

# FIRE STATION #30 - HVAC REPLACEMENT

## 20 SOUTH HASTINGS STREET ORLANDO, FLORIDA 32835

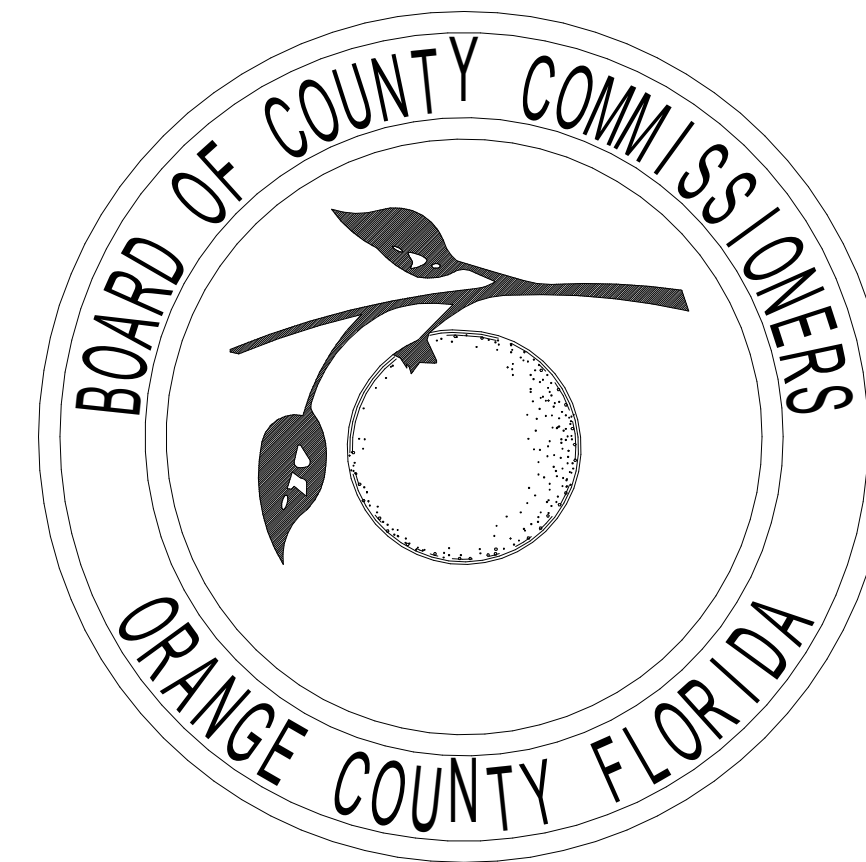
  
**SGM ENGINEERING, INC.**  
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 SGM Project Number 2018-233

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DISTRICT 6

COUNTY ADMINISTRATOR  
BYRON BROOKS

Client Name:

**ORANGE COUNTY**  
FIRE STATION #30  
20 SOUTH HASTINGS ST.  
ORLANDO, FL 32835



Issue: 100% PERMIT DOCUMENTS 01-09-19

NO.	DESCRIPTION	DATE

Project Name:

**ORANGE COUNTY  
FIRE STATION #30  
HVAC REPLACEMENT**

Scale:	12" = 1'-0"	Seal:
Design By:	GJ	
Drawn By:	GJ	
Checked By:	TS	
Engineer of Record:		
License Number:		

Sheet Name:

**COVER SHEET**

Sheet Number:

**C-001**

**SCOPE OF WORK:**

THE HVAC WORK INCLUDES BUT NOT LIMITED TO: REPLACING THE (2) EXISTING HVAC SPLIT SYSTEMS WITH NEW HVAC SYSTEMS WITH HOT GAS REHEAT AND NEW CONDENSER LOCATIONS, MISCELLANEOUS RENOVATIONS TO SUPPORT THE HVAC SYSTEMS, BALANCING OF THE ENTIRE SYSTEM AND PROVIDING NEW CONTROLS FOR NEW SYSTEMS AND COMMUNICATION WITH EXISTING BMS INCLUDING WITH NEW GRAPHIC UPDATES TO EXISTING FRONT END CONTROLS.

PROVIDE NEW ARCHITECTURAL RENOVATIONS TO SUPPORT THE NEW HVAC SYSTEMS INCLUDING BUT NOT LIMITED TO: REMOVING EXISTING INSULATION AND EXISTING CEILINGS AND INSTALL NEW INSULATION ON THE UNDERSIDE OF THE ROOF LEVEL, CLOSING OFF ALL ATTIC OPENINGS TO CREATE AN AIRTIGHT AREA ABOVE THE CEILING WITH RESPECT TO THE EXTERIOR ENVIRONMENT AND PROVIDING NEW CEILING AS INDICATED.

ELECTRICAL WORK INCLUDES BUT NOT LIMITED TO: POWERING NEW HVAC SYSTEMS AND REPLACING ALL EXISTING LENSES IN LIGHT FIXTURES WITH NEW LENSES TO MATCH EXISTING. PROVIDE A PHASED CONSTRUCTION APPROACH TO ALLOW FOR THE BUILDING TO BE OCCUPIED AT ALL TIMES ON A 24 HOUR/ 7 DAY OCCUPATION. HVAC EQUIPMENT SHALL BE REPLACED INDIVIDUALLY TO ALLOW FOR RELOCATION OF OCCUPANTS TO AN AREA FOR USAGE OF AREAS FOR SLEEPING AND USE OF FACILITY RESTROOMS DURING CONSTRUCTION.



LOCATION MAP

**DRAWING INDEX**

SHEET No.	SHEET TITLE
C0.01	COVER SHEET
IS-0.0.1	MECHANICAL LEGENDS, NOTES AND SCHEDULES
AD-2.2.1	DEMO CEILING PLAN
A-1.1.1	LIFE SAFETY
A-1.1.2	DETAILS PENETRATION TYP.
A-1.1.3	UL DETAIL PENETRATIONS
A-1.1.4	PHASING PLAN
A-2.1.1	FLOOR PLAN
A-2.1.2	MEZZANINE PLAN
A-2.2.1	CEILING PLAN
A-5.1.1	BUILDING SECTIONS
A-7.1.1	ROOM FINISH SCHEDULE
A-8.1.1	DETAILS
A-8.1.2	DETAILS
M-001	MECHANICAL LEGENDS, NOTES AND SCHEDULES
M-100	MECHANICAL DEMOLITION FLOOR PLAN
M-101	MECHANICAL FLOOR PLAN
M-501	MECHANICAL DETAILS & CONTROLS
E-001	ELECTRICAL LEGENDS, NOTES & SYMBOLS
E-100	ELECTRICAL DEMOLITION FLOOR PLAN
E-101	ELECTRICAL FLOOR PLAN
E-601	ELECTRICAL SINGLE LINE AND SCHEDULES

PO NUMBER: C17902C020  
 ISSUE: 100% PERMIT DOCUMENTS  
 DATE: JANUARY 9, 2019

MASTER KEYNOTE LEGEND

Table with 2 columns: KEY and TEXT. Lists various construction notes such as 'TYP. REMOVE EXISTING ACOUSTICAL CEILING TILE, GRID & WIRES COMPLETE.'

MASTER KEYNOTE LEGEND

Table with 2 columns: KEY and TEXT. Lists various construction notes such as 'TYP. REMOVE EXISTING GYPSUM DRYWALL CEILING COMPLETE.'

MASTER KEYNOTE LEGEND

Table with 2 columns: KEY and TEXT. Lists various construction notes such as 'TYP. REMOVE EXISTING ALUMINUM SOFFIT SYSTEM COMPLETE.'

ABBREVIATIONS

Large table listing abbreviations for various construction materials and terms, such as A/C for AIR CONDITION, ADJ. for ADJUSTABLE, etc.

SGM ENGINEERING, INC. logo and contact information including address, phone, and website.

MLM-MARTIN ARCHITECTS, INC. logo and contact information including address and phone.

Client Name: ORANGE COUNTY FIRE STATION #30. Includes the Orange County Fire Rescue logo.

Table with 3 columns: NO., DESCRIPTION, DATE. Intended for tracking document issues.

Project Name: ORANGE COUNTY FIRE STATION #30 HVAC REPLACEMENT

Table for design and record information, including fields for Scale, Design By, Drawn By, Checked By, Engineer of Record, and License Number.

ABBREVIATIONS SYMBOLS AND SHEET INDEX

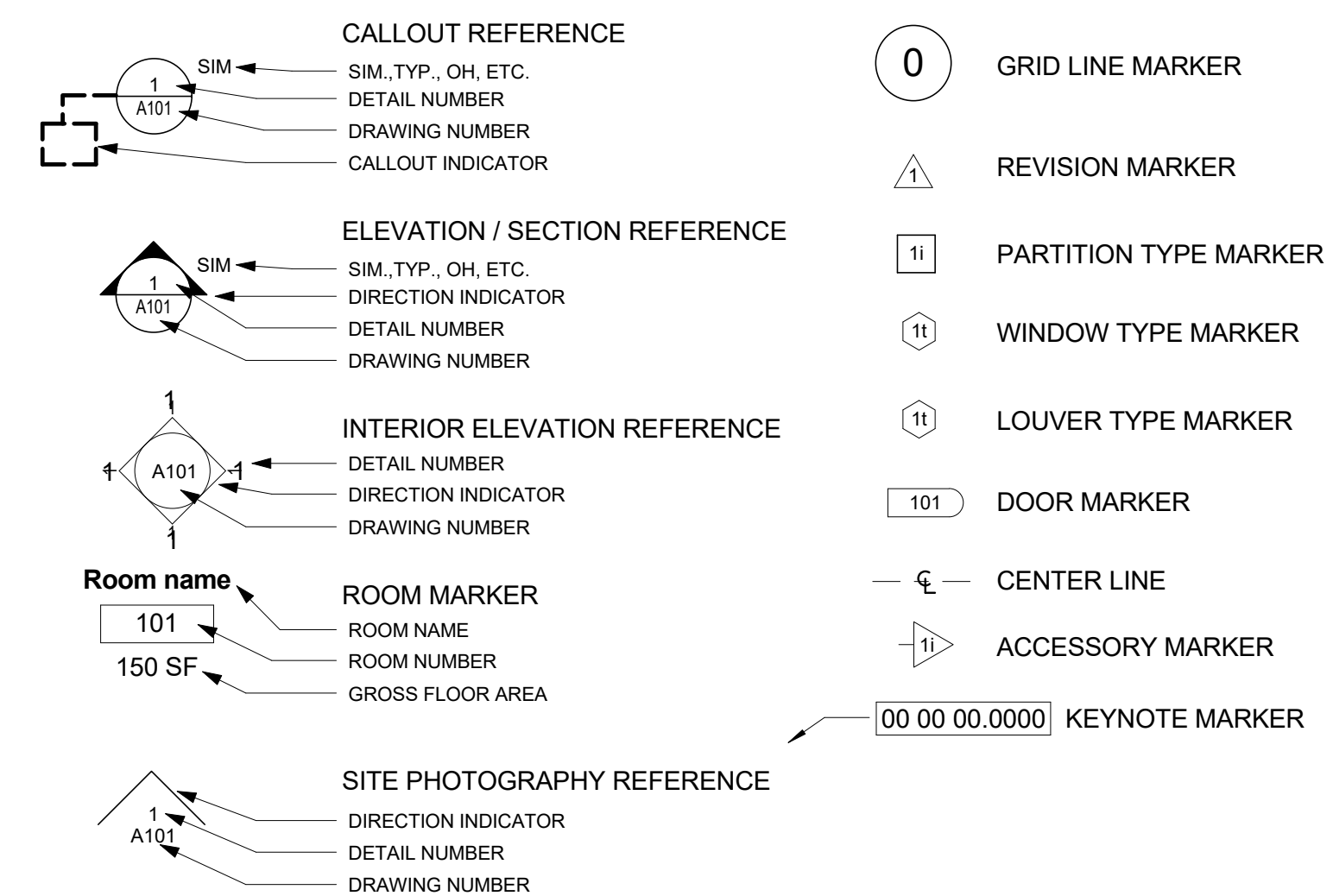
Sheet Number: IS-0.0.1

Table with 3 columns: Δ NO., DATE, DESCRIPTION. Used for drawing revisions.

MATERIALS LEGEND

Table showing material patterns and their corresponding descriptions, such as COMPACT FILL (EARTH), MASONRY (CMU), CAST-IN-PLACE CONCRETE, etc.

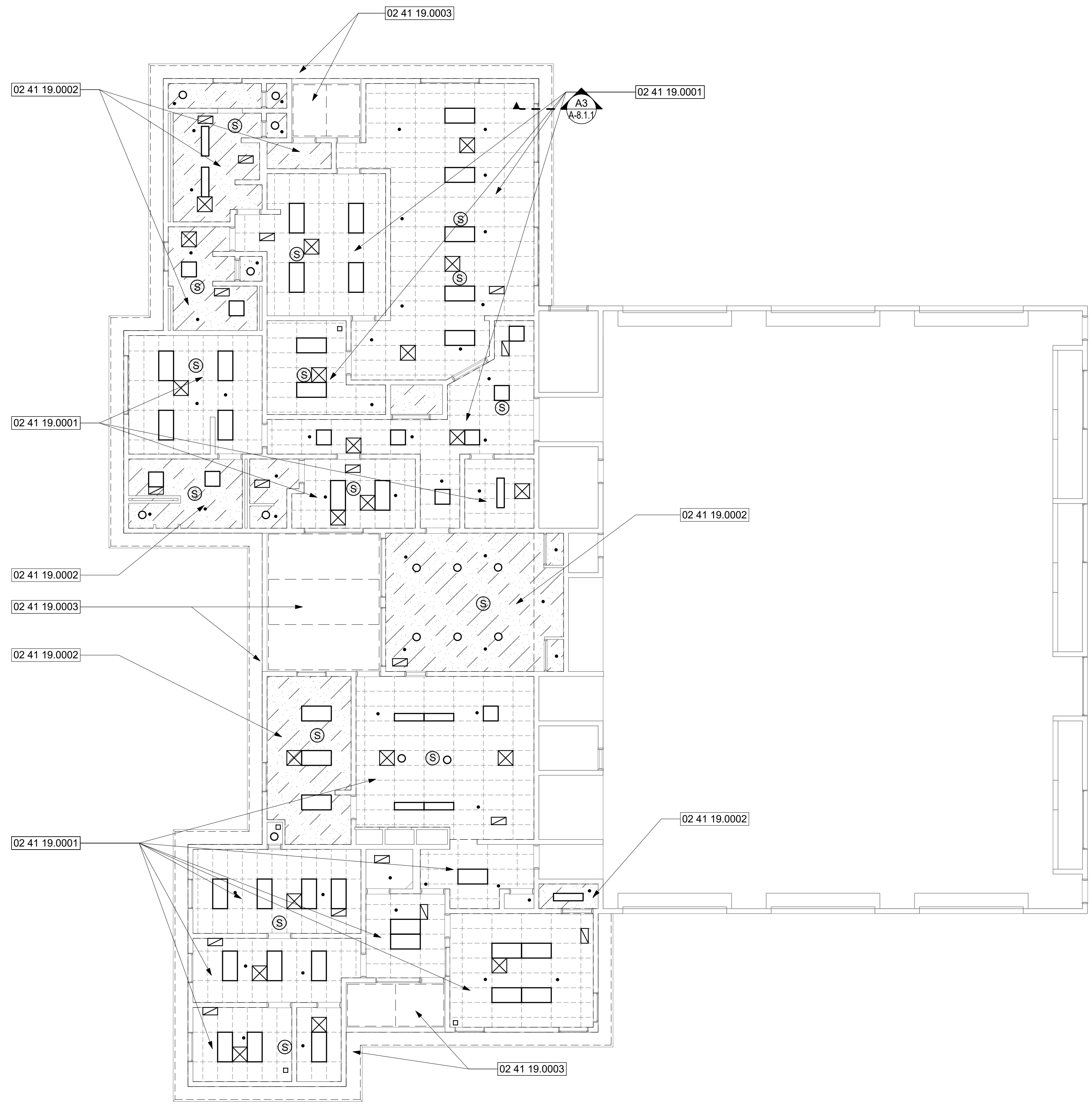
SYMBOL LEGEND



INDEX OF DRAWINGS

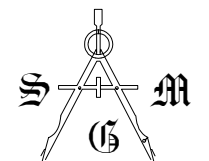
- GENERAL
IS-0.0.1 ABBREVIATIONS SYMBOLS AND SHEET INDEX
ARCHITECTURE - DEMOLITION
AD-2.2.1 DEMO CEILING PLAN
ARCHITECTURE
A-1.1.1 LIFE SAFETY
A-1.1.2 DETAILS PENETRATION TYP.
A-1.1.3 UL DETAIL PENETRATIONS
A-1.1.4 PHASING PLAN
A-2.1.1 FLOOR PLAN
A-2.1.2 MEZZANINE PLAN
A-2.2.1 CEILING PLAN
A-5.1.1 BUILDING SECTIONS
A-7.1.1 ROOM FINISH SCHEDULE
A-8.1.1 DETAILS
A-8.1.2 DETAILS

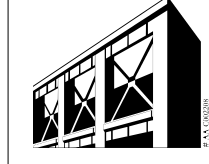
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**A1 REFLECTED CEILING PLAN**  
1/8" = 1'-0"

Keynote Legend	
Key Value	Keynote Text
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02 41 19.0002	TYP. REMOVE EXISTING GYPSUM DRYWALL CEILING COMPLETE.
02 41 19.0003	TYP. REMOVE EXISTING ALUMINUM SOFFIT SYSTEM COMPLETE.

  
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 Suite 101 407 974-1338 fax  
 Maitland, FL 32751

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 ORLANDO, FL 32835

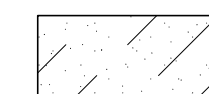
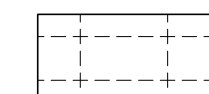
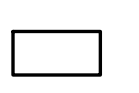
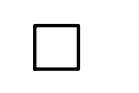
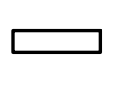








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**FIRE STATION #30**  
**HVAC REPLACEMENT**

**DEMO CEILING LEGEND**

-  TYP. GYPSUM CEILING TO DEMO
-  TYP. 2X4 ACOUSTIC CEILING TILE TO DEMO
-  TYP. 2X4 LIGHTING REMOVE AND REINSTALL
-  TYP. 2X2 LIGHTING REMOVE AND REINSTALL
-  TYP. 1X4 LIGHTING REMOVE AND REINSTALL
-  TYP. CIRCULAR CEILING LIGHT REMOVE AND REINSTALL
-  HVAC SUPPLY GRILL REMOVE/SEE ME
-  HVAC RETURN REGISTER REMOVE/SEE ME
-  CEILING MOUNTED SPEAKER REMOVE AND REINSTALL
-  SMOKE DETECTOR REMOVE AND REINSTALL
-  TYP. SPRINKLER TO REMAIN

Scale:	AS NOTED	Seal:
Design By:	MLM	
Drawn By:	ST	
Checked By:	MAM-AA	
Engineer of Record:	MIGUEL LAZARO MARTIN	
License Number:	AR 8255	

Sheet Name:  
**DEMO CEILING PLAN**

Sheet Number:  
**AD-2.2.1**

**Code Analysis**

**Project Name:**  
17651-4 ORANGE COUNTY FIRE STATION 30  
HVAC REPLACEMENT  
ORLANDO, FLORIDA

**Project Description:**  
REMOVAL/REPLACEMENT OF HVAC AND INSULATION

**Project Address:**  
20 SOUTH HASTINGS STREET  
ORLANDO, FLORIDA 32835

**Applicable Codes:**  
Florida Building Code Existing Building -6th Edition (2017)  
Florida Building Code Energy Conservation -6th Edition (2017)  
Florida Building Code Accessibility -6th Edition (2017)  
Florida Fire Prevention Code -6th Edition (2017)  
Florida Building Code Plumbing -6th Edition (2017)  
Florida Building Code Mechanical -6th Edition (2017)  
Florida Fire Prevention Code -5th Edition  
2014 NFPA 70 NEC  
2013 NFPA 72 National Fire Alarm Code  
2013 NFPA 13 Standard for the Installation of Sprinkler Systems

**Classification of Work:** Chapter 5, FBC 2017, Existing Building  
Alteration - Level 1

**Occupancy Classification:**  
BUSINESS / RESIDENTIAL (R-2)  
NO CHANGE IN OCCUPANCY PROPOSED

**Construction Type:**  
Type V-B - Sprinklered ( FBC 2017 Paragraph 602.2)  
(UNABLE TO DETERMINE FIRE RATING OF WOOD JOISTS)

**Actual Tabular Building Area, Building Height:**  
NO CHANGE IN BUILDING AREA PROPOSED

**Allowable Building Area, Building Height - FBC 2017 Table 504**  
NO CHANGE IN BUILDING AREA PROPOSED

**Renovated Area:** 5,550 SF  
LIVING SPACES  
THIS SPACE IS EXISTING TO BE RENOVATED.  
NO NEW SQUARE FOOTAGE HAS BEEN ADDED TO THE FIRE STATION.

**Fire Resistance Rating Requirement for Building Elements FBC 2017 Table 601**

	TYPE V B
Primary Structural Frame	0 hrs
Bearing Walls	0 hrs
Exterior	0 hrs
Interior	0 hrs
Non Bearing Wall Partitions Exterior	FBC 2017 Table 602
Non Bearing Wall and Partitions Interior	0 hrs
Floor Construction and Associated Secondary Members	0 hrs
Roof Construction and Associated Secondary Members	0 hrs

**Fire Resistance Rating Requirements for Exterior Wall Based on Fire Separation Distance: FBC 2017 Table 602**

Fire Separation Distance	Occupancy Type R-2
< 5'	1
5 ≤ X < 10'	1
10 ≤ X < 30'	0
X ≥ 30'	0

NO CHANGE IN EXTERIOR OPENINGS PROPOSED

**Maximum Area of Exterior Wall Openings FBC 2017 Table 705.8**

NO CHANGE IN EXTERIOR OPENINGS PROPOSED

**Interior Wall and Ceiling Finish Requirements by Occupancy - FBC 2017 Table 803.11**

Occupancy	With Sprinkler		
	Interior Exit Stairways and Ramps & Exit Passageways	Corridors & Enclosure for Exit Access Stairways and Ramps	Rooms and Enclosed Enclosed Spaces
R2	C	C	C

**Maximum Floor Area Allowance per Occupant FBC 2017 Table 1004.1.2**

Occupancy Type	Floor Area/Occupant	Areas	Occupants
Residential-2	Varies	5,550	135
Storage-2	300 Gross	5,800	19
<b>Total</b>		<b>11,350</b>	<b>154</b>

**Minimum Required Egress Width FBC 2017 Section 1005.3**

Occupancy	With Sprinkler	
	Stairways	Other Egress Components
R	0.3'	0.2'

NO CHANGE IN EXISTING EXITS - OK

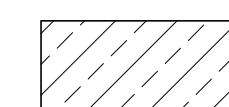
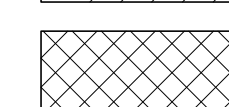
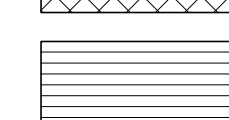
**Exit Access Travel Distance FBC 2017 Table 1017.2, FBC 1029.7**

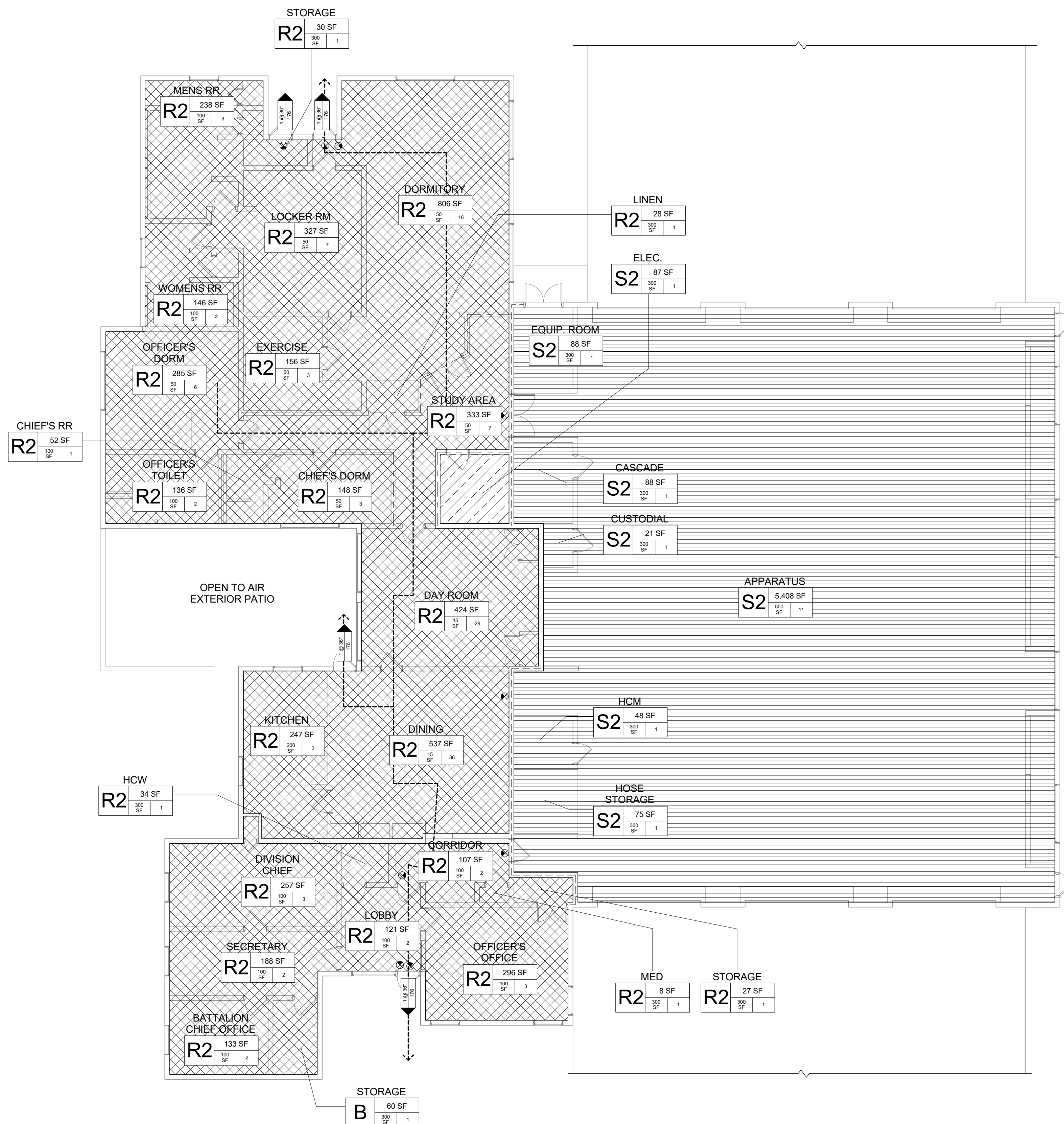
Occupancy	With Sprinkler
R	250FT

**FIRE PARTITIONS**

- 1HR FIRE RATING
- 2HR FIRE RATING

**ZONING LEGEND**

-  MECHANICAL
-  RESIDENTIAL
-  NOT IN SCOPE




**A1 LIFE SAEFTY PLAN**  
1/8" = 1'-0"

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Maitland, FL 32751

Client Name:  
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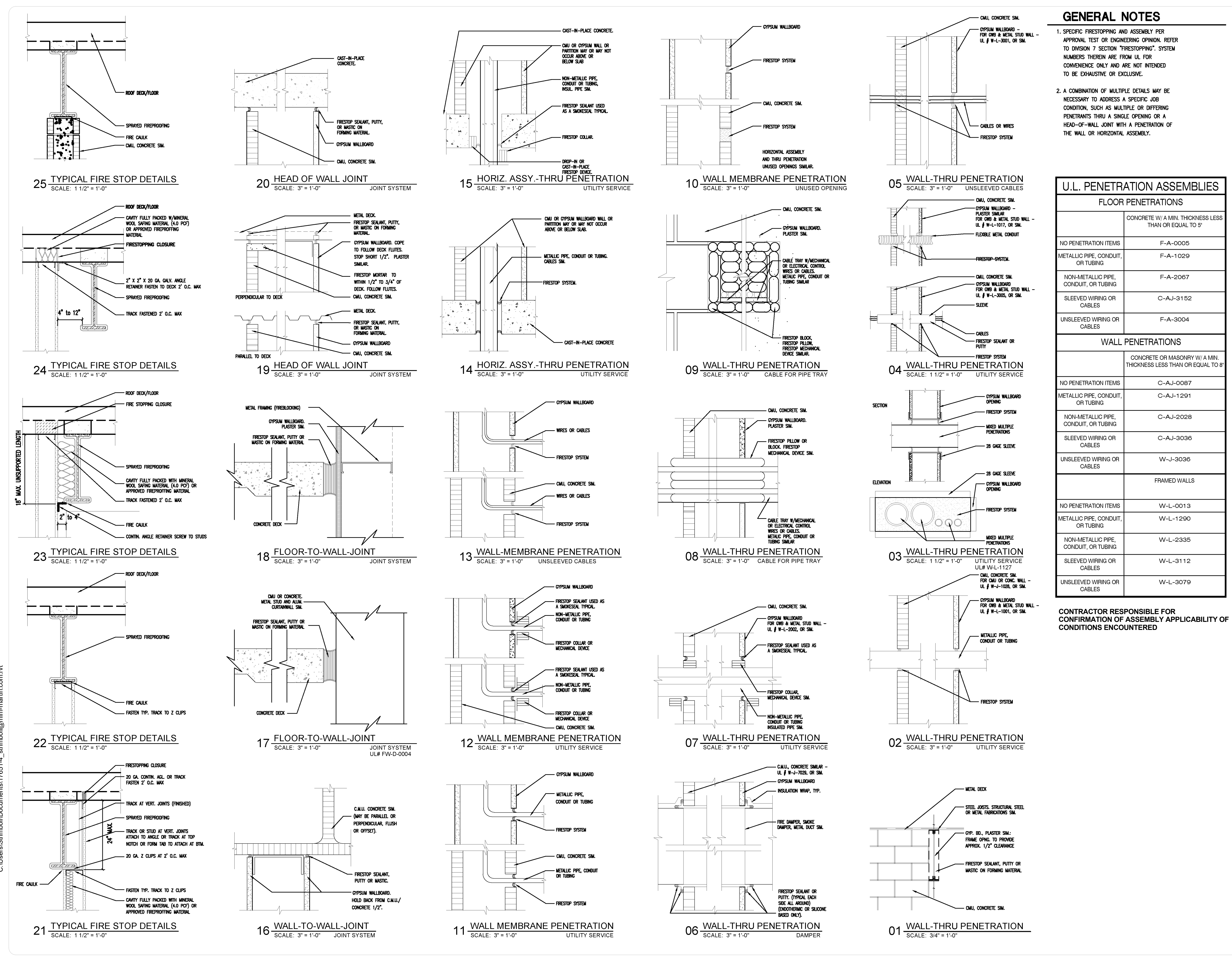
Project Name:  
**ORANGE COUNTY FIRE STATION #30 HVAC REPLACEMENT**

Scale:	AS NOTED	Seal:
Design By:	Designer	
Drawn By:	Author	
Checked By:	Checker	
Engineer of Record:	MIGUEL LAZARO MARTIN	
License Number:	AR 8255	

Sheet Name:  
**LIFE SAFETY**

Sheet Number:  
**A-1.1.1**

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**GENERAL NOTES**

1. SPECIFIC FIRESTOPPING AND ASSEMBLY PER APPROVAL SECTION OR ENGINEERING OPINION. REFER TO DIVISION 7 SECTION "FIRESTOPPING" SYSTEM NUMBERS THEREIN ARE FROM U.L. FOR CONVENIENCE ONLY AND ARE NOT INTENDED TO BE EXHAUSTIVE OR EXCLUSIVE.
2. A COMBINATION OF MULTIPLE DETAILS MAY BE NECESSARY TO ADDRESS A SPECIFIC JOB CONDITION, SUCH AS MULTIPLE OR DIFFERING PENETRANTS THRU A SINGLE OPENING OR A HEAD-OF-WALL JOINT WITH A PENETRATION OF THE WALL OR HORIZONTAL ASSEMBLY.

U.L. PENETRATION ASSEMBLIES	
FLOOR PENETRATIONS	
	CONCRETE W/ A MIN. THICKNESS LESS THAN OR EQUAL TO 5"
NO PENETRATION ITEMS	F-A-0005
METALLIC PIPE, CONDUIT, OR TUBING	F-A-1029
NON-METALLIC PIPE, CONDUIT, OR TUBING	F-A-2067
SLEEVED WIRING OR CABLES	C-AJ-3152
UNSLEEVED WIRING OR CABLES	F-A-3004
WALL PENETRATIONS	
	CONCRETE OR MASONRY W/ A MIN. THICKNESS LESS THAN OR EQUAL TO 8"
NO PENETRATION ITEMS	C-AJ-0087
METALLIC PIPE, CONDUIT, OR TUBING	C-AJ-1291
NON-METALLIC PIPE, CONDUIT, OR TUBING	C-AJ-2028
SLEEVED WIRING OR CABLES	C-AJ-3036
UNSLEEVED WIRING OR CABLES	W-J-3036
	FRAMED WALLS
NO PENETRATION ITEMS	W-L-0013
METALLIC PIPE, CONDUIT, OR TUBING	W-L-1290
NON-METALLIC PIPE, CONDUIT, OR TUBING	W-L-2335
SLEEVED WIRING OR CABLES	W-L-3112
UNSLEEVED WIRING OR CABLES	W-L-3079

CONTRACTOR RESPONSIBLE FOR CONFIRMATION OF ASSEMBLY APPLICABILITY OF CONDITIONS ENCOUNTERED

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 Marland, FL 32751

Client Name:

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**ORANGE COUNTY FIRE STATION #30 HVAC REPLACEMENT**

Scale:	AS NOTED	Seal:
Design By:	MLM	
Drawn By:	ST	
Checked By:	MAM-AA	
Engineer of Record:	MIGUEL LAZARO MARTIN	
License Number:	AR 8255	

Sheet Name:

**DETAILS PENETRATION TYP.**

Sheet Number:

**A-1.1.2**

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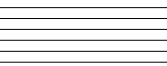


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A1 PHASING FLOOR PLAN  
1/8" = 1'-0"

PHASING LEGEND

-  PHASE 1
-  PHASE 2
-  PHASE 3
-  PHASE 4
-  PHASE 5

SEE MECHANICAL FOR DISRIPTION OF PHASING



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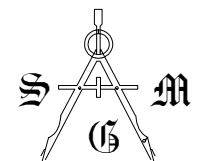
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Design By:	MLM	
Drawn By:	ST	
Checked By:	MAM-AA	
Engineer of Record:	MIGUEL LAZARO MARTIN	
License Number:	AR 8255	

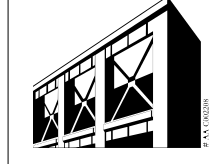
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Sheet Number:  
**A-1.1.4**

Keynote Legend	
Key Value	Keynote Text



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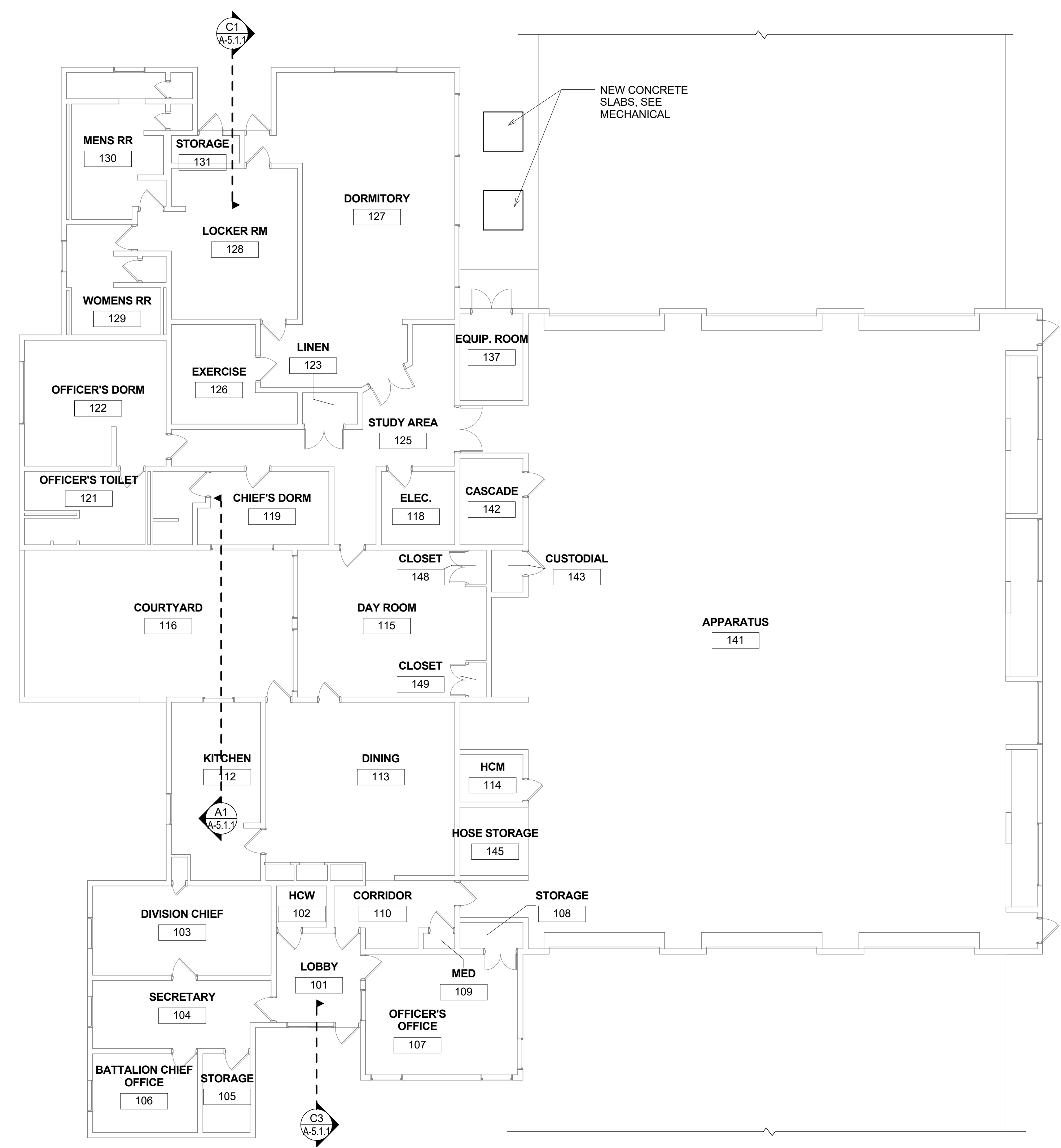
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Design By:	MLM	
Drawn By:	ST	
Checked By:	MLM-AA	
Engineer of Record:	MIGUEL LAZARO MARTIN	
License Number:	AR 8255	

Sheet Name:  
**FLOOR PLAN**

Sheet Number:  
**A-2.1.1**

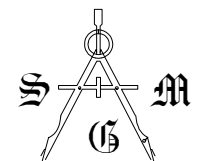


**A1** LEVEL 1 FLOOR PLAN  
 1/8" = 1'-0"

C:\Users\Stirnboll\Documents\17651-4\_stirnboll@mlm-martin.com.rvt



Keynote Legend	
Key Value	Keynote Text
06 10 00.0034	TYP. 3/4" C.D.X. PLYWOOD ALONG OUTSIDE EDGE OF EXTERIOR WALLS.
07 21 16.0030	TYP. BLANKET INSULATION, R-30 SECURED WITH GALVANIZED STEEL MESH OVER ALL AREAS IN SCOPE, EXCLUDING MEZZANINE.
07 81 10.0000	TYP. FIRE STOPPING MATERIAL.
07 89 00.0000	TYP. DRAFTSTOPPING MATERIAL AT PENETRATIONS, VERTICAL OR HORIZONTAL AT WALLS.



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 Maitland, FL 32751

Client Name:  
**ORANGE COUNTY**  
 FIRE STATION #30  
 20 SOUTH HASTINGS ST.  
 ORLANDO, FL 32835



Issue: 100% PERMIT DOCUMENTS 01-09-19

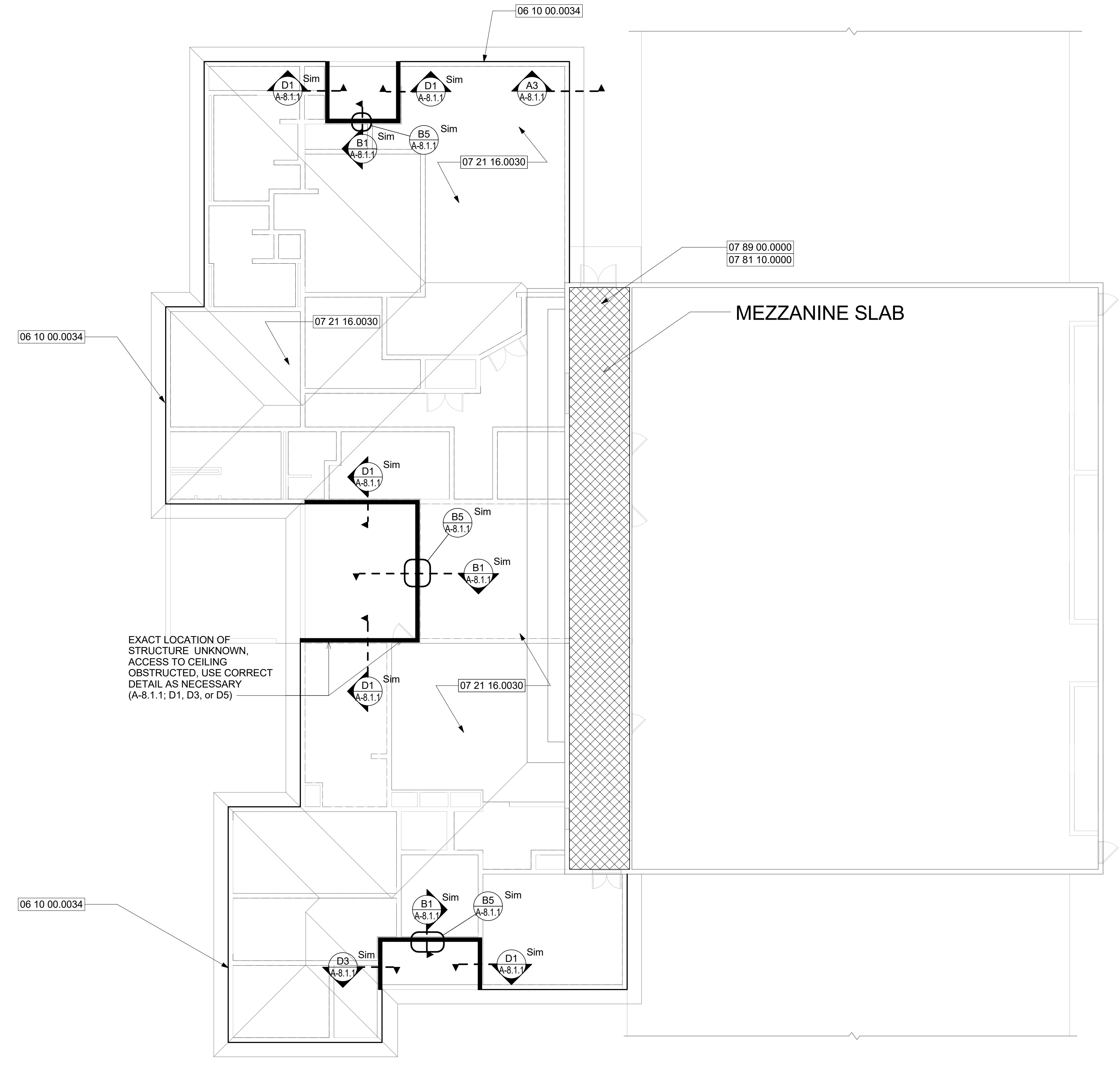
NO.	DESCRIPTION	DATE

Project Name:  
**ORANGE COUNTY**  
**FIRE STATION #30**  
**HVAC REPLACEMENT**

Scale:	AS NOTED	Seal:	
Design By:	MLM		
Drawn By:	ST		
Checked By:	MAM-AA		
Engineer of Record:	MIGUEL LAZARO MARTIN		
License Number:	AR 8255		

Sheet Name:  
**MEZZANINE PLAN**

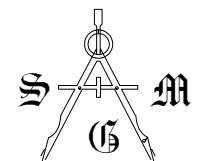
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**A-2.1.2**



**A1** MEZZANINE  
 1/8" = 1'-0"

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Keynote Legend	
Key Value	Keynote Text
07 42 93.0000	TYP. ALUM SYSTEM SOFFIT & CEILING.
09 51 23.0000	TYP. ACCOUSTIC LAY IN PANELS AND GRID SYSTEM.
09 51 23.0001	TYP. VINYL FACED GYPSUM: 24" X 24" X 5/8" CLASS A, MOLD AND MILDEW RESISTANT, HUMIGUARD WITH 15/16" PRELUDE LAY IN CEILING PANELS. ARMSTRONG KITCHEN ZONE #673 OR APPROVED EQUAL.



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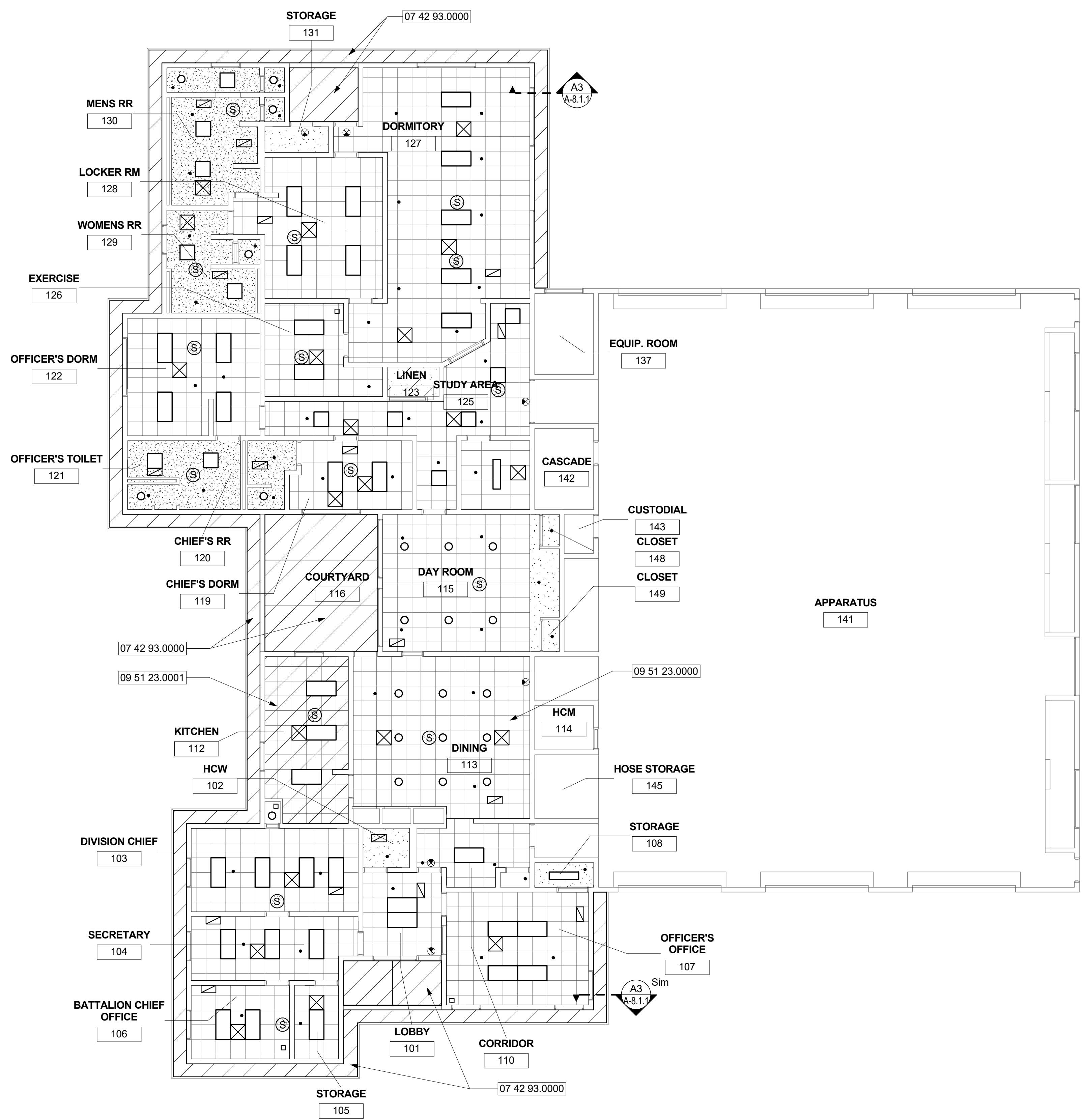
NO.	DESCRIPTION	DATE

Project Name:  
**ORANGE COUNTY  
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 HVAC REPLACEMENT**

Scale:	AS NOTED	Seal:
Design By:	MLM	
Drawn By:	ST	
Checked By:	MAM-AA	
Engineer of Record:	MIGUEL LAZARO MARTIN	
License Number:	AR 8255	

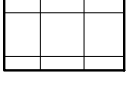
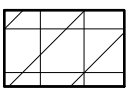
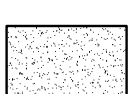
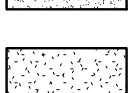

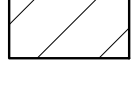
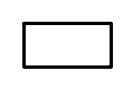
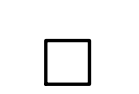


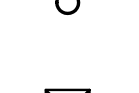



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**CEILING PLAN**

Sheet Number:  
**A-2.2.1**

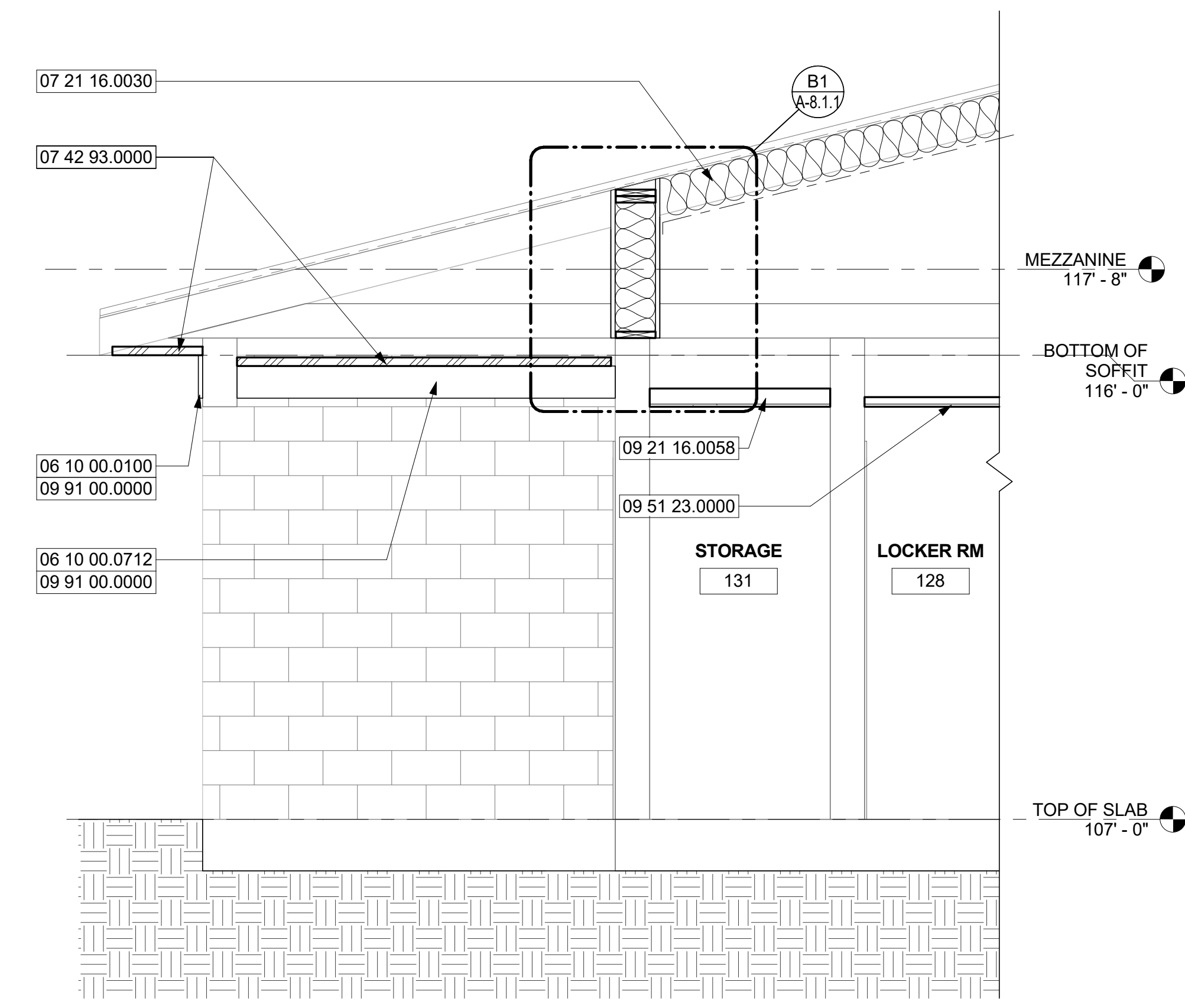


**A1 REFLECTED CEILING PLAN**  
 1/8" = 1'-0"

**CEILING LEGEND**

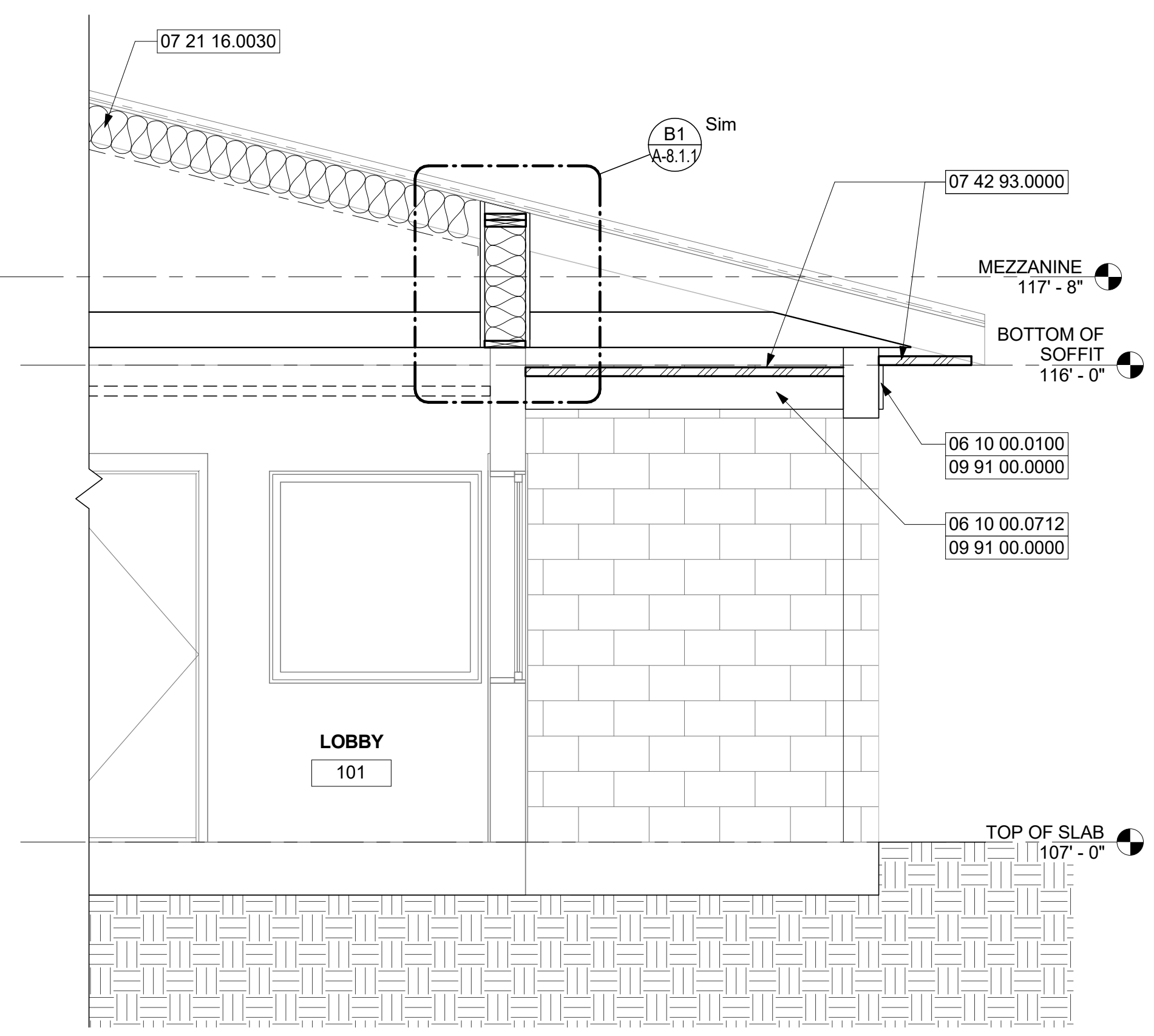
-  TYP. 2X2 ACCOUSTIC CEILING TILE
-  TYP. 2X2 KITCHEN ACCOUSTIC CEILING TILE
-  TYP. GYPSUM CEILING - 1
-  TYP. GYPSUM CEILING - 2
-  NON-PERFORATED ALUMINIM SOFFIT
-  2X4 MOUNTED CEILING LIGHT
-  2X2 MOUNTED CEILING LIGHT
-  1X4 MOUNTED CEILING LIGHT
-  CIRCULAR RECESSED CEILING LIGHT
-  HVAC SUPPLY
-  HVAC RETURN
-  CEILING MOUNTED SPEAKER
-  EXISTING SPRINKLER TO REMAIN
-  EXIT LAMPS

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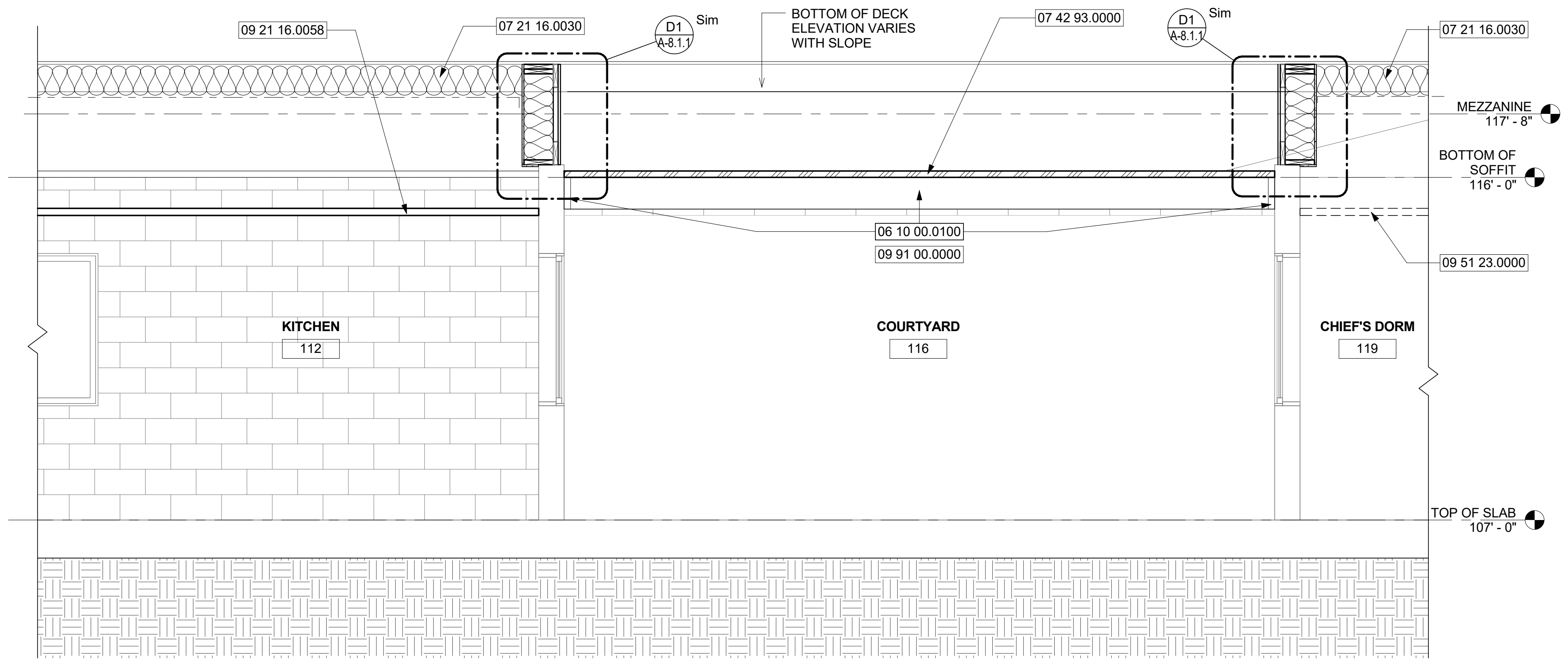
NEW SOFFIT ENCLOSURE DETAIL

C1 1  
1/2" = 1'-0"



NEW SOFFIT ENCLOSURE DETAIL

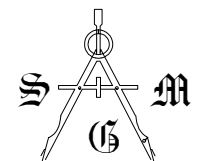
C3 3  
1/2" = 1'-0"

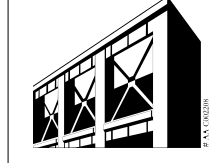


NEW SOFFIT ENCLOSURE DETAIL

A1 2  
1/2" = 1'-0"

Keynote Legend	
Key Value	Keynote Text
06 10 00.0100	TYP. WHITE, RUSTIC STYLE HARDIE BOARD. PAINTED. 3/4" X 10"
06 10 00.0712	TYP. WHITE, RUSTIC STYLE HARDIE BOARD. PAINTED. 3/4" X 7 1/2"
07 21 16.0030	TYP. BLANKET INSULATION, R-30 SECURED WITH GALVANIZED STEEL MESH OVER ALL AREAS IN SCOPE, EXCLUDING MEZZANINE.
07 42 93.0000	TYP. ALUM SYSTEM SOFFIT & CEILING.
09 21 16.0058	TYP. 5/8" GWB*
09 51 23.0000	TYP. ACOUSTIC LAY IN PANELS AND GRID SYSTEM.
09 91 00.0000	TYP. PAINT

  
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NO.	DESCRIPTION	DATE

Project Name:  
**ORANGE COUNTY**  
**FIRE STATION #30**  
**HVAC REPLACEMENT**

Scale:	AS NOTED	Seal:	
Design By:	MLM		
Drawn By:	ST		
Checked By:	MAM-AA		
Engineer of Record:	MIGUEL LAZARO MARTIN		
License Number:	AR 8255		

Sheet Name:  
**BUILDING SECTIONS**

Sheet Number:  
**A-5.1.1**

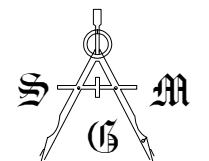
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ROOM FINISH SCHEDULE					
NUMBER	NAME	CEILING			REMARKS
		FINISH	CODE	HEIGHT	
101	LOBBY	ACT	FF	8' - 5"	
102	HCW	GWB-1	P1	8' - 0"	
103	DIVISION CHIEF	ACT	FF	8' - 0"	
104	SECRETARY	ACT	FF	8' - 0"	
105	STORAGE	ACT	FF	8' - 0"	
106	BATTALION CHIEF OFFICE	ACT	FF	8' - 0"	
107	OFFICER'S OFFICE	ACT	FF	8' - 0"	
108	STORAGE	ACT	FF	8' - 0"	
109	MED	GWB-1	P1	8' - 0"	
110	CORRIDOR	ACT	FF	8' - 0"	
112	KITCHEN	ACT-2	FF	8' - 0"	
113	DINING	ACT	FF	8' - 8"	
114	HCM	GWB-1	P1	8' - 0"	
115	DAY ROOM	GWB-1	P1		
116	COURTYARD	OPEN	-		
118	ELEC.	ACT	FF	8' - 0"	
119	CHIEF'S DORM	ACT	FF	8' - 0"	
120	CHIEF'S RR	GWB-2	P1	8' - 0"	
121	OFFICER'S TOILET	GWB-2	P1	8' - 0"	
122	OFFICER'S DORM	ACT	FF	8' - 0"	
123	LINEN	GWB-1	P1	8' - 0"	
125	STUDY AREA	ACT	FF	8' - 0"	
126	EXERCISE	ACT	FF	8' - 0"	
127	DORMITORY	ACT	FF	9' - 0"	
128	LOCKER RM	ACT	FF	8' - 0"	
129	WOMENS RR	GWB-2	P1	8' - 0"	
130	MENS RR	GWB-2	P1	8' - 0"	
131	STORAGE	GWB-1	P1	8' - 0"	
137	EQUIP. ROOM	GWB-1	P1	8' - 0"	
141	APPARATUS	OPEN	-	18' - 8"	
142	CASCADE	OPEN	-	8' - 0"	
143	CUSTODIAL	OPEN	-	8' - 0"	
145	HOSE STORAGE	OPEN	-	8' - 0"	
148	CLOSET	GWB-1	P1	8' - 0"	
149	CLOSET	GWB-1	P1	8' - 0"	

CONTRACTOR TO VERIFY AND MATCH EXISTING CEILING HEIGHTS

FINISH KEY	
REMARK	
ACT	TYP. 24" X 24" X 5/8" ACCOUSTIC LAY IN PANELS AND GRID SYSTEM
ACT-2	TYP. VINYL FACED GYPSUM: 24" X 24" X 5/8" CLASS A, MOLD AND MILDEW RESISTANT, HUMIGUARD WITH 15/16" PRELUDE LAY IN CEILING PANELS. ARMSTRONG KITCHEN ZONE #673 OR APPROVED EQUAL
GWB-1	TYP. GYPSUM CEILING
GWB-2	TYP. WATER-RESISTANT GYPSUM CEILING

FINISH CODES	
CODE	
FF	FACTORY FINISH: AS SUPPLIED
P1	PAINT, COLOR TO MATCH EXISTING CEILINGS




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Client Name:  
**ORANGE COUNTY**  
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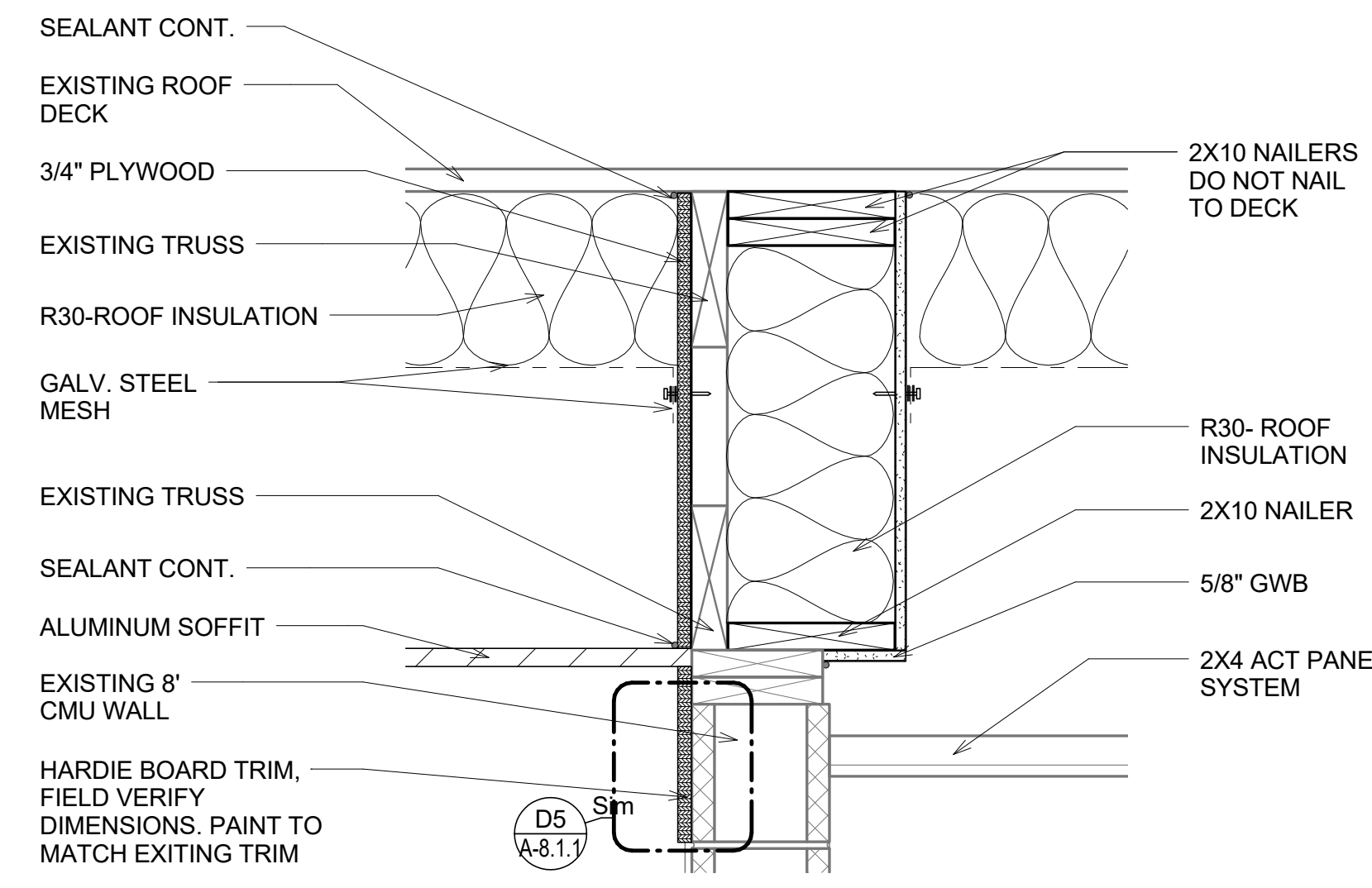
NO.	DESCRIPTION	DATE

Project Name:  
**ORANGE COUNTY**  
**FIRE STATION #30**  
**HVAC REPLACEMENT**

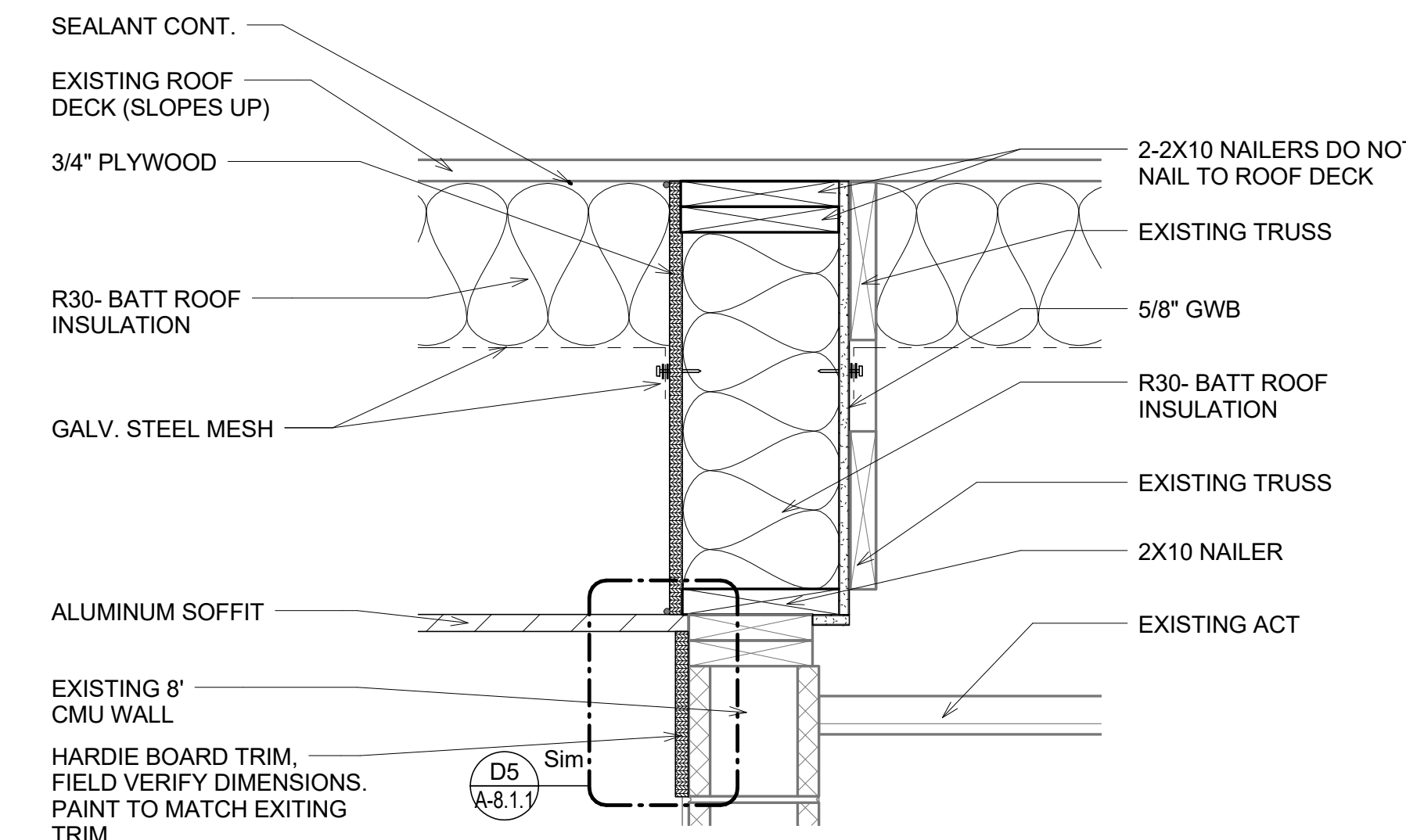
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Design By: MLM	
Drawn By: ST	
Checked By: MAM-AA	
Engineer of Record: MIGUEL LAZARO MARTIN	
License Number: AR 8255	

Sheet Name:  
**ROOM FINISH SCHEDULE**

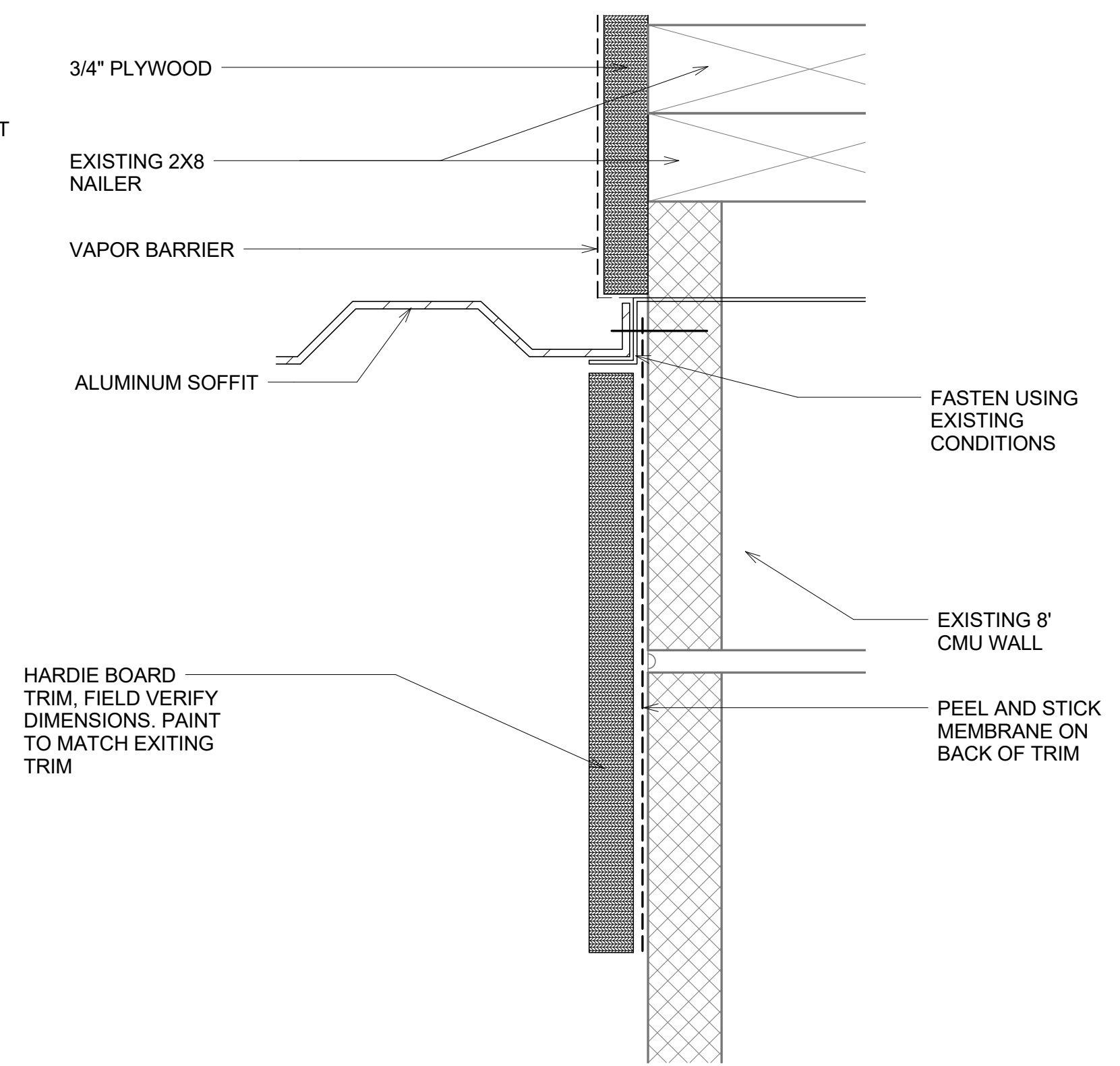
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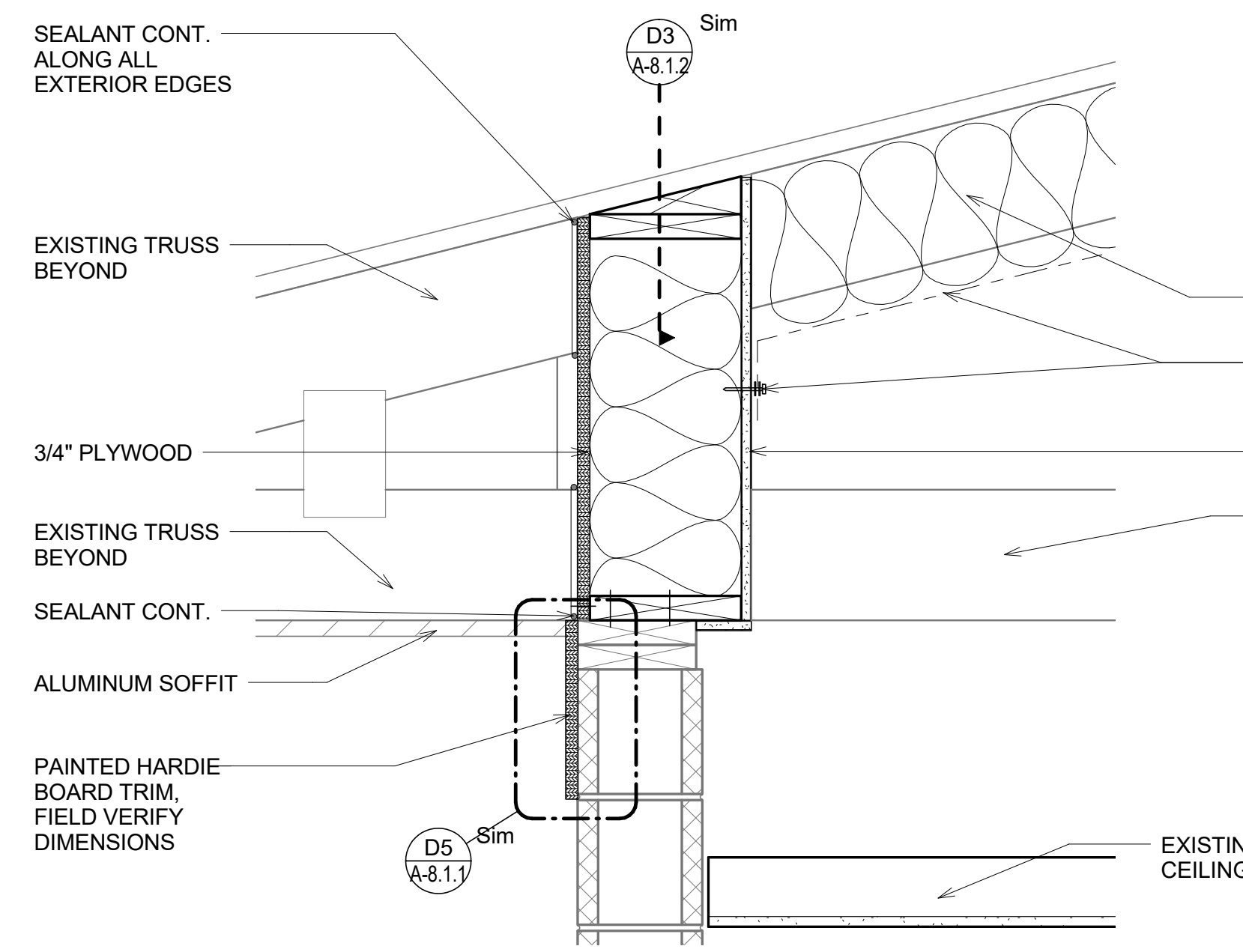
**D1**  
TYP. INSULATION AT DETAIL  
PARALLEL TO TRUSS A  
1 1/2" = 1'-0"



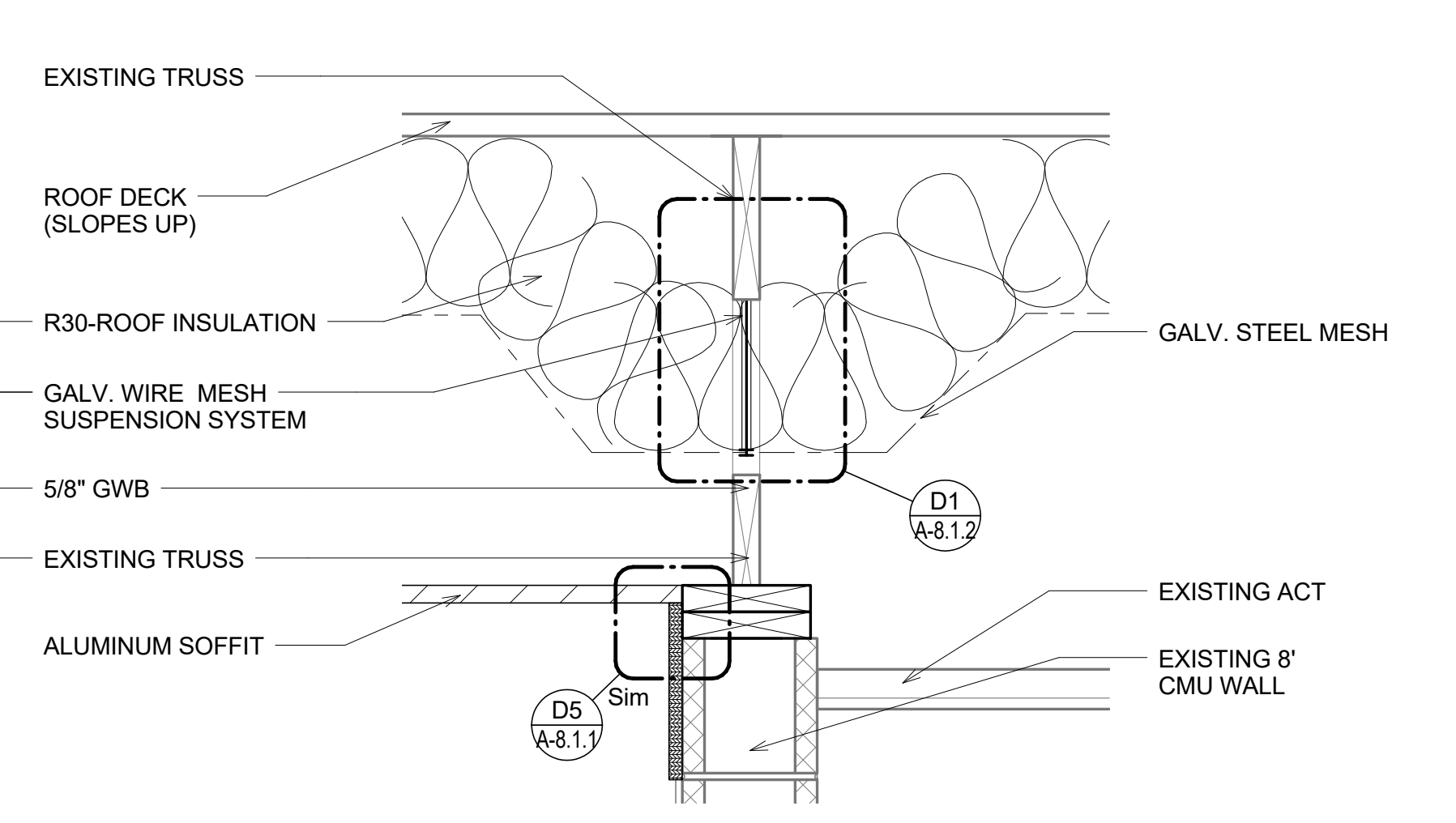
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TYP. INSULATION AT DETAIL  
PARALLEL TO TRUSS B  
1 1/2" = 1'-0"



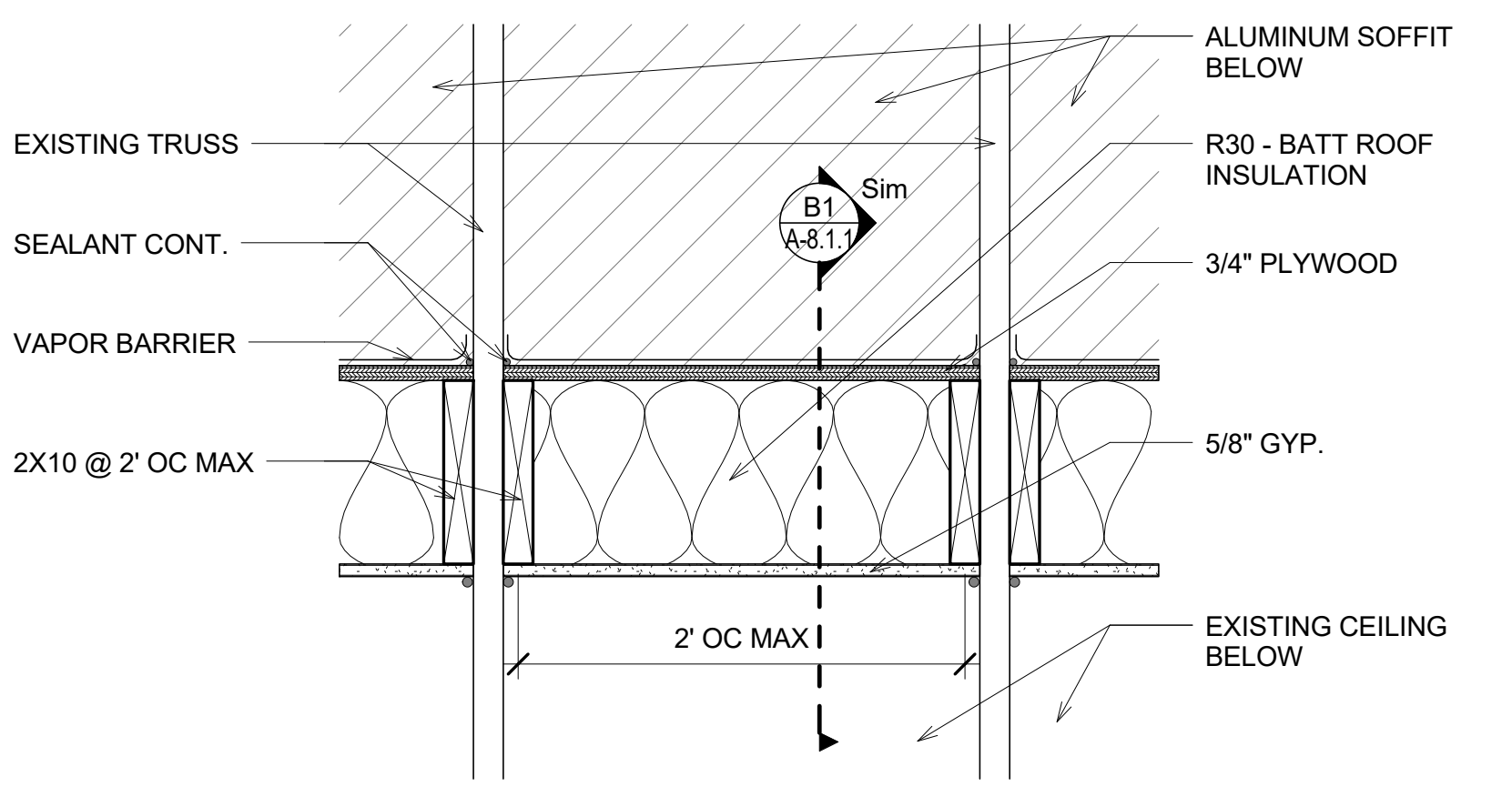
**D5**  
TYP. SOFFIT AND TRIM  
CONNECTION DETAIL  
6" = 1'-0"



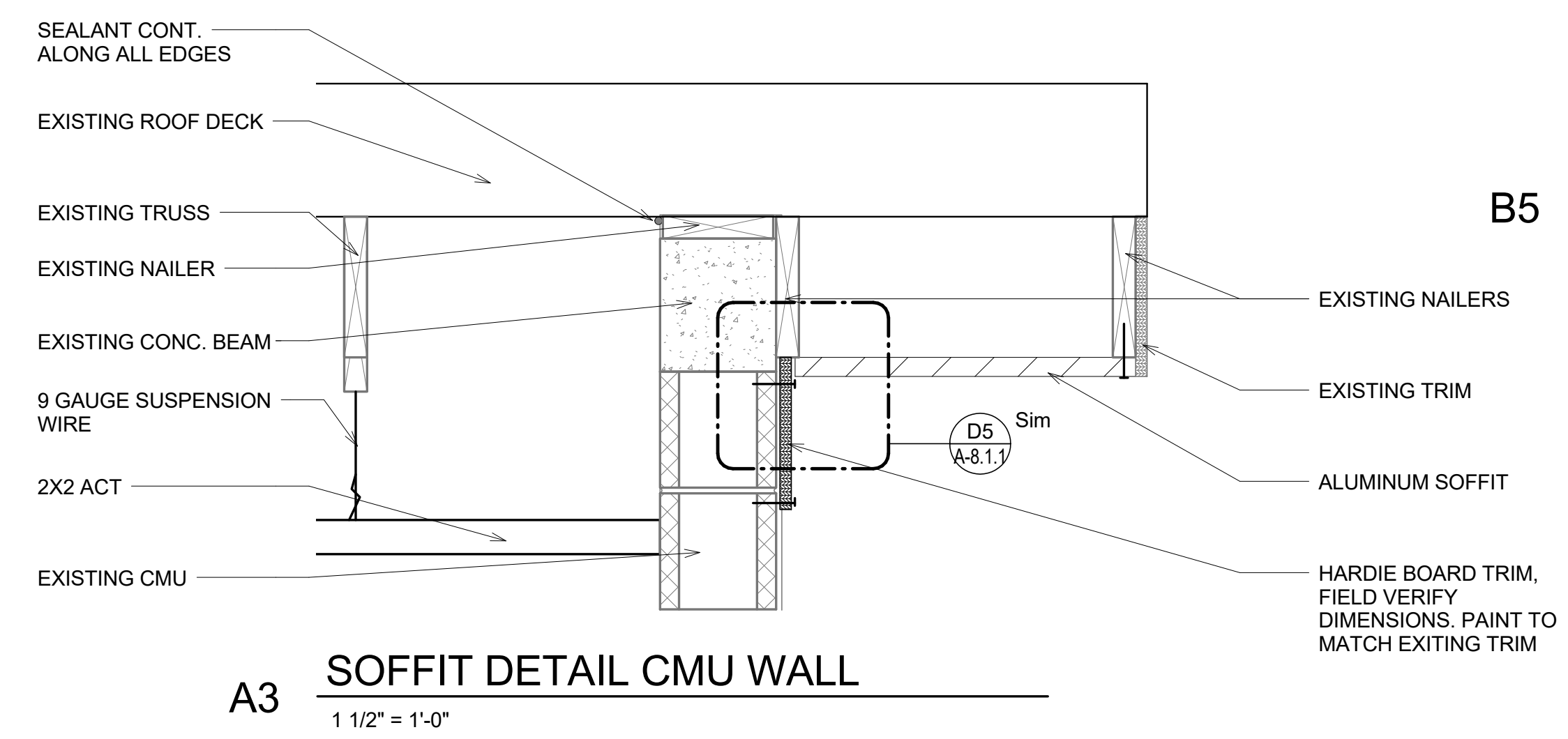
**B1**  
TYP. INSULATION DETAIL  
PERPENDICULAR TO TRUSS  
1 1/2" = 1'-0"



**B3**  
TYP. GALV. WIRE MESH  
SUSPENSION  
1 1/2" = 1'-0"



**B5**  
TYP. PERPENDICULAR TRUSS  
INTERSECTION PLAN  
1 1/2" = 1'-0"



**A3**  
SOFFIT DETAIL CMU WALL  
1 1/2" = 1'-0"

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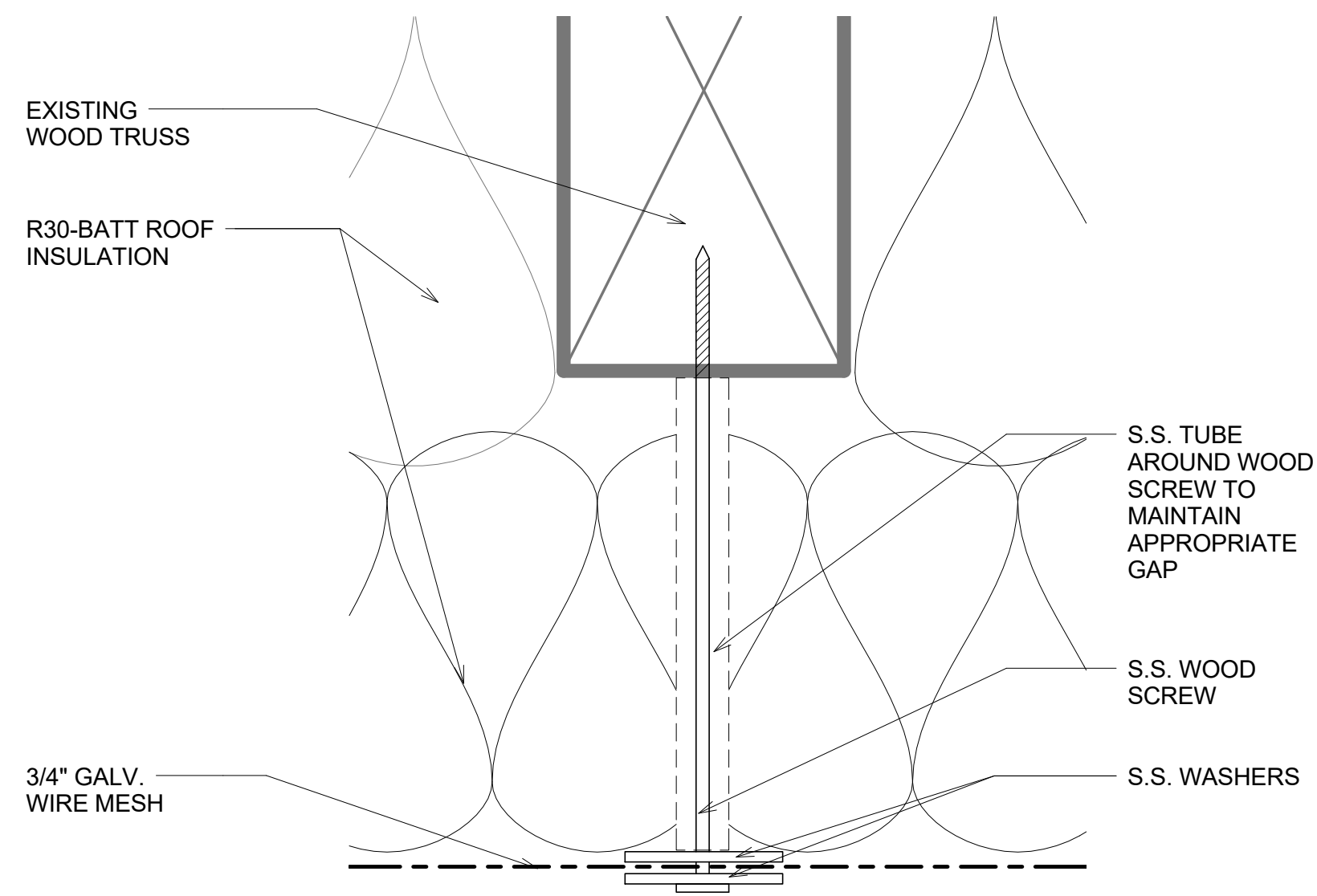
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HVAC REPLACEMENT

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Drawn By:	ST	
Checked By:	MAM-AA	
Engineer of Record:	MIGUEL LAZARO MARTIN	
License Number:	AR 8255	

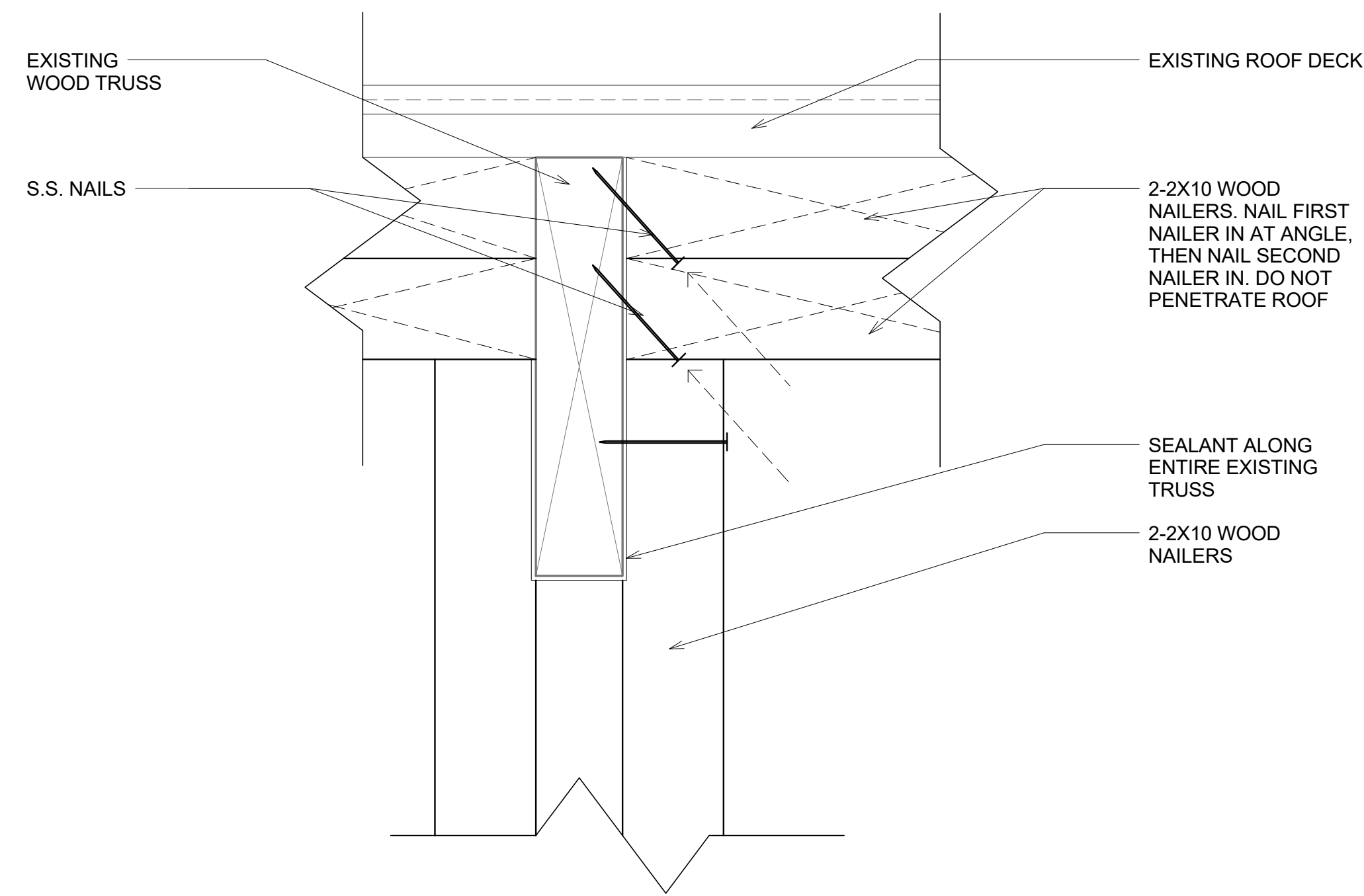
Sheet Name:  
**DETAILS**

Sheet Number:  
**A-8.1.1**

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D1 TYP. GALV. WIRE MESH  
SUSPENSION DETAIL  
6" = 1'-0"



D3 NAILING DETAIL AT ROOF NAILERS  
PERPENDICULAR TO TRUSS  
6" = 1'-0"



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Design By:	MLM		
Drawn By:	ST		
Checked By:	MAM-AA		
Engineer of Record:	MIGUEL LAZARO MARTIN		
License Number:	AR 8255		

Sheet Name:  
**DETAILS**

Sheet Number:  
**A-8.1.2**

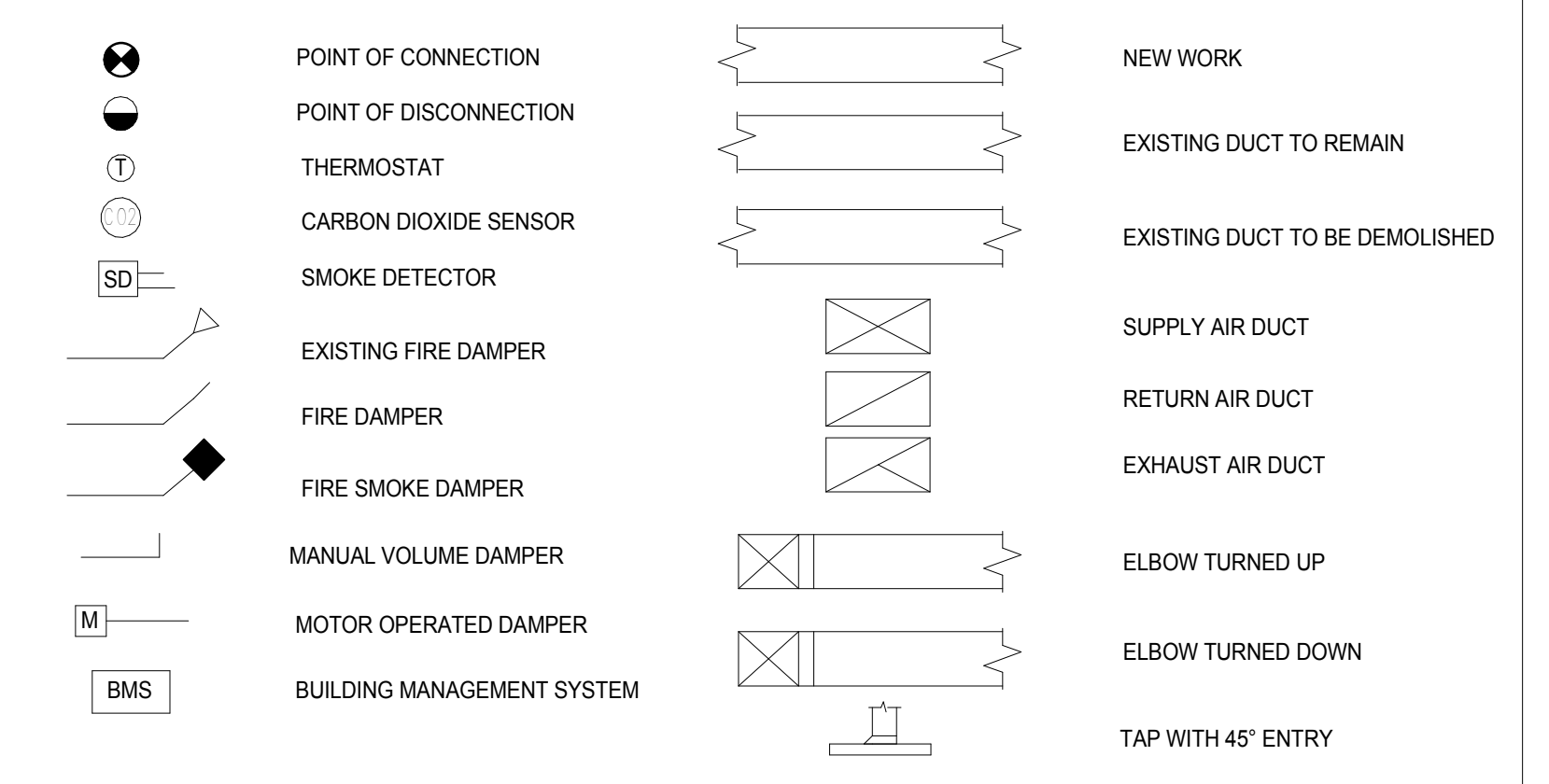
**MECHANICAL GENERAL NOTES**

- IF THE INTENT OF ARCHITECT/ENGINEER WITH REGARD TO ANY DETAIL IS NOT CLEAR, OR IS CAPABLE OF MORE THAN ONE INTERPRETATION, SUCH MATTERS WILL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING BEFORE THE SUBMISSION OF BIDS, AND THE ENGINEER SHALL MAKE CORRECTION OR EXPLANATION IN WRITING. OTHERWISE, NO EXTRA CHARGE WILL BE ALLOWED FOR THE WORK OR MATERIAL IN QUESTION.
- THE PLANS AND SPECIFICATIONS ARE INTENDED AS A GENERAL DESCRIPTION OF THE WORK TO BE PERFORMED. ALL ITEMS NOT SPECIFICALLY MENTIONED OR SHOWN, BUT NECESSARY FOR THE COMPLETION OF THE INSTALLATION, SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR. THIS CONTRACTOR SHALL THOROUGHLY ACQUAINT THEMSELVES WITH THE MECHANICAL, AND ELECTRICAL PLANS BEFORE SUBMITTING THEIR FINAL BID.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE FLORIDA BUILDING CODE 2017, FLORIDA MECHANICAL & ELECTRICAL CODES, 2017 AND LATEST N.E.C & NFPA CODES.
- THE SIZE AND LOCATION OF EQUIPMENT INSTALLED UNDER DIVISION 23 MECHANICAL SHALL BE COORDINATED WITH OTHER TRADES. CONNECTION TO EQUIPMENT SHALL BE VERIFIED WITH MANUFACTURER'S CERTIFIED DRAWINGS. TRANSITIONS TO ALL EQUIPMENT SHALL BE VERIFIED AND PROVIDED FOR EQUIPMENT FURNISHED.
- DUCTWORK AND PIPING TO MECHANICAL EQUIPMENT SHALL BE INSTALLED IN A MANNER THAT DOES NOT OBSTRUCT EQUIPMENT SERVICE CLEARANCES.
- INTERRUPTION OF EXISTING SERVICES SHALL BE MINIMAL AND SHALL BE FULLY COORDINATED WITH THE OWNER AND ALL TRADES IN ADVANCE TO SCHEDULE ALL INTERRUPTIONS DURING NON-CRITICAL TIMES. OWNER SHALL BE PROVIDED WITH THREE BUSINESS DAYS NOTICE PRIOR TO INTERCEPTION.
- DISCONNECT SWITCHES REQUIRED FOR THE MECHANICAL EQUIPMENT SHALL BE PROVIDED BY DIVISION 26 ELECTRICAL EXCEPT WHEN INDICATED ON SCHEDULE.
- PROVIDE 4" HIGH CONCRETE PADS UNDER ALL FLOOR MOUNTED EQUIPMENT, WITH CHAMFERED EDGES AND 6" EXTENSIONS BEYOND EQUIPMENT UNLESS NOTED OTHERWISE.
- ALL EQUIPMENT, DUCTWORK, ETC., SHALL BE SUPPORTED AS DETAILED AND/OR SPECIFIED. PROVIDE ADDITIONAL SUPPORTS AS REQUIRED TO PROVIDE A VIBRATION-FREE, RIGID INSTALLATION. SUPPORT ALL OBJECTS FROM STRUCTURE WITHOUT PENETRATING THE CEILING.
- ALL HVAC EQUIPMENT LOCATION & WEIGHT SHALL BE COORDINATED AND APPROVED BY THE STRUCTURAL ENGINEER, CONTRACTOR AND OWNER PRIOR TO PURCHASE AND INSTALLATION.
- CONDENSATE DRAINS FROM ALL MECHANICAL EQUIPMENT SHALL BE COORDINATED FOR PROPER DRAINAGE TO SUIT EQUIPMENT FURNISHED. ALL CONDENSATE DRAIN LINES SHALL BE INSULATED AND INSTALLED WITH A "P" TRAP AT THE UNIT.
- ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH LATEST SMACNA, NFPA 90A AND 90B REQUIREMENTS. OFFSETS IN DUCTS AND PIPING AND TRANSITIONS AROUND OBSTRUCTIONS. PROVIDE ALL TRANSITIONS, ELBOWS, FITTINGS, ETC., TO ALLOW SMOOTH FLOWS.
- PROVIDE FLEXIBLE DUCT CONNECTIONS ON ALL DUCTS CONNECTING TO EACH FAN, AIR HANDLING UNIT AND FAN COIL UNIT. COORDINATE DIFFUSER, GRILLE AND REGISTER LOCATIONS WITH EQUIPMENT OF ALL TRADES AND VERIFY CEILING FINISHES.
- ALL OPERABLE THERMOSTAT PARTS SHALL BE MOUNTED 48" ABOVE FINISHED FLOOR. ROOM THERMOSTATS DO NOT REQUIRE COVERS. VOLTAGE SHALL BE 24 VOLT UNLESS OTHERWISE INDICATED.
- ALL CONTROL WIRING AND HARDWARE TO COMPLETE THE HVAC CONTROL SYSTEM SHALL BE FURNISHED AND INSTALLED UNDER DIVISION 23 MECHANICAL OF THESE CONTRACT DOCUMENTS.
- INSTALLATION OF DUCT SMOKE DETECTORS SHALL BE BY DIVISION 23 AND FURNISHED BY DIVISION 26.
- THE CONTRACTOR SHALL SUBMIT TO THE OWNER AND ENGINEER FOR REVIEW, A TEST AND BALANCE REPORT OF ALL SYSTEMS. THE TESTING AND BALANCING SHALL BE PERFORMED BY A CERTIFIED TEST AND BALANCE COMPANY. TEST AND BALANCE REPORT SHALL BE COMPLETED BY SUBSTANTIAL COMPLETION DATE.
- PROVIDE ALL MANUFACTURER INSTALLATION & MAINTENANCE MANUALS FOR EQUIPMENT INSTALLED FOR ENGINEER REVIEW BEFORE RELEASE TO THE OWNER.

**MECHANICAL ABBREVIATIONS**

AAV	AUTOMATIC AIR VENT	HOA	HAND-OFF-AUTOMATIC
AC	AIR CONDITIONING	HP	HORSEPOWER, HEAT PUMP
ACU	AIR CONDITIONING UNIT	HVAC	HEATING VENTILATING AND AIR CONDITIONING
AD	ACCESS DOOR, AIR DRYER	HZ	HERTZ (CYCLES PER SECOND)
AFF	ABOVE FINISHED FLOOR	ID	INSIDE DIAMETER
AFMS	AIR FLOW MEASURING STATION	IN	INCH
AHU	AIR HANDLING UNIT	IN	INSIDE DIAMETER
ALUM	ALUMINUM	KEF	KITCHEN EXHAUST FAN
AP	ACCESS PANEL	KW	KILOWATT
APD	AIR PRESSURE DROP	LDB	LEAVING DRY BULB
ATC	AUTOMATIC TEMPERATURE CONTROL	LWB	LEAVING WET BULB
AV	AIR VENT	LOR	LIMIT OF REMOVAL
BDD	BACK DRAFT DAMPER	MAX	MAXIMUM
BOT	BOTTOM	MBH	THOUSAND BTU PER HOUR
BFP	BACKFLOW PREVENTER	MD	MANUAL DAMPER
BTU	BRITISH THERMAL UNIT	MIN	MINIMUM
C	CELSIUS, DEGREE CELSIUS	(N)	NEW
CFM	CUBIC FEET PER MINUTE	N	NOT APPLICABLE
CHWS&R	CHILLED WATER SUPPLY & RETURN	NA	NUMBER, NORMALLY OPEN
CLG	CEILING	NO OR #	NOT TO SCALE
CF	CEILING FAN	OA	OUTSIDE AIR
CO	CLEAN OUT	OB	OPPOSED BLADE DAMPER
COND	CONDENSATE	OD	OUTSIDE DIAMETER
(D)	DEMOLISH	OPER	OPERATING
DB	DRY BULB, DOWN BLOW	PSI	POUNDS PER SQUARE INCH
DCW	DOMESTIC COLD WATER	PSIG	POUNDS PER SQUARE INCH GAUGE
DEG	DEGREE	RA	RETURN AIR
DELIV	DELIVERY	REG	REGISTER
DHW	DOMESTIC HOT WATER	RF	RETURN FAN
DISC	DISCONNECT	RG	RETURN GRILLE
DN	DOWN	RH	RELATIVE HUMIDITY
(E)	EXISTING	RHC	REHEAT COIL
EA	EXHAUST AIR, EACH	RM	ROOM
EAT	ENTERING AIR TEMPERATURE	SA	SUPPLY AIR
EDB	ENTERING DRY BULB	SEF	SMOKE EXHAUST FAN
EF	EXHAUST FAN	SF	SUPPLY FAN
EFF	EFFICIENCY	SIFD	SMOKE/FIRE DAMPER
ELEV	ELEVATION	T	THERMOSTAT
EMS	ENERGY MANAGEMENT SYSTEM	TEC	TERMINAL EQUIPMENT CONTROLLER
ENT	ENTERING	TEMP	TEMPERATURE
EWB	ENTERING WET BULB	T/D	TRANSFER DUCT
F	FAHRENHEIT	TYP	TYPICAL
FD	FIRE DAMPER, FLOOR DRAIN	V	VENT, VOLT
FPM	FEET PER MINUTE	VD	VOLUME DAMPER
FPS	FEET PER SECOND	VERT	VERTICAL
FISD	FIRE/SMOKE DAMPER	WB	WET BULB
FT	FEET	WPD	WATER PRESSURE DROP
GPH	GALLONS PER HOUR		
GPM	GALLONS PER MINUTE		

**MECHANICAL SYMBOLS LEGEND**



**DRAWING INDEX**

DWG #	DWG TITLE
M0.01	MECHANICAL LEGENDS, NOTES & SCHEDULES
M1.00	MECHANICAL DEMOLITION FLOOR PLAN
M1.01	MECHANICAL FLOOR PLAN
M5.01	MECHANICAL DETAILS

AIR HANDLING UNIT SCHEDULE																					
UNIT NO.	MODEL NO.	FAN				DX COIL CHARACTERISTICS				HEATING COIL (ELECTRIC)				FILTER		ELECTRICAL DATA					
		AIRFLOW CFM	OUTSIDE AIR (MAX/MIN) CFM	ESP (IN WG)	FAN MOTOR HP	REFRIG. TYPE	CAP. TOTAL (MBH)	CAP. SENSIBLE (MBH)	EAT (°F)		CAPACITY (KW)	STAGES	AIR TEMP (°F)		THICK	EFF	MCA	MOCP	V/PH/HZ		
									DB	WB			DB	WB						MAT	LAT
AHU-1 / EDH-1	H3-CRB-8-0-142D-3CS	2460	595	1.25"	2.0	R410A	99.8	67.2	79	66.7	53.2	52.7	15	3	57	85	2"	MERV 11	65	70	208/3
AHU-2 / EDH-2	H3-CRB-8-0-142D-3CS	2580	620	1.25"	2.0	R410A	93.9	59.0	79.2	66.5	53.6	53.1	15	3	57	84	2"	MERV 11	65	70	208/3

- NOTES:
- MANUFACTURE SHALL BE EQUAL TO AAO
  - AC UNITS SHALL INCLUDE HOT GAS REHEAT
  - PROVIDE SINGLE POINT POWER CONNECTION

DIFFUSER, REGISTER, & GRILLE SCHEDULE							
MARK	MANUFACTURER	MODEL	DESCRIPTION	AIRFLOW (CFM)	FACE SIZE	MIN. NECK	NECK VELOCITY (FPM)
A	TITUS	TMS-AA	LOUVERED FACE CEILING SUPPLY	0-125	24x24	6"Ø	500
				130-230		8"Ø	
				231-350		10"Ø	
				351-450		12"Ø	
				451-550		14"Ø	
				0-125		12X12	
126-200	8"Ø	500					
B	TITUS	PAR-AA	PERFORATED CEILING RETURN OR EXHAUST REGISTER	0-125	24x24	6"Ø	500
				130-230		8"Ø	
				231-350		10"Ø	
				351-450		12"Ø	
				451-550		14"Ø	
				0-125		12X12	
126-200	8"Ø	500					
C	TITUS	300 FL	SIDEWALL DOUBLE DEFLECTION SUPPLY	AS SHOWN	-	AS SHOWN	500
D	TITUS	350 FL	SIDEWALL FIXED BLADE RETURN OR EXHAUST REGISTER	AS SHOWN	-	AS SHOWN	500
E	TITUS	FL-15 (WITH PLENUM)	SLOT DIFFUSER (1)1.5" SLOT	0-250	4' LENGTH	8"Ø	500

- NOTES:
- MAXIMUM NC LEVEL OF 25.
  - ALL AIR DEVICES SHALL BE 4-WAY THROW UNLESS NOTED OTHERWISE OR SHOWN ON PLANS WITH DIRECTIONAL ARROWS.
  - DEVICES SHALL BE PROVIDED WITH FACTORY FINISH TO MATCH CEILING OR WALL. MECHANICAL CONTRACTOR SHALL COORDINATE SPECIFIC LOCATIONS AND APPROPRIATE BORDER TYPES AND WITH ARCHITECTURAL DRAWINGS.
  - IF REQUIRED, PROVIDE TOP HAT FOR ALL GRILLES AND DIFFUSERS.
  - PROVIDE VOLUME DAMPER FOR DIFFUSERS LOCATED AT GYPSUM BOARD CEILING AND FOR ALL REGISTERS.
  - PROVIDE OPPOSED BLADE VOLUME DAMPER FOR DIFFUSERS "G". DAMPER SHALL BE ALUMINUM CONSTRUCTION.
  - PROVIDE SQUARE TO ROUND THROAT ADAPTERS - ROUND RUNOUT SIZE SAME AS THROAT (I.E. 8X8 USE 8"Ø) FOR ALL CEILING DIFFUSERS OR PROVIDE DIFFUSERS WITH INTEGRAL THROAT CONNECTION.
  - FOR EXHAUST AND RETURN AIR REGISTERS, THE NECK/CFM RANGE REFERS TO THE REGISTER PLENUM BOX INDICATED IN THE CONNECTION DETAIL.

CONDENSING UNIT SCHEDULE																
UNIT NO.	MANUFACTURER & MODEL NO.	SERVICE	COOLING CAPACITY (MBH)	EER	REFRIG. TYPE	COMPRESSOR			CONDENSER		COND. FAN(S)		POWER		OPER. WT. (LBS)	
						TYPE	QTY	RLA	NO. CIRCUITS	AMB. AIR TEMP. (°F)	QTY.	HP	MCA	MOCP		V/PH/HZ
CU-1	CFA-009-B-A-8-DC00K	AHU-1	100.0	16.5	R410A	SCROLL	2	16.1/13.7	2	95	2	1/3	39.0	50.0	208/3/60	1069
CU-2	CFA-009-B-A-8-DC00K	AHU-2	100.0	16.5	R410A	SCROLL	2	16.1/13.7	2	95	2	1/3	39.0	50.0	208/3/60	1069

- NOTES:
- MANUFACTURER EQUAL TO AAO
  - PROVIDE ANTI-SHORT CYCLE TIMER, EVAPORATOR DEFROST CONTROL, AND HOT GAS REHEAT

Client Name:

**ORANGE COUNTY**  
**FIRE STATION #30**  
 20 SOUTH HASTINGS ST.  
 ORLANDO, FL 32835



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NO.	DESCRIPTION	DATE

Project Name:

**ORANGE COUNTY**  
**FIRE STATION #30**  
**HVAC REPLACEMENT**

Scale: 1/2" = 1'-0" Seal:

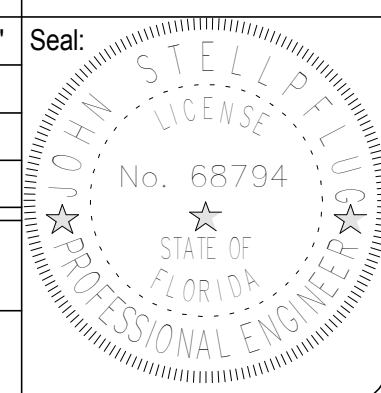
Design By: GJ

Drawn By: GJ

Checked By: JS

Engineer of Record:

License Number:



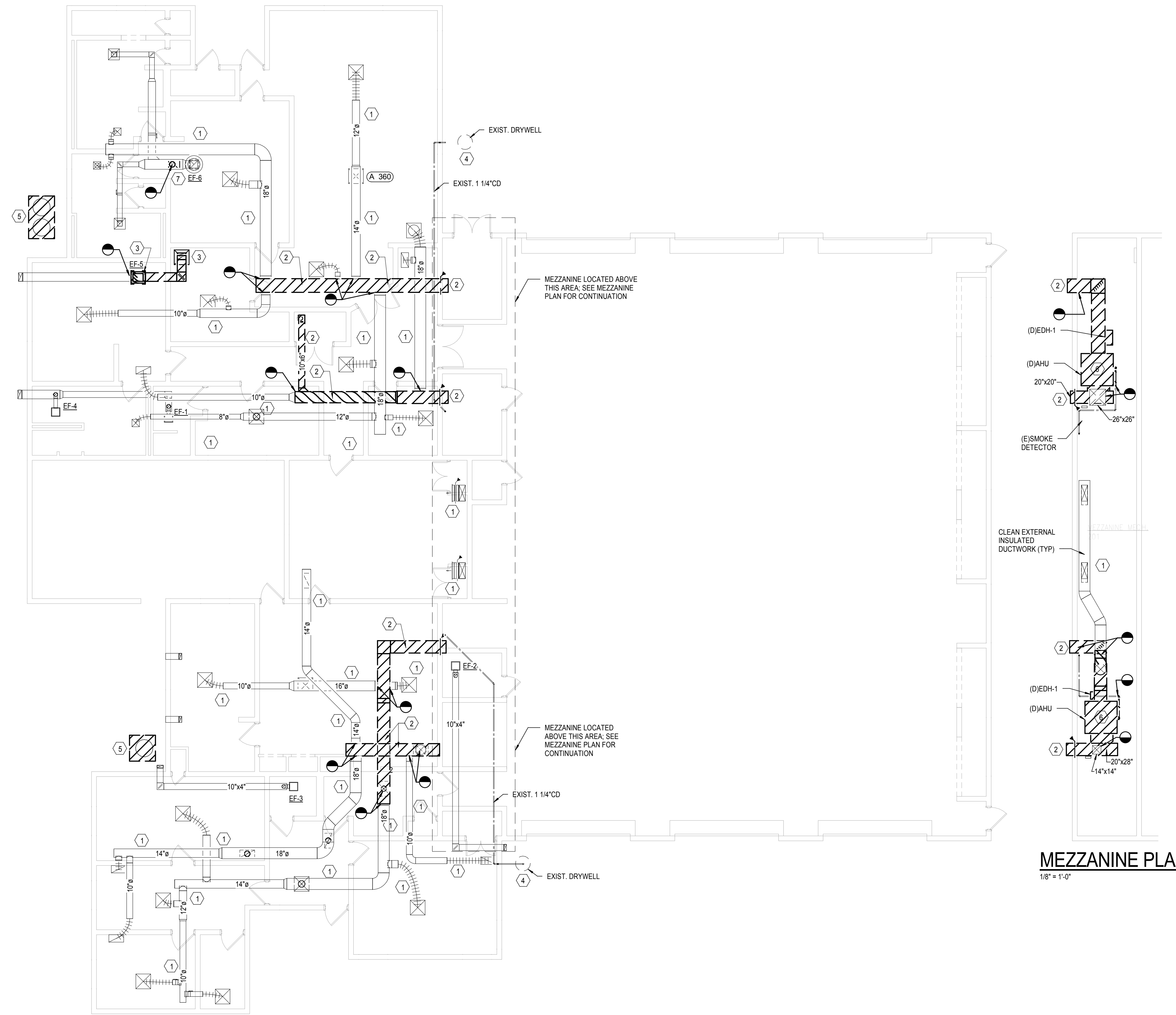
Sheet Name:

**MECHANICAL LEGENDS, NOTES AND SYMBOLS**

Sheet Number:

**M-001**

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**GENERAL NOTES:**

- A. REFER TO SHEET M0.01 FOR GENERAL NOTES.
- B. ROUTE NEW AHU CONDENSATE DRAINS FULL SIZE OF NEW UNIT TO EXISTING CONDENSATE DRAINS WITHIN MECHANICAL ROOM.
- C. RECONNECT EXISTING DUCT SMOKE DETECTOR SMOKE CONTROLS TO NEW AHU'S (TYP)
- D. CONTRACTOR SHALL PROVIDE TEMPORARY COOLING IN ALL AREAS WHERE THE COOLING SYSTEM WILL BE DOWN FOR REPLACEMENT. TEMPORARY COOLING SHALL CONSIST OF SPOT COOLERS FURNISHED BY CONTRACTOR. CONTRACTOR SHALL MAINTAIN AND DRAIN SPOT COOLERS AS REQUIRED DURING THE DAY AND BEFORE LEAVING FOR THE NIGHT. ALL PHASES SHALL BE PROVIDED WITH TEMP. COOLING WHILE OCCUPIED.
- E. SEE PHASING DRAWING FOR CONSTRUCTION PHASING. AHU'S SHALL BE REPLACED IN A MANNER THAT FOLLOWS THE PHASING PLAN. AHU-1 SHALL BE REPLACED & DUCTWORK MODIFICATIONS ACCOMPLISHED DURING PHASES 1, 2 & 3 WITH PHASE 2 REST ROOMS AVAILABLE WITH TEMPORARY COOLING DURING AHU-1 REPLACEMENT. AHU-2 SHALL BE REPLACED & DUCTWORK MODIFICATIONS ACCOMPLISHED DURING PHASE 5 & 6. AFTER AHU-1 IS UP AND RUNNING.
- F. REBALANCE ALL HVAC SYSTEMS ONCE AHU REPLACEMENT AND HVAC MODIFICATIONS HAVE BEEN ACCOMPLISHED. NEW CONTROLS SHALL BE COMMISSIONED WITH OWNER REPRESENTATIVE PRESENT TO VERIFY EQUIPMENT OPERATIONS AND ALLOW FOR TRAINING OF CONTROLS AND FOR NEW HVAC SYSTEMS.

**PLAN KEY NOTES:** (XX)

- 1. CLEAN ALL EXISTING SUPPLY AND RETURN ROUND BRANCH DUCTWORK AND RECONNECT TO EXISTING MAIN SUPPLY AND RETURN DUCTWORK.
- 2. DEMOLISH SUPPLY AND RETURN MAIN DUCTWORK PREPARE FOR NEW. COORDINATE EXISTING ROUND SUB-MAINS THAT CONNECT WITH MAIN IN FIELD AND ADJUST ACCORDINGLY.
- 3. DEMOLISH EXHAUST FAN, DUCTWORK AND GRILLE. CAP EXHAUST GRILLE IN SOFFIT. DEMOLISH RETURN REGISTER IN LINEN CLOSET AND DUCT CONNECTION; PREPARE FOR NEW
- 4. REMOVE EXISTING DRYWELLS AND PROVIDE NEW; SEE DETAILS.
- 5. DEMOLISH AND REMOVE CONDENSING UNITS; DEMOLISH REFRIGERANT PIPING TO WITHIN BLDG. AND SEAL BLDG PENETRATIONS WATERTIGHT.
- 6. DEMOLISH AHU AND ASSOCIATED DUCTWORK AND PIPING TO ALLOW FOR NEW. DEMOLISH DUCT HEATER AND PREPARE FOR NEW. DEMOLISH EXISTING OA DUCTWORK TO ALLOW FOR NEW MOTOR OPERATED DAMPER.
- 7. DEMOLISH EXHAUST GRILLE AND PATCH REPAIR DUCTWORK.

**MEZZANINE PLAN**  
1/8" = 1'-0"

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Client Name:

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ORLANDO, FL 32835



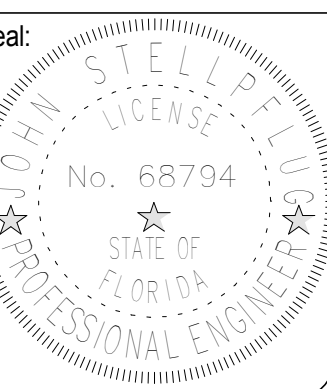
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NO.	DESCRIPTION	DATE

Project Name:

**ORANGE COUNTY**  
FIRE STATION #30  
HVAC REPLACEMENT

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Design By: GJ  
Drawn By: GJ  
Checked By: JS  
Engineer of Record:  
License Number:



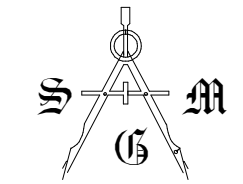
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**MECHANICAL**  
**DEMOLITION FLOOR PLAN**

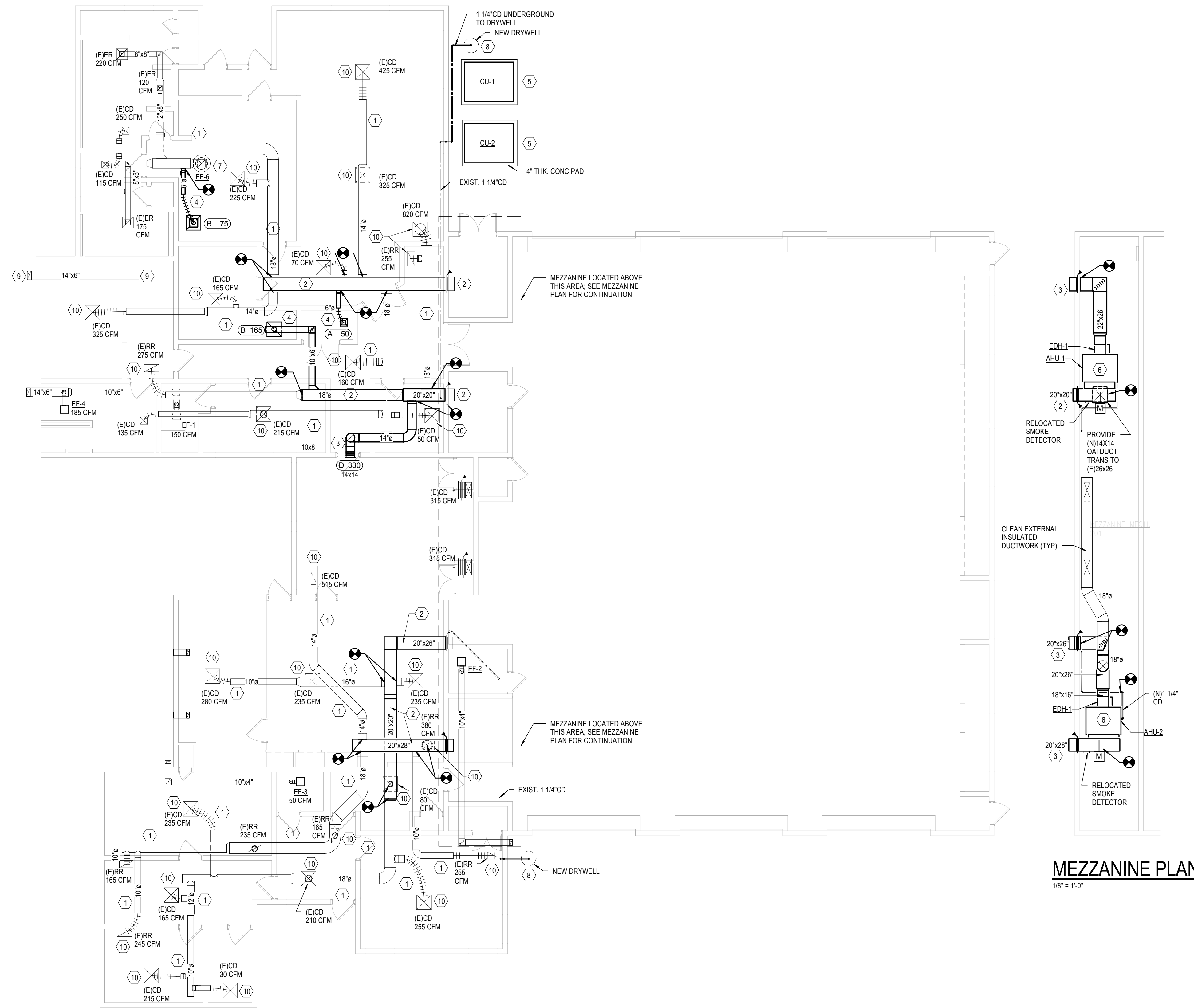
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**M-100**





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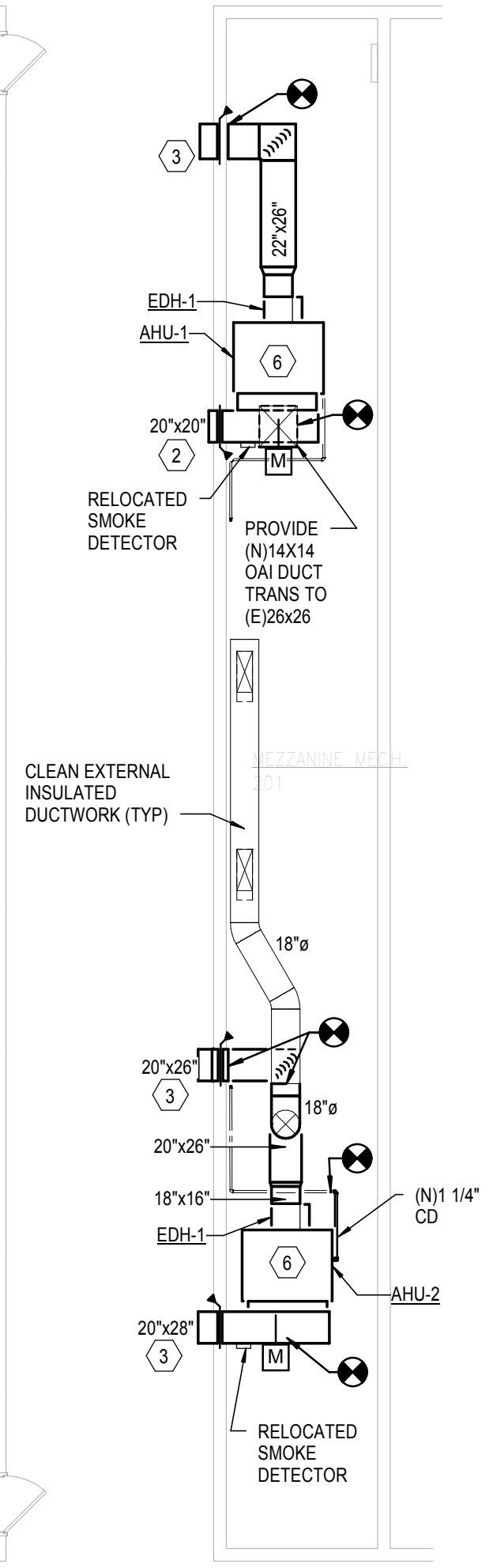


**GENERAL NOTES:**

- A. REFER TO SHEET M0.01 FOR GENERAL NOTES.
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**PLAN KEY NOTES:** (XX)

- 1. CLEAN ALL EXISTING SUPPLY AND RETURN ROUND BRANCH DUCTWORK AND RECONNECT TO EXISTING MAIN SUPPLY AND RETURN DUCTWORK.
- 2. PROVIDE NEW MAIN SUPPLY AND RETURN DUCTWORK AND RECONNECT EXISTING SUPPLY AND RETURN SUB-MAINS AS INDICATED (COORD. WITH EXISTING CONDITIONS). PROVIDE NEW FIRE DAMPERS. PROVIDE NEW 2\"/>



**MEZZANINE PLAN**  
1/8" = 1'-0"

Client Name:  
**ORANGE COUNTY**  
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 20 SOUTH HASTINGS ST.  
 ORLANDO, FL 32835



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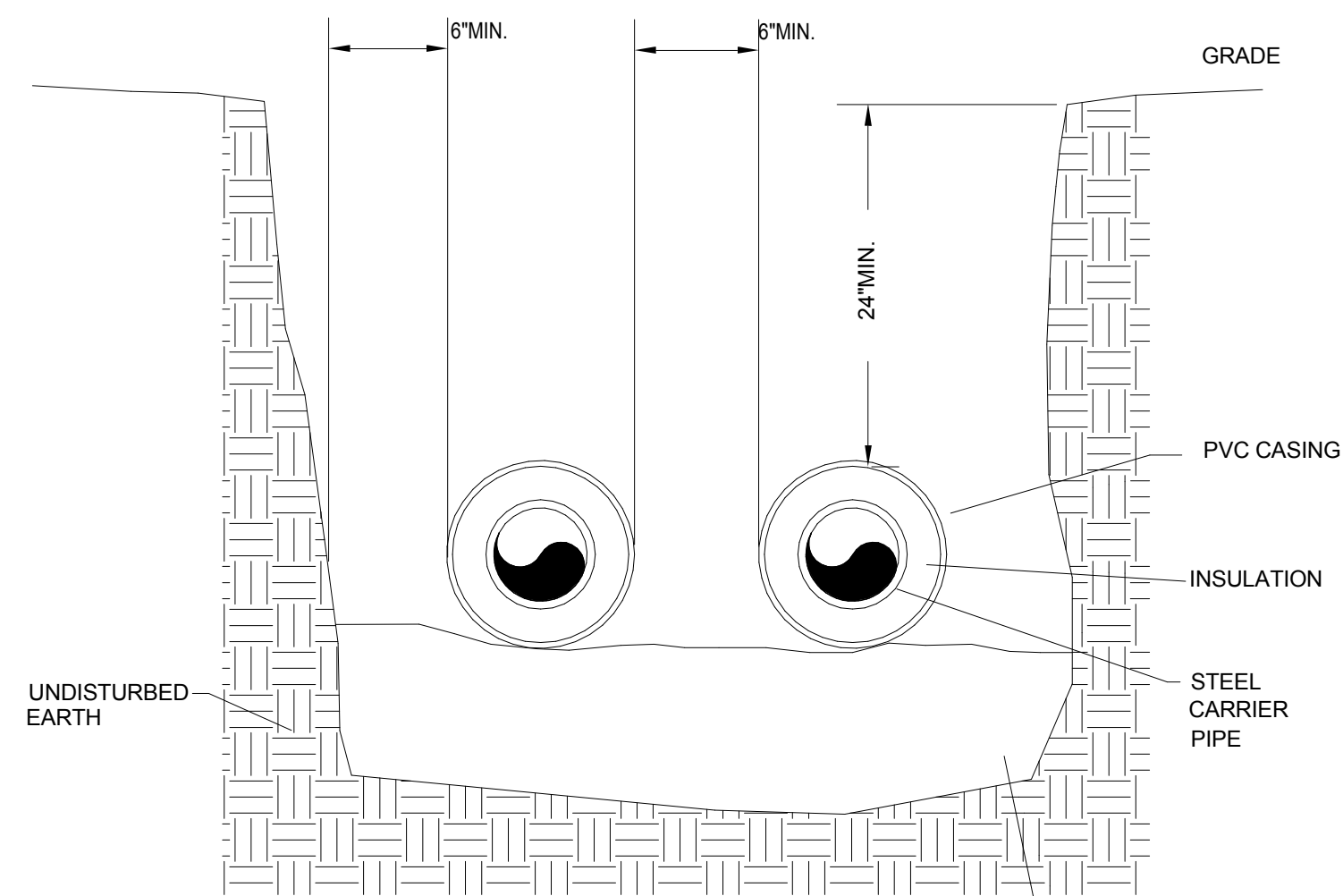
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**FIRE STATION #30**  
**HVAC REPLACEMENT**

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**MECHANICAL FLOOR PLAN**

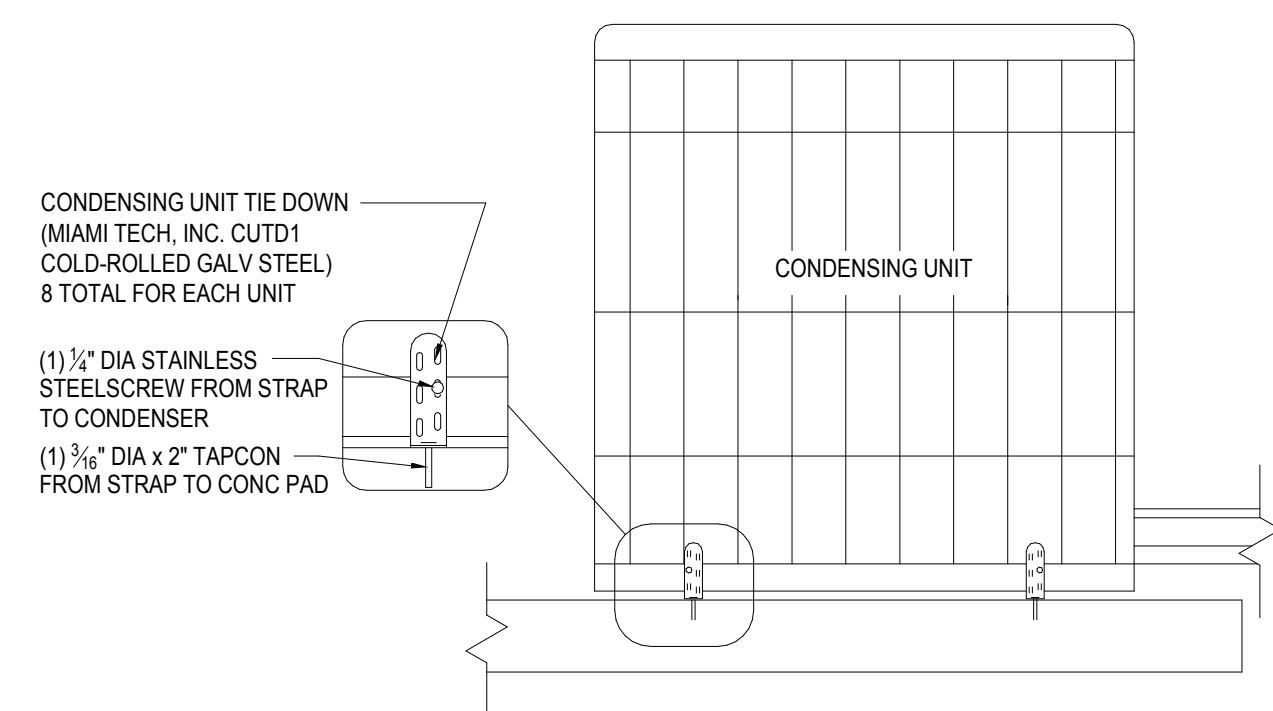
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**M-101**



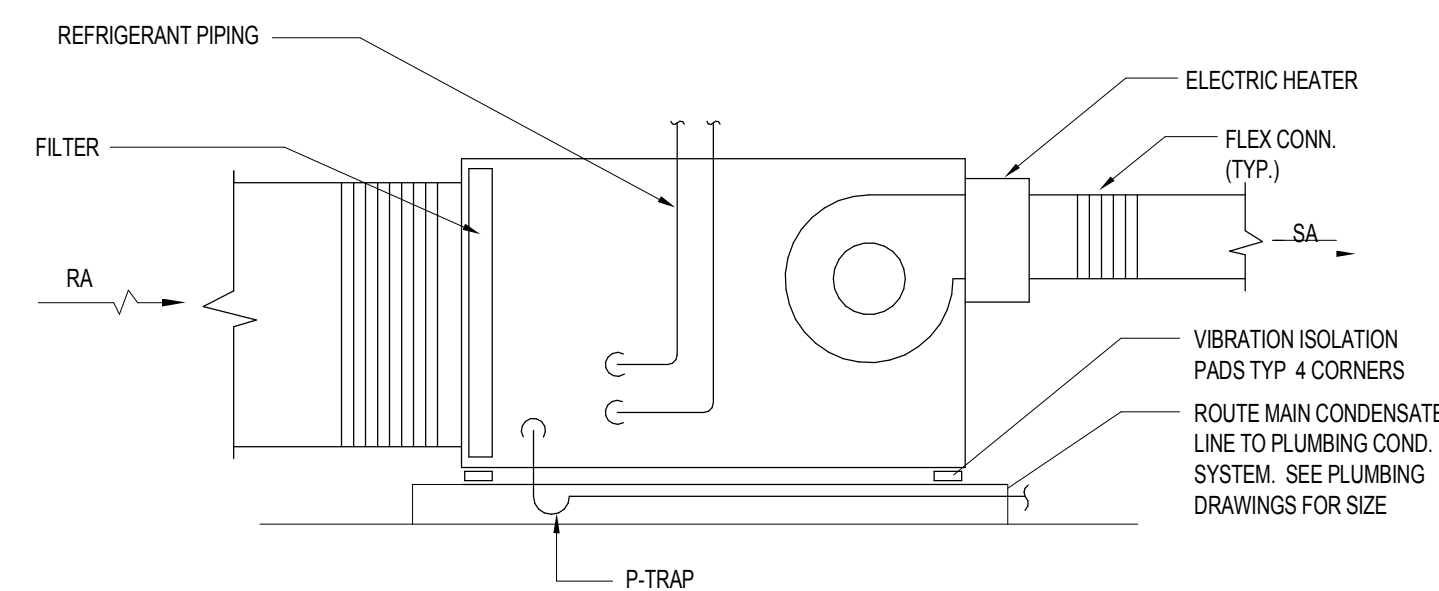
NOTE: COVER DEPTH MAY VARY FROM MINIMUM TO DEPTH NECESSARY FOR COORDINATION WITH SITE UTILITIES. MECHANICAL DRAWINGS DO NOT INDICATE VARYING DEPTHS REQUIRED. ALL CHILLED WATER PIPING SHALL BE COORDINATED WITH EXISTING INSTALLED UTILITIES, ROADWORK, AND UTILITIES YET TO BE INSTALLED. COORDINATION WITH ALL UNDERGROUND UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.

6" DEPTH OF CLEAN BACKFILL BETWEEN PVC CASING AND BOTTOM OF TRENCH

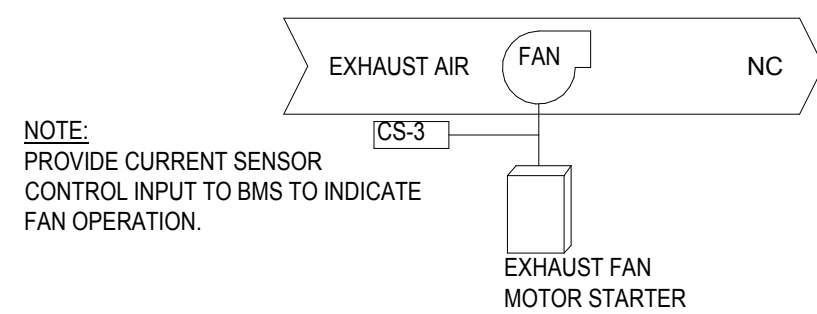
**(UNDERGROUND PIPING) TYPICAL PIPE TRENCH SECTION**  
SCALE: NTS



**TYPICAL CONDENSING UNIT ANCHORING DETAIL**  
NOT TO SCALE



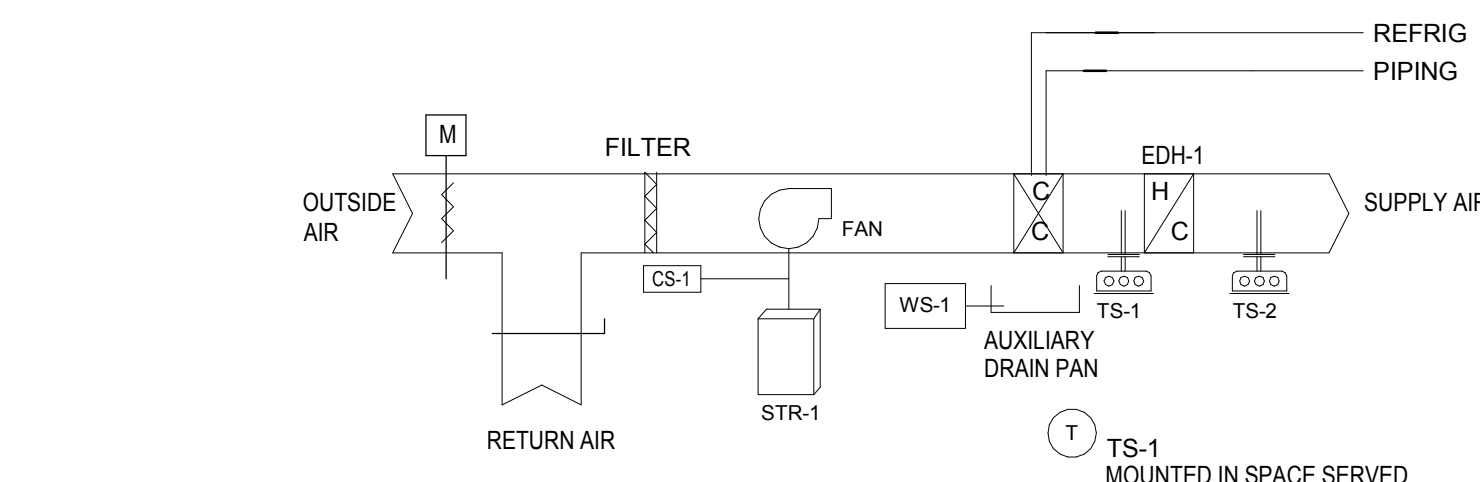
**HORIZONTAL AHU DETAIL**  
No Scale



NOTE: PROVIDE CURRENT SENSOR CONTROL INPUT TO BMS TO INDICATE FAN OPERATION.

EXHAUST FAN SEQUENCE OF OPERATION:  
OCCUPIED MODE: EXHAUST FAN SHALL BE CONTROLLED ON BY THE BMS.  
UNOCCUPIED MODE: THE EXHAUST FANS SHALL BE DEACTIVATED.

**EXHAUST FAN CONTROL DIAGRAM**



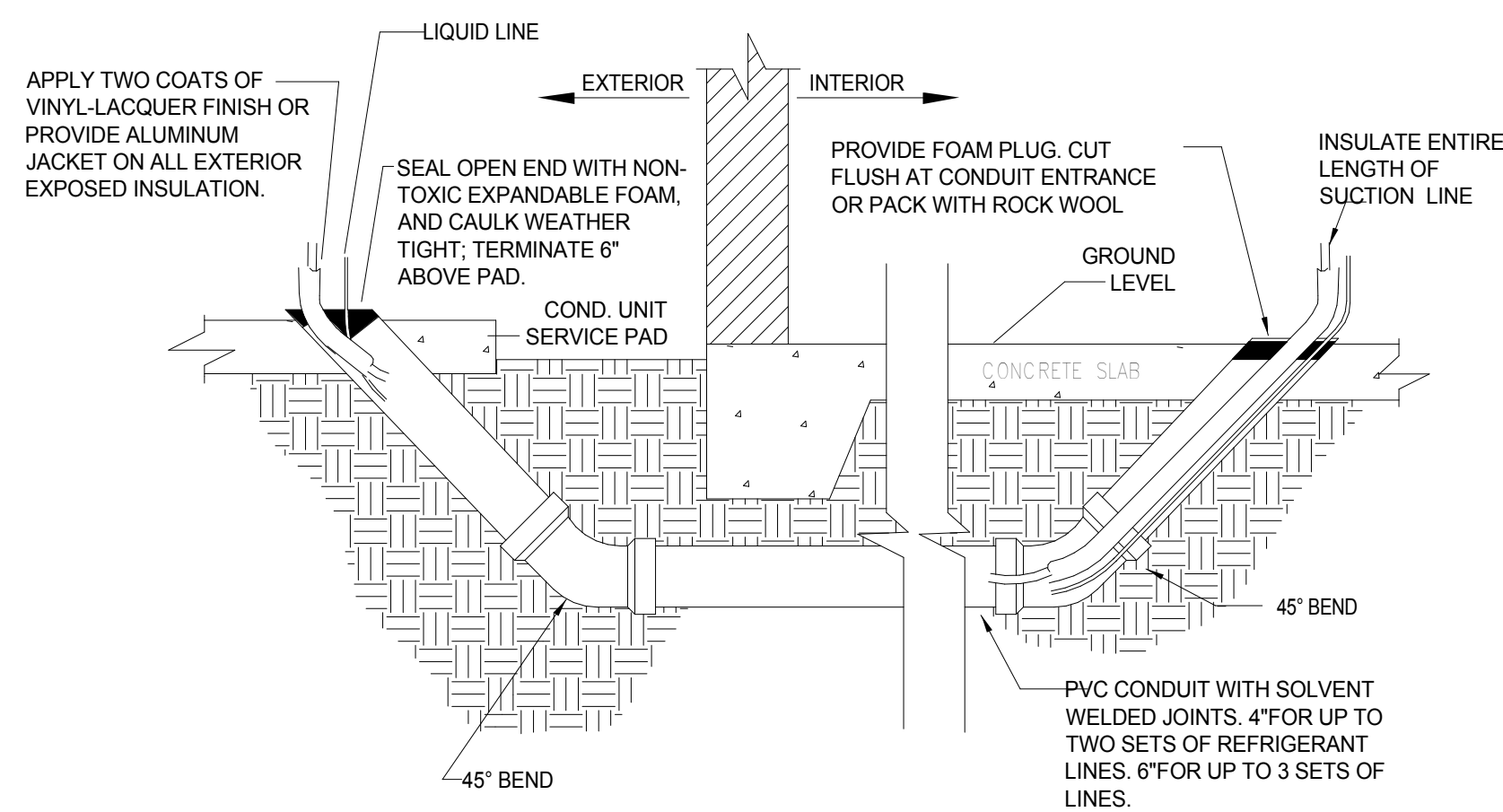
**AIR HANDLING UNIT - SEQUENCE OF OPERATION**

- A. MODES OF OPERATION:
- OCCUPIED MODE & AHU FIRE ALARM SHUTDOWN MODE: ALL MODES SHALL EACH BE COMMANDED BY THE DDC.
  - OCCUPIED MODE: THE SYSTEM SHALL RUN IN OCCUPIED MODE ON A 24 HOUR/7 DAY SCHEDULE. THE SUPPLY FAN SHALL BE RUN AND THE MOTORIZED OUTSIDE AIR DAMPER SHALL BE OPEN TO BALANCED POSITION. THE CONDENSING UNIT COMPRESSORS SHALL BE STAGED TO CONTROL A COOLING COIL DISCHARGE AIR TEMPERATURE OF 55°F (ADJ.). THE HOT GAS REHEAT SHALL CONTROL SPACE TEMPERATURE OF 75°F (ADJ.). ON A CONTINUED DROP IN SPACE TEMPERATURE BELOW 66°F (ADJ.), THE ELECTRIC HEAT SHALL BE STAGED TO MAINTAIN HEAT SETPOINT. WHEN UNIT IS POWERED OFF THE OUTSIDE AIR DAMPER SHALL CLOSE.

- FIRE ALARM SHUTDOWN MODE: ON A SIGNAL FROM FIRE ALARM, THE ASSOCIATED AHU SHALL SHUT DOWN AND THE OUTSIDE AIR DAMPER SHALL CLOSE. ON A CLEAR SIGNAL, THE AHU SHALL BE RE-ACTIVATED AND THE OUTSIDE AIR DAMPER SHALL RE-OPEN AND THE SYSTEM SHALL ASSUME REGULAR OPERATION.
- HORIZONTAL UNITS SUSPENDED ABOVE CEILINGS SHALL INCLUDE A FLOAT SWITCH IN THE DRAIN PAN THAT WILL SHUT DOWN THE ASSOCIATED AHU ON HIGH LIMIT OVERFLOW AND SEND AN ALARM TO THE BMS.
- THE BMS SHALL AT A MINIMUM DISPLAY THE FOLLOWING:
  - COOLING COIL DISCHARGE AIR TEMPERATURE
  - ELECTRIC HEATER DISCHARGE TEMPERATURE
  - SPACE TEMPERATURE
  - DAMPER POSITION (OPEN/CLOSED)
  - FAN STATUS
  - ELECTRIC HEAT STATUS
  - CONDENSER COMPRESSOR STATUS (EACH COMPRESSOR)
  - EXH FAN STATUS (TYP)

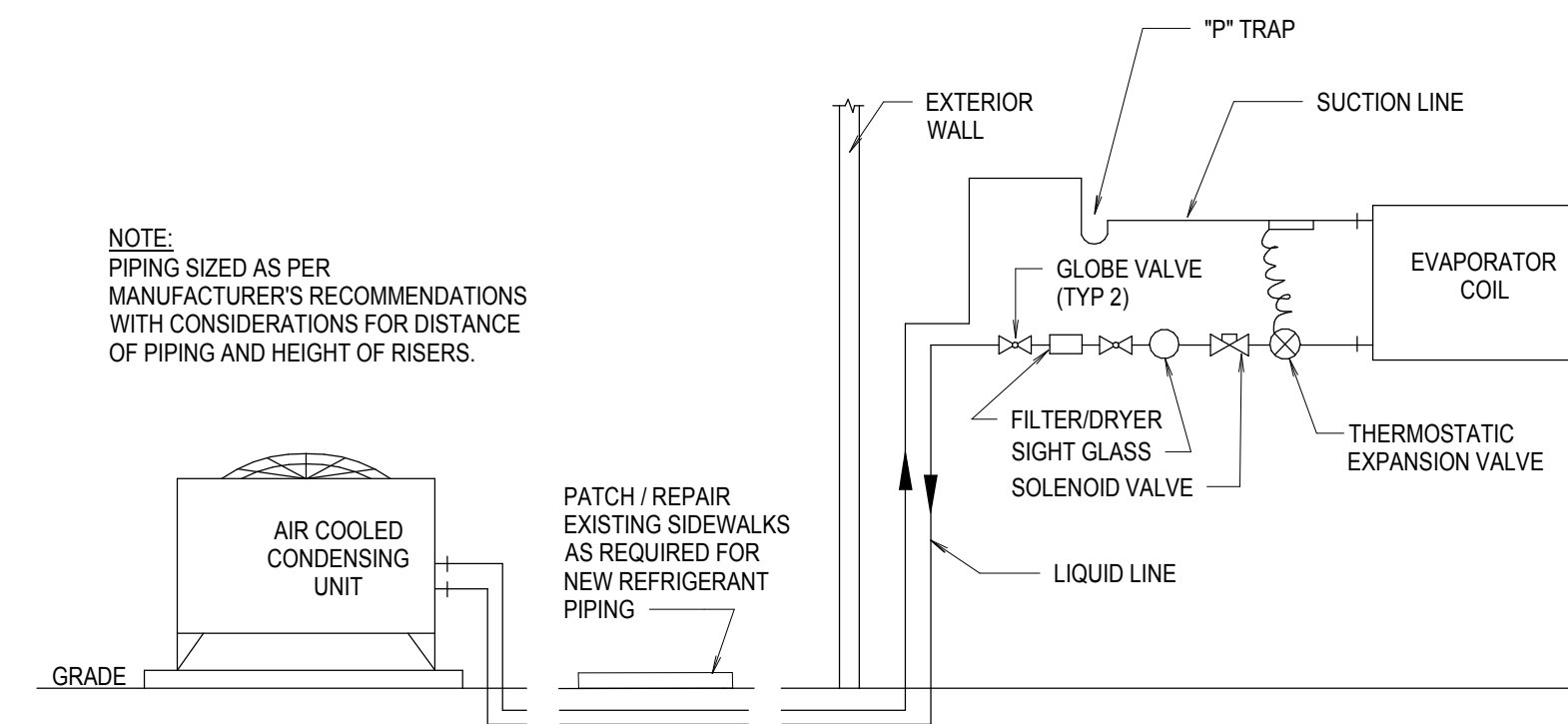
**AIR HANDLING UNIT CONTROL DIAGRAM**

NTS



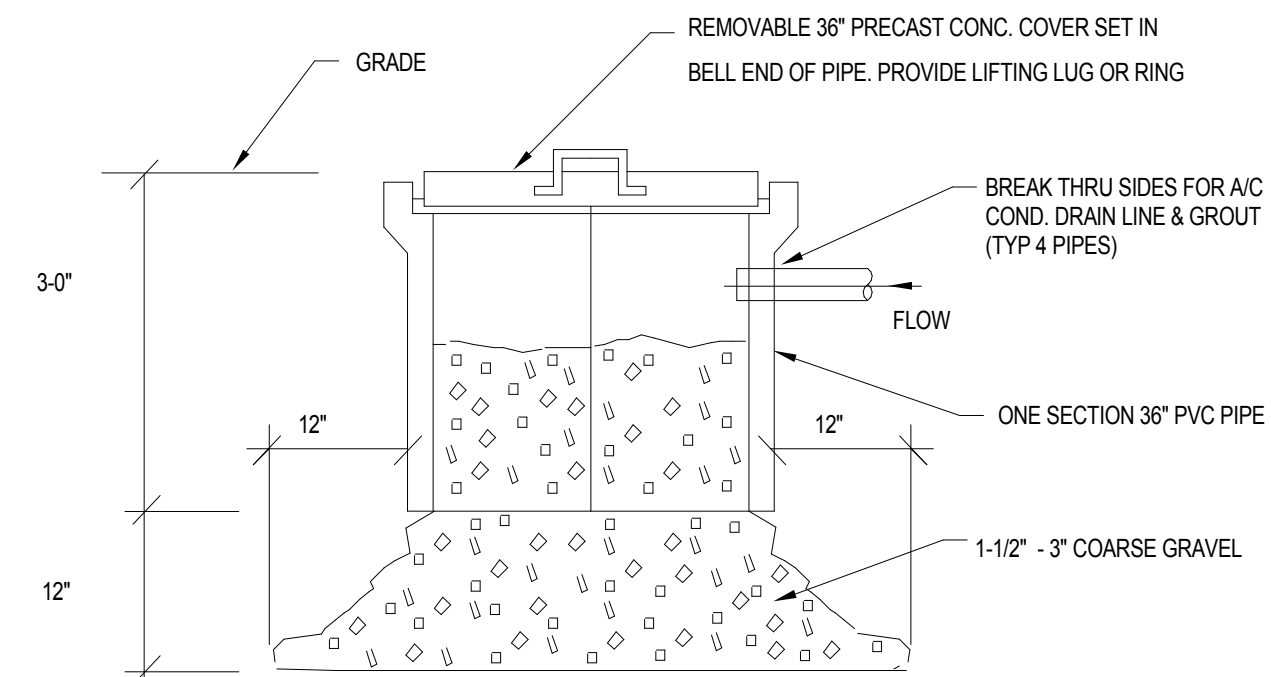
**REFRIGERANT LINE SET DETAIL**

SCALE: NTS



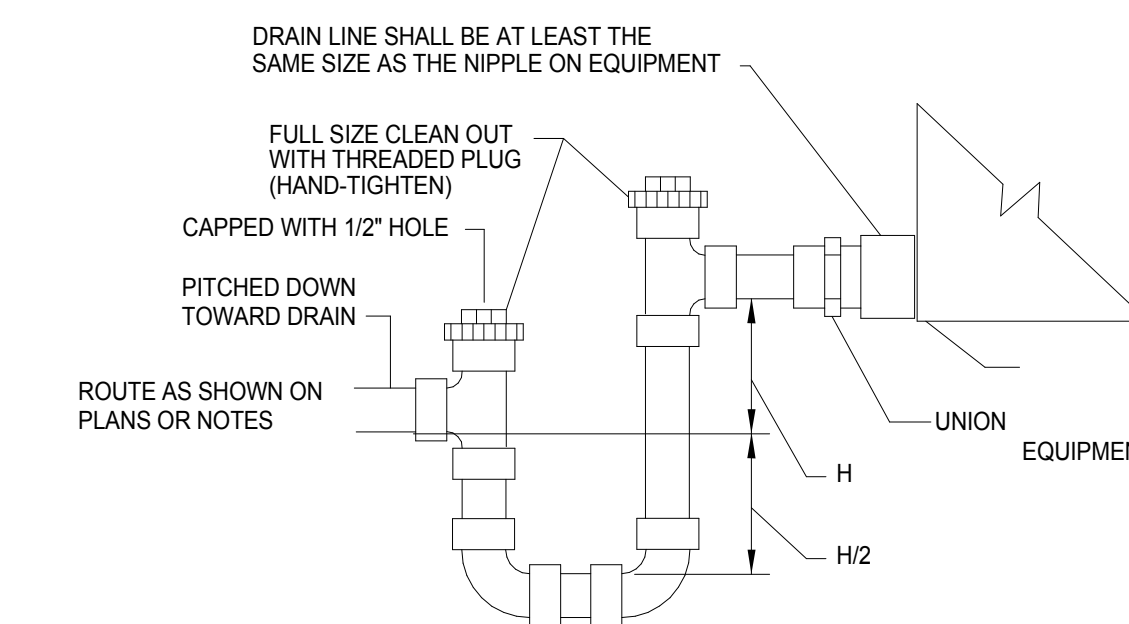
**REFRIGERANT PIPING DETAIL**

SCALE: NTS



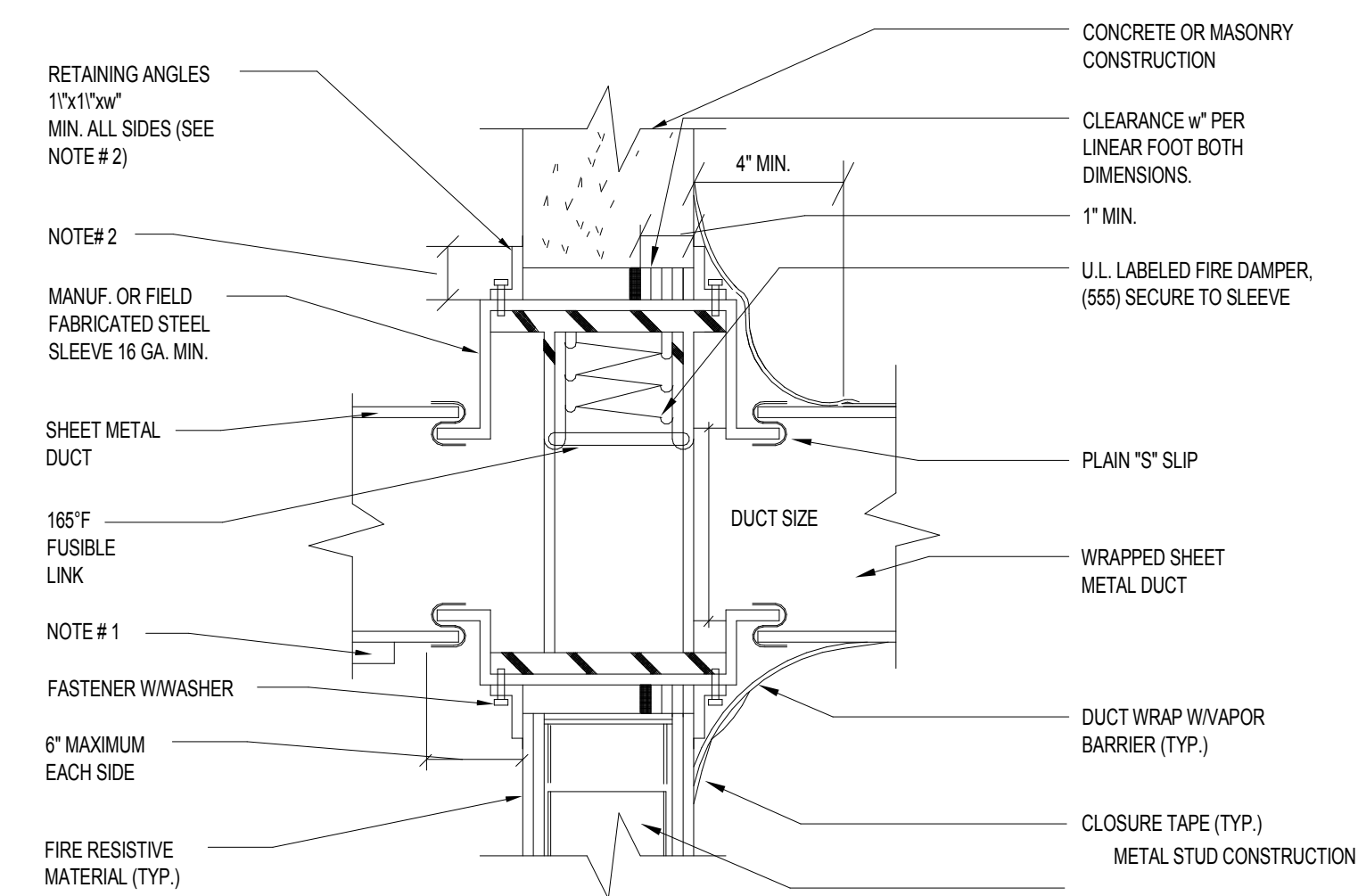
**DRYWELL DETAIL**

NOT TO SCALE



**DRAW-THRU CONDENSATE DRAIN TRAP**

SCALE: NTS



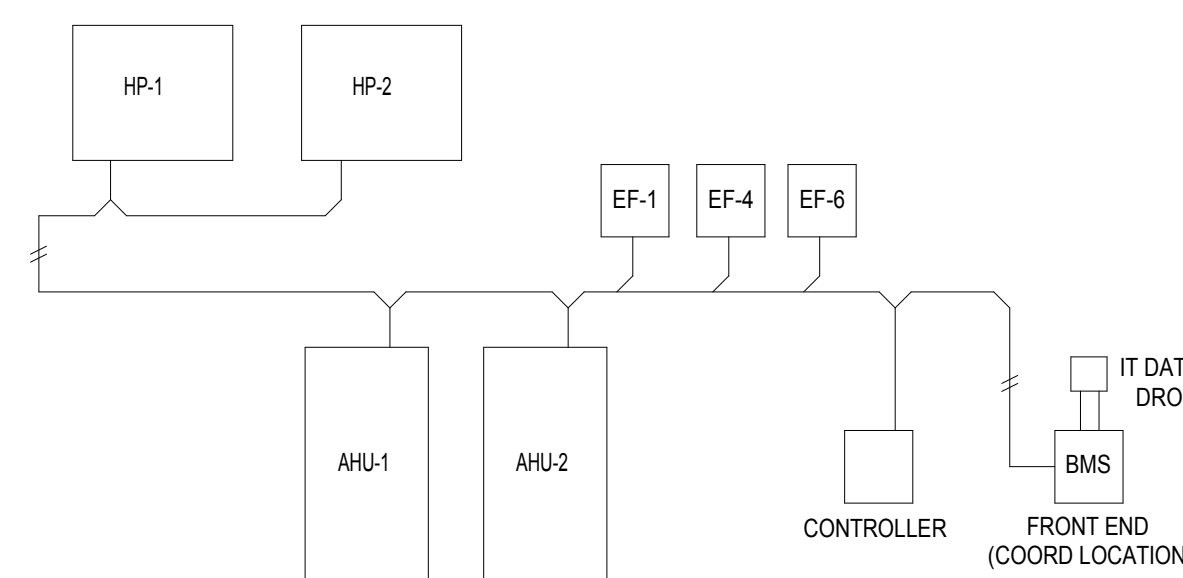
**NOTES:**

- PROVIDE ACCESS DOOR & LABEL ON SIDE OR BOTTOM OF DUCT AS FOLLOWS:
 

DUCT WIDTH	DOOR SIZE
10" THRU 12"	8" x 6"
14" THRU 20"	12" x 12"
22" AND ABOVE	18" x 18"
- 1 1/2" RETAINING ANGLES SHALL LAP STRUCTURAL OPENING 1" MIN. & COVER CORNERS OF OPENINGS. ANGLES ATTACH TO SLEEVE ONLY AND MUST NOT BE ATTACHED TO EACH OTHER AT CORNERS OR TO WALL.
- ALL ATTACHMENTS PER MANUFACTURER'S APPROVED INSTALLATION INSTRUCTION.
- VERTICAL POSITION SHOWN. HORIZONTAL INSTALLATION SIMILAR. DAMPER TO BE SPRING LOADED WHEN HORIZONTAL.

**FIRE DAMPER INSTALLATION**

No Scale



**BMS SYSTEM ARCHITECTURE**

No Scale

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Client Name:

**ORANGE COUNTY**  
FIRE STATION #30  
20 SOUTH HASTINGS ST.  
ORLANDO, FL 32835



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NO.	DESCRIPTION	DATE

Project Name:

**ORANGE COUNTY**  
FIRE STATION #30  
HVAC REPLACEMENT

Scale: 12" = 1'-0"

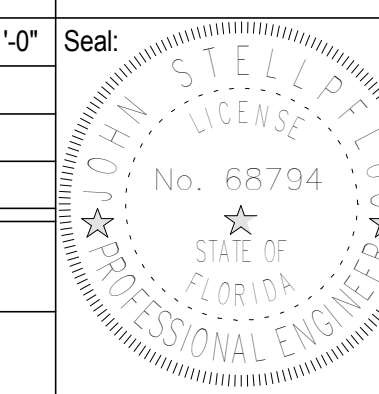
Design By: GJ

Drawn By: GJ

Checked By: JS

Engineer of Record:

License Number:

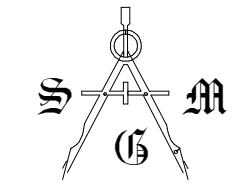


Sheet Name:

**MECHANICAL DETAILS & CONTROLS**

Sheet Number:

**M-501**



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Project Name:

**ORANGE COUNTY**  
 FIRE STATION #30  
 HVAC REPLACEMENT

Scale: 12" = 1'-0" Seal:

Design By: ME  
 Drawn By: ME  
 Checked By: JM

Engineer of Record:

License Number:

Sheet Name:

**ELECTRICAL LEGENDS,  
 NOTES & SYMBOLS**

Sheet Number:

**E-001**

**LIGHTING FIXTURES**

- 1x4 FIXTURE
- 2x2 FIXTURE
- 2x4 FIXTURE
- 4' WALL MOUNT FIXTURE
- 4' WALL MOUNT FIXTURE, EMERGENCY
- 1x4 FIXTURE, BATTERY/EMERGENCY
- 2x2 FIXTURE, BATTERY/EMERGENCY
- 2x4 FIXTURE, BATTERY/EMERGENCY
- 4' STRIP FIXTURE
- 4' STRIP FIXTURE, BATTERY/EMERGENCY
- 4' STRIP FIXTURE, WALL MOUNTED
- 4' STRIP FIXTURE, WALL MOUNTED, BATTERY/EMERGENCY
- TRACK FIXTURE
- CEILING MOUNTED RECESSED, DOWN LIGHT
- CEILING MOUNTED RECESSED, EMERGENCY DOWN LIGHT
- CEILING MOUNTED RECESSED, WALL WASHER (ARROW INDICATES DIRECTION OF WASH)
- SURFACE MOUNTED LIGHTING FIXTURE
- WALL MOUNTED SCONCE FIXTURE, BATTERY/EMERGENCY
- FLOOD LIGHT FIXTURE
- EMERGENCY LIGHT FIXTURE
- SINGLE FACE EXIT LIGHT FIXTURE
- DOUBLE FACE EXIT LIGHT FIXTURE
- DIRECTION OF EGRESS POLE MOUNTED SITE LIGHTING FIXTURE
- RECTANGLES INDICATE NUMBER OF FIXTURES
- SINGLE POLE MOUNT LUMINAIRE
- BOLLARD OR PENDANT LIGHT FIXTURE
- BOLLARD OR PENDANT LUMINAIRE, EMERGENCY

**SWITCHES**

- SWITCH
- SWITCH, 2 POLE
- SWITCH, 3-WAY
- SWITCH, 4-WAY
- SWITCH - LINE VOLTAGE TIMER, 120/277 VAC.
- WATTSTOPPER
- TS-400 OR EQUAL
- SWITCH - PILOT LIGHT
- SWITCH, 1 POLE, LETTER INDICATES SWITCHLEG CONTROLLED.
- SWITCH, 3-WAY, LETTER INDICATES SWITCHLEG CONTROLLED
- SWITCH, KEYSWITCH, 3-WAY
- SWITCH, KEYSWITCH
- MOTOR RATED SWITCH
- SWITCH, EXPLOSION PROOF
- SWITCH, LOW VOLTAGE MOMENTARY
- SWITCH, WEATHERPROOF

**LIGHTING CONTROL DEVICES**

- PHOTOCELL
- TIMECLOCK
- LIGHTING CONTACTOR
- \*PIR-WALL MOUNT SENSOR, LOW TEMP, 24 VDC/AC, 20mA
- \*PIR-CEILING MOUNT SENSOR 24 VDC/VAC, 11mA
- WATTSTOPPER
- \*DUAL ULTRASONIC/PIR-CEILING MOUNT SENSOR, 24 VDC/VAC, 35mA
- \*DUAL ULTRASONIC/PIR-WALL MOUNT SENSOR, 24 VDC/VAC, 35mA
- \*WATTSTOPPER DT-205 OR EQUAL
- \*ULTRASONIC-CEILING CORRIDOR MOTION SENSOR, 24 VDC/VAC, 40mA
- \*PIR-WALL SWITCH DECORATOR MOTION SENSOR, 120/277 VAC, 800/1200W, WATTSTOPPER PW-100 OR EQUAL
- \*DUAL ULTRASONIC/PIR-WALL SWITCH DECORATOR MOTION SENSOR, 120/277VAC, 800/1200W, WATTSTOPPER DW-100 OR EQUAL
- \*DUAL ULTRASONIC/PIR-DUAL RELAY WALL SWITCH DECORATOR MOTION SENSOR, 120/277VAC, 800/1200W, WATTSTOPPER DW-200 OR EQUAL
- UL 924 LISTED FAILSAFE EMERGENCY SWITCHING RELAY, LVS EPCA OR EQUAL. LOWER CASE LETTER NEXT TO DEVICE INDICATES SWITCHLEG CONTROLLED.
- POWER PACK 120/277 VAC; 20 AMPS, 225mA SECONDARY
- WATTSTOPPER BZ-250 OR EQUAL
- \*FOR LOW VOLTAGE OCCUPANCY SENSORS, PROVIDE POWER PACK(S) 120/277 VAC; 20 AMPS, 225mA SECONDARY AS NEEDED FOR ZONE/AREA CONTROL. WATTSTOPPER BZ-250 OR EQUAL.

**POWER DISTRIBUTION**

- 120/208V PANELBOARD, RECESSED
- 120/208V PANELBOARD, SURFACE MOUNT
- 277/480V PANELBOARD, SURFACE MOUNT
- 277/480V PANELBOARD, RECESSED
- FEEDER OR BRANCH CIRCUIT CONCEALED IN WALL, CEILING OR FLOOR
- HOMERUN CONSISTING OF ONE SINGLE-PHASE, 1-POLE CIRCUIT. SEE SPECIFICATIONS AND/OR FEEDER SCHEDULES FOR WIRE SIZES. PANELBOARD AND CIRCUIT DESIGNATION ARE INDICATED.
- HOMERUN CONSISTING OF ONE SINGLE-PHASE, 2-POLE CIRCUIT. SEE SPECIFICATIONS AND/OR FEEDER SCHEDULES FOR WIRE SIZES. PANELBOARD AND CIRCUIT DESIGNATIONS ARE INDICATED.
- HOMERUN CONSISTING OF TWO SINGLE-PHASE CIRCUITS. SEE SPECIFICATIONS AND/OR FEEDER SCHEDULES FOR WIRE SIZES. PANELBOARD AND CIRCUIT DESIGNATIONS ARE INDICATED.
- HOMERUN CONSISTING OF THREE SINGLE-PHASE CIRCUITS. SEE SPECIFICATIONS AND/OR FEEDER SCHEDULES FOR WIRE SIZES. PANELBOARD AND CIRCUIT DESIGNATIONS ARE INDICATED.
- HOMERUN CONSISTING OF ONE THREE-PHASE CIRCUITS. SEE SPECIFICATIONS AND/OR FEEDER SCHEDULES FOR WIRE SIZES. PANELBOARD AND CIRCUIT DESIGNATIONS ARE INDICATED.

**POWER DEVICES**

- SINGLE RECEPTACLE
- DUPLEX RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- ABOVE COUNTER DUPLEX RECEPTACLE
- DUPLEX RECEPTACLE, HALF SWITCHED
- SPECIAL PURPOSE RECEPTACLE
- SINGLE 250V NON-LOCKING TYPE RECEPTACLE
- DUPLEX RECEPTACLE FOR COMPUTER WORKSTATION
- QUAD RECEPTACLE FOR COMPUTER WORKSTATION
- DUPLEX RECEPTACLE FOR TV LOCATED AT 84" AFF UNLESS OTHERWISE NOTED
- DUPLEX RECEPTACLE FOR TV LOCATED AT 18" AFF. LOCATE IN COMMON BOX WITH CCTV CEILING MOUNTED RECEPTACLE
- RECESSED FLOOR RECEPTACLE
- DUPLEX RECEPTACLE, GROUND FAULT
- DUPLEX RECEPTACLE, GROUND FAULT, ABOVE COUNTER
- QUAD RECEPTACLE, GROUND FAULT
- DUPLEX RECEPTACLE, GROUND FAULT WITH CAST ALUMINUM WEATHERPROOF "IN USE" COVER
- QUAD RECEPTACLE, GROUND FAULT WITH CAST ALUMINUM WEATHERPROOF "IN USE" COVER
- DUPLEX RECEPTACLE, GROUND FAULT LOCATE WITHIN ELECTRIC WATER COOLER PER MANUFACTURER'S INSTRUCTIONS
- POWER/DATA POLE
- POWER POLE
- DISCONNECT SWITCH
- MOTOR STARTER
- STARTER/DISCONNECT SWITCH
- VARIABLE FREQUENCY DRIVE
- JUNCTION BOX
- FLOOR MOUNTED JUNCTION BOX
- PULL BOX
- EQUIPMENT CONNECTION
- DOOR BELL PUSH BUTTON
- TRANSFORMER
- DOOR BELL
- SHUNT TRIP. MTD. AT 6"-5" AFF/AFG TO TOP OF ENCLOSURE

- MOTOR
- GENERATOR
- LOCKBOX
- GROUND BUS BAR
- GROUND ROD WITH TEST INSPECTION WELL. SEE SPECIFICATIONS
- SURGE PROTECTION DEVICE. SEE SPECIFICATIONS.

**LIGHTNING PROTECTION**

- AIR TERMINAL (ALUMINUM CLASS 1 MIN).
- ROOFTOP MAIN CONDUCTOR, RUN EXPOSED ACROSS ROOF.
- DOWN CONDUCTOR, RUN CONCEALED IN STRUCTURE - COPPER CLASS 1
- COPPER-CLAD DRIVEN GROUND ROD AND TEST WELL. SEE SPECIFICATIONS.
- BOLTED 3-WAY SPLICE
- BOLTED 4-WAY SPLICE

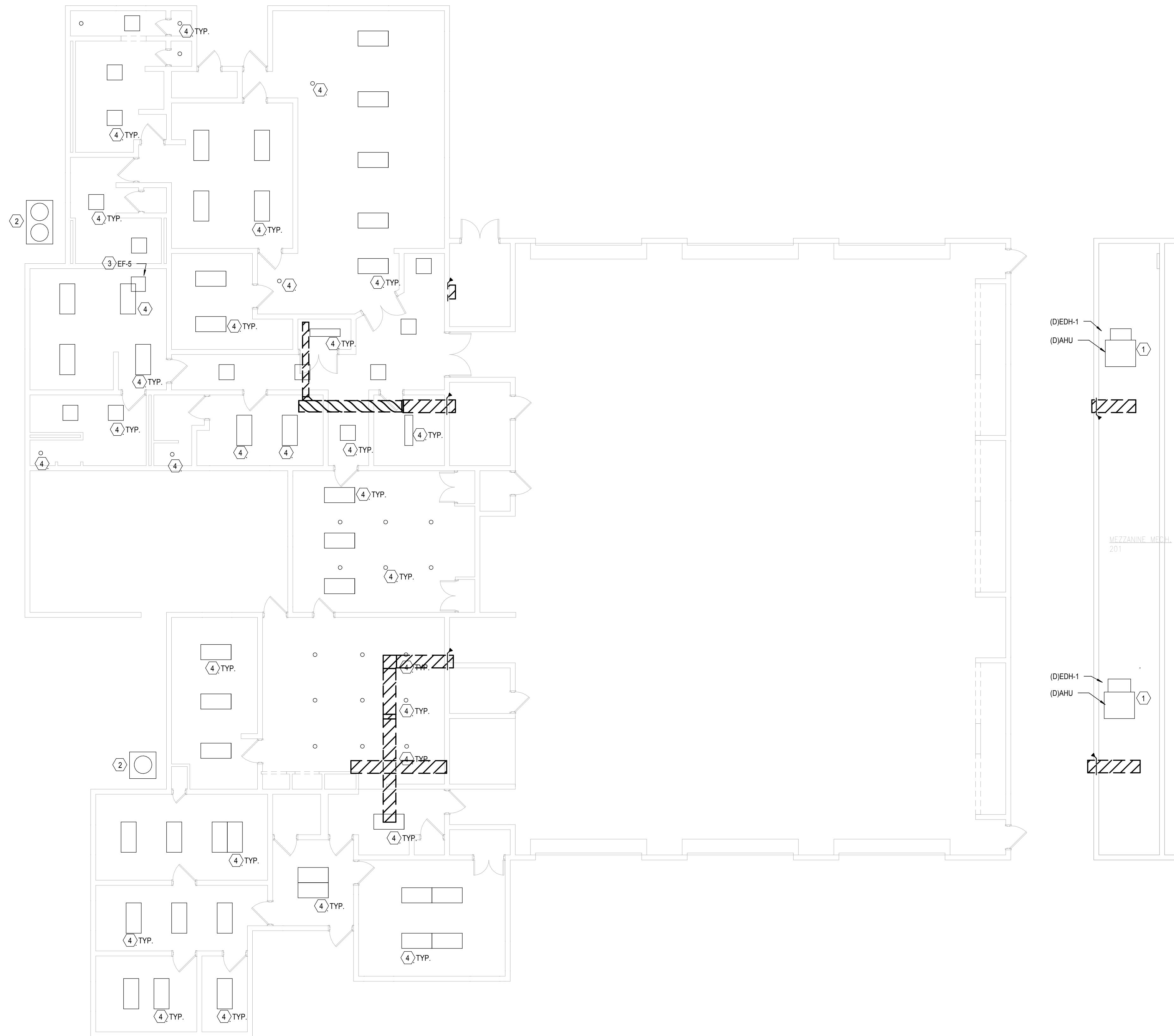
**MISCELLANEOUS SYMBOL LEGEND**

- DETAIL NUMBER
- SCALE: DETAIL TITLE REFERENCE
- SHEET NUMBER WHERE DETAIL IS REFERENCED
- ADDITIONAL SHEET REFERENCES
- DETAIL NUMBER
- SHEET NUMBER TO WHERE DETAIL IS REFERENCED

**ABBREVIATIONS**

A	AMPERES	EXIST	EXISTING	MCB	MAIN CIRCUIT BREAKER
AE	AUDIO ENHANCEMENT	EXP	EXPLOSION PROOF	MCC	MOTOR CONTROL CENTER
AFC	ABOVE FINISHED CEILING	FA	FIRE ALARM	MCP	MOTOR CIRCUIT PROTECTOR
AFB	ABOVE FINISHED FLOOR	FLA	FULL LOAD AMPERES	MFR	MANUFACTURER
AFG	ABOVE FINISHED GRADE	FLUOR	FLUORESCENT	MH	METAL HALIDE
AIC	AMPERES INTERRUPTING CAPACITY	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	MIN	MINIMUM
AL	ALUMINUM	GFP	GROUND FAULT PROTECTION	MISC	MISCELLANEOUS
AWG	AMERICAN WIRE GAUGE	GND	GROUND	MMS	MANUAL MOTOR STARTER SWITCH
BFC	BELOW FINISHED CEILING	HGT	HEIGHT	MTR	MOTOR
BFG	BELOW FINISHED GRADE	HID	HIGH INTENSITY DISCHARGE	MTD	MOUNTED
C	CONDUIT	HPS	HIGH PRESSURE SODIUM	MTG	MOUNTING
CAB	CABINET	HOA	HAND-OFF-AUTOMATIC	NAC	NOTIFICATION APPLIANCE CIRCUIT
CKT	CIRCUIT	HP	HORSEPOWER	NEC	NATIONAL ELECTRICAL CODE
CLG	CEILING	HVAC	HEATING/VENTILATING/AIR CONDITIONING	NL	NIGHT LIGHT, UNSWITCHED
CL	CENTERLINE	HV	HIGH VOLTAGE	PNL	PANEL
CT's	CURRENT TRANSFORMERS	INC	INCANDESCENT	PSI	PULL STATION INSIDE
CU	COPPER	JB	JUNCTION BOX	PVC	POLYVINYL CHLORIDE
DISC	DISCONNECT(ING)	kV	KILO-VOLTS	REC	RECEPTACLE
DWG	DRAWING(S)	kVA	KILO-VOLTS-AMPERES	RGS	RIGID GALVANIZED STEEL
EA	EACH	kVAR	KILO-VOLTS-AMPERES REACTIVE	SPD	SURGE PROTECTION DEVICE
ECB	ENCLOSED CIRCUIT BREAKER	kWH	KILO-WATT-HOURS	TEL	TELEPHONE
EF	EXHAUST FAN	LTG	LIGHTING	TYP	TYPICAL
EMT	ELECTRICAL METALLIC TUBING	m	METER	UON	UNLESS OTHERWISE NOTED
EQUIP	EQUIPMENT	mm	MILLIMETER	V	VOLTS
EUH	ELECTRIC UNIT HEATER	MAX	MAXIMUM	VA	VOLT-AMPERES
EWC	ELECTRIC WATER COOLER			VFD	VARIABLE FREQUENCY DRIVE
EWH	ELECTRIC WATER HEATER			W	WATTS
EXH	EXHAUST			WP	WEATHER PROOF
				XFMR	TRANSFORMER

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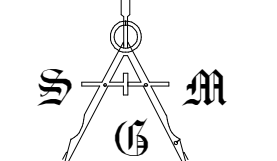


**GENERAL NOTES:**

- a. REFER TO SYMBOL LEGEND ON SHEET E.001.
- b. REFER TO BOOK SPECIFICATIONS.
- c. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS TO COORDINATE EXACT PLACEMENT OF ALL DEVICES, EQUIPMENT, FIXTURES, SWITCHES AND OUTLETS.
- d. REFER TO EQUIPMENT FEEDER SCHEDULES FOR DISCONNECT, CONDUIT AND WIRE SIZES.
- e. ALL FEEDERS ARE TO HAVE LESS THAN 2% TOTAL VOLTAGE DROP AND ALL BRANCH CIRCUITS SHALL HAVE LESS THAN 3% VOLTAGE DROP.
- f. IF CIRCUITS ARE COMBINED AND RUN AS MULTI-WIRE BRANCH CIRCUITS SHARING A COMMON NEUTRAL, THEN EACH UNGROUNDED CONDUCTOR MUST BE DISCONNECTED SIMULTANEOUSLY BY A COMMON TRIP CIRCUIT BREAKER. CONTRACTOR MAY, AT THEIR OPTION, PROVIDE EITHER COMMON TRIP MULTI-POLE CIRCUIT BREAKERS OR UTILIZE MANUFACTURERS LISTED HANDLE TIES IN ORDER TO PROVIDE THE SIMULTANEOUS TRIP. THESE DEVICES ARE NOT SHOWN IN THE PANEL SCHEDULES AND MUST BE PROVIDED BY THIS SCOPE OF WORK. NO MORE THAN 3 CURRENT CARRYING CONDUCTORS MAY BE COMBINED IN A SINGLE RACEWAY WITHOUT PRIOR APPROVAL BY THE ENGINEER OF RECORD (EOR).
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**PLAN KEY NOTES:** (XX)

- 1. AHU AND HEATER IN MEZZANINE TO BE REMOVED AND REPLACED WITH NEW. REFER TO ELECTRICAL FLOOR PLAN E-101 FOR MORE INFORMATION.
- 2. CONDENSING UNIT TO BE REMOVED. REFER TO NEW ELECTRICAL PLANS ON E-101 FOR NEW LOCATION AND LOAD INFORMATION.
- 3. EXHAUST FAN TO BE REMOVED. TIE ALL WIRING BACK TO SOURCE.
- 4. LIGHTING FIXTURES TO BE REMOVED AND REPLACED WITH NEW. PROTECT ALL FEEDERS FOR RENOVATION.

  
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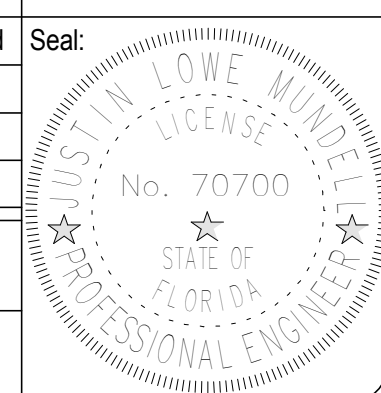
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**FIRE STATION #30**  
 20 SOUTH HASTINGS ST.  
 ORLANDO, FL 32835



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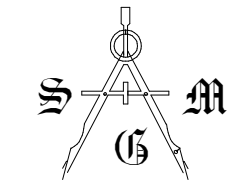
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**FIRE STATION #30**  
**HVAC REPLACEMENT**

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Drawn By: ME	
Checked By: JM	
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Sheet Name:  
**ELECTRICAL DEMOLITION**  
**FLOOR PLAN**

Sheet Number:  
**E-100**

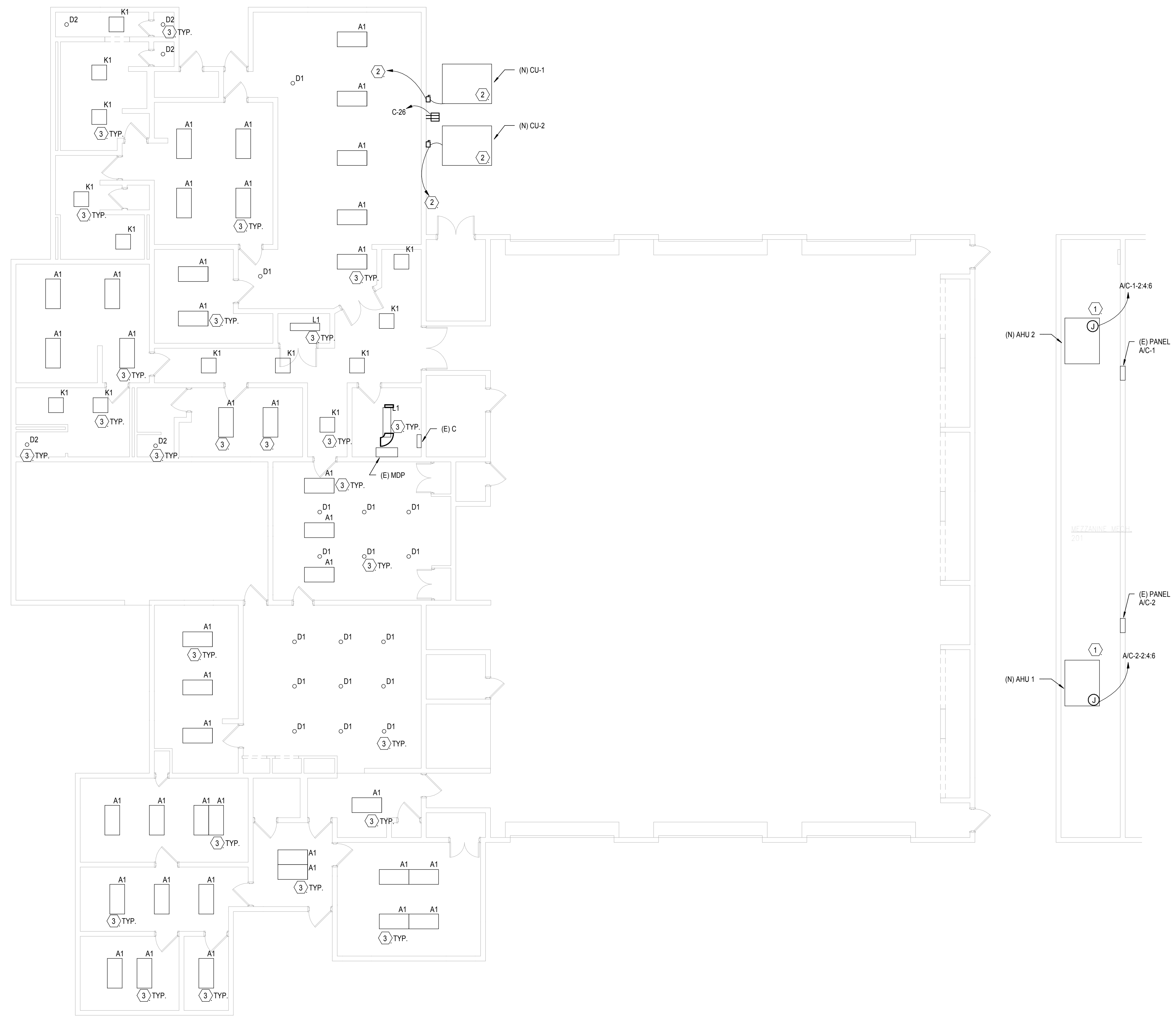


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**GENERAL NOTES:**

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**PLAN KEY NOTES:** (xx)

- 1. NEW AIR HANDLER WITH BUILT IN HEAT TO REPLACE EXISTING.
- 2. NEW CONDENSING UNITS IN NEW LOCATIONS TO BE FED FROM SAME PANEL USING 50A BREAKER IN EXISTING PANEL. REFER TO EQUIPMENT FEEDER SCHEDULE SHEET E-601 FOR MORE INFORMATION ON DISCONNECTS. WIRING TO BE REROUTED AND REUSED.
- 3. NEW LIGHTING TO REPLACE EXISTING. USE EXISTING FEEDERS AND BREAKERS FED FROM SAME PANEL. REFER TO LIGHTING FIXTURE SCHEDULE SHEET E-602 FOR MORE INFORMATION ON LIGHTING TYPES.

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FIRE STATION #30  
HVAC REPLACEMENT**

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Checked By:	JM	
Engineer of Record:		
License Number:		

Sheet Name:

**ELECTRICAL FLOOR PLAN**

Sheet Number:

**E-101**



LIGHT FIXTURE SCHEDULE ORANGE COUNTY FIRE STATION							
TYPE	DESCRIPTION	DESIGN SELECTION	DESIGN SELECTION	DESIGN SELECTION	VOLTS	LAMPS	LUMENS
A1	LED RECESSED ARCHITECTURAL 2 FT X 4 FT. FLAT. CEILING TRIM AS REQUIRED.	COLUMBIA # LCAT24 40 VW G ED U	APPROVED EQUAL	APPROVED EQUAL	UNV	LED 30W	3450
A2	LED RECESSED ARCHITECTURAL 2 FT X 4 FT. FLAT. CEILING TRIM AS REQUIRED.	COLUMBIA # LCAT24 40 HL G ED U	APPROVED EQUAL	APPROVED EQUAL	UNV	LED 47W	6200
D1	RECESSED LED DOWNLIGHT, CLEAR ALZAK REFLECTOR, 6 INCH DIAMETER, UL LISTED FOR DAMP LOCATIONS AND THRU WIRING.	PRESCOLITE# LBP6 6LBP 15L 40K AZ	APPROVED EQUAL	APPROVED EQUAL	UNV	LED 20.2W	1500
D2	RECESSED LED SHOWER LIGHT, TRIM, PRISMATIC LENS, UL WET LOCATION.	PRESCOLITE # LBP6 6LBP 8L 40K WH	APPROVED EQUAL	APPROVED EQUAL	UNV	LED 10.4W	800
G2	FOUR (4) FOOT WRAP AROUND LED, EXTRUDED ACRYLIC DIFFUSER, WHITE END PLATES.	COLUMBIA # LAW4 35 ML ED U	APPROVED EQUAL	APPROVED EQUAL	UNV	LED 48W	4700
J	LED 4' HIGHBAY	COLUMBIA # LLHV 40 L W ST ED	APPROVED EQUAL	APPROVED EQUAL	UNV	LED 98W	12550
K1	LED RECESSED ARCHITECTURAL 2FT X 2FT, FLAT. CEILING TRIM AS REQUIRED.	COLUMBIA # LCAT22 40 VW G ED U	APPROVED EQUAL	APPROVED EQUAL	UNV	LED 14W	1834
L1	LED RECESSED ARCHITECTURAL 1FT X 4FT, FLAT. CEILING TRIM AS REQUIRED.	COLUMBIA # LCAT14 40 VW G ED U	APPROVED EQUAL	APPROVED EQUAL	UNV	LED 19W	2580
SLC	ROOF MOUNTED FLOOD LIGHT. CAST ALUMINUM HOUSING, DARK BRONZE, THREADED KNUCKLE MOUNT WITH ARCHITECTURAL J-BOX, TEMPERED GLASS LENS, MEDIUM SYMMETRIC DIST.	HUBBELL # ARF3 K 426 4K 070 M U DB/LL-VISOR-DB	APPROVED EQUAL	APPROVED EQUAL	UNV	LED 97W	9353
SLD	SIGNAGE LIGHTING, LED IN CROSS SECTION, EXTRUDED ALUMINUM HOUSING, UL WET LOCATION, SPACE 4' ON CENTER	HUBBELL # ALF-12LU-5K-BZ	APPROVED EQUAL	APPROVED EQUAL	UNV	LED 22W	1913
SLU	WALL MOUNTED LED UP/DOWN LIGHT, UL LISTED LOCATION, FINISH BY ARCHITECT	PERFORMANCE IN LIGHTING MIMIK 20 FLAT B # 071186	APPROVED EQUAL	APPROVED EQUAL	UNV	LED 25W	1930
SLW	WALL MOUNTED LED SCONCE, FULL CUTOFF, DIE CAST ALUMINUM HOUSING, WIDE THROW, FLAT GLASS LENS, COLOR AS SELECTED BY ARCHITECT. UL WET LABEL. MOUNTING HEIGHT AS SHOWN ON ARCHITECTURAL ELEVATIONS. PROVIDE WITH BATTERY WHERE INDICATED.	HUBBELL # LNC2 12L U 4K 3 (SPECIFY FINISH) WITH 83044013 DIFFUSER	APPROVED EQUAL	APPROVED EQUAL	120	LED 28W	2662
SLZ	GRADE MOUNTED FLOOD LIGHT. CAST ALUMINUM HOUSING, DARK BRONZE, THREADED KNUCKLE MOUNT WITH ARCHITECTURAL J-BOX, TEMPERED GLASS LENS, MEDIUM SYMMETRIC DIST.	SPALDING # ARF2 K 20L 4K 070 M U FML-VISOR-DB	APPROVED EQUAL	APPROVED EQUAL	UNV	LED 50W	4675
UC	FOUR (4) FOOT UNDER CABINET LED, TRANSLUCENT ACRYLIC LENS, STEEL HOUSING, WHITE FINISH	LUMAX # LEDUC 42 WH	APPROVED EQUAL	APPROVED EQUAL	UNV	LED 15W	1080
W1	24" WIDE WALL MOUNTED BATHROOM LED, STEEL WHITE CANOPY, WHITE GLASS	SUNPARK # FL2103D-B-3000K	APPROVED EQUAL	APPROVED EQUAL	120	LED 23W	1785
WML	OPAL GLASS WALL SCONCE (ADA COMPLAINT) SEE ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHT	SUNPARK # MDF030D-62-3000K	APPROVED EQUAL	APPROVED EQUAL	120	LED 16W	1150
X1	DIE-CAST ALUMINUM LED EXIT SIGN, RED LETTERS, BLACK BODY, BATTERY BACK UP, NUMBER OF FACES AND DIRECTIONAL ARROWS AS SHOWN ON PLANS	COMPASS CCESRE OR CCEDRE	APPROVED EQUAL	APPROVED EQUAL	UNV	LED	
X2	PHOTOLUMINESCENT EXIT SIGN, RED BACKGROUND	MULE # EGX1 10B R	APPROVED EQUAL	APPROVED EQUAL	UNV	LED	
EM	TWIN HEAD, SELF CONTAINED EMERGENCY BATTERY LIGHTING UNIT WITH CHARGER AND TEST SWITCH. WALL MOUNT AT 7'-6" AFF TO TOP.	COMPASS # CU2	APPROVED EQUAL	APPROVED EQUAL	120	FURNISHED	

LIGHTING FIXTURE SCHEDULE GENERAL NOTES:

- CONTRACTOR SHALL CAREFULLY COORDINATE THE LIGHTING FIXTURE TRIM TYPES WITH THE TYPE OF CEILING WHERE THE LIGHTING FIXTURES ARE TO BE INSTALLED. MODIFY FIXTURE CATALOG NUMBER AS REQUIRED TO COORDINATE FIXTURE WITH CEILING.
- CONTRACTOR, AT HIS OPTION, MAY USE A U.L. LISTED FLEXIBLE WIRING SYSTEM FOR LIGHTING FIXTURE BRANCH CIRCUITRY ABOVE ACCESSIBLE LAY-IN CEILINGS. ALL HOMERUNS, CONNECTIONS TO LIGHT SWITCHES, AND BRANCH CIRCUITRY FOR ALL OTHER CEILING CONDITIONS SHALL BE IN A CONVENTIONAL RACEWAY SYSTEM PER SPECIFICATIONS.
- WHEN FIXTURE MODEL NUMBER DIFFERS FROM FIXTURE DESCRIPTION, CONTRACTOR IS TO SUBMIT RFI REQUESTING CLARIFICATION PRIOR TO BID. PRIOR TO SHOP DRAWING SUBMITTAL AND PRIOR TO ORDERING OF FIXTURE. WHERE CONTRACTOR DOES NOT REQUEST CLARIFICATION PRIOR TO BID, CONTRACTOR SHALL PROVIDE THE MOST EXPENSIVE OPTION BETWEEN A FIXTURE THAT MATCHES THE DESCRIPTION AND FIXTURE THAT MATCHES THE MODEL N

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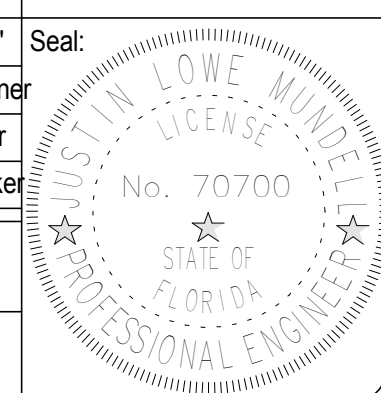


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Scale:	12" = 1'-0"	Seal:	
Design By:	Designer	Author	
Drawn By:			
Checked By:			
Engineer of Record:			
License Number:			

Sheet Name:

**ELECTRICAL SCHEDULES**

Sheet Number:

**E-602**