

# FERRY TERMINAL RENOVATION

100 Grinnell Street  
KEY WEST, FLORIDA

WILLIAM P. HORN  
ARCHITECT, P.A.

915 EATON ST.  
KEY WEST,  
FLORIDA  
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LICENSE NO.  
AR 13537

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RENOVATION  
100 Grinnell Street  
KEY WEST, FLORIDA.

SEAL

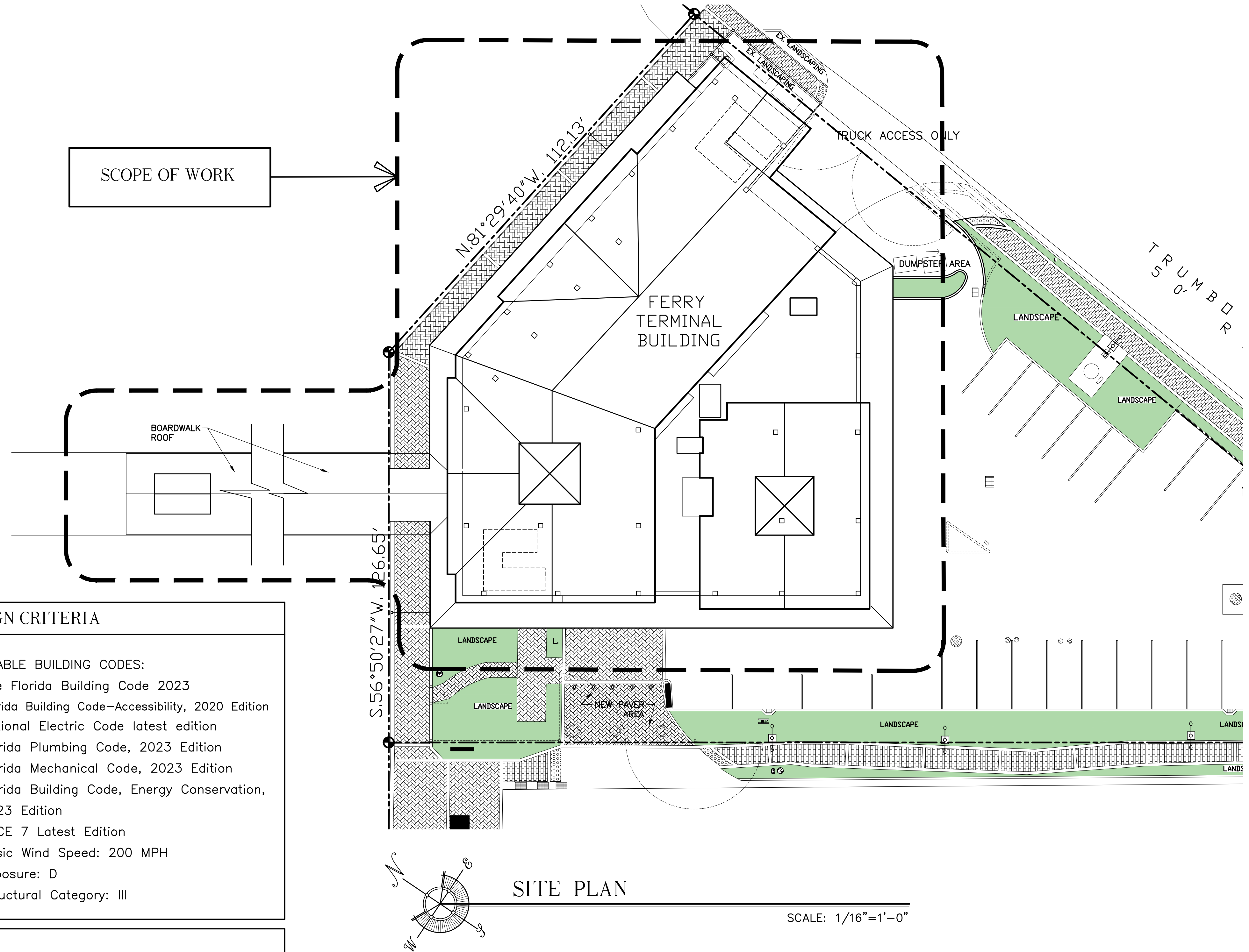
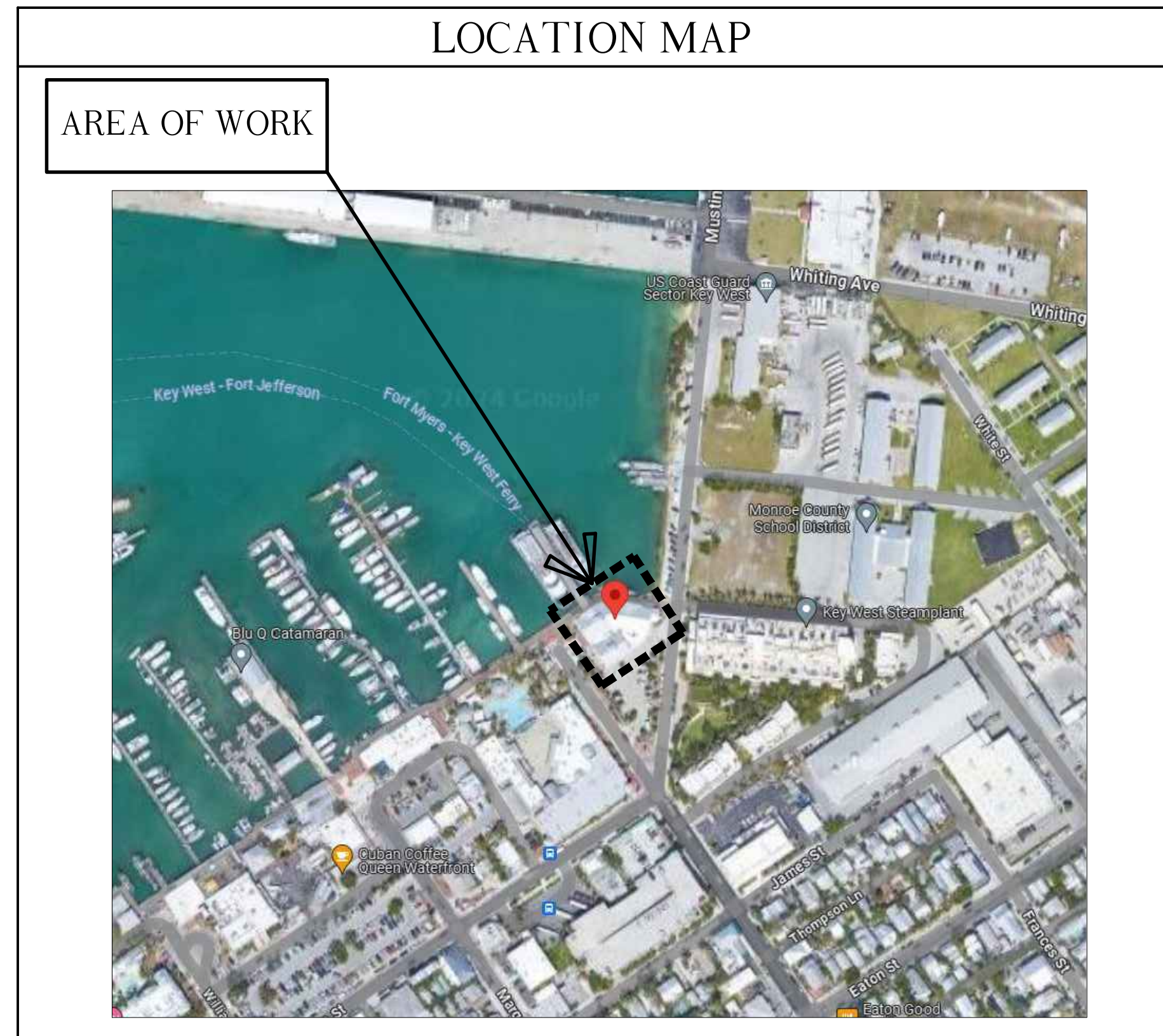
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WILLIAM P. HORN

DATE  
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REVISIONS  
08-08-2024 REVISION #1

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PROJECT  
NUMBER  
2312



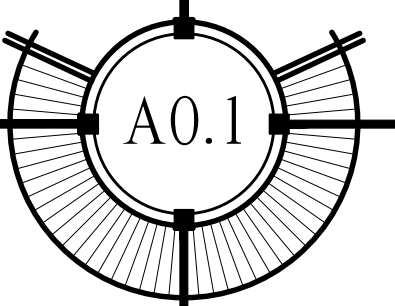
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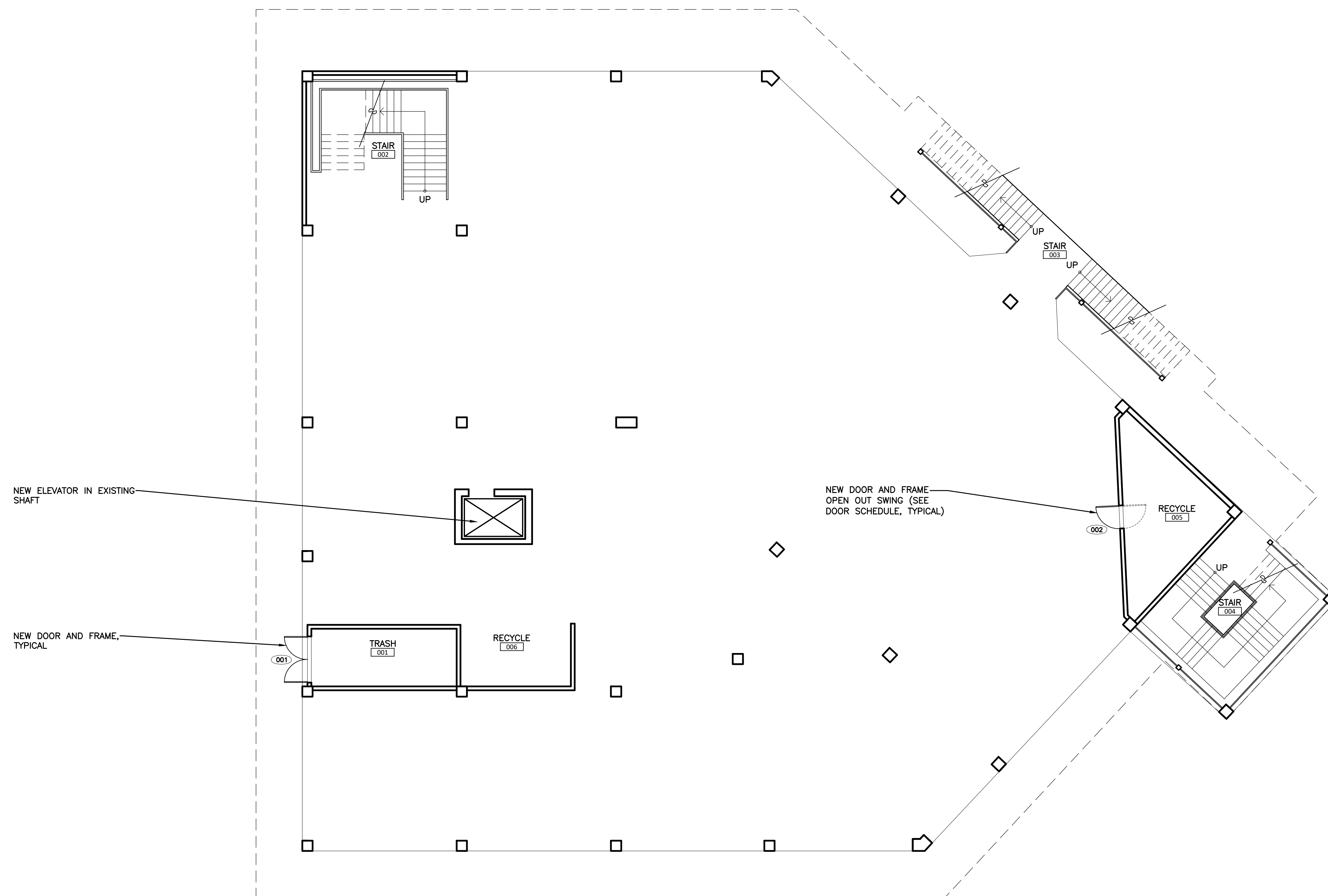
KEY PERSONNEL	
<b>ARCHITECT:</b> WILLIAM P. HORN ARCHITECT, P.A. 915 EATON ST. KEY WEST, FL 33040 TEL. (305) 296-8302	<b>STRUCTURAL ENGINEERING:</b> ARTIBUS DESIGN LLC SERGE MASHTAKOV, PE 3710 N ROOSEVELT BLVD. KEY WEST, FL 33040 TEL. (305) 304-3512
<b>OWNER:</b> CITY OF KEY WEST KAREN OLSON DEPUTY DIRECTOR OF PORT & MARINA SERVICES 1300 WHITE STREET KEY WEST, FLORIDA 33040 TEL. (305) 809-3803	<b>TETRA TECH, INC.</b> 759 SW FEDERAL HWY, SUITE 314 STUART, FL 34994 TEL. (772) 781-3440

DESIGN CRITERIA
APPLICABLE BUILDING CODES:
<ul style="list-style-type: none"> <li>The Florida Building Code 2023</li> <li>Florida Building Code-Accessibility, 2020 Edition</li> <li>National Electric Code latest edition</li> <li>Florida Plumbing Code, 2023 Edition</li> <li>Florida Mechanical Code, 2023 Edition</li> <li>Florida Building Code, Energy Conservation, 2023 Edition</li> <li>ASCE 7 Latest Edition</li> <li>Basic Wind Speed: 200 MPH</li> <li>Exposure: D</li> <li>Structural Category: III</li> </ul>

SCOPE OF WORK
WORK INCLUDES REPLACING ALL EXISTING EXTERIOR DOORS, STOREFRONT WINDOWS AND LOUVERS WITH ALL NEW IMPACT RATED EXTERIOR DOORS, STOREFRONT WINDOWS AND LOUVERS. WORK ALSO INCLUDES REPLACING ALL EXISTING ROOFING WITH NEW ROOF SYSTEMS AND RE-PAINTING THE ENTIRE EXTERIOR OF THE BUILDING AS PER SPECIFICATIONS. THE EXISTING ELEVATOR WILL BE REPLACED WITH A NEW ELEVATOR. REVIEW THE DRAWINGS AND SPECIFICATIONS FOR THE FULL SCOPE OF WORK.

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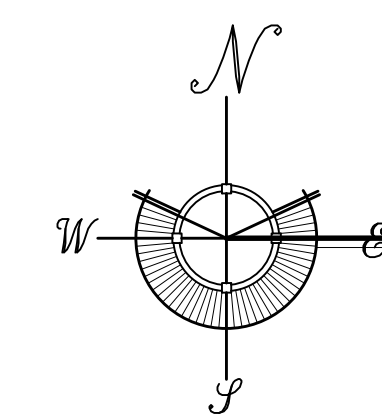




NEW ELEVATOR IN EXISTING  
SHAFT

NEW DOOR AND FRAME,  
TYPICAL

NEW DOOR AND FRAME  
OPEN OUT SWING (SEE  
DOOR SCHEDULE, TYPICAL)



PROPOSED GROUND FLOOR PLAN

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

SEAL

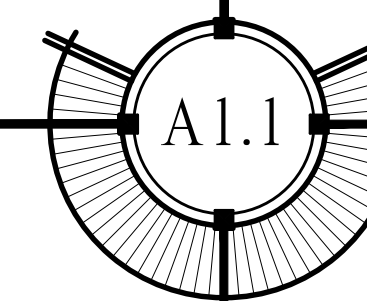
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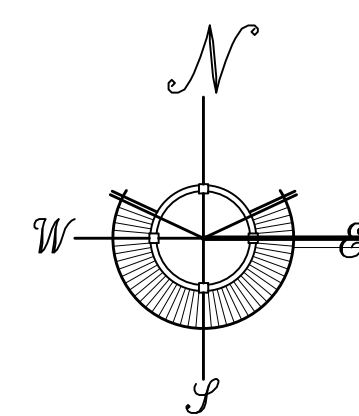
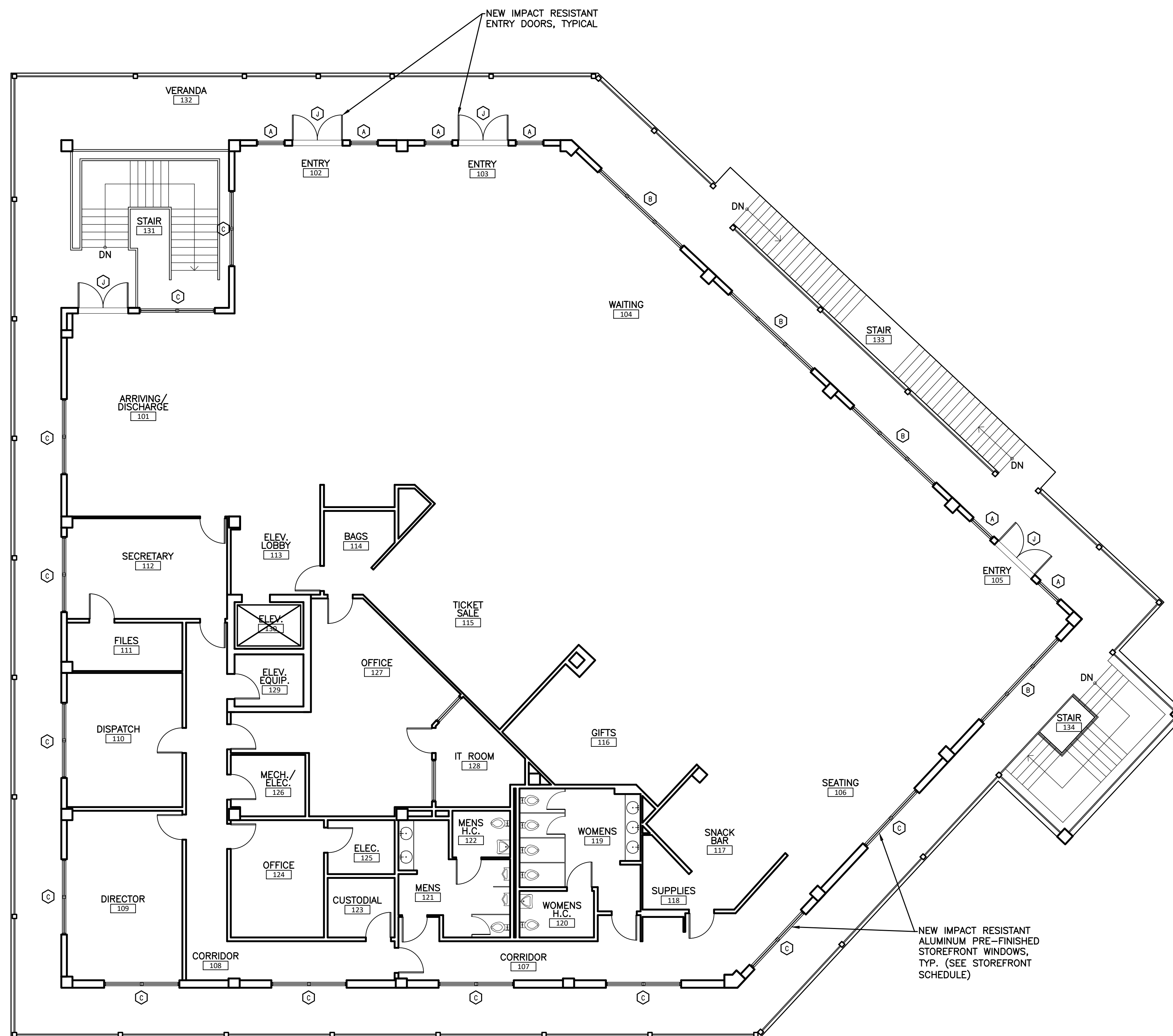
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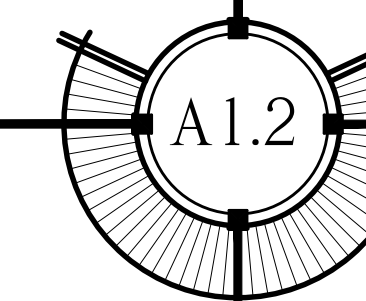
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PROPOSED FIRST FLOOR PLAN

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

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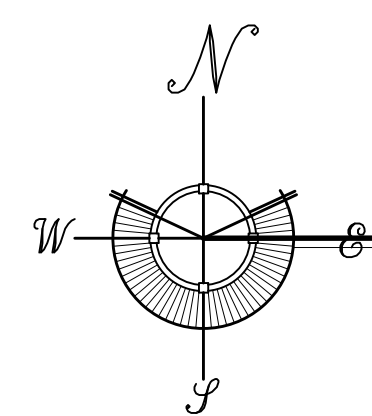
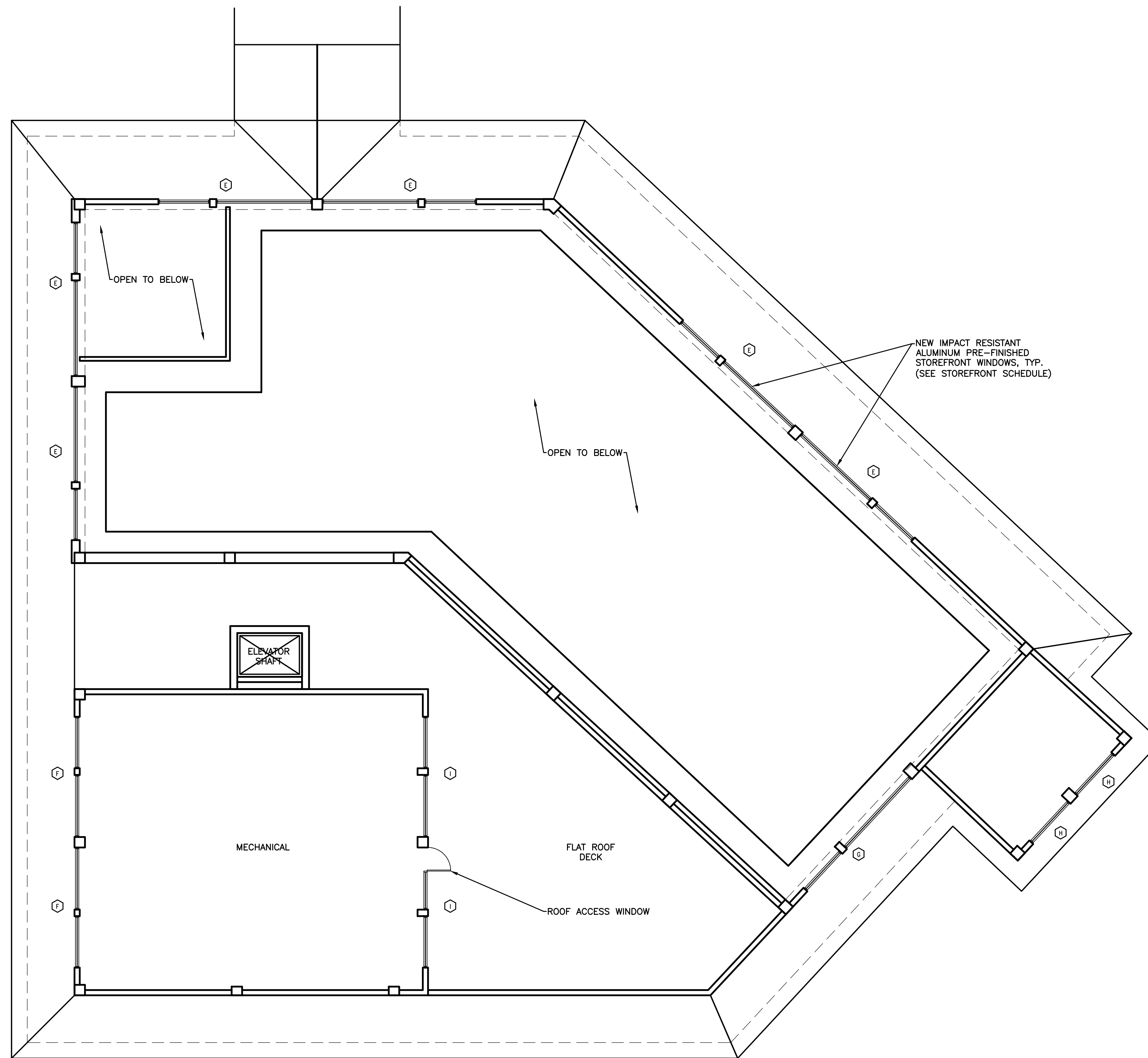
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PROPOSED CLEAR STORY PLAN

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

SCOPE OF NEW ROOF WORK

THE BUILDING SHALL BE OCCUPIED AND OPERATIONAL THROUGHOUT THE COURSE OF THE WORK. ROOF REPLACEMENT; SHALL CONSIST OF THE REMOVAL OF ALL EXISTING SINGLE PLY MEMBRANE ROOFING, FLASHING AND PARAPET TREATMENTS AND EXISTING 5-V-CRIMP GALVANIZED METAL ROOFING. NEW WORK TO INCLUDE INSTALLATION OF A FULLY ADHERED FIBERTITE, 50 MIL, SINGLE PLY ROOFING SYSTEM (BASIS OF DESIGN) OR EQUAL OVER RIGID SLOPED INSULATION TO MATCH EXISTING. ALL IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND WARRANTY REQUIREMENTS AS WELL AS THESE CONTRACT DOCUMENTS INCLUDING SPECIFICATIONS. THE WORK WILL INCLUDE REVISED FLASHING AND COPING DETAILS FOR THE EXISTING RAISED CURB/PARAPET AROUND THE PERIMETER OF THE FLAT ROOF. NEW WORK INCLUDES INSTALLATION OF A NEW GALVANIZED METAL STANDING SEAM ROOFING SYSTEM OVER GRACE ULTRA HIGH TEMP. SELF ADHERED MEMBRANE. PROVIDE AN ALTERNATE PRICE FOR AN ALUMINUM STANDING SEAM ROOF WITH A 20 YEAR WARRANTY.

NEW ROOFING SYSTEM DETAILS SHALL BE APPLIED TO EXISTING CONDITIONS INCLUDING CURBS, PENETRATIONS, VENTS, SCUPPERS, CABLE WAYS. SEE DRAWINGS AND SPECIFICATIONS.

ANY DISRUPTION OF EXISTING FUNCTIONS, OR SERVICES, SHALL BE COORDINATED WITH THE OWNER. NO DISRUPTION OF COMMUNICATIONS WILL BE ALLOWED.

ALTERNATE SECONDARY WATERPROOFING SYSTEM

PROVIDE AN ALTERNATE PRICE TO ADD A SECONDARY WATERPROOFING SYSTEM TO THE EXISTING CONCRETE DECK (FLAT ROOF AREA) AS PER SPEC SECTION 075600.

LIGHTNING PROTECTION

CONTRACTOR TO PROVIDE A PRICE FOR DESIGNING AND INSTALLING A LIGHTNING PROTECTION SYSTEM. CONTRACTOR TO HAVE A FLORIDA REGISTERED ENGINEER SIGN AND SEAL DRAWINGS OF THE COMPLETE SYSTEM TO SUBMIT TO BUILDING DEPARTMENT FOR PERMIT AND CONSTRUCTION.

ROOFING ASSEMBLY - FLAT ROOF

BASIS OF DESIGN: FIBERTITE BY SEAMAN CORP., FIBER TITE-XT 50 MIL MEMBRANE ROOFING ASSEMBLY. DETAILS OF INSTALLATION INCLUDING FASTENERS AND MATERIALS SHALL BE IN ACCORDANCE WITH FLORIDA PRODUCT APPROVAL. INDICATING COMPLIANCE WITH PROJECT WINDLOAD REQUIREMENTS. THE INSTALLATION SHALL COMPLY WITH THE MANUFACTURERS REQUIREMENTS AND RECOMMENDATIONS, THE LATEST INDUSTRY STANDARDS AND THE CONTRACT DOCUMENTS.

PROVIDE A FULL SHOPDRAWING SUBMITTAL INCLUDING COMPLIANCE WITH PROJECT WIND LOADS AND ALL ACCESSORIES AND DETAILS REQUIRED FOR A COMPLETE WATERTIGHT INSTALLATION. REFER TO STRUCTURAL DRAWINGS FOR DESIGN PRESSURES. PROVIDE A 20 YEAR STANDARD WATER TIGHT UNLIMITED WARRANTY. BASIS OF DESIGN FIBERTITE FBC FL49 30-R23, SYSTEM C-12, C-VB-8.

METAL ROOFING - STANDING SEAM ROOFING

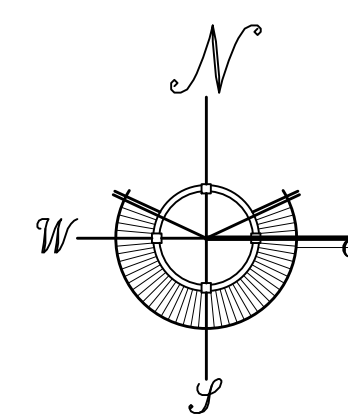
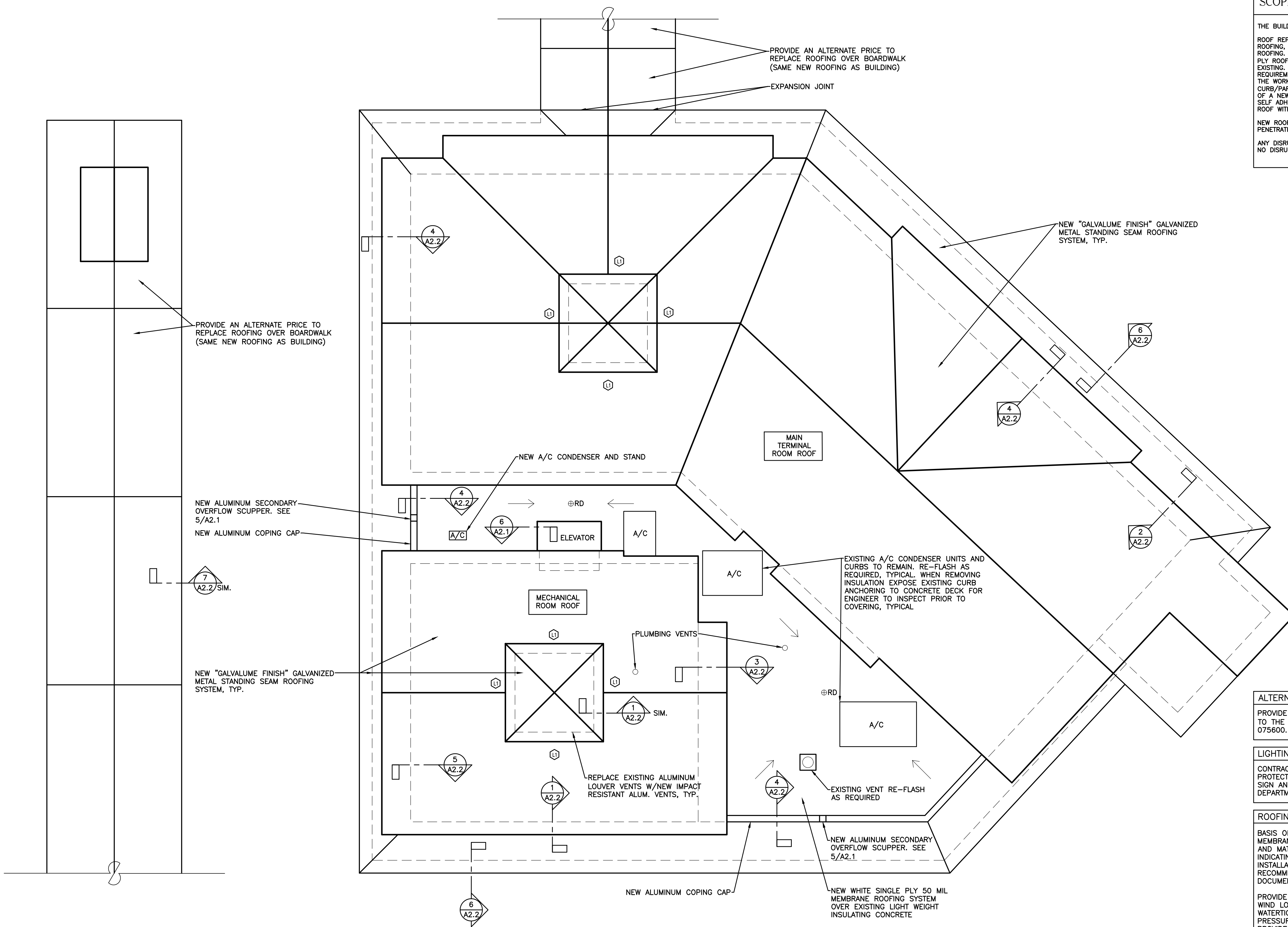
BASIS OF DESIGN: ENGLERT, INC. SERIES 1300, FL 11727.1 R17 (-165 PSF)

ALUMINUM ROOFING - STANDING SEAM ROOFING

BASIS OF DESIGN: ENGLERT, INC. SERIES 1300, FL 11727.2 R17 (-180 PSF)

ROOF NOTE

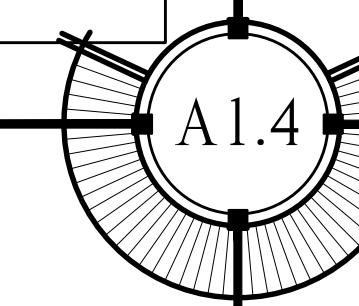
1. DUE TO THE EXISTING BUILDINGS GABLE ROOFING HAVING WOOD DECKING WE ARE NOT ABLE TO FIND A STANDING SEAM ROOF SYSTEM THAT HAS RATED PRESSURES HIGHER THAN THE STRUCTURAL ENGINEERS -231.82 (ZONE 3) NEGATIVE DESIGN PRESSURE. THE BASIS OF DESIGN SHOWN HERE ARE AS CLOSE AS WE COULD GET TO THE DESIGN PRESSURE. IF THE ROOF DECKING WAS METAL, WE WOULD BE ABLE TO EXCEED DESIGN PRESSURES.
2. THE EXISTING BUILDING WAS CONSTRUCTED IN 1998 TO 115 MPH WIND SPEED. OUR NEW DESIGN PRESSURES ARE BASED ON 200 MPH WIND SPEED.

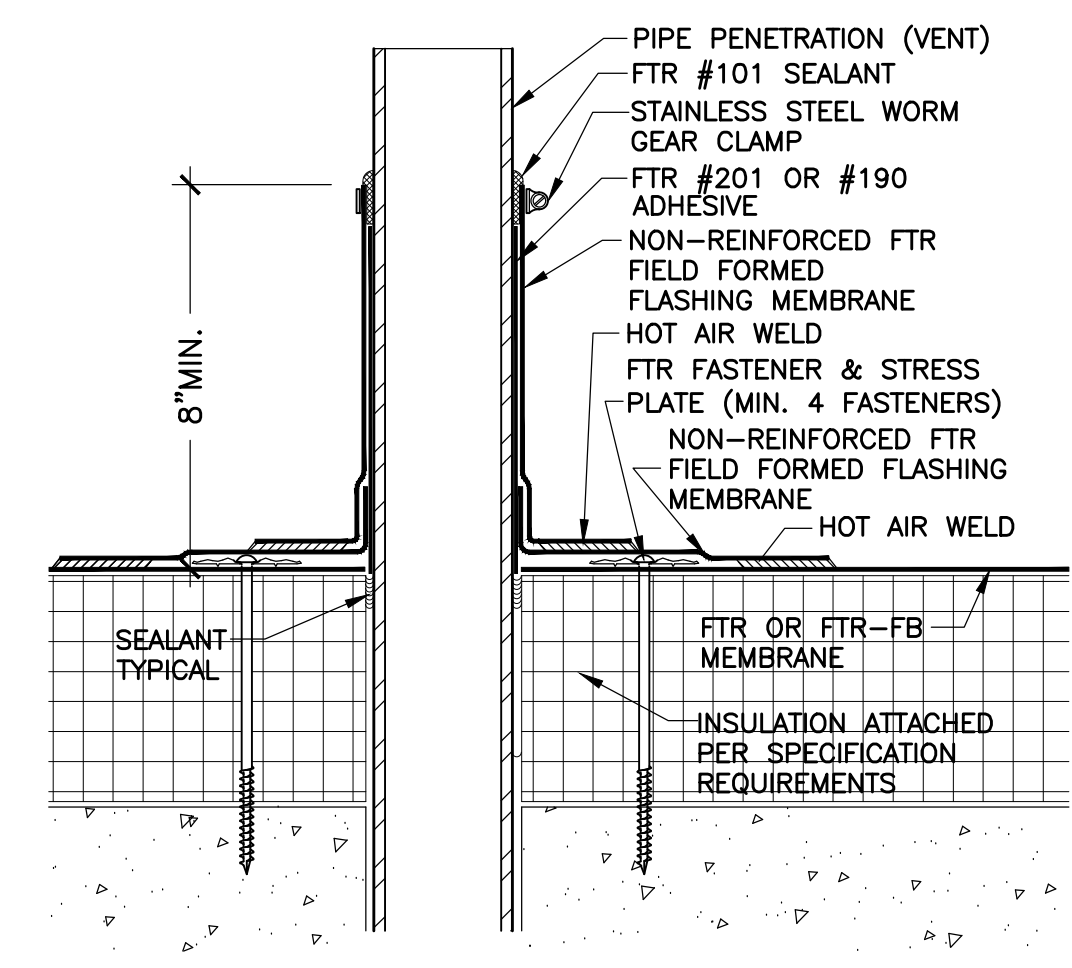


PROPOSED ROOF PLAN

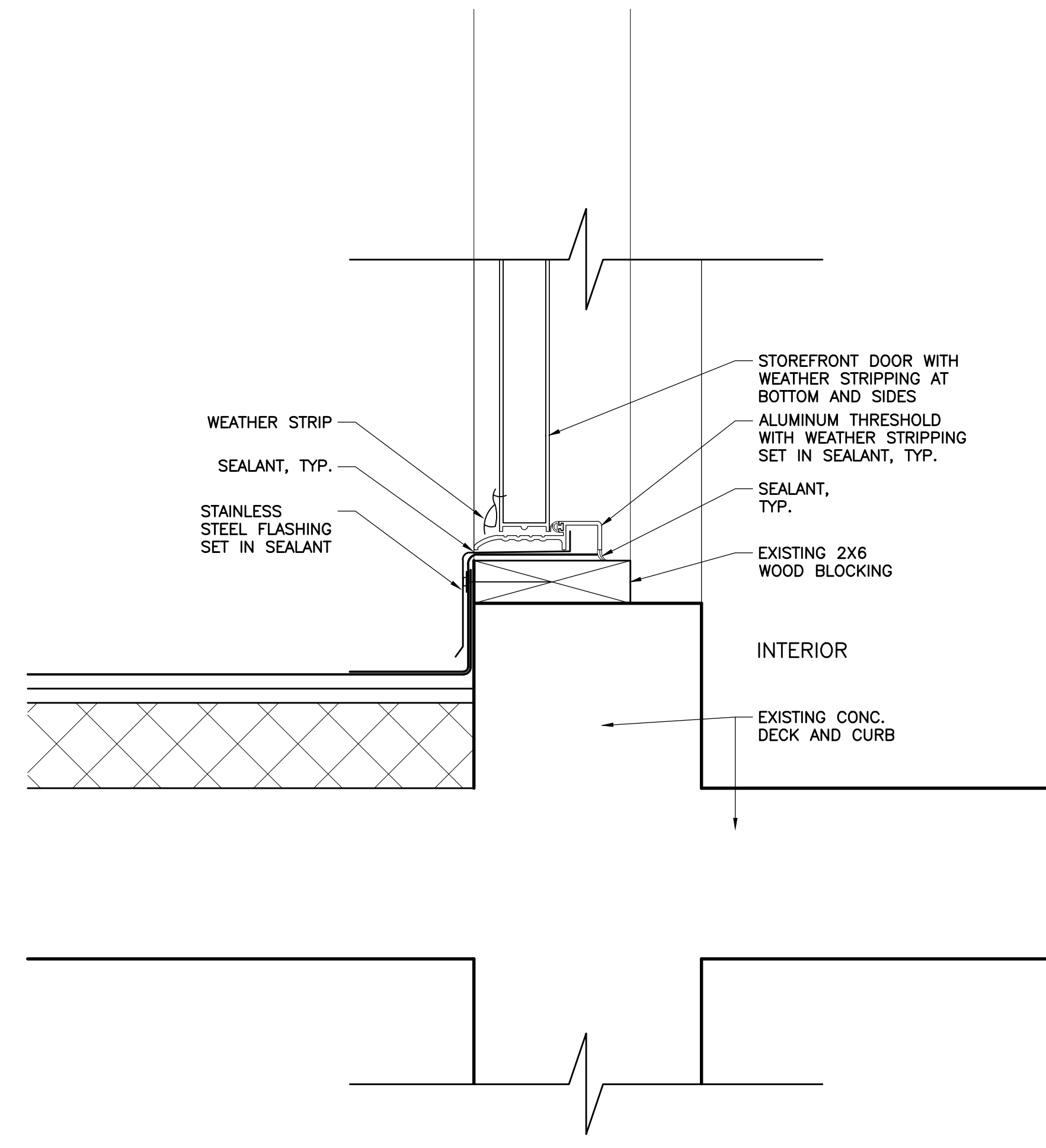
SCALE: 1/8"=1'-0"

DOCK ROOF (CONTINUED)

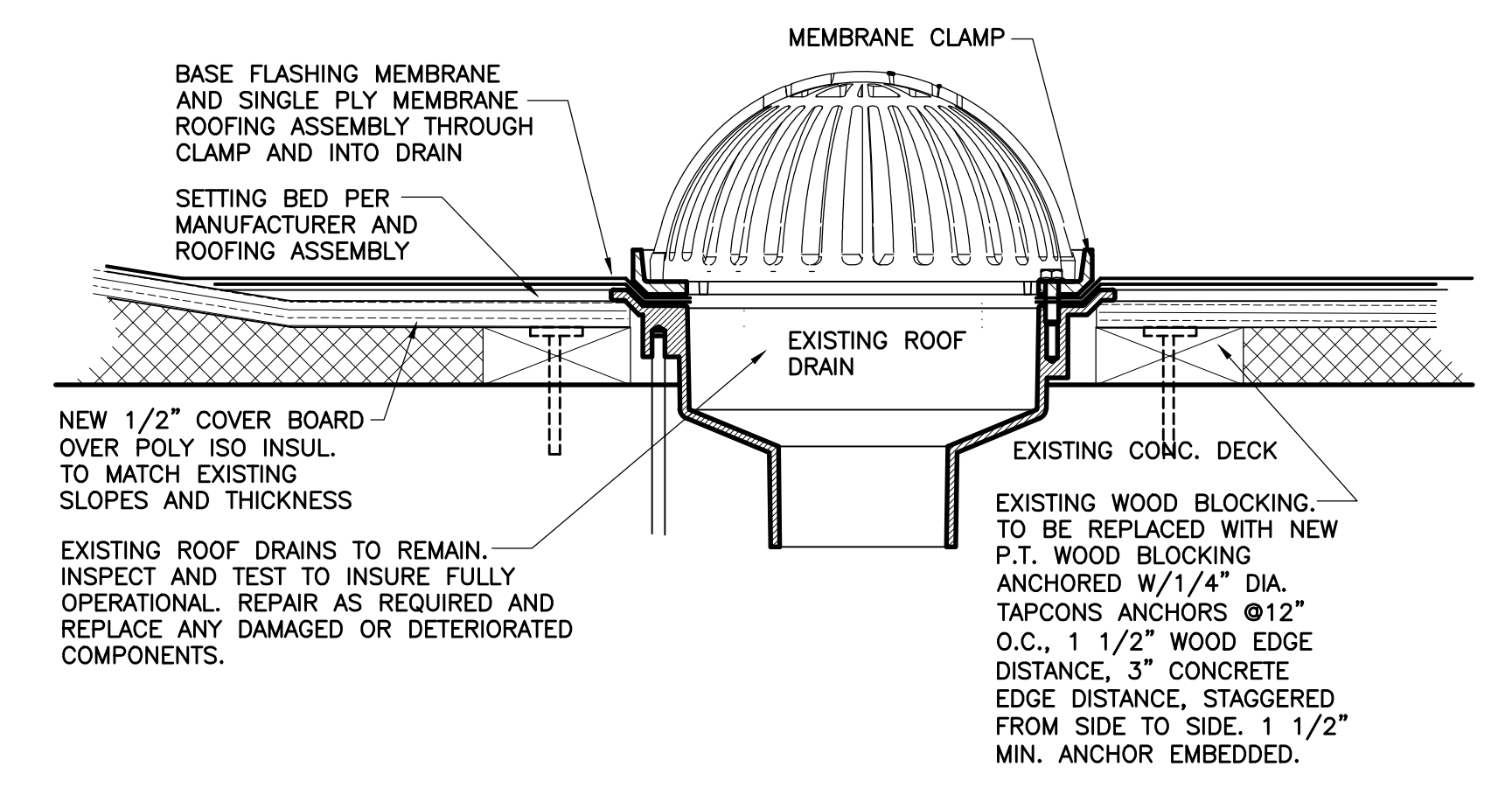




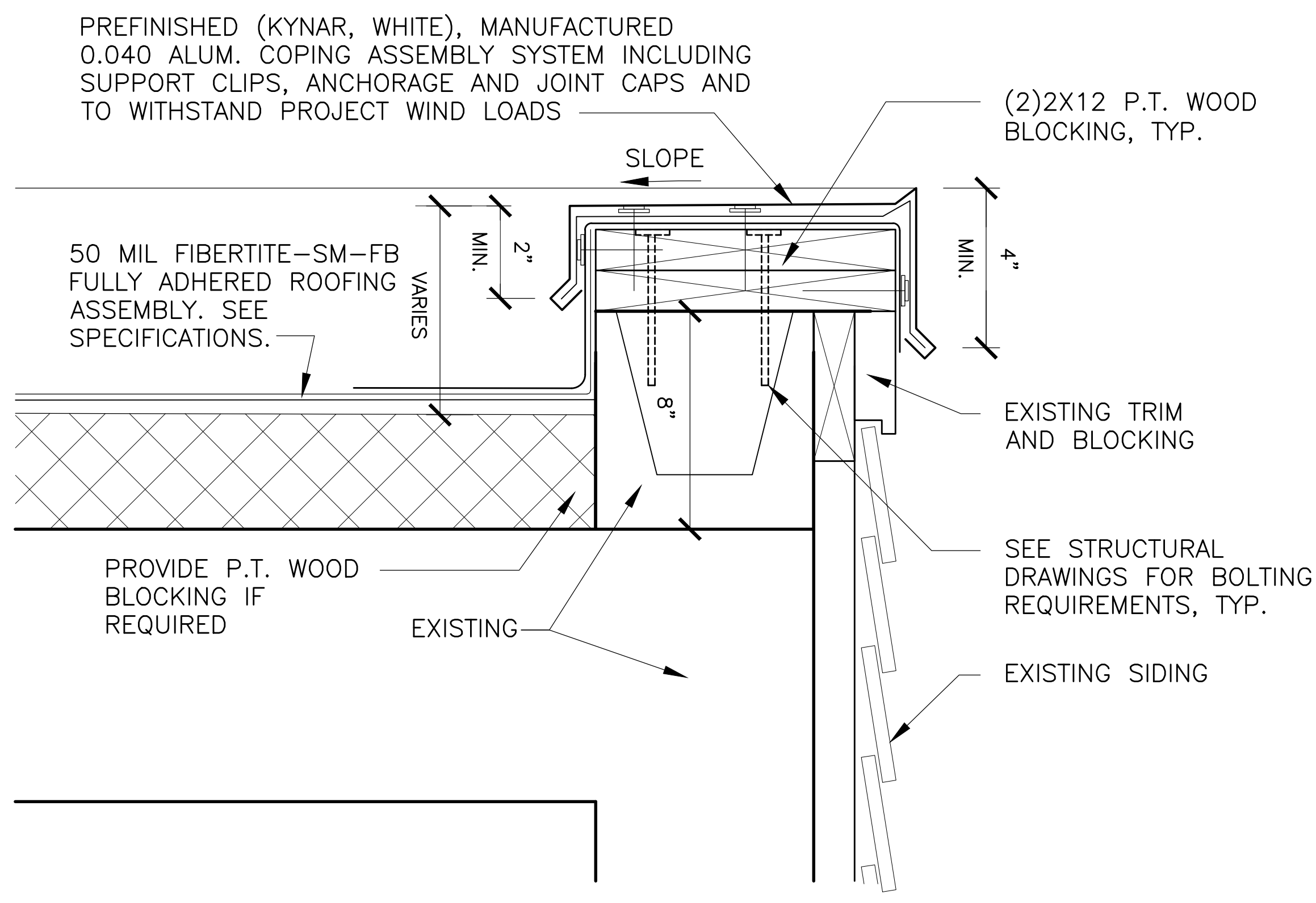
1 PENETRATION FLASHING  
A2.1 3"=1'-0"



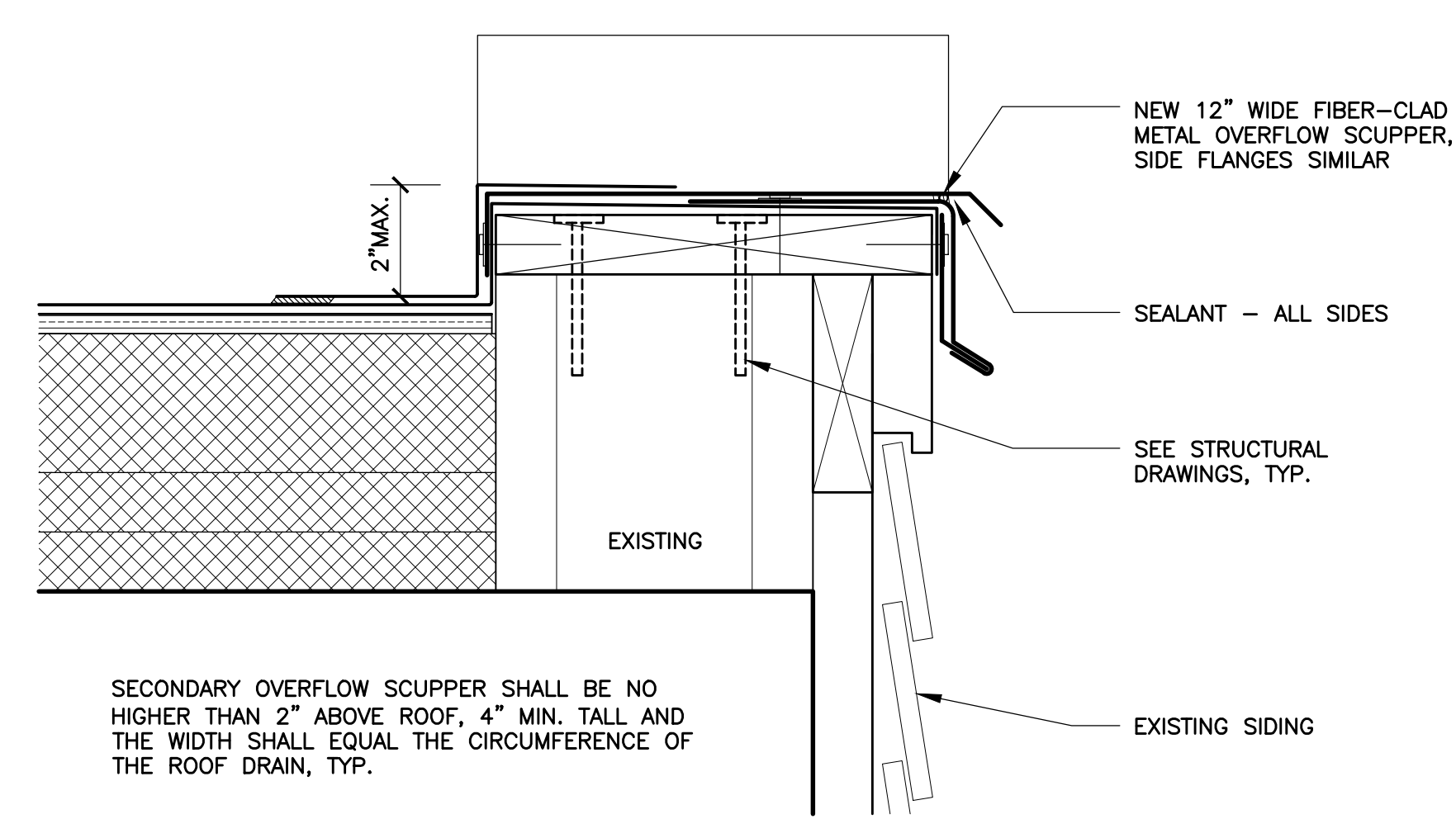
3 DOOR SILL DETAIL  
A2.1 3"=1'-0"



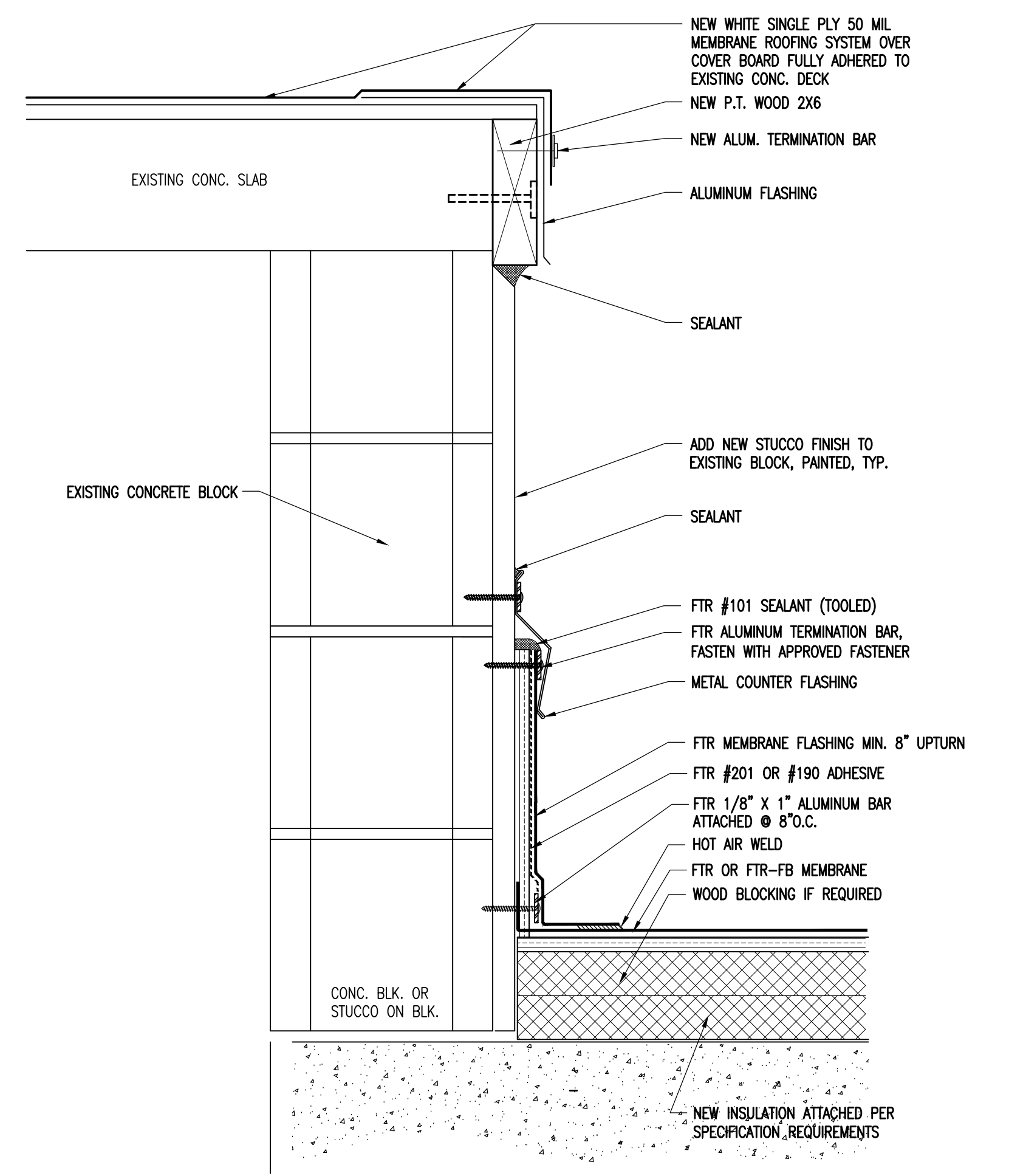
2 ROOF DRAIN DETAIL  
A2.1 3"=1'-0"



4 COPING CAP DETAIL  
A2.1 3"=1'-0"



5 COPING CAP SECONDARY OVER FLOW DETAIL  
A2.1 3"=1'-0"



6 WALL FLASHING DETAIL  
A2.1 3"=1'-0"

SEAL

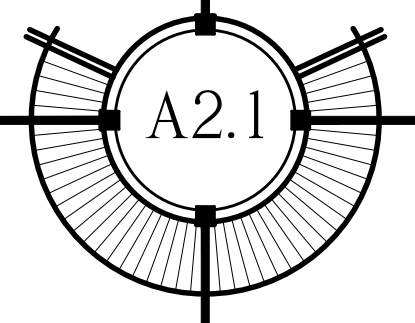
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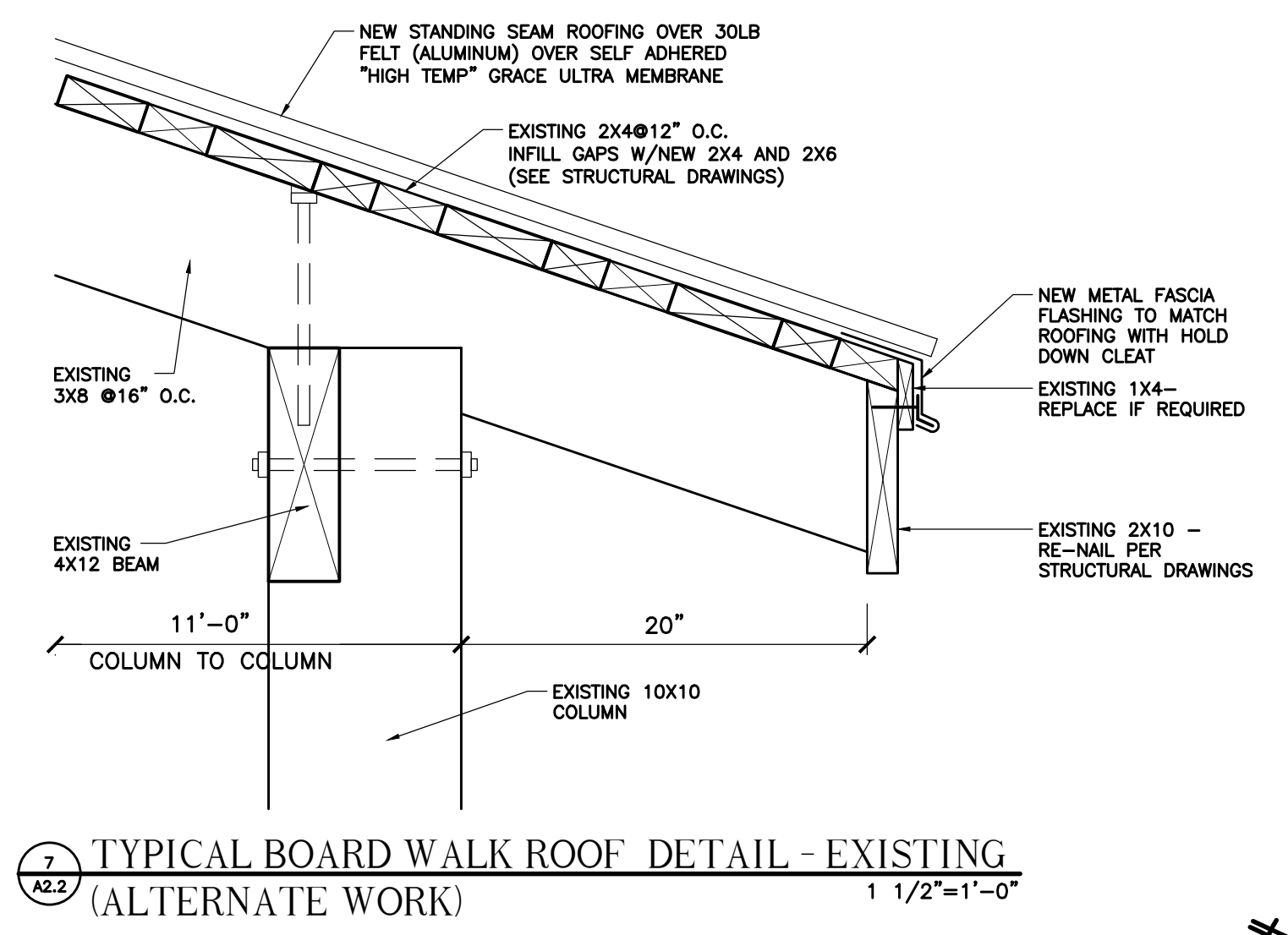
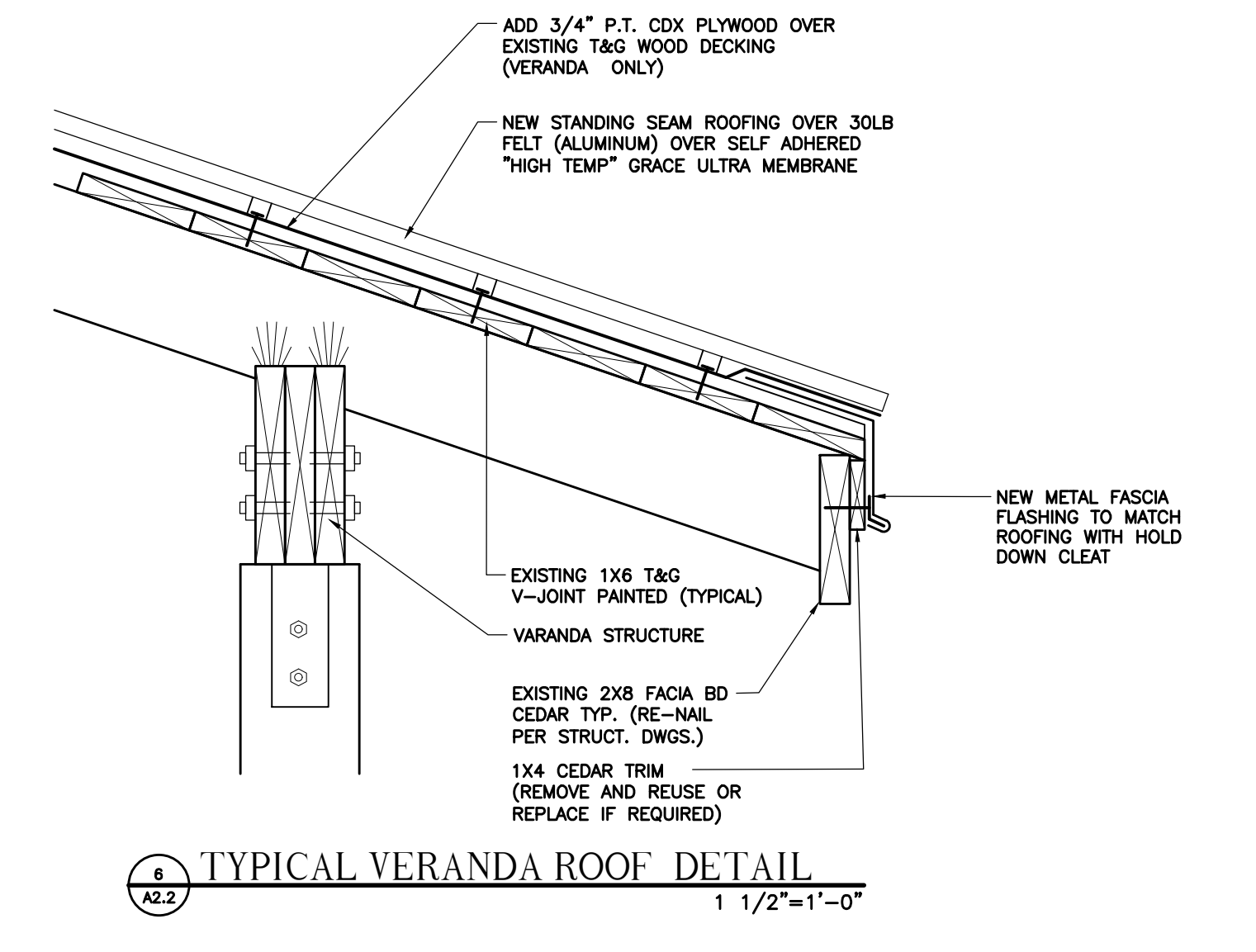
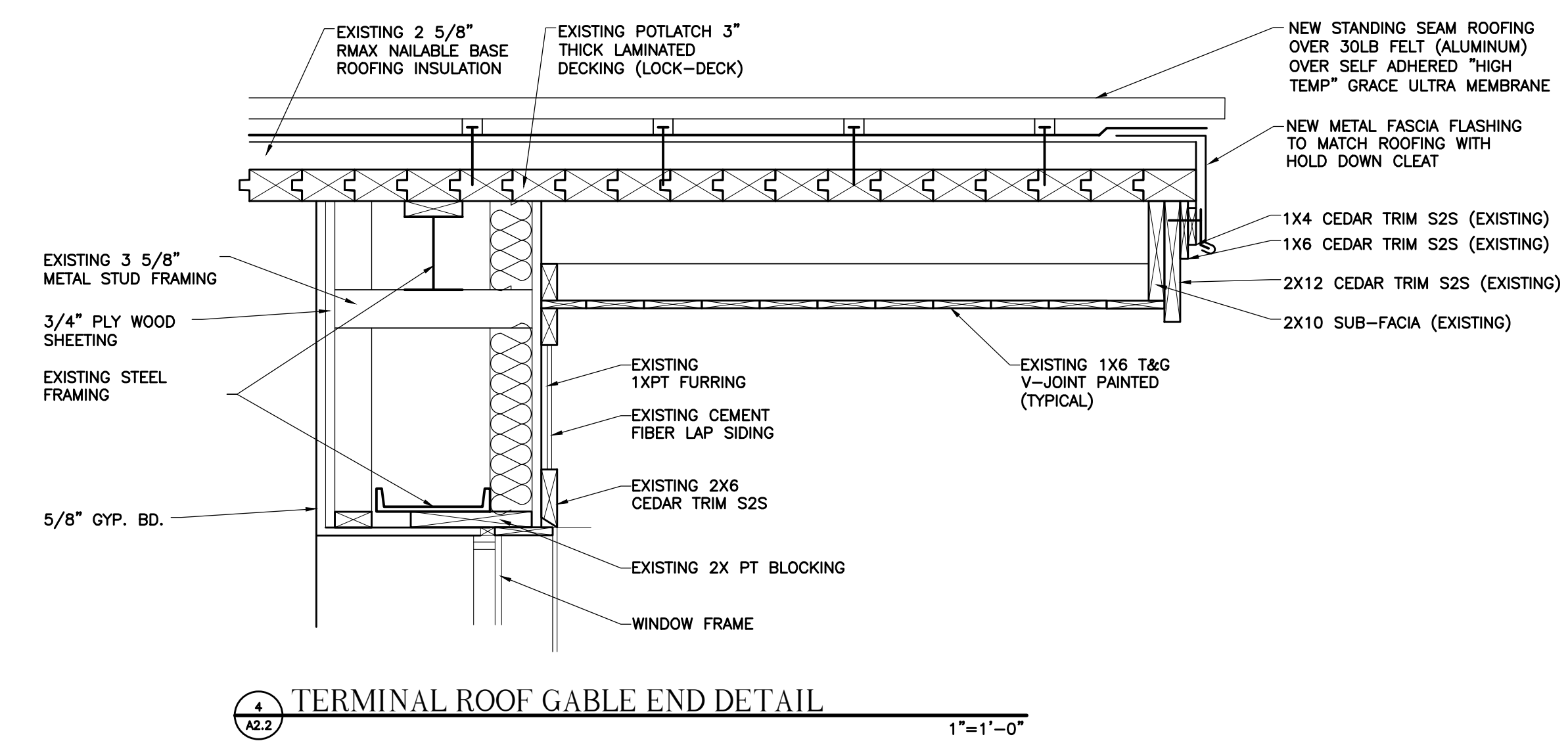
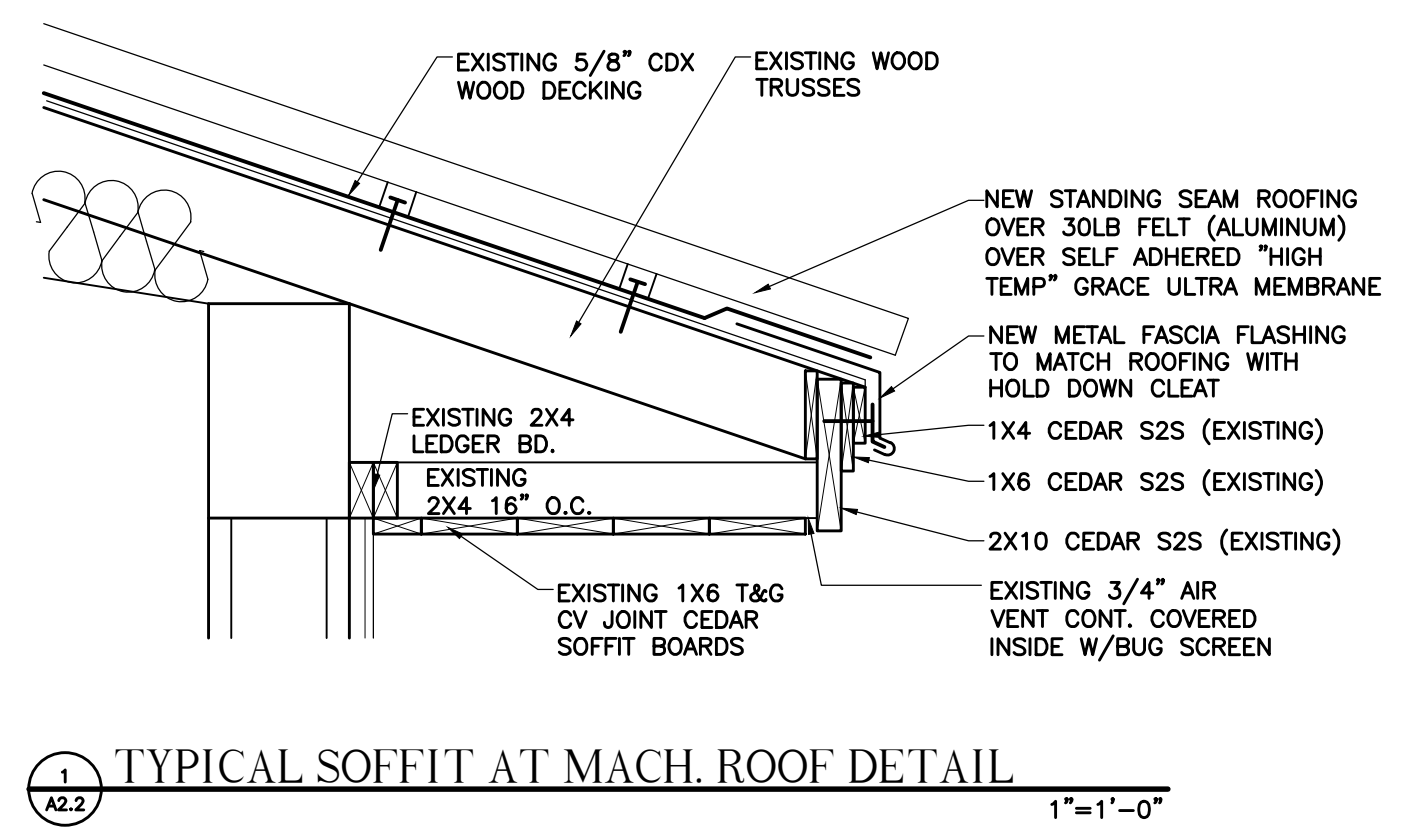
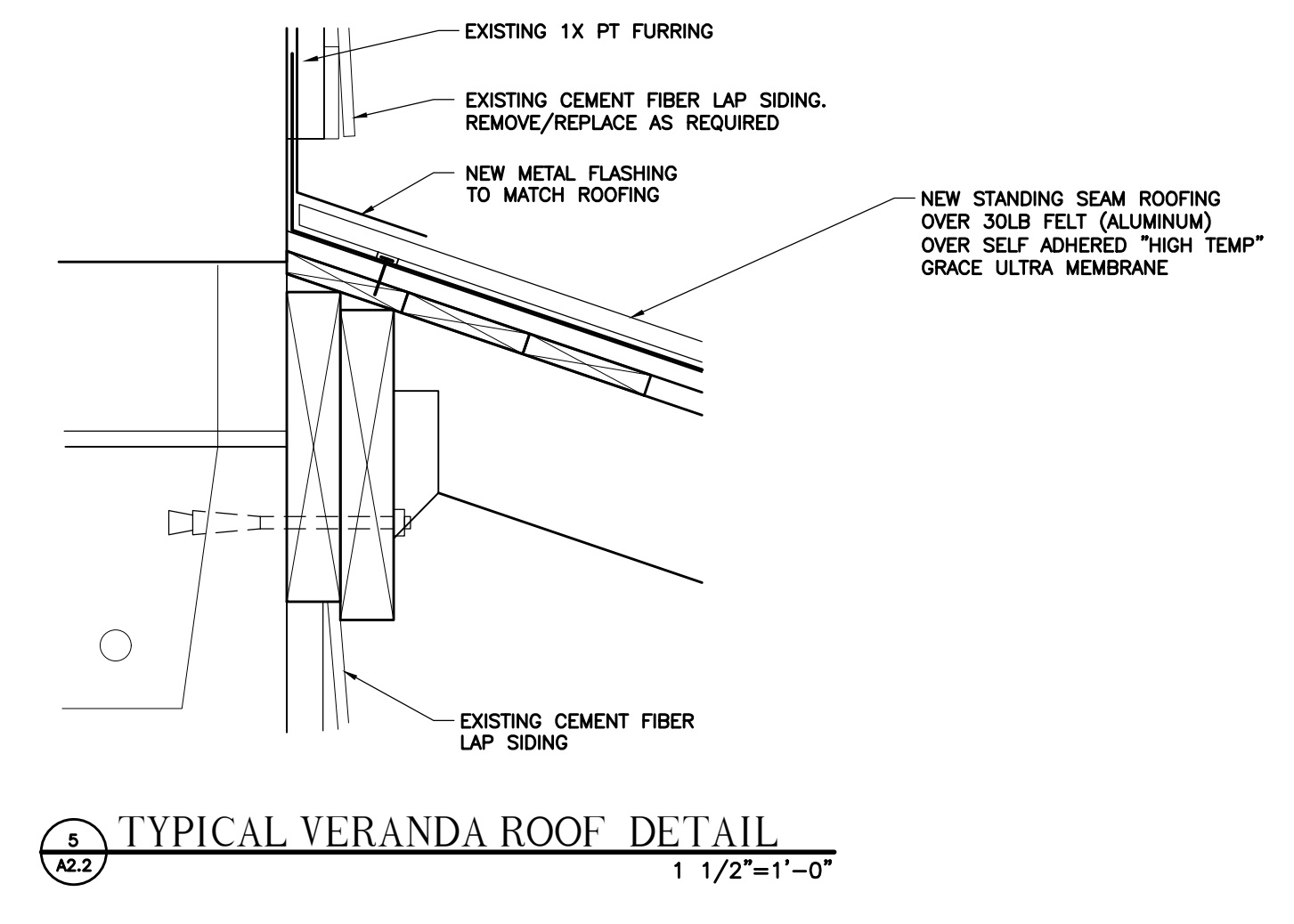
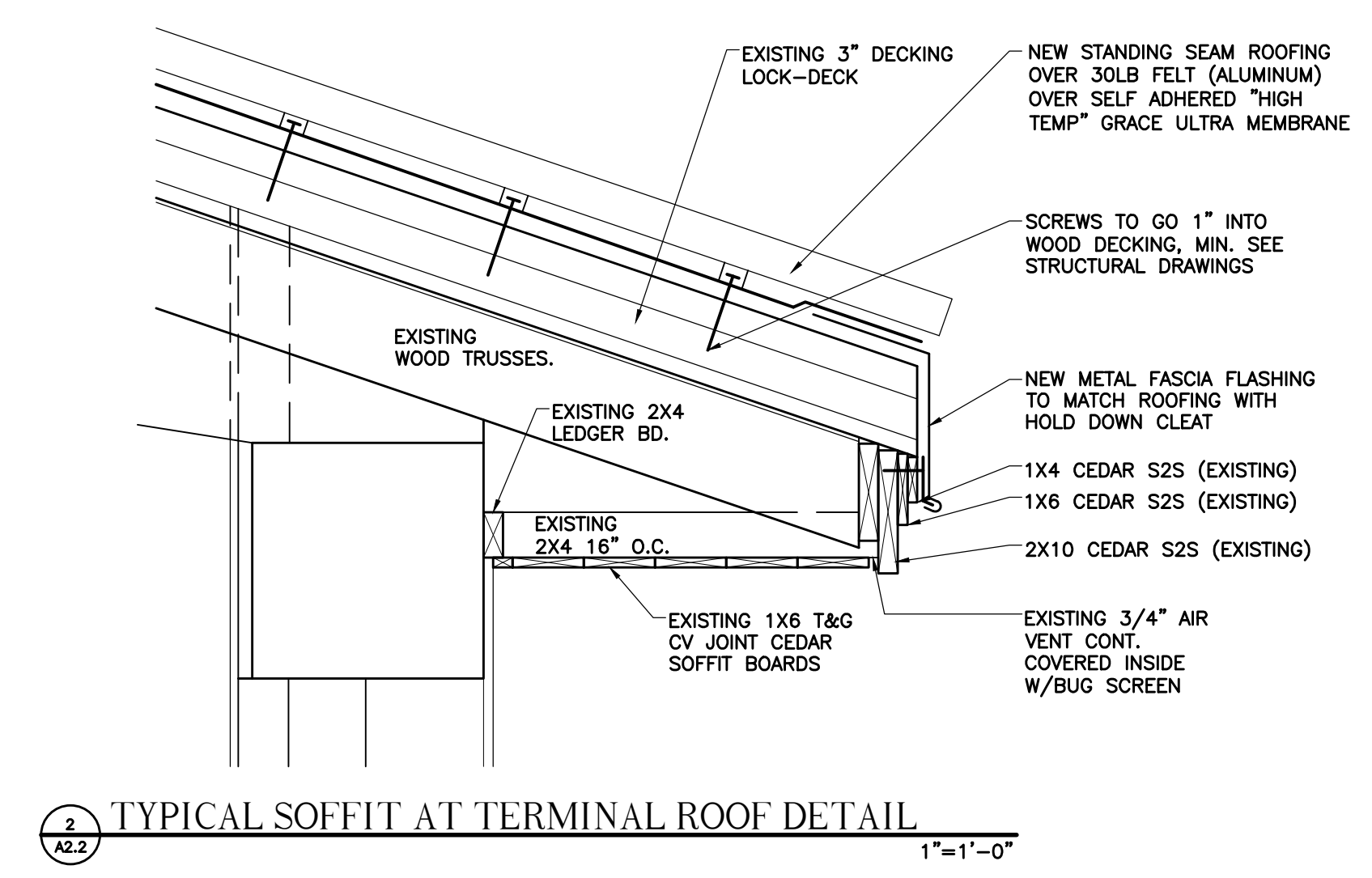
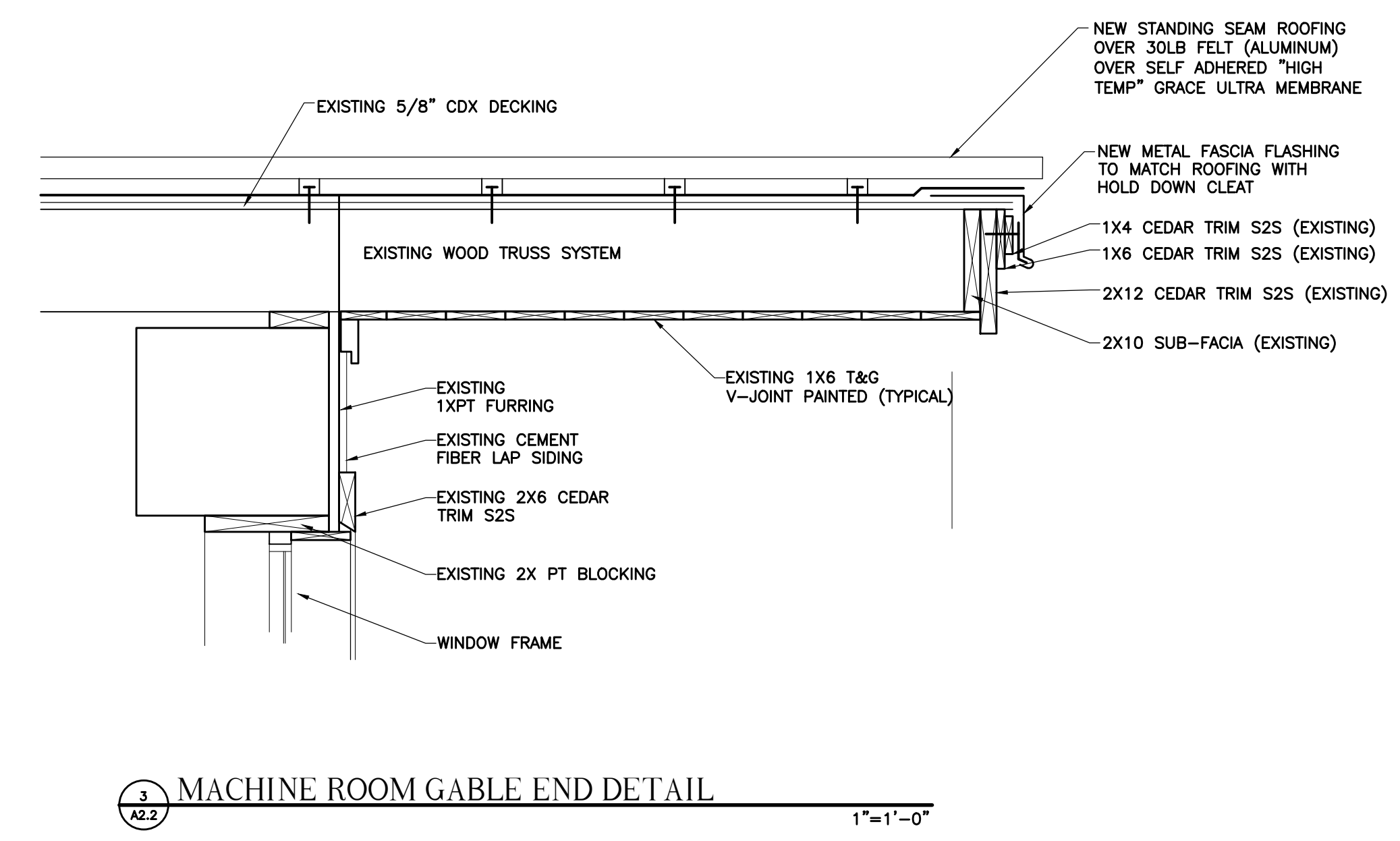
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CONTRACTOR TO REMOVE 1X4 AND 1X6 TRIM, RE-NAIL 2X12 AND 2X10 PER STRUCTURAL DRAWINGS, THEN RE-ATTACH 1X4 AND 1X6 (REPLACE IF REQUIRED) TYPICAL ALL LOCATIONS

EXISTING CEDAR WOOD TRIM, TYPICAL. PATCH/REPLACE AS REQUIRED.

SEAL

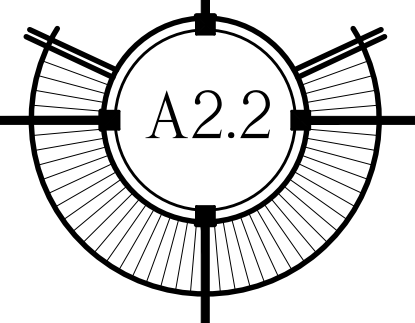
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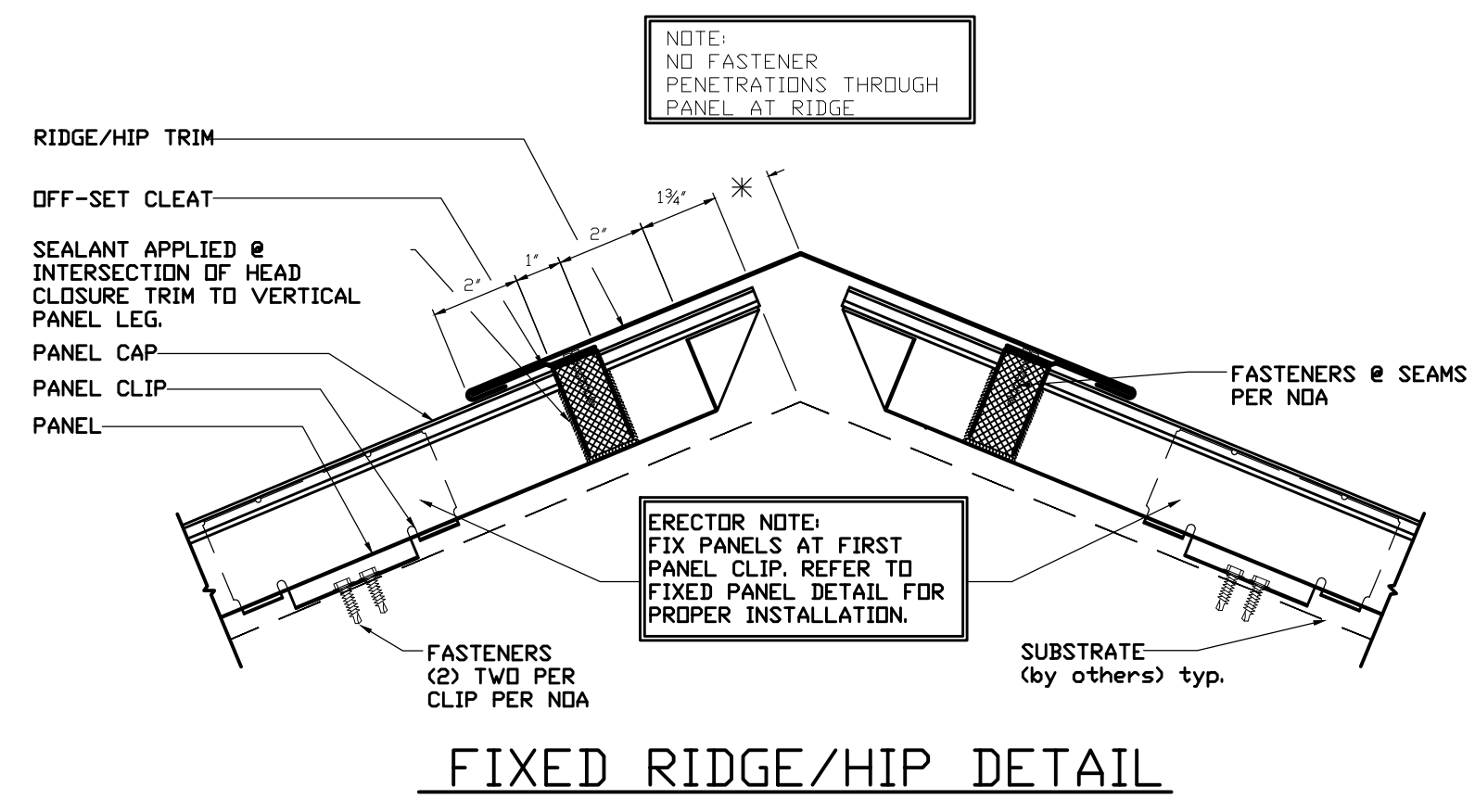
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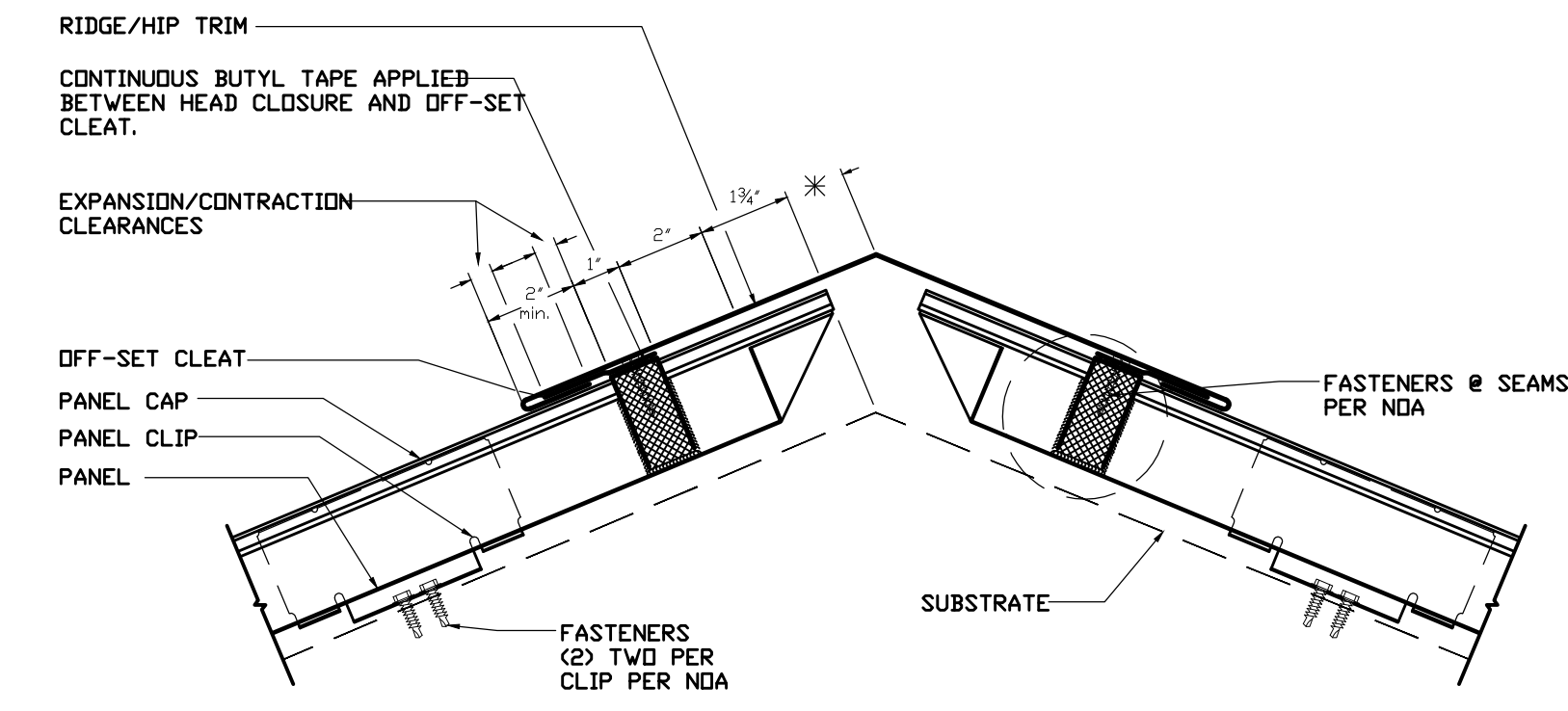
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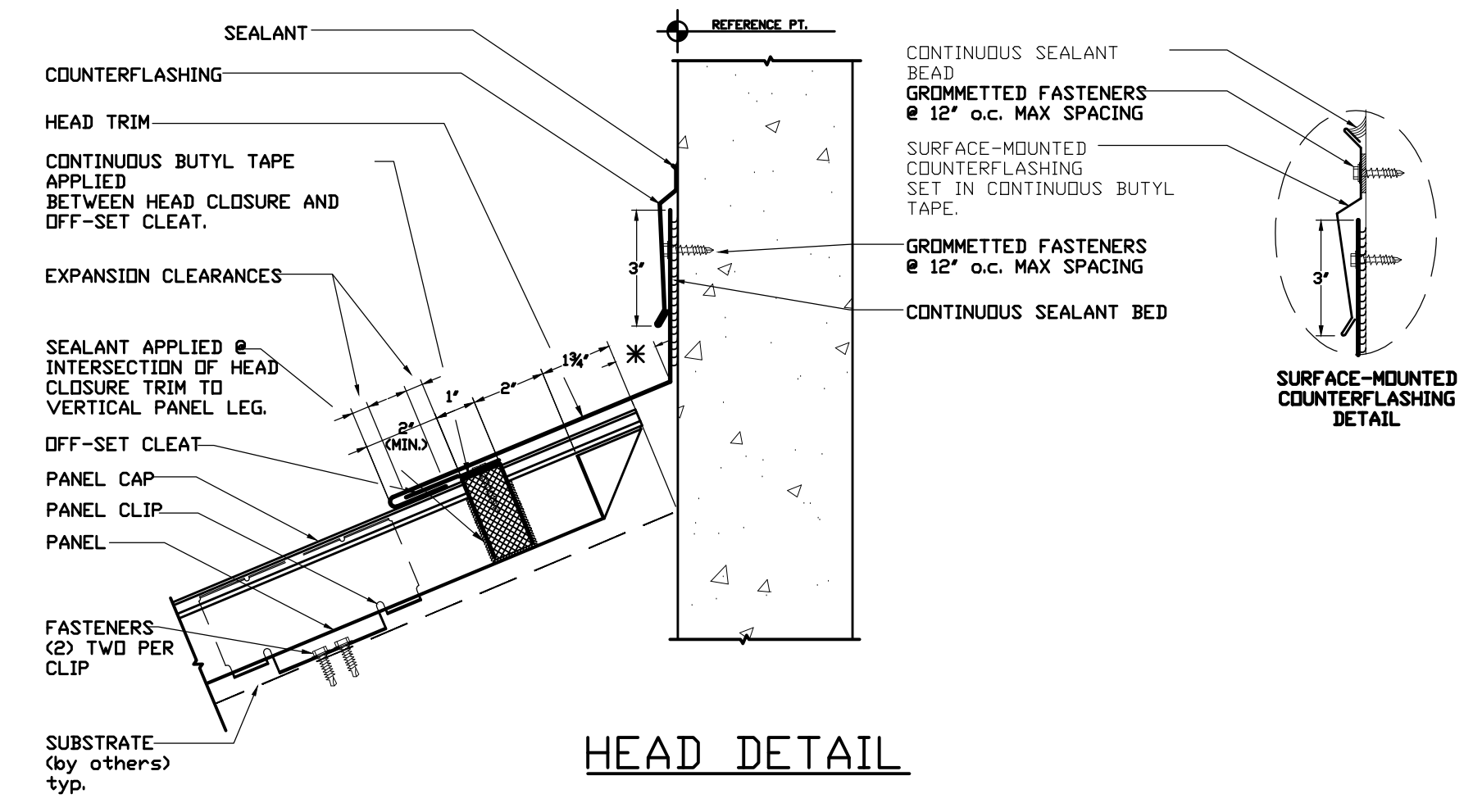




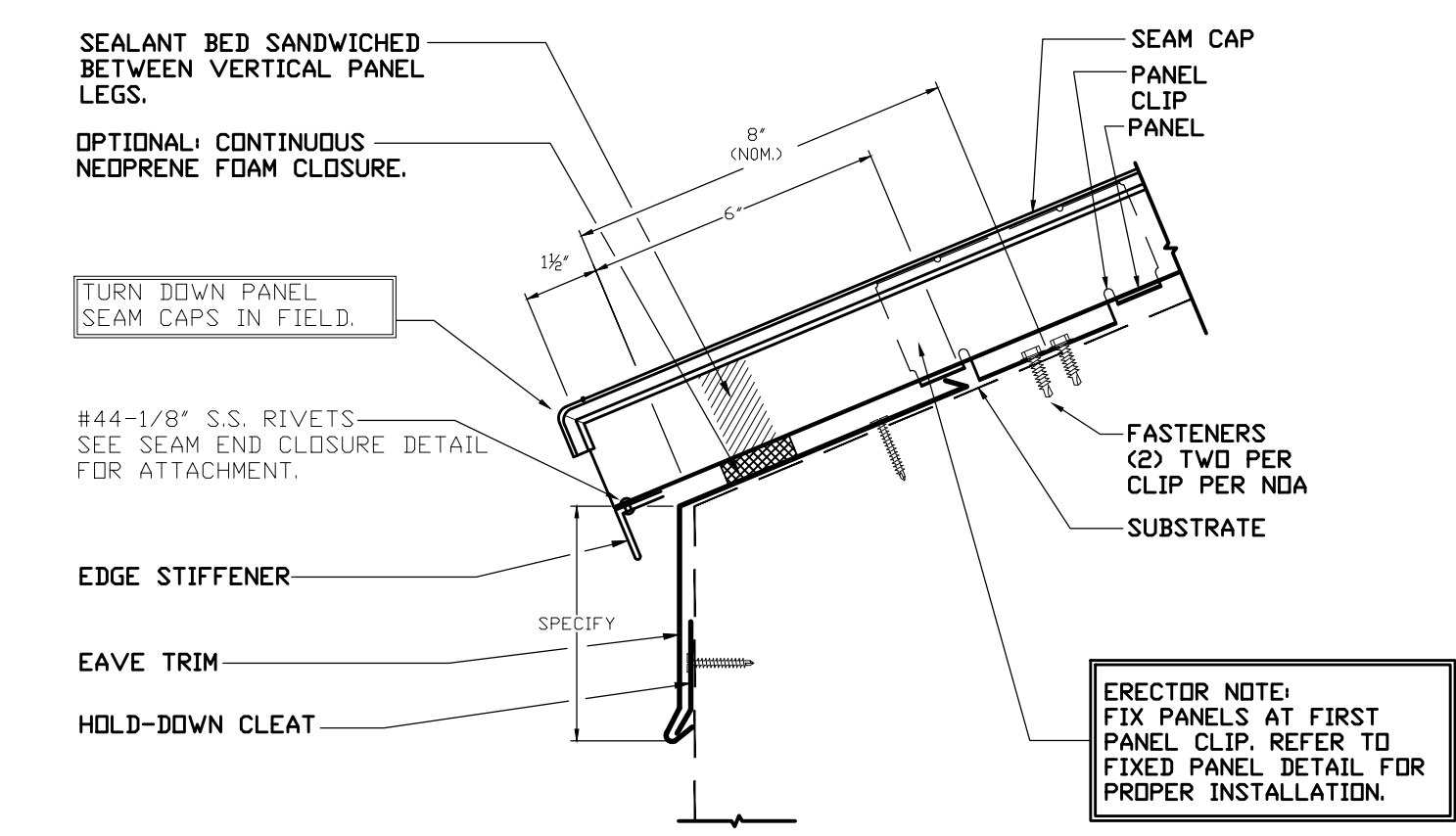
**FIXED RIDGE/HIP DETAIL**



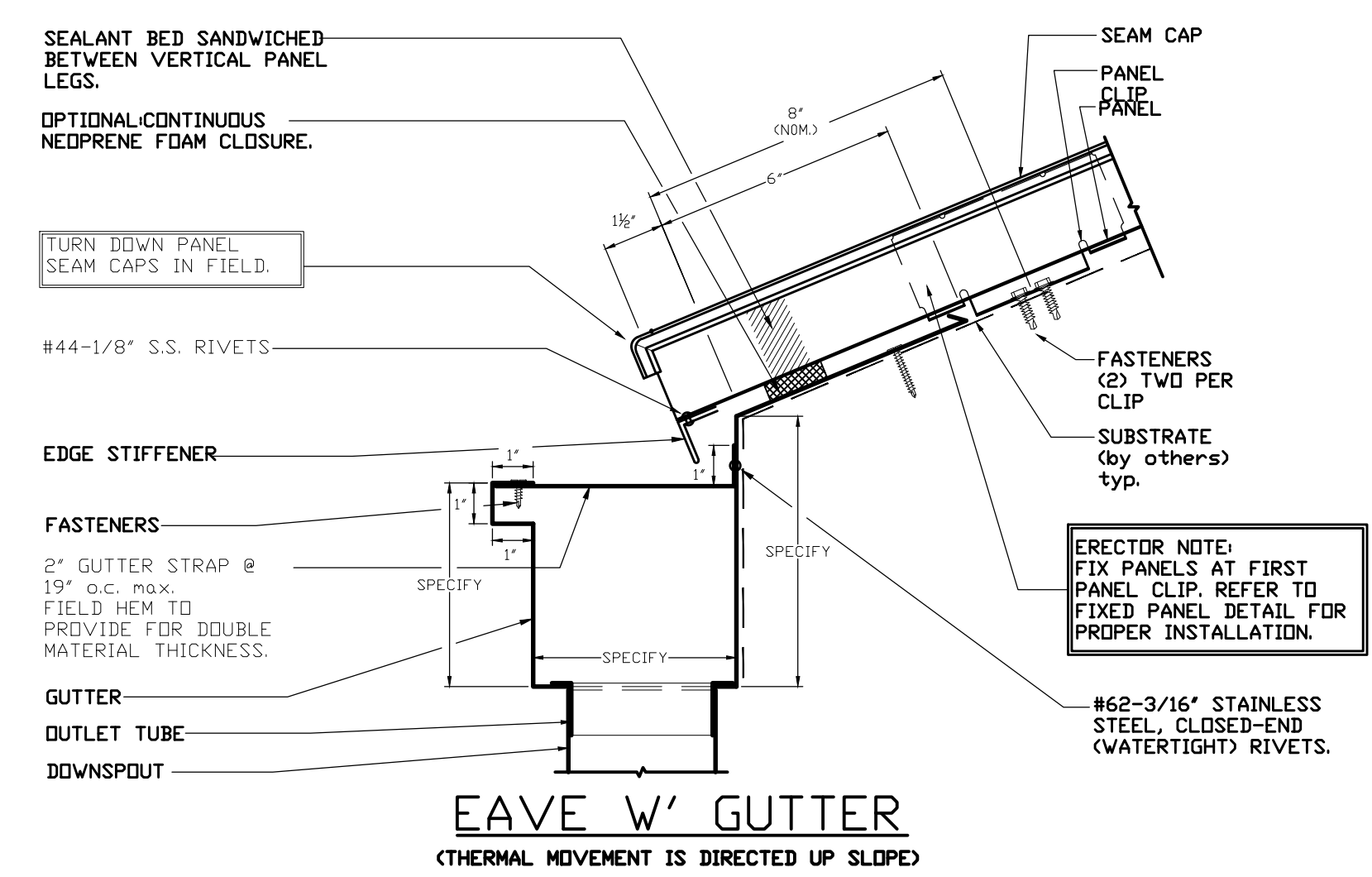
**EXPANDING RIDGE/HIP DETAIL**



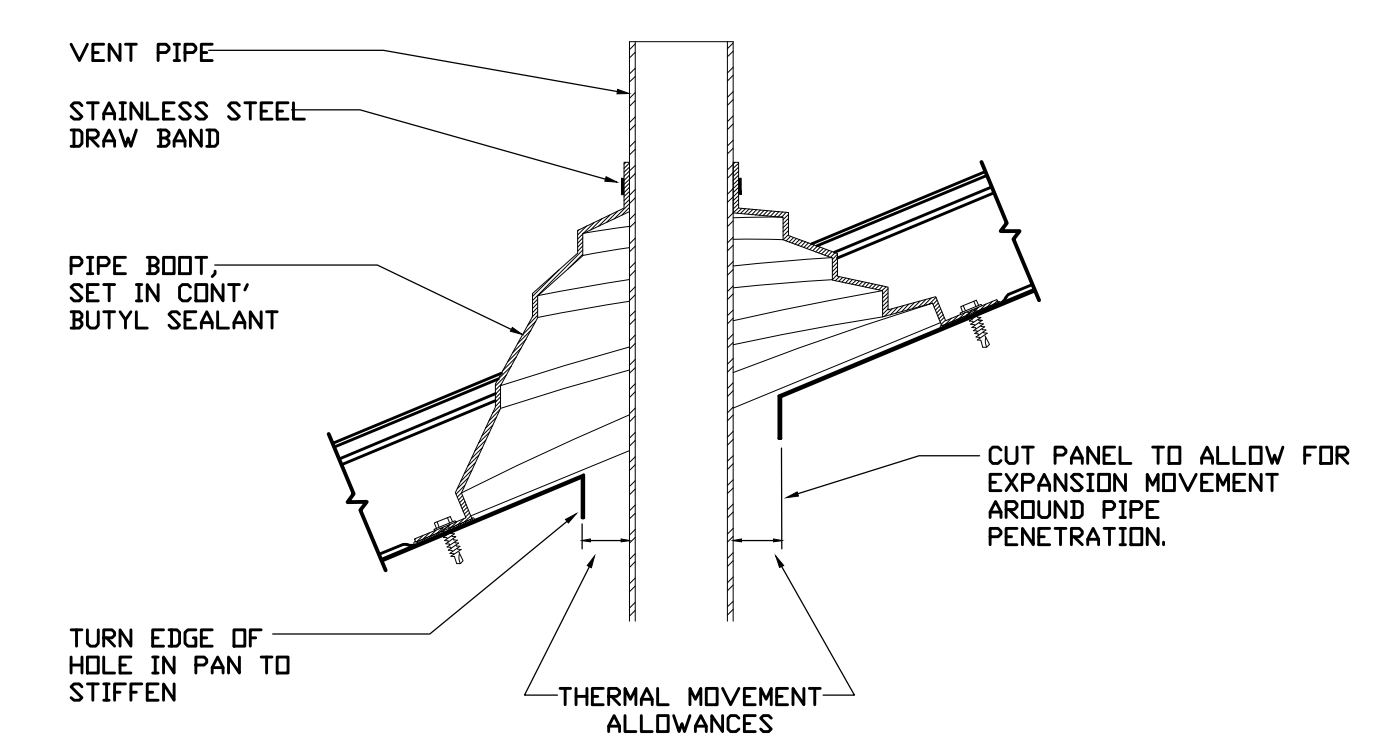
**HEAD DETAIL**



**EAVE DETAIL**  
(THERMAL MOVEMENT IS DIRECTED UP SLOPE)

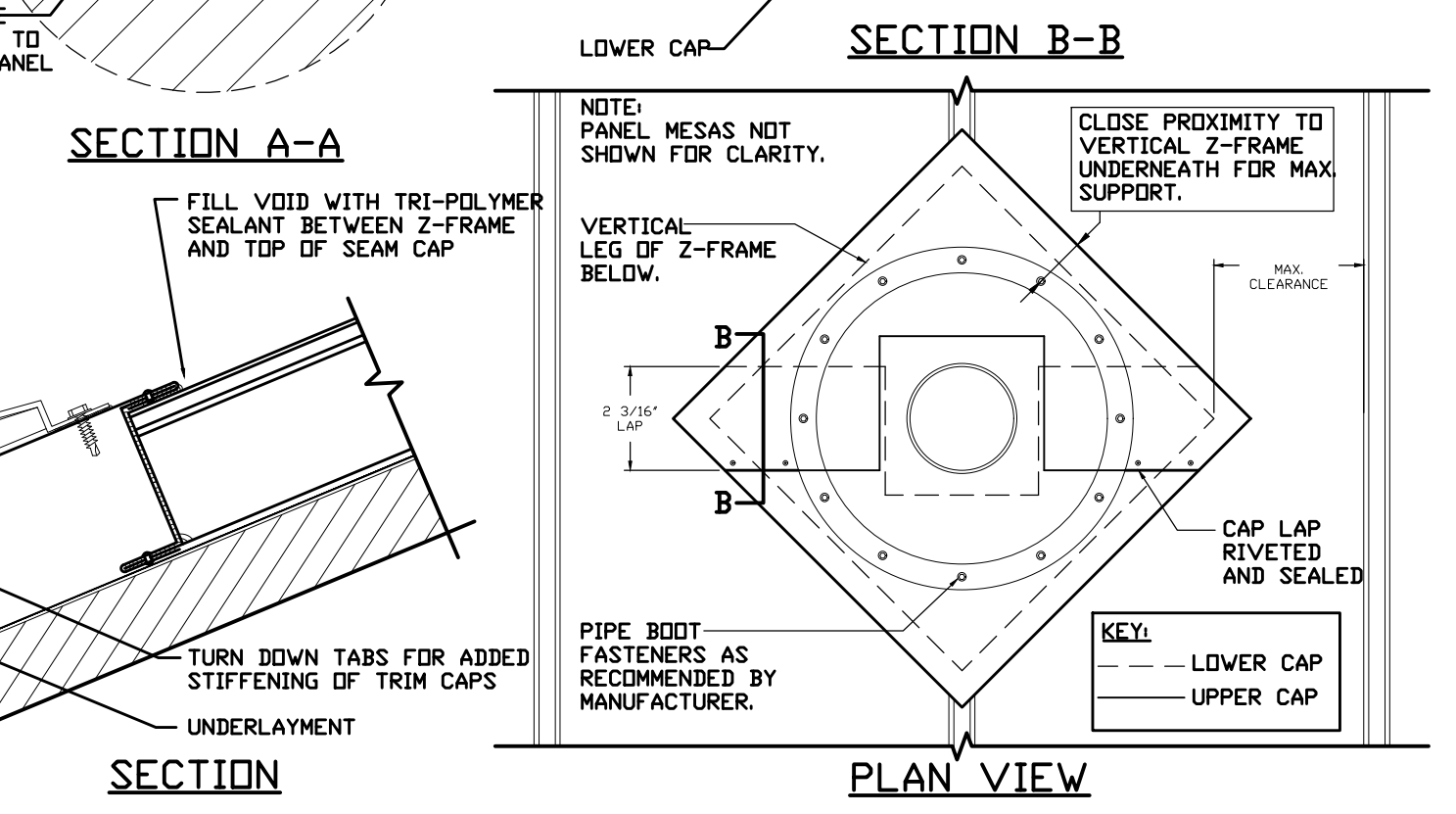
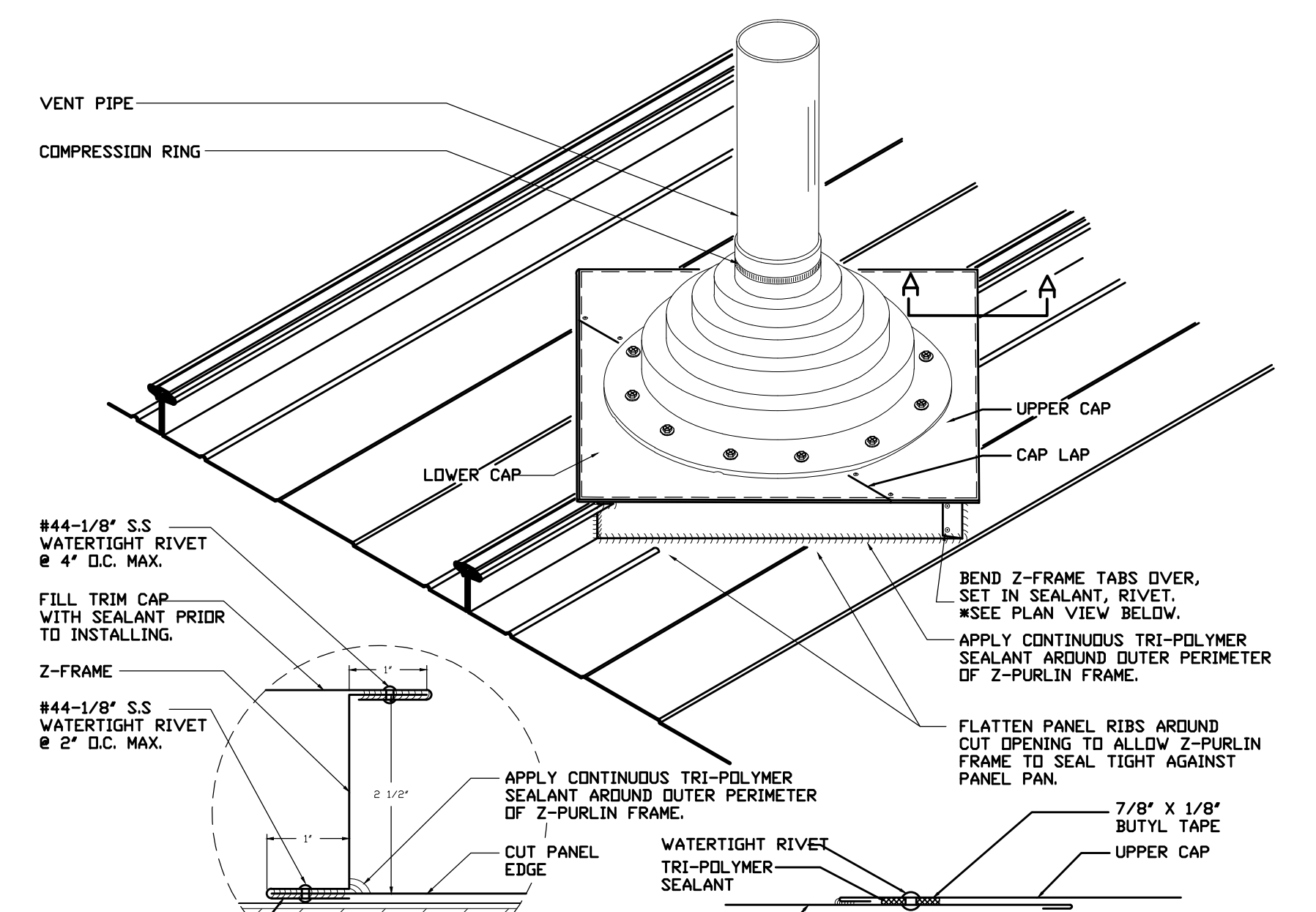


**EAVE W' GUTTER**  
(THERMAL MOVEMENT IS DIRECTED UP SLOPE)



**PIPE BOOT THROUGH PANEL**

NOTE: FLATTEN PANEL RIBS TO ALLOW BOOT TO NEST FLAT AGAINST THE PANEL PAN.



**PIPE BOOT THROUGH PANEL SEAM**

1  
A-2.1

**STANDARD STANDING SEAM ROOF DETAILS**

SCALE: NTS

SEAL

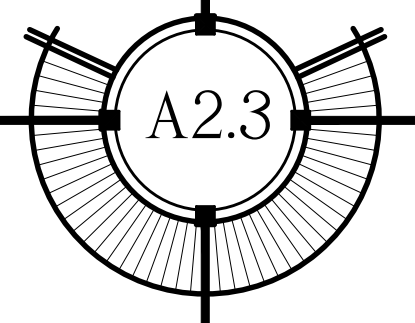
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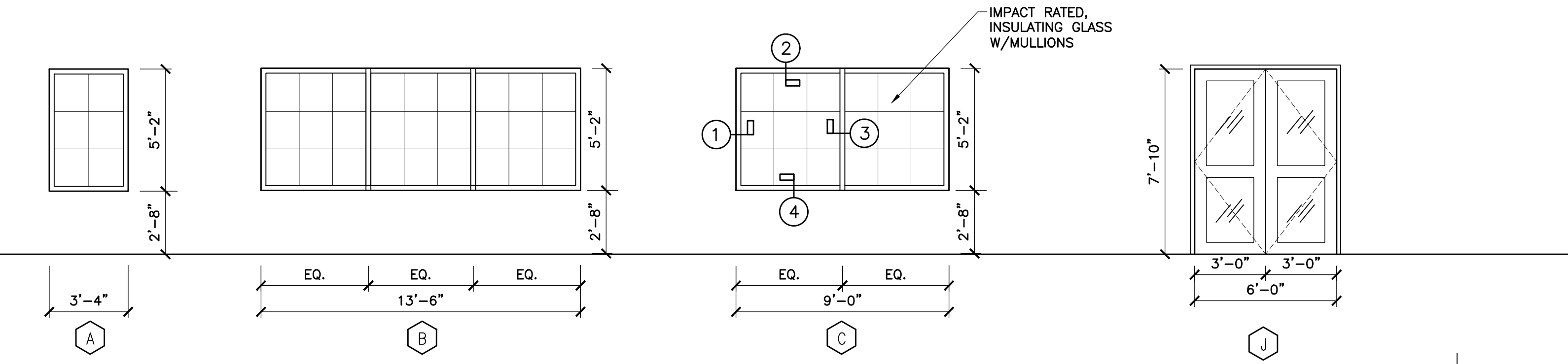
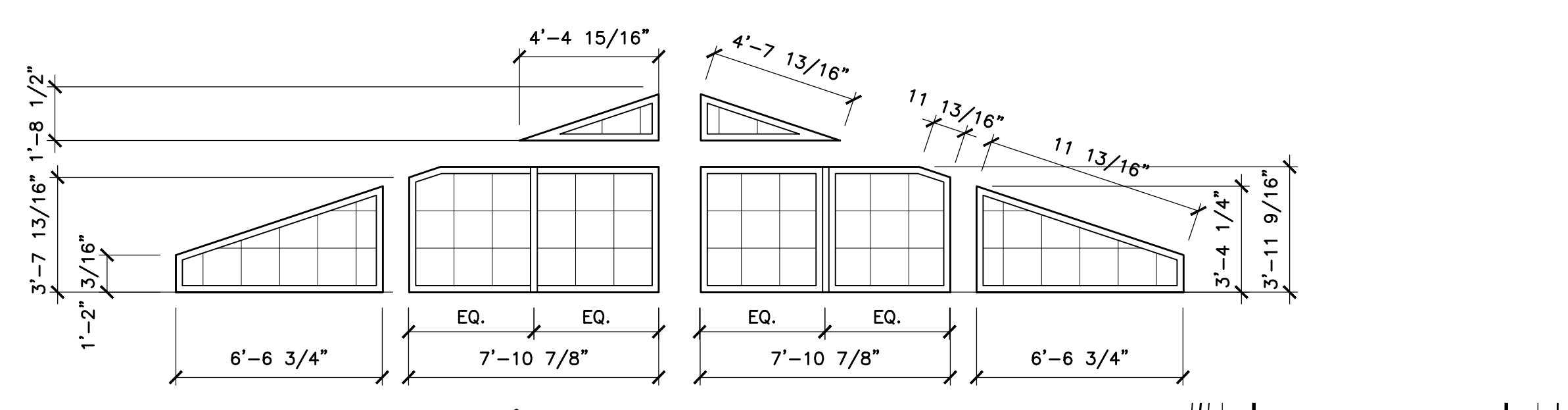
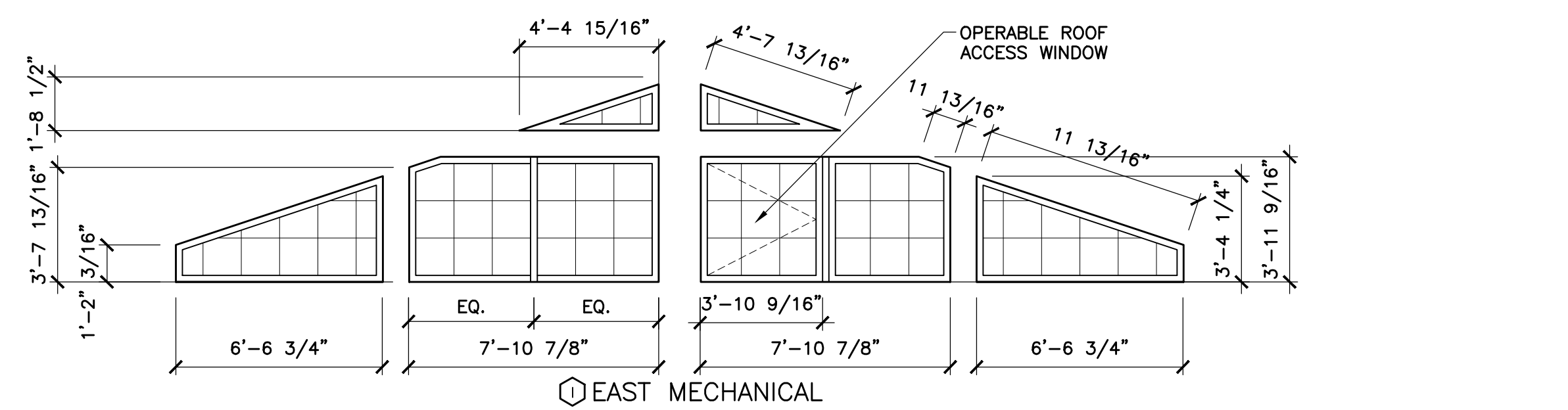
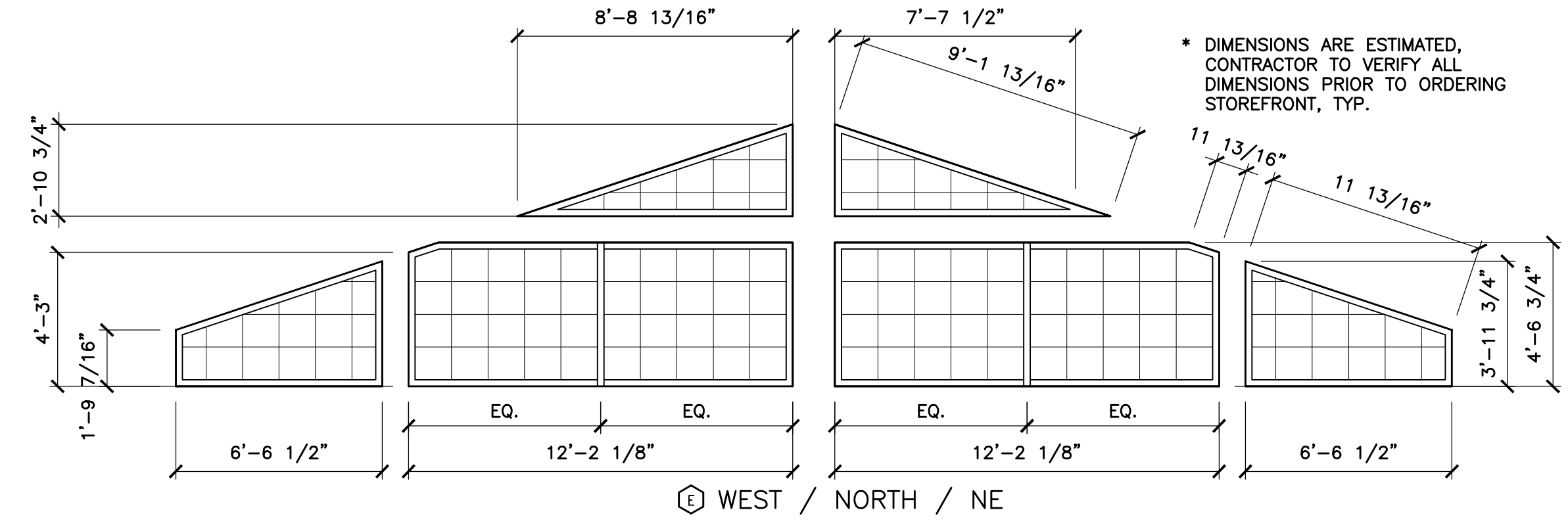
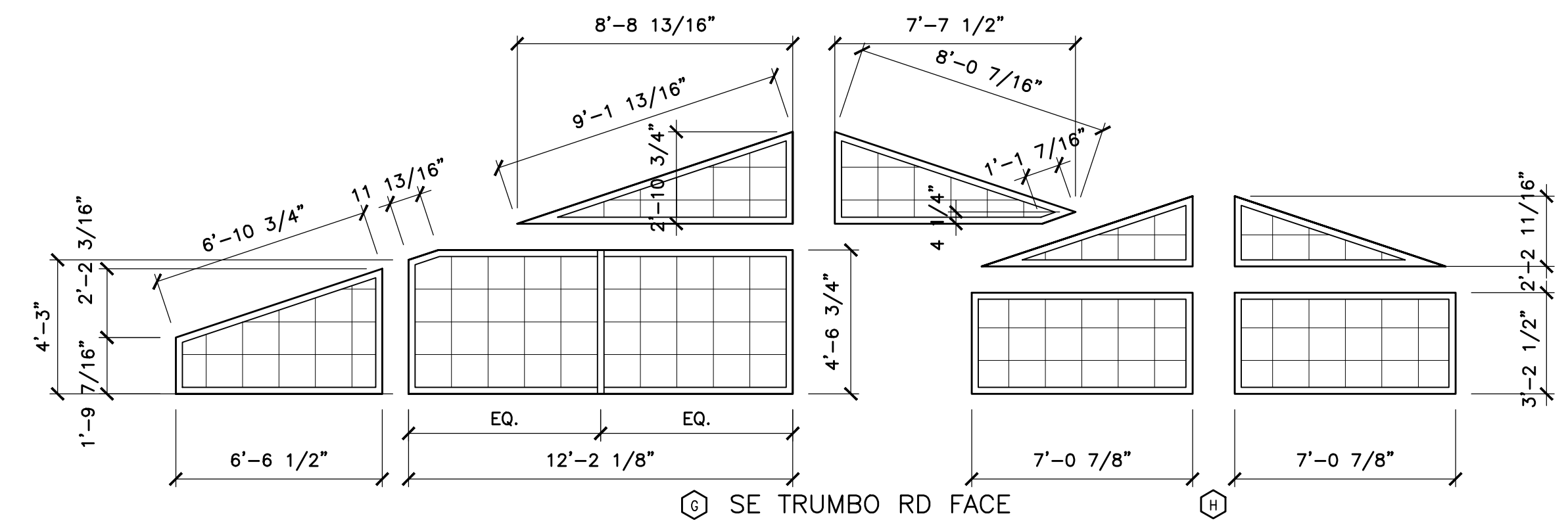
### STOREFRONT WINDOW SCHEDULE

NO.	WIDTH	HEIGHT	FINISH	GLAZING	FRAME MAT.	DESIGN PRESSURES		PRODUCT APPROVAL #	MANUF. WIND LOAD RATING	MANUF./MODEL	TYPE
						(FIELD)	(CORNER)				
A	3'-2"	5'-2"	PAINTED	IMPACT	ALUMINUM	+69.81/-91.79	FL #19973		+100.0/-100.0	ALDORA-SERIES FRONT SET	IMPACT RESISTANT AND INSULATED GLASS, TYP.
B	13'-2"	5'-2"	PAINTED	IMPACT	ALUMINUM	+63.23/-78.62	FL #19973		+100.0/-100.0	ALDORA-SERIES FRONT SET	IMPACT RESISTANT AND INSULATED GLASS, TYP.
C	8'-8"	5'-2"	PAINTED	IMPACT	ALUMINUM	+65.14/-82.44	FL #19973		+100.0/-100.0	ALDORA-SERIES FRONT SET	IMPACT RESISTANT AND INSULATED GLASS, TYP.
D	NOT USED										
E	VARIES	VARIES	PAINTED	IMPACT	ALUMINUM	+68.77/-89.69	FL #19973		+100.0/-100.0	ALDORA-SERIES FRONT SET	IMPACT RESISTANT AND INSULATED GLASS, TYP.
F	VARIES	VARIES	PAINTED	IMPACT	ALUMINUM	+72.37/-96.90	FL #19973		+100.0/-100.0	ALDORA-SERIES FRONT SET	IMPACT RESISTANT AND INSULATED GLASS, TYP.
G	VARIES	VARIES	PAINTED	IMPACT	ALUMINUM	+68.77/-89.69	FL #19973		+100.0/-100.0	ALDORA-SERIES FRONT SET	IMPACT RESISTANT AND INSULATED GLASS, TYP.
H	VARIES	VARIES	PAINTED	IMPACT	ALUMINUM	+70.06/-92.28	FL #19973		+100.0/-100.0	ALDORA-SERIES FRONT SET	IMPACT RESISTANT AND INSULATED GLASS, TYP.
I	VARIES	VARIES	PAINTED	IMPACT	ALUMINUM	+77.37/-96.90	FL #19973		+100.0/-100.0	ALDORA-SERIES FRONT SET	IMPACT RESISTANT AND INSULATED GLASS, TYP.
J	6'-0"	7'-10"	PAINTED	IMPACT	ALUMINUM	+65.09/-82.35	FL #17682		+100.0/-100.0	ALDORA-SERIES SUMMIT	SWINGING DOOR, WEATHER STRIPPING, INSULATED AND IMPACT GLASS, ADA & PANIC HARDWARE, CLOSURE, DEADBOLT

\*CONTRACTOR TO VERIFY ALL OPENING DIMENSIONS AND COORDINATE WITH MANUFACTURED PRODUCTS AVAILABLE. CONTRACTOR RESPONSIBLE FOR FINAL OPENING SIZES AND COORDINATION. CONTRACTOR TO INCORPORATE ANY REQUIRED MULLION STRUCTURAL SUPPORTS REQUIRED BY MANUFACTURER BETWEEN MULTIPLE OPENINGS.

NOTES:

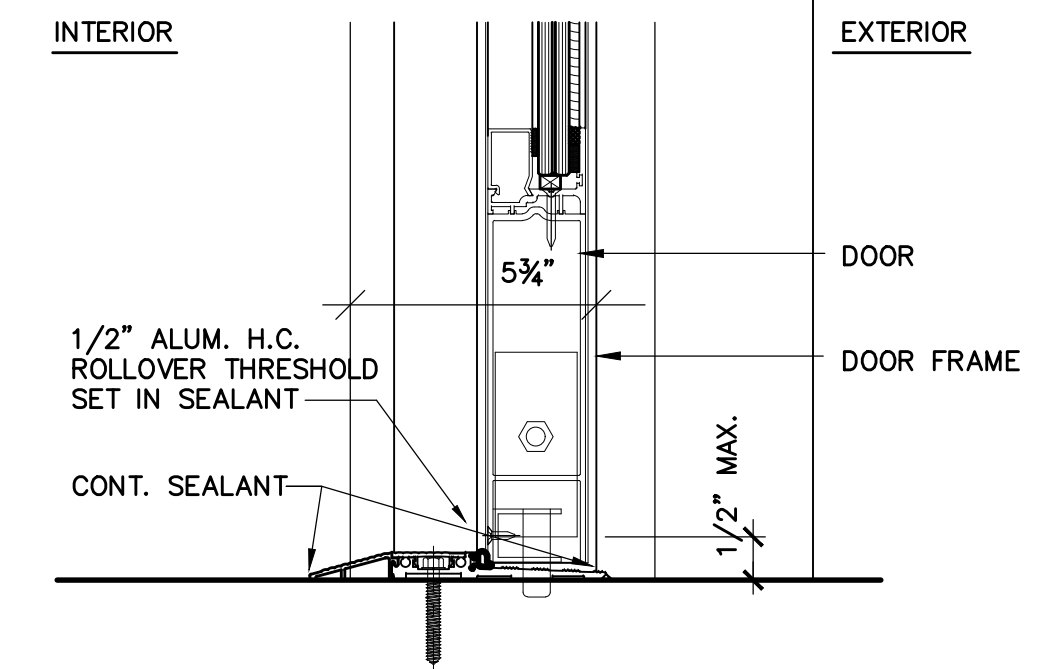
- ALL EXTERIOR OPENINGS SHALL BE PROVIDED WITH DOORS, WINDOWS, OR LOUVERS WHICH MEET ASCE/SEI 7-16, FLORIDA BUILDING CODE, 2023 EDITION, WIND PRESSURE ON COMPONENTS AND CLADDING (CH 30 PART 1) ALL PRESSURES SHOWN ARE BASED UPON ASD DESIGN, WITH A LOAD FACTOR OF 0.6. 200 MPH WIND LOAD AND IMPACT REQUIREMENTS, SEE SPECIFICATIONS.
- ALUM. STOREFRONT FRAMES, WINDOWS AND LOUVERS SHALL BE PREFINISHED WITH COLOR TO BE SELECTED BY THE ARCHITECT FROM MANUFACTURERS FULL RANGE OF AVAILABLE COLOR SELECTIONS.
- STOREFRONT ENTRY DOOR SHALL HAVE HARDWARE BY THE ASSEMBLY MANUFACTURER TO INCLUDE BUTTS, PULLS, DEADBOLTS WITH INSIDE THUMB TURN OPERATION, CONCEALED CLOSURE WITH HOLD OPEN, MUTES, STOPS, THRESHOLD AND WEATHERSTRIPPING, ALL IN ACCORDANCE WITH STORMPROOF ASSEMBLY REQUIREMENTS. COORDINATE KEYING REQUIREMENTS WITH OWNER. A FULL SHOP DRAWINGS SUBMITTAL IS REQUIRED AND SHALL INCLUDE ALL COMPONENTS OF THE STOREFRONT, WINDOW AND LOUVER ASSEMBLIES, INCLUDING PRODUCT APPROVALS FOR EACH MANUFACTURED PRODUCT, INDICATING TESTED COMPLIANCE WITH LOADING AND IMPACT REQUIREMENTS AS WELL AS SIZE, TYPE AND SPACING OF THE ANCHORS TO MEET LOADING REQUIREMENTS. ACCESSORY COMPONENTS SUCH AS BLOCKING, FLASHING AND SEALS AND ADJACENT CONSTRUCTION SHALL BE INDICATED, WHETHER PROVIDED BY THE ASSEMBLY MANUFACTURER OR OTHERS.
- DESIGN PRESSURES PROVIDED BY STRUCTURAL ENGINEER.
- ALL EXTERIOR FENESTRATIONS SHALL HAVE A MAXIMUM U-FACTOR AND SHGC AS PER FLORIDA COMMERCIAL (AND RESIDENTIAL IF APPLICABLE) ENERGY CONSERVATION BUILDING CODE 2023 UNLESS OTHERWISE NOTED IN PERFORMANCE METHOD CALCULATIONS PROVIDED BY ENGINEER. THE THERMAL ENVELOPE OF THE BUILDING SHALL COMPLY WITH FLORIDA COMMERCIAL ENERGY CONSERVATION BUILDING CODE 2023 AND TABLE C402.5.2 FOR AIR LEAKAGE AND AIR BARRIER REQUIREMENTS FOR RESIDENTIAL PROJECTS USE THE RESIDENTIAL SECTION OF THE CODE AND SECTION 402.4 AND TABLE 402.4.1.1 FOR MANDATORY AIR LEAKAGE REQUIREMENTS. CONTRACTOR TO ENSURE ALL EXTERIOR DOORS AND WINDOWS ARE SEALED TO COMPLY WITH AIR LEAKAGE AND AIR BARRIER REQUIREMENTS. ALL EXTERIOR FENESTRATIONS SHALL BE GASKETED, WEATHER-STRIPPED OR OTHERWISE SEALED. ALL STOREFRONT SYSTEMS SHALL HAVE U-FACTOR=1.0, SHGC=0.50 MAX. AIR INFILTRATION RATES OF 0.5 CFM/SF FOR SWINGING GLAZED DOORS, WINDOWS=0.2 CFM/S.F. AND STOREFRONT GLAZING=0.06 CFM/S.F.
- CONTRACTOR TO PROVIDE FULL SET OF SHOP DRAWINGS SPECIFIC TO THIS PROJECT, INCLUDING BUT NOT LIMITED TO WINDOW, LOUVER AND STOREFRONT ELEVATIONS, SILL/JAMB/HEAD DETAILS, GLASS TYPE, NOA OR FLORIDA PRODUCT APPROVALS, FINISH SAMPLES, ETC.
- PROVIDE CLEAR GLASS, IMPACT RATED, TYPICAL.
- COORDINATE W/OWNER ON HARDWARE AND LOCKING REQUIREMENTS. (MATCH EXISTING AS BEST AS POSSIBLE WHILE MEETING N.O.A. REQUIREMENTS), TYPICAL.
- PATCH ALL WALLS (EXTERIOR AND INTERIOR) AS REQUIRED TO MATCH EXISTING, TYPICAL.



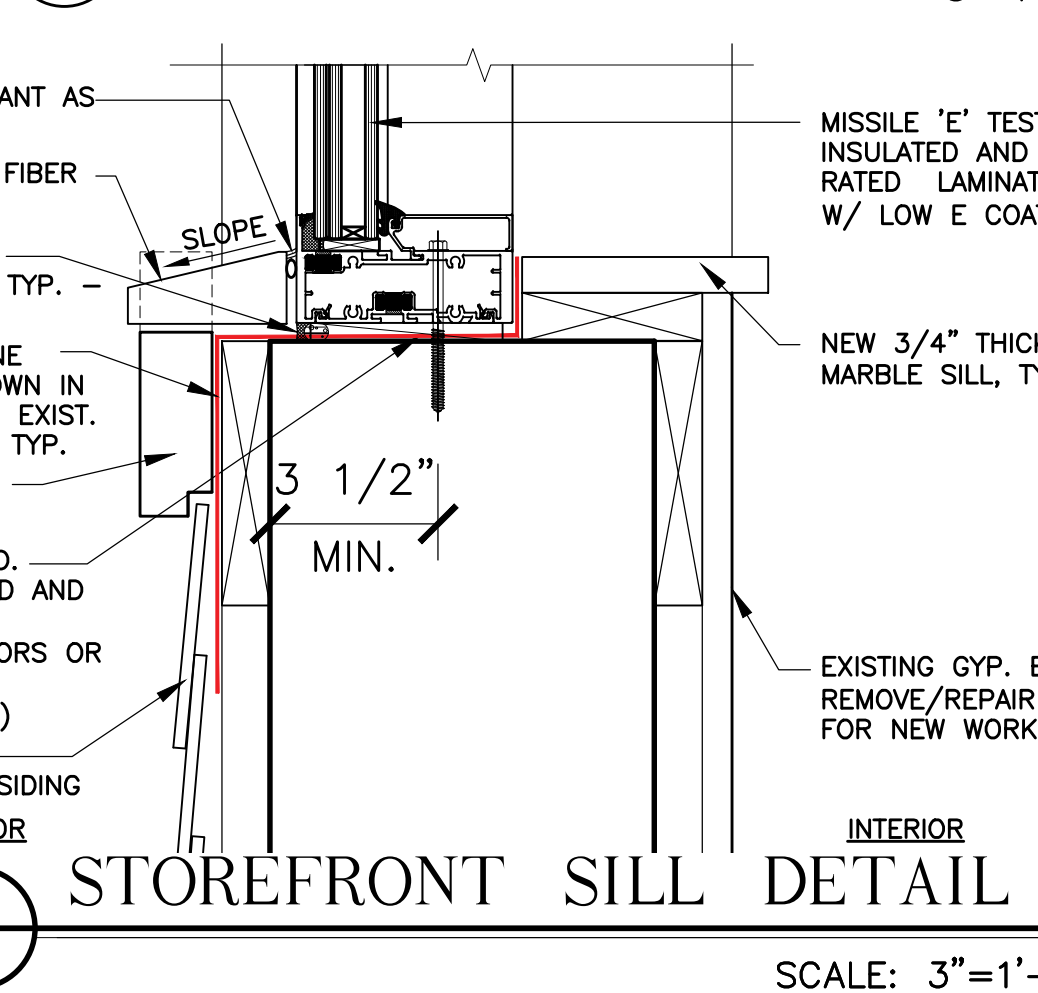
**STOREFRONT DOORS AND WINDOWS - BASIS OF DESIGN**

WINDOWS = ALDORA-SERIES FRONT SET ALUMINUM IMPACT RESISTANT STOREFRONT SYSTEM- IMPACT INSULATING GLASS TYPE "E", BLAST RESISTANT (HMZ) (MISSILE LEVEL E). USE REINFORCED MULLION CONFIGURATION AS PER FLORIDA PRODUCT APPROVAL REQUIREMENTS FOR EXTERIOR MULLIONS, TYP. USE ANCHORING PER FLORIDA PRODUCT APPROVAL THAT MEETS DESIGN WIND LOAD REQUIREMENTS, TYPICAL.

EXTERIOR DOORS = ALDORA-SERIES SUMMIT (IMPACT RESISTANT, MISSILE LEVEL E, INSULATING AND IMPACT GLASS TYPE "J" STOREFRONT ENTRANCE SYSTEM). USE REINFORCED MULLION CONFIGURATION AS PER FLORIDA PRODUCT APPROVAL REQUIREMENTS FOR EXTERIOR MULLIONS, TYP. USE ANCHORING PER FLORIDA PRODUCT APPROVAL THAT MEETS DESIGN WIND LOAD REQUIREMENTS, TYPICAL. DOORS TO HAVE DEADBOLT, PANIC HARDWARE, CLOSER, KEYS AND SECURITY REQUIREMENTS.



5 THRESHOLD DETAIL



1 STOREFRONT DETAIL SCALE: 3"=1'-0"

2 STOREFRONT HEAD DETAIL SCALE: 3"=1'-0"

3 STOREFRONT JAMB DETAIL SCALE: 3"=1'-0"

4 STOREFRONT SILL DETAIL SCALE: 3"=1'-0"

SEAL

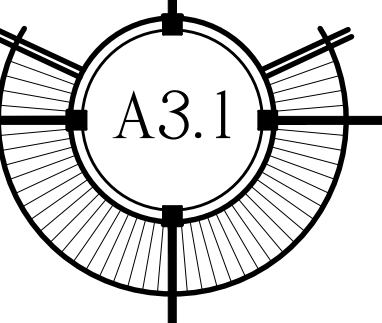
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PROJECT NUMBER  
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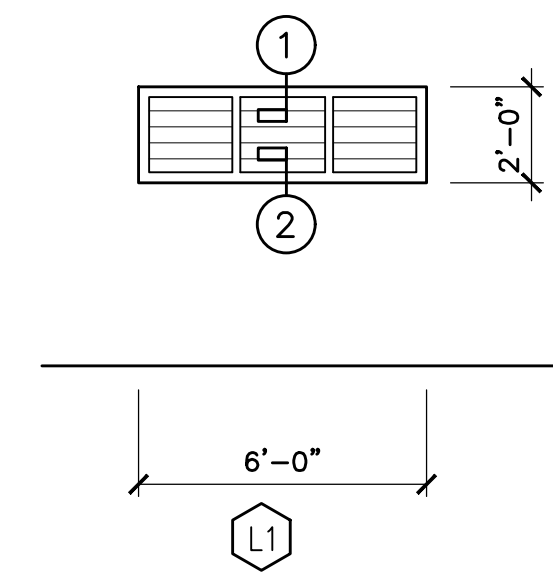
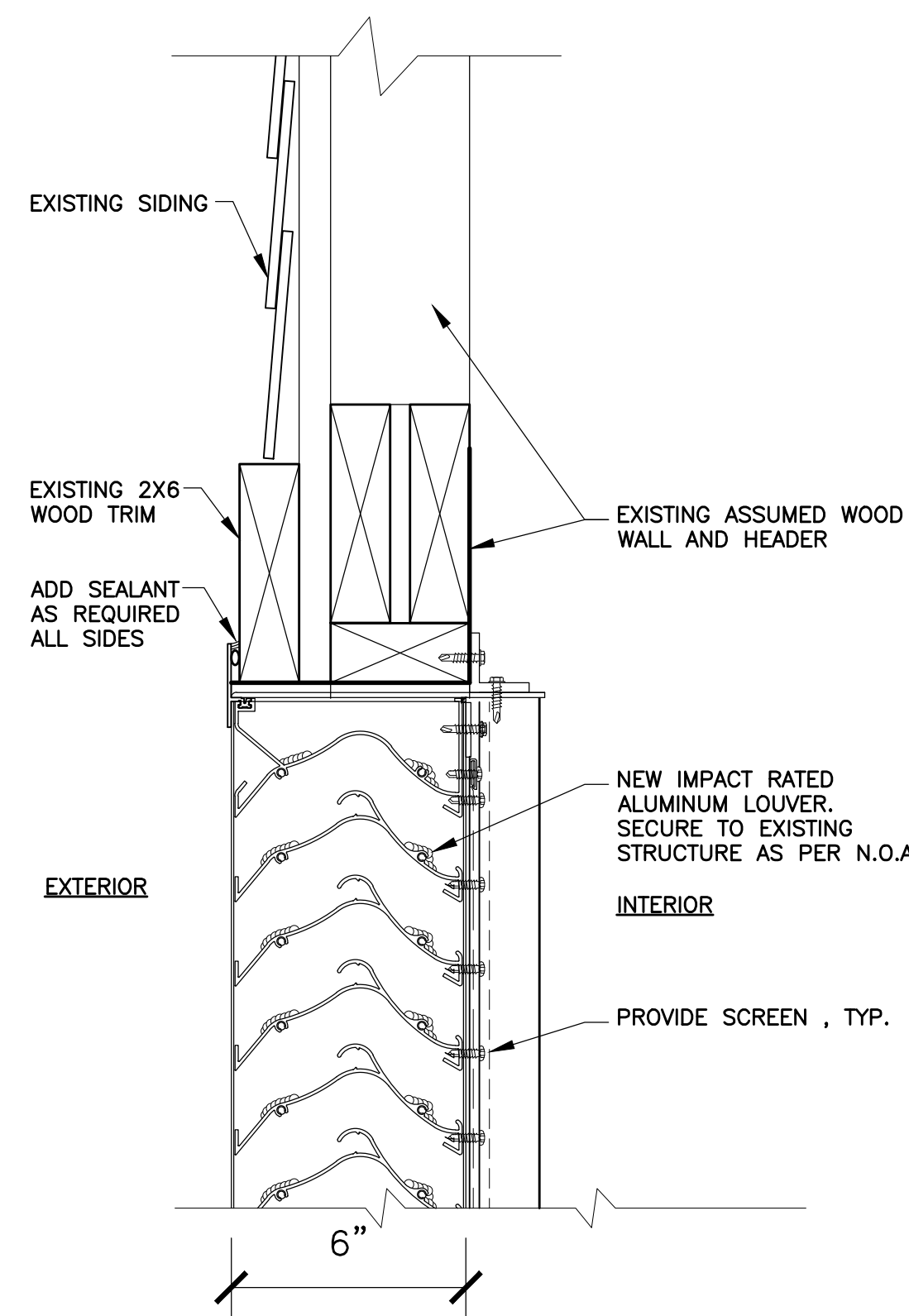
### LOUVER SCHEDULE

NO.	WIDTH	HEIGHT	FINISH	FRAME MAT.	DESIGN PRESSURES		PRODUCT APPROVAL #	MANUF. WIND LOAD RATING	MANUF./MODEL	DESCRIPTION
					(FIELD)	(CORNER)				
①	6'-0"	2'-0"	PRE-FINISHED	ALUMINUM		+68.80/-89.77	N.O.A.#20-1015.04	+120.0/-120.0	RUSKIN COMPANY-MODEL EMES20MD	ALUMINUM LOUVER, IMPACT RESISTANT, W/BIRD SCREENS

\*CONTRACTOR TO VERIFY ALL OPENING DIMENSIONS AND COORDINATE WITH MANUFACTURED PRODUCTS AVAILABLE. CONTRACTOR RESPONSIBLE FOR FINAL OPENING SIZES AND COORDINATION. CONTRACTOR TO INCORPORATE ANY REQUIRED MULLION STRUCTURAL SUPPORTS REQUIRED BY MANUFACTURER BETWEEN MULTIPLE OPENINGS.

NOTES:

- ALL EXTERIOR OPENINGS SHALL BE PROVIDED WITH DOORS, WINDOWS, OR LOUVERS WHICH MEET ASCE/SEI 7-16, FLORIDA BUILDING CODE, 2023 EDITION. WIND PRESSURE ON COMPONENTS AND CLADDING (CH 30 PART 1)
- ALL PRESSURES SHOWN ARE BASED UPON ASD DESIGN, WITH A LOAD FACTOR OF 0.6. 200 MPH, WIND LOAD AND IMPACT REQUIREMENTS, SEE SPECIFICATIONS.
- ALUM. STOREFRONT FRAMES, WINDOWS AND LOUVERS SHALL BE PREFINISHED WITH COLOR TO BE SELECTED BY THE ARCHITECT FROM MANUFACTURERS FULL RANGE OF AVAILABLE COLOR SELECTIONS.
- A FULL SHOP DRAWINGS SUBMITTAL IS REQUIRED AND SHALL INCLUDE ALL COMPONENTS OF THE STOREFRONT, WINDOW AND LOUVER ASSEMBLIES, INCLUDING PRODUCT APPROVALS FOR EACH MANUFACTURED PRODUCT, INDICATING TESTED COMPLIANCE WITH LOADING AND IMPACT REQUIREMENTS AS WELL AS SIZE, TYPE AND SPACING OF THE ANCHORS TO MEET LOADING REQUIREMENTS. ACCESSORY COMPONENTS SUCH AS BLOCKING, FLASHING AND SEALS AND ADJACENT CONSTRUCTION SHALL BE INDICATED, WHETHER PROVIDED BY THE ASSEMBLY MANUFACTURER OR OTHERS.
- DESIGN PRESSURES PROVIDED BY STRUCTURAL ENGINEER.
- CONTRACTOR TO PROVIDE FULL SET OF SHOP DRAWINGS SPECIFIC TO THIS PROJECT, INCLUDING BUT NOT LIMITED TO WINDOW, LOUVER AND STOREFRONT ELEVATIONS, SILL/JAMB/HEAD DETAILS, GLASS TYPE, NOA OR FLORIDA PRODUCT APPROVALS, FINISH SAMPLES, ETC.
- PATCH ALL WALLS (EXTERIOR AND INTERIOR) AS REQUIRED TO MATCH EXISTING, TYPICAL.



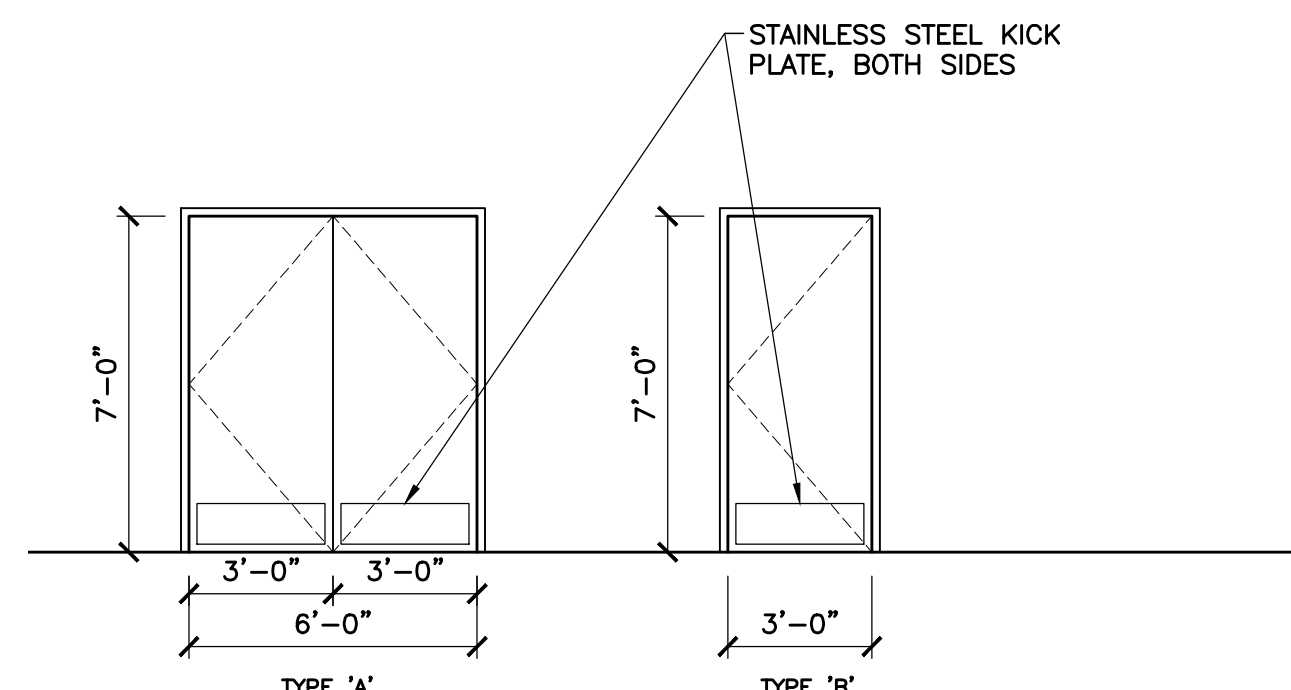
### DOOR SCHEDULE

NO.	LOCATION	SIZE (APPROX.)*			DOOR			FRAME		HARDWARE	N.O.A. #	DESIGN PRESSURES		MANUF. WIND LOAD RATING	MANUFACTURER	REMARKS
		WIDTH	HEIGHT	THICK	MATERIAL	FINISH	TYPE	MATERIAL	FINISH			(FIELD)	(CORNER)			
001	TRASH	7'-0" PAIR	7'-0"	1 3/4"	GALV. METAL	PAINT	A	GALV. METAL	PAINT	STORAGE	23-0821.19	65.62/-83.40	+90/-90	STEELCRAFT H SERIES	EXTERIOR, SWINGING DOOR, IMPACT RESISTANT, WEATHER STRIPPING, INSULATED, ADA HARDWARE	
002	RECYCLE	3'-0"	7'-0"	1 3/4"	GALV. METAL	PAINT	B	GALV. METAL	PAINT	STORAGE	23-0821.18	68.88/-89.92	+100/-100	STEELCRAFT H SERIES	EXTERIOR, SWINGING DOOR, IMPACT RESISTANT, WEATHER STRIPPING, INSULATED, ADA HARDWARE	

\*CONTRACTOR TO VERIFY ALL OPENING DIMENSIONS AND COORDINATE WITH MANUFACTURED PRODUCTS AVAILABLE. CONTRACTOR RESPONSIBLE FOR FINAL OR WOOD FRAMED OPENING SIZES AND COORDINATION. CONTRACTOR TO INCORPORATE ANY REQUIRED MULLION STRUCTURAL SUPPORTS REQUIRED BY MANUFACTURER BETWEEN MULTIPLE OPENINGS.

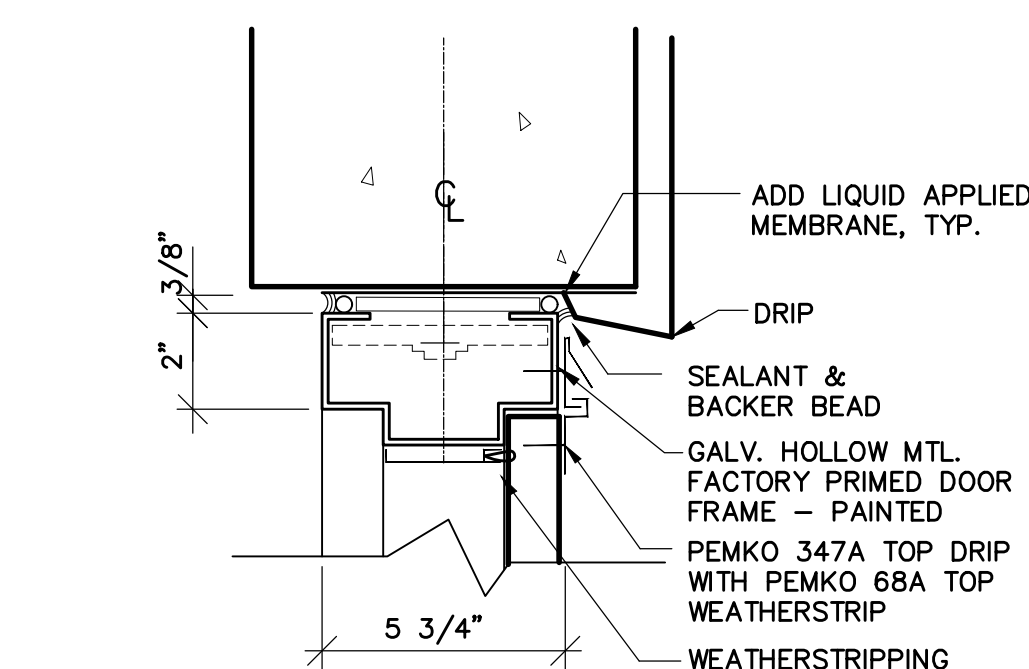
- ALL EXTERIOR OPENINGS OF THE BUILDING ENVELOPE SHALL BE PROVIDED WITH DOORS AND WINDOWS WHICH MEET ASCE/SEI 7-16, FLA. BUILDING CODE, 2023 EDITION.
- WIND PRESSURE ON COMPONENTS AND CLADDING (CH 30 PART 1)
- ALL PRESSURES SHOWN ARE BASED UPON ASD DESIGN, WITH A LOAD FACTOR OF 0.6. 200 MPH, WIND LOAD AND IMPACT REQUIREMENTS, SEE SPECIFICATIONS.
- DOORS SHALL BE PREFINISHED TO BE SELECTED BY THE ARCHITECT FROM THE MANUFACTURERS FULL RANGE OF AVAILABLE COLOR SELECTIONS INCLUDING CLEAR ANODIZED ALUM. COLOR
- DESIGN PRESSURES ARE PROVIDED BY THE STRUCTURAL ENGINEER.
- ALL FIRE RATED DOORS TO HAVE A PERMANENTLY AFFIXED LABEL NOTING RATING.
- ALL EXTERIOR FENESTRATIONS SHALL HAVE A MAXIMUM U-FACTOR AND SHGC AS PER FLORIDA COMMERCIAL (AND RESIDENTIAL IF APPLICABLE) ENERGY CONSERVATION BUILDING CODE 2023 UNLESS OTHERWISE NOTED IN PROFORMANCE METHOD CALCULATIONS PROVIDED BY ENGINEER.
- THE THERMAL ENVELOPE OF THE BUILDING SHALL COMPLY WITH FLORIDA COMMERCIAL ENERGY CONSERVATION BUILDING CODE 2023 AND SECTION C402.5. AND TABLE C402.5.2. FOR AIR LEAKAGE AND AIR BARRIER REQUIREMENTS. CONTRACTOR TO ENSURE ALL EXTERIOR DOORS AND WINDOWS ARE SEALED TO COMPLY WITH AIR LEAKAGE AND AIR BARRIER REQUIREMENTS. FOR RESIDENTIAL PROJECTS USE THE RESIDENTIAL SECTION OF THE CODE AND SECTION R402.4 AND TABLE 402.4.1.1 FOR MANDATORY AIR LEAKAGE REQUIREMENTS. ALL EXTERIOR FENESTRATIONS SHALL BE GASKETED, WEATHER-STRIPPED OR OTHERWISE SEALED.
- PROVIDE A FULL SET OF PROJECT SPECIFIC SHOP DRAWINGS MEETING DESIGN WIND LOADS FOR EACH OPENING AND INCLUDING ALL ELEVATIONS, JAMB/HEAD/THRESHOLD DETAILS AND ANY REQUIRED NOA'S OR FLORIDA PRODUCT APPROVALS.
- ALL METAL EXTERIOR DOORS TO BE INSULATED AND HAVE PROPER WEATHER STRIPPING IN ADDITION TO NOA REQUIREMENTS.
- CONTRACTOR TO MEET ALL CODE AND N.O.A. (OR FL. PRODUCT APPROVAL) REQUIREMENTS.
- CONTRACTOR TO PROVIDE FULL SET OF SHOP DRAWINGS SPECIFIC TO THIS PROJECT, INCLUDING BUT NOT LIMITED TO WINDOW, LOUVER AND STOREFRONT ELEVATIONS, SILL/JAMB/HEAD DETAILS, GLASS TYPE, NOA OR FLORIDA PRODUCT APPROVALS, FINISH SAMPLES, ETC.
- ALL DOOR HARDWARE TO MATCH EXISTING AS BEST AS POSSIBLE (MAINTAIN N.O.A. REQUIREMENTS). COORDINATE WITH OWNER ON ALL HARDWARE AND REQUIREMENTS.
- PATCH WALLS (EXTERIOR AND INTERIOR) AS REQUIRED TO MATCH EXISTING, TYPICAL.

①  
A3.2  
**LOUVER HEAD DETAIL**  
(JAMBS AND SILL SIMILAR) SCALE: 3"=1'-0"

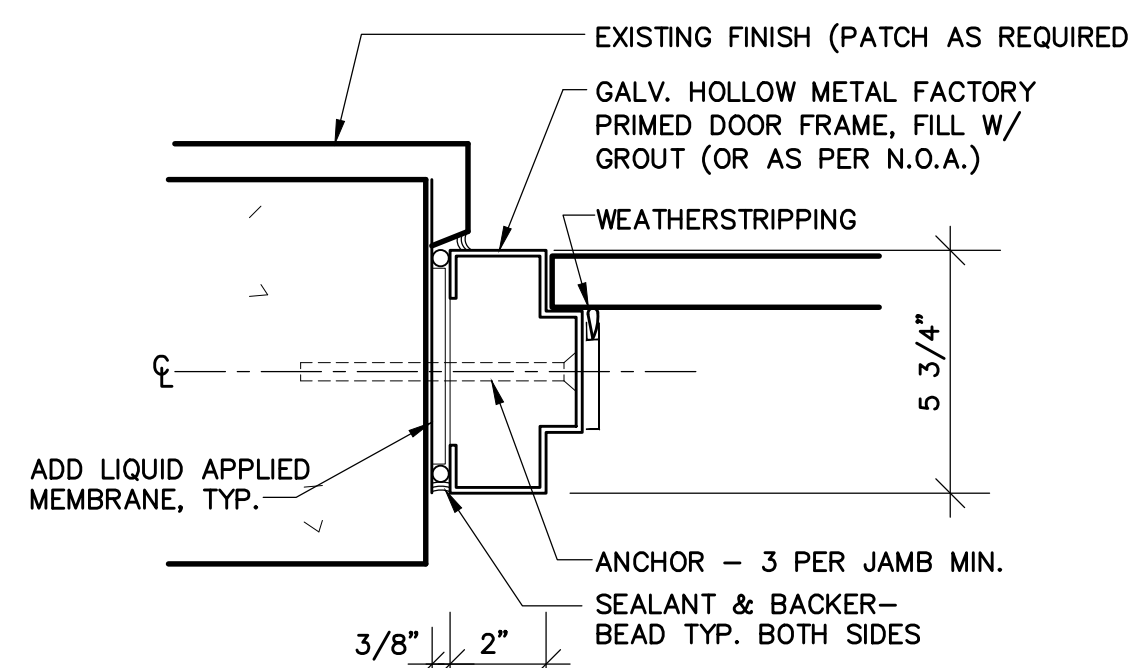


SWINGING DOORS BASIS OF DESIGN

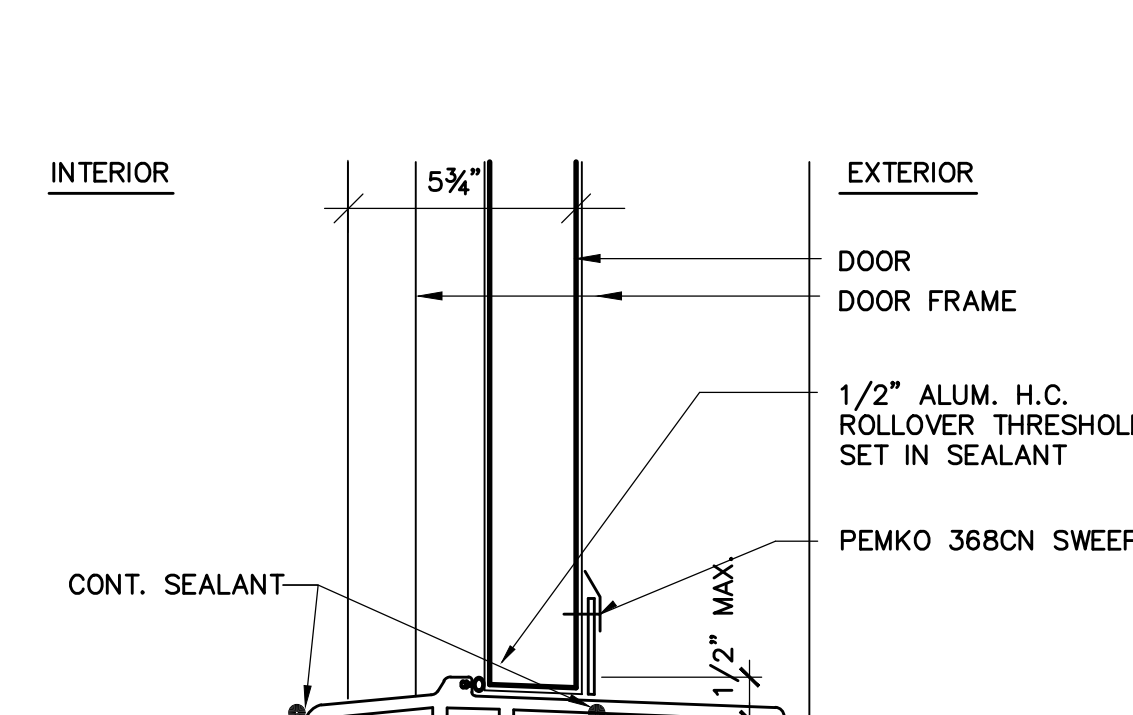
- SCHLAGE LOCK COMPANY, LLC. - SINGLE FLUSH OUT SWING DOOR - STEELCRAFT H SERIES FLUSH OUTSWING GALV. METAL DOOR, NOA #23-0821.18 (+100/-100)
- SCHLAGE LOCK COMPANY, LLC. - DOUBLE FLUSH OUT SWING DOOR - STEELCRAFT H SERIES FLUSH OUTSWING GALV. METAL DOOR, NOA #23-0821.19 (+90/-90)



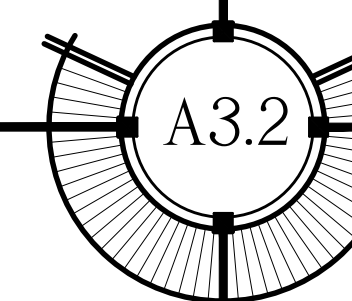
②  
A3.2  
**HEAD DETAIL**  
EXT. DOOR FRAME-METAL 3"=1'-0"



③  
A3.2  
**JAMB DETAIL**  
EXT. DOOR FRAME-METAL 3"=1'-0"



④  
A3.2  
**THRESHOLD DETAIL - H.C.**  
3"=1'-0"



SECTION 142400 - HYDRAULIC ELEVATORS

NEW ELEVATOR (BASIS OF DESIGN):

SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE ELEVATOR SYSTEM BY MOWERY - ME200H STANDARD HYDRAULIC ELEVATOR (HOLELESS), OR COMPARABLE PRODUCT BY ONE OF THE FOLLOWING:  
1. OTIS ELEVATOR CO.  
2. THYSSENKRUPP ELEVATOR  
3. SCHINDLER ELEVATOR CORP.

TWO STOP, FRONT OPENING, 2500 LB. CAPACITY, 125 FPM, 11'-6" TRAVEL, 2-STOPS

12'-3" CLEAR OVERHEAD (TO HOIST BM.)

COORDINATE ALL DETAILS OF THE INSTALLATION WITH THE ELEVATOR MANUFACTURER PRIOR TO CONSTRUCTION. PROVIDE A COMPLETE SHOP DRAWING SUBMITTAL FOR REVIEW INCLUDING ALL DETAILS OF CONSTRUCTION, ELECTRICAL REQUIREMENTS AND SAFETY FEATURES.  
PROVIDE ALL REQUIRED FEATURES INCLUDING:  
PIT - WITH ACCESS LADDER, PIT LIGHT, ELEC. OUTLET, SUMP AND SUMP PUMP.  
SHAFT - WITH RAIL SUPPORT, PENETRATIONS, HOIST BM., INFILL AT JAMBS AND SILLS AND MISC. WORK REQUIRED FOR A COMPLETE FINISH INSTALLATION.  
MACHINE ROOM - WITH VENTILATION/COOLING (COORD. W/ MECH. ENG.)  
COMPLY WITH ALL REQUIRED FIRE DEPARTMENT REQUIREMENTS.

ALL FEATURES SHALL COMPLY WITH STATE OF FLORIDA AND ADA HANDICAPPED REQUIREMENTS AND SHALL BE STRETCHER ACCESSIBLE.

INFORMATIONAL SUBMITTALS

- A. QUALIFICATION DATA: FOR INSTALLER.
- B. MANUFACTURER CERTIFICATES: SIGNED BY ELEVATOR MANUFACTURER CERTIFYING THAT HOISTWAY, PIT, AND MACHINE ROOM LAYOUT AND DIMENSIONS, AS SHOWN ON DRAWINGS, AND ELECTRICAL SERVICE, AS SHOWN AND SPECIFIED, ARE ADEQUATE FOR ELEVATOR SYSTEM BEING PROVIDED.
- C. SAMPLE WARRANTY: FOR SPECIAL WARRANTY.

CLOSEOUT SUBMITTALS

- A. OPERATION AND MAINTENANCE DATA: FOR ELEVATORS TO INCLUDE IN EMERGENCY, OPERATION, AND MAINTENANCE MANUALS.
  - 1. IN ADDITION TO ITEMS SPECIFIED IN SECTION 017823 "OPERATION AND MAINTENANCE DATA", INCLUDE DIAGNOSTIC AND REPAIR INFORMATION AVAILABLE TO MANUFACTURER'S AND INSTALLER'S MAINTENANCE PERSONNEL.
- B. INSPECTION AND ACCEPTANCE CERTIFICATES AND OPERATING PERMITS: AS REQUIRED BY AUTHORITIES HAVING JURISDICTION FOR NORMAL, UNRESTRICTED ELEVATOR USE.
- C. CONTINUING MAINTENANCE PROPOSAL: SUBMIT A CONTINUING MAINTENANCE PROPOSAL FROM INSTALLER TO OWNER, IN THE FORM OF STANDARD ONE-YEAR MAINTENANCE AGREEMENT, STARTING ON DATE INITIAL MAINTENANCE SERVICE IS CONCLUDED. STATE SERVICES, OBLIGATIONS, CONDITIONS, AND TERMS FOR AGREEMENT PERIOD AND FOR FUTURE RENEWAL OPTIONS.

WARRANTY

- A. MANUFACTURER'S SPECIAL WARRANTY: MANUFACTURER AGREES TO REPAIR, RESTORE, OR REPLACE ELEVATOR WORK THAT FAILS IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
  - 1. FAILURES INCLUDE, BUT ARE NOT LIMITED TO, OPERATION OR CONTROL SYSTEM FAILURE, INCLUDING EXCESSIVE MALFUNCTIONS; PERFORMANCES BELOW SPECIFIED RATING; EXCESSIVE WEAR; UNUSUAL DETERIORATION OR AGING OF MATERIALS OR FINISHES; UNSAFE CONDITIONS; NEED FOR EXCESSIVE MAINTENANCE; ABNORMAL NOISE OR VIBRATION; AND SIMILAR UNUSUAL, UNEXPECTED, AND UNSATISFACTORY CONDITIONS.
  - 2. WARRANTY PERIOD: FIVE YEAR(S) FROM DATE OF SUBSTANTIAL COMPLETION.

PERFORMANCE REQUIREMENTS

- A. REGULATORY REQUIREMENTS: COMPLY WITH ASME A17.1/CSA B44.
- B. ACCESSIBILITY REQUIREMENTS: COMPLY WITH SECTION 407 IN THE U.S. ARCHITECTURAL & TRANSPORTATION BARRIERS COMPLIANCE BOARD'S ADA-ABA ACCESSIBILITY GUIDELINES AND WITH IOC A117.1.
- C. NONPROPRIETARY SYSTEMS AND EQUIPMENT: PROVIDE SYSTEMS AND EQUIPMENT THAT CAN BE SERVICED AND REPAIRED BY ALL MAJOR ELEVATOR REPAIR CONTRACTORS.

ELEVATORS

- 1. CAR ENCLOSURES:
  - A. INSIDE HEIGHT: 92 INCHES TO UNDERSIDE OF CEILING.
  - B. FRONT WALLS (RETURN PANELS): SATIN STAINLESS STEEL, NO. 4 FINISH WITH INTEGRAL CAR DOOR FRAMES.
  - C. CAR FIXTURES: POLISHED STAINLESS STEEL, NO. 8 FINISH.
  - D. SIDE AND REAR WALL PANELS: TEXTURED STAINLESS STEEL.
  - E. REVEALS: SATIN STAINLESS STEEL, NO. 4 FINISH.
  - F. DOOR FACES (INTERIOR): TEXTURED STAINLESS STEEL.
  - G. DOOR SILLS: ALUMINUM, MILL FINISH.
  - H. CEILING: SATIN STAINLESS STEEL, NO. 4 FINISH.
  - I. HANDRAILS: 1 1/2" BY 2" INCHES RECTANGULAR SATIN STAINLESS STEEL, NO. 4., AT REAR OF CAR.
  - J. FLOOR PREPARED TO RECEIVE RUBBER FLOOR TILE.
- 2. HOISTWAY ENTRANCES:
  - A. HEIGHT: 84 INCHES.
  - B. TYPE: SINGLE-SPEED SIDE SLIDING.
  - C. FRAMES: SATIN STAINLESS STEEL, NO. 4 FINISH.
  - D. DOORS: SATIN STAINLESS STEEL, NO. 4 FINISH.
  - E. SILLS: ALUMINUM, MIL FINISH.

OPERATION SYSTEMS

- A. GENERAL: PROVIDE MANUFACTURER'S STANDARD MICROPROCESSOR OPERATION SYSTEM AS REQUIRED TO PROVIDE TYPE OF OPERATION INDICATED.
- B. AUXILIARY OPERATIONS: IN ADDITION TO PRIMARY OPERATION SYSTEM FEATURES, PROVIDE THE FOLLOWING OPERATIONAL FEATURES FOR ELEVATORS WHERE INDICATED:
  - 1. SINGLE-CAR BATTERY-POWERED LOWERING: WHEN POWER FAILS, CAR IS LOWERED TO THE LOWEST FLOOR, OPENS ITS DOOR, AND SHUTS DOWN. SYSTEM INCLUDES RECHARGEABLE BATTERY AND AUTOMATIC RECHARGING SYSTEM.
  - 2. AUTOMATIC DISPATCHING OF LOADED CAR: WHEN CARLOAD EXCEEDS 80 PERCENT OF RATED CAPACITY, DOORS START CLOSING.

HOISTWAY ENTRANCES

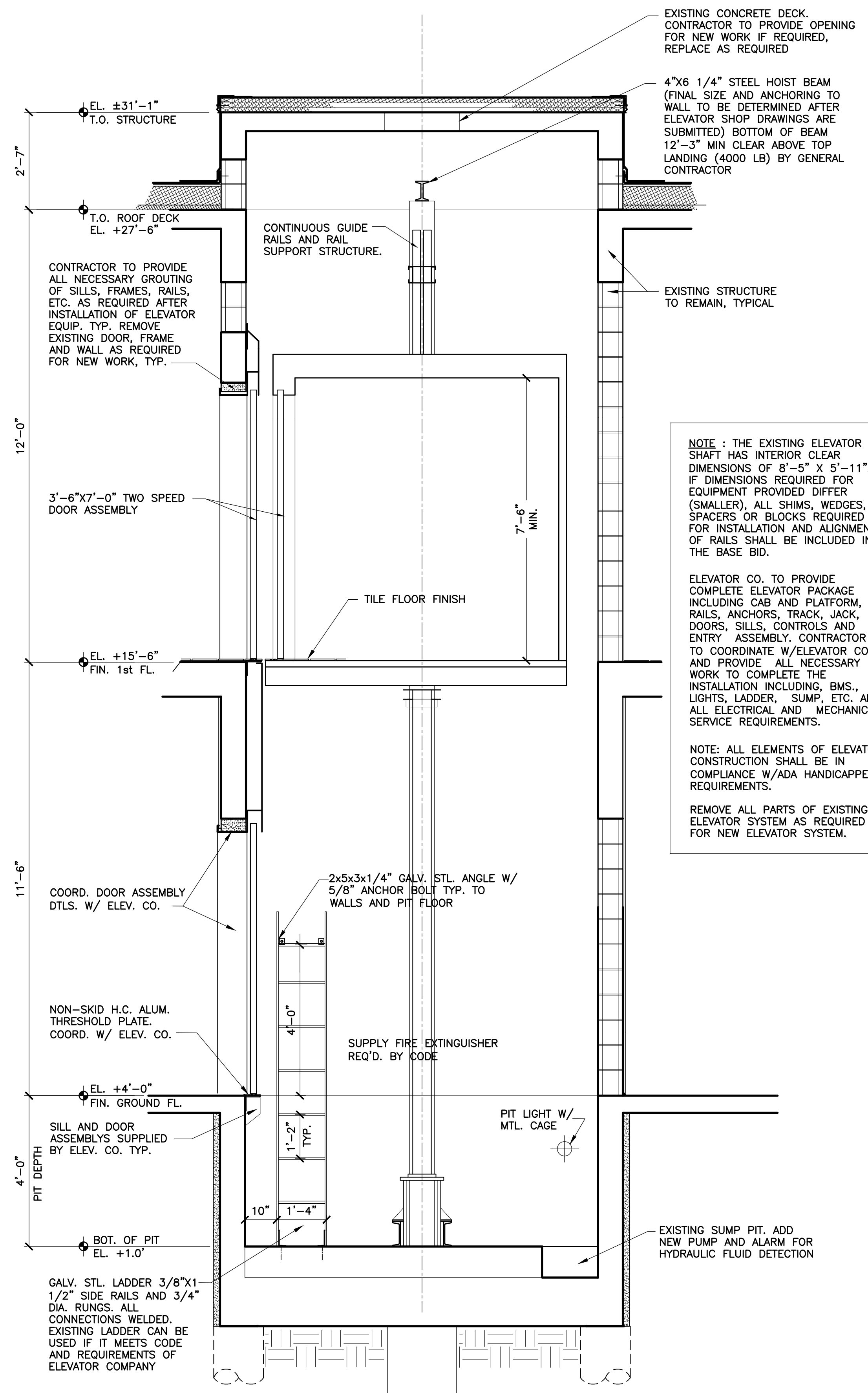
- A. HOISTWAY ENTRANCE ASSEMBLIES: MANUFACTURER'S STANDARD HORIZONTAL-SLIDING, DOOR-AND-FRAME HOISTWAY ENTRANCES COMPLETE WITH TRACK SYSTEMS, HARDWARE, SILLS, AND ACCESSORIES. FRAME SIZE AND PROFILE SHALL ACCOMMODATE HOISTWAY WALL CONSTRUCTION.
  - 1. WHERE GYPSUM BOARD WALL CONSTRUCTION IS INDICATED, FRAMES SHALL BE SELF-SUPPORTING WITH REINFORCED HEAD SECTIONS.
- B. FIRE-RATED HOISTWAY ENTRANCE ASSEMBLIES: DOOR AND FRAME ASSEMBLIES SHALL COMPLY WITH NFPA 80 AND BE LISTED AND LABELED BY A TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION BASED ON TESTING AT AS CLOSE-TO-NEUTRAL PRESSURE AS POSSIBLE ACCORDING TO NFPA 252 OR UL 10B.
  - 1. FIRE-PROTECTION RATING: 1 1/2" HOURS.

MAINTENANCE

- A. INITIAL MAINTENANCE SERVICE: BEGINNING AT SUBSTANTIAL COMPLETION, MAINTENANCE SERVICE SHALL INCLUDE 12 MONTHS' FULL MAINTENANCE BY SKILLED EMPLOYEES OF ELEVATOR INSTALLER. INCLUDE MONTHLY PREVENTIVE MAINTENANCE, REPAIR OR REPLACEMENT OF WORN OR DEFECTIVE COMPONENTS, LUBRICATION, CLEANING, AND ADJUSTING AS REQUIRED FOR PROPER ELEVATOR OPERATION. PARTS AND SUPPLIES SHALL BE MANUFACTURER'S AUTHORIZED REPLACEMENT PARTS AND SUPPLIES.
  - 1. PERFORM MAINTENANCE DURING NORMAL WORKING HOURS.
  - 2. PERFORM EMERGENCY CALLBACK SERVICE DURING NORMAL WORKING HOURS WITH RESPONSE TIME OF TWO HOURS OR LESS.

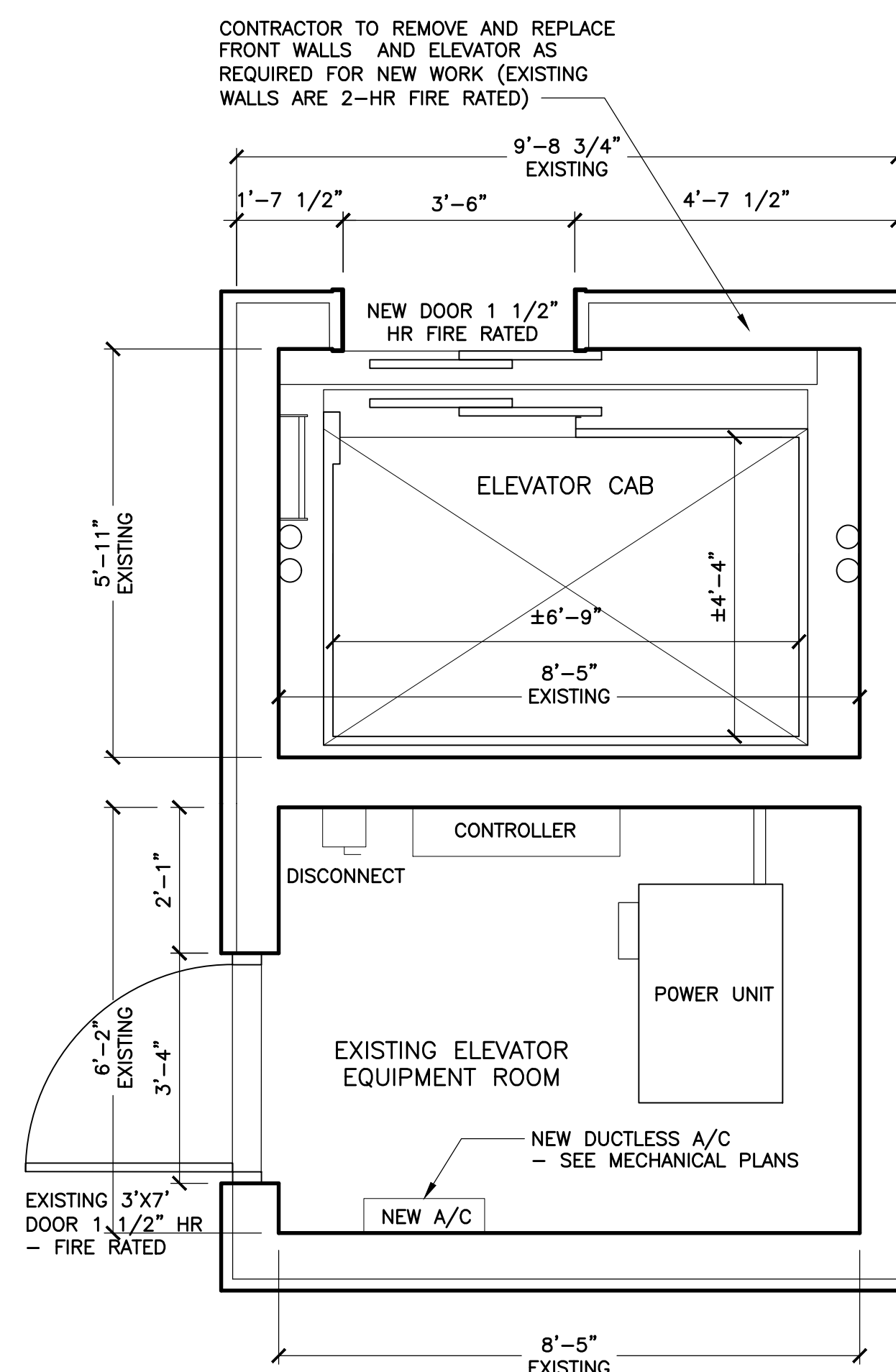
EXISTING ELEVATOR:

THE EXISTING ELEVATOR IS A THYSSEN KRUPP 2500 LB, SERIAL #EJ-9167 (CONSTRUCTED IN 1999).  
CONTRACTOR TO VISIT SITE AND INSPECT EXISTING CONDITIONS AS NECESSARY FOR THE NEW WORK.



ELEVATOR SECTION

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



ELEVATOR AND MACHINE ROOM PLAN

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

SEAL

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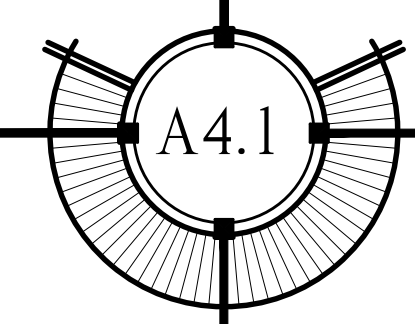
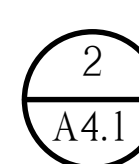
REVISIONS

DRAWN BY

JW  
EMA

PROJECT NUMBER

2312



## 01800 - GENERAL REQUIREMENTS

**Project Description:** The Contractor shall furnish all labor and materials required and necessary to provide a complete habitable, weatherproof, safe and secure finish building, suitable for human occupancy in accordance with Specifications, Drawing and Project Documents.

The Florida Building Code 2023 Edition, as amended by Governing Local Ordinances and requirements of the State of Florida "Coastal Zone Protection Act", together with applicable requirements of governing public agencies and the following listed codes shall apply to this project.

Florida Existing Building Code, 2023 Edition

Florida Building Code-Accessibility, 2023 Edition

Florida Building Code-Energy Conservation, 2023 Edition

National Electric Code Latest Edition

Florida Plumbing Code, 2023 Edition

Florida Mechanical Code, 2023 Edition

**FEMA:** Coordinate all building items required to be above flood elevation for project and other FEMA regulations that apply to the project.

Contractor shall visit the site to become familiar with existing conditions and requirements of construction prior to bidding.

Contractor shall complete new work in conformance with these drawings. Notify Architect if conflicts appear or are uncovered during the progress of the work prior to any field modifications or construction. Deviations from permitted drawings without Architects prior written approval shall be at the Contractors responsibility. Contractor is to verify all dimensions of project prior to proceeding with construction. Notify architect of any conflicts or problems so solutions can be achieved prior to construction. In event of conflict between drawings and specifications the most stringent requirements shall apply. Verification shall include, but not limited to, coordination of existing conditions, buildings and utilities. Notify architect of any conflicts so solution can be worked out prior to construction.

Contractor shall provide all subcontractors complete set of drawings, including drawings from other disciplines. Change orders will not be allowed because a subcontractor only looked at drawings for his discipline and not other disciplines. Contractor must review all drawings and notify Architect of any conflicts. If a conflict arises assume worst case scenario for bidding and or Construction (or notify Architect for clarification prior to bidding). General Contractor is responsible for reviewing the complete set of drawings and specifications and assuring that his and his subcontractors bids include complete work and systems (free of conflict with other contractors and subcontractors).

Contractor and subcontractor shall follow industry standards for each discipline. Drawings do not show every condition, fastener, etc. If something is not detailed, follow industry standards. Provide complete functioning systems.

Contractor needs to coordinate final color selections with owner and architect prior to ordering items. Factory finished items such as roofing, windows and doors need color and finish selections verified in writing by owner and architect prior to ordering.

**General Notes:**

- A. Engineer's approval must be secured for all structural substitutions.
- B. Verify all openings through floors, roof and walls with mechanical and electrical contractors. Verification of locations, sizes, lintel and required connections are contractor's complete responsibility.
- C. Prior to installation of mechanical and electrical equipment or other items to be attached to the structure, engineer's approval of connections and supports shall be obtained. Unless specifically detailed on architectural and structural drawings, respective sub-contractor shall furnish all hangers, connections, etc., required for installation of his items.
- D. Provide all embedded items in structure as noted on architectural, mechanical, electrical as well as structural drawings. Miscellaneous embedded items and anchor bolts shall be furnished by steel supplier and installed by concrete contractor.
- E. Contractor to verify all dimensions before proceeding with any new work
- F. Provide temporary bracing and precautions necessary to withstand all construction and/or wind loads until all field connections are completed and shear walls and decks are in place. All shoring is the responsibility of the contractor including use of a specialty engineer if required.
- G. Submit shop and erection drawings for all items required by the drawing or elsewhere in the specifications for written approval. The manufacture or fabrication of any items prior to written approval of shop drawings will be entirely at the risk of the contractor.

All references to standards to be of the latest issue applicable.

H. This project is in a coastal salt water environment. Contractor shall consider this in selections of materials used in the exterior and non-air conditioned areas. All materials shall be salt resistant.

I. Manufactured assemblies: such as roofing, soffits, panels, storefront, doors, windows and other external assemblies incorporated into the project shall require detailed shop drawing submittals. Miami Dade N.O.A'S or Florida product approvals providing tested assembly installation details and windload compliance are required. Manufacturers recommendations and requirements (including warranty requirements) shall be incorporated along with the latest industry standards and best practices. All final color selections or finishes shall be coordinated and verified with the owner and architect prior to ordering (typical).

J. Waterproofing, vapor barriers, waterstop, air seals,, etc. shall be as indicated in the Specifications and as per manufacturer and industry standards.

K. All penetrations of fire rated construction shall be treated with dampers, seals, collars, etc.

L. When working within occupied or partially occupied buildings it is the contractors responsibility to provide safe access and to maintain in operation all features of existing life safety systems including alarms, detectors, lighting and exit ways throughout the course of construction.

M. If in the event of conflicting, or overlapping requirements in any area of the proposed documents, technical specifications, or drawings, the most stringent condition shall be proposed and constructed.

## DIVISION 2 - SITE AND CIVIL WORK

**02250 - Demolition** shall include the removal of all items as indicated on the drawings, as well as incidental items necessary for new work to progress. All work shall be done in a workman like manner with minimal disturbance to existing to remain; see structural specifications for temporary shoring and bracing. All unwanted material to be removed from the site and properly disposed of. Unless noted otherwise, patch all areas to remain to match existing in areas damaged by demolition.

## DIVISION 3 - CONCRETE - SEE STRUCTURAL DRAWINGS

## DIVISION 4 - MASONRY - SEE STRUCTURAL DRAWINGS

## DIVISION 5 - METALS - SEE STRUCTURAL DRAWINGS

## DIVISION 6 - WOOD AND PLASTICS

**06100 - Rough Carpentry** all framing (and truss) lumber shall be dry southern pine, 19% MC, No. 2 or better, ( Fb = 975 PSI Minimum ). Member sizes noted on drawings are nominal.

Provide 1"x4" cross bridging not over 8 feet o.c. for all wood joist and 2 x solid blocking between joist at all supports. Provide 1x4 furring at 16"o.c. for all trusses that will have a finished ceiling below unless clearly written not to have furring in drawings.

**06130 Pressure Treated:** All wood indicated shall be pressure-treated with chemicals to protect from decay and insects. Dry after treatment. All metal connectors to be by Simpson Strong-Tie Company or equal approved in writing by the engineer and to be stainless steel finish, unless otherwise noted. All connectors to be installed with all Manufacture specified fasteners before loading. All nails used in pressure treated shall be stainless steel. Alternate connector/fastener materials may be approved on submittal of manufacturers data indicating compatibility with specific pressure treatment chemicals used in this project.

Note: It is intended to limit the use of pressure treated wood to avoid need for specialized or stainless steel anchor devices and fasteners. However, pressure treated is to be used in all moist and or exposed locations such as sills on concrete, near grade installations, exposed decks and rails, exterior open stairs, etc. and as required by code. Coordinate any questionable areas with architect.

## DIVISION 7 - THERMAL AND MOISTURE PROTECTION

**07311 - Roofing Underlayment:** At all sloped roofing installations, provide a high temperature, self-adhesive, membrane underlayment such as Grace 'Ultra' as manufactured by Grace Construction Products, or equal. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

- a. Carlisle Coating & Waterproofing Inc.
- b. GCP Applied Technologies Inc.
- c. Henry Company

The underlayment is intended to function as secondary roof membrane over the decking. As such the membrane shall be continuous over all portions of the roof, with seams laped a minimum of 3" and all penetrations for plumbing vents or other, sealed to the membrane. The membrane shall be self-sealing for small penetrations such as roofing assembly fasteners to the deck (nails or screws). The underlayment membrane shall be provided for all sloped roofing assemblies including: V crimp, standing seam, shingles and ceramic tile, unless specifically noted, not to be installed. The contractor shall verify compatibility of roofing materials and anchorage devices with the membrane and coordinate with roofing manufacturers requirements. Note that standing seam aluminum roofing assemblies require an additional layer of 30# felt between the membrane and roof material.

**07315 - Roofing Shop Drawings:** All roofing assemblies require shop drawing submittals. The submittal shall include all components of the assembly including base sheets (if any), insulation if integral to the assembly, cover board, membranes and attachment, including edge conditions. The submittal shall include N.O.A. test data for the entire assembly, as a unit, or for each component used, including anchorage/ attachment to its supporting substrate on down to the structural deck.

Documentation that the project specific roofing assembly meets design wind loading is required.

This can be accomplished by submittal of N.O.A. test data or by signed and sealed certification by a Florida Registered Engineer. Provide manufacturer's requirements and installation instructions for review.

## 075416 - Single Ply Kee Roofing Systems:

### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Adhered Roofing Systems.

#### 1.2 RELATED SECTIONS

- A. SECTION 07 56 00 LIQUID APPLIED POLYMETHYL METHACRYLATE (PMMA) FLASHINGS

#### 1.3 REFERENCES

- A. ASTM International (ASTM):
  1. ASTM D6754 - Standard Specification for Ketone Ethylene Ester Based Sheet Roofing.
  2. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
  3. ASTM C473 - Standard Test Methods for Physical Testing of Gypsum Panel Products.
  4. ASTM D6164 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
- B. American Society of Civil Engineers (ASCE):
  1. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.
- C. FM Approvals (FM):
  1. FM Standard 4470 - Single-Ply, Polymer-Modified Bitumen Sheet, Built-Up Roof (BUR) and Liquid Applied Roof Assemblies for use in Class 1 and Noncombustible Roof Deck Construction.
  2. Loss Prevention Data Sheets 1-28, 1-29.
- D. FBC - Florida Building Code.
- E. UL - Fire Resistance Directory.
  1. UL-790 - Standard Test Method for Fire Tests of Roof Coverings.
- F. Submit under provisions of Project Administrative Requirements.
- G. Product Data:
  1. Storage and handling requirements and recommendations by the roofing manufacturer.
  2. Dimensioned shop drawings, including roof plan detailing perimeter enhancement, flashing methods, terminations and acceptance by roofing manufacturer.
  3. Safety Data Sheets (SDS) relating to all products, chemicals and solvents.
- H. Shop Drawings: Include details of materials, construction and finish. Include relationship with adjacent construction.
- I. Warranty: Specimen warranty from roofing manufacturer with building name and street address included on the document.

#### 1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data:
  1. Most recent published technical literature and guide specifications issued by Manufacturer.
  2. Preparation instructions and recommendations.
  3. Storage and handling requirements and recommendations.
  4. Dimensioned shop drawings, including roof plan detailing perimeter enhancement, flashing methods, terminations, and acceptance by Manufacturer.
  5. Written approval from Manufacturer confirming any accessories submitted, not manufactured or expressly approved in FiberTite literature are acceptable and compatible with the proposed roofing system.
  6. Safety Data Sheets (SDS) relating to all products, chemicals and solvents.
  7. Certification that the system specified complies with identifiable building code requirements.
- C. Verification Samples: Two representative units of each type, size, pattern and color.

#### 1.5 QUALITY ASSURANCE

- A. The roofing systems shall be installed only by a roofing contractor authorized by the specified roofing manufacturer.
- B. Roofing contractor's key personnel shall have received specialized training by the roofing manufacturer.
- C. FiberTite Roofing Systems shall be installed in accordance with the most current guide specifications and details as amended or authorized by the roofing manufacturer for specific project requirements.
- D. A quality assurance inspection of the roof system shall be performed by the roofing manufacturer for acceptance and approval. This inspection shall be performed upon completion and certification by the Contractor that the roofing system has reached one hundred (100) percent completion:

#### 1.6 COORDINATION

- A. Prior to installation of materials, a pre-roofing conference shall be held with the roofing contractor and Owner or Owner's Representatives to discuss the specified roofing system, coordinate its proper application and the expectations of all parties involved. The authorized roofing contractor and the Owner's representative shall notify all parties prior to the meeting.
- B. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
- C. Materials, having been determined by the Owner's representative to be damaged, shall be immediately removed from the construction site and replaced at no cost to the Owner.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver all materials to the job site in manufacturer's original, unopened containers, with legible labels and in sufficient quantity to allow for continuity of work.
- B. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
- C. Materials, having been determined by the Owner's representative to be damaged, shall be immediately removed from the construction site and replaced at no cost to the Owner.

#### 1.8 JOB CONDITIONS

- A. Safety:
  1. Take necessary precautions regarding worker health and safety when using solvents, adhesives.
  2. Worker safety is paramount.
  3. Comply with OSHA requirements for roof construction and fall protection.
- B. Protection:
  1. Provide proper protection on newly completed roofing.
  2. Protect walls, rooftop units, windows and other components during installation.
- C. Additional Precautions:
  1. Daily production schedules shall be limited to what can be made one hundred (100) percent watertight at the end of each day, including flashing and night seals.

#### 1.9 DESIGN CONDITIONS

- A. Concrete Deck - Florida Building Code Non-HVHZ Approvals (FBC)
  1. KEE Single Ply Membrane With Rigid Insulation and Cover Board
    - a. FiberTite FBC FL4930-R23, System C-12, C-VB-8.
  - B. Florida Building Code, Non-High Velocity Hurricane Zone (Non-HVHZ).
  - C. Energy Star: Roof System shall comply with the initial and aged reflectivity required by the U.S. Federal Government's Energy Star program.
  - D. LEED: Roof system shall meet the reflectivity and emissivity criteria to qualify for one point under the LEED credit category, SSc7.2, Heat Island Effect - Roof.
- B. Adhesives for Insulation Attachment:
  1. Approved Insulation Adhesives:
    - a. Polyurethane Adhesive: Either a dual or single component polyurethane, dispensed from a portable pressurized container or traditional foam equipment.
    - 1) Approved Products:
      - a) Millenium PG-1 EF ECO

#### 1.8 WARRANTY

- A. Upon Inspection and Acceptance by the roofing manufacturer will issue the preauthorized warranty, subject to the terms and conditions of the specimen warranty and contract documents.

1. Warranty Type:
  - a. Full System Unlimited/NDL Material and Labor Warranty
  - b. Warranty to include manufactured copings and edge metal assemblies.
2. Time Period:
  - a. Twenty (20) year warranty.
3. Maintenance Requirements: Provide a set of instructions included detailing preventative maintenance requirements on the part of the building Owner and noting a list of harmful substances that may damage the FiberTite membrane.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Basis of Design: FiberTite, Seaman Corporation, Web: <https://www.fibertite.com>

Alternate Manufacturers:

- a. Tremco
  - b. Garland
- B. Substitutions: Roofing manufacturer must comply in all respects to the specified roofing membrane ASTM standards and local building code to be considered for equivalency.
  - C. Requests for substitutions will be considered in accordance with the provisions of this Section and Product Requirements.

### 2.2 MEMBRANE

- A. Standards Compliance: ASTM D6754, Current Edition, Standard Specification for Ketone Ethylene Ester (KEE) Sheet Roofing
- B. Field Membrane:
  4. FiberTite 50mil XT KEE Membrane: Nominal 50mil ketone ethylene ester (KEE) membrane reinforced with polyester reinforcement.
- C. Flashing Membrane:
  1. FiberTite 50mil KEE Membrane: Nominal 50mil ketone ethylene ester (KEE) membrane reinforced with polyester reinforcement.

### 2.3 ACCESSORY MATERIALS

- A. Field Membrane Adhesive:
  2. 190e Bonding Adhesive: VOC compliant solvent borne, contact (two-sided) bonding adhesive, for bonding non-fleece back FiberTite membranes to properly prepared and preauthorized horizontal and vertical substrates.
- B. Flashing Adhesive:
  3. 190e Bonding Adhesive: VOC compliant solvent borne, contact (two-sided) bonding adhesive, for bonding non-fleece back FiberTite membranes to properly prepared and preauthorized horizontal and vertical substrates.
- C. Fasteners:
  4. Securing membranes to structural concrete decks.
    - a. FiberTite Magnum Series: No. 14, buttress threaded, No. 3 Phillips head fastener constructed of case-hardened carbon steel with a reduced diameter drill point and corrosion resistant coating.
  - D. FTR Stress Plates: Used to anchor membranes at penetrations.
  5. FTR Magnum 2S: 2.375-inch Barbed Round Stress Plate; 20-gauge galvanized steel.
- E. Additional Accessory Components:
  1. Flashing Terminations Sealant: FTR-101. Single-component gun-grade polyether.
  2. Fabricated Metal Flashing: FiberClad Metal 48 x 120-inch sheets, .040 Aluminum.
  3. FTR Non-Reinforced Membrane: Field fabrication membrane, 60 mil non-reinforced vinyl membrane.
  4. Walkway and Protection Pads: FTR Tuff Trac walkway and protection material with slip-resistant design.
  5. FTR-Termination Bar: Membrane flashings restraint and termination seals. 0.125 x 1 x 120 inch 6060-T5 extruded aluminum bar with pre-punched slots, 8 inches on center.
  6. FiberTite Seam Cleaner: FiberTite Seam Cleaner is to be used with clean white cotton cloths or rags to clean contamination from the seam areas of the membrane prior to welding.
  7. FTR Cover Strips: 50mil KEE 6" x 100' stripping for perimeter enhancement of fasteners and plates in Zones 2 and 3.
  8. FTR T Joint Covers: Pre-cut 4 x 4 inches, 60 mil non-reinforced membrane to reinforce areas where three overlapping sheets of membrane intersect.
  9. Forti-lock PMMA Flashing System by FiberTite, Seaman Corporation.
  10. Alsan RS LO Primer: Manufactured by Soprema.
  11. U-Anchor U2400: Tie Down Anchors and Straps for mechanical equipment by FiberTite, Seaman Corporation.
  12. FiberTite Coping Cap - Metal Era.040 Aluminum, Standard Color, Kynar 500 Coating.

### 2.4 VAPOR RETARDERS

- A. Vapor Retarder - Concrete Decks:
  1. Modified SBS Base Sheet:
    - a. FTR SBS Poly 3.7 by Seaman Corporation.
      - 1) ASTM D6164, Type 1, Grade S, FiberTite SBS Membrane.
  2. Primer: FiberTite Blackhawk ASTM D41 asphalt primer.
  3. Cold Process Asphalt for Vapor Barrier: FTR SBS Adhesive.
  4. Roof Cement: FiberTite Blackhawk asphalt roof cement.

### 2.5 RELATED MATERIALS

- A. Wood Nailers: No. 2 or better construction grade lumber.
  1. Installation of other types of treated lumber should be verified with a design professional and manufacturer representative.

### 2.6 INSULATION - CONCRETE DECK

- A. Products must be pre-approved in writing by Manufacturer and comply with minimal characteristics and classification listed for the products below:
  1. Polyisocyanurate Rigid Insulation: ASTM C1289, Type II, Class 2, Grade 2
    - a. FTR-Value H or FTR-Value A Polyisocyanurate Rigid Insulation.
      - 1) Minimum thickness one and one-half (1 1/2) inches
      - 2) Maximum Forty-eight (48) by Forty-eight (48) inches in dimension
      - 3) Finished tapered slope and crickets at roof line of one-quarter (1/4) inch per foot
      - 4) Compressive Strength: 20psi
      - 5) Coated Glass Facer
    2. Gypsum Cover Board: ASTM C473
      - 1) Securock Gypsum Fiber
      - 2) Minimum thickness one-quarter (1/4) inch
      - 3) Maximum Forty-eight (48) by Forty-eight (48) inches in dimension
  - B. Adhesives for Insulation Attachment:
    1. Approved Insulation Adhesives:
      - a. Polyurethane Adhesive: Either a dual or single component polyurethane, dispensed from a portable pressurized container or traditional foam equipment.
      - 1) Approved Products:
        - a) Millenium PG-1 EF ECO

## PART 3 EXECUTION

### 3.1 GENERAL

- A. Authorized Roofing Contractor: Ensure strict compliance with manufacturer guide specifications for installation of roofing membrane systems.
  1. Provide suitable substrate for proper installation of roofing system, roof insulation and specified components.
  2. Coordinate installation ensuring system remains watertight at end of each working day.
- B. Application of roofing materials constitutes an agreement that roofing contractor inspected and found the substrate suitable for installation of roofing system.

## 3.2 SUBSTRATE PREPARATION

- A. Roofing Contractor: Verify the deck condition or existing roof construction is suitable for the specified installation.
- B. Examine surfaces for inadequate anchorage, low areas that will not drain properly, foreign material, wet insulation, unevenness, or any other defect which would prevent the proper execution and quality application roofing system as specified.
- C. Prepared substrate shall be smooth, dry, and free of debris or any other irregularities which would interfere with proper installation.
- D. Adhesives will not bond to wet, damp or inadequately cured materials.
- E. Do not proceed with any part of the application until all defects and preparation work have been corrected and complete.
- F. Removal of Existing Roof Systems:
  1. Remove all existing roofing materials including all lightweight insulating concrete to the structural concrete deck, including all flashings, metal and deteriorated wood blocking and legally dispose off-site.
  2. Remove only enough roofing to accommodate the day's work and ensure the exposed area can be made one hundred (100) percent watertight at the end of the day or first sign of inclement weather.

### 3.3 WOOD NAILERS

- A. Install pressure treated lumber at same heights as insulation layer or adjacent construction plus or minus one-quarter (1/4) inch. Install continuous treated wood nailers at all perimeters, around roof projections and penetrations as shown in approved details.
- B. Wood Nailers Installed Directly on the Substrate: Carefully examine substrates to confirm the entire area provides a suitable fastening surface.
- C. Nailers (WxH): 3.5 x 1.5 inches. Installed and anchored in such a manner to resist a force of two hundred fifty (250) lbs per linear foot, of wood blocking in any direction.
- D. Nailers along parapets, curbs and expansion joints are required.

## 3.4 VAPOR RETARDERS

- A. General:
  1. Approved vapor retarder, when required or specified, shall be applied only to properly prepared and preapproved substrates.
  2. Install no more than can be covered or made one hundred (100) percent watertight during the same working day.
  3. Vapor retarders shall be installed starting at the low point of the roof deck.
  4. Vapor retarder shall be side lapped, a minimum of three (3) inches and properly shingled to shed water to the roof drains.
- B. Vapor Barrier - Concrete Deck
  1. Prime deck prior to the application according to manufacturer recommendations after the roof is removed.
  2. Install FTR Poly 3.7 SBS Base Sheet using FTR SBS Adhesive cold process Adhesive to adhere one ply to the entire surface of the concrete deck and flashings.
  3. Shingle in direction of slope of roof to shed water on each area of roof to drains.

## 3.5 ROOF INSULATION INSTALLATION

- A. General:
  1. The finished tapered slope at the single ply membrane must be a minimum of one-quarter (1/4) inch per foot in all directions to the primary drainage.
  2. Insulation Boards: Maximum four (4) x four (4) feet.
  3. Gypsum Coverboards: Maximum four (4) x four (4) feet.
  4. Install insulation with minimum joint dimensions and tightly butted where possible.
    - a. Maximum Joint Widths: three-eighths (3/8) inch.
    - b. Damaged Corners: Cut out and replaced with an insulation piece a minimum of twelve (12) by twelve (12) inches. Pieces that are cut from larger panels and are smaller than one square foot are not acceptable.
  5. Install no more than can be covered during the same working day.
  6. Taper roof insulation to drain sumps using tapered edge strips.
    - a. If insulation layer is one and one-half (1.5) inches or less, taper twelve (12) inches from drain bowl.
    - b. If insulation thickness exceeds one and one-half (1.5) inches, taper eighteen (18) inches from drain bowl.
    - c. Taper boards or pieces must be adhered or mechanically fastened with a minimum of two fasteners per board.
  7. When a cover board or multiple layers are installed, each layer must be offset from the previous layer a minimum of twelve (12) inches on center.
  8. At the end of each working day, provide a watertight cover on all unused insulation as to avoid moisture penetration.
- B. Adhered Insulation and Cover Board - Concrete Deck
  1. Polyurethane Foam Adhesive:
    - a. Adhesive shall be applied only to properly prepared and pre-approved substrates, free of any debris, dirt, grease, oil or moisture.
    - b. The minimum product temperature at time of application shall be seventy (70) degrees F.
    - c. Adhesives shall not be applied when surface or ambient temperatures are below forty (40) degrees F or above one hundred ten (110) degrees F.
    - d. Insulation shall be fully bonded to the substrate with a maximum board size of forty-eight (48) x forty-eight (48) inches.
    - e. Insulation shall be set into a continuous one-half (1/2) inch bead of adhesive at a minimum rate required by the manufacturer.
    - f. Adhesive rates are to be increased in roof perimeter and corner zones according to specific project requirements and manufacturer's design recommendations.
    - g. Place the boards onto the adhesive beads and walk on the boards, spreading the adhesive for maximum contact.
    - h. A second walking may be required after 10 minutes to ensure maximum contact and bond strength.

## 3.6 INSTALLATION OF MEMBRANES

- A. Quality Control:
  1. It is the responsibility of the roofing contractor to initiate and maintain a Quality Control program to govern all aspects of the installation.
  2. The project foreman and or supervisor will be responsible for the daily execution of the Quality Control program which will include but is not limited to the supervision, inspection and probing of all heat welded seams incorporated within roofing system.
  3. If inconsistencies in quality of the application of the composite, membrane or welds are found, work shall cease until corrective actions are taken to ensure the continuity the installation.

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AR 13537

FERRY TERMINAL  
RENOVATION

100 Grinnell Street

KEY WEST, FLORIDA.

SEAL

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WILLIAM P. HORN

DATE

07-05-2024 BID

REVISIONS

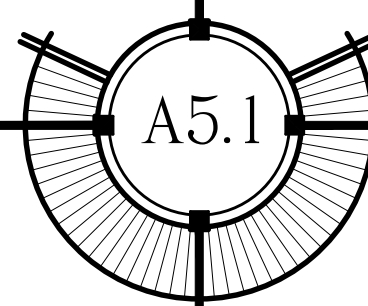
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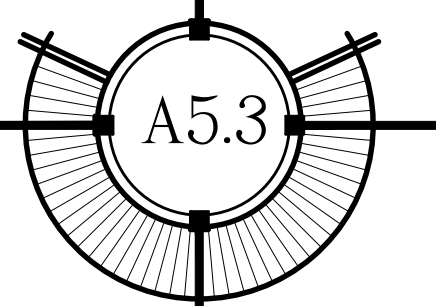


FERRY TERMINAL RENOVATION

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KEY WEST, FLORIDA





- 2.4 MISCELLANEOUS MATERIALS
- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for a complete roofing system and as recommended by fabricator for sheet metal roofing.
- B. Fasteners: 316 stainless steel self-tapping screws and other suitable fasteners designed to withstand design loads.
1. Exposed Fasteners: Heads matching color of sheet metal roofing by means of plastic caps or factory-applied coating.
  2. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws with hex washer head.
  3. Blind Fasteners: High-strength aluminum or stainless-steel rivets.
- C. Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.
- D. Elastomeric Joint Sealant: ASTM C 920, of base polymer, type, grade, class, and use classifications required to produce joints in sheet metal roofing that will remain weathertight and as recommended by roll-formed sheet metal roofing manufacturer for installation indicated.
- E. Expansion-Joint Sealant: For hooked-type expansion joints, which must be free to move, provide nonsetting, nonhardening, nonmigrating, heavy-bodied polyisobutylene sealant.
- 2.5 ACCESSORIES
- A. Sheet Metal Roofing Accessories: Provide components required for a complete sheet metal roofing assembly including trim, copings, fasciae, corner units, ridge closures, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of sheet metal roofing, unless otherwise indicated.
1. Closures: Provide closures at eaves and ridges, fabricated of same metal as sheet metal roofing.
  2. Clips: Minimum 0.0625-inch- (1.6-mm-) thick, stainless-steel panel clips designed to withstand negative-load requirements.
- B. Flashing and Trim: Formed from 0.0239-inch thick, zinc-coated (galvanized) steel sheet or aluminum-zinc alloy-coated steel sheet preprimed with coil coating. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent sheet metal roofing.
- C. Pipe Flashing: Premolded, EPDM pipe collar with flexible aluminum ring bonded to base.
- 2.6 FABRICATION
- A. Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
- C. Fabricate metal panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.
- D. Fabricate sheet metal roofing to allow for expansion in running work sufficient to prevent leakage, damage, and deterioration of the Work. Form exposed sheet metal work to fit substrates without excessive oil canning, buckling, and tool marks, true to line and levels indicated, and with exposed edges folded back to form hems.
1. Form and fabricate sheets, seams, strips, cleats, valleys, ridges, edge treatments, integral flashings, and other components of metal roofing to profiles, patterns, and drainage arrangements shown and as required for leakproof construction.
- E. Sealant Joints: Where movable, nonexpansion-type joints are indicated or required to provide weathertight seams, form metal to provide for proper installation of elastomeric sealant, in compliance with SMACNA standards.
- F. Metal Protection: Where dissimilar metals will contact each other, protect against galvanic action by painting contact surfaces with bituminous coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by manufacturers of dissimilar metals or by fabricator.
- G. Sheet Metal Accessories: Custom fabricate flashings and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Obtain field measurements for accurate fit before shop fabrication.
1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
  2. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
  3. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
  4. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.
  5. Conical fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
  6. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
    - a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" for application but not less than thickness of metal being secured.
- 2.7 FINISHES, GENERAL
- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- D. Steel Panels and Accessories:
1. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instruction for seacoast and severe environments.
  2. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.
- E. Aluminum Panels and Accessories (Alternate):
1. Two-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions for seacoast and severe environments.
- PART 3 - EXECUTION
- 3.1 EXAMINATION
- A. Examine substrates, areas, and conditions, with installer present, for compliance with requirements for installation tolerances, sheet metal roofing supports, and other conditions affecting performance of work.
1. Examine primary and secondary roof framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed.
  2. Examine solid roof sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances.
  3. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and completely anchored, and that provision has been made for flashings, and penetrations through sheet metal roofing.
  4. For the record, prepare written report, endorsed by installer, listing conditions detrimental to performance of work.
- B. Examine roughing-in for components and systems penetrating sheet metal roofing to verify actual locations of penetrations relative to seam locations of sheet metal roofing before sheet metal roofing installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.
- 3.2 PREPARATION
- A. Install flashings and other sheet metal to comply with requirements specified in Division 7 Section "Sheet Metal Flashing and Trim."
- B. Install fasciae and copings to comply with requirements specified in Division 7 Section "Sheet Metal Flashing and Trim."
- 3.3 UNDERLAYMENT INSTALLATION
- C. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free, on roof sheathing under sheet metal roofing. Apply primer if required by underlayment manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation; use primer rather than nails for installing underlayment at low temperatures. Apply at locations indicated below, in single fashion to shed water, with end laps of not less than 6 inches (150 mm) staggered 24 inches (600 mm) between courses. Overlap side edges not less than 3-1/2 inches (90 mm). Roll laps with roller. Cover underlayment within 14 days.
1. Entire roof surface area
- D. Install flashings to cover underlayment to comply with requirements specified in Division 7 Section "Sheet Metal Flashing and Trim."
- E. Apply slip sheet over underlayment before installing sheet metal roofing where recommended by panel manufacturer.

- G. Preinstallation Conference: Conduct conference at Project site. Comply with requirements in Division 1 Section "Project Management and Coordination." Review methods and procedures related to sheet metal roofing including, but not limited to, the following:
1. Meet with Owner, Architect, Owner's insurer if applicable, sheet metal roofing installer, manufacturer's representative for sheet metal roofing portable roll-forming equipment, metal deck installer, and installers whose work interfaces with or affects sheet metal roofing including installers of roof accessories and roof-mounted equipment.
  2. Review and finalize construction schedule and verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  3. Review methods and procedures related to sheet metal roofing installation, including portable roll-forming equipment manufacturer's written instructions.
  4. Examine metal deck conditions for compliance with requirements, including flatness and attachment to structural members.
  5. Review structural loading limitations of metal deck during and after roofing.
  6. Review flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect sheet metal roofing.
  7. Review governing regulations and requirements for insurance, certificates, and testing and inspecting if applicable.
  8. Review temporary protection requirements for sheet metal roofing during and after installation.
  9. Review roof observation and repair procedures after sheet metal roofing installation.
  10. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.
- 1.5 DELIVERY, STORAGE, AND HANDLING
- A. Deliver metal coils, sheet metal roofing pans, components, and other sheet metal roofing materials so as not to be damaged or deformed. Package sheet metal roofing materials for protection during transportation and handling.
- B. Unload, store, and erect sheet metal roofing materials in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack materials on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal coils and sheet metal roofing materials to ensure dryness. Do not store metal coils or sheet metal roofing materials in contact with other materials that might cause staining, denting, or other surface damage.
- D. Protect strippable protective covering on sheet metal roofing from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal roofing installation.
- 1.6 WARRANTY
- A. Special Warranty on Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace sheet metal roofing that shows evidence of deterioration of factory-applied finishes within specified warranty period.
1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
    - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
    - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
    - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
    - d. Finish Warranty Period: 20 years from date of Substantial Completion, (Aluminum Alt.)
- B. Special Weatherliness Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.
1. Warranty Period: 20 years from date of Substantial Completion.
- PART 2 - PRODUCTS
- 2.1 MANUFACTURERS
- A. Basis-of-Design Product: Subject to compliance with requirements, including applicable Florida Product Approval, provide Engler, Inc. Series 1300 FL 11727.1 R17 for steel, FL 11727.2 R17 for Aluminum or a comparable product by one of the following:
1. ATAS International, Inc.
  2. Engler, Inc.
  3. Fabral
  4. Firestone Building Products
  5. MBCI
  6. McElroy Metal, Inc.
  7. Merchant and Evans.
  8. Morin - A Kingspan Group Company
  9. PAC-CLAD; Petersen Aluminum Corporation; a Carlisle company.
  10. Garland Company, Inc.
- 2.2 STANDING SEAM METAL ROOF PANELS
- A. Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips inside laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.
1. Steel Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E1514.
  2. Aluminum Panel Systems (Alternate): Unless more stringent requirements are indicated, comply with ASTM E1637.
- B. Vertical-Rib, Seamed-Joint, Standing-Seam Metal Roof Panels: Formed with vertical ribs at panel edges and a flat pan between ribs; designed for sequential installation by mechanically attaching panels, using concealed clips located under one side of panels, engaging opposite edge of adjacent panels, and mechanically seaming panels together with 180 degree bend.
- C. Vertical-Rib, Snap-Joint, Standing-Seam Metal Roof Panels (contractor opinion): Formed with vertical ribs at panel edges and a flat pan between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels, engaging opposite edge of adjacent panels, and snapping panels together.
1. Metallic-Coated Steel Sheet: Aluminum-zinc alloy-coated steel sheet complying with ASTM A792/A792M, Class AZ50 coating designation; structural quality. Prepared by the coil-coating process to comply with ASTM A755/A755M.
    - a. Nominal Thickness: Not less than 0.028 inch (1.2 mm).
    - b. Exterior Finish: Two-coat fluoropolymer.
  2. Color: As selected by Architect from manufacturer's full range.
  3. Aluminum Sheet (Alternate): Coil-coated sheet, ASTM B209, alloy as standard with manufacturer, with temper as required to suit forming operations and structural performance required.
    - a. Thickness: Not less than 0.032 inch.
    - b. Surface: Smooth, flat finish.
    - c. Exterior Finish: Two-coat fluoropolymer.
    - d. Color: As selected by Architect from manufacturer's full range.
  3. Clips: Two-piece floating to accommodate thermal movement.
    - a. Material: 0.0625-inch (1.2 mm)-thick, stainless steel sheet.
    4. Join Type: Double folded or snap seam.
    5. Panel Coverage: 16 to 18 inches.
    6. Panel Height: 1.5 to 3.0 inches.
- 2.3 UNDERLAYMENT MATERIALS
- A. Self-Adhering, High-Temperature Underlayment: Provide self-adhering, cold-applied, sheet underlayment, a minimum of 30 mils thick, consisting of slip-resistant, polyethylene-film top surface laminated to a layer of butyl or SBS-modified asphalt adhesive, with release-paper backing. Provide primer when recommended by underlayment manufacturer.
1. Thermal Stability: Stable after testing at 240 deg F; ASTM D1970.
  2. Low-Temperature Flexibility: Passes after testing at minus 20 deg F; ASTM D1970.

- 3.08 CLEAN UP
- A. Uncured resin is considered a hazardous material. Unused resin must be catalyzed and cured prior to disposal.
- B. Clean up and properly dispose of waste and debris resulting from these operations each day as required to prevent damages and disruptions to operations.
- 3.09 PROTECTION
- A. Upon completion of new work (including all associated work), institute appropriate procedures for surveillance and protection of finished work during remainder of construction period. Protect all areas where waterproofing membrane has been installed.
- 07610 - Sheet Metal Roofing
- PART 1 - GENERAL
- 1.1 SUMMARY
- A. This Section includes the following:
1. Standing-seam metal roofing, Metallic coated steel (Base Bid)
  2. Standing-Seam metal roofing: aluminum sheet (Alt. #1)
- 1.2 PERFORMANCE REQUIREMENTS
- A. General: Provide complete sheet metal roofing system, including, but not limited to, metal roof panels, cleats, clips, anchors and fasteners, sheet metal flashing and drainage components related to sheet metal roofing, fascia panels, trim, underlayment, and accessories as indicated and as required for a weathertight installation.
- B. Sheet Metal Standard for Flashing and Trim: Comply with NRC's "The NRCA Roofing Manual. Architectural Metal Flashing, Condensation and Air Leakage Control, and Reroofing" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. Energy Performance: Provide roof panels that are listed on the EPA/DOE's ENERGY STAR "Roof Product List" for steep-slope roof products.
- D. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. when tested according to ASTM E1680 or ASTM E283 at the following test-pressure difference:
1. Test Pressure: 6.24 lbf/sq. ft.
- E. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E1646 or ASTM E331 at the following test-pressure difference:
1. Test Pressure: 6.24 lbf/sq. ft.
- F. Hydrostatic-Head Resistance: No water penetration when tested according to ASTM E2140.
- G. High Wind Zone Design Approval: Miami-Dade NOA for velocity hurricane zone.
- H. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.
- I. Thermal Movements: Provide sheet metal roofing that allows for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of sheet metal roofing thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- 1.3 SUBMITTALS
- A. Product Data: For each product indicated. Include details of construction relative to materials, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: Show fabrication and installation layouts of sheet metal roofing, including plans, elevations, and keyed references to termination points. Distinguish between shop- and field-assembled work. Include the following:
1. Details for forming sheet metal roofing, including seams and dimensions.
  2. Details for joining and securing sheet metal roofing, including layout of fasteners, clips, and other attachments. Include pattern of seams.
  3. Details of termination points and assemblies, including fixed points.
  4. Details of expansion joints, including showing direction of expansion and contraction.
  5. Details of roof penetrations.
  6. Details of edge conditions, including eaves, ridges, valleys, rakes, crickets, and counterflashings.
  7. Details of special conditions.
  8. Details of connections to adjoining work.
  9. Details of the following accessory items, at a scale of not less than 1-1/2 inches per 12 inches (1:10):
    - a. Flashing and trim.
- C. Coordination Drawings: Roof plans drawn to scale and coordinating penetrations and roof-mounted items. Show the following:
1. Sheet metal roofing and attachments.
  2. Purlins and rafters.
- D. Samples for Initial Selection: For each type of sheet metal roofing indicated with factory-applied color finishes.
1. Include similar Samples of trim and accessories involving color selection.
- E. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:
1. Sheet Metal Roofing: 12 inches (300 mm) long by actual panel width, including finished seam. Include fasteners, cleats, clips, closures, and other attachments.
  2. Trim and Closures: 12 inches (300 mm) long. Include fasteners and other exposed accessories.
  3. Accessories: 12-inch- (300-mm-) long Samples for each type of accessory.
- F. Qualification Data: For installer.
- G. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for sheet metal roofing portable roll-forming equipment. Include reports for structural performance.
- H. Warranties: Special warranties specified in this Section.
- 1.4 QUALITY ASSURANCE
- A. Installer Qualifications: Fabricator of sheet metal roofing.
- B. Custom-Fabricated Sheet Metal Roofing Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate sheet metal roofing similar to that required for this Project and whose products have a record of successful in-service performance.
- C. Roll-Formed Sheet Metal Roofing Fabricator Qualifications: An authorized representative of roll-formed sheet metal roofing manufacturer for fabrication and installation of units required for this Project.
- D. Sheet Metal Roofing Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.
- E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and qualities of materials and execution.
1. Build mockup of typical roof eave, including fascia, and soffit as shown on Drawings; approximately 48 inches (1200 mm) square by full thickness, including attachments, underlayment, and accessories.
  2. Approval of mockups is for other material and construction qualities specifically approved by Architect in writing.
  3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless such deviations are specifically approved by Architect in writing.
  4. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- F. Preliminary Roofing Conference: Before starting roof deck construction, conduct conference at Project site. Comply with requirements for preinstallation conferences in Division 1 Section "Project Management and Coordination." Review methods and procedures related to roof deck construction and sheet metal roofing including, but not limited to, the following:
1. Meet with Owner, Architect, Owner's insurer if applicable, sheet metal roofing installer, manufacturer's representative for sheet metal roofing portable roll-forming equipment, metal deck installer, and installers whose work interfaces with or affects sheet metal roofing including installers of roof accessories and roof-mounted equipment.
  2. Review and finalize construction schedule and verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  3. Review methods and procedures related to sheet metal roofing installation, including portable roll-forming equipment manufacturer's written instructions.
  4. Examine purlin and rafter conditions for compliance with requirements, including flatness and attachment to structural members.
  5. Review structural loading limitations of purlins and rafters during and after roofing.
  6. Review flashings, special roof details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect sheet metal roofing.
  7. Review governing regulations and requirements for insurance, certificates, and testing and inspecting if applicable.
  8. Review temporary protection requirements for sheet metal roofing during and after installation.
  9. Review roof observation and repair procedures after sheet metal roofing installation.

- C. NON-MOVING (STATIC) CRACKS - 1 mm or less:
1. Determine that crack is non-moving. Remove any existing filler and clean out crack by brushing and oil-free compressed air. Fill crack with resin mortar or paste as required.
- D. MOVING (DYNAMIC) CRACKS - 1 mm or less:
1. Determine that crack is moving. Remove any existing filler and clean out crack by brushing and oil-free compressed air. Fill crack with resin-mortar or paste as required. After the resin-mortar or paste has cured, apply minimum 4 in (100 mm) wide strip of reinforced cold liquid applied membrane centered over crack.
- E. MOVING (DYNAMIC) CRACKS - 3 mm or less:
1. Determine that crack is moving. Remove any existing filler and clean out crack by brushing and oil-free compressed air. Fill crack with resin-mortar or paste as required. After the resin-mortar or paste has cured, apply bond breaker tape 5 times in width greater than the maximum anticipated expansion. Then cover with a strip of reinforced cold liquid applied membrane centered over crack sized to provide 2 in (50 mm) minimum cover beyond all side of the bond breaker tape but no less than 6 in (150 mm) minimum width.
- F. MOVING (DYNAMIC) CRACKS - Greater than 3 mm:
1. Moving cracks greater than 3 mm must be treated as an expansion joint.
- 3.06 INSTALLATION & STAGING
- A. Follow accepted procedure for applying cold liquid applied membrane flashings to substrate. In all cases the substrate is prepared, primed, and flashings are installed to the in-situ waterproofing membrane. When applying broadcast aggregate, the aggregate should not be left subject to the elements and therefore must be top coated with finish the same day of application whenever possible.
- B. If work is interrupted for more than 12 hours, use manufacturer's proprietary cleaner to clean and reactivate applied primer, resin mortar, flashing membrane or field membrane transition areas. Cleaner should be allowed a minimum of 20 minutes evaporation time after application and covered within 60 minutes of application or as recommended by the manufacturer.
- 3.07 FLASHING MEMBRANE APPLICATION
- A. General:
1. Refer to manufacturer's detail drawings, product data sheets and published general requirements for application rates and specific installation instructions.
  2. Provide a minimum vertical height of 8 in (200 mm) for all flashing terminations wherever possible. Flashing height shall be at least as high as the potential water level that could be reached because of a deluging rain and/or poor slope.
  3. Do not flash over existing through-wall flashings, weep holes and overflow scuppers.
  4. All flashing shall be terminated as required by the manufacturer. Cap flashings or counter flashings may be constructed of metal, stone, tile, or other materials properly installed in accordance with industry-accepted practice.
  5. Install all flashing membranes before installing field membranes.
  6. The primed substrate shall be dry and free of any dust, loose particles, or contaminants.
  7. Precut reinforcing fleece to conform to terminations, transitions and penetrations being flashed. Ensure a minimum 2 in (50 mm) overlap of fleece at side laps and extend flashing 4 in (100 mm) minimum horizontally onto deck unless otherwise specified. Ensure the completed liquid applied flashing membrane is fully reinforced.
  8. Wherever possible factory pre-cut fleece pipe penetration and universal corners shall be used.
  9. Mix waterproofing resin and catalyst approximately 2 minutes using a clean spiral agitator on slow speed or stir stick until evenly mixed. Do not aerate. Mix only the amount of waterproofing resin that can be used within the application time.
  10. Apply the base coat of catalyzed waterproofing resin onto the substrate using a brush or roller, working the material into the surface for complete coverage and full adhesion.
  11. Immediately apply the reinforcing fleece into the wet base coat of resin making sure the smooth side is up. Using a brush or roller, work the reinforcing fabric into the wet resin while applying the second coat of catalyzed waterproofing resin to completely encapsulate the fleece. Avoid any folds and wrinkles.
  12. At membrane tie-ins, clean cured membrane with specified cleaner before application of adjacent membrane.
- B. Base and Wall Flashings:
1. Install all flashing membranes before installing rigid insulation system and field membranes.
  2. The primed substrate shall be dry and free of any dust, loose particles, or contaminants.
  3. Precut reinforcing fleece to conform to terminations, transitions and penetrations being flashed. Ensure a minimum 2 in overlap of fleece at side laps and extend flashing 4 in minimum horizontally onto deck unless otherwise specified. Ensure the completed liquid applied flashing membrane is fully reinforced.
  4. Mix waterproofing resin and catalyst approximately 2 minutes using a clean spiral agitator on slow speed or stir stick until evenly mixed. Do not aerate. Mix only the amount of waterproofing resin that can be used within the application time.
  5. Apply the base coat of catalyzed waterproofing resin onto the substrate using a brush or roller, working the material into the surface for complete coverage and full adhesion.
  6. Immediately apply the reinforcing fleece into the wet base coat of resin making sure the smooth side is up. Using a brush or roller, work the reinforcing fabric into the wet resin while applying the second coat of catalyzed waterproofing resin to completely encapsulate the fleece. Avoid any folds and wrinkles.
  7. At membrane tie-ins, clean cured membrane with specified cleaner before application of adjacent membrane.
- C. Penetrations & Flashings:
1. Pipes, Conduits, Posts, Supports and Unusual Shaped Penetrations:
    - a. Pipes, conduits, and other items to be flashed must be separated with 1/4 in (13 mm) minimum clearance or as recommended by manufacturer to adequate waterproof each individual penetration.
    - b. All penetrations must be flashed individually. Two or more items ganged together in a flashing will NOT be permitted.
    - c. Flash penetrations using cold liquid applied reinforced membrane or proprietary fibrated flashing resin as recommended. Flashing shall be applied using factory pre-cut fleece wherever possible consisting of a reinforced deck skirt/target flashing applied over a reinforced vertical wrap finger flashing.
  2. Drains:
    - a. Flash drains using cold liquid applied membrane. Flashing shall consist of a membrane target extending minimum 12 in (300 mm) horizontally onto the substrate applied over a finger flashing extended into the prepared drain bowl a minimum of 3 in (75 mm).
    - b. At no time should the cold liquid applied membrane be installed to restrict or reduce the drain inlet in size.
    - c. For new drains, contractor shall include cost of all plumbing work, piping, and connection to existing storm sewer system.
  3. Hot Pipes:
    - a. Protect cold liquid applied membrane components from direct contact with steam or heat sources when the in-service temperature exceeds 150F (65.5C). In all such cases flash to an intermediate "cool" sleeve.
    - b. Fabricate "cool" sleeves in the form of a metal cone using non-ferrous metal in accordance with manufacturer details.
    - c. Flash sleeve using cold liquid applied reinforced membrane like a standard pipe flashing. Flashing shall consist of a reinforced target applied over a reinforced vertical wrap finger flashing.
  4. Flexible Penetrations:
    - a. Provide a weather-tight gooseneck set in manufacturers resin paste and secured to the deck.
    - b. Flash gooseneck penetrations using cold liquid applied reinforced membrane as recommended. Flashing shall consist of a reinforced target and reinforced vertical wrap finger flashing.
  5. Walls, Curbs and Bases:
    - a. Flash all walls, curbs and bases using cold liquid applied reinforced membrane. Wherever possible extend flashing up and over tops of walls, curbs, and bases so the membrane terminates on the opposite face of the vertical element.
  6. Expansion Joints:
    - a. Flash all expansion joints with minimum two layers of manufacturers cold liquid applied reinforced membrane applied over an expansion joint compressible filler, expansion tube, backer rod and/or bond breaker tape as recommended by manufacturer.
  7. Non-standard Flashing Details:
    - a. When required, consult manufacturer for recommendations on flashing non-standard conditions, penetrations, or protrusions.
  8. Thru-Wall Flashings, Mud-set Masonry, & Poured-In-Place Concrete Bonding/Protection Layer:
    1. For all areas to receive new direct applied cement, concrete, or mortar setting bed, apply a supplementary wearing coat of the membrane manufacturer's cold liquid applied resin.
      - a. Using a lambswool rlgler, apply an even layer of cold liquid applied resin at the minimum consumption of 30 lbs/100 ft<sup>2</sup> (1.5 kg/m<sup>2</sup>) or as recommended by the membrane manufacturer and broadcast #1 (0.7 - 1.2mm) kiln-dried quartz aggregate into the wet resin to excess for full coverage.
      - b. Allow resin bonding layer to cure as recommended by the membrane manufacturer prior to continuing application or applying loads. Remove excess un-adhered aggregate from surface by broom, vacuum, or oil-free blower prior to apply overburden.
      - c. When required, consult manufacturer for recommendations on flashing non-standard conditions, penetrations, or protrusions.



WARRANTY

A. MANUFACTURER'S SPECIAL WARRANTY: MANUFACTURER AGREES TO REPAIR, RESTORE, OR REPLACE ELEVATOR WORK THAT FAILS IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.

1. FAILURES INCLUDE, BUT ARE NOT LIMITED TO, OPERATION OR CONTROL SYSTEM FAILURE, INCLUDING EXCESSIVE MALFUNCTIONS; PERFORMANCES BELOW SPECIFIED RATING; EXCESSIVE WEAR; UNUSUAL DETERIORATION OR AGING OF MATERIALS OR FINISHES; UNSAFE CONDITIONS; NEED FOR EXCESSIVE MAINTENANCE; ABNORMAL NOISE OR VIBRATION; AND SIMILAR UNUSUAL, UNEXPECTED, AND UNSATISFACTORY CONDITIONS.

2. WARRANTY PERIOD: FIVE YEAR(S) FROM DATE OF SUBSTANTIAL COMPLETION.

PERFORMANCE REQUIREMENTS

A. REGULATORY REQUIREMENTS: COMPLY WITH ASME A17.1/CSA B44.

B. ACCESSIBILITY REQUIREMENTS: COMPLY WITH SECTION 407 IN THE U.S. ARCHITECTURAL & TRANSPORTATION BARRIERS COMPLIANCE BOARD'S ADA-ABA ACCESSIBILITY GUIDELINES AND WITH ICC A117.1.

C. NONPROPRIETARY SYSTEMS AND EQUIPMENT: PROVIDE SYSTEMS AND EQUIPMENT THAT CAN BE SERVICES AND REPAIRED BY ALL MAJOR ELEVATOR REPAIR CONTRACTORS.

ELEVATORS

1. CAR ENCLOSURES:

A. INSIDE HEIGHT: 92 INCHES TO UNDERSIDE OF CEILING.

B. FRONT WALLS (RETURN PANELS): SATIN STAINLESS STEEL, NO. 4 FINISH WITH INTEGRAL CAR DOOR FRAMES.

C. CAR FIXTURES: POLISHED STAINLESS STEEL, NO. 8 FINISH.

D. SIDE AND REAR WALL PANELS: TEXTURED STAINLESS STEEL.

E. REVEALS: SATIN STAINLESS STEEL, NO. 4 FINISH.

F. DOOR FACES (INTERIOR): TEXTURED STAINLESS STEEL.

G. DOOR SILLS: ALUMINUM, MILL FINISH.

H. CEILING: SATIN STAINLESS STEEL, NO. 4 FINISH.

I. HANDRAILS: 1/2 BY 2 INCHES RECTANGULAR SATIN STAINLESS STEEL, NO 4., AT REAR OF CAR.

J. FLOOR PREPARED TO RECEIVE RUBBER FLOOR TILE.

2. HOISTWAY ENTRANCES:

A. HEIGHT: 84 INCHES.

B. TYPE: SINGLE-SPEED SIDE SLIDING.

C. FRAMES: SATIN STAINLESS STEEL, NO. 4 FINISH.

D. DOORS: SATIN STAINLESS STEEL, NO. 4 FINISH.

E. SILLS: ALUMINUM, MIL FINISH.

OPERATION SYSTEMS

A. GENERAL: PROVIDE MANUFACTURER'S STANDARD MICROPROCESSOR OPERATION SYSTEM AS REQUIRED TO PROVIDE TYPE OF OPERATION INDICATED.

B. AUXILIARY OPERATIONS: IN ADDITION TO PRIMARY OPERATION SYSTEM FEATURES, PROVIDE THE FOLLOWING OPERATIONAL FEATURES FOR ELEVATORS WHERE INDICATED:

1. SINGLE-CAR BATTERY-POWERED LOWERING: WHEN POWER FAILS, CAR IS LOWERED TO THE LOWEST FLOOR, OPENS ITS DOOR, AND SHUTS DOWN. SYSTEM INCLUDES RECHARGEABLE BATTERY AND AUTOMATIC RECHARGING SYSTEM.

2. AUTOMATIC DISPATCHING OF LOADED CAR: WHEN CARLOAD EXCEEDS 80 PERCENT OF RATED CAPACITY, DOORS START CLOSING.

HOISTWAY ENTRANCES

A. HOISTWAY ENTRANCE ASSEMBLIES: MANUFACTURER'S STANDARD HORIZONTAL-SLIDING, DOOR-AND-FRAME HOISTWAY ENTRANCES COMPLETE WITH TRACK SYSTEMS, HARDWARE, SILLS, AND ACCESSORIES. FRAME SIZE AND PROFILE SHALL ACCOMMODATE HOISTWAY WALL CONSTRUCTION.

1. WHERE GYPSUM BOARD WALL CONSTRUCTION IS INDICATED, FRAMES SHALL BE SELF-SUPPORTING WITH REINFORCED HEAD SECTIONS.

B. FIRE-RATED HOISTWAY ENTRANCE ASSEMBLIES: DOOR AND FRAME ASSEMBLIES SHALL COMPLY WITH NFPA 80 AND BE LISTED AND LABELED BY A TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION BASED ON TESTING AT AS CLOSE-TO-NEUTRAL PRESSURE AS POSSIBLE ACCORDING TO NFPA 252 OR UL 10B.

1. FIRE-PROTECTION RATING: 1 1/2" HOURS.

MAINTENANCE

A. INITIAL MAINTENANCE SERVICE: BEGINNING AT SUBSTANTIAL COMPLETION, MAINTENANCE SERVICE SHALL INCLUDE 12 MONTHS' FULL MAINTENANCE BY SKILLED EMPLOYEES OF ELEVATOR INSTALLER. INCLUDE MONTHLY PREVENTIVE MAINTENANCE, REPAIR OR REPLACEMENT OF WORN OR DEFECTIVE COMPONENTS, LUBRICATION, CLEANING, AND ADJUSTING AS REQUIRED FOR PROPER ELEVATOR OPERATION. PARTS AND SUPPLIES SHALL BE MANUFACTURER'S AUTHORIZED REPLACEMENT PARTS AND SUPPLIES.

1. PERFORM MAINTENANCE DURING NORMAL WORKING HOURS.

2. PERFORM EMERGENCY CALLBACK SERVICE DURING NORMAL WORKING HOURS WITH RESPONSE TIME OF TWO HOURS OR LESS.

DIVISION 15 - MECHANICAL - SEE MECHANICAL DRAWINGS

DIVISION 16 - ELECTRICAL - SEE ELECTRICAL DRAWINGS

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ARCHITECT, P.A.

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33040

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LICENSE NO.

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FERRY TERMINAL  
RENOVATION

100 Grinnell Street

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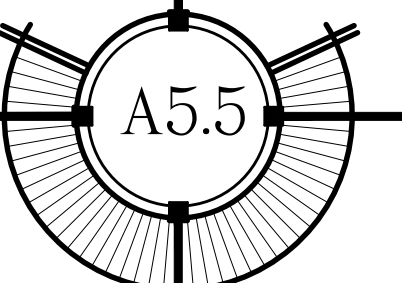
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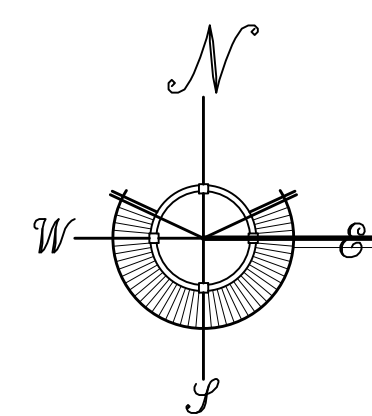
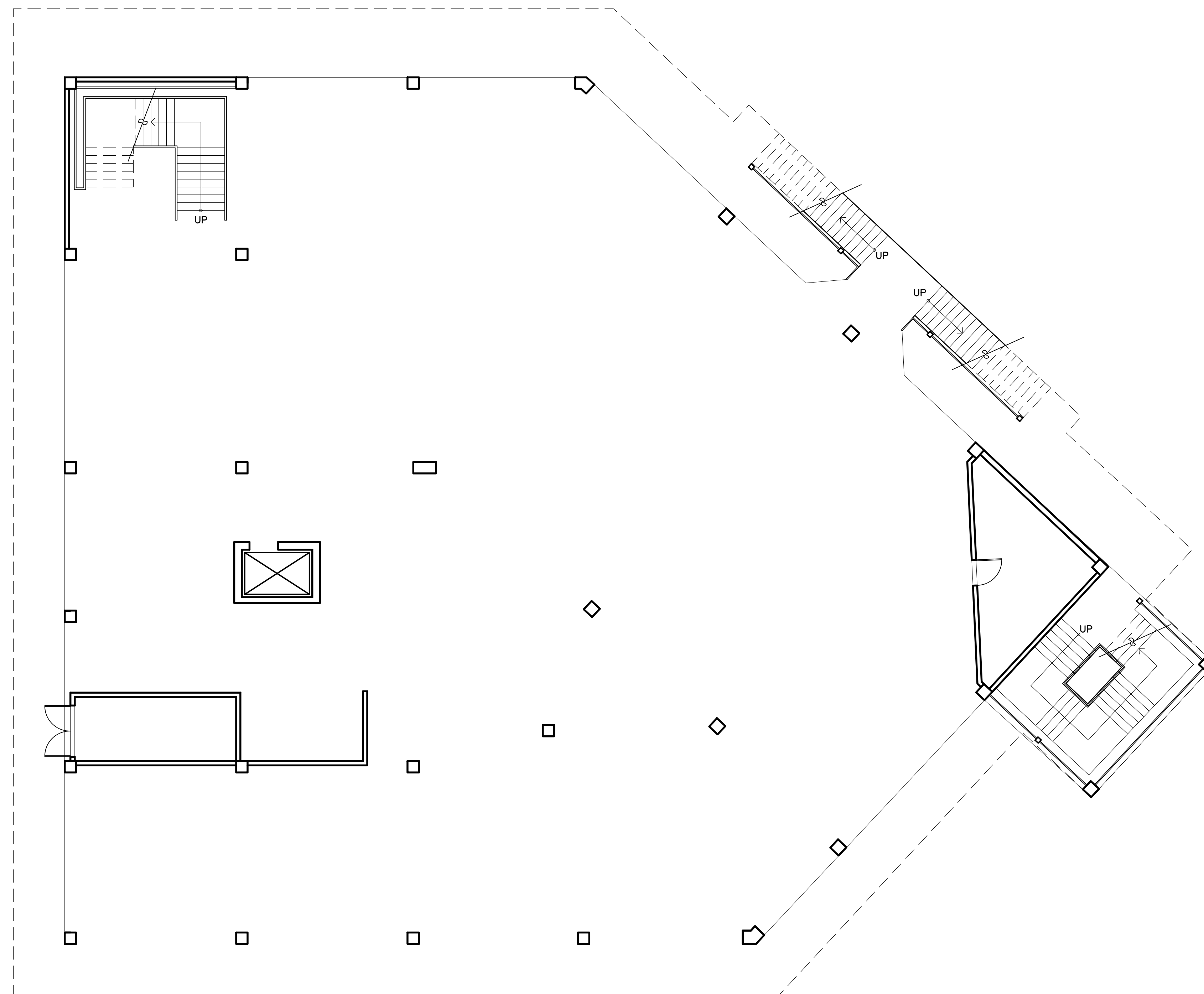
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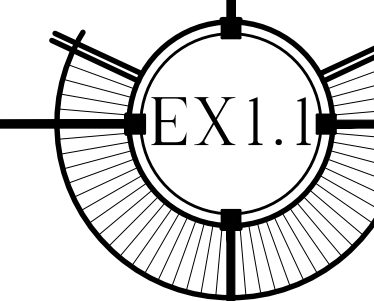
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EXISTING GROUND FLOOR PLAN

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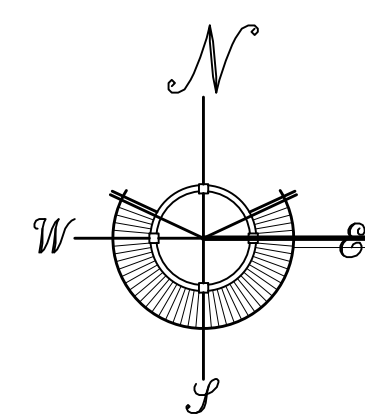
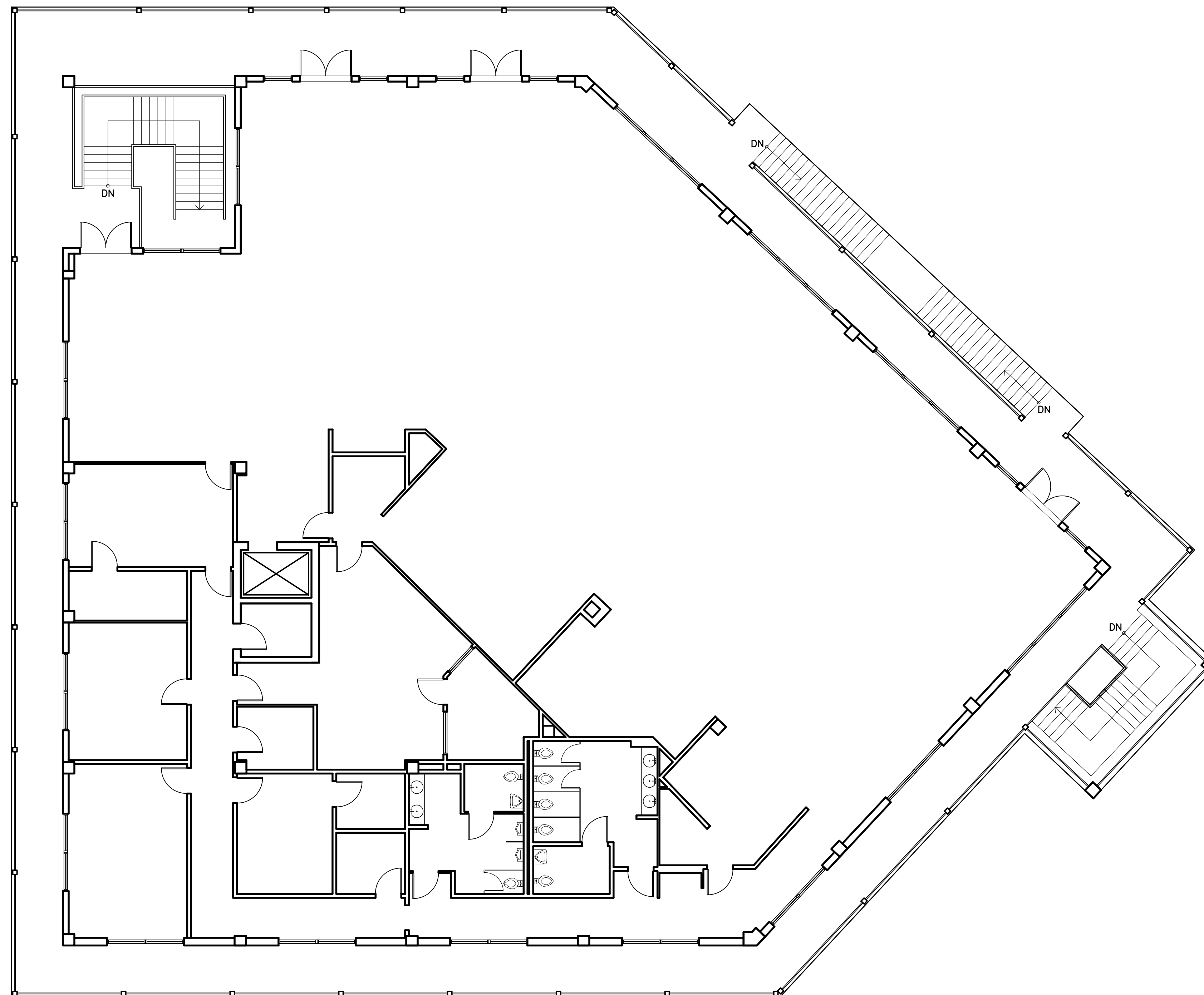
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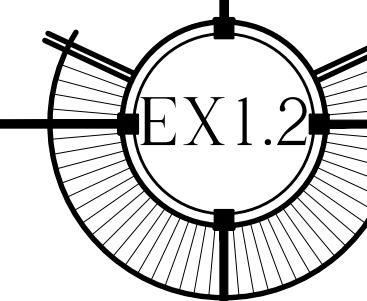
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EXISTING FIRST FLOOR PLAN

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

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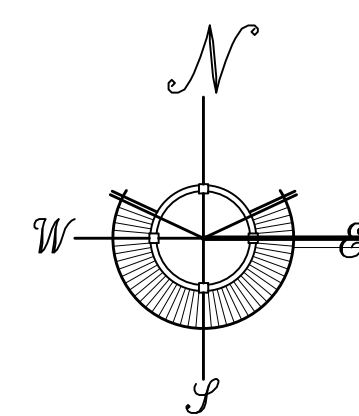
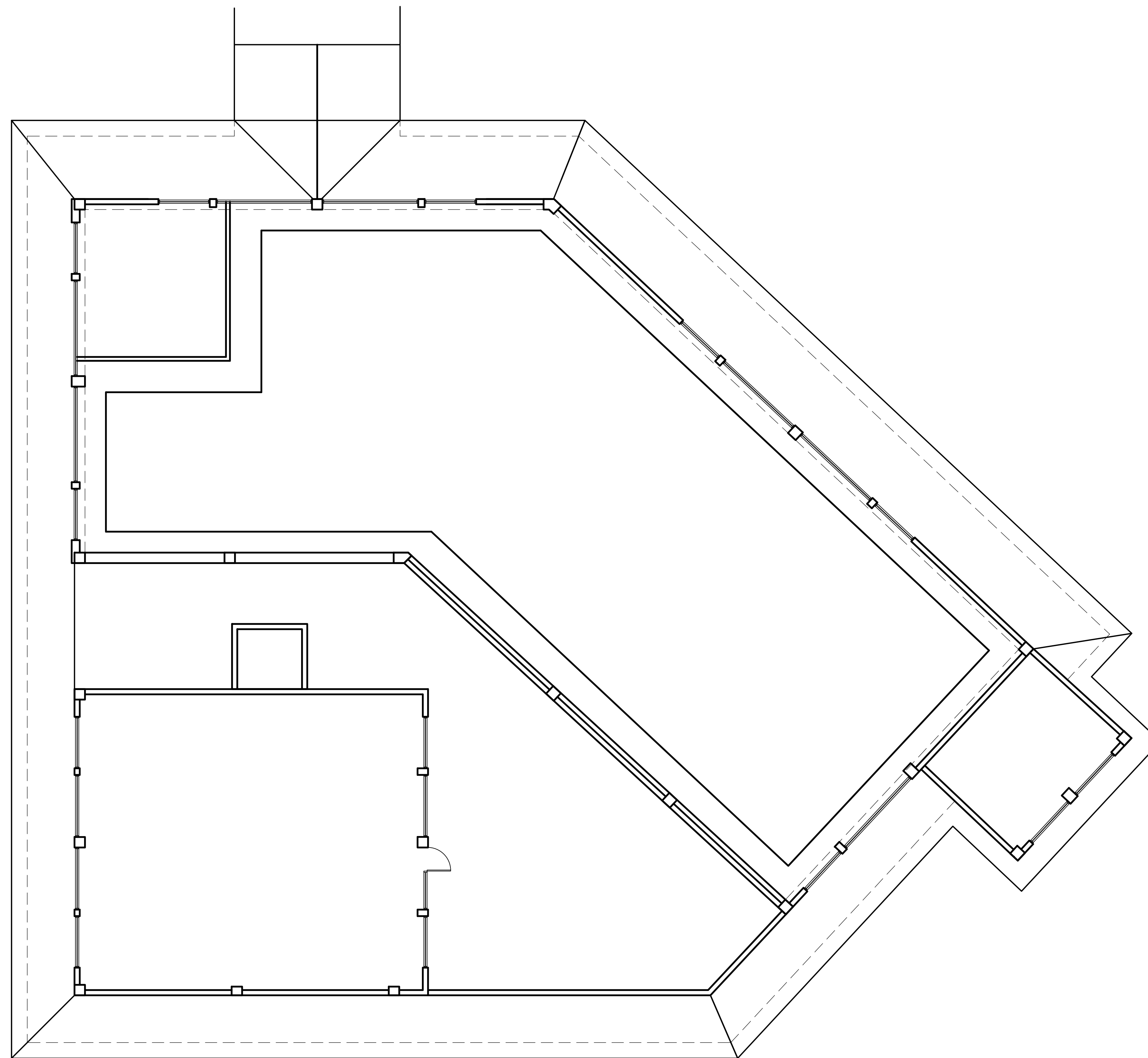
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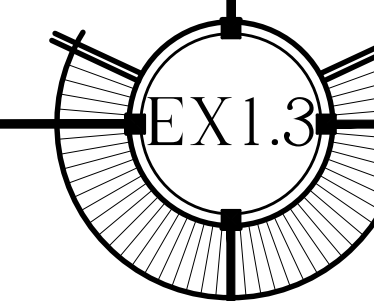
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EXISTING CLEAR STORY PLAN

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

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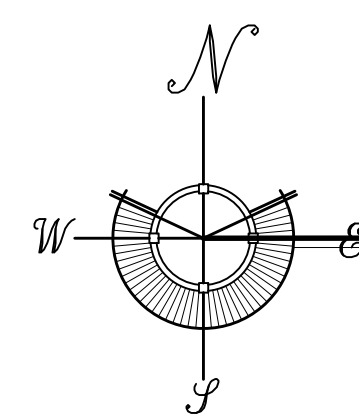
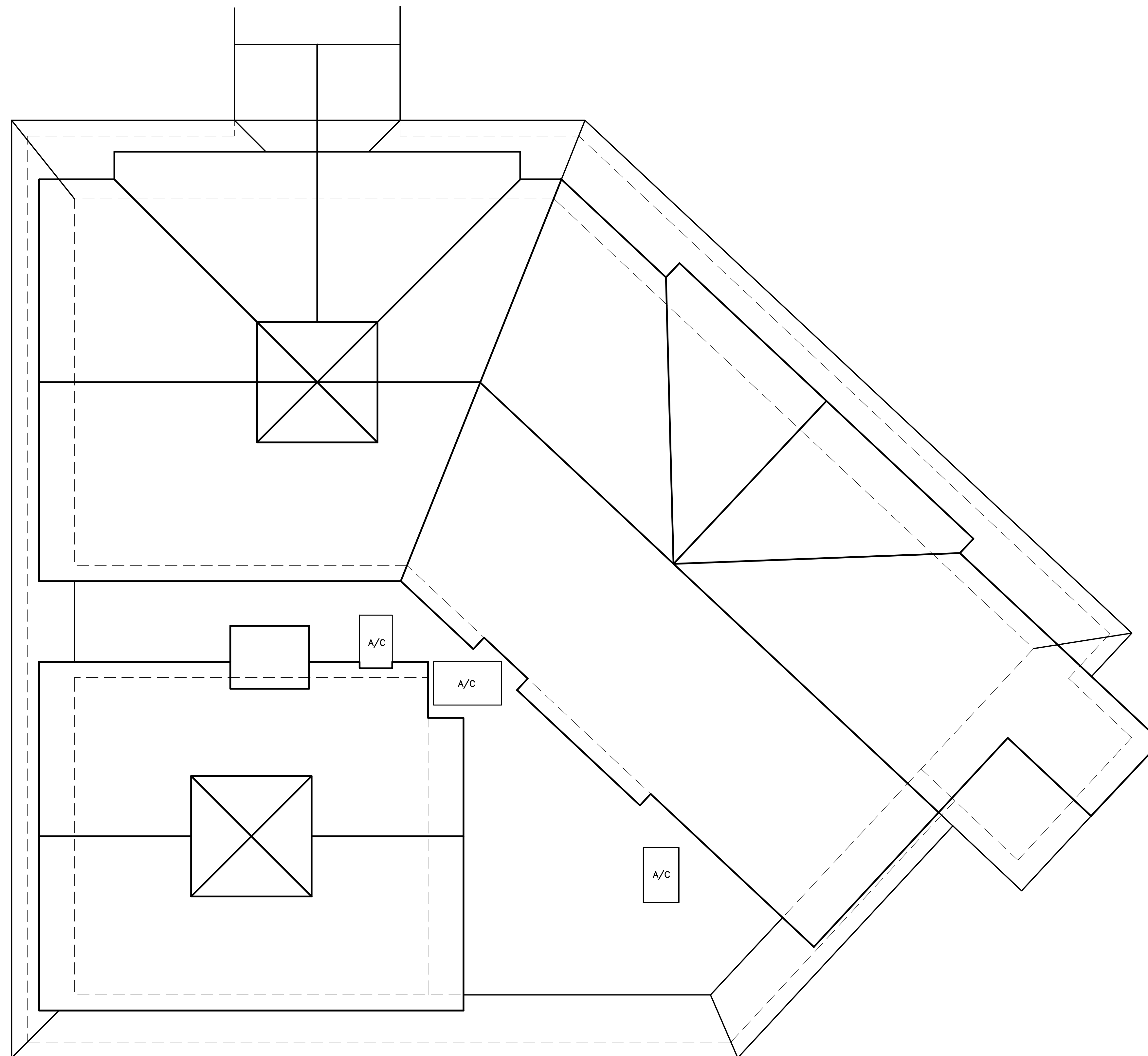
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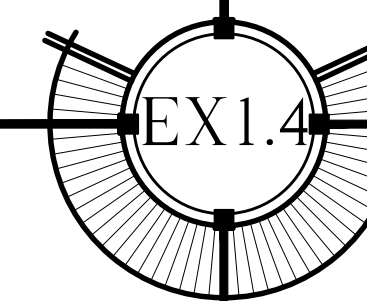
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EXISTING ROOF PLAN

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

FERRY TERMINAL RENOVATION  
100 Grinnell Street  
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1 NORTHWEST SIDE  
EX2.1



2 NORTHWEST SIDE  
EX2.1



3 SOUTH SIDE  
EX2.1



4 EAST SIDE  
EX2.1



5 EAST SIDE  
EX2.1



6 NORTH SIDE  
EX2.1

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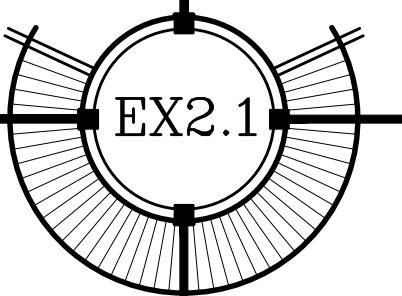
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1 INTERIOR PHOTO



2 ROOF WINDOW PHOTO



3 ROOF PHOTO



4 ROOF PHOTO



5 ROOF PHOTO



6 ROOF PHOTO

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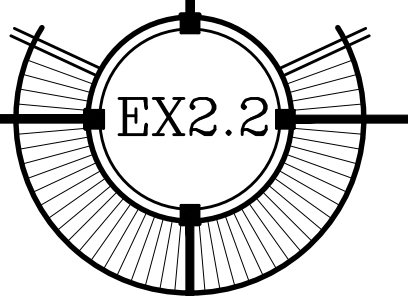
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FERRY TERMINAL RENOVATION  
100 Grinnell Street  
KEY WEST, FLORIDA

**GENERAL REQUIREMENTS:**

1. PRIOR TO STARTING ANY WORK THE CONTRACTOR SHALL REVIEW THESE PLANS AND SITE CONDITIONS AND NOTIFY THE ENGINEER IF ANY DISCREPANCIES ARE DISCOVERED.
2. THE ENGINEER IS NOT RESPONSIBLE FOR THE SUPERVISION OF THE CONTRACTOR NOR HIS EMPLOYEES DURING THE CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MEANS AND ESTABLISH METHODS OF THE CONSTRUCTION TO MEET REQUIREMENTS OF ALL APPLICABLE CODES, INDUSTRY STANDARDS AND REQUIREMENTS OF THESE PLANS.
3. QUALITY OF THE WORK SHALL MEET OR EXCEED INDUSTRY STANDARD PRACTICES.
4. ANY DEVIATIONS FROM THESE PLANS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER.

**DESIGN DATA:**

1. APPLICABLE BUILDING CODE: FBC BUILDING 8TH EDITION (2023)
2. APPLICABLE DESIGN LOADS: PER ASCI/SEI 7-22  
 FLOOR LIVE LOAD: 40 PSF  
 ROOF LIVE LOAD: 20 PSF (300 LB CONC.)  
 BASIC WIND SPEED: 200 MPH  
 EXPOSURE: D  
 STRUCTURAL RISC CATEGORY: III  
 FLOOD ZONE: N/A  
 ALL PRESSURES SHOWN ARE BASED ON ASD DESIGN,  
 WITH A LOAD FACTOR OF 0.6

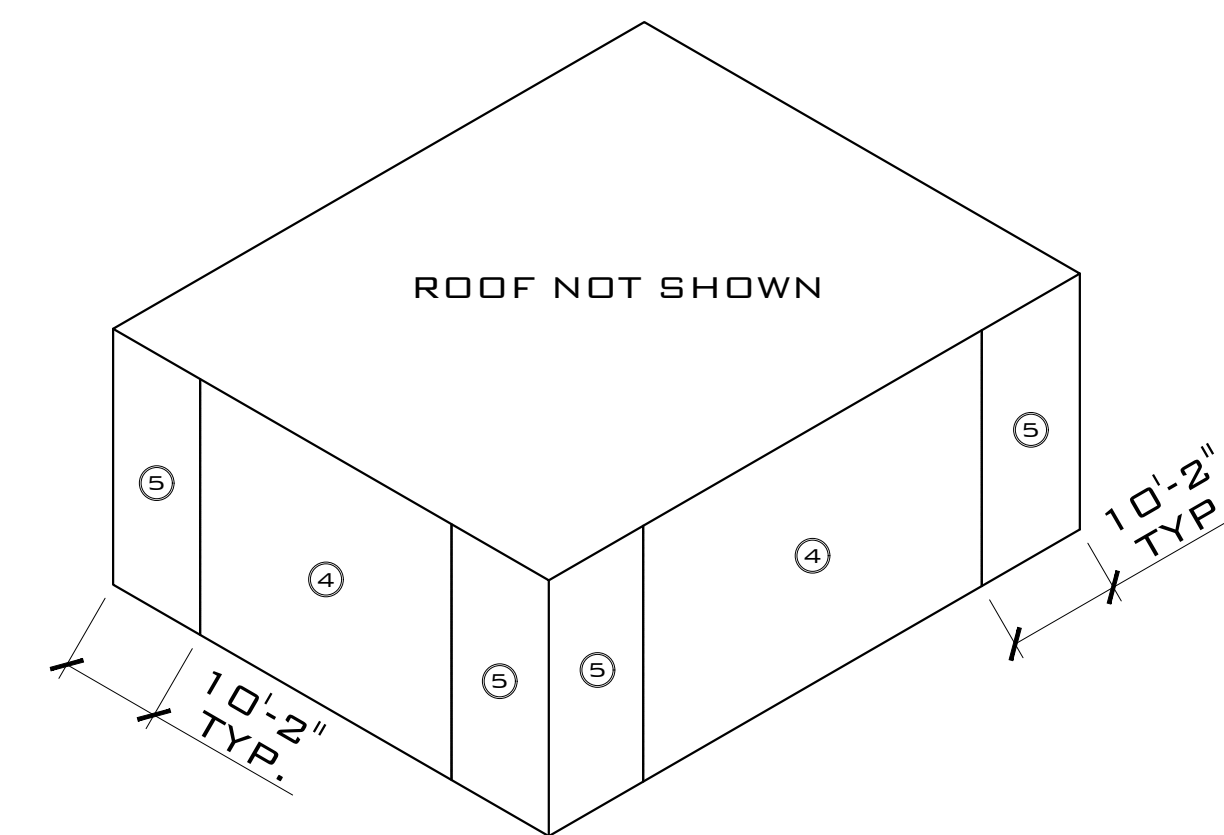
**3. ASCE 24-14 FLOOD RESISTANT DESIGN AND CONSTRUCTION**

**HARDWARE:**

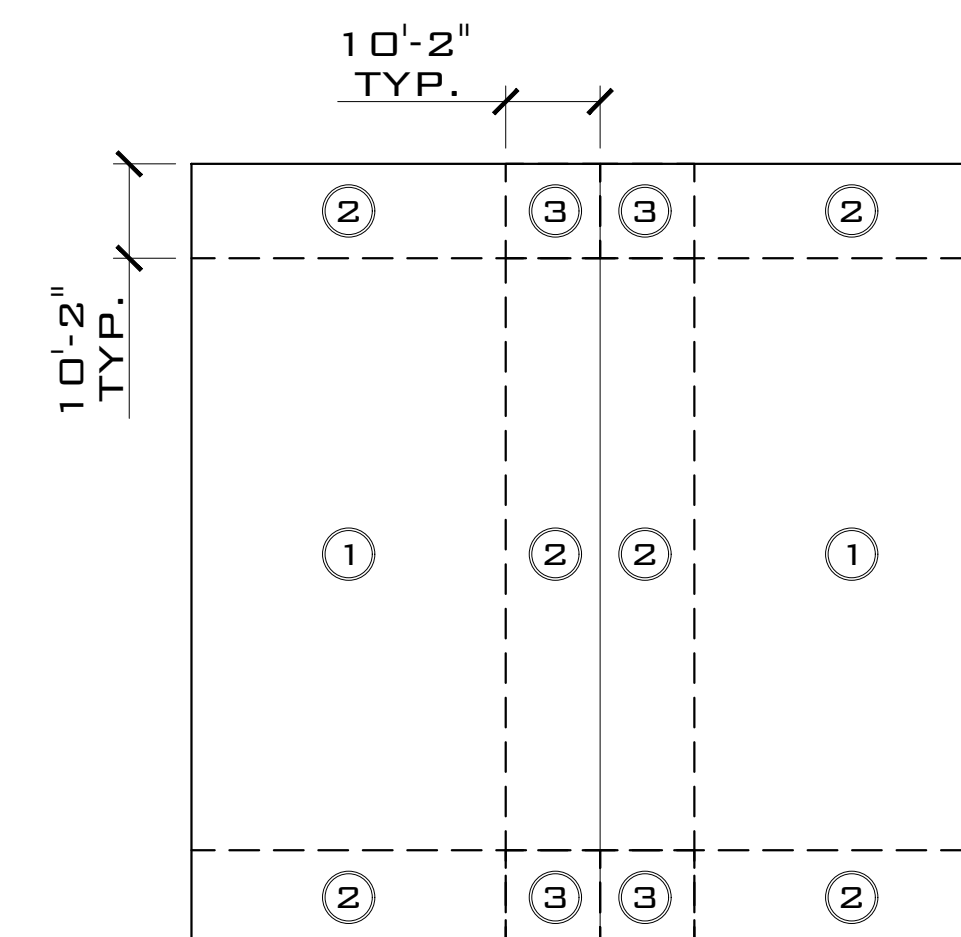
1. HARDWARE SHALL BE 316 STAINLESS STEEL OR BETTER OR ZMAX GALVANIZED FOR NON EXPOSED SIMPSON PRODUCTS, UNLESS OTHERWISE SPECIFIED.

**STRUCTURAL LUMBER:**

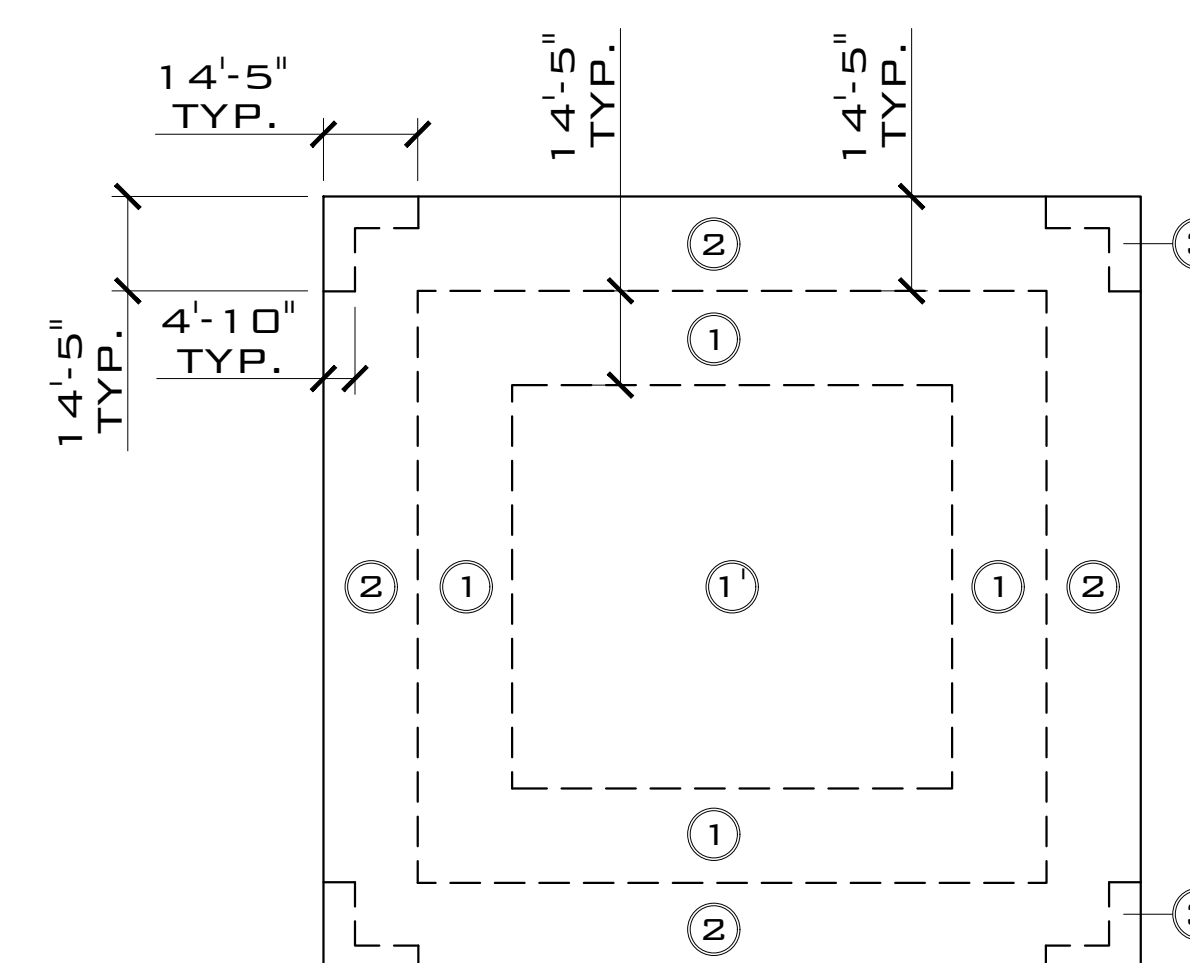
1. ALL WOOD MEMBERS SHALL MEET OR EXCEED REQUIREMENTS SPECIFIED IN "ANSI/AF&PA NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION" AND ALL REFERENCED STANDARDS.
2. ALL WOOD MEMBERS SHALL BE PRESSURE TREATED SOUTHER PINE NO1 OR GREATER KILN DRIED AS SPECIFIED IN THE STANDARDS, UNLESS OTHERWISE SPECIFIED.
3. ALL WOOD MEMBERS EXPOSED TO EXTERIOR, IN DIRECT CONTACT WITH CONCRETE OR STEEL SHALL BE PRESSURE-TREATED (PT) UC3B GRADE PER AWPA STANDARDS.
4. ALL FIELD CUTS IN PT LUMBER SHALL BE TREATED ON SITE.
5. NAILING SHALL BE IN ACCORDANCE WITH FBC 8TH EDITION (2023). NAILS AND OTHER FASTENERS FOR PT WOOD SHALL BE STAINLESS STEEL OR ACQ APPROVED TREATED.
6. SHEATHING SHALL BE 5/8" PT CDX PLYWOOD SHEATHING GRADE, UNLESS OTHERWISE IS SPECIFIED ON THE PLANS. USE 10D RING-SHANK NAILS WITH SPACING OF 4" O.C. ON ALL EDGES AND 4" O.C. IN THE FIELD.



**WALL WIND PRESSURE DIAGRAM**  
SCALE: NTS



**ROOF WIND PRESSURE DIAGRAM  
PITCHED ROOFS**  
GABLE ROOFS  
SCALE: NTS



**ROOF WIND PRESSURE DIAGRAM  
FLAT ROOFS**  
GABLE ROOFS  
SCALE: NTS

ENCLOSED - BUILDING - PITCHED ROOFS					
WIND PRESSURE ON COMPONENTS AND CLADDING (ASCE 7, CH 30 PART 1)					
DESCRIPTION	WIDTH, FT	SPAN, FT	AREA, FT2	MAX P, PSF	MIN P, PSF
ZONE 1	1	1	1	+47.84	-133.69
ZONE 2	1	1	1	+47.84	-176.62
ZONE 3	1	1	1	+47.84	-231.82
ZONE 4	1	1	1	+72.37	-78.50
ZONE 5	1	1	1	+72.37	-96.90

ENCLOSED - BUILDING - FLAT ROOFS					
WIND PRESSURE ON COMPONENTS AND CLADDING (ASCE 7, CH 30 PART 1)					
DESCRIPTION	WIDTH, FT	SPAN, FT	AREA, FT2	MAX P, PSF	MIN P, PSF
ZONE 1'	1	1	1	+28.16	-63.35
ZONE 1	1	1	1	+28.16	-110.28
ZONE 2	1	1	1	+28.16	-145.47
ZONE 3	1	1	1	+28.16	-198.26
ZONE 4	1	1	1	N/A	N/A
ZONE 5	1	1	1	N/A	N/A

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SERGE MASHAKOV  
PROFESSIONAL ENGINEER  
STATE OF FLORIDA  
LICENSE NO. 71280

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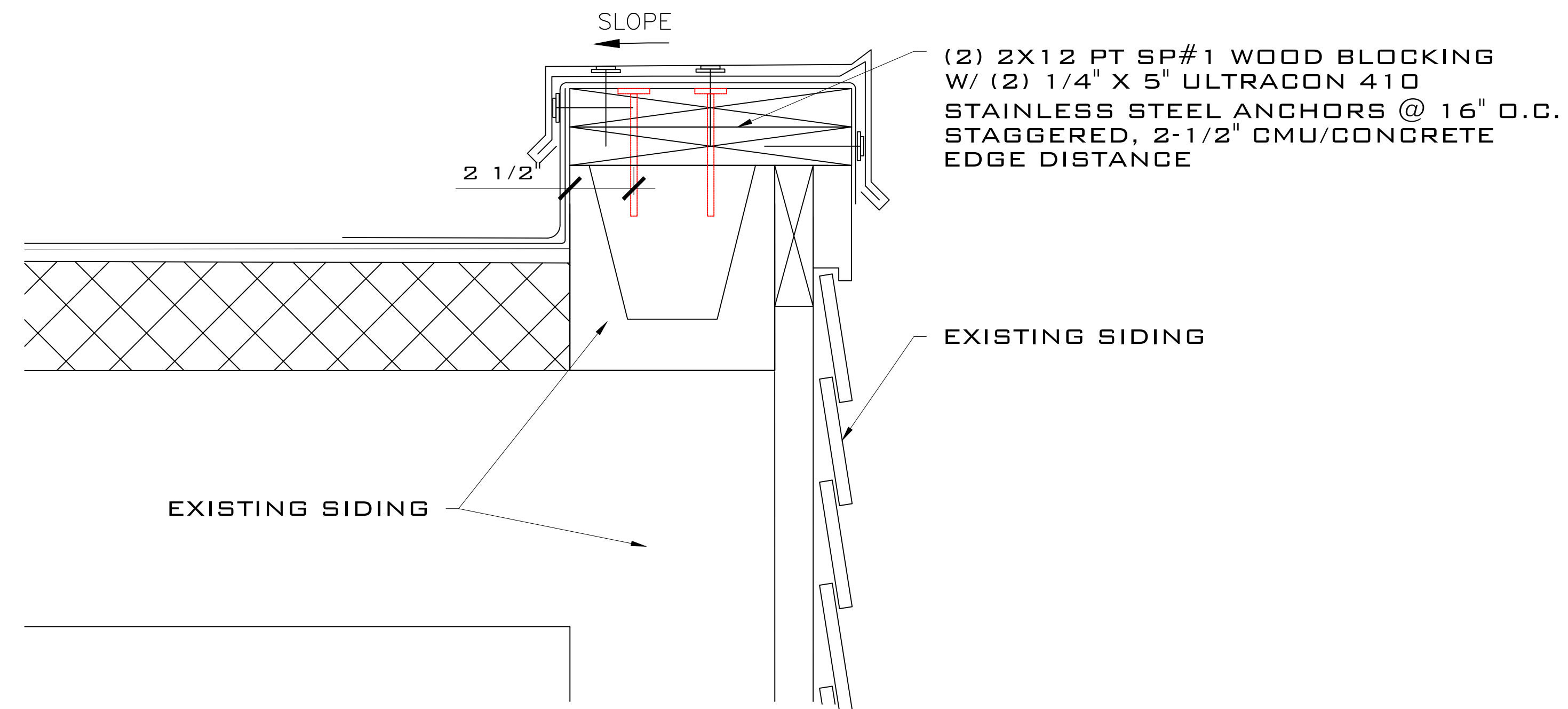
DESIGNER: WILLIAM P HORN PA

PROJECT: FERRY TERMINAL RENOV

DATE: 100 BRINNELL ST.  
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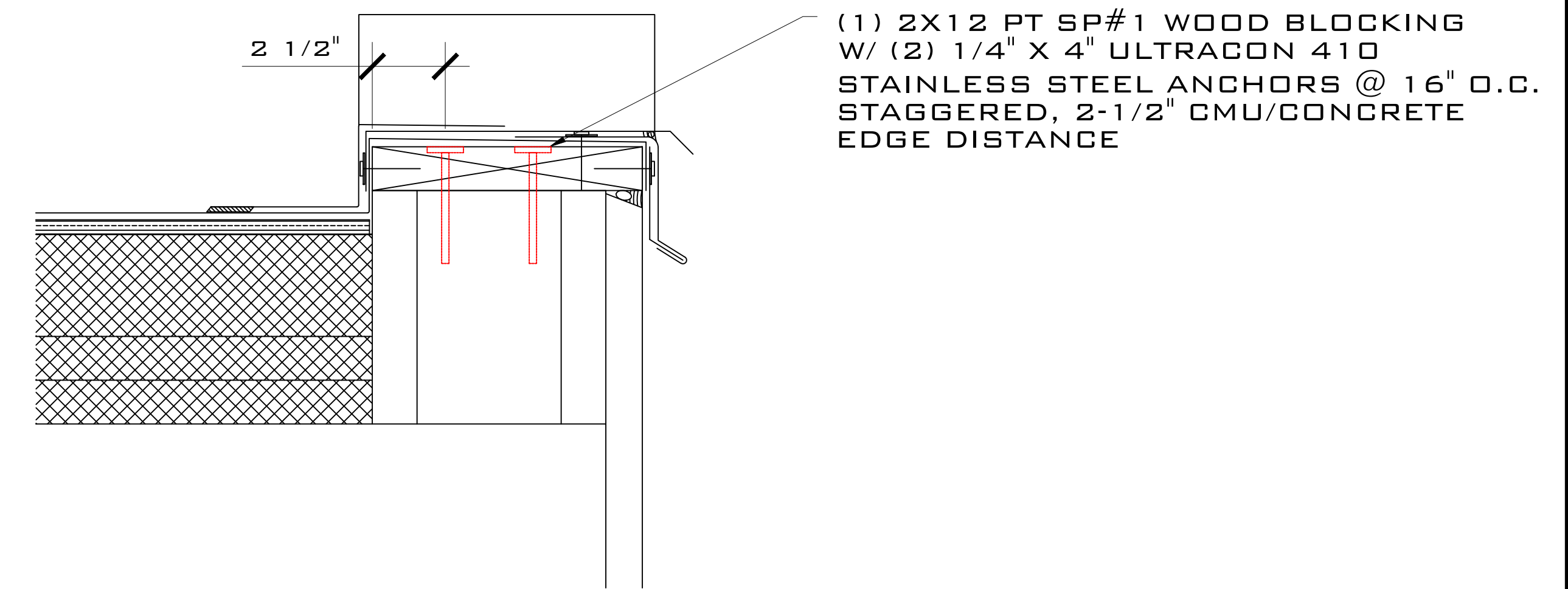
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SCALE	DATE	DESIGNER	CHECKER
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PROJECT NO.	DATE PLOTTED	SCALE	PAGE NO.
2405-09	8-100		1



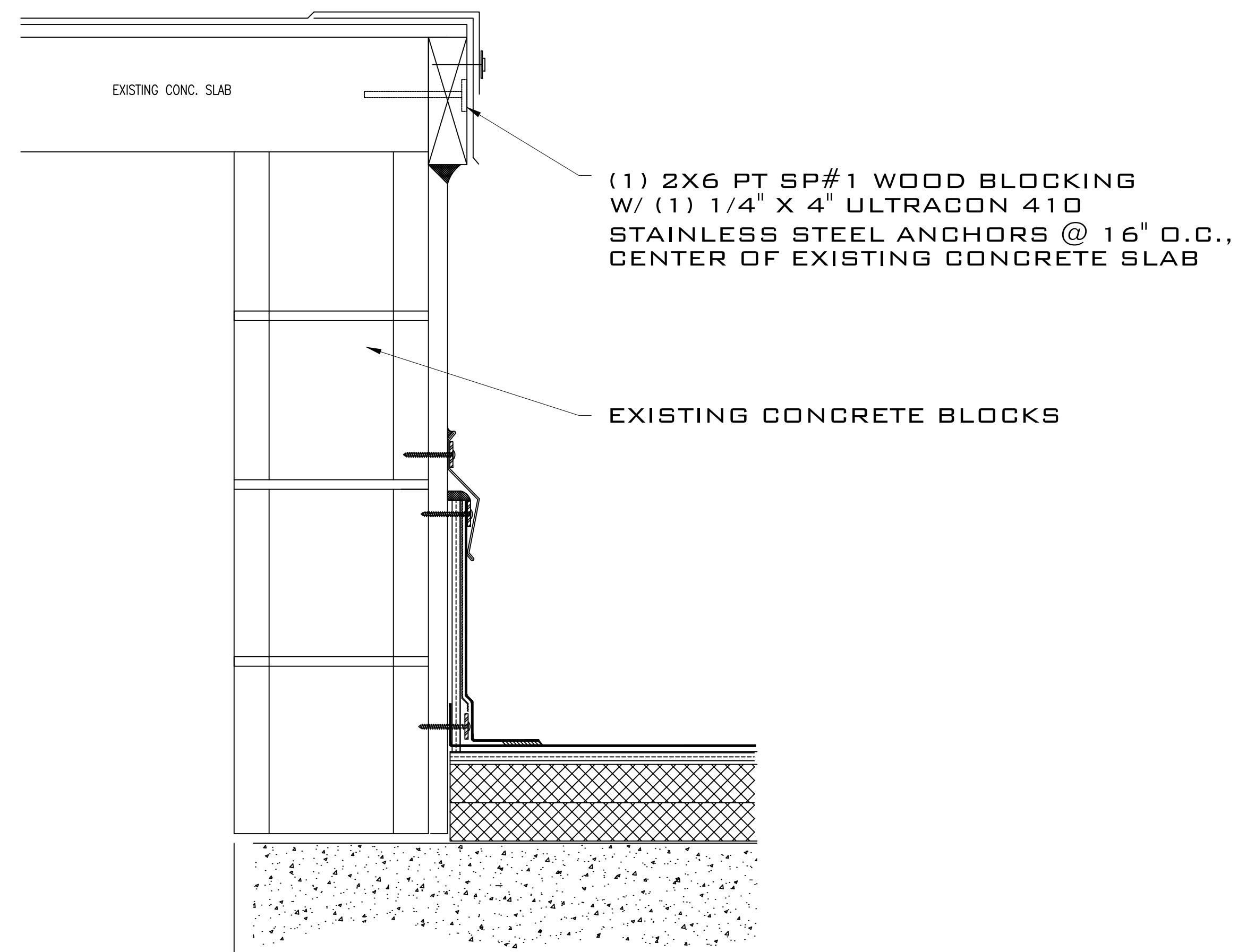
**COPING CAP DETAIL  
(STRUCTURAL)**

SCALE: NTS



**COPING CAP SECONDARY  
OVERFLOW DETAIL  
(STRUCTURAL)**

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**WALL FLASHING DETAIL  
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DATE: 100 GRINNELL ST.

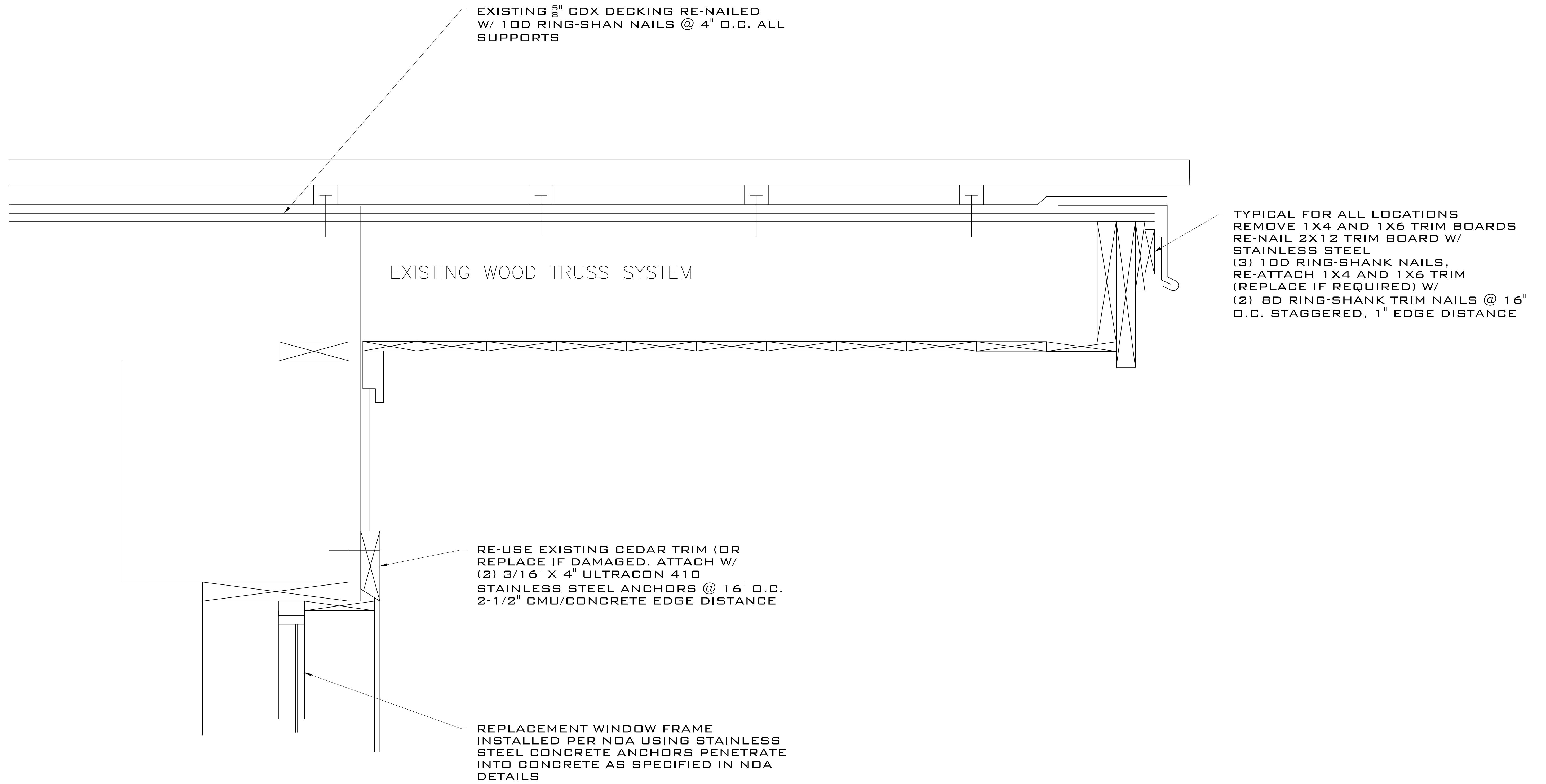
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2405-09 S-101 1





**MACHINE ROOM GABLE  
END DETAIL  
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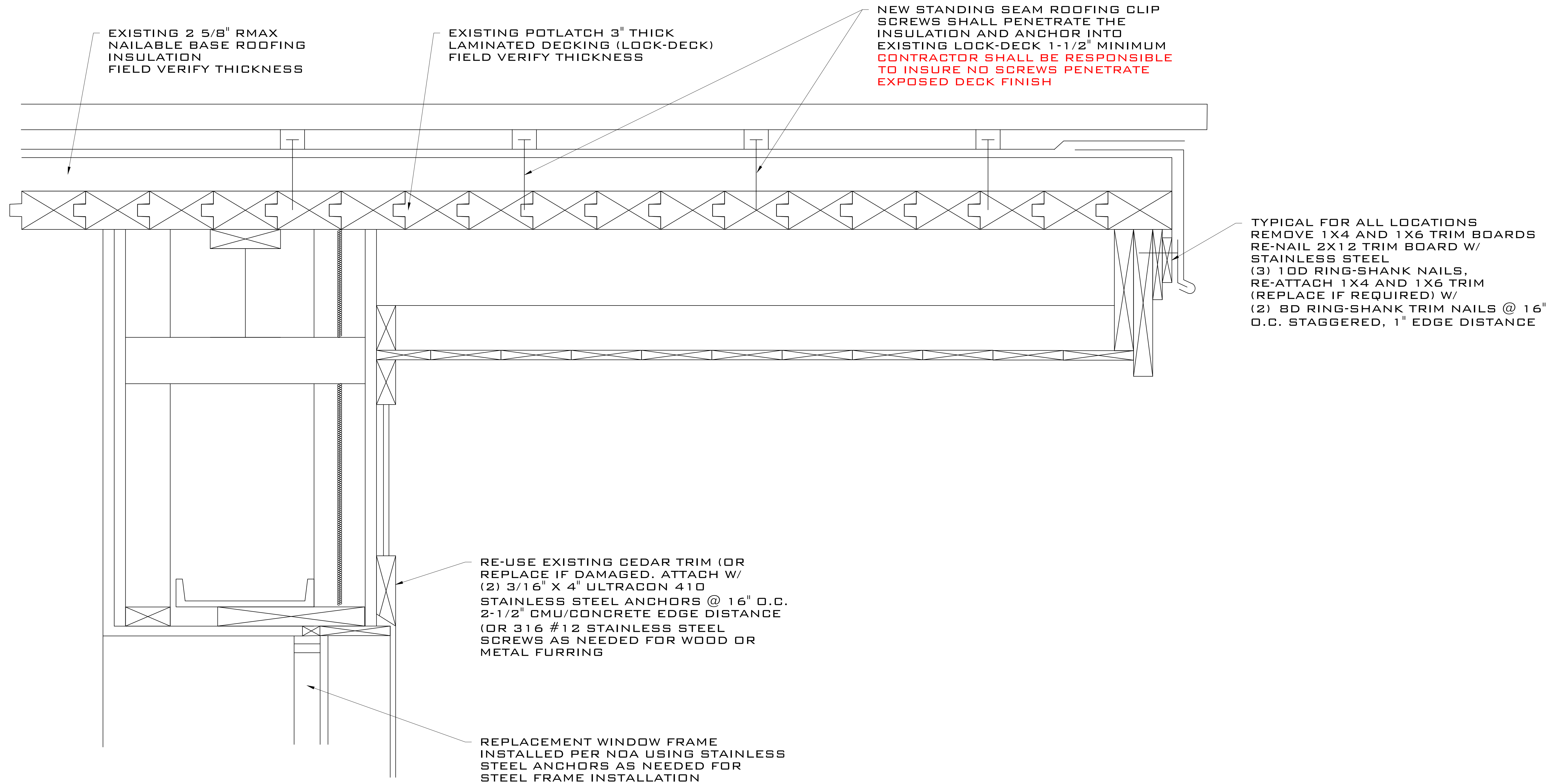
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**TERMINAL ROOF GABLE  
END DETAIL  
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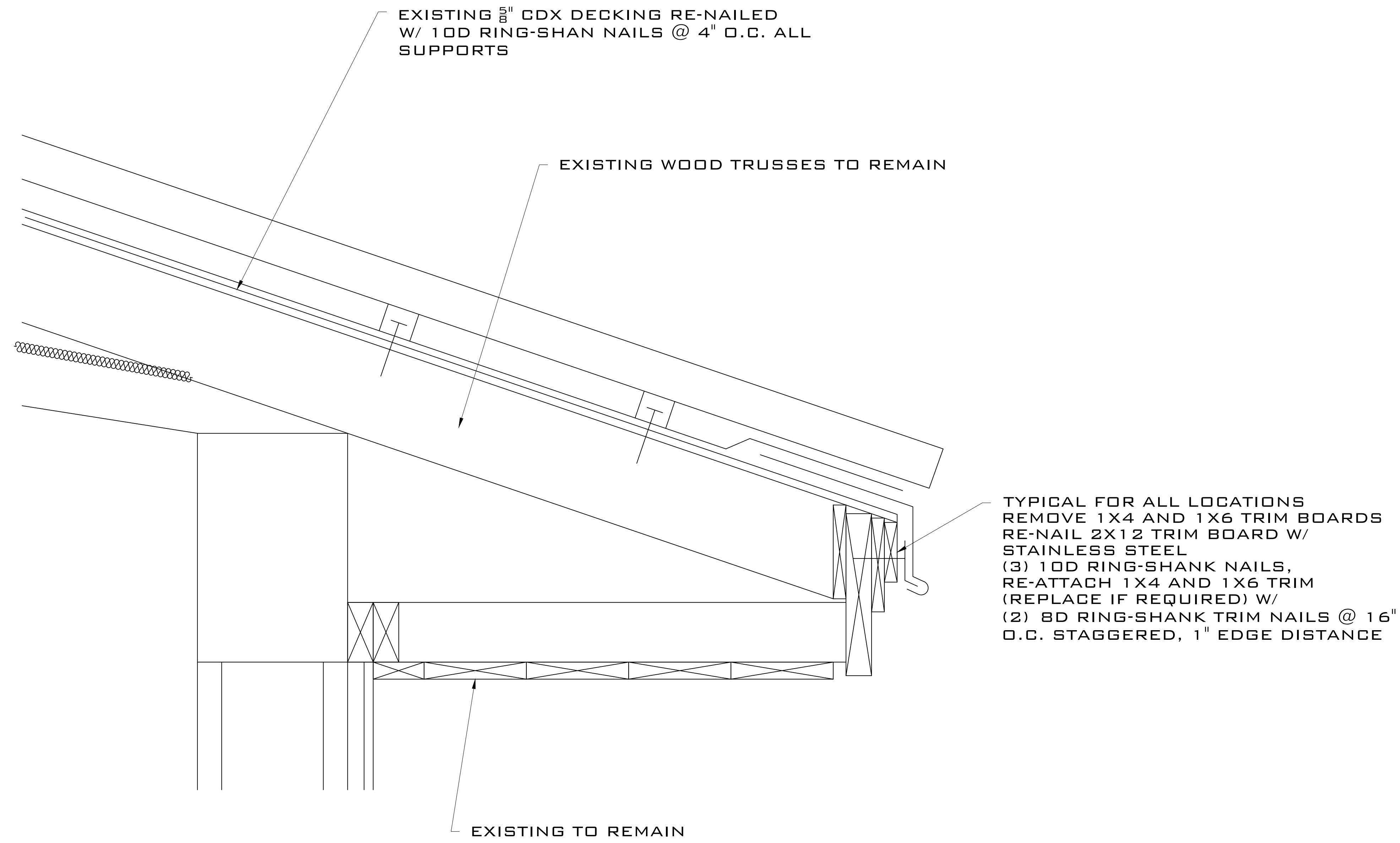
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**SOFFIT AT MACH. ROOF DETAIL  
(STRUCTURAL)**

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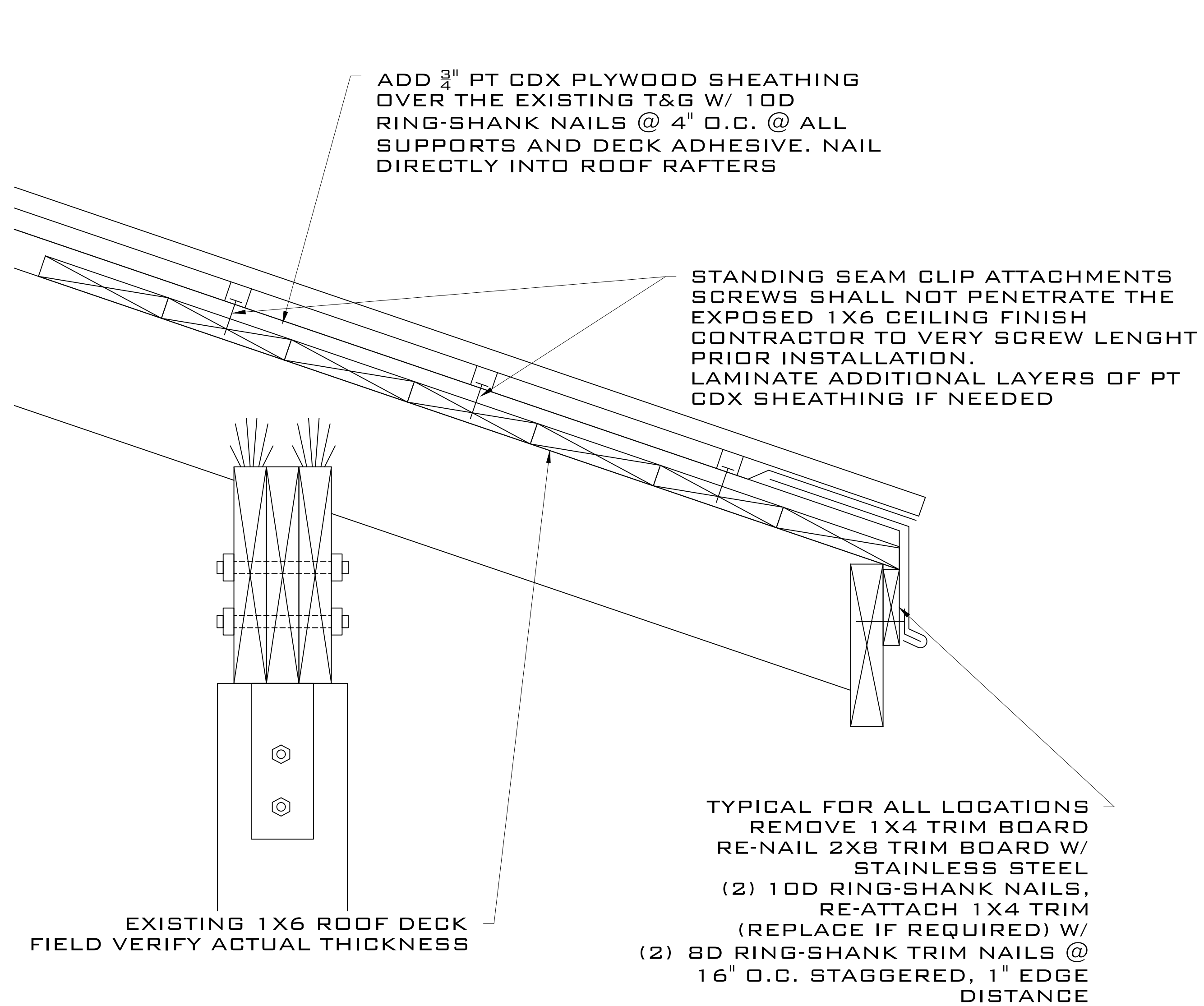
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DESIGNER: WILLIAM P HORN PA

PROJECT:  
**FERRY TERMINAL RENOVATION**

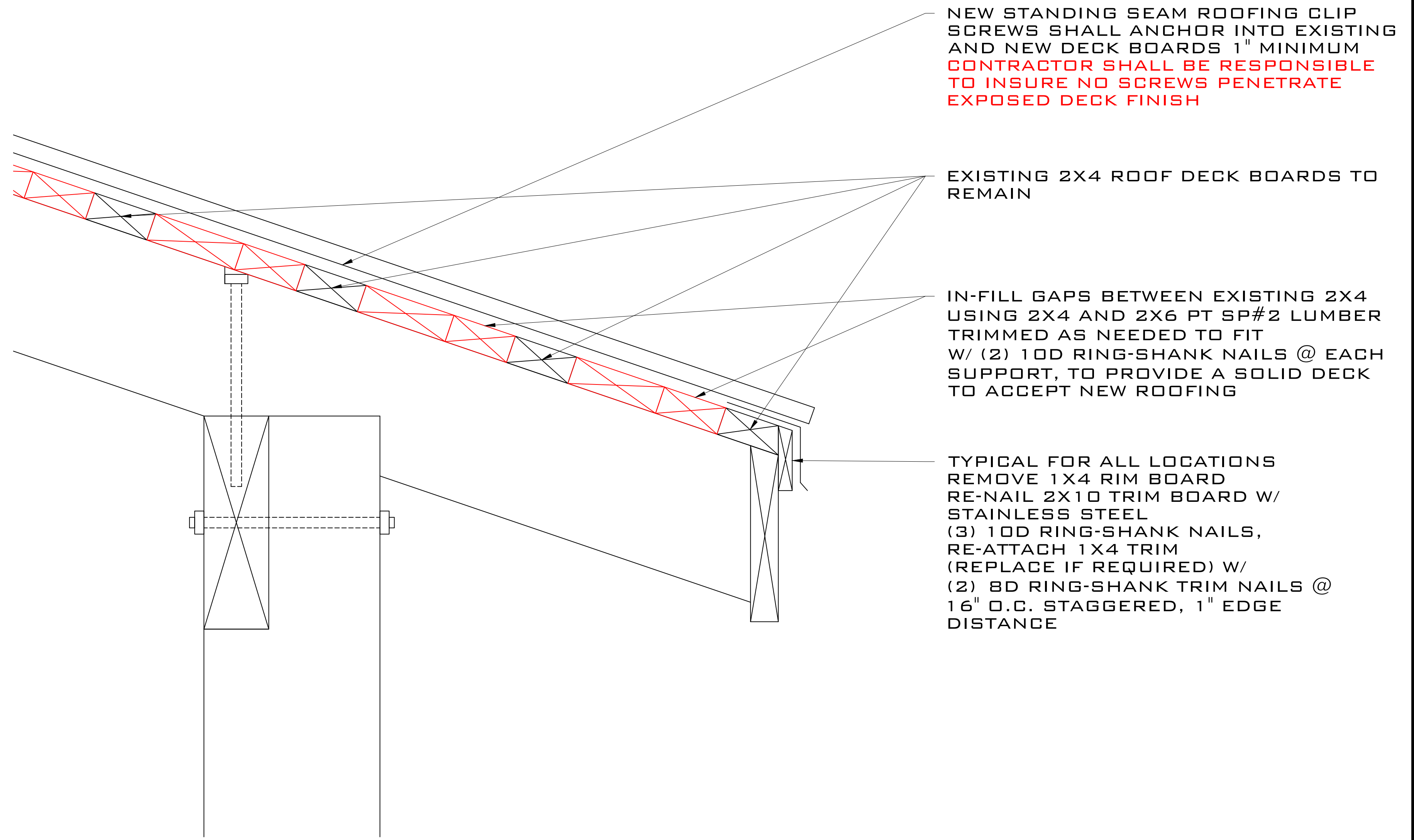
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2405-09			S-104	1



**VERANDA ROOF DETAIL  
(STRUCTURAL)**

SCALE: NTS



**BOARD WALK ROOF DETAIL  
(STRUCTURAL)  
(ALTERNATE WORK)**

SCALE: NTS

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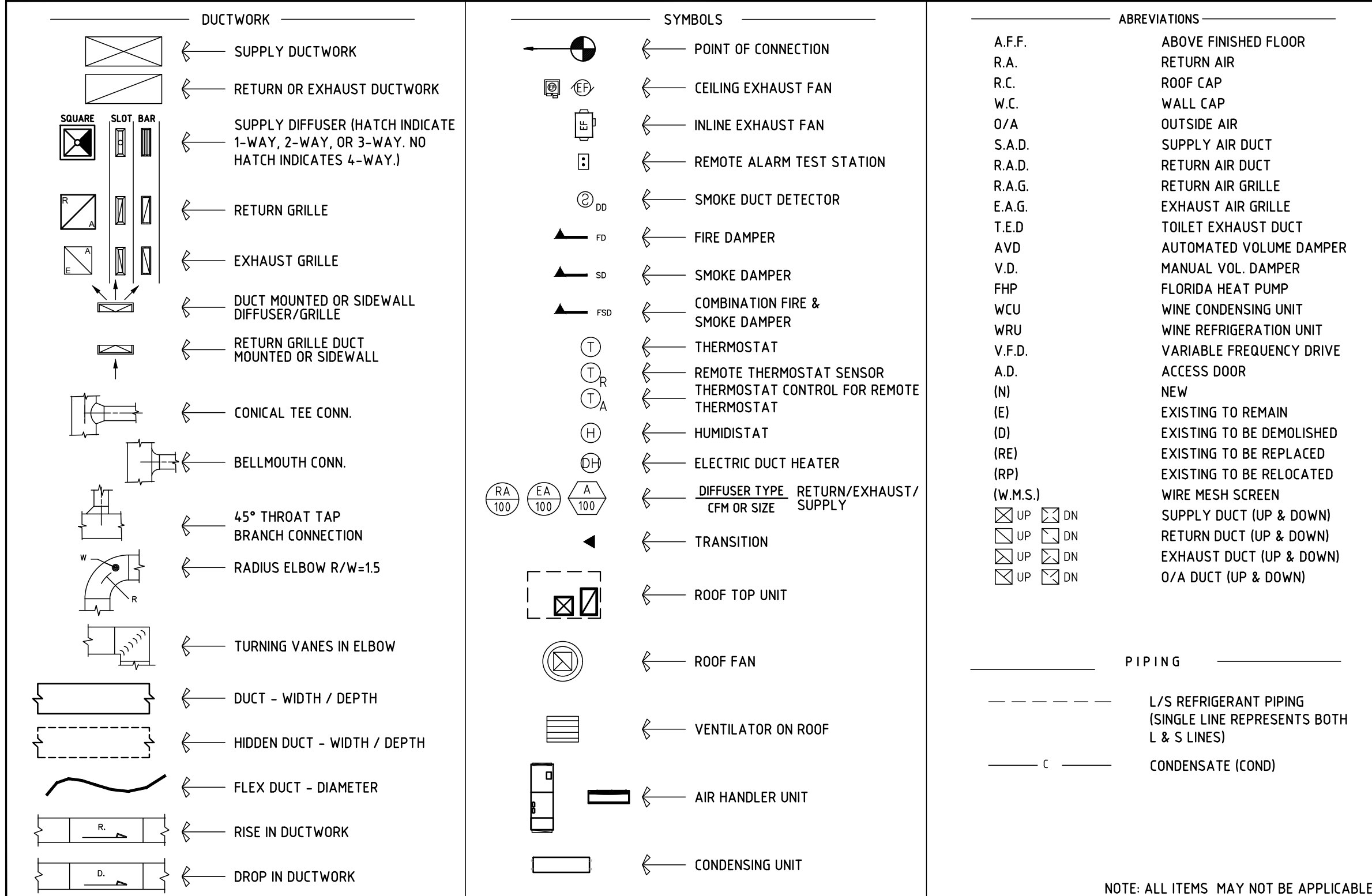
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## HVAC GENERAL NOTES

- HVAC DRAWINGS ARE DIAGRAMMATICAL IN NATURE AND REPRESENT EXISTING CONDITIONS BASED ON DRAWINGS AND SITE OBSERVATIONS. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL ACTUAL CONDITIONS INCLUDING, DUCTWORK AND PIPING LOCATIONS AND SIZES.
- DUE TO DRAWINGS BEING DIAGRAMMATICAL IN NATURE RISERS AND DROPS ARE NOT SHOWN - CONTRACTOR SHALL INCLUDE THESE IN THE BID - WHERE POSSIBLE ALL RISERS AND DROPS SHALL BE CONSTRUCTED USING 45 DEGREE OR LONG RADIUS ELBOWS.
- PROVIDE AND INSTALL NECESSARY DUCTWORK TRANSITIONS AND PIPING INCREASERS/REDUCERS AS REQUIRED FOR EQUIPMENT CONNECTIONS. CONSULT MANUFACTURER'S DATA FOR ACTUAL DUCTWORK AND PIPING CONNECTIONS SIZES, INCLUDING, BUT NOT LIMITED TO THOSE SHOWN.
- AIR CONDITIONING CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO BID AND VERIFY ALL CONDITIONS, LOCATIONS, DIMENSIONS, MATERIALS, ELEVATIONS AND COUNTS AS SHOWN AND/OR NOTED ON THE DRAWINGS AND INCLUDE IN THE BID ANY AND ALL FABRICATION REQUIRED PRIOR TO INSTALLATION. THE CONTRACTOR SHALL VERIFY SIZE, ELEVATION, AND PRESENT STATE OF ALL EXISTING UTILITIES.
- THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY AND ALL EXISTING FIELD CONDITIONS WHICH DEVIATE FROM WHAT WAS SHOWN ON THE PLANS. CONTRACTOR IS RESPONSIBLE TO PROVIDE PRICING FOR A COMPLETE INSTALLATION INCLUDING ANY COSTS ASSOCIATED WITH FIELD CONDITIONS AT THE TIME OF BIDDING.
- IT SHALL BE THE RESPONSIBILITY OF THE AIR CONDITIONING CONTRACTOR FOR THE ADVANCED ORDERING OF LONG LEAD ITEMS SO THAT DELIVERY WILL NOT INTERFERE WITH THE PRODUCTION OF OTHER TRADES RESULTING IN ANY DOWN OR LAG TIME.
- IT SHALL BE THE RESPONSIBILITY OF THE AIR CONDITIONING CONTRACTOR TO PROVIDE ALL LABOR, MATERIALS, AND SUPERVISION NECESSARY TO ACCOMPLISH THE WORK SHOWN AND/OR NOTED ON THE DRAWINGS.
- ALL DIMENSIONS ARE IN PHYSICAL UNITS OF INCHES UNLESS OTHERWISE NOTED.
- ALL DUCT SIZES ARE CLEAR INSIDE DIMENSIONS. CONTRACTOR SHALL NOTIFY ENGINEER IF DUCT SIZE CHANGES ARE REQUIRED BECAUSE OF EXISTING CONDITIONS.
- CONTRACTOR SHALL PAY FOR ALL PERMITS, FEES, INSPECTIONS, TESTS, AND ALL REQUIRED INSURANCE FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
- AFTER BID SELECTION AND PRIOR TO COMMENCEMENT OF WORK, THE AIR CONDITIONING CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL DUCT WORK, EXHAUST FANS, AIR DEVICES, AND EQUIPMENT AS STATED ON SCHEDULES AND OR NOTES. AHRI CERTIFICATES FOR ALL EQUIPMENT SHALL BE INCLUDED IN THE SUBMITTAL PACKAGE. IF THE CONTRACTOR PROPOSES TO USE ANY ARTICLE, DEVICE, PRODUCT, OR MATERIAL WHICH IS NOT AS SPECIFIED, THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVE TO THE ENGINEER THAT THE PROPOSED SUBSTITUTION IS EQUAL AND WILL FIT ALLOCATED SPACE.
- LOCATION OF AIR CONDITIONING DUCTS AND AIR DEVICES MAY CHANGE. VERIFY EXACT LOCATION WITH ARCHITECT/ENGINEER PRIOR TO INSTALLATION. DRAWINGS ARE DIAGRAMMATICAL. DO NOT SCALE FOR THE EXACT LOCATION OF DUCTS, DIFFUSERS, GRILLES, REGISTERS, PIPING, EQUIPMENT, ETC. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF AIR DEVICES.
- PROVIDE MANUAL VOLUME DAMPERS AT ALL LOW PRESSURE BRANCH DUCTS TO INDIVIDUAL DIFFUSERS AND GRILLES AND TO ALL LOW PRESSURE BRANCH DUCTS TO REHEAT COILS. PROVIDE DAMPERS AS CLOSE AS POSSIBLE TO BRANCH CONNECTION TO MAIN. SEE DIFFUSER AND GRILLE SCHEDULE AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- NO PIPING, DUCTWORK, OR CONDUIT SHALL BE INSTALLED UNTIL IT IS COORDINATED WITH ALL OTHER TRADES AFFECTED. PROVIDE ALL OFFSETS REQUIRED TO AVOID INTERFERENCE WITH OTHER TRADES; EXISTING CONDITIONS AND WITH THE STRUCTURE, INCLUDING, BUT NOT LIMITED TO THOSE SHOWN.
- SCHEDULE NEW CONSTRUCTION WORK WITH THE OWNER WELL IN ADVANCE. CONSTRUCTION WORK AND DEMOLITION SHALL BE PERFORMED OR REPLACED TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
- ALL FINISHES AND SURFACES TO REMAIN WHICH ARE DAMAGED DURING CONSTRUCTION WORK SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
- DO NOT BLOCK TUBE PULL OR SERVICE SPACE ON EQUIPMENT WITH PIPING, DUCTWORK, ETC. (FLANGED OR REMOVABLE SECTIONS MAY BE USED IN SOME INSTANCES WHERE TIGHT CLEARANCES EXIST).
- IF NO SIZE IS SHOWN FOR DUCT SERVING DIFFUSER OR GRILLES, USE SIZE SHOWN ON DIFFUSER AND GRILLE SCHEDULE.
- DUCTWORK ROUTED PARALLEL TO A WALL, RATED OR CORRIDOR SHALL BE INSTALLED WITH MINIMUM 6" CLEARANCE TO ALLOW FOR INSPECTION OF WALL PENETRATIONS. CONTRACTOR SHALL PROVIDE 12" CLEARANCE WHERE POSSIBLE, COORDINATE.
- REFER TO DETAIL SHEETS AND SPECIFICATIONS FOR ADDITIONAL INSTALLATION REQUIREMENTS.
- CONTRACTOR SHALL SUBMIT A COMPLETE LIST OF EQUIPMENT AND ITEMS TO BE REMOVED TO THE OWNER. ALL ITEMS THAT THE OWNER WISHES TO RETAIN SHALL BE TURNED OVER TO OWNER AND THE REMAINDER SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A PROPER MANNER BY CONTRACTOR.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL WORK NECESSARY TO PREPARE THE STRUCTURE FOR THE INSTALLATION AND/OR DEMOLITION WORK OF THE MECHANICAL SYSTEMS. ALL HOLES, OPENINGS AND ANY DAMAGED MATERIALS OR SURFACES SHALL BE REPAIRED AND FINISHED TO MATCH EXISTING.
- ALL DEMOLITION WORK SHALL COMPLY WITH NFPA 241 AND THE REQUIREMENTS OF THE OWNER.
- PROVIDE TEMPORARY FILTERS ON ALL RETURN AIR GRILLES AND TRANSFER OPENINGS IN THE WORK AREA.
- EXISTING SYSTEMS SHOWN ON THE DRAWINGS ARE BASED ON AVAILABLE RECORD DRAWINGS. THIS INFORMATION IS ONLY PARTIALLY VERIFIED. THE CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY AND INVESTIGATE ALL CONDITIONS THAT AFFECTS THE WORK PRIOR TO SUBMITTING THE BID.
- INSTALL AHU CONTROL PANELS TO PROVIDE FOR 3'-0" MIN. CLEARANCE IN FRONT OF PANEL.
- UNLESS OTHERWISE NOTED ON PLANS, LOW RETURN AIR GRILLES AND LOW EXHAUST GRILLES SHALL BE 6" TO 8" A.F.F. TO BOTTOM OF GRILLE.
- ALL DIFFUSERS IN SAME SPACE SHALL HAVE THE SAME FULL FACE SIZE USING LARGEST SIZE REQUIRED FROM DIFFUSER AND GRILLE SCHEDULE.
- PROVIDE CLEAR ACCESS TO FIRE DAMPERS, SMOKE DAMPERS, AND VALVES.
- ALL WORK SHALL BE PERFORMED BY A LICENSED AIR CONDITIONING CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE NATIONAL, STATE AND LOCAL CODES AND ORDINANCES.
- CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.
- THE PLUMBING CONTRACTOR SHALL RUN ALL CONDENSATE DRAINS PER PLUMBING SPECIFICATIONS. (SEE PLUMBING SHEETS)
- COMBUSTIBLE PIPING IS NOT PERMITTED IN RETURN AIR PLENUMS OR CEILING SPACES USED FOR RETURN AIR.
- THE AIR CONDITIONING CONTRACTOR SHALL USE RADIUS TURNS WITH A 15 CENTERLINE TO WIDTH RATIO (15 R/W), VANED ELBOWS, SPLITTER DAMPERS WHERE INDICATED, VOLUME CONTROLS IN ALL BRANCH LINES AND SUPPLY AND RETURN AIR DEVICES (UNLESS OTHERWISE NOTED IN AIR DEVICE SCHEDULE).
- THE AIR CONDITIONING CONTRACTOR SHALL SEAL ALL TRUETS IN AN APPROVED MANNER TO INSURE AGAINST LEAKAGE.
- ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID ANY CONFLICTS IN LOCATIONS FOR DUCTS, DIFFUSERS, GRILLES, REGISTERS, PIPING, EQUIPMENT, ETC., IN ORDER TO NOT INTERFERE WITH THE PROGRESS OF CONSTRUCTION.
- THE AIR CONDITIONING CONTRACTOR SHALL PROVIDE FLEXIBLE DUCT CONNECTIONS TO ALL FANS, A/C UNITS, OR MECHANICAL EQUIPMENT, EXCEPT FOR EXHAUST HOODS.
- UNLESS NOTED AS EXISTING TO BE REUSED (E) OR RELOCATED (RE), ALL EQUIPMENT, PIPING, DUCTS, REGISTERS, ETC., SHALL BE NEW.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BEAR UNDERWRITERS LABEL (UL) WHERE APPLICABLE.
- THE AIR CONDITIONING CONTRACTOR SHALL PROVIDE ALL CONTACTORS, STARTERS, VFDs, RELAYS, AND THERMOSTATS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SWITCHES, DISCONNECTS, POWER WIRING AND CONTROL WIRING, UNLESS NOTED OTHERWISE. VFDs SHALL HAVE A MAINTENANCE BYPASS.
- THE AIR CONDITIONING CONTRACTOR SHALL PROVIDE 1" THICK MERV 13 (THROW-AWAY TYPE) FILTERS WITH EACH A/C UNIT (UOI).
- ALL PENETRATIONS OF FIRE-RATED WALLS, FLOORS OR CEILINGS SHALL BE FIREPROOFED BY A SEALING METHOD AND RATING AS SPECIFIED ON THE DRAWINGS OR AS REQUIRED BY THE LOCAL OR STATE CODES.
- AIR HANDLING DEVICES IN EXCESS OF 2000 CFM WILL HAVE A DUCT SMOKE DETECTOR TO STOP THE FAN AND ACTIVATE A HORN AND STROBE LIGHT. ALL EQUIPMENT SHALL BE INTERLOCKED AS REQUIRED BY LOCAL CODES OR FIRE SAFETY OFFICIALS.
- ALL WORK SHALL COMPLY WITH BASE BUILDING LIFE SAFETY/SMOKE CONTROL SYSTEM REQUIREMENTS. PROVIDE ALL NECESSARY WIRING, CONTACTORS, RELAYS, ETC., AS REQUIRED FOR INTERFACE WITH BASE BUILDING SYSTEM.
- THE AIR CONDITIONING CONTRACTOR SHALL KEEP ALL AREAS IN WHICH WORK IS BEING PERFORMED, FREE FROM OBSTACLES AT ALL TIMES AND SAID AREAS SHALL BE LEFT BROOM CLEAN AT THE END OF EACH WORKING DAY.
- THE AIR CONDITIONING CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS BUILT DRAWINGS TO THE ENGINEER UPON COMPLETION OF INSTALLATION. IF FIELD CHANGES ARE MADE WHICH DEVIATE FROM ENGINEERING DRAWINGS TO THE EXTENT THAT THE BUILDING DEPARTMENT REQUIRES THESE CHANGES BE INCORPORATED PRIOR TO INSPECTION, THE CONTRACTOR SHALL PROVIDE SKETCHES TO THE ENGINEER FOR INCORPORATION INTO THE BUILDING PLANS. ENGINEERING EXPENSES THAT ARE INCURRED DUE TO REVISIONS OR SUBSTITUTIONS REQUESTED BY THE CONTRACTOR SHALL BE PAID FOR BY THAT CONTRACTOR.
- AIR CONDITIONING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP TO BE FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN (1) YEAR FROM DATE OF ACCEPTANCE, AND ALL GUARANTEES AND WARRANTIES SHALL BE DELIVERED TO THE OWNER. COMPRESSORS SHALL HAVE EXTENDED FIVE YEAR WARRANTIES.
- PRIOR TO INSTALLATION, THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF ALL EQUIPMENT WITH THE OWNER'S REPRESENTATIVE AND THE ACTUAL EQUIPMENT BEING FURNISHED.
- PRESENT AIR CONDITIONING EQUIPMENT WHERE INDICATED ON THE DRAWINGS IS FOR INFORMATION ONLY AND THE CONTRACTOR SHALL INCLUDE THE INSTALLATION OF CONDUIT AND WIRE AS REQUIRED. THE INSTALLATION OF NEW EQUIPMENT THAT INTERFERES WITH EXISTING SHALL BE REMOVED, RELOCATED, OR RE-ROUTED TO PERMIT COMPLETION OF SUCH WORK.
- SALVAGED MATERIALS, EQUIPMENT, AND DIFFUSERS SHALL BE DELIVERED TO THE OWNER AT HIS PROPERTY AND STORED WITHIN THE BUILDING WHERE DIRECTED. ANY REMOVED MATERIALS OR EQUIPMENT WHICH THE OWNER DOES NOT WISH TO KEEP SHALL BE DISPOSED OF BY THE CONTRACTOR, WITHOUT ADDITIONAL COST TO THE OWNER.
- THE AIR CONDITIONING CONTRACTOR SHALL DETERMINE THE EXTENT TO WHICH EXISTING DUCTWORK AND PIPING WILL HAVE TO BE RE-ROUTED, RELOCATED, OR RECONNECTED, AND THE AMOUNT OF ADDITIONAL WORK WHICH MAY BE REQUIRED DUE TO THE PHYSICAL CONDITIONS OF THE DUCTWORK & PIPING SHALL BE PERFORMED UNDER THIS CONTRACT WITHOUT ADDITIONAL CHARGES TO THE OWNER.
- INTERRUPTION OF EXISTING FACILITIES OR SERVICES SHALL BE KEPT TO A MINIMUM AND THE CONTRACTOR SHALL FURNISH ALL MATERIALS AND LABOR REQUIRED WHENEVER TEMPORARY CONDITIONS ARE NECESSARY TO MAINTAIN CONTINUITY OF SERVICE. INTERRUPTION OF SERVICES, THE INSTALLATION OF TEMPORARY FACILITIES, AND THE WORK OF MAKING FINAL CONNECTIONS TO NEW WORK SHALL BE DONE ONLY AT SUCH TIMES AS PERMITTED AND SCHEDULED BY THE OWNER WITHOUT ADDITIONAL COST. THE AIR CONDITIONING CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE THE SERVICE INTERRUPTIONS WITH THE OWNER & GENERAL CONTRACTOR.
- ALL ROOF MOUNTED EQUIPMENT SHALL BE HVHZ WIND-LOAD RATED WITH SIGNED AND SEALED DOCUMENTS / DRAWINGS FROM AN INDEPENDENT LICENCED FLORIDA PROFESSIONAL ENGINEER.
- ALL ROOF MOUNTED EQUIPMENT SHALL BE MOUNTED ON CURBS OR STANDS. CURBS AND STANDS SHALL BE FLORIDA PRODUCT APPROVED OR MIAMI DADE PRODUCT APPROVED AND HAVE CURRENT NOTICE OF ACCEPTANCE (NOA). CURBS AND STANDS SHALL BE ATTACHED TO THE ROOF STRUCTURE AND THE EQUIPMENT SHALL BE ATTACHED TO THE CURB OR STAND IN ACCORDANCE WITH THE NOA DOCUMENTS.
- IF ANY CONFLICTS OR DISCREPANCIES APPEAR IN THESE DOCUMENTS, THE MORE STRINGENT OF THE REQUIREMENTS ARE TO BE TAKEN.
- CONDENSATE PIPING SHALL BE SLOPED AT A MINIMUM OF 1/4" PER FOOT.
- CONDENSATE LINES TO BE COPPER/PVC DEPENDING ON PROJECT REQUIREMENTS. ALL CONDENSATE PIPING RECEIVING DIRECT CONDENSATE DISCHARGE WITHIN THE BUILDING SHALL BE INSULATED WITH 1/2" ARMAFLEX INSULATION OR EQUAL.

## HVAC LEGEND



## CONTRACTOR GENERAL CONDITIONS NOTES

- RFI'S: CONTRACTOR SHALL SUBMIT RFI'S WITH HIS PROPOSED SOLUTION IN A TIMELY MANNER. CONTRACTOR RECOGNIZES THE CONSULTANT SHALL REQUIRE UP TO 5 WORKING DAYS TO RESPOND.
- SUBMITTALS AND PRODUCT DATA: CONTRACTOR SHALL PREPARE A SUBMITTAL SCHEDULE FOR APPROVAL BY THE A/E. CONTRACTOR RECOGNIZES THE CONSULTANT SHALL REQUIRE UP TO 10 WORKING DAYS TO REVIEW SUBMISSIONS. ALL SUBMITTALS, PRODUCT DATA, SHALL BE CLEARLY STAMPED AND INDICATED APPROVED BY THE CONTRACTOR PRIOR TO SUBMISSION TO THE CONSULTANT.
- SHOP DRAWINGS: CONTRACTOR SHALL PREPARE A SHOP DRAWING SCHEDULE FOR APPROVAL BY THE A/E. CONTRACTOR RECOGNIZES THE CONSULTANT SHALL REQUIRE UP TO 10 WORKING DAYS TO REVIEW SHOP DRAWINGS. ALL SHOP DRAWINGS, SHALL BE CLEARLY STAMPED AND INDICATED APPROVED BY THE CONTRACTOR PRIOR TO SUBMISSION TO THE CONSULTANT.
- LAYOUT AND COORDINATION DRAWINGS: CONTRACTOR SHALL PREPARE SCALED COMPREHENSIVE COORDINATED LAYOUT DRAWINGS. PROVIDE SECTIONS, GENERAL ARRANGEMENTS, ELEVATIONS INCLUDING ALL DISCIPLINES FOR HIS PROPOSED LAYOUT AND ROUTING PRIOR TO FABRICATION. SUBMIT TO OWNER AND A/E FOR REVIEW AND GENERAL CONFORMANCE. PROVIDE DRAWINGS THAT DEMONSTRATE VIA COORDINATED ELEMENTS AND SYSTEMS WITH STRUCTURE THAT CLEARLY INDICATE PROPOSED SYSTEMS WILL FIT, FUNCTION AS INTENDED, BE FREE OF INTERFERENCES AND CONFORM TO REQUIRED CODE AND MANUFACTURER WORKING AND MAINTENANCE CLEARANCES.
- DEVIATIONS FROM BASIS FOR DESIGN SYSTEMS SHALL BE CLEARLY IDENTIFIED ON ALL SUBMISSIONS.
- SUBSTITUTIONS:
  - CONTRACTOR SHALL PREPARE REQUESTS WITH COMPLETE COORDINATION INFORMATION, INCLUDE ALL CHANGES REQUIRED IN OTHER ELEMENTS OF THE WORK TO ACCOMMODATE THE SUBSTITUTION INCLUDING WORK PERFORMED BY THE OWNER AND THE SEPARATE CONTRACTORS.
  - PROVIDE COMPLETE SUPPORTING DATA QUALIFYING THE SUBSTITUTION COMPARED TO THE BASIS OF DESIGN SYSTEM. PROVIDE A DETAILED LIST OF ANY VARIANCES, PHYSICAL OR SPATIAL LAYOUTS, ELEVATIONS, ETC. TO THE BASIS OF DESIGN.
  - PROVIDE A STATEMENT INDICATING THE EFFECT THE SUBSTITUTION WILL HAVE ON THE WORK SCHEDULE IN COMPARISON TO THE SCHEDULE WITHOUT APPROVAL OF THE PROPOSED SUBSTITUTION, INCLUDE INFORMATION REGARDING THE EFFECT OF THE PROPOSED SUBSTITUTION ON THE CONTRACT TIME.
  - PROVIDE CERTIFICATION BY THE CONTRACTOR TO THE EFFECT THAT, IN THE CONTRACTOR'S OPINION, AFTER THOROUGH EVALUATION, THE PROPOSED SUBSTITUTION WILL RESULT IN WORK THAT IN EVERY SIGNIFICANT RESPECT IS EQUAL TO OR BETTER THAN THE WORK REQUIRED BY THE CONTRACT DOCUMENTS AND THAT IT WILL PERFORM ADEQUATELY IN THE APPLICATION INDICATED.
  - CONSULTANT'S EXPENSES THAT ARE INCURRED DUE TO REVISIONS OR SUBSTITUTIONS REQUESTED BY THE CONTRACTOR OR APPROVED BY THE OWNER SHALL BE COMPENSATED TO THE CONSULTANT BY THE CONTRACTOR.
- AS-BUILT DRAWINGS: THE CONTRACTOR SHALL MAINTAIN AND PREPARE A COMPLETE AND ACCURATE SET OF AS-BUILTS DURING THE PROJECT AND ISSUE TO THE A/E AND OWNER AT PROJECT CLOSEOUT. DURING THE COURSE OF THE PROJECT, THE CONTRACTOR SHALL ISSUE SKETCHES OR SCALED DRAWINGS FOR FIELD CHANGES THAT ARE PROPOSED OR MADE WHICH VARY FROM THE BASIS OF DESIGN. CONSULTANT EXPENSES THAT ARE INCURRED DUE TO SERVICES OR REVISIONS REQUIRED BY BUILDING DEPARTMENT, OWNER, CONTRACTOR, AND MANUFACTURER SHALL BE COMPENSABLE TO THE CONSULTANT BY THE CONTRACTOR.
- INSTALLATION, TESTING AND BALANCING, START UP, COMMISSIONING AND PERFORMANCE TROUBLESHOOTING OF SYSTEMS- CONTRACTOR RECOGNIZES HE IS SOLELY RESPONSIBLE FOR PERFORMANCE AND COMPLETION OF THESE SERVICES AS PART OF THE PROJECT REQUIREMENTS. DURING THE COURSE OF THE PROJECT, THE CONTRACTOR SHALL DOCUMENT THE SERVICES COMPLETED TO THE OWNER AND A/E. CONSULTANT EXPENSES THAT ARE INCURRED DUE TO SUPPORTING SERVICES OR REVISIONS REQUIRED BY BUILDING DEPARTMENT, OWNER, CONTRACTOR, AND MANUFACTURER SHALL BE COMPENSABLE TO THE CONSULTANT BY THE CONTRACTOR.
- CONTRACTOR/DELEGATED/SUCCESSOR ENGINEER - CONTRACTOR IS ASSIGNED TO PROVIDE DESIGN/BUILD SERVICED FOR SELECTED SYSTEMS. CONTRACTOR'S ENGINEER SHALL COMPLY WITH ALL FAC 61615 REQUIREMENTS. DELEGATED/SUCCESSOR ENGINEER SHALL SUBMIT SIGNED/SEALED DRAWINGS TO A/E, TO AGENCIES, RESPOND TO ALL RFI'S, AGENCY COMMENTS, AND BECOME THE DESIGNATED SYSTEM ENGINEER OF RECORD.

## HVAC DESIGN REQUIRES

	YES	NO
DUCT SMOKE DETECTOR(S)		X
FIRE DAMPER(S)		X
SMOKE DAMPER(S)		X
FIRE RATED ENCLOSURE		X
FIRE RATED ROOF/FLOOR CEILING ASSEMBLY		X
FIRE STOPPING (SEE ARCH.)		X
SMOKE CONTROL		X

This item has been digitally signed and sealed by Benjamin Jados on the date adjacent to the seal.

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FIRE SAFETY FLORIDA STATUTES: TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH F.B.C. 2022 SECTION 110.8.4.4 AND CHAPTER 633, FLORIDA STATUTES.

PRIOR TO SUBMITTING THE BID, THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND INFORM THE ARCHITECT AND THE ENGINEER OF ANY DISCREPANCY BETWEEN THESE DOCUMENTS AND THE EXISTING CONDITIONS AND SHALL INCLUDE IN THE BID TO CORRECT THE SAME AS DIRECTED. THE ENGINEER AND THE ARCHITECT, ARE NOT RESPONSIBLE FOR ANY ADDITIONAL COSTS RESULTING FROM VERIFIABLE EXISTING CONDITIONS DISCOVERED AFTER CONTRACT HAS BEEN AWARDED. NO CHANGES SHALL BE MADE TO THESE PLANS WITHOUT PRIOR APPROVAL FROM THE ENGINEER OF RECORD. ALL CHANGES SHALL BE SUBMITTED FOR REVIEW PRIOR TO INSTALLATION. NOT FOR BID UNTIL PERMIT HAS BEEN ISSUED.

## MECHANICAL SHEET INDEX

SHEET #	DESCRIPTION
M0.1	MECHANICAL NOTES, LEGEND AND SHEET INDEX
M1.1	MECHANICAL FLOOR PLAN AND SCHEDULES
M1.3	MECHANICAL ROOF PLAN
M5.1	MECHANICAL DETAILS
M6.1	MECHANICAL SPECIFICATIONS

## SCOPE OF WORK

TENANT IMPROVEMENT: MECHANICAL SCOPE IS LIMITED TO ELEVATOR EQUIPMENT ROOM RENOVATION WITH MECHANICAL SYSTEMS TO PREVIOUSLY CONDITIONED SPACE AS SCHEDULED AND DRAWN. THIS PROJECT IS EXEMPT FROM ENERGY CALCULATIONS AS PER FBC ENERGY C1014.2.4.

## FLORIDA BUILDING CODE 2023 CONFORMANCE

- CONTRACTOR TO PROVIDE ALL LABOR AND MATERIAL TO CONFORM TO FBC 2023 8TH EDITION, RELATED SECTIONS, AND STANDARDS.
- CONTRACTOR SHALL PROVIDE SERVICES TO TEST AND BALANCE THE SYSTEM.
- CONTRACTOR TO PROVIDE COMPLETE CERTIFICATIONS AND CHECKLISTS AS REQUIRED BY FBC FOR HIS WORK RESPONSIBILITIES.

## DEFERRED SUBMITTALS NOTE

DEFERRED SUBMITTALS IN ACCORDANCE WITH 2023 FLORIDA BUILDING CODE, SECTION 107.3.4.1:

- WIND LOAD CALCULATIONS HVAC ROOFTOP EQUIPMENT CURBS
- WIND LOAD CALCULATIONS FOR CONDENSING UNITS ROOF STANDS

## LIFE SAFETY NOTE

- CONTRACTOR IS CAUTIONED TO REFER TO ARCHITECT'S LIFE SAFETY DRAWINGS FOR RATED WALLS, CONSTRUCTION.
- PROVIDE COMPLETE REQUIRED FIRE DAMPERS, FIRE/SMOKE DAMPERS, RELEASING F.A. SMOKE DETECTORS, HVAC INTERLOCKING ETC. TO MEET AHJ/PERMIT/C.O.O. REQUIREMENTS.
- COORDINATE WITH ALL PROJECT DRAWINGS.

## SCCR NOTE

CONTRACTOR AND MANUFACTURER SHALL PROVIDE ALL ELECTRICAL SYSTEMS FOR ALL EQUIPMENT, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT WITH INTEGRAL DISCONNECTS, INTEGRAL BREAKERS, INTEGRAL MOTOR STARTERS, VFDs, CHILLER PANELS, PACKAGED UNIT PANELS, ETC., AS RATED WITH A SHORT CIRCUIT CURRENT RATING AT LEAST EQUAL TO THE IMMEDIATE UPSTREAM ELECTRIC OVERCURRENT PROTECTIVE DEVICE SHORT CIRCUIT CURRENT RATING.

## ADA NOTES

CONTRACTOR SHALL HAVE KNOWLEDGE OF ALL LATEST A.D.A. ACCESSIBILITY CLEARANCE REQUIREMENTS WHILE COORDINATING FIELD ADAPTATIONS AND SHOP DRAWINGS. MAINTAIN 7'-0" CLEAR ABOVE ALL PEDESTRIAN AND VEHICLE PATHWAYS.

## STRUCTURAL NOTES

STRUCTURAL OPENINGS SHALL BE AT LEAST 15"-2" BIGGER THAN MEP SYSTEM REQUIRED FINISHED DIMENSIONS FOR THE ENTIRE ASSEMBLY. STRUCTURAL ENGINEER / ARCHITECT SHALL CONFIRM OPENINGS ON THEIR DRAWINGS. STRUCTURAL ENGINEER SHALL DIMENSION OPENINGS ON THEIR DRAWINGS.

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THESE DRAWINGS MAY  
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AUTHORIZATION BY  
WILLIAM P. HORN

DATE  
08-07-2024

REVISIONS

DRAWN BY  
MAM

PROJECT  
NUMBER  
24154

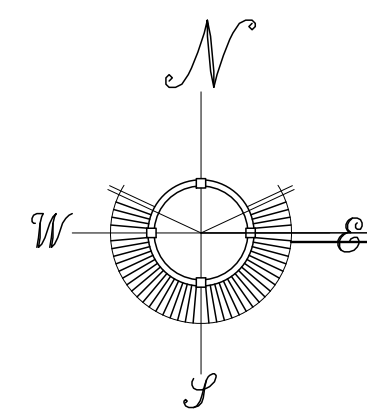
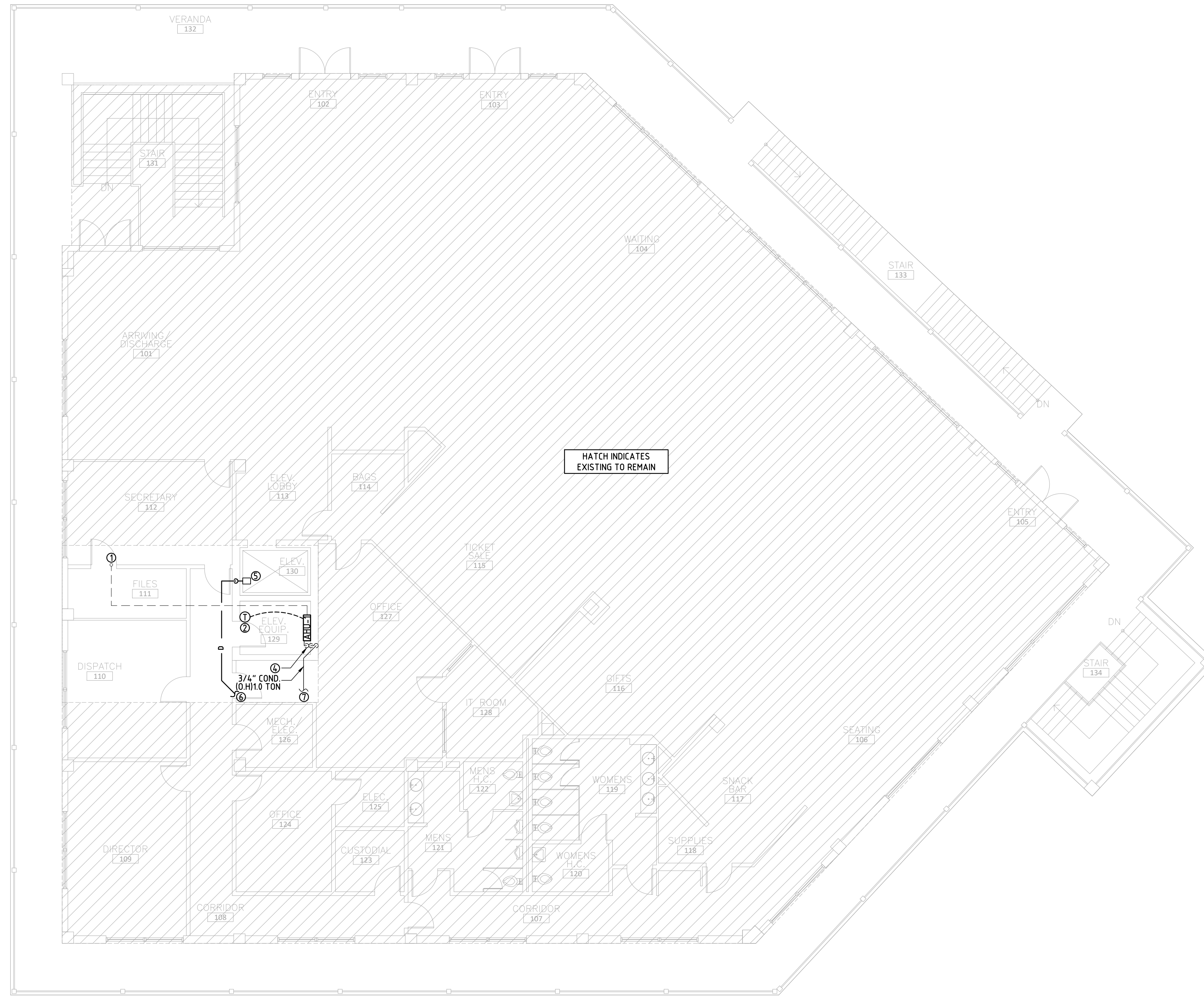
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M0.1

FERRY TERMINAL RENOVATION  
100 Grinnell Street  
KEY WEST, FLORIDA



FIRST FLOOR MECHANICAL PLAN

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

- KEY NOTES:**
- REFRIGERANT LINES UP TO ROOF. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION.
  - COOLING PROVIDED FOR 9,876 BTU/HR (2.9 KW) OF EQUIPMENT AT ROOM TEMPERATURE SET-POINT FOR 75F
  - CONNECT NEW 3/4" CONDENSATE LINE TO EXISTING 3/4" CONDENSATE LINE ABOVE FLOOR IN THIS AREA. VERIFY EXACT LOCATION, SIZE, INVERT, DIRECTION OF FLOW & CONNECTION POINT IN FIELD PRIOR TO CONSTRUCTION AND ADJUST PIPE ROUTING AND CONNECTION PER FIELD CONDITIONS.
  - CONDENSATE DRAIN P-TRAP. SEE DETAIL ON SHEET M5.1.
  - ELEVATOR SUMP PUMP. SEE DETAIL ON SHEET M5.1.
  - CONNECT 2" PUMP DISCHARGE LINE TO EXISTING FLOOR DRAIN IN CUSTODIAL CLOSET. CONTRACTOR TO FIELD VERIFY EXACT LOCATION PRIOR TO CONSTRUCTION.
  - CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING CONDENSATE DRAIN PIPING SERVING AHU'S IN THIS AREA AND TIE IN NEW DRAIN PIPING FROM AHU-1. PROVIDE PIPE INSULATION INSIDE BUILDING.

AIR CONDITIONING SYSTEM SCHEDULE		
MANUFACTURER	TRANE	
CONDENSING UNIT	UNIT TAG	CU-1
	MODEL NO.	TRUYA0121KA70NA
	DIMENSIONS	LxWxH (IN) 32x12x25
AIR HANDLER UNIT	WEIGHT (LBS)	92
	UNIT TAG	AHU-1
	MODEL NO.	TPKA0A0121LA10A
CAPACITY (BTU/H)	DIMENSIONS	LxWxH (IN) 36x10x12
	WEIGHT (LBS)	28
	EER2/SEER2	13.3/21.3
ELECTRICAL	SUPPLY AIR	265-325-385
	V/P/Hz	208/1/60
	CONDENSING UNIT	MCA 11 MOCP 28 BREAKER 15
SUCTION & LIQUID LINES CONNECTION (IN)	AIR HANDLER UNIT	MCA 1.00 MOCP SEE NOTE 8 BREAKER SEE NOTE 8
	1/2 & 1/4	

- AC EQUIPMENT NOTES:**
- VERIFY ALL A/C ELECTRICAL REQUIREMENTS WITH MANUFACTURERS SPEC. PRIOR TO INSTALLATION.
  - PROVIDE R-410A REFRIGERANT
  - PROVIDE DISCONNECTING MEANS AT AHUs.
  - PROVIDE 7 DAY DIGITAL PROGRAMMABLE T-STAT WITH NIGHT SET-BACK, THERMISTAT OR EQUAL.
  - REFRIGERANT LINE SIZE BASED ON 0-100 FT. TOTAL EQUIVALENT LENGTH. SEE MANUFACTURER FOR LONGER LENGTHS.
  - COOLING CAPACITY BASED ON 75°F DB, 63°F WB.
  - INCLUDE HIGH-EFFICIENCY, VARIABLE SPEED FAN MOTOR.
  - POWER TO AIR HANDLING UNIT IS PROVIDED BY CONDENSING UNIT.
  - CONTRACTOR TO PROVIDE QUOTES FOR EQUIVALENT EQUIPMENT.
  - PROVIDE UL 508 LISTED FLOAT SWITCH IN DRAIN PAN TO PREVENT CONDENSATE OVERFLOW.
  - PROVIDE COASTAL CORROSION PROTECTION EQUAL TO MODINE "E-FIN PRO SHIELD 10" FOR ALL EVAPORATOR COILS, CONDENSOR COILS, AND METAL HOUSING EXPOSED TO OUTDOORS. PROVIDE INTEGRAL CONDENSATE PUMP.

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DATE  
08-07-2024

REVISIONS

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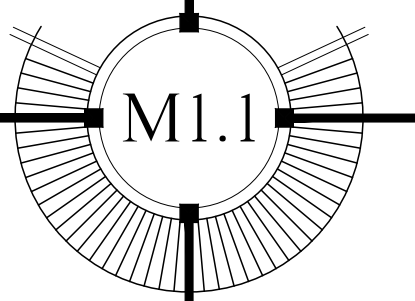
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**FIRE SAFETY FLORIDA STATUTES:** TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH F.B.C. 2023 SECTION 110.8.4.4 AND CHAPTER 633, FLORIDA STATUTES.

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**GENERAL NOTE:**  
 1. CONTRACTOR SHALL VERIFY EXACT LOCATION OF ROOF ACCESS LADDER.

**KEY NOTES:**  
 ① EQUIPMENT TO BE INSTALLED AT LEAST TEN FEET FROM EDGE OF BUILDING 2023 FBC MECH 304.11.  
 ② REFRIGERANT LINES SHALL PENETRATE THE ROOF THROUGH A ROOF JACK. REFER TO DETAIL SHEETS FOR REQUIREMENTS.  
 ③ CONTRACTOR SHALL CONFIRM HEAT REJECTION IS AWAY FROM EXISTING CONDENSING UNITS.  
 ④ INSTALL CONDENSING UNITS ON NEW CONDENSING UNIT STAND. CONDENSING UNIT STAND SHALL COMPLY WITH FBC MECH 301.15 AND FBC CHAPTER 16.

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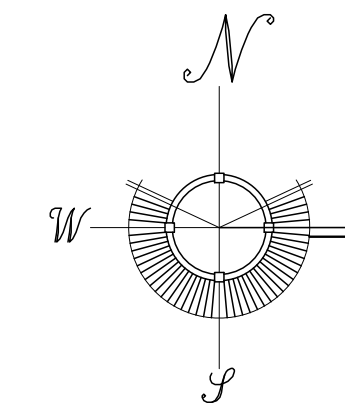
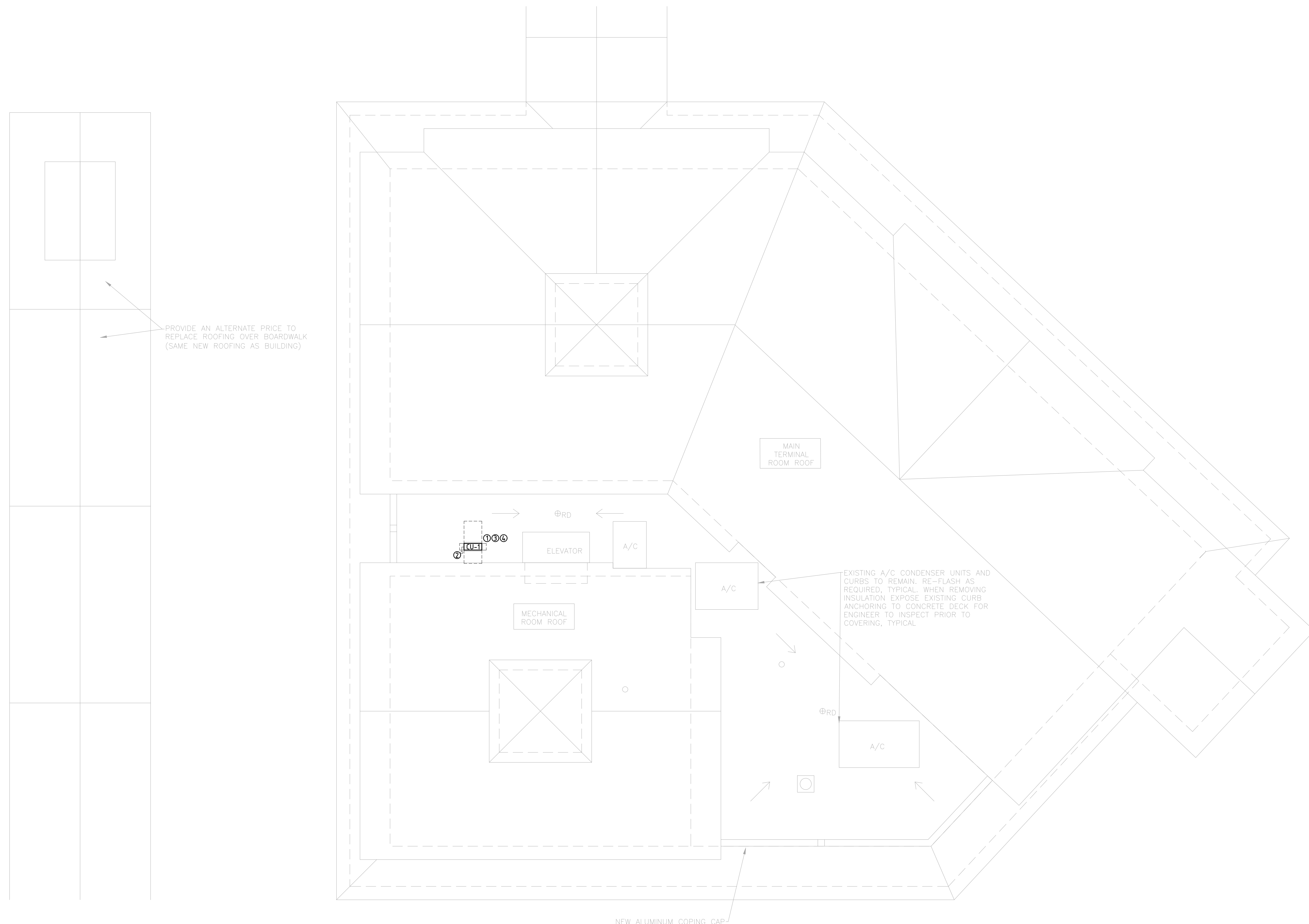
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MECHANICAL ROOF PLAN

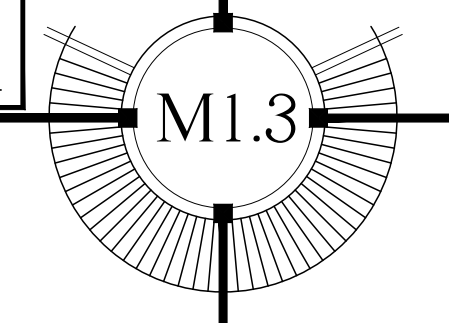
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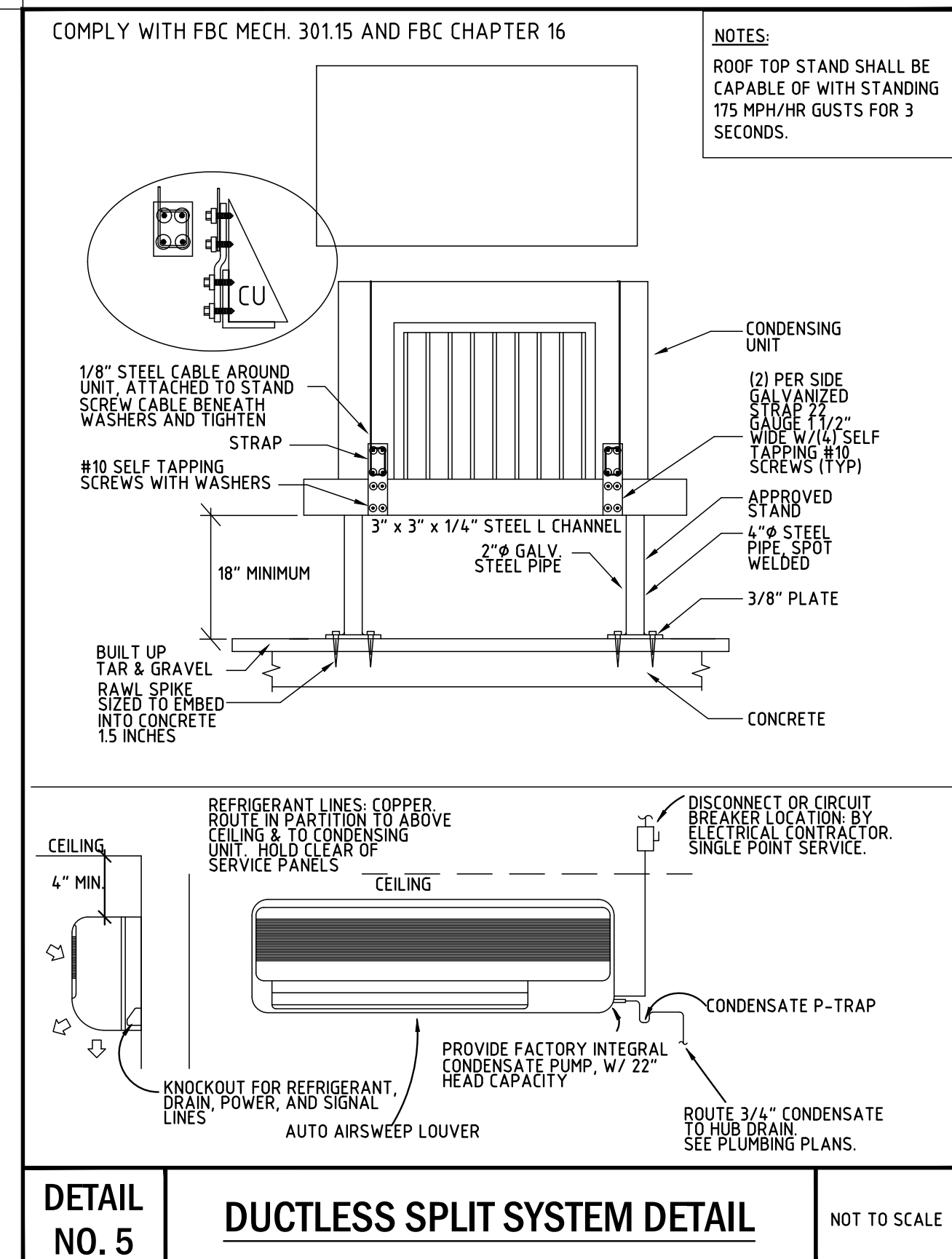
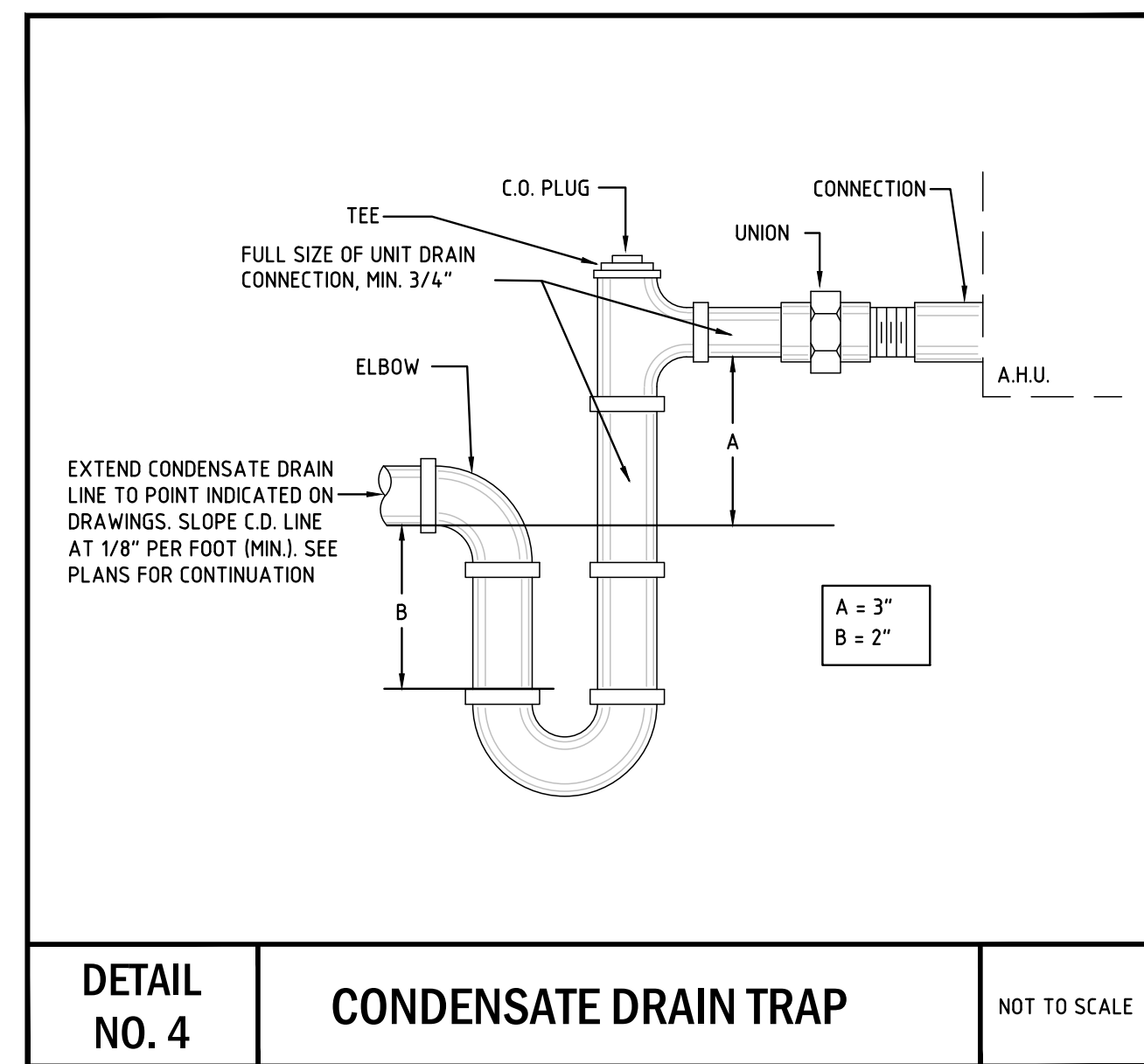
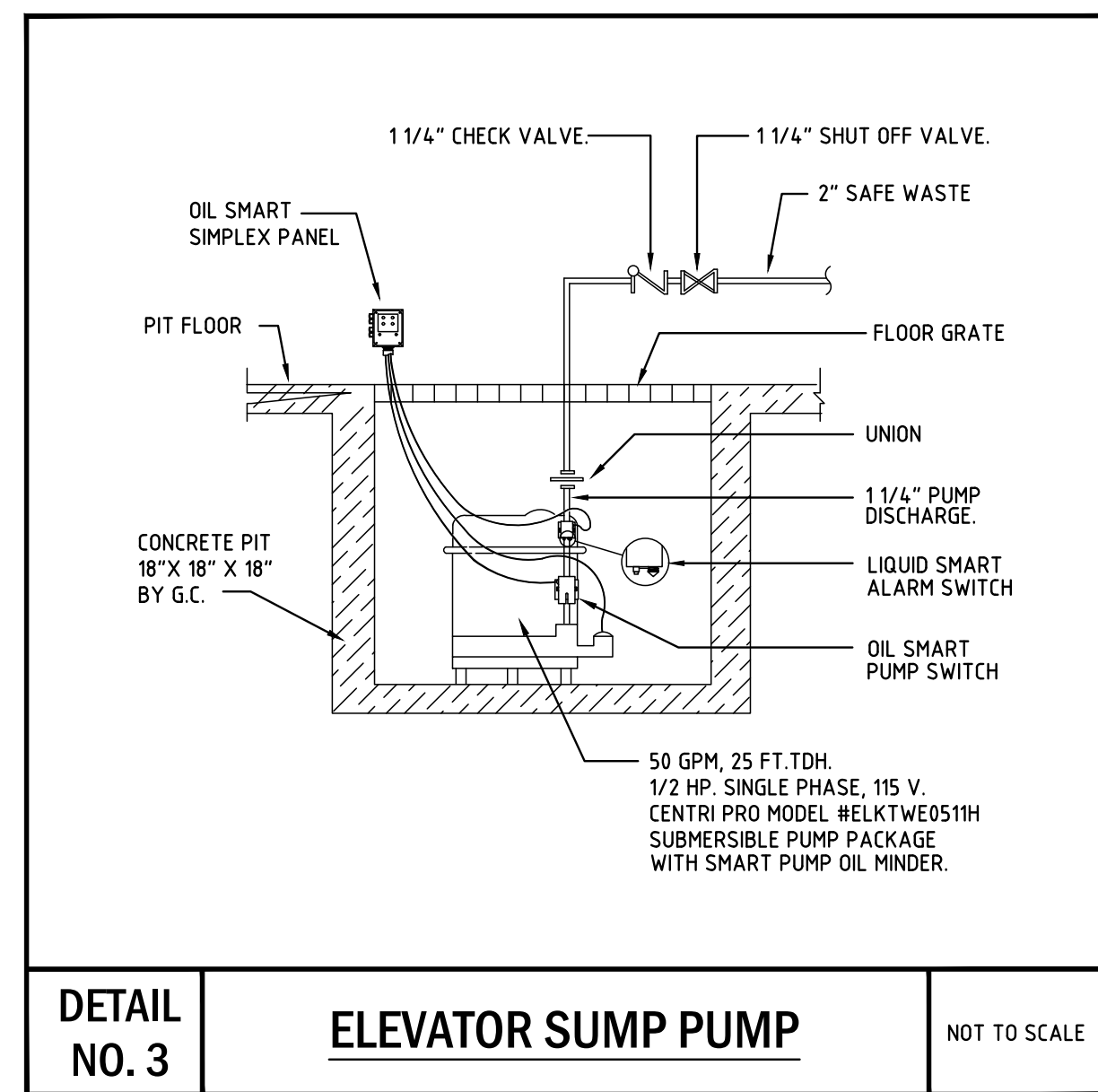
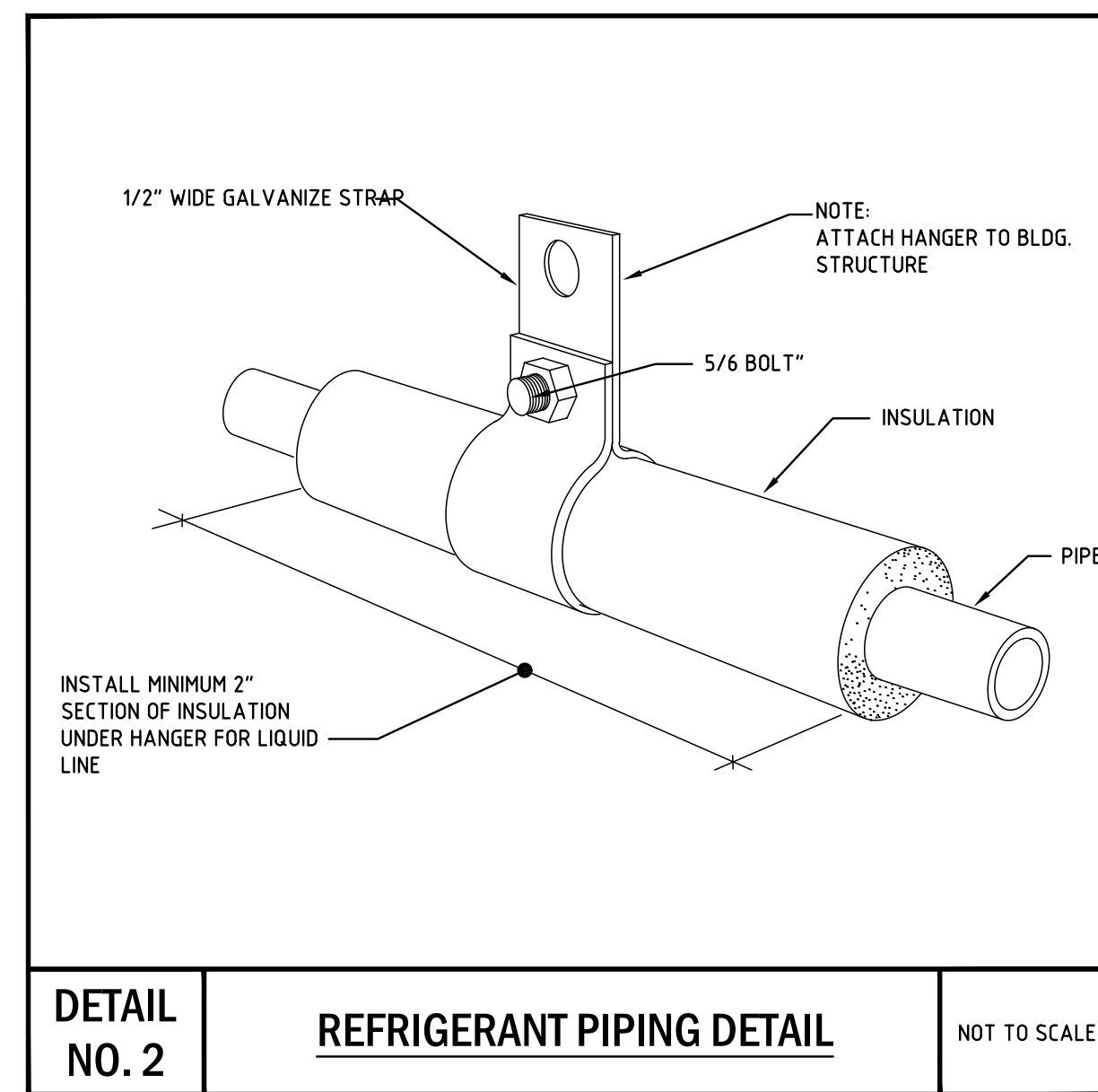
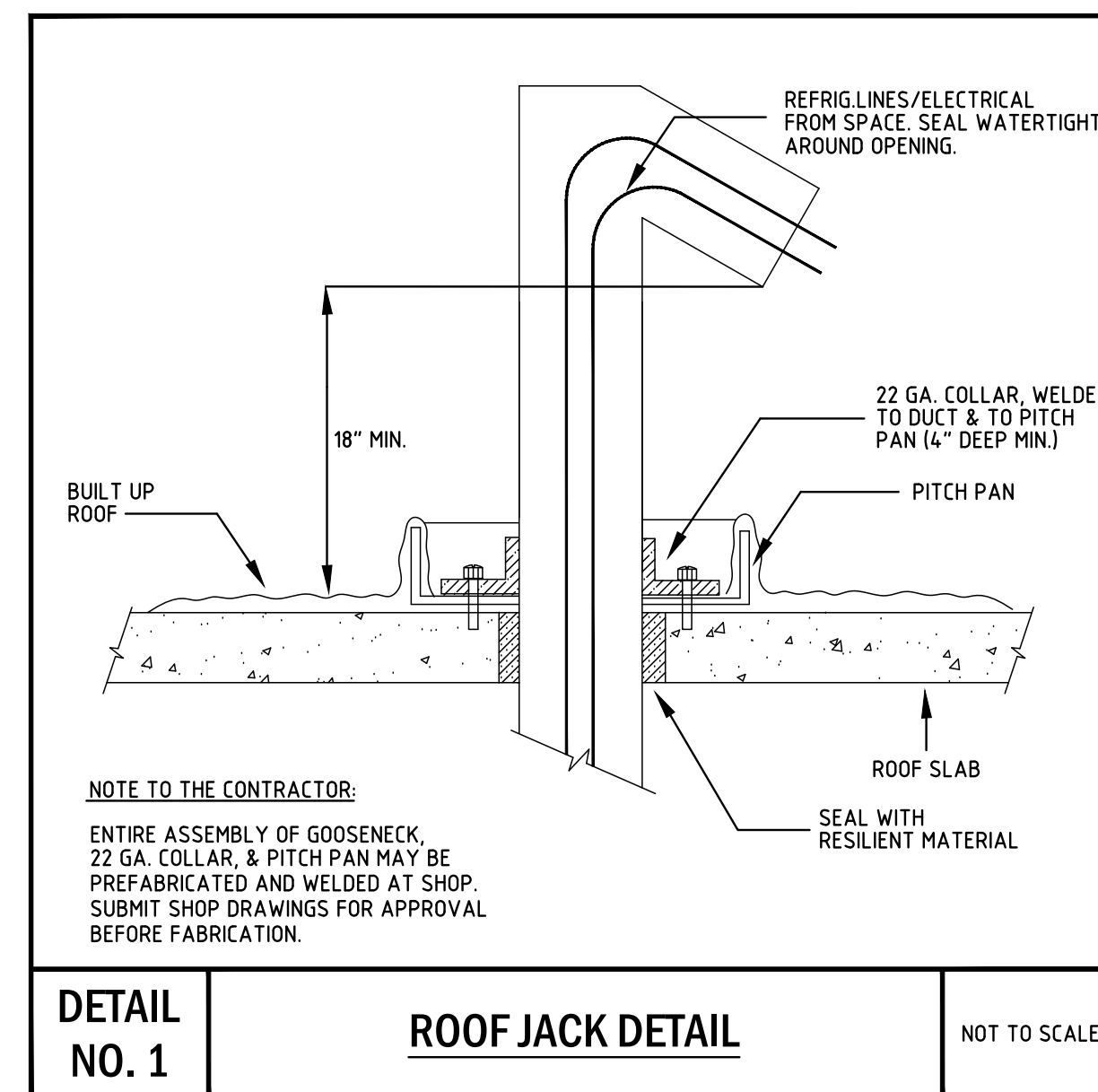
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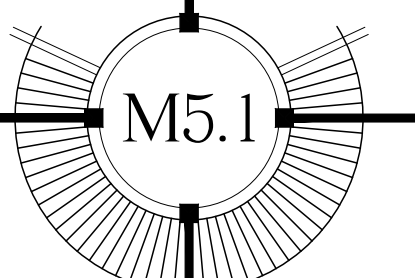
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15010 - BASIC MECHANICAL REQUIREMENTS  
A. CODES & REFERENCES

1. FLORIDA BUILDING CODE 2023 (WITH AMENDMENTS)
2. SMACNA
3. NFPA 101
4. NFPA 90A
5. NFPA 99

B. SCOPE OF WORK

1. PROVIDE ALL REQUIRED PERMITS, LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THE SCOPE OF THE PROJECT SHOWN ON THE DRAWINGS AND READY FOR OCCUPANCY AND USE BY OWNER. THE WORK SHALL INCLUDE BUT IS NOT LIMITED TO:
  - a. REMOVAL, RELOCATION AND RE-INSTALLATION OF EXISTING EQUIPMENT AND SYSTEM
  - b. CONNECTIONS TO EXISTING OR NEW EQUIPMENT AND SYSTEMS
  - c. MODIFICATION OF EXISTING CHILLED OR HOT WATER SYSTEMS, STEAM SYSTEMS, CONDENSATE DRAINAGE, DUCTWORK, TEMPERATURE CONTROLS AND LIFE-SAFETY SYSTEMS
  - d. CUTTING AND PATCHING TO REMOVE EXISTING OR INSTALL NEW WORK
  - e. CLEANING AND TESTING
  - f. INSTRUCTION TO OWNER'S PERSONNEL
2. ALL REMOVAL WORK AND DISRUPTIONS OF EXISTING SERVICES SHALL BE COORDINATED AND SCHEDULED IN ADVANCE WITH OWNER'S REPRESENTATIVES.
3. PROVIDE ALL BUILDING PENETRATIONS REQUIRED TO COMPLETE PROJECT. ALL PENETRATIONS TO BE PATCHED AND SEALED TO BE WATERTIGHT. MAINTAIN FIRE RATINGS OF EXISTING STRUCTURE.
4. PROVIDE ALL NECESSARY DUCT, EQUIPMENT AND PIPE SUPPORTS AND MATERIALS REQUIRED FOR INSTALLATION. PER THE REQUIREMENTS OF LOCAL, STATE OR FEDERAL CODES.
5. NOT ALL COMPONENTS REQUIRED ARE INDICATED ON THESE DRAWINGS. REFER TO MANUFACTURERS INSTRUCTIONS FOR ADDITIONAL REQUIREMENTS INCLUDING CONNECTION LOCATIONS, TYPES AND SIZES. PROVIDE ISOLATING VALVES AND UNIONS AT ALL EQUIPMENT CONNECTIONS.

C. REQUIRED SHOP DRAWINGS:

1. INSULATION
2. AIR DEVICES
3. DUCTWORK COORDINATION DRAWINGS
4. CONTROLS
5. ROOFTOP EQUIPMENT
6. THERMOSTATS
7. FANS
8. FILTERS

D. MAINTENANCE MANUALS

1. PROVIDE MAINTENANCE MANUALS TO OWNER(S) FOR ALL NEW EQUIPMENT CONTAINING ALL OPERATING AND MAINTENANCE DATA, SUBMITTALS, WARRANTIES, DIAGRAMS, AHRI CERTIFICATES, INSPECTION REPORTS AND VALVE LISTS IN A 3 RING BINDER WITH POCKETS FOR DRAWINGS. PROVIDE OWNER WITH 2 COPIES.
2. PROVIDE AN INDEX INSIDE THE BINDER COVER WITH A LIST OF EACH EQUIPMENT ITEM. EACH ITEM SHALL BE INDIVIDUALLY TABBED.
3. PROVIDE A LIST OF ALL REQUIRED REGULAR MAINTENANCE ACTIONS.
4. MAINTENANCE LIST SHALL REFERENCE TABULATED ITEM AND SHALL INCLUDE THE TITLE OR PUBLICATION NUMBER FOR THE OPERATION AND MAINTENANCE MANUAL FOR THAT PARTICULAR MODEL AND TYPE OF PRODUCT.

E. AS-BUILT DRAWINGS

1. THE CONTRACTOR SHALL MAINTAIN AN ACCURATE RECORD OF ALL CHANGES MADE TO THE CONTRACT DOCUMENTS (AS-BUILT).
2. THE CONTRACTOR SHALL PROVIDE THE ENGINEER 2 SETS OF COMPLETED AS-BUILT DRAWINGS.
3. THE PROJECT WILL NOT BE CONSIDERED COMPLETE UNTIL ACCURATE AS-BUILTS ARE DELIVERED.

F. SUBSTITUTIONS

1. EQUIPMENT AND DESIGN OF SYSTEMS INDICATED ON THE DESIGN DRAWINGS AND WITHIN THESE SPECIFICATIONS SHALL BE CONSIDERED AS "SPECIFIED STANDARD" OF QUALITY. NO SUBSTITUTIONS SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER 10 DAYS PRIOR TO BID DATE.
2. ANY DEVIATION FROM SPECIFIED EQUIPMENT THAT AFFECTS THE ELECTRICAL REQUIREMENTS SHALL BE COORDINATED BY THE MECHANICAL CONTRACTOR AND EQUIPMENT VENDOR WITH THE ELECTRICAL CONTRACTOR PRIOR TO SUBMITTING BIDS.

G. WIND LOADS

1. ALL EQUIPMENT TO BE MOUNTED OUTSIDE SHALL BE FURNISHED WITH A NOA (NOTICE OF ACCEPTANCE) FOR WINDSTORM OR BE FURNISHED WITH AN ENGINEERED DETAIL GOOD FOR THE LOCAL WIND RATE.

15050 - BASIC MATERIALS AND METHODS

A. ACCESS PANELS - FURNISHED BY MECHANICAL CONTRACTOR, INSTALLED BY GENERAL CONTRACTOR.

1. PROVIDE FOR ACCESS TO ALL SERVICEABLE EQUIPMENT IN WALLS AND CEILINGS
2. MICOR STYLE M FOR DRYWALL
3. MICOR STYLE K FOR PLASTER
4. MINIMUM SIZE 16"x16"
5. NYSTROM, KARP, J.L. INDUSTRIES OR WILLIAMS PAINT

B. LABELING

1. PROVIDE RIGID PLASTIC EMBOSSED EQUIPMENT NAME TAGS FOR ALL NEW EQUIPMENT AND DISCONNECTS. SETON NAMEPLATE CORPORATION.
2. PAINT ALL MECHANICAL PIPING IN EQUIPMENT ROOMS, BOILER ROOMS AND WHERE EXPOSED OR OUTDOORS. MATCH EXISTING COLOR CODES USED ON SIMILAR SYSTEMS.
3. PROVIDE VALVE TAGS ON ALL NEW AND RELOCATED VALVES. VALVE TAGS SHALL MATCH TAGS USED AT THE EXISTING FACILITY. TAGS TO BE SECURED TO VALVES WITH BRASS CHAINS. PROVIDE UPDATED INFORMATION ON ALL NEW VALVES TO THE EXISTING VALVE CHART.
4. PROVIDE PIPE LABELS ON ALL NEW PIPING. PIPE LABELS TO MATCH SIZE, COLOR AND TYPE USED AT THE EXISTING FACILITY AND COMPLY WITH ANSI A1 31. LABELS SHALL BE APPLIED CLOSE TO VALVES, CHANGES IN PIPE DIRECTIONS, BRANCHES, PIPES PASSING THRU WALLS OR FLOORS AND EVERY 20 FEET IN STRAIGHT RUNS OF PIPING AND AT LEAST ONE TIME PER ROOM.

C. FLASHING AND COUNTER FLASHING

1. FURNISH MATERIALS AND COORDINATE INSTALLATION FOR ALL PENETRATIONS OF ROOF BY ALL DUCT AND PIPE
2. SHEET METAL - 24ga. ASTM A525
3. SHEET LEAD 6 lbs. PER SQ. FT. (WHERE ALLOWED)
4. STAINLESS STEEL 20 ga.
5. SHEET COPPER 24 oz. PER SQ. FT.

D. MECHANICAL SYSTEMS CLEANING

1. CLEAN AND TOUCH UP ALL FACTORY FINISHES
2. FLUSH ALL HVAC SYSTEMS BEFORE CONNECTION TO EQUIPMENT
3. CLEAN ALL CLOSED HVAC SYSTEMS WITH ALKALINE CLEANER CIRCULATED FOR 72 HOURS
4. PRESSURE TEST ALL MECHANICAL PIPING SYSTEMS
  - a. STEAM SYSTEMS 150 psi FOR SIX HOURS
  - b. WATER SYSTEMS 150 psi FOR SIX HOURS

E. CLEANING TESTING AND ADJUSTING

1. THE MECHANICAL CONTRACTOR, AT HIS EXPENSE, SHALL CLEAN, REPAIR, ADJUST, CHECK, BALANCE AND PLACE IN SERVICE THE VARIOUS SYSTEMS HEREIN SPECIFIED WITH THEIR RESPECTIVE EQUIPMENT, ACCESSORIES AND PIPING. HE/SHE SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND TOOLS REQUIRED TO PERFORM TESTS REQUIRED BY THESE SPECIFICATIONS AND BY THE GOVERNING AUTHORITIES.
2. NO WORK SHALL BE COVERED OR CONCEALED UNTIL PROPERLY INSPECTED AND TESTED.

F. HANGERS AND SUPPORTS

1. PROVIDE ALL NECESSARY DUCTWORK, PIPE SUPPORTS, HANGERS, RODS, CLAMPS AND ATTACHMENTS TO PROPERLY INSTALL AND SUPPORT DUCTWORK, PIPING AND EQUIPMENT FROM THE BUILDING STRUCTURE.
2. PROVIDE ANY ANGLE IRON OR UNISTRUT AND SUSPENSION RODS REQUIRED TO INSTALL EQUIPMENT, PIPING AND DUCTWORK.
3. ALL SUPPORTS EXPOSED TO OUTDOORS SHALL BE CLEANED, PRIMED AND PAINTED TO PREVENT RUSTING. FINISH COLOR AS SELECTED BY OWNER.
4. THE USE OF BALING WIRE OR PERFORATED METAL STRAPPING IS NOT PERMITTED FOR SUPPORTS.

G. WARRANTY/GUARANTEE

1. THE CONTRACTOR SHALL WARRANTY/GUARANTEE AND MAINTAIN THE STABILITY OF WORK AND MATERIALS AND KEEP SAME IN PERFECT REPAIR AND CONDITION OF THE PERIOD OF ONE YEAR.
2. DEFECTS OF ANY KIND DUE TO THE FAULTY WORK OR MATERIALS APPEARING DURING THE ABOVE MENTIONED PERIOD MUST BE IMMEDIATELY MADE GOOD BY THE CONTRACTOR AT HIS OWN EXPENSE TO THE ENTIRE SATISFACTION OF THE OWNER AND ENGINEER. SUCH RECONSTRUCTION AND REPAIRS SHALL INCLUDE DAMAGE TO THE FINISH OR FURNISHING OF THE BUILDING RESULTING FROM THE ORIGINAL DEFECT OR REPAIR THERETO.

15242 - VIBRATION ISOLATION

A. ACCEPTABLE MANUFACTURERS:

1. MASON INDUSTRIES
  2. KINETICS NOISE CONTROL
  3. KORFUND
  4. AMBER BOOTH
- B. MASON TYPE SLF CONTROL AIR COMPRESSOR, AHU'S (UNLESS INTERNAL), CENTRIFUGAL FANS
- C. MASON SUPER W RUBBER PAD HVAC PUMPS, CHILLERS, AHU'S (IF INTERNAL)
- D. MASON TYPE HS CEILING SUSPENDED FANS AND AHU'S
- E. MASON P130N CLOSEST 2 HANGERS TO AHU'S, PIPING WITHIN 20 PIPE DIAMETERS TO PUMPS
- F. INERTIA BASES WHERE SCHEDULED OR SHOWN

15250 - INSULATION

- A. INSULATION, ADHESIVES, COATINGS, SEALERS, TAPES, ETC. SHALL HAVE A FLAME SPREAD OF 25 OR LESS AND SMOKE DEVELOPMENT OF 50 OR LESS IN ACCORDANCE WITH ASTM E-84, NFPA 225, UL 723 AND MEET THE REQUIREMENTS OF NFPA 90A. ALL INSULATING R-VALUES TO MEET THE REQUIREMENTS OF THE FLORIDA ENERGY CODE.

B. FLEXIBLE ELASTOMERIC INSULATION, ARMSTRONG "AP ARMAFLEX", MITCHEL RUBATEX:

1. CONDENSATE DRAINS - 3/4" THICK
2. REFRIGERATION MACHINE EVAPORATOR - 2 LAYERS - 3/4" THICK
3. REFRIGERATION SUCTION LINES: 3/4" THICK
4. ALL OUTDOOR EXPOSED PIPING INSULATION SHALL BE PAINTED WITH TWO COATS OF ARMAFLEX STANDARD WHITE WB FINISH. PRIOR TO APPLYING THE FINISH, THE INSULATION SHALL BE WIPE CLEAN WITH DENATURED ALCOHOL. THE FINISH SHALL NOT BE TINTED.
5. ALL OUTDOOR EXPOSED PIPING SHALL HAVE THE SEAMS LOCATED ON THE LOWER HALF OF THE PIPE.
6. CONTACT MANUFACTURER FOR ALTERNATIVE PRODUCTS.

C. BLANKET TYPE DUCT INSULATION, JOHNS MANVILLE, CERTAINTeed, KNAUF, OWENS CORNING, MINIMUM R=6.0, FOIL FACED KRAFT VAPOR BARRIER:

1. ALL SUPPLY, OUTSIDE AIR AND RETURN WHERE CONCEALED FROM VIEW, R-6

D. SEMI RIGID BOARD TYPE DUCT INSULATION 15lb DENSITY, CERTAINTeed 1B-300, JOHNS MANVILLE, KNAUF, OWENS CORNING:

1. ALL SUPPLY, RETURN AND OUTSIDE AIR WHERE EXPOSED
2. MINIMUM DUCT INSULATION THICKNESS AND R VALUES ARE AS FOLLOWS:
  - a. SUPPLY AND RETURN AIR IN UNCONDITIONED SPACE: 2" (R-6 MIN)
  - b. SUPPLY AND RETURN AIR IN CONDITIONED INTERIOR SPACE: 1.5" (R-4.2 MIN)
  - c. OUTSIDE AIR: 2" (R-6 MIN)
  - d. SUPPLY AIR IN CEILING RETURN AIR PLENUM: 1.5" (R-4.2 MIN)
  - e. RETURN AIR IN CEILING RETURN AIR PLENUM: NOT REQUIRED
  - f. DUCTWORK OUTSIDE OF BUILDING: 3" (R-8 MIN)

E. CONTRACTOR SHALL:

1. VISIT SITE AT START OF PROJECT AND COORDINATE REQUIRED BALANCING EQUIPMENT AND DAMPERS WITH MECHANICAL CONTRACTOR.
2. AIR SYSTEMS:
  - a. MAKE CHANGES TO BELTS, PULLEYS, DAMPERS, VOLUME BOXES, ETC. TO OBTAIN DESIGN CONDITIONS AS REQUIRED BY TAB PROCEDURES.
  - b. BALANCE SUPPLY, RETURN AND EXHAUST AIR OUTLETS WITHIN 10% OF DESIGN WHILE MAINTAINING REQUIRED PRESSURE RELATIONSHIPS. RECORD DESIGN AND ACTUAL TOTALS.

- c. MEASURE AND REPORT FAN RPM, FAN SUCTION PRESSURE, FAN DISCHARGE PRESSURE, FAN TOTAL PRESSURE AND PRESSURE DROP ACROSS COMPONENTS; DESIGN AND ACTUAL SUPPLY, RETURN, OUTSIDE AND EXHAUST AIR.
- d. ACTUAL AND DESIGN NAMEPLATE AMPERAGE ON FAN MOTORS.
- e. PRESSURE DIFFERENTIAL ACROSS DUCT SMOKE DETECTORS.
- f. ADJUST FANS FOR LOWEST STATIC PRESSURE REQUIRED TO DELIVER TO OUTLETS AS NOTED IN NEBB OR AABC PROCEDURES.
- g. MEASURE SUPPLY AND RETURN ENTERING AND LEAVING TEMPERATURES (DB/WB) ACROSS EACH COIL AND AT EACH SUPPLY DISCHARGE AND RETURN INLET AT UNIT.

SPLIT SYSTEM A/C UNITS

ACCEPTABLE MANUFACTURERS

- C. TRANE
- D. DAIKIN
- E. CARRIER

A. OUTDOOR UNIT:

1. REFRIGERANT: R-410A
2. HOUSING: STEEL, PAINTED WITH COASTAL CORROSION PROTECTION.
3. COMPRESSOR: HERMETIC WITH VIBRATION ISOLATION.
4. SERVICE VALVES: SOLID BRASS FOR LIQUID AND SUCTION LINES LOCATED OUTSIDE OF UNIT.
5. CONTROLS: FACTORY WIRED WITH THERMAL AND CURRENT OVERLOAD SENSORS.
6. COIL: ALUMINUM FINS, NON-FERROUS TUBING.
7. FAN: DIRECT DRIVE, PROPELLER TYPE, UPBLAST.
8. ACCESSORIES: PRECHARGED TUBING PACKAGE.

B. INDOOR UNIT:

1. REFRIGERANT: R-410A.
2. CASE: 20 GAUGE STEEL, ENAMEL PAINT.
3. FAN: FORWARD CURVE CENTRIFUGAL, STATICALLY AND DYNAMICALLY BALANCED, RESILIENTLY MOUNTED, THERMAL OVERLOAD PROTECTION.
4. COIL: ALUMINUM FINS, NON FERROUS TUBING, PRECHARGED WITH SUFFICIENT REFRIGERANT FOR SYSTEM.
5. CONTROLS: 24 VOLT TRANSFORMER AND FAN RELAY.
6. FILTER: THROWAWAY FILTER AND MOUNTING FRAME (MINIMUM MERV 8).
7. HEATER: UL LISTED, FACTORY INSTALLED AND WIRED.

NOTE TO CONTRACTOR

CONTRACTOR TO VISIT SITE PRIOR TO CONSTRUCTION AND VERIFY EXISTING CONDITIONS. NOTIFY ARCHITECT/ENGINEER OF ANY SIGNIFICANT DEVIATION FROM PLANS. CONTRACTOR TO COORDINATE ALL MECHANICAL, ELECTRICAL, PLUMBING, STRUCTURAL AND FIRE SPRINKLER WITH EXISTING CONDITIONS.

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FERRY TERMINAL  
RENOVATION  
100 Grinnell Street  
KEY WEST, FLORIDA.

SEAL

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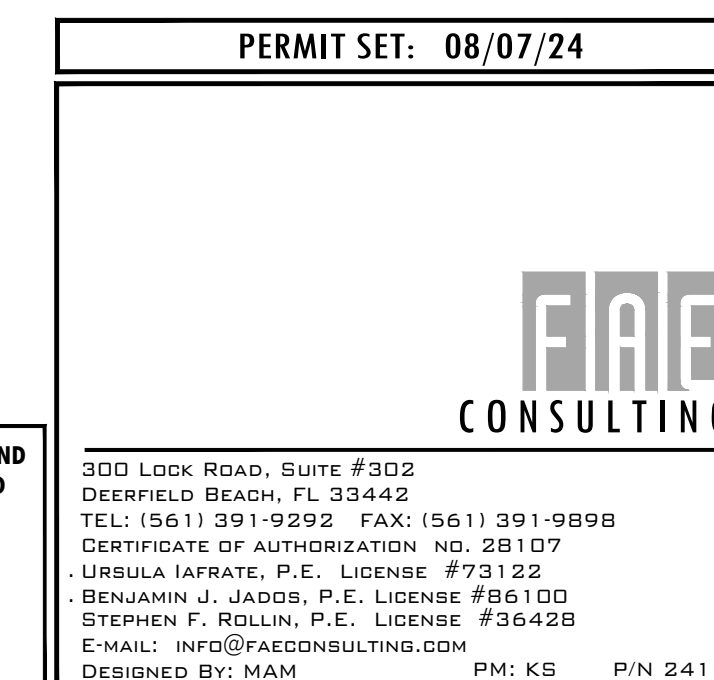
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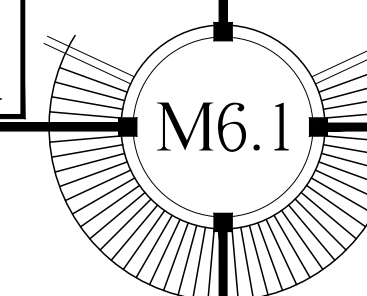


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FIRE SAFETY FLORIDA STATUTES: TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH F.B.C. 2023 SECTION 110.8.4.4 AND CHAPTER 633, FLORIDA STATUTES.

PRIOR TO SUBMITTING THE BID, THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND INFORM THE ARCHITECT AND THE ENGINEER OF ANY DISCREPANCY BETWEEN THESE DOCUMENTS AND THE EXISTING CONDITIONS AND SHALL INCLUDE IN THE BID TO CORRECT THE SAME AS DIRECTED. THE ENGINEER AND THE ARCHITECT, ARE NOT RESPONSIBLE FOR ANY ADDITIONAL COSTS RESULTING FROM VERIFIABLE EXISTING CONDITIONS DISCOVERED AFTER CONTRACT HAS BEEN AWARDED. NO CHANGES SHALL BE MADE TO THESE PLANS WITHOUT PRIOR APPROVAL FROM THE ENGINEER OF RECORD. ALL CHANGES SHALL BE SUBMITTED FOR REVIEW PRIOR TO INSTALLATION. NOT FOR BID UNTIL PERMIT HAS BEEN ISSUED.

FERRY TERMINAL RENOVATION  
100 Grinnell Street  
KEY WEST, FLORIDA



COVID-19 PROTOCOL
CLIENT AND CONTRACTOR RECOGNIZE AND AGREE THAT F&E AND CLIENT/CONTRACTOR WILL RESPECT ALL MANDATED COVID-19 AND PANDEMIC PROTOCOLS AND ANY RESULTING DELAYS OR SUSPENSION OF SERVICES SHALL BE RECOGNIZED AS FORCE MAJEURE AND CLIENT/CONTRACTOR OR ANY THIRD PARTIES WILL NOT HOLD F&E RESPONSIBLE FOR ANY LIABILITIES, ECONOMIC OR CONSEQUENTIAL DAMAGES THAT MAY BE SUFFERED BY CLIENT/CONTRACTOR OR ANY THIRD PARTIES.

LOW VOLTAGE NOTES
PROVIDE COMPLETE LOW VOLTAGE (LV) SYSTEMS INFRASTRUCTURE INCLUDING, BUT NOT LIMITED TO, SCS (STRUCTURED CABLING SYSTEM), AUDIO/VIDEO, SECURITY AND ACCESS CONTROL, CCTV, VOICE, DATA, BUILDING SYSTEM AUTOMATION, LIFE SAFETY INCLUDING BDA FIRST RESPONDER SYSTEMS (PRE-DESIGN OF STUDIES AND CALCULATIONS FOR UPLINK AND DOWNLINK CONNECTIVITY), COORDINATE DESIGN AND PROVIDE ALL SYSTEMS TO MEET OWNER, ARCHITECT, AND PROJECT REQUIREMENTS, (TYPE OF CABLING, CONDUIT SIZES, EQUIPMENT AND OUTLET LOCATIONS) PRIOR TO CONSTRUCTION AND DURING BIDDING OR PRICING PROCESS. THE CONTRACTOR SHALL CONSULT THE OWNER REGARDING SPECIFICATION OF ALL ACTIVE SYSTEMS AND HEAD ENDS FOR DESIGN COORDINATION. CONTRACTOR SHALL DESIGN/BUILD ALL LV SYSTEMS WITH HIS INDEPENDENTLY ENGAGED DELEGATED/SUCCESSOR DESIGN PROFESSIONAL PE AND RCDD. THE CONTRACTOR AND HIS INTEGRATOR/DESIGN PROFESSIONAL RECOGNIZE THEY SHALL BE SOLELY RESPONSIBLE AND LIABLE FOR ALL ASPECTS OF THE LV SYSTEMS FROM DESIGN THRU PERMIT, CONSTRUCTION, CERTIFICATE OF OCCUPANCY AND WARRANTY PHASE. THE CONTRACTOR SHALL SOLELY BE RESPONSIBLE TO PRODUCE ALL FLORIDA BUILDING CODE REQUIRED AS BUILDS, O AND M MANUALS AND TEST AND COMMISSION ALL SYSTEMS FOR PROPER PERFORMANCE.

CONTRACTOR BIDDING SUPPLEMENTAL NOTES:
CONTRACTOR SHALL ISSUE AN RFI FOR ANY MISSING CIRCUITS IN APPROPRIATE TIME FOR F&E TO RESPOND. IF NO RESPONSE IS PROVIDED, CONTRACTOR SHALL PROVIDE A CIRCUIT AND BREAKER FOR ANY DEVICE THAT IS NOT CIRCUITED ON THE F&E DRAWINGS.
CONTRACTOR SHALL REVIEW ALL EQUIPMENT AND PROVIDE A LOCAL CIRCUIT BREAKER, OSHA REQUIRED SAFETIES AND INTERLOCKING, IF NOT INTEGRATED WITH THE EQUIPMENT. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIAL TO INSTALL SUCH SYSTEMS IF NOT INDICATED ON THE F&E DRAWINGS.
CONTRACTOR SHALL PROVIDE CIRCUIT BREAKERS AND UL LISTED AND LABELED BREAKER LOCK OUT DEVICES FOR ALL CIRCUITS SERVING EQUIPMENT.

COORDINATION NOTES
CONTRACTOR TO COORDINATE ALL FINAL LOCATIONS, ANY TYPES OF ALL DEVICES, AND EQUIPMENT WITH ARCHITECT PRIOR TO BID AND ROUGH-IN.
CONTRACTOR TO COORDINATE VARIOUS TRADES TO AVOID ABOVE CEILING CONFLICTS.

CONTRACTOR GENERAL CONDITIONS NOTES
1. RFIS: CONTRACTOR SHALL SUBMIT RFIS WITH HIS PROPOSED SOLUTION IN A TIMELY MANNER. CONTRACTOR RECOGNIZES THE CONSULTANT SHALL REQUIRE UP TO 5 WORKING DAYS TO RESPOND TO SUBMITTALS AND PRODUCT DATA. CONTRACTOR SHALL PREPARE A SUBMITTAL SCHEDULE FOR APPROVAL BY THE A/E. CONTRACTOR RECOGNIZES THE CONSULTANT SHALL REQUIRE UP TO 10 WORKING DAYS TO REVIEW SUBMISSIONS. ALL SUBMITTALS, PRODUCT DATA, SHALL BE CLEARLY STAMPED AND INDICATED APPROVED BY THE CONTRACTOR PRIOR TO SUBMISSION TO THE CONSULTANT.
3. SHOP DRAWINGS: CONTRACTOR SHALL PREPARE A SHOP DRAWING SCHEDULE FOR APPROVAL BY THE A/E. CONTRACTOR RECOGNIZES THE CONSULTANT SHALL REQUIRE UP TO 10 WORKING DAYS TO REVIEW SHOP DRAWINGS. ALL SHOP DRAWINGS, SHALL BE CLEARLY STAMPED AND INDICATED APPROVED BY THE CONTRACTOR PRIOR TO SUBMISSION TO THE CONSULTANT.
4. LAYOUT AND COORDINATION DRAWINGS: CONTRACTOR SHALL PREPARE SCALED COMPREHENSIVE COORDINATED LAYOUT DRAWINGS. PROVIDE SECTIONS, GENERAL ARRANGEMENTS, ELEVATIONS INCLUDING ALL DISCIPLINES FOR HIS PROPOSED LAYOUT AND ROUTING PRIOR TO FABRICATION. SUBMIT TO OWNER AND A/E FOR REVIEW AND GENERAL CONFORMANCE. PROVIDE DRAWINGS THAT DEMONSTRATE VIA COORDINATED ELEMENTS AND SYSTEMS WITH STRUCTURE THAT CLEARLY INDICATE PROPOSED SYSTEMS WILL FIT, FUNCTION AS INTENDED, BE FREE OF INTERFERENCES AND CONFORM TO REQUIRED CODE AND MANUFACTURER WORKING AND MAINTENANCE CLEARANCES.
5. DEVIATIONS FROM BASIS FOR DESIGN SYSTEMS SHALL BE CLEARLY IDENTIFIED ON ALL SUBMISSIONS.
6. SUBSTITUTIONS: A. CONTRACTOR SHALL PREPARE REQUESTS WITH COMPLETE COORDINATION INFORMATION, INCLUDE ALL CHANGES REQUIRED IN OTHER ELEMENTS OF THE WORK TO ACCOMMODATE THE SUBSTITUTION INCLUDING WORK PERFORMED BY THE OWNER AND THE SEPARATE CONTRACTORS. B. PROVIDE COMPLETE SUPPORTING DATA QUALIFYING THE SUBSTITUTION COMPARED TO THE BASIS OF DESIGN SYSTEM. PROVIDE A DETAILED LIST OF ANY VARIANCES, PHYSICAL OR SPATIAL LAYOUTS, ELEVATIONS, ETC. TO THE BASIS OF DESIGN. C. PROVIDE A STATEMENT INDICATING THE EFFECT THE SUBSTITUTION WILL HAVE ON THE WORK SCHEDULE IN COMPARISON TO THE SCHEDULE WITHOUT APPROVAL OF THE PROPOSED SUBSTITUTION, INCLUDE INFORMATION REGARDING THE EFFECT OF THE PROPOSED SUBSTITUTION ON THE CONTRACT TIME. D. PROVIDE CERTIFICATION BY THE CONTRACTOR TO THE EFFECT THAT, IN THE CONTRACTOR'S OPINION, AFTER THOROUGH EVALUATION, THE PROPOSED SUBSTITUTION WILL RESULT IN WORK THAT IN EVERY SIGNIFICANT RESPECT IS EQUAL TO OR BETTER THAN THE WORK REQUIRED BY THE CONTRACT DOCUMENTS AND THAT IT WILL PERFORM ADEQUATELY IN THE APPLICATION INDICATED.
E. CONSULTANT'S EXPENSES THAT ARE INCURRED DUE TO REVISIONS OR SUBSTITUTIONS REQUESTED BY THE CONTRACTOR OR APPROVED BY THE OWNER SHALL BE COMPENSATED TO THE CONSULTANT BY THE CONTRACTOR.
7. AS-BUILT DRAWINGS: THE CONTRACTOR SHALL MAINTAIN AND PREPARE A COMPLETE AND ACCURATE SET OF AS-BUILTS DURING THE PROJECT AND ISSUE TO THE A/E AND OWNER AT PROJECT CLOSEOUT. DURING THE COURSE OF THE PROJECT, THE CONTRACTOR SHALL ISSUE SKETCHES OR SCALED DRAWINGS FOR FIELD CHANGES THAT ARE PROPOSED OR MADE WHICH VARY FROM THE BASIS OF DESIGN. CONSULTANT EXPENSES THAT ARE INCURRED DUE TO SERVICES OR REVISIONS REQUIRED BY BUILDING DEPARTMENT, OWNER, CONTRACTOR, AND MANUFACTURER SHALL BE COMPENSABLE TO THE CONSULTANT BY THE CONTRACTOR.
8. INSTALLATION, TESTING AND BALANCING, START UP, COMMISSIONING AND PERFORMANCE TROUBLESHOOTING OF SYSTEMS- CONTRACTOR RECOGNIZES HE IS SOLELY RESPONSIBLE FOR PERFORMANCE AND COMPLETION OF THESE SERVICES AS PART OF THE PROJECT REQUIREMENTS. DURING THE COURSE OF THE PROJECT, THE CONTRACTOR SHALL DOCUMENT THE SERVICES COMPLETED TO THE OWNER AND A/E. CONSULTANT EXPENSES THAT ARE INCURRED DUE TO SUPPORTING SERVICES OR REVISIONS REQUIRED BY BUILDING DEPARTMENT, OWNER, CONTRACTOR, AND MANUFACTURER SHALL BE COMPENSABLE TO THE CONSULTANT BY THE CONTRACTOR.
9. CONTRACTOR/DELEGATED/SUCCESSOR ENGINEER - CONTRACTOR IS ASSIGNED TO PROVIDE DESIGN/BUILD SERVICED FOR SELECTED SYSTEMS. CONTRACTOR'S ENGINEER SHALL COMPLY WITH ALL FAC 61615 REQUIREMENTS. DELEGATED/SUCCESSOR ENGINEER SHALL SUBMIT SIGNED/SEALED DRAWINGS TO A/E, TO AGENCIES, RESPOND TO ALL RFIS, AGENCY COMMENTS, AND BECOME THE DESIGNATED SOLE SYSTEM ENGINEER OF RECORD FOR DISCIPLINE RESPONSIBILITY/LIABILITY.

ELECTRICAL SYMBOL LEGEND	
<b>CIRCUITING LEGEND:</b>	
* NOTE: ALL SYMBOLS MAY NOT BE USED FOR THIS PROJECT	
** PROVIDE 1" WITH PULL WIRE UNLESS OTHERWISE NOTED. STUB UP 6" ABOVE CEILING.	
NOTES: RECEPTACLES ARE TO BE MOUNTED AT 18" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED. SWITCHES ARE TO BE MOUNTED AT 48" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED.	

VOLTAGE DROP NOTE
THE CONTRACTOR, AS PART OF HIS PRICING AND BIDDING, SHALL INCLUDE ALL LABOR, MATERIAL, EQUIPMENT AND TERMINATIONS, INCLUDING P&L AND UTILITY REQUIREMENTS AND APPROVALS FOR ALL CONDUCTORING AND TERMINATIONS, TO SATISFY THE PROJECT REQUIREMENTS. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND INCLUDE ALL HIS BRANCH CIRCUIT, FEEDER, AND SERVICE CONDUCTOR CONDUITING AND WIRING LENGTHS AND ROUTING BASED ON HIS PROPOSED INSTALLATION MEANS AND METHODS. WIRING LENGTHS, SHOWN AS THE BASIS OF DESIGN LENGTHS, ARE MERELY AN APPROXIMATION BY THE CONSULTANT. THE CONTRACTOR SHALL USE THOSE BASIS OF DESIGN CONDUCTOR LENGTHS AND WIRING SIZES AS THE MINIMUM, NOT LIMITED TO, REQUIREMENTS FOR THE PROJECT BIDDING. THE CONTRACTOR, PRIOR TO BIDDING, SHALL CONFIRM ALL HIS PROPOSED LENGTHS, MAKE ANY AND ALL ADJUSTMENTS AS MAY IMPACT THE ELECTRICAL SYSTEMS AND EQUIPMENT FOR CODE COMPLIANCE AND CONSTRUCTABILITY, AND DOCUMENT ALL PROPOSED CHANGES AND ADJUSTMENTS TO THE ARCHITECT AS PART OF HIS BID RESPONSE. THE CONTRACTOR SHALL SUBMIT COMPLETE SCALED PROPOSED ROUTINGS FOR SERVICES AND FEEDERS, QUANTITIES AND CONDUCTORING, SECTIONS THRU BUILDING FOR RACKING, DUCTBANK CROSS SECTIONS FOR CLEARANCES AND COORDINATED AS FREE OF ALL INTERFERENCES, ETC. CONTRACTOR SHALL SUBMIT ALL DOCUMENTATION TO THE ARCHITECT FOR REVIEW NO LATER THAN 3 WEEKS AFTER NOTICE TO PROCEED.

WIRING NOTES
1. ABSOLUTELY NO FLEXIBLE CONDUIT IS PERMITTED IN DEMISING WALLS. FLEXIBLE CONDUIT IS PERMITTED FOR SHORT, FINAL CONNECTIONS ONLY (6'-0" OR LESS). ALL HOME RUNS IN EMT.
2. CABLE TYPES AC AND NM CABLES ARE NOT ACCEPTABLE. TYPE MC CABLE, ELECTRIC METALLIC TUBING (EMT) AND RIGID GALVANIZED CONDUIT ARE PERMITTED. FLEXIBLE CONDUIT IS NOT PERMITTED WITHIN DEMISING WALLS.
3. CONDUIT CONNECTIONS TO TRANSFORMERS, VIBRATING AND/OR ROTATING EQUIPMENT, SHALL BE MADE WITH FLEXIBLE METAL CONDUIT OR "SEALTIGHT."
4. TWO OR THREE CONDUCTORS SHARING THE SAME NEUTRAL SHALL HAVE PROTECTION DEVICES WITH TIES. DISCONNECTION SHALL BE ACCOMPLISHED BY A SINGLE MOVEMENT.

GENERAL ELECTRICAL NOTES
1. DO NOT SCALE THE ELECTRICAL DRAWING. REFER TO THE ARCHITECTURAL PLAN AND ELEVATIONS FOR EXACT LOCATION OF ALL EQUIPMENT AND CONFIRM WITH OWNERS REPRESENTATIVES. CONTRACTOR SHALL REFER TO THE ENTIRE SET OF CONTRACT DOCUMENTS FOR PROJECT COORDINATION.
2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE EDITIONS CURRENTLY ADOPTED BY THE LOCAL AUTHORITIES HAVING JURISDICTION OF THE FOLLOWING: THE NATIONAL ELECTRICAL CODE (NFPA 70), NFPA 72, NFPA 75, THE FIRE PREVENTION CODE INCLUDING NFPA 1 & NFPA 101, NFPA 110, AND THE FBC, AND THE FFFC.
3. UNLESS OTHERWISE NOTED, ALL CONDUCTORS SHALL BE COPPER, WITH "THHN" INSULATION FOR SIZE #10 AND SMALLER. CONDUCTORS LARGER THAN #10 SHALL HAVE "THWN" INSULATION. ALL CONDUCTORS IN WET LOCATIONS MUST HAVE "THWN" INSULATION. ALL CONDUCTORS #10 AND SMALLER MAY BE SOLID. ALL CONDUCTORS #8 AND LARGER SHALL BE STRANDED. ALL CONDUCTORS MUST COMPLY WITH ARTICLE 310 OF THE N.E.C.
4. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.
5. DISCONNECT SWITCHES SHALL BE H.P. RATED, HEAVY DUTY, QUICK MAKE, QUICK BREAK, WITH ENCLOSURES AS REQUIRED BY EXPOSURE.
6. THESE PLANS DO NOT SHOW EVERY MINOR DETAIL OF CONSTRUCTION, THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND MEET ALL REQUIREMENTS NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
7. THE ELECTRICAL SYSTEM SHALL BE COMPLETELY AND EFFECTIVELY GROUNDED AS REQUIRED IN ARTICLE 250, NATIONAL ELECTRICAL CODE. THE GROUNDING SYSTEM SHALL BE TESTED AND SHALL BE PROVIDED TO MEASURE A MAXIMUM OF 5 OHMS. PROVIDE A COPY OF THE TEST REPORT TO ENGINEER.
8. ALL MATERIALS SHALL BE NEW AND SHALL BEAR U.L. LABELS WHERE APPLICABLE.
9. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS WORKMANSHIP MANNER. THE COMPLETE SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTANCE BY ENGINEER/ARCHITECT MUST BE A CONDITION OF THE SUBCONTRACTOR.
10. THE ELECTRICAL INSTALLATION SHALL MEET ALL STANDARD REQUIREMENTS OF POWER, LIGHT COMPANY, TELEPHONE COMPANY, AND BROADBAND PROVIDER.
11. CIRCUITS SHOWN ON PLANS ARE TO DETERMINE LOAD DATA AND PANEL SIZE. THE CONTRACTOR SHALL PROVIDE CIRCUITS TO SUIT JOB CONDITIONS, BALANCE LOADS ON EACH PHASE.
12. SEE NOTES ON PLANS FOR OTHER REQUIREMENTS.
13. FURNISH AND INSTALL LIGHTING FIXTURES AND LAMPS AS CALLED FOR ON PLANS, OR AS SELECTED BY OWNER.
14. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROCESS OF CONSTRUCTION.
15. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY PHASE OF THE INSTALLATION WHICH MAY BE DAMAGED.
16. ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY OF PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
17. CHECK ALL EQUIPMENT FOR PROPER VOLTAGE, PHASE, AND CURRENT BEFORE CONNECTION TO CIRCUITS AND START UP.
18. ELECTRICAL CONTRACTOR SHALL CHECK AND VERIFY EQUIPMENT FURNISHED AGAINST THOSE SPECIFIED OR INTENDED AND REVISE BRANCH CIRCUITS AS MAY BE REQUIRED WITH PRIOR APPROVAL OF ENGINEER/ARCHITECT.
19. ALL SYSTEMS AND ROUGH-IN SHALL BE CONCEALED IN FINISHED AREAS. COORDINATE WITH ARCHITECT.
20. THE ELECTRICAL PORTION OF THE CONTRACT DOCUMENTS ARE COORDINATED WITH THE BASIS OF DESIGN EQUIPMENT SPECIFIED BY DIVISION 16 AND OTHER DIVISIONS. WHERE THE CONTRACTOR ELECTS TO SUBSTITUTE A PRODUCT IN LIEU OF PROVIDING THE DESIGN BASIS, AND SAID SUBSTITUTION IS ACCEPTED BY THE A/E AND OWNER, THE CONTRACTOR SHALL MAKE ALL CONNECTIONS TO THE ELECTRICAL SYSTEM NECESSARY IN ORDER TO ENSURE A COMPLETE AND OPERATIONAL INSTALLATION OF THE EQUIPMENT AT NO ADDITIONAL COSTS. WHERE THE CONTRACTOR'S DECISION TO SUBSTITUTE PRODUCTS OR MODIFY DESIGN REQUIRING A/E SERVICES, THE A/E RESERVES THE RIGHT TO REQUEST COMPENSATION FROM THE CONTRACTOR FOR SAID SERVICES.
21. CONTRACTOR SHALL PROVIDE A CONTROLS TRADE SUBCONTRACTOR TO DESIGN AND INSTALL ALL CONTROLS TO MEET THE PROJECT REQUIREMENTS.
22. GFCI DEVICES MUST BE READILY ACCESSIBLE. NEC 210.
23. ALL ROOFTOP EQUIPMENT AND SUPPORT SHALL BE SECURE TO THE STRUCTURE IN COMPLIANCE WITH THE PROVISION OF FBC CHAPTER 16 (HIGH-VELOCITY HURRICANE ZONES) FBC BUILDING 1522.2.
<b>AIR CONDITIONING EQUIPMENT AND CONTROLS SPECIFICATION</b>
1. ELECTRICAL CONTRACTOR SHALL INSTALL ALL CONTROL RACEWAY (CONDUIT), WIRE INSTALLATION, CONNECTIONS ETC. IN ACCORDANCE WITH WIRING DIAGRAMS ON AIR EQUIPMENT.
2. A/C ELECTRICAL PLANS OR DIAGRAMS FURNISHED BY MANUFACTURER OF THE EQUIPMENT.
3. ALL POWER WIRING FOR THE AIR CONDITIONING EQUIPMENT SHALL BE FURNISHED, INSTALLED AND CONNECTED UNDER THIS SECTION OF THE SPECIFICATION.
4. MECHANICAL CONTRACTOR SHALL PROVIDE MOTOR STARTERS FOR ALL AIR CONDITIONING EQUIPMENT. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONNECTIONS TO AIR CONDITIONING EQUIPMENT PER MANUFACTURERS SPECIFICATIONS.
5. AIR CONDITIONING EQUIPMENT INCLUDES CONDENSER, COMPRESSOR AND FAN, FAN COIL UNITS, ELECTRICAL STRIP HEATER, THERMOSTAT, ETC.

UL LISTING AND NRTL CERTIFICATIONS NOTE
CONTRACTOR/MANUFACTURER SHALL PROVIDE COMPLETE DOCUMENTATION AND CERTIFICATIONS FOR ANY EQUIPMENT THAT HE PROPOSES WITH A NRTL (NATIONALLY RECOGNIZED TESTING LAB) LISTING AND LABELING EQUIVALENT TO THE BASIS OF DESIGN UL LISTING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM ACCEPTABILITY BY THE LOCAL AHJ AND AGENCIES FOR THE NRTL LISTING AND CERTIFICATION FOR THE PRODUCTS HE PROPOSES AND DEMONSTRATE SUCH AS PART OF THE PRODUCT DATA SUBMISSION AND INSTALLATION.

SPECIAL PURPOSE OUTLET NOTES
1. CONTRACTOR IS CAUTIONED TO OBTAIN COMPLETE EQUIPMENT PRODUCT DATA FROM ARCHITECT, PRIOR TO BIDDING AND ROUGH-IN.
2. CONTRACTOR SHALL PROVIDE NEMA OUTLET TO MEET PROJECT AND EQUIPMENT REQUIREMENTS.
3. CONTRACTOR TO PROVIDE MATCHING NEMA CAP/CORD AS REQUIRED.

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**FIRE SAFETY FLORIDA STATUTES: TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH F.B.C. 2023 SECTION 110.8.4.4 AND CHAPTER 633, FLORIDA STATUTES.**

**PRIOR TO SUBMITTING THE BID, THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND INFORM THE ARCHITECT AND THE ENGINEER OF ANY DISCREPANCY BETWEEN THESE DOCUMENTS AND THE EXISTING CONDITIONS AND SHALL INCLUDE IN THE BID TO CORRECT THE SAME AS DIRECTED. THE ENGINEER AND THE ARCHITECT, ARE NOT RESPONSIBLE FOR ANY ADDITIONAL COSTS RESULTING FROM VERIFIABLE EXISTING CONDITIONS DISCOVERED AFTER CONTRACT HAS BEEN AWARDED. NO CHANGES SHALL BE MADE TO THESE PLANS WITHOUT PRIOR APPROVAL FROM THE ENGINEER OF RECORD. ALL CHANGES SHALL BE SUBMITTED FOR REVIEW PRIOR TO INSTALLATION. NOT FOR BID UNTIL PERMIT HAS BEEN ISSUED.**

GENERAL DEMOLITION NOTES
1. CONTRACTOR TO EXERCISE EXTREME CAUTION WHEN RELOCATING WIRING DEVICES, EQUIPMENT AND LIGHTING FIXTURES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT OTHER WIRING DEVICES, EQUIPMENT, AND LIGHTING FIXTURES THAT MAY BE CONNECTED ON THE SAME CIRCUIT REMAIN OPERATIONAL AND ACTIVE.
2. INFORMATION SHOWN ON THESE DOCUMENTS ARE DIAGRAMMATIC IN NATURE. CONTRACTOR TO FIELD VERIFY ELECTRICAL CIRCUIT HOME RUNS TO ALL ELECTRICAL ITEMS SCHEDULED FOR DEMOLITION AND PERFORM THE WORK AS INTENDED AND DEPICTED ON THE DRAWINGS.
3. UPDATE ALL ELECTRICAL PANEL BOARD DIRECTORIES THAT ARE AFFECTED BY THE DEMOLITION AND/OR RENOVATIONS. DIRECTORIES SHALL BE TYPED.
4. STORE ITEMS INDICATED TO BE RETURNED TO THE OWNER IN A DRY, CLEAN, AND PROTECTED AREA. NOTIFY OWNER WHEN ITEMS ARE READY TO BE REMOVED.
5. COORDINATE ANY ALTERATION AND CHANGES TO THE ELECTRICAL SERVICE WITH THE LOCAL UTILITY COMPANY.
6. PRE SCHEDULE ALL POWER INTERRUPTIONS WITH OWNER. GIVE OWNER 48 HOURS NOTICE PRIOR TO DISCONNECTING POWER TO ANY PORTION OF THE BUILDING AND MAKE ARRANGEMENTS TO MAINTAIN POWER TO ALL CRITICAL EQUIPMENT AS NEEDED AND REQUESTED BY OWNER.
7. CONTRACTOR IS RESPONSIBLE OF BECOMING FULLY INFORMED AS TO EXISTING CONDITIONS AT THE SITE. NEITHER THE OWNER NOR THE A/E MAKES ANY REPRESENTATION WARRANTY AS TO SITE CONDITIONS.
8. CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE NATURE AND EXTENT OF THE WORK TO BE PERFORMED AND LOCAL CONDITIONS THAT MAY AFFECT THE WORK.
9. DUE TO REMOVAL OR CORRECTION TO ANY WALLS OR OTHER CONSTRUCTION NECESSITATING CAPPING OF EXISTING ELECTRICAL WIRING DEVICES OR ANY OTHER ELECTRICAL EQUIPMENT INCLUDING RECONNECT OF SUCH EXISTING ITEMS IS CONSIDERED TO BE PART OF THE WORK UNDER THIS CONTRACT. ALL EXISTING OUTLETS SHOWN TO REMAIN WILL REMAIN ACTIVE. THE REWIRING SHALL BE INCLUDED UNDER THIS CONTRACT WITHOUT ADDITIONAL COST TO OWNER.
10. ALL WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING CODES: NATIONAL ELECTRICAL CODE (NEC) NATIONAL FIRE PROTECTION AGENCY (NFPA) FLORIDA BUILDING CODE
11. WHERE CONDUIT IS INACCESSIBLE, REMOVE CONDUITS AND CUT BACK CONDUIT FLUSH WITH SLAB OR WALL. PATCH OPENING TO MATCH EXISTING FINISH. WHERE EXISTING WIRING EXTENDS OUTSIDE OF THE AREA BY NATURE OF THE ORIGINAL INSTALLATION, CONTRACTOR SHALL MODIFY EXISTING WIRING AS REQUIRED TO MAINTAIN CONTINUITY OF EXISTING CIRCUITRY SUCH THAT NO EQUIPMENT TO REMAIN IS LEFT WITHOUT SERVICE.
12. THE CONTRACTOR IS TO GIVE THE OWNER AN OPPORTUNITY TO ACCEPT ANY ELECTRICAL ITEMS THAT WERE REMOVED FOR THEIR USE. SALVAGED MATERIALS, AND EQUIPMENT THE OWNER DOES NOT WISH TO KEEP SHALL BECOME THE PROPERTY OF THE CONTRACTOR, AND SHALL BE DISPOSED OF BY THE CONTRACTOR, WITHOUT ADDITIONAL COST TO THE OWNER.
13. CONTRACTOR SHALL PROVIDE TEMPORARY POWER AND LIGHTING WHERE REQUIRED DURING DEMOLITION AND CONSTRUCTION SCOPE OF WORK.
14. THE EXISTING CONDITIONS SHOWN ON THESE DRAWINGS ARE TAKEN FROM ORIGINAL DRAWINGS PROVIDED BY THE OWNER AND FIELD INVESTIGATION. THE ACTUAL CONDITIONS MAY VARY. ALL EXISTING CONDITIONS MUST BE VERIFIED PRIOR TO BID. THE CONDITIONS SHOWN ARE INTENDED TO SHOW THE LOCATIONS OF THE EXISTING EQUIPMENT, AND IN NO WAY RELIEVES THE CONTRACTOR FROM PROVIDING ANY AND ALL COORDINATION REQUIRED TO COMPLETE THE NEW WORK. FIELD CONDITIONS SHALL GOVERN.
15. THE DEMOLITION PLAN IS NOT INCLUSIVE OF ALL ELECTRICAL DEVICES WITHIN THE PROJECT AREA. IT IS INTENDED TO PROVIDE THE CONTRACTOR WITH A GENERAL KNOWLEDGE OF THE EXISTING CONDITIONS WITHIN THE PROJECT AREA, ANY DISCREPANCIES OR CONDITIONS NOT SHOWN ON THIS PLAN SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED DEMOLITION WHETHER SHOWN ON THE PLANS OR NOT.
16. ALL CONDUITS SERVING OTHER SPACES OR FLOORS, THAT RUN THROUGH THE PROJECT AREA SHALL REMAIN ACTIVE DURING CONSTRUCTION, SO AS NOT TO CAUSE ANY DISRUPTION TO THESE OTHER SPACES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ALL CONDUITS, NEW OR EXISTING WITHIN THE PROJECT AREA ARE PROPERLY SUPPORTED AND PROVIDED WITH BONDING BUSHINGS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
17. THE CONTRACTOR SHALL PHASE DEMOLITION WORK AS REQUIRED OR DIRECTED BY THE OWNER.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR PATCHING ANY DAMAGE WHICH MAY OCCUR DURING DEMOLITION ACTIVITIES. REPAIRS TO BE DONE TO LOGICAL EDGES OF SURFACES AFFECTED, AND SHALL MATCH IMMEDIATE ADJACENT AREAS IN CONSTRUCTION, MATERIAL, FIRE RATING, FINISH AND COLOR.
19. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR AND SHALL BE COORDINATED WITH OTHER TRADES.

ELECTRICAL SHEET INDEX	
SHEET #	DESCRIPTION
E0.1	ELECTRICAL NOTES, LEGEND AND SHEET INDEX
E1.1	POWER PLAN AND DETAILS
E1.3	ROOF POWER PLAN
E4.1	ELECTRICAL SCHEDULES

FIRE RATING NOTE
ALL DEVICES PENETRATING FIRE RATED WALLS SHALL BE PROVIDED WITH U.L. APPROVED FIRE RATED ASSEMBLIES. (EQUAL TO WALL FIRE RATING - SEE ARCHITECTURAL DRAWINGS)

SEALING NOTE
SEAL ALL CONDUITS EXTERNALLY WITH APPROVED SEALANTS PER ARCHITECTS SPECIFICATIONS, AND INTERNALLY WITH POLYWATER FST PER NEC 225.27, 300.5G, 300.7A, 505.15(B)-2

FLORIDA BUILDING CODE 2023 CONFORMANCE
1. CONTRACTOR TO PROVIDE ALL LABOR AND MATERIAL TO CONFORM TO FBC 2023, ENERGY COMPLIANCE, RELATED SECTIONS, AND STANDARDS.
2. OWNER SHALL PROVIDE SERVICES OF AN INDEPENDENT COMMISSIONING AGENT(A) TO PREPARE FUNCTIONAL TEST PROCEDURES (DOCUMENT SYSTEMS PERFORMANCE, WITNESS CONTRACTOR TESTING), AS REQUIRED BY FBC FOR LIGHTING AND HVAC SYSTEMS.
3. CONTRACTOR SHALL PROVIDE SERVICES TO TEST, BALANCE AND COMMISSION THE SYSTEM VIA AN INDEPENDENT AGENT FOR THE MECHANICAL SYSTEMS ENERGY PERFORMANCE.
4. CONTRACTOR TO PROVIDE COMPLETE CERTIFICATIONS AND CHECKLISTS AS REQUIRED BY FBC FOR HIS WORK RESPONSIBILITIES.

FBC NOTE
1. CONTRACTOR SHALL COMPLY WITH FBC [C408.2.5.1] PROVIDE OWNER WITH A RECORD SET DRAWING OF COMPLETE INSTALLATION DRAWINGS.
2. CONTRACTOR SHALL COMPLY WITH FBC [C408.2.5.2] PROVIDE OWNER WITH OPERATIONAL MANUALS AND MAINTENANCE MANUALS.
3. CONTRACTOR SHALL PREPARE AND PRODUCE ALL BUILDING OPERATIONS AND MAINTENANCE INFORMATION PER FBC [C408.1.1].
4. CONTRACTOR SHALL PREPARE AND PRODUCE ALL DATA, DRAWINGS, MANUALS, REPORTS AND INFORMATION REQUIRED PER FBC [C408.3] SECTIONS.

CLEARANCE NOTE
ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED WITH NEC REQUIRED WORKING CLEARANCES. TYPICAL FOR ENTIRE PROJECT.

SCOPE OF WORK
THE PROJECT CONSISTS OF TENANT IMPROVEMENT, NEW POWER AND LIGHTING CIRCUITS WERE DESIGNED.

CODE COMPLIANCE
FLORIDA BUILDING CODE, 8TH EDITION, 2023.
NATIONAL ELECTRICAL CODE, 2020.

PERMIT SET: 08/07/24
300 LODE ROAD, SUITE #302 DEERFIELD BEACH, FL 33442 TEL: (561) 391-9292 FAX: (561) 391-9998 CERTIFICATE OF AUTHORIZATION NO. 28107 - URSULA IAFATE, P.E. LICENSE #73122 - BENJAMIN J. JAROB, P.E. LICENSE #36100 - STEPHEN F. ROLLIN, P.E. LICENSE #36428 E-MAIL: INFO@FAECONSULTING.COM DESIGNED BY: MAM PM: KS P/N 24154

WILLIAM P. HORN  
ARCHITECT, P.A.

915 EATON ST.  
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FLORIDA  
33040

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LICENSE NO.  
AR 13537

FERRY TERMINAL  
RENOVATION  
100 Grinnell Street  
KEY WEST, FLORIDA.

SEAL

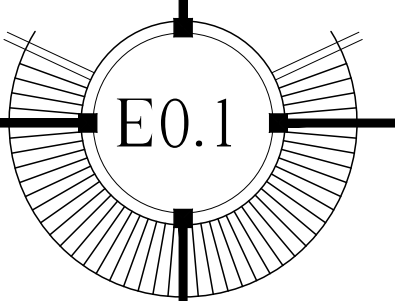
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DATE  
08-07-2024

REVISIONS

DRAWN BY  
MAM

PROJECT NUMBER  
24154



FERRY TERMINAL RENOVATION  
100 Grinnell Street  
KEY WEST, FLORIDA

**Classified**  
UL  
System

**CAJ 1064**

2 and 4 Hour Fire Rated Through Penetration Firestop for Single Metal Pipe through Concrete Floors or Walls using FYRE-SIL.

TREMCO  
3735 Green Rd.  
Beachwood, OH, 44122

Drawing not to scale

F-Rating = 2 and 4 Hr.  
T-Rating = 0 Hr.

① Pre-Rated Concrete Floors or Block Walls: See Table below for min. thickness.  
② Metallic Pipe: A) Steel Pipe - 4" diam. (or smaller) Sch. 10 (or heavier) steel pipe.  
B) Iron Pipe - 4" diam. (or smaller) cast or ductile iron pipe.  
C) Conduit - 4" diam. (or smaller) EMT or steel conduit.  
D) Copper Tubing - 4" diam. (or smaller) Type L (or heavier) copper tubing.  
E) Copper Pipe - 4" diam. (or smaller) Regular (or heavier) copper pipe.  
③ Packing Material - See Table below for the mineral wool insulation requirements.  
④ FYRE-SIL - Min. 1/2" thickness of sealant applied within annulus, flush with top of floor surface or with both sides of the wall assembly.

Min. Thickness of Concrete, in.	Annular Space Range, in.	Min. Packing Material Thickness, in.	Min. Packing Material Density, pcf.	F-Rating Hr.
4-1/2	1/2 to 2-7/8	3-1/2	6.0	2
5-1/2	0 to 1-7/8	5	4.0	4

DETAIL NO. 1 FIRE SAFE PENETRATION DETAIL (2 AND 4 HR.) NOT TO SCALE

**Classified**  
UL  
System

**WL 1158**

1 and 2 Hour Fire Rated Through Penetration Firestop for Single Metal Pipe through Gypsum Wall Assemblies using TREMstop IA.

TREMCO  
3735 Green Rd.  
Beachwood, OH, 44122

Drawing not to scale

F-Rating = 1 and 2 Hr.  
T-Rating = 1/4 Hr.

① Pre-Rated Gypsum Wallboard/Stud Wall Assembly.  
② Metallic Pipe: A) Steel Pipe - 12" diam. (or smaller) Sch. 10 (or heavier) steel pipe.  
B) Iron Pipe - 12" diam. (or smaller) cast or ductile iron pipe.  
C) Copper Tubing - 4" diam. (or smaller) Type L (or heavier) copper tubing.  
D) Copper Pipe - 4" diam. (or smaller) Regular (or heavier) copper pipe.  
E) Conduit - 4" diam. (or smaller) EMT or 6" diam. (or smaller) steel conduit. The annular space shall be min. 0" to max. 1" within the firestop system.  
③ TREMstop IA - Min. 1/2" thickness of sealant applied within opening. Min. 3/8" cant bead of sealant to be applied at areas of point contact.

DETAIL NO. 2 FIRE SAFE PENETRATION DETAIL (1 AND 2 HR.) NOT TO SCALE



FIRST FLOOR POWER PLAN

**SEE ELECTRICAL NOTES & LEGEND ON SHEET E0.1**

**KEY NOTES:**

① CIRCUIT AHU-1 TO CU-1

② PROVIDE FUSES PER MANUFACTURER'S RECOMMENDED NAMEPLATE RATINGS.

③ SUMP PUMP SHALL BE RECONNECTED TO EXISTING BRANCH CIRCUIT AS SHOWN.

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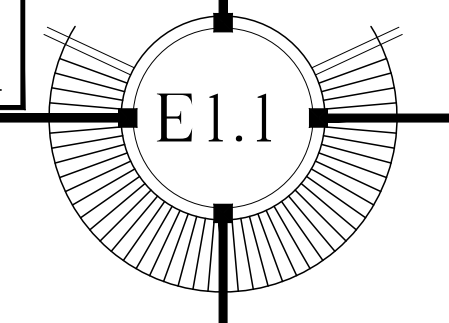
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**FIRE SAFETY FLORIDA STATUTES: TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH F.B.C. 2023 SECTION 110.8.4.4 AND CHAPTER 633, FLORIDA STATUTES.**

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FERRY TERMINAL RENOVATION  
100 Grinnell Street  
KEY WEST, FLORIDA



**SEE ELECTRICAL NOTES & LEGEND ON SHEET E0.1**

- KEY NOTES:**
- CONTRACTOR TO VERIFY AN OPERATIONAL CODE COMPLIANT RECEPTACLE IS LOCATED WITH 25' OF MECHANICAL EQUIPMENT. IF NOT, CONTRACTOR TO PROVIDE A WP/GFI RECEPTACLE AND CONNECT TO EXISTING RECEPTACLE BRANCH CIRCUIT IN THIS AREA NOT TO EXCEED 1.92 KVA ON A 1P-20A BREAKER.
  - PROVIDE FUSES PER MANUFACTURER'S RECOMMENDED NAMEPLATE RATINGS.

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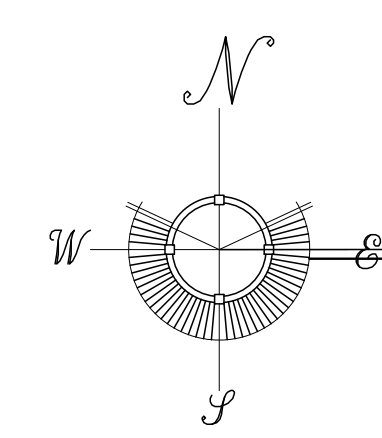
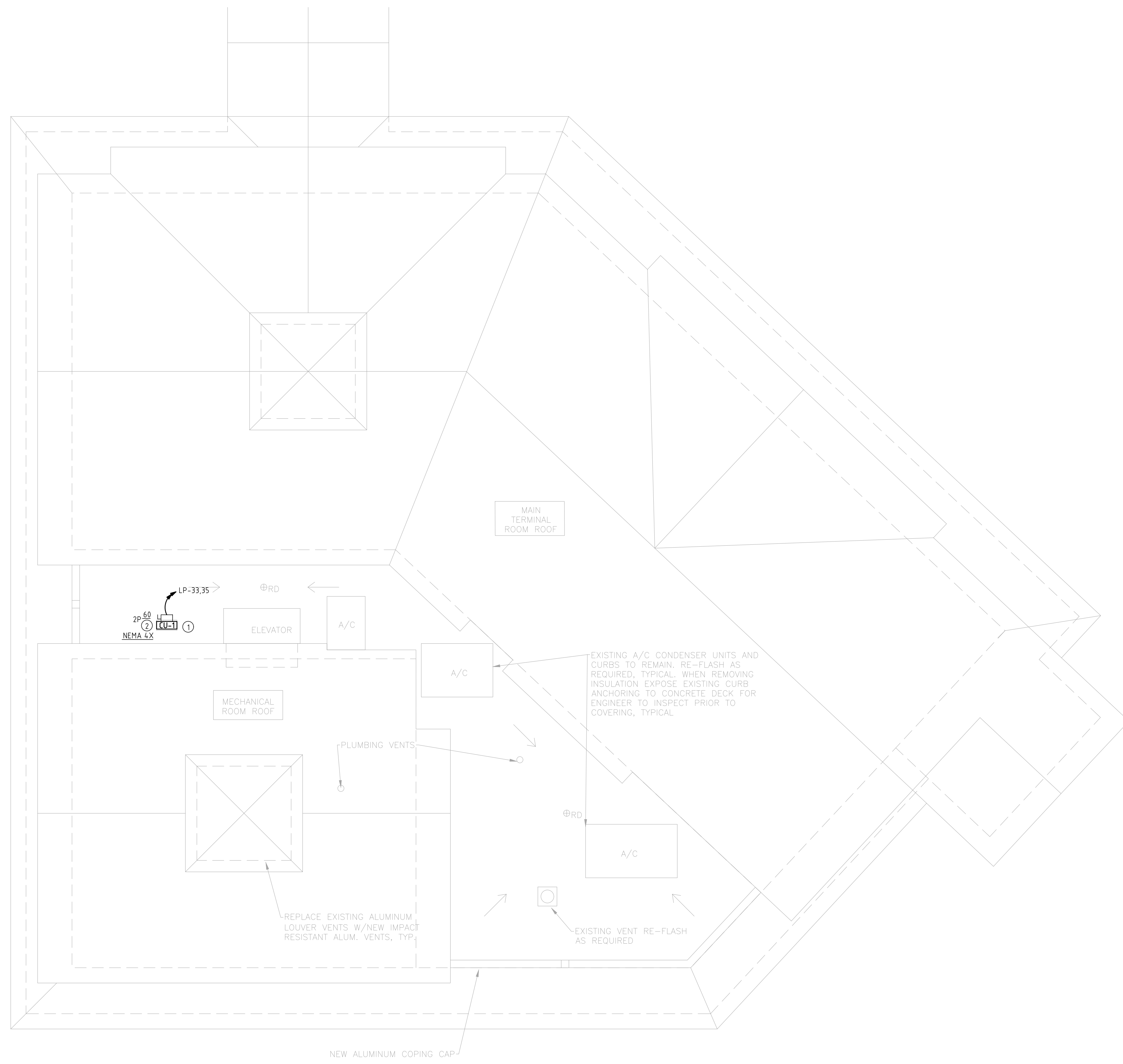
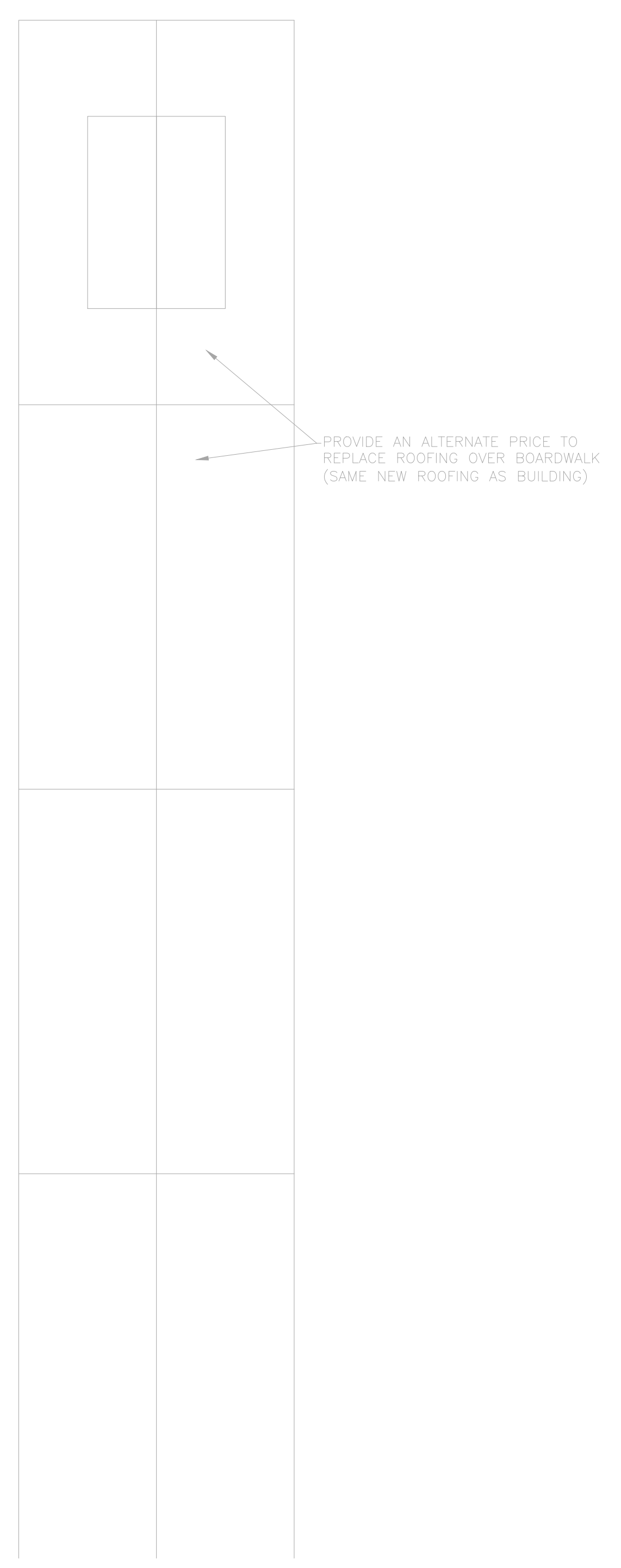
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WILLIAM P. HORN

DATE  
08-07-2024

REVISIONS

DRAWN BY  
MAM

PROJECT  
NUMBER  
24154



**ROOF POWER PLAN**

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

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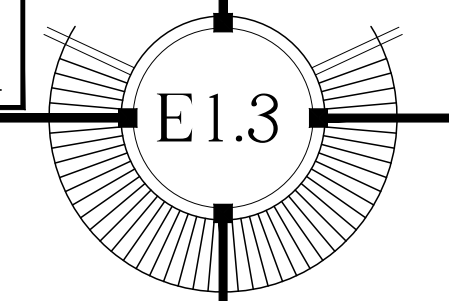
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**FAE CONSULTING**

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DESIGNED BY: MAM PM: KS P/N 24154



**FERRY TERMINAL RENOVATION**  
100 Grinnell Street  
KEY WEST, FLORIDA

**PANEL FEEDER NOTE**  
THE ELECTRICAL CONTRACTOR SHALL VERIFY THE LENGTH OF ALL 120V RUNS IN FIELD AND SHALL MAINTAIN LESS THAN 3% VOLTAGE DROP. THE WIRE GAUGE MAY NEED TO INCREASE TO #10 AWG MINIMUM FOR A 20A BREAKER.

NEW AND/OR MODIFIED BRANCH CIRCUITS IN EXISTING PANEL ARE IDENTIFIED IN BOLD TEXT.

**PANEL SCHEDULE INDEX**

MDP

LP

MFG EXISTING			TYPE EXISTING										KEY NOTES: 1, 2			PANEL RATING			800 AMPS		
VOLTS 120/208V 3Ø4W			PANEL "MDP"																		
BUS A (KVA)	BUS B (KVA)	BUS C (KVA)	LOAD	KEY NOTES	COND	WIRE SIZE	GND	AMPS	CKT	CKT	AMPS	GND	WIRE SIZE	COND	KEY NOTES	LOAD	BUS A (KVA)	BUS B (KVA)	BUS C (KVA)		
-	-	-	SPACE		-	-	-	-	1	2	-	-	-	-		SPACE	-	-	-		
12.0	12.0		YANKEE FREEDOM/STORAGE	5	2"	3/0	6	200	3	4	90	8	3	1-1/4"	5	BOAT LIFT	6.5				
8.0	8.0		YANKEE FREEDOM/FERRY	5	1-1/4"	3	8	100	5	6	100	8	3	1-1/4"	5	CONC ELECTRIC CARS	7.6		6.5		
5.0	5.0		AC1	5	1"	6	10	60	7	8	20	-	-	-	5	SPARE	-		7.6		
11.0	11.0		AC2	5	2"	1/0	6	150	9	10	60	-	-	-	5	SPARE	-		-		
9.5	9.5		ELEVATOR (25 HP)	3,7	1-1/4"	2	6	110	11	12	150	6	1/0	2"	5	RP PANEL	10.3		-		
12.1	11.5		LP PANEL	5	2-1/2"	4/0	4	225	13	14	200	4	3/0	2"	5	AC3	15.0		8.5		
	9.4								15	16								15.0		15.0	
									17	18											
									19	20											
									21	22											
									23	24											
									25	26											
									27	28											
									29	30											
									31	32											
									33	34											
									35	36											
									37	38											
									39	40											
									41	42											
TOTALS			REMARKS & KEY NOTES																		
KVA ΦA	KVA ΦB	KVA ΦC	1. MAIN LUGS ONLY. ELECTRICAL CONTRACTOR SHALL PROVIDE AN ACCURATE PER FIELD CONDITIONS, TYPED UP PANEL SCHEDULE UPON COMPLETION OF THE																		
97.0	94.8	92.5	2. VERIFY ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT PRIOR TO CONSTRUCTION; ALL EQUIPMENT'S ELECTRICAL REQUIREMENTS SHALL BE CONFIRMED WITH MFG SPECS. VERIFY VOLTAGE, AMPERAGE, AND BREAKER SIZES.																		
LOAD CALCULATIONS PER NEC 220			3. PROVIDE PER MANUFACTURERS SPECIFICATION. COORDINATE EXACT REQUIREMENTS WITH ELEVATOR MANUFACTURER.																		
1ST 10KVA OF RECEPS.	10.0	AT 100%	10.0	4. PROVIDE "HACR" RATED CIRCUIT BREAKER.																	
REMAINDER OF RECEPS.	16.0	AT 50%	8.0	5. EXISTING BRANCH CIRCUIT AND CIRCUIT BREAKER.																	
LIGHTING	0.0	AT 125%	0.0	6. NEW BRANCH CIRCUIT IN EXISTING BRANCH CIRCUIT AND BREAKER.																	
LARGEST MOTOR	28.5	AT 125%	35.6	7. REMOVE EXISTING BREAKER AND PROVIDE NEW AS SCHEDULED. BREAKER SIZE IS REDUCED FROM 175A TO 110A REDUCING LOAD ON EXISTING PANEL																	
WATER HEATER	0.0	AT 125%	0.0																		
KITCHEN EQUIPMENT	0.0	AT 65%	0.0																		
REMAINDER OF LOADS		AT 100%	229.7																		
			TOTAL KVA	283.3																	
			TOTAL AMPS	786.4																	
			FED FROM EXISTING 3P-800A MAIN BREAKER.																		
			MOUNT SURFACE MIN A.I.C. EXISTING AMPS																		

MFG EXISTING			TYPE EXISTING										KEY NOTES: 1, 2			PANEL RATING			225 AMPS		
VOLTS 120/208V 1Ø3ØW			PANEL "LP"																		
BUS A (KVA)	BUS B (KVA)	BUS C (KVA)	LOAD	KEY NOTES	COND	WIRE SIZE	GND	AMPS	CKT	CKT	AMPS	GND	WIRE SIZE	COND	KEY NOTES	LOAD	BUS A (KVA)	BUS B (KVA)	BUS C (KVA)		
2.0			LIGHTING - SITE	4	3/4"	10	10	30	1	2	30	10	10	3/4"	4	WATER HEATER	2.3				
	0.6		LIGHTING - SITE	4	1/2"	12	12	20	3	4								2.3			
		0.6	LIGHTING - GROUND FLOOR	4	1/2"	12	12	20	5	6	20	12	12	1/2"	4	LIGHTING WAITING ROOM			0.6		
0.6			LIGHTING - GROUND FLOOR	4	1/2"	12	12	20	7	8	20	12	12	1/2"	4	LIGHTING WAITING ROOM	0.6				
	0.6		LIGHTING - GROUND FLOOR	4	1/2"	12	12	20	9	10	20	12	12	1/2"	4	LIGHTING WAITING ROOM		0.6			
		0.6	LIGHTING - GROUND FLOOR	4	1/2"	12	12	20	11	12	20	12	12	1/2"	4	LIGHTING TICKETS & GIFTS			0.6		
0.6			LIGHTING OFFICES	4	1/2"	12	12	20	13	14	20	12	12	1/2"	4	VERANDA LIGHTS	0.6				
	0.6		MEN BATH	4	1/2"	12	12	20	15	16	20	12	12	1/2"	4	VERANDA LIGHTS		0.6			
		0.6	LIGHTING WAITING ROOM	4	1/2"	12	12	20	17	18	20	12	12	1/2"	4	ELEVATOR SHUNT TRIP			-		
0.6			LIGHTING OUTDOOR SIGNS	4	1/2"	12	12	20	19	20	20	12	12	1/2"	4	ELEVATOR CAB	0.6				
	0.6		LIGHTING ROOF MECH	4	1/2"	12	12	20	21	22	20	12	12	1/2"	4	EX FAN BATHROOMS		0.6			
		1.0	TV MIDDLE	4	1/2"	12	12	20	23	24	20	12	12	1/2"	4	EX FAN ELEVATOR MECH ROOM			0.6		
1.0			DOWNSTAIRS LOBBY ELEVATOR	4	3/4"	10	10	30	27	28	20	12	12	1/2"	5	ELEVATOR RECEPTACLE	0.2		1.2		
	0.6		DOWNSTAIRS STORAGE LIGHTS	4	1/2"	12	12	20	29	30	20	-	-	-	4	SPARE			-		
			SPARE	4	-	-	-	20	31	32	20	12	12	1/2"	4	DOCK PUMP	1.5				
	1.1		AHU/CU-1	6	3/4"	10	10	15	33	34	20	12	12	1/2"	4	DOCK LIGHTS		0.6			
		1.1	SPARE	4	-	-	-	50	37	38	30	10	10	3/4"	4	HOSE REAL DOCK	1.5		1.0		
			SPARE	4	-	-	-		39	40								1.5			
		0.6	DOWNSTAIRS STORAGE LIGHTS	4	1/2"	12	12	20	41	42									1.5		
TOTALS			REMARKS & KEY NOTES																		
KVA ΦA	KVA ΦB	KVA ΦC	1. MAIN LUGS ONLY. ELECTRICAL CONTRACTOR SHALL PROVIDE AN ACCURATE PER FIELD CONDITIONS, TYPED UP PANEL SCHEDULE UPON COMPLETION OF THE																		
12.1	11.5	9.4	2. VERIFY ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT PRIOR TO CONSTRUCTION; ALL EQUIPMENT'S ELECTRICAL REQUIREMENTS SHALL BE CONFIRMED WITH MFG SPECS. VERIFY VOLTAGE, AMPERAGE, AND BREAKER SIZES.																		
LOAD CALCULATIONS PER NEC 220			3. PROVIDE PER MANUFACTURERS SPECIFICATIONS																		
1ST 10KVA OF RECEPS.	0.6	AT 100%	0.6	4. EXISTING BRANCH CIRCUIT AND CIRCUIT BREAKER																	
REMAINDER OF RECEPS.	0.0	AT 50%	0.0	5. NEW BRANCH CIRCUIT IN EXISTING BRANCH CIRCUIT AND BREAKER.																	
LIGHTING	12.2	AT 125%	15.3	6. PROVIDE "HACR" RATED CIRCUIT BREAKER.																	
LARGEST MOTOR	0.0	AT 125%	0.0																		
WATER HEATER	4.5	AT 125%	5.6																		
KITCHEN EQUIPMENT	0.0	AT 65%	0.0																		
REMAINDER OF LOADS		AT 100%	15.6																		
ELECTRIC VEHICLE	0.0	AT 100%	0.0																		
			TOTAL KVA	37.1																	
			TOTAL AMPS	178.2																	
			FED FROM PANEL "MDP"																		
			MOUNT SURFACE MIN A.I.C. MATCH EXISTING AMPS																		

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