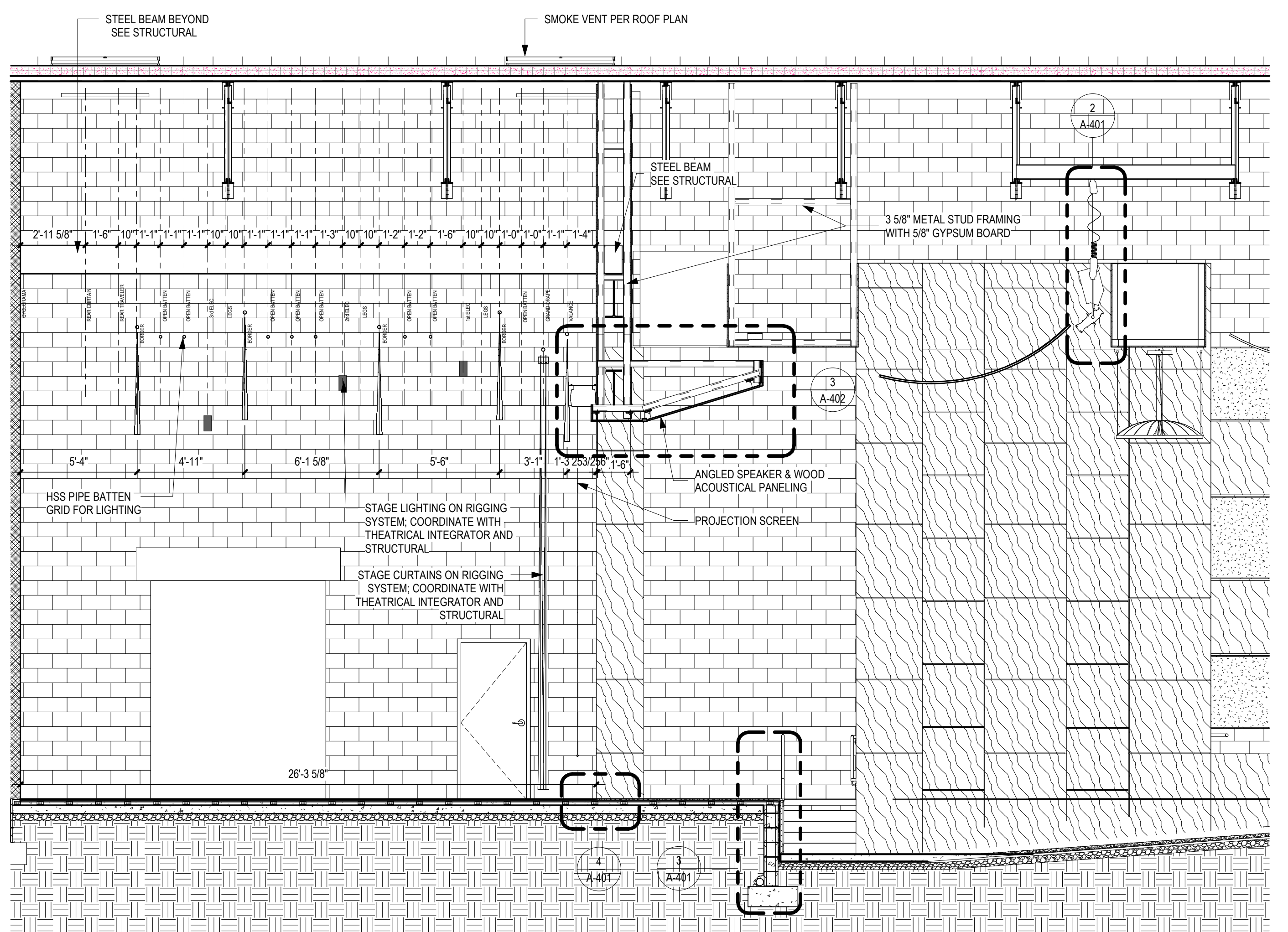
5 APRON WOOD BASE DETAIL
SCALE: 3" = 1'-0"



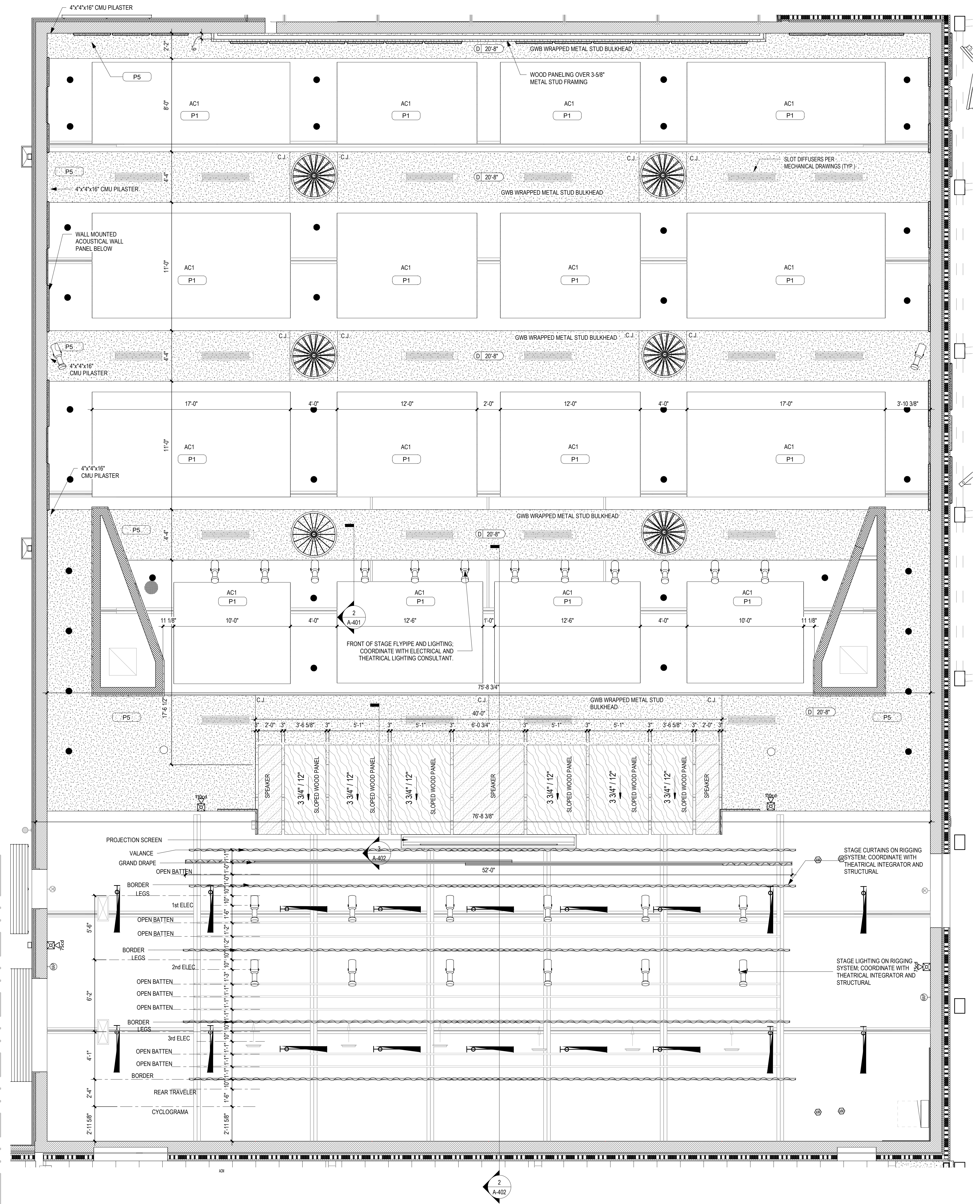
4 WOOD PANELING REVEAL DETAIL
SCALE: 3" = 1'-0"



3 PROSCENIUM BULKHEAD FRAMING SECTION
SCALE: 1 1/2" = 1'-0"



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



1 REFLECTED CEILING PLAN-AUDITORIUM
SCALE: 1/4" = 1'-0"

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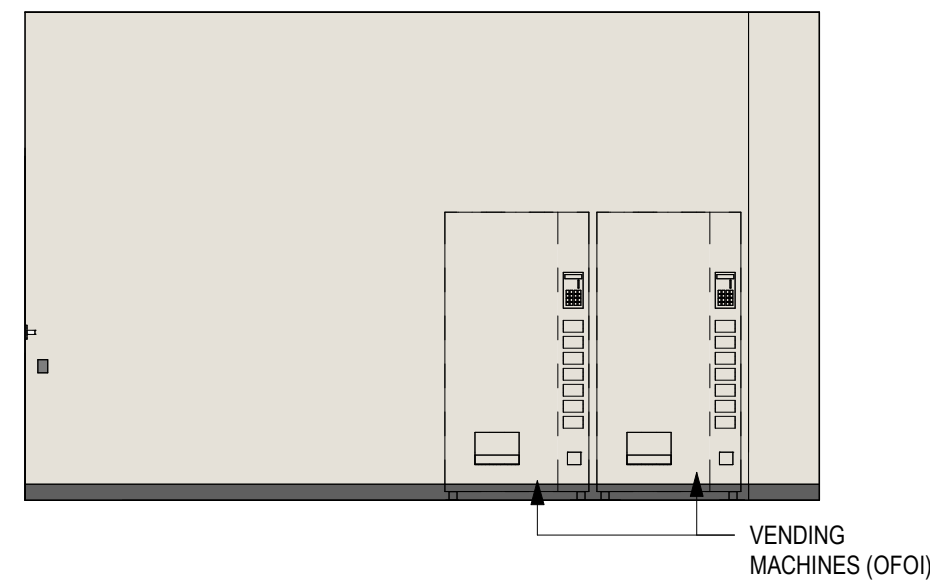


No.	Date	Description
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6	02-05-25	ADDENDUM 2

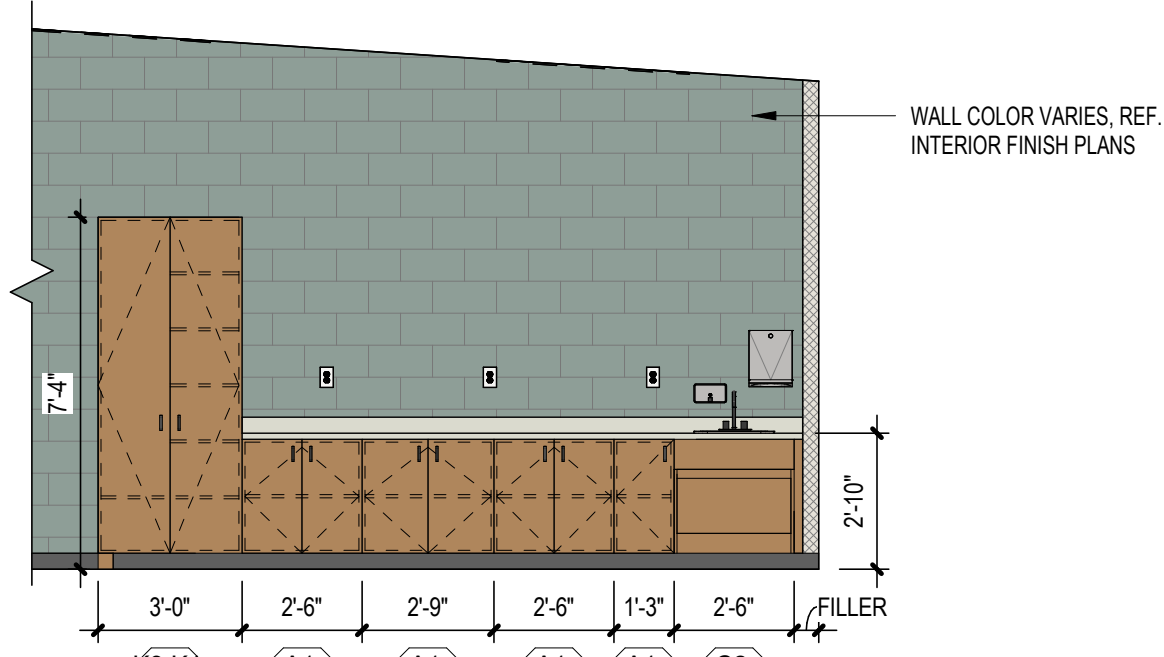
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ENLARGED
AUDITORIUM
REFLECTIVE
CEILING PLAN

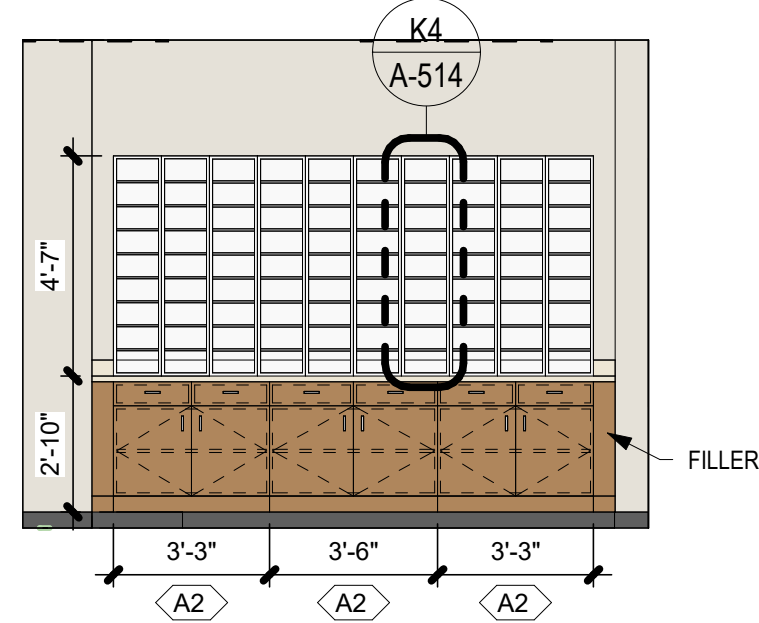
A-402



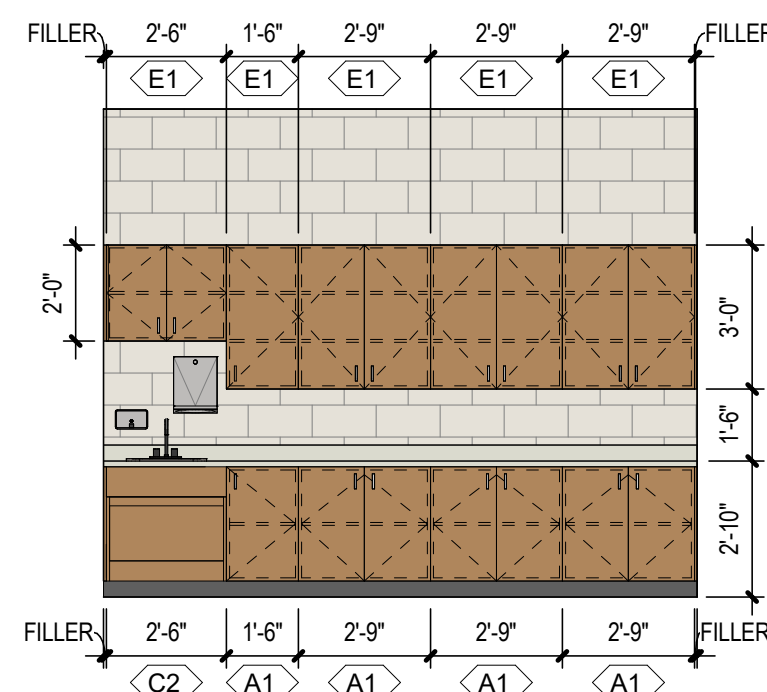
16
A-411
TEACHER LOUNGE PLAN NORTH
SCALE: 1/4" = 1'-0"



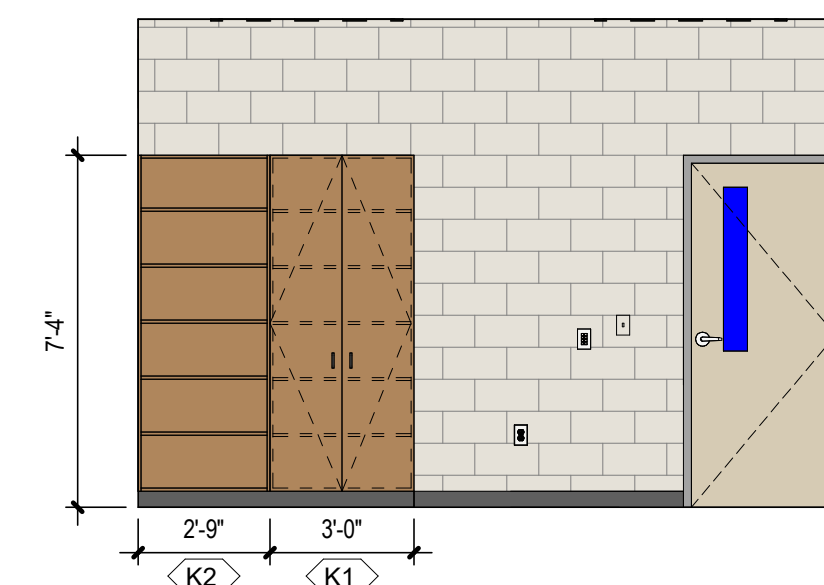
11
A-411
EC S/C CLASSROOM 403, 501, 601, STEM 602 (MIR) WING TYP MILLWORK ELEV
SCALE: 1/4" = 1'-0"



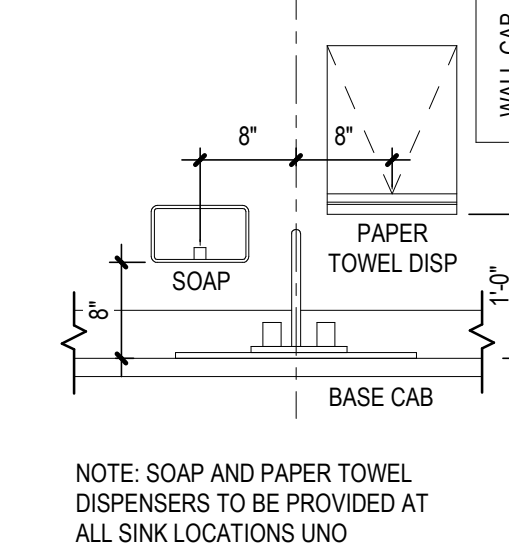
15
A-411
TEACHER LOUNGE PLAN WEST
SCALE: 1/4" = 1'-0"



10
A-411
TYP 500/600 WING CLASSROOM MILLWORK ELEV 2
SCALE: 1/4" = 1'-0"

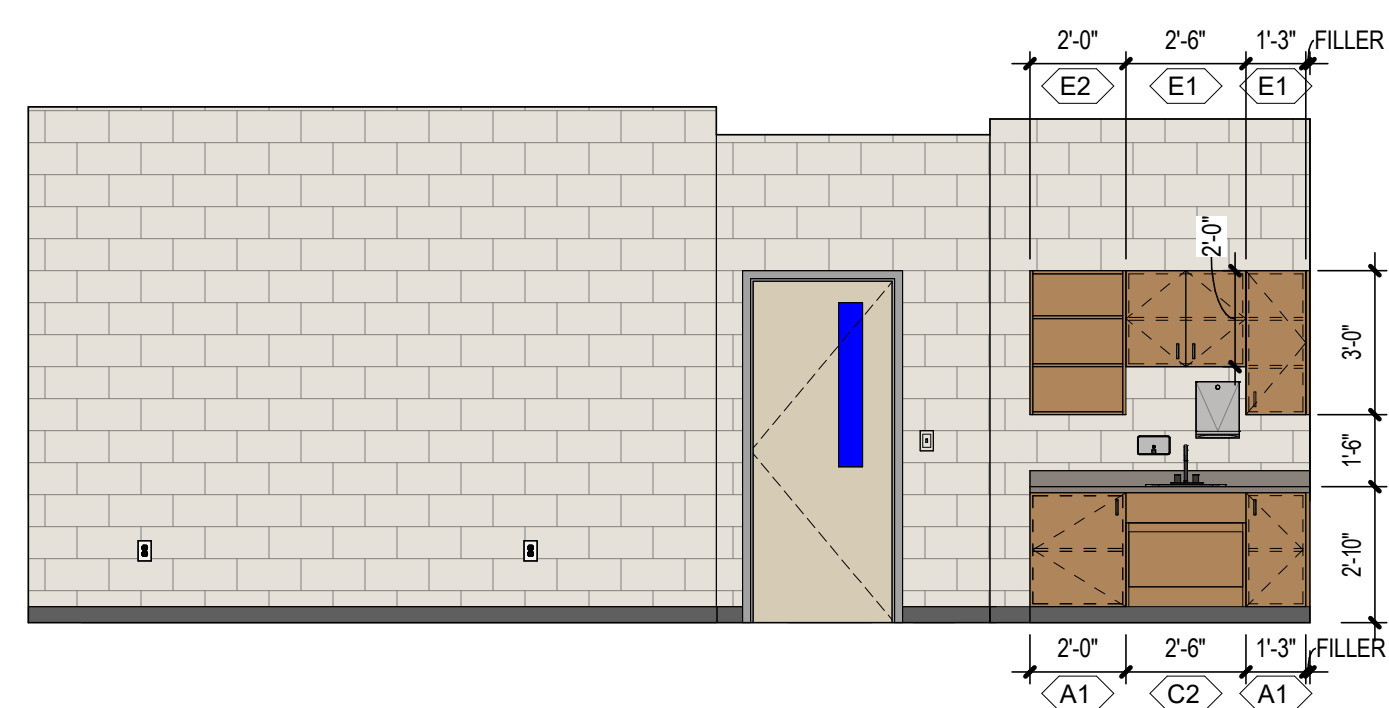


6
A-411
TYP RESOURCE ROOM MILLWORK ELEV
SCALE: 1/4" = 1'-0"

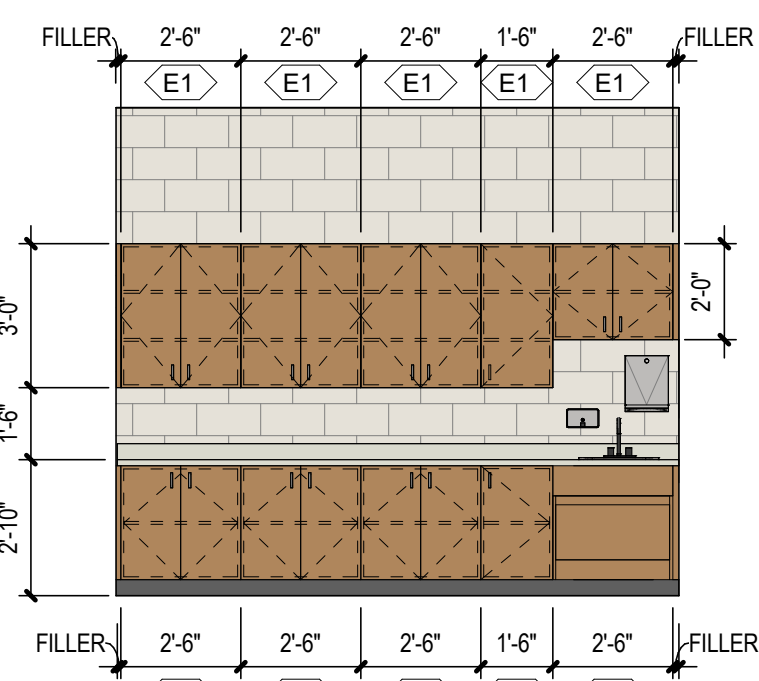


5
A-411
MOUNTING DETAIL AT SINK
SCALE: 3/4" = 1'-0"

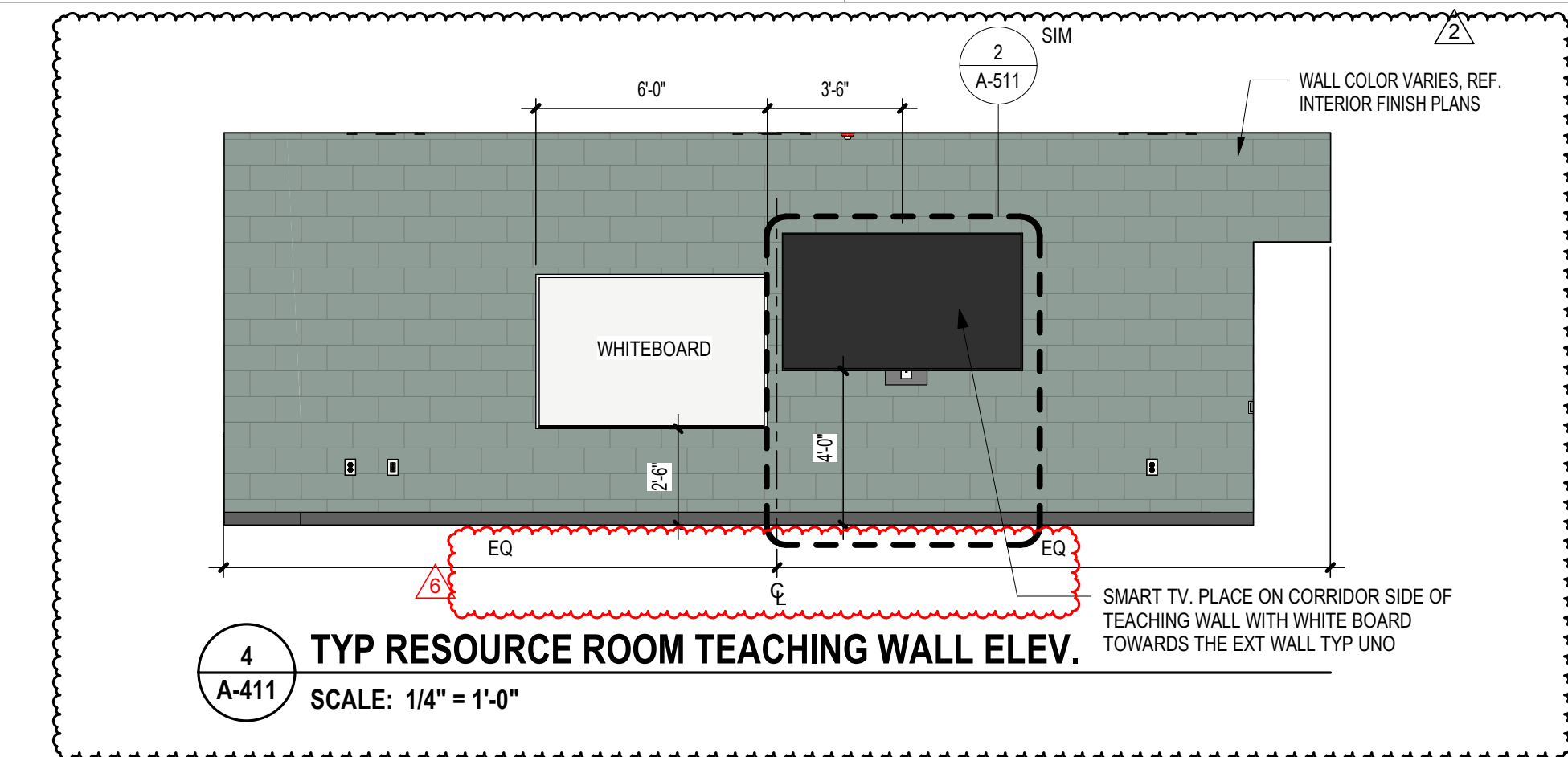
NOTE: SOAP AND PAPER TOWEL DISPENSERS TO BE PROVIDED AT ALL SINK LOCATIONS UNO



14
A-411
HEALTH ROOM 316,317 MILLWORK ELEVATION
SCALE: 1/4" = 1'-0"

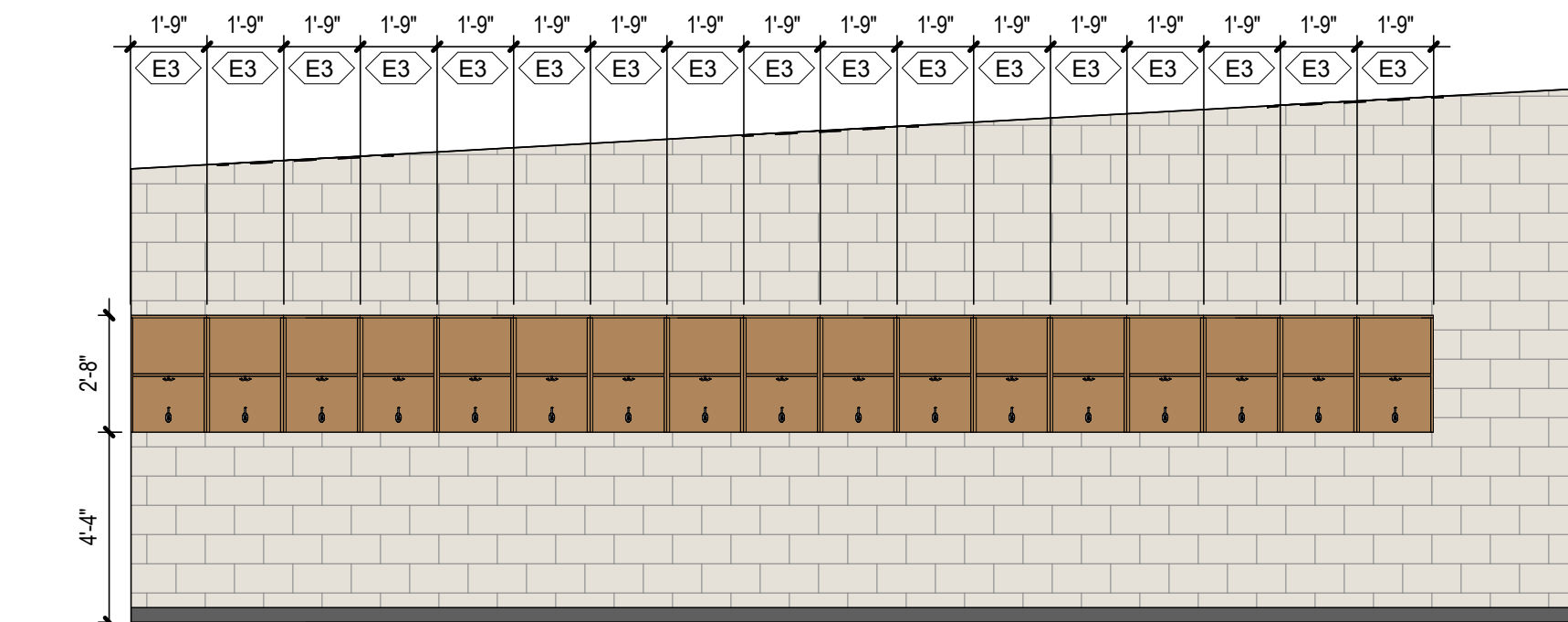


9
A-411
TYP 500/600 WING CLASSROOM MILLWORK ELEV
SCALE: 1/4" = 1'-0"

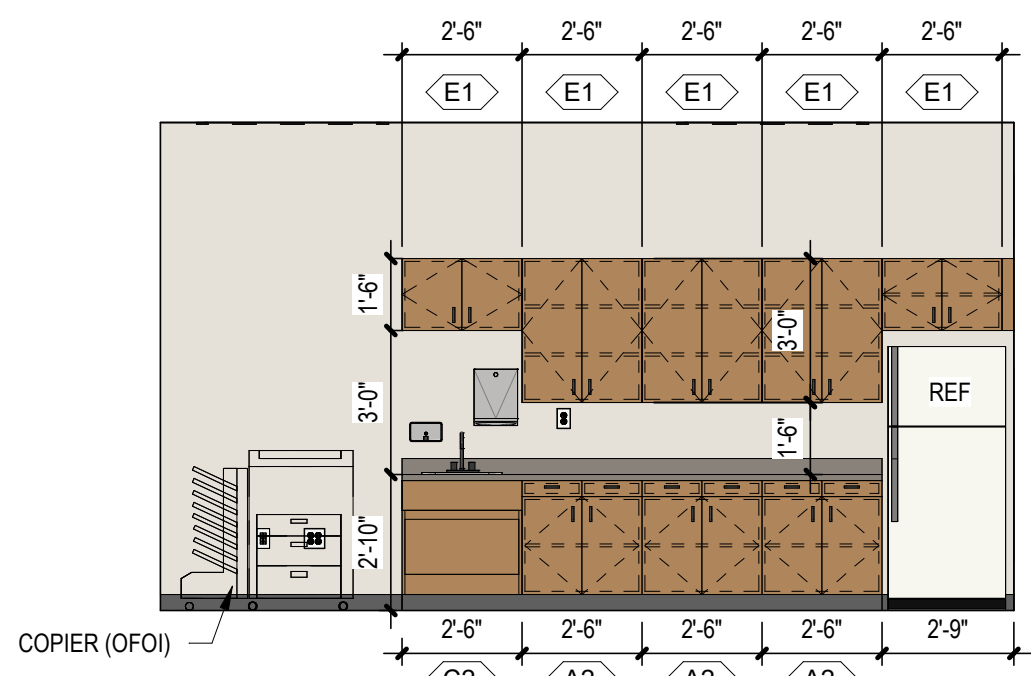


4
A-411
TYP RESOURCE ROOM TEACHING WALL ELEV.
SCALE: 1/4" = 1'-0"

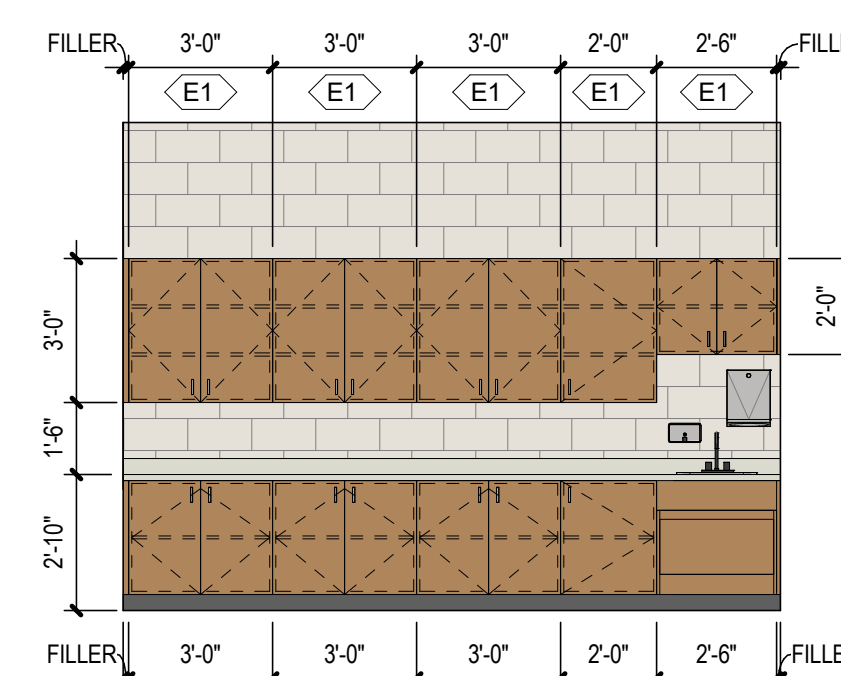
SMART TV: PLACE ON CORRIDOR SIDE OF TEACHING WALL WITH WHITE BOARD TOWARDS THE EXT WALL TYP UNO



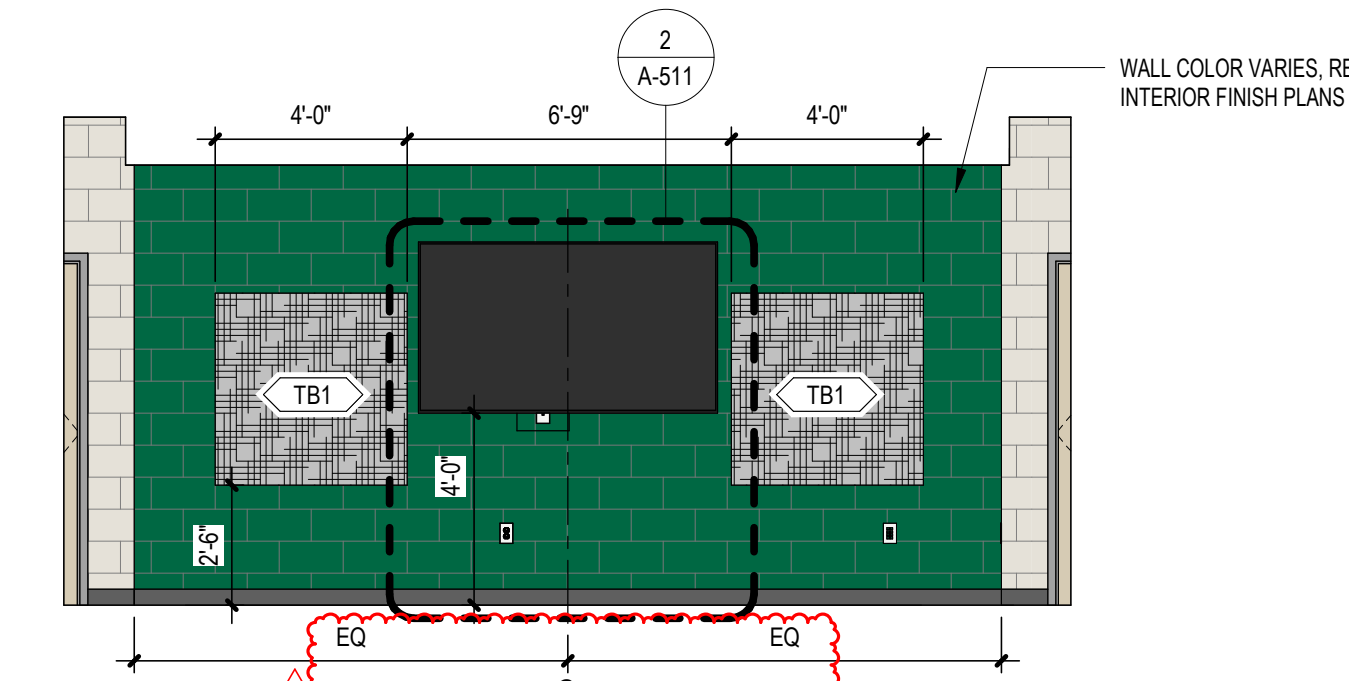
3
A-411
TYP CLASSROOM CUBBY ELEVATION
SCALE: 1/4" = 1'-0"



13
A-411
222 WORKROOM MILLWORK ELEVATION
SCALE: 1/4" = 1'-0"

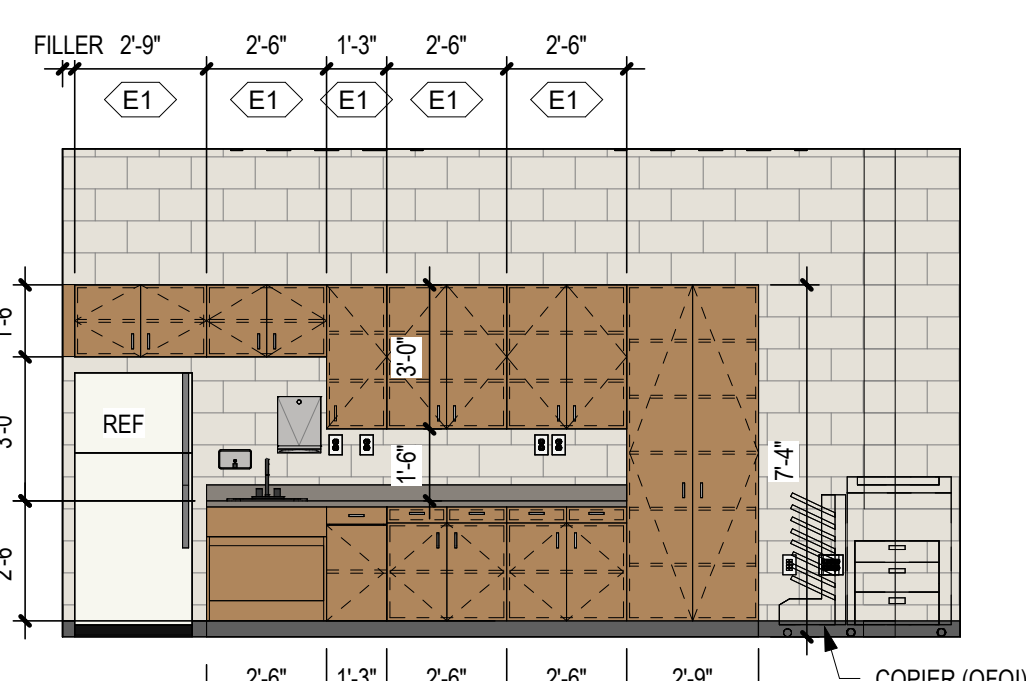


8
A-411
CLASSROOM 404/405 MILLWORK
SCALE: 1/4" = 1'-0"

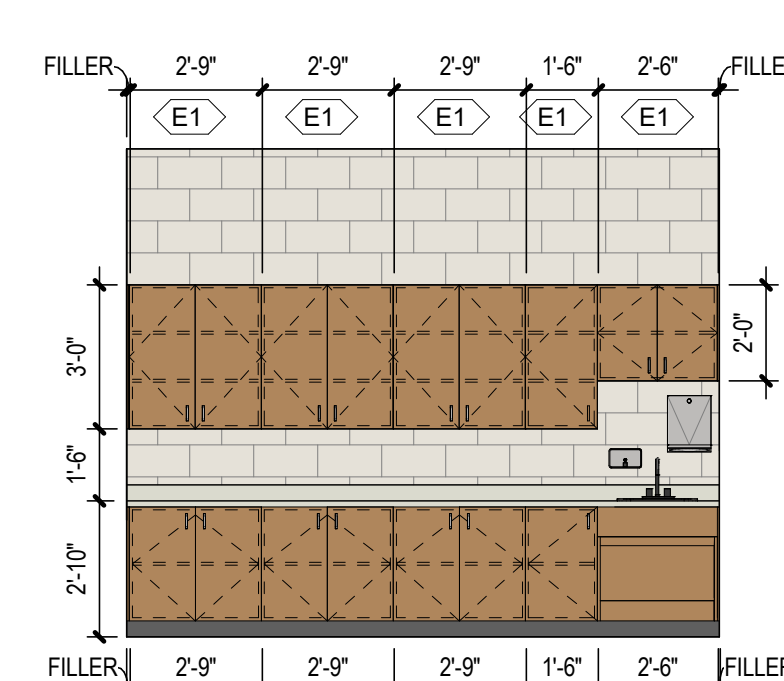


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A-411
ALT TEACHING WALL ELEVATION
SCALE: 1/4" = 1'-0"

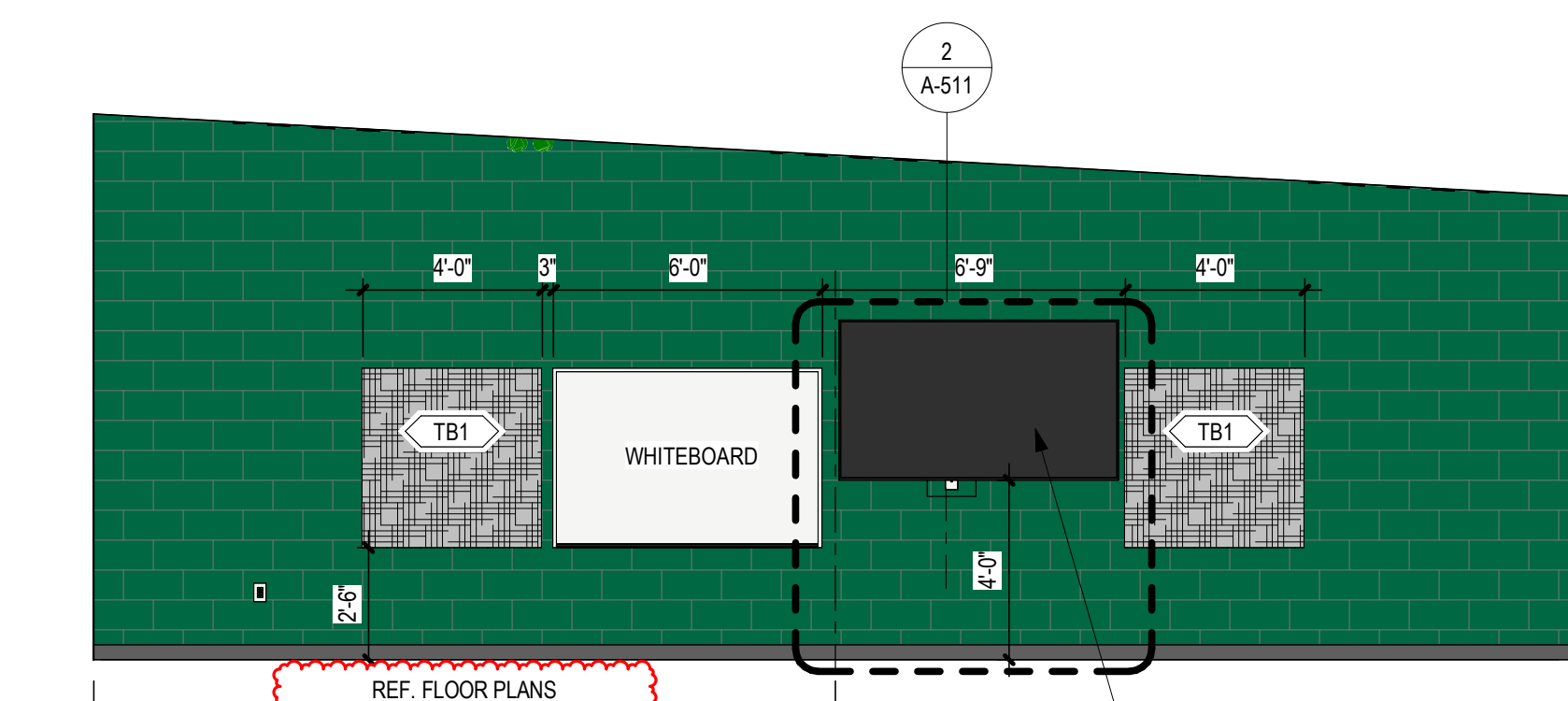
WALL COLOR VARIES. REF. INTERIOR FINISH PLANS



12
A-411
TYP TEACHER WORK ROOM MILLWORK ELEV
SCALE: 1/4" = 1'-0"



7
A-411
TYP 400 WING CLASSROOM MILLWORK
SCALE: 1/4" = 1'-0"



1
A-411
TYP CLASSROOM TEACHING WALL ELEVATION
SCALE: 1/4" = 1'-0"

SMART TV: PLACE ON CORRIDOR SIDE OF TEACHING WALL WITH WHITE BOARD TOWARDS THE EXT WALL TYP UNO

CASEWORK GENERAL NOTES:

1. ALL FINISHES IN FAMILY SCIENCE CLASSROOMS TO BE HEALTH GRADE FINISHES. REFER TO FINISH PLAN FOR SPECIFICATION.
2. ALL SCIENCE LAB AND PREP ROOM CASEWORK TO BE WOOD WITH EPOXY RESIN COUNTERTOPS WITH 4" BACKSPLASH WHICH ARE RESISTANT TO CHEMICALS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. ALL PREP ROOM TALL STORAGE CABINETS TO BE VENTED & LOCKABLE & LABELED AS SUCH.
4. SEE PLUMBING DRAWINGS FOR SEDIMENT FILTERS AND ACID NEUTRALIZATION SYSTEM. TO BE PROVIDED BY MILLWORK CONTRACTOR.
5. GENERAL CONTRACTOR TO PROVIDE ALL SCIENCE CLASSROOMS WITH THE SAFETY EQUIPMENT BELOW AND TO BE STORED IN THE SCIENCE ROOM AND/OR PREP ROOM.
 - FIRE BLANKET (ONE PER CLASSROOM)
 - CHEMICAL & FIRE RESISTANT APRONS/LAB COATS (ONE PER STUDENT)
 - FIRE EXTINGUISHER-ABC (ONE PER ROOM)
 - SPILL CONTROL CENTER
 - SAFETY SHIELDS (ONE PER STUDENT)
 - GOGGLES AND GOGGLE SANITIZER (ONE PER STUDENT)
 - HEAT & ACID RESISTANT GLOVES (ONE PER STUDENT)
 - SAFETY/CHEMICAL INVENTORY SOFTWARE
 - BROKEN GLASS DISPOSAL CONTAINER
 - COAT & BACKPACK HOOKS (TO BE LOCATED ON EACH STUDENT DESK & PROVIDED BY FURNITURE VENDOR)

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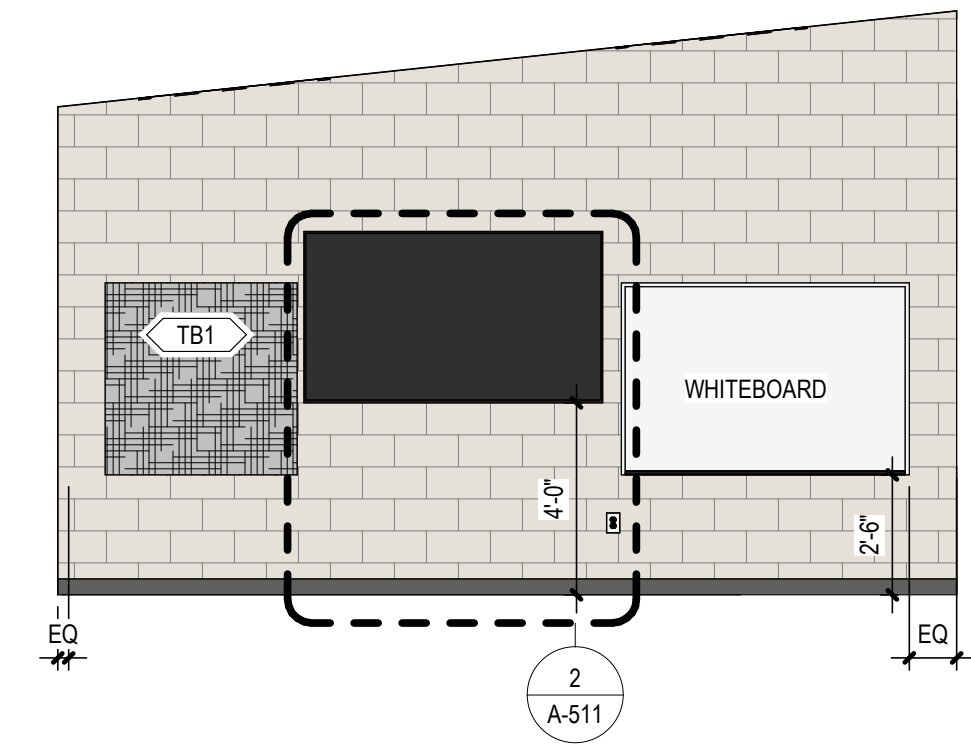


No.	Date	Description
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6	02-05-25	ADDENDUM 2

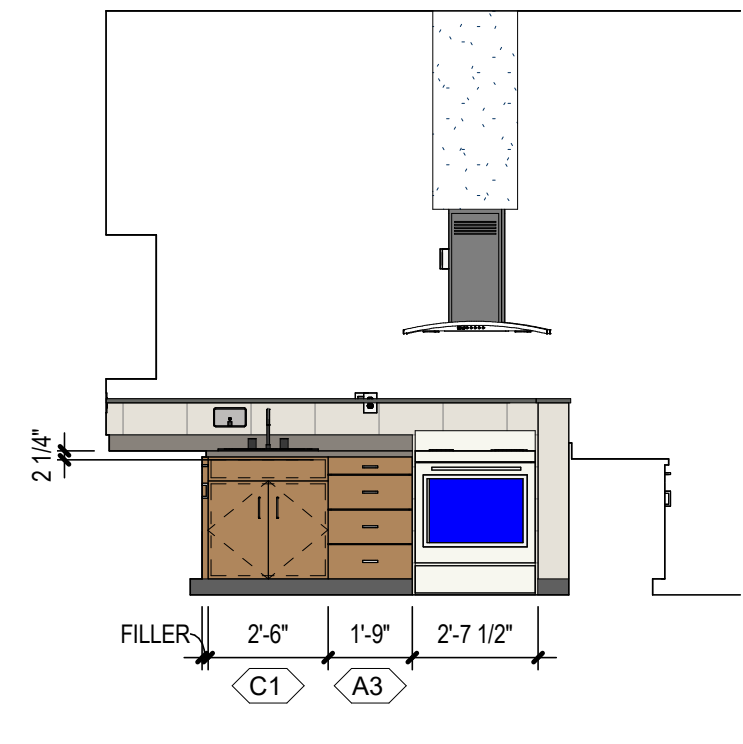
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INTERIOR ELEVATIONS - MILLWORK

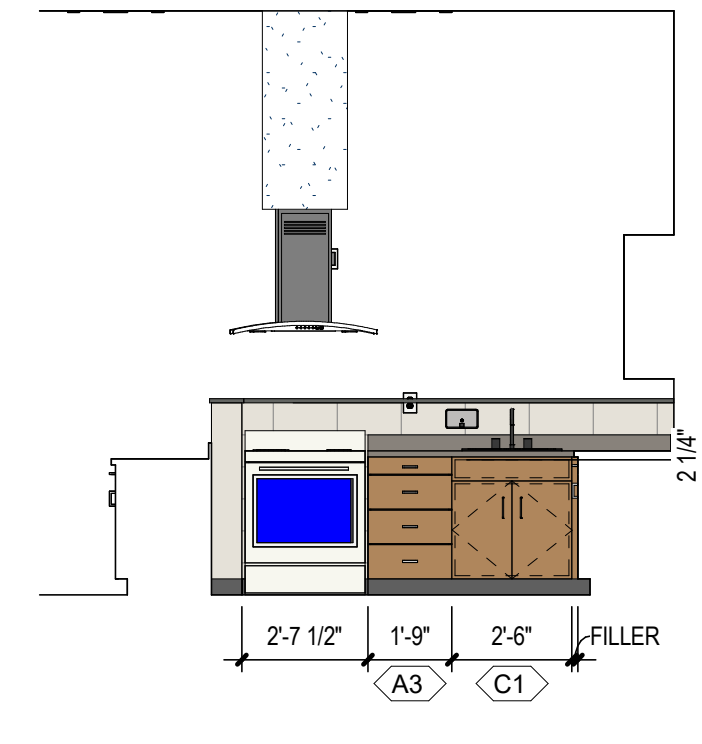
A-411



15 TYP. TEACHER WORK ROOM TEACHING WALL ELEV
A-412 SCALE: 1/4" = 1'-0"



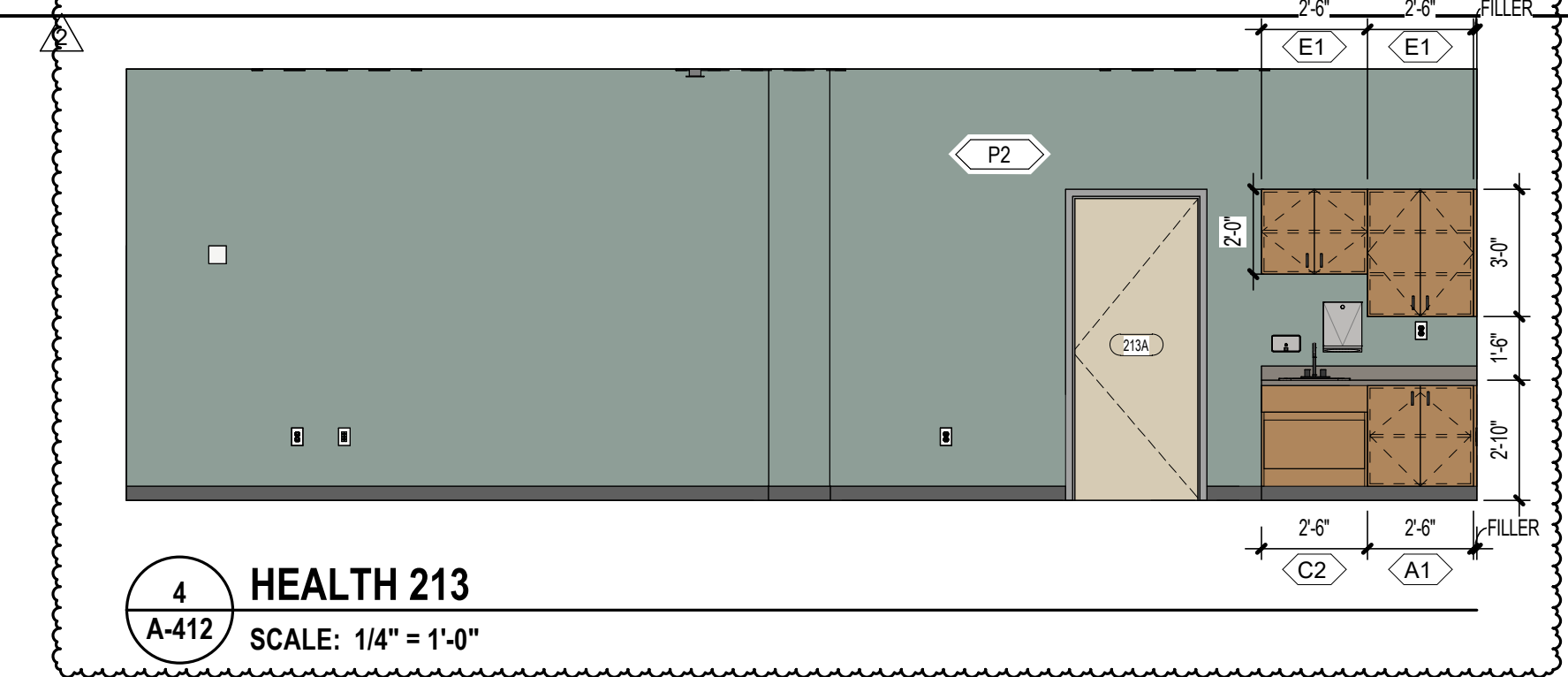
11 104 FAMILY SCIENCE MILLWORK ELEV LEFT
A-412 SCALE: 1/4" = 1'-0"



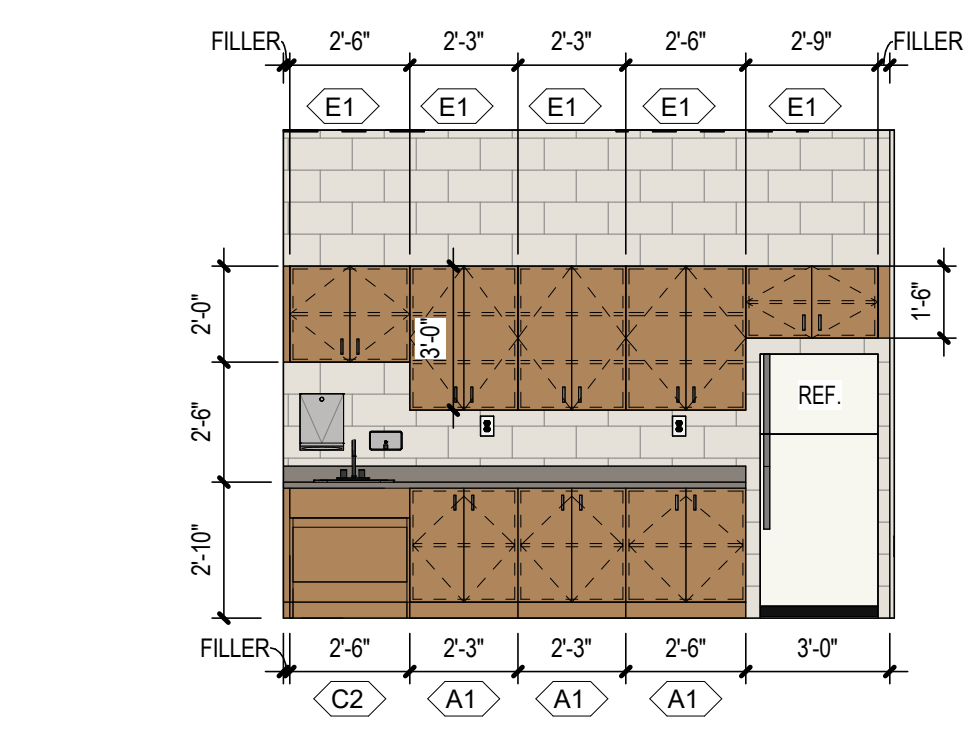
10 104 FAMILY SCIENCE MILLWORK ELEV RIGHT
A-412 SCALE: 1/4" = 1'-0"

CASEWORK GENERAL NOTES:

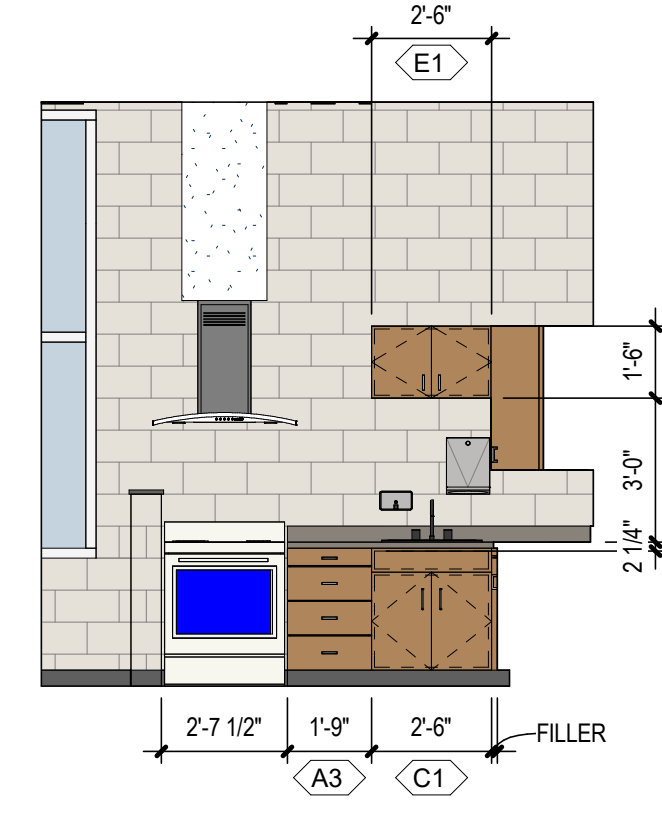
- ALL FINISHES IN FAMILY SCIENCE CLASSROOMS TO BE HEALTH GRADE FINISHES. REFER TO FINISH PLAN FOR SPECIFICATION.
- ALL SCIENCE LAB AND PREP ROOM CASEWORK TO BE WOOD WITH EPOXY RESIN COUNTERTOPS WITH 4" BACKSPLASH WHICH ARE RESISTANT TO CHEMICALS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- ALL PREP ROOM TALL STORAGE CABINETS TO BE VENTED & LOCKABLE & LABELED AS SUCH.
- SEE PLUMBING DRAWINGS FOR SEDIMENT FILTERS AND ACID NEUTRALIZATION SYSTEM. TO BE PROVIDED BY MILLWORK CONTRACTOR.
- GENERAL CONTRACTOR TO PROVIDE ALL SCIENCE CLASSROOMS WITH THE SAFETY EQUIPMENT BELOW AND TO BE STORED IN THE SCIENCE ROOM AND/OR PREP ROOM.
 - FIRE BLANKET (ONE PER CLASSROOM)
 - CHEMICAL & FIRE RESISTANT APRONS/LAB COATS (ONE PER STUDENT)
 - FIRE EXTINGUISHER-ABC (ONE PER ROOM)
 - SPILL CONTROL CENTER
 - SAFETY SHIELDS (ONE PER STUDENT)
 - GOGGLES AND GOGGLE SANITIZER (ONE PER STUDENT)
 - HEAT & ACID RESISTANT GLOVES (ONE PER STUDENT)
 - SAFETY/CHEMICAL INVENTORY SOFTWARE
 - BROKEN GLASS DISPOSAL CONTAINER
 - LAB'S BACKSPLASH TO BE CONTROLLED BY STUDENT DESK PROVIDED BY FURNITURE VENDOR



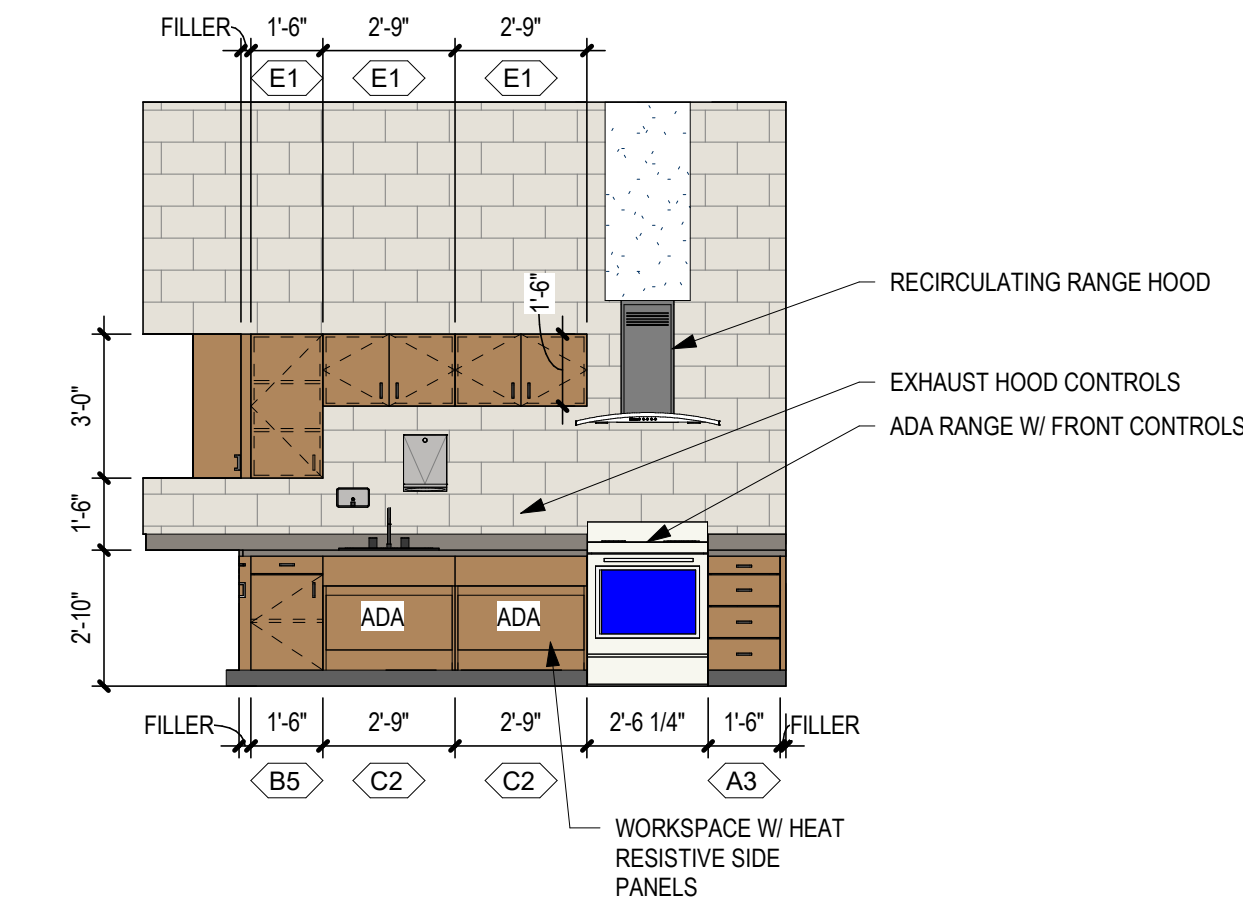
4 HEALTH 213
A-412 SCALE: 1/4" = 1'-0"



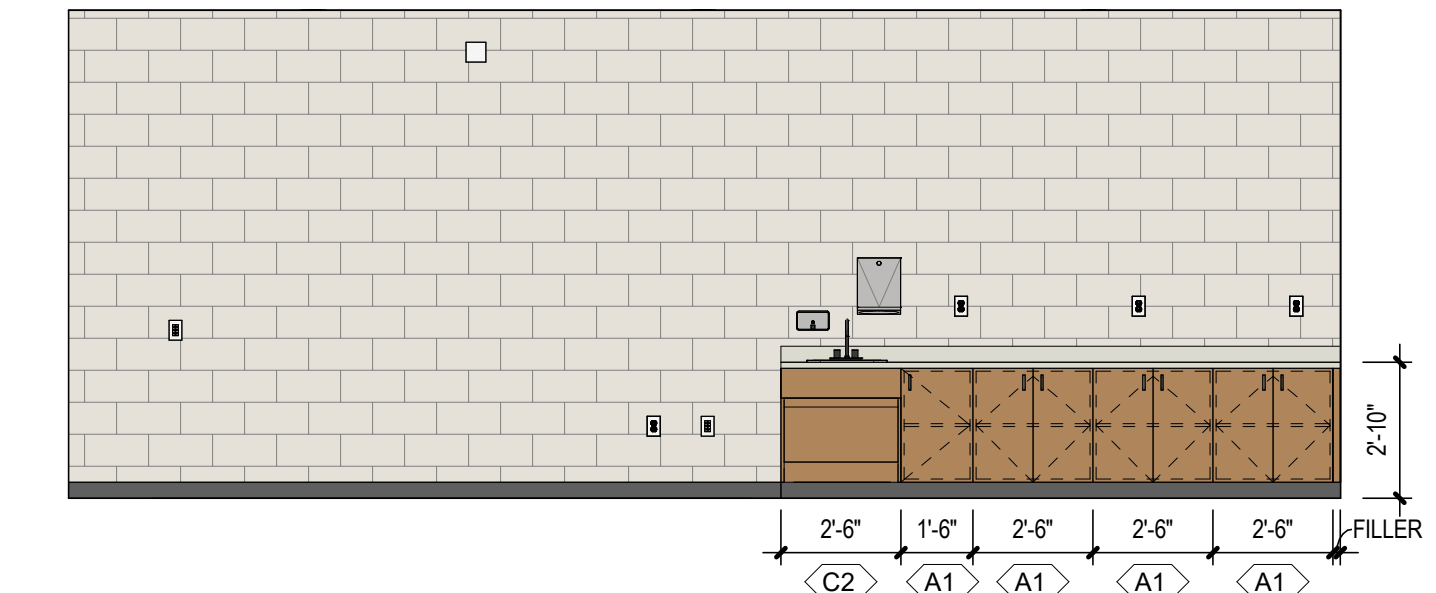
14 TEACHER LOUNGE 209 MILLWORK ELEVATION
A-412 SCALE: 1/4" = 1'-0"



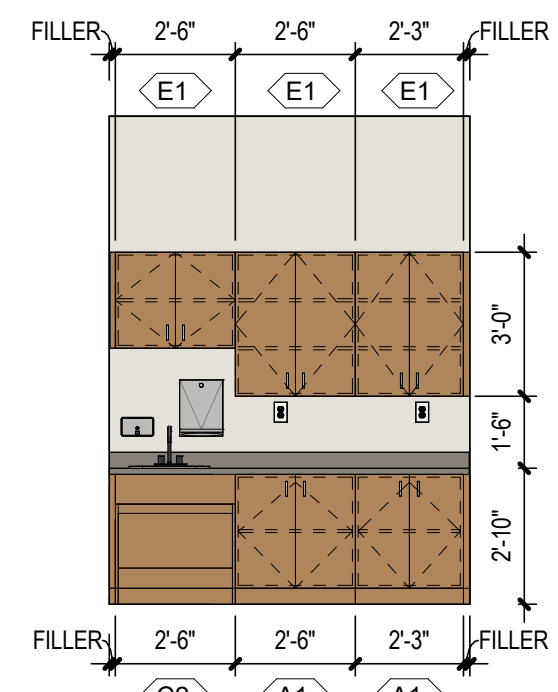
9 104 FAMILY SCIENCE MILLWORK ELEV EXT WALL
A-412 SCALE: 1/4" = 1'-0"



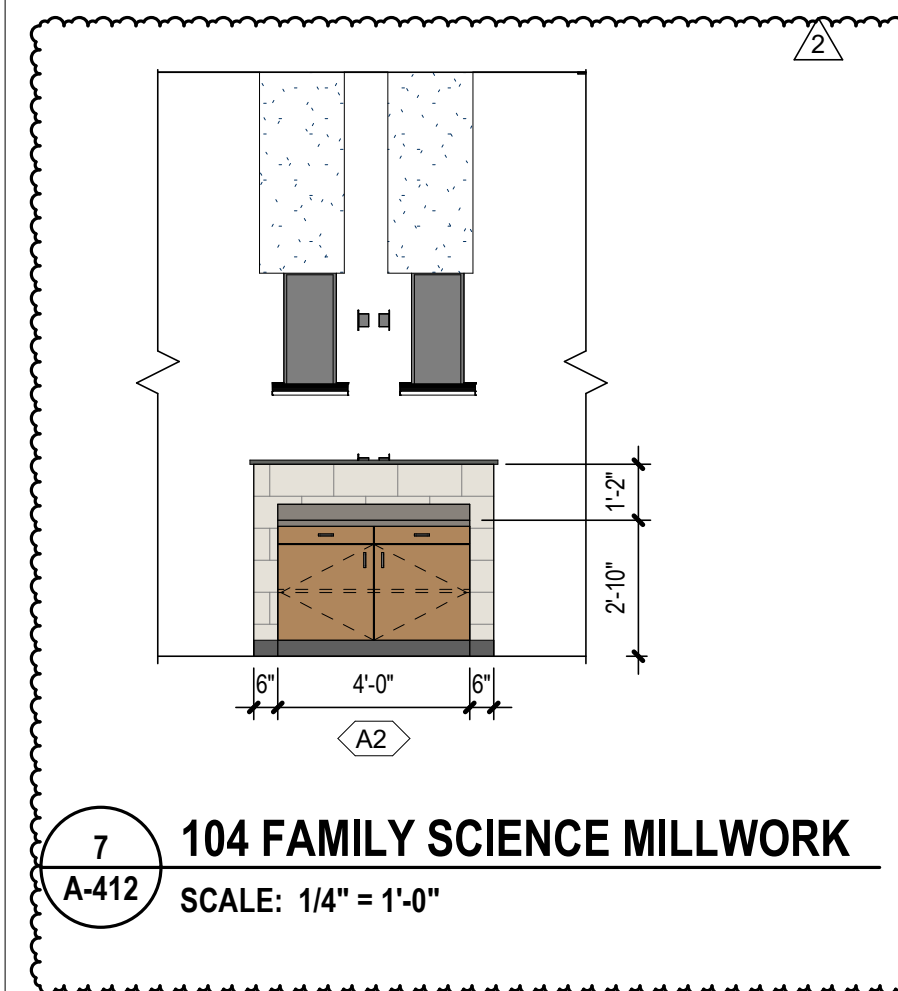
8 104 FAMILY SCIENCE ADA MILLWORK ELEV
A-412 SCALE: 1/4" = 1'-0"



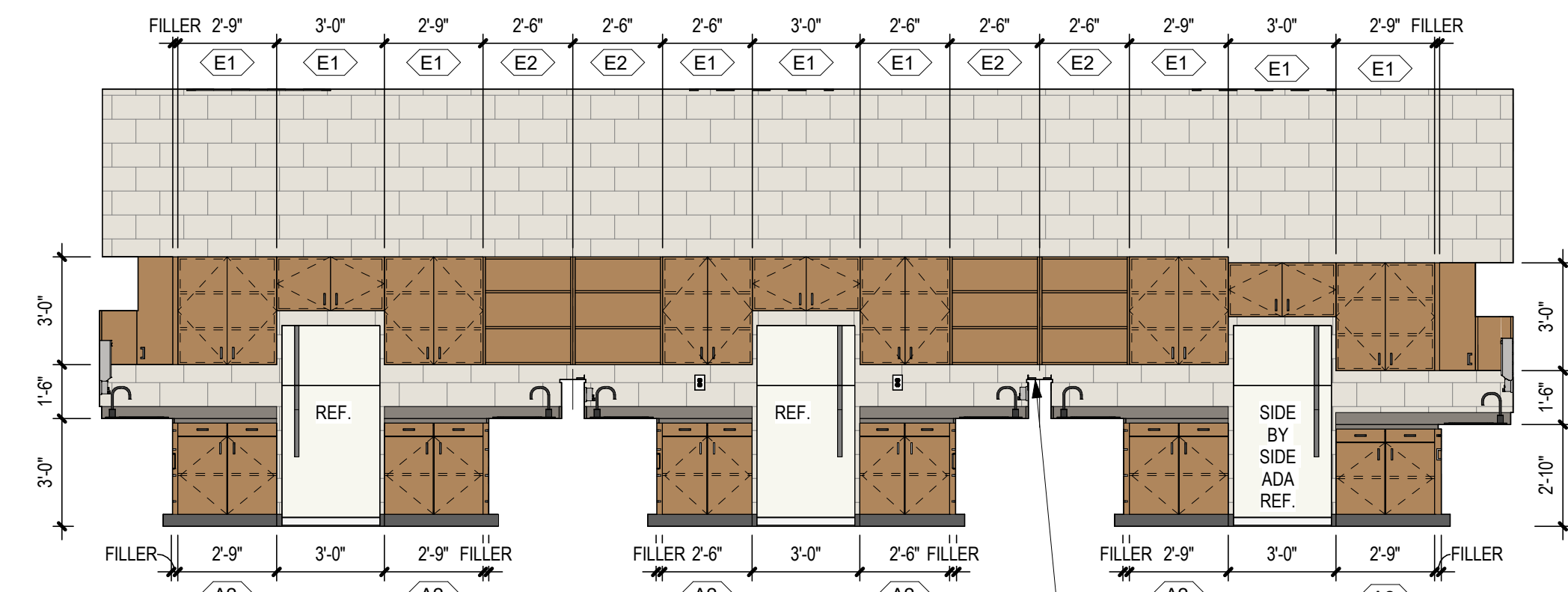
3 STEM 600A MILLWORK ELEV
A-412 SCALE: 1/4" = 1'-0"



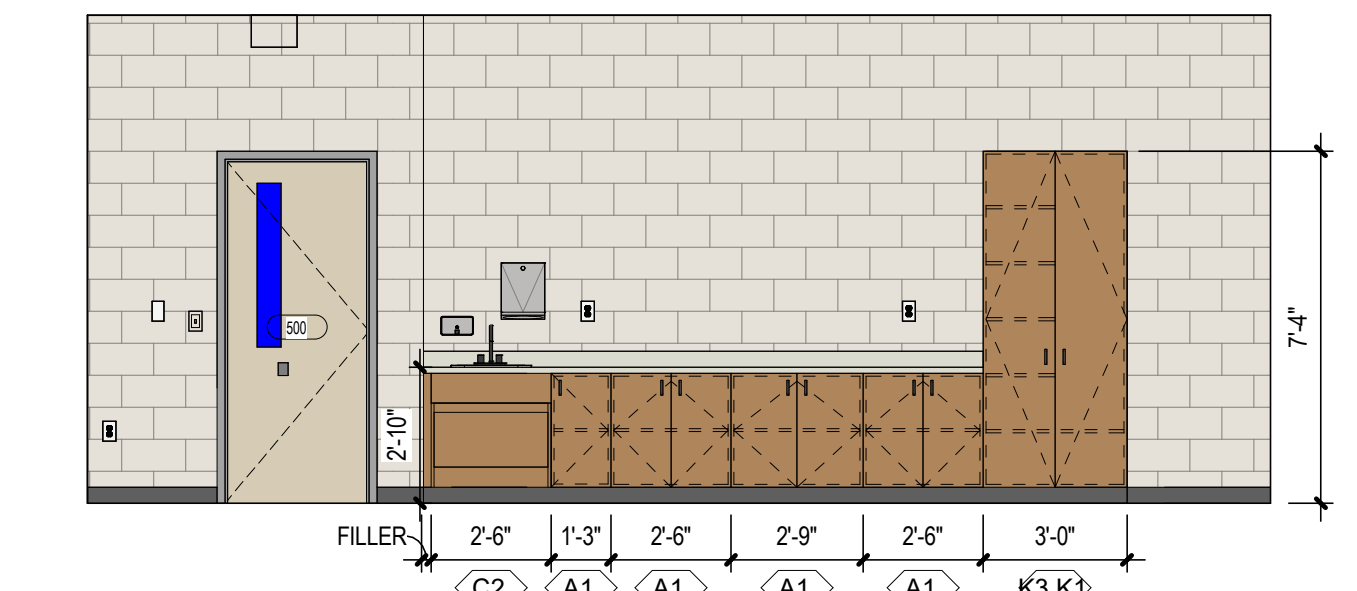
13 CORRIDOR C203 MILLWORK ELEV
A-412 SCALE: 1/4" = 1'-0"



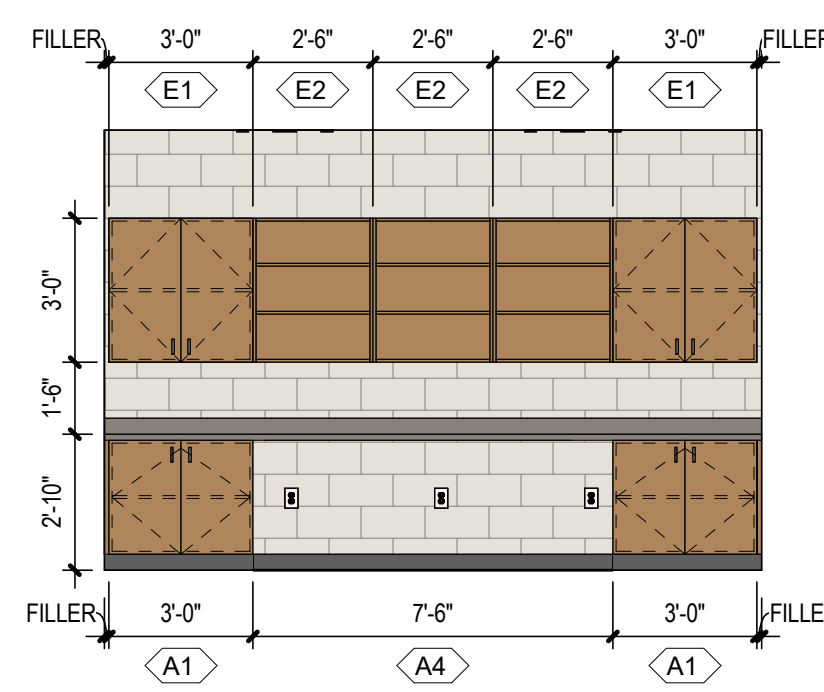
7 104 FAMILY SCIENCE MILLWORK
A-412 SCALE: 1/4" = 1'-0"



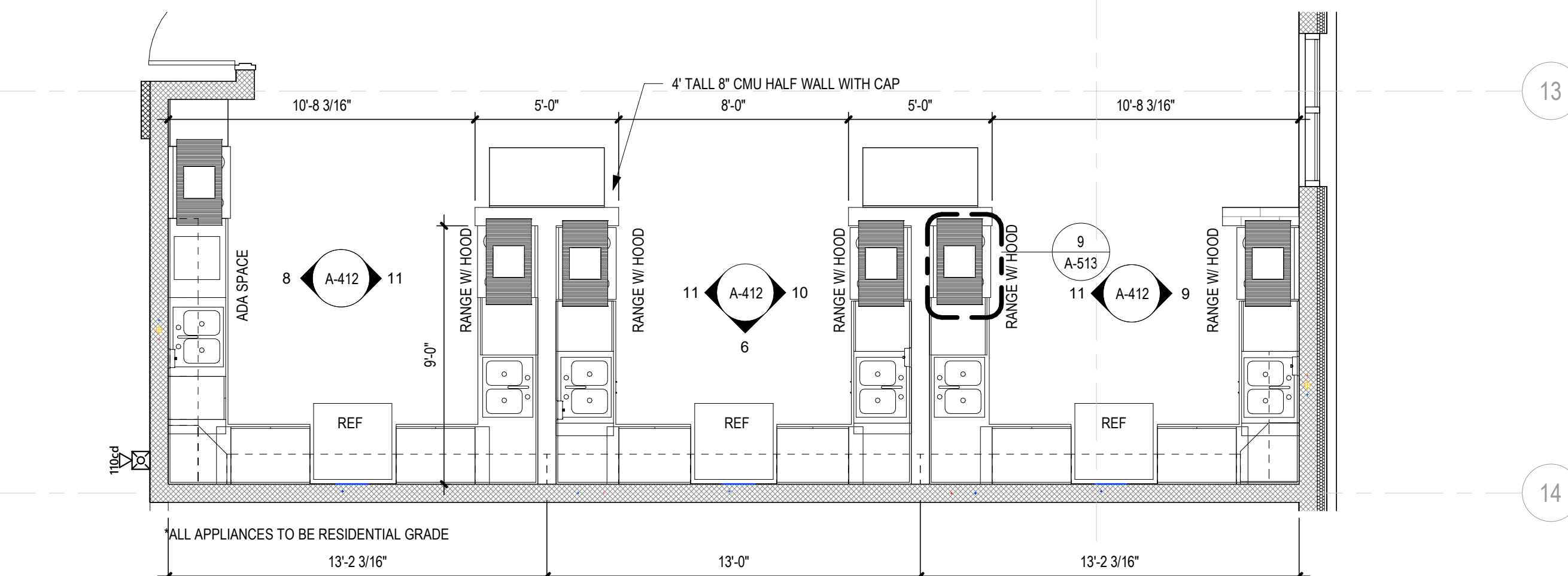
6 104 FAMILY SCIENCE MILLWORK ELEV REAR
A-412 SCALE: 1/4" = 1'-0"



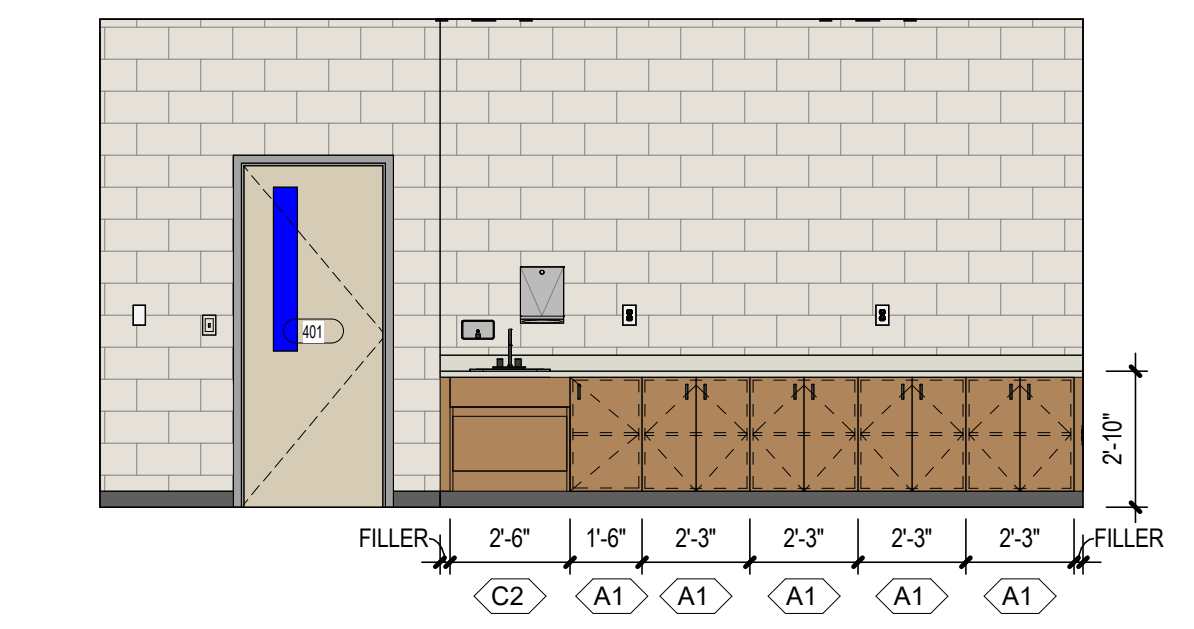
2 STEM CLASSROOM 500 WING MILLWORK ELEV
A-412 SCALE: 1/4" = 1'-0"



12 CONCESSION MILLWORK ELEVATION
A-412 SCALE: 1/4" = 1'-0"



5 FAMILY SCIENCES ENLARGED KITCHEN PLAN
A-412 SCALE: 1/4" = 1'-0"



1 STEM CLASSROOM 401 MILLWORK ELEV
A-412 SCALE: 1/4" = 1'-0"

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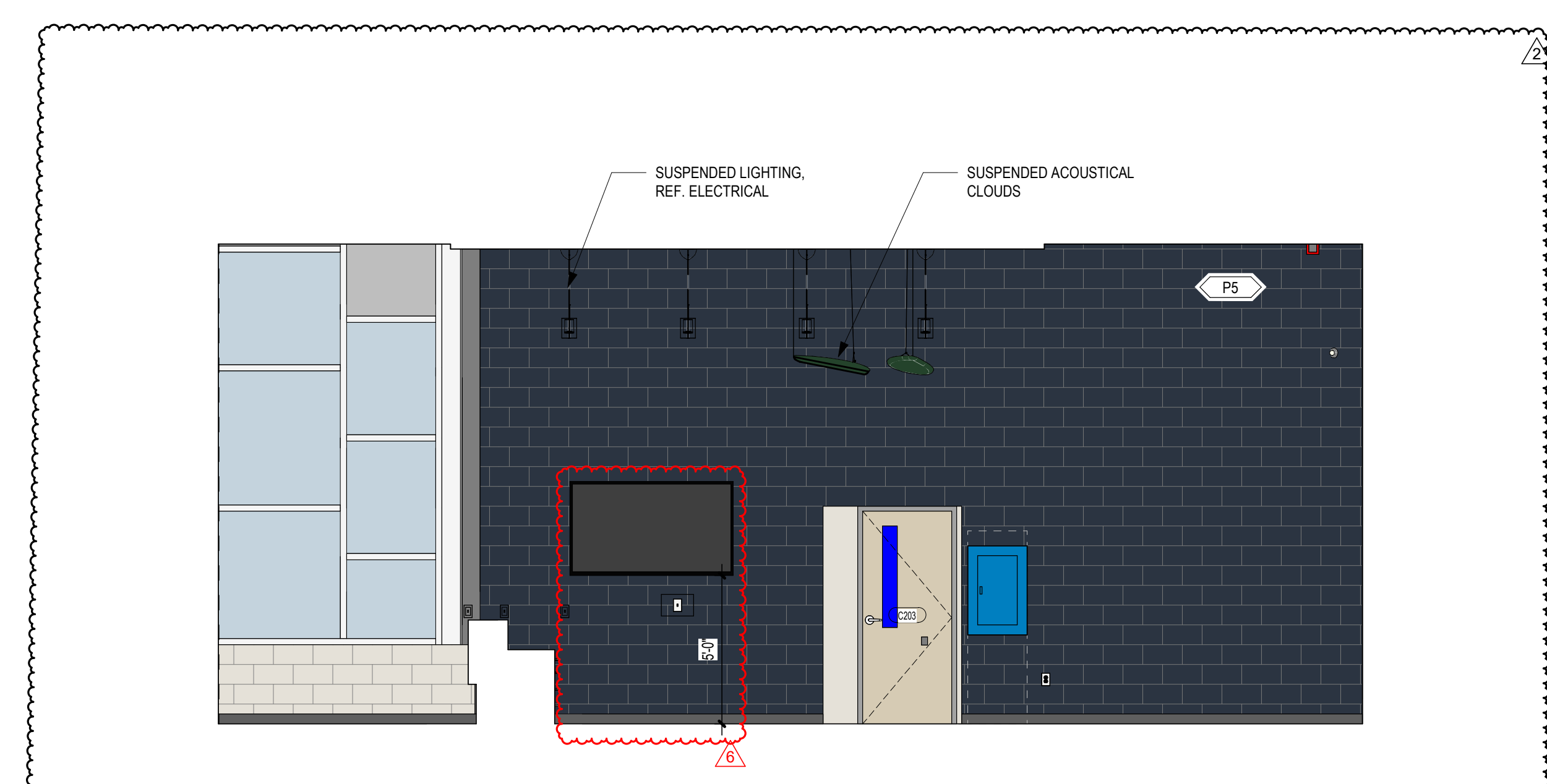
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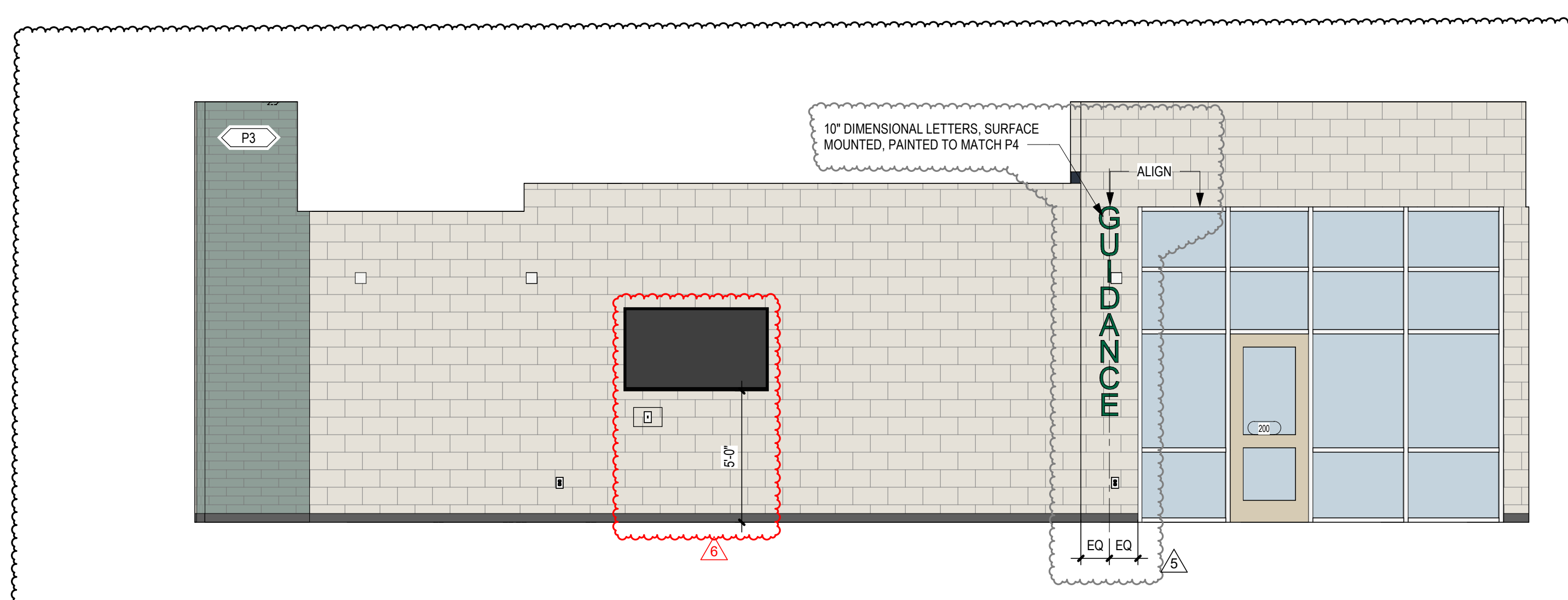
No.	Date	Description
2	12-13-24	CD REVISIONS
6	02-05-25	ADDENDUM 2

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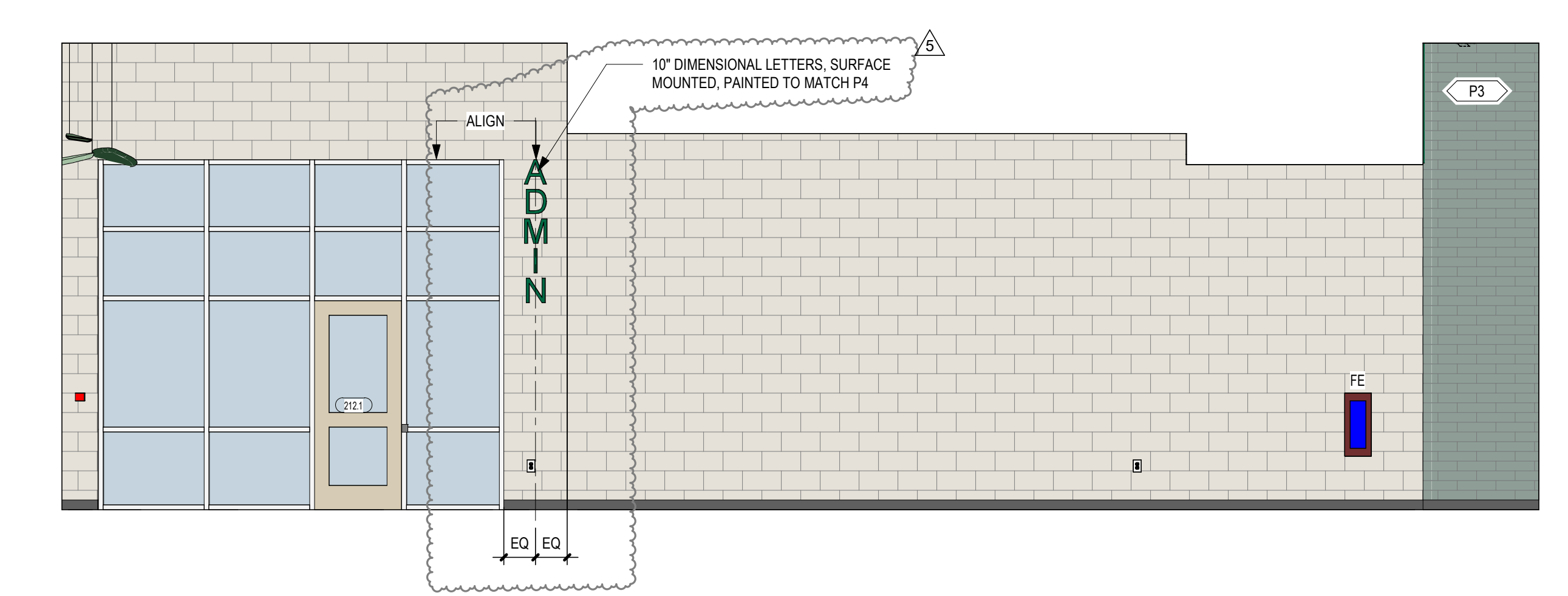
INTERIOR ELEVATIONS - MILLWORK



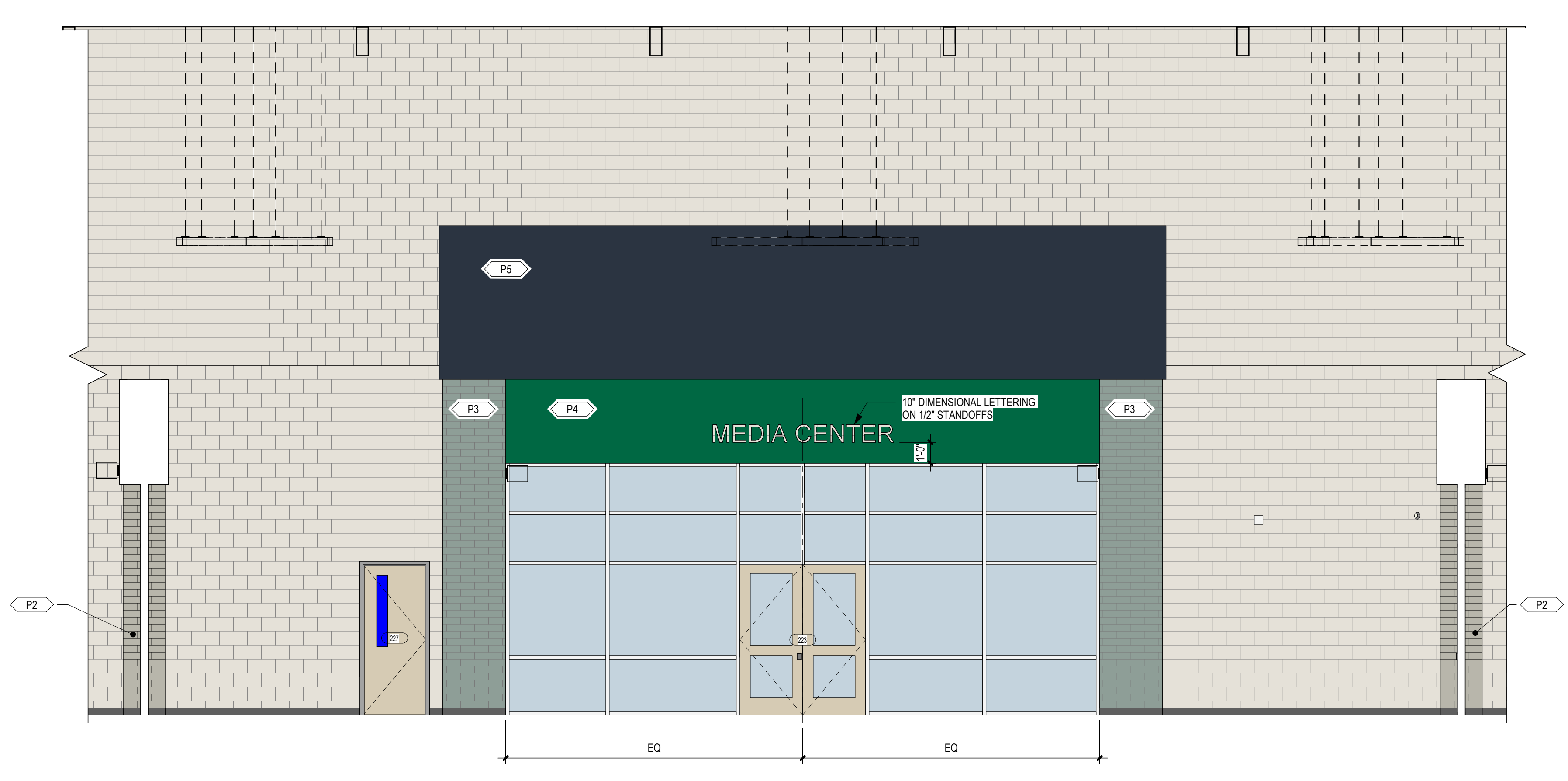
5
A-415
RECEPTION 213 ELEVATION
SCALE: 1/4" = 1'-0"



4
A-415
CORRIDOR C201 NORTH ELEVATION
SCALE: 1/4" = 1'-0"



3
A-415
CORRIDOR C201 SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



2
A-415
CORRIDOR C201 WEST ELEVATION
SCALE: 1/4" = 1'-0"

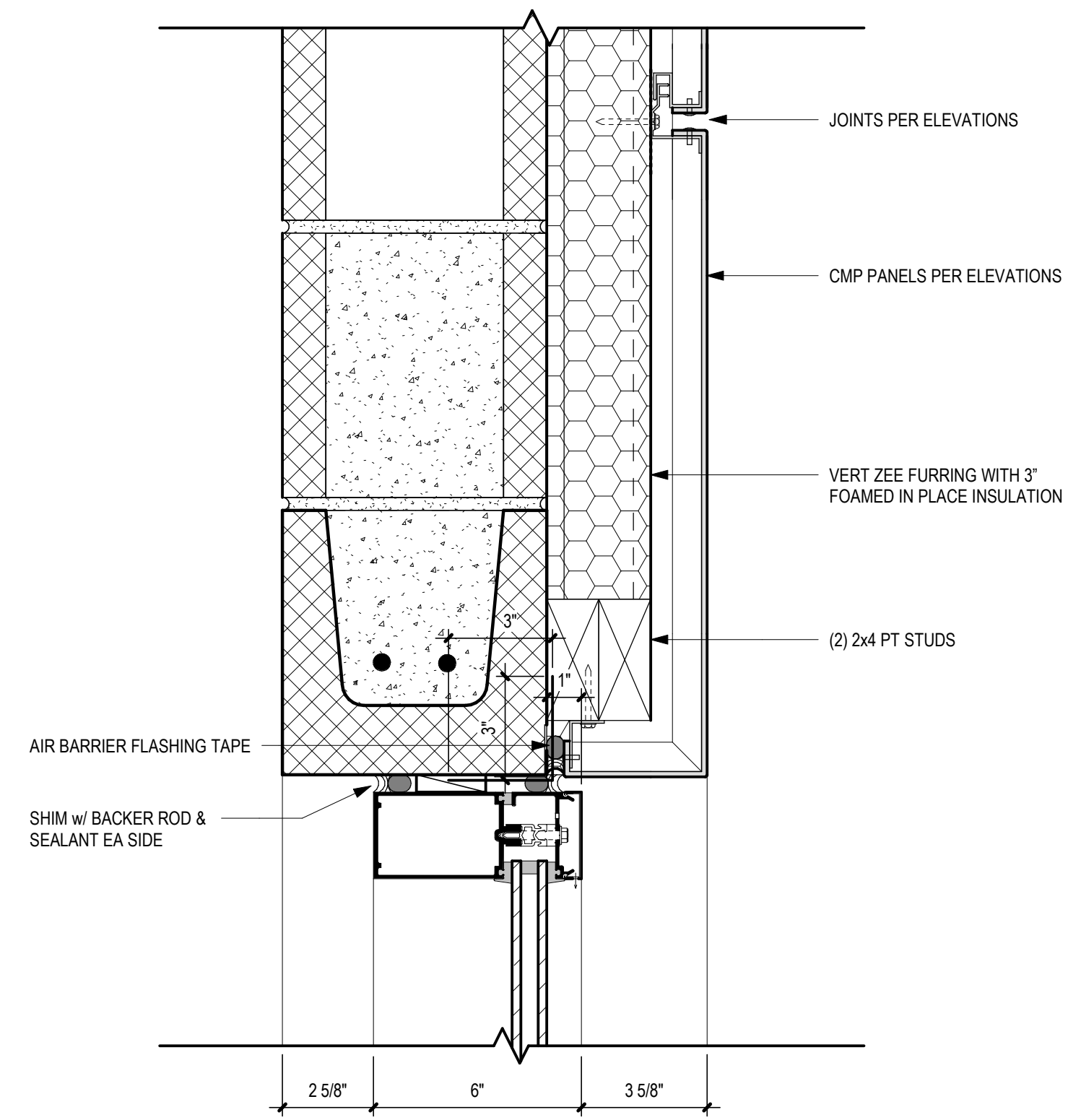


1
A-415
CORRIDOR C201 EAST ELEVATION
SCALE: 1/4" = 1'-0"

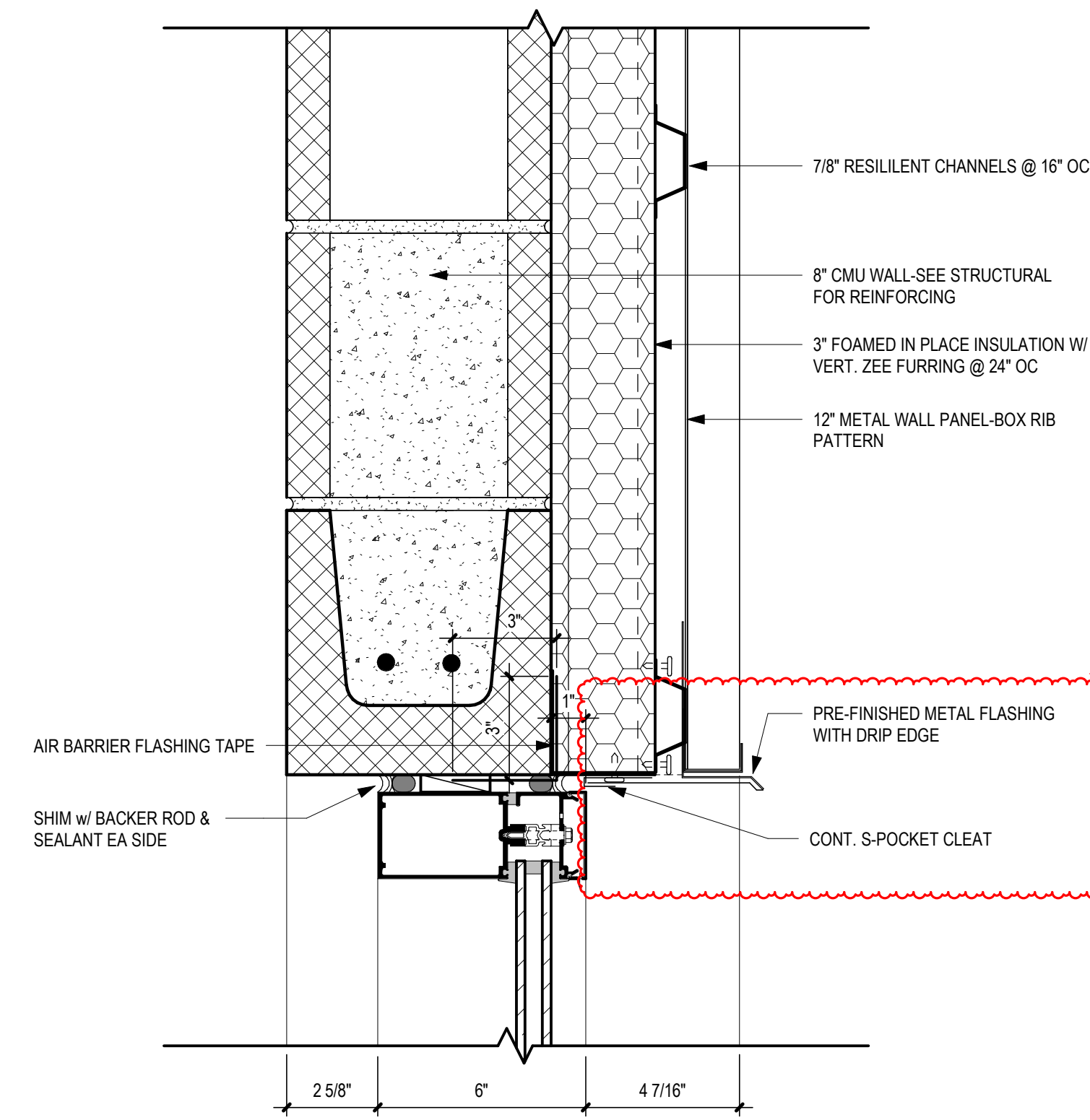
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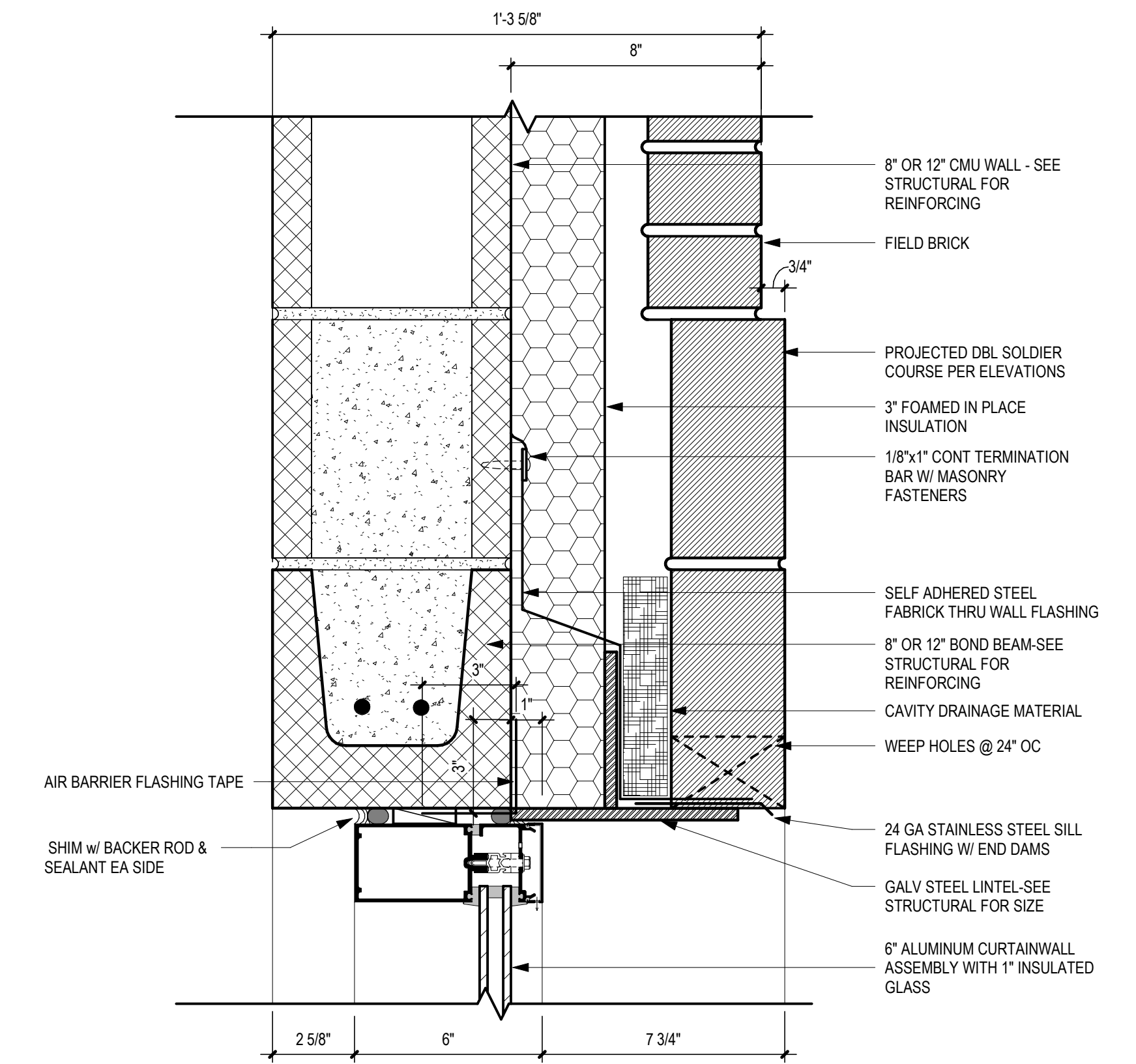
INTERIOR
ELEVATIONS - 200
CORRIDORS



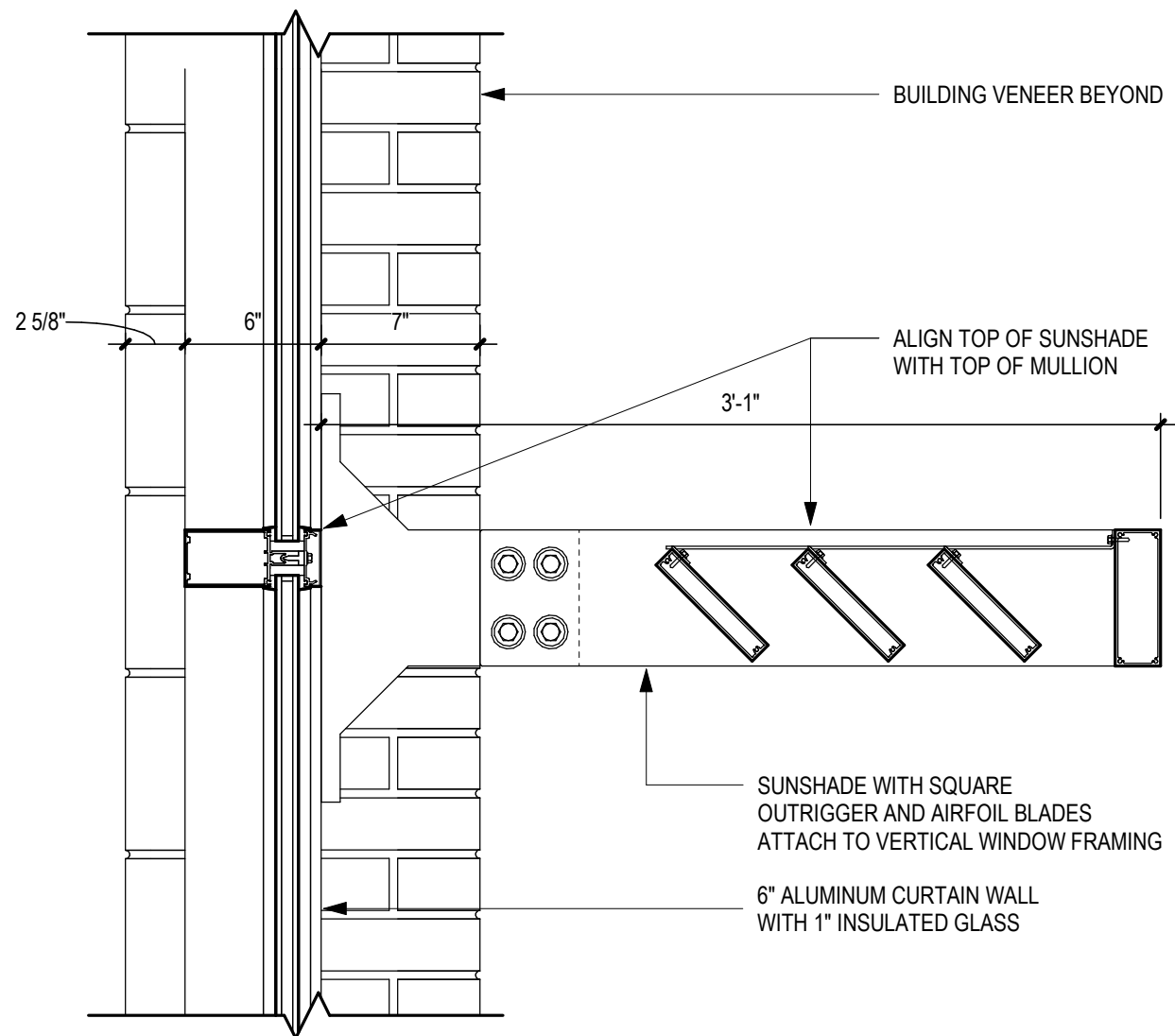
9 TYP CURTAINWALL HEAD DETAIL-CMP
 SCALE: 3" = 1'-0"



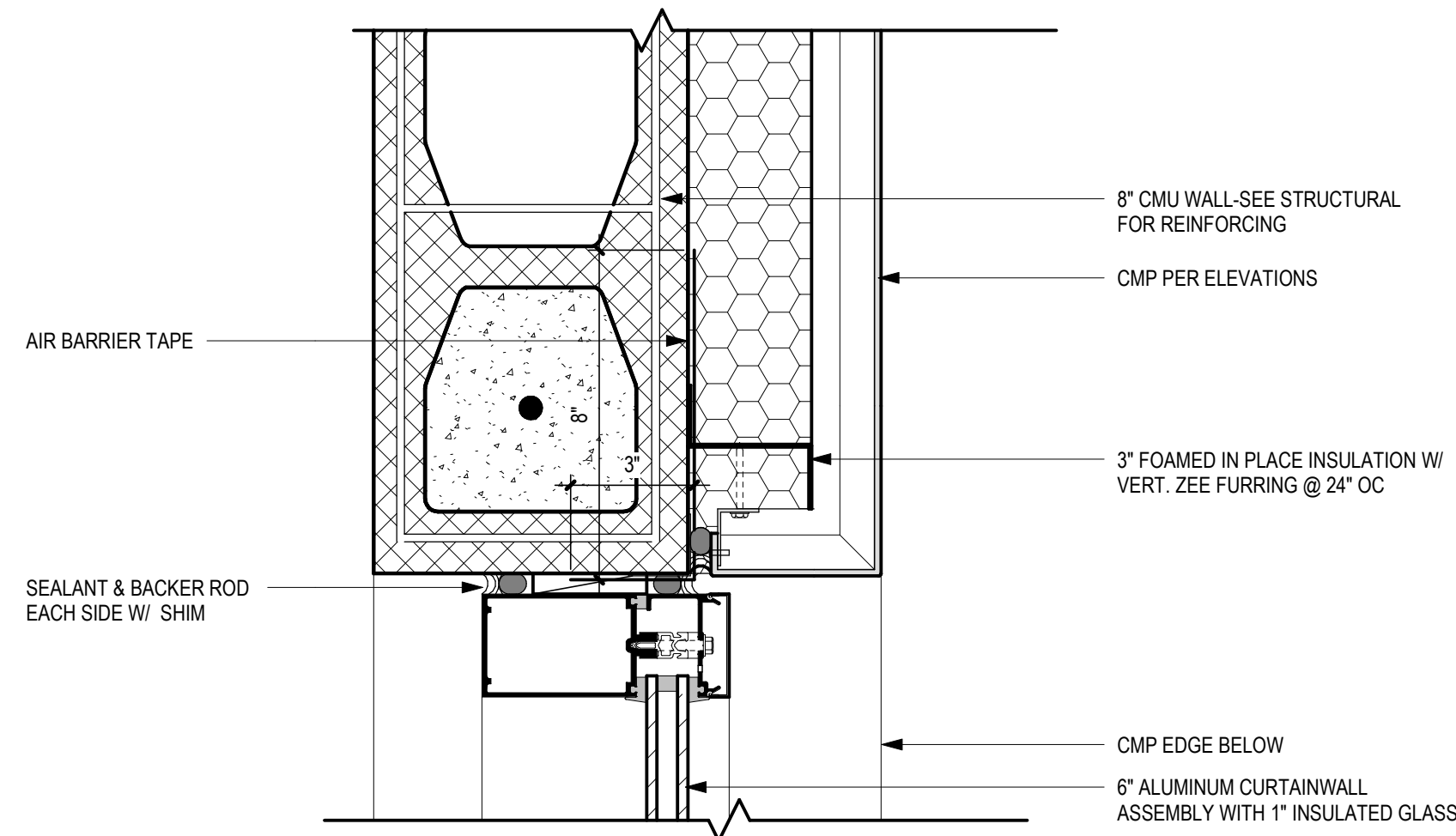
6 TYP CURTAINWALL HEAD DETAIL-METAL WALL PANEL
 SCALE: 3" = 1'-0"



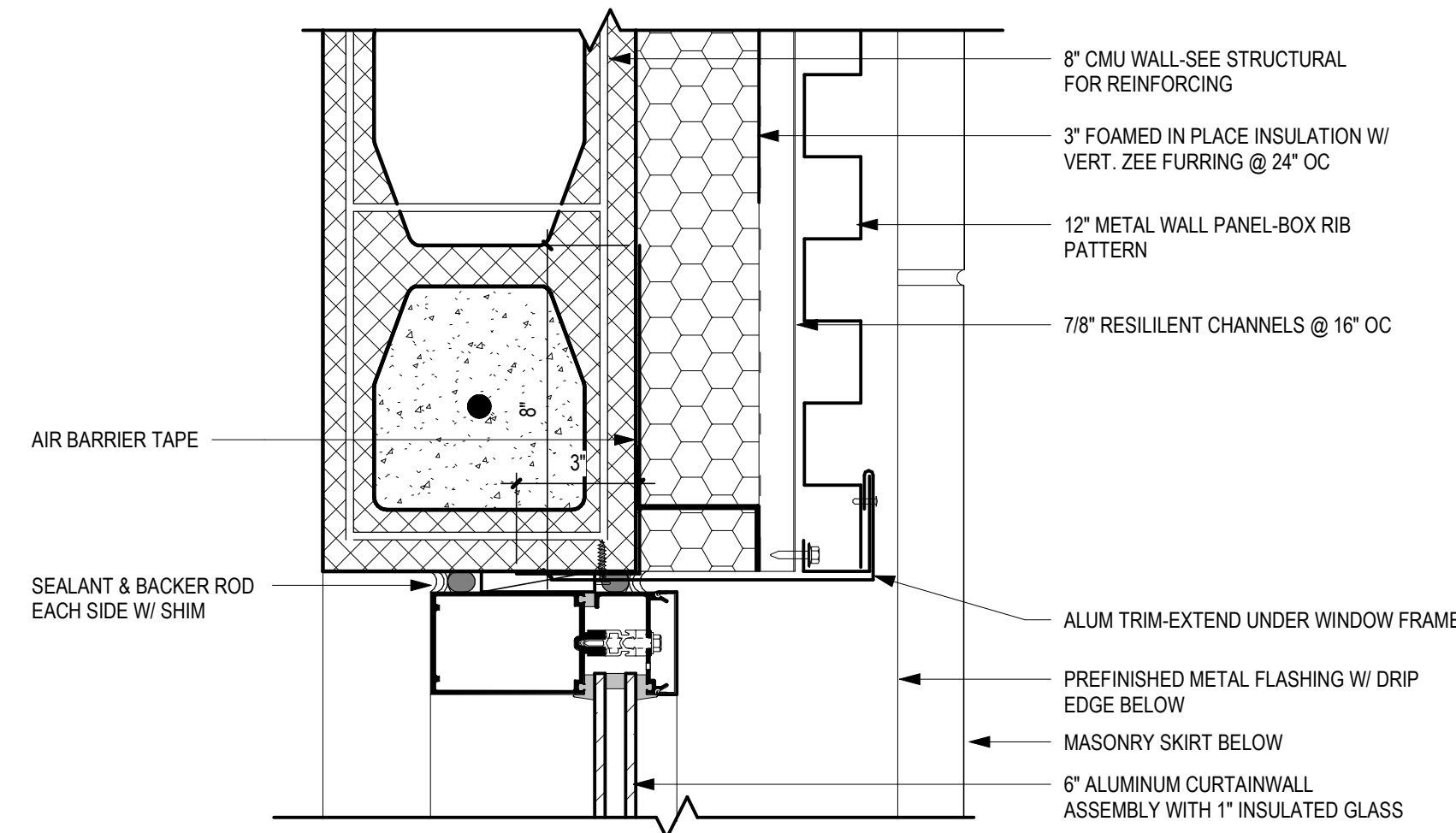
3 TYP CURTAINWALL HEAD DETAIL-BRICK
 SCALE: 3" = 1'-0"



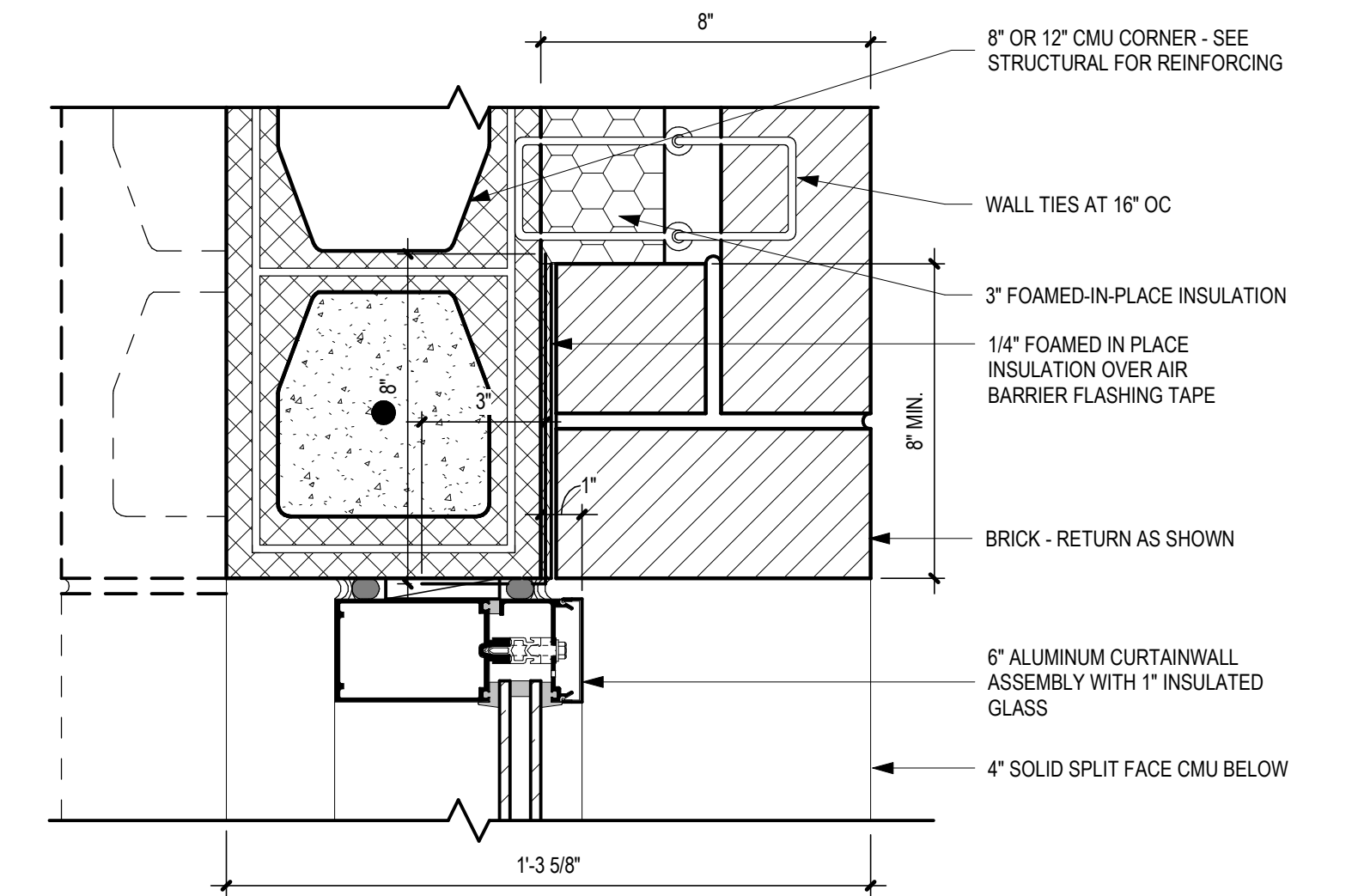
11 SUNSHADE SECTION AT WINDOW
 SCALE: 1 1/2" = 1'-0"



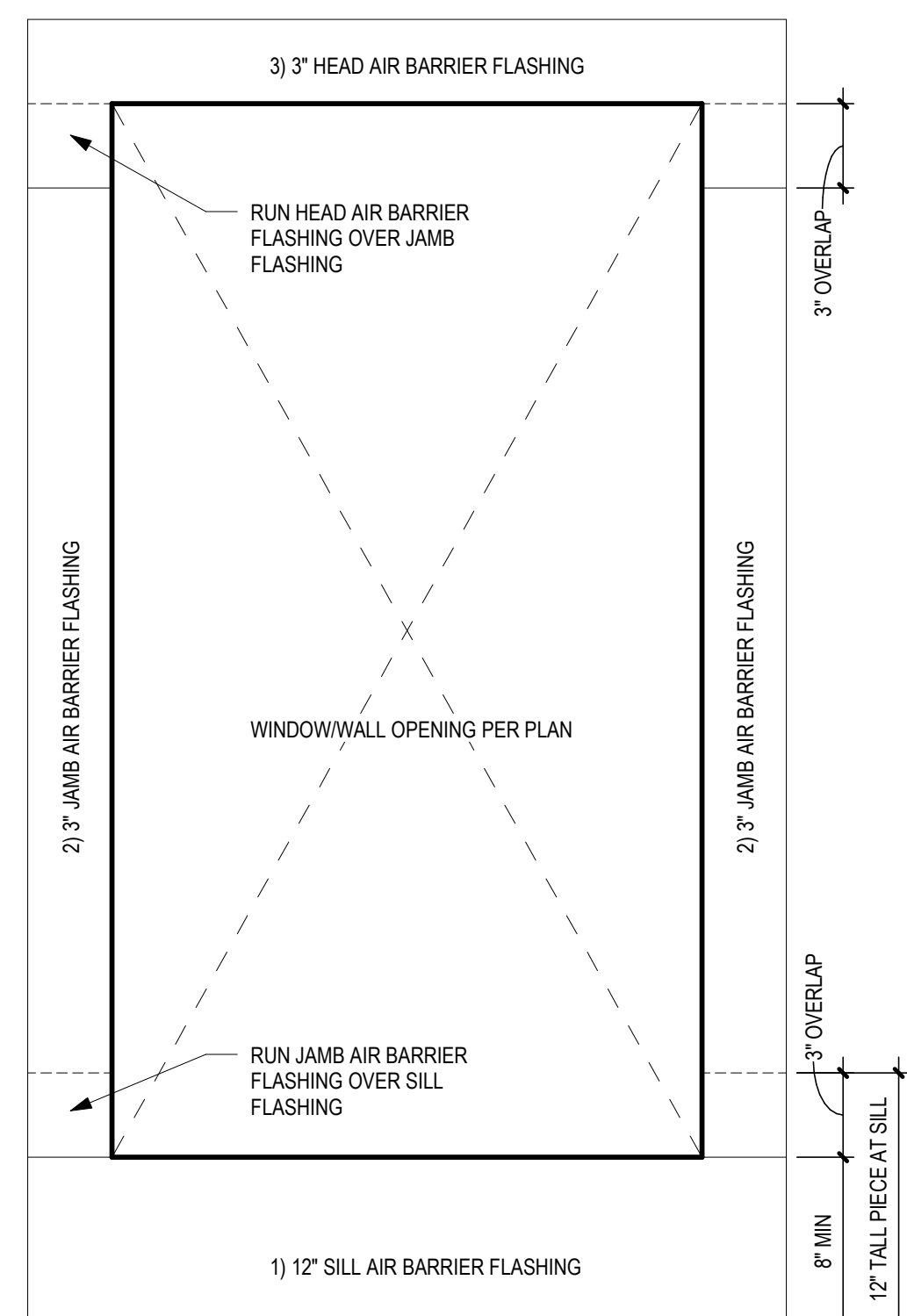
8 TYP CURTAINWALL JAMB DETAIL-CMP
 SCALE: 3" = 1'-0"



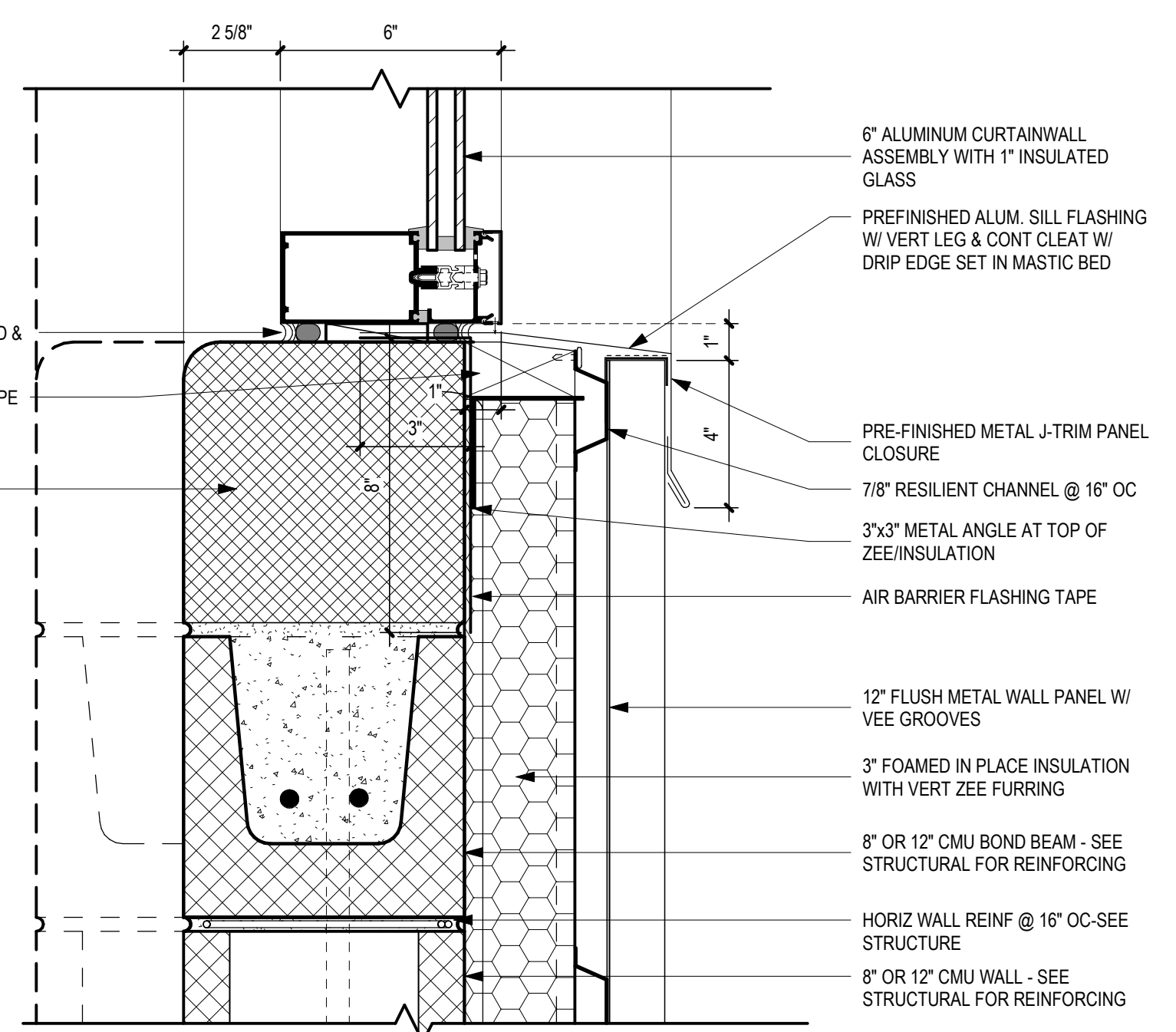
5 TYP CURTAINWALL JAMB DETAIL-METAL WALL PANEL
 SCALE: 3" = 1'-0"



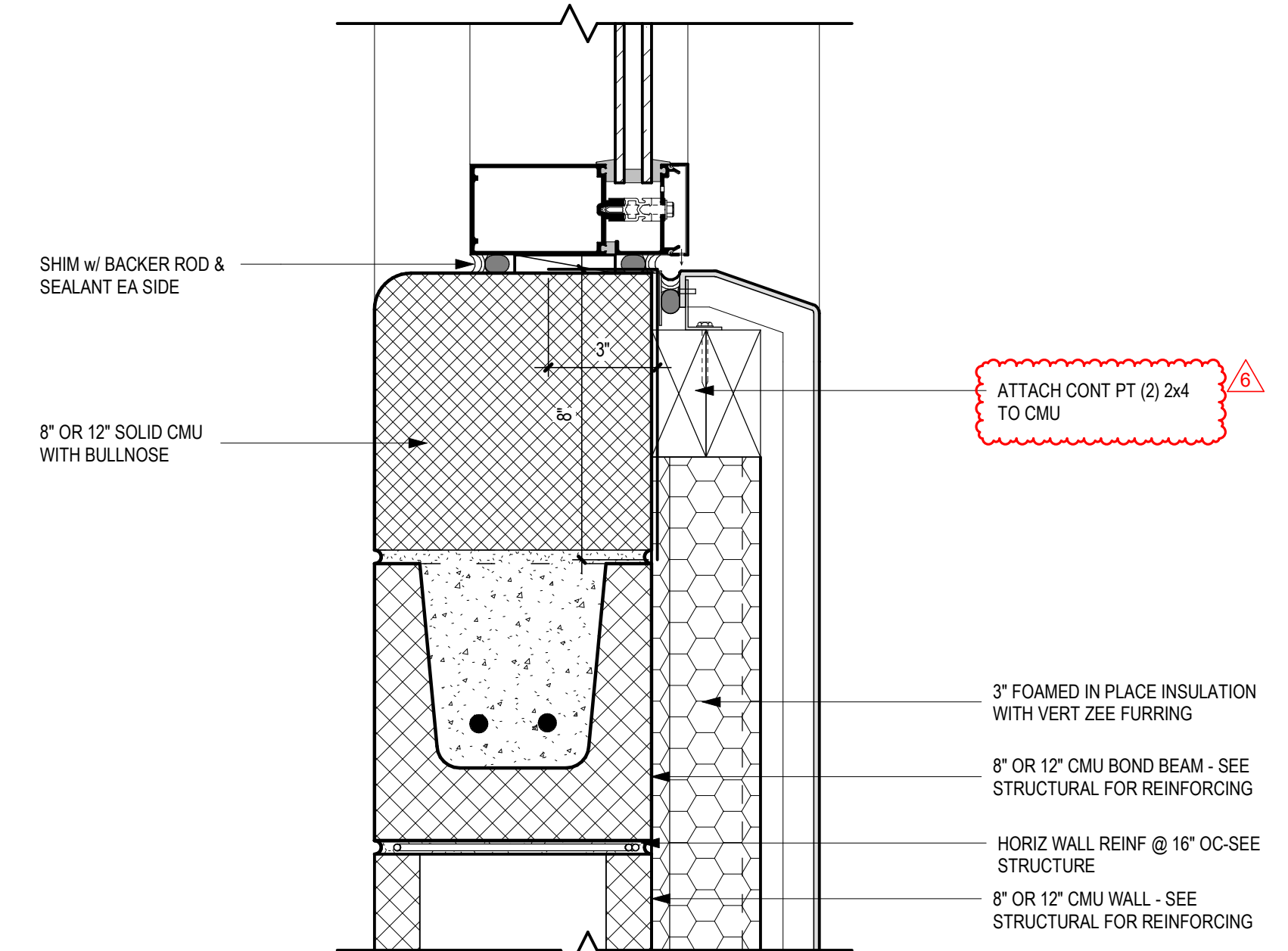
2 TYP CURTAINWALL JAMB DETAIL-BRICK
 SCALE: 3" = 1'-0"



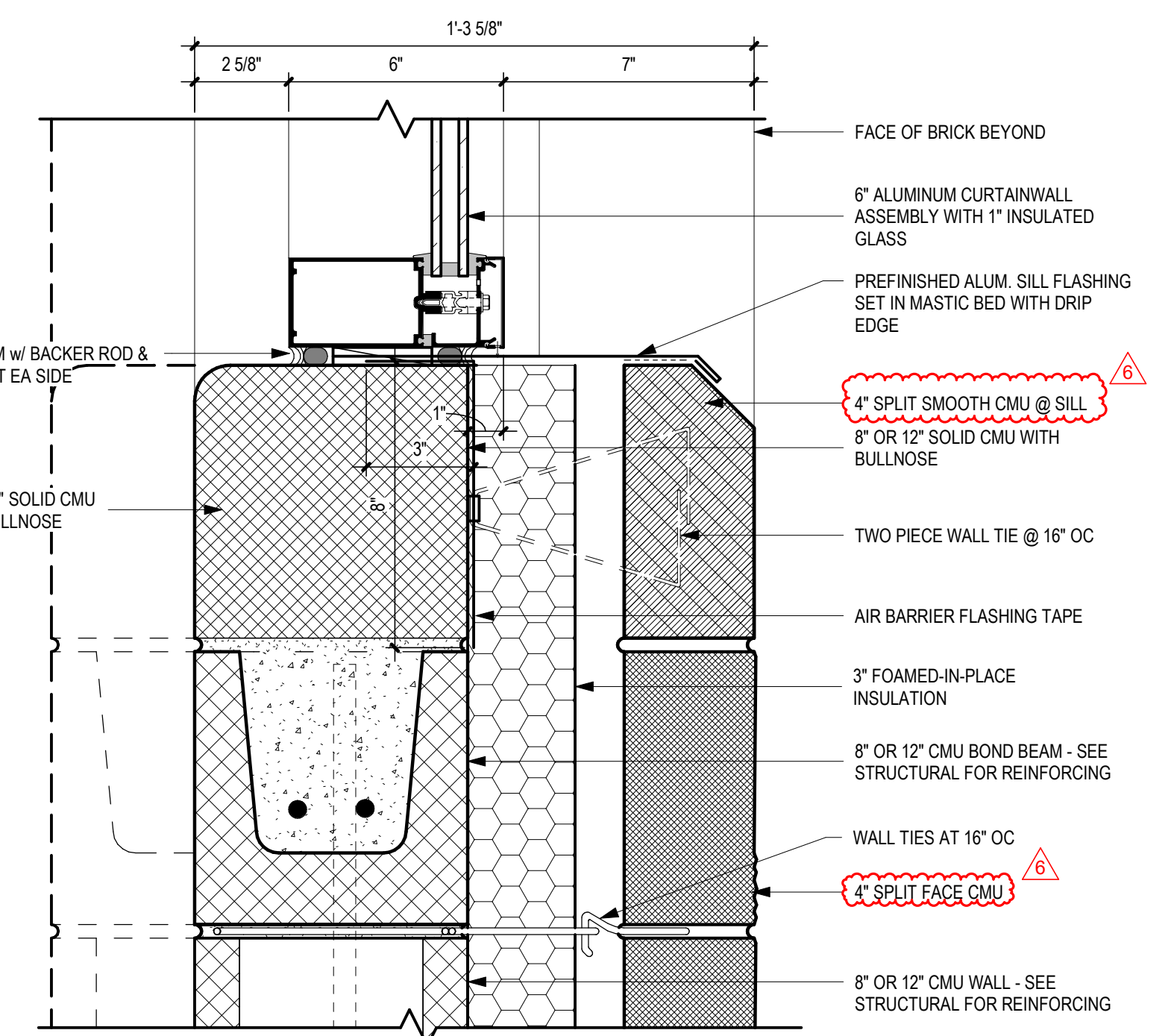
10 AIR BARRIER TAPE DETAIL
 SCALE: 3" = 1'-0"



7 TYP CURTAINWALL SILL DETAIL-METAL PANEL
 SCALE: 3" = 1'-0"



4 TYP CURTAINWALL SILL DETAIL-CMP
 SCALE: 3" = 1'-0"



1 TYP CURTAINWALL SILL DETAIL-CMU
 SCALE: 3" = 1'-0"

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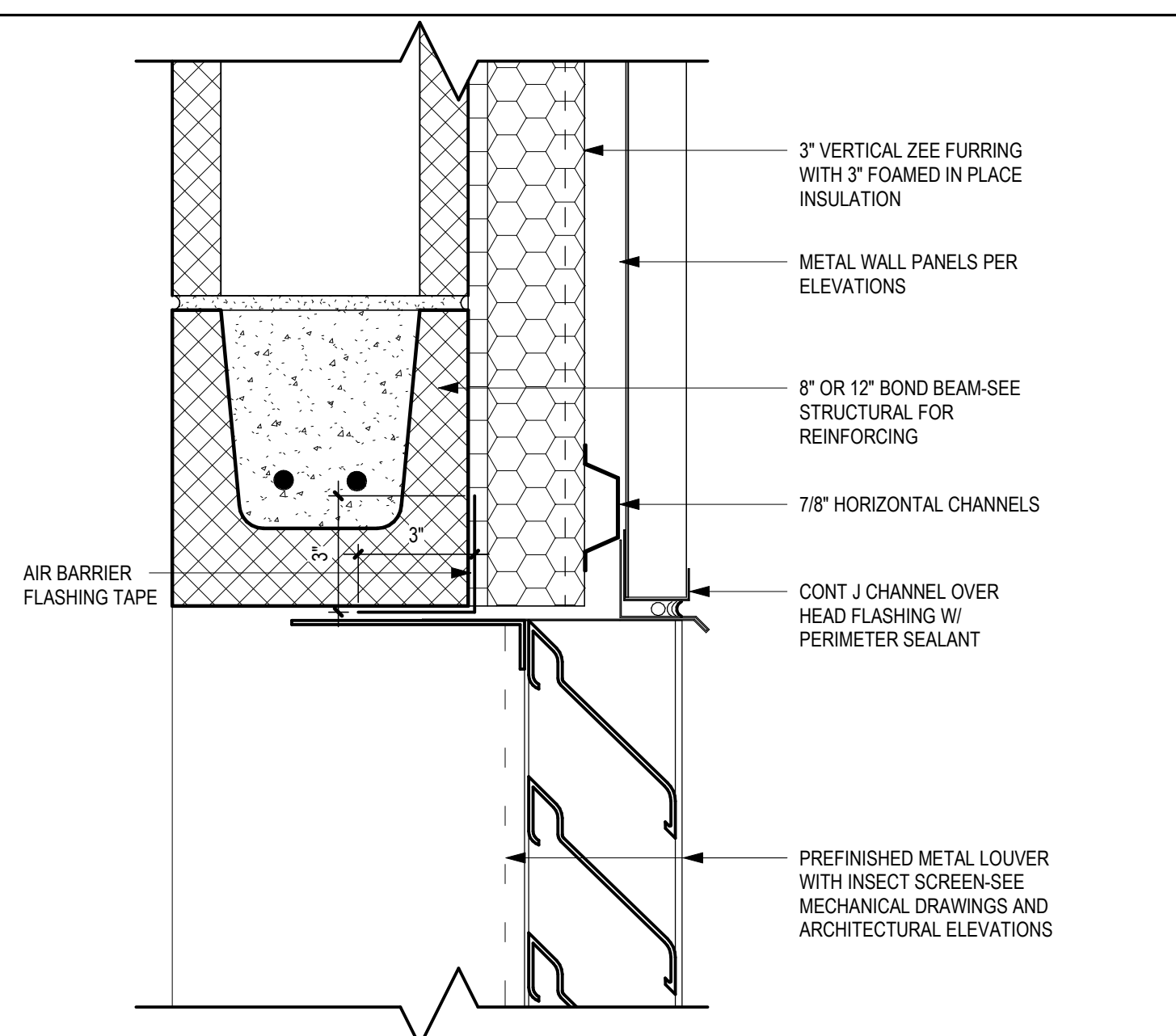


No.	Date	Description
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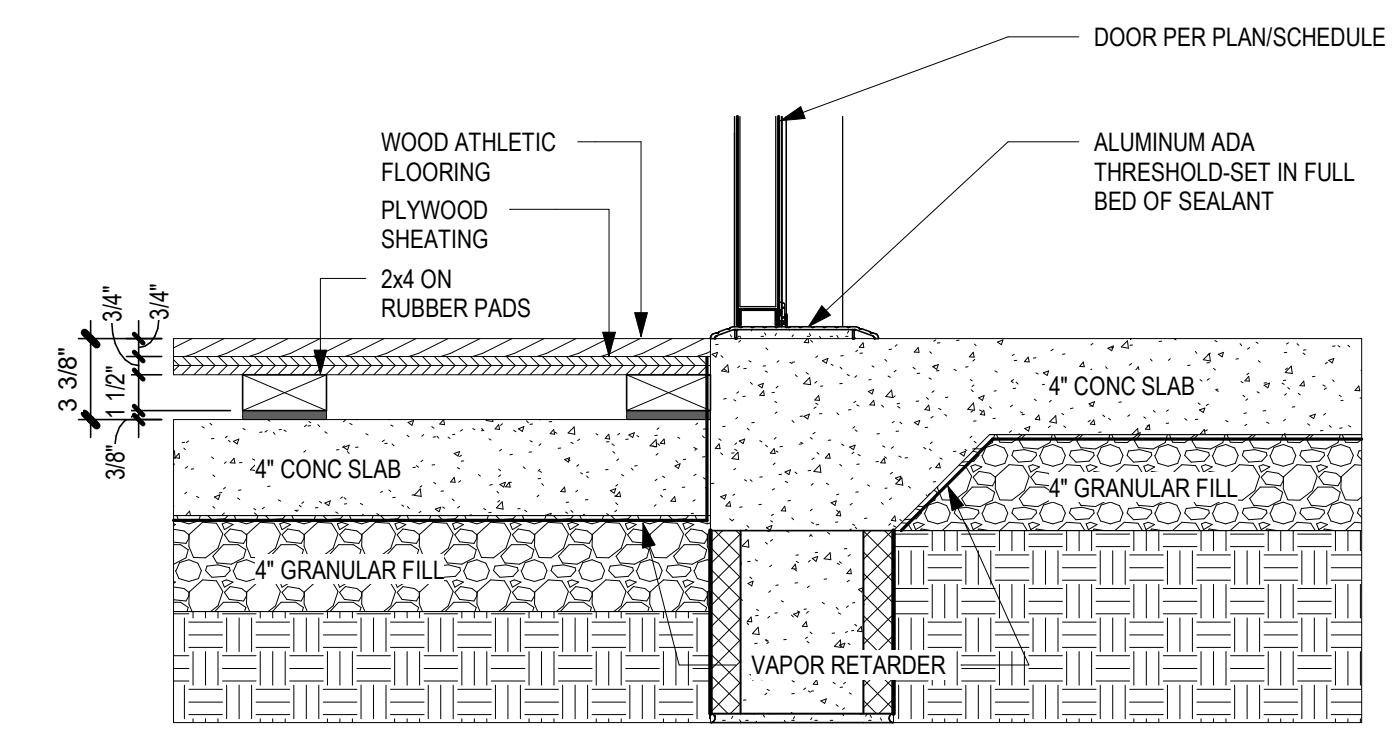
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DETAILS EXTERIOR
 WINDOW

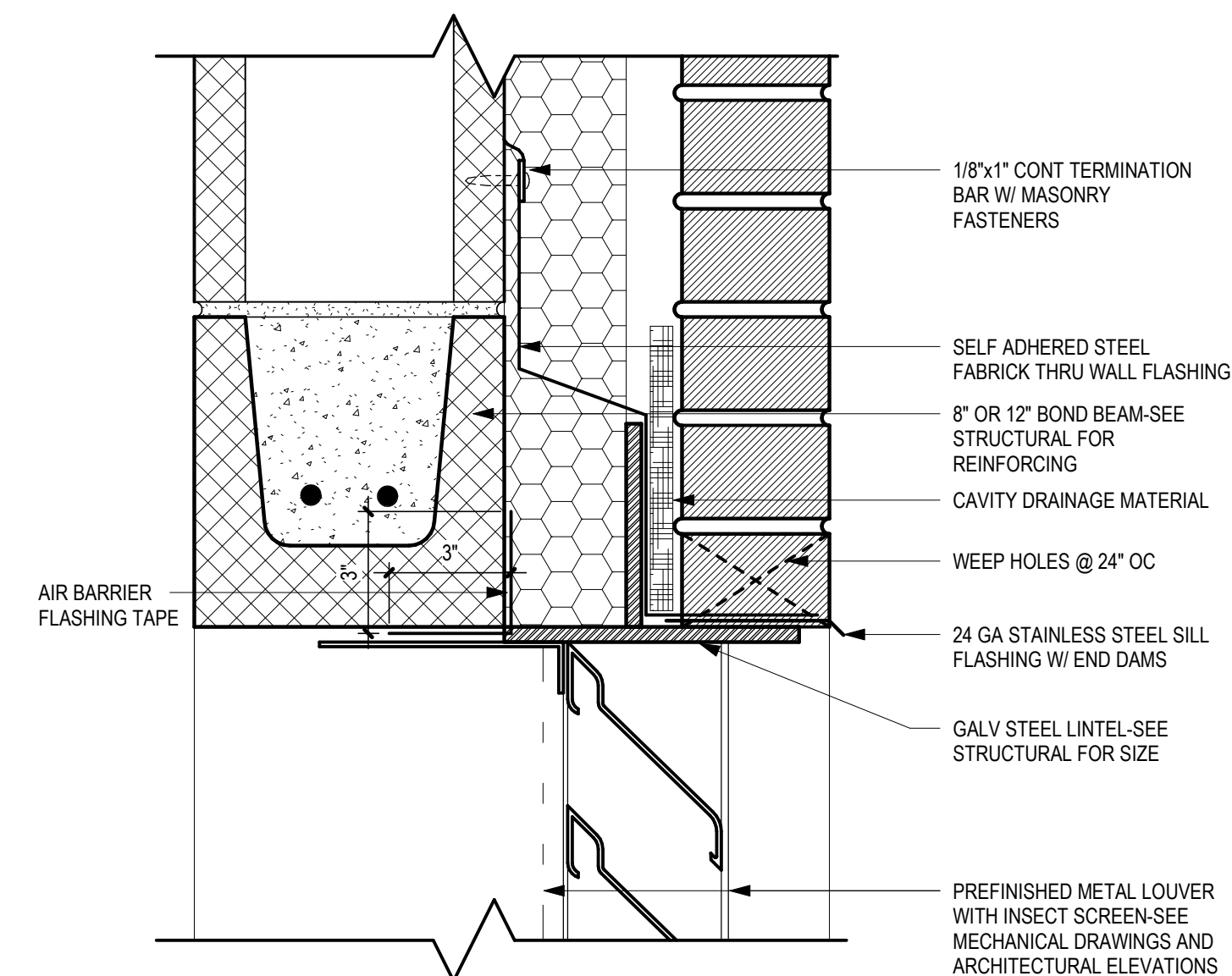
A-501



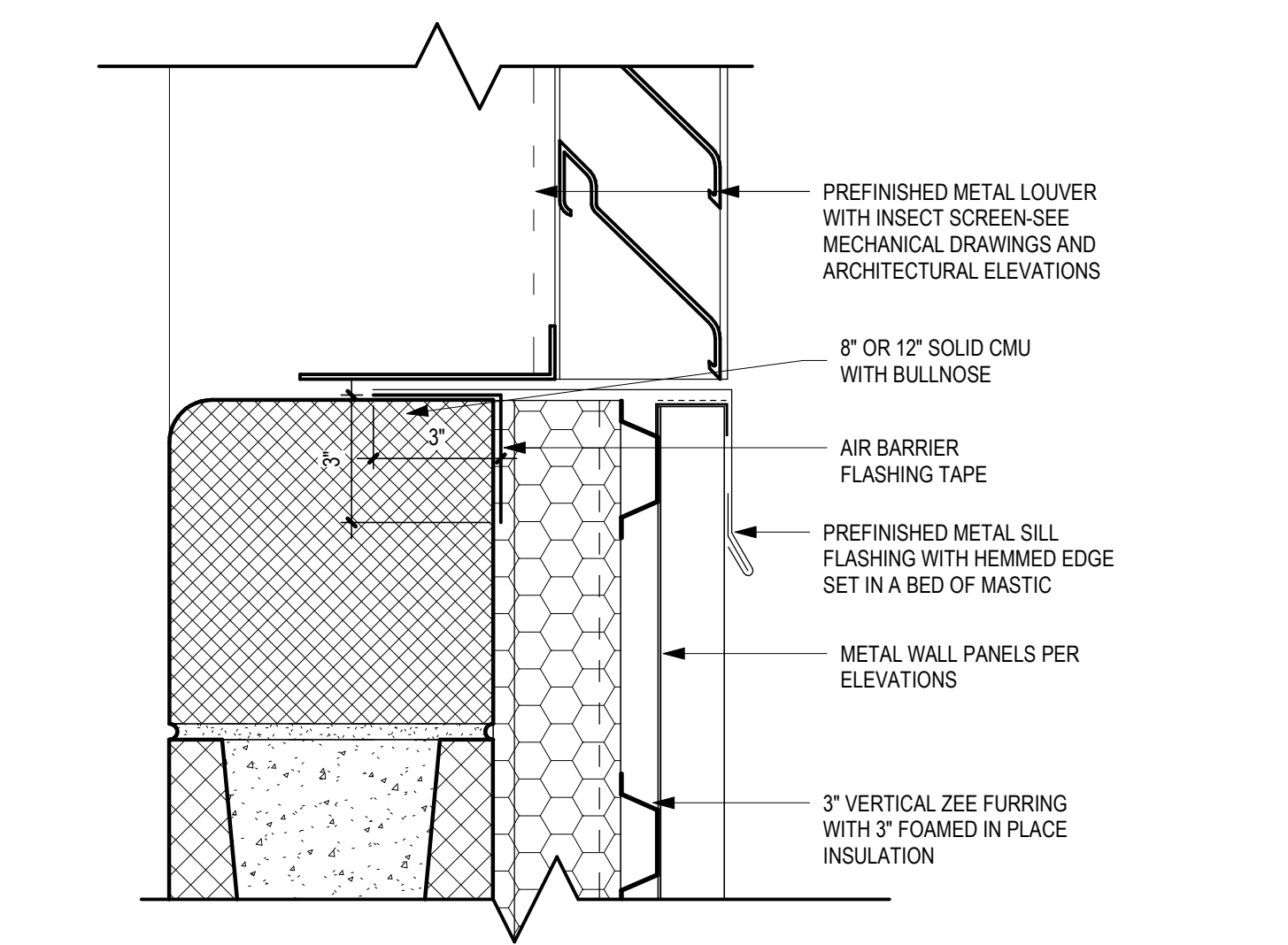
11
A-502
DOOR THRESHOLD AT GYM
SCALE: 1 1/2" = 1'-0"



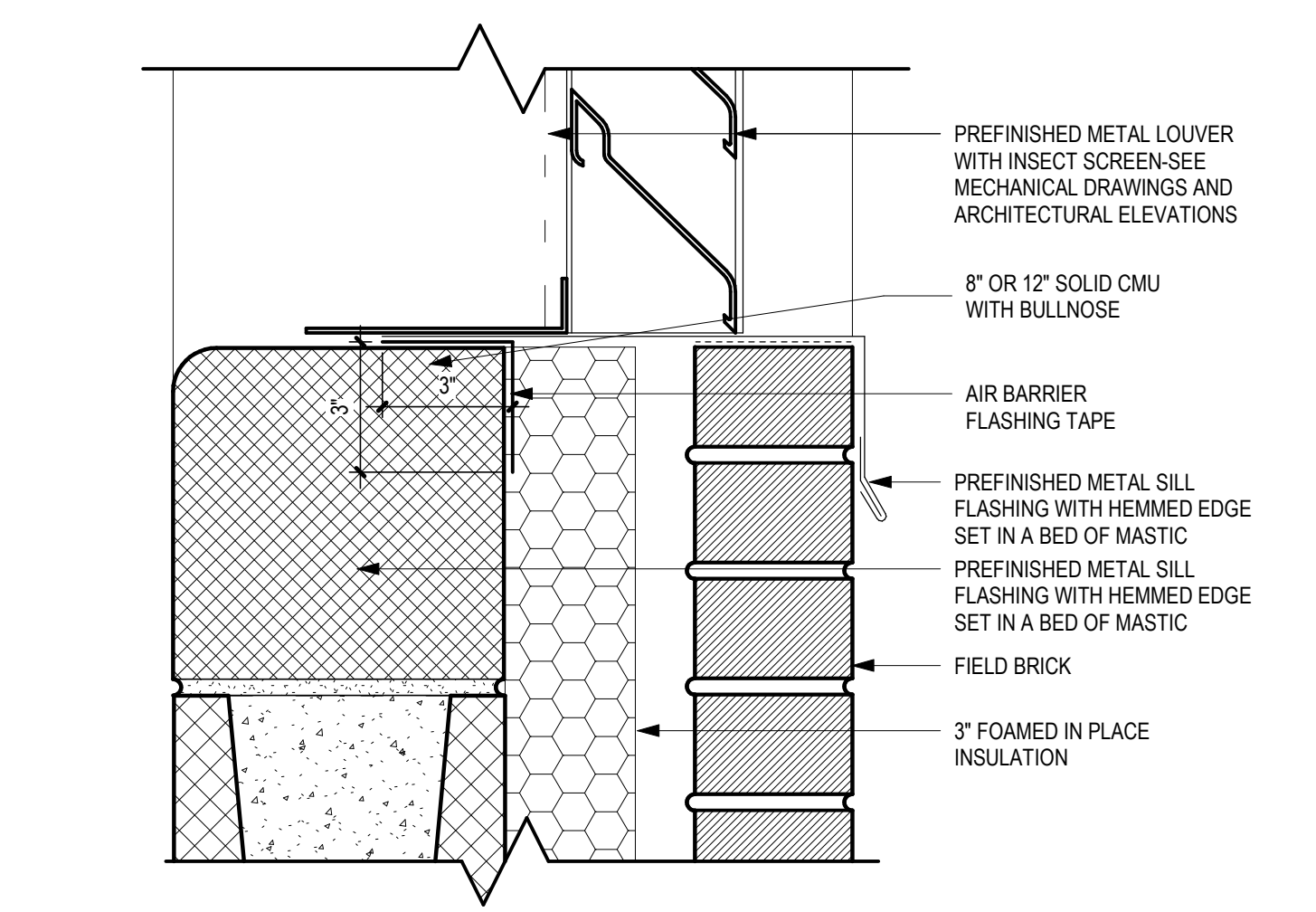
7
A-502
EXT DOOR THRESHOLD DETAIL
SCALE: 1 1/2" = 1'-0"



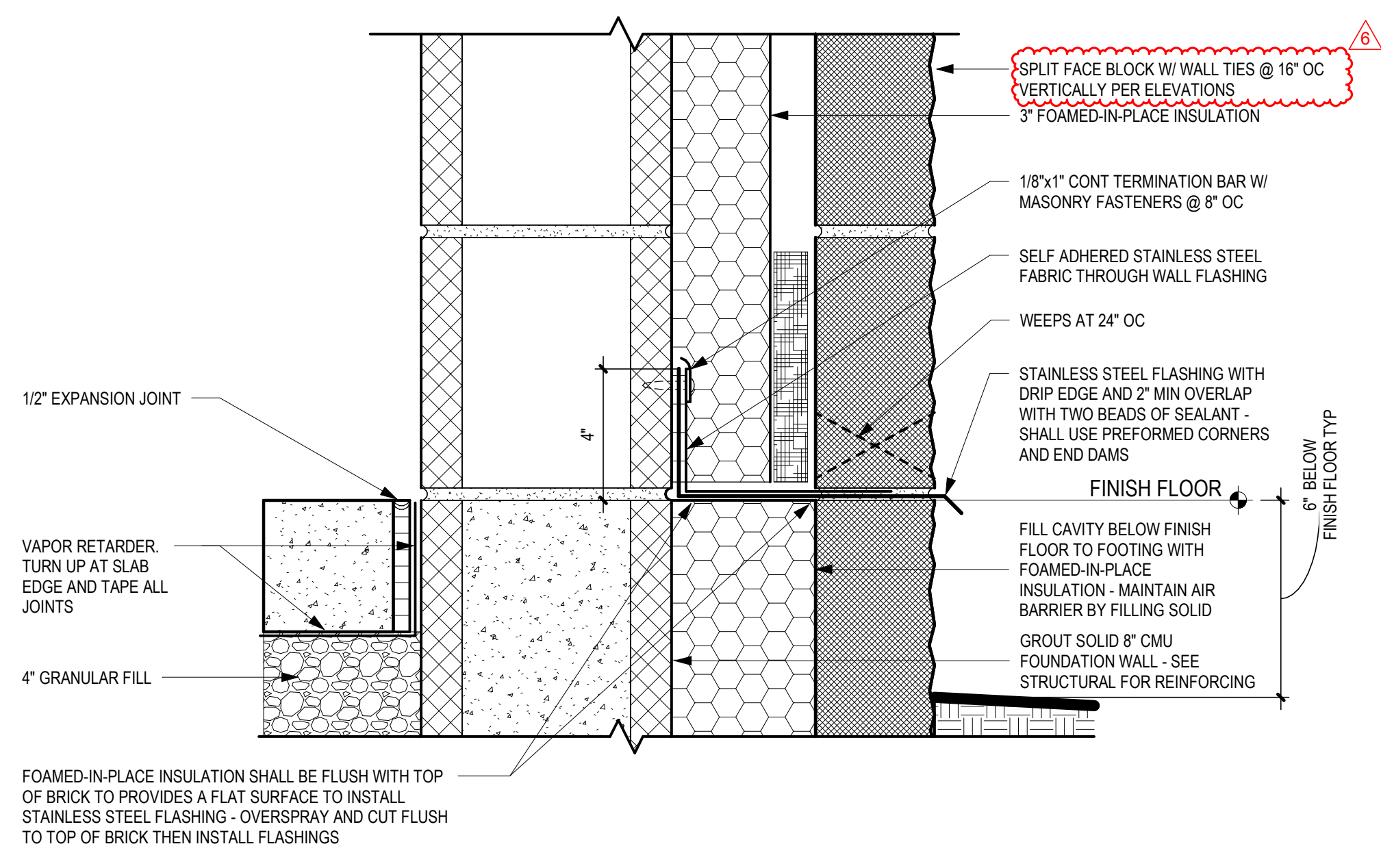
10
A-502
WALL LOUVER HEAD DETAIL
SCALE: 3" = 1'-0"



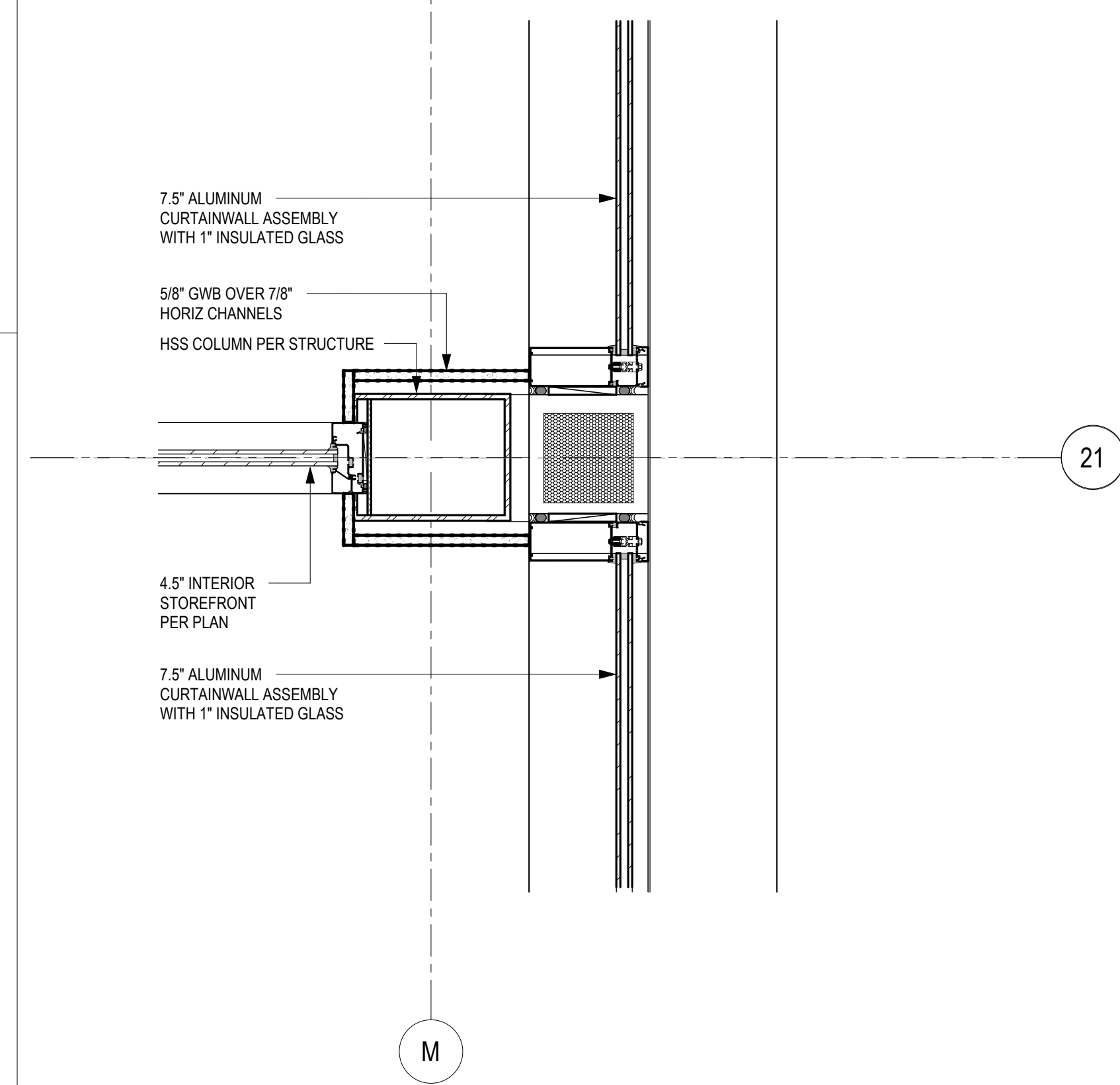
6
A-502
TYP WALL BASE DETAIL-CMP @ GRADE
SCALE: 3" = 1'-0"



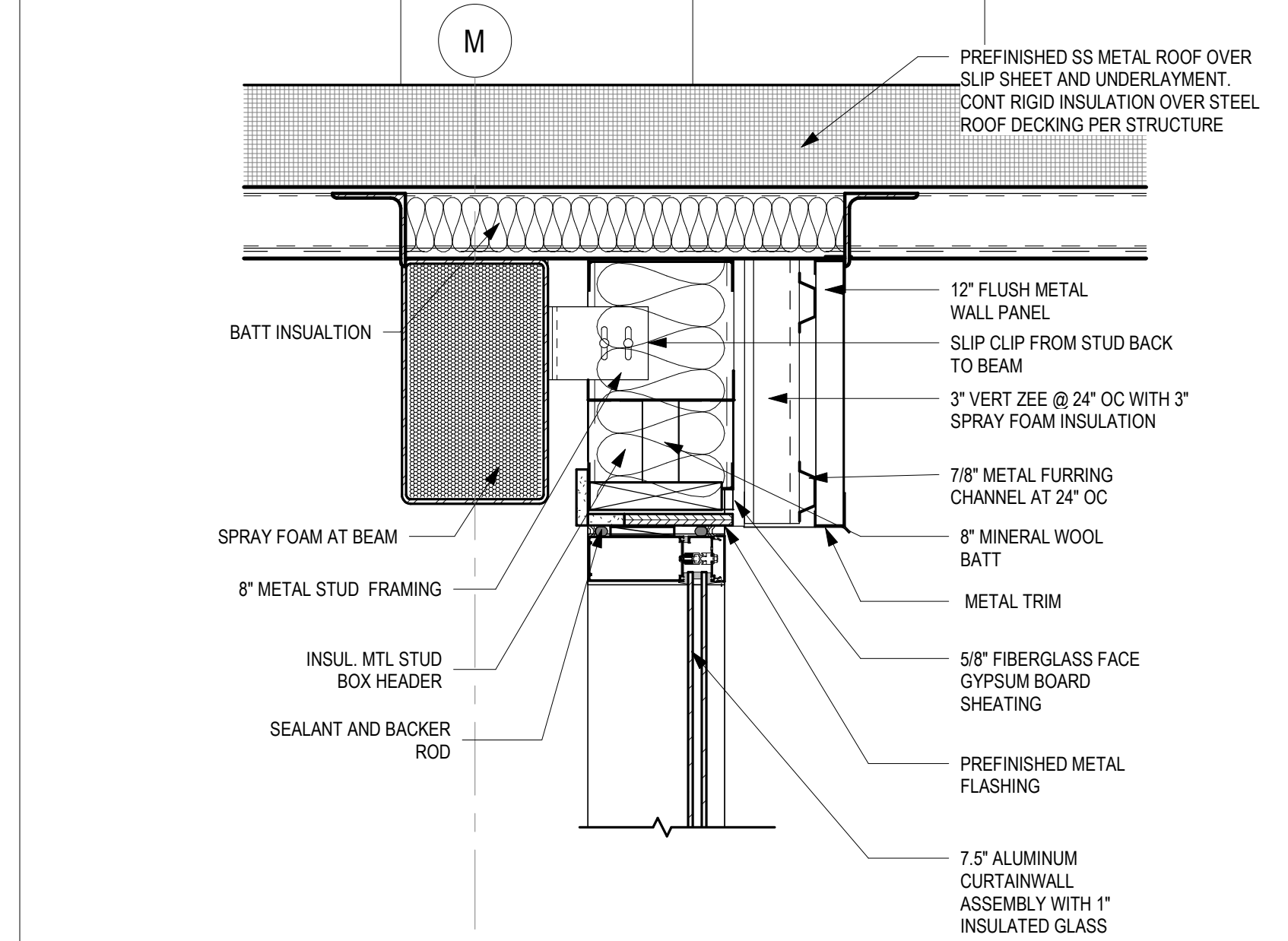
9
A-502
WALL LOUVER SILL DETAIL
SCALE: 3" = 1'-0"



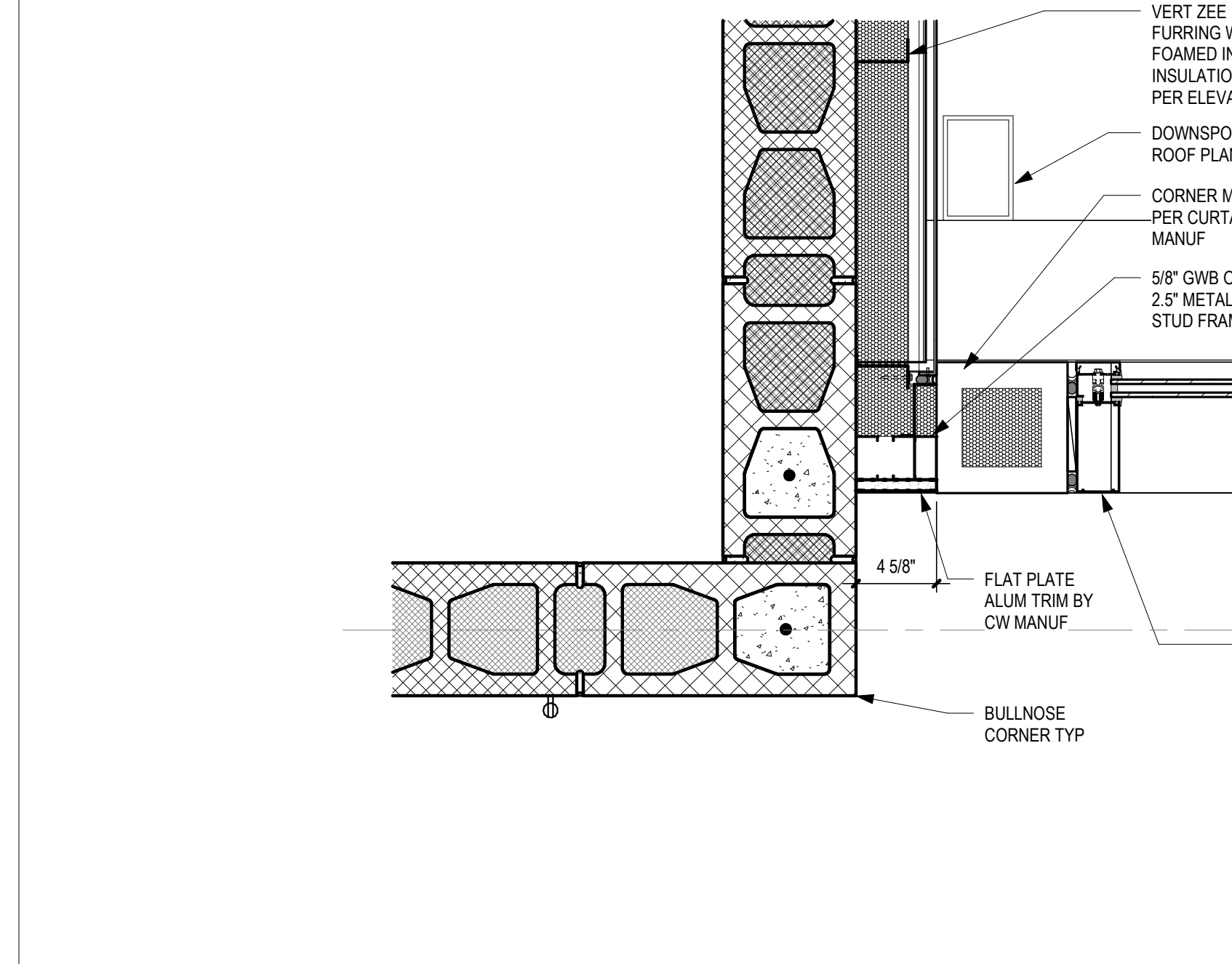
5
A-502
TYP WALL BASE DETAIL-GROUND SPLIT FACE CMU
SCALE: 3" = 1'-0"



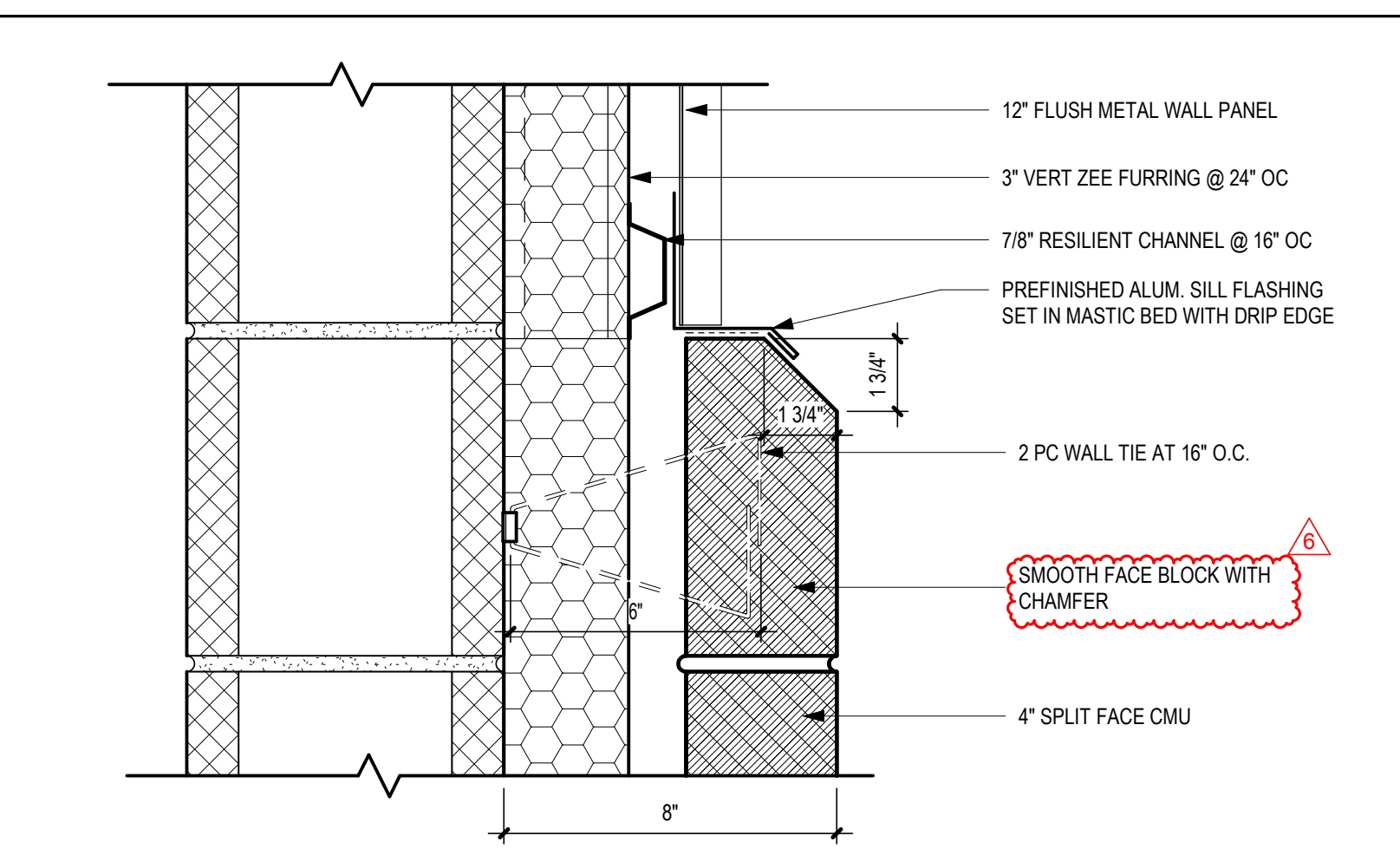
12
A-502
PLAN DETAIL AT FRONT ENTRY
SCALE: 1 1/2" = 1'-0"



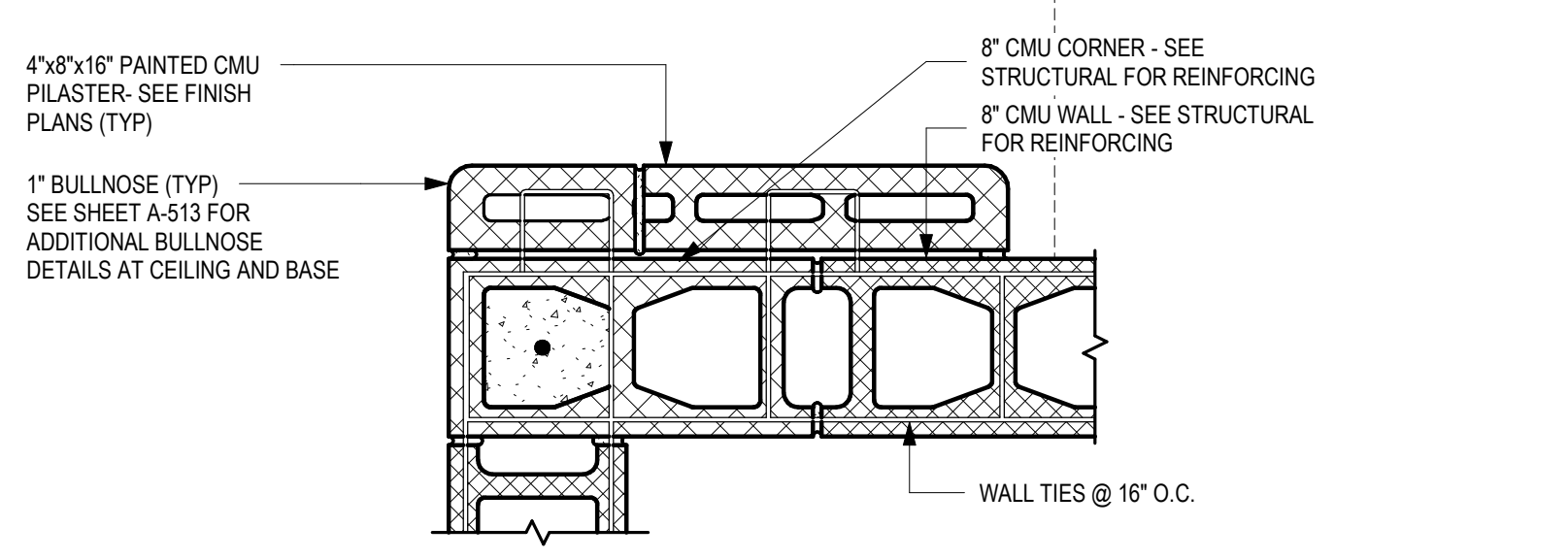
8
A-502
THERMAL BREAK AT TOP OF CURTAIN WALL-ENTRY & MEDIA
SCALE: 1 1/2" = 1'-0"



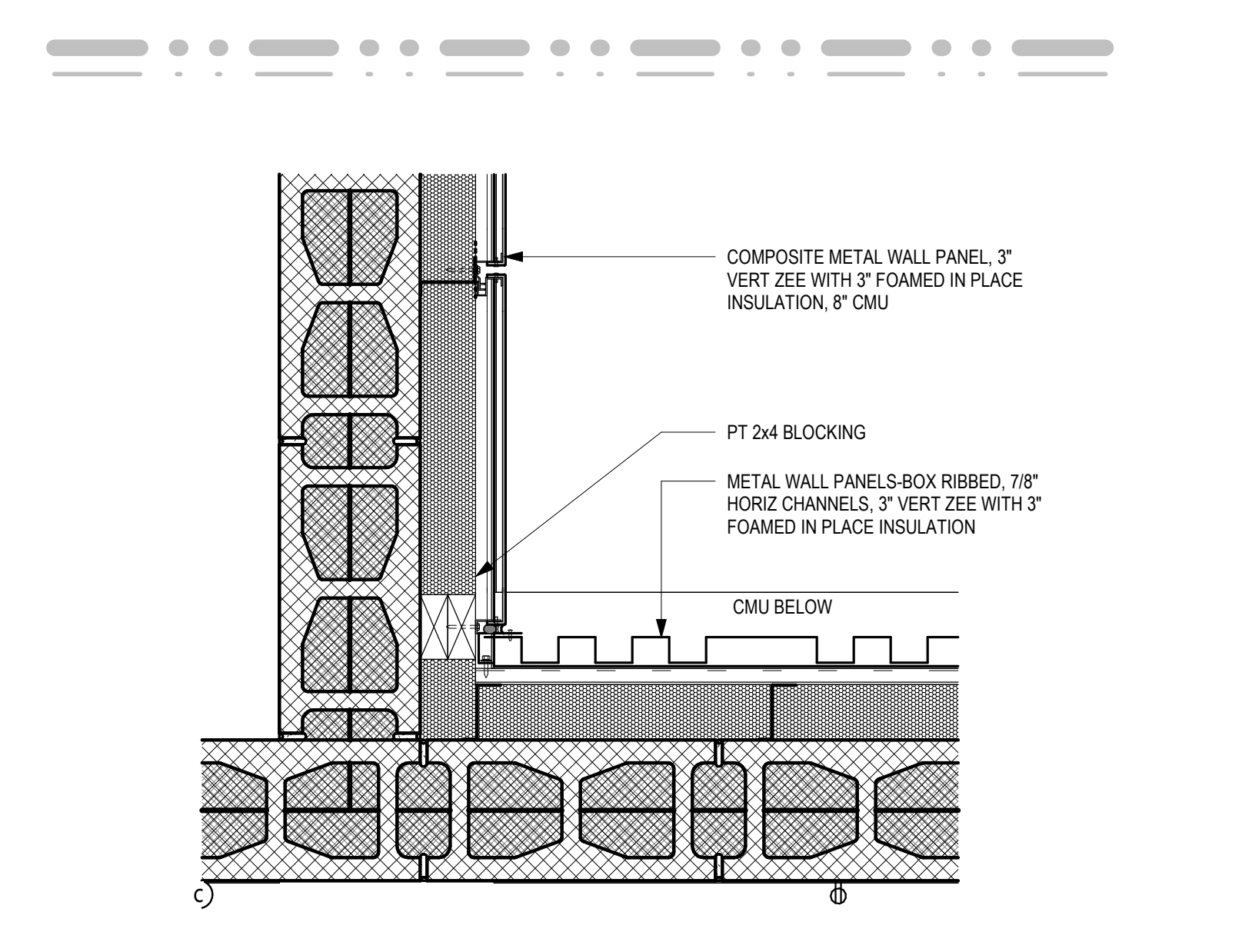
1
A-502
PLAN DETAIL AT FRONT ENTRY CORNER
SCALE: 1 1/2" = 1'-0"



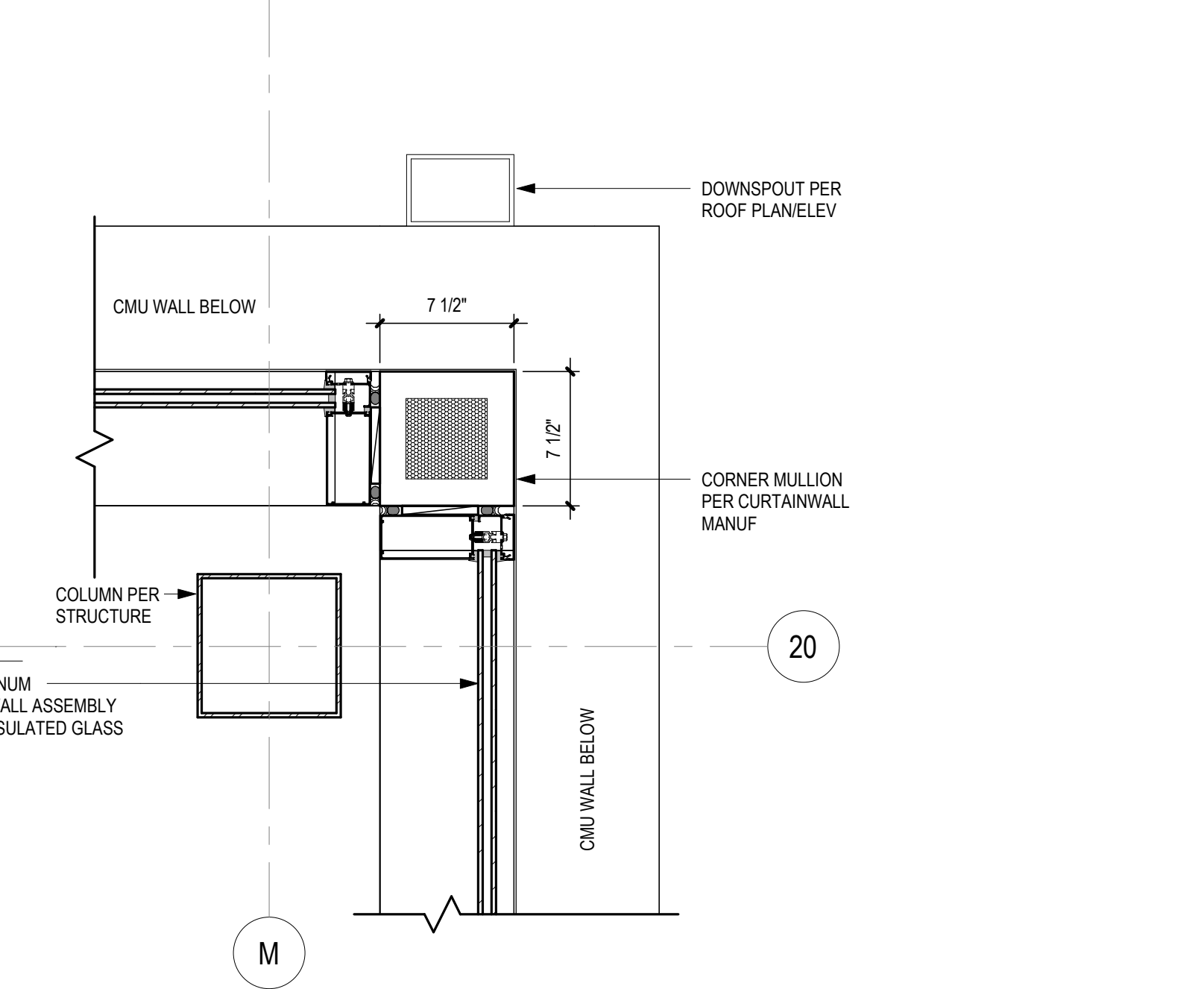
4
A-502
GROUND FACE CMU SILL AT METAL PANEL DETAIL
SCALE: 3" = 1'-0"



3
A-502
INTERIOR PILASTER PLAN DETAIL
SCALE: 1 1/2" = 1'-0"



2
A-502
INT CORNER PLAN DETAIL AT CMP/BOXED RIB MTL PANEL
SCALE: 1 1/2" = 1'-0"



20
SCALE: 1 1/2" = 1'-0"

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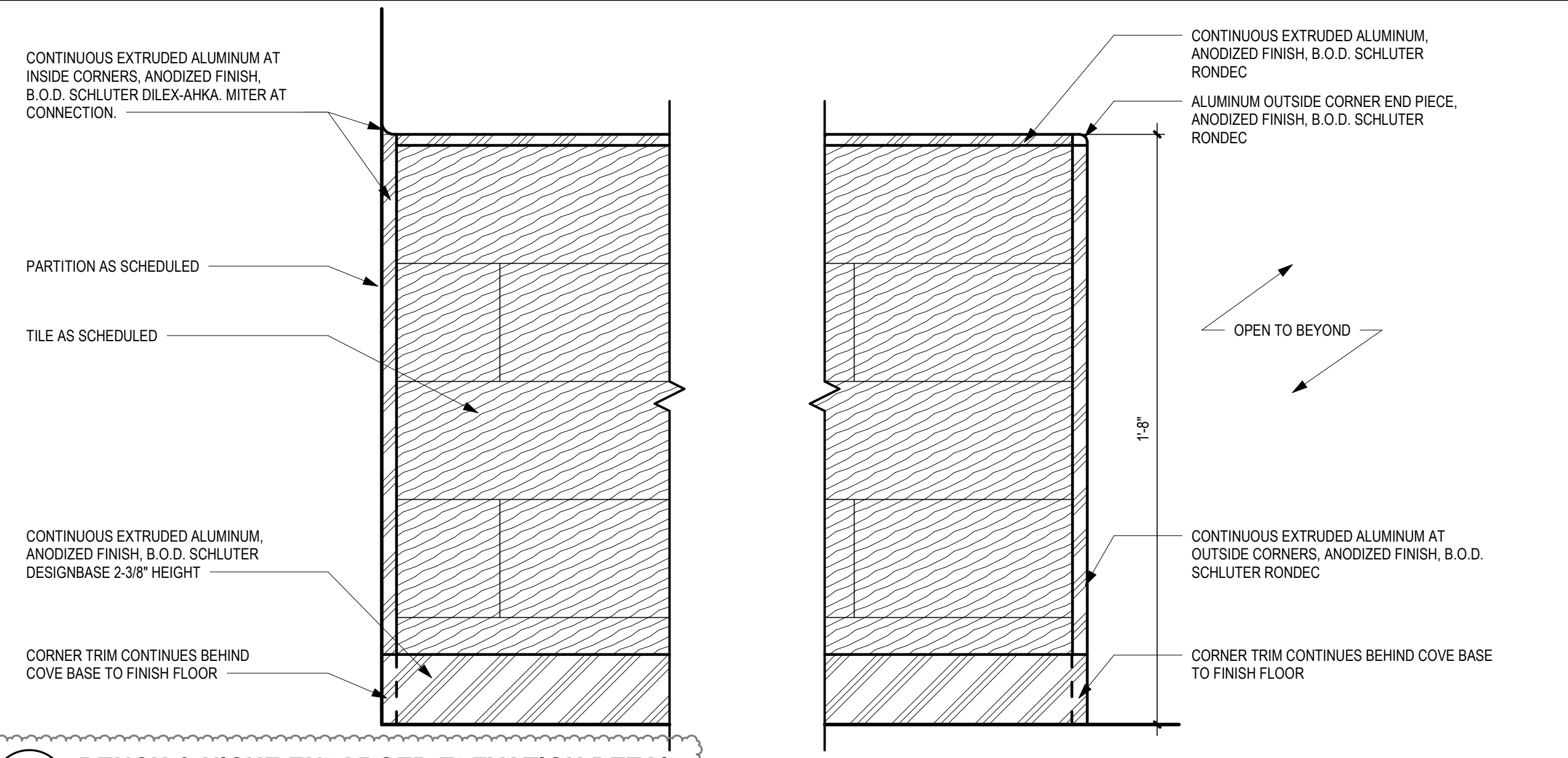


No.	Date	Description
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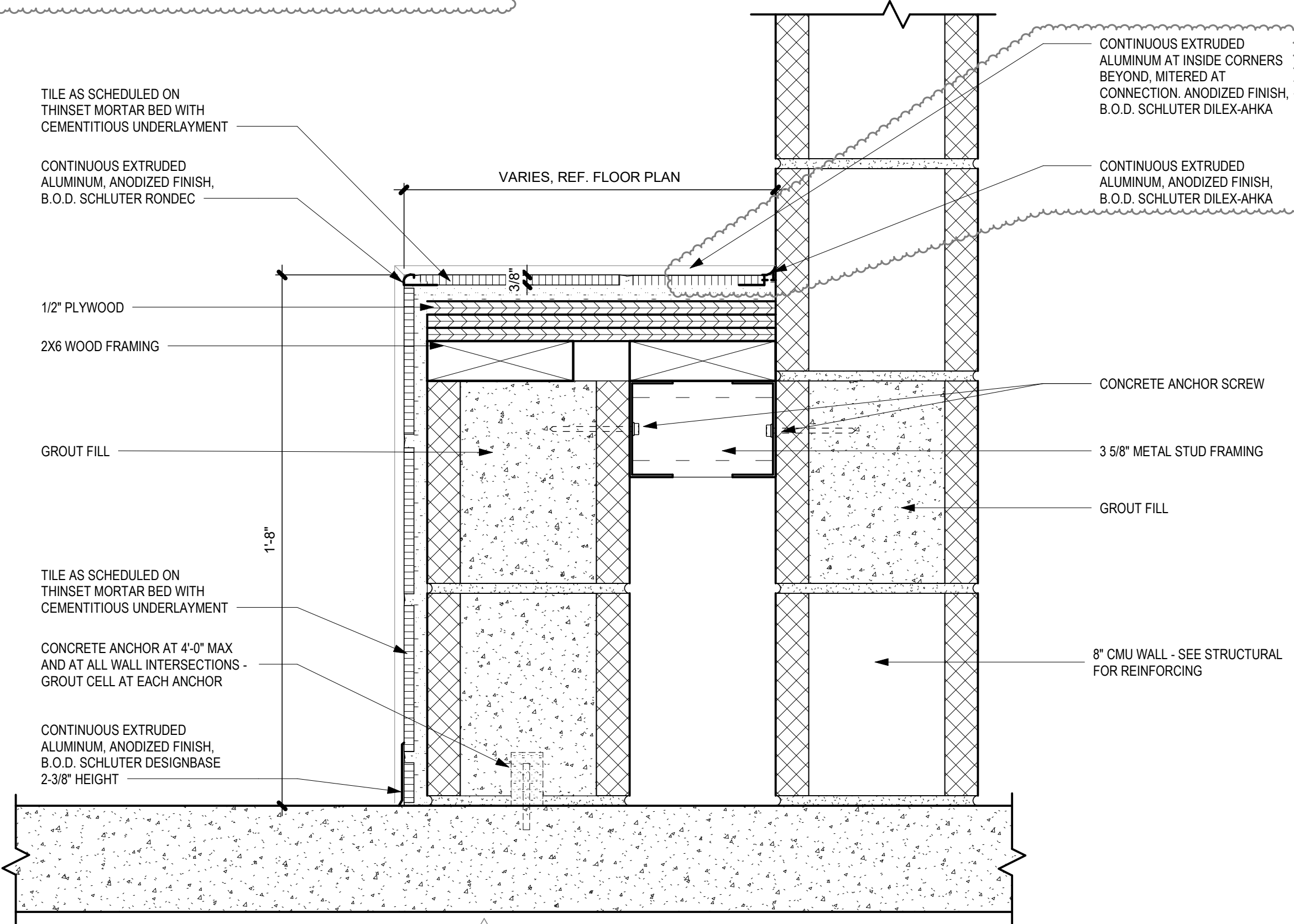
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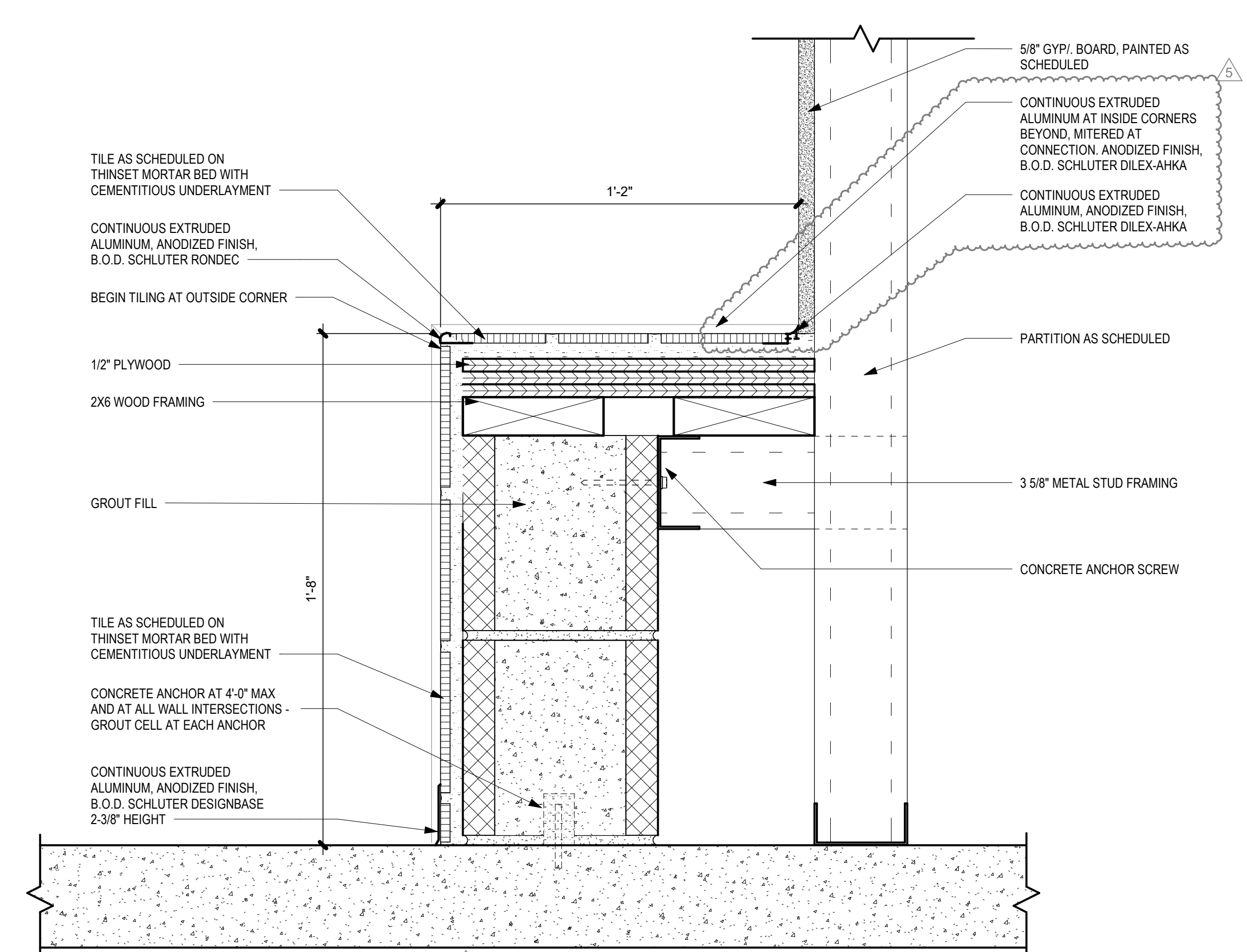
A-502



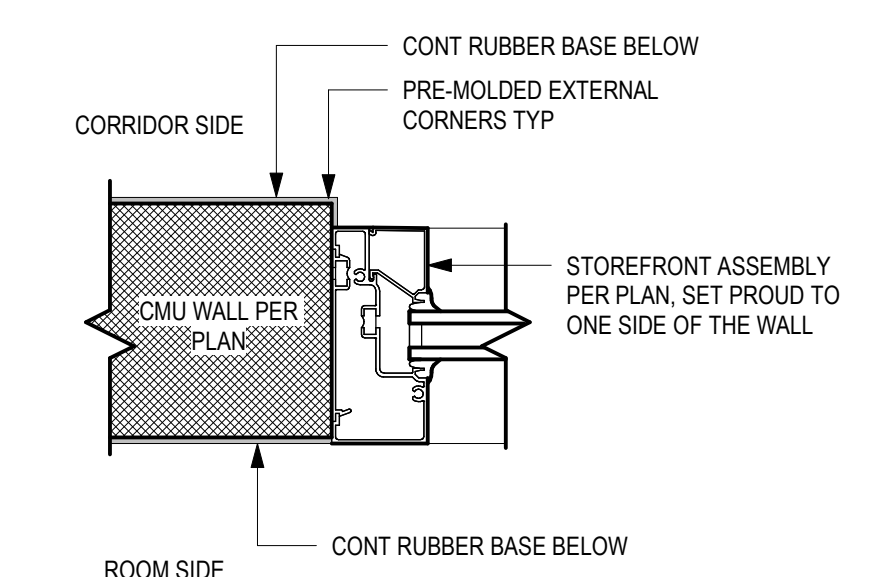
11 BENCH & NICHE ENLARGED ELEVATION DETAIL
A-511 SCALE: 3" = 1'-0"



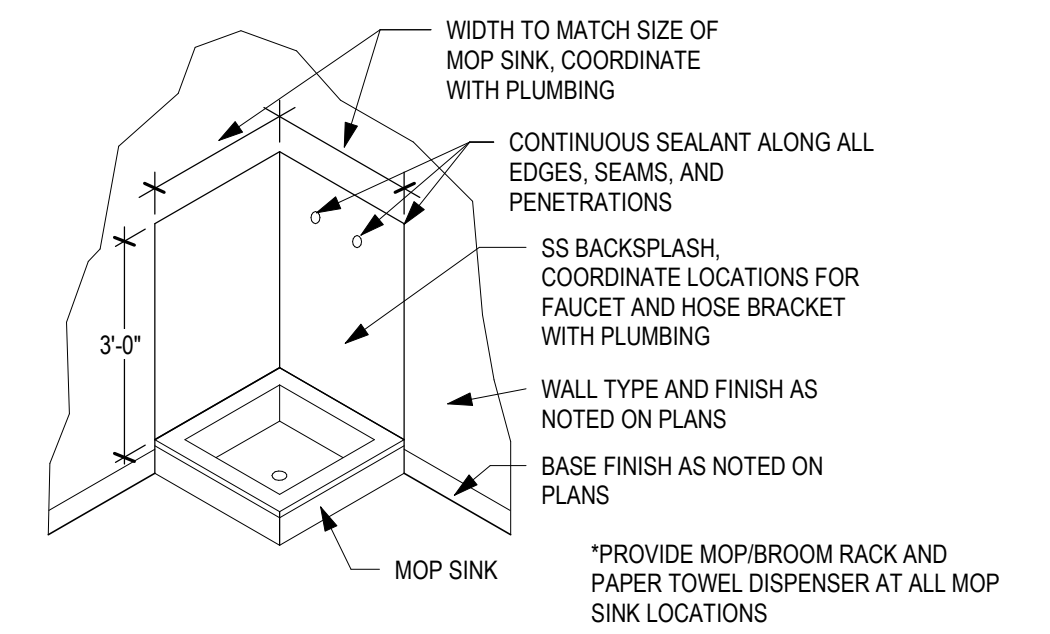
10 100 WING CORRIDOR BENCH SECTION
A-511 SCALE: 3" = 1'-0"



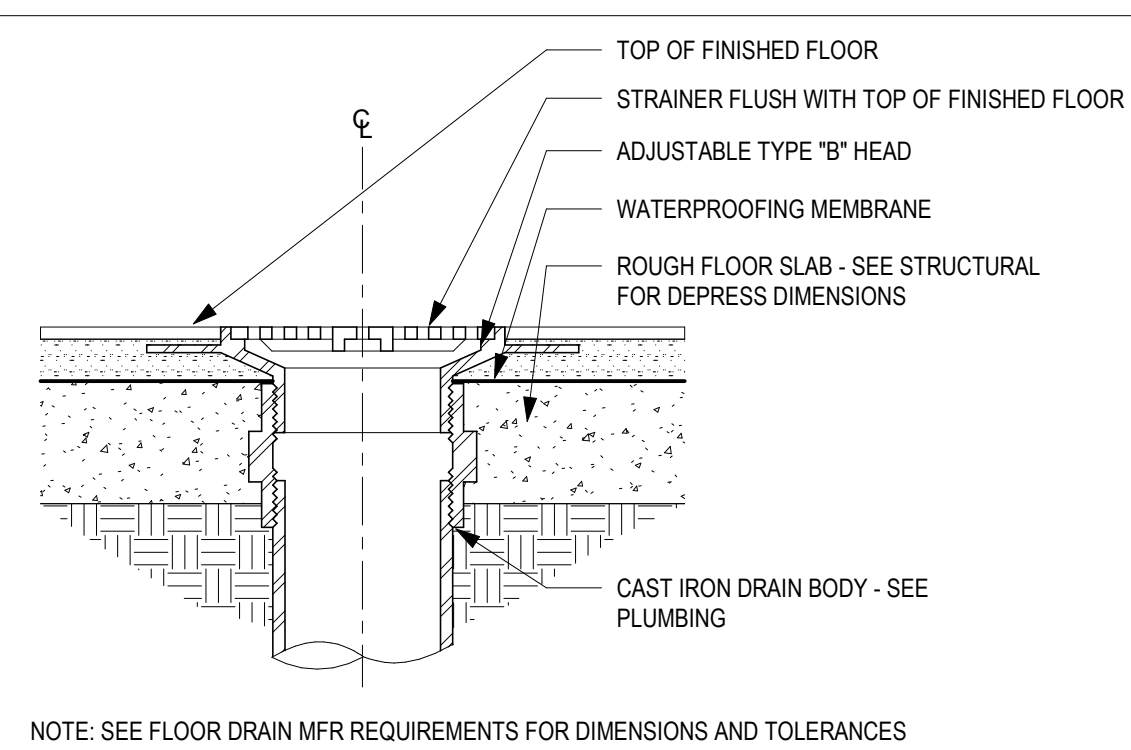
8 NICHE @ AUDITORIUM LOBBY
A-511 SCALE: 3" = 1'-0"



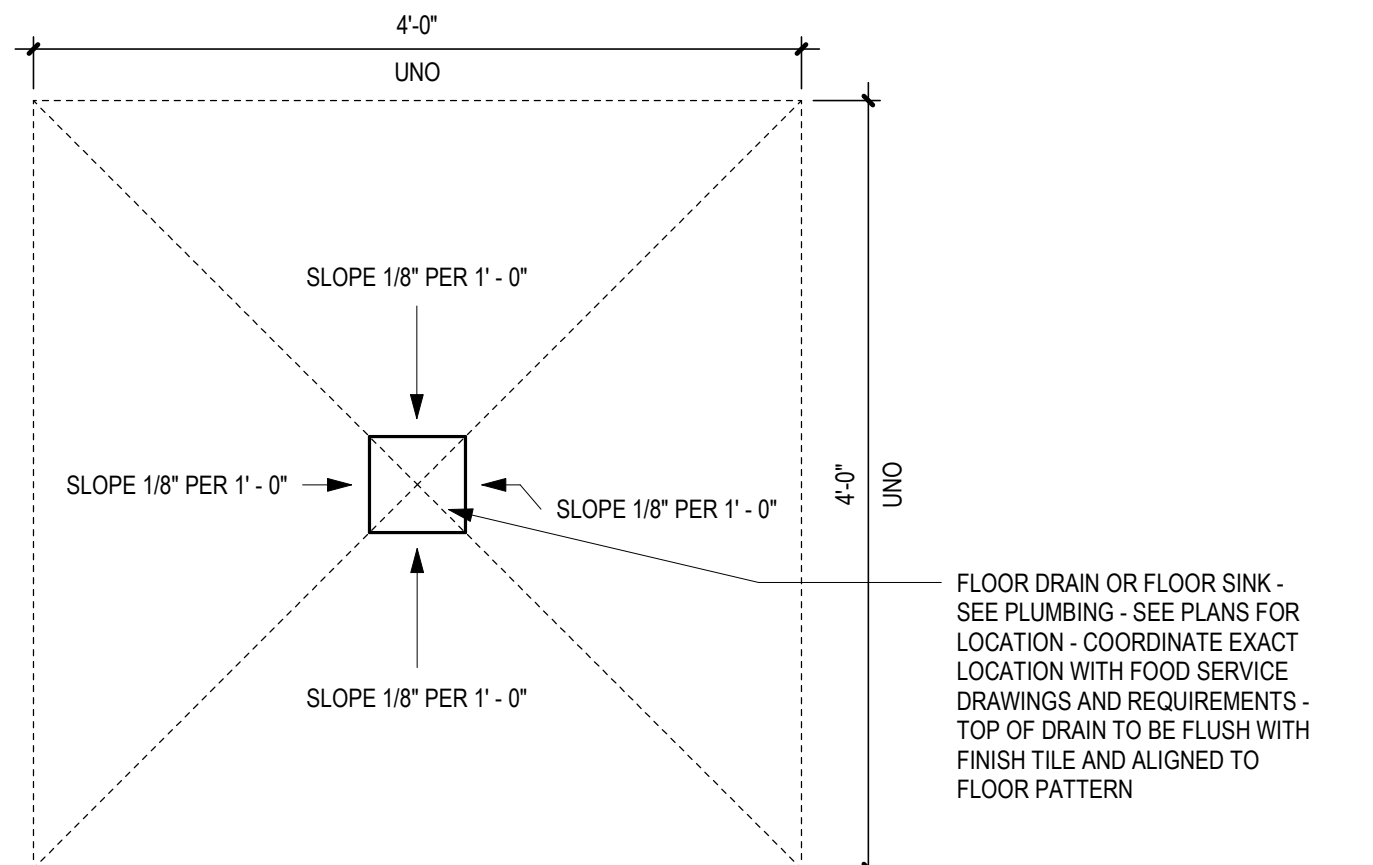
9 INT STOREFRONT JAMB DETAIL
A-511 SCALE: 3" = 1'-0"



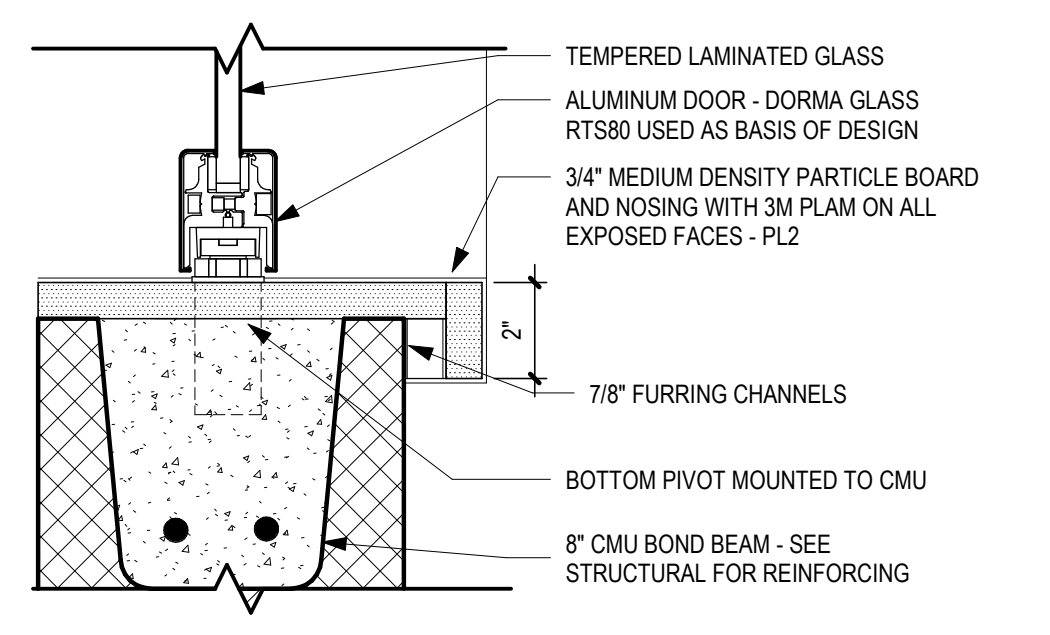
7 MOP SINK DETAIL
A-511 SCALE: 3/8" = 1'-0"



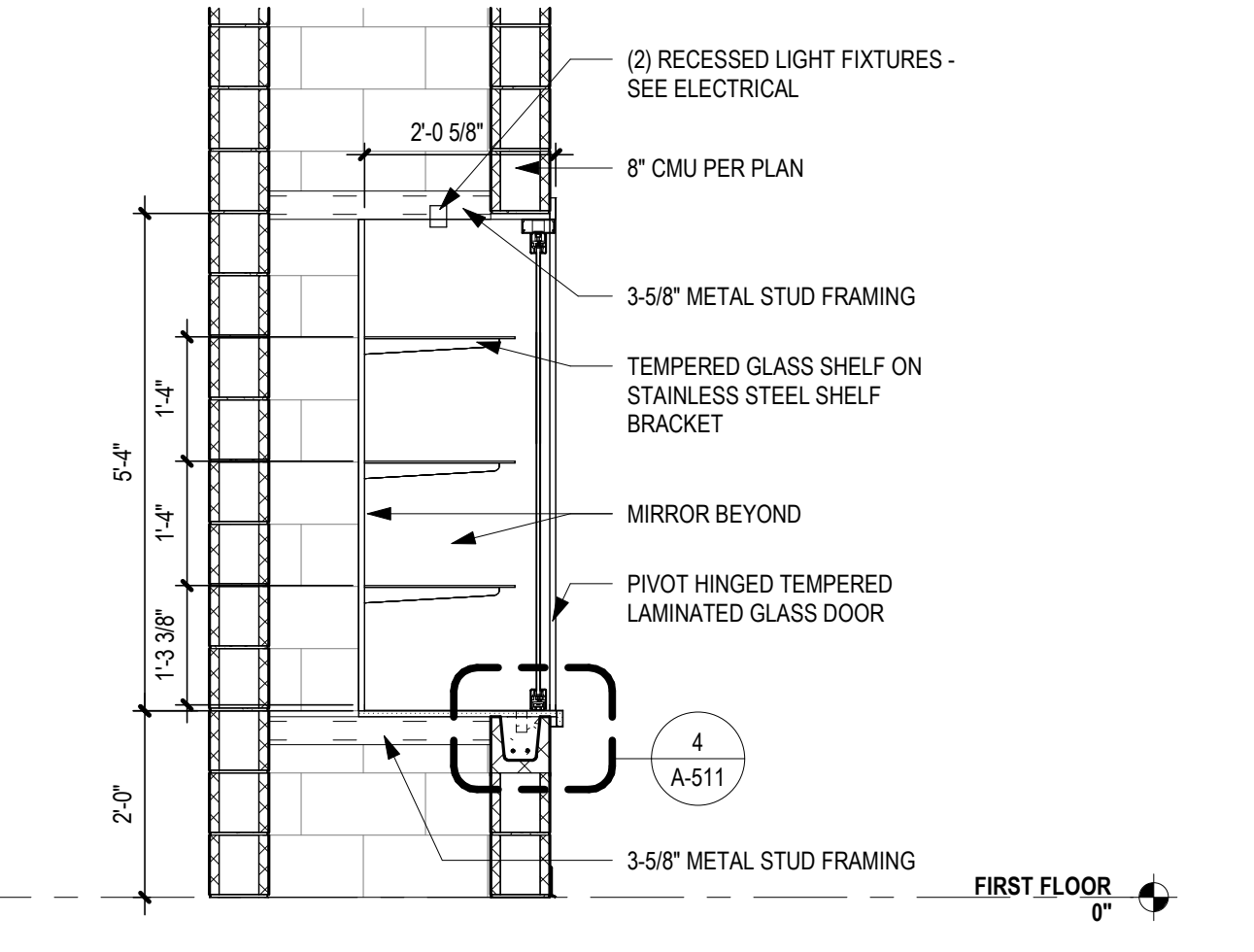
6 FLOOR DRAIN SETTING DETAIL
A-511 SCALE: 3" = 1'-0"



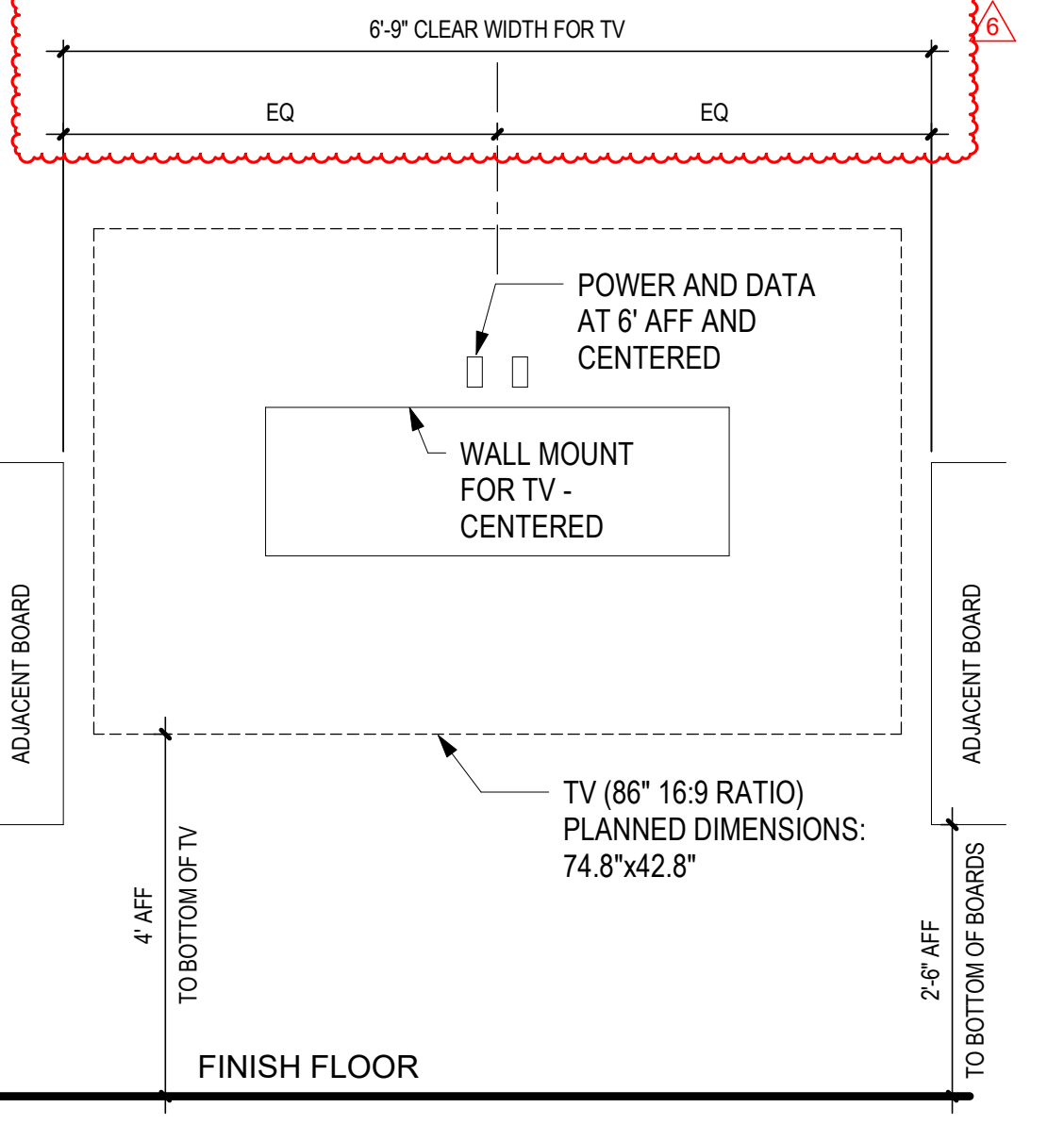
5 TYPICAL FLOOR SINK SLOPE AT KITCHEN
A-511 SCALE: 1" = 1'-0"



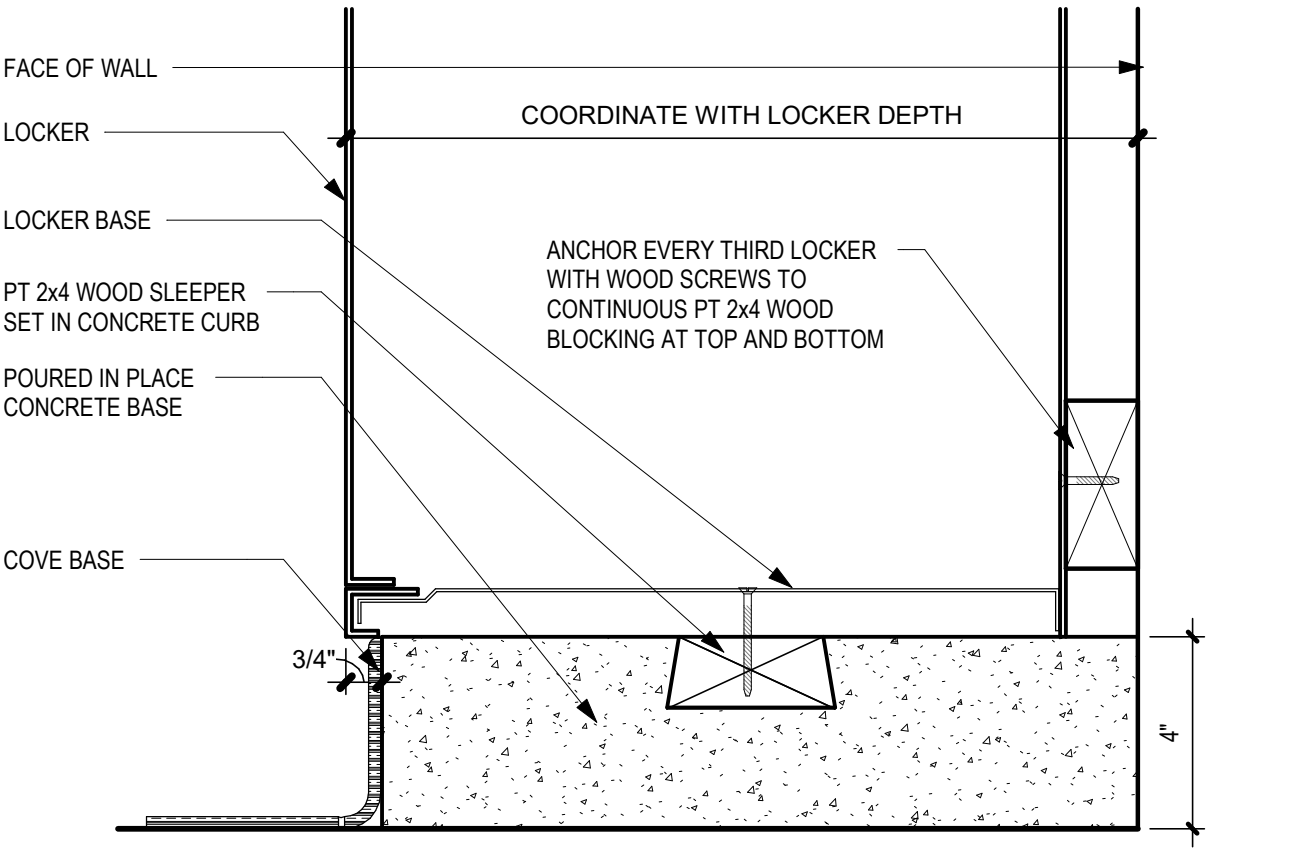
4 TROPHY CASE SILL DETAIL
A-511 SCALE: 3" = 1'-0"



3 TROPHY CASE SECTION
A-511 SCALE: 1/2" = 1'-0"



2 TEACHING WALL TV MOUNTING DETAIL
A-511 NOT TO SCALE



1 LOCKER BASE SECTION
A-511 SCALE: 3" = 1'-0"

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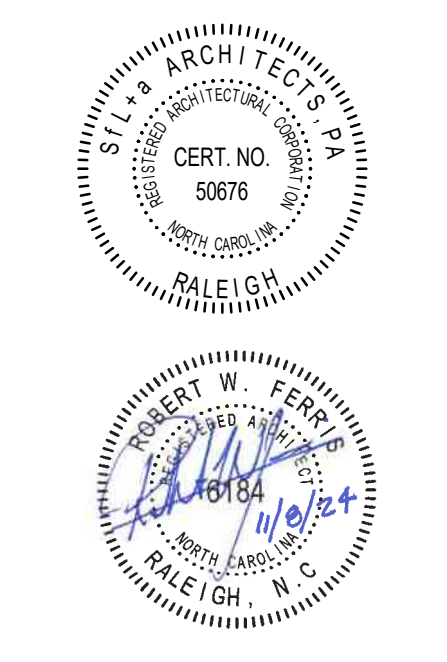


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2	12-13-24	CD REVISIONS
4	01-09-25	NC DPI CD
5	01-30-25	ADDENDUM 1
6	02-05-25	ADDENDUM 2

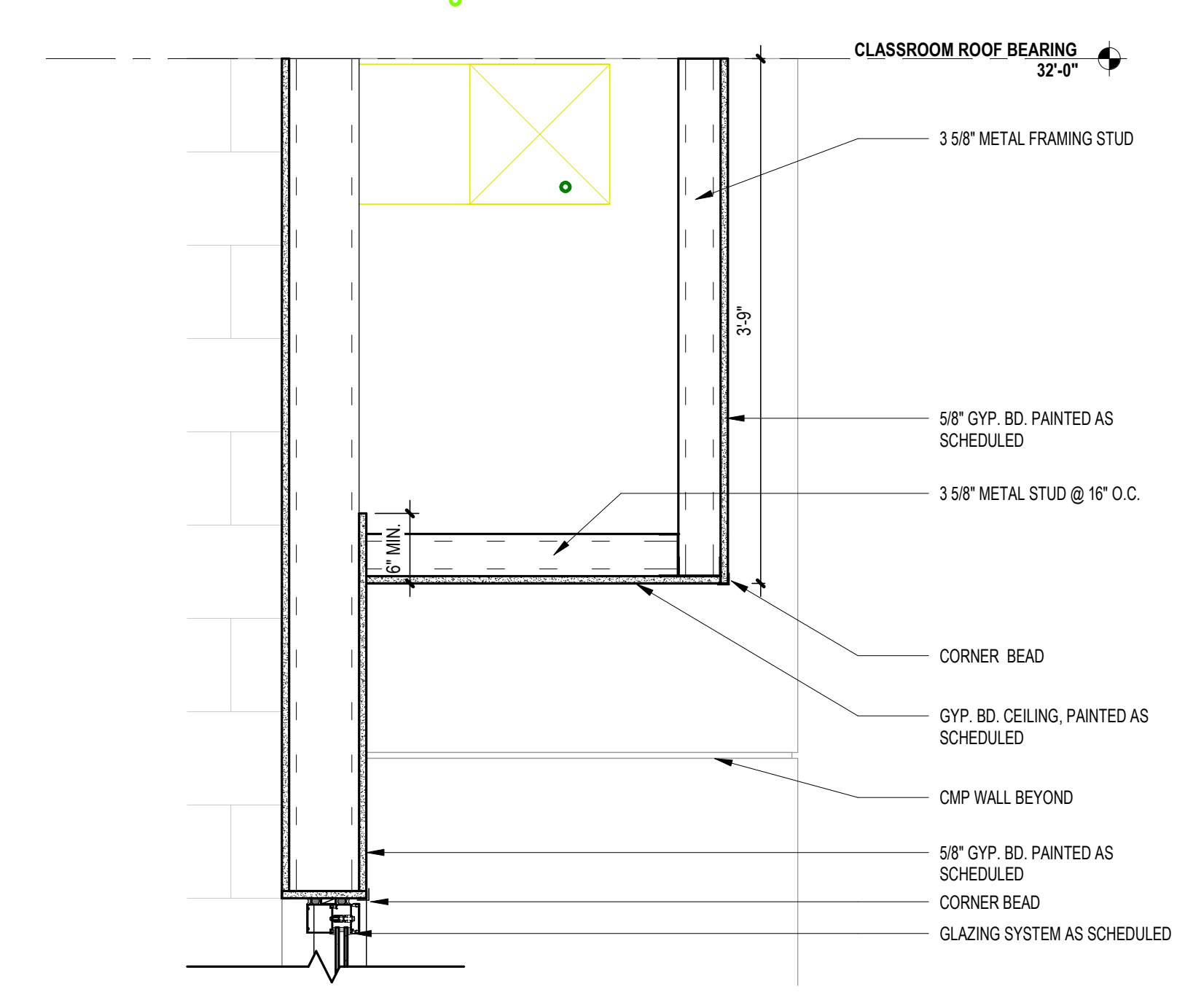
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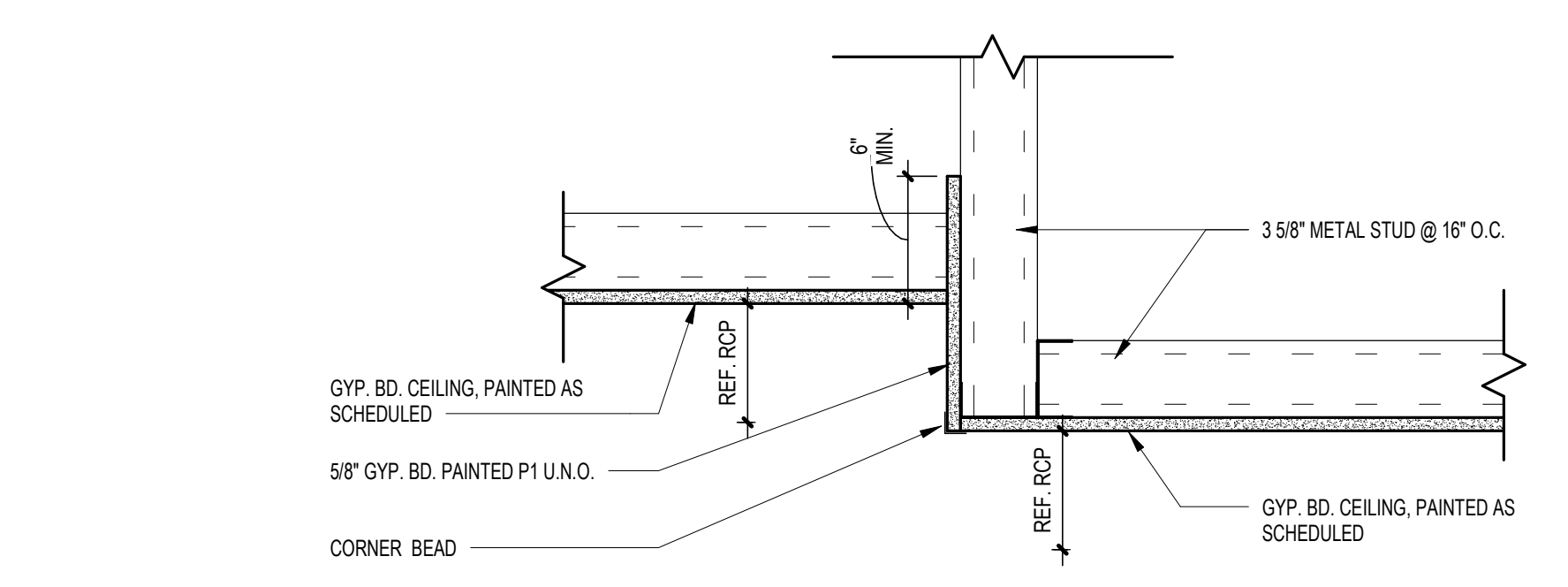
A-511



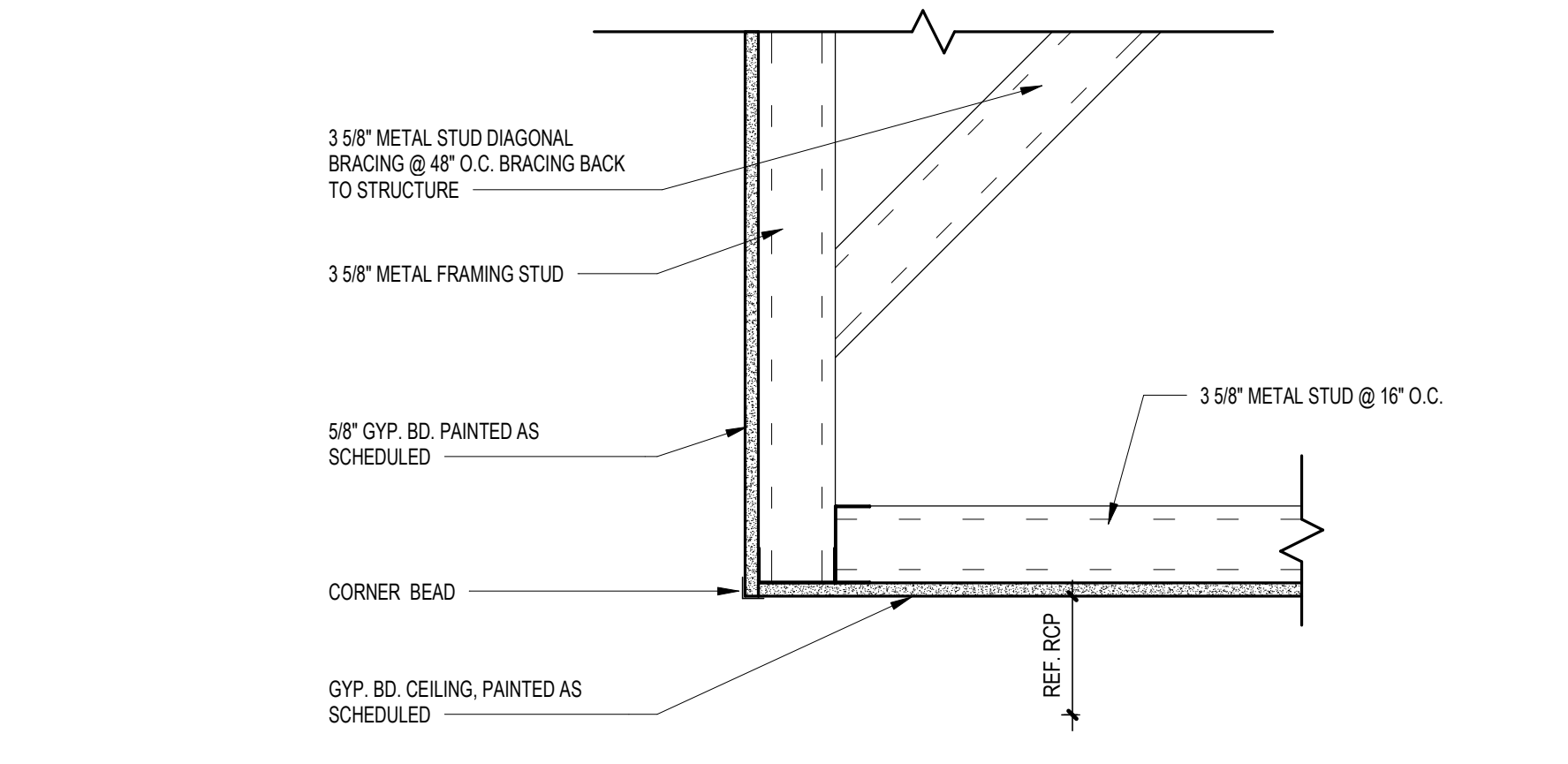
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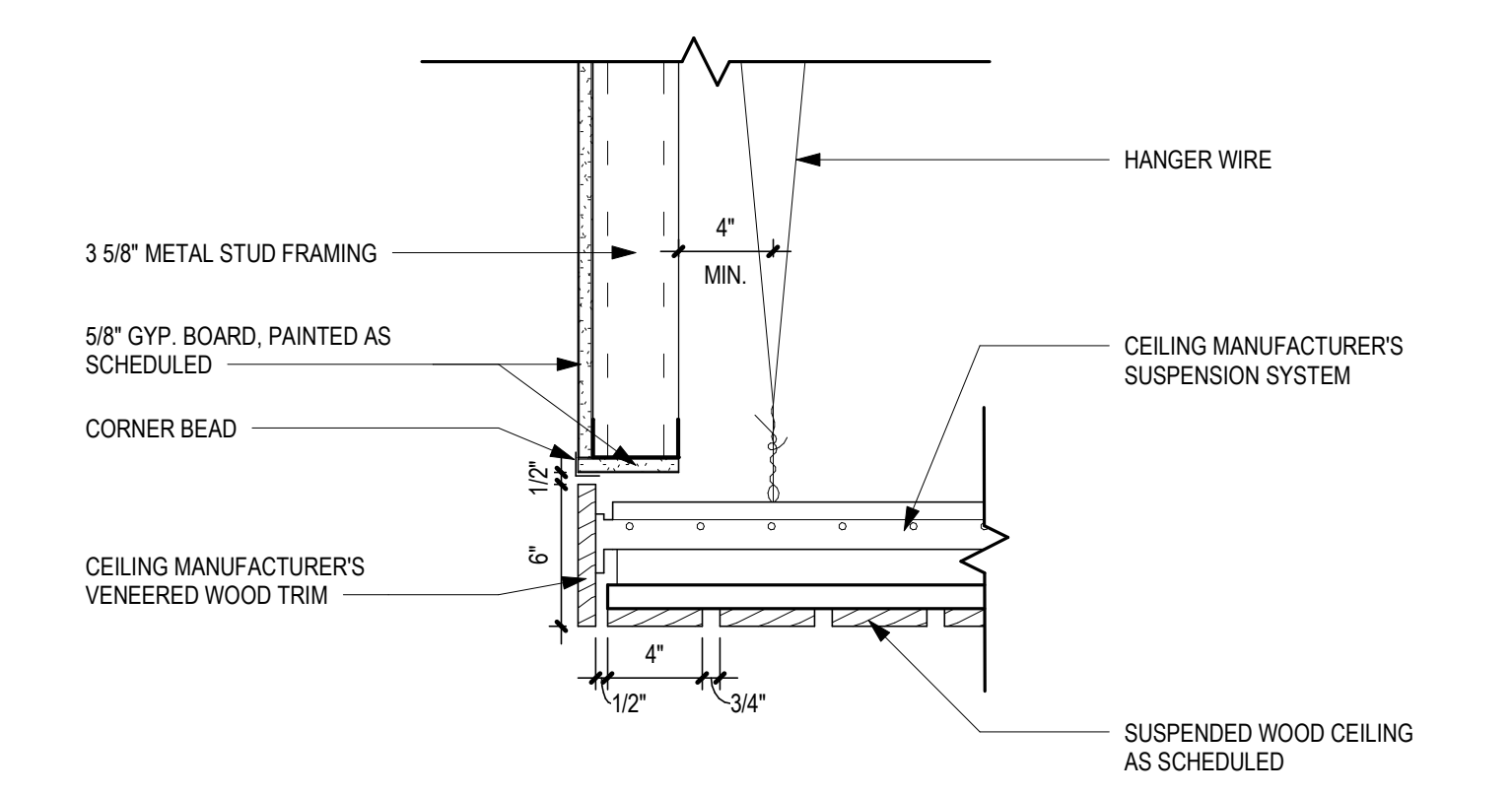
7
A-516 **GYP. BD. BULKHEAD @ AREA 600**
SCALE: 1" = 1'-0"



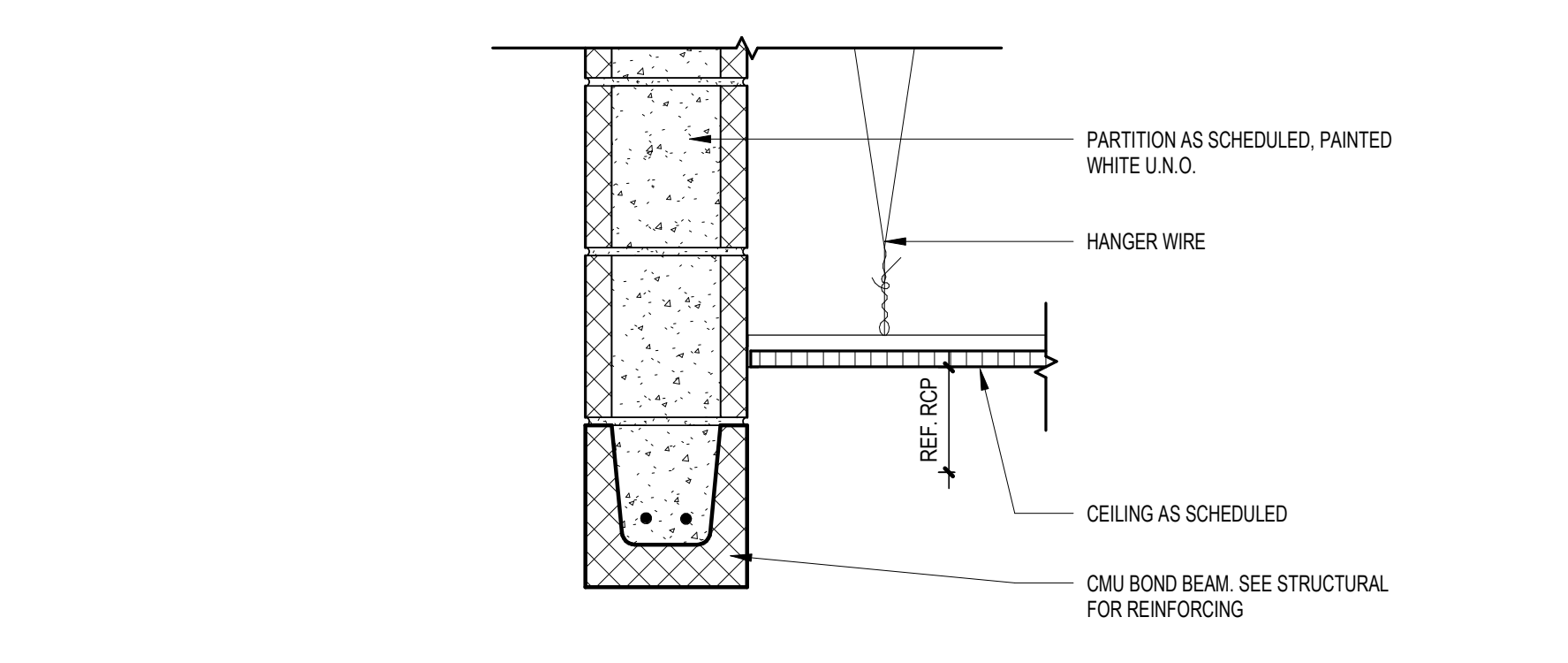
4
A-516 **GYP. BD. CEILING HEIGHT CHANGE**
SCALE: 1 1/2" = 1'-0"



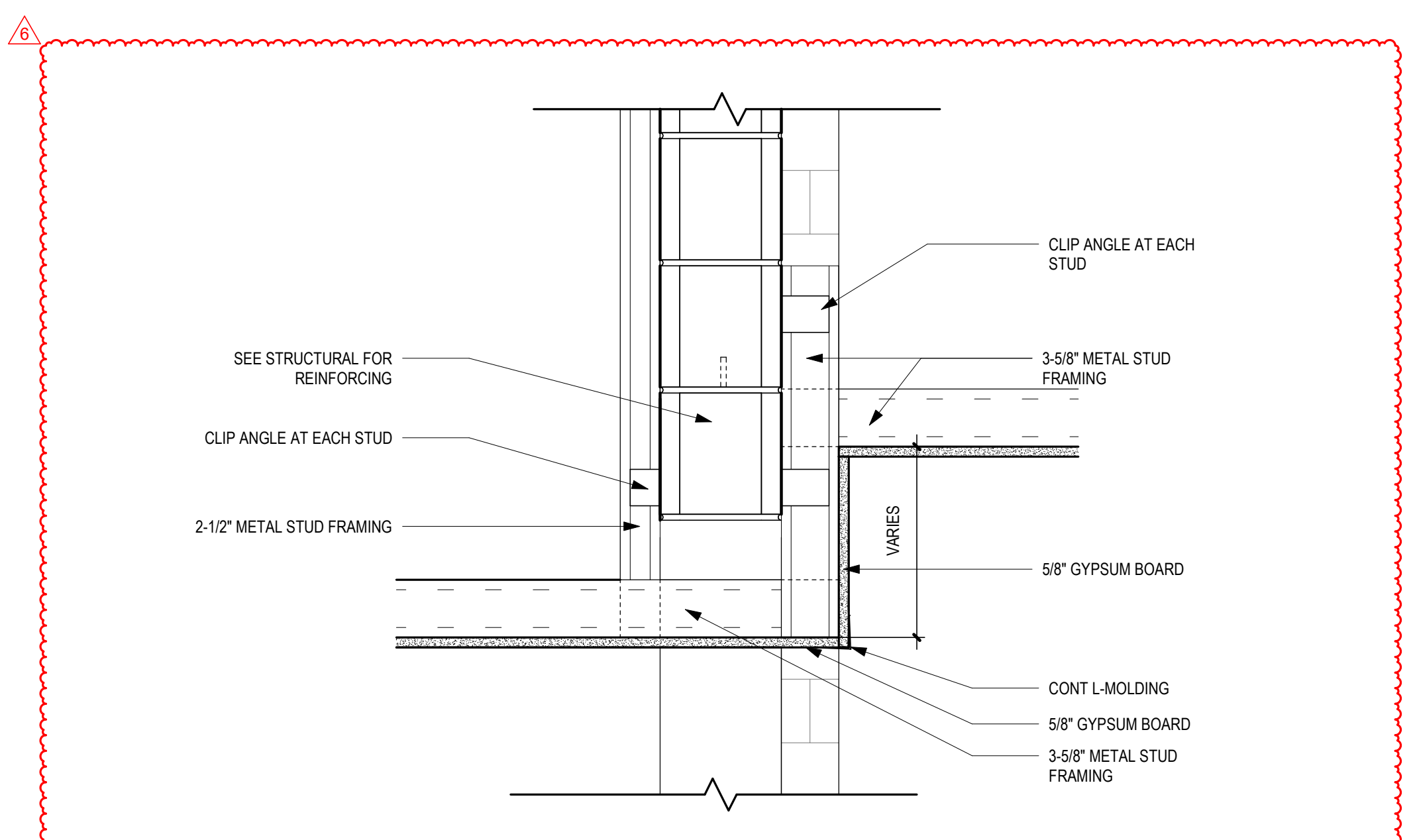
3
A-516 **GYP. BD. FURDOWN**
SCALE: 1 1/2" = 1'-0"



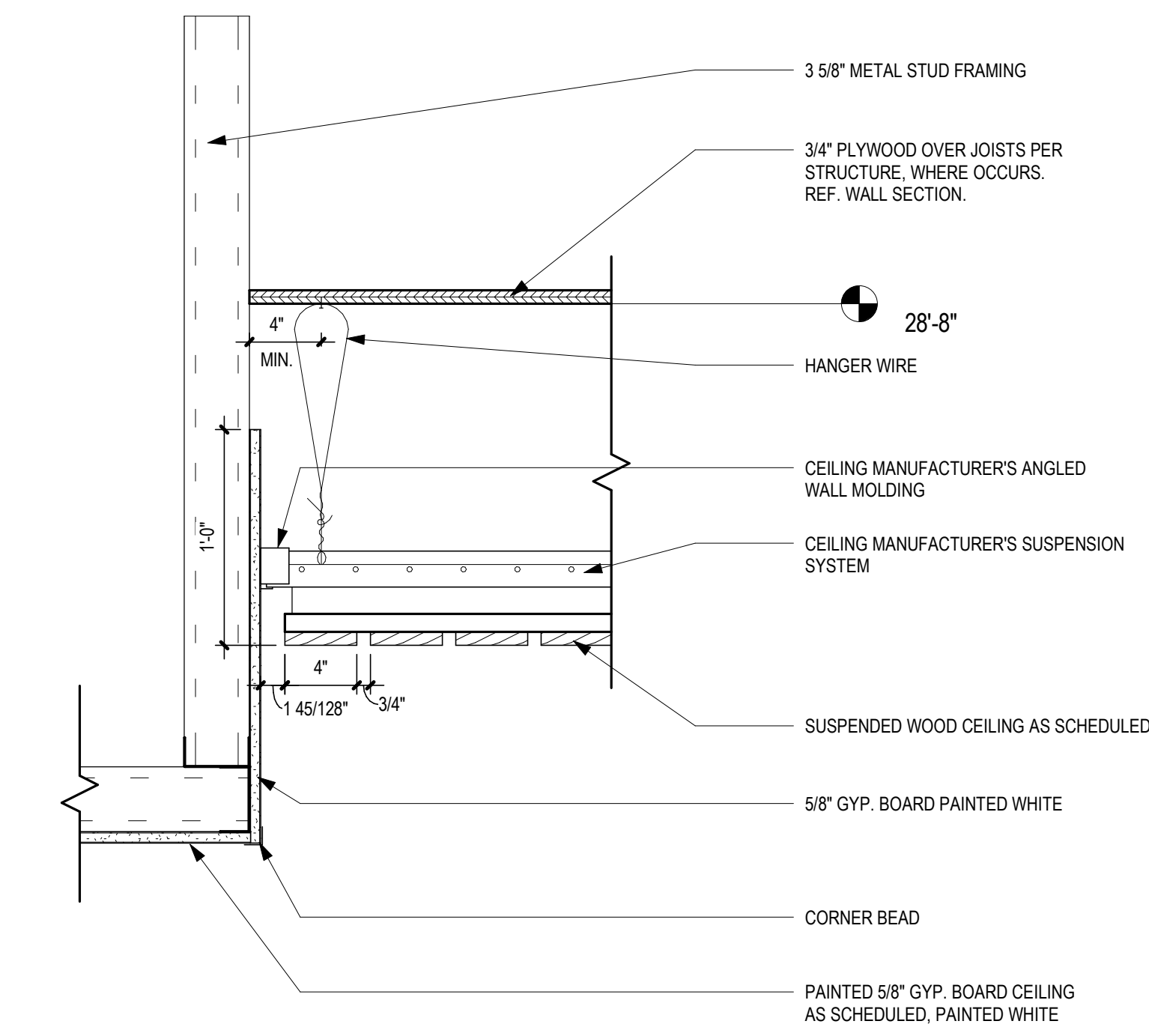
6
A-516 **WOOD CEILING OUTSIDE CORNER**
SCALE: 1 1/2" = 1'-0"



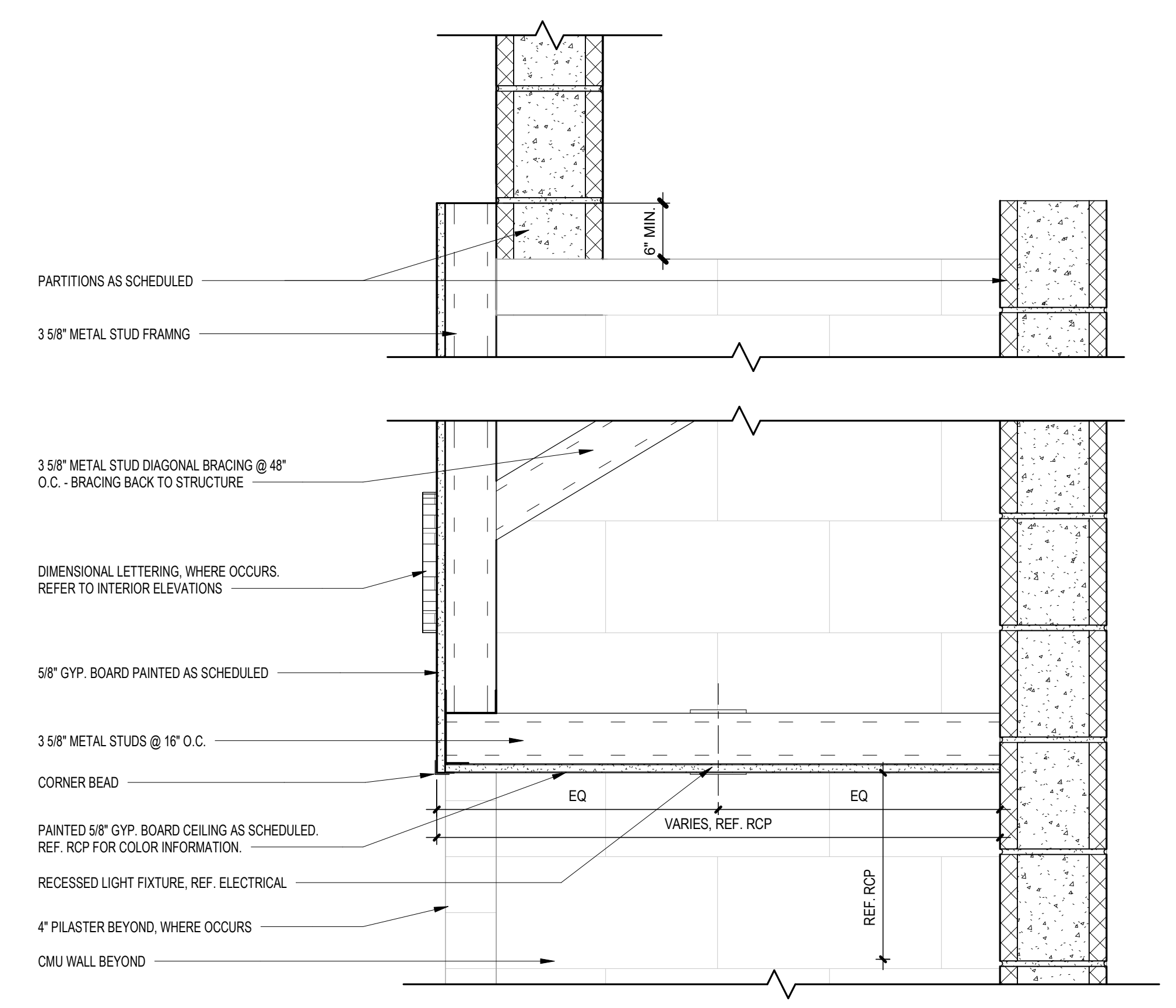
2
A-516 **CEILING TRANSITION @ CMU BULKHEAD**
SCALE: 1 1/2" = 1'-0"



8
A-516 **TYPICAL GROUP TOILETS HEADER**
SCALE: 1 1/2" = 1'-0"

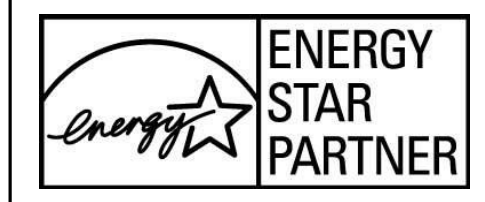


5
A-516 **WOOD CEILING INSIDE CORNER**
SCALE: 1 1/2" = 1'-0"



1
A-516 **GYP. BD. BULKHEAD @ CORRIDOR**
SCALE: 1 1/2" = 1'-0"

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DETAILS-CEILING

A-516

INTERIOR FINISH LEGEND					
MARK	MATERIAL	MANUFACTURER	BASIS OF DESIGN	SIZE	NOTES
03	CONCRETE				
03.30.00	CAST-IN-PLACE CONCRETE				
SC1	SEALED CONCRETE				
SC2	SEALED CONCRETE		STAINED BLACK		STAINED BLACK TO MATCH STAGE FLOORING
06	WOODS, PLASTICS, AND COMPOSITES				
06.40.23	PLASTIC LAMINATES				
PL1	PLASTIC LAMINATE	WILSONART	PASADENA OAK 7386-38 FINE VELVET FINISH		BASE AND UPPER CABINETS
06.40.23	WOOD TRIM				
WDB1	WOOD BASE		WHITE OAK STAINED TO MATCH PL1; TOP COAT TO HAVE A CLASS A RATING		
06.42.16	WOOD VENEER PANELING				
WD2	WOOD VENEER PANELS		WHITE OAK STAINED TO MATCH PL1		REF TO INTERIOR ELEVATIONS
06.83.16	FIBERGLASS REINFORCED PANELING				
FRP1	FIBERGLASS REINFORCED PANELS	MARLITE	COLOR WHITE, PEBBLE FINISH		INSTALLED TO 48" AFF WITH EPOXY PAINT ABOVE, U.N.O.
07	THERMAL AND MOISTURE PROTECTION				
07.42.13	METAL COMPOSITE MATERIAL WALL PANELS				
CMR4	COMPOSITE METAL PANELS	ARCONIC	OYSTER WHITE		REFER TO INTERIOR ELEVATIONS
08	OPENINGS				
08.14.16	FLUSH WOOD DOORS				
WD2	WOOD DOORS	VT INDUSTRIES	WHITE OAK, WHEAT WH 18		
08.87.00	WINDOW FILM				
WF-1	WINDOW FILM	DESIGNTEX	CUSTOM GRAPHIC; ARCHITECT TO PROVIDE GRAPHIC DURING CA.		APPLIED IN SF03 LOCATED IN LOBBY C200
09	FINISHES				
09.20.00	TILING				
QT1	TILING	DALTILE	QUARRY TILE 6" X 6"; ARID GRAY	6" X 6"	
QT1B1	TILING	DALTILE	QUARRY TILE BASE Q1665; ARID GRAY	6" X 6"	
TL1	TILING	MOSAIC TILE CO.	COVE TERRA ASH	24" X 48"	FIELD WALL TILE
TL2	TILING	TL1EBAR	MONET WILD ATELIER GREEN	24" X 48"	ACCENT TILE
TL3	TILING	ATLAS CONCORDE	ENTICE COPPER OAK NATURAL	12.25" X 50"	INCUMBENTAL STAIRS AND BENCHING
TL4	TILING	MOSAIC TILE CO.	COVE TERRA ASH	12" X 24"	SHOWER WALL
TL5	TILING	MOSAIC TILE CO.	COVE TERRA ASH MOSAIC	12" X 12" (MOSAIC 2" X 2")	SHOWER FLOOR
09.51.13	ACOUSTICAL PANEL CEILINGS				
APC1	ACOUSTICAL PANEL CEILING	ARMSTRONG	ULTIMA, REGULAR WITH WHITE GRID	24" X 24"	MINIMUM NRC 0.80
APC2	ACOUSTICAL PANEL CEILING	ARMSTRONG	ULTIMA HEALTH ZONE, REGULAR WHITE TILE WITH WHITE GRID	24" X 24"	KITCHEN LOCATIONS
APC3	ACOUSTICAL PANEL CEILING	ARMSTRONG	BACKSTAGE NDR, BLACK SQUARE WITH BLACK GRID	24" X 24"	REF TO RCP
APC5	ACOUSTICAL PANEL CEILING	AVL SYSTEMS	DISORB CONVEX DIFFUSER ABSORBER TYPE W STANDARD WHITE	48" X 48"	REFER TO RCP; TYPICAL IN MUSIC ROOMS
APC6	ACOUSTICAL PANEL CEILING	AVL SYSTEMS	ACOUSTECH WALL AND CEILING PANELS 2" PANEL BEVEL EDGE; BLACK FABRIC		REFER TO INTERIOR ELEVATIONS
APC7	ACOUSTICAL PANEL CEILING	AVL SYSTEMS	TONewood NATURAL WITH THEATERBLACK BACKING; STAINED TO FINISH PL1		REFER TO INTERIOR ELEVATIONS
09.54.26	SUSPENDED WOOD CEILINGS				
WDG1	SUSPENDED WOOD CEILING	ARMSTRONG	WOOD WORKS LINEAR VENEERED PANELS, NAUTRAL VARIATIONS OAK FINISH, 3/4" REVEAL	24" X 96" X 4"	REF TO RCP
09.62.00	SPECIALTY FLOORING				
PF1	PERFORMANCE FLOORING	POLYONYX	POLYONYX+ FLOORING ON SLEEPER SYSTEM		
PF2	PERFORMANCE FLOORING	HARDWOOD	HARDWOOD FLOORING ON SLEEPER SYSTEM		MATCH WOOD STAIN TO PL1
09.64.66	WOOD ATHLETIC FLOORING				
WAF1	WOOD ATHLETIC FLOORING	TARKETT SPORTS	CLUTCHCOURT FINISH TO MATCH GLULAMS		
09.65.00	RESILIENT FLOORING				
LVT1	RESILIENT FLOORING	MANNINGTON COMMERCIAL	ACTIVE LINES BEND, FLASH (ALB101), FLASH GREEN (ALB105), FLASH BLUE (ALB103) (70% OF FLASH, 15% OF BLUE, 15% OF GREEN)	6" X 36" X 20 MIL	INSTALLED STAGGERED, REF TO FINISH PLAN DETAILS FOR INSTALL INFORMATION
LVT2	RESILIENT FLOORING	MANNINGTON COMMERCIAL	ACTIVE LINES BEND, FLASH (ALB101)	6" X 36" X 20 MIL	INSTALLED STAGGERED
RB1	RESILIENT BASE	JOHNSONITE	CHARCOAL WG 20	4" COVE BASE	
RB2	RESILIENT BASE	JOHNSONITE	BLACK 40	4" TOELESS BASE	
RB3	RESILIENT BASE	JOHNSONITE	BLACK 40	4" VENTED BASE	
09.65.16.33	RUBBER FLOORING				
RF1	RUBBER FLOORING	MANNINGTON	COLOR ANCHOR RUBBER, COL OR SPEC, NIMBUS 047		STAIR LANDINGS
RF1A	RUBBER FLOORING	MANNINGTON	COLOR ANCHOR RUBBER, CONNECT STEP, NIMBUS 047		STAIR TREADS AND RISERS; INTEGRAL STAIR NOSING
09.66.23	TERRAZZO FLOORING				
TZ1	TERRAZZO FLOORING	TERRAZZO AND MARBLE SUPPLY	TERRAZZO RESIN SYSTEMS TM24-4000		FIELD
TZ2	TERRAZZO FLOORING	TERRAZZO AND MARBLE SUPPLY	TERRAZZO RESIN SYSTEMS TM24-4002		GREEN ACCENT; REFER TO FINISH PLANS FOR INSTALLATION
TZ3	TERRAZZO FLOORING	TERRAZZO AND MARBLE SUPPLY	TERRAZZO RESIN SYSTEMS TM24-4003		BLUE ACCENT; REFER TO FINISH PLANS FOR INSTALLATION
09.67.23	RESINOUS FLOORING				
RSB1	RESINOUS FLOORING	STONTEC	TO MATCH RSF1		INTEGRA COVE 4" BASE
RSF1	RESINOUS FLOORING	STONTEC	BLUE RIDGE SMALL FLAKES		
09.68.13	TILE CARPETING				
CPT1	TILE CARPET	TARKETT FLOORING	CREATE PURPOSE RESOURCEFUL 32813	18" X 36"	INSTALLED VERTICAL ASHLAR
09.68.16	SHEET CARPETING				
CPS1	SHEET CARPET	TARKETT FLOORING	CREATE PURPOSE RESOURCEFUL 32813	72" ROLL WIDTH	
09.84.00	ACOUSTICAL ROOM COMPONENTS				
AC1	ACOUSTICAL CLOUDS	AVL SYSTEMS	ACOUSTISHELL CURVILINEAR DIFFUSER, REFLECTOR, COLORS P2		REFER TO ENLARGED PLANS FOR SIZES
ASL1	ACOUSTICAL SUSPENDED SYSTEM	ZILENZIO	DELTA PANEL ONE, TWO, AND THREE (EQUAL MIX OF ALL THREE PANELS (SUSPENDED); FABRIC KVAADRAT HERO 2, 0912, 0942,0962)		REFER TO RCPs AND ELEVATIONS
AWP1	ACOUSTICAL WALL PANEL	ACOUFELT	SOLID PANEL 24MM, THISTLE	12MM THICK, REF. INT. ELEVATIONS	
AWP2	ACOUSTICAL WALL PANEL	ACOUFELT	SOLID PANEL 24MM, IVORY	12MM THICK, REF. INT. ELEVATIONS	
AWP3	ACOUSTICAL WALL PANEL	ACOUFELT	SOLID PANEL 24MM, GRANITE	12MM THICK, REF. INT. ELEVATIONS	
AWP4	ACOUSTICAL WALL PANEL	ACOUFELT	SOLID PANEL 24MM GREY	12MM THICK, REF. INT. ELEVATIONS	
09.90.00	PAINTING AND COATING				
P1	PAINT	SHERWIN WILLIAMS	SW 6070 HERON PLUME	-	FIELD PAINT
P2	PAINT	SHERWIN WILLIAMS	SW 1015 SKYLINE STEEL	-	ACCENT PAINT
P3	PAINT	SHERWIN WILLIAMS	SW 9133 JASPER STONE	-	LIGHT BLUE ACCENT PAINT
P4	PAINT	SHERWIN WILLIAMS	SW 6948 GREENS	-	GREEN ACCENT PAINT
P5	PAINT	SHERWIN WILLIAMS	SW 9179 ANCHORS AWEIGH	-	DARK BLUE ACCENT PAINT
P6	PAINT	SHERWIN WILLIAMS	SW 7642 PAVESTONE	-	HM DOOR FRAMES AND SOFFITS, UNO
P7	PAINT	NOT USED	NOT USED	-	NOT USED
P8	PAINT	SHERWIN WILLIAMS	SW 7020 BLACK FOX	-	BLACK ACCENT PAINT, DRY FOG ON STRUCTURE, EGGSHELL ON WALLS
10	SPECIALTIES				
10.11.00	VISUAL DISPLAY UNITS				
GMB1	GLASS MARKERBOARDS	NOT USED	NOT USED		
TB1	TACKBOARD	CLARIDGE	CORK, COLOR NO. 1103 OYSTER	4" X 4" TACKBOARD, U.N.O. ON INTERIOR ELEVATIONS	
10.21.13	PLASTIC TOILET COMPARTMENTS				
TP1	TOILET PARTITIONS	ASI GLOBAL PARTITIONS	SOLID PLASTIC HDPE 9511 METALLIC SILVER	55" HIGH PARTITIONS	
US1	URINAL SCREENS	ASI GLOBAL PARTITIONS	SOLID PLASTIC HDPE 9511 METALLIC SILVER		
10.26.23.12	WALL PROTECTION				
CG1	CORNER GUARD	NOT USED	NOT USED		NOT USED
10.51.13	METAL LOCKERS				
LCK1	METAL LOCKERS	PENCO	GUARDIAN 2 TIER WITH FRONT BASE, CLASSIC II RECESSED HANDLE FOR MULTI POINT LATCHING; SLOPED TOP, COLOR 822 ROYAL BLUE	15"W X 15"D X 72"H	
LCKB1	ADA LOCKER BENCH	PENCO	HEAVY DUTY BENCH PEDESTAL WITH ADA BACK 24" DEEP		
11	EQUIPMENT				
11.61.43	STAGE CURTAIN				
STG1	STAGE CURTAINS	KM FABRICS	MAIN CURTAIN AND VALANCE, MEMORABLE COLOR 1056 CORNFLOWER		STAGE
11.66.23	BASKETBALL GOALS	DRAPER	BLACK		
11.66.23.53	WALL PADDING				
WP1	GYMNASIUM WALL PADDING	DRAPER	ECOVISION WALL PAD, BLACK	2" X 6"	1" FABRIC WRAPPED MOUNTING FLANGES AT PANEL TOP AND BOTTOM
12	FURNISHINGS				
06.61.16	SOLID SURFACING FABRICATIONS				
SS1	SOLID SURFACE	WILSONART	ANGEL FALLS	1/2" THICKNESS	COUNTERTOPS
12.24.13	ROLLER SHADES				
W11	WINDOW TREATMENT	HUNTER DOUGLAS ARCHITECTURAL	RB 500 + MANUAL ROLLER SHADES; FASCIA COLOR: TBD, FABRIC COLOR TBD	SHADES TO EXTEND FULL LENGTH OF EXPOSED GLASS	MANUAL SHADES; TO BE PROVIDED AT ALL OFFICE AND CLASSROOM EXTERIOR WINDOWS. REF INTERIOR FINISH PLANS FOR ADDITIONAL LOCATIONS.
W12	WINDOW TREATMENT	HUNTER DOUGLAS ARCHITECTURAL	RB 500 + MANUAL ROLLER SHADES; FASCIA COLOR: TBD, FABRIC COLOR TBD	SHADES TO EXTEND FULL LENGTH OF EXPOSED GLASS	MANUAL SHADES; TO BE PROVIDED AT ALL INTERIOR CLASSROOMS AND OFFICE GLAZING UNITS GREATER THAN 4'-0" WIDE REFER TO INTERIOR FINISH PLANS FOR ADDITIONAL LOCATIONS.
12.35.53.19	WOOD LABORATORY CASEWORK				
PR1	PHENOLIC RESIN COUNTERTOP	DURCOON	CHEMICAL RESISTANT, COLOR BLACK		
12.44.16	SHOWER CURTAINS				
CT1	TOILET ACCESSORIES	BOBRICK	WHITE OPAQUE VINYL	10"W X 72"H	
12.48.13	ENTRANCE FLOOR MAT				
EM1	ENTRY MAT	NOT USED	NOT USED		NOT USED

FINISH FLOOR PLAN LEGEND

ROOM NAME

RM NO. SQFT

WALL FINISH

BASE FINISH

FLOOR FINISH

EXTENTS OF ACCENT PAINT

NOTE: FINISH CODES MARKED WITH AN ASTERISK "*" INDICATES "SEE FINISH PLAN AND ROOM FINISH SCHEDULE REMARKS FOR EXTENT OF FINISHES." MULTIPLE FINISHES IN ROOM.

FINISH 1 FINISH TRANSITION

FINISH 2

MATERIAL PATTERN DIRECTION

FINISH ABBREVIATIONS

FLOOR FINISH CODE ABBREVIATIONS

CPS	CARPET SHEET	WAF	WOOD ATHLETIC FLOORING
LVT	LUXURY VINYL TILE	WDF	WOOD FLOORING
PC	POLISHED CONCRETE	EM	ENTRY MAT
PF	PERFORMANCE FLOORING (POLYMER PANEL)		
RSF	RESINOUS FLOORING		
RF	RUBBER FLOORING		
SC	SEALED CONCRETE		
TL	TILE		
TZ	TERRAZZO FLOORING		
QT	QUARRY TILE		

BASE FINISH CODE ABBREVIATIONS

RB	RESILIENT BASE		
RSB	RESINOUS BASE		
TLB	TILE BASE		
QTB	QUARRY TILE BASE		

WALL FINISH CODES

AWP	ACOUSTICAL WALL PANELS	WC	WALLCOVERING
FWP	FABRIC WRAPPED ACOUSTICAL PANELS	WD	WOOD
FRP	FIBERGLASS REINFORCED PANELS	TL	WALL TILE
P	PAINT		
PG	PARGE		
PX	PAINT, EPOXY		
SS	STAINLESS STEEL		

MISC. FINISH CODE ABBREVIATIONS

APC	ACOUSTICAL PANEL CEILING	TP	TOILET PARTITIONS
ES	EXPOSED STRUCTURE	TB	TACKBOARD
GWB	GYPSUM WALL BOARD	WT	WINDOW TREATMENT
GMB	GLASS MARKER BOARD		
MB	MARKER BOARD		
PL	PLASTIC LAMINATE		
SS	SOLID SURFACE MATERIAL		

FINISH FLOOR PATTERN PLAN LEGEND

	CPS1 CARPET SHEET		LVT2 LVT FLOORING
	CPT1 CARPET TILE		TZ1 TERRAZZO FLOORING
	LVT1 LVT FLOORING		TZ2 TERRAZZO FLOORING
	PF1 PERFORMANCE FLOORING		TZ3 TERRAZZO FLOORING
	RSF RESINOUS FLOORING		QT1 QUARRY TILE
	SC1 SEALED CONCRETE		WAF1 WOOD ATHLETIC FLOORING
	SC2 STAINED CONCRETE BLACK		TL3 WOOD TILE FLOORING

- ### GENERAL FINISH NOTES
- REFER TO THE FINISH LEGEND AND PLANS FOR ADDITIONAL INFORMATION.
 - ALL FLOORING TRANSITIONS OCCUR AT THE CENTER OF THE UNDERSIDE OF THE DOOR UNLESS OTHERWISE NOTED.
 - IN SECONDARY STAIRWELLS, ALL EXPOSED HANDRAILS, STAIR PANS AND STRINGERS TO BE PAINTED P8.
 - REFER TO INTERIOR ELEVATION SHEET FOR DETAILS AND TRANSITIONS OF WALL TILE, ACOUSTICAL WALL PANELS MARKER BOARDS AND TACKBOARDS.
 - A 1/8" DIVIDER STRIP CONTROL JOINT IS TO BE LOCATED IN THE TERRAZZO DIRECTLY ALIGNED WITH ALL CONCRETE FLOOR SLAB CONTROL JOINT LOCATIONS.
 - LINE WHERE COLOR CHANGE OCCURS IN THE TERRAZZO SHOULD BE SEPERATED WITH 1/8" METAL DIVIDER STRIPS.
 - MISC. EXPOSED HARDWARE INCLUDING BUT NOT LIMITED TO LOUVERS, GRATES OR TRIM ACCESSORIES, TO BE PAINTED TO MATCH ADJACENT WALL FINISH.
 - ALL NEW INTERIOR FINISHES TO COMPLY WITH CHAPTER 8 OF THE 2018 NC BUILDING AND FIRE CODES. REFER TO SPECIFICATIONS FOR CLASS RATINGS FOR EACH FINISH MATERIAL.
 - PAINT P1 IN ALL LOCATIONS U.N.O.
 - EPOXY PAINT TYPICAL AT ALL FOOD PREP ROOMS, ROOMS THAT ARE APART OF FOOD PREP ROOMS, CAFETERIA, RESTROOMS, JANITOR CLOSETS, UTILITY ROOMS AND STAIRWELLS.
 - ALL HOLLOW METAL DOOR FRAMES AND WINDOWS TO BE PAINTED P8 UNLESS NOTED OTHERWISE.
 - EXPOSED COLUMNS TO BE P8 UNLESS OTHERWISE NOTED.
 - PAINT COLORS DESIGNATED AT BULKHEADS TO BE APPLIED TO ENTIRE VERTICAL AND HORIZONTAL FACES, UNLESS NOTED OTHERWISE IN RCP AND ELEVATIONS.
 - ALL EXPOSED STRUCTURE, MEP EQUIPMENT/ACCESSORIES, CEILING WIRES, ETC PAINTED P8.
 - EXPOSED DECKING TO RECEIVE P. PAINT. GLULAMS ARE NOT TO RECEIVE PAINT. PROTECT DURING CONSTRUCTION.

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CONSTRUCTION DOCUMENTS

HARNETT COUNTY SCHOOLS
FLATWOODS MIDDLE SCHOOL
3544 US 401 S, LILLINGTON NC 27546

ENERGY STAR PARTNER

No.	Date	Description
2	12-13-24	CD REVISIONS
4	01-09-25	NCPI CD
5	01-30-25	ADDENDUM 1
6	02-05-25	ADDENDUM 2

ISSUE DATE: 01-09-25

PROJECT #: 02208.000

DRAWN BY: Author

CHECKED BY: Checker

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INTERIOR FINISH LEGEND

ROOM FINISH SCHEDULE					
ROOM	ROOM NAME	FLOOR	BASE	WALLS	COMMENTS
Not Placed					
MP400	MECH PLATFORM	SC1	-	-	-
FIRST FLOOR					
100	COOLER/FREEZER	NA	NA	NA	STAINLESS STEEL WALLS PER MANUF
100A	INSTRUMENTAL MUSIC STORAGE	LVT1	RB1	P1,3 AWP2*	
101	VOCAL MUSIC STORAGE	LVT1	RB1	P1,3 AWP2*	
102	DRAWING STORAGE	LVT1	RB1	P1	
102A	ART STORAGE	RSF1	RSB1	P1	
103	ART STORAGE	RSF1	RSB1	P1,3*	
103A	ART STORAGE	RSF1	RSB1	P1	
104	FAMILY & CONSUMER SCIENCES	RSF1	RSB1	P1,3*	
104A	PANTRY	RSF1	RSB1	P1	
105	AUDITORIUM	OP1, SC2, OP2, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100, R101, R102, R103, R104, R105, R106, R107, R108, R109, R110, R111, R112, R113, R114, R115, R116, R117, R118, R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135, R136, R137, R138, R139, R140, R141, R142, R143, R144, R145, R146, R147, R148, R149, R150, R151, R152, R153, R154, R155, R156, R157, R158, R159, R160, R161, R162, R163, R164, R165, R166, R167, R168, R169, R170, R171, R172, R173, R174, R175, R176, R177, R178, R179, R180, 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ROOM FINISH SCHEDULE					
ROOM	ROOM NAME	FLOOR	BASE	WALLS	COMMENTS
110	STAFF TLT	RSF1	RSB1	P1	
111	STAFF TLT	RSF1	RSB1	P1	
112	GIRLS	RSF1	RSB1	P1,4*	
200	GUIDANCE	LVT2	RB1	P1,5*	
201	CONFERENCE	LVT2	RB1	P1,5 WF1*	
202	SECRETARY	LVT2	RB1	P1	
203	STUDENT SERVICES	LVT2	RB1	P1,3*	
204	SUPPLIES	LVT2	RB1	P1	
205	OFFICE/TESTING	LVT2	RB1	P1,3*	
206	OFFICE/TESTING	LVT2	RB1	P1,3*	
207	OFFICE/TESTING	LVT2	RB1	P1,3*	
208	SHO	LVT2	RB1	P1,3*	
209	TEACHER LOUNGE	LVT2	RB1	P1	
210	WOMEN	RSF1	RSB1	P1	
211	MEN	RSF1	RSB1	P1	
212	RECEPTION	LVT2	RB1	P1,5*	
213	HEALTH	LVT2	RB1	P1,3*	
213A	TL	RSF1	RSB1	P1	
214	SIMS	LVT2	RB1	P1	
215	SECRETARY	LVT2	RB1	P1	
216	PRINCIPAL	LVT2	RB1	P1	
216A	TL	RSF1	RSB1	P1	
216B	COOR	LVT2	RB1	P1	
217	CONFERENCE	LVT2	RB1	P1,3*	
218	ASSISTANT PRINCIPAL	LVT2	RB1	P1,3*	
219	MEN	RSCL	RSB1	P1	
220	WOMEN	RSCL	RSB1	P1	
221	RECORDS	LVT2	RB1	P1	
222	WORKROOM	LVT2	RB1	P1,3*	
223	MEDIA CENTER	OP1	RB2	P1,4 AWP*	
224	WORKROOM	LVT2	RB1	P1	
225	IT WORKROOM	LVT2	RB1	P1	
225A	STOR	LVT2	RB1	P1	

ROOM FINISH SCHEDULE					
ROOM	ROOM NAME	FLOOR	BASE	WALLS	COMMENTS
226	OFFICE	LVT2	RB1	P1	
227	MDF	SC1	RB1	P1	3/4" PLYWOOD TYP ALL MDF AND IDF ROOMS UP TO 6' AFF
228	STAFF TLT	RSF1	RSB1	P1,4*	
300	DINING	TZ1,2*	RB1	P1 AWP1,4*	
301	SERVING	QT1	QTB1	P1X	EPOXY PAINT ON WALL PARGING
302	DISHWASH	QT1	QTB1	P1X	EPOXY PAINT ON WALL PARGING
303	KITCHEN	QT1	QTB1	P1X	EPOXY PAINT ON WALL PARGING
303A	DRY STORAGE	QT1	QTB1	P1X	EPOXY PAINT ON WALL PARGING
303B	OFFICE	QT1	QTB1	P1X	EPOXY PAINT ON WALL PARGING
304	RECEIVING	QT1	QTB1	P1X	EPOXY PAINT ON WALL PARGING
305	CUST.	SC1	RB1	FRP1, P1*	EPOXY PAINT ON WALL PARGING
306	KIT LOCKER	QT1	QTB1	P1X	EPOXY PAINT ON WALL PARGING
306A	UNISEX	QT1	QTB1	P1X	EPOXY PAINT ON WALL PARGING
307	QYM	WHF1	RSB1	P1,3 AWP1,4*	
307A	CUST.	SC1	RB1	FRP1, P1*	
307B	STORAGE	SC1	RB1	P1	
307C	LOBBY	RSF1	RSB1	P1	
307D	LOBBY	RSF1	RSB1	P1	
308	GIRLS LOCKERS	RSF1	RSB1	P1,3*	
308A	GIRLS SHOWERS	RSF1	RSB1	P1,4*	
308B	VESTIBULE	RSF1	RSB1	P1	
309	COACH OFFICE	LVT2	RB1	P1	
309A	TLT	RSCL	RSB1	P1	
310	COACH OFFICE	LVT2	RB1	P1	
310A	TLT	RSF1	RSB1	P1	
311	BOYS LOCKERS	RSF1	RSB1	P1,5*	
311A	BOYS SHOWERS	RSF1	RSB1	P1,4*	
311B	VESTIBULE	RSF1	RSB1	P1	
312	GIRLS	RSF1	RSB1	P1,4*	
313	CUST.	SC1	RB1	FRP1, P1*	
314	BOYS	RSF1	RSB1	P1,4*	

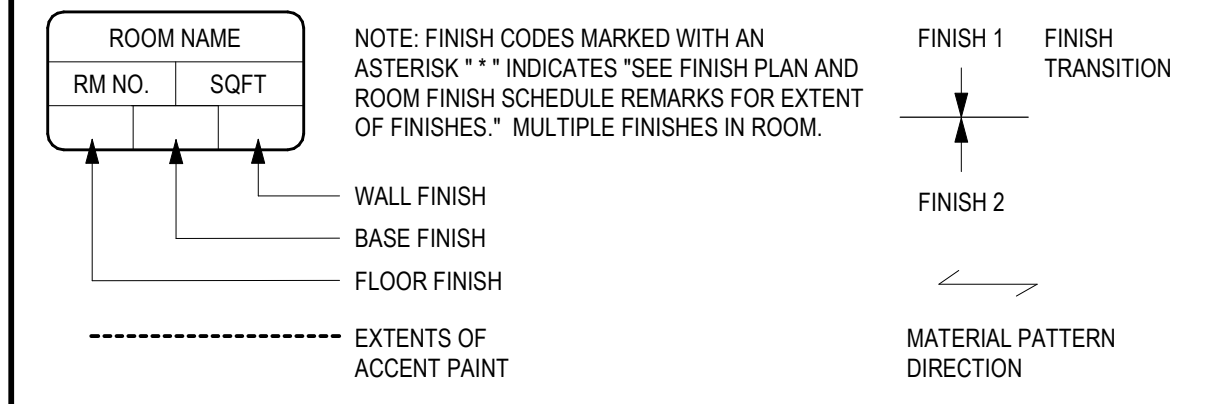
ROOM FINISH SCHEDULE					
ROOM	ROOM NAME	FLOOR	BASE	WALLS	COMMENTS
315	CONCESSION	SC1	RB1	P1	
316	HEALTH ROOM 2	LVT1	RB1	P1,3*	
316A	STORAGE	LVT2	RB1	P1	
317	HEALTH ROOM 1	LVT1	RB1	P1,3*	
400	CUST.	SC1	RB1	FRP1, P1*	
401	STEM CLASSROOM	LVT1	RB1	P1,3*	
402	ITINERANT TEACHER OFFICES	LVT2	RB1	P1,4*	
403	ES/CS CLASSROOM	LVT1	RB1	P1,3*	
403A	TLT	RSF1, TL5*	RSB1	P1, TL4*	
404	CORE CLASSROOM	LVT1	RB1	P1,4*	
405	CORE CLASSROOM	LVT1	RB1	P1,4*	
406	FLEX CLASSROOM	LVT1	RB1	P1,4*	
406A	PREP ROOM	LVT2	RB1	P1	
406B	STORAGE	LVT2	RB1	P1	
407	SCIENCE	LVT1	RB1	P1,4*	
407A	PREP ROOM	LVT2	RB1	P1	
407B	STORAGE	LVT2	RB1	P1	
408	SCIENCE	LVT1	RB1	P1,4*	
409	SCIENCE	LVT1	RB1	P1,4*	
410	TEACHER WORK ROOM	LVT2	RB1	P1	
410A	STAFF TLT	RSF1	RSB1	P1	
410B	STAFF TLT	RSF1	RSB1	P1	
411	GIRLS	RSF1	RSB1	P1,4*	
412	RESOURCE	LVT1	RB1	P1,4*	
413	BOYS	RSF1	RSB1	P1,4*	
414	RESOURCE	LVT1	RB1	P1,4*	
415	CORE CLASSROOM	LVT1	RB1	P1,4*	
416	CORE CLASSROOM	LVT1	RB1	P1,4*	
417	CORE CLASSROOM	LVT1	RB1	P1,4*	
418	CORE CLASSROOM	LVT1	RB1	P1,4*	

ROOM FINISH SCHEDULE					
ROOM	ROOM NAME	FLOOR	BASE	WALLS	COMMENTS
419	CORE CLASSROOM	LVT1	RB1	P1,4*	
420	CORE CLASSROOM	LVT1	RB1	P1,4*	
421	CORE CLASSROOM	LVT1	RB1	P1,4*	
422	CORE CLASSROOM	LVT1	RB1	P1,4*	
500	STEM CLASSROOM	LVT1	RB1	P1,3*	
501	ES/CS CLASSROOM	LVT1	RB1	P1,3*	
501A	TLT	RSF1, TL5*	RSB1	P1, TL4*	
502	CORE CLASSROOM	LVT1	RB1	P1,3*	
503	CORE CLASSROOM	LVT1	RB1	P1,3*	
504	SCIENCE	LVT1	RB1	P1,3*	
504A	PREP ROOM	LVT2	RB1	P1	
504B	STORAGE	LVT2	RB1	P1	
505	FLEX CLASSROOM	LVT1	RB1	P1,3*	
505A	PREP ROOM	LVT2	RB1	P1	
505B	STORAGE	LVT2	RB1	P1	
506	SCIENCE	LVT1	RB1	P1,3*	
507	SCIENCE	LVT1	RB1	P1	



1 FLOOR FINISH PLAN-AREA 100
A-711 SCALE: 1/8" = 1'-0"

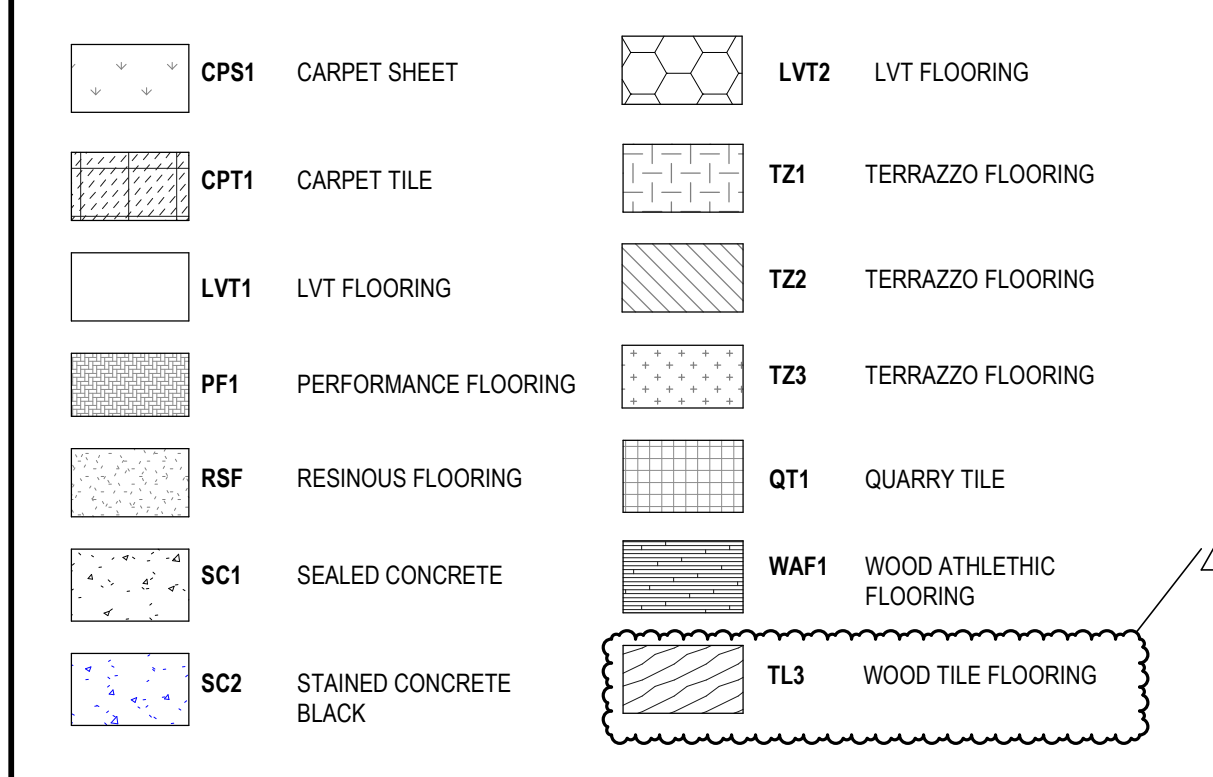
FINISH FLOOR PLAN LEGEND



FINISH ABBREVIATIONS

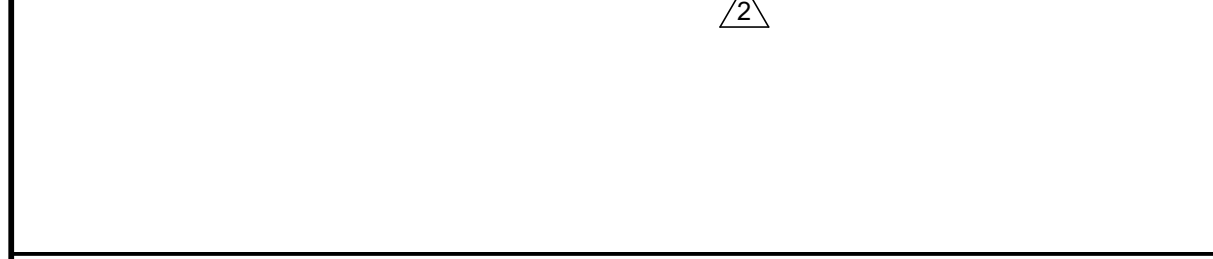
FLOOR FINISH CODE ABBREVIATIONS			
CPS	CARPET SHEET	WAF	WOOD ATHLETIC FLOORING
LVT	LUXURY VINYL TILE	WDF	WOOD FLOORING
PC	POLISHED CONCRETE	EM	ENTRY MAT
PF	PERFORMANCE FLOORING (POLYMER PANEL)		
RSF	RESINOUS FLOORING		
RF	RUBBER FLOORING		
SC	SEALED CONCRETE		
TL	TILE		
TZ	TERRAZZO FLOORING		
QT	QUARRY TILE		
BASE FINISH CODE ABBREVIATIONS			
RB	RESILIENT BASE		
RSB	RESINOUS BASE		
TLB	TILE BASE		
QTB	QUARRY TILE BASE		
WALL FINISH CODES			
AMP	ACoustICAL WALL PANELS	WC	WALLCOVERING
FWP	FABRIC WRAPPED ACoustICAL PANELS	WD	WOOD
FRP	FIBERGLASS REINFORCED PANELS	TL	WALL TILE
P	PAINT		
PG	PARQUE		
PX	PAINT, EPOXY		
SS	STAINLESS STEEL		
MISC. FINISH CODE ABBREVIATIONS			
APC	ACoustICAL PANEL CEILING	TP	TOILET PARTITIONS
ES	EXPOSED STRUCTURE	TB	TACKBOARD
GWB	GYPSUM WALL BOARD	WT	WINDOW TREATMENT
GMB	GLASS MARKER BOARD		
MB	MARKER BOARD		
PL	PLASTIC LAMINATE		
SS	SOLID SURFACE MATERIAL		

FINISH FLOOR PATTERN PLAN LEGEND



GENERAL FINISH NOTES

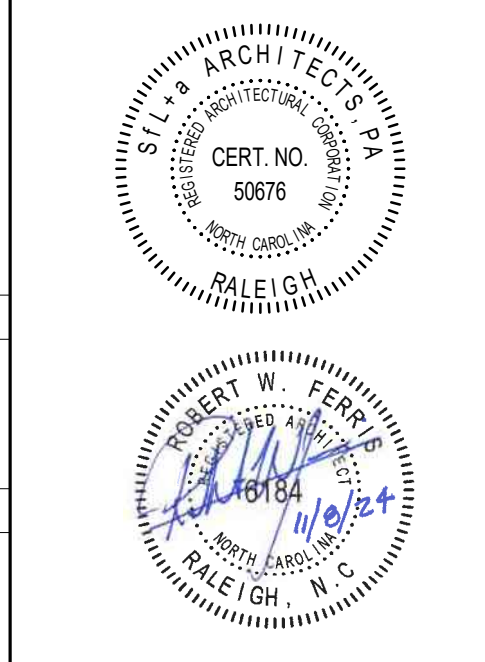
- REFER TO THE FINISH LEGEND AND PLANS FOR ADDITIONAL INFORMATION.
- ALL FLOORING TRANSITIONS OCCUR AT THE CENTER OF THE UNDERSIDE OF THE DOOR UNLESS OTHERWISE NOTED.
- IN SECONDARY STAIRWELLS, ALL EXPOSED HANDRAILS, STAIR PANS AND STRINGERS TO BE PAINTED P6.
- REFER TO INTERIOR ELEVATION SHEET FOR DETAILS AND TRANSITIONS OF WALL TILE, ACoustICAL WALL PANELS MARKER BOARDS AND TACKBOARDS.
- A 1/16" DIVIDER STRIP CONTROL JOINT IS TO BE LOCATED IN THE TERRAZZO DIRECTLY ALIGNED WITH ALL CONCRETE FLOOR SLAB CONTROL JOINT LOCATIONS.
- LINE WHERE COLOR CHANGE OCCURS IN THE TERRAZZO SHOULD BE SEPERATED WITH 1/8" METAL DIVIDER STRIPS.
- MISC. EXPOSED HARDWARE INCLUDING BUT NOT LIMITED TO LOUVERS, GRATES OR TRIM ACCESSORIES, TO BE PAINTED TO MATCH ADJACENT WALL FINISH.
- ALL NEW INTERIOR FINISHES TO COMPLY WITH CHAPTER 8 OF THE 2018 NC BUILDING AND FIRE CODES. REFER TO SPECIFICATIONS FOR CLASS RATINGS FOR EACH FINISH MATERIAL.
- PAINT P1 IN ALL LOCATIONS U.N.O.
- EPOXY PAINT TYPICAL AT ALL FOOD PREP ROOMS, ROOMS THAT ARE APART OF FOOD PREP ROOMS, CAFETERIA, RESTROOMS, JANITOR CLOSETS, UTILITY ROOMS AND STAIRWELLS.
- ALL HOLLOW METAL DOOR FRAMES AND WINDOWS TO BE PAINTED P6 UNLESS NOTED OTHERWISE.
- EXPOSED COLUMNS TO BE P6 UNLESS OTHERWISE NOTED.
- PAINT COLORS DESIGNATED AT BULKHEADS TO BE APPLIED TO ENTIRE VERTICAL AND HORIZONTAL FACES, UNLESS NOTED OTHERWISE IN RCP AND ELEVATIONS.
- ALL EXPOSED STRUCTURE, MEP EQUIPMENT/ACCESSORIES, CEILING WIRES, ETC PAINTED P6.
- EXPOSED DECKING TO RECEIVE P PAINT. GULLUMS ARE NOT TO RECEIVE PAINT. PROTECT DURING CONSTRUCTION.



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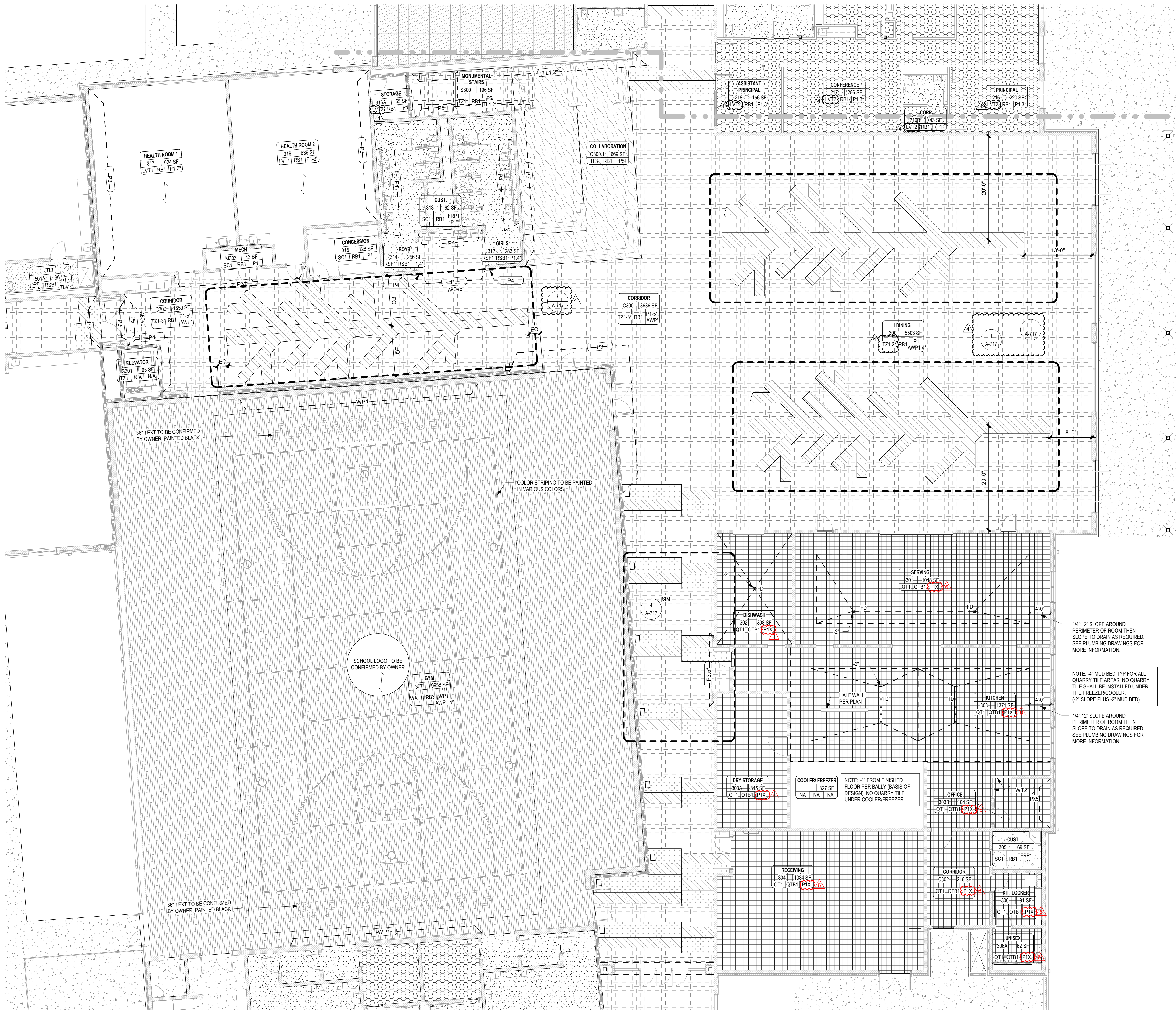
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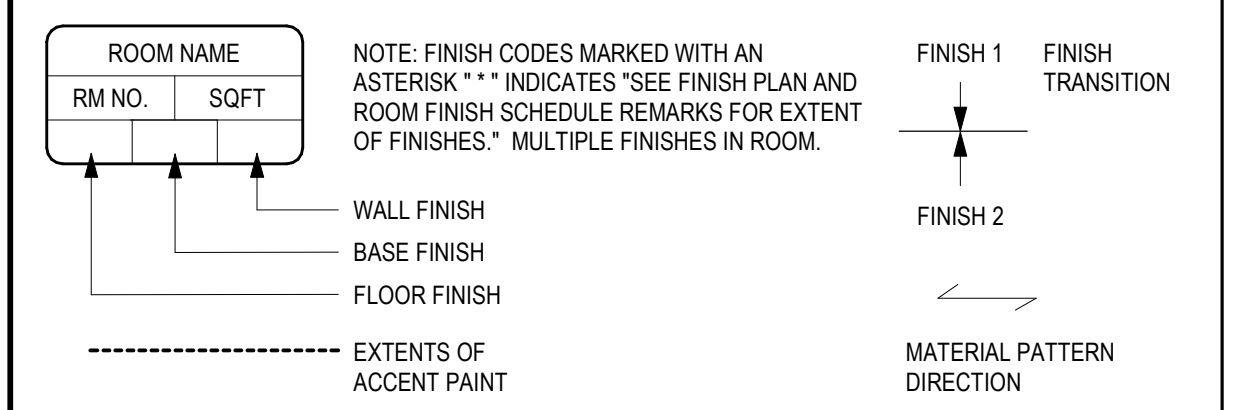
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1	12-13-24	CD REVISIONS
2	01-09-25	NC DPI CD
3	01-30-25	ADDENDUM 1
4	02-05-25	ADDENDUM 2

ISSUE DATE: 01-09-25
PROJECT #: 02208.000
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FLOOR FINISH PLAN
- AREA 100

A-711



FINISH FLOOR PLAN LEGEND



FINISH ABBREVIATIONS

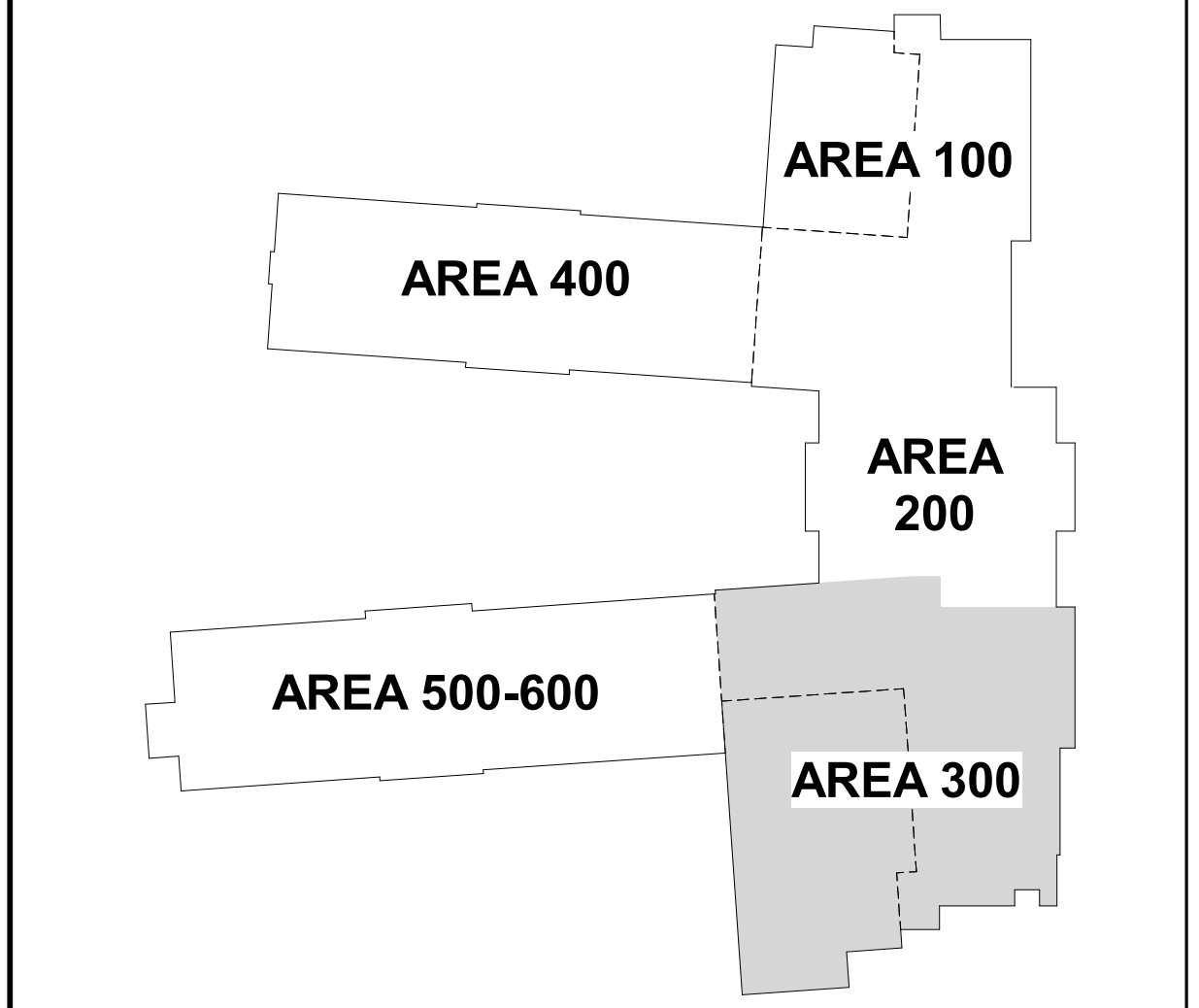
FLOOR FINISH CODE ABBREVIATIONS			
CPS	CARPET SHEET	WAF	WOOD ATHLETIC FLOORING
LVT	LUXURY VINYL TILE	WDF	WOOD FLOORING
PC	POLISHED CONCRETE	EM	ENTRY MAT
PF	PERFORMANCE FLOORING (POLYMER PANEL)		
RSF	RESINOUS FLOORING		
RF	RUBBER FLOORING		
SC	SEALED CONCRETE		
TL	TILE		
TZ	TERRAZZO FLOORING		
QT	QUARRY TILE		
BASE FINISH CODE ABBREVIATIONS			
RB	RESILIENT BASE		
RSB	RESINOUS BASE		
TLB	TILE BASE		
QTB	QUARRY TILE BASE		
WALL FINISH CODES			
AWP	ACoustICAL WALL PANELS	WC	WALLCOVERING
FWP	FABRIC WRAPPED ACoustICAL PANELS	WD	WOOD
FRP	FIBERGLASS REINFORCED PANELS	TL	WALL TILE
P	PAINt		
PG	PARGE		
PE	PAINT, EPOXY		
SS	STAINLESS STEEL		
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ES	EXPOSED STRUCTURE	TB	TACKBOARD
GWB	GYPsuM WALL BOARD	WT	WINDOW TREATMENT
GMB	GLASS MARKER BOARD		
MB	MARKER BOARD		
PL	PLASTIC LAMINATE		
SS	SOLID SURFACE MATERIAL		

FINISH FLOOR PATTERN PLAN LEGEND

CPS1	CARPET SHEET	LVT2	LVT FLOORING
CPT1	CARPET TILE	TZ1	TERRAZZO FLOORING
LVT1	LVT FLOORING	TZ2	TERRAZZO FLOORING
PF1	PERFORMANCE FLOORING	TZ3	TERRAZZO FLOORING
RSF	RESINOUS FLOORING	QT1	QUARRY TILE
SC1	SEALED CONCRETE	WAF1	WOOD ATHLETIC FLOORING
SC2	STAINED CONCRETE BLACK	TL3	WOOD TILE FLOORING

GENERAL FINISH NOTES

- REFER TO THE FINISH LEGEND AND PLANS FOR ADDITIONAL INFORMATION.
- ALL FLOORING TRANSITIONS OCCUR AT THE CENTER OF THE UNDERSIDE OF THE DOOR UNLESS OTHERWISE NOTED.
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- EPOXY PAINT TYPICAL AT ALL FOOD PREP ROOMS, ROOMS THAT ARE APART OF FOOD PREP ROOMS, CAFETERIA, RESTROOMS, JANITOR CLOSETS, UTILITY ROOMS AND STAIRWELLS.
- ALL HOLLOW METAL DOOR FRAMES AND WINDOWS TO BE PAINTED P6 UNLESS NOTED OTHERWISE.
- EXPOSED COLUMNS TO BE P6 UNLESS OTHERWISE NOTED.
- PAINt COLORS DESIGNATED AT BULKHEADS TO BE APPLIED TO ENTIRE VERTICAL AND HORIZONTAL FACES, UNLESS NOTED OTHERWISE IN RCP AND ELEVATIONS.
- ALL EXPOSED STRUCTURE, MEP EQUIPMENT/ACCESSORIES, CEILING WIRES, ETC PAINTED P6.
- EXPOSED DECKING TO RECEIVE P PAINT. GULLAMS ARE NOT TO RECEIVE PAINT. PROTECT DURING CONSTRUCTION.



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ENERGY STAR PARTNER

No.	Date	Description
2	12-13-24	CD REVISIONS
4	01-09-25	NC DPI CD
6	02-05-25	ADDENDUM 2

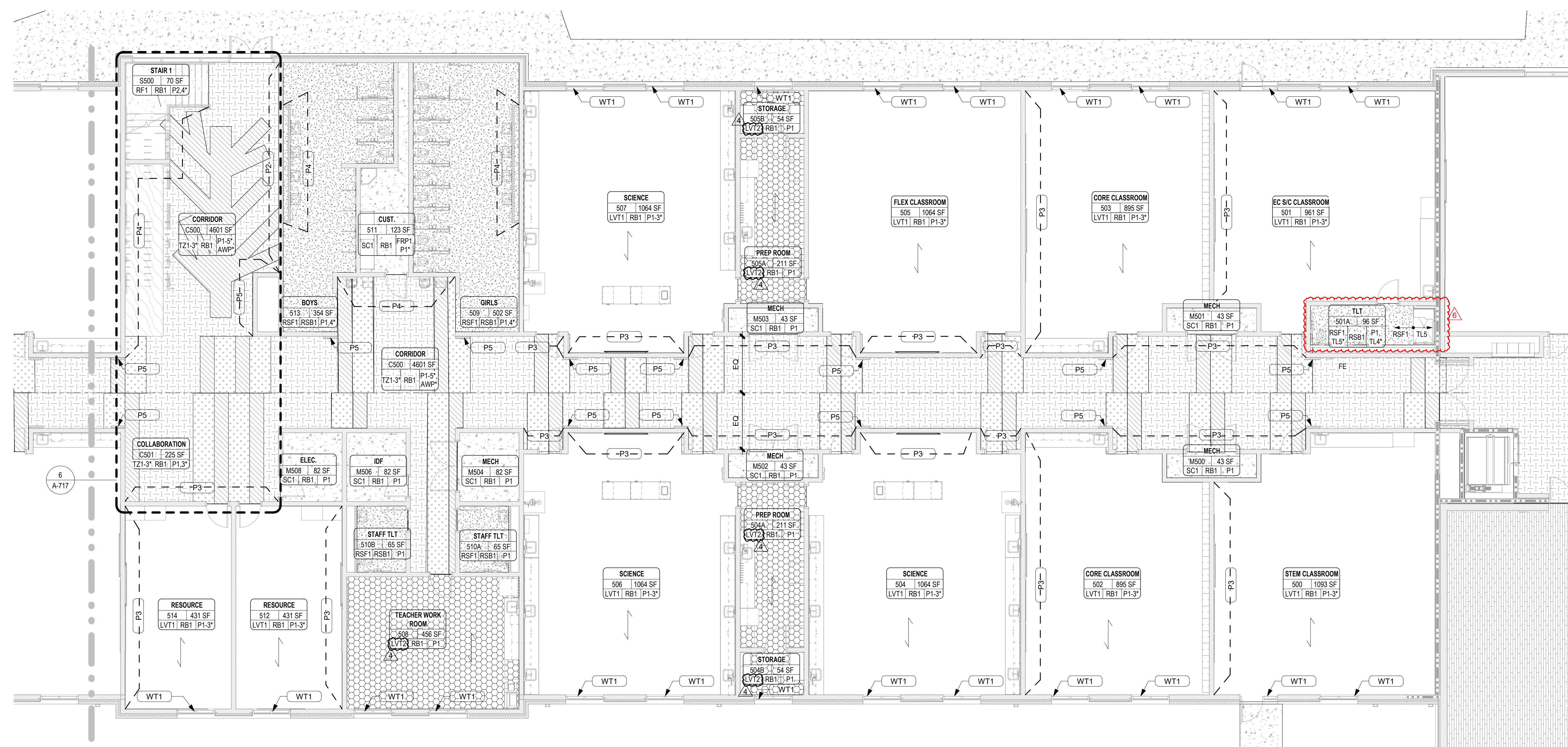
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FLOOR FINISH PLAN
- AREA 300 NORTH

A-713.1

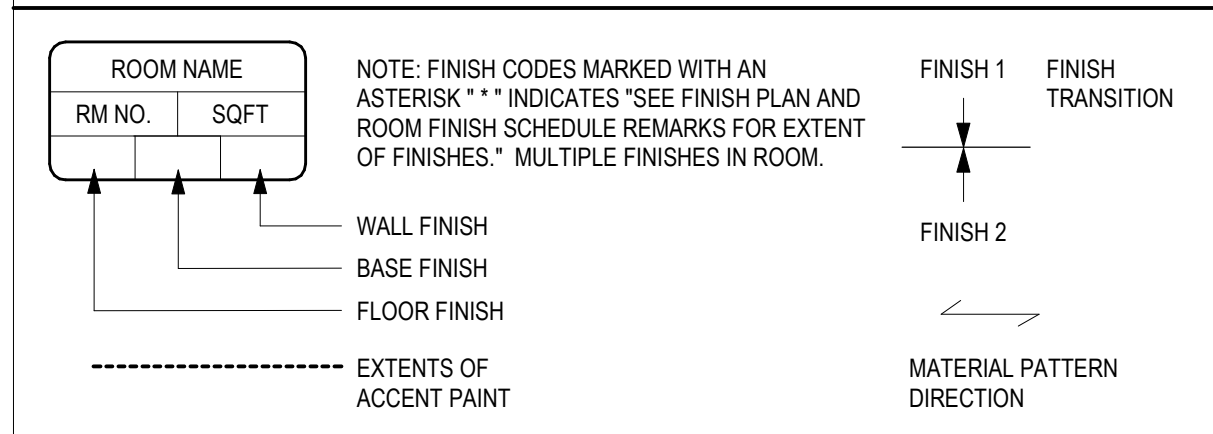


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1 FLOOR FINISH PLAN - AREA 500 EAST
SCALE: 1/8" = 1'-0"

FINISH FLOOR PLAN LEGEND



FINISH ABBREVIATIONS

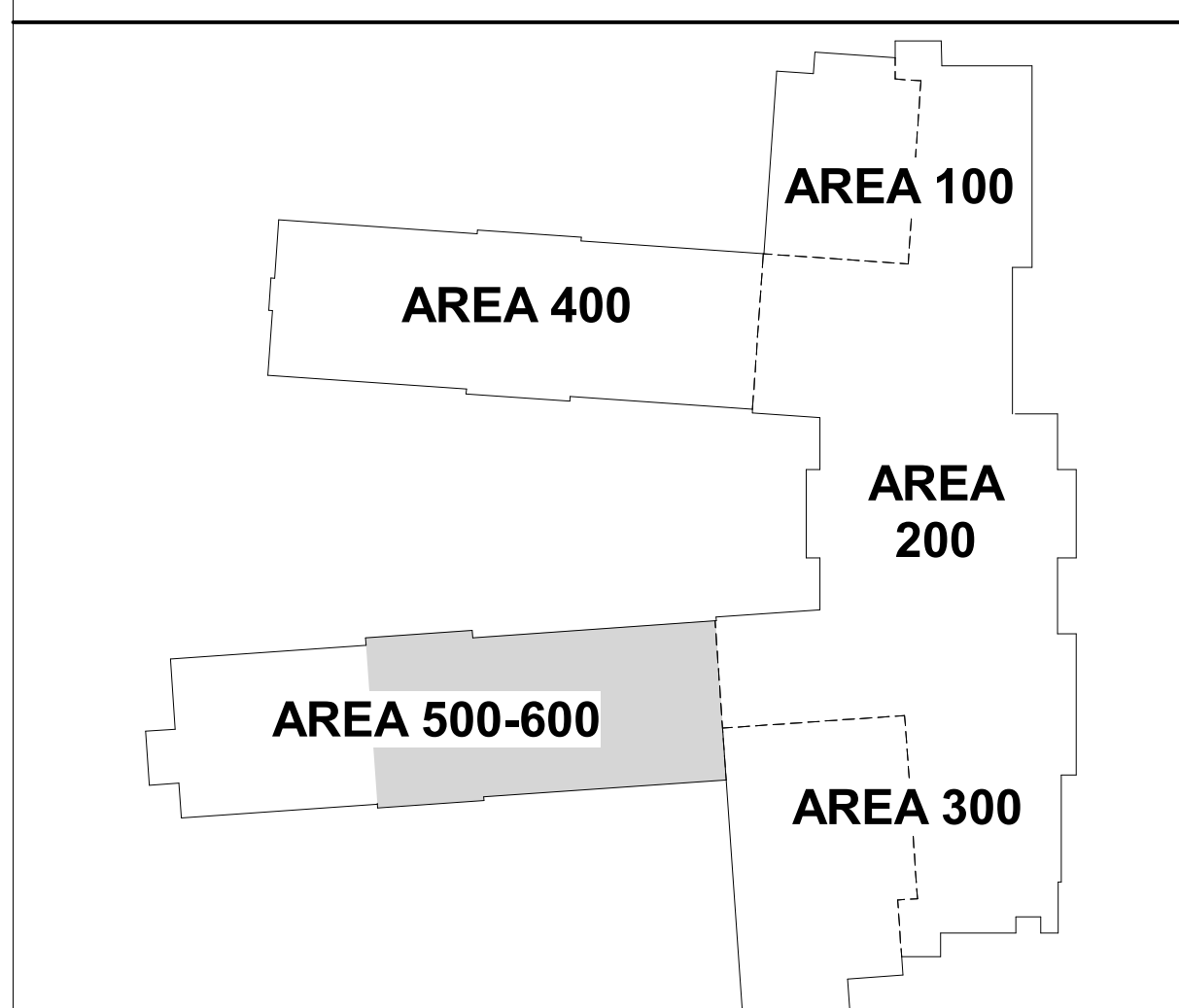
FLOOR FINISH CODE ABBREVIATIONS			
CPS	CARPET SHEET	WAF	WOOD ATHLETIC FLOORING
LVT	LUXURY VINYL TILE	WDF	WOOD FLOORING
PC	POLISHED CONCRETE	EM	ENTRY MAT
PF	PERFORMANCE FLOORING (POLYMER PANEL)		
RSF	RESINOUS FLOORING		
RF	RUBBER FLOORING		
SC	SEALED CONCRETE		
TL	TILE		
TZ	TERRAZZO FLOORING		
QT	QUARRY TILE		
BASE FINISH CODE ABBREVIATIONS			
RB	RESILIENT BASE		
RSB	RESINOUS BASE		
TLB	TILE BASE		
QTB	QUARRY TILE BASE		
WALL FINISH CODES			
AWP	ACOUSTICAL WALL PANELS	WC	WALLCOVERING
FWP	FABRIC WRAPPED ACOUSTICAL PANELS	WD	WOOD
FRP	FIBERGLASS REINFORCED PANELS	TL	WALL TILE
P	PAINT		
PG	PARGE		
PX	PAINT, EPOXY		
SS	STAINLESS STEEL		
MISC. FINISH CODE ABBREVIATIONS			
APC	ACOUSTICAL PANEL CEILING	TP	TOILET PARTITIONS
ES	EXPOSED STRUCTURE	TB	TACKBOARD
GWB	GYPSUM WALL BOARD	WT	WINDOW TREATMENT
GMB	GLASS MARKER BOARD		
MB	MARKER BOARD		
PL	PLASTIC LAMINATE		
SS	SOLID SURFACE MATERIAL		

FINISH FLOOR PATTERN PLAN LEGEND

CPS1	CARPET SHEET	LVT2	LVT FLOORING
CPT1	CARPET TILE	TZ1	TERRAZZO FLOORING
LVT1	LVT FLOORING	TZ2	TERRAZZO FLOORING
PF1	PERFORMANCE FLOORING	TZ3	TERRAZZO FLOORING
RSF	RESINOUS FLOORING	QT1	QUARRY TILE
SC1	SEALED CONCRETE	WAF1	WOOD ATHLETIC FLOORING
SC2	STAINED CONCRETE BLACK	TL3	WOOD TILE FLOORING

GENERAL FINISH NOTES

- REFER TO THE FINISH LEGEND AND PLANS FOR ADDITIONAL INFORMATION.
- ALL FLOORING TRANSITIONS OCCUR AT THE CENTER OF THE UNDERSIDE OF THE DOOR UNLESS OTHERWISE NOTED.
- IN SECONDARY STAIRWELLS, ALL EXPOSED HANDRAILS, STAIR PANS AND STRINGERS TO BE PAINTED P5.
- REFER TO INTERIOR ELEVATION SHEET FOR DETAILS AND TRANSITIONS OF WALL TILE, ACOUSTICAL WALL PANELS MARKER BOARDS AND TACKBOARDS.
- A 1/8" DIVIDER STRIP CONTROL JOINT IS TO BE LOCATED IN THE TERRAZZO DIRECTLY ALIGNED WITH ALL CONCRETE FLOOR SLAB CONTROL JOINT LOCATIONS.
- LINE WHERE COLOR CHANGE OCCURS IN THE TERRAZZO SHOULD BE SEPERATED WITH 1/8" METAL DIVIDER STRIPS.
- MISC. EXPOSED HARDWARE INCLUDING BUT NOT LIMITED TO LOUVERS, GRATES OR TRIM ACCESSORIES, TO BE PAINTED TO MATCH ADJACENT WALL FINISH.
- ALL NEW INTERIOR FINISHES TO COMPLY WITH CHAPTER 8 OF THE 2018 NC BUILDING AND FIRE CODES. REFER TO SPECIFICATIONS FOR CLASS RATINGS FOR EACH FINISH MATERIAL.
- PAINT P1 IN ALL LOCATIONS UN O.
- EPOXY PAINT TYPICAL AT ALL FOOD PREP ROOMS, ROOMS THAT ARE APART OF FOOD PREP ROOMS, CAFETERIA, RESTROOMS, JANITOR CLOSETS, UTILITY ROOMS AND STAIRWELLS.
- ALL HOLLOW METAL DOOR FRAMES AND WINDOWS TO BE PAINTED P6 UNLESS NOTED OTHERWISE.
- EXPOSED COLUMNS TO BE P6 UNLESS OTHERWISE NOTED.
- PAINT COLORS DESIGNATED AT BULKHEADS TO BE APPLIED TO ENTIRE VERTICAL AND HORIZONTAL FACES, UNLESS NOTED OTHERWISE IN RCP AND ELEVATIONS.
- ALL EXPOSED STRUCTURE, MEP EQUIPMENT/ACCESSORIES, CEILING WIRES, ETC PAINTED P6.
- EXPOSED DECKING TO RECEIVE P PAINT. GLULAMS ARE NOT TO RECEIVE PAINT. PROTECT DURING CONSTRUCTION.



500/600 EAST KEY PLAN

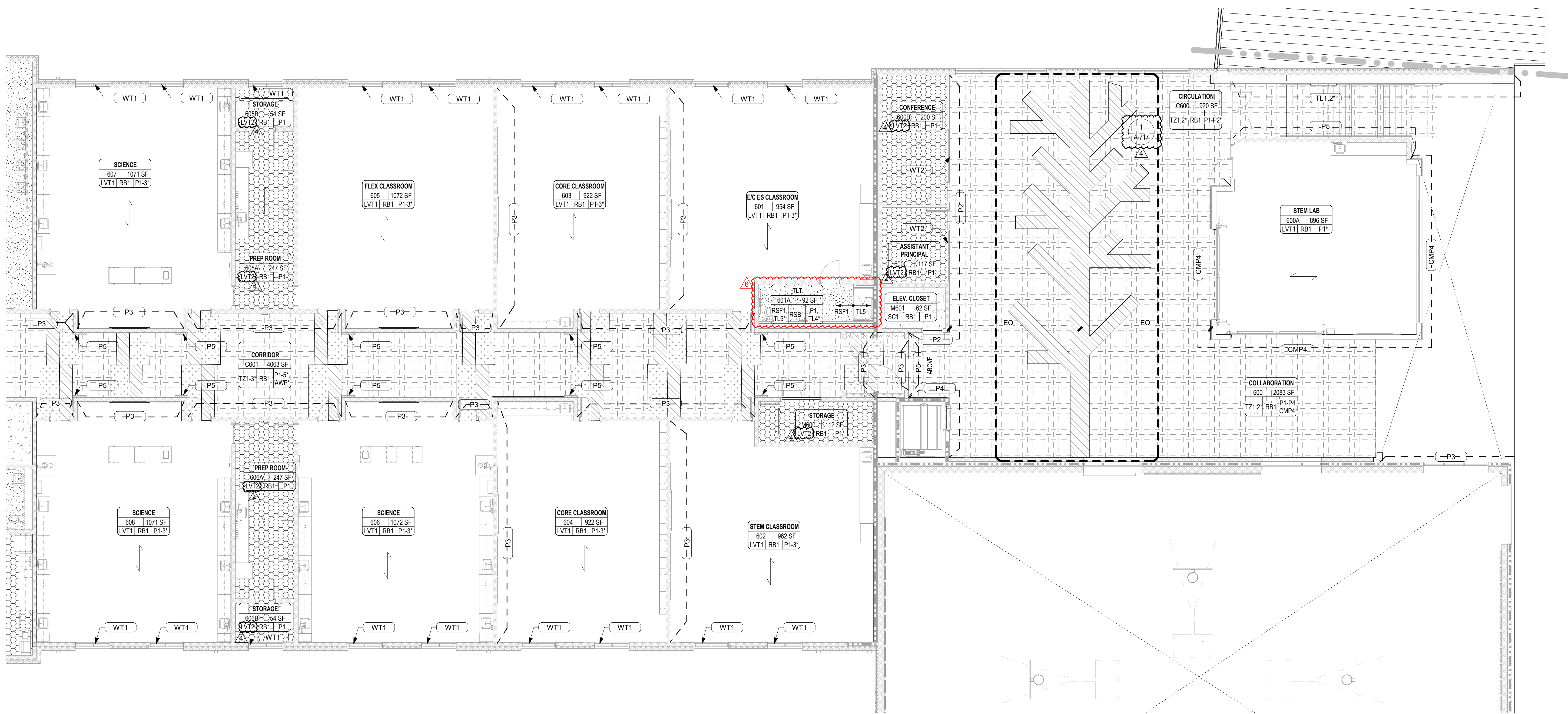
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4	01-09-25	NCP1 CD
6	02-05-25	ADDENDUM 2

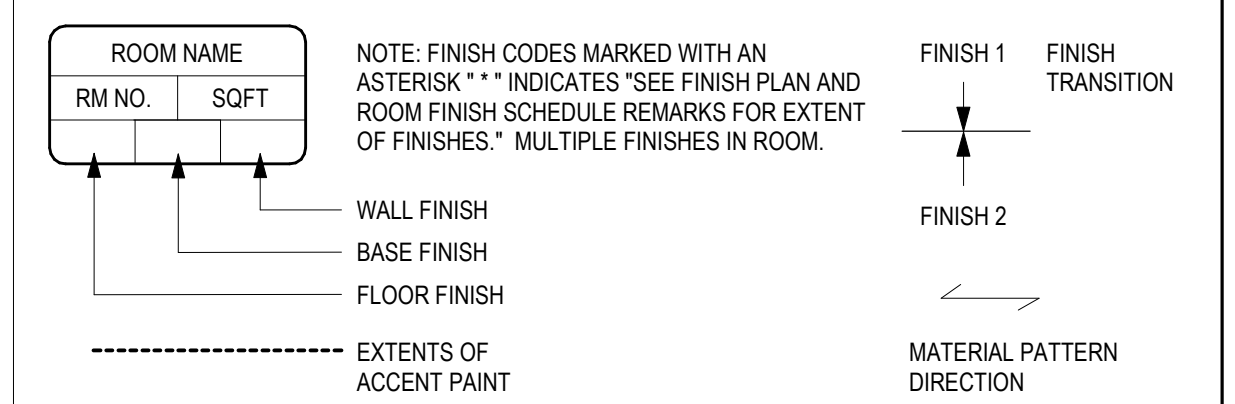
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FLOOR FINISH PLAN
- AREA 500 EAST

A-715.1



1 FLOOR FINISH PLAN - AREA 600 EAST
 A-716.1 SCALE: 1/8" = 1'-0"

FINISH FLOOR PLAN LEGEND



FINISH ABBREVIATIONS

FLOOR FINISH CODE ABBREVIATIONS			
CPS	CARPET SHEET	WAF	WOOD ATHLETIC FLOORING
LVT	LUXURY VINYL TILE	WDF	WOOD FLOORING
PC	POLISHED CONCRETE	EM	ENTRY MAT
PF	PERFORMANCE FLOORING (POLYMER PANEL)		
RSF	RESINOUS FLOORING		
RF	RUBBER FLOORING		
SC	SEALED CONCRETE		
TL	TILE		
TZ	TERRAZZO FLOORING		
QT	QUARRY TILE		
BASE FINISH CODE ABBREVIATIONS			
RB	RESILIENT BASE		
RSB	RESINOUS BASE		
TLB	TILE BASE		
QTB	QUARRY TILE BASE		
WALL FINISH CODES			
AWP	ACoustICAL WALL PANELS	WC	WALLCOVERING
FWP	FABRIC WRAPPED ACoustICAL PANELS	WD	WOOD
FRP	FIBERGLASS REINFORCED PANELS	TL	WALL TILE
P	PAINT		
PG	PARGE		
PX	PAINT, EPOXY		
SS	STAINLESS STEEL		
MISC. FINISH CODE ABBREVIATIONS			
APC	ACoustICAL PANEL CEILING	TP	TOILET PARTITIONS
ES	EXPOSED STRUCTURE	TB	TACKBOARD
GWB	GYPSUM WALL BOARD	WT	WINDOW TREATMENT
GMB	GLASS MARKER BOARD		
MB	MARKER BOARD		
PL	PLASTIC LAMINATE		
SS	SOLID SURFACE MATERIAL		

FINISH FLOOR PATTERN PLAN LEGEND

CPS1	CARPET SHEET	LVT2	LVT FLOORING
CPT1	CARPET TILE	TZ1	TERRAZZO FLOORING
LVT1	LVT FLOORING	TZ2	TERRAZZO FLOORING
PF1	PERFORMANCE FLOORING	TZ3	TERRAZZO FLOORING
RSF	RESINOUS FLOORING	QT1	QUARRY TILE
SC1	SEALED CONCRETE	WAF1	WOOD ATHLETIC FLOORING
SC2	STAINED CONCRETE BLACK	TL3	WOOD TILE FLOORING

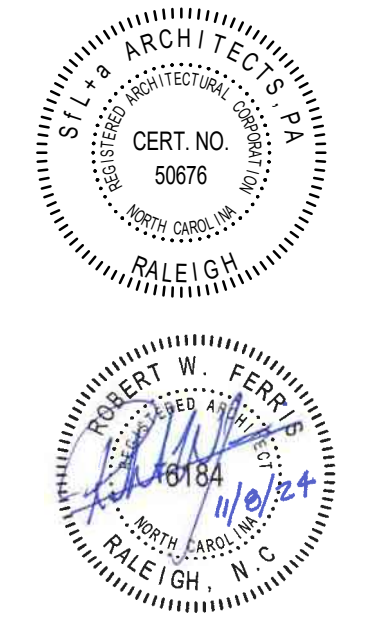
GENERAL FINISH NOTES

- REFER TO THE FINISH LEGEND AND PLANS FOR ADDITIONAL INFORMATION.
- ALL FLOORING TRANSITIONS OCCUR AT THE CENTER OF THE UNDERSIDE OF THE DOOR UNLESS OTHERWISE NOTED.
- IN SECONDARY STAIRWELLS, ALL EXPOSED HANDRAILS, STAIR PANS AND STRINGERS TO BE PAINTED **P6**.
- REFER TO INTERIOR ELEVATION SHEET FOR DETAILS AND TRANSITIONS OF WALL TILE, ACoustICAL WALL PANELS MARKER BOARDS AND TACKBOARDS.
- A 1/8" DIVIDER STRIP CONTROL JOINT IS TO BE LOCATED IN THE TERRAZZO DIRECTLY ALIGNED WITH ALL CONCRETE FLOOR SLAB CONTROL JOINT LOCATIONS.
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- ALL NEW INTERIOR FINISHES TO COMPLY WITH CHAPTER 8 OF THE 2018 NC BUILDING AND FIRE CODES. REFER TO SPECIFICATIONS FOR CLASS RATINGS FOR EACH FINISH MATERIAL.
- PAINT **P1** IN ALL LOCATIONS UNLESS NOTED.
- EPOXY PAINT TYPICAL AT ALL FOOD PREP ROOMS, ROOMS THAT ARE APART OF FOOD PREP ROOMS, CAFETERIA, RESTROOMS, JANITOR CLOSETS, UTILITY ROOMS AND STAIRWELLS.
- ALL HOLLOW METAL DOOR FRAMES AND WINDOWS TO BE PAINTED **P6** UNLESS NOTED OTHERWISE.
- EXPOSED COLUMNS TO BE **P6** UNLESS OTHERWISE NOTED.
- PAINT COLORS DESIGNATED AT BULKHEADS TO BE APPLIED TO ENTIRE VERTICAL AND HORIZONTAL FACES, UNLESS NOTED OTHERWISE IN RCP AND ELEVATIONS.
- ALL EXPOSED STRUCTURE, MEP EQUIPMENT ACCESSORIES, CEILING WIRES, ETC PAINTED **P6**.
- EXPOSED DECKING TO RECEIVE **P** PAINT. GLULAMS ARE NOT TO RECEIVE PAINT. PROTECT DURING CONSTRUCTION.

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2	12-13-24	CD REVISIONS
4	01-09-25	NC DPI CD
6	02-05-25	ADDENDUM 2

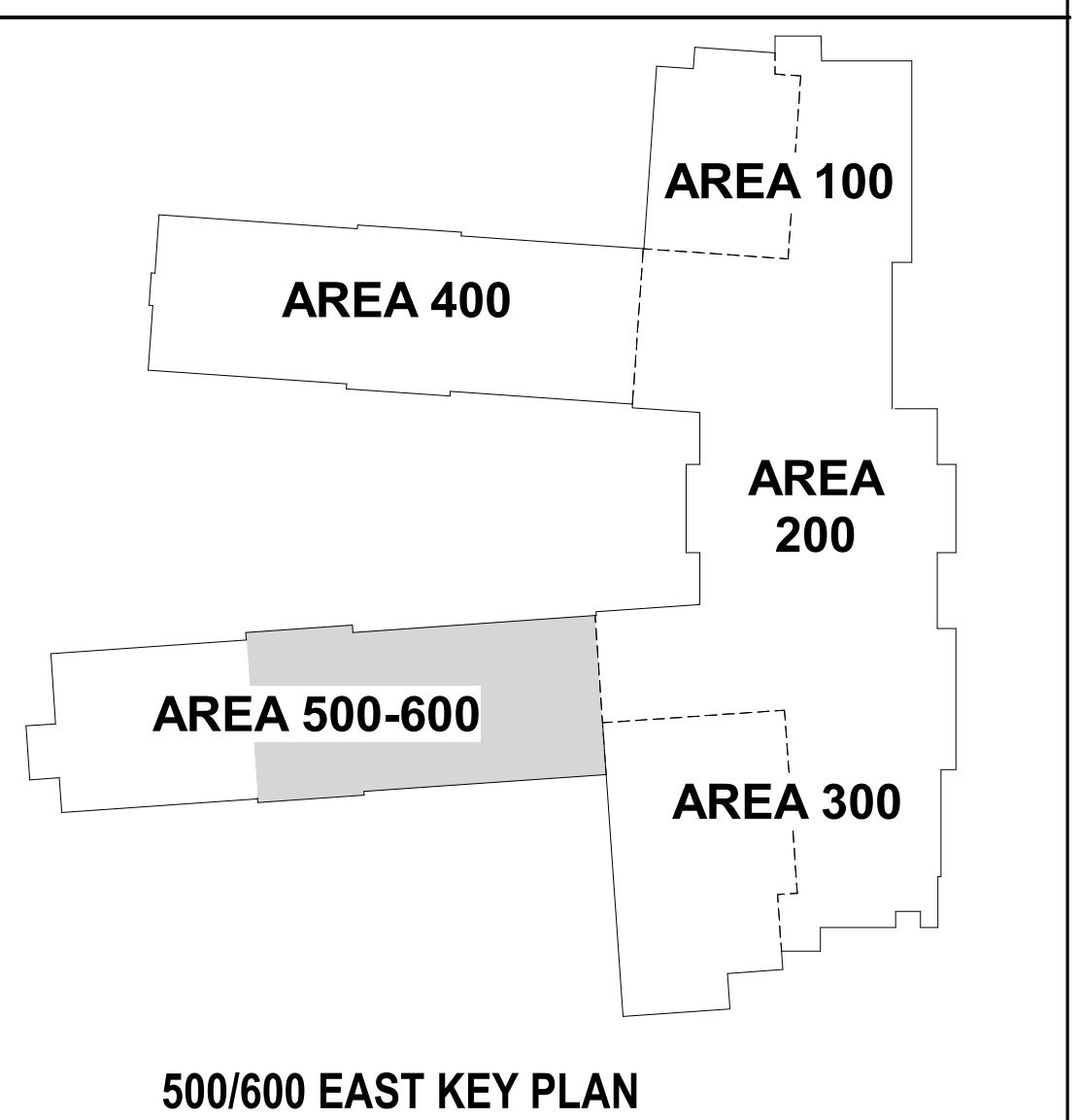
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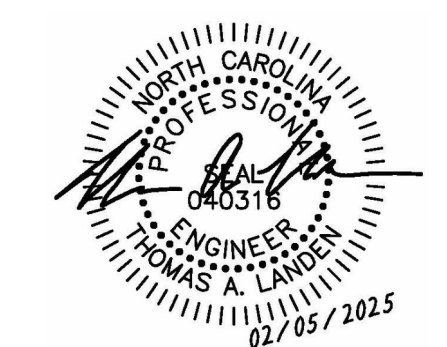
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FLOOR FINISH PLAN
 - AREA 600 EAST

A-716.1



500/600 EAST KEY PLAN



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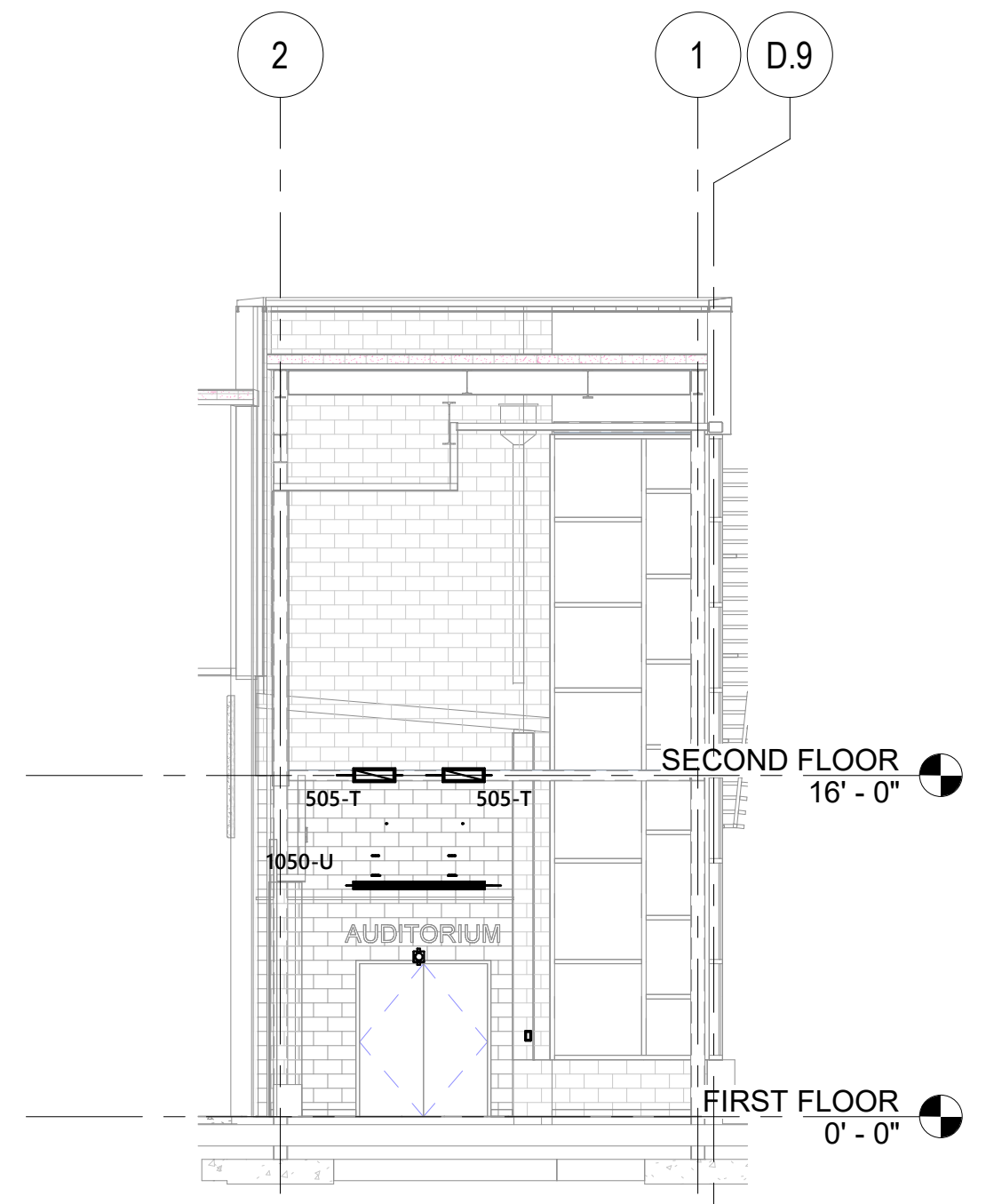
ENERGY STAR PARTNER

No.	Date	Description
6	02/05/2025	Addendum 2

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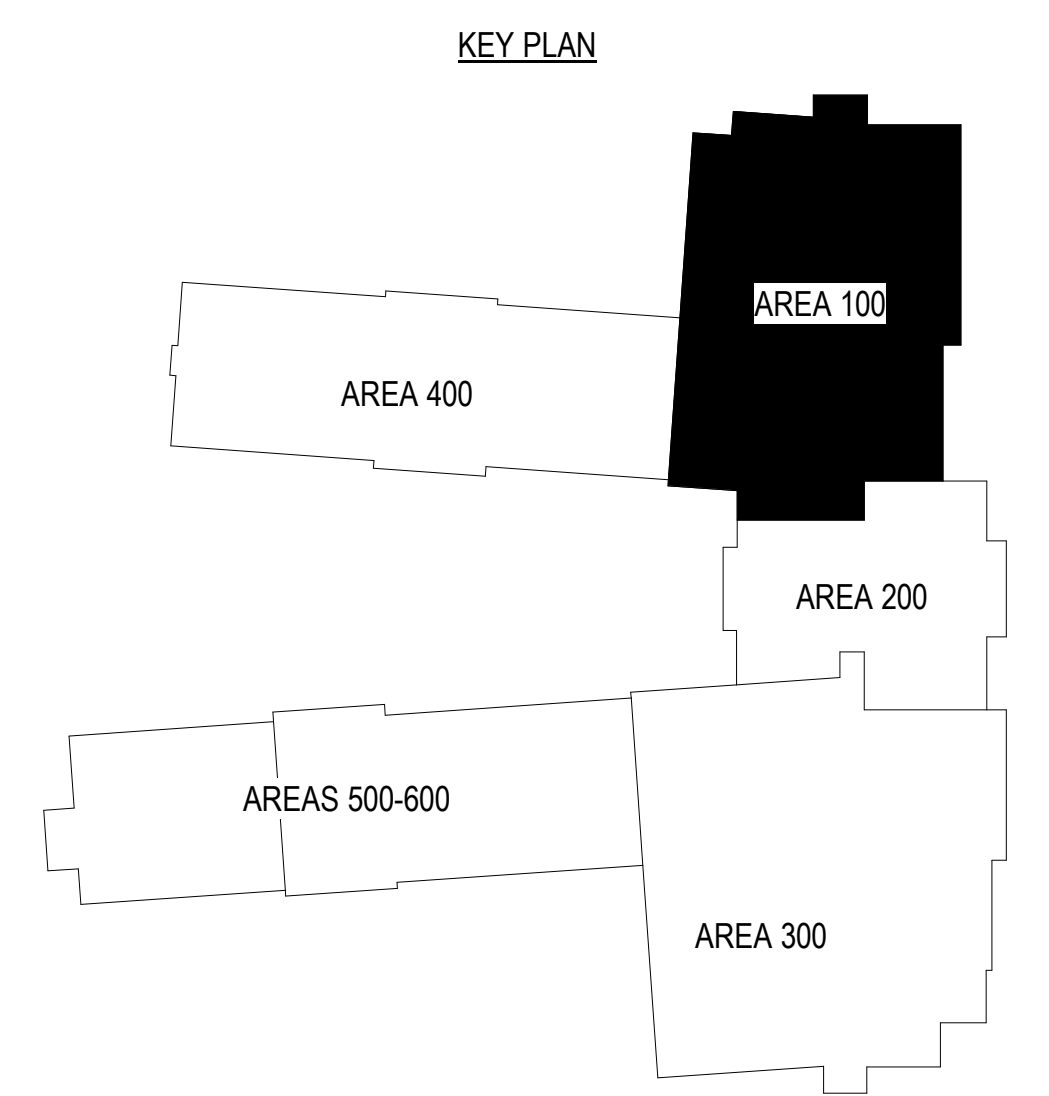
PARTIAL FIRST FLOOR MECHANICAL PLAN - AREA 100

M-111



3 Lobby C100 Section View
1/8" = 1'-0"

WALL LEGEND	
SYMBOL	DESCRIPTION
	1 HR RATED EXIT ENCLOSURE (FIRE BARRIER)
	2 HOUR RATED WALL



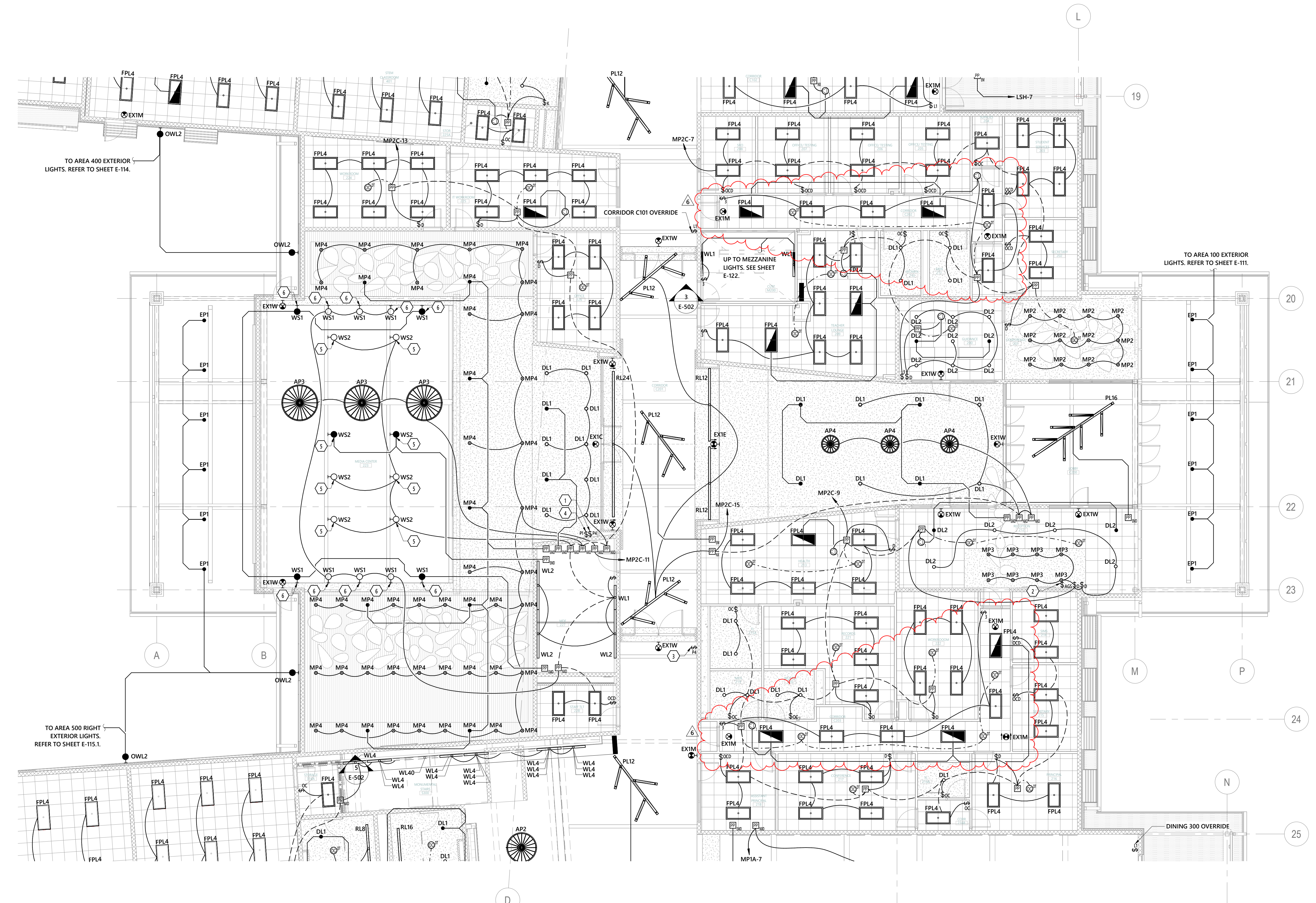
1 PARTIAL FIRST FLOOR MECHANICAL PLAN - AREA 100
1/8" = 1'-0"

GENERAL NOTES:

- A. REFER TO ARCHITECTURAL DRAWINGS, INCLUDING, BUT NOT LIMITED TO, REFLECTED CEILING PLANS AND ELEVATIONS FOR ASSOCIATED NOTES, MOUNTING DETAILS AND EXACT LOCATIONS OF ALL LIGHTING FIXTURES.
- B. PROVIDE COMMON FACEPLATE AND REQUIRED METAL INTERIOR BOX BARRIERS FOR ALL MULTIPLE GANG SWITCH LOCATIONS.
- C. COORDINATE THE PLACEMENT OF ALL PENDANT, SURFACE, OR SEMI-FLUSH FIXTURES AND DEVICES WITH THE FIRE PROTECTION CONTRACTOR OR MAINTAIN NFPA 13 REQUIRED SEPARATION BETWEEN SPRINKLER HEADS AND OBSTRUCTIONS.
- D. CONNECT ALL NIGHT LIGHTS (NL), EXIT SIGNS, EMERGENCY INPUT OF ALL GENERATOR TRANSFER DEVICES, AND EMERGENCY POWER PACKS SHOWN ON THIS SHEET TO EMERGENCY CIRCUIT 'LSH-13' UNLESS OTHERWISE NOTED.
- E. CIRCUIT NUMBERS ARE DIAGRAMATIC. EXACT NUMBERS SHALL BE DETERMINED IN THE FIELD AND REFLECTED ON AS-BUILT DOCUMENTATION BY THE ELECTRICAL CONTRACTOR. THE ASSOCIATED CIRCUIT NUMBERS THAT ARE APPLIED TO EACH DEVICE AND PIECE OF EQUIPMENT INFERS INTERCONNECTING BRANCH CIRCUITRY.
- F. REFER TO SHEET E-002 FOR MINIMUM CONDUCTOR SIZE ADJUSTMENTS FOR VOLTAGE DROP.
- G. WIRE COUNTS FOR CIRCUIT CONDUCTORS ARE NOT SHOWN. PROVIDE PROPER NUMBER OF CONDUCTORS TO ACHIEVE CIRCUIT AND SWITCHING CONNECTIONS SHOWN.
- H. MODIFICATIONS TO NUMBER OF CONDUCTORS IN HOME RUNS IN ADDITION TO CIRCUIT INDICATED ON THIS DRAWING ARE PROHIBITED.
- I. CONNECT VOLTAGE SENSING INPUT OF POWER PACKS TO LOCAL NORMAL LIGHTING CIRCUIT, UNSWITCHED.
- J. ALL HALLWAY CEILING MOUNTED LIGHTING DEVICES AND HALLWAY CEILING MOUNTED LIGHTING FIXTURES ARE TO BE MOUNTED IN THE CENTER OF THE HALLWAY UNLESS OTHERWISE NOTED.
- K. 0-10V DIMMING WIRING IS NOT ANNOTATED ON PLANS. PROVIDE 0-10V DIMMING WIRING AS NEEDED FOR DIMMING ZONES SHOWN ON PLANS.

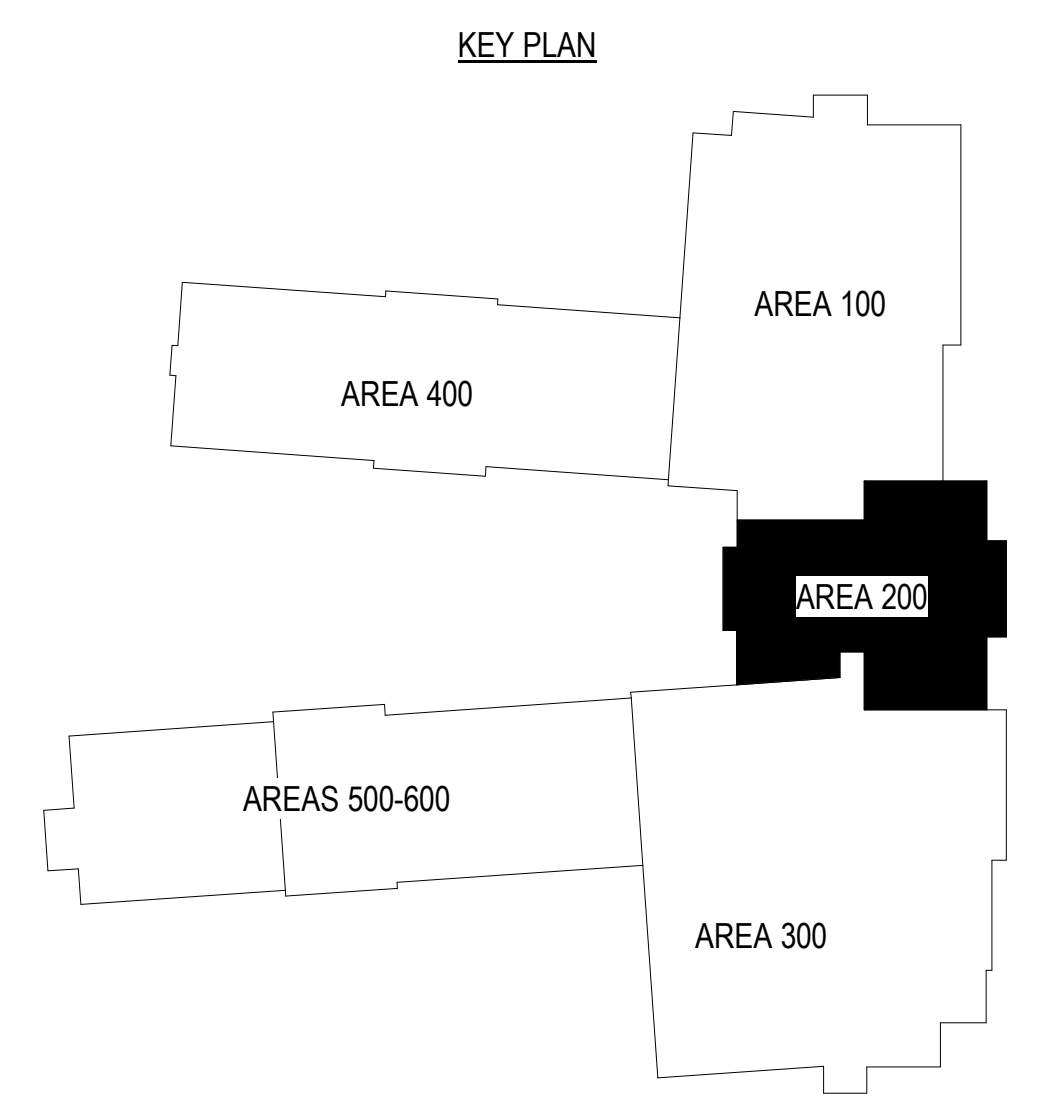
KEYNOTES

- 1 MEDIA CENTER 223 OVERRIDE.
- 4 ZONES:
- ZONE 1: TYPE 'DL1' DOWNLIGHTS
- ZONE 2: TYPE 'MP1' PENDANTS
- ZONE 3: TYPE 'WS1' SCONCES
- ZONE 4: TYPE 'AP3' PENDANTS
- 2 LOW VOLTAGE SCENE CONTROLLER WITH FULL COLOR TOUCH SCREEN. ON/OFF/DIM CONTROLS. PASSWORD PROTECTED. CONTROLLED AREAS INCLUDING BUT NOT LIMITED TO: ALL CORRIDORS, LOBBY, AND VESTIBULES.
- 3 CORRIDOR C300 OVERRIDE.
- 4 ZONES:
- ZONE 1: TYPE 'PL12' AND 'L16' PENDANTS
- ZONE 2: TYPE 'DL1' DOWNLIGHTS
- ZONE 3: TYPE 'AP2' PENDANTS
- ZONE 4: TYPE 'WL40' AND 'WL44' WALL MOUNTED LINEARS
- 4 MEDIA CENTER 223 OVERRIDE.
- 1 ZONE:
- ZONE 1: TYPE 'WS2' SCONCES
- 5 LIGHTING FIXTURE TO BE MOUNTED TO SIDE OF GLULAM STRUCTURE.
- 6 LIGHTING FIXTURE TO BE MOUNTED TO WALL AT 23'-0" AFF.



1 PARTIAL FIRST FLOOR LIGHTING PLAN - AREA 200
1/8" = 1'-0"

WALL LEGEND	
SYMBOL	DESCRIPTION
	1 HR RATED EXIT ENCLOSURE (FIRE BARRIER)
	2 HOUR RATED WALL



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STATE OF NORTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 10000
JAMES M. SFLA
ELECTRICAL ENGINEERING
2/5/2025

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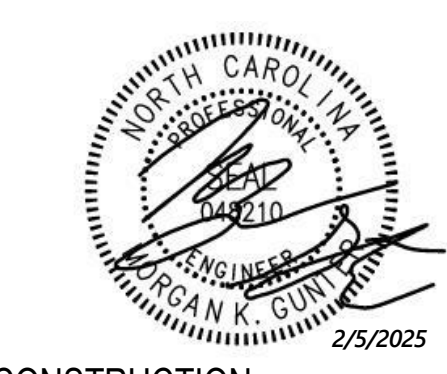
ENERGY STAR PARTNER

No.	Date	Description
4	01/09/2025	NCCPI CD
6	02/05/2025	Addendum 2

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PARTIAL FIRST FLOOR LIGHTING PLAN - AREA 200

E-112



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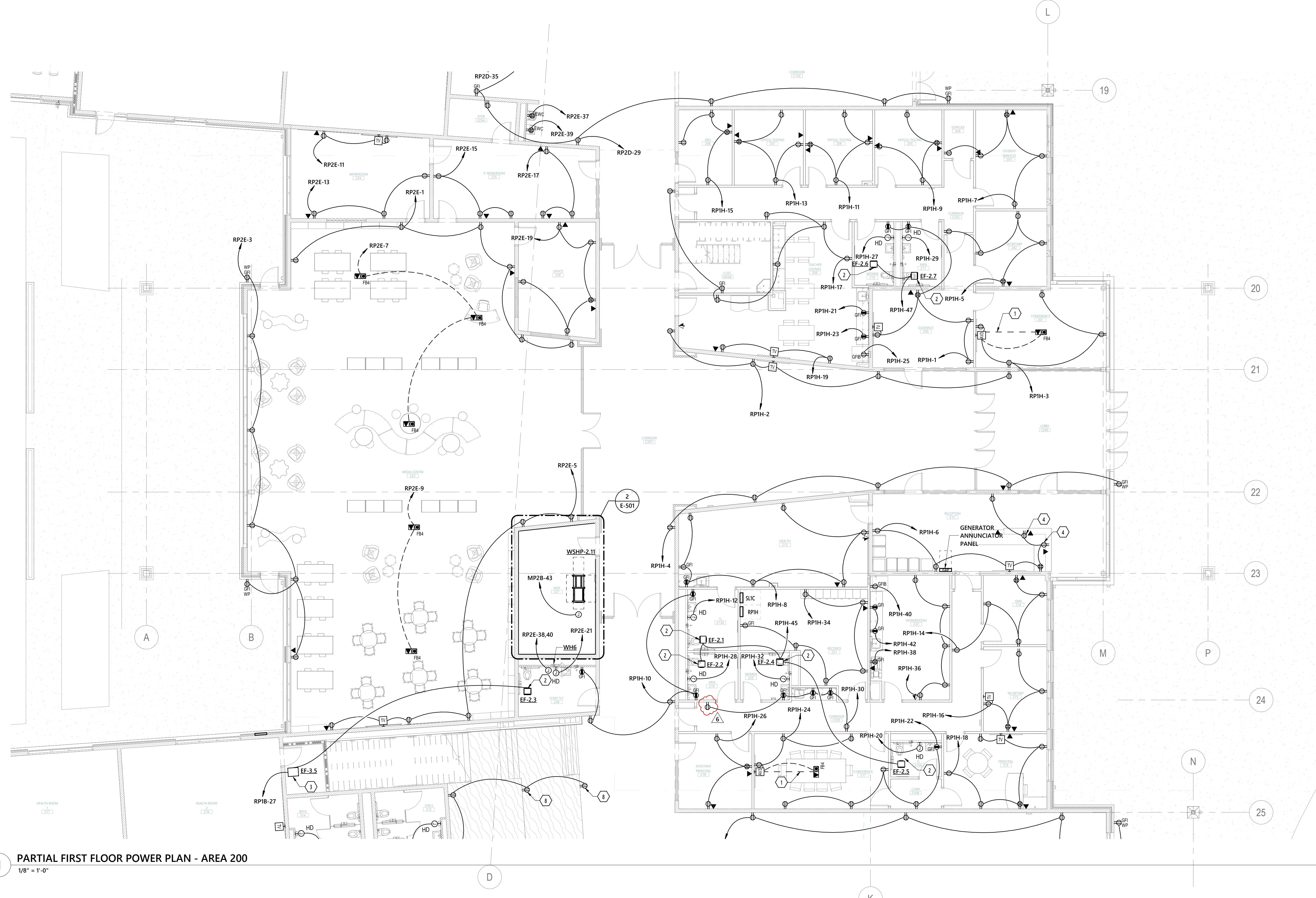
PARTIAL FIRST FLOOR POWER PLAN - AREA 200

GENERAL NOTES:

- RECEPTACLES AND DATA OUTLETS SHALL NOT BE MOUNTED IN TRIM OF WINDOWS. LOCATED WHERE FULL WALL IS AVAILABLE.
- COORDINATE LOCATION OF ALL FLOOR BOXES PRIOR TO ROUGH-IN. MULTIPLE BOXES IN THE SAME AREA SHALL BE NEATLY ALIGNED AND PARALLEL TO BUILDING LINES.
- CIRCUIT NUMBERS ARE DIAGRAMATIC. EXACT NUMBERS SHALL BE DETERMINED IN THE FIELD AND REFLECTED ON AS-BUILT DOCUMENTATION BE THE ELECTRICAL CONTRACTOR. THE ASSOCIATED CIRCUIT NUMBERS THAT ARE APPLIED TO EACH DEVICE AND PIECE OF EQUIPMENT INFERS INTERCONNECTING BRANCH CIRCUITRY.
- PROVIDE HOUSEKEEPING PADS FOR ALL FLOOR MOUNTED AND GRADE MOUNTED ELECTRICAL EQUIPMENT. MINIMUM REQUIREMENTS: 4" HIGH, 4% AIR ENTRAINED, POLYFIBER REINFORCED CONCRETE, 4" WIDER AND 4" LONGER THAN EQUIPMENT TO BE PLACED ON IT. REFER TO ELECTRICAL DETAIL DRAWINGS FOR TRANSFORMER, GENERATOR, OR SWITCHGEAR PADS THAT MAY EXCEED THESE REQUIREMENTS.
- REFER TO SECTION 26 0519 FOR MINIMUM CONDUCTOR SIZE ADJUSTMENTS FOR VOLTAGE DROP.
- MODIFICATIONS TO NUMBER OF CONDUCTORS IN HOME RUNS IN ADDITION TO CIRCUITS INDICATED ON THIS DRAWING ARE PROHIBITED.
- PROVIDE PAINT/TAPE TO INDICATE MINIMUM REQUIRED WORKING CLEARANCES FOR PANELBOARDS LOCATED OUTSIDE OF DEDICATED ELECTRICAL ROOMS ACCORDING TO NEC ARTICLE/TABLE 110.26(A)(1).

KEYNOTES

- PROVIDE 2" C. FROM FLOOR BOX TO TV BOX IN WALL. PROVIDE WITH PULL STRING.
- INTERLOCK FAN WITH LIGHTING CONTROLS IN THIS ROOM. PROVIDE RELAY TO INTERLOCK 277V LIGHTING CONTROLS WITH 120V FAN.
- INTERLOCK FAN WITH LIGHTING CONTROLS IN ADJACENT RESTROOMS. PROVIDE RELAY TO INTERLOCK 277V LIGHTING CONTROLS WITH 120V FAN.
- RECEPTACLE TO BE MOUNTED IN DESK.

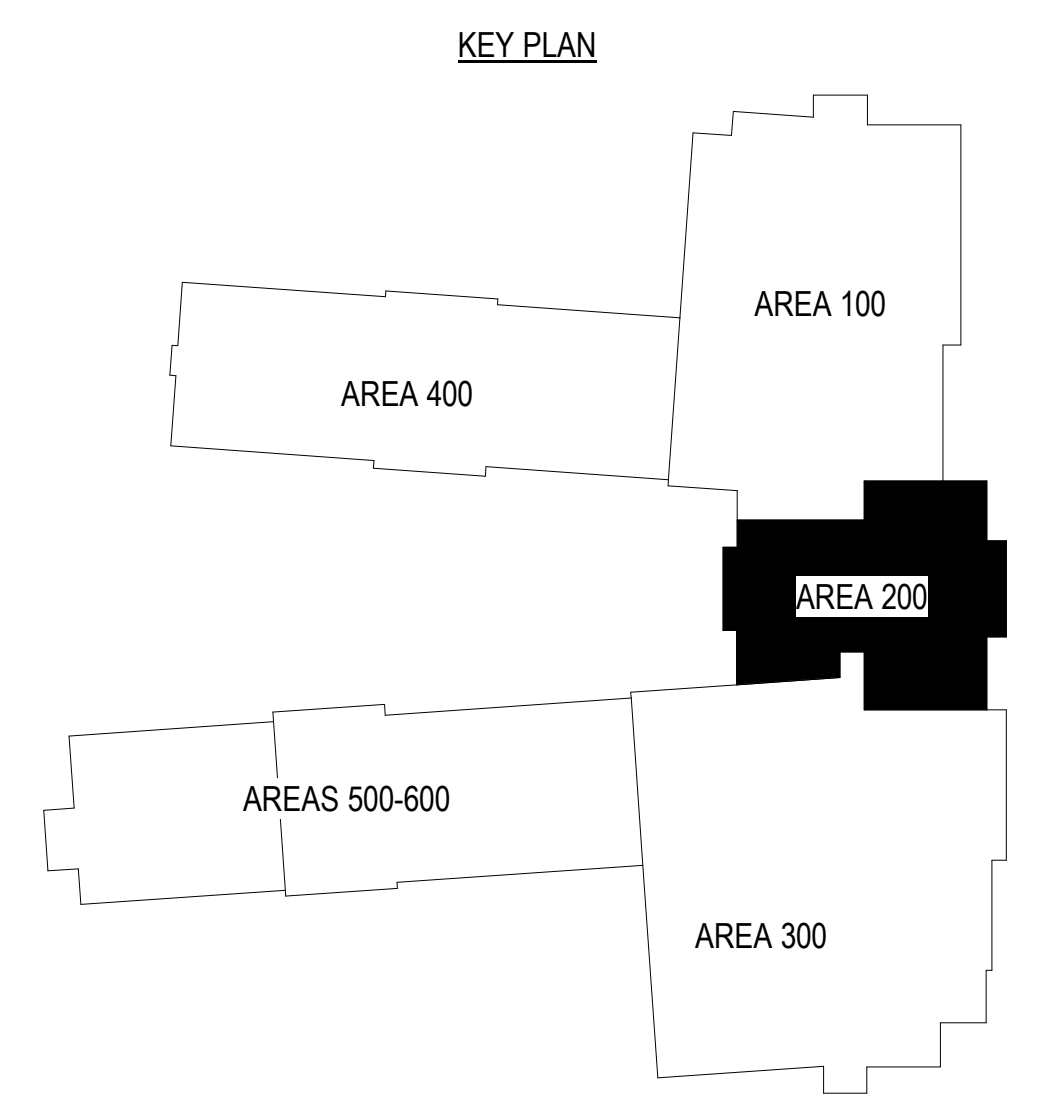


1 PARTIAL FIRST FLOOR POWER PLAN - AREA 200
1/8" = 1'-0"

REFER TO T-SERIES TECHNOLOGY PLANS FOR ADDITIONAL CONDUIT REQUIREMENTS

WALL LEGEND

SYMBOL	DESCRIPTION
[Symbol: Dashed line]	1 HR RATED EXIT ENCLOSURE (FIRE BARRIER)
[Symbol: Solid line]	2 HOUR RATED WALL



FEEDER SCHEDULE FOR ALUMINUM CONDUCTORS TO SPECIFIC BREAKER SIZE

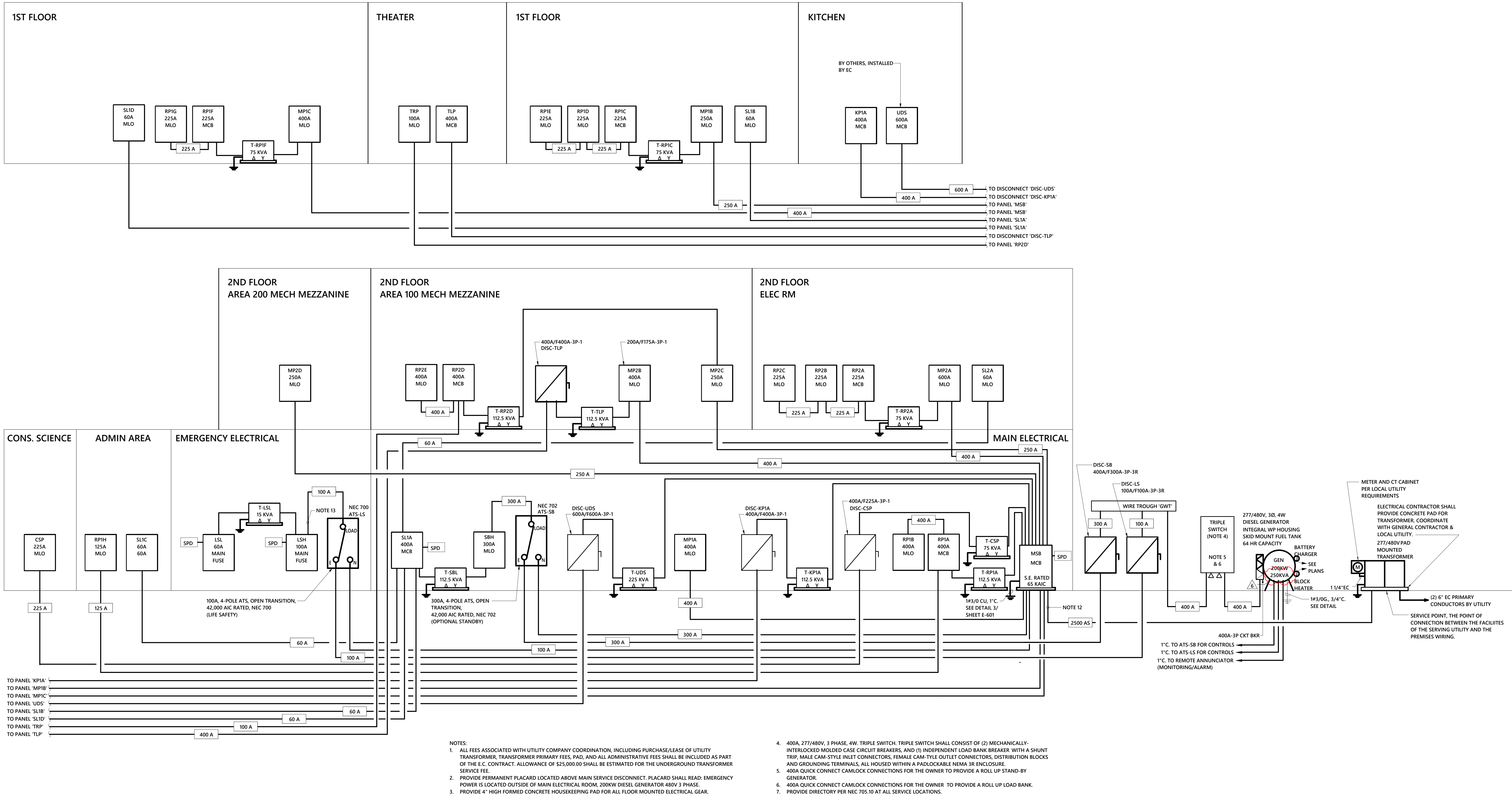
60 A	4#6 CU, 1#8 CU G, 1-1/4" C
100 A	4#1/0, 1#6G, 2" C
125 A	4#2/0, 1#4G, 2" C
225 A	4-300 KCMIL, 1#2G, 3" C
250 A	4-350 KCMIL, 1#2G, 3" C
300 A	4-500 KCMIL, 1#2G, 3-1/2" C
400 A	(2) 4-250 KCMIL, 1#1 G, 3" C
400 AS	(2) 4-250 KCMIL, 3" C
600 A	(2) 4-500 KCMIL, 1#2/0G, 3-1/2" C
2500 AS	(9) 4-500 KCMIL, 4" C

NOTES:
 1) THE CONTRACTOR SHALL MAKE EVERY PROVISION TO INSTALL ALUMINUM CONDUCTORS CORRECTLY, INCLUDING TERMINATIONS IN PANELBOARDS, DISCONNECTS, ETC. ALL TERMINALS SHALL BE LISTED SUITABLE FOR ALUMINUM. APPLY OXIDE INHIBITING PASTE TO ALUMINUM CONDUCTORS AT TERMINATIONS.

DRY-TYPE TRANSFORMER SCHEDULE

TRANSFORMER TYPE	VOLTAGE		KVA RATING	BREAKER	PRIMARY WIRE & CONDUIT		BREAKER	SECONDARY WIRE & CONDUIT		SERVICE GROUND
	PRIMARY	SECONDARY			TS	3/4" C		60	4#6 CU, 1#8 CU G, 1-1/4" C	
T-4	480 V	208Y/120	15	25	3#10 CU, 1#10 CU G, 3/4" C		60	4#6 CU, 1#8 CU G, 1-1/4" C	#8 CU, 1" C	
T-7	480 V	208Y/120	75	125	3#2/0, 1#4G, 2" C		225	4-300 KCMIL, 1#1/0G, 3" C	#2 CU, 1" C	
T-8	480 V	208Y/120	112.5	175	3#4/0, 1#4G, 2-1/2" C		400	(2) 4-250 KCMIL, 1#1/0G, 2-1/2" C	#1/0 CU, 1" C	
T-10	480 V	208Y/120	225	350	3-600 KCMIL, 1#1G, 4" C		700	(3) 4-350 KCMIL, 1#4/0G, 3" C	#2/0 CU, 1" C	

NOTE: 1. HOUSEKEEPING PADS SHALL HAVE OSHA COMPLIANT, SAFETY YELLOW, EPOXY PAINT SUITABLE FOR CONCRETE. 2. ALL CONDUCTORS ARE SHOWN FOR ALUMINUM MATERIALS, UNLESS OTHERWISE NOTED.



- NOTES:
- ALL FEES ASSOCIATED WITH UTILITY COMPANY COORDINATION, INCLUDING PURCHASE/LEASE OF UTILITY TRANSFORMER, TRANSFORMER PRIMARY FEES, PAD, AND ALL ADMINISTRATIVE FEES SHALL BE INCLUDED AS PART OF THE E.C. CONTRACT. ALLOWANCE OF \$25,000.00 SHALL BE ESTIMATED FOR THE UNDERGROUND TRANSFORMER SERVICE FEE.
 - PROVIDE PERMANENT PLACARD LOCATED ABOVE MAIN SERVICE DISCONNECT. PLACARD SHALL READ: EMERGENCY POWER IS LOCATED OUTSIDE OF MAIN ELECTRICAL ROOM, 200KW DIESEL GENERATOR 480V 3 PHASE.
 - PROVIDE 4" HIGH FORMED CONCRETE HOUSEKEEPING PAD FOR ALL FLOOR MOUNTED ELECTRICAL GEAR.
 - 400A, 277/480V, 3 PHASE, 4W, TRIPLE SWITCH, TRIPLE SWITCH SHALL CONSIST OF (2) MECHANICALLY-INTERLOCKED MOLDED CASE CIRCUIT BREAKERS, AND (1) INDEPENDENT LOAD BANK BREAKER WITH A SHUNT TRIP, MALE CAM-STYLE INLET CONNECTORS, FEMALE CAM-STYLE OUTLET CONNECTORS, DISTRIBUTION BLOCKS AND GROUNDING TERMINALS, ALL HOUSED WITHIN A PADLOCKABLE NEMA 3R ENCLOSURE.
 - 400A QUICK CONNECT CAMLOCK CONNECTIONS FOR THE OWNER TO PROVIDE A ROLL UP STAND-BY GENERATOR.
 - 400A QUICK CONNECT CAMLOCK CONNECTIONS FOR THE OWNER TO PROVIDE A ROLL UP LOAD BANK.
 - PROVIDE DIRECTORY PER NEC 705.10 AT ALL SERVICE LOCATIONS.

1 POWER RISER DIAGRAM
NOT TO SCALE

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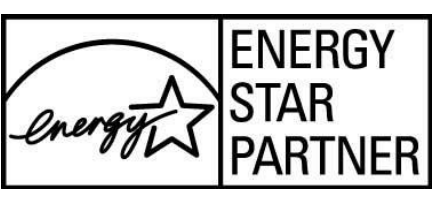
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No.	Date	Description
6	02/05/2025	Addendum 2

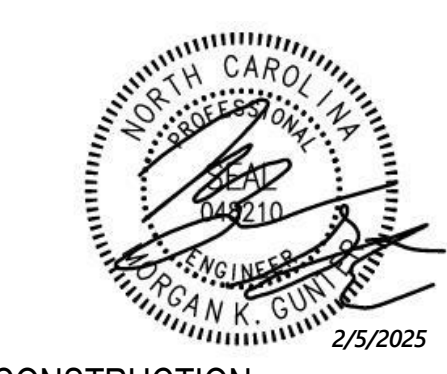
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 PROJECT #: 02208.000
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ELECTRICAL RISER DIAGRAM

GENERAL NOTES:
A. REFER TO DRAWING FA-001 FOR SYMBOL DESCRIPTIONS AND NOTES.

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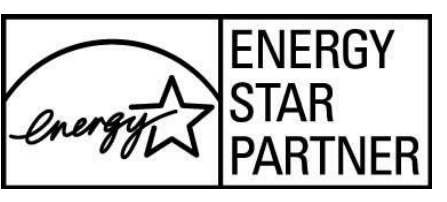


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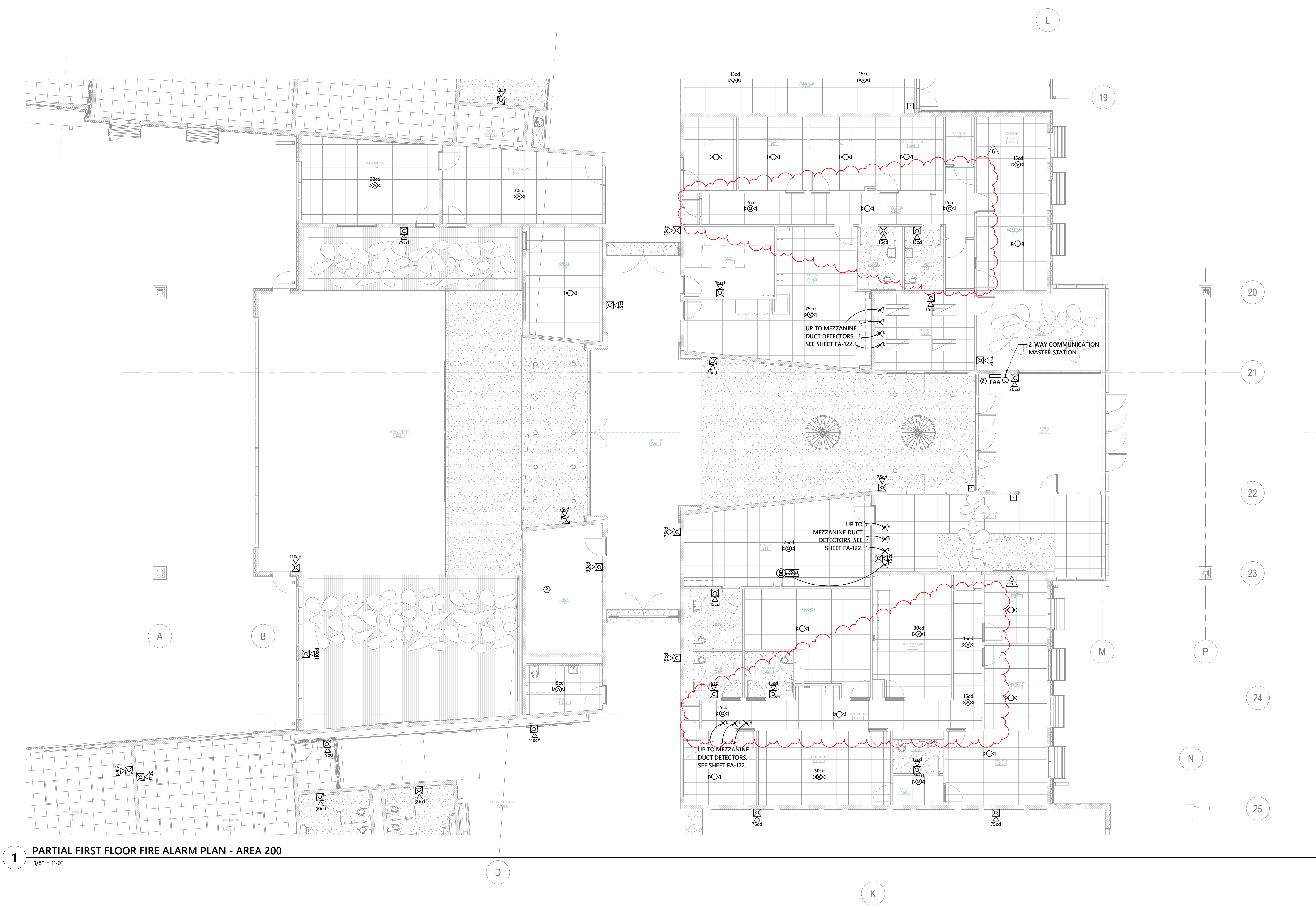


No.	Date	Description
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6	02/05/2025	Addendum 2

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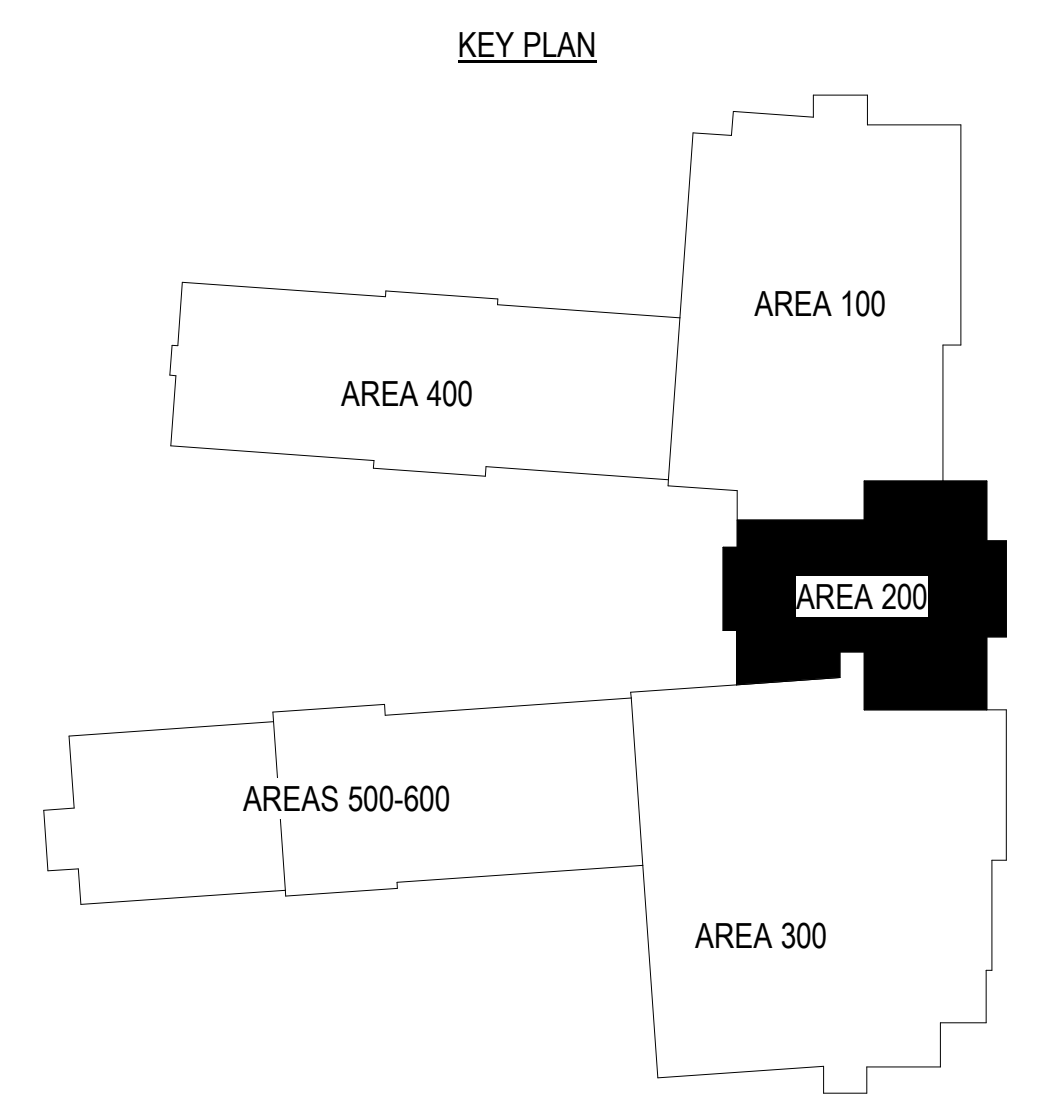
PARTIAL FIRST
FLOOR FIRE ALARM
PLAN - AREA 200

FA-112

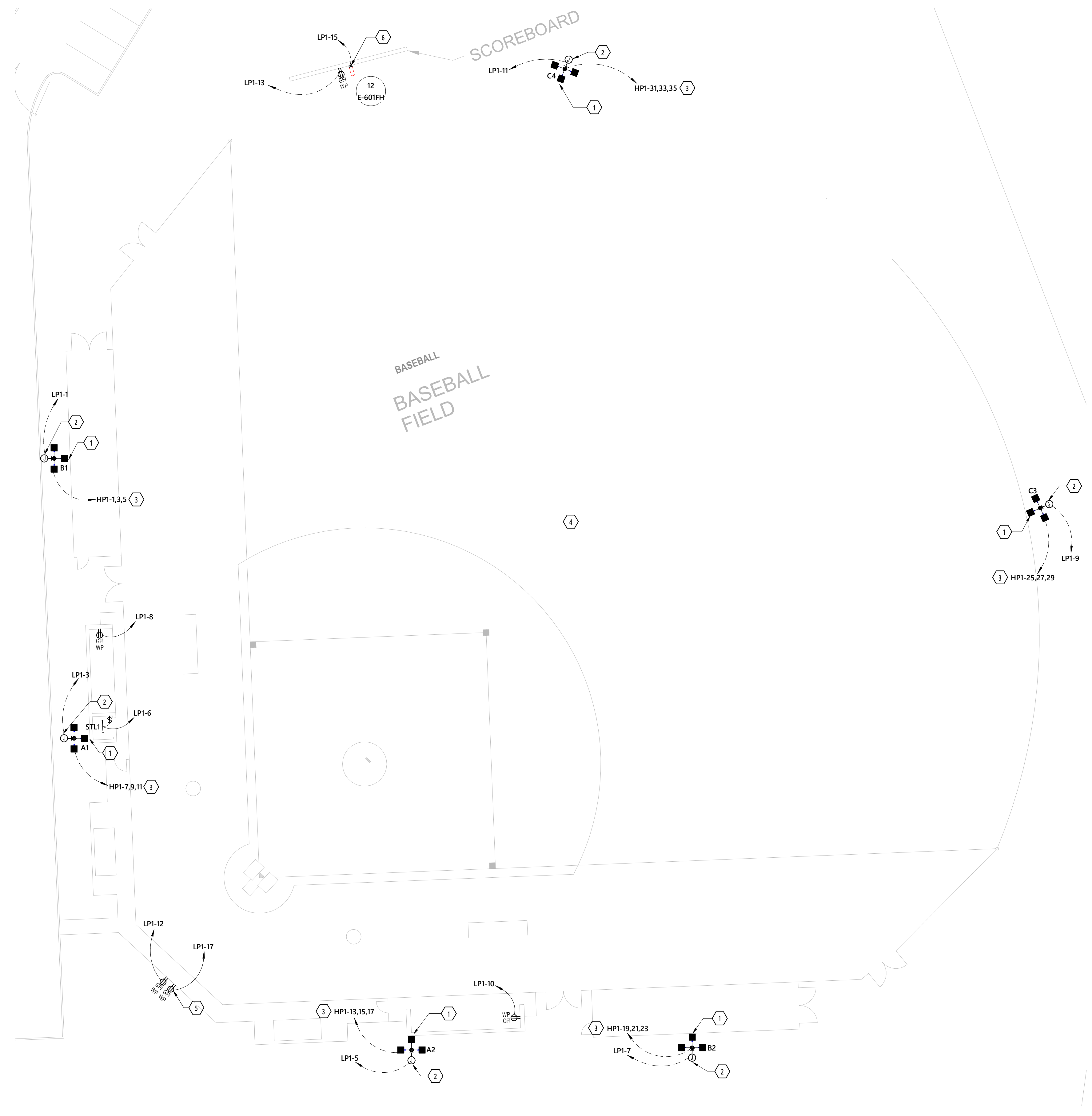


1 PARTIAL FIRST FLOOR FIRE ALARM PLAN - AREA 200
1/8" = 1'-0"

WALL LEGEND	
SYMBOL	DESCRIPTION
	1 HR RATED EXIT ENCLOSURE (FIRE BARRIER)
	2 HOUR RATED WALL



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1 BASEBALL FIELD ELECTRICAL PLAN
1" = 20'-0"

GENERAL NOTES - SITE PLAN

- A. ALL LIGHTING AND POWER CONDUCTORS SHALL BE INSTALLED BETWEEN 24" (MINIMUM) AND 36" (MAXIMUM) BELOW FINISHED GRADE.
- B. ALL COMMUNICATIONS CONDUIT AND CABLES SHALL BE INSTALLED 36" (MINIMUM) BELOW FINISHED GRADE.
- C. ALL CONDUCTORS FOR EXTERIOR LIGHTING AND POWER CIRCUITS SHALL BE #10 AWG MINIMUM.
- D. PROVIDE TRANSFORMER BASE AT ALL POLE MOUNTED FIXTURES, TAP 2 LEGS OF THREE PHASE FEEDER (CIRCUITS DENOTED), PROVIDE BALLAST FUSES AT TAP, AND PROVIDE BRANCH CIRCUITS TO FIXTURES.
- E. CONTROL POWER WIRING MUST BE IN SEPARATE CONDUIT FROM LINE OR LOAD POWER WIRING. COMMUNICATION CABLES MUST BE IN SEPARATE CONDUIT FROM ANY POWER WIRING.
- F. AVOID USE OF IN-GROUND JUNCTION/PULL BOXES WHEN POSSIBLE. IF USED, ALL WIRE CONNECTORS MUST BE UL LISTED FOR WET LOCATIONS TO PREVENT LEAKAGE CURRENT.
- G. REFER TO BALLFIELD LIGHTING INSTALLATION INSTRUCTIONS FOR MORE DETAILS ON EQUIPMENT INFORMATION AND THE INSTALLATION REQUIREMENTS.

KEYNOTES

- 1 PROVIDE BALLFIELD LIGHTING WITH WIRELESS CONTROL-LINK CONTROLS AND MONITORING SYSTEM.
- 2 PROVIDE 120V CONNECTION TO LIGHTING CONTROLS CABINET. COORDINATE EXACT REQUIREMENTS WITH BALLFIELD LIGHTING CONTROLS SHOP DRAWINGS.
- 3 CIRCUIT THROUGH LIGHTING CONTROLS CABINET. COORDINATE EXACT REQUIREMENTS WITH BALLFIELD LIGHTING CONTROLS SHOP DRAWINGS.
- 4 DO NOT ROUTE BRANCH CIRCUITS OR FEEDERS ACROSS BALLFIELDS. ROUTE ALONG PERIMETER OF FIELDS.
- 5 PROVIDE 120V CONNECTION FOR SCOREBOARD CONTROLS. COORDINATE EXACT LOCATION OF SCOREBOARD CONTROLS TABLE WITH G.C. PRIOR TO ROUGH-IN.
- 6 PROVIDE 120V CONNECTION FOR SCOREBOARD POWER. ROUTE (1) 2" C. FROM SCOREBOARD TO SCOREBOARD CONTROLS TABLE FOR SCOREBOARD CONTROLS.

FIXTURES IN THE SCHEDULE BELOW SHALL BE PRICED AS ADD ALTERNATE NO. 5. BASED BID SHALL BE UNDERGROUND RACEWAY FOR FIXTURES

LIGHTING FIXTURE SCHEDULE - BALLFIELDS									
TYPE	DESCRIPTION	MINIMUM LUMENS	TOTAL FIXTURE WATTAGE	DRIVER	VOLTAGE	MANUFACTURER	MODEL	REMARKS	
A1	LED POLE MOUNT AREA LIGHTING	560,000	4675.0 W	REMOTE LED DRIVER	480V	MUSCO LIGHTING WISCONSIN LIGHTING LAB LITHONIA	FIXTURES: (2) TLC-LED-1200 EACH MOUNTED AT 70' (2) TLC-LED-900 EACH MOUNTED AT 70' (1) TLC-BT-575 MOUNTED AT 16" POLE: 70' HEIGHT	GALVANIZED STEEL POLE.	
A2	LED POLE MOUNT AREA LIGHTING	560,000	4675.0 W	REMOTE LED DRIVER	480V	MUSCO LIGHTING WISCONSIN LIGHTING LAB LITHONIA	FIXTURES: (2) TLC-LED-1200 EACH MOUNTED AT 70' (2) TLC-LED-900 EACH MOUNTED AT 70' (1) TLC-BT-575 MOUNTED AT 16" POLE: 70' HEIGHT	GALVANIZED STEEL POLE.	
A3	LED POLE MOUNT AREA LIGHTING	364,000	3215.0 W	REMOTE LED DRIVER	480V	MUSCO LIGHTING WISCONSIN LIGHTING LAB LITHONIA	FIXTURES: (3) TLC-LED-900 EACH MOUNTED AT 60' (1) TLC-BT-575 MOUNTED AT 16" POLE: 60' HEIGHT	GALVANIZED STEEL POLE.	
A4	LED POLE MOUNT AREA LIGHTING	364,000	3215.0 W	REMOTE LED DRIVER	480V	MUSCO LIGHTING WISCONSIN LIGHTING LAB LITHONIA	FIXTURES: (3) TLC-LED-900 EACH MOUNTED AT 60' (1) TLC-BT-575 MOUNTED AT 16" POLE: 60' HEIGHT	GALVANIZED STEEL POLE.	
B1	LED POLE MOUNT AREA LIGHTING	802,000	6425.0 W	REMOTE LED DRIVER	480V	MUSCO LIGHTING WISCONSIN LIGHTING LAB LITHONIA	FIXTURES: (5) TLC-LED-1200 EACH MOUNTED AT 70' (1) TLC-BT-575 MOUNTED AT 16" POLE: 70' HEIGHT	GALVANIZED STEEL POLE.	
B2	LED POLE MOUNT AREA LIGHTING	802,000	6425.0 W	REMOTE LED DRIVER	480V	MUSCO LIGHTING WISCONSIN LIGHTING LAB LITHONIA	FIXTURES: (5) TLC-LED-1200 EACH MOUNTED AT 70' (1) TLC-BT-575 MOUNTED AT 16" POLE: 70' HEIGHT	GALVANIZED STEEL POLE.	
B3	LED POLE MOUNT AREA LIGHTING	802,000	6425.0 W	REMOTE LED DRIVER	480V	MUSCO LIGHTING WISCONSIN LIGHTING LAB LITHONIA	FIXTURES: (5) TLC-LED-1200 EACH MOUNTED AT 70' (1) TLC-BT-575 MOUNTED AT 16" POLE: 70' HEIGHT	GALVANIZED STEEL POLE.	
B4	LED POLE MOUNT AREA LIGHTING	802,000	6425.0 W	REMOTE LED DRIVER	480V	MUSCO LIGHTING WISCONSIN LIGHTING LAB LITHONIA	FIXTURES: (5) TLC-LED-1200 EACH MOUNTED AT 70' (1) TLC-BT-575 MOUNTED AT 16" POLE: 70' HEIGHT	GALVANIZED STEEL POLE.	
C3	LED POLE MOUNT AREA LIGHTING	658,000	5540.0 W	REMOTE LED DRIVER	480V	MUSCO LIGHTING WISCONSIN LIGHTING LAB LITHONIA	FIXTURES: (3) TLC-LED-1200 EACH MOUNTED AT 60' (1) TLC-LED-900 MOUNTED AT 60' (2) TLC-BT-575 EACH MOUNTED AT 16" POLE: 60' HEIGHT	GALVANIZED STEEL POLE.	
C4	LED POLE MOUNT AREA LIGHTING	658,000	5540.0 W	REMOTE LED DRIVER	480V	MUSCO LIGHTING WISCONSIN LIGHTING LAB LITHONIA	FIXTURES: (3) TLC-LED-1200 EACH MOUNTED AT 60' (1) TLC-LED-900 MOUNTED AT 60' (2) TLC-BT-575 EACH MOUNTED AT 16" POLE: 60' HEIGHT	GALVANIZED STEEL POLE.	
F1	LED POLE MOUNT AREA LIGHTING	1,294,000	10490.0 W	REMOTE LED DRIVER	480V	MUSCO LIGHTING WISCONSIN LIGHTING LAB LITHONIA	FIXTURES: (6) TLC-LED-1500 EACH MOUNTED AT 70' (1) TLC-LED-900 MOUNTED AT 70' (2) TLC-BT-575 EACH MOUNTED AT 16" POLE: 70' HEIGHT	GALVANIZED STEEL POLE.	
F2	LED POLE MOUNT AREA LIGHTING	1,294,000	10490.0 W	REMOTE LED DRIVER	480V	MUSCO LIGHTING WISCONSIN LIGHTING LAB LITHONIA	FIXTURES: (6) TLC-LED-1500 EACH MOUNTED AT 70' (1) TLC-LED-900 MOUNTED AT 70' (2) TLC-BT-575 EACH MOUNTED AT 16" POLE: 70' HEIGHT	GALVANIZED STEEL POLE.	
F3	LED POLE MOUNT AREA LIGHTING	1,294,000	10490.0 W	REMOTE LED DRIVER	480V	MUSCO LIGHTING WISCONSIN LIGHTING LAB LITHONIA	FIXTURES: (6) TLC-LED-1500 EACH MOUNTED AT 70' (1) TLC-LED-900 MOUNTED AT 70' (2) TLC-BT-575 EACH MOUNTED AT 16" POLE: 70' HEIGHT	GALVANIZED STEEL POLE.	
F4	LED POLE MOUNT AREA LIGHTING	1,294,000	10490.0 W	REMOTE LED DRIVER	480V	MUSCO LIGHTING WISCONSIN LIGHTING LAB LITHONIA	FIXTURES: (6) TLC-LED-1500 EACH MOUNTED AT 70' (1) TLC-LED-900 MOUNTED AT 70' (2) TLC-BT-575 EACH MOUNTED AT 16" POLE: 70' HEIGHT	GALVANIZED STEEL POLE.	

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6	02/05/2025	Addendum 2

ISSUE DATE: 01/09/25
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BASEBALL FIELD ELECTRICAL PLAN AND BALLFIELD FIXTURE SCHEDULE

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05 21 00 - Steel Joists

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05 50 00 - Metal Fabrications

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05 52 00 - Metal Railings

05 71 00 - Decorative Metal Stairs

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06 20 00 - Finish Carpentry

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06 61 16 - Solid Surfacing Fabrications

06 83 16 - Fiberglass Reinforced Paneling

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07 42 13.23 - Metal Composite Material Wall Panels

07 42 93.13 - Metal Soffit Panels

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- A. Section Includes:
 - 1. Concrete Masonry Units.
 - 2. Brick Masonry Units.
 - 3. Reinforcement and Anchorage.
 - 4. Accessories.

- B. Related Requirements:
 - 1. Section 01 21 00 - Allowances: Allowance(s) for brick.
 - 2. Section 04 05 03 - Masonry Mortaring and Grouting.
 - 3. Section 04 72 00 - Cast Stone Masonry.
 - 4. Division 05 - Metals: Structural steel, steel joists, metal fabrications, trusses, and metal framing requirements for metal anchors, bearing plates, and lintels to be placed by this Section.
 - 5. Section 07 21 19 - Foamed-In-Place Insulation: Insulation for masonry wall cavities.
 - 6. Section 07 62 00 - Sheet Metal Flashing and Trim: Product requirements for reglets for flashings to be placed by this Section.
 - 7. Section 07 84 00 - Firestopping: Firestopping at penetrations of masonry work.
 - 8. Section 07 90 00 - Joint Protection: Rod and sealant at control and expansion joints.
 - 9. Section 07 95 13 - Expansion Joint Cover Assemblies.
 - 10. Division 07 - Thermal and Moisture Protection: Dampproofing and waterproofing for masonry surfaces.
 - 11. Division 08 - Openings: Opening frames installed in or anchored to masonry work.

1.2 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. ACI 216.1 - Code Requirements for Determining Fire Resistance of Concrete and Masonry Construction Assemblies; 2014, Errata 2021.

- B. ASTM International (ASTM):
 - 1. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.
 - 2. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2022.
 - 3. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2023.
 - 4. ASTM A951/A951M - Standard Specification for Steel Wire for Masonry Joint Reinforcement; 2022.
 - 5. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable; 2023.
 - 6. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2018a.
 - 7. ASTM C40/C40M - Standard Test Method for Organic Impurities in Fine Aggregates for Concrete; 2020.
 - 8. ASTM C55 - Standard Specification for Concrete Building Brick; 2023.

9. ASTM C62 - Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale); 2023.
 10. ASTM C67/C67M - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile; 2023a.
 11. ASTM C90 - Standard Specification for Loadbearing Concrete Masonry Units; 2014.
 12. ASTM C129 - Standard Specification for Nonloadbearing Concrete Masonry Units; 2023.
 13. ASTM C142/C142M - Standard Test Method for Clay Lumps and Friable Particles in Aggregates; 2017, Reapproval 2023.
 14. ASTM C216 - Standard Specification for Facing Brick (Solid Masonry Units Made From Clay or Shale); 2023.
 15. ASTM C641 - Standard Test Method for Iron Staining Materials in Lightweight Concrete Aggregates; 2023.
 16. ASTM C1072 - Standard Test Methods for Measurement of Masonry Flexural Bond Strength; 2022.
 17. ASTM C1314 - Standard Test Method for Compressive Strength of Masonry Prisms; 2023b.
 18. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2017, Reapproval 2023.
 19. ASTM D746 - Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact; 2020.
 20. ASTM D2287 - Standard Classification System and Basis for Specification for Nonrigid Vinyl Chloride Polymer and Copolymer Molding and Extrusion Compounds; 2019.
 21. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023d.
 22. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials; 2022.
 23. ASTM E514/E514M - Standard Test Method for Water Penetration and Leakage Through Masonry; 2020.
- C. Brick Industry Association (BIA):
1. BIA Technical Note 20 - Cleaning Brickwork; 2018.
- D. Canadian Standards Association (CSA Group) (CSA):
1. CSA A82 - Fired Masonry Brick Made from Clay or Shale; 2018.
- E. The Masonry Society (TMS):
1. TMS 402/602 - Building Code Requirements and Specification For Masonry Structures; 2022, with Errata.
- F. Underwriters Laboratories Inc. (UL):
1. UL (FRD) - Fire Resistance Directory; Current Edition.
 2. UL 263 - UL Standard for Safety Fire Tests of Building Construction and Materials; Current Edition.
 3. UL 618 - UL Standard for Safety Concrete Masonry Units; Current Edition.
 4. UL 723 - UL Standard for Safety Test for Surface Burning Characteristics of Building Materials; Current Edition.

1.3 PRE-INSTALLATION MEETINGS

- A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.
- B. Convene minimum one week prior to commencing work of this Section.

1.4 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate masonry work with related work to include, but not limited to:
 - 1. Installation of anchors for windows, doors fixtures and other work requiring anchors to masonry work. door anchors.
 - 2. Electrical items and other built-in work.
 - 3. Mechanical ducts and dampers.
 - 4. Plumbing work items. Copper piping to be isolated from contact with cementitious materials as per code requirements.
 - 5. Foamed-in-place insulation and all waterproofing and air barrier design elements.

1.5 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal requirements.
- B. Product Data:
 - 1. Submit data for masonry units and fabricated wire reinforcement, wall ties, anchors, and other accessories.
 - 2. Indicate initial rate of absorption for clay and shale brick.
- C. Samples for Initial Selections: Two manufacturer's complete sets of color samples illustrating the full range of finishes, textures, and colors available; 4 x 4 x 1 inches in size. Include samples of full range of mortar and sealant colors for all unit masonry work. Submit for Architect's initial selections.
 - 1. Masonry Unit Types requiring sample submittals include the following types:
 - a. Face Brick.
 - b. Decorative Concrete Masonry Units.
 - c. Polished Face Decorative Concrete Masonry Units.
- D. Samples for Verification: From the Architect's initial selections, prepare and submit three samples for each selected finish, texture, and color; samples to be same product material type indicated for final Work; each masonry unit sample 12 x 12 x 1 inches; each mortar and sealant sample 3/8 x 4 inches. Where finishes involve normal color and texture variations, include sample sets showing the full range of variations expected.
- E. Manufacturer's Certificate:
 - 1. Certify products meet or exceed specified requirements.
 - 2. Certify Aggregate used in Fire-Rated Concrete Masonry Units (CMU) is compliant with UL Fire Resistance Design Ratings requirements or alternate methods of determining fire resistance as allowed by Section 703.3 of the International Building Code.

1.6 QUALIFICATIONS

- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this Section with minimum five (5) years of documented experience.
- B. Installer Qualifications: Company specializing in performing Work of this Section with minimum three (3) years documented experience.

1.7 MOCKUP

- A. Section 01 40 00 - Quality Requirements: Mockup requirements.
- B. Exterior Wall Mockup Construction: Construction is to include all wall assembly components from exterior to interior of building. Contractor is to coordinate the various trade contractors to provide their work types in a sequenced and timely manner.

1. Refer to Mockup details in Drawings.
2. Locate mockup construction as directed by Architect.
3. Mockup Construction Removal: Request and acquire approval from Architect.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Inspect products for damage during deliveries on site.
- C. Store products in accordance with manufacturer's recommendation and to avoid damage.

1.9 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements.
- B. Cold Weather Requirements: In accordance with TMS 402/602 when ambient temperature or temperature of masonry units is less than 40 degrees F.
- C. Hot Weather Requirements: In accordance with TMS 402/602 when ambient temperature is greater than 100 degrees F or ambient temperature is greater than 90 degrees F with wind velocity greater than 8 mph.

PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Comply with provisions of TMS 402/602, except when exceeded by requirements on Drawings or other Contract Documents.
 1. Maintain one copy of each document on project site.
- B. Fire-Resistance Ratings: Comply with requirements for fire-resistance-rated assembly designs indicated on Drawings.
 1. Where fire-resistance-rated construction is indicated, units shall be listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction.
 2. Provide units that comply with requirements for fire-resistance ratings indicated as determined by testing according to ASTM E119 or UL 263, and as acceptable to authorities having jurisdiction.
 - a. Alternate methods for determining fire resistance are to be as allowed by Section 703.3 of the International Building Code.

2.2 MANUFACTURERS

- A. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.
- B. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.
- C. Source Limitations for Masonry Accessories: Obtain each type of masonry accessory from single manufacturer for each product required.

2.3 MASONRY UNITS - GENERAL

- A. Special Shapes: Applies to all required masonry unit types.
 1. Provide special shape units for 90 degree and 135 degree corners and lintels.

2. Provide solid units where Drawings indicate unit setting position or special shape would otherwise result in exposure of unit cores, frogs, voids, or unfinished surfaces.
 3. Provide special shape units where Drawings indicate sculpted unit design (i.e. bullnose, angled, chamfered, ogee, coped water tables, sills, offsets, accents, etc.).
- B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects are exposed in the completed Work.
- C. CMU Chips and Surface Deficiencies: In addition to the referenced standards regarding subject, also comply with the following more stringent requirements:
1. Do not install CMU with exposed chipped edges or corners greater than 1/2 inch and any exposed face damage or deviations greater than 1/4 inch diameter. All chips or deviations must be repaired to a surface consistent with the unblemished CMU surface and to the satisfaction of the Architect.

2.1 CONCRETE MASONRY UNITS

- A. General: Provide shapes indicated and with exposed surfaces matching finish and color of exposed faces of adjacent units of same type.
1. Unit Size and Shape: Unless indicated otherwise on Drawings, modular face size to be 7-5/8 x 15-5/8 inches and depths as indicated on Drawings.
 - a. Bond: 1/2 Bond (Running Bond), unless indicated otherwise on Drawings.
 - b. Coursing: One unit and one mortar joint to equal 8 inches.
 - c. Mortar Joints Tooling: Refer to INSTALLATION in this Section.
 2. Provide special shape units configured for corners, lintels, headers, control joint edges and for special conditions indicated on Drawings.
 3. Provide bullnose units as follows:
 - a. Wall outside corners.
 - 1) Exception: Provide angle-corner units for first exposed course at outside corners scheduled to receive wall base finish. Grind exposed upper portion of angle-corner unit to create a smooth transition to match the bullnose units above.
 - b. Wall caps, unless other cap material finish is indicated.
 - c. Windowsills, unless other sill material finish is indicated.
- B. Fire-Rated Hollow Load Bearing and Non-Load Bearing Concrete Masonry Units (CMU):
1. ASTM C90; light weight; UL 618; ACI 216.1-14.
 2. Compressive Strength: As indicated on Drawings, but not less than 2,000 psi.
- C. Hollow Load Bearing Concrete Masonry Units (CMU):
1. ASTM C90; lightweight in accordance with ASTM C331 with the following modifications:
 - a. Organic Impurities (Color) - ASTM C40/C40M: Less than Organic Plate #1.
 - b. Clay Lumps (%) - ASTM C142/C142M: Less than 2%.
 - c. Stain Test (Index) - ASTM C641: No stain.
 2. Compressive Strength: As indicated on Drawings, but not less than 2,000 psi.
- D. Solid Load-Bearing Concrete Masonry Units (CMU):
1. ASTM C90; lightweight in accordance with ASTM C331 with the following modifications:
 - a. Organic Impurities (Color) - ASTM C40/C40M: Less than Organic Plate #1.
 - b. Clay Lumps (%) - ASTM C142/C142M: Less than 2%.
 - c. Stain Test (Index) - ASTM C641: No stain.
 2. Compressive Strength: As indicated on Drawings, but not less than 2,000 psi.
- E. Hollow Non-Load Bearing Concrete Masonry Units (CMU):

1. ASTM C129; lightweight.
 2. Compressive Strength: As indicated on Drawings, but not less than 2,000 psi.
- F. Concrete Brick Units: ASTM C55; for use in concealed from view utility applications.
1. Compressive Strength: As indicated on Drawings, but not less than 2,000 psi.
 - a. If concrete brick units are used in an assembly with other concrete masonry units, match compressive strength of other concrete masonry units.
- G. Decorative Concrete Masonry Units:
1. Basis of Design:
 - a. Oldcastle - Echelon.
 - b. Johnson Concrete Products – Prestige Masonry Architectural Block Series
 2. ASTM C90; normal weight.
 3. Compressive Strength: Not less than 3,000 psi.
 4. Sizes and Shapes: As indicated on the Drawings.
 5. Integral water repellent: Concrete Masonry Units must include an integral water repellent admixture at the time of production.
 6. Bond: 1/2 Bond, unless indicated otherwise on Drawings.
 7. Coursing: One unit and one mortar joint to equal 8 inches.
 8. Mortar Joints Tooling: Refer to INSTALLATION in this Section.
 9. Finish: All surfaces exposed-to-view are to be uniform in color and appearance. Damaged or chipped corners or faces are unacceptable.
 10. Where indicated on Drawings, provide the following:
 - a. Split face.
 - b. Smooth face chamfered sill
 11. Unit Color:
 - a. As selected by Architect from manufacturer's full range.
 12. Mortar Color: Colored mortar for each masonry unit color indicated.
 - a. As selected by Architect from manufacturer's full range.
 13. Mortar Color: Colored mortar for each masonry unit color indicated.
 - a. As selected by Architect from manufacturer's full range.
- H. Cast Stone Masonry: Refer to Section 04 72 00 - Cast Stone Masonry.

2.2 BRICK MASONRY UNITS

- A. General: Provide shapes indicated and as follows, with exposed surfaces matching finish and color of exposed faces of adjacent units of same type:
1. For ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces, provide units without cores or frogs and with exposed surfaces finished.
 2. Provide special shapes for applications where stretcher units cannot accommodate special conditions, including those at corners, movement joints, bond beams, sashes, and lintels.
 3. Provide special shapes for applications requiring brick of size, form, color, and texture on exposed surfaces that cannot be produced by sawing.
 4. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.
 5. For Soldier Course applications, provide shapes that produce coursing pattern and unit size as indicated on Drawings.
- B. Face Brick Modular Size: ASTM C216, Type FBS, Grade SW.
1. Size: 2-1/4 x 3-5/8 x 7-5/8 inches.
 2. Unit Compressive Strength: 3,000 psi minimum, unless indicated otherwise on Drawings.
 - a. Measured in accordance with ASTM C67/C67M.

- b. As determined by average of five (5) brick method; and no individual brick less than 2,500 psi.
 - 3. Initial Rate of Absorption: Less than 30 g/30 sq. in. per minute when tested according to ASTM C67/C67M.
 - 4. Efflorescence Rating: Rating to be “not effloresced” in accordance with ASTM C67/C67M or rating to be “slightly effloresced” in accordance with CSA A82.
 - 5. Bond: 1/2 Bond (Running Bond); unless indicated otherwise on Drawings.
 - 6. Coursing: Three units and three mortar joints to equal 8 inches.
 - 7. Mortar Joint Tooling: Refer to INSTALLATION in this Section.
 - 8. Basis of Design: Subject to compliance with requirements, provide face brick with physical and visual characteristics comparable to the following Basis of Design units, and as approved by Architect:
 - a. Face Brick - BRK1.
 - 1) Basis of Design and Color:
 - a) Palmetto: Pewter
 - 2) Mortar Color: Colored mortar.
 - a) As selected by Architect from manufacturer's full range.
- C. Building (Common) Brick: ASTM C62, Grade SW; solid units; for use in concealed from view utility applications.
 - 1. Compressive Strength: 3,000 psi minimum, unless indicated otherwise on Drawings.
 - a. Measured in accordance with ASTM C67/C67M.
 - b. As determined by average of five (5) brick method; and no individual brick less than 2,500 psi.
 - 2. Initial Rate of Absorption: Less than 30 g/30 sq. in. per minute when tested according to ASTM C67/C67M.
 - 3. Efflorescence Rating: Rating to be “not effloresced” in accordance with ASTM C67/C67M or rating to be “slightly effloresced” in accordance with CSA A82.

2.3 ACCESSORIES

- A. Manufacturers: Reinforcement and anchorage materials.
 - 1. Hohmann & Barnard, Inc.
 - 2. Wire-Bond.
 - 3. Blok-Lok Limited.
- B. Mortar and Grout: As specified in Section 04 05 03 - Masonry Mortaring and Grouting.
- C. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) yield strength, deformed billet bars, uncoated finish.
- D. Reinforcing Steel Rebar Positioners (Z-shaped wire bridges cell of block while bent ends rest on block shell):
 - 1. Basis of Design: Hohmann & Barnard, Inc - HB RB Rebar Positioner.
 - 2. Wire (Carbon Steel): Cold-drawn steel wire conforming to ASTM A1064/A1064M.
 - 3. Wire Diameter: 9 gauge (.148 inch).
 - 4. Tensile Strength: 80,000 psi.
 - 5. Yield Point - 70,000 psi minimum.
 - 6. Hot-Dip Galvanized after fabrication: ASTM A153/A153M (1.5 oz/ft).
- E. Single Wythe Joint Reinforcement: Ladder type; ASTM A951/A951M steel wire, hot dip galvanized after fabrication to ASTM A153/A153M, Class B; 0.1875 inch side rods with 0.1483 inch cross rods; width as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage on each exposure.
 - 1. Basis of Design: Hohmann & Barnard, Inc - HB 220 Ladder-Mesh.

- F. Multiple Wythe Joint Reinforcement: Ladder type; ASTM A951/A951M steel wire, hot dip galvanized after fabrication to ASTM A153/A153M, Class B; 0.1875 inch side rods with 0.1483 inch cross rods; width as required to provide not more than 1 inch and not less than 1/2 inch of mortar coverage on each exposure.
1. Basis of Design: Hohmann & Barnard, Inc - HB 220 Ladder-Mesh.
- G. Strap Anchors: Zee bent steel shape. 1-1/2 x 16 inches size x 1/4 inch thick. Hot dip galvanized after fabrication to ASTM A153/A153, Class B.
1. Basis of Design: Hohmann & Barnard, Inc - HB 344 Rigid Partition Anchor.
- H. Cavity Wall Joint Reinforcing / Wall Ties: Ladder type, 0.1875 inch side rods with 0.148 inch cross rods; eye and pintle type anchors, 0.188 inch wire with compressed pintle legs; seismic clip to continuous rod in veneer, 0.1875 inch rod. All, ASTM A951/A951M steel wire, hot dip galvanized after fabrication to ASTM A153/A153M, Class B.
1. Basis of Design: Hohmann & Barnard, Inc. - HB 265 S.I.S Ladder -2X Hook Anchor and Seismic Interlock System.
 2. Where coursing of masonry veneer and structural masonry is not dimensionally aligned, provide joint reinforcing and wall tie system that allows for variations in alignment, up to 2-1/4 inch.
 3. Soldier Course Masonry Veneer: Due to the vertical joint condition, anchor system must turn vertical to accommodate joint.
 - a. Base Plate: ASTM A1008/A1008M carbon steel plate, 16 gauge thick x 2 inches wide with 1 inch bend. Hot dip galvanized to ASTM A153/A153M, Class B.
 - b. Wire Tie: ASTM A1064/A1064M carbon steel, 0.1875 inch wire. Hot dip galvanized to ASTM A153/A153M, Class B.
 - c. Basis of Design: Hohmann & Barnard, Inc. - HB BL-5407.
- I. Wall Ties: ASTM A1064/A1064M; steel wire 0.1875 inch diameter, eye and pintle type. ASTM A153/A153M, Class B hot dip galvanized after fabrication.
- J. Wall Ties (For Attachment to Metal Stud): Two-piece type; ASTM A1008/A1008M, 14 gage steel anchors; 0.1875 inch diameter wire ties. ASTM A153/A153M, Class B hot dip galvanized after fabrication.
- K. Wall Ties (For Attachment to Structural Steel): Two-piece type; 0.25 inch continuous steel weld-on anchors, 8 feet total length, with 3/8 inch offsets spaced 8 inches OC.; 0.1875 inch diameter wire ties. ASTM A153/A153M, Class B hot dip galvanized after fabrication.
- L. Wall Ties (For Attachment to Concrete Walls): Two piece type; ASTM A1008/A1008M, 18 gauge steel imbedded dovetail anchors, 10 feet total length, with foam insert; 0.1875 inch diameter wire ties. ASTM A153/A153M, Class B hot dip galvanized after fabrication.
- M. Through-Wall Flashing and Counter Flashing: Self adhering stainless steel fabric flashing; width of roll to suit application; with preformed end dams, and inside and outside corners.
1. Thickness:
 - a. Membrane - 0.040 inch (40 mil).
 - b. Stainless steel - 0.003 inch (3 mil); Type 304.
 2. Tensile Strength - ASTM D412C: 100.000 psi, minimum.
 3. Puncture Resistance - ASTM E154: 2,500 psi, minimum.
 4. Peel Strength of Adhesive Bonds - ASTM D903: Not less than 103 lbs/ft.
 5. Fire Resistance - ASTM E84: Pass.
 6. Mold Resistance - ASTM D3273: Pass.
 7. Basis of Design: Hohmann & Barnard, Inc. - Mighty-Flash, SA Flashing.
- N. Termination Bar at Top of Through-Wall Flashing: Type 304, stainless steel type, 1 inch x 8 feet x 1/8 inch thick.

1. At all locations where top edge of through-wall flashing is not indicated to be imbedded into back-up masonry wall, install continuous Termination Bar along top edge using stainless steel fasteners at 8 inches OC., preventing pull-out. Apply sealant continuously along top edge of termination bar and flashing assembly to seal against water penetration behind top of through-wall flashing assembly.
 2. Basis of Design: Hohmann & Barnard, Inc.
- O. Metal Flashing Drip Edge Plate: Stainless Steel Flashing: ASTM A666, Type 304, soft temper; 26 gauge (0.0179 inch) thick, factory formed hemmed drip edge configuration; finish 2D (dull).
1. Basis of Design: Hohmann & Barnard, Inc. - HB Drip Edge Plate.
 2. Length: Not less than 8 feet long.
 3. Width: As indicated on Drawings, but not less than 3 inches wide.
 4. Provide factory preformed Inside Corners, Outside Corners and End Dams.
- P. Preformed Control and Expansion Joints: Extruded polyvinyl chloride material conforming with ASTM D2287. Furnish with corner and tee accessories. Fuse joints.
1. Tensile Strength - ASTM D412: 2200 psi.
 2. Ultimate Elongation - ASTM D412: 350 percent.
 3. Shore A Hardness - ASTM D2240: 85 (+ or - 5).
 4. Low Temp Brittleness - ASTM D746: -35 degrees C.
- Q. Joint Filler: Closed cell rubber (polychloroprene) oversized 50 percent to joint width; self-expanding; width indicated by maximum lengths.
- R. Cavity Drainage Material:
1. Open polyethylene or polypropylene mesh; thickness as required to fill cavity space; 10 inches high with 7 inches deep dovetail notches at top; designed to allow cavity drainage and prevent collection and damming effect of mortar droppings in cavity.
- S. Weeps: Preformed corrugated polypropylene cell vents; conforming to ASTM D2240, ASTM D790B, ASTM D638, and ASTM D1238B standards.
1. Basis of Design: Hohmann & Barnard, Inc. - HB Quadro Vent.
 2. Size: 2-1/2 x 3-1/2 inches size, 3/8 inch thick.
 3. Color: Grey.
- T. Cavity Vents: Same material as weeps.
- U. Masonry Cleaning Solution: Non-acidic and not harmful to masonry or adjacent materials.
1. Manufacturers:
 - a. EaCo Chem., Inc. - NMD 80 New Masonry Detergent.
 - b. PROSOCO - Sure Klean Vana Trol.
 2. Basis of Design: PROSOCO - Sure Klean Vana Trol.
- V. Steel Lintels, Windowsill Supports, and Other Steel Supports: Refer to Section 05 50 00 - Metal Fabrications. Size and configuration as indicated on Drawings. All exterior steel components to be hot dip galvanized per Section 05 50 00.
- W. Parging Material: Light weight mortar finish coat.
1. Basis of Design: Sika Corporation - SikaQuick Smooth Finish.
 2. One component; polymer modified mortar; compressive strength of 2,000 psi, minimum at 28 days; tension adhesive strength of 250 psi, minimum at 28 days.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 73 00 - Execution: Verification of existing conditions before starting work.
- B. Verify field conditions are acceptable and are ready to receive work.
- C. Verify items provided by other Sections of work are properly sized and located.
- D. Verify built-in items are in proper location, and ready for roughing into masonry work.

3.2 PREPARATION

- A. Section 01 73 00 - Execution: Prepare field conditions and existing construction for installation of work of this Section.
- B. Prepare materials to be installed and equipment used during installation.
- C. Direct and coordinate placement of metal anchors supplied to other Sections.
- D. Provide protection coverings to protect adjacent and surrounding work from damage and mortar and grouting splatters/droppings.
- E. Furnish temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent support.
- F. Wet clay and shale brick before laying when initial rate of absorption is greater than 30 grams when tested in accordance with ASTM C67/C67M.

3.3 INSTALLATION

- A. Protection Against Water Infiltration: Protect tops of masonry work with waterproof coverings secured in place without damaging masonry. Provide coverings where masonry is exposed to weather when work is not in progress.
- B. Establish lines, levels, and coursing indicated. Protect from displacement.
- C. Maintain masonry courses to uniform dimension. Form bed and head joints of uniform thickness.
- D. Placing and Bonding:
 - 1. Lay solid masonry units in full bed of mortar, with full head joints.
 - 2. Lay hollow masonry units with face shell bedding on head and bed joints.
 - 3. Buttering corners of joints or excessive furrowing of mortar joints are not permitted.
 - 4. Remove excess mortar as work progresses.
 - 5. Interlock intersections and external corners.
 - 6. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment is required, remove mortar, and replace.
 - 7. Perform job site cutting of masonry units with proper tools to assure straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.
 - 8. Isolate masonry from vertical structural framing members with movement joint.
 - 9. Isolate top of masonry from horizontal structural framing members and slabs or decks with compressible joint filler.
- E. Mortar Joints Finishing:
 - 1. General:
 - a. Mortar joints to be of consistent execution with consistent depth and width. Strike vertical joints first, then strike horizontal joints. This provides a continuous horizontal joint (uninterrupted by vertical joints) and is the required appearance.

- b. Mortar joints at bullnose corners are to be continuously tooled around corner and to be consistent in appearance with the straight-run joints.
 - c. Clean inside corner joints free of excess mortar and finish.
 2. Concave Tooling: Use convex steel tool of diameter 1/4 inch greater than joint width.
 - a. Application: All locations unless indicated otherwise in this Section or on Drawings.
 - b. Diameter Exception: For walls not indicated to receive parging or plaster in the following areas, use convex tool of 2 inch diameter (such as PVC pipe) for tooling masonry wall joints. The intent is to comply with common local Health Department requirements by minimizing the tooled joint depth.:
 - 1) Kitchen Areas.
 - 2) Food Serving Areas.
 - 3) Dishwashing Areas.
 - 4) Food Storage Areas.
 - 5) Kitchen Office Areas.
 - 6) Kitchen Toilet and Locker Areas.
 - 7) Dining Areas.
 3. Flush-Cut Joints: Cut mortar joints flush with face of masonry units; no tooling.
 - a. Applications:
 - 1) Masonry walls indicated to receive parged wall surface coat.
 - 2) Masonry walls indicated to receive direct applied plaster finish, dampproofing, or waterproofing materials.
 - 3) Behind resilient base locations, cut mortar joints flush with face of masonry units and only where concealed behind the resilient base application. Coordinate with approved resilient base height.
 4. Where masonry wall is constructed of vertically scored CMU, joint tooling to be recessed to same depth as CMU manufactured score.
 - F. Weeps: Furnish weeps in outer wythe at 24 inches OC. horizontally above through-wall flashing, above shelf angles and lintels and at bottom of walls.
 - G. Cavity Wall: Do not permit mortar to drop or accumulate into cavity air space or to plug weeps.
 1. Install cavity drain material continuously at bottom of each cavity above through-wall flashing.
 2. At foundation and below grade locations, don't allow debris or soil to collect and remain in the cavity prior to installing the cavity materials as indicated on Drawings. Ensure that the cavity is free of any debris or soil prior to installing cavity materials as indicated on Drawings.
 - H. Joint Reinforcement and Anchorage - Single Wythe Masonry:
 1. Install horizontal joint reinforcement 16 inches OC.
 2. Place masonry joint reinforcement in first horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
 3. Place joint reinforcement continuous in first joint below top of walls.
 4. Lap joint reinforcement ends minimum 6 inches.
 5. Reinforce joint corners and intersections with strap anchors 16 inches OC.
 - I. Joint Reinforcement and Anchorage - Multiple Wythe Unit Masonry:
 1. Install horizontal joint reinforcement 16 inches OC.
 2. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
 3. Place joint reinforcement continuous in first and second joint below top of walls.
 4. Lap joint reinforcement ends minimum 6 inches.

5. Support and secure reinforcing bars from displacement. Maintain position within 1/2 inch of dimensioned position.
- J. Joint Reinforcement and Anchorage - Masonry Veneer (where no cavity indicated on Drawings) (Interior walls only; exterior walls must have cavity for drainage.):
1. Install horizontal joint reinforcement 16 inches OC.
 2. Place masonry joint reinforcement in first horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
 3. Place joint reinforcement continuous in first joint below top of walls.
 4. Lap joint reinforcement ends minimum 6 inches.
 5. Embed wall ties in masonry backing to bond veneer at maximum 16 inches OC vertically and 16 inches OC horizontally. Place wall ties at maximum 8 inches OC vertically within 8 inches of jamb of wall openings.
 6. Reinforce joint corners and intersections with strap anchors 16 inches OC.
- K. Joint Reinforcement and Anchorages - Cavity Wall Masonry:
1. Install horizontal joint reinforcement 16 inches OC.
 2. Place masonry joint reinforcement in first horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
 3. Place joint reinforcement continuous in first joint below top of walls.
 4. Lap joint reinforcement ends minimum 6 inches.
 5. Attach to structural steel members. Embed anchorages in every second block joint.
 6. Reinforce joint corners and intersections with strap anchors 16 inches OC.
- L. Masonry Through-Wall Flashings:
1. Solid substrate to be continuous below and behind flashing material.
 2. Install metal flashing drip edge plate with sealed lap joints and preformed corners and end dams in accordance with manufactures recommendations. Adhere through-wall flashing continuously along top of drip edge plate as indicated on Drawings and with adhesive compatible with both surface types.
 3. Whether or not specifically indicated, install masonry through-wall flashing to divert water to exterior at all locations where downward flow of water would otherwise be interrupted.
 4. Extend through-wall flashings horizontally through outer wythe at foundation walls, above ledge or shelf angles and lintels, under parapet caps and at bottom of walls, and terminate bottom and top edges as indicated on Drawings.
 - a. Unless indicated otherwise on Drawings, extend vertical flashing portion a minimum of 8 inches above lower flashing portion that diverts water to exterior.
 - 1) Self-Adhering Flashing (when indicated):
 - a) Terminate top edge with continuous termination bar and sealant.
 - b) Terminate bottom edge at no more than 1/4 inch from exterior face of masonry. For steel support lintels and ledges, terminate bottom edge of flashing at steel support edge.
 - 2) Non-Self-Adhering Flashing (when indicated):
 - a) Terminate top edge by embedding top edge into masonry joint with a minimum of 1-1/2 inches embedment and seal.
 - (1) Exception: Only if indicated on Drawings in specific construction locations, top edge to be terminated with termination bar and sealant.
 - b) Terminate bottom edge at no more than 1/4 inch from exterior face of masonry. For steel support lintels and ledges, terminate bottom edge at steel support edge.
 5. Lap end joints minimum 6 inches and seal watertight with sealant recommended by flashing manufacturer.

6. Form and configure flashing as to drain moisture along its drainage path to the exterior of the wall, preventing moisture migration into the wall and cavity.
 7. Turn flashing, fold, and seal at corners, bends, and interruptions. Use preformed end dams, and inside and outside corners when indicated.
- M. Lintels:
1. Install loose steel and reinforced unit masonry lintels over openings as indicated.
 2. Install reinforced unit masonry lintels over openings where steel or precast concrete lintels are not scheduled or indicated.
 3. Do not splice reinforcing bars.
 4. Support and secure reinforcing bars from displacement.
 5. Place and consolidate grout fill without displacing reinforcing.
 6. Allow masonry lintels to attain specified strength before removing temporary supports.
 7. Maintain minimum 8 inches bearing on each side of opening.
- N. Grouted Components:
1. Reinforce bond beam as indicated on Drawings.
 2. Lap splices for reinforcing bars to be as required by code and Drawings and as related to the bar diameters.
 3. Support and secure reinforcing bars from displacement.
 4. Place and consolidate grout fill without displacing reinforcing.
 5. At bearing locations, fill masonry cores with grout for minimum 12 inches both sides of opening.
- O. Reinforced Masonry:
1. Lay masonry units with core vertically aligned and clear of mortar and unobstructed.
 2. Place reinforcement bars as indicated on Drawings.
 3. Splice reinforcement in accordance with Section 03 20 00.
 4. Support and secure reinforcement from displacement.
 5. Place and consolidate grout fill without displacing reinforcing.
 6. Place grout in accordance with TMS 402/602 Specification for Masonry Structures.
- P. Control and Expansion Joints:
1. Install control and expansion joints at locations indicated on Drawings and not to exceed the following maximum spacing:
 - a. Exterior Walls: 24 feet on center and within 24 inches on one side of each interior and exterior corner.
 - b. Interior Walls: 24 feet on center.
 - c. At changes in wall height.
 2. Do not continue horizontal joint reinforcement through expansion joints.
 3. Install preformed control and expansion joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.
 4. Size control joint in accordance with Section 07 90 00 for sealant performance.
 5. Form expansion joint by omitting mortar and cutting unit to form open space.
- Q. Built-In Work:
1. As work progresses, install built-in metal door and glazed frames, window frames, anchor bolts, plates, and other items to be built-in the work and furnished by other Sections.
 2. Install built-in items plumb and level.
 3. Bed anchors of metal door and glazed frames in adjacent mortar joints. Fill frame voids solid with grout or mortar. Fill adjacent masonry cores with grout minimum 12 inches from framed openings.
 4. Do not build into masonry construction organic materials or other materials that are subject to deterioration.

3.4 CUTTING AND FITTING

- A. Cut and fit for chases, pipes, conduit, sleeves, and other construction requirements indicated. Coordinate with other Sections of work to provide correct size, shape, and location.
- B. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.
- C. Core drill masonry walls for pipe and sleeve penetrations, regardless of size. Do not break out masonry for penetration access.
- D. All ductwork and large sleeve penetrations wider than 16 inches must have at least 4 inches solid masonry on both sides, supporting steel lintel or bond beam over opening.

3.5 PARGING - WALL SURFACE COAT

- A. Application:
 - 1. Kitchen Areas.
 - 2. Food Serving Areas.
 - 3. Dishwashing Areas.
 - 4. Food Storage Areas.
 - 5. Kitchen Office Areas.
 - 6. Kitchen Toilet and Adjacent Locker Areas.
- B. Prepare material and apply in accordance with manufacturer's instructions and as follows:
 - 1. Dampen masonry walls prior to parging. Substrate should be Saturated Surface Dry (SSD).
 - 2. Parge masonry walls with number of coats recommended by manufacturer to achieve the total dry thickness. Scarify preceding coat to ensure bond to subsequent coat.
 - 3. Total Dry Thickness: Minimum indicated; additional thickness as required to produce a uniformly flat and smooth wall surface.
 - a. 1/8 inch thick.
 - 4. Steel trowel surface smooth and flat with a maximum surface variation of 1/16 inch in 4 feet.
 - 5. Where edge of parging is exposed, parging edge is to be straight and beveled smooth to 45 degrees angle back to substrate.
 - 6. Sand surface as needed. Finish as required for paint or other scheduled finish.

3.6 ERECTION TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Maximum Variation from Alignment of Columns and Pilasters: 1/4 inch.
- C. Maximum Variation from Unit to Adjacent Unit: 1/16 inch.
- D. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft and 1/2 inch in 20 ft or more.
- E. Maximum Variation from Plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.
- F. Maximum Variation from Level Coursing: 1/8 inch in 3 ft and 1/4 inch in 10 ft; 1/2 inch in 30 ft.
- G. Maximum Variation of Joint Thickness: 1/8 inch in 3 ft.
- H. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch.
- I. Maximum Variation for Steel Reinforcement:
 - 1. Install reinforcement within the tolerances specified in TMS 402/602 for foundation walls.

2. Plus or minus 1/2 inch when distance from centerline of steel to opposite face of masonry is 8 inches or less.
3. Plus or minus 1 inch when distance is between 8 and 24 inches.
4. Plus or minus 1-1/4 inch when distance is greater than 24 inches.
5. Plus or minus 2 inches from location along face of wall.

3.7 CLEANING

- A. Section 01 73 00 - Execution and Section 01 77 00 - Closeout Procedures: Related to cleaning.
- B. Remove excess mortar and mortar smears as work progresses.
- C. Replace defective mortar. Match adjacent work.
- D. After mortar is thoroughly set and cured, clean masonry in accordance with manufacturer's recommendations and as follows:
 1. Remove large mortar particles with wooden paddles & non-metallic scrape hoes or chisels.
 2. Test cleaning methods on sample wall panel; leave 1/2 panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
 3. Saturate wall surfaces with water prior to application of cleaners; remove cleaners promptly by rinsing thoroughly with clear water.
 4. In accordance with BIA Technical Note 20, use bucket and brush hand cleaning method to clean brick masonry made from clay or shale, except use detergent as masonry cleaner.
 5. Do not use high pressure washer to clean masonry. Low pressure washer, less than 50 psi, or water hose may be used to clean masonry.
- E. Progress Payments for completed work will not be made until brick is cleaned of all excessive mortar and mortar stains.

3.8 PROTECTION OF INSTALLED CONSTRUCTION

- A. Section 01 73 00 - Execution: Protecting installed construction.
- B. Without damaging completed work, provide protective boards at exposed external corners that are subject to damage by construction activities.
- C. Protect masonry and other items built into masonry walls from spatter, droppings, and staining that can be caused by other work activities such as mortaring and grouting.
 1. Aggressive protection efforts to be provided for interior and exterior base of walls and windowsills.
- D. Protection Against Water Infiltration: Protect tops of masonry work with waterproof coverings secured in place without damaging masonry. Provide coverings where masonry is exposed to weather when work is not in progress.

END OF SECTION

SECTION 06 42 16
WOOD-VENEER PANELING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Wood veneer paneling system.
 - 2. Wood trim and moldings.
- B. Related Requirements:
 - 1. Section 06 10 53 - Miscellaneous Rough Carpentry: Grounds and support framing.

1.2 : REFERENCE STANDARDS

- A. American Lumber Standard Committee (ALSC):
 - 1. ALSC PS 20 - American Softwood Lumber Standard; 2020, Revised 2021.
- B. American National Standard Institute (ANSI):
 - 1. ANSI A208.2 - Medium Density Fiberboard (MDF) for Interior Applications, 2022.
- C. ASTM International (ASTM):
 - 1. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2023.
 - 2. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2023c.
- D. Architectural Woodwork Institute (AWI):
 - 1. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2014, Errata 2016.
- E. Forest Stewardship Council (FSC).

1.3 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate locations and requirements for blocking and backing for support and attachment of work of this section.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data:
 - 1. Submit data on fire retardant treatment materials and application instructions.
- C. Shop Drawings:
 - 1. Indicate materials, surface graining elevations of sheet paneling, fastening methods, joining methods, and interruptions to other work, to minimum scale of 1-1/2 inches equals 1 foot.
 - 2. Include plan of panel number sequencing.
- D. Samples for Initial Selection: For products with factory-applied finishes, submit two manufacturer's color charts illustrating the full range of finishes, colors, and sheens available. For products receiving field-applied finishes, submit color charts illustrating a full range of finishes, colors, and sheens. Submit to Architect for initial selections.

- E. Samples for Verification: From the Architect's initial selections, prepare two samples for each selected finish and color; on same product material type indicated for final Work; each 8x10 inches. Where finishes involve normal color and texture variations, include sample sets showing the full range of variations expected.

1.5 QUALITY ASSURANCE

- A. Paneling: In accordance with AWI/AWMAC/WI (AWS), Section 8, Custom Grade.
- B. Surface Burning Characteristics: Maximum 25/450 flame spread/smoke developed index when tested in accordance with ASTM E84.

1.6 QUALIFICATIONS

- A. Fabricator: Company specializing in fabricating products specified in this section with minimum three (3) years documented experience.

1.7 MOCKUP

- A. Section 01 40 00 - Quality Requirements: Mockup requirements.
- B. Construct mockup, 12 feet long by 12 feet wide, illustrating full panel sheet, edge trim, and joint trim.
- C. Locate where directed by Architect.
- D. Incorporate accepted mockup as part of Work.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Protect work from moisture damage.
- C. Maintain storage space relative humidity within ranges indicated in AWI/AWMAC/WI (AWS), Section 2.

1.9 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements: Requirements before, during and after installation of Work.
- B. During and after installation of Work of this section, maintain same temperature and humidity conditions in building spaces as will occur after occupancy.
 - 1. Maintain relative humidity within ranges indicated in AWI/AWMAC/WI (AWS), Section 2.

PART 2 PRODUCTS

2.1 WOOD VENEER PANELING

- A. Manufacturers:
 - 1. Marlite.
 - 2. Rulon.
 - 3. TerraMai.
 - 4. Substitutions: Section 01 60 00 - Product Requirements.

2.2 MATERIALS

- A. Flush Wood Veneer Panels: HPVA HP-1.

1. Core: Medium density fiberboard.
 2. Thickness: 3/4 inch unless indicated otherwise on Drawings.
 3. Veneer Face Grade: Select AA grade.
 4. Veneer Face Species:
 - a. As indicated on Drawings.
 5. Veneer Slicing: Rift cut.
 6. Veneer Grain Direction:
 - a. Vertical.
 7. Matching of Individual Leaves to Each Other: Book matching.
 8. Matching Across Panel Face: Balanced matching.
 9. Matching or Relationship of Panels to Each Other: Premanufactured sets matching.
 10. Edge Banding: Veneer matching veneer face in species and finish.
- B. Hardwood Lumber:
1. Species:
 - a. As indicated on Drawings
 2. Cut:
 - a. Rift sawn.
- C. Lumber Moisture Content Range: 4 to 9 percent.
- D. Medium Density Fiberboard: ANSI A208.2, composed of wood fibers, medium density.
1. Fire Retardant Fiberboard: ASTM E84; 25 maximum flame spread index and 450 maximum smoke developed index.

2.3 WOOD TREATMENT

- A. Fire Retardant Treatment: Chemically treated and pressure impregnated, having flame spread of 25 or less when tested in accordance with ASTM E 84 and showing no evidence of significant progressive combustion when test is continued for an additional 20 minute period, Interior Type.
- B. Provide identification on fire retardant treated material.
- C. Product installation must conform to requirements for installation in auditorium occupancy (A - assembly) as set forth by the current Building Code for the State and Jurisdiction in which the project is located. Indicate compliance in shop drawing submittal.
- D. Deliver fire retardant treated materials cut to required sizes. Minimize field cutting.
- E. Moisture Content after Treatment: Kiln dried (KDAT).
 1. Lumber: As indicated for interior lumber.
 2. Plywood: Maximum 15 percent.

2.4 FABRICATION

- A. Fabricate to AWI/AWMAC/WI (AWS), Section 10, Custom Grade.
- B. Shop prepare and identify sheets for grain matching during site erection.
- C. Prepare panels for delivery to site, permitting passage through building openings.
- D. Fit exposed sheet material edges with matching veneer edging. Use one piece for full length only.
- E. When necessary to cut and fit on site, fabricate materials with ample allowance for cutting. Furnish trim for scribing and site cutting.
- F. Finish exposed edges of panels as specified by grade requirements.

2.5 FINISHES

- A. Sand work smooth and set exposed fasteners.
- B. Apply wood filler in exposed nail indentations. Tint wood filler color as to result in a match to the surrounding surfaces after finishing is complete. Wood filler type to be compatible with applied finishes. Installed work shall have no visible indication of fasteners or filler.
- C. Finish work in accordance with AWI/AWMAC/WI (AWS), Section 5, Custom Grade, Stained Transparent Type:
 - 1. System 5, Conversion varnish.
 - 2. Stain Color: Custom color and sheen as selected by Architect from submitted custom samples.
- D. Seal internal surfaces and semi-concealed surfaces.

2.6 ACCESSORIES

- A. Fasteners and Anchors:
 - 1. Fasteners: ASTM A153/A153M, hot dipped galvanized steel for high humidity and treated wood locations, unfinished steel elsewhere.
- B. Concealed Joint Fasteners: Threaded steel.
- C. Concealed Shimming and Blocking: Lumber to be softwood or hardwood as required for application and conditions.
- D. Exposed Furring and Blocking: Lumber to be same species and finish as wood veneer panels.
- E. Wood Panel Reveal: Extruded aluminum alloy 6063 T5, 0.050 inch wall thickness.
 - 1. Configuration:
 - a. Retainer Flange Face: 3/8 inch.
 - b. Reveal Width: 1/2 inch.
 - c. Depth: As required to match panel thickness.
 - d. Joints: Mitered to tight fit and alignment.
 - 2. Finish: Clear anodized.
 - 3. Manufacturers:
 - a. Flannery - Wood Panel Reveal Trim (Basis of Design).
 - b. Fry Reglet.
 - c. Gordon.
 - d. Pittcon.
 - e. Substitutions: Section 01 60 00 - Product Requirements.
- F. Other accessories as indicated on Drawings.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 73 00 - Execution: Verification of existing conditions before starting work.
- B. Verify field measurements prior to fabrication. Indicate field measurements on shop drawings.
- C. Verify adequacy of backing and support framing.
- D. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

3.2 PREPARATION

- A. Section 01 73 00 - Execution: Prepare field conditions and existing construction for installation of work of this section.
- B. Prepare materials to be installed and equipment to be used during installation.

3.3 INSTALLATION

- A. Install work in accordance with AWI/AWMAC/WI (AWS), Section 8, Custom Grade.
- B. Set and secure materials and components in place, plumb and level.
- C. Scribe work abutting other components with maximum and consistent gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.
- D. Coordinate installation of blocking behind paneling.
- E. Coordinate installation of firestopping behind paneling.
- F. Install ceiling paneling with clips with blind fasteners at 24 inches on center.
- G. Set exposed fasteners, fill with wood filler, and finish to match panel finish.
- H. Install wall paneling with Z clips at 24 inches oc.
- I. Touch up damaged finish to match original, using materials provided by fabricator; replace components that cannot be refinished like new.
- J. Finish to be as selected by Architect from samples selected.

3.4 TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Conform to AWI/AWMAC/WI (AWS), Section 8 requirements for the following:
 - 1. Smoothness.
 - 2. Gaps.
 - 3. Flushness.
 - 4. Flatness.
 - 5. Alignment.
- C. Maximum Variation from True Position: 1/16 inch.

3.5 CLEANING

- A. Section 01 73 00 - Execution and Section 01 77 00 - Closeout Procedures: Clean installed work and comply with manufacturer's recommendations.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

- A. Section 01 73 00 - Execution: Protecting installed construction.

END OF SECTION

SECTION 08 14 16
FLUSH WOOD DOORS

PART 1 GENERAL**1.1 SUMMARY**

- A. Section Includes:
 - 1. Flush wood doors.
- B. Related Requirements:
 - 1. Section 08 11 13 - Hollow Metal Doors and Frames: Metal frames for wood doors indicated to be installed in metal frame.
 - 2. Section 08 41 13 - Aluminum-Framed Entrances and Storefronts: Aluminum frames for wood doors indicated to be installed in aluminum frame.
 - 3. Section 08 71 00 - Door Hardware.
 - 4. Section 08 80 00 - Glazing.

1.2 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2023.
 - 2. ASTM E413 - Classification for Rating Sound Insulation; 2022.
- B. Architectural Woodwork Institute (AWI), Architectural Woodwork Manufacturers Association of Canada (AWMAC), Woodwork Institute (WI):
 - 1. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014, Errata 2016.
- C. Architectural Woodwork Institute (AWI):
 - 1. AWI (QCP) - Quality Certification Program; Current Edition.
- D. California Air Resource Board (CARB):
 - 1. CARB (ATCM) - Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products; Current Edition.
- E. National Fire Protection Association (NFPA):
 - 1. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2022.
 - 2. NFPA 105 - Standard for Smoke Door Assemblies and Other Opening Protectives; 2022.
- F. Underwriters Laboratories Inc. (UL):
 - 1. UL (Dir) - Online Certifications Directory; Current Edition.
 - 2. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.
 - 3. UL 1784 - Standard for Safety Air Leakage Tests of Door Assemblies and Other Opening Protectives; Current Edition, Including All Revisions.

1.3 COORDINATION

- A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.
- B. Provide the necessary framing, blocking, and backing in walls and ceilings adequate for anchorage the Work.
- C. Coordinate Work with door opening construction, door frame and door hardware.

- D. Coordinate fire rating of metal frames to fire rating requirements of doors and wall construction for compliance with overall fire rated separation requirements.
- E. Coordinate frames with smoke and draft control doors to comply with overall assembly requirements.
- F. Coordinate frames with sound rated doors to comply with overall assembly requirements.

1.4 PRE-INSTALLATION MEETINGS

- A. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.
- B. Convene minimum one week prior to commencing work of this Section. Review the work requirements, project conditions, sequencing, application procedures, quality control, testing and inspection and production schedule.

1.5 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Indicate door core materials and construction; veneer species, type, and characteristics.
- C. Shop Drawings: Illustrate door opening criteria, elevations, sizes, types, swings, undercuts required, special beveling, special blocking for hardware, factory machining criteria, factory finishing criteria, identify cutouts for glazing.
 - 1. Provide information as required by AWI/AWMAC/WI (AWS).
 - 2. Include AWI (QCP) certification program label and project registration identification.
- D. Samples for Initial Selection: Two sets of manufacturer's samples; each 2 x 4 inches; illustrating the full range of wood grains, stain colors and sheens available for products with factory-applied finishes; submit for Architect's initial selections.
- E. Samples for Verification: From the Architect's initial selections, prepare two samples for each selected finish, color, and sheen; on same product material type indicated for final Work; each 8 x 10 inches. Where finishes involve normal finish, color, sheen, and texture variations, include sample sets showing the full range of variations expected.
- F. Manufacturer's Installation Instructions: Submit special installation instructions.
- G. Manufacturer's Qualifications Statement.
- H. Installer's Qualifications Statement.
- I. Specimen warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Warranties executed in Owner's name.
- B. AWI (QCP) - Quality Certification Program certificates.

1.7 QUALITY ASSURANCE

- A. Maintain one copy of the specified door quality standards on site for review during installation and finishing.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this Section with not less than five (5) years of documented experience.
 - 1. Accredited participant in AWI (QCP) - Quality Certification Program prior to commencement of fabrication and throughout the duration of the project.

- C. Installer Qualifications: Company specializing in performing work of the type specified in this Section, with not less than five (5) years of documented experience.
- D. Comply with AWI/AWMAC/WI (AWS) standards and grades indicated, unless otherwise specified or indicated.
 - 1. Grades indicated are minimum requirement. Where the Contract Documents indicate elements of the work requirements that exceed the minimum grade indicated, comply with the Contract Documents regarding that element of the work.
- E. Comply with AWI (QCP) - Quality Certification Program requirements.
 - 1. AWI (QCP) quality certification:
 - a. Register project and comply with AWI (QCP) woodwork association quality certification service/program in accordance with requirements for work specified in this Section.
 - b. Provide labels or certificates indicating that installed complies with AWI/AWMAC/WI (AWS) requirements for grade or grades specified.
 - c. Provide designated labels on shop drawings and installed products as required by certification program.
 - d. Submit certifications upon completion of installation that verifies the work complies with specified requirements.
- F. Attach labels from certifying agencies approved by authority having jurisdiction.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Package, deliver, and store doors in accordance with AWI/AWMAC/WI (AWS) standards, and door manufacturer requirements.

1.9 ENVIRONMENTAL REQUIREMENTS

- A. Environmental Limitations: Comply with AWI/AWMAC/WI (AWS) standards and as follows.
 - 1. Do not deliver or install doors until building space is enclosed and weathertight, wet work is complete and dry, and HVAC system is operating and maintaining temperature between 60 and 90 deg F and relative humidity between 25 and 55 percent during remainder of construction period. Allow minimum of 72 hours for delivered materials to acclimate to the climate controlled building space before beginning installation.

1.10 WARRANTY

- A. Section 01 77 00 - Closeout Procedures: Product warranties and product bonds.
- B. Furnish manufacturer's "Life of Installation" warranty for interior doors, including hanging and finishing if door(s) do not comply with warranty tolerance standards.
 - 1. Include coverage for defective materials, delamination, warping, cupping, bowing, and telegraphing of core construction beyond specified installation tolerances.

1.11 SPARE PARTS AND MAINTENANCE PRODUCTS

- A. Section 01 60 00 - Product Requirements: Extra materials, spare parts, and maintenance products.
 - 1. One (1) gallon of each type stain and finish coating system used to finish doors.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Wood Veneer Faced Doors:
 - 1. Masonite International Architectural.
 - 2. Oshkosh Architectural Door Company.
 - 3. Oregon Door.
 - 4. VT Industries.
 - 5. Substitutions: Section 01 60 00 - Product Requirements.

2.2 FLUSH WOOD DOORS - INTERIOR

- A. Grade:
 - 1. Custom.
- B. Performance:
 - 1. Extra Heavy Duty.
- C. Door Size and Configuration:
 - 1. Thickness: 1-3/4 inches thick unless otherwise indicated on Drawings.
 - 2. Size: As indicated on Drawings.
 - 3. Glass Panel: As indicated on Drawings.
- D. Non-Rated and 20-min Rated Doors:
 - 1. Solid Core: Type PC-5, particleboard core, 5-ply.
- E. Fire Rated Doors: Tested to fire ratings indicated on Drawings in accordance with UL 10C-Positive Pressure; UL labeled without any visible seals when door is closed.
 - 1. Solid Core: Type FD-5 rating as scheduled; Category A for positive pressure fire test, 5-ply.
- F. Smoke and Draft Control Doors: Required as indicated on Drawings. In addition to required fire rating, provide door assemblies acceptable tested in accordance with UL 1784 and installed in accordance with NFPA 105 with maximum air leakage of 3.0 cfm per sq ft (0.01524 cu m/s/sq m) of door opening at 0.10 inch wg (24.9 Pa) pressure at both ambient and elevated temperatures; if necessary, provide additional gasketing or edge sealing. UL labeled without any visible seals when door is closed.
- G. Sound-Rated Doors: Tested to STC ratings indicated on Drawings in accordance with ASTM E413, tested in accordance with ASTM E90; STC rating labeled without any visible seals when door is closed.
 - 1. Required as indicated on Drawings; certified and labeled for compliance with STC rating indicated on Drawings.
- H. Wood Veneer Facings:
 - 1. Species:
 - a. White Oak.
 - 2. Veneer Cut:
 - a. Rift cut.
 - 3. Veneer Adjacent Leaf Matching:
 - a. Slip match.
 - 4. Veneer Panel Leaf Matching:
 - a. Balance match.
 - 5. Doors Matching:
 - a. Pair match.

- b. Set match doors within 1 foot of each other (doors closed).
6. Doors With Transom Matching:
 - a. End match.
7. Finish:
 - a. Shop applied transparent over stain.

2.3 FABRICATION

- A. Bonding Adhesive: Type I - Waterproof.
 1. Compliant with CARB (ATCM) for ultra-low emitting formaldehyde (ULEF).
- B. Provide solid core blocking reinforcement for hardware applications and as follows:
 1. Lock blocks.
 2. Top rail block for closer.
 3. Center rail for exit bar.
 4. Bottom rail block for kickplates.
 5. Hardware through bolt blocks.
- C. Edges For Veneered Doors:
 1. Vertical Edges: Minimum 7/16 inch hardwood laminated to 1 inch (25mm) structural composite lumber and bonded to door core. Exposed hardwood edge species and finish to match door face veneer.
 2. Horizontal Edges: Minimum 1-7/16 inch structural composite lumber and bonded to door core.
- D. Factory machine doors for finish hardware in accordance with hardware requirements and dimensions. Do not machine for surface hardware. Furnish solid blocking for surface mounted and through bolted hardware.
 1. Comply with hardware requirements indicated on Drawings and as specified in Division 08 for the specifications.
 2. Include machine work required for securing door perimeter seals.
- E. Door and Frame Fit: Fabricate doors so that door edge clearances of installed doors comply with AWI/AWMAC/WI (AWS) standards.

2.4 FINISHES

- A. Shop Applied Finish:
 1. Transparent System - 5, Conversion Varnish.
 - a. Sheen to be as selected by Architect from full range of options.
 2. Stain Color:
 - a. As selected by Architect from full range of colors.
- B. Seal door top edge with color sealer to match door facing.

2.5 ACCESSORIES

- A. Hardware: As specified in Section 08 71 00 - Door Hardware.
- B. Door Frames: As indicated on Drawings.
- C. Door Louvers: Size to be as indicated on Drawings.
 1. Metal Louvers:
 - a. Material and Finish: Roll formed steel; pre-painted finish; color as selected by Architect from full range of options.
 - b. Louver Blades:
 - 1) Inverted V shape.

- 2) Fire rated to match door with fusible link design to UL (DIR) requirements.
- D. Door View Panels: Size to be as indicated on Drawings.
1. Glazing: As indicated on Drawings, but not less than 1/4 inch (6.4 mm) thick, tempered glass, in compliance with requirements of authorities having jurisdiction.
 2. Wood Frame:
 - a. Glazing Stops: Solid wood material, of same species and finish as door facing, lip profile; mitered corners; fasteners to be countersunk, fill and finish to match glazing stop finish.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 73 00 - Execution: Verification of existing conditions before starting work.
- B. Verify opening sizes and tolerances are acceptable.
- C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.2 PREPARATION

- A. Section 01 73 00 - Execution: Prepare field conditions and existing construction for installation of work of this section.
- B. Prepare materials to be installed and equipment to be used during installation.

3.3 INSTALLATION

- A. Section 01 73 00 - Execution: Related to installation of Work.
- B. Comply with AWI/AWMAC/WI (AWS) standards and Grade indicated, and manufacturer's requirements, unless otherwise specified or indicated.
 1. Fire Rated Doors: Comply with NFPA 80, and fire ratings as indicated on Drawings.
 2. Smoke and Draft Control Doors: Comply with NFPA 105, and smoke and draft control requirements as indicated on Drawings.
 3. Sound Rated Door: Comply with sound rating requirements indicated on Drawings.
- C. Coordinate installation of doors with installation of frames and hardware.
- D. Install door louvers and vision panels plumb and level.
 1. Wood Glazing Stops: Countersink fasteners, fill and finish to match glazing stop finish.

3.4 INSTALLATION TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Comply with AWI/AWMAC/WI (AWS) standards and Grade indicated, unless otherwise specified or indicated.
- C. Maximum Vertical or Horizontal Distortion (Bow or Cup): Maximum 1/8 inch measured at center distance from any edge or corner of door.
- D. Comply with AWI/AWMAC/WI (AWS) tolerance requirements and as follows:
 1. Telegraph: Maximum 0.010 inch in any 3 inch span.
 2. Warp: Maximum 0.125 inch per 7 feet of door section.
 3. Squareness: Maximum diagonal variance of 1/8 inch.

4. Door to Frame Fit and Clearance: 0.125 inch gap.

3.5 ADJUSTING

- A. Section 01 73 00 - Execution: Adjusting.
- B. Adjust door for smooth and balanced door movement and latching.

3.6 CLEANING

- A. Section 01 73 00 - Execution and Section 01 77 00 - Closeout Procedures: Clean installed work and comply with manufacturer's recommendations.
- B. Clean installed work in accordance with manufacturer's recommended materials and procedures.

3.7 SCHEDULE

- A. Door types and locations to be as indicated on Drawings.

END OF SECTION

SECTION 08 44 13
GLAZED ALUMINUM CURTAIN WALLS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Glazed aluminum curtain wall systems.
 2. Glass and glazing panels.
 3. Aluminum frame doors and hardware.
 4. Structural design requirement.
 5. Infill panels.
 6. Sun Control and Shade Devices.
- B. Related Requirements:
1. Section 05 50 00 - Metal Fabrications: Metal fabricated attachment devices.
 2. Section 07 90 00 - Joint Protection: Perimeter joint sealers other than those integral to the curtain wall frames and glazing.
 3. Section 08 11 16.10 - Aluminum Doors with FRP Face Panel.
 4. Section 08 41 13 - Aluminum-Framed Entrances and Storefronts: Storefront systems including storefront entrance doors, frames, and glazed lites.
 5. Section 08 71 00 - Door Hardware: Hardware requirements for reinforcing plates and electrical items to be integrated into the curtain wall framing of this Section.
 6. Section 08 80 00 - Glazing: Glazing for glazed aluminum curtain walls.
 7. Section 10 71 13 - Exterior Sun Control Devices.
 8. Division 26 - Electrical: Electrical requirements to be integrated into the curtain wall framing of this Section.

1.2 REFERENCES

- A. American Architectural Manufacturers Association (AAMA):
1. AAMA 501.2 - Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing Systems; 2015.
 2. AAMA 503 - Voluntary Specification for Field Testing of Newly Installed Storefronts, Curtain Walls, and Sloped Glazing Systems; 2014.
 3. AAMA 609 & 610 - Cleaning and Maintenance Guide for Architecturally Finished Aluminum; 2015.
 4. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2020.
 5. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections; 2009.
 6. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.
 7. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2022.
 8. AAMA CW-10 - Care and Handling of Architectural Aluminum from Shop to Site; 2015.
 9. AAMA CWM - Curtain Wall Manual; 2019.
- B. American Society of Civil Engineers (ASCE):
1. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.

- C. ASTM International (ASTM):
1. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2019.
 2. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2017.
 3. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.
 4. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2021.
 5. ASTM C794 - Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants; 2018, Reapproval 2022.
 6. ASTM E283/E283M - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2019.
 7. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Uniform Static Air Pressure Difference; 2014, Reapproval 2021.
 8. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000, Reapproval 2023.
 9. ASTM E783 - Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors; 2002, Reapproval 2018.
 10. ASTM E1105 - Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference; 2023.
- D. The Society for Protective Coatings (SSPC):
1. SSPC Paint 20 - Zinc-Rich Primers (Type I - Inorganic, and Type II - Organic); 2019.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
1. Section 01 30 00 - Administrative Requirements: Requirements for coordination.
 2. Coordinate work of this Section with related Door Hardware requirements.
 - a. Provide reinforcement in system framing members to accommodate hardware items indicated in this Section and other related door hardware Sections.
 - b. Prepare system framing members to accommodate electrical hardware devices such as security access readers and automatic operators.
 3. Coordinate work of this Section with related Electrical requirements.
 - a. Provide for electrical service wiring for electrical hardware devices such as security access readers, automatic operators, and other electrical requirements.
- B. Pre-Installation Meetings:
1. Section 01 30 00 - Administrative Requirements: Pre-installation meeting.
 2. Convene minimum one week prior to commencing work of this Section.

1.4 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit component dimensions, describe components within assembly, anchorage and fasteners, glass and infill panels, door hardware, and internal drainage details.
- C. Shop Drawings: Indicate system dimensions, doors and frames, framed opening requirements and tolerances, anticipated deflection under load, affected related work, weep drainage network, expansion and contraction joint location and details, and field welding required.

1. Details to indicate fasteners and anchoring details to building components and construction.
 2. Details to indicate system interface and maintenance of continuity of building envelope air and weather barrier components by others.
 3. Provide design and calculations sealed by Professional Structural Engineer demonstrating compliance with wind loading per ASCE 7.
 4. Include details of core, stile, and rail construction, trim for lites, and all other components.
 5. Include details of finish hardware mounting.
 6. Include shop applied and field applied sealants by manufacturer; include product name and application locations on drawings. Show sealant joint sizes, including tolerances and maximum/minimum joint sizes required.
- D. Samples for Initial Selection: Two manufacturer's color charts illustrating the full range of finishes and colors available for products with factory-applied finishes; submit for Architect's initial selections.
- E. Samples for Verification: From the Architect's initial selections, prepare and submit two samples for each selected finish and color; samples on same product material type indicated for final Work; each sample 8 x 8 inches. Include samples of glazing, infill panels and glazing materials. Where finishes involve normal color and texture variations, include sample sets showing the full range of variations expected.
- F. Design Data: Indicate engineered framing members structural and physical characteristics, calculations, dimensional limitations.
- G. Manufacturer's Certificate: Certify products supplied meet or exceed specified requirements.
- H. Installation Data: Special installation requirements.
- I. Field Quality Control Submittals: Submit field inspection and test reports required in FIELD QUALITY CONTROL article in this Section.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with AAMA CWM - Curtain Wall Manual.
- B. Designer Qualifications: Design structural support framing components under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed at the State in which the Project is located.
- C. Manufacturer Qualifications: Company specializing in manufacturing products specified in this Section with minimum five (5) years documented experience.
1. Same manufacturer required for the following work:
 - a. Aluminum-Framed Entrances and Storefronts.
 - b. Glazed Aluminum Curtain Walls.
- D. Installer Qualifications: Company specializing in performing Work of this Section with minimum five (5) years documented experience.

1.6 DELIVERY, STORAGE, AND PROTECTION

- A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.
- B. Handle products of this Section in accordance with AAMA CW-10 - Care and Handling of Architectural Aluminum from Shop to Site.

- C. Protect prefinished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings which bond when exposed to sunlight or weather. Provide adequate ventilation through wrappings.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Section 01 60 00 - Product Requirements: Requirements before, during and after installation of Work.
- B. Do not install sealants when ambient temperature is less than 40 degrees F during and 48 hours after installation.

1.8 WARRANTY

- A. Section 01 77 00 - Closeout Procedures: Product warranties.
- B. Provide five (5) year warranty to correct defective Work.
- C. Provide five (5) year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting, condensation, or misting. Include provision for replacement of failed units.
- D. Provide manufacturer warranty against excessive degradation of metal finishes. Include provision for replacement of units with excessive fading, chalking, peeling, blistering, or flaking. Warranty period to be as follow:
 - 1. Ten (10) year manufacturer warranty.

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Curtain Wall System: Includes extruded aluminum framing and doors with self-supporting framing, supplementary internal support components where required, aluminum and glass entrances, shop fabricated components, factory finished glass, glazing and infill panels; related joint sealers, flashings, anchorage, and attachment devices.
- B. Provide products and system designed to comply with the State Building Code for the State in which the project is located.

2.2 PERFORMANCE REQUIREMENTS

- A. Wind Loads: Design and size components and system to withstand dead loads and live loads caused by positive and negative wind loads acting normal to plane of wall, including increased wind loads at building corners.
 - 1. As calculated in accordance with ASCE 7 - Calculation of Wind Loads, as measured in accordance with ASTM E330/E330M.
 - 2. Comply with Design Loads indicated on Drawings and applicable code requirements based on geographical location.
- B. Seismic Loads: Design and size components and system to withstand seismic loads and sway displacement as calculated in accordance with ASCE 7 and applicable code requirements.
- C. Member Deflection:
 - 1. For spans less than 13 feet 6 inches, limit member deflection to flexure limit of glass in any direction, and maximum of 1/175 of span or 3/4 inch, whichever is less and with full recovery of glazing materials.

2. For spans over 13 feet 6 inches and less than 40 feet, limit member deflection to flexure limit of glass in any direction, and maximum of 1/240 of span plus 1/4 inch, with full recovery of glazing materials.
- D. System Assembly: Accommodate the following without damage to system, components, or deterioration of seals.
1. Movement within system.
 2. Movement between system, system components and perimeter construction.
 3. Dynamic loading and release of loads.
 4. Deflection of structural support framing.
 5. Tolerance of supporting components.
- E. Air Leakage: 0.06 cfm/sq ft maximum leakage through assembly wall area when tested in accordance with ASTM E283/E283M at the following pressure differential.
1. 1.57 psf pressure differential.
- F. Air and Vapor Seal: Maintain continuous air barrier and vapor retarder throughout assembly, primarily in line with inside pane of glass and heel bead of glazing compound.
- G. Vapor Seal: Limit vapor seal with interior atmospheric pressure of 1 inch static pressure, 72 degrees F, 40 percent relative humidity without seal failure.
- H. Water Penetration: None, when measured in accordance with ASTM E331 with test pressure differential at 20 percent of design pressure, but not less than 2.86 psf and not to exceed 12.00 psf.
- I. Thermal Transmittance of Assembly (Excluding Entrances): Maximum U-value of 0.45 Btu/(hr sq ft deg F) when measured in accordance with AAMA 1503.
- J. Expansion and Contraction: System to provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F over 12 hour period and by 180 degrees F surface temperature without causing detrimental effect to system components and anchorage.
- K. System Internal Drainage: Drain water entering joints, condensation occurring in glazing channels, or migrating moisture occurring within system, to exterior by weep drainage network.
- L. Not Permitted: Vibration harmonics, wind whistles, noises caused by thermal movement, thermal movement transmitted to other building elements, loosening, weakening, or fracturing of attachments or components of system.

2.3 GLAZED CURTAIN WALL SYSTEM

- A. Exterior Glazed Curtain Wall: Application to be where one side of curtain wall is exposed to unconditioned air; includes building exterior exposure.
1. Extruded aluminum frame members with internal reinforcement of aluminum or shaped steel structural sections as required to withstand imposed loads, including loads imposed by operating doors and hardware of types and sizes indicated.
 2. Frame components to be thermally broken from exterior exposed surfaces.
 3. Frame size, configuration, dimensions, and profile: As indicated on Drawings.
 - a. For frames with laminated glass panels, coordinate with glass panel thickness.
 - b. Continuous perimeter filler.
 4. Provide glazing panels and infill panels as indicated on Drawings, sealed weathertight within frames.
 - a. Panel Position Within Frame:
 - 1) As indicated on Drawings.
 5. Internal weep drainage system to drain to exterior.

6. Manufacturers:
 - a. Kawneer Co., Inc.
 - b. Oldcastle BuildingEnvelope.
 - c. Tubelite, Inc.
 - d. U.S. Aluminum, a C.R. Laurance Company.
 - e. YKK AP America.
 - f. Substitutions: Section 01 60 00 - Product Requirements.
7. Basis of Design:
 - a. Kawneer Co., Inc.:
 - 1) 1600 Wall System 1; 2-1/2 inch sightline.

2.4 COMPONENTS

- A. Extruded Aluminum: ASTM B221; 6063 alloy, T5 temper typical or 6061 alloy, T6 temper for extruded structural members.
- B. Sheet Aluminum: ASTM B209/B209M, 5005 alloy, H15 or H34 temper, wall thickness as required for system application and use but not less than 0.125 inch.
- C. Sheet Steel: ASTM A653/A653M; galvanized to minimum G90.
- D. Steel Sections: ASTM A36/A36M; shaped to suit aluminum framing and mullion members.
 1. For use as concealed structural support reinforcement.
 - a. For exterior framing, steel to be galvanized per ASTM A123/A123M.
 - b. For interior framing, steel to be shop primed.
- E. Structural Supporting Anchors Attached to Structural Steel:
 1. Design to suit attachment requirements.
- F. Structural Supporting Anchors Attached to Reinforced Concrete Members:
 1. Design to suit attachment requirements.
- G. Fasteners: Provide aluminum, non-magnetic stainless steel, or other non-corrosive metal fasteners, recommended to be compatible by the manufacturer of materials being fastened, including doors, frames, stops, panels, hardware, anchors, and other items receiving fasteners. For exposed fasteners (if any) provide Oval Phillips Head screws with finish matching the item to be fastened. The use of sex bolts will not be accepted.
- H. Framing Members Profiles: Extruded aluminum and as indicated on Drawings.
- I. Trim Components Profiles: Extruded aluminum and as indicated on Drawings.
- J. Glass and Glazing Panels:
 1. As indicated on Drawings.
 2. As specified in Section 08 80 00 - Glazing.
- K. Infill Panels:
 1. Insulated Fiber Reinforced Panels (IFRP): Factory manufactured foam panels with wrapped FRP sheet faced both sides, with edges and thickness formed to fit frame and seal condition.
 - a. Locations: Exterior exposure of building envelope.
 - b. Thickness: 1 inch thick.
 - c. Insulating Core: Polyisocyanurate or polyurethane foam; minimum 5.0 R-value per inch thickness; fire resistant.
 - d. FRP Faces: Fiber reinforced panel sheet laminated to substrate.
 - 1) Thickness:
 - a) Minimum 0.120 inch thick.
 - 2) Finish Type:
 - a) Finish pebble grain to match adjacent doors.

- b) As selected by Architect from manufacturer's full range of options.
 - 3) Finish Color:
 - a) As selected by Architect from manufacturer's full range of options.
 - b) Color to match adjacent adjacent doors.
 - e. Basis of Design: Fiber-Tech Clad Foam Core Panels.
- L. Sun Control and Shade Devices: Shop fabricated, shop finished, extruded aluminum outriggers, louvers, and fascia, free of defects impairing strength, durability, or appearance.
- 1. Configurations and Locations: As indicated on Drawings.
 - 2. Blade Profile, Angle and Spacing: As indicated on Drawings.
 - 3. Outrigger Shape: As indicated on Drawings.
 - 4. Design and fabricate to resist the same loads as Curtain Wall system without failure, damage, or permanent deflection.
 - a. Additional design load for sun control and shade devices to include live and snow loads.
 - b. Coordinate concealed structural support reinforcement and anchorage required to support attachment hardware.
 - 5. Sizes: As indicated on drawings.
 - 6. Finish Type: As selected by Architect from manufacturer's full range of options.
 - 7. Finish Color: As selected by Architect from manufacturer's full range of options.
 - 8. Shop fabricate to the greatest extent possible; disassemble as necessary for shipping.
- M. Doors:
- 1. Material: As indicated on Drawings.
 - 2. Thickness: As indicated on Drawings.
 - 3. Curtain Wall Framing Members:
 - a. Coordinate frame's door stop and door silencer feature (along the frame stop) with door thickness and door type indicated on Drawings.
 - b. Coordinate concealed structural support reinforcement and shop preparation with door hardware, including closers, hinges, latching and locking components, automatic door operators, and other hardware indicated in other Sections.
 - c. Coordinate curtain wall frames with the specified doors, types, weight, and hardware and as indicated. Provide aluminum curtain wall frames with internal and concealed structural support reinforcement and anchorage required to support attachment of the hinges and closers and to withstand the operating and closing loads imposed on the curtain wall frames by the specified doors and hardware.
 - d. Coordinate with security, safety and other electrical wiring and hardware requirements such as automatic door operators and actuators.
 - 4. Glass and Glazing Panels:
 - a. As indicated on Drawings.
 - 5. Glazing Stops Profile: As indicated on Drawings.
 - 6. Stiles and Rails: Extruded aluminum; profiles as indicated on Drawings.
 - a. Exterior door components to be thermally broken; interior door components not required to be thermally broken.
 - b. Coordinate reinforcement and shop preparation with door hardware attachment and operating requirements.
 - c. Unless Indicated Otherwise on Drawings:
 - 1) Stiles to be 6 inches.
 - 2) Top and middle rails to be 6 inches.
 - a) Doors scheduled to receive exit hardware device to be fabricated with middle rail.
 - 3) Bottom rails to be 10 inches.

7. Finish: For aluminum framed doors, finish to match curtain wall frame in which the door is set. Finish for other door types shall be as indicated on Drawings or in other Sections.
- N. Door Hardware:
1. Weatherstripping and Sill Sweep Strips: For aluminum frame doors, manufacturer's standard type to suit application; removable for maintenance replacement.
 2. Threshold: Specified in Section 08 71 00. Extruded aluminum, one piece for each door opening, ribbed non-slip surface.
 3. Hinges: Specified in Section 08 71 00.
 4. Exit Panic Devices: Specified in Section 08 71 00.
 5. Closers: Specified in Section 08 71 00.
 6. Automatic Door Operators and Actuators: Specified in Section 08 71 00.
 7. Lock Cylinders: Specified in Section 08 71 00.
 8. Other hardware as may be indicated on Drawings or in Section 08 71 00.
 9. Finish: Exposed hardware to match hardware finishes specified in Section 08 71 00.
- O. Flashings:
1. Exposed Flashings: Sheet aluminum, finish to match framing members.
 - a. Thickness: 18 gauge, 0.040 inch, minimum.
 2. Concealed Flashings: Sheet aluminum.
 - a. Thickness: 22 gauge, 0.025 inch, minimum.
- P. Firestopping: As specified in Section 07 84 00.
- Q. Curtain Wall System Sealants: As recommended by curtain wall system manufacturer; silicone type, with adhesion in compliance with ASTM C794; compatible with glazing panels, infill panels, framing members, flashings, other components, and accessories.
- R. Glazing Gaskets and Accessories: As recommended by curtain wall and glazing system manufacturers; type to suit application to achieve weather, moisture, and air infiltration requirements.
- S. Perimeter Sealants and Backing Materials: Provide sealants and backing materials complying with requirements specified in Section 07 90 00.
- T. Sealant for Setting Thresholds: Non-curing butyl type.

2.5 FABRICATION

- A. Fabricate system components with minimum clearances and shim spacing around perimeter of assembly yet enabling installation and dynamic movement of perimeter seal.
- B. Accurately fit and secure joints and corners. Make joints flush, hairline, and weatherproof.
- C. Provide System Internal Drainage: Drain to the exterior by means of a weep drainage networks any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.
- D. Prepare system members to receive anchor devices. Fabricate anchors.
- E. Arrange fasteners and attachments to conceal from view.
- F. Prepare system members with internal reinforcement for door hardware.
- G. Prepare system members for installation of door hardware and electrical hardware devices such as security access readers and automatic operators.
- H. Prepare components with internal reinforcement for window treatments.
- I. Reinforce framing members to withstand external imposed loads.

- J. Eliminate noises caused by wind and thermal movement, prevent vibration harmonics, and prevent "stack effect" in internal spaces.

2.6 SHOP FINISHING

- A. Anodized Aluminum Finish:
 - 1. Color Anodized Finish: AAMA 611, AA-M12C22A44 Electrolytically deposited colored anodic coating; Class I, not less than 0.7 mils thick.
- B. Color and Gloss: As selected by Architect from manufacturer's full range of options.
- C. Touch-Up Materials: As recommended by finish manufacturer for field application.
- D. Extent of Finish:
 - 1. Apply factory coating to surfaces exposed at completed assemblies.
 - 2. Apply finish to surfaces cut during fabrication so no natural aluminum is visible in completed assemblies, including joint edges.
 - 3. Apply touch-up materials recommended by coating manufacturer for field application to cut ends and minor damage to factory applied finish.
- E. Concealed Steel Items: Galvanized to ASTM A123/A123M; minimum 2.0 oz/sq ft coating thickness; galvanize after fabrication.
- F. Apply bituminous paint to concealed aluminum and steel surfaces in contact with cementitious or dissimilar metals.
- G. Touch-Up Primer for Galvanized Steel Surfaces: SSPC Paint 20 zinc rich.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01 73 00 - Execution: Verification of existing conditions before starting work.
- B. Verify dimensions, tolerances, and method of attachment with other work.
- C. Verify wall openings are ready to receive Work of this Section.
- D. Verify that construction to which the Work is to be anchored is complete, structurally sound, and adequate to provide the required securement.

3.2 PREPARATION

- A. Section 01 73 00 - Execution: Prepare field conditions and existing construction for installation of work of this Section.
- B. Prepare materials to be installed and equipment to be used during installation.

3.3 INSTALLATION

- A. Section 01 73 00 - Execution: Related to installation of Work.
- B. Install wall system in accordance with engineered design, manufacturer's instructions, and AAMA CWM - Curtain Wall Manual.
- C. Installation to interface with and maintain continuity of building envelope air and weather barrier components by others.
- D. Coordinate with installers of other products to be installed as integral or surface mounted components to the glazed aluminum curtain wall system.

1. Provide open pathways for electrical wiring and device attachment requirements, to include, but not limited to, the following:
 - a. Electrical hardware devices such as security access readers and automatic operators.
 - b. Electrical life safety and security devices.
- E. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
- F. Provide alignment attachments and shims to permanently fasten system to building structure.
- G. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances and align with adjacent Work.
- H. Provide thermal isolation where components penetrate or disrupt building insulation.
- I. Install sill flashings. Turn up ends and edges; seal to adjacent Work to form watertight dam.
- J. Install firestopping at each floor slab edge. Comply with applicable codes and requirements specified in Section 07 84 00.
- K. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- L. Install integral flashings and integral joint sealers.
- M. Set thresholds in bed setting sealant and secure.
- N. Install hardware using hardware manufacturer's templates. Refer to Section 08 71 00 for door hardware requirements other than specified in this Section.
- O. Glazing:
 1. Coordinate installation of glass with Section 08 80 00 - Glazing; separate glass from metal surfaces.
- P. Install system weather seal sealants, seals, gaskets and glazing and infill panels to achieve performance criteria.
- Q. Install perimeter sealant and back to achieve performance criteria conforming with installation criteria specified in Section 07 90 00.

3.4 FIELD QUALITY CONTROL

- A. Section 01 40 00 - Quality Requirements: Monitor quality of installation, inspection, and testing.
- B. Manufacturer's Field Services: Provide services of curtain wall manufacturer's field representative to inspect for proper installation of system and submit report. Representative is to submit inspection report, including list of deficiencies within 5 days of each inspection.
 1. Inspections Required:
 - a. 10 percent of completion of the work of this Section.
 - b. 50 percent of completion of the work of this Section.
 - c. 100 percent of completion of the work of this Section.
- C. Water-Spray Test: Provide water spray quality test of installed curtain wall components in accordance with AAMA 501.2 during construction process and before installation of interior finishes.
 1. Perform a minimum of two tests in each area as directed by Architect or Owner.
 2. Conduct tests in each area prior to 10 percent and 50 percent completion of this work.
 3. Tests are to be observed and reported by curtain wall manufacturer's field representative. Submit test results and observations report within 5 days of each test.

- D. Repair or replace curtain wall components that have failed designated field testing, and retest to verify performance complies with specified requirements. Submit reports of retest results within 5 days of each retest.

3.5 ERECTION TOLERANCES

- A. Section 01 40 00 - Quality Requirements: Tolerances.
- B. Maximum Variation from Plumb: 1/16 inch every 3 feet non-cumulative or 1/2 inch per 100 ft, whichever is less.
- C. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch.
- D. Sealant Space Between Curtain Wall Mullions and Adjacent Construction: Maximum of 3/4 inch and minimum of 1/4 inch.

3.6 ADJUSTING

- A. Section 01 73 00 - Execution: Testing and adjusting.
- B. Adjust operating hardware for smooth operation.

3.7 CLEANING

- A. Section 01 73 00 - Execution and Section 01 77 00 - Closeout Procedures: Related to cleaning.
- B. Remove protective material from prefinished aluminum surfaces.
- C. Wash down surfaces with solution of mild detergent in warm water, applied with soft, clean wiping cloths. Take care to remove dirt from corners. Wipe surfaces clean.
- D. Upon completion of installation, thoroughly clean aluminum surfaces in accordance with AAMA 609 & 610.
- E. Remove excess sealant by moderate use of mineral spirits or other solvent acceptable to sealant manufacturer.

3.8 PROTECTION OF INSTALLED CONSTRUCTION

- A. Section 01 73 00 - Execution: Protecting installed construction.
- B. Protect finished Work from damage.

3.9 DEMONSTRATION AND TRAINING

- A. Section 01 79 00 - Demonstration and Training: Provide demonstration and training to the Owner regarding operation and maintenance of components of the installed Work.

END OF SECTION

SECTION 10 56 13
METAL STORAGE SHELVING

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Metal storage shelving units.

1.2 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit data for all components.
- C. Shop Drawings: Indicate shelving unit components, assembly, anchorage, elevations, dimensions, and room plan layout for each location. Include schedule list indicating room locations and quantity of shelving units.
- D. Samples for Initial Selection: Two manufacturer's color charts illustrating the full range of finishes and colors available for products with factory-applied finishes; submit for Architect's initial selections.
- E. Samples for Verification: From the Architect's initial selections, prepare and submit two samples for each selected finish and color; samples on same product material type indicated for final Work; each sample 4 x 4 inches. Where finishes involve normal color and texture variations, include sample sets showing the full range of variations expected.
- F. Manufacturer's Installation Instructions: Indicate special precautions for installation.

1.3 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum five (5) years documented experience.
- B. Installer: Company specializing in performing work of this section with minimum three (3) years documented experience.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Section 01 60 00 - Product Requirements: Requirements for transporting, handling, storing, and protecting products.
- B. Accept components on site in manufacturer's original packaging. Inspect for damage.

PART 2 PRODUCTS

2.1 METAL STORAGE SHELVING

- A. Manufacturers:
 - 1. Lyon Workspace Products.
 - 2. Penco Products.
 - 3. Spacesaver.
 - 4. Tensco Corp.
 - 5. Substitutions: Section 01 60 00 - Product Requirements.

- B. Metal Storage Shelving: Factory-formed, field-assembled, freestanding, upright metal storage shelving system; designed for shelves to span between and be supported by corner posts, with shelves adjustable over the entire height of shelving unit. Shelving units to be engineered to safely support cumulative loaded shelf loads indicated.
- C. Components:
 - 1. Posts: Tubular, L-shaped, and T-shaped, cold-rolled steel, minimum 16 gauge thick, punched on 1-1/2 inch centers. Engineered to safely support loads indicated.
 - 2. Shelves: Box formed edges, minimum 20 gauge thick steel. Engineered to support the following loads:
 - a. Minimum 800 lbs for shelf size of 36W x 18D inches or 36W x 24D inches.
 - b. Minimum 550 lbs for shelf size of 48W x 18D inches or 48W x 24D inches.
- D. Accessories:
 - 1. Shelf Clips: Hot-rolled steel, 12 gauge thick, one-piece construction.
 - 2. Sides and Backs:
 - a. Solid steel panels; 24 gauge thick steel.
- E. Fabrication:
 - 1. Fabricate shelves with turned down box edges with return flange spot welded to bottom of shelf.
 - 2. Fabricate shelves 48 inches long by 24 inches deep, unless indicated otherwise on Drawings.
 - 3. Overall Unit Height: Shelves placed equidistant unless Drawings indicate otherwise.
 - a. 84 inches (5 shelves).
- F. Finish: All metal assemblies and components to be factory powder coated.
 - 1. Colors:
 - a. As selected by Architect from manufacturer's full range.
 - b.
- G. Location: All utility room locations.

2.2 FOOD STORAGE METAL SHELVING

- A. Manufacturers:
 - 1. Advance Tabco.
 - 2. Metro Food Service Products.
 - 3. Regency.
 - 4. Steelton Metal Products.
 - 5. Substitutions: Section 01 60 00 - Product Requirements.
- B. Product Description: Food storage metal shelving to be factory-formed, field-assembled, freestanding, upright metal wire storage shelving system; designed for shelves to span between and be supported by corner posts, with shelves adjustable over the entire height of shelving unit.
- C. Components:
 - 1. Posts: Tubular carbon steel, epoxy coating finish, single piece construction, 1 inch diameter, 72 inches length.
 - 2. Shelves: Steel wire construction, factory welded, epoxy coating finish, 1-1/4 inches thickness. 4 shelves per shelving unit, adjustable in 1 inch increments at posts.
- D. Fabrication:
 - 1. Fabricate shelves 48 inches long by 18 inches deep, unless indicated otherwise on Drawings.
 - 2. Overall shelving unit height to be 72 inches.

- E. Factory Finishing:
 - 1. Manufacturer's standard epoxy coating finish.
 - a. All metal components and accessories.
 - b. Colors:
 - 1) As selected by Architect from manufacturer's full range.
- F. Location:
 - 1) School building utility rooms.
 - 2) Field house utility and storage rooms.

EXECUTION

2.3 EXAMINATION

- A. Section 01 73 00 - Execution: Verification of existing conditions before starting work.
- B. Verify dimensions, tolerances, and methods of attachment with other Work.
- C. Verify spaces are ready to ready to receive Work of this Section.

2.4 INSTALLATION

- A. Section 01 73 00 - Execution: Related to installation of Work.
- B. Install components according to manufacturer's written instructions, using fasteners appropriate to substrate indicated and recommended by manufacturer.
- C. Install units level, plumb, and firmly anchored.
- D. Anchor units to back wall to prevent tip-over.

2.5 CLEANING

- A. Section 01 73 00 - Execution and Section 01 77 00 - Closeout Procedures: Related to cleaning.
- B. Replace damaged or defective components.
- C. Remove temporary labels and protective coatings.
- D. Clean exposed surfaces.

2.6 PROTECTION OF INSTALLED CONSTRUCTION

- A. Section 01 73 00 - Execution: Protecting installed construction.
- B. Protect shelving from damage.

END OF SECTION

SECTION 23 72 00
ENERGY RECOVERY UNIT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes rooftop heating and cooling units.
- B. Related Sections include the following:
 - 2. Division 230548 Section "Mechanical Vibration Controls and Seismic Restraints" for manufactured isolation bases.
 - 3. Division 230900 Section "HVAC Controls" for temperature-control devices, and control wiring and control devices connected to energy recovery units.

1.3 SUBMITTALS

- A. Product Data: Include manufacturer's technical data for each model indicated, including rated capacities of selected model clearly indicated; dimensions; required clearances; shipping, installed, and operating weights; furnished specialties; accessories; and installation and startup instructions.
- B. Shop Drawings: Detail equipment assemblies and indicate dimensions, weights, loadings, required clearances, method of field assembly, components, and location and size of each field connection. Detail mounting, securing, and flashing of roof curb to roof structure. Indicate coordinating requirements with roof membrane system.
 - 1. Wiring Diagrams: Detail wiring for power, signal, and control systems and differentiate between manufacturer-installed and field-installed wiring.
- C. Commissioning Reports: Indicate results of startup and testing commissioning requirements. Submit copies of checklists.
- D. Maintenance Data: Maintenance manuals specified in Division 1.
- E. Warranties: Special warranties specified in this Section.

1.4 QUALITY ASSURANCE

- A. Fabricate and label refrigeration system to comply with ASHRAE 15, "Safety Code for Mechanical Refrigeration."
- B. Energy Efficiency Ratio: Equal to or greater than prescribed by ASHRAE 90.1, "Energy Efficient Design of New Buildings except Low-Rise Residential Buildings."
- C. Listing and Labeling: Provide electrically operated components specified in this Section that are listed and labeled.

1. Units shall be certified in accordance with UL Standard 1995 and ANSI Standard Z21.47
2. Units shall be safety certified by an accredited testing laboratory and the nameplate shall carry the label of the certification agency.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver units as factory-assembled units with protective crating and covering as recommended by the manufacturer.
- B. Coordinate delivery of units in sufficient time to allow movement into building.
- C. Handle units to comply with manufacturer's written rigging and installation instructions for unloading and moving to final location.

1.6 COORDINATION

- A. Coordinate installation of equipment supports with other divisions.

1.7 WARRANTY

- A. General Warranty: The special warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.
- B. Special Warranty: A written warranty, executed by the manufacturer and signed by the Contractor, agreeing to replace components that fail in materials or workmanship, within the specified warranty period, provided manufacturer's written instructions for installation, operation, and maintenance have been followed.
 1. Warranty Period, Manufacturer's standard, not less than 1 year after date of startup, but not to exceed 14 months from date of shipment.
 2. Warranty Period, Compressors: Manufacturer's standard, but not less than 5 years from date of shipment.
 3. Warranty Period, Heat Exchangers: Manufacturer's non-prorated full parts replacement not less than 15 years from date of shipment.

1.8 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents.
 1. Filters: One set of filters for each unit.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to strict compliance with the requirements of this specification, provide products by one of the following:
 1. AAON, Inc.
 2. Climate Master
 3. Munters
 4. Greenheck
 5. Trane

2.2 DEDICATED OUTSIDE AIR UNITS (DOAS)

- A. Description: Factory assembled and tested; designed for slab installation; and consisting of compressors, condensers, evaporator coils, condenser and evaporator fans, refrigeration and temperature controls, hot gas reheat, filters, and dampers.
- B. Construction:
1. Unit shall be completely factory assembled, piped and wired and shipped in one section.
 2. Cabinet shall be constructed entirely of G90 galvanized steel with the exterior constructed of 20 gauge or heavier material.
 3. Paint finish shall be capable of withstanding at least 2000 hours, with no visible corrosive effects, when tested in a salt spray and fog atmosphere in accordance with ASTM B 117-95 test procedure.
 4. The unit roof shall be sloped or cross-broken to assure drainage.
 5. Unit specific color coded wiring diagrams shall match the unit color coded wiring and will be provided in both point-to-point and ladder form.
 6. Diagrams shall also be laminated in plastic and permanently affixed inside the control compartment.
 7. Access to filters, blower, heating section, and other items needing periodic checking or maintenance shall be through hinged access doors with quarter turn latches. Door fastening screws are not acceptable.
 8. Access doors shall have stainless steel hinges and full perimeter gasketing.
 9. All openings through the base pan of the unit shall have upturned flanges of at least 1/2" in height around the opening through the base pan.
 10. Air side service access doors shall have rain break overhangs.
 11. All access doors shall have an internal metal liner to protect the door ½ inch thick, 1 ½ lb. density fiberglass insulation.
 12. The interior air side of the cabinet shall be entirely insulated on all exterior panels with 1 inch thick, 1 1/2 lb. density fiberglass insulation.
 13. Unit shall have decals and tags to indicate unit lifting and rigging, service areas and caution areas. Installation and maintenance manuals shall be supplied with each unit.
- Cabinet options include:
- a. Double wall insulation liners
 - b. Base pan insulation for units not mounted on a curb.
 - c. Unit shall be furnished with 304 stainless steel drain pans.
- C. Supply and Exhaust Fans:
1. Blower(s) shall be entirely self contained on a slide deck for service and removal from the cabinet.
 2. All belt drive blower(s) shall have backward inclined airfoil blades.
 3. All direct drive blower(s) shall have forward curved blades.
 4. Adjustable V-belt drive shall be provided with a minimum rating of 140% of the motor nameplate brake horsepower when the adjustable pulley is at the minimum RPM.
 5. Blowers, drives and motors shall be dynamically balanced.
 6. Supply and exhaust fans shall be provided with variable frequency drives, provided and installed by the mechanical contractor. For motor and VFD requirements, see spec section 230513 -2.4B and 2.6.
- D. Outside Air Options:
1. Shall be 2-position, modulated by the building control system (100% outside air in occupied mode or 100% return air in dehumidification mode). The assembly shall consist of a motor operated outdoor air damper and return air damper assembly constructed of extruded aluminum, hollow core, air foil blades with rubber edge seals and

aluminum end seals. Damper blades shall be gear driven and designed to have no more than 25 CFM of leakage per sq. ft. of damper area when subjected to 2 in. w.g. air pressure differential across the damper. Damper motor shall be spring return to ensure closing of outdoor air damper during periods of unit shut down or power failure.

F. Total Energy Wheel:

1. Units shall have a factory mounted and tested energy recovery wheel. The energy recovery wheel shall be mounted in a rigid frame containing the wheel drive motor, drive belt, wheel seals and bearings.
2. The energy recovery cassette shall be rated in accordance with ARI Standard 1060 and shall bear the ARI certification symbol.
3. The energy recovery cassette shall contain a total (sensible) energy recovery heat wheel constructed of a light weight polymer material with permanently bonded desiccant coating. The energy recovery wheel media shall be capable of removal from the cassette and replacement without the use of tools. Wheel media shall be cleanable using hot water or light detergent without degrading the efficiency.
4. The exhaust fan shall be backward inclined type. Fan(s) and motor(s) shall be dynamically balanced. A back draft damper shall be included with the exhaust fan. Outside air filters shall be 4 inch, pleated, disposable.
5. Motors shall be standard efficiency (premium efficiency). Motors for use with VFD shall be premium efficiency inverter rated only. Motor bearings shall be ball bearing and shall have external lubrication connections.

G. Condenser:

1. Water Cooled Condenser Section

- a. The water cooled condensing section shall contain plate type heat exchangers. They shall be circuited in a counterflow arrangement to the refrigerant system. Each heat exchanger shall be provided with a removable and cleanable type basket filter on the waterside circuit. Field piping connections shall be made at each plate heat exchanger within the condensing section of the unit.

H. Filters: 2-inch- thick, fiberglass, throwaway with an ASHRAE efficiency of 30%, located on both supply and exhaust upstream of the energy wheel.

I. Evaporator Coils:

1. Evaporator coils shall be copper tube with aluminum fins mechanically bonded to the tubes.
2. Evaporator coils shall have galvanized steel end casings.
3. Evaporator coils shall have equalizing type vertical tube headers.
4. Evaporator coils shall be furnished with a thermostatic expansion valve.
5. Evaporator coils shall be furnished with a double sloped drain pan for the positive drainage of condensate.

J. Refrigeration System:

1. Compressors shall be scroll type with internal thermal overload protection and mounted on the compressor manufacturer's recommended rubber vibration isolators. Each compressor shall have independent refrigerant circuits.
2. All units over 7 tons shall be multiple stage and shall have a minimum of 2 stages of capacity control.
3. Compressors shall be mounted in an isolated compartment to permit operation of the unit without affecting air flow when the door to the compartment is open.
4. Compressors shall be isolated from the base pan and supply air to avoid any transmission of noise from the compressor into the building area.

5. System shall be equipped with thermostatic expansion valve type refrigerant flow control.
 6. System shall be equipped with automatic reset low pressure and manual reset high pressure refrigerant controls.
 7. Unit shall be equipped with Schrader type service fittings on both the high side and low pressure sides of the system.
 8. Unit shall be equipped with refrigerant liquid line driers.
 9. Unit shall be fully factory charged with refrigerant.
 10. Hot gas bypass shall be provided on the first refrigerant circuit.
 11. Unit shall be provided with a hot gas reheat coil and modulating hot gas reheat control valve piped to the lead refrigerant system. Reheat capacity shall be minimum of 65% of unit design, i.e. 30-ton will have 234,000 btuh reheat capacity
 12. Unit shall be equipped with a 5 minute anti-short cycle delay timer for each stage.
 13. First stage cooling shall be provided to allow operation in low ambient to 35°F.
 14. Unit shall operate on R-454B or R-32 refrigerant.
 15. Provide units with applicable factory refrigerant monitoring devices and BAS point monitoring, with circuit shut off in compliance with ASHRAE Standard 15-2002 for A2L Refrigerants.
- L. Controls:
- Onboard DDC controller to be capable of LonWORKS or BacNET interface.
- M. Power option
1. Unit shall be provided with a factory installed and wired internal disconnect.
 2. Unit shall be provided with phase and brown-out protection to shut down all motors in the unit if the phases are more than 10% out of balance on voltage, or the voltage is more than 10% under design voltage or on phase reversal.
 3. Unit shall be provided with a factory installed and wired 115 volt, 15 amp ground fault service receptacle powered by a 1.5 KVA transformer.
 4. Unit shall be provided with a factory installed and field wired 115 volt, 15 amp ground fault service receptacle.

END OF SECTION

SECTION 26 32 13**ENGINE GENERATORS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes packaged engine-generator sets for standby power supply with the following features:
1. Diesel engine.
 2. Unit-mounted cooling system.
 3. Unit-mounted control and monitoring.
 4. Performance requirements for sensitive loads.
 5. Fuel system.
 6. Outdoor enclosure.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
1. Include plans and elevations for engine-generator set and other components specified. Indicate access requirements affected by height of subbase fuel tank.
 2. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.

1.3 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For manufacturer.
- B. Seismic Qualification Certificates: For engine-generator set, accessories, and components, from manufacturer.
1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 2. Dimensioned Outline Drawings of Equipment Unit: With engine and generator mounted on rails identify center of gravity and total weight including supplied enclosure, external silencer, **subbase-mounted UL 142 listed full fuel tank**, and each piece of equipment not integral to the engine-generator set and locate and describe mounting and anchorage provisions.
 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- C. Source quality-control reports, including, but not limited to the following:
1. Certified summary of prototype-unit test report.
 2. Certified Test Reports: For components and accessories that are equivalent, but not identical, to those tested on prototype unit.

3. Report of factory test on units to be shipped for this Project, showing evidence of compliance with specified requirements.
4. Report of sound generation.
5. Report of exhaust emissions showing compliance with applicable regulations.
6. Certified Torsional Vibration Compatibility: Comply with NFPA 110.

D. Field quality-control reports.

E. Warranty: For special warranty.

1.4 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: Member company of NETA or an NRTL.

1. Testing Agency's Field Supervisor: Certified by NETA to supervise on-site testing.

1.6 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components of packaged engine generators and associated auxiliary components that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 2 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Caterpillar; Engine Div.
2. Generac Power Systems, Inc.
3. Onan/Cummins Power Generation; Industrial Business Group.
4. Kohler

B. Source Limitations: Obtain packaged generator sets and auxiliary components through one source from a single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Seismic Performance: Engine-generator set housing, engine-generator set, batteries, battery racks, silencers, and sound attenuating equipment, accessories, and components shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.

1. The term "withstand" means "the unit will remain in place without separation of any parts when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."
 2. Shake-table testing shall comply with ICC-ES AC156. Testing shall be performed with all fluids at worst case normal levels.
 3. Component Importance Factor: 1.5.
- B. ASME Compliance: Comply with ASME B15.1.
- C. NFPA Compliance:
1. Comply with NFPA 37.
 2. Comply with NFPA 70.
 3. Comply with NFPA 99.
 4. Comply with NFPA 110 requirements for Level 1 emergency power supply system.
- D. UL Compliance: Comply with UL 2200.
- E. Engine Exhaust Emissions: Comply with EPA Tier 2 requirements and applicable state and local government requirements.
- F. Noise Emission: Comply with applicable state and local government requirements for maximum noise level at adjacent property boundaries due to sound emitted by generator set including engine, engine exhaust, engine cooling-air intake and discharge, and other components of installation.
- G. Environmental Conditions: Engine-generator system shall withstand the following environmental conditions without mechanical or electrical damage or degradation of performance capability:
1. Ambient Temperature: 5 to 40 deg C.
 2. Relative Humidity: Zero to 95 percent.
 3. Altitude: Sea level to 1000 feet.

2.3 ASSEMBLY DESCRIPTION

- A. Factory-assembled and -tested, water-cooled engine, with brushless generator and accessories.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.
- C. EPSS Class: Engine-generator set shall be classified as a Class 2 in accordance with NFPA 110.
- D. Induction Method: Naturally aspirated.
- E. Governor: Adjustable isochronous, with speed sensing.
- F. Emissions: Comply with EPA Tier 3 requirements.
- G. Mounting Frame: Structural steel framework to maintain alignment of mounted components without depending on concrete foundation. Provide lifting attachments sized and spaced to prevent deflection of base during lifting and moving.

H. Capacities and Characteristics:

1. Power Output Ratings: Nominal ratings as indicated at 0.8 power factor excluding power required for the continued and repeated operation of the unit and auxiliaries.
2. Output Connections: Three-phase, four wire.
3. Nameplates: For each major system component to identify manufacturer's name and address, and model and serial number of component.

I. Generator-Set Performance:

1. Steady-State Voltage Operational Bandwidth: 3 percent of rated output voltage from no load to full load.
2. Transient Voltage Performance: Not more than 20 percent variation for 50 percent step-load increase or decrease. Voltage shall recover and remain within the steady-state operating band within three seconds.
3. Steady-State Frequency Operational Bandwidth: 0.5 percent of rated frequency from no load to full load.
4. Steady-State Frequency Stability: When system is operating at any constant load within the rated load, there shall be no random speed variations outside the steady-state operational band and no hunting or surging of speed.
5. Transient Frequency Performance: Less than 5 percent variation for 50 percent step-load increase or decrease. Frequency shall recover and remain within the steady-state operating band within five seconds.
6. Output Waveform: At no load, harmonic content measured line to line or line to neutral shall not exceed 5 percent total and 3 percent for single harmonics. Telephone influence factor, determined according to NEMA MG 1, shall not exceed 50 percent.
7. Sustained Short-Circuit Current: For a three-phase, bolted short circuit at system output terminals, system shall supply a minimum of 250 percent of rated full-load current for not less than 10 seconds and then clear the fault automatically, without damage to generator system components.
8. Start Time: Comply with NFPA 110, Type 10, system requirements.

2.4 ENGINE

- A. Fuel: Diesel.
- B. Rated Engine Speed: 1800 rpm.
- C. Lubrication System: The following items are mounted on engine or skid:
 1. Filter and Strainer: Rated to remove 90 percent of particles 5 micrometers and smaller while passing full flow.
 2. Thermostatic Control Valve: Control flow in system to maintain optimum oil temperature. Unit shall be capable of full flow and is designed to be fail-safe.
 3. Crankcase Drain: Arranged for complete gravity drainage to an easily removable container with no disassembly and without use of pumps, siphons, special tools, or appliances.
- D. Jacket Coolant Heater: Electric-immersion type, factory installed in coolant jacket system. Comply with NFPA 110 requirements for Level 1 equipment for heater capacity.
- E. Cooling System: Closed loop, liquid cooled, with radiator factory mounted on engine-generator-set mounting frame and integral engine-driven coolant pump.

1. Coolant: Solution of 50 percent ethylene-glycol-based antifreeze and 50 percent water, with anticorrosion additives as recommended by engine manufacturer.
 2. Size of Radiator: Adequate to contain expansion of total system coolant from cold start to 110 percent load condition.
 3. Expansion Tank: Constructed of welded steel plate and rated to withstand maximum closed-loop coolant system pressure for engine used. Equip with gage glass and petcock.
 4. Temperature Control: Self-contained, thermostatic-control valve modulates coolant flow automatically to maintain optimum constant coolant temperature as recommended by engine manufacturer.
- F. Muffler/Silencer: Critical type, sized as recommended by engine manufacturer and selected with exhaust piping system to not exceed engine manufacturer's engine backpressure requirements.
1. Minimum sound attenuation of 25 dB at 500 Hz.
 2. Sound level measured at a distance of 25 feet from exhaust discharge after installation is complete shall be 78 dBA or less.
- G. Air-Intake Filter: Heavy-duty, engine-mounted air cleaner with replaceable dry-filter element and "blocked filter" indicator.
- H. Starting System: 24-V electric, with negative ground.
1. Components: Sized so they are not damaged during a full engine-cranking cycle with ambient temperature at maximum specified in "Performance Requirements" Article.
 2. Cranking Motor: Heavy-duty unit that automatically engages and releases from engine flywheel without binding.
 3. Cranking Cycle: As required by NFPA 110 for system level specified.
 4. Battery: Nicad, with capacity within ambient temperature range specified in "Performance Requirements" Article to provide specified cranking cycle at least three times without recharging.
 5. Battery Stand: Factory-fabricated, two-tier metal with acid-resistant finish designed to hold the quantity of battery cells required and to maintain the arrangement to minimize lengths of battery interconnections.
 6. Battery Charger: Current-limiting, automatic-equalizing and float-charging type designed for Nicad batteries. Unit shall comply with UL 1236.

2.5 CONTROL AND MONITORING

- A. Automatic Starting System Sequence of Operation: When mode-selector switch on the control and monitoring panel is in the automatic position, remote-control contacts in one or more separate automatic transfer switches initiate starting and stopping of generator set. When mode-selector switch is switched to the on position, generator set starts. The off position of same switch initiates generator-set shutdown. When generator set is running, specified system or equipment failures or derangements automatically shut down generator set and initiate alarms.
- B. Provide minimum run time control set for 30 minutes with override only by operation of an emergency-stop switch.
- C. Comply with UL 508A.
- D. Configuration: Operating and safety indications, protective devices, basic system controls, and engine gages shall be grouped in a common control and monitoring panel mounted on the

generator set. Mounting method shall isolate the control panel from generator-set vibration. Panel shall be powered from the engine-generator set battery.

- E. Configuration: Operating and safety indications, protective devices, basic system controls, and engine gages shall be grouped in a common wall-mounted control and monitoring panel. Panel shall be powered from the engine-generator set battery.
1. Wall-Mounting Cabinet Construction: Rigid, self-supporting steel unit complying with NEMA ICS 6. Power bus shall be copper. Bus, bus supports, control wiring, and temperature rise shall comply with UL 891.
- F. Indicating Devices: As required by NFPA 110 for Level 1 system, including the following:
1. AC voltmeter.
 2. AC ammeter.
 3. AC frequency meter.
 4. EPS supplying load indicator.
 5. Ammeter and voltmeter phase-selector switches.
 6. DC voltmeter (alternator battery charging).
 7. Engine-coolant temperature gage.
 8. Engine lubricating-oil pressure gage.
 9. Running-time meter.
 10. Current and Potential Transformers: Instrument accuracy class.
- G. Protective Devices and Controls in Local Control Panel: Shutdown devices and common visual alarm indication as required by NFPA 110 for Level 1 system, including the following:
1. Start-stop switch.
 2. Over-crank shutdown device.
 3. Overspeed shutdown device.
 4. Coolant high-temperature shutdown device.
 5. Coolant low-level shutdown device.
 6. Low lube oil pressure shutdown device.
 7. Air shutdown damper shutdown device when used.
 8. Over-crank alarm.
 9. Overspeed alarm.
 10. Coolant high-temperature alarm.
 11. Coolant low-temperature alarm.
 12. Coolant low-level alarm.
 13. Low lube oil pressure alarm.
 14. Air shutdown damper alarm when used.
 15. Lamp test.
 16. Contacts for local common alarm.
 17. Coolant high-temperature pre-alarm.
 18. Generator-voltage adjusting rheostat.
 19. Run-Off-Auto switch.
 20. Control switch not in automatic position alarm.
 21. Low cranking voltage alarm.
 22. Battery-charger malfunction alarm.
 23. Battery low-voltage alarm.
 24. Battery high-voltage alarm.
 25. Generator overcurrent protective device not closed alarm.

- H. Supporting Items: Include sensors, transducers, terminals, relays, and other devices and include wiring required to support specified items. Locate sensors and other supporting items on engine or generator, unless otherwise indicated.
- I. Supporting Items: Include sensors, transducers, terminals, relays, and other devices and include wiring required to support specified items. Locate sensors and other supporting items on engine or generator, unless otherwise indicated.

2.6 GENERATOR OVERCURRENT AND FAULT PROTECTION

- A. Overcurrent protective devices for the entire EPSS shall be coordinated to optimize selective tripping when a short circuit occurs. Coordination of protective devices shall consider both utility and EPSS as the voltage source.
 - 1. Overcurrent protective devices for the EPSS shall be accessible only to authorized personnel.
- B. Generator Circuit Breaker: Molded-case, electronic-trip type; 100 percent rated; complying with UL 489.
 - 1. Tripping Characteristics: Adjustable long-time and short-time delay and instantaneous.
 - 2. Trip Settings: Selected to coordinate with generator thermal damage curve.
 - 3. Shunt Trip: Connected to trip breaker when generator set is shut down by other protective devices.
 - 4. Mounting: Adjacent to or integrated with control and monitoring panel.
- C. Ground-Fault Indication: Comply with NFPA 70, "Emergency System" signals for ground fault.
 - 1. Indicate ground fault with other generator-set alarm indications.
 - 2. Trip generator protective device on ground fault.

2.7 GENERATOR, EXCITER, AND VOLTAGE REGULATOR

- A. Comply with NEMA MG 1.
- B. Drive: Generator shaft shall be directly connected to engine shaft. Exciter shall be rotated integrally with generator rotor.
- C. Electrical Insulation: Class H or Class F.
- D. Stator-Winding Leads: Brought out to terminal box to permit future reconnection for other voltages if required. Provide six lead alternator.
- E. Range: Provide extended range of output voltage by adjusting the excitation level.
- F. Construction shall prevent mechanical, electrical, and thermal damage due to vibration, overspeed up to 125 percent of rating, and heat during operation at 110 percent of rated capacity.
- G. Enclosure: Drip-proof.
- H. Instrument Transformers: Mounted within generator enclosure.

- I. Voltage Regulator: Solid-state type, separate from exciter, providing performance as specified and as required by NFPA 110.
 - 1. Adjusting Rheostat on Control and Monitoring Panel: Provide plus or minus 5 percent adjustment of output-voltage operating band.
- J. Strip Heater: Thermostatically controlled unit arranged to maintain stator windings above dew point.
- K. Windings: Two-thirds pitch stator winding and fully linked amortisseur winding.
- L. Subtransient Reactance: 12 percent, maximum.

2.8 OUTDOOR GENERATOR-SET ENCLOSURE

- A. Description: ~~Walk-in~~, Vandal-resistant, sound-attenuating, weatherproof steel housing, wind resistant up to 100 mph. Multiple panels shall be lockable and provide adequate access to components requiring maintenance. Panels shall be removable by one person without tools. Instruments and control shall be mounted within enclosure.
- B. Engine Cooling Airflow through Enclosure: Maintain temperature rise of system components within required limits when unit operates at 110 percent of rated load for 2 hours with ambient temperature at top of range specified in system service conditions.
 - 1. Louvers: Fixed-engine, cooling-air inlet and discharge. Storm-proof and drainable louvers prevent entry of rain and snow.
 - 2. Automatic Dampers: At engine cooling-air inlet and discharge. Dampers shall be closed to reduce enclosure heat loss in cold weather when unit is not operating.
 - 3. Ventilation: Provide temperature-controlled exhaust fan interlocked to prevent operation when engine is running.
- C. Interior Lights with Switch: Factory-wired, vapor-proof fixtures within housing; arranged to illuminate controls and accessible interior. Arrange for external electrical connection.
 - 1. AC lighting system and connection point for operation when remote source is available.
 - 2. DC lighting system for operation when remote source and generator are both unavailable.
- D. Convenience Outlets: Factory wired, GFCI. Arrange for external electrical connection.

2.9 FINISHES

- A. Indoor and Outdoor Enclosures and Components: Manufacturer's standard finish over corrosion-resistant pretreatment and compatible primer.

2.10 SOURCE QUALITY CONTROL

- A. Prototype Testing: Factory test engine-generator set using same engine model, constructed of identical or equivalent components and equipped with identical or equivalent accessories.
 - 1. Tests: Comply with NFPA 110, Level 1 Energy Converters and with IEEE 115.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with packaged engine-generator manufacturers' written installation and alignment instructions and with NFPA 110.
- B. Equipment Mounting:
 - 1. Install packaged engine generators on existing cast-in-place concrete equipment base.
 - 2. Coordinate size and location of concrete bases for packaged engine generators. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified with concrete.
- C. Install packaged engine-generator to provide access, without removing connections or accessories, for periodic maintenance.
- D. Install engine-generator in a ~~walk-in~~ **weatherproof** enclosure. Secure enclosure to anchor bolts installed in concrete bases.
- E. Install Schedule 40, black steel piping with welded joints and connect to engine muffler. Install thimble at wall. Piping shall be same diameter as muffler outlet.
 - 1. Install isolating thimbles where exhaust piping penetrates combustible surfaces with a minimum of 9 inches clearance from combustibles.
- F. Install condensate drain piping to muffler drain outlet full size of drain connection with a shutoff valve, stainless-steel flexible connector, and Schedule 40, black steel pipe with welded joints.
- G. Copper and galvanized steel shall not be used in the fuel-oil piping system.
- H. Electrical Wiring: Install electrical devices furnished by equipment manufacturers but not specified to be factory mounted.

3.2 CONNECTIONS

- A. Connect cooling-system water piping to engine-generator set and heat exchanger with flexible connectors.
- B. Connect engine exhaust pipe to engine with flexible connector.
- C. Ground equipment according to NEC.
- D. Connect wiring according to NEC. Provide a minimum of one 90-degree bend in flexible conduit routed to the generator set from a stationary element.
- E. Balance single-phase loads to obtain a maximum of 10 percent unbalance between any two phases.

3.3 IDENTIFICATION

- A. Identify system components according to owner requirements.
- B. Install a sign indicating the generator neutral is bonded to the main service neutral at the main service location.

3.4 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
 - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections.
- B. Tests and Inspections:
 - 1. Perform tests recommended by manufacturer and each visual and mechanical inspection and electrical and mechanical test listed in the first two subparagraphs as specified in NETA Acceptance Testing Specification. Certify compliance with test parameters.
 - a. Visual and Mechanical Inspection
 - 1) Compare equipment nameplate data with drawings and specifications.
 - 2) Inspect physical and mechanical condition.
 - 3) Inspect anchorage, alignment, and grounding.
 - 4) Verify the unit is clean.
 - b. Electrical and Mechanical Tests
 - 1) Perform insulation-resistance tests in accordance with IEEE 43.
 - a) Machines larger than 200 horsepower. Test duration shall be 10 minutes. Calculate polarization index.
 - b) Machines 200 horsepower or less. Test duration shall be one minute. Calculate the dielectric-absorption ratio.
 - 2) Test protective relay devices.
 - 3) Verify phase rotation, phasing, and synchronized operation as required by the application.
 - 4) Functionally test engine shutdown for low oil pressure, overtemperature, overspeed, and other protection features as applicable.
 - 5) Conduct performance test in accordance with NFPA 110.
 - 6) Verify correct functioning of the governor and regulator.
 - 2. NFPA 110 Acceptance Tests: Perform tests required by NFPA 110 that are additional to those specified here including, but not limited to, single-step full-load pickup test.
 - 3. Battery Tests: Equalize charging of battery cells according to manufacturer's written instructions. Record individual cell voltages.
 - a. Measure charging voltage and voltages between available battery terminals for full-charging and float-charging conditions. Check electrolyte level and specific gravity under both conditions.

- b. Test for contact integrity of all connectors. Perform an integrity load test and a capacity load test for the battery.
 - c. Verify acceptance of charge for each element of the battery after discharge.
 - d. Verify that measurements are within manufacturer's specifications.
 4. Battery-Charger Tests: Verify specified rates of charge for both equalizing and float-charging conditions.
 5. System Integrity Tests: Methodically verify proper installation, connection, and integrity of each element of engine-generator system before and during system operation. Check for air, exhaust, and fluid leaks.
 6. Exhaust-System Back-Pressure Test: Use a manometer with a scale exceeding 40-inch wg. Connect to exhaust line close to engine exhaust manifold. Verify that back pressure at full-rated load is within manufacturer's written allowable limits for the engine.
 7. Exhaust Emissions Test: Comply with applicable government test criteria.
 8. Voltage and Frequency Transient Stability Tests: Use recording oscilloscope to measure voltage and frequency transients for 50 and 100 percent step-load increases and decreases, and verify that performance is as specified.
 9. Harmonic-Content Tests: Measure harmonic content of output voltage at 25 percent and 100 percent of rated linear load. Verify that harmonic content is within specified limits.
- C. Coordinate tests with tests for transfer switches and run them concurrently.
- D. Test instruments shall have been calibrated within the last 12 months, traceable to NIST Calibration Services, and adequate for making positive observation of test results. Make calibration records available for examination on request.
- E. Leak Test: After installation, charge exhaust, coolant, and fuel systems and test for leaks. Repair leaks and retest until no leaks exist.
- F. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation for generator and associated equipment.
- G. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- H. Remove and replace malfunctioning units and retest as specified above.
- I. Retest: Correct deficiencies identified by tests and observations and retest until specified requirements are met.
- J. Report results of tests and inspections in writing. Record adjustable relay settings and measured insulation resistances, time delays, and other values and observations. Attach a label or tag to each tested component indicating satisfactory completion of tests.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain packaged engine generators.

END OF SECTION