

State of Utah—Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION
AND MANAGEMENT

4110 State Office Building/Salt Lake City, Utah 84114/538-3018

Utah State Capital Building Suite #58 Remodel

Salt Lake City, Utah 84103

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FIRE PROTECTION GENERAL INFORMATION
PARTIAL BASEMENT LEVEL DEMOLITION FIRE PROTECTION PLAN
PARTIAL BASEMENT LEVEL FIRE PROTECTION PLAN

CODE ANALYSIS

APPLICABLE CODES		
	Year	Year
International Building Code	2012	National Electrical Code 2011
International Mechanical Code	2012	Uniform Code for
International Plumbing Code	2012	Building Conservation
International Fire Code	2012	ADA Accessibility
International Energy Conservation Code	2012	Guidelines

A. Occupancy and Group: 304 B
Change in Use: Yes No Mixed Occupancy: Yes X No
Special Use and Occupancy (e.g. High Rise, Covered Mall): N/A

B. Seismic Design Category: Design Wind Speed: mph

C. Type of Construction (circle one):
I I I I I I I I I I
A B A B A B HT A B

D. Fire Resistance Rating: Requirements for the Exterior Walls based on the fire separation distance (in hours):
North: South: East: West:

E. Mixed Occupancies: YES Nonseparated Uses:

F. Sprinklers:
Required: X Provided: X Type of Sprinkler System:

G. Number of Stories: Building Height:

H. Actual Area per Floor (square feet):

I. Tabular Area: EXISTING

J. Area Modifications:

$$a) A_s = A_1 + \left[\frac{A_1 I_1}{100} \right] + \left[\frac{A_1 I_2}{100} \right] \quad I_1 = 100 \left[\frac{F}{P} - 0.25 \right] \frac{W}{30}$$

b) Sum of the Ratio Calculations for Mixed Occupancies:

$$\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$$

c) Total Allowable Area for:
1) One Story:
2) Two Story:
3) Three Story:

d) Unlimited Area Building: Yes No Code Section:

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls			Floors - Ceiling Floors		
Interior Bearing Walls			Roofs - Ceiling Roofs		
Exterior Non-Bearing Walls			Exterior Doors and Windows		
Structural Frame			Shim-Enclosures		
Partitions - Permanent			Fire Walls		
Fire Barriers			Smoke Partitions		

L. Design Occupant Load:

Exit Width Required: Exit Width Provided:

M. Minimum Number of Required Plumbing Facilities:

a) Water Closets - Required (m) (f) Provided (m) (f)
b) Lavatories - Required (m) (f) Provided (m) (f)
c) Bath Tubs or Showers: Provided (m) (f)
d) Drinking Fountains: Service Sinks:

FOOTNOTES:

- In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA Guidelines and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.
- Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:
 - High Rise Requirements.
 - Atriums.
 - Performance Based Criteria.
 - Means or Egress Analysis.
 - Fire Assembly Locator Sheet.
 - Exterior and Interior Accessibility Route.
 - Fire Stopping, Including Tested Design Number.

Alternates

Alternate #1

WORK TO INCLUDE THE FOLLOWING:

- REMOVE EXISTING BASE W/ CABINETS AND UPPER CABINETS IN ROOM # C034 "SHARED PANTRY" AND COUNTER TOP.
- REPLACE WITH NEW HARDWOOD FACED BASE CABINETS AND UPPER CABINETS AND REPLACE SOLID SURFACE COUNTERTOP
- NEW BASE AND NEW TILE BACK SPLASH
- NEW SINK W/ NEW ADA FACET & DISPOSAL

Alternate #2

WORK TO INCLUDE THE FOLLOWING:

- INSTALL BOOK CASE AND MILLWORK ON WEST SIDE OF ROOM # C033 "COMMON AREA" (SEE ELEVATION A1/A-1-01 FOR LAYOUT)

Abbreviations

A/C	AIR CONDITIONING	HS	HIGH STRENGTH
AFF	ABOVE FINISHED FLOOR	HT	HEIGHT
ALT	ALTERNATE	INSUL	INSULATION
ALUM	ALUMINUM	INT	INTERIOR
BD	BOARD	JT	JOINT
BLDG	BUILDING	MECH	MECHANICAL
BLK	BLOCK	MFR	MANUFACTURER
BOC	BOTTOM OF CEILING	MIN	MINIMUM
BOT	BOTTOM	MO	MASONRY OPENING
BRG	BEARING	MTL	METAL
CB	CATCH BASIN	NIC	NOT IN CONTRACT
CJ	COLD JOINT	NOM	NOMINAL
CL	CENTERLINE	OC	ON CENTER
CLG	CEILING	OD	OUTSIDE DIA
CLR	CLEAR	OPP	OPPOSITE
CMU	CONC MASONRY UNIT	PL	PLATE
CONC	CONCRETE	PRV	PRESSURE REDUCING VALVE
CV	CONTROL VALVE	PT	PRESSURE TREATED
DB	DECK BEARING	PWD	PLYWOOD
DET	DETAIL	RA	RETURN AIR
DIA	DIAMETER	RD	ROOF DRAIN
DS	DOWN SPOUT	REQ'D	REQUIRED
DWGS	DRAWINGS	RM	ROOM
EA	EACH	ROW	RIGHT OF WAY
ELEC	ELECTRIC	RTU	ROOF TOP UNIT
ELEV	ELEVATION	SC	SAW CUT
EQ	EQUAL	SHT	SHEET
EQUIP	EQUIPMENT	SF	SQUARE FEET
EW	EACH WAY	SIM	SIMILAR
EXIST	EXISTING	STRUCT	STRUCTURAL
EXT	EXTERIOR	TBC	TOP BACK OF CURB
EWC	ELEC WATER COOLER	TBD	TO BE DETERMINED
FD	FLOOR DRAIN	TI	TENANT IMPROVEMENT
FEC	FIRE EXTINGUISHER CABINET	TG	TEMPERED GLASS
FH	FIRE HYDRANT	TOC	TOP OF CONCRETE
FIN	FINISH	TEMP	TEMPERED
FLR	FLOOR	TS	TUBE STEEL
FOC	FACE OF CURB	TOB	TOP OF BEAM
FOM	FACE OF MASONRY	TOF	TOP OF FOOTING
FOS	FACE OF STUD	TOP	TOP OF PARAPET
FRP	FIBERGLASS REINFORCED PLASTIC	TOW	TOP OF WALL
FS	FLOOR SINK	TYP	TYPICAL
FTG	FOOTING	UNO	UNLESS NOTED OTHERWISE
GA	GAUGE	VERT	VERTICAL
GL	GLASS	W/	WITH
GYP BD	GYPSPUM BOARD	WB	WHITE BOARD (DRY ERASE)
HM	HOLLOW METAL	WD	WOOD
HORIZ	HORIZONTAL	WH	WATER HEATER
		WWF	WELDED WIRE FABRIC

Legend

MATERIAL			
	EARTH		CONT. WOOD (STUDS, NAILERS)
	GRAVEL / STRUCT FILL		WOOD (BLOCKING)
	ASPHALT		PLYWOOD
	CONCRETE		BATT INSULATION
	RIGID INSULATION		ACOUSTIC TILE
	MASONRY		GYPSPUM BOARD
	WOOD (FINISH)		GLASS
	STEEL		

Symbols Legend

	NEW DOOR TAG
	EXISTING DOOR TAG
	WINDOW TAG
	WALL TAG
	FINISH TAG
	KEYED NOTE
	REVISION DELTA
	ROOM IDENTIFICATION NUMBER
	EXTERIOR ELEVATION
	BUILDING SECTION
	WALL SECTION
	DETAIL
	DETAIL SECTION
	INTERIOR ELEVATION
	ELEVATION MARK
	DETAIL TITLE

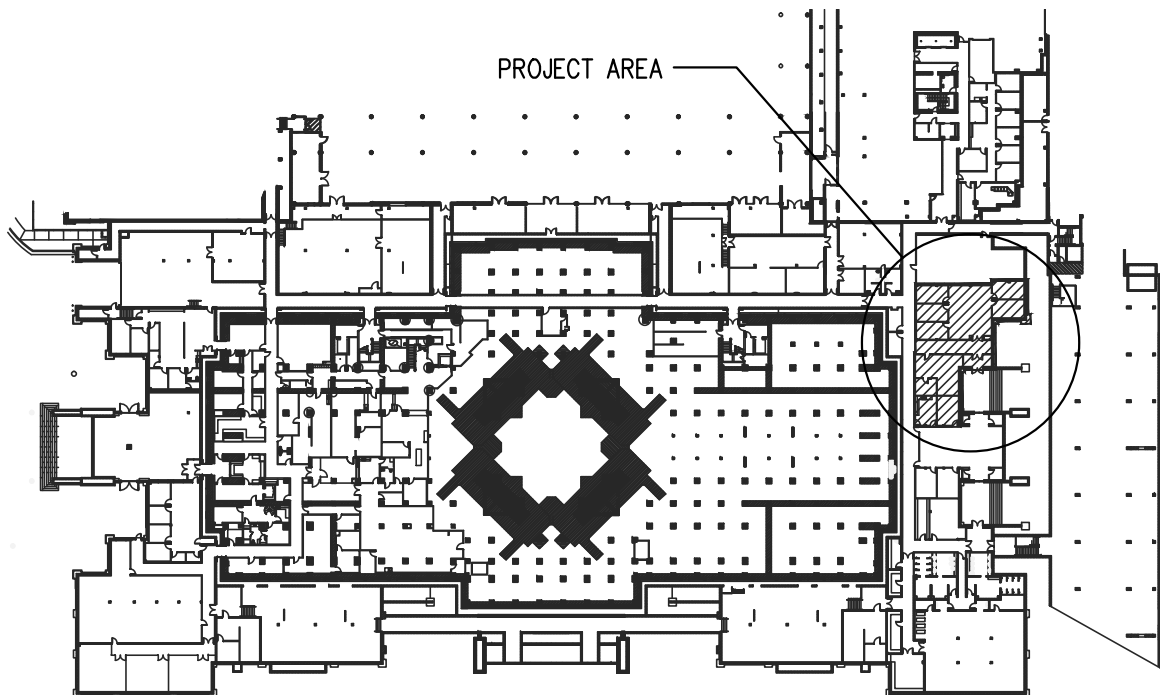
Project Summary

This project is a remodel of an existing space in an existing office building. The occupancy will remain as a "B" at 1/100

Work will include demolition, the removal of walls as indicated by dashed line on the drawings, removal ceiling lid in office area, doors, door frames and millwork

New construction is the remodel of existing office area and will also include the remodel of millwork

See contract documents (drawings) for further information



Key Plan

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4110 State Office Building
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Phone: (801) 538 - 3018

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UTAH STATE
CAPITOL BUILDING
SUITE #85
SALT LAKE CITY
UTAH
84103

MARK DATE DESCRIPTION

ISSUE TYPE:

ISSUE DATE:

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COVER SHEET

SHEET NUMBER

G-0-01

SHEET 1 OF 41

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1. As a result of the work of this project, general building access to the existing exit assigned 178 occupants will be eliminated. Per existing tabular occupant load, 71 of the 178 are from the area of this project and will still be assigned to that exit. Replacement exiting required for 107 occupants.
2. The Capitol Storage area immediately north of this project is assigned an occupant load of 72. Change space function to Accessory Storage to match its actual use and reduce the occupant load to 5.
3. Capitol occupants currently exiting into the East Building reduce from 92 to 25 with the change to Accessory Storage function. This provides sufficient capacity for exiting the reassigned exiting loads through the East Building stairway.

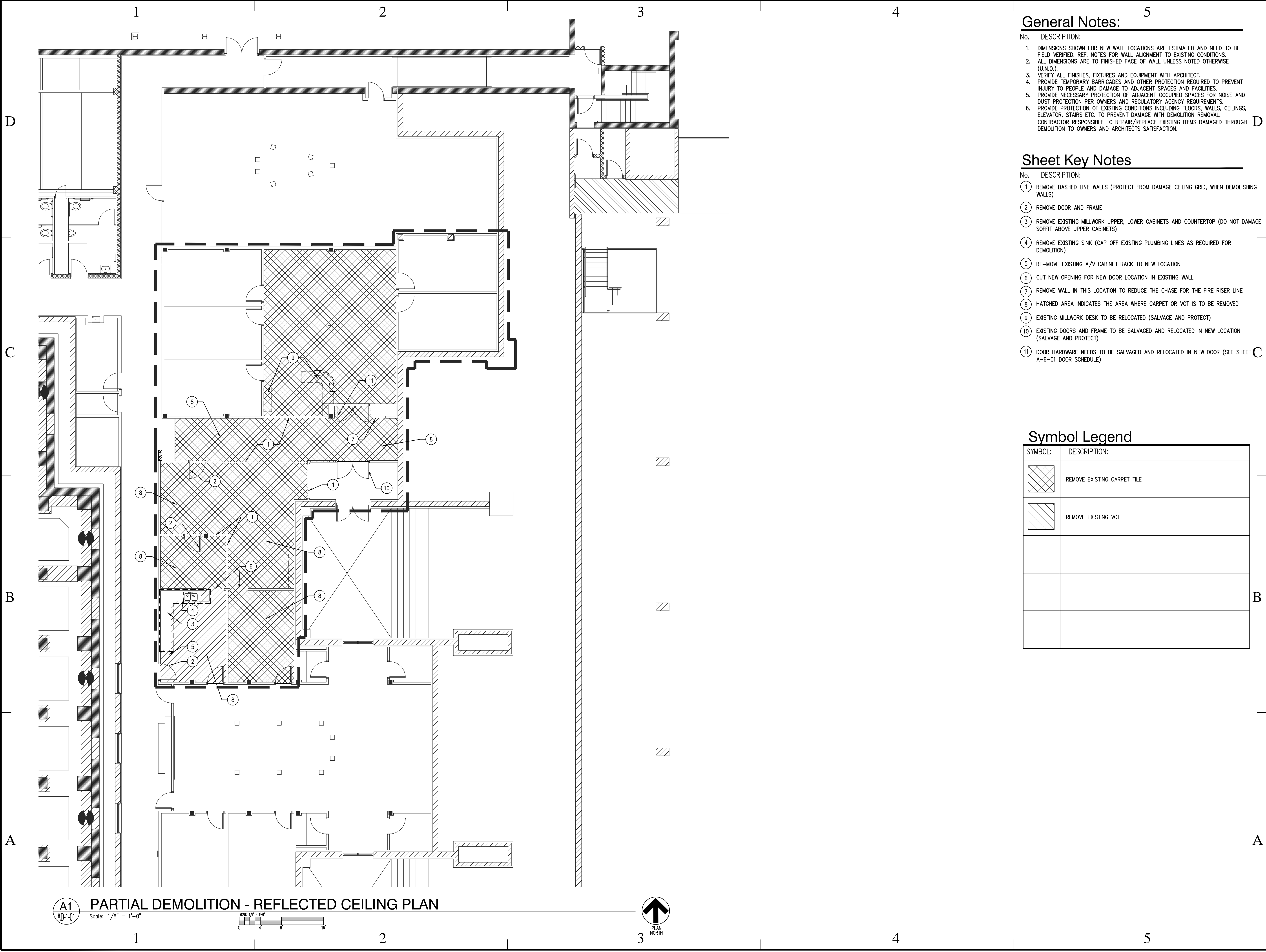


EXITING CALCULATIONS FOR EAST BUILDING STAIRWELL		
	Load	Capacity
Total capacity of East Building stairwell		226
East Building Basement Occupants	65	
Revised existing contribution from Capitol Building	25	
New contribution from the Capitol Building	107	
Total exiting through the East Building stairwell	197	
Remaining exit capacity through East Building stairwell		29

SYMBOL LEGEND

00 — Total occupants exiting door

00 ← Number of occupants
00 ← Occupancy factor



General Notes:

No. DESCRIPTION:

1. DIMENSIONS SHOWN FOR NEW WALL LOCATIONS ARE ESTIMATED AND NEED TO BE FIELD VERIFIED. REF. NOTES FOR WALL ALIGNMENT TO EXISTING CONDITIONS.

2. ALL DIMENSIONS ARE TO FINISHED FACE OF WALL UNLESS NOTED OTHERWISE (U.N.O.).

3. VERIFY ALL FINISHES, FIXTURES AND EQUIPMENT WITH ARCHITECT.

4. PROVIDE TEMPORARY BARRICADES AND OTHER PROTECTION REQUIRED TO PREVENT INJURY TO PEOPLE AND DAMAGE TO ADJACENT SPACES AND FACILITIES.

5. PROVIDE NECESSARY PROTECTION OF ADJACENT OCCUPIED SPACES FOR NOISE AND DUST PROTECTION PER OWNERS AND REGULATORY AGENCY REQUIREMENTS.

6. PROVIDE PROTECTION OF EXISTING CONDITIONS INCLUDING FLOORS, WALLS, CEILINGS, ELEVATOR, STAIRS ETC. TO PREVENT DAMAGE WITH DEMOLITION REMOVAL. CONTRACTOR RESPONSIBLE TO REPAIR/REPLACE EXISTING ITEMS DAMAGED THROUGH DEMOLITION TO OWNERS AND ARCHITECTS SATISFACTION.

- Sheet Key Notes**
- No. DESCRIPTION:
- ① REMOVE DASHED LINE WALLS (PROTECT FROM DAMAGE CEILING GRID, WHEN DEMOLISHING WALLS)
- ② REMOVE DOOR AND FRAME
- ③ REMOVE EXISTING MILLWORK UPPER, LOWER CABINETS AND COUNTERTOP (DO NOT DAMAGE SOFFIT ABOVE UPPER CABINETS)
- ④ REMOVE EXISTING SINK (CAP OFF EXISTING PLUMBING LINES AS REQUIRED FOR DEMOLITION)
- ⑤ RE-MOVE EXISTING A/V CABINET RACK TO NEW LOCATION
- ⑥ CUT NEW OPENING FOR NEW DOOR LOCATION IN EXISTING WALL
- ⑦ REMOVE WALL IN THIS LOCATION TO REDUCE THE CHASE FOR THE FIRE RISER LINE
- ⑧ HATCHED AREA INDICATES THE AREA WHERE CARPET OR VCT IS TO BE REMOVED
- ⑨ EXISTING MILLWORK DESK TO BE RELOCATED (SALVAGE AND PROTECT)
- ⑩ EXISTING DOORS AND FRAME TO BE SALVAGED AND RELOCATED IN NEW LOCATION (SALVAGE AND PROTECT)
- ⑪ DOOR HARDWARE NEEDS TO BE SALVAGED AND RELOCATED IN NEW DOOR (SEE SHEET A-6-01 DOOR SCHEDULE)

SYMBOL:	DESCRIPTION:
	REMOVE EXISTING CARPET TILE
	REMOVE EXISTING VCT

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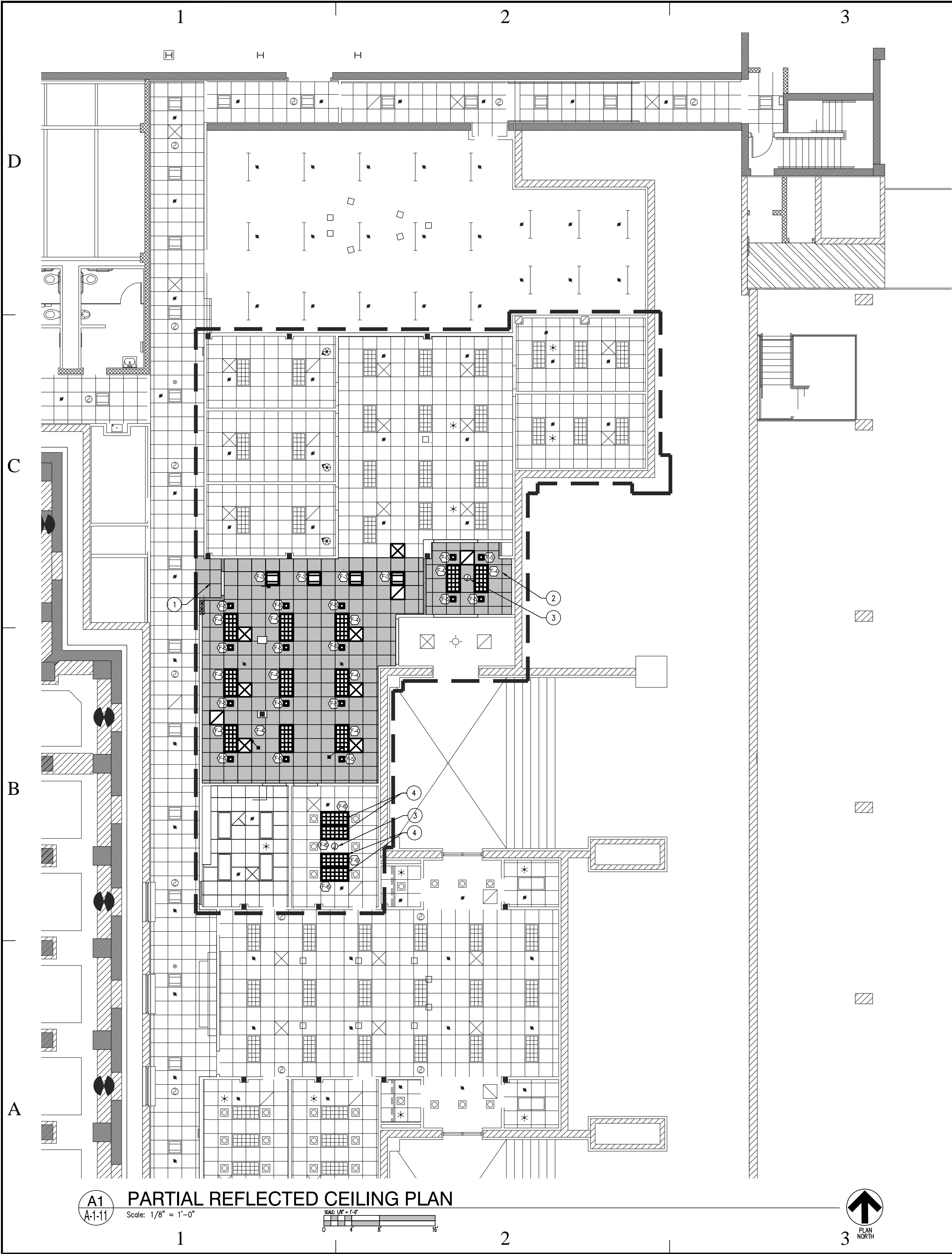
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AD-1-01		
SHEET 4 OF 41		





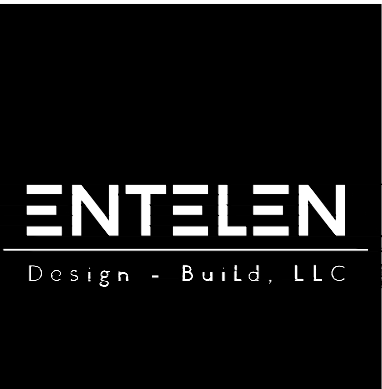
- General Notes:**
- No. DESCRIPTION:
1. BOTTOM OF FINISHED CEILINGS TO BE 7'-10"±. FIELD VERIFY BOTTOM OF EXISTING ITEMS (DUCTING, FIRE SPRINKLER PIPING, ETC.) TO ALLOW CEILINGS TO BE INSTALLED AS HIGH AS POSSIBLE – TYP. U.N.O.
 2. EXISTING 2x4 RECESSED LIGHT FIXTURES THAT ARE INDICATED ARE TO BE REUSED.
 3. NEW LAY-IN CEILING SYSTEM TO BE INSTALLED AND MATCHE UP TO THE EXISTING CEILING GRID SYSTEM ALL NEW WALLS TO BE BUILT TO BELOW CEILING.
 4. EXIT SIGNS AND ILLUMINATION SHALL BE PROVIDED AND MAINTAINED IN ACCORDANCE WITH 2012 IBC SECTION 1011.5.3
 5. ALL EXIT DOORS SHALL BE READILY OPENABLE FORM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT. UNLESS APPROVED BY THE BUILDING OFFICIAL, MANUALLY OPERATED FLUSH OR SURFACE 2012 IBC SECTION 1008.1.9

- Sheet Key Notes**
- No. DESCRIPTION:
1. EXTEND EXISTING CEILING GRID IN CORRIDOR (MATCH EXISTING)
 2. NEW SUSPENDED ACOUSTICAL CEILING
 3. ADD JUNCTION BOX ABOVE MIDDLE TO TABLE FOR LIGHT WEIGHT CHANDELIER, ADD BRACE ACCORDINGLY FOR NEW CHANDELIER BY TENANT.
 4. ADD DUAL SWITCH FEATURE TO EACH LIGHT FIXTURE INDICATED

Symbol Legend

SYMBOL:	DESCRIPTION:
	EXISTING EXIT SIGNS
	EXISTING FIRE SPRINKLER HEAD (APPROXIMATE LOCATION)
	EXISTING CEILING GRID
	NEW CEILING GRID
	MECHANICAL DIFFUSER
	EXISTING LIGHT FIXTURE
	EXISTING LIGHT FIXTURE
	NEW LOCATION OF EXISTING LIGHT FIXTURE
	NEW 2 x 4 LIGHT FIXTURE (MATCH EXISTING)
	NEW LOCATION OF EXISTING LIGHT FIXTURE
	NEW LOCATION OF DOWN LIGHT

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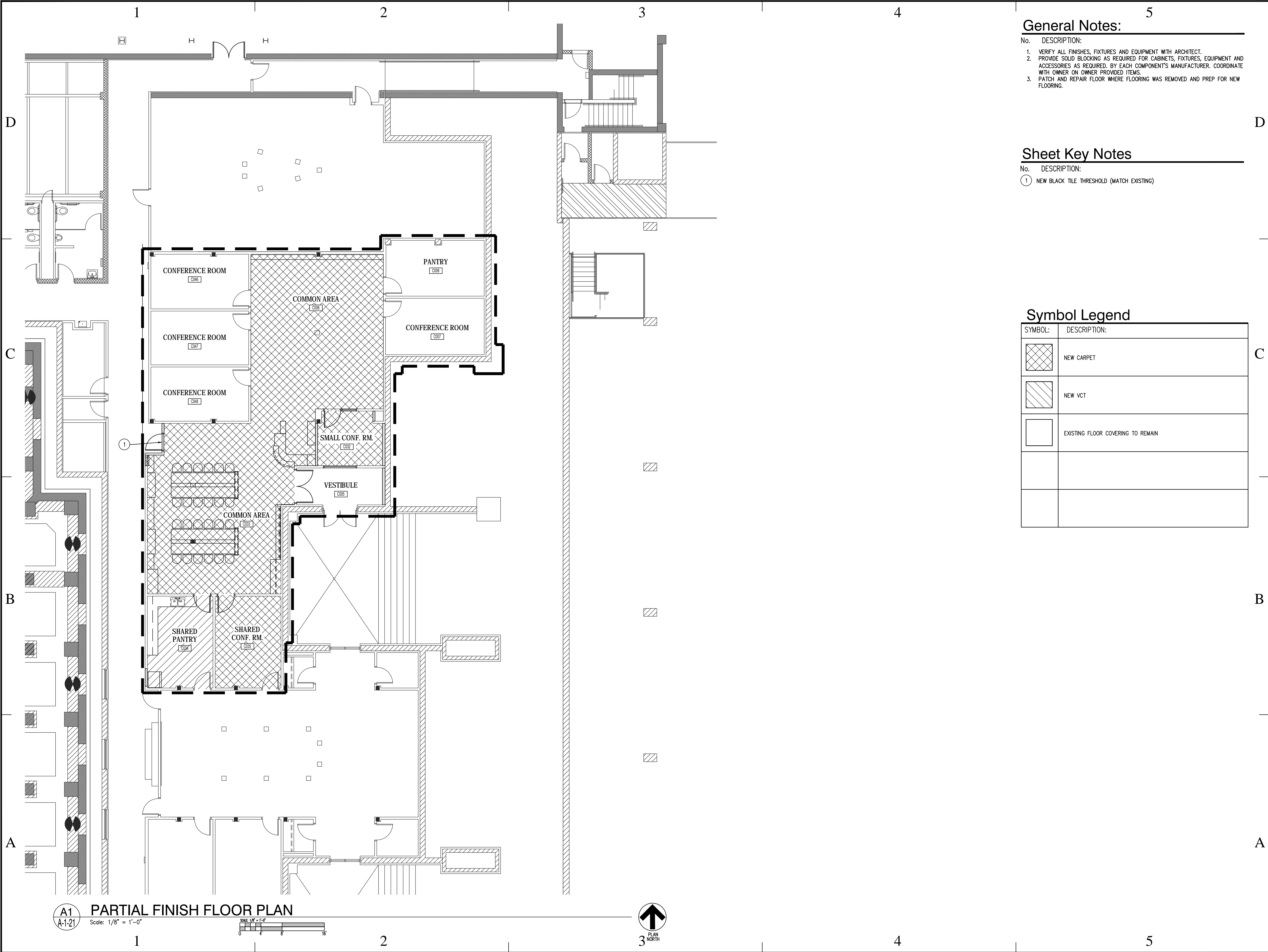
SHEET TITLE

**REFLECTED CEILING
PLAN**

SHEET NUMBER

A-1-11

SHEET 7 OF 41



General Notes:

- No. DESCRIPTION:
1. VERIFY ALL FINISHES, FIXTURES AND EQUIPMENT WITH ARCHITECT.
 2. PROVIDE SOLID BLOCKING AS REQUIRED FOR CABINETS, FIXTURES, EQUIPMENT AND ACCESSORIES AS REQUIRED. BY EACH COMPONENT'S MANUFACTURER. COORDINATE WITH OWNER ON OWNER PROVIDED ITEMS.
 3. PATCH AND REPAIR FLOOR WHERE FLOORING WAS REMOVED AND PREP FOR NEW FLOORING.

Sheet Key Notes

- No. DESCRIPTION:
- ① NEW BLACK TILE THRESHOLD (MATCH EXISTING)

Symbol Legend

SYMBOL:	DESCRIPTION:
	NEW CARPET
	NEW VCT
	EXISTING FLOOR COVERING TO REMAIN

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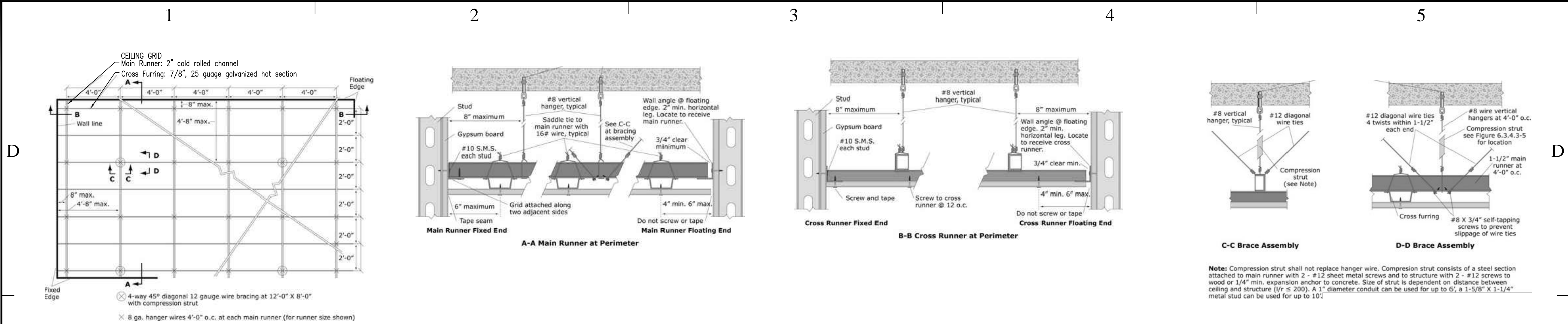
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PARTIAL FINISH
FLOOR PLAN

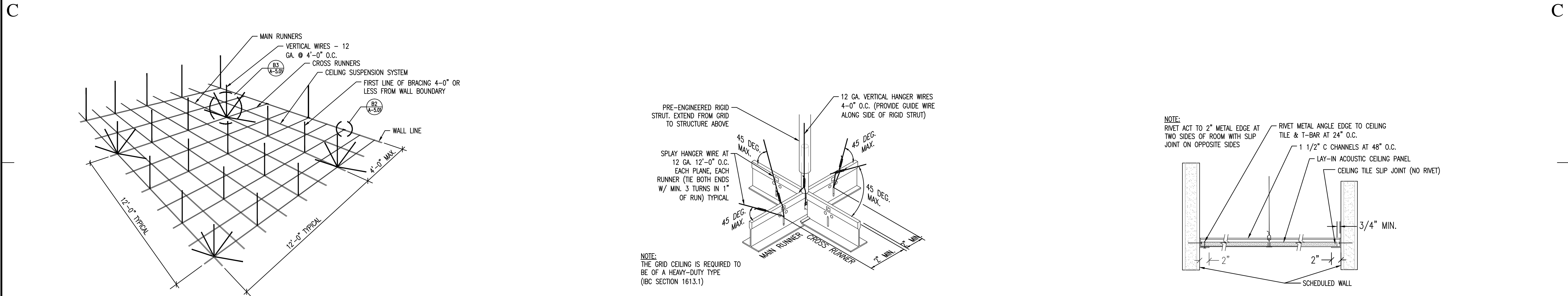
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A-1-21

SHEET 8 OF 41



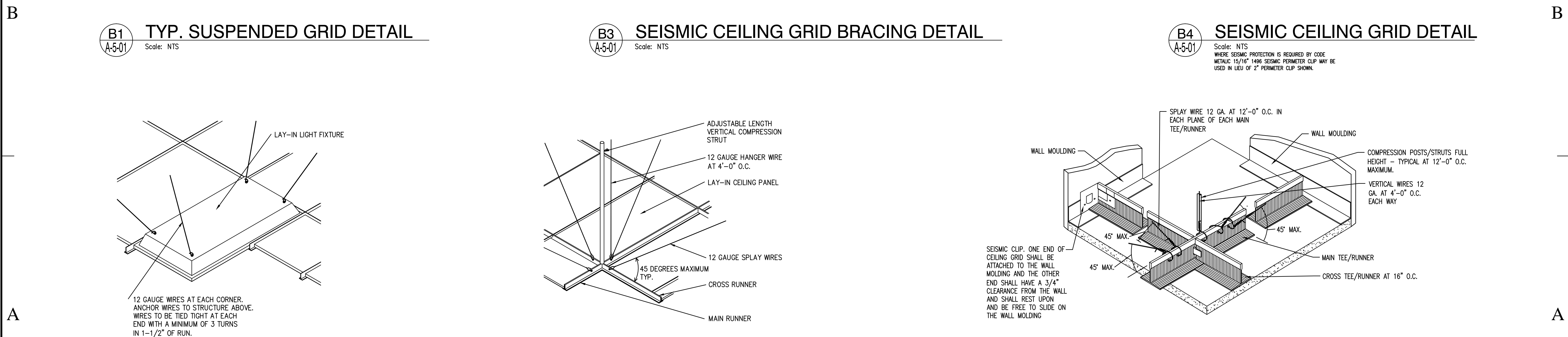
C1 SUSPENDED GYP. BOARD CEILING DETAILS (SEISMIC)
Scale: NTS



B1 TYP. SUSPENDED GRID DETAIL
Scale: NTS

B3 SEISMIC CEILING GRID BRACING DETAIL
Scale: NTS

B4 SEISMIC CEILING GRID DETAIL
Scale: NTS
WHERE SEISMIC PROTECTION IS REQUIRED BY CODE
METALIC 15/16" 1406 SEISMIC PERIMETER CLIP MAY BE
USED IN LIEU OF 2" PERIMETER CLIP SHOWN.



A1 SEISMIC LIGHT DETAIL
Scale: NTS

A2 SEISMIC CEILING DETAIL
Scale: NTS

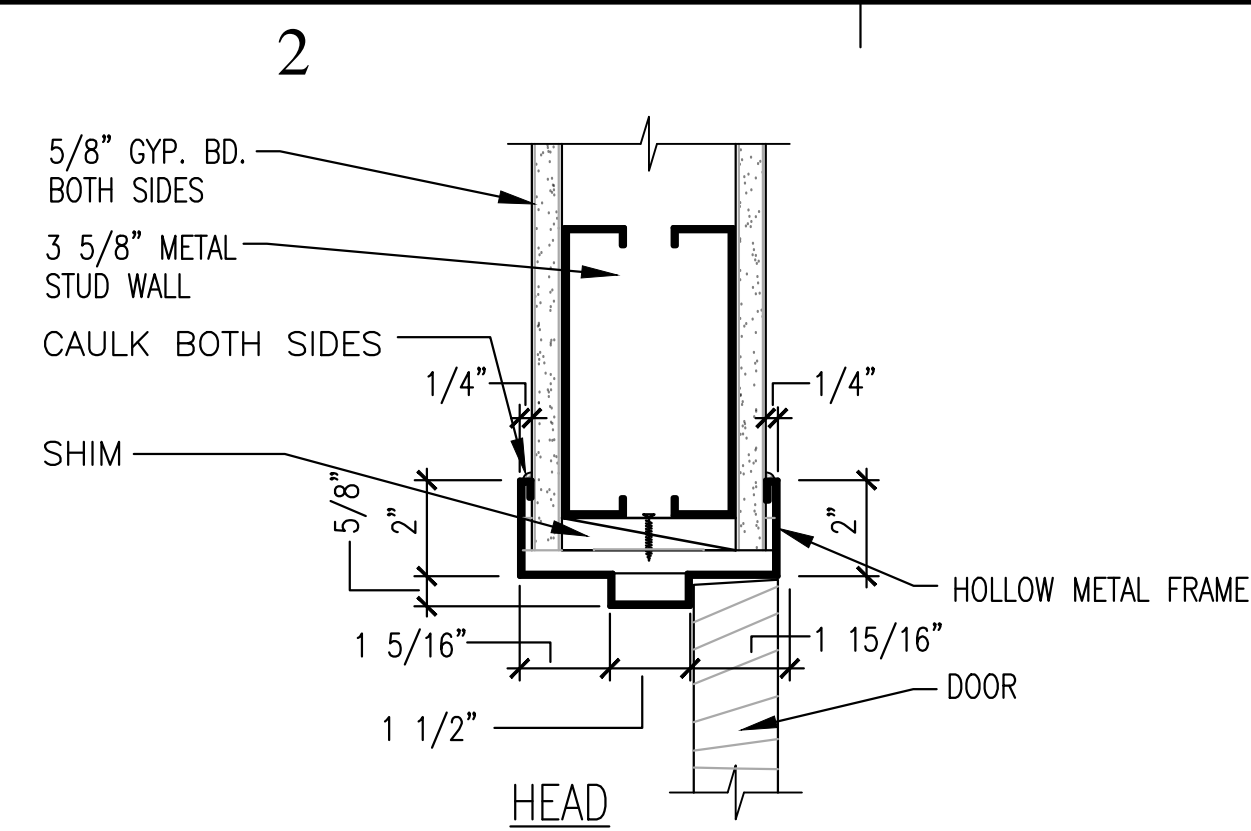
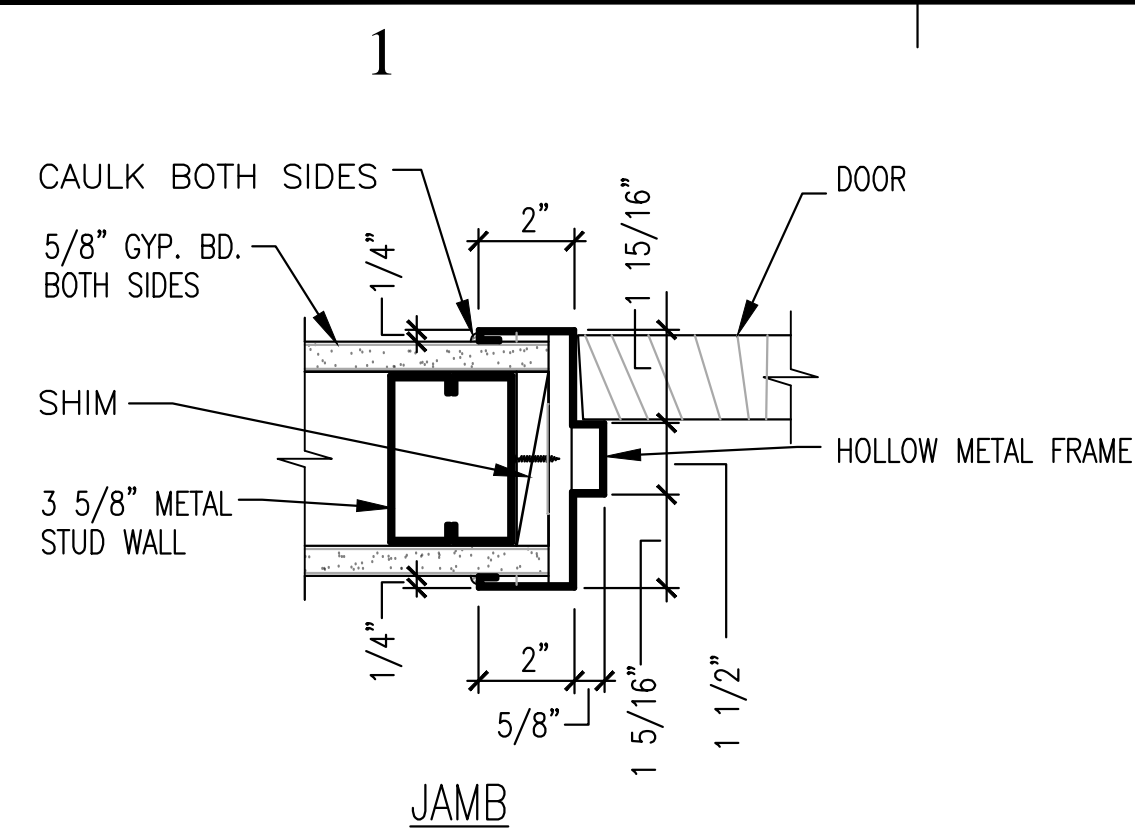
A4 CEILING SUSPENSION SYSTEM
Scale: NTS

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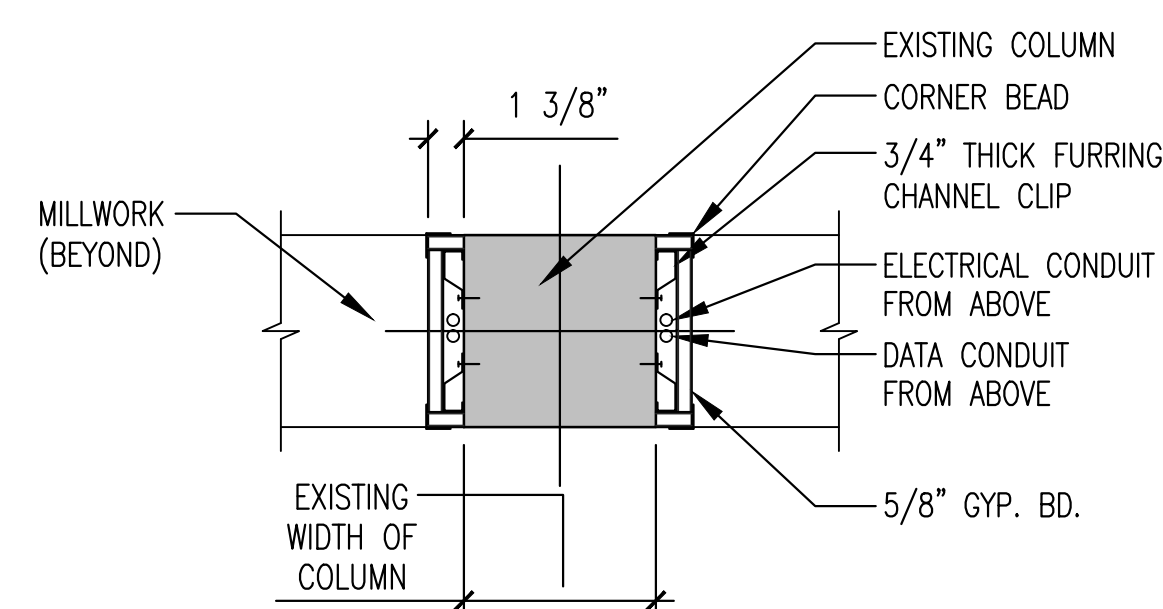


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DETAILS		
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A-5-01		
SHEET 11 OF 41		



D1 JAMB & HEAD DETAILS
A-5-02 Scale: 3" = 1'-0"

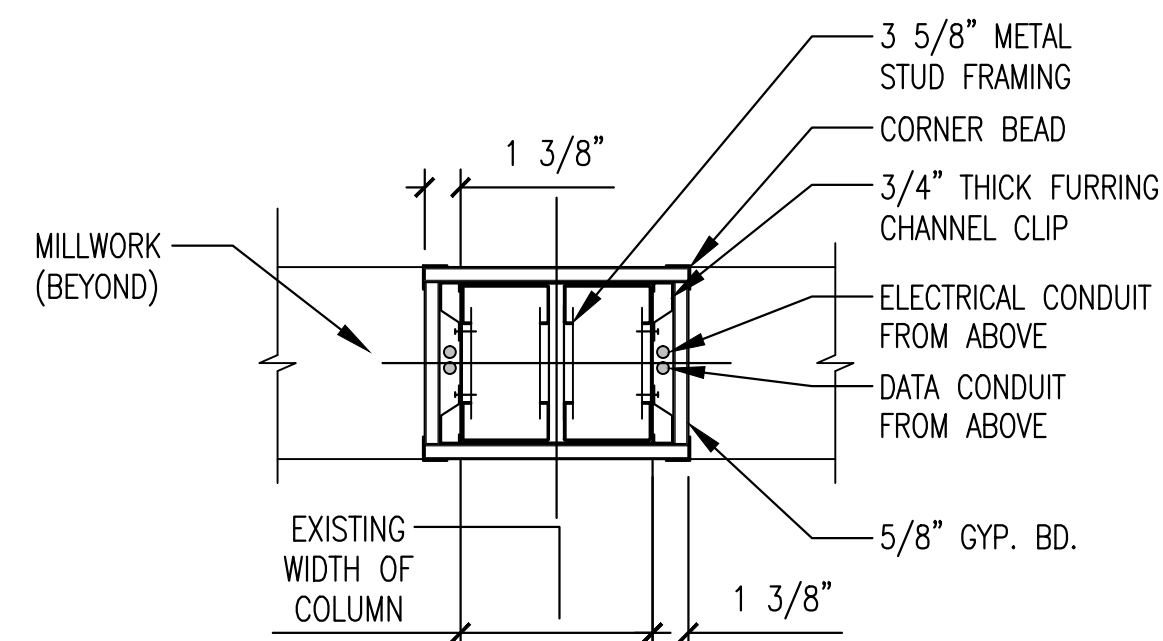


C1
A-5-02

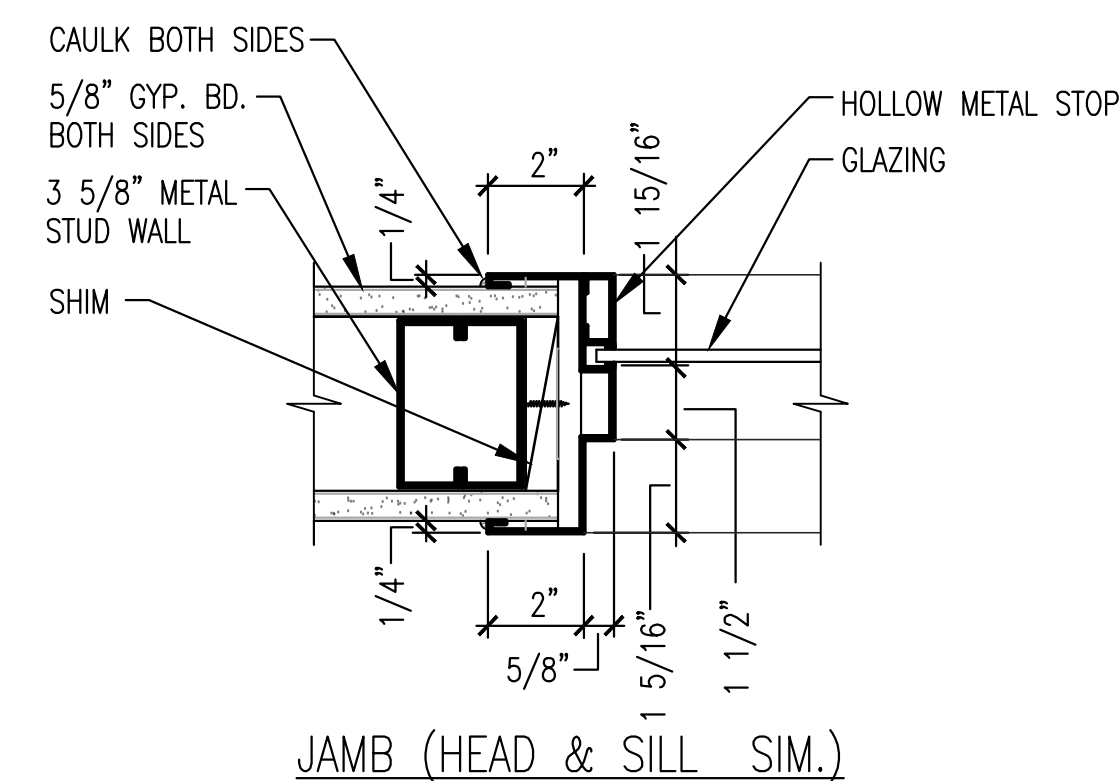
COLUMN DETAIL

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

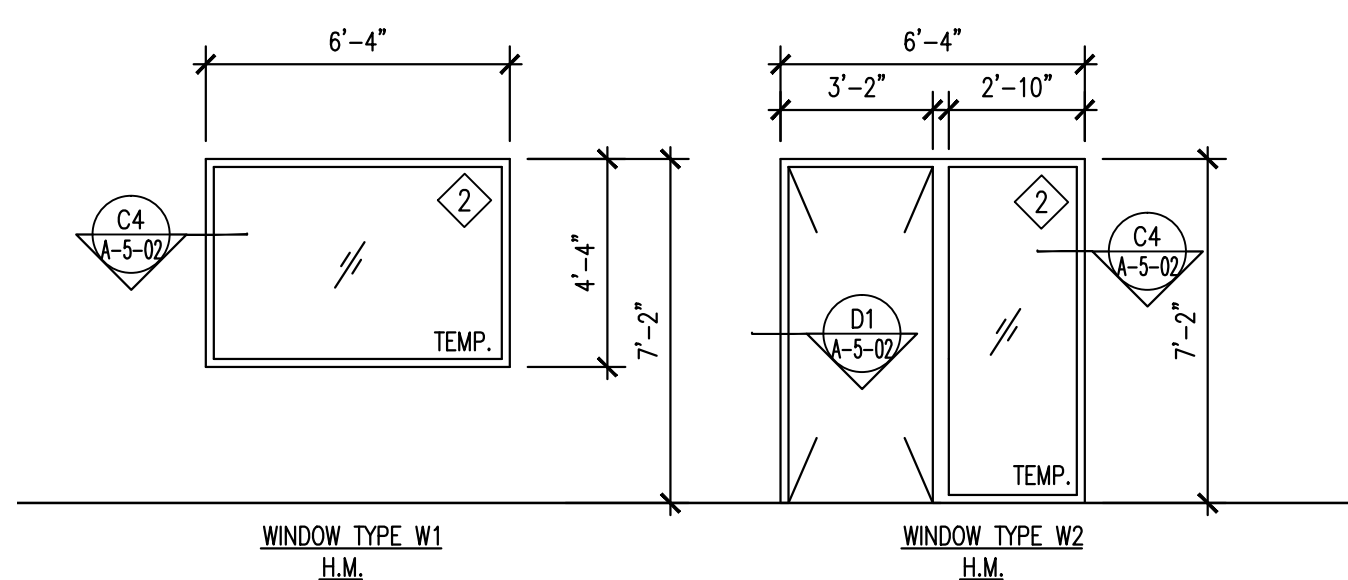
SCALE: 1 1/2" = 1'-0"



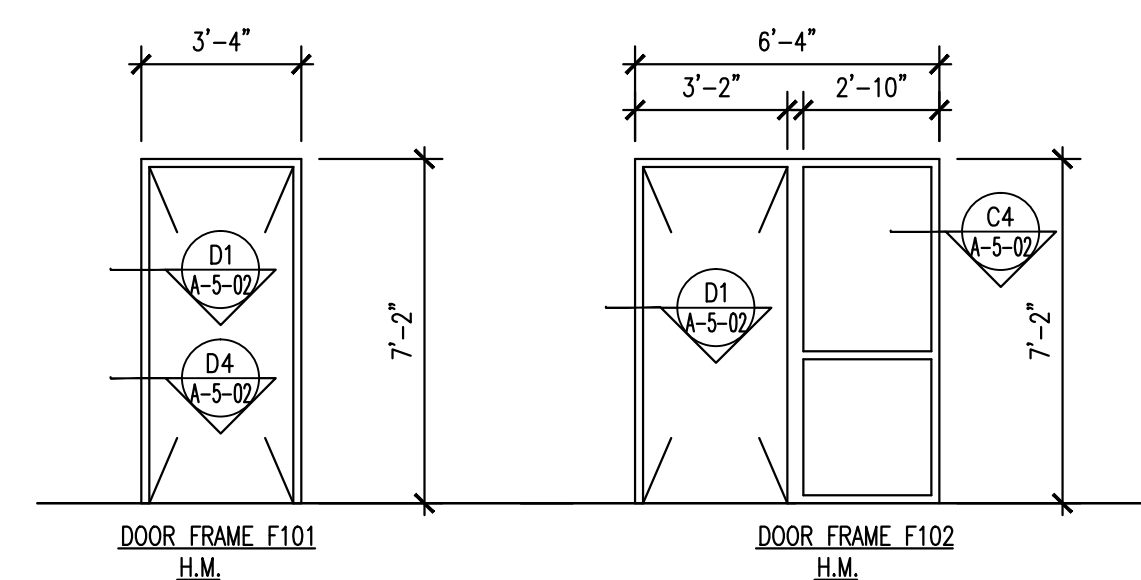
C2 COLUMN DETAIL
 Scale: 1 1/2" = 1'-0" SCALE: 1 1/2" = 1'-0"



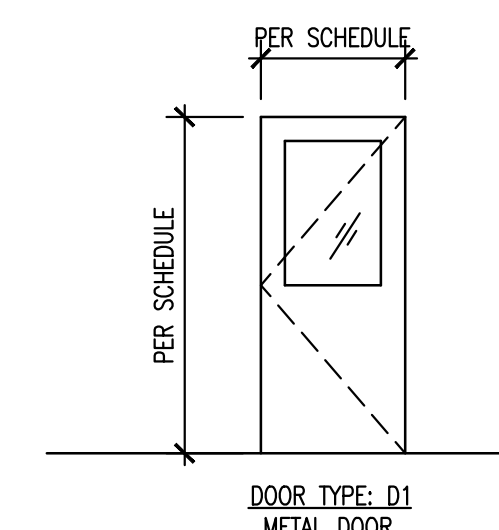
C4 JAMB & HEAD DETAILS



A2 WINDOW TYPES
A-5-02 Scale: NTS



A3 DOOR FRAME TYPES
Scale: NTS



DOOR TYPE
Scale: NTS

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DETAILS

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SHEET 12 OF 41

D

C

B

A

		DOOR AND FRAME SCHEDULE											Utah Lobbyist Lounge 10/8/15		
Number	SINGLE OR PAIR	Door					Glazing			Frame			Fire Rating	Hardware Group	Notes
		Size			Type	Material	W	H	Type	Type	Material	Throat Width			
		W	H	Th											
C034A	Single	36"	84"	1 3/4"	D1	Metal	Match Existing	Match Existing	Match Existing	F101	Hollow Metal	4 7/8"		2	
C035A	Single	36"	84"	1 3/4"	D1	Metal	Match Existing	Match Existing	Match Existing	F101	Hollow Metal	4 7/8"		2	
C005A	Pair	36"	84"	1 3/4"											EXISTING DOOR AND FRAME TO BE RELOCATED
C032A	Single	36"	84"	1 3/4"	D1	Metal	Match Existing	Match Existing	Match Existing	F101	Hollow Metal	4 7/8"		2	
C033A	Single	36"	84"	1 3/4"	D1	Metal	Match Existing	Match Existing	Match Existing	F101	Hollow Metal	4 7/8"	20 Min	1	Note 1
Notes: 1 The hardware from double door that was removed from demolition , needs to be salvaged and re-installed on door C033A															

WINDOW SCHEDULE								Utah Lobbyist Lounge 10/8/15	
Door Number	Glazing			Type	Material	Throat Width	Notes		
	W	H							
W1	6'-0"	4'-0"	A	Tempered	Hollow Metal	4 7/8"			
W2	2'-8"	6'-10"	A	Tempered	Hollow Metal	4 7/8"			

DOOR HARDWARE SCHEDULE			
HARDWARE SET:	1	OFFICE	NOTE
EACH TO HAVE:			
1		MORTISE LOCK WITH LEVEL HANDLE - OFFCE FUNCTION	1
1	EA.	BUTTS, S S B B HINGE	
3	EA.	WITH LEVER HANDLE	
1	EA.	DOOR SILENCERS	
1	EA.	WALL STOP	
2	EA.	DOOR CLOSER	
1	EA.	DOOR SEALS (20 MIN)	
HARDWARE SET:	2	OFFICE	NOTE
EACH TO HAVE:			
1		MORTISE LOCK WITH LEVEL HANDLE - OFFCE FUNCTION	2
1	EA.	BUTTS, S S B B HINGE	
3	EA.	WITH LEVER HANDLE	
1	EA.	DOOR SILENCERS	
1	EA.	WALL STOP	
2	EA.	DOOR CLOSER	
Notes: 1- Match new hardware to existing hardware 2- Match new hardware to existing office			

FINISH TABLE				
No.	Description	Color Name	Color & Material Specifications	Notes
Interior				
Floors				
CT-1	Broadroom Carpet			\$23 yd Alloeance
VCT-1	VCT			
Base				
RB-1	RUBBER BASE			
WB-1	WOOD BASE			
Walls				
WP-1	WALL PAINT			
WP-2	WALL PAINT			
Ceramic Wall Tile				
CWT-1	CERAMIC TILE			
Ceilings				
C-1	ACOUSTICAL TILE			
Millwork/Counter Top				
CT-1	COUNTERTOP			
Notes:				

FINISH SCHEDULE											Utah Lobbyist Lounge 10/8/15	
ROOM #	ROOM NAME	FLOOR	WALL				CEILING	BASE	ROOM NAME	ROOM #		
			NORTH	EAST	SOUTH	WEST						
			BASE / WALL	BASE / WALL	BASE / WALL	BASE / WALL						
C005	VESTIBULE	CT-1	WP-1	WP-1	WP-1	WP-1	Existing	WB-1	VESTIBULE	C005		
C032	SMALL CONFERENCE ROOM	CT-1	WP-1	WP-1	WP-1	WP-1	C-1	WB-1	SMALL CONFERENCE ROOM	C032		
C006	COMMON AREA	Existing	Existing	Existing	Existing	Existing	Existing	Existing	COMMON AREA	C006		
C007	CONFERENCE ROOM	Existing	Existing	Existing	Existing	Existing	Existing	Existing	CONFERENCE ROOM	C007		
C008	PANTRY	Existing	Existing	Existing	Existing	Existing	Existing	Existing	PANTRY	C008		
C048	CONFERENCE ROOM	Existing	Existing	Existing	Existing	Existing	Existing	Existing	CONFERENCE ROOM	C048		
C047	CONFERENCE ROOM	Existing	Existing	Existing	Existing	Existing	Existing	Existing	CONFERENCE ROOM	C047		
C048	CONFERENCE ROOM	Existing	Existing	Existing	Existing	Existing	Existing	Existing	CONFERENCE ROOM	C048		
C033	COMMON AREA	CT-1	WP-1	WP-1	WP-1	WP-1	C-1	WB-1	COMMON AREA	C033		
C034	SHARED PANTRY	VCT	WP-1	WP-1	WP-1	WP-1	Existing	RB-1	SHARED PANTRY	C034		
C035	SHARED CONFERENCE ROOM	Existing	WP-1	WP-1	WP-1	WP-1	Existing	Existing	SHARED CONFERENCE ROOM	C035		
Notes:												

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UTAH
84103

MARK DATE DESCRIPTION

ISSUE TYPE:

ISSUE DATE:

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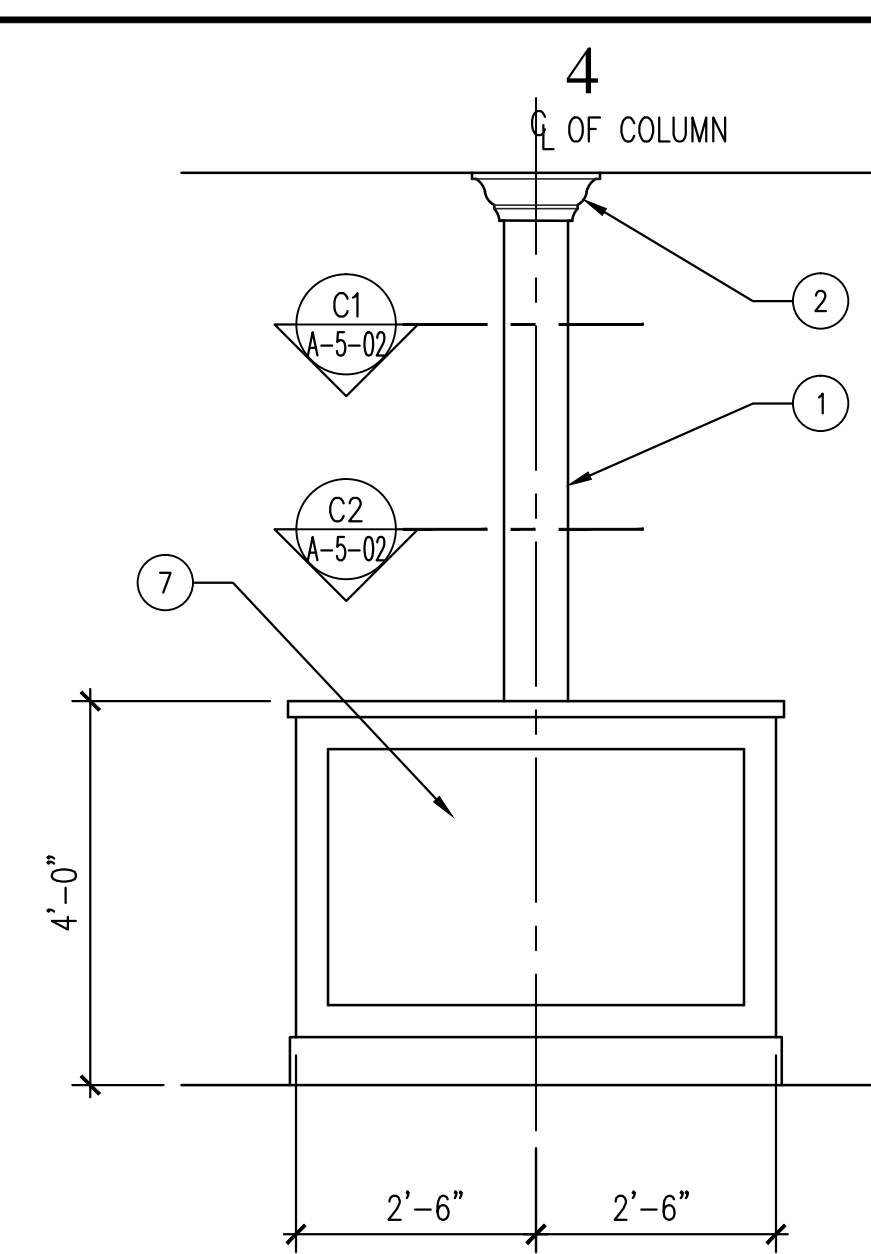
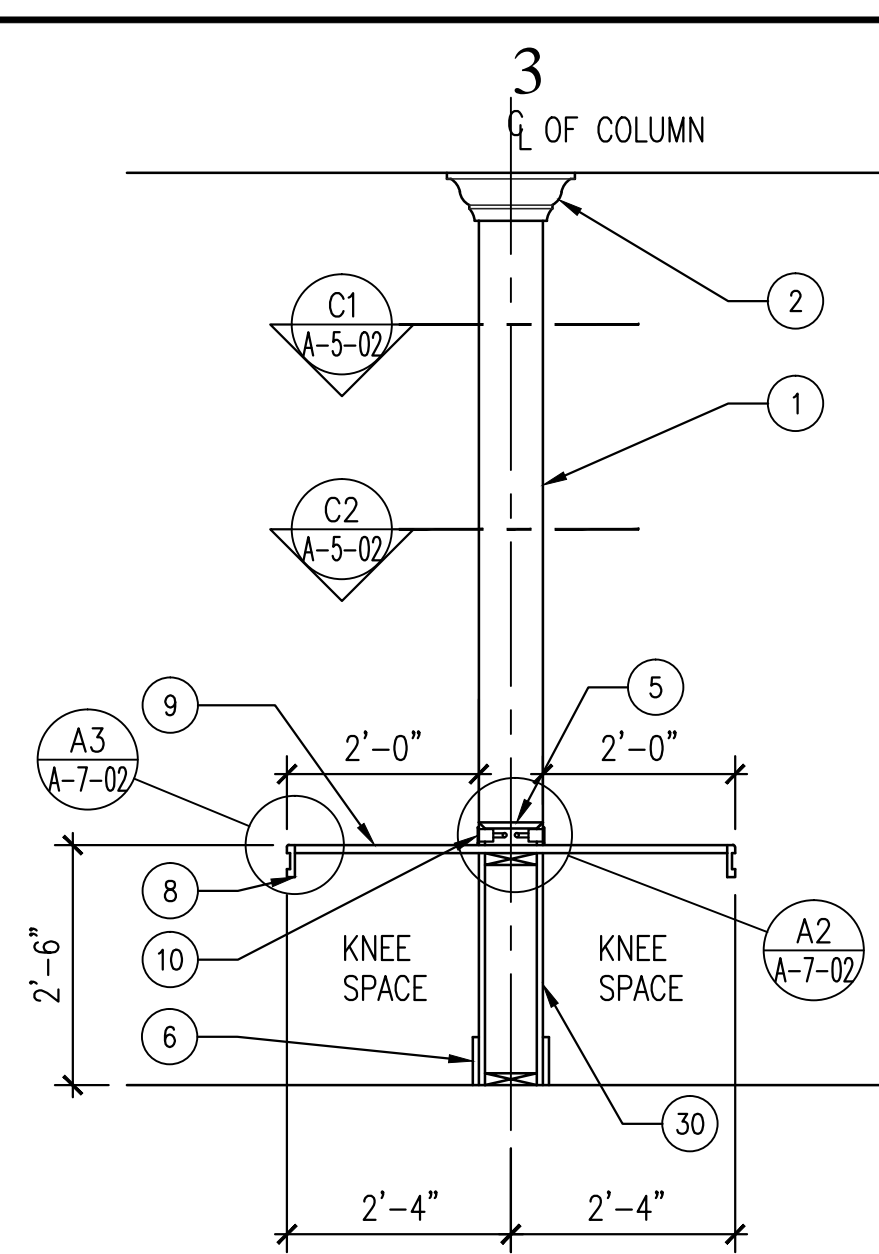
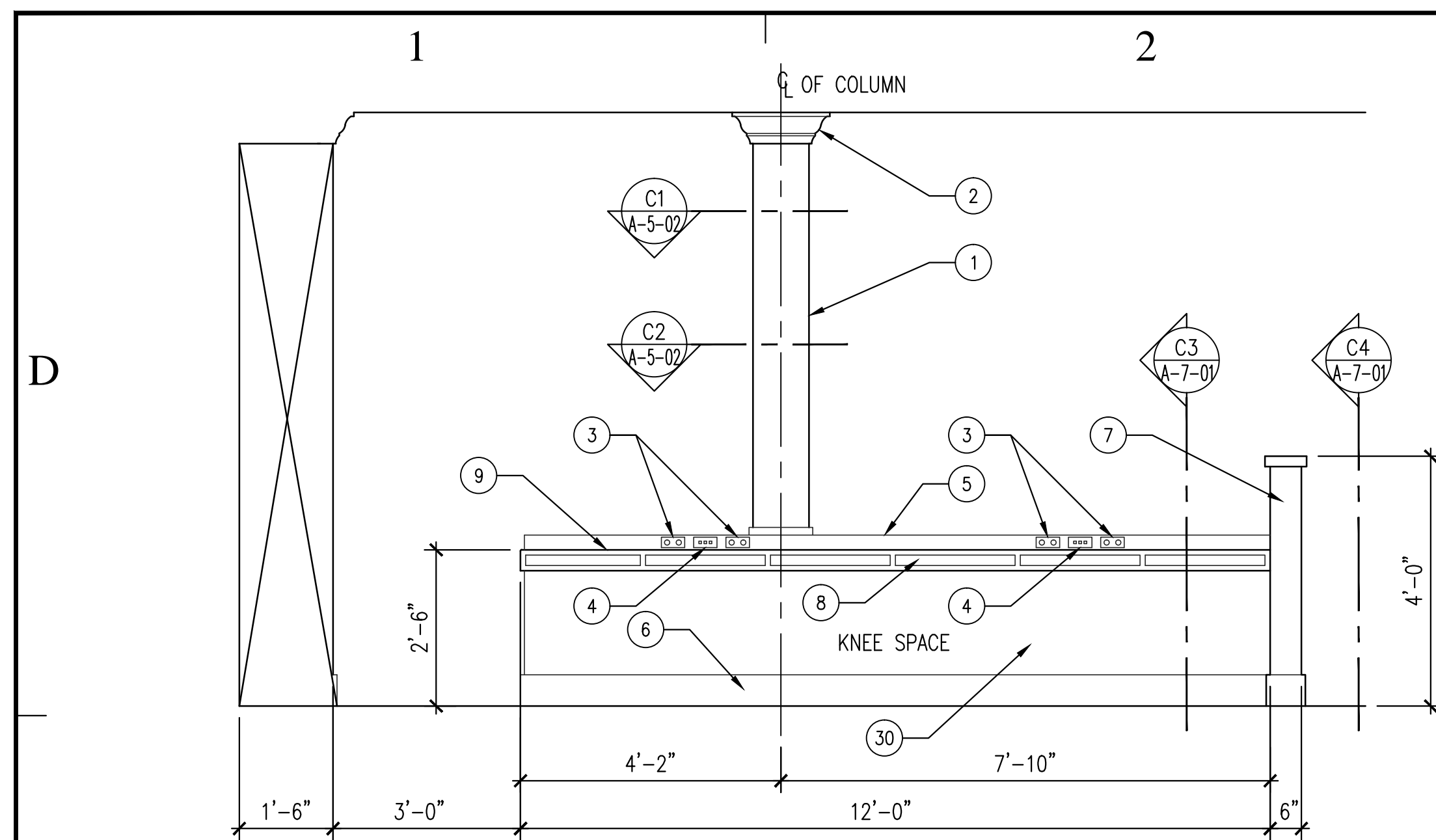
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SCHEDULES

SHEET NUMBER

A-6-01

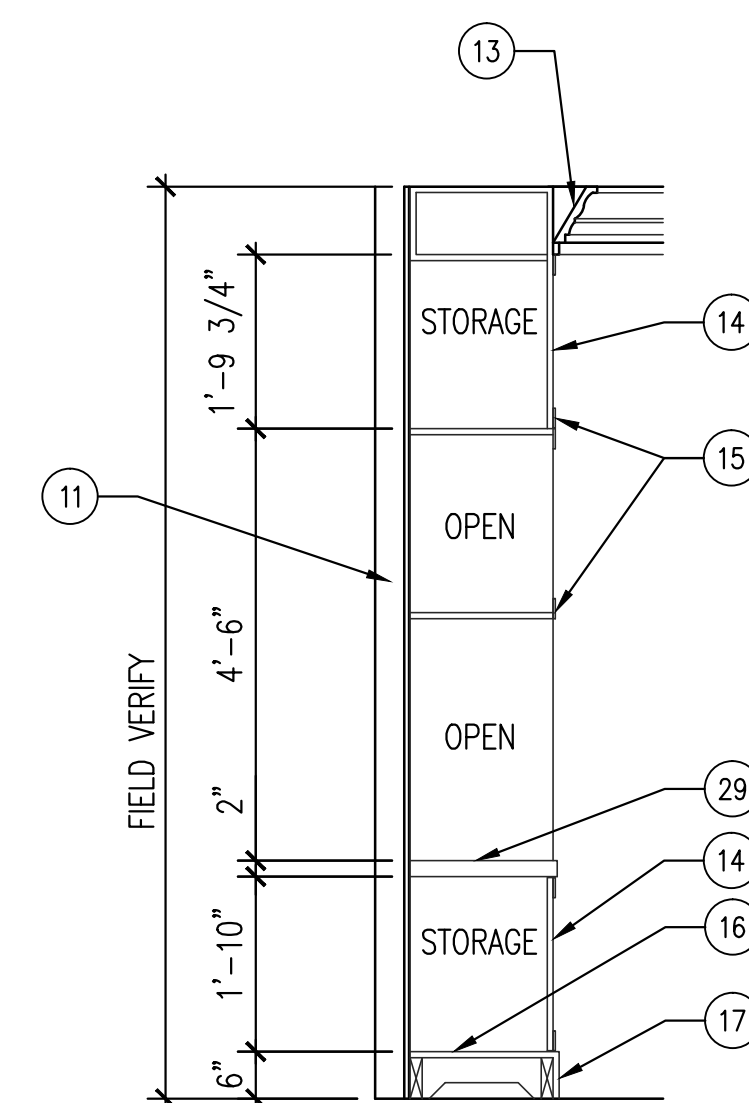
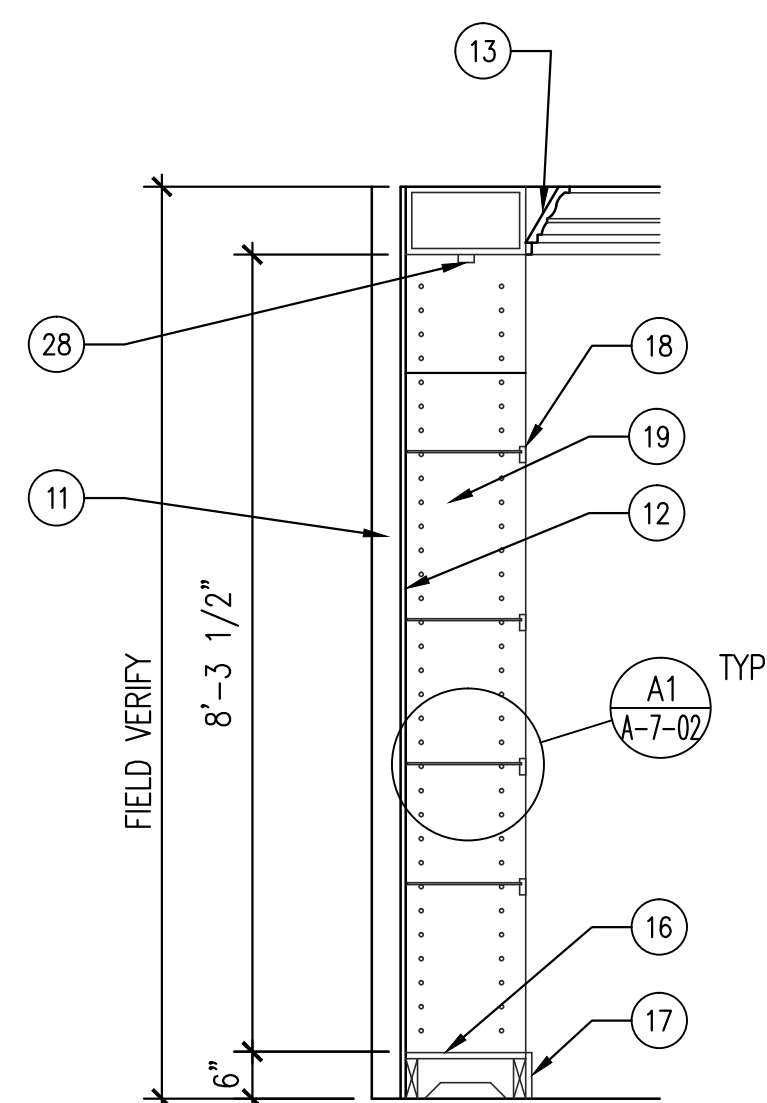
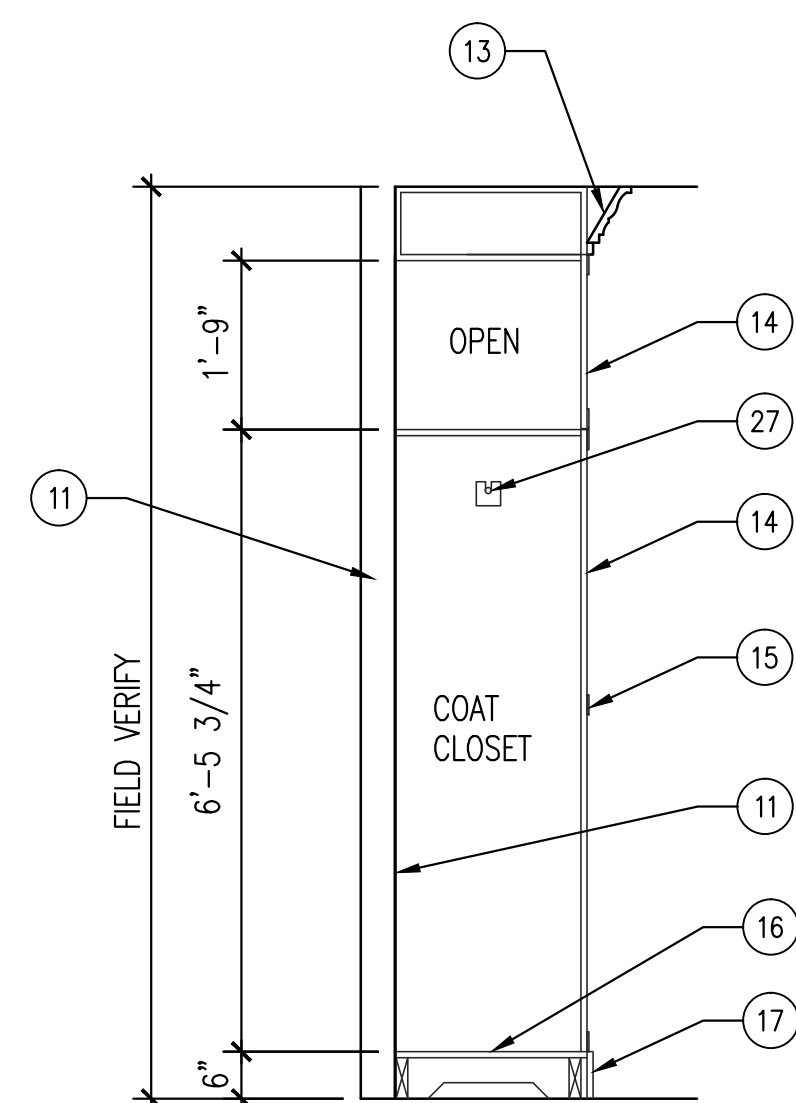
SHEET 13 OF 41



C1 MILLWORK - ELEVATION
 Scale: $1/2" = 1'-0"$ SCALE: $1/2" = 1'-0"$

C3 MILLWORK - SECTION

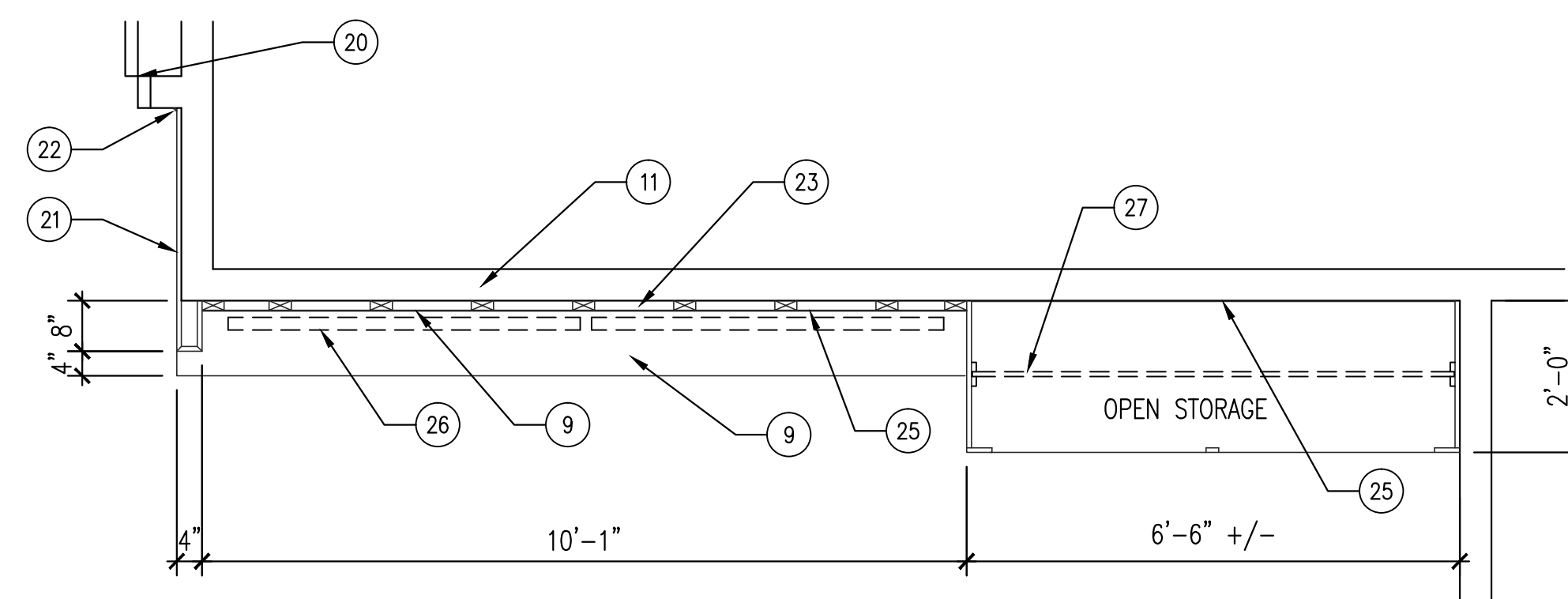
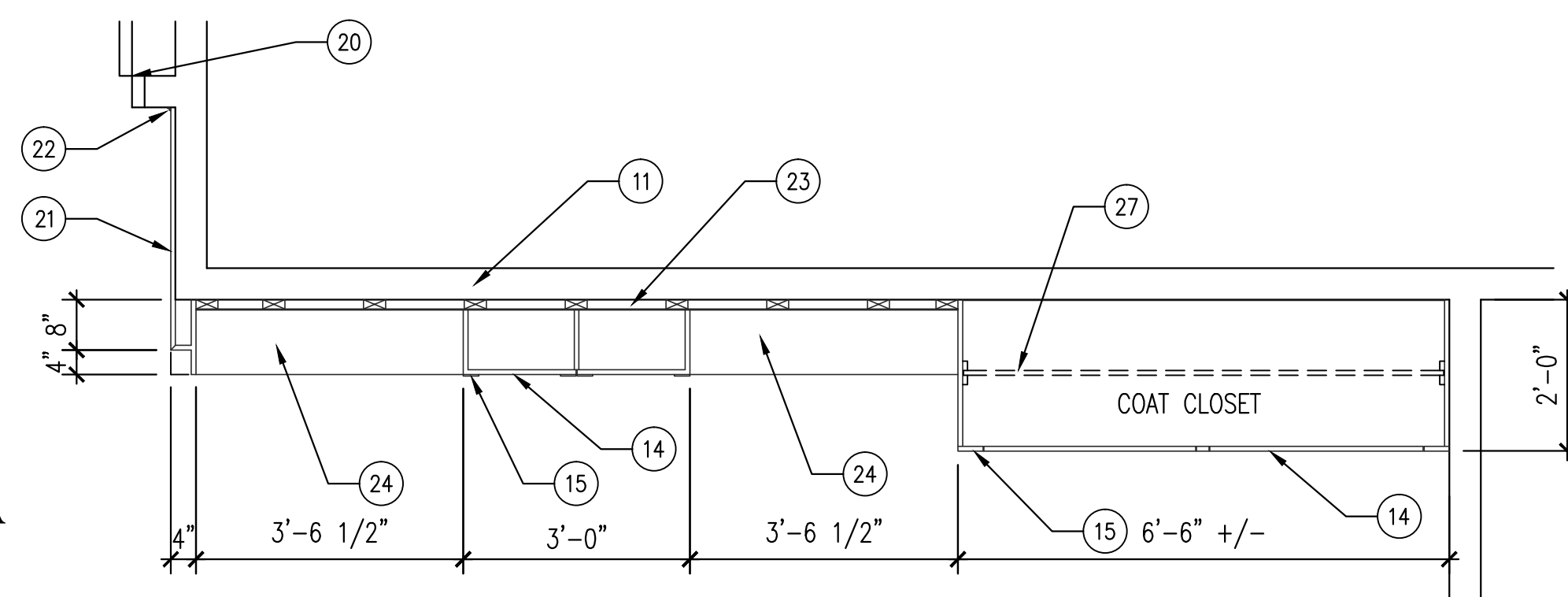
C4 **MILLWORK - SECTION**
A-7-01 Scale: 1/2" = 1'-0" SCALE: 1/2" = 1'-0"



B1 **MILLWORK - SECTION**
A-7-01 Scale: 1/2" = 1'-0" SCALE: 1/2" = 1'-0"

B2 **MILLWORK - SECTION**
A-7-01 Scale: 1/2" = 1'-0" SCALE: 1/2" = 1'-0"

B3 **MILLWORK - SECTION**
A-7-01 Scale: 1/2" = 1'-0" SCALE: 1/2" = 1'-0"



A1 **MILLWORK - SECTION**
A-7-01 Scale: $1/2" = 1'-0"$ SCALE: $1/2" = 1'-0"$

A3 A-7-01 MILLWORK - SECTION Scale: 1/2" = 1'-0"

General Notes: 5

No.	DESCRIPTION:

1. ALL NEW MILLWORK SHALL MATCH EXISTING MILLWORK DETAIL IN COLOR, FINISH, STYLE AND DETAIL.
2. ALL NEW CROWN MOLDING SHALL MATCH EXISTING CROWN MOLDING IN COLOR, STYLE AND DETAIL.
3. ALL CROWN MOLDING ON TOP OF NEW MILLWORK SHALL MATCH EXISTING MILLWORK IN COLOR STYLE AND DETAIL.
4. ALL NEW CHAIR RAIL SHALL MATCH EXISTING CHAIR RAIL IN STYLE AND DETAIL, COLOR SHALL BE SELECTED BY ARCHITECT.
5. ALL NEW BASE MOLDING SHALL MATCH EXISTING BASE MOLDING IN STYLE AND DETAIL, COLOR SHALL BE SELECTED BY ARCHITECT.
6. MATCH EXISTING DOOR PULLS AND DOOR HARDWARE HINGE

Sheet Key Notes

[illegible]

- 1 EXISTING OR NEW COLUMN (PREP AND MATCH EXISTING TEXTURE, COLOR SELECTED BY ARCHITECT)
- 2 NEW CROWN MOLDING (MATCH EXISTING)
- 3 ELECTRICAL OUTLET
- 4 DATA PORT OUTLET
- 5 RAISED FRAMED BOX ON TOP OF TABLE TOP W/ LAMINATE
- 6 BASE (MATCH EXISTING)
- 7 WOOD END PANEL
- 8 WOOD EDGE TRIM W/ ROUNDED CORNER W/ 3/8" RECESSED INSERT
- 9 LAMINATED COUNTERTOP
- 10 ELECTRICAL BOX OR DATA BOX W/ COVER PLATE AND CONDUIT
- 11 EXISTING WALL FRAMING
- 12 OPEN BACK, PAINT ON WALL BACK OF CABINET
- 13 NEW CROWN MOLDING (MATCH MOLDING ON EXISTING MILLWORK)
- 14 NEW MILLWORK CABINET
- 15 MATCH TRIM DETAIL ON EXISTING MILLWORK
- 16 MILLWORK BASE
- 17 BASE MOLDING (MATCH EXISTING MILLWORK)
- 18 ADJUSTABLE GLASS SHELVES W/ WOOD TRIM ON FRONT (MATCH EXISTING MILLWORK)
- 19 HOLES FOR ADJUSTABLE SHELVING (MATCH EXISTING MILLWORK DETAIL)
- 20 DOOR AND FRAME IN NEW LOCATION (SEE FLOOR PLAN)
- 21 WOOD PANEL FLOOR TO CEILING W/ BASE, CHAIR RAIL, AND CROWN MOLDING (MATCH EXISTING)
- 22 COVE MOLDING AS REQUIRED TO COVER PANEL EDGE
- 23 1 1/2" CAVITY BEHIND MILLWORK FOR WIRE TO BE PULLED FOR TV AND DATA LINES, 2x4'S LAID FLAT AT 16 " O.C. ADD ADDITIONAL BLOCKING TO MOUNT TV BRACKET.
- 24 MILLWORK SHELVE (MATCH EXITING MILLWORK DETAIL)
- 25 WOOD BACK PANEL
- 26 TV SPACE
- 27 CLOSET ROD
- 28 LIGHTING (MATCH EXISTING)
- 29 SHELVE (MATCH EXISTING MILLWORK)
- 30 LAMINATED WOOD PANEL

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A-7-01

SHEET 14 OF 41

D

C

B

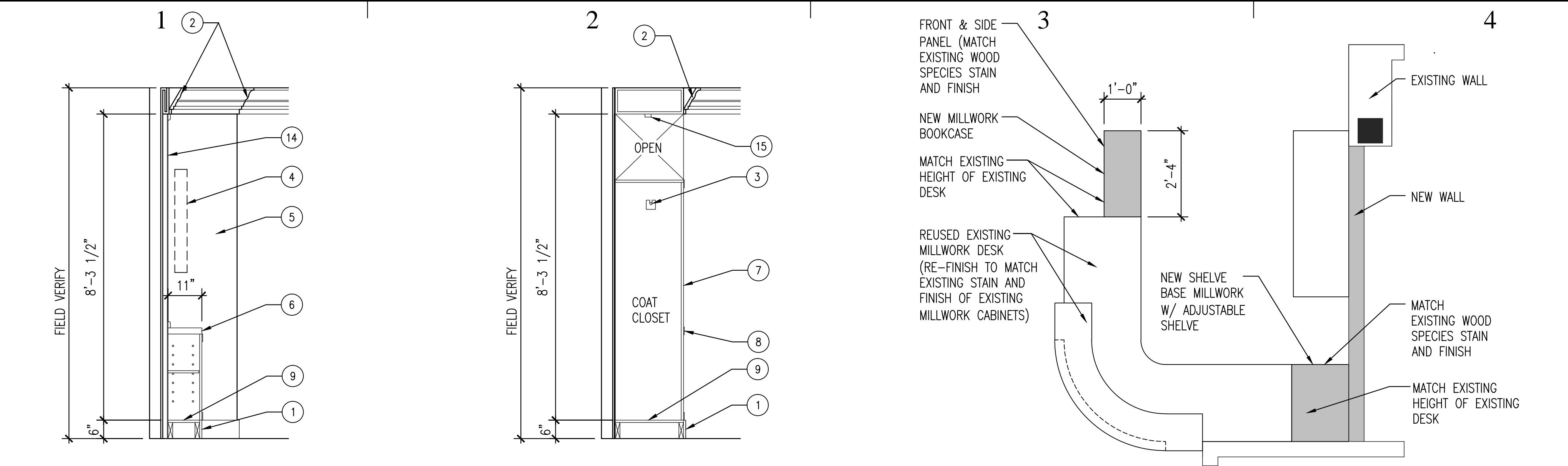
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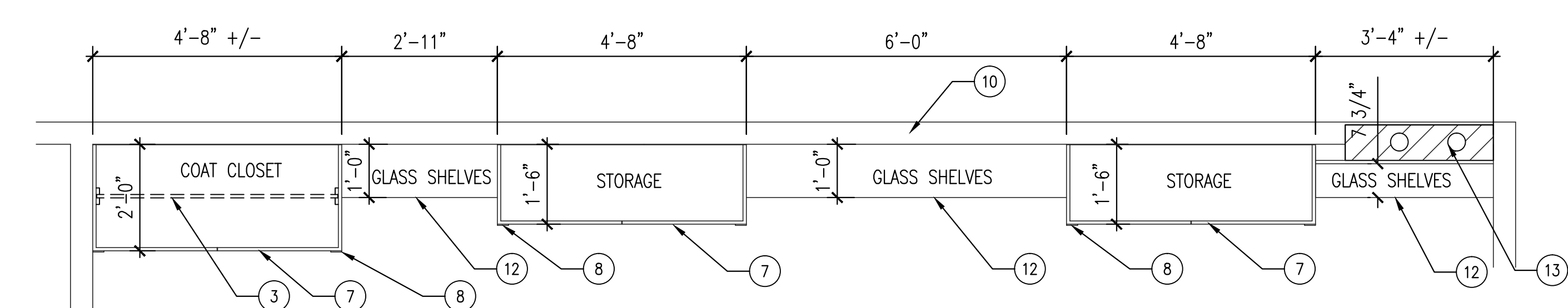
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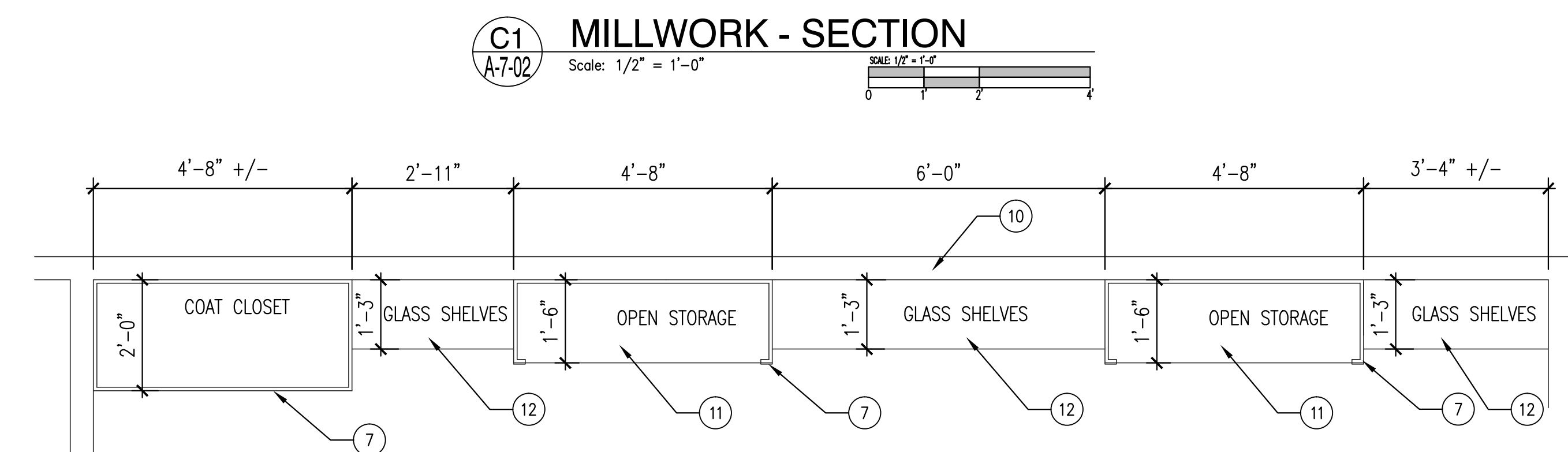
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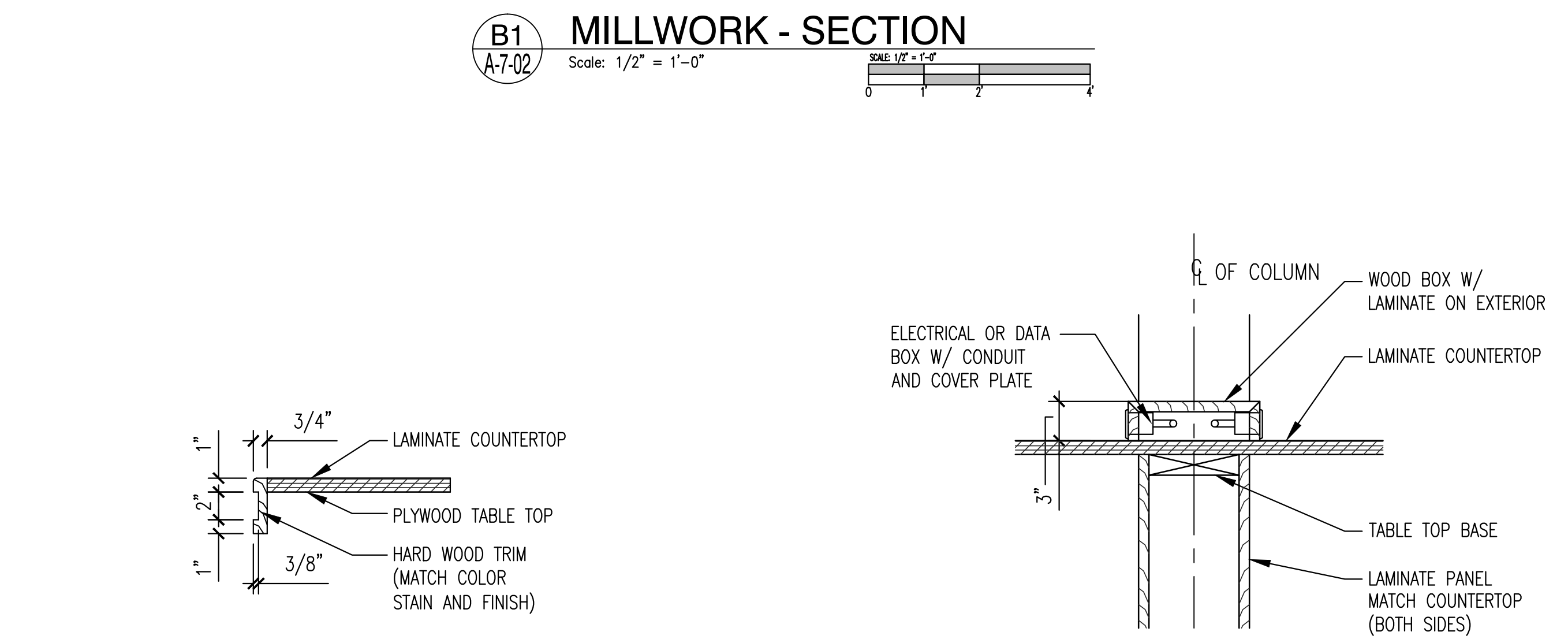
D1 MILLWORK - SECTION
Scale: 1/2" = 1'-0"
D2 MILLWORK - SECTION
Scale: 1/2" = 1'-0"



D3 ENLARGED PLAN
Scale: 1/2" = 1'-0"



C1 MILLWORK - SECTION
Scale: 1/2" = 1'-0"



B1 MILLWORK - SECTION
Scale: 1/2" = 1'-0"

A1 MILLWORK - DETAIL
Scale: 1 1/2" = 1'-0"

A2 MILLWORK - DETAIL
Scale: 1 1/2" = 1'-0"

A3 MILLWORK - DETAIL
Scale: 1 1/2" = 1'-0"

- General Notes:** 5
- No. DESCRIPTION:
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 5. ALL NEW BASE MOLDING SHALL MATCH EXISTING BASE MOLDING IN STYLE AND DETAIL, COLOR SHALL BE SELECTED BY ARCHITECT.
 6. MATCH EXISTING DOOR PULLS AND DOOR HARDWARE HINGE.










































- Sheet Key Notes**
- No. DESCRIPTION:
- 1 BASE MOLDING MATCH EXISTING
 - 2 NEW CROWN MOLDING (MATCH MOLDING ON EXISTING MILLWORK)
 - 3 CLOSET ROD
 - 4 DASHED LINE INDICATES WHERE TV IS LOCATED
 - 5 CABINET (BEYOND)
 - 6 SHELVE (MATCH EXISTING MILLWORK)
 - 7 NEW MILLWORK CABINET
 - 8 MATCH TRIM ON EXISTING MILLWORK
 - 9 MILLWORK BASE
 - 10 EXISTING WALL FRAMING
 - 11 MILLWORK SHELVE (MATCH EXISTING)
 - 12 GLASS SHELVES (MATCH EXISTING)
 - 13 ARE WHERE NEW FIRE LINE IS TO BE RELOCATED
 - 14 WOOD PANELING BACK
 - 15 LIGHTING (MATCH EXISTING)

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ISSUE TYPE:		
ISSUE DATE:		
DFCM PROJECT NO: 15348050		
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MILLWORK		
SHEET NUMBER		
A-7-02		
SHEET 15 OF 41		

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
VALVES, METERS, AND GAUGES	
01	 SHUT OFF VALVE
02	 GATE VALVE
03	 CHECK VALVE
04	 AUTO 2-WAY VALVE
05	 AUTO 3-WAY VALVE
06	 GLOBE VALVE
07	 BALL VALVE
08	 RELIEF VALVE
09	 CHAIN OPERATED GATE VALVE
10	 PRESSURE REDUCING VALVE
11	 BUTTERFLY VALVE
12	 SOLENOID VALVE
13	 ANGLE VALVE
14	 VENTURI
15	 BALANCING OR PLUG COCK
16	 FLOW SETTER
17	 EXPANSION VALVE (REFRIG.)
18	 GAS COCK
19	 MANUAL AIR VENT
20	 STRAINER
21	 GAUGE COCK
22	 FLEXIBLE CONNECTION
23	 PRESSURE GAUGE
24	 THERMOMETER
25	 VICTUALIC COUPLING
26	 REDUCER CONCENTRIC
27	 REDUCER ECCENTRIC
28	 REFRIGERANT SITE GLASS
29	 REFRIGERANT STRAINER
30	 REFRIGERANT FILTER DRIER
31	 90 DEG ELBOW UP
32	 90 DEG ELBOW DOWN
33	 90 DEG TEE UP
34	 90 DEG TEE DOWN
35	 UNION
36	 CAPPED PIPE
37	 ANCHOR
38	 FLOAT AND THERMOSTATIC TRAP
HVAC SYMBOLS	
01	 THERMOSTAT
02	 TEMPERATURE SENSOR
03	 HUMIDISTAT

MECHANICAL SHEET INDEX	
M-0-01	MECHANICAL COVER SHEET
M-6-01	MECHANICAL SCHEDULES & DETAILS
M-8-01	MECHANICAL SPECIFICATIONS
MD-1-01	PARTIAL BASEMENT LEVEL DEMOLITION MECHANICAL PLAN
MH-1-01	PARTIAL BASEMENT LEVEL MECHANICAL PLAN

SYMBOL LEGEND			
SYMBOL		DESCRIPTION	
00 DUCT WORK			
SINGLE LINE		DOUBLE LINE	DESCRIPTION
01			RECTANGULAR SUPPLY DUCT UP
02			RECTANGULAR SUPPLY DUCT DOWN
03			RECTANGULAR RETURN DUCT UP
04			RECTANGULAR RETURN DUCT DOWN
05			RECTANGULAR EXHAUST DUCT UP
06			RECTANGULAR EXHAUST DUCT DOWN
07			ROUND DUCT UP
08			ROUND DUCT DOWN
09			ACCOUSTICALLY LINED RECTANGULAR DUCT
10			90° RECTANGULAR ELBOW WITH TURNING VANES
11			90° RADIUS ELBOW R=1.5
12			DUCT SIZE OR SHAPE TRANSITION
13			OPPOSED BLADE BALANCING DAMPER (O.B.D.) IN RECT DUCT
14			BUTTERFLY BALANCING DAMPER IN ROUND DUCTS
15			COMBINATION TEE
16			SPLITTER DAMPER
17			SQUARE OR RECTANGULAR CEILING DIFFUSER
18			ROUND CEILING DIFFUSER
19			SIDEWALL REGISTER SUPPLY OR RETURN
20			ROUND FLEXIBLE DUCT
21			RETURN GRILLE
22			EXHAUST GRILLE
23			FIRE SMOKE DAMPER
24			FIRE DAMPER
25			SMOKE DAMPER
26			FLEXIBLE CONNECTION
28			DUCT TO BE REMOVED

PIPING LEGEND	
NOTE: ALL ABBREVIATIONS MAY NOT BE USED.	
	HIGH PRESSURE STEAM
	MEDIUM PRESSURE STEAM
	LOW PRESSURE STEAM
	HIGH PRESSURE CONDENSATE RETURN
	MEDIUM PRESSURE CONDENSATE RETURN
	LOW PRESSURE CONDENSATE RETURN
	PUMP DISCHARGE
	TEMPERED WATER SUPPLY
	CHILLED WATER SUPPLY
	CHILLED WATER RETURN
	HEATING HOT WATER SUPPLY
	HEATING HOT WATER RETURN
	REFRIGERANT LIQUID
	REFRIGERANT SUPPLY
	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN
	DRAIN LINE
	HOT GAS BYPASS
	GLYCOL SUPPLY
	GLYCOL RETURN
	FUEL OIL SUPPLY
	FUEL OIL VENT

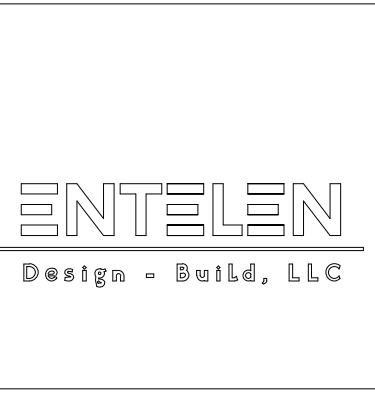
DEFINITIONS	
NOTE: ALL DEFINITIONS MAY NOT BE USED.	
INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.	
DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.	
APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.	
FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."	
INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."	
PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."	
INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.	

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
REFERENCE LINES AND SYMBOLS	
00	
01	
02	
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ABBREVIATIONS	
NOTE: ALL ABBREVIATIONS MAY NOT BE USED.	
(E)	EXISTING
(F)	FUTURE
AD	ACCESS DOOR
AIR COND	AIR CONDITION(-ING,-ED)
APD	AIR PRESSURE DROP
BD	BALANCING DAMPER
BHP	BRAKE HORSE POWER
BTU	BRITISH THERMAL UNIT
BTU/H	BTU/HOUR
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CLG	COOLING
COMP	COMPONENT
COND	CONDENS(-ER,-ING,-ATION)
CV	CONTROL VALVE
DB	DRY BULB TEMPERATURE
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHW/R	DOMESTIC HOT WATER RECIRC
DIA	DIAMETER
DISCH	DISCHARGE
DP	DEPTH OR DEEP
EA	EXHAUST AIR
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
EG	ETHYLENE GLYCOL
ELEC	ELECTRIC
ELEV	ELEVATION
ENT	ENTERING
EVAPORAT(-E,-ING,-ED,-OR)	EVAPORATE
ENTW	ENTERING WATER TEMPERATURE
EXT	EXTERNAL
F	FAHRENHEIT
FC	FLEXIBLE CONNECT(-OR,-ION)
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FPI	FINS PER INCH
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FSD	FIRE SMOKE DAMPER
FT	FEET
GAL	GALLON(S)
GE	GREASE EXHAUST
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HD	HEAD
HG	MERCURY
HP	HORSEPOWER
HR	HOUR
HT	HEIGHT
HTG	HEATING
HZ	HERTZ (FREQUENCY)
ID	INSIDE DIAMETER
IN	INCH
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LG	LENGTH
LH	LATENT HEAT
LRA	LOCKED ROTOR AMPS
LVG	LEAVING
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPS
MFR	MANUFACTUR(-ER,-ED)
MIN	MINIMUM
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NC	NOISE CRITERIA
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OZ	OUNCE
PD	PRESSURE DROP OR DIFFERENCE
PH	PHASE
PPM	PARTS PER MILLION
PRESS	PRESSURE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAUGE
R	THERMAL RESISTANCE
RA	RETURN AIR
RECIRC	RECIRCULATE
REFR	REFRIGERATION
REQD	REQUIRED
RLA	RATED LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SCFM	STANDARD CUBIC FEET PER MINUTE
SF	SAFETY FACTOR
SH	SENSIBLE HEAT
SP	STATIC PRESSURE
SPEC(S)	SPECIFICATION(S)
SO	SQUARE
STD	STANDARD
SW	SOIL, WASTE
TA(R)	TRANSFER AIR (RETURN)
TA(S)	TRANSFER AIR (SUPPLY)
TEMP	TEMPERATURE
THERM	THERMAL
TOT	TOTAL
TSTAT	THERMOSTAT
V	VOLT
V	VENT
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY TEMPERATURE
VEL	VELOCITY
VENT	VENT, VENTILATION
VFD	VARIABLE FREQUENCY DRIVE
WB	WET BULB TEMP
WC	WATER COLUMN
WG	WATER GAUGE
WPD	WATER PRESSURE DROP
WT	WEIGHT
YR	YEAR

MECHANICAL GENERAL NOTES	
1	THE MECHANICAL DRAWINGS SHOW THE GENERAL DESIGN, ARRANGEMENT & EXTENT OF THE MECHANICAL SYSTEM. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THESE DRAWINGS DO NOT SHOW ALL OFFSETS, BENDS OR ELBOWS NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. CONTRACTOR SHALL MAKE SUCH SLIGHT ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE & OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT. MAJOR DEVIATIONS SUCH AS CHANGES IN COMPONENT SIZES, WEIGHTS, QUANTITIES OR MATERIAL REQUIRE PRIOR APPROVAL BY THE DESIGN ENGINEER.
2	THE DRAWINGS & SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER & SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE & NOT THE OTHER BEING FURNISHED & INSTALLED AS THOUGH SHOWN & CALLED OUT IN BOTH.
3	THE ENTIRE MECHANICAL INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODES, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, & ALL OTHER APPLICABLE CITY, COUNTY, STATE, & FEDERAL CODES & REGULATIONS IN EFFECT.
4	THE ENTIRE MECHANICAL INSTALLATION SHALL CONFORM TO ANY CODES, RULES, REGULATIONS & REQUIREMENTS OF THE BUILDING OWNER.
5	PRIOR TO FABRICATION & INSTALLATION OF ANY MECHANICAL COMPONENT THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL MECHANICAL WORK WITH ALL OTHER BUILDING TRADES, INCLUDING BUILDING TRADES HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
6	THE SPACE ABOVE ALL CEILINGS IS LIMITED. CAREFUL COORDINATION IS REQUIRED WITH ALL TRADES BEFORE ANY PIPE, DUCT, OR EQUIPMENT IS ORDERED & OR INSTALLED. ANY CONFLICTS &/OR CHANGES FOUND DURING INSTALLATION THAT RESULTS FROM THE LACK OF COORDINATION BY THE CONTRACTORS DURING THE SHOP DRAWING PROCESS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
7	ALL MECHANICAL INFORMATION IS NOT SHOWN ON THE MECHANICAL DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENT.
8	THE CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW & USE, WHERE APPROPRIATE, ALL THE MECHANICAL DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE MECHANICAL SYSTEM WITHOUT USING THE INCLUDED DETAILS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
9	THE STRUCTURE SHOWN ON ALL DETAILS MAY OR MAY NOT PERTAIN TO A PORTION OR ANY PORTION OF THE BUILDING. COORDINATE ALL MOUNTING REQUIREMENTS WITH ARCHITECTURAL & STRUCTURAL DRAWINGS.
10	ANY PART OF THE MECHANICAL INSTALLATION THAT FAILS, IS UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
11	SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL CEILING DIFFUSERS & GRILLES.
12	CONTRACTOR SHALL OPERATE THE SYSTEM & DEMONSTRATE ALL ASPECTS OF THE SYSTEM TO THE ENGINEER &/OR OWNER TO PROVE ALL SYSTEMS ARE OPERATIONAL.
13	DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN A SET OF AS-BUILT REDLINED RECORD DRAINING AT THE PROJECT SITE. ALL CHANGES IN LAYOUT, ROUTING, EQUIPMENT, COMPONENTS, & ACCESSORIES SHALL BE RECORDED. THESE REDLINED DRAWINGS SHALL BE GIVEN TO THE ARCHITECT/ENGINEER AFTER THE FINAL INSPECTION IN ACCORDANCE WITH SPECIFICATIONS.
GENERAL EQUIPMENT NOTES	
1	ALL CAPACITIES ARE AT JOB SITE CONDITIONS & ARE MINIMUM CAPACITY.
2	ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED TO CONFORM WITH LOCAL SEISMIC REQUIREMENTS & THE REQUIREMENTS OF THESE CONSTRUCTION DOCUMENTS.
3	VERIFY ALL REQUIRED SERVICE CONNECTIONS, INCLUDING ELECTRICAL CHARACTERISTICS FOR ALL EQUIPMENT PRIOR TO ORDERING EQUIPMENT.
4	ALL EQUIPMENT SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURAL MEMBERS.
5	ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
6	ALL SIMILAR EQUIPMENT SHALL BE OF THE SAME MANUFACTURER.
7	AIR INLETS & OUTLETS SHALL BE OF THE SAME MANUFACTURER.
8	THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HVAC EQUIPMENT CHECK-IN, SAFEKEEPING, & DAMAGE.

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UTAH STATE
CAPITOL BUILDING

SUITE #85

SALT LAKE CITY
UTAH
84103

MARK	DATE	DESCRIPTION
ISSUE TYPE: 100% BID DOCUMENT		

ISSUE DATE: 11/6/2015

DFCM PROJECT NO: 15348050

DRAWN BY: DXV

CHK'D BY: RHB

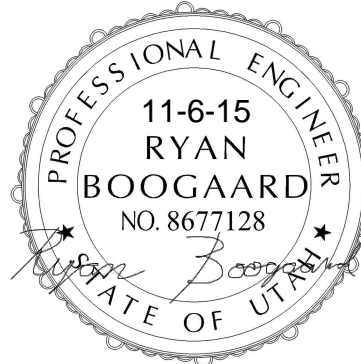
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MECHANICAL COVER
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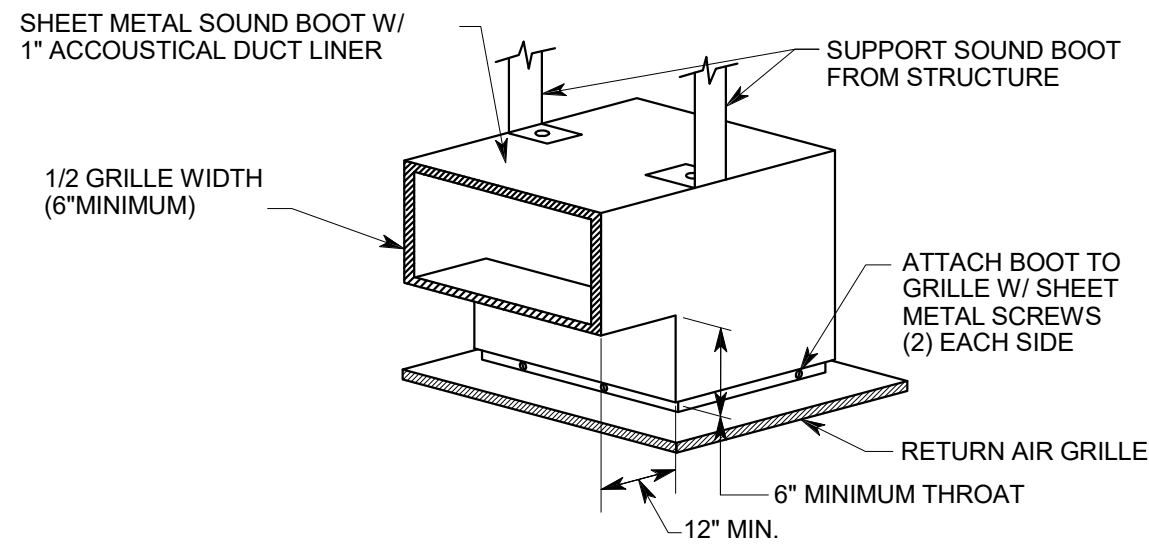
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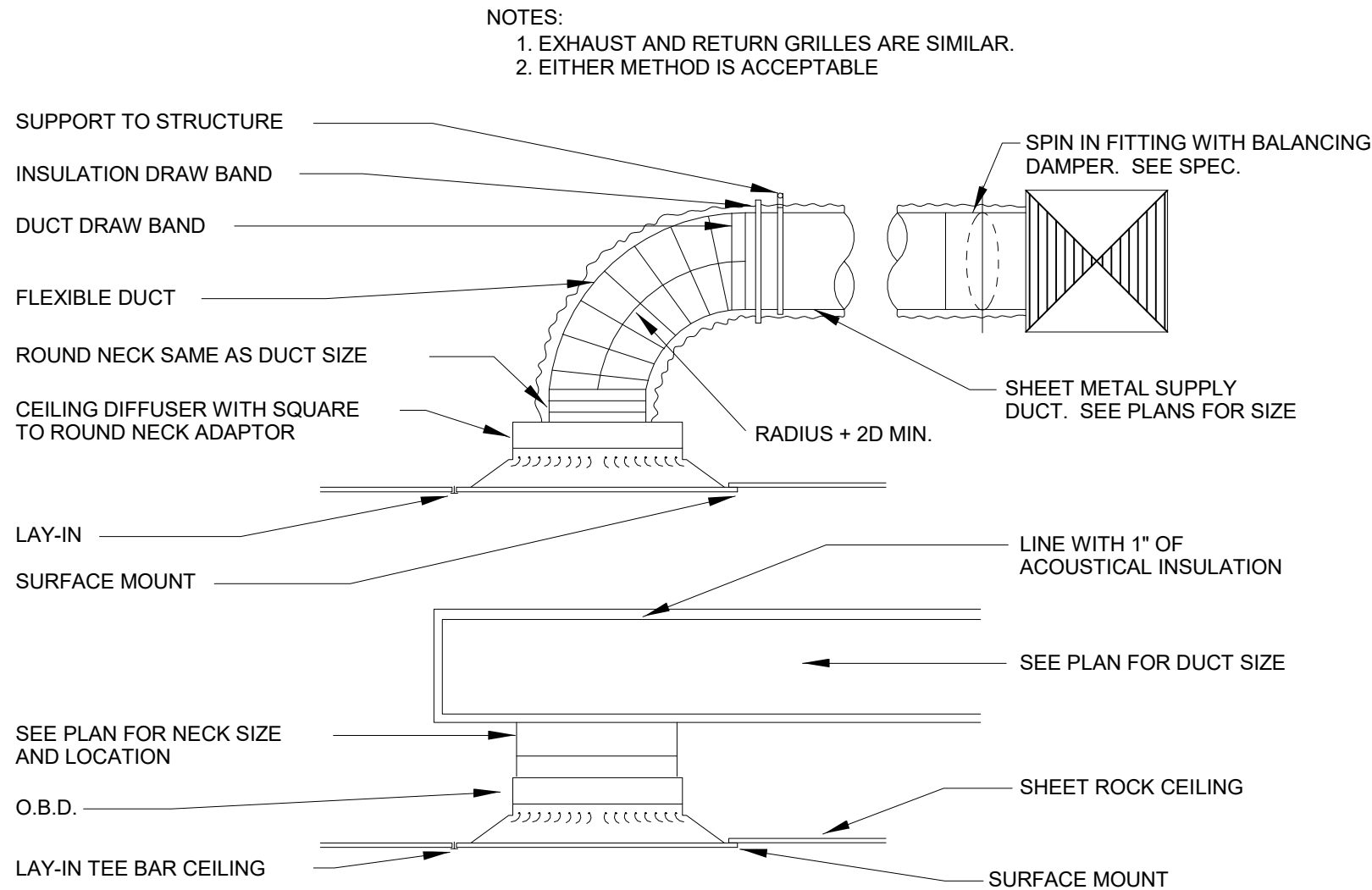
SHEET 16 OF 41



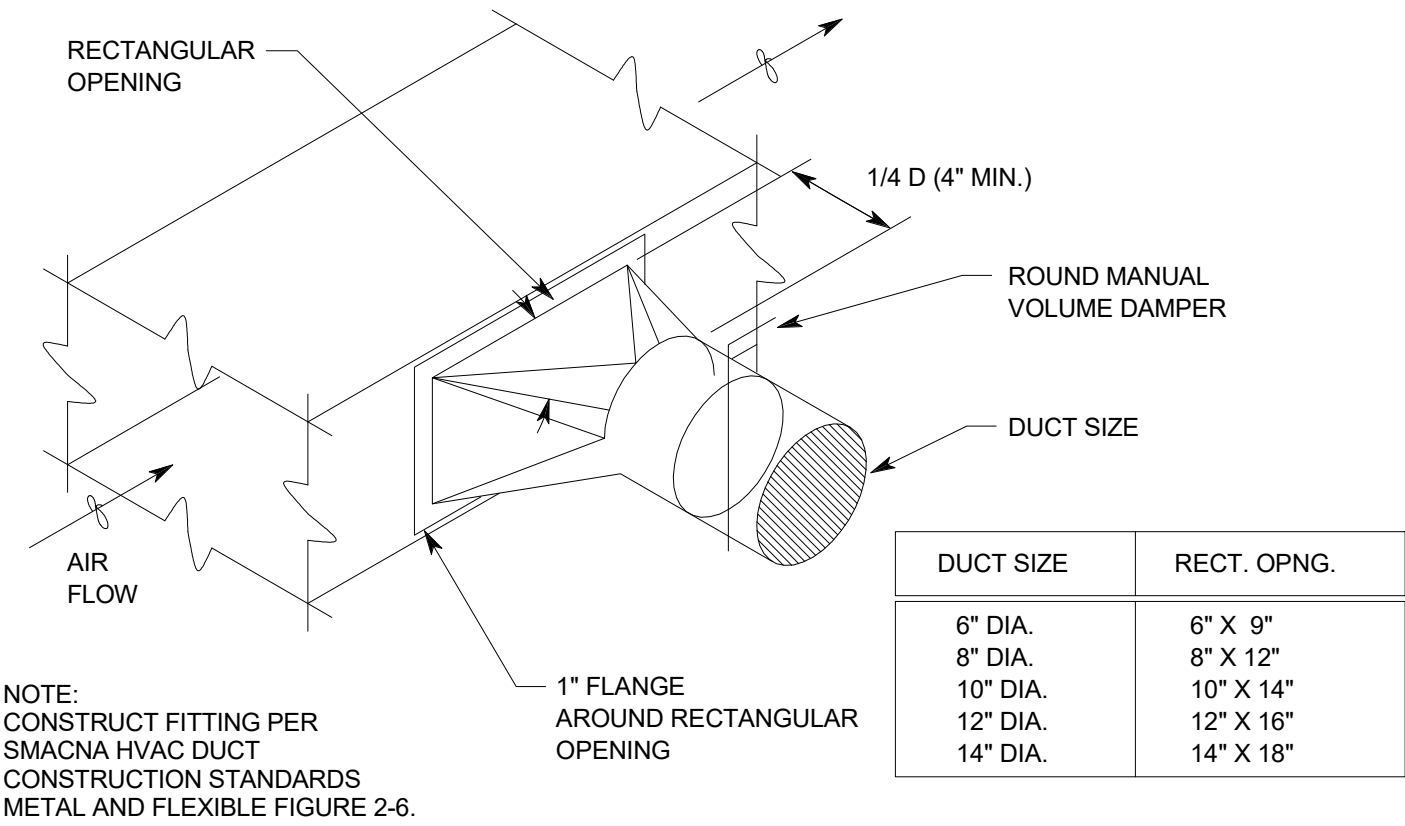
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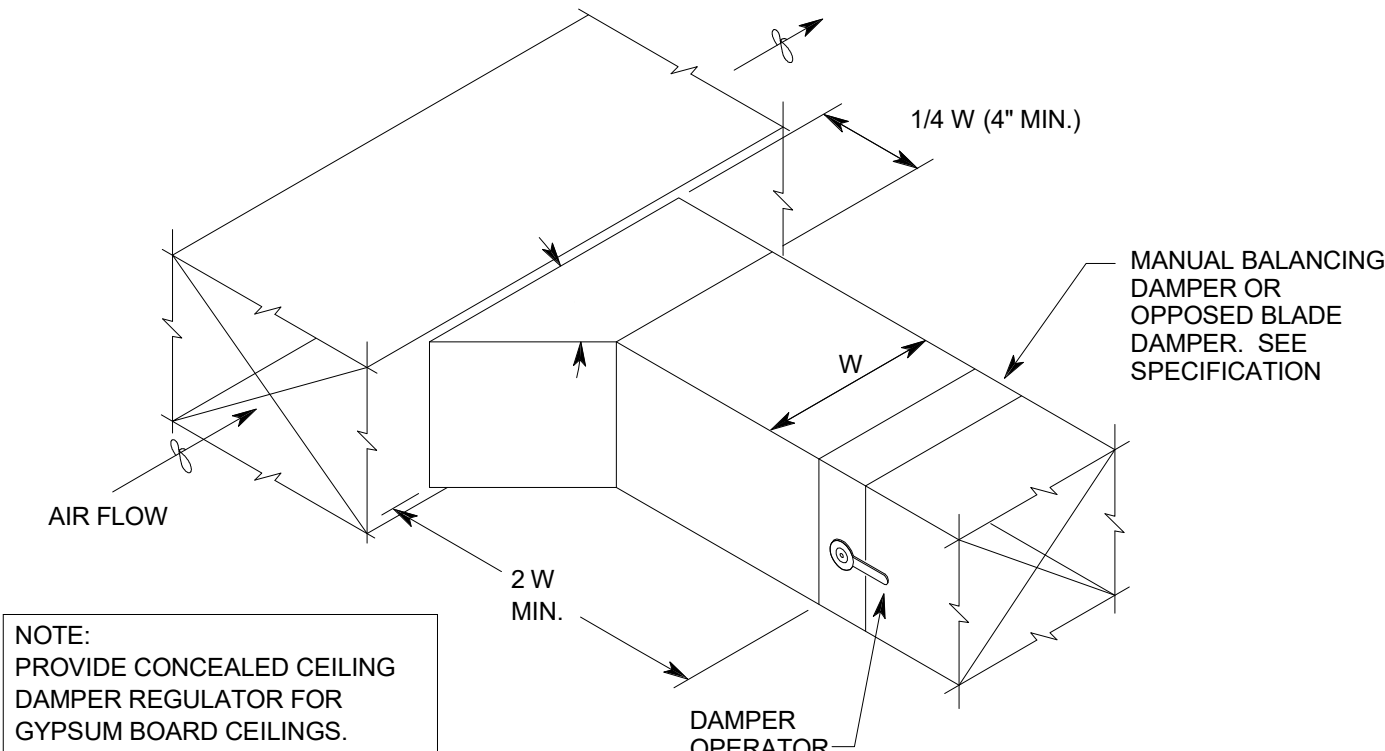
10 R.A. GRILLE WITH SOUND BOOT
SCALE: NTS



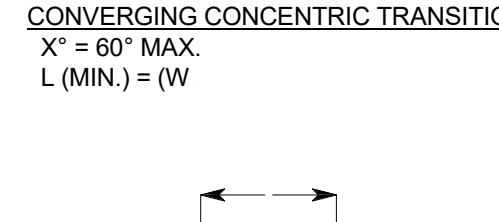
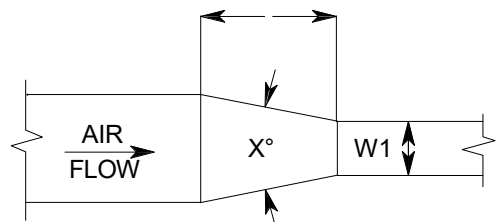
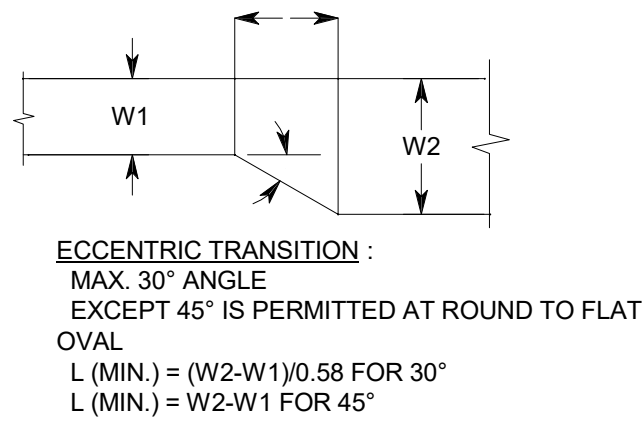
9 CEILING GRILLE/DIFFUSER DETAIL
SCALE: NTS



6 HIGH EFFICIENCY DUCT TAKEOFF
SCALE: NTS

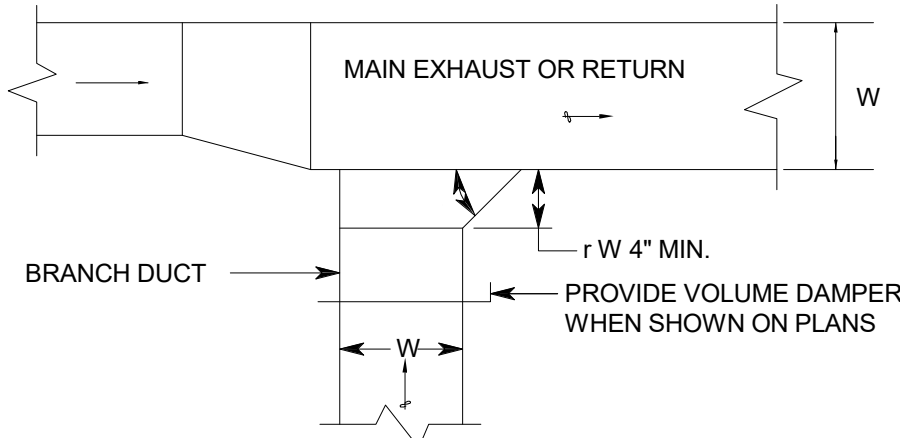


3 DUCT BRANCH TAKEOFF
SCALE: NTS

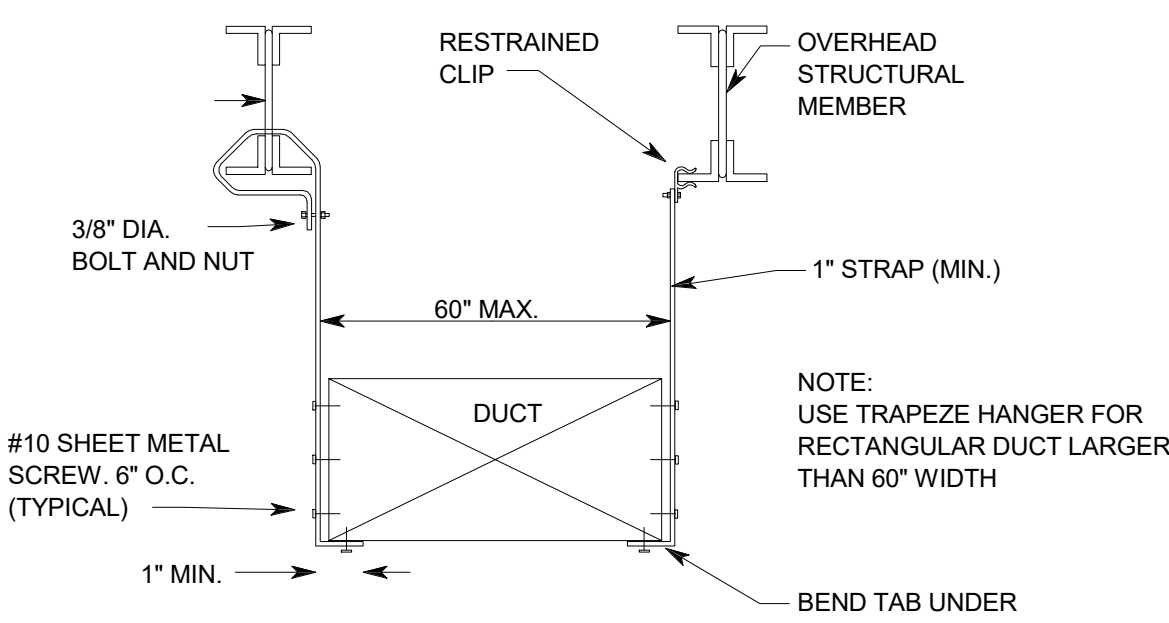


NOTE: UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

8 DUCT TRANSITIONS
SCALE: NTS



5 EXHAUST AND/OR RETURN BRANCH DUCT
SCALE: NTS

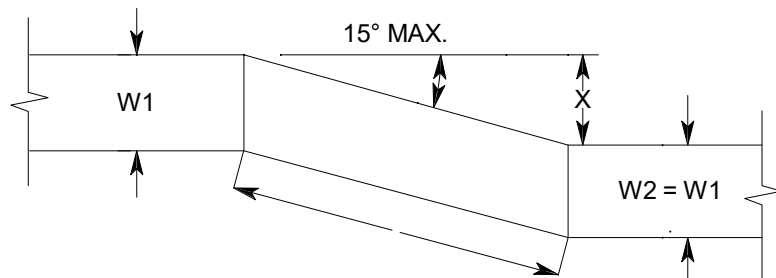


2 DUCT HANGERS (RECTANGULAR)
SCALE: NTS

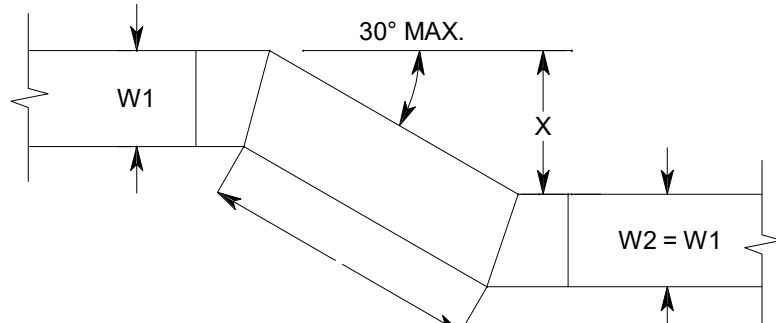
DIFFUSERS, REGISTERS, & GRILLES SCHEDULE

SYMBOL	DESCRIPTION	NOMINAL SIZE	NECK SIZE	MAX CFM	THROW H	MAKE AND MODEL	ACCESSORIES AND REMARKS
D-1	LOUVERED FACE DIFFUSER	24X24	8\" DIA.	280	6-9-14	KRUEGER 1400	1
E-1	EGG-CRATE EXHAUST GRILLE	24X24	6X6	210	--	KRUEGER EGC-5	1
R-1	PERFORATED RETURN GRILLE	24X24	20X20	770	--	KRUEGER 6290	1
TG-1	DOOR TRANSFER GRILLE	14X6	--	150	--	KRUEGER 600	1.2

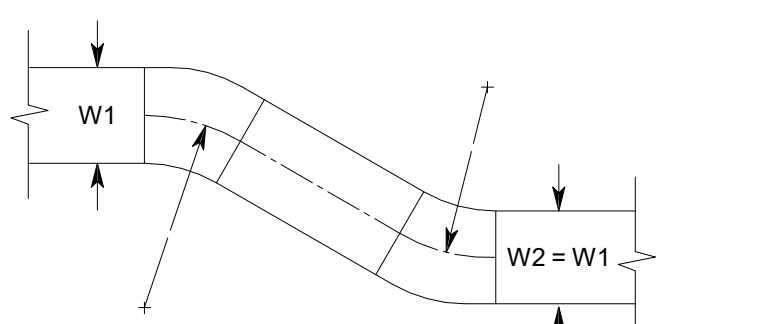
1. FACTORY WHITE FINISH.
2. COORDINATE EXACT LOCATION ON DOOR WITH ARCHITECTURAL DRAWINGS.



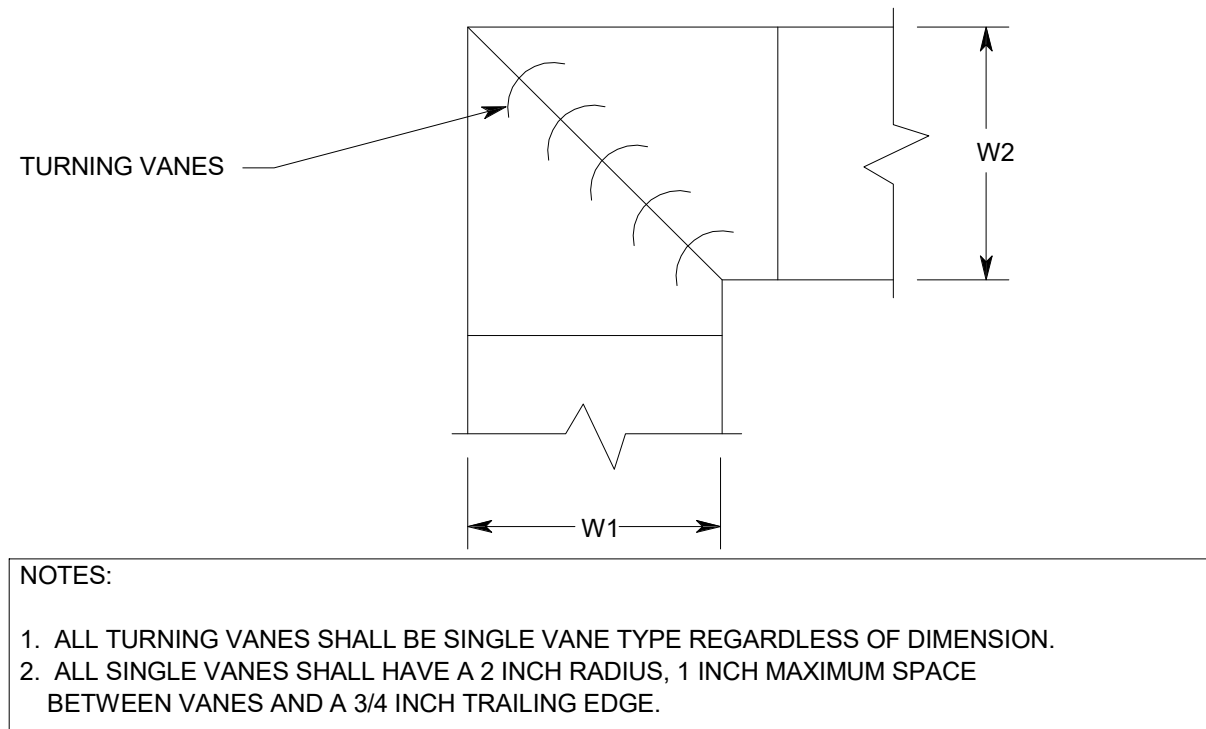
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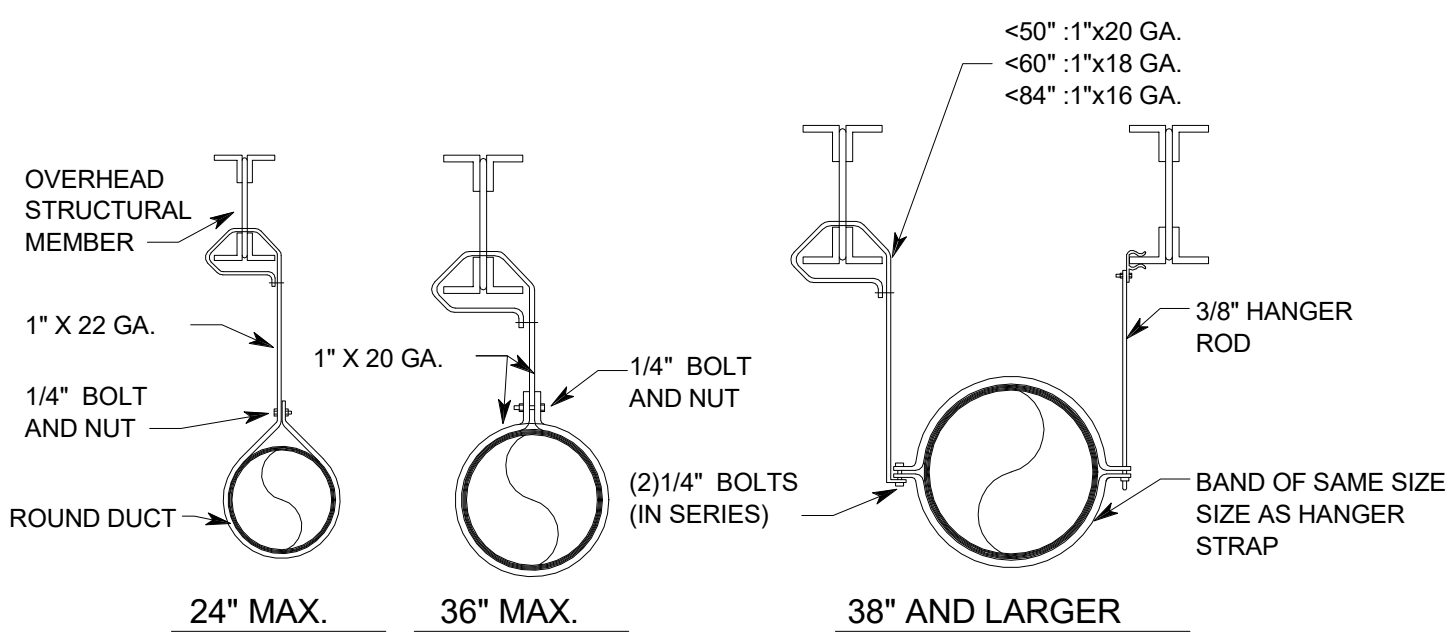
OFFSET TYPE 2: MITERED
L (MIN.) = X / 0.5



7 DUCT OFFSETS
SCALE: NTS

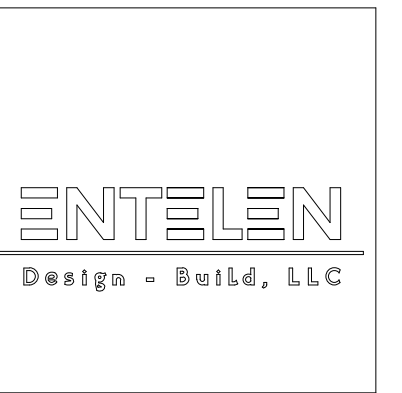


4 ELBOW SQUARE
SCALE: NTS



1 DUCT HANGER DETAIL
SCALE: NTS

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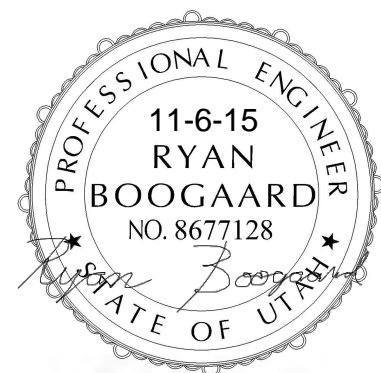
SHEET TITLE

MECHANICAL
SCHEDULES & DETAILS

SHEET NUMBER

M-6-01

SHEET 17 OF 41



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MECHANICAL SPECIFICATIONS

15891 - METAL DUCTWORK

1.

ALL DUCTWORK SHALL BE CONSTRUCTED, ERECTED, AND TESTED IN ACCORDANCE WITH THE MOST RESTRICTIVE OF LOCAL REGULATIONS AND PROCEDURES DETAILED IN THE ASHRAE HANDBOOK OF FUNDAMENTALS, OR THE APPLICABLE STANDARDS ADOPTED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION, (SMACNA).

2.

TRANSITION ALL NEW DUCTWORK TO CONNECT TO EXISTING, AS REQUIRED.

3.

DUCTWORK SHALL BE GALVANIZED STEEL THROUGHOUT, FABRICATED AND INSTALLED SO THAT NO VIBRATION OR NOISE RESULTS. IT SHALL BE MADE FROM THE BEST GRADE OF GALVANIZED MILLED STEEL SHEETS OF U.S. STANDARD GAUGE AND BE FREE FROM BLISTERS, SLIVERS, AND PITS. ALL SEAMS SHALL BE AIRTIGHT, THE CONSTRUCTION OF ALL DUCTWORK, INCLUDING GAUGES OF METAL, BRACING LAYOUT, ETC., SHALL BE IN ACCORDANCE WITH SMACNA. SLEEVES FOR FIRE DAMPERS AND DUCT SECTIONS FORMING AN EXTENSION OF THE FIRE WALL SHALL BE 10 GAUGE STEEL.

4.

SEAL DUCTWORK ACCORDING TO THE FOLLOWING SMACNA DUCT SEALING CLASS:

DUCT LOCATION	DUCT TYPE			
	SUPPLY		EXHAUST/RETURN	
	<2in. Wg.	>2in. Wg.		
OUTDOORS	A	A	A	A
UNCONDITIONED SPACES	B	A	B	B
CONDITIONED SPACES	C	B	B	B
(CONCEALED DUCTWORK) (CONDITIONED SPACES) (EXPOSED DUCTWORK)	A	A	B	B

5.

HANGERS FOR DUCTS UP TO 18" IN WIDTH OR DIAMETER SHALL BE PLACED ON NOT MORE THAN 8 FOOT CENTERS. DUCTS 19" AND OVER IN WIDTH OR DIAMETER SHALL BE SUPPORTED ON NOT MORE THAN 4 FOOT CENTERS. DUCT HANGERS SHALL BE CONSTRUCTED OF GALVANIZED BAND IRON 1-1/8" FOR DUCTS UP TO 36" IN WIDTH OR DIAMETER. HANGERS SHALL EXTEND DOWN SIDES AND A MINIMUM OF 1" UNDER RECTANGULAR DUCTS, AND WRAP COMPLETELY AROUND ROUND DUCTS. ALL DUCTS SHALL BE RIGIDLY SUPPORTED.

6.

ALL DUCTWORK SHALL BE CLEANED PRIOR TO THE INSTALLATION OF CEILING AND DIFFUSERS. OPERATE FANS TO BLOW OUT DUCTWORK.

7.

RECTANGULAR LOW-PRESSURE SUPPLY AND RETURN AIR DUCTWORK SHALL BE LINED WITH 1" FACED FIBERGLASS INSULATION SECURELY BUTTONED OR LAPPED AND SEALED. INSULATION SHALL BE 1-1/2 POUND DENSITY.

8.

OUTDOOR DUCTWORK EXPOSED TO THE WEATHER SHALL BE LINED WITH MINIMUM R-5 FACED FIBERGLASS INSULATION SECURELY BUTTONED OR LAPPED AND SEALED, AND SHALL BE FITTED WITH A 0.016 EMBOSSED ALUMINUM JACKET POP RIVETED FOR A WEATHERPROOF FIT.

9.

DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE CLEAR AREA AND SHALL BE INCREASED TO ACCOMMODATE INSULATION. DUCT LINER TO BE BY KNAUF GmbH, JOHN-MANSVILLE OR SCHULLER INTERNATIONAL.

10.

DUCTWORK FOR EVAPORATIVE COOLERS AND EVAPORATIVELY COOLED MAKE-UP AIR UNITS SHALL BE FABRICATED FROM ALUMINUM SHEETS. ALL SEAMS SHALL BE AIRTIGHT. THE CONSTRUCTION OF ALL DUCTWORK, INCLUDING GAUGES OF METAL, BRACING, LAYOUT, ETC. SHALL BE IN ACCORDANCE WITH SMACNA.

11.

CLASS I KITCHEN EXHAUST HOOD DUCT SYSTEMS:

A.

CONSTRUCT EXHAUST DUCT OF WELDED 16 GAGE CARBON STEEL SHEETS FOR CONCEALED DUCTS, AND WELDED OR FLANGED 18 GAGE STAINLESS STEEL FOR EXPOSED DUCTS.

B.

SLOPE HORIZONTAL DUCT AT 1/4" PER FOOT TOWARD HOOD.

C.

PROVIDE ACCESS DOORS AT EACH CHANGE OF DIRECTION.

D.

PROVIDE RESIDUE TRAP AT THE BASE OF EACH VERTICAL RISER, WITH PROVISIONS FOR CLEANOUT.

E.

ALL SEAMS, JOINTS AND PENETRATIONS SHALL HAVE A LIQUID-TIGHT, CONTINUOUS, EXTERNAL WELD.

F.

PROVIDE AND INSTALL ONE OF THE FOLLOWING SYSTEMS:

I.

DUCT ENCLOSURE WITH 2-HR FIRE RESISTIVE CONSTRUCTION AS DESCRIBED IN SECTION 508 OF THE UMC, OR

II.

A DUCT WRAP SYSTEM - 3M FIREMASTER GREASE DUCT FIRE PROTECTION SYSTEM, OR APPROVED EQUAL, OR

III.

A PREFABRICATED GREASE DUCT SYSTEM - METAL FAB MODEL "NO CHASE IPIC", OR APPROVED EQUAL.

WHICHEVER METHOD IS CHOSEN MUST HAVE APPROVAL FROM THE ADMINISTRATIVE AUTHORITY AND STATE FIRE MARSHALL.

MECHANICAL SPECIFICATIONS

15910 - DUCTWORK ACCESSORIES															
<div>1. FLEXIBLE DUCTWORK: THE FINAL 5 FOOT CONNECTION TO GRILLES AND DIFFUSERS IN LAY-IN CEILINGS, OR TO FLOOR MOUNTED GRILLES, MAY BE MADE WITH FLEXIBLE DUCT, FLEXMASTER TYPE 5M ONLY. ENDS SHALL BE SEALED.</div> <div>2. SQUARE/RECTANGULAR ELBOWS SHALL BE PROVIDED WITH TURNING VANES.</div> <div>3. PROVIDE FLEXIBLE CONNECTIONS NOT LESS THAN 4" WIDE CONSTRUCTED OF HEAVY, WATERPROOF, WOVEN PLASTIC COATED GLASS FABRIC AT SUPPLY AND RETURN CONNECTIONS TO FURNACES, AIR HANDLING, ROOFTOP, MAKE-UP AIR OR FAN-COIL UNITS. CORNERS SHALL BE SEWN TIGHT. CONNECTIONS SHALL BE 20 OUNCE VENTFABRICS OR EQUAL.</div> <div>4. COMBINATION FIRE AND SMOKE DAMPERS OR FIRE DAMPERS IN DUCTWORK THROUGH ALL FLOORS AND FIRE WALLS SHALL BE FURNISHED AND INSTALLED AS REQUIRED TO CONFORM TO THE LATEST NFPA BULLETIN CONCERNING THIS TYPE OF BUILDING AND SHALL BEAR THE U.L. LABEL. DAMPERS, COMPLETE WITH MOUNTING ANGLES, SHALL BE MULTI-BLADE, FUSIBLE LINK, SPRING ACTING WITH 11 GAUGE SLEEVE. FUSIBLE LINK SHALL BE RATED AT 165°F.</div> <div>5. DUCT MOUNTED BALANCING DAMPERS SHALL BE USED TO CONTROL SUPPLY AIR TO EACH DIFFUSER OR GRILLE. AN OPERATING HEAD SHALL BE PLACED ON THE SIDE OF THE DUCT WITH A POSITIVE LOCKING QUADRANT. DAMPERS SHALL BE PROVIDED IN RETURN AND EXHAUST AIR DUCTS WHERE SHOWN ON DRAWINGS. COORDINATE THE LOCATION OF CEILING ACCESS PANELS.</div> <div>6. PROVIDE CEILING ACCESS DOORS AT ALL LOCATIONS OF BALANCING DAMPERS, FIRE DAMPERS, FIRE/SMOKE DAMPERS, VALVES, ETC., WHERE THERE IS NOT A LIFT-OUT TYPE CEILING. ACCESS DOORS SHALL BE HINGED OF METAL CONSTRUCTION WITH SCREWDRIVER LATCHES.</div> <div>7. AT FIRE DAMPERS, A DUCT MOUNTED STEEL METAL HINGED DOOR SHALL BE PROVIDED AND INSTALLED WITH POSITIVE LOCKING HANDLE. WHERE DUCTS ARE INSULATED, COVERS SHALL BE INSULATED.</div> <div>8. GRAVITY OR BACKDRAFT DAMPERS SHALL BE ALL ALUMINUM CONSTRUCTION, INTERCONNECTED AND BLADED, PRESSED DROP THROUGH DAMPERS SHALL NOT EXCEED 0.04 INCH W.G.</div>															
15932 - GRILLES, DIFFUSER AND LOUVERS															
<div>1. ALL GRILLES, DIFFUSERS, AND REGISTERS SHALL BE COMPLETE WITH FRAMES AND RUBBER GASKETS. FINISH FOR ALL REGISTERS, DIFFUSERS, AND GRILLES SHALL BE WHITE.</div> <div>2. MANUFACTURERS:<div><div>A. KRUEGER</div><div>B. TITUS</div><div>C. PRICE</div><div>D. NAILOR</div></div></div> <div>THE FOLLOWING KRUEGER PRODUCTS SHALL BE USED AS A REFERENCE:</div> <div><table><tr><td>TYPE:</td><td>MODEL:</td></tr><tr><td>LOUVER FACE:</td><td>SH OR 1400</td></tr><tr><td>SLOT DIFFUSERS:</td><td>1910</td></tr><tr><td>PERFORATED DIFFUSERS:</td><td>6504 (SUPPLY) 6290 (RETURN)</td></tr><tr><td>ARCHITECTURAL</td><td>PLQ</td></tr><tr><td>DOOR GRILLE:</td><td>600</td></tr><tr><td>EGG GRILLE:</td><td>EGC-5</td></tr></table></div> <div>3. COORDINATE THE LOCATIONS OF ALL CEILING DIFFUSERS, REGISTERS, AND GRILLES WITH THE ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL LIGHTING LAYOUT, AND ARCHITECTURAL ELEVATIONS.</div> <div>4. LOUVERS SHALL HAVE MINIMUM FREE AREA AND MAXIMUM PRESSURE DROP AS LISTED IN THE SCHEDULES. LOUVER SHALL HAVE FRAME AND SILLS COMPATIBLE WITH ADJACENT SUBSTRATE AND FIT ACCURATELY FOR WEATHERPROOF INSTALLATION. LOUVERS SHALL BE COMPLETE WITH 1/2" MESH ANODIZED ALUMINUM BIRD SCREEN.</div>		TYPE:	MODEL:	LOUVER FACE:	SH OR 1400	SLOT DIFFUSERS:	1910	PERFORATED DIFFUSERS:	6504 (SUPPLY) 6290 (RETURN)	ARCHITECTURAL	PLQ	DOOR GRILLE:	600	EGG GRILLE:	EGC-5
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ARCHITECTURAL	PLQ														
DOOR GRILLE:	600														
EGG GRILLE:	EGC-5														
15990 - TESTING, ADJUSTING, AND BALANCING															
<div>OBTAIN THE SERVICES OF AN INDEPENDENT TESTING AND BALANCING AGENCY TO BALANCE AND ADJUST THE SYSTEM. THIS SHALL BE DONE BY PERSONS FULLY FAMILIAR WITH SYSTEMS OF THIS TYPE. BALANCING SHALL BE DONE IN ACCORDANCE TO AABC OR NEBB STANDARDS. ALL DATA SHALL BE RECORDED AND A REPORT SUBMITTED TO THE ENGINEER PRIOR TO JOB CLOSE OUT.</div>															

MECHANICAL SPECIFICATIONS

15010 - BASIC MECHANICAL REQUIREMENTS	
<div>1. COORDINATE THE LOCATION OF ALL NEW ROOF OPENINGS AND THE LOCATION OF ALL NEW AND RELOCATED ROOF MOUNTED EQUIPMENT WITH THE EXISTING STRUCTURE AND ARCHITECTURAL PLANS PRIOR TO ANY INSTALLATION.</div> <div>2. V-BELT DRIVES SHALL BE OF FABRIC AND RUBBER CONSTRUCTION. BELT GUARDS SHALL BE PROVIDED FOR ALL EXPOSED BELTS AND DRIVES.</div> <div>3. PROVIDE 6" CONCRETE HOUSEKEEPING PADS UNDER ALL FLOOR MOUNTED EQUIPMENT.</div> <div>4. PROPERLY LUBRICATE ALL PIECES OF EQUIPMENT BEFORE TURNING THE SYSTEM OVER TO THE OWNER.</div> <div>5. INSTALL DUCT MOUNTED SUPPLY AND RETURN AIR SMOKE DETECTORS IN ALL ROOFTOP, FAN-COIL, AIR-HANDLING, AND OTHER SUPPLY AIR SYSTEMS, WITH A CAPACITY GREATER THAN 2000 CFM. SMOKE DETECTORS ARE PURCHASED AND WIRED BY THE DIVISION 16 CONTRACTOR.</div>	
15190 - MECHANICAL IDENTIFICATION	
<div>1. PIPE MARKERS: PLASTIC TAPE: PROVIDE MANUFACTURER'S STANDARD COLOR-CODED PRESSURE-SENSITIVE (SELF ADHESIVE) VINYL TAPE, NOT LESS THAN 3 MILS THICK. 1-1/2" WIDE TAPE MARKERS ON PIPES WITH OUTSIDE DIAMETERS LESS THAN 6" (INCLUDING INSULATION, IF ANY); 2-1/2" WIDE TAPE FOR LARGER PIPES.</div> <div>2. DUCT MARKERS: PROVIDE MANUFACTURER'S STANDARD LAMINATED PLASTIC; COLOR CODED DUCT MARKERS.</div> <div>3. COLOR: COMPLY WITH ANSI A13.1</div> <div>4. LETTERING: MANUFACTURER'S STANDARD PRE-PRINTED NOMENCLATURE WHICH BEST DESCRIBES PIPING OR DUCT SYSTEM IN EACH INSTANCE OR AS SELECTED BY ARCHITECT OR ENGINEER IN CASES OF VARIANCE WITH NAMES AS SHOWN.</div> <div>5. ARROWS: PRINT EACH MARKER WITH ARROWS INDICATING DIRECTION OF FLOW.</div> <div>6. VALVE TAGS: PROVIDE PLASTIC LAMINATE VALVE TAGS: MANUFACTURER'S STANDARD 3/32" THICK ENGRAVED TAGS WITH PIPING SYSTEM ABBREVIATION IN 1/4" HIGH LETTERS AND SEQUENCED VALVE NUMBERS 1/2" HIGH, WITH 5/32" HOLE FOR FASTENER. PROVIDE 1-1/2" SQUARE BLACK TAGS WITH WHITE LETTERING.</div> <div>7. VALVE TAG FASTENERS: PROVIDE MANUFACTURER'S STANDARD SOLID BRASS CHAIN (WIRE LINK OR BEADED TYPE), OR SOLID BRASS S-HOOKS OF THE SIZED REQUIRED FOR PROPER ATTACHMENT OF TAGS TO VALVES, AND MANUFACTURED SPECIFICALLY FOR THAT PURPOSE.</div>	
15242 - VIBRATION ISOLATION AND SEISMIC BRACING	
<div>1. ALL MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING MUST BE VIBRATION ISOLATED AND SEISMICALLY BRACED FOR THE SITE SPECIFIC SEISMIC DESIGN CATEGORY AND SEISMIC USE GROUP, IN ACCORDANCE WITH THE LATEST ADOPTED EDITIONS OF THE IBC, UBC, ASHRAE, AND SMACNA. PROVIDE SEISMIC PRODUCTS BY AMBER-BOOTH OR MASON INDUSTRIES.</div> <div>2. IN GENERAL, PROVIDE SPRING MOUNTS TO ATTENUATE LOW FREQUENCY SOUND AND VIBRATION AND NEOPRENE PADS TO ATTENUATE HIGH FREQUENCY SOUND AND VIBRATION. SEISMIC BRACING/MOUNTING CAN BE COMBINED WITH VIBRATION ISOLATION AS APPLICABLE.</div> <div>3. CONTRACTOR MANUFACTURED SEISMIC BRACING/RESTRAINT METHODS ARE NOT ACCEPTABLE. PROVIDE A SIGNED AND STAMPED LETTER FROM A PROFESSIONAL ENGINEER CERTIFYING THAT THE SUPPLIED PRODUCTS ARE CORRECT FOR THE APPLICATION AND THAT THE INSTALLATION IS IN COMPLIANCE WITH ALL APPLICABLE CODES.</div>	
15250 - MECHANICAL INSULATION	
<div>1. PIPE INSULATION TO BE SNAP-ON GLASS FIBER TYPE WITH VAPOR JACKET. SEAL ALL ENDS AND JOINTS TO PROVIDE A COMPLETELY SEALED SYSTEM. ALTERNATIVELY, USE FLEXIBLE UNICELLULAR ASTM 534 TYPE 1 INSULATION. USE 1" THICKNESS FOR PIPE UP TO 2", AND 1 1/2" FOR PIPE OVER 2"</div> <div>2. WRAP ALL SUPPLY AND RETURN DUCTWORK WITH 1-1/2" THICK FOIL FACED FIBERGLASS INSULATION. WRAP INSULATION TIGHTLY ON THE DUCT WITH ALL CIRCUMFERENTIAL JOINTS BUTTED AND LONGITUDINAL JOINTS OVERLAPPED A MIN. OF 2". COVER ALL JOINTS WITH FOIL-REINFORCED "KRAFT TAPE, 3" WIDE.</div> <div>3. NO RETURN AIR DUCT INSULATION IS REQUIRED IF THE RETURN AIR AND PLENUM TEMPERATURE DIFFERENCE IS LESS THAN 10°F</div> <div>4. OUTDOOR DUCTWORK EXPOSED TO THE WEATHER SHALL HAVE 2" INSULATION AND SHALL BE FITTED WITH 0.016 EMBOSSED ALUMINUM JACKET POP-RIVETED FOR A TIGHT WEATHERPROOF FIT.</div> <div>5. SEE 15891 FOR LINED RECTANGULAR DUCTWORK.</div>	

GENERAL MECHANICAL NOTES

<div>1. PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO CONSTRUCT A COMPLETE, OPERATIONAL HVAC SYSTEM FOR THE ENTIRE PROJECT AS SHOWN ON THESE DRAWINGS, INCLUDING ALL NECESSARY FEES AND PERMITS.</div> <div>2. THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODE, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, AND ALL OTHER APPLICABLE CITY, COUNTY, SCHOOL DISTRICT, STATE, AND FEDERAL CODES AND REGULATIONS IN EFFECT AT THE DATE OF THE BID. CONFORM TO ANY CODES, RULES, REGULATIONS AND REQUIREMENTS THAT THE PROJECT OWNER HAS.</div> <div>3. PRIOR TO FABRICATION AND INSTALLATION, COORDINATE THE INSTALLATION OF ALL HVAC PIPING, DUCTWORK, AND EQUIPMENT WITH PLUMBING PIPING, PLUMBING EQUIPMENT, REFRIGERATION TRENCHES AND PIPING, FIRE PROTECTION PIPING AND ALL OTHER TRADES INCLUDING BUT NOT LIMITED TO: THE MECHANICAL CONTRACTOR, REFRIGERATION CONTRACTOR, ELECTRICAL CONTRACTOR, FIRE PROTECTION CONTRACTOR, GENERAL CONTRACTOR, AND ANY CONTRACTOR HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.</div> <div>4. THE DRAWINGS SHOW THE GENERAL DESIGN, ARRANGEMENTS AND THE EXTENT OF THE SYSTEM. IT SHALL BE THE WORK OF THE CONTRACTOR TO MAKE SUCH SLIGHT ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT. MAJOR DEVIATIONS SUCH AS CHANGES IN COMPONENT SIZES, WEIGHTS, QUANTITIES, OR MATERIAL REQUIRE PRIOR APPROVAL BY THE CONSULTING ENGINEER.</div> <div>5. ALL HVAC INFORMATION IS NOT SHOWN ON THE HVAC DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND REFRIGERATION DRAWINGS.</div> <div>6. THE WORKING DRAWINGS ARE DIAGRAMMATIC. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE INTENT. ALL LOCATIONS FOR HVAC EQUIPMENT AND PIPING SHALL BE CHECKED AND COORDINATED WITH THE ARCHITECTURAL, MECHANICAL, STRUCTURAL AND ELECTRICAL DRAWINGS.</div> <div>7. SPACE ABOVE ALL CEILINGS IS LIMITED. CAREFUL COORDINATION IS REQUIRED WITH ALL TRADES BEFORE ANY PIPE, DUCT, OR EQUIPMENT IS ORDERED AND/OR INSTALLED. ANY CONFLICTS AND/OR CHANGES FOUND DURING INSTALLATION THAT RESULT FROM LACK OF COORDINATION BY THE CONTRACTORS DURING THE SHOP DRAWING PROCESS ARE THE RESPONSIBILITY OF THE CONTRACTOR.</div> <div>8. 1/8" SCALE SHOP DRAWINGS (SUBMITTED FOR APPROVAL) ARE REQUIRED FOR ALL DUCTWORK AND PIPING SYSTEMS.</div> <div>9. THE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE ANOT NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH.</div> <div>10. DETAILS: THE CONTRACTOR IS RESPONSIBLE TO REVIEW AND USE WHERE APPROPRIATE ALL OF THE MECHANICAL DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE MECHANICAL SYSTEM WITHOUT USING THE INCLUDED DETAILS IS THE RESPONSIBILITY OF THE CONTRACTOR.</div> <div>11. PIPING SCHEMATICS: THE CONTRACTOR IS RESPONSIBLE TO REVIEW THE PIPING SCHEMATICS INCLUDED WITH THE DRAWINGS FOR PIPING CONNECTIONS TO ALL MECHANICAL EQUIPMENT. THE PIPING SCHEMATICS SHOW DETAILED CONNECTIONS INCLUDING NECESSARY VALVES, FITTINGS, PRESSURE AND TEMPERATURE GAUGES, ETC., THAT ARE NOT SHOWN ON THE PIPING PLANS. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE MECHANICAL SYSTEM WITHOUT USING THE INCLUDED PIPING SCHEMATICS IS THE RESPONSIBILITY OF THE CONTRACTOR.</div> <div>12. THE STRUCTURE SHOWN ON ALL DETAILS MAY OR MAY NOT PERTAIN TO A PORTION OR ANY PORTION OF THE BUILDING. COORDINATE MOUNTING REQUIREMENTS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.</div> <div>13. ANY PART OF THIS INSTALLATION THAT FAILS, IS UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.</div> <div>14. COORDINATE THE RETURN OF ALL MECHANICAL EQUIPMENT REMOVED DURING DEMOLITION WITH THE OWNER'S REPRESENTATIVE.</div> <div>15. ALL EQUIPMENT SHALL PROVIDE THE SCHEDULED PERFORMANCE AT THE SITE ALTITUDE.</div> <div>16. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRANSITIONS, VALVES, DAMPERS, AND OTHER DEVICES AND ACCESSORIES REQUIRED FOR A COMPLETE, WORKABLE INSTALLATION.</div> <div>17. THE DIVISION 15 CONTRACTOR SHALL FURNISH ALL REQUIRED MOTORS, ALL MOTOR STARTING EQUIPMENT, WHEN NOT A PART OF THE EQUIPMENT, WILL BE FURNISHED BY THE ELECTRICAL CONTRACTOR.</div> <div>18. EXISTING INTERIOR PIPING, EQUIPMENT, AND DUCTWORK HAS BEEN LOCATED IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL VERIFY LOCATIONS AND POINTS OF CONNECTION AND PIPE ROUTING THROUGH EXISTING CONDITIONS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL PERFORM THE WORK IN A MANNER THAT WILL CAUSE A MINIMUM DISRUPTION TO BUILDING TENANT USE AND SHALL COORDINATE THE WORK WITH THE BUILDING OWNER'S REPRESENTATIVE.</div> <div>19. THE CONTRACTOR IS RESPONSIBLE FOR HVAC EQUIPMENT CHECK-IN, SAFEKEEPING, AND DAMAGE. DO NOT ROUTE DUCTS AND PIPES ABOVE ELECTRICAL PANELS. ALL ELECTRICAL PANELS MUST HAVE CLEAR ACCESS SPACE IN FRONT OF PANEL 4'-0" DEEP AND 6'-6" HIGH. DO NOT ROUTE DUCTS AND PIPES IN ELECTRICAL ROOMS, EXCEPT DUCTS AND PIPES SERVING THE ROOM.</div> <div>20. DO NOT ROUTE DUCTS AND PIPES ABOVE ELECTRICAL PANELS. ALL ELECTRICAL PANELS MUST HAVE CLEAR ACCESS SPACE IN FRONT OF PANEL 4'-0" DEEP AND 6'-6" HIGH. DO NOT ROUTE DUCT AND PIPES IN ELECTRICAL ROOMS, EXCEPT DUCTS AND PIPES SERVING THE ROOM.</div> <div>21. COORDINATE EXACT LOCATIONS OF CEILING DIFFUSERS AND GRILLES WITH ARCHITECTURAL REFLECTED CEILING PLAN.</div> <div>22. ALL FIRE DAMPERS SHOWN ARE 1-1/2 HOUR UNLESS OTHERWISE NOTED.</div> <div>23. IF CONTRACTOR ENCOUNTERS MATERIAL WHICH MAY CONTAIN ASBESTOS, IMMEDIATELY STOP WORK IN THIS AREA AND NOTIFY THE OWNER.</div> <div>24. PROVIDE CEILING ACCESS PANELS AS REQUIRED WHERE MECHANICAL EQUIPMENT, VALVES, VAV BOXES, FIRE DAMPERS, ETC. ARE LOCATED ABOVE INACCESSIBLE CEILINGS.</div>	
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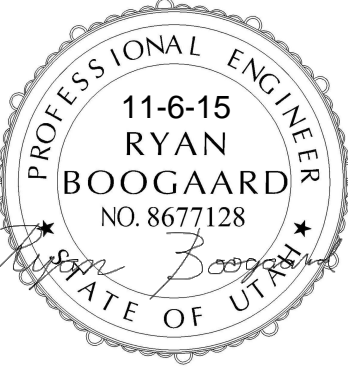
GENERAL MECH NOTES (CONT.)

<div>25. PROPERLY LUBRICATE ALL PIECES OF EQUIPMENT BEFORE TURNING THE SYSTEM OVER TO THE OWNER.</div> <div>26. PREPARE 6 COPIES OF SUBMITTALS IN AN INDEXED, LABELED FOLDER CONTAINING FULL PERFORMANCE, MATERIAL AND INSTALLATION INFORMATION ABOUT ALL EQUIPMENT, PIPING, COMPONENTS AND ACCESSORIES TO BE USED. SUBMITTALS WILL BE CHECKED AT MOST TWICE. TIME SPENT ON SUBSEQUENT SUBMITTALS WILL BE BILLED TO THE CONTRACTOR BY THE ENGINEER AT ITS CURRENT HOURLY RATES.</div> <div>27. TWO OPERATING AND MAINTENANCE MANUALS SHALL BE PROVIDED IN HARD BACK LOOSE LEAF BINDERS. MANUALS SHALL CONTAIN PRODUCT CUT SHEETS AND OPERATING AND MAINTENANCE INSTRUCTIONS ON ALL EQUIPMENT, ACCESSORIES, FIXTURES, VALVES, ETC., PROVIDED FOR THE PROJECT.</div> <div>28. UPON COMPLETION OF THE WORK, REMOVE ALL SURPLUS MATERIALS AND RUBBISH. MAKE ALL REQUIRED PATCHING AND REPAIRS OF OTHER TRADES' WORK DAMAGED BY THE DIVISION 15 CONTRACTOR, AND LEAVE THE PREMISES IN A CLEAN, ORDERLY CONDITION.</div> <div>29. THE DIVISION 15 CONTRACTOR SHALL OPERATE THE SYSTEM AND DEMONSTRATE ALL ASPECTS TO THE ENGINEER AND/OR OWNER, TO PROVE ITS OPERATION. ALL FILTERS USED DURING CONSTRUCTION SHALL BE REPLACED PRIOR TO THE TEST RUN PERIOD.</div> <div>30. THE DIVISION 15 CONTRACTOR SHALL GUARANTEE THE HVAC SYSTEM FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.</div> <div>31. THE DIVISION 15 CONTRACTOR SHALL, DURING CONSTRUCTION, MAINTAIN A SET OF AS-BUILT REDLINED RECORD DRAWINGS AT THE PROJECT SITE. ALL CHANGES IN LAYOUT, ROUTING, EQUIPMENT, COMPONENTS, AND ACCESSORIES SHALL BE RECORDED. THESE REDLINES SHALL BE GIVEN TO THE ARCHITECT/ENGINEER AFTER THE FINAL INSPECTION</div>	
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15845 - VAV REHEAT TERMINAL UNITS	
<div>1. PROVIDE FACTORY ASSEMBLED AND TESTED PRESSURE INDEPENDENT VAV REHEAT TERMINAL UNITS TO MEET THE FOLLOWING:<div><div>A. ARI 880 CERTIFIED.</div><div>B. INSULATION SHALL BE NFPA90A NON FIBER INSULATION 1/2 INCH THICK.</div><div>C. CASING SHALL BE 24 GA. WITH ACCESS DOORS TO MOVING PARTS, AIR TIGHT GASKET AND QUARTER TURN LATCHES.</div><div>D. HOT WATER COIL SHALL BE COPPER TUBE WITH ALUMINUM FINNS AND GALVANIZED STEEL CASING.</div><div>E. AIR FLOW SENSOR SHALL BE FACTORY MOUNTED MULTI AXIS CENTER AVERAGING.</div></div></div> <div>2. ATTACH LABEL, INDICATING PLAN NUMBER, CFM RATING, CFM FACTORY SETTING AND CALIBRATION CURVE.</div>	

DEFINITIONS

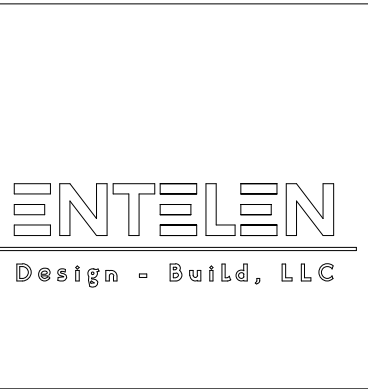
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UTAH STATE
CAPITOL BUILDING

SUITE #85

SALT LAKE CITY
UTAH
84103

MARK	DATE	DESCRIPTION
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ISSUE TYPE: 100% BID DOCUMENT

ISSUE DATE: 11/6/2015

DFCM PROJECT NO: 15348050

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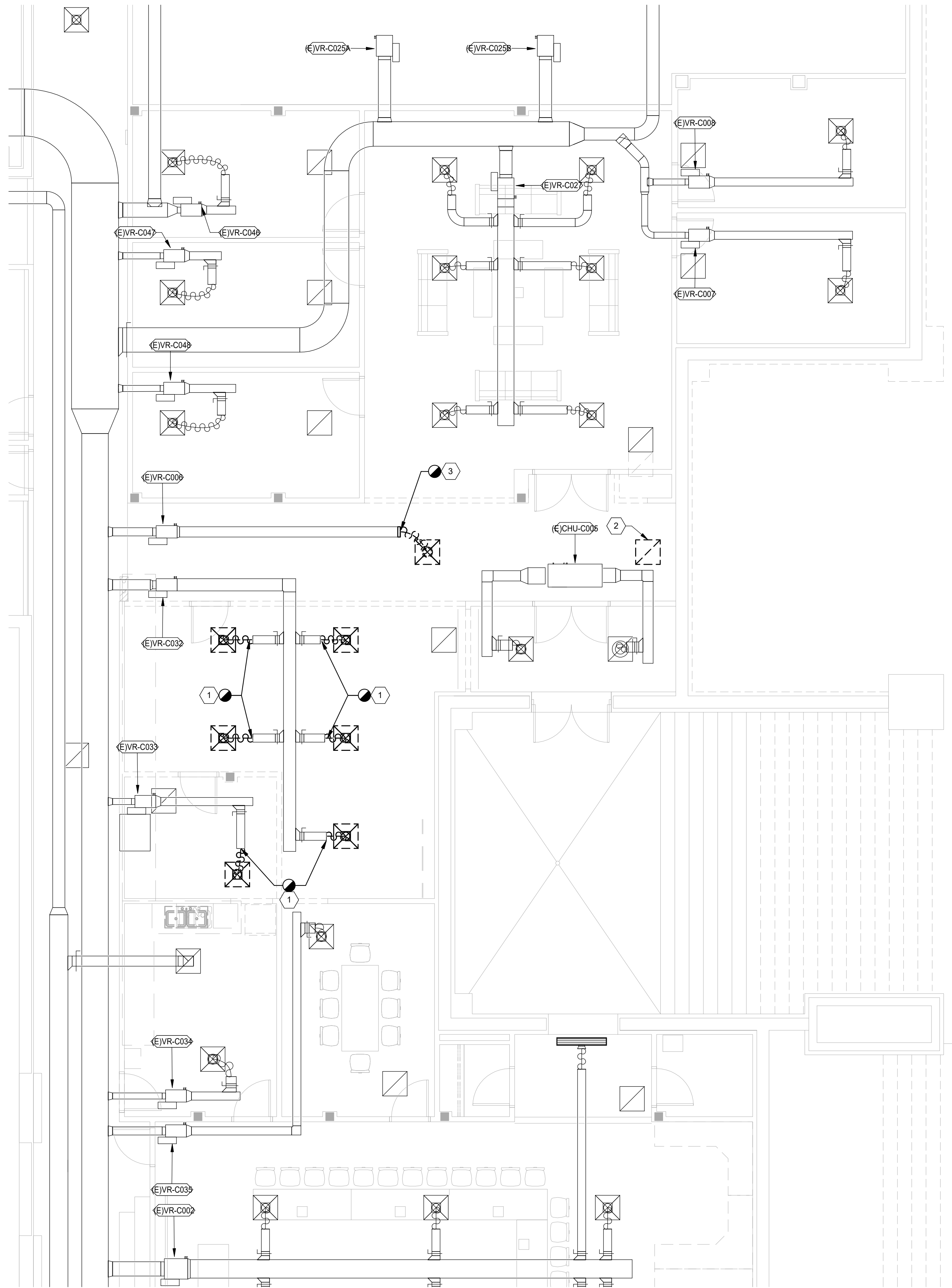
SHEET TITLE

MECHANICAL
SPECIFICATIONS

SHEET NUMBER

M-8-01

SHEET 18 OF 41



1 PARTIAL BASEMENT DEMOLITION MECHANICAL PLAN
SCALE: 3/16" = 1'-0"

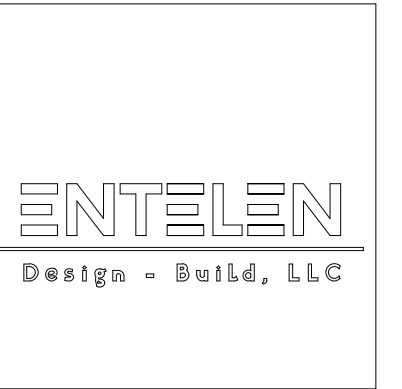
GENERAL SHEET NOTES

- 1 FIELD VERIFY EXACT EXISTING SIZES AND LOCATIONS OF DUCTWORK, EQUIPMENT, AND ACCESSORIES PRIOR TO ORDERING OR FABRICATING.

SHEET KEYNOTES

- 1 RELOCATE EXISTING DIFFUSERS TO MATCH NEW CEILING LAYOUT. SEE SHEET MH-1-01.
- 2 REMOVE EXISTING RETURN GRILLE.
- 3 REMOVE EXISTING SUPPLY DIFFUSER AND ALL DUCTWORK AND ACCESSORIES BACK TO AREA INDICATED.

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UTAH STATE CAPITOL BUILDING

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**SALT LAKE CITY
UTAH
84103**

MARK	DATE	DESCRIPTION
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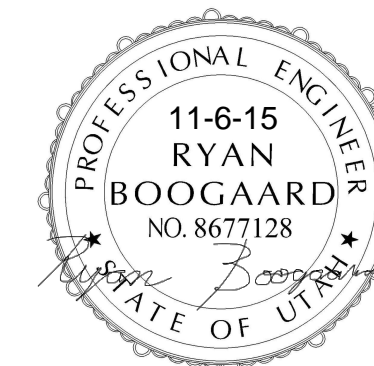
SHEET TITLE

**PARTIAL BASEMENT
LEVEL DEMOLITION
MECHANICAL PLAN**

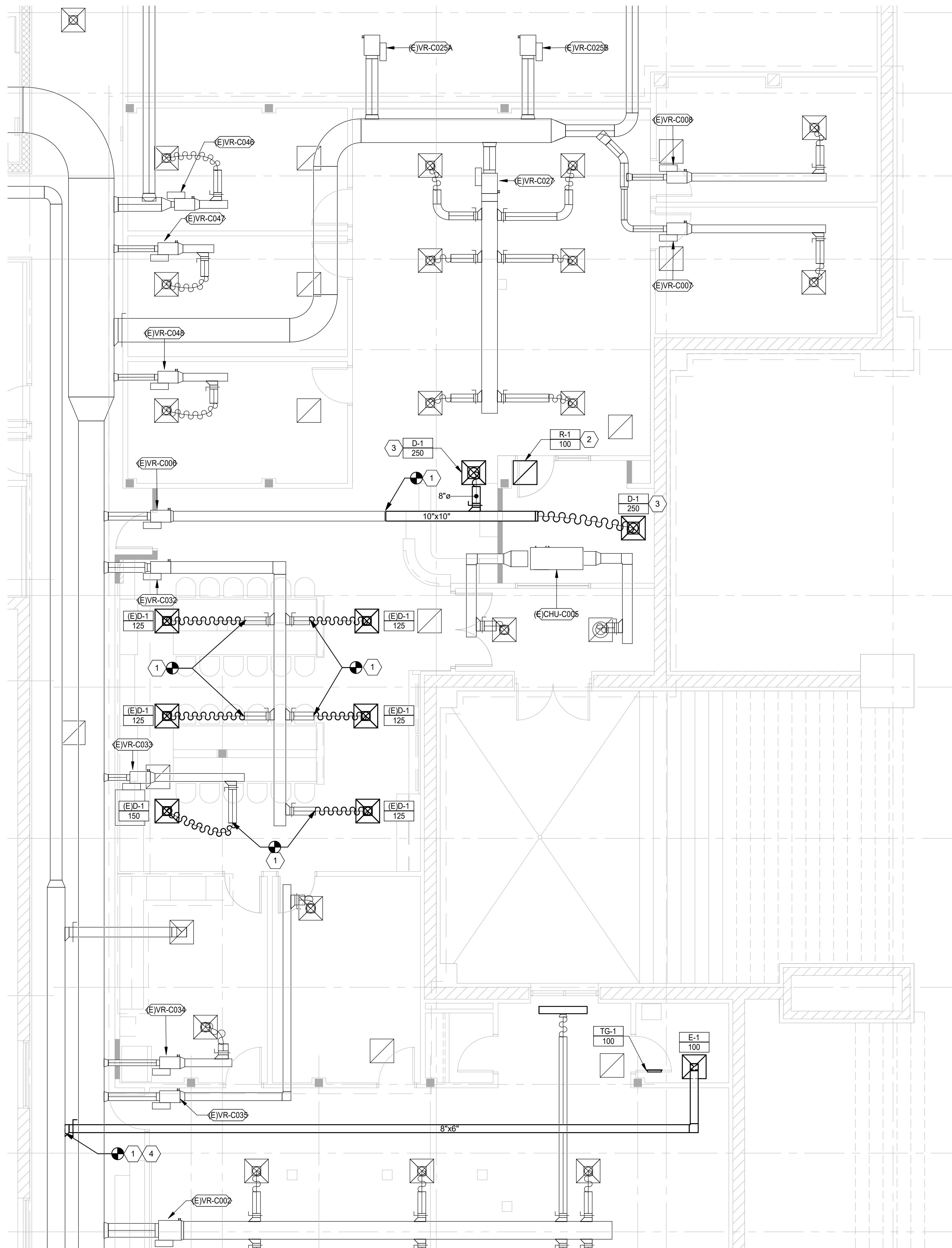
SHEET NUMBER

MD-1-01

SHEET 19 OF 41



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MISC. SYMBOL LEGEND	
SYMBOL	DESCRIPTION
# SHEET	DETAIL INDICATOR: # INDICATES DETAIL NUMBER, SHEET INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
# SHEET	ELEVATION OR SECTION INDICATOR, EXTERIOR: # INDICATES ELEVATION OR SECTION NUMBER, SHEET INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
100	ROOM OR SPACE NUMBER.
1	KEYNOTE INDICATOR.
	REVISION INDICATOR.
CU-1	EQUIPMENT INDICATOR.
P-	PLUMBING FIXTURE INDICATOR.
TYPE CFM SIZE	DIFFUSER/GRILLE INDICATOR.
TYPE SIZE	DIFFUSER/GRILLE INDICATOR.
	BREAK, STRAIGHT
	BREAK, ROUND.
	MATCH LINE INDICATOR
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE.
	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE.
	NEW CONNECTION POINT TO EXISTING

SYMBOL	DESCRIPTION
	C.B. CATCH BASIN
	M.H. MANHOLE
	W.H. WALL HYDRANT
	H.B. HOSE BIBB
	CLEANOUT TO GRADE
	FLOOR CLEANOUT
	WALL CLEANOUT
	1/2 GRATE
	3/4 GRATE
	FULL GRATE

DEFINITIONS	
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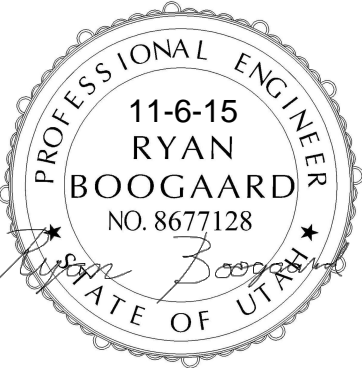
PLUMBING PIPING LEGEND	
SYMBOL	DESCRIPTION
	COMBINATION WASTE AND VENT
	SOIL, WASTE - ABOVE GRADE (SW)
	SOIL, WASTE - BELOW GRADE (SW)
	GREASE WASTE - ABOVE GRADE
	GREASE WASTE - BELOW GRADE
	VENT (V)
	ACID VENT
	ACID WASTE - ABOVE GRADE
	ACID WASTE - BELOW GRADE
	DOMESTIC COLD WATER (DCW)
	DOMESTIC HOT WATER (DHW)
	DOMESTIC HOT WATER RECIRC (DHWR)
	180°F HOT WATER
	180° HOT WATER RETURN
	160° HOT WATER
	160° HOT WATER RETURN
	RAINWATER - ABOVE GRADE
	RAINWATER - BELOW GRADE
	SECONDARY RAINWATER ABOVE GRADE
	SECONDARY RAINWATER BELOW GRADE
	STORM DRAIN
	VTR VENT THRU ROOF
	NON POTABLE WATER
	EXISTING PIPE
	EXISTING PIPE TO BE REMOVED
	IRRIGATION WATER
	SANITARY SEWER
	WATER
	PURE WATER SUPPLY
	PURE WATER RETURN
	GAS
	FIRE PROTECTION
	PROPANE
	VACUUM
	COMPRESSED AIR
	MEDICAL AIR
	OXYGEN
	NITROUS OXIDE
	NITROGEN
	CARBON DIOXIDE
	EVACUATION

SYMBOL LEGEND	
SYMBOL	DESCRIPTION
VALVES, METERS, AND GAUGES	
	SHUT OFF VALVE
	GATE VALVE
	CHECK VALVE
	AUTO 2-WAY VALVE
	AUTO 3-WAY VALVE
	GLOBE VALVE
	BALL VALVE
	RELIEF VALVE
	CHAIN OPERATED GATE VALVE
	PRESSURE REDUCING VALVE
	BUTTERFLY VALVE
	SOLENOID VALVE
	ANGLE VALVE
	VENTURI
	BALANCING OR PLUG COCK
	FLOW SETTER
	EXPANSION VALVE (REFRIG.)
	GAS COCK
	MANUAL AIR VENT
	STRAINER
	GAUGE COCK
	FLEXIBLE CONNECTION
	PRESSURE GAUGE
	THERMOMETER
	VICTUALIC COUPLING
	REDUCER CONCENTRIC
	REDUCER ECCENTRIC
	REFRIGERANT SITE GLASS
	REFRIGERANT STRAINER
	REFRIGERANT FILTER DRIER
	90 DEG ELBOW UP
	90 DEG ELBOW DOWN
	90 DEG TEE UP
	90 DEG TEE DOWN
	UNION
	CAPPED PIPE
	ANCHOR
	FLOAT AND THERMOSTATIC TRAP

PLUMBING SHEET INDEX	
P-0-01	BID ALTERNATE 1 - PLUMBING COVER SHEET
P-0-01	BID ALTERNATE 1 - PLUMBING DETAILS
P-0-01	BID ALTERNATE 1 - PLUMBING SPECIFICATIONS
PD-1-01	BID ALTERNATE 1 - PARTIAL BASEMENT LEVEL DEMOLITION PLUMBING PLAN
PL-1-01	BID ALTERNATE 1 - PARTIAL BASEMENT LEVEL PLUMBING PLAN

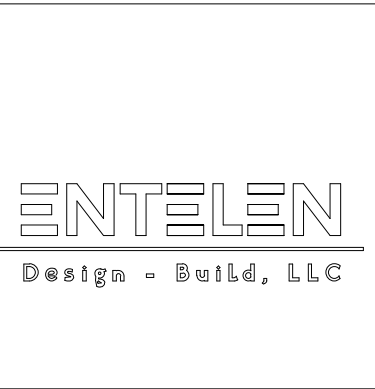
ABBREVIATIONS	
NOTE: ALL ABBREVIATIONS MAY NOT BE USED.	
(E)	EXISTING
(F)	FUTURE
AD	ACCESS DOOR
AIR COND	AIR CONDITION(-ING,-ED)
APD	AIR PRESSURE DROP
BD	BALANCING DAMPER
BHP	BRAKE HORSE POWER
BTU	BRITISH THERMAL UNIT
BTU/HOUR	CUBIC FEET PER HOUR
CFH	CUBIC FEET PER MINUTE
CFM	COOLING
CLG	COMPONENT
COMP	CONDENS(-ER,-ING,-ATION)
COND	CONTROL VALVE
CV	DRY BULB TEMPERATURE
DB	DOMESTIC COLD WATER
DCW	DOMESTIC HOT WATER
DHW	DOMESTIC HOT WATER RECIRC
DHWR	DIAMETER
DIA	DISCHARGE
DISCH	DEPTH OR DEEP
DP	EXHAUST AIR
EA	ENERGY EFFICIENCY RATIO
EER	EFFICIENCY
EFF	ETHYLENE GLYCOL
EG	ELECTRIC
ELEC	ELEVATION
ELEV	ENTERING
ENT	EVAPORAT(-E,-ING,-ED,-OR)
EVAP	ENTERING WATER TEMPERATURE
EWT	EXTERNAL
EXT	FAHRENHEIT
F	FLEXIBLE CONNECT(-OR,-ION)
FC	FIRE DAMPER
FD	FULL LOAD AMPS
FLA	FINS PER INCH
FPI	FEET PER MINUTE
PPM	FEET PER SECOND
FPS	FIRE SMOKE DAMPER
FSD	FEET
FT	GALLON(S)
GAL	GREASE EXHAUST
GE	GALLONS PER HOUR
GPH	GALLONS PER MINUTE
GPM	HEAD
HD	MERCURY
HG	HORSEPOWER
HP	HOUR
HR	HEIGHT
HT	HEATING
HTG	HERTZ (FREQUENCY)
HZ	INSIDE DIAMETER
ID	INCH
IN	KILOWATT
KW	LEAVING AIR TEMPERATURE
LAT	POUNDS
LBS	LENGTH
LG	LATENT HEAT
LH	LOOKED ROTOR AMPS
LRA	LEAVING
LVG	LEAVING WATER TEMPERATURE
LWT	MAXIMUM
MAX	THOUSAND BTU PER HOUR
MBH	MINIMUM CIRCUIT AMPS
MCA	MANUFACTUR(-ER,-ED)
MFR	MINIMUM
MIN	NOT APPLICABLE
N/A	NORMALLY CLOSED
NC	NOISE CRITERIA
NC	NOT IN CONTRACT
NIC	NOT TO SCALE
NTS	OUTSIDE AIR
OA	OUNCE
OZ	PRESSURE DROP OR DIFFERENCE
PD	PHASE
PH	PARTS PER MILLION
PPM	PRESSURE
PRESS	POUNDS PER SQUARE FOOT
PSF	POUNDS PER SQUARE INCH
PSI	PSI ABSOLUTE
PSIA	PSI GAUGE
PSIG	THERMAL RESISTANCE
R	RETURN AIR
RA	RECIRCULATE
RECIRC	REFRIGERATION
REFR	REQUIRED
REQD	RATED LOAD AMPS
RLA	REVOLUTIONS PER MINUTE
RPM	SUPPLY AIR
SA	STANDARD CUBIC FEET PER MINUTE
SCFM	SAFETY FACTOR
SF	SENSIBLE HEAT
SH	STATIC PRESSURE
SP	SPECIFICATION(S)
SPEC(S)	SQUARE
SQ	STANDARD
STD	SOIL, WASTE
SW	TRANSFER AIR (RETURN)
TA(R)	TRANSFER AIR (SUPPLY)
TA(S)	TEMPERATURE
TEMP	THERMAL
THERM	TOTAL
TOT	THERMOSTAT
TSTAT	VOLT
V	VENT
V	VARIABLE AIR VOLUME
VAV	VELOCITY TEMPERATURE
VEL	VELOCITY
VEL	VENT, VENTILATION
VENT	VARIABLE FREQUENCY DRIVE
VFD	WET BULB TEMP
WB	WATER COLUMN
WC	WATER GAUGE
WG	WATER PRESSURE DROP
WPD	WEIGHT
WT	YEAR
YR	

PLUMBING GENERAL NOTES	
1	THE PLUMBING DRAWINGS SHOW THE GENERAL DESIGN, ARRANGEMENT AND EXTENT OF THE PLUMBING SYSTEM. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THESE DRAWINGS DO NOT SHOW ALL OFFSETS, BENDS OR ELBOWS NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. CONTRACTOR SHALL MAKE SUCH SLIGHT ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT. MAJOR DEVIATIONS SUCH AS CHANGES IN COMPONENT SIZES, WEIGHTS, QUANTITIES OR MATERIAL REQUIRE PRIOR APPROVAL BY THE DESIGN ENGINEER.
2	THE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH.
3	THE ENTIRE PLUMBING INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODES, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, AND ALL OTHER APPLICABLE CITY, COUNTY, STATE, AND FEDERAL CODES AND REGULATIONS IN EFFECT.
4	THE ENTIRE PLUMBING INSTALLATION SHALL CONFORM TO ANY CODES, RULES, REGULATIONS AND REQUIREMENTS OF THE BUILDING OWNER.
5	PRIOR TO FABRICATION AND INSTALLATION OF ANY PLUMBING COMPONENT THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL PLUMBING WORK WITH ALL OTHER BUILDING TRADES, INCLUDING BUILDING TRADES HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
6	ALL PLUMBING INFORMATION IS NOT SHOWN ON THE PLUMBING DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS.
7	. THE CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW AND USE, WHERE APPROPRIATE, ALL THE PLUMBING DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE PLUMBING SYSTEM WITHOUT USING THE INCLUDED DETAILS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8	ANY PART OF THE PLUMBING INSTALLATION THAT FAILS, IS UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
9	PROVIDE PROPER PROVISIONS FOR EXPANSION, CONTRACTION, OR MOVEMENT OF ALL PIPING.
10	PROVIDE LARGE ENOUGH PIPE SLEEVES THROUGH WALL OR FLOOR TO ALLOW FOR ANTICIPATED DIFFERENTIAL MOVEMENT.
11	ALL PIPING SHALL BE SUPPORT WITH CLEVIS HANGERS (MSS TYPE 1). PERFORATED METAL STRAPS OR PLASTIC STRAPPING (PLUMBER TAPE) SHALL NOT BE USED TO SUPPORT OR BRACE ANY PIPE.
12	PROVIDE PIPE HANGERS WITHIN 18-INCHES OF ALL CHANGES OF DIRECTION.
13	PROVIDE SWAY BRACING FOR ALL PIPING 4" AND LARGER AT ALL CHANGES IN DIRECTION GREATER THAN 45-DEGREES.
14	ALL STEEL CLEVIS HANGERS USED TO SUPPORT COPPER PIPING SHALL BE COPPER OR PLASTIC COATED.
15	COPPER PIPING SHALL NOT COME IN CONTACT WITH FIRE TREATED LUMBER. PROVIDE 1/2" THICK SLIP-ON CLOSED CELL INSULATION WHERE COPPER PIPING IS ADJACENT TO FIRE TREATED LUMBER. CLOSED CELL INSULATION SHALL EXTEND A MINIMUM OF 1-1/2" PAST LUMBER.
16	ALL EXPOSED PIPING SHALL BE INSTALLED IN A NEATLY ARRANGED MANNER PARALLEL TO THE BUILDING STRUCTURE.
17	ALL EXPOSED DOMESTIC WATER PIPE IN OCCUPIED SPACES SHALL BE POLISHED CHROME PLATED.
18	ALL EXPOSED DRAINAGE PIPING IN OCCUPIED SPACES INCLUDING TRAPS UNDER SINKS SHALL BE POLISHED CHROME PLATED.
19	DRAWINGS SHOW GENERAL ARRANGEMENT OF THE DRAIN WASTE AND VENT SYSTEM WITH THE REQUIRED CLEANOUTS. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL CLEANOUTS AS REQUIRED BY THE PLUMBING CODE.
20	ALL SANITARY DRAINAGE SYSTEM PIPING 3" AND LARGER SHALL BE SLOPED IN DIRECTION OF FLOW AT A MINIMUM OF 1/8" PER FOOT.
21	ALL SANITARY DRAINAGE SYSTEM PIPING SMALLER THAN 3" SHALL BE SLOPED IN DIRECTION OF FLOW AT A MINIMUM OF 1/4" PER FOOT.
22	SLOPE VENT SYSTEM TOWARDS DRAINAGE SYSTEM.
24	ALL EQUIPMENT SHALL PROVIDE THE SCHEDULED PERFORMANCE AT THE JOB SITE ELEVATION.
25	FIXTURE AND EQUIPMENT MODEL NUMBERS SHOWN IN PLUMBING FIXTURE SCHEDULE AND PLUMBING EQUIPMENT SCHEDULE ARE SHOWN TO ESTABLISH THE TYPE OF PRODUCT THAT SHALL BE USED. THE SELECTED PRODUCT SHALL MEET THE SCHEDULED PERFORMANCE DATA SHOWN ON THE SCHEDULE EVEN IF A DIFFERENT MODEL IS SUPPLIED THAT IS DIFFERENT THAN THAT SCHEDULED.
26	ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE ALL NECESSARY FITTINGS, TRANSITIONS, VALVES AND OTHER DEVICES AND ACCESSORIES REQUIRED FOR A COMPLETE, WORKABLE INSTALLATION.
27	SEE "PLUMBING FIXTURE SCHEDULE" FOR INDIVIDUAL TRAPS, WASTE, VENT, AND DOMESTIC WATER PIPING FOR INDIVIDUAL FIXTURES.
28	ALL PLUMBING EQUIPMENT SHALL BE LISTED AND LABELED BY AN APPROVED TESTING AGENCY.
29	FIXTURES, EQUIPMENT AND PIPING INSTALLATION SHALL MEET NSF STANDARDS.



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UTAH STATE
CAPITOL BUILDING

SUITE #85

SALT LAKE CITY
UTAH
84103

MARK	DATE	DESCRIPTION
ISSUE TYPE: 100% BID DOCUMENT		

ISSUE DATE: 11/6/2015

DFCM PROJECT NO: 15348050

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SHEET TITLE

BID ALTERNATE 1 -
PLUMBING COVER
SHEET

SHEET NUMBER

P-0-01

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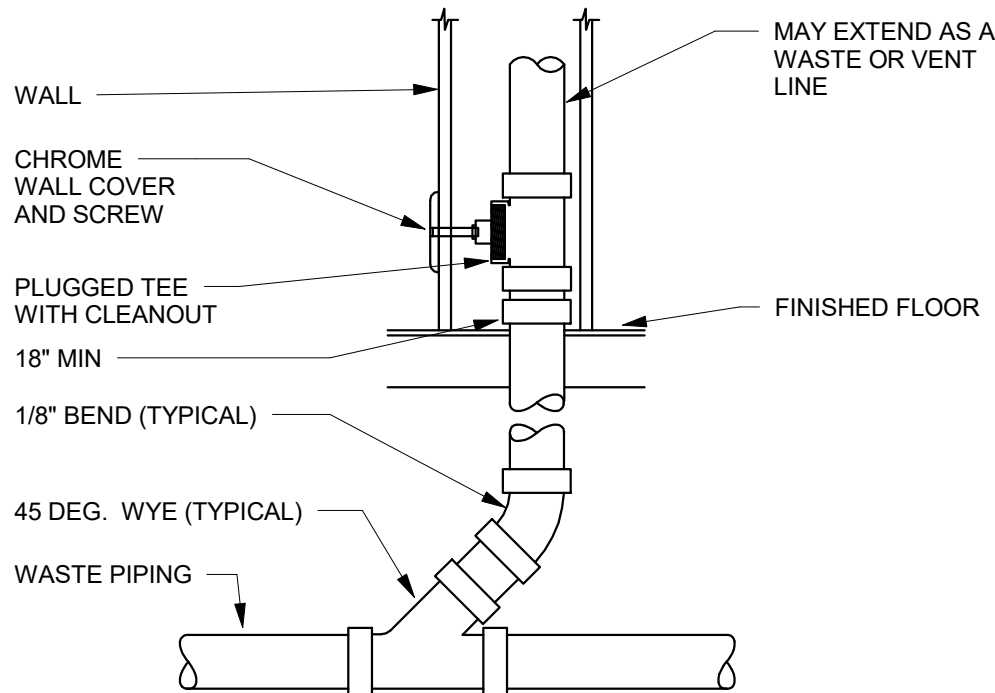
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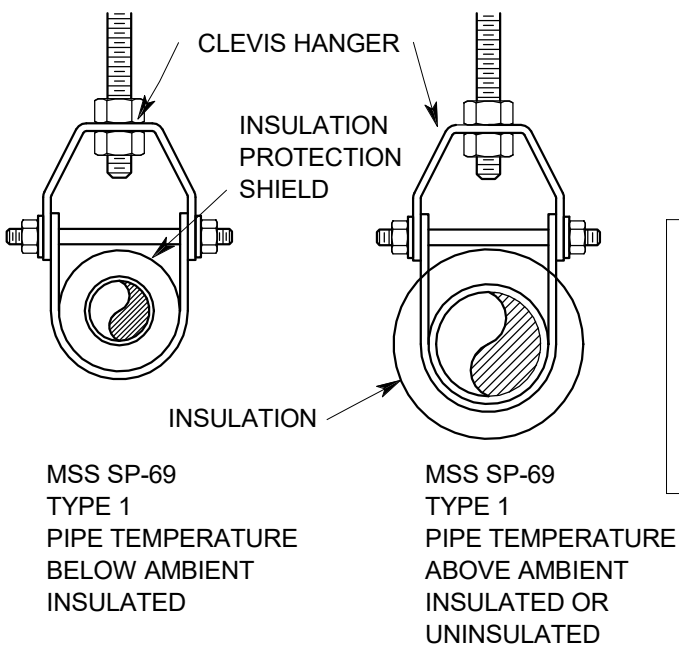
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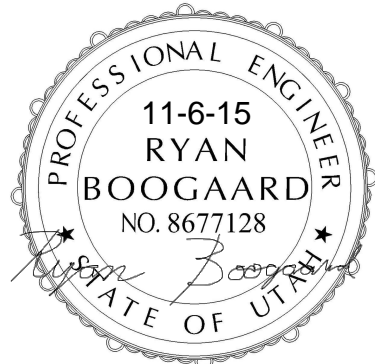


2 WALL CLEANOUT
SCALE: NTS



- NOTES:
1. STEEL PIPE HANGERS FOR PLASTIC PIPE SHALL BE PLASTIC COATED.
 2. STEEL PIPE HANGERS FOR COPPER PIPE SHALL BE PLASTIC COATED.

1 PIPE HANGER
SCALE: NTS

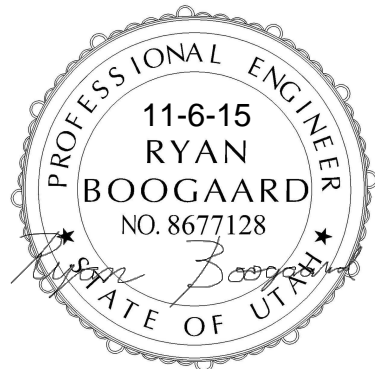


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PLUMBING SPECIFICATIONS	
15420 - DRAINAGE AND VENT SYSTEMS	
11.	CLEANOUTS
A.	FINISHED WALL CLEANOUTS: SMITH FIGURE 4472 COMPLETE WITH CAST BRONZE TAPER THREADED PLUG, STAINLESS STEEL COVER AND SCREW.
B.	FLOOR CLEANOUTS (UNFINISHED AREAS): SMITH FIGURE 4223 DUCO CAST IRON CLEANOUT WITH ROUND ADJUSTABLE SCORIATED SECURED CAST IRON TOP, TAPER THREADED BRONZE PLUG AND SPIGOT OUTLET.
C.	FINISHED FLOOR CLEANOUTS (CONCRETE FLOORS): SMITH FIGURE 4023 DUCO CAST IRON CLEANOUT WITH ADJUSTABLE SCORIATED SECURED NICKEL BRONZE TOP, TAPER THREADED CAST BRONZE PLUG AND SPIGOT OUTLET.
D.	FINISHED FLOOR CLEANOUTS (CARPETED FLOORS): SMITH FIGURE 4023-Y SAME AS CONCRETE FLOORS WITH CARPET MARKER.
E.	FINISHED FLOOR CLEANOUTS (TILE FLOORS): SMITH FIGURE 4163 DUCO CAST IRON CLEANOUT WITH SQUARE ADJUSTABLE SECURED NICKEL BRONZE TOP WITH 1/8" RECESS, TAPER THREADED BRONZE PLUG AND SPIGOT OUTLET.
F.	EXTERIOR CLEANOUTS (CLEANOUT TO GRADE): SMITH FIGURE 4253 DUCO CAST IRON CLEANOUT AND DOUBLE FLANGED HOUSING WITH HEAVY DUTY SECURED SCORIATED CAST IRON COVER WITH LIFTING DEVICE, TAPER THREADED BRONZE PLUG AND SPIGOT OUTLET.

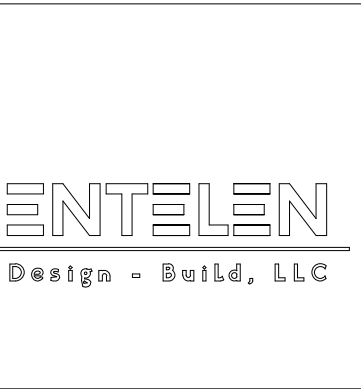
PLUMBING SPECIFICATIONS	
15055 - BASIC PIPING MATERIALS AND METHODS	
1.	CORE CUT ALL PIPE PENETRATION OF EXISTING MASONRY OR CONCRETE WALLS AND FLOORS. SLEEVE ALL PENETRATIONS THROUGH NEW WALLS AND FLOORS. SEAL ALL PENETRATIONS THROUGH TIGHT WITH SILICONE SEALANT. USE FIRE RATED SEALANT (3M "FIRE BARRIER" OR EQUAL) FOR 1 HOUR OR 2 HOUR PENETRATIONS.
2.	CAULK AROUND ALL PIPING THAT PASSES THROUGH FIRE-RATED PARTITIONS WITH A NON-HARDENING CAULKING SIMILAR TO 3M "FIRE BARRIER".
3.	SEAL ALL PIPING THROUGH WALLS AIR TIGHT.
15242 - VIBRATION ISOLATION AND SEISMIC	
1.	ALL PLUMBING EQUIPMENT AND PIPING MUST BE VIBRATION ISOLATED AND SEISMICALLY BRACED FOR THE SITE SPECIFIC SEISMIC DESIGN CATEGORY AND SEISMIC USE GROUP. IN ACCORDANCE WITH THE LATEST ADOPTED EDITIONS OF THE BUILDING CODES AND ASHRAE. PROVIDE SEISMIC DEVICES BY AMBER-BOOTH OR MASON INDUSTRIES.
2.	IN GENERAL, PROVIDE SPRING MOUNTS TO ATTENUATE LOW FREQUENCY SOUND AND VIBRATION. PROVIDE NEOPRENE PADS TO ATTENUATE HIGH FREQUENCY SOUND
3.	VIBRATION: SEISMIC BRACING/MOUNTING CAN BE COMBINED WITH VIBRATION ISOLATION AS APPLICABLE.
4.	CONTRACTOR MANUFACTURED SEISMIC BRACING/RESTRAINT METHODS ARE NOT ACCEPTABLE.
5.	PROVIDE A SIGNED AND STAMPED LETTER FROM A PROFESSIONAL ENGINEER CERTIFYING THAT THE SUPPLIED PRODUCTS ARE CORRECT FOR THE APPLICATION AND THAT THE INSTALLATION IS IN COMPLIANCE WITH ALL APPLICABLE CODES.
15250 - INSULATION	
1.	PIPE INSULATION: SNAP-ON GLASS FIBER TYPE WITH VAPOR JACKET. SEAL ALL ENDS AND JOINTS TO PROVIDE A COMPLETELY SEALED SYSTEM. ALTERNATIVELY, FOR INTERIOR WATER PIPING, USE FLEXIBLE UNICELLULAR ASTM 534 TYPE 1 INSULATION. USE 1" THICKNESS FOR PIPE UP TO 2" AND 1-1/2" FOR PIPE OVER 2"
2.	PROVIDE ADA COMPLIANT FIXTURES WITH SNAP ON ADA ARTICLE 4.19 22FF COMPLIANT WHITE INSULATION. TRUEBRO LAV GUARD, BASIN GUARD OR LAV SHIELD.
15411 - WATER DISTRIBUTION PIPING	
1.	ALL ABOVE GROUND HOT AND COLD WATER PIPING: ASTM B 98 TYPE "L" COPPER, WITH WROUGHT COPPER FITTINGS AND SOLDERED WITH 95-5 TIN-ANTIMONY SOLDER.
2.	INSTALL PIPE HANGERS WITH THE FOLLOWING MINIMUM ROD SIZES AND MAXIMUM SPACING. UPON COMPLETION OF HANGER INSTALLATION, ALL ADJUSTMENTS HAVING THE POSSIBILITY OF TURNING SHALL BE LOCKED SECURELY IN PLACE BY DOUBLE NUTTING AT THE HANGER ROD ATTACHMENT TO THE STRUCTURE, AND AT THE PIPE HANGER.
NOM. PIPE SIZE-INCHES	MAX SPAN-FT. MIN. ROD SIZE-INCHES
1	7 3/8
1-1/2	9 3/8
2	10 3/8
3	12 1/2
4	14 5/8
6	17 3/4
3.	ALL PIPE HANGERS AND EQUIPMENT SUPPORTS SHALL BE LOCATED A MINIMUM DISTANCE OF 2" FROM ANY REFRIGERANT PIPE.
4.	ALL PLUMBING FIXTURES CONNECTED TO A POTABLE WATER SYSTEM WITH HOSE CONNECTIONS ON THE OUTLET SIDE AND OWNER FURNISHED EQUIPMENT WITH DIRECT CONNECTIONS, SHALL BE PROVIDED WITH BACKFLOW PREVENTION.
15420 - DRAINAGE AND VENT SYSTEMS	
1.	UNDERGROUND BUILDING DRAIN PIPE AND FITTINGS:
A.	NO HUB ABS OR PVC PLASTIC PIPE AND FITTINGS PER ASTM D2661 WITH ASTM D2235 SOLVENT OR
B.	ASTM A74 SERVICE WEIGHT, HUB AND SPIGOT CAST IRON SOIL PIPE, OR ASTM A888 (OR CISPI 301) HUBLESS CAST IRON SOIL PIPE WITH ASTM C564 HEAVY DUTY SHIELDED STAINLESS STEEL COUPLINGS.
A.	NO ASTM D2729 PIPE SHALL USED UNDERGROUND.
2.	ABOVE GROUND SANITARY DRAINAGE AND VENT PIPING, IN ALL AREAS EXCEPT AIR PLENUMS AND EXCEPT IN A FIRE RATED BUILDING, SHALL BE ABS TYPE DWV PLASTIC PIPE AND FITTINGS PER ASTM D2661 WITH ASTM D2235 SOLVENT, OR PVC PLASTIC PIPE AND FITTINGS PER ASTM D2665 WITH ASTM D2564 SOLVENT, OR SERVICE WEIGHT, NO HUB CAST IRON COUPLED PIPE AND FITTINGS WITH COMPRESSION TYPE NEOPRENE GASKETS AND STAINLESS STEEL BANDS.
3.	FORCE SEWER MAINS UP TO 4" SHALL BE TYPE L HARD COPPER TUBE WITH WROUGHT COPPER PRESSURE FITTINGS AND SOLDERED JOINTS, OR DUCTILE IRON PIPE AND FITTINGS WITH MECHANICAL JOINTS.
4.	ALL SANITARY DRAINAGE AND VENT PIPING INSIDE AIR PLENUMS AND ANYWHERE IN A FIRE RATED BUILDING SHALL BE NO HUB SERVICE WEIGHT CAST IRON COUPLED PIPE AND FITTINGS WITH COMPRESSION TYPE NEOPRENE GASKETS AND STAINLESS STEEL BANDS. ASTM B306 COPPER PIPE MAY BE USED WITH SOLDERED JOINTS FOR PIPE 3" AND SMALLER.

GENERAL PLUMB NOTES (CONT)	
28.	EQUIPMENT AND INSTALLATION SHALL MEET NATIONAL SANITATION FOUNDATION (NSF) STANDARDS, OR EQUIVALENT.
29.	PROVIDE PROPER PROVISIONS FOR EXPANSION OR MOVEMENT OF ALL PIPING.
30.	ALL PIPE SHALL BE SECURED BY DOUBLE NUTTING AT THE HANGER ROD ATTACHMENT TO THE STRUCTURE, AND AT THE PIPE HANGER.
32.	PROVIDE WATER HAMMER ARRESTORS (SHOCK ABSORBERS) AT ALL PIPE LOCATIONS WHERE VALVE CLOSURES (SUCH AS FLUSH VALVES) MAY CAUSE WATER HAMMER OR RESULT IN EXCESSIVE PIPE VIBRATION OR MOVEMENT.
33.	PROPERLY LUBRICATE ALL PIECES OF EQUIPMENT BEFORE TURNING THE SYSTEM OVER TO THE OWNER.
34.	PREPARE 6 COPIES OF SUBMITTALS IN AN INDEXED, LABELED FOLDER CONTAINING FULL PERFORMANCE, MATERIAL AND INSTALLATION INFORMATION ABOUT ALL EQUIPMENT, PIPING, COMPONENTS AND ACCESSORIES TO BE USED. SUBMITTALS WILL BE CHECKED AT MOST TWICE. TIME SPENT ON SUBSEQUENT SUBMITTALS WILL BE CHARGED TO THE CONTRACTOR BY THE ENGINEER AT ITS CURRENT HOURLY RATES.
35.	TWO OPERATING AND MAINTENANCE MANUALS SHALL BE PROVIDED IN HARD BACK LOOSE LEAF BINDERS. MANUALS SHALL CONTAIN PRODUCT CUT SHEETS AND OPERATING AND MAINTENANCE INSTRUCTIONS ON ALL EQUIPMENT, ACCESSORIES, FIXTURES, VALVES, ETC., PROVIDED FOR THE PROJECT.
36.	UPON COMPLETION OF THE WORK, REMOVE ALL SURPLUS MATERIALS AND RUBBISH. MAKE ALL REQUIRED PATCHING AND REPAIRS OF OTHER TRADES' WORK DAMAGED BY THE PLUMBING CONTRACTOR, AND LEAVE THE PREMISES IN A CLEAN, ORDERLY CONDITION.
37.	THE PLUMBING CONTRACTOR SHALL OPERATE THE SYSTEM AND DEMONSTRATE ALL ASPECTS TO THE ENGINEER AND/OR OWNER, TO PROVE IT'S OPERATION.
38.	THE PLUMBING CONTRACTOR SHALL GUARANTEE THE PLUMBING SYSTEM FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
39.	THE PLUMBING CONTRACTOR SHALL, DURING CONSTRUCTION, MAINTAIN A SET OF AS-BUILT REDLINES/RECORD DRAWINGS AT THE PROJECT SITE. ALL CHANGES IN LAYOUT, ROUTING, EQUIPMENT COMPONENTS, AND ACCESSORIES SHALL BE RECORDED. THESE REDLINES SHALL BE GIVEN TO THE ARCHITECT/ENGINEER AFTER THE FINAL INSPECTION.
DEFINITIONS	
NOTE: ALL DEFINITIONS MAY NOT BE USED.	
INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.	
DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.	
APPROVE: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.	
FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."	
INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS TO MAKE THE ITEM FULLY OPERATIONAL."	
PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."	
INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.	
28.	EQUIPMENT AND INSTALLATION SHALL MEET NATIONAL SANITATION FOUNDATION (NSF) STANDARDS, OR EQUIVALENT.
29.	PROVIDE PROPER PROVISIONS FOR EXPANSION OR MOVEMENT OF ALL PIPING.
30.	ALL PIPE SHALL BE SECURED BY DOUBLE NUTTING AT THE HANGER ROD ATTACHMENT TO THE STRUCTURE, AND AT THE PIPE HANGER.
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39.	THE PLUMBING CONTRACTOR SHALL, DURING CONSTRUCTION, MAINTAIN A SET OF AS-BUILT REDLINES/RECORD DRAWINGS AT THE PROJECT SITE. ALL CHANGES IN LAYOUT, ROUTING, EQUIPMENT COMPONENTS, AND ACCESSORIES SHALL BE RECORDED. THESE REDLINES SHALL BE GIVEN TO THE ARCHITECT/ENGINEER AFTER THE FINAL INSPECTION.
GENERAL PLUMBING NOTES	
1.	PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO CONSTRUCT A COMPLETE, OPERATIONAL PLUMBING SYSTEM FOR THE ENTIRE PROJECT AS SHOWN ON THESE DRAWINGS, INCLUDING ALL NECESSARY FEES AND PERMITS.
2.	THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODE, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, AND ALL OTHER APPLICABLE CITY, COUNTY, SCHOOL, DISTRICT, STATE, AND FEDERAL CODES AND REGULATIONS IN EFFECT AT THE DATE OF THE BID. CONFORM TO ANY CODES, RULES, REGULATIONS AND REQUIREMENTS THAT THE PROJECT OWNER HAS.
3.	PRIOR TO FABRICATION AND INSTALLATION, THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL PLUMBING WORK WITH ALL OTHER TRADES, INCLUDING BUT NOT LIMITED TO, THE MECHANICAL CONTRACTOR, ELECTRICAL CONTRACTOR, GENERAL CONTRACTOR, AND ANY CONTRACTOR HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
4.	THE DRAWINGS SHOW THE GENERAL DESIGN, ARRANGEMENTS AND THE EXTENT OF THE SYSTEM. IT SHALL BE THE WORK OF THE CONTRACTOR TO MAKE SUCH SLIGHT ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT. MAJOR DEVIATIONS SUCH AS CHANGES IN COMPONENT SIZES, WEIGHTS, QUANTITIES, OR MATERIAL REQUIRE PRIOR APPROVAL BY THE CONSULTING ENGINEER.
5.	ALL PLUMBING INFORMATION IS NOT SHOWN ON THE PLUMBING DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.
6.	THE WORKING DRAWINGS ARE DIAGRAMMATIC. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR PLUMBING EQUIPMENT AND PIPING SHALL BE CHECKED AND COORDINATED WITH THE ARCHITECTURAL, MECHANICAL, STRUCTURAL AND ELECTRICAL DRAWINGS.
7.	EXACT ROUTING OF WASTE, GAS, AND WATER SERVICE IS DEPENDENT ON LOCAL SITE CONDITIONS AND MODIFICATIONS IN EQUIPMENT CONNECTIONS. EXACT LOCATION OF EQUIPMENT MAY VARY DEPENDING ON LOCAL CODE, HEALTH DEPARTMENT AND CITY REQUIREMENTS.
8.	DETAILS: THE CONTRACTOR IS RESPONSIBLE TO REVIEW AND USE WHERE APPROPRIATE ALL OF THE PLUMBING DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE PLUMBING SYSTEM WITHOUT USING THE INCLUDED DETAILS IS THE RESPONSIBILITY OF THE CONTRACTOR.
9.	PIPING SCHEMATICS: THE CONTRACTOR IS RESPONSIBLE TO REVIEW THE PIPING SCHEMATICS INCLUDED WITH THE DRAWINGS FOR PIPING CONNECTIONS TO ALL PLUMBING EQUIPMENT.
10.	THE PIPING SCHEMATICS SHOW DETAILED CONNECTIONS INCLUDING NECESSARY VALVES, FITTINGS, PRESSURE AND TEMPERATURE GAUGES, ETC., THAT ARE NOT SHOWN ON THE PIPING PLANS. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE PLUMBING SYSTEM WITHOUT USING THE INCLUDED PIPING SCHEMATICS IS THE RESPONSIBILITY OF THE CONTRACTOR.
11.	THE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH. THE STRUCTURE SHOWN ON ALL DETAILS MAY OR MAY NOT PERTAIN TO A PORTION OR ANY PORTION OF THE BUILDING. COORDINATE MOUNTING REQUIREMENTS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.
12.	ANY PART OF THIS INSTALLATION THAT FAILS, IS UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
13.	COORDINATE THE RETURN OF ALL PLUMBING ITEMS REMOVED DURING DEMOLITION, WITH THE OWNER'S REPRESENTATIVE.
14.	ALL EQUIPMENT SHALL PROVIDE THE SCHEDULED PERFORMANCE AT THE SITE ALTITUDE.
15.	EQUIPMENT MODEL NUMBERS IN SCHEDULES ARE SHOWN TO ESTABLISH THE TYPE OF PRODUCT THAT HAS TO BE USED. THE SELECTED PRODUCT MUST MEET THE SCHEDULED PERFORMANCE DATA. THIS MAY REQUIRE A DIFFERENT MODEL NUMBER TO THAT SCHEDULED.
16.	ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRANSITIONS, VALVES, AND OTHER DEVICES AND ACCESSORIES REQUIRED FOR A COMPLETE, WORKABLE INSTALLATION.
17.	THE DIVISION 15 CONTRACTOR SHALL PROVIDE ALL REQUIRED MOTORS, ALL MOTOR STARTING EQUIPMENT, WHEN NOT A PART OF THE PLUMBING EQUIPMENT, WILL BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
18.	EXISTING INTERIOR PIPING AND EQUIPMENT HAS BEEN LOCATED IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL VERIFY LOCATIONS AND POINTS OF CONNECTION AND PIPE ROUTING THROUGH EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
19.	THE CONTRACTOR SHALL PERFORM THE WORK IN A MANNER THAT WILL CAUSE A MINIMUM DISRUPTION TO BUILDING TENANT USE AND SHALL COORDINATE THE WORK WITH THE BUILDING OWNER'S REPRESENTATIVE.
20.	THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR PLUMBING EQUIPMENT CHECK-IN, SAFEKEEPING, AND DAMAGE.
21.	INVERTS SHOWN ON PLUMBING DRAWINGS MAY BE REFERENCED FROM THE FINISHED FLOOR ELEVATION. COORDINATE ALL INVERTS WITH BOTH CIVIL AND ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION.
22.	PROVIDE WALL CLEANOUTS IN ALL VENTS FOR COMBINATION WASTE AND VENT SYSTEMS AS REQUIRED BY LOCAL AND NATIONAL CODES. ALL VENT FITTINGS FOR WASTE SYSTEMS BELOW OVERFLOWS OF FIXTURES SHALL BE DRAINAGE TYPE.
23.	CONTRACTOR TO COMPLY WITH THE LATEST ADOPTED PLUMBING CODES WHEN SIZING TRAP ARMS ON COMBINATION WASTE AND VENT SYSTEMS. THE DRAWINGS INDICATE THE WASTE LINE SIZE AND THE SIZE OF THE TRAP REQUIRED.
24.	PROVIDE CLEANOUTS IN ACCORDANCE WITH THE REQUIREMENTS OF APPLICABLE CODES. FLOOR CLEANOUTS SHALL BE LOCATED OUT OF TRAFFIC AREAS.
25.	LOCATE ALL PLUMBING VENTS AT LEAST 3 FEET ABOVE OR 10 FEET AWAY FROM ALL OUTSIDE AIR INTAKES INTO THE BUILDING. FOR HEALTHCARE APPLICATION, VENTS SHALL BE 25 FT AWAY FROM AIR INTAKES.
26.	SEE "PLUMBING FIXTURE SCHEDULE" FOR FIXTURE MAKE AND TYPE, AND SIZE OF INDIVIDUAL WASTE, VENT, AND DOMESTIC WATER PIPING TO FIXTURES.
27.	ALL PLUMBING EQUIPMENT SHALL BE LISTED AND LABELED BY AN APPROVED TESTING AGENCY.



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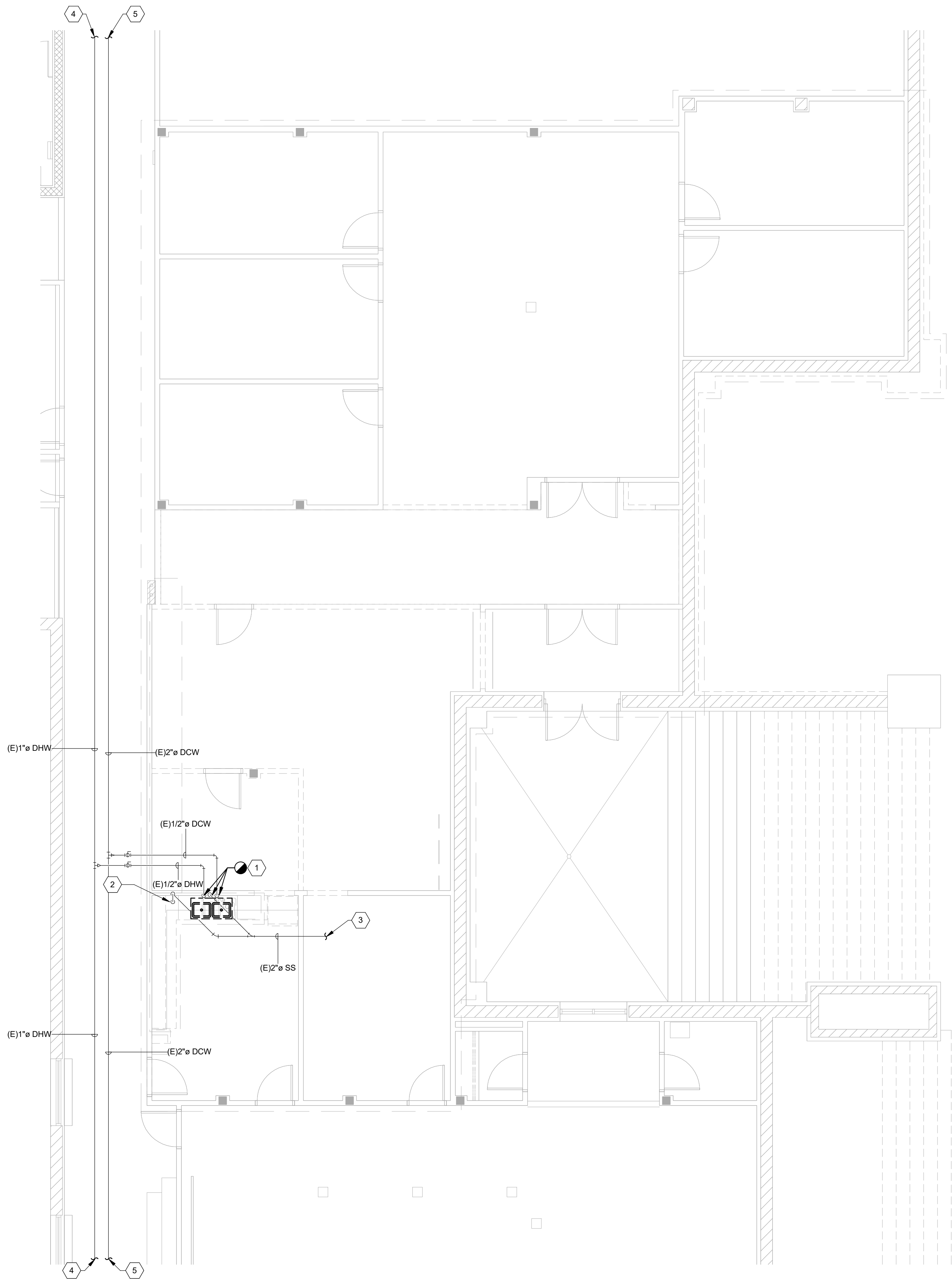


UTAH STATE
CAPITOL BUILDING

SUITE #85

SALT LAKE CITY
UTAH
84103

MARK	DATE	DESCRIPTION
ISSUE TYPE: 100% BID DOCUMENT		
ISSUE DATE: 11/6/2015		
DFCM PROJECT NO: 15348050		
DRAWN BY: DXV CHK'D BY: RHB COPYRIGHT: DXV		
SHEET TITLE		
BID ALTERNATE 1 - PLUMBING SPECIFICATIONS		
SHEET NUMBER		
P-8-01		
SHEET 23 OF 41		



1 PARTIAL BASEMENT DEMOLITION PLUMBING PLAN
SCALE: 3/16" = 1'-0"

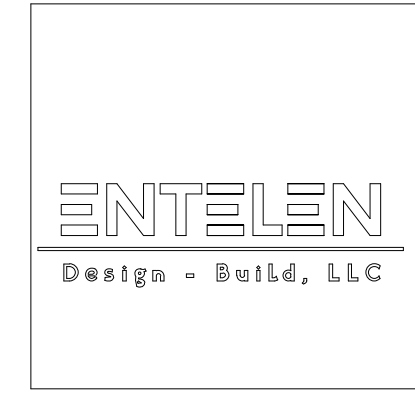
GENERAL SHEET NOTES

- 1 FIELD VERIFY EXACT SIZES AND LOCATIONS OF EXISTING PIPING AND ACCESSORIES PRIOR TO ORDERING OR FABRICATING.

SHEET KEYNOTES

- 1 REMOVE EXISTING SINK. PROTECT SINK AND REINSTALL DURING NEW WORK. PROTECT EXISTING PLUMBING TO BE REUSED IN NEW WORK.
- 2 EXISTING FUNNEL DRAIN TO REMAIN.
- 3 EXISTING SANITARY WASTE CONTINUES.
- 4 EXISTING DOMESTIC HOT WATER CONTINUES.
- 5 EXISTING DOMESTIC COLD WATER CONTINUES.

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UTAH STATE CAPITOL BUILDING

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UTAH
84103**

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ISSUE TYPE: 100% BID DOCUMENT		

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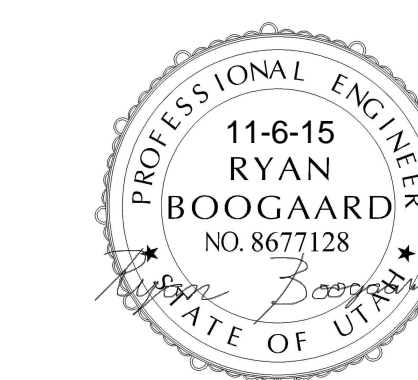
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SHEET TITLE

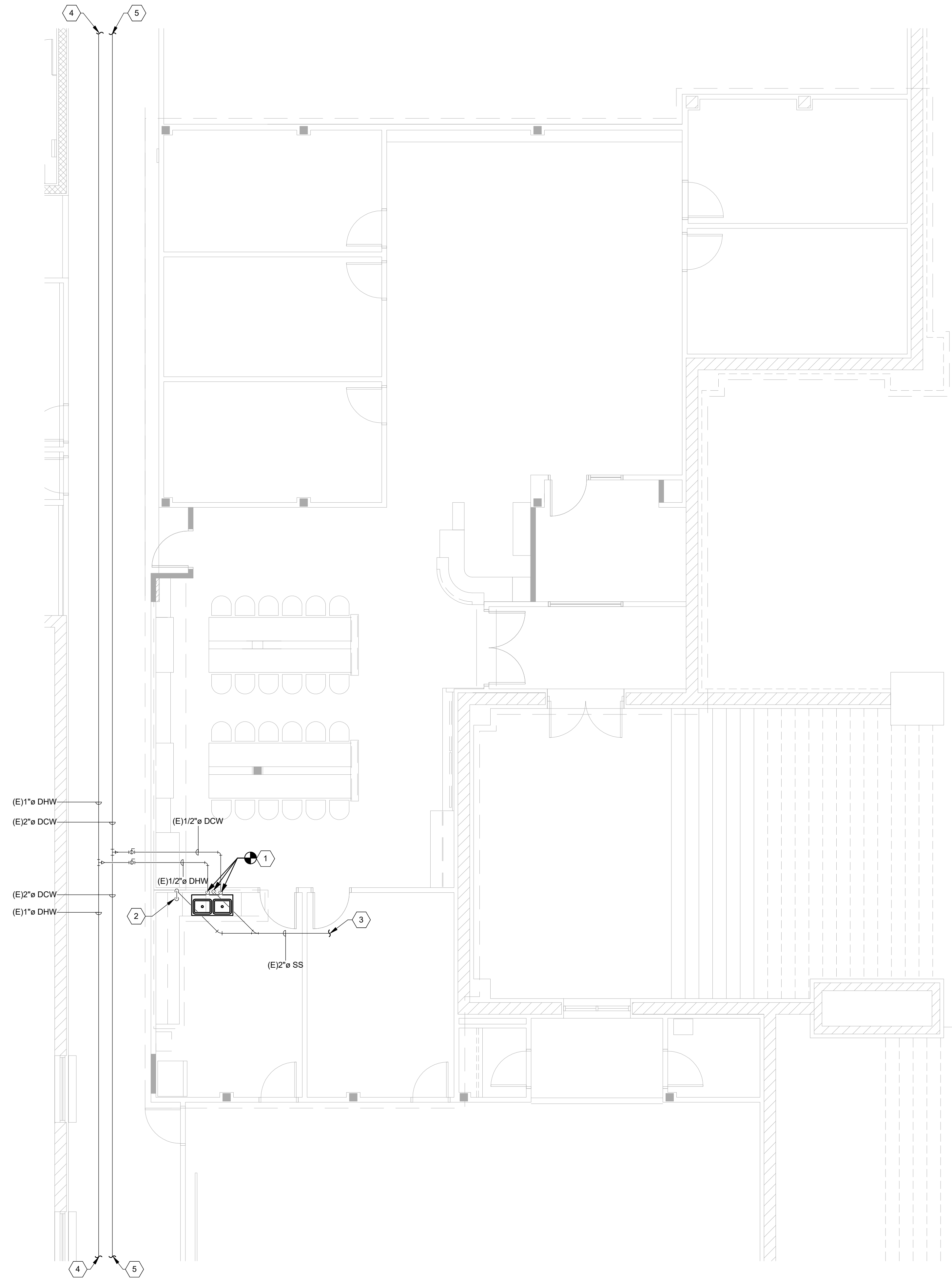
**BID ALTERNATE 1 -
PARTIAL BASEMENT
LEVEL DEMOLITION
PLUMBING PLAN**
SHEET NUMBER

PD-1-01

SHEET 24 OF 41



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1 PARTIAL BASEMENT PLUMBING PLAN
SCALE: 3/16" = 1'-0"

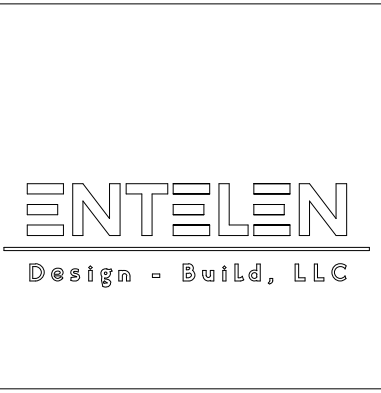
GENERAL SHEET NOTES

- 1 FIELD VERIFY EXACT SIZES AND LOCATIONS OF EXISTING PIPING AND ACCESSORIES PRIOR TO ORDERING OR FABRICATING.

SHEET KEYNOTES

- 1 REINSTALL EXISTING SINK IN THIS APPROXIMATE LOCATION. EXTEND EXISTING PLUMBING TO NEW SINK LOCATION AND RECONNECT TO SINK.
- 2 EXISTING FUNNEL DRAIN.
- 3 EXISTING SANITARY WASTE CONTINUES.
- 4 EXISTING DOMESTIC HOT WATER CONTINUES.
- 5 EXISTING DOMESTIC COLD WATER CONTINUES.

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**UTAH STATE
CAPITOL BUILDING**

SUITE #85

**SALT LAKE CITY
UTAH
84103**

MARK	DATE	DESCRIPTION
ISSUE TYPE: 100% BID DOCUMENT		

ISSUE DATE: 11/6/2015

DFCM PROJECT NO: 15348050

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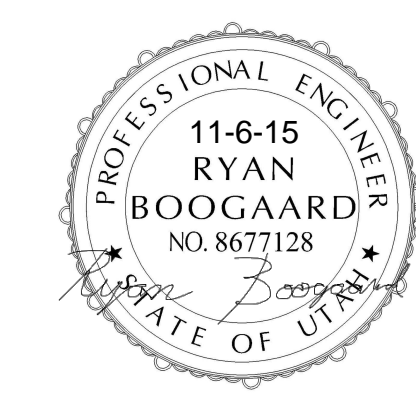
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**BID ALTERNATE 1 -
PARTIAL BASEMENT
LEVEL PLUMBING PLAN**

SHEET NUMBER









































PL-1-01

SHEET 25 OF 41




























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1		
SYMBOLS LEGEND		
SYMBOL	DESCRIPTION	
REFERENCE AND LINE SYMBOLS		
	DETAIL INDICATOR: A5 INDICATES DETAIL NUMBER, E-501 INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.	
D		ELEVATION OR SECTION INDICATOR, EXTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
		ELEVATION OR SECTION INDICATOR, INTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
	ROOM NAME 	ROOM IDENTIFIER WITH ROOM NAME AND NUMBER.
		KEYNOTE INDICATOR.
		REVISION INDICATOR.
		EQUIPMENT INDICATOR.
		BREAK, STRAIGHT: TO BREAK PARTS OF DRAWING
		BREAK, ROUND
		MATCH LINE INDICATOR: CENTER, EXTRA WIDE LINE.
		NEW LINE: MEDIUM LINE.
C		HIDDEN FEATURES LINE: HIDDEN, THIN LINE
		EXISTING TO REMAIN LINE: THIN LINE.
		DEMOLITION LINE: DASHED, MEDIUM LINE
	WIRING METHODS	
		WIRING.
		WIRING TURNED UP OR TOWARDS OBSERVER.
		WIRING TURNED DOWN OR AWAY FROM OBSERVER.
		BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.
		BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. NUMBER IN BOX REFERS TO THE CONDUCTOR AND CONDUIT SCHEDULE. FOR BRANCH WIRING USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.
	B	
		FLEXIBLE WIRING.
		LOW VOLTAGE WIRING: DIVIDE, MEDIUM LINE.
		CONDUIT STUB. DIMENSION RECORD DRAWINGS AND MARK.
		CONDUCTOR & CONDUIT ("CC") SCHEDULE INDICATOR. REFER TO ONE-LINE DIAGRAM.
		ADA ACCESS PUSH PLATE
		JUNCTION BOX.
		EARTH GROUND (ONE-LINE DIAGRAM).
		JUNCTION BOX, CEILING.
		MECHANICAL EQUIPMENT CONNECTION. REFER TO EQUIPMENT SCHEDULE FOR REQUIREMENTS.

SYMBOLS LEGEND	
SYMBOL	DESCRIPTION
WIRING DEVICES	
	RECEPTACLE, DUPLEX: NEMA 5-20R.
	RECEPTACLE, DUPLEX, ABOVE COUNTER: NEMA 5-20R.
	RECEPTACLE, DUPLEX, CEILING: NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, DRINKING FOUNTAIN: CONCEAL WATER COOLER RECEPTACLE BEHIND WATER COOLER. SEE MECHANICAL/PLUMBING SHOP DRAWINGS FOR INSTALLATION REQUIREMENTS.
	RECEPTACLE, DUPLEX, SWITCHED: NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WET LABEL, "WEATHERPROOF IN USE": NEMA 5-20R.
	RECEPTACLE, DUPLEX, WEATHERPROOF: NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER: NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WEATHERPROOF: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER: NEMA 5-20R.
	RECEPTACLE, SPECIAL PURPOSE. PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.
	SWITCH, SINGLE POLE ("X" INDICATES FIXTURES CONTROLLED).
	SWITCH, THREE-WAY ("X" INDICATES FIXTURES CONTROLLED).
	SWITCH, FOUR-WAY ("X" INDICATES FIXTURES CONTROLLED).
	SWITCH, DOOR.
	SWITCH, KEY OPERATED.
LIGHTING (REFER TO FIXTURE SCHEDULE FOR SYMBOLS)	
	FIXTURE IDENTIFICATION: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
	FIXTURE IDENTIFICATION, EMERGENCY WITH BATTERY PACK, CONNECTED TO GENERATOR AS INDICATED: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
	EMERGENCY.
	EGRESS DIRECTION ARROW (EXIT SIGNS).
	EXIT SIGN: SINGLE FACE; CEILING MOUNTED
	EXIT SIGN: SINGLE FACE; WALL MOUNTED
	EXIT SIGN: DOUBLE FACE; CEILING MOUNTED
	EXIT SIGN: DOUBLE FACE; WALL MOUNTED
LIGHTING CONTROL	
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING.
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, WALL.
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, DIRECTIONAL.
	VACANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING.
	VACANCY SENSOR, DUAL TECHNOLOGY, WALL.
	PHOTOCELL.
	SWITCH/OCCUPANCY SENSOR COMBO, DUAL TECHNOLOGY, WALL.
	SWITCH/VACANCY SENSOR COMBO, DUAL TECHNOLOGY, WALL.
	DIMMER SWITCH/OCCUPANCY SENSOR COMBO, DUAL TECHNOLOGY, WALL.
	DIMMER SWITCH/VACANCY SENSOR COMBO, DUAL TECHNOLOGY, WALL.
STRUCTURED CABLING	
	TELEPHONE, WALL MOUNTED ("X" INDICATES QUANTITY OF CABLES).
	OUTLET, DATA COMMUNICATION ("X" INDICATES QUANTITY OF CABLES).
	OUTLET, BUILDING STANDARD COMBINATION TELEPHONE/ DATA COMMUNICATION.
	TELEPHONE TERMINAL BOARD, FIRE TREATED PLYWOOD PAINTED.
	LAN RACK, FLOOR STANDING.

3

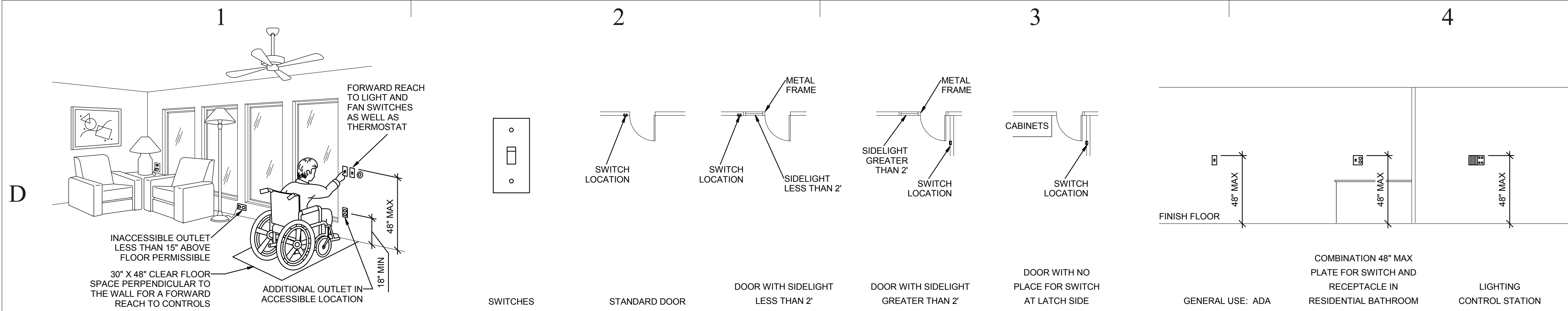
SYMBOLS LEGEND	
SYMBOL	DESCRIPTION
FIRE ALARM	
	FIRE SYSTEM ANNUNCIATOR.
	FIRE ALARM CONTROL PANEL, SEMI-RECESSED.
	FIRE ALARM NOTIFICATION POWER SUPPLY.
	CONTROL MODULE.
	MONITOR MODULE.
	FIRE ALARM MANUAL PULL STATION.
	SHUT DOWN RELAY: INSTALL RELAY IN CONTROL CIRCUIT OF EQUIPMENT TO BE CONTROLLED IN THE EVENT OF A FIRE.
	MAGNETIC DOOR HOLDER.
	DETECTOR, SMOKE.
	DETECTOR, SMOKE, DUCT WITH HOUSING AND SAMPLING TUBE.
	DETECTOR, HEAT.
	STROBE.
 75	STROBE. SUBSCRIPT INDICATES CANDELA RATING.
	ALARM, HORN/STROBE, ONE ASSEMBLY.
 75	ALARM, HORN/STROBE, ONE ASSEMBLY. SUBSCRIPT INDICATES CANDELA RATING.
	FIRE AND SMOKE DAMPER.
 75	ALARM, HORN/STROBE, ONE ASSEMBLY, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
 75	ALARM, HORN, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
 75	ALARM, STROBE, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
CCTV	
	CCTV CAMERA/ENCLOSURE LOCATION, PROVIDE ROUGH-IN ONLY TYPICAL.
SECURITY	
	ACCESS CONTROL HEADEND EQUIPMENT.
	CARD ACCESS DOOR TYPE #1 OR AS NOTED. SEE SCHEDULE.
	CARD READER.
	EXIT REQUEST.
	REMOTE DOOR RELEASE BUTTON.

DEFINITIONS	
NOTE: ALL DEFINITIONS MAY NOT BE USED.	
INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.	
DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", "AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.	
APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.	
FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."	
INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."	
PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."	
INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.	
TECHNOLOGY SYSTEMS: THE TERM "TECHNOLOGY SYSTEMS" IS USED TO DESCRIBE ALL LOW VOLTAGE SYSTEMS GENERALLY REFERRED TO AS "SPECIAL SYSTEMS". THESE SYSTEMS INCLUDE BUT ARE NOT NECESSARILY LIMITED TO ALL SYSTEMS WHICH UTILIZE VOLTAGES OF LESS THAN 71 VOLTS SUCH AS SOUND SYSTEMS, VIDEO SYSTEMS, TV SYSTEMS, SECURITY SYSTEMS, VOICE AND DATA CABLING SYSTEMS, ETC...	

4

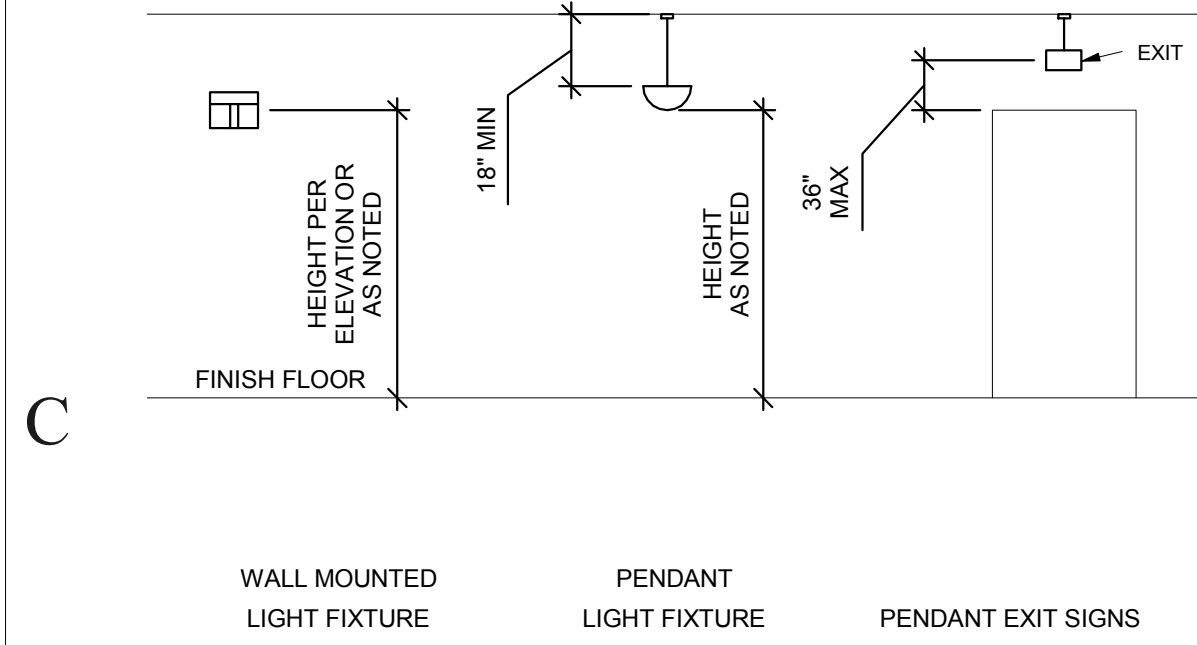
ABBREVIATIONS			
NOTE: ALL ABBREVIATIONS MAY NOT BE USED.			
1P	SINGLE POLE	KVA	KILOVOLT AMPERE
1PH	SINGLE-PHASE	KVAR	KILOVOLT AMPERE REACTIVE
1WAY	ONE-WAY	KW	KILOWATT
2/C	TWO-CONDUCTOR	KWh	KILOWATT HOUR
2WAY	TWO-WAY	LED	LIGHT EMITTING DIODE
3/C	THREE-CONDUCTOR	LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
3WAY	THREE-WAY	LFNC	LIQUID TIGHT FLEXIBLE NONMETALLIC CONDUIT
4OUT	QUADRUPL RECEPTACLE OUTLET	LPS	LOW PRESSURE SODIUM
4PDT	FOUR-POLE DOUBLE THROW	LRA	LOCKED ROTOR AMPS
4PST	FOUR-POLE SINGLE THROW	LTG	LIGHTING
4W	FOUR-WIRE	LV	LOW VOLTAGE
4WAY	FOUR-WAY	MATV	MASTER ANTENNA TELEVISION SYSTEM
A	ABOVE COUNTER	MAX	MAXIMUM
AC	ARMORED CABLE	MC	METAL CLAD
ADA	AMERICANS WITH DISABILITIES ACT	MCA	MINIMUM CIRCUIT AMPS
ADJ	ADJACENT	MCB	MAIN CIRCUIT BREAKER
AFF	ABOVE FINISHED FLOOR	MCC	MOTOR CONTROL CENTER
AFG	ABOVE FINISHED GRADE	MCP	MOTOR CIRCUIT PROTECTION
AIC	AMPERE INTERRUPTING CAPACITY	MDP	MAIN DISTRIBUTION PANEL
ALUM	ALUMINUM	MG	MOTOR GENERATOR
AMP	AMPERE	MH	MANHOLE
ANN	ANNUNCIATOR	MIN	MINIMUM
AP	ACCESS POINT (WIRELESS DATA)	MLO	MAIN LUGS ONLY
AR	AS REQUIRED	MOC	MAXIMUM OVERCURRENT PROTECTION
ASC	AMPS SHORT CIRCUIT	NA	NOT APPLICABLE
ATS	AUTOMATIC TRANSFER SWITCH	NC	NORMALLY CLOSED
AV	AUDIO VISUAL	NEC	NATIONAL ELECTRICAL CODE
AWG	AMERICAN WIRE GAGE	NEMA	NATIONAL ELECTRICAL ASSOCIATION
BB	BUCK-BOOST TRANSFORMER	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
XFMR		NFC	NATIONAL FIRE CODE
C	CEILING MOUNTED	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CATV	COMMUNITY ANTENNA TELEVISION	NIC	NOT IN CONTRACT
CB	CIRCUIT BREAKER	NL	NIGHT LIGHT
CCBA	CUSTOM COLOR AS SELECTED BY ARCHITECT	NO	NORMALLY OPEN
CCTV	CLOSED CIRCUIT TELEVISION	NTS	NOT TO SCALE
CF/CI	CONTRACTOR FURNISHED/ CONTRACTOR INSTALLED	OC	ON CENTER
CF/CI	CONTRACTOR FURNISHED/ OWNER INSTALLED	OCP	OVER CURRENT PROTECTION
CFBA	CUSTOM FINISH AS SELECTED BY ARCHITECT	OF/CI	OWNER FURNISHED/ CONTRACTOR INSTALLED
CKT	CIRCUIT	OF/CI	OWNER FURNISHED/ OWNER INSTALLED
CM	CONSTRUCTION MANAGER	OFF	OBTAIN FROM PLANS
CND	CONDUIT	OH DR	OVERHEAD (COILING) DOOR
CO	CONVENIENCE OUTLET	OL	OVERLOAD
COR	CONTRACTING OFFICER'S REPRESENTATIVE	PB	PUSHBUTTON
CP	CONTROL PANEL	PF	POWER FACTOR
CT	CURRENT TRANSFORMER	PH	PHASE
CTV	CABLE TELEVISION	PNL	PANEL
CU	COPPER	PT	POTENTIAL TRANSFORMER
GBA	UNIT OF SOUND LEVEL	PTZ	PAN/TILT/ZOOM
DPDT	DOUBLE POLE, DOUBLE THROW	QTY	QUANTITY
DS	DISCONNECT SWITCH	R	REMOVE
EA	EACH	RCP	REFLECTED CEILING PLAN
EM	EMERGENCY	RLC	RIGID METAL CONDUIT
EMT	ELECTRICAL METALLIC TUBING	RNC	RIGID NONMETAL CONDUIT
ENT	ELECTRIC NONMETALLIC TUBING	RPM	REVOLUTIONS PER MINUTE
EPO	EMERGENCY POWER OFF	RR	REMOVE AND RELOCATE
EQUIP	EQUIPMENT	S/S	START/STOP
EX	EXISTING	SCA	SHORT CIRCUIT AMPS
F	FURNITURE MOUNTED	SCBA	STANDARD COLOR AS SELECTED BY ARCHITECT
FA	FIRE ALARM	SF	SQUARE FOOT (FEET)
FCP	FIRE ALARM CONTROL PANEL	SFBA	STANDARD FINISH AS SELECTED BY ARCHITECT
FLA	FULL LOAD AMPS	SPDT	SINGLE POLE, DOUBLE THROW
FMC	FLEXIBLE METAL CONDUIT	SPEC	SPECIFICATION
FOB	FREIGHT ON BOARD	SPST	SINGLE POLE, SINGLE THROW
FVNR	FULL VOLTAGE NONREVERSING	ST	SINGLE THROW
FVR	FULL VOLTAGE REVERSING	SWBD	SWITCHBOARD
G	GROUND	SWGR	SWITCHGEAR
GEN	GENERATOR	TL	TWIST LOCK
GFCI	GROUND FAULT INTERRUPTER	TP	TELEPHONE POLE
GFP	GROUND FAULT PROTECTION	TP	TWISTED PAIR
HD	HEAVY DUTY	TTB	TELEPHONE TERMINAL BOARD
HID	HIGH INTENSITY DISCHARGE	TV	TELEVISION
HOA	HAND-OFF-AUTOMATIC	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER
HP	HORSE POWER	TYP	TYPICAL
HPF	HIGH POWER FACTOR	UF	UNDERFLOOR
HPS	HIGH PRESSURE SODIUM	UGND	UNDERGROUND
HV	HIGH VOLTAGE	UPS	UNINTERRUPTIBLE POWER SUPPLY
HZ	HERTZ	V	VOLTS
I/O	INPUT/ OUTPUT	VA	VOLT AMPERE
IG	ISOLATED GROUND	VFC/VPD	VARIABLE FREQUENCY MOTOR CONTROLLER
IMC	INTERMEDIATE METAL CONDUIT	W/	WITH
INIS	INSULATED/ ISOLATED	W/O	WITHOUT
IR	INFRARED	WP	WEATHERPROOF
J-BOX	JUNCTION BOX	XFMR	TRANSFORMER
kV	KILOVOLT		

GENERAL ELECTRICAL NOTES	
1.	CLARIFICATION METHODS: AT THE TIME OF BIDDING, BIDDERS SHALL FAMILIARIZE THEMSELVES WITH THE DRAWINGS AND SPECIFICATIONS. ANY QUESTIONS, MISUNDERSTANDINGS, CONFLICTS, DELETIONS, DISCONTINUED PRODUCTS, CATALOG NUMBER DISCREPANCIES, DISCREPANCIES BETWEEN THE EQUIPMENT SUPPLIED AND THE INTENT OR FUNCTION OF THE EQUIPMENT, ETC, SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER IN WRITING FOR CLARIFICATION PRIOR TO ISSUANCE OF THE FINAL ADDENDUM AND BIDDING OF THE PROJECT. WHERE DISCREPANCIES OR MULTIPLE INTERPRETATIONS OCCUR, THE MOST STRINGENT (WHICH IS GENERALLY RECOGNIZED AS THE MOST COSTLY) THAT MEETS THE INTENT OF THE DOCUMENTS SHALL BE ENFORCED.
2.	OWNER FURNISHED ITEMS: THE OWNER WILL FURNISH MATERIAL AND EQUIPMENT AS INDICATED IN THE CONTRACT DOCUMENTS TO BE INCORPORATED INTO THE WORK. THESE ITEMS ARE ASSIGNED TO THE INSTALLER AND COSTS FOR RECEIVING, HANDLING, STORAGE, IF REQUIRED, AND INSTALLATION ARE INCLUDED IN THE CONTRACT SUM.
A.	THE INSTALLER'S RESPONSIBILITIES ARE THE SAME AS IF THE INSTALLER FURNISHED THE MATERIALS OR EQUIPMENT.
B.	THE OWNER WILL ARRANGE AND PAY FOR DELIVERY OF OWNER FURNISHED ITEMS FREIGHT ON BOARD JOB SITE AND THE INSTALLER WILL INSPECT DELIVERIES FOR DAMAGE. IF OWNER FURNISHED ITEMS ARE DAMAGED, DEFECTIVE OR MISSING, DOCUMENT DAMAGED ITEMS WITH THE TRANSPORT COMPANY AND THE OWNER WILL ARRANGE FOR REPLACEMENT. THE OWNER WILL ALSO ARRANGE FOR MANUFACTURER'S FIELD SERVICES, AND THE DELIVERY OF MANUFACTURER'S WARRANTIES AND BONDS TO THE INSTALLER.
C.	THE INSTALLER IS RESPONSIBLE FOR DESIGNATING THE DELIVERY DATES OF OWNER FURNISHED ITEMS AND FOR RECEIVING, UNLOADING AND HANDLING OWNER FURNISHED ITEMS AT THE SITE. THE INSTALLER IS RESPONSIBLE FOR PROTECTING OWNER FURNISHED ITEMS FROM DAMAGE, INCLUDING DAMAGE FROM EXPOSURE TO THE ELEMENTS



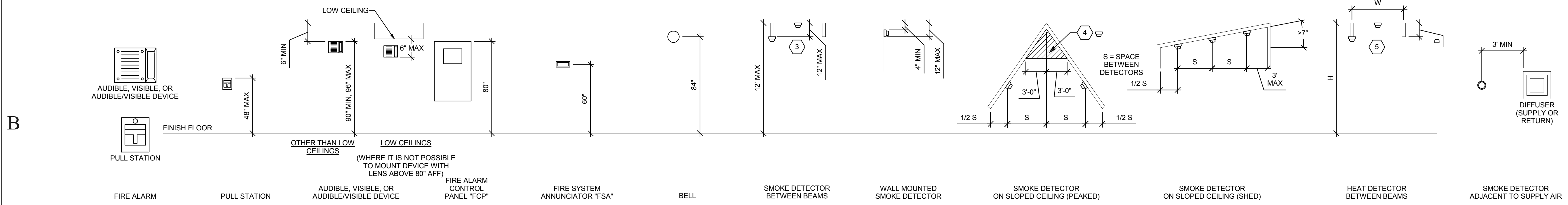
D2 ADA DETAIL
SCALE: NTS

D3 SWITCH MOUNTING DETAILS
SCALE: NTS

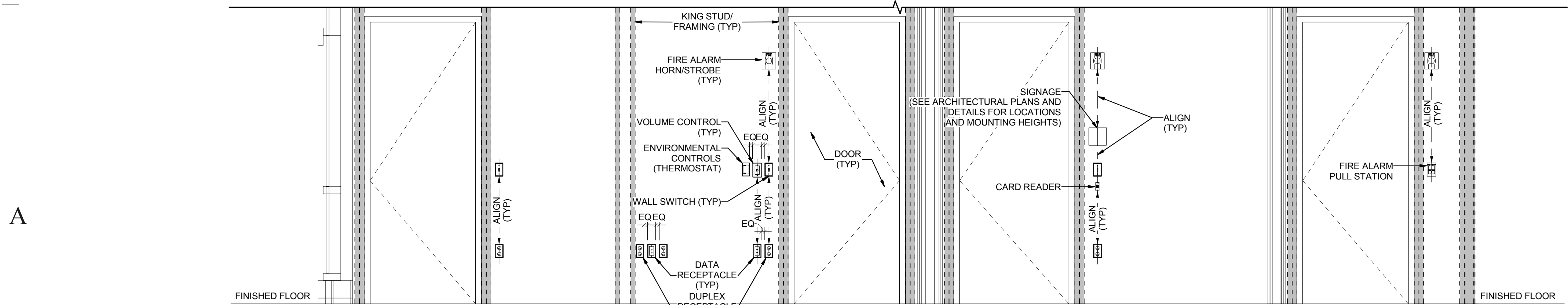


C2 LIGHTING MOUNTING DETAILS
SCALE: NTS

C3 COMMUNICATIONS MOUNTING DETAILS
SCALE: NTS



B1 FIRE ALARM MOUNTING DETAILS
SCALE: NTS



A2 TYPICAL WALL MOUNTED DEVICES ALIGNMENT DETAIL
SCALE: NTS

GENERAL SHEET NOTES

1. DETERMINE MOUNTING HEIGHTS OF ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE FOLLOWING ORDER OF PRIORITY:
1 - ELEVATIONS (ARCHITECTURAL, ELECTRICAL, MECHANICAL, ETC).
2 - EQUIPMENT SHOP DRAWINGS.
3 - FIELD INSTRUCTIONS.
2. LOCATE RECEPTACLES SERVING THE SAME TYPE OF USE AT A UNIFORM HEIGHT UNLESS DIRECTED OTHERWISE.
3. MECHANICAL, ELECTRICAL, AND COMMUNICATION ROOMS: COORDINATE LOCATION OF LIGHTING AND POWER RECEPTACLES WITH EQUIPMENT, PIPING, AND DUCTWORK. DO NOT INSTALL RECEPTACLES BEHIND EQUIPMENT OR WHERE OTHERWISE INACCESSIBLE. POSITION LIGHTING REGARDLESS OF WHERE SHOWN ON DRAWING TO PROVIDE PROPER ILLUMINATION.
4. MOUNT RECEPTACLE BOXES FOR SWITCHES AND RECEPTACLES WITH LONG AXIS OF THE DEVICE VERTICAL UNLESS OTHERWISE INDICATED.
5. SET BOXES WITH PLASTER RINGS FLUSH WITH FINISHED SURFACE.
6. LOCATE BOX COVERS OR DEVICE PLATES SO THEY WILL NOT SPAN DIFFERENT TYPES OF BUILDING FINISHES EITHER VERTICALLY OR HORIZONTALLY.
7. VERIFY ALL DOOR CONDITIONS ON ARCHITECTURAL DRAWINGS PRIOR TO INSTALLING SWITCHES.
8. LOCATE WIRING DEVICES WHICH ARE ADJACENT AND ARE COMPATIBLE VOLTAGES IN ONE PLATE.
9. WHERE DEVICES ARE LOCATED IN CLOSE PROXIMITY OF THE SAME VERTICAL PLANE, ALIGN DEVICES VERTICALLY PER THE TYPICAL WALL MOUNTED DEVICES ALIGNMENT DETAIL, UNLESS OTHERWISE INDICATED.

SHEET KEYNOTES

1. LOCATE RECEPTACLES BEHIND DRINKING FOUNTAINS.
2. REFER TO ARCHITECTURAL ELEVATIONS FOR PLACEMENT OF OUTLETS.
3. LOCATE AT BOTTOM OF BEAMS (OR JOISTS) OR AT CEILING. (REDUCE SPACING BY .5 PERPENDICULAR TO BEAM OR JOIST DIRECTION.) FOR OTHER CONDITIONS, REFER TO NFPA 72.
4. LOCATE DETECTOR ANYWHERE IN SHADED AREA BUT NOT IN TOP 4" OF PEAK.
5. LOCATE AT BOTTOM OF BEAMS IF $D/H < .1$ OR $W/H < .4$; OTHERWISE, LOCATE IN BEAM POCKET. FOR $D > .4$ REDUCE SPACING .33 PERPENDICULAR TO BEAMS.

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UTAH STATE
CAPITOL BUILDING

SUITE #85

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MARK	DATE	DESCRIPTION
ISSUE TYPE:	100%	BID DOCUMENT

ISSUE DATE: 11/06/2015
DFCM PROJECT NO: 15348050

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SHEET TITLE

TYPICAL MOUNTING
HEIGHT DETAILS

SHEET NUMBER

E-7-01

SHEET 28 OF 41

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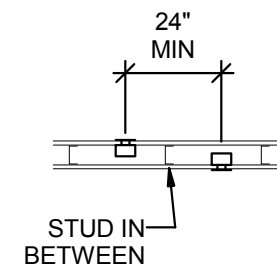
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SHEET KEYNOTES

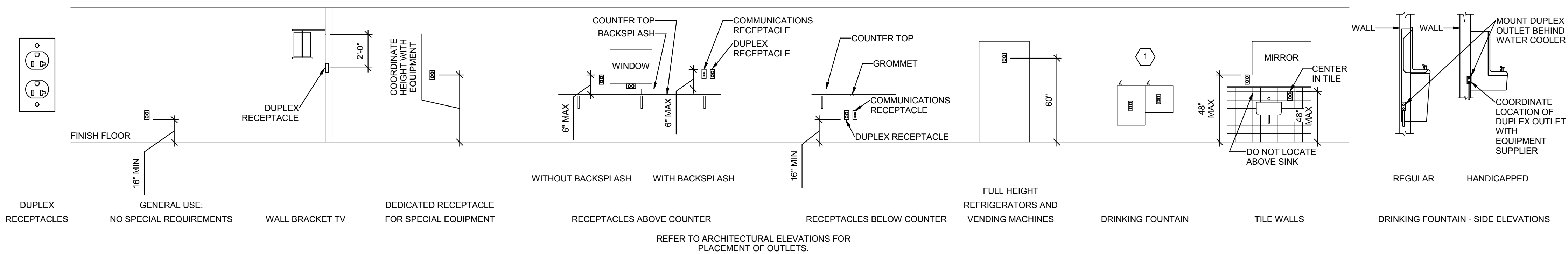
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5. LOCATE AT BOTTOM OF BEAMS IF $D/H < 1$ OR $W/H < 4$; OTHERWISE, LOCATE IN BEAM POCKET. FOR $D > 4$ REDUCE SPACING. 33 PERPENDICULAR TO BEAMS.



BOXES ON OPPOSITE SIDES OF WALL

C4 BOX MOUNTING DETAILS

SCALE: NTS



B2 RECEPTACLE MOUNTING DETAILS

SCALE: NTS

1

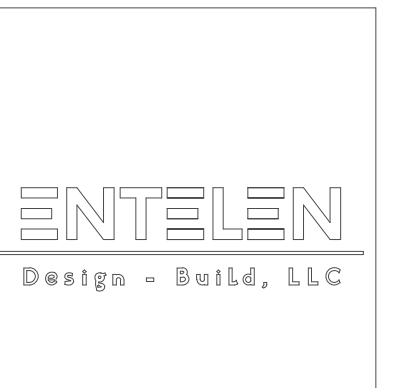
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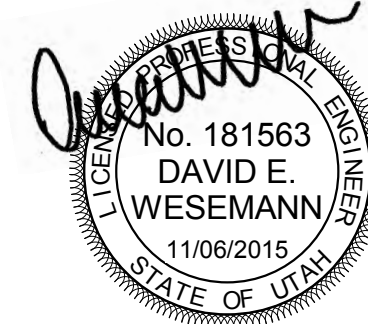
SHEET TITLE

TYPICAL MOUNTING HEIGHT DETAILS

SHEET NUMBER

E-7-02

SHEET 29 OF 41



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D

C

B

A

SECTION 260500 - COMMON WORK RESULTS FOR ELECTRICAL GENERAL

MATERIALS AND INSTALLATION SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, OTHER APPLICABLE NFPA SECTIONS, STATE AND LOCAL CODES, AND RECOGNIZED INDUSTRY STANDARDS AND PRACTICES.

LISTING AND LABELING: PROVIDE PRODUCTS THAT ARE UL LISTED AND LABELED.

NEMA COMPLIANCE: COMPLY WITH CONSTRUCTION AND INSTALLATION REQUIREMENTS OF APPLICABLE NEMA STANDARDS.

SUBMITTALS: SUBMIT PRODUCT DATA AND SHOP DRAWING ON THE FOLLOWING EQUIPMENT FOR APPROVAL:

- 1. WIRING DEVICES.
- 2. LIGHTING FIXTURES.

PRIOR TO SUBMITTING BID, VISIT SITE TO VERIFY ALL EXISTING CONDITIONS AND ANY ITEMS THAT WILL AFFECT WORK OF THIS PROJECT. INCLUDE ALL COSTS IN BID.

MAINTAIN A SET OF REDLINED AS-BUILT DRAWINGS AND DELIVER TO OWNER UPON COMPLETION OF PROJECT.

PROTECT ADJACENT MATERIALS INDICATED TO REMAIN. INSTALL AND MAINTAIN DUST AND NOISE BARRIERS TO KEEP DIRT, DUST, AND NOISE FROM BEING TRANSMITTED TO ADJACENT AREAS. REMOVE PROTECTION AND BARRIERS AFTER DEMOLITION OPERATIONS ARE COMPLETE.

LOCATE, IDENTIFY, AND PROTECT ELECTRICAL SERVICES WITHIN OR PASSING THROUGH DEMOLITION AREA AND SERVING OTHER AREAS OUTSIDE THE DEMOLITION LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE DEMOLITION LIMITS. WHEN SERVICES MUST BE INTERRUPTED, INSTALL TEMPORARY SERVICES FOR AFFECTED AREAS. COORDINATE POWER INTERRUPTIONS ONE WEEK IN ADVANCE WITH OWNER. IF POWER INTERRUPTIONS DISTURB NORMAL OPERATIONS, THEN POWER INTERRUPTIONS ARE ONLY ALLOWED DURING NON-BUSINESS OR NON-OPERATION HOURS.

PATCH AND REPAIR SURFACES THAT ARE DISTURBED OR DAMAGED AS A RESULT OF ELECTRICAL INSTALLATION. RESTORE SURFACES TO ORIGINAL CONDITION.

INSTALLATION OF FIRE-STOPPING SEALANT: INSTALL UL-LISTED SEALANT, INCLUDING FORMING, PACKING, AND OTHER ACCESSORY MATERIALS, TO FILL OPENINGS AROUND ELECTRICAL SERVICES PENETRATING FLOORS AND WALLS, TO PROVIDE FIRE-STOPS WITH FIRE-RESISTANCE RATINGS INDICATED FOR FLOOR OR WALL ASSEMBLY IN WHICH PENETRATION OCCURS. COMPLY WITH INSTALLATION REQUIREMENTS ESTABLISHED BY TESTING AND INSPECTING AGENCY.

SECTION 260519 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PRODUCTS

PROVIDE STEEL RACEWAY, FITTING, AND BOX SYSTEM FOR ALL WIRING, EXCEPT FOR PLASTIC CONDUIT MAY BE INSTALLED UNDERGROUND.

RIGID STEEL CONDUIT: ANSI C80.1.

INTERMEDIATE METAL CONDUIT: ANSI C80.6.

PLASTIC-COATED STEEL CONDUIT AND FITTINGS: NEMA RN 1.

PLASTIC-COATED INTERMEDIATE METAL CONDUIT AND FITTINGS: NEMA RN 1.

ELECTRICAL METALLIC TUBING AND FITTINGS: ANSI C80.3 WITH SET-SCREW OR COMPRESSION-TYPE FITTINGS. CAST FITTINGS ARE NOT ALLOWED.

FLEXIBLE METAL CONDUIT: ZINC-COATED STEEL.

LIQUIDTIGHT FLEXIBLE METAL CONDUIT: FLEXIBLE STEEL CONDUIT WITH PVC JACKET.

FITTINGS: NEMA FB 1, COMPATIBLE WITH CONDUIT/TUBING MATERIALS AND SUITABLE FOR USE AND LOCATION.

RIGID NONMETALLIC CONDUIT (RNC): NEMA TC 2, SCHEDULE 40 OR 80 PVC.

PVC CONDUIT AND TUBING FITTINGS: NEMA TC 3; MATCH TO CONDUIT OR CONDUIT/TUBING TYPE AND MATERIAL. OUTLET AND DEVICE BOXES: USE ONE OF THE FOLLOWING:

- 1. SHEET METAL BOXES: NEMA OS 1.

EXECUTION

PROVIDE MINIMUM 3/4" RACEWAY.

OUTDOORS WIRING METHODS: USE THE FOLLOWING WIRING METHODS:

- 1. EXPOSED: RIGID OR INTERMEDIATE METAL CONDUIT.
- 2. CONCEALED: RIGID OR INTERMEDIATE METAL CONDUIT.
- 3. UNDERGROUND: RIGID NONMETALLIC CONDUIT, EXCEPT THAT WRAPPED RIGID METAL SHALL BE USED FOR BENDS GREATER THAN 22 DEGREES.
- 4. PENETRATING CONCRETE FLOORS AND FOUNDATIONS: WRAPPED RIGID METAL CONDUIT (MINIMUM 4" EACH SIDE).
- 5. CONNECTION TO VIBRATING EQUIPMENT (INCLUDING TRANSFORMERS AND HYDRAULIC, PNEUMATIC, OR ELECTRIC SOLENOID OR MOTOR-DRIVEN EQUIPMENT): LIQUIDTIGHT FLEXIBLE METAL CONDUIT.
- 6. BOXES AND ENCLOSURES: NEMA TYPE 3R OR TYPE 4.

DIRECT BURIED CONDUIT OUTSIDE A BUILDING SHALL NOT BE LESS THAN 24" DEEP, WITH MAGNETIC "YELLOW WARNING" RIBBON 12" DIRECTLY ABOVE AND 6" BELOW FINISHED GRADE MEASURED FROM THE TOP OF THE CONDUIT.

INDOORS WIRING METHODS: USE THE FOLLOWING WIRING METHODS:

- 1. CONNECTION TO VIBRATING EQUIPMENT, INCLUDING TRANSFORMERS AND HYDRAULIC, PNEUMATIC, OR ELECTRIC SOLENOID OR MOTOR-DRIVEN EQUIPMENT: FLEXIBLE METAL CONDUIT WITH MINIMUM 18" OF LIQUID-TIGHT FLEXIBLE CONDUIT (MAXIMUM OF 6 FEET), EXCEPT IN WET OR DAMP LOCATIONS USE LIQUIDTIGHT FLEXIBLE METAL CONDUIT (MAXIMUM OF 6 FEET).
- 2. DAMP OR WET LOCATIONS: RIGID STEEL CONDUIT.
- 3. EXPOSED: ELECTRICAL METALLIC TUBING, RIGID OR INTERMEDIATE METAL CONDUIT WHERE SUBJECT TO PHYSICAL DAMAGE.
- 4. CONCEALED: ELECTRICAL METALLIC TUBING.
- 5. CONNECTION FOR CONDUIT IN CRAMPED QUARTERS OR MISALIGNMENT EXIST. FLEXIBLE METAL CONDUIT (MINIMUM 1/2"). CONCEAL CONDUIT AND ENT, UNLESS OTHERWISE INDICATED, WITHIN FINISHED WALLS, CEILINGS, AND FLOORS.

INSTALL RACEWAYS LEVEL AND SQUARE AND AT PROPER ELEVATIONS. RUN PERPENDICULAR AND AT RIGHT ANGLES TO BUILDING AND STRUCTURAL ELEMENTS. RUN PARALLEL OR BANKED RACEWAYS TOGETHER, ON COMMON SUPPORTS WHERE PRACTICAL. MAKE BENDS IN PARALLEL OR BANKED RUNS FROM SAME CENTER LINE TO MAKE BENDS PARALLEL.

SUPPORT RACEWAYS AS FOLLOWS, IN COMPLIANCE WITH DIVISION 16 SECTION "SUPPORTING DEVICES": TWO SUPPORTS PER 10' RUN, WITHIN 12" OF A COUPLING, FITTING OR BEND GREATER THAN 45 DEGREES, AND WITHIN 12" OF EVERY BOX TO WHICH THE RACEWAY IS ENTERING OR EXITING.

RUN CONCEALED RACEWAYS WITH A MINIMUM OF BENDS IN THE SHORTEST PRACTICAL DISTANCE CONSIDERING THE TYPE OF BUILDING CONSTRUCTION AND OBSTRUCTIONS, EXCEPT AS OTHERWISE INDICATED.

RACEWAYS EMBEDDED IN SLABS: INSTALL IN MIDDLE THIRD OF THE SLAB THICKNESS WHERE PRACTICAL, AND LEAVE AT LEAST 1 INCH (25 MM) CONCRETE COVER.

JOINTS AND TERMINATIONS: JOIN RACEWAYS WITH FITTINGS DESIGNED AND APPROVED FOR THE PURPOSE AND MAKE JOINTS AND TERMINATIONS TIGHT.

- 1. MAKE RACEWAY TERMINATIONS TIGHT. USE BONDING BUSHINGS OR WEDGES AT CONNECTIONS SUBJECT TO VIBRATION.
- 2. USE BONDING JUMPERS WHERE JOINTS CANNOT BE MADE TIGHT.
- 3. USE INSULATED THROAT OR EQUAL TYPE PLASTIC BUSHINGS FOR BOX CONNECTIONS TO PROTECT CONDUCTORS.
- 4. CONNECTORS ON FLEXIBLE CONDUIT SHALL BE THREADED TYPE - NOT PUSH-IN QUICK CONNECT TYPE.

INSTALL 200-LB NYLON PULL CORD IN ALL EMPTY RACEWAYS. CAP RACEWAY USING A BLANK COVER SIMILAR TO ADJACENT WIRING DEVICE COVERS.

ALL FUTURE RACEWAYS SHALL TERMINATE IN AN ACCESSIBLE CEILING SPACE UNLESS NOTED OTHERWISE. EXTEND AS NECESSARY.

RECORD CIRCUIT NUMBERS ON THE INSIDE BACK OF RECEPTACLE AND LIGHTING OUTLET BOXES USING A PERMANT MARKER OR PERMANENT LABEL.

PROVIDE GROUNDING CONNECTIONS FOR RACEWAY, BOXES, AND COMPONENTS AS INDICATED AND INSTRUCTED BY MANUFACTURER. TIGHTEN CONNECTORS AND TERMINALS, INCLUDING SCREWS AND BOLTS, ACCORDING TO EQUIPMENT MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES FOR EQUIPMENT CONNECTORS. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT INDICATED, TIGHTEN CONNECTORS AND TERMINALS ACCORDING TO TIGHTENING TORQUES SPECIFIED IN UL STANDARD 486A.

SECTION 260526 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PRODUCTS

WIRES AND CABLES: TYPE THHN/THWN COPPER CONDUCTOR.

SOLID CONDUCTOR FOR 10 AWG AND SMALLER; STRANDED CONDUCTOR FOR LARGER THAN 10 AWG.

CONNECTORS AND SPLICES: UL-LISTED FACTORY-FABRICATED WIRING CONNECTORS OF SIZE, AMPACITY RATING, MATERIAL, AND TYPE AND CLASS FOR APPLICATION AND FOR SERVICE INDICATED. SELECT TO COMPLY WITH PROJECT'S INSTALLATION REQUIREMENTS AND AS SPECIFIED IN THE "EXECUTION" ARTICLE.

DO NOT PROVIDE THE FOLLOWING UNLESS APPROVED BY THE DIRECTOR:

- 1. EXPOSED CABLE WIRING.
- 2. SPLICES IN PANELBOARD, SWITCHBOARD ENCLOSURES, OR IN CONDUIT BODIES.

DO NOT USE ALUMINUM CONDUCTORS, MC CABLE, OR NON-METALLIC SHEATHED CABLE.

COLOR-CODING OF SECONDARY PHASE CONDUCTORS: COLOR CODE SWITCH LEGS, TRAVELERS AND OTHER WIRING FOR BRANCH CIRCUITS OTHER THAN THOSE LISTED BELOW. PERMANENTLY POST COLOR CODE AT EACH BRANCH PANELBOARD. USE THE FOLLOWING COLORS FOR SERVICE, FEEDER AND BRANCH-CIRCUIT PHASE CONDUCTORS:

- 1. 208/120-V CONDUCTORS:
 - a. PHASE A: BLACK.
 - b. PHASE B: RED.
 - c. PHASE C: BLUE.
 - d. NEUTRAL: WHITE.
 - e. GROUND: GREEN.
 - f. INSULATED GROUND: GREEN WITH WHITE STRIPE.
- 2. 480/277-V CONDUCTORS:
 - a. PHASE A: BROWN.
 - b. PHASE B: YELLOW.
 - c. PHASE C: VIOLET.
 - d. NEUTRAL: GRAY.
 - e. GROUND: GREEN.
- 3. ORANGE IS RESERVED FOR THE HIGH-LEG OF CENTER-TAPPED DELTA SYSTEM.
- 4. #8 AND LARGER CONDUCTORS MAY BE TAPED WITH 8" OF HALF-LAPPED COLORED TAPE AT TERMINATIONS AND PULL BOXES.

EXECUTION

INSTALL WIRES AND CABLES AS INDICATED, ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE NEC "STANDARD OF INSTALLATION."

PULL CONDUCTORS INTO RACEWAY SIMULTANEOUSLY WHERE MORE THAN ONE IS BEING INSTALLED IN SAME RACEWAY.

CONDUCTOR SPLICES: KEEP TO MINIMUM.

INSTALL SPLICES AND TAPES THAT POSSESS EQUIVALENT OR BETTER MECHANICAL STRENGTH AND INSULATION RATINGS THAN CONDUCTORS BEING SPLICED.

USE SPLICE AND TAP CONNECTORS THAT ARE COMPATIBLE WITH CONDUCTOR MATERIAL. DO NOT USE PUSH-IN TYPE QUICK-WIRE DEVICES OR WIRE CONNECTORS.

WIRING AT OUTLETS: INSTALL WITH AT LEAST 12 INCHES (300 MM) OF SLACK CONDUCTOR AT EACH OUTLET.

CONNECT OUTLETS AND COMPONENTS TO WIRING AND TO GROUND AS INDICATED AND INSTRUCTED BY MANUFACTURER. TIGHTEN CONNECTORS AND TERMINALS, INCLUDING SCREWS AND BOLTS, ACCORDING TO EQUIPMENT MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES FOR EQUIPMENT CONNECTORS. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT INDICATED, TIGHTEN CONNECTORS AND TERMINALS ACCORDING TO TIGHTENING TORQUES SPECIFIED IN UL STANDARD 486A.

METAL CLAD (MC) CABLE:

- 1. MC CABLE SHALL NOT BE USED.

SECTION 260529 - WIRING DEVICES

PRODUCTS

WIRING DEVICES: COMPLY WITH NEMA STANDARD WD 1, "GENERAL PURPOSE WIRING DEVICES."

COLOR: AS SELECTED BY ARCHITECT/OWNER, EXCEPT AS OTHERWISE INDICATED OR REQUIRED BY CODE.

STANDARD DUPLEX RECEPTACLES: 20A DEVICES; PROVIDE NYLON FACE, BACK AND SIDE WIRING. COMPLY WITH FEDERAL SPECIFICATION W-C-896 AND HEAVY-DUTY GRADE OF UL STANDARD 498. TELETRICAL ATTACHMENT PLUGS AND RECEPTACLES: PROVIDE NRTL LABELING OF DEVICES TO VERIFY THESE COMPLIANCES.

GROUND-FAULT INTERRUPTER (GFCI) RECEPTACLES: UL STANDARD 943, "GROUND FAULT CIRCUIT INTERRUPTERS"; FEED-THROUGH TYPE, WITH INTEGRAL NEMA 5-20R DUPLEX RECEPTACLE ARRANGED TO PROTECT CONNECTED DOWNSTREAM RECEPTACLES ON THE SAME CIRCUIT. DESIGN UNITS FOR INSTALLATION IN A 2-3/4-INCH (70-MM) DEEP OUTLET BOX WITHOUT AN ADAPTER.

SNAP SWITCHES: 20A DEVICES; PROVIDE NYLON FACE, QUIET-TYPE A.C. SWITCHES, NRTL LISTED AND LABELED AS COMPLYING WITH UL STANDARD 20 "GENERAL USE SNAP SWITCHES," AND WITH FEDERAL SPECIFICATION W-S-896.

TELEPHONE JACK: RJ-45, 8-POSITION, MODULAR, LATCHING-PLUG TYPE, FLUSH IN FACE OF WALL PLATED.

WALL PLATES: SINGLE AND COMBINATION TYPES THAT MATE AND MATCH WITH CORRESPONDING WIRING DEVICES. FEATURES INCLUDE THE FOLLOWING:

- 1. COLOR: MATCHES WIRING DEVICE EXCEPT AS OTHERWISE INDICATED.
- 2. PLATE-SECURING SCREWS: METAL WITH HEADS COLORED TO MATCH PLATE FINISH.
- 3. MATERIAL FOR FINISHED SPACES: NYLON EXCEPT AS OTHERWISE INDICATED.
- 4. MATERIAL FOR UNFINISHED SPACES: STAINLESS STEEL.

EXECUTION

WIRING DEVICES SHALL CONNNECT CONDUCTORS USING THREADED SCREWS. DO NOT USE PUSH-IN QUICK-WIRE CONNECTIONS.

DO NOT USE GFCI FEED-THROUGHS.

INSTALL DEVICES AND ASSEMBLIES PLUMB AND SECURE. PROTECT DEVICES AND ASSEMBLIES DURING PAINTING AND INSTALL WALL PLATES WHEN PAINTING IS COMPLETE.

ARRANGEMENT OF DEVICES: EXCEPT AS OTHERWISE INDICATED, MOUNT FLUSH, WITH LONG DIMENSION VERTICAL, AND GROUNDING TERMINAL OF RECEPTACLES ON TOP. GROUP ADJACENT SWITCHES UNDER SINGLE, MULTIGANG WALL PLATES.

SECTION 260533 - LIGHTING CONTROL DEVICES

MANUFACTURERS:

- 1. INTERMATIC, INC.
- 2. PARAGON ELECTRIC CO.
- 3. TORK.

INDOOR OCCUPANCY SENSORS

MANUFACTURERS:

- 1. HUBBELL LIGHTING INC.
- 2. LEVITON MFG. COMPANY INC.
- 3. LITHONIA LIGHTING.
- 4. SENSOR SWITCH, INC.
- 5. COOPER/GREENGATE CONTROLS.
- 6. WATT STOPPER (THE).

GENERAL DESCRIPTION: WALL- OR CEILING-MOUNTING, SOLID-STATE UNITS WITH A SEPARATE RELAY UNIT.

- 1. OPERATION: UNLESS OTHERWISE INDICATED, TURN LIGHTS ON WHEN COVERED AREA IS OCCUPIED AND OFF WHEN UNOCCUPIED; WITH A TIME DELAY FOR TURNING LIGHTS OFF, ADJUSTABLE OVER A MINIMUM RANGE OF 1 TO 15 MINUTES.
- 2. SENSOR OUTPUT: CONTACTS RATED TO OPERATE THE CONNECTED RELAY, COMPLYING WITH UL 773A. SENSOR SHALL BE POWERED FROM THE RELAY UNIT.
- 3. RELAY UNIT: DRY CONTACTS RATED FOR 20-A BALLAST LOAD AT 120- AND 277-V AC, FOR 13-A TUNGSTEN AT 120-V AC, AND FOR 1 HP AT 120-V AC. POWER SUPPLY TO SENSOR SHALL BE 24-V DC, 150-MA, CLASS 2 POWER SOURCE AS DEFINED BY NFPA 70.
- 4. MOUNTING:
 - a. SENSOR: SUITABLE FOR MOUNTING IN ANY POSITION ON A STANDARD OUTLET BOX.
 - b. RELAY: EXTERNALLY MOUNTED THOUGH A 1/2-INCH (13-MM) KNOCKOUT IN A STANDARD ELECTRICAL ENCLOSURE.
 - c. TIME-DELAY AND SENSITIVITY ADJUSTMENTS: RECESSED AND CONCEALED BEHIND HINGED DOOR.
- 5. INDICATOR: LED, TO SHOW WHEN MOTION IS BEING DETECTED DURING TESTING AND NORMAL OPERATION OF THE SENSOR.
- 6. BYPASS SWITCH: OVERRIDE THE ON FUNCTION IN CASE OF SENSOR FAILURE.

DUAL-TECHNOLOGY TYPE: CEILING MOUNTING; DETECT OCCUPANCY BY USING A COMBINATION OF PIR AND ULTRASONIC DETECTION METHODS IN AREA OF COVERAGE. PARTICULAR TECHNOLOGY OR COMBINATION OF TECHNOLOGIES THAT CONTROLS ON AND OFF FUNCTIONS SHALL BE SELECTABLE IN THE FIELD BY OPERATING CONTROLS ON UNIT.

- 1. SENSITIVITY ADJUSTMENT: SEPARATE FOR EACH SENSING TECHNOLOGY.
- 2. DETECTOR SENSITIVITY: DETECT OCCURRENCES OF 6-INCH (150-MM) MINIMUM MOVEMENT OF ANY PORTION OF A HUMAN BODY THAT PRESENTS A TARGET OF AT LEAST 36 SQ. IN. (232 SQ. CM), AND DETECT A PERSON OF AVERAGE SIZE AND WEIGHT MOVING AT LEAST 12 INCHES (305 MM) IN EITHER A HORIZONTAL OR A VERTICAL MANNER AT AN APPROXIMATE SPEED OF 12 INCHES/S (305 MMS).

- 3. DETECTION COVERAGE (STANDARD ROOM): DETECT OCCUPANCY ANYWHERE WITHIN A CIRCULAR AREA OF 1000 SQ. FT. (93 SQ. M) WHEN MOUNTED ON A 96-INCH- (2440-MM-) HIGH CEILING.

MULTIPOLE CONTACTORS

MANUFACTURERS:

- 1. ALLEN-BRADLEY/ROCKWELL AUTOMATION.
- 2. ASCO POWER TECHNOLOGIES, LP; A DIVISION OF EMERSON ELECTRIC CO.
- 3. CUTLER-HAMMER; EATON CORPORATION.
- 4. GE INDUSTRIAL SYSTEMS, TOTAL LIGHTING CONTROL.
- 5. SIEMENS.
- 6. SQUARE D.

DESCRIPTION: ELECTRICALLY OPERATED AND MECHANICALLY HELD, COMPLYING WITH NEMA ICS 2 AND UL 508.

- 1. CURRENT RATING FOR SWITCHING: LISTING OR RATING CONSISTENT WITH TYPE OF LOAD SERVED, INCLUDING TUNGSTEN FILAMENT, INDUCTIVE, AND HIGH-FLUSH BALLAST (BALLAST WITH 15 PERCENT OR LESS TOTAL HARMONIC DISTORTION OF NORMAL LOAD CURRENT).
- 2. CONTROL-COIL VOLTAGE: MATCH CONTROL POWER SOURCE. CONDUCTORS AND CABLES

POWER WIRING TO SUPPLY SIDE OF REMOTE-CONTROL POWER SOURCES: NOT SMALLER THAN NO. 12 AWG, COMPLYING WITH DIVISION 16 SECTION " CONDUCTORS AND CABLES."

CLASSES 2 AND 3 CONTROL CABLE: MULTICONDUCTOR CABLE WITH STRANDED COPPER CONDUCTORS NOT SMALLER THAN NO. 18 AWG, COMPLYING WITH DIVISION 16 SECTION "CONDUCTORS AND CABLES."

CLASS 1 CONTROL CABLE: MULTICONDUCTOR CABLE WITH STRANDED COPPER CONDUCTORS NOT SMALLER THAN NO. 14 AWG, COMPLYING WITH DIVISION 16 SECTION "CONDUCTORS AND CABLES."

INSTALL UNSHIELDED, TWISTED-PAIR CABLE FOR CONTROL AND SIGNAL TRANSMISSION CONDUCTORS, COMPLYING WITH DIVISION 16 SECTION "VOICE AND DATA COMMUNICATION CABLING."

EXECUTION

WIRING WITHIN ENCLOSURES: BUNDLE, LACE, AND TRAIN CONDUCTORS TO TERMINAL POINTS. SEPARATE POWER-LIMITED AND NONPOWER-LIMITED CONDUCTORS ACCORDING TO CONDUCTOR MANUFACTURER'S WRITTEN INSTRUCTIONS.

SIZE CONDUCTORS ACCORDING TO LIGHTING CONTROL DEVICE MANUFACTURER'S WRITTEN INSTRUCTIONS, UNLESS OTHERWISE INDICATED.

SPLICES, TAPS, AND TERMINATIONS: MAKE CONNECTIONS ONLY ON NUMBERED TERMINAL STRIPS IN JUNCTION, PULL, AND OUTLET BOXES; TERMINAL CABINETS; AND EQUIPMENT ENCLOSURES.

TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS ACCORDING TO MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES. IF MANUFACTURER'S TORQUE VALUES ARE NOT INDICATED, USE THOSE SPECIFIED IN UL 486A AND UL 486B.

PERFORM THE FOLLOWING FIELD TESTS AND INSPECTIONS AND PREPARE TEST REPORTS:

- 1. AFTER INSTALLING TIME SWITCHES AND SENSORS, AND AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, ADJUST AND TEST FOR COMPLIANCE WITH REQUIREMENTS.
- 2. OPERATIONAL TEST: VERIFY ACTUATION OF EACH SENSOR AND ADJUST TIME DELAYS.

SECTION 260543 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PRODUCTS

MANUFACTURED SUPPORTING DEVICES:

- 1. RACEWAY SUPPORTS: CLEVIS HANGERS, RISER CLAMPS, CONDUIT STRAPS, THREADED C-CLAMPS WITH RETAINERS, CEILING TRAPEZE HANGERS, WALL BRACKETS, AND SPRING STEEL CLAMPS.

- 2. FASTENERS: TYPES, MATERIALS, AND CONSTRUCTION FEATURES AS FOLLOWS:
 - a. EXPANSION ANCHORS: CARBON STEEL WEDGE OR SLEEVE TYPE.
 - b. TOGGLE BOLTS: ALL STEEL SPRINGHEAD TYPE.
 - c. POWDER-DRIVEN THREADED STUDS: HEAT-TREATED STEEL, DESIGNED SPECIFICALLY FOR THE INTENDED SERVICE.

- 3. U-CHANNEL SYSTEMS: 16-GAGE STEEL CHANNELS, WITH 9/16-INCH- DIAMETER HOLES, AT A MINIMUM OF 8 INCHES ON CENTER, IN TOP SURFACE. PROVIDE FITTINGS AND ACCESSORIES THAT MATE AND MATCH WITH U-CHANNEL AND ARE OF THE SAME MANUFACTURER.

FABRICATED SUPPORTING DEVICES: SHOP-OR FIELD-FABRICATED SUPPORTS OR MANUFACTURED SUPPORTS ASSEMBLED FROM U-CHANNEL COMPONENTS.

- 1. STEEL BRACKETS: FABRICATED OF ANGLES, CHANNELS, AND OTHER STANDARD STRUCTURAL SHAPES. CONNECT WITH WELDS AND MACHINE BOLTS TO FORM RIGID SUPPORTS.

EXECUTION

INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY AND PERMANENTLY TO BUILDING STRUCTURE IN ACCORDANCE WITH NEC REQUIREMENTS. COORDINATE WITH THE BUILDING STRUCTURAL SYSTEM AND WITH OTHER ELECTRICAL INSTALLATION.

RACEWAY SUPPORTS: COMPLY WITH THE NEC AND THE FOLLOWING REQUIREMENTS:

- 1. CONFORM TO MANUFACTURER'S RECOMMENDATIONS FOR SELECTION AND INSTALLATION OF SUPPORTS.
- 2. STRENGTH OF EACH SUPPORT SHALL BE ADEQUATE TO CARRY PRESENT AND FUTURE LOAD MULTIPLIED BY A SAFETY FACTOR OF AT LEAST FOUR, BUT IN NO CASES SHALL BE LESS THAN 200 LBS IN THE STRENGTH OF EACH SUPPORT.
- 3. INSTALL INDEPENDENT AND LISTED INDIVIDUAL AND MULTIPLE (TRAPEZE) RACEWAY HANGERS AND RISER CLAMPS AS NECESSARY TO SUPPORT RACEWAYS. PROVIDE U-BOLTS, CLAMPS, ATTACHMENTS, AND OTHER HARDWARE NECESSARY FOR HANGER ASSEMBLY AND FOR SECURING HANGER RODS AND CONDUITS.

MISCELLANEOUS SUPPORTS: SUPPORT MISCELLANEOUS ELECTRICAL COMPONENTS AS REQUIRED TO PRODUCE THE SAME STRUCTURAL SAFETY FACTORS AS SPECIFIED FOR RACEWAY SUPPORTS. INSTALL METAL CHANNEL RACKS FOR MOUNTING CABINETS, PANELBOARDS, DISCONNECTS, CONTROL ENCLOSURES, PULL BOXES, JUNCTION BOXES, TRANSFORMERS, AND OTHER DEVICES.

IN OPEN OVERHEAD SPACES, SUPPORT SHEET METAL BOXES INDEPENDANTLY AND DIRECTLY FROM THE BUILDING STRUCTURE OR BY BAR HANGERS. WHERE BAR HANGERS ARE USED, ATTACH THE BAR TO RACEWAYS ON OPPOSITE SIDES OF THE BOX AND SUPPORT THE RACEWAY WITH AN APPROVED TYPE OF FASTENER NOT MORE THAN 24 INCHES FROM THE BOX.

OUTLET BOXES: PROVIDE OUTLET BOXES WITH RIGID SUPPORT USING METAL BAR HANGERS BETWEEN STUDS.

FASTENING: UNLESS OTHERWISE INDICATED, FASTEN ELECTRICAL ITEMS AND THEIR SUPPORTING HARDWARE SECURELY TO THE BUILDING STRUCTURE, INCLUDING BUT NOT LIMITED TO CONDUITS, RACEWAYS, CABLES, CABLE TRAYS, BUSWAYS, CABINETS, PANELBOARDS, TRANSFORMERS, BOXES, DISCONNECT SWITCHES, AND CONTROL COMPONENTS IN ACCORDANCE WITH THE FOLLOWING:

- 1. FASTEN BY MEANS OF WOOD SCREWS OR SCREW-TYPE NAILS ON WOOD, TOGGLE BOLTS ON HOLLOW MASONRY UNITS, CONCRETE INSERTS OR EXPANSION BOLTS ON CONCRETE OR SOLID MASONRY, AND MACHINE SCREWS, WELDED THREADED STUDS, OR SPRINGS-TENSION CLAMPS ON STEEL. THREADED STUDS DRIVEN BY A POWDER CHARGE AND PROVIDED WITH LOCK WASHERS AND NUTS MAY BE USED INSTEAD OF EXPANSION BOLTS AND MACHINE OR WOOD SCREWS. DO NOT WELD CONDUIT, PIPE STRAPS, OR ITEMS OTHER THAN THREADED STUDS TO STEEL STRUCTURES. IN PARTITIONS OF LIGHT STEEL CONSTRUCTION, USE SHEET METAL SCREWS.
- 2. HOLES CUT TO DEPTH OF MORE THAN 1-1/2 INCHES IN REINFORCED CONCRETE BEAMS OR TO DEPTH OF MORE THAN ¾ INCH IN CONCRETE SHALL NOT CUT THE MAIN REINFORCING BARS. FILL HOLES THAT ARE NOT USED.
- 3. ENSURE THAT THE LOAD APPLIED TO ANY FASTENER DOES NOT EXCEED 25 PERCENT OF THE PROOF TEST LOAD. USE VIBRATION- AND SHOCK- RESISTANT FASTENERS FOR ATTACHMENTS TO CONCRETE SLABS.

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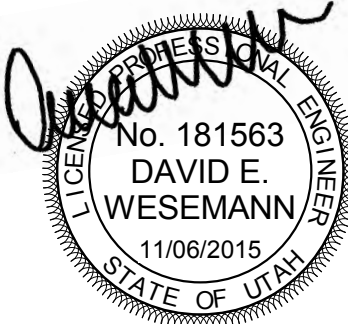
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SPECIFICATIONS

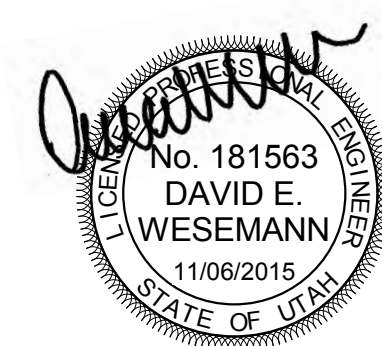
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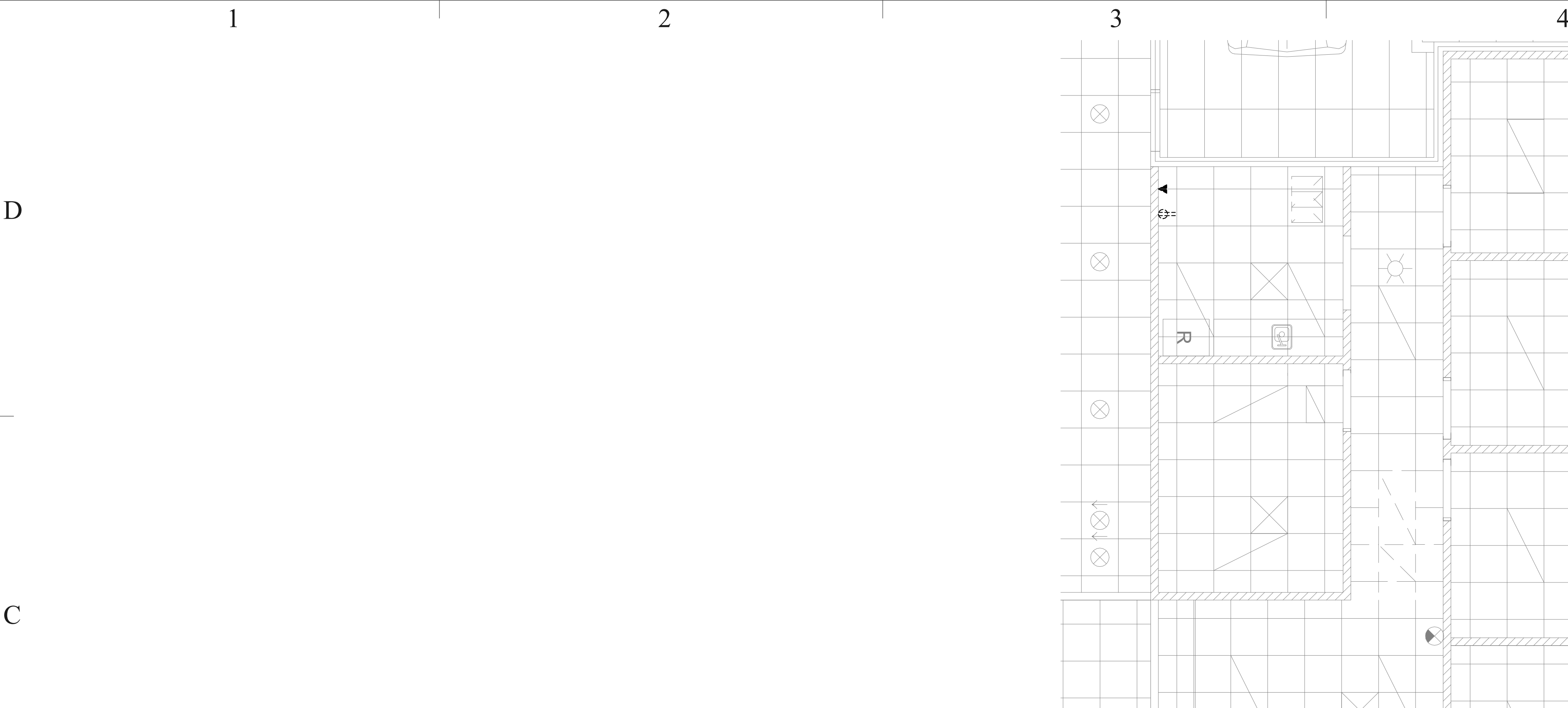
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SHEET 30 OF 41

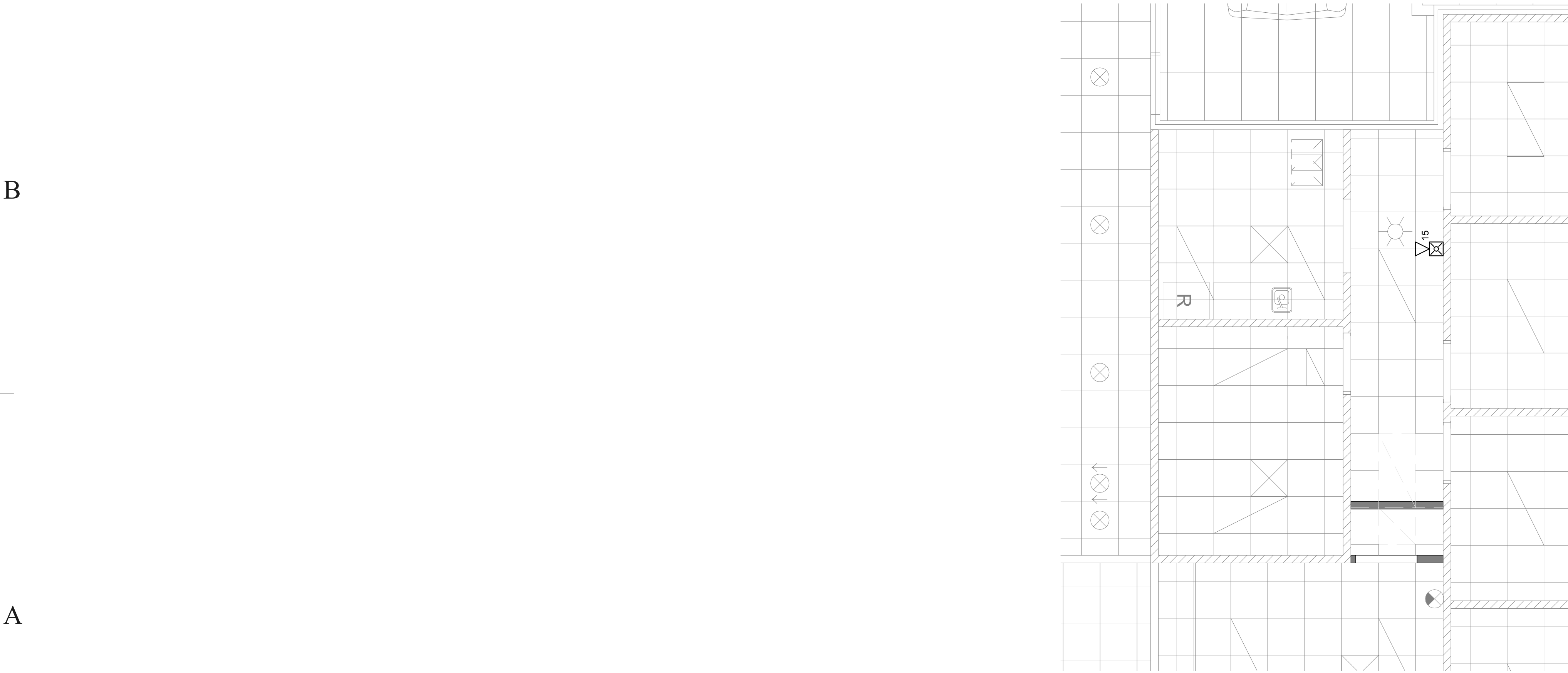


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C3 BASEMENT UHP ELECTRICAL DEMOLITION PLAN
SCALE: 1/4" = 1'-0"

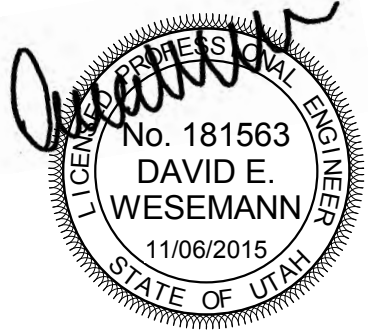


A3 BASEMENT UHP AUXILIARY PLAN
SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES

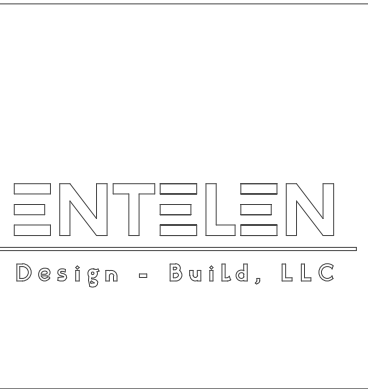
- 1 PRIOR TO SUBMITTING BID, VISIT THE SITE AND FIELD VERIFY THE EXTENT OF ELECTRICAL DEMOLITION WORK TO MEET THE INTENT OF THE BID DOCUMENTS AND INCLUDE ALL COSTS IN BID.
- 2 COORDINATE DEMOLITION SEQUENCE WITH THE GENERAL CONTRACTOR AND LEAVE EQUIPMENT OPERATIONAL AS NEEDED FOR TEMPORARY POWER FOR THE DEMOLITION/CONSTRUCTION ACTIVITIES.
- 3 UNLESS NOTED OTHERWISE REMOVE ALL LIGHTING FIXTURES, DEVICES AND EQUIPMENT SHOWN DASHED. REMOVE CONDUIT AND WIRING BACK TO PANELBOARD OF ORIGIN OR TO FIRST ACTIVE DEVICE THAT REMAINS.
- 4 SALVAGE ALL LIGHT FIXTURES, WALL PLATES AND FIRE ALARM DEVICES TO OWNER. PROTECT SALVAGED EQUIPMENT FROM DAMAGE.
- 5 PRIOR TO REMOVAL OF ANY ELECTRICAL EQUIPMENT OR WIRING, FIELD VERIFY THAT THE EQUIPMENT OR WIRING IS INACTIVE OR NO LONGER IN USE.
- 6 REMOVE ALL DEVICES, RACEWAYS AND WIRING FROM WALLS TO BE REMOVED. WHERE ACTIVE RACEWAYS OCCUR IN WALLS TO BE REMOVED, REROUTE THE RACEWAY WITH ASSOCIATED WIRING TO KEEP THE CIRCUIT OPERATIONAL. REFER TO ARCHITECTURAL DEMOLITION PLAN FOR WALLS TO BE DEMOLISHED.
- 7 REMOVE THE FIRE ALARM DEVICES FROM THE REMOVED WALLS/CEILINGS WITH ASSOCIATED CONDUIT AND WIRING. HOWEVER, THE EXISTING FIRE ALARM DEVICES AND SYSTEM SHALL REMAIN ACTIVE THROUGHOUT DEMOLITION AND CONSTRUCTION UNTIL THE NEW SYSTEM IS TESTED AND OPERATIONAL. MAINTAIN ALL CLASS A FIRE ALARM INITIATING AND INDICATING LOOPS WHERE EXISTING DEVICES ARE REMOVED.
- 8 REMOVE ALL ABANDONED RACEWAY, CONDUIT, WIRING AND CABLING WHETHER ABANDONED PREVIOUS TO THIS PROJECT OR AS RESULT OF THIS PROJECT. NOT ALL ABANDONED ITEMS ARE SHOWN ON THESE PLANS AND FIELD VERIFICATION OF DEMOLITION SCOPE EXTENT IS REQUIRED.
- 9 REFER TO MECHANICAL DEMOLITION SHEETS AND PROVIDE ALL ELECTRICAL DEMOLITION WORK NECESSARY FOR THE MECHANICAL DEMOLITION. COORDINATE ALL REQUIRED DEMOLITION WITH THE MECHANICAL DEMOLITION CONTRACTOR.
- 10 OWNER WILL IDENTIFY ALL CABLE TO REMAIN. PRIOR TO DEMO ENSURE CABLES ARE MARKED. PROTECT CABLES DURING DEMOLITION.
- 11 DEVICES OR FIXTURES THAT REMAIN SHALL REMAIN ACTIVE. CONNECTED TO ORIGINAL CIRCUIT. REROUTE CONDUIT AND WIRING AS NECESSARY TO MAINTAIN INTEGRITY OF EXISTING CIRCUITS.
- 12 AT COMPLETION OF PROJECT, PROVIDE UPDATED PANEL DIRECTORY OF ALL NEW AND EXISTING CIRCUITS FOR EFFECTED PANELBOARDS.

SHEET KEYNOTES



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**UTAH STATE
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SHEET TITLE

**UHP BREAKROOM
ELECTRICAL
DEMOLITION PLAN**

SHEET NUMBER

ED-1-02

SHEET 33 OF 41

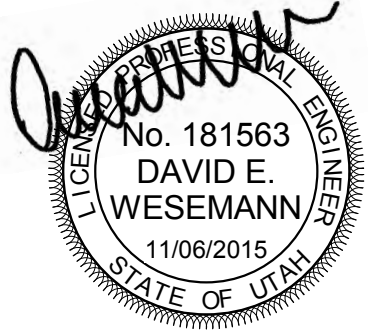
D

C

B

A

PANEL: "BNELBB"																						
VOLTS/PHASE/WIRE:			PANEL SIZE & TYPE:			MAIN SIZE AND TYPE:			LOCATION:			CABINET:			NOTES:							
120/208V, 3 PH 4 WIRE			22" W x 6" D, BOLT-ON			250 AMPERE MAIN LUGS						SURFACE										
ACCESSORIES:										PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR										AIC RATING: 22000		
CKT NO	OCP	AMP	POLE	LOAD (KVA)			DESCRIPTION	PHASE LOAD			DESCRIPTION	LOAD (KVA)			OCP	AMP	CKT NO					
				LTG	PWR	CO		A	B	C		CO	PWR	LTG				POLE				
1	20	1	--	--	--	(EX) HUMAN RSRC OUTLETS	0.7	0.7			(EX) HUMAN RESOURCE FLOOR	--	--	--	1	20	2					
3	20	1	--	--	--	(EX) HUMAN RSRC OUTLETS		0.7	0.7		(EX) HUMAN RESOURCE FLOOR	--	--	--	1	20	4					
5	20	1	--	--	--	(EX) HUMAN RSRC OUTLETS				0.7	0.7	(EX) HUMAN RESOURCE FLOOR	--	--	--	1	20	6				
7	20	1	--	--	--	(EX) HUMAN RSRC FLOOR	0.7	0.7			(EX) HUMAN RESOURCE OUTLETS	--	--	--	1	20	8					
9	20	1	--	--	--	(EX) HUMAN RSRC FLOOR		0.7	0.7		(EX) HUMAN RESOURCE OUTLETS	--	--	--	1	20	10					
11	20	1	--	--	--	(EX) HUMAN RSRC FLOOR				0.7	0.7	(EX) CO34 OUTLETS	--	--	--	1	20	12				
13	20	1	--	--	--	(EX) CO34 OUTLETS	0.7	0.7			(EX) CO34 OUTLETS	--	--	--	1	20	14					
15	20	1	--	--	--	(EX) CO34 OUTLETS		0.7	0.7		(EX) CO34 OUTLETS	--	--	--	1	20	16					
17	20	1	--	--	--	(EX) CO34 OUTLETS				0.7	0.7	(EX) CO34 OUTLETS	--	--	--	1	20	18				
19	20	1	--	--	--	(EX) CO35 OUTLETS	0.7	0.7			(EX) CO32 OUTLETS	--	--	--	1	20	20					
21	20	1	--	--	--	(EX) CO35 OUTLETS		0.7	0.7		(EX) CO32 OUTLETS	--	--	--	1	20	22					
23	20	1	--	--	--	(EX) VESTIBULE OUTLETS				0.7	0.7	(EX) CO32 OUTLETS	--	--	--	1	20	24				
25	20	1	--	--	--	(EX) CO46 OUTLETS	0.7	0.0			SPARE	--	--	--	1	20	26					
27	20	1	--	--	--	(EX) CO47 OUTLETS		0.7	0.0		SPARE	--	--	--	1	20	28					
29	20	1	--	--	--	(EX) CO48 CO'S/HOUSE PLGS CCNF				0.7	0.0	SPARE	--	--	--	1	20	30				
31	20	1	--	--	--	(EX) CO27 OUTLETS	0.7	0.0			SPARE	--	--	--	1	20	32					
33	20	1	--	--	--	(EX) CO27 OUTLETS		0.7	0.7		(EX) CO08 OUTLETS	--	--	--	1	20	34					
35	20	1	--	--	--	(EX) CO27 OUTLETS				0.7	0.7	(EX) CO27 OUTLETS	--	--	--	1	20	36				
37	20	1	0.0	0.0	0.5	CO: NEW CONF ROOM	0.5	0.5			CO: LOUNGE	0.5	0.0	0.0	1	20	38					
39	20	1	0.0	0.0	0.5	CO: RECEPTION DESK LOUNGE		0.5	1.0		PWR: AV RACK CO03	0.0	1.0	0.0	1	20	40					
41	20	1	0.0	0.0	0.4	CO: AV MONITORS LOUNGE				0.4	0.0	SPARE	--	--	--	1	20	42				
43	20	1	--	--	--	SPARE	0.0	0.0			SPARE	--	--	--	1	20	44					
45	20	1	--	--	--	SPARE		0.0	0.0		SPARE	--	--	--	1	20	46					
47	20	1	--	--	--	SPARE				0.0	0.0	SPARE	--	--	--	1	20	48				
49	20	1	--	--	--	SPARE	0.0	0.0			SPARE	--	--	--	1	20	50					
51	20	1	--	--	--	SPARE		0.0	0.0		SPARE	--	--	--	1	20	52					
53	20	1	--	--	--	SPARE				0.0	0.0	SPARE	--	--	--	1	20	54				
55	20	1	--	--	--	SPARE	0.0	0.0			SPARE	--	--	--	1	20	56					
57	20	1	--	--	--	SPARE		0.0	0.0		SPARE	--	--	--	1	20	58					
59	20	1	--	--	--	SPARE				0.0	0.0	SPARE	--	--	--	1	20	60				
61	20	1	--	--	--	(EX) SUITE #85 FLOOR BOXES	0.7	0.0			SPARE	--	--	--	1	20	62					
63	20	1	--	--	--	(EX) SUITE #85 CANS		0.5	0.0		SPARE	--	--	--	1	20	64					
65	20	1	--	--	--	(EX) SUITE #85 SWITCHD FLR BX				0.7	0.0	SPARE	--	--	--	1	20	66				
67	20	1	--	--	--	(EX) SUITE #85 LNGE/W OFFC CANS	0.5	0.0			SPARE	--	--	--	1	20	68					
69	20	1	--	--	--	SPARE		0.0	1.0		(EX) UH - CO11	--	--	--	1	20	70					
71	20	1	--	--	--	(EX) SUITE #85 LNGE PCK LTG TV'S				0.7	0.0	SPARE	--	--	--	1	20	72				
73	20	1	--	--	--	(EX) MICROWAVE	1.5	0.0			SPARE	--	--	--	1	20	74					
75	20	1	--	--	--	(EX) FRIDGE/ICE MAKER		1.5	0.0		SPARE	--	--	--	1	20	76					
77	20	1	--	--	--	(EX) DISHWASHER/GFIS				1.2	1.1	PWR: TABLE 1 OUTLETS LOUNGE	0.0	1.1	0.0	1	20	78				
79	20	1	0.0	1.2	0.0	PWR: REFRIGERATOR PANTRY...	1.2	1.1			PWR: TABLE 1 OUTLETS LOUNGE	0.0	1.1	0.0	1	20	80					
81	20	1	0.0	0.0	0.2	CO: COUNTERTOP PANTRY CO34		0.2	0.4		PWR: TABLE 2 OUTLETS LOUNGE	0.0	0.4	0.0	1	20	82					
83	20	1	--	--	--	SPARE				0.0	0.4	PWR: TABLE 2 OUTLETS LOUNGE	0.0	0.4	0.0	1	20	84				
TOTALS:							CONNECTED KVA PER PHASE			13	13	12	CONNECTED TOTAL KVA = 38									
							CONNECTED AMPS PER PHASE			111	109	103	AVERAGE CONNECTED AMPS PER PHASE = 106									
NEC DIVERSIFIED LOAD CALCULATIONS																						
LIGHTING & CONTINUOUS LOADS:							- 100% CONNECTED LOAD PLUS 25%							DIVERSIFIED TOTAL KVA = 38								
RECEPTACLES: 1.8 kVA @ 100% = 1.8 kVA							- FIRST 10kVA @ 100%, REMAINDER @ 50%							AVERAGE AMPS PER PHASE = 106								
ALL OTHER LOADS @ 100% : 5.1 kVA							- MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER NEC															



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UTAH STATE
CAPITOL BUILDING

SUITE #85

SALT LAKE CITY
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DFCM PROJECT NO: 15348050

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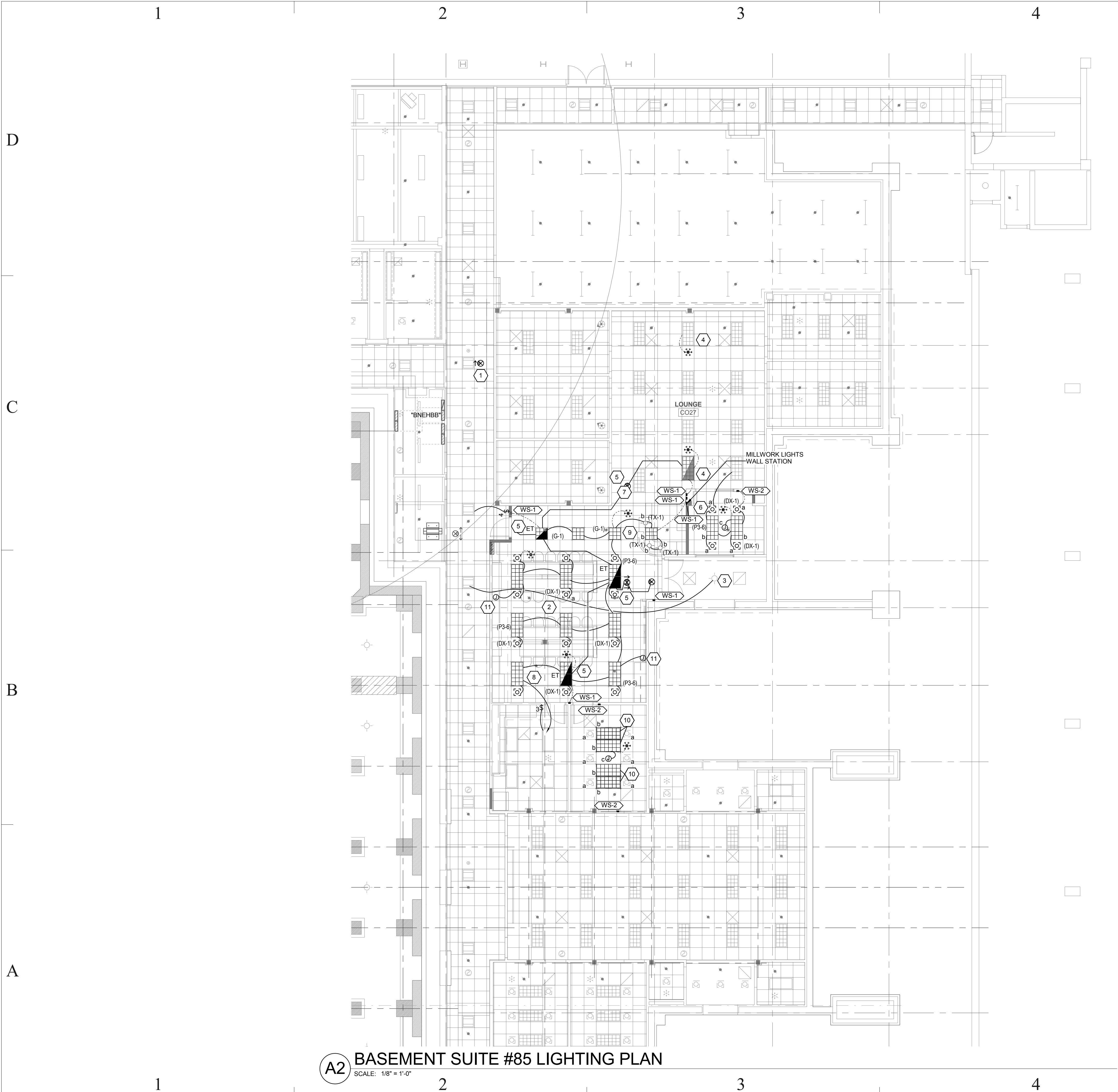
SHEET TITLE

PANEL SCHEDULES

SHEET NUMBER

EP-6-01

SHEET 35 OF 41



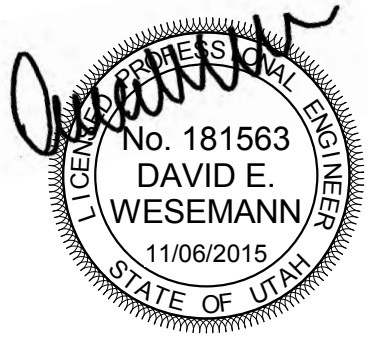
A2 BASEMENT SUITE #85 LIGHTING PLAN
SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1 DX-1 SPECIFICATIONS: 4" APERTURE LED DOWNLIGHT, 35K, 80 CRI, 1000 LUMEN, WIDE DISTRIBUTION, UNIVERSAL VOLTAGE, 0-10V DIMMING, DIMS TO 1% LIGHT LEVEL, FINISH AND TRIM COLOR TO BE SELECTED BY ARCHITECT. BASIS OF DESIGN: GOTHAM (EVO-35/10--WD-MVOLT-EZ1-COLOR AND TRIM CHOSEN BY ARCHITECT).

SHEET KEYNOTES

- 1 REPLACE EXIT SIGN WITH NEW EXIT SIGN WITH CHEVRONS AS INDICATED. CONNECT TO EXISTING CIRCUIT.
- 2 ALL LIGHTS INSTALLED IN THIS SPACE ARE EXISTING SALVAGED FIXTURES WHICH ARE BEING REUSED, UNLESS INDICATED OTHERWISE. FOR (P3-6) FIXTURES: CLEAN LENSES AND PROVIDE 3 NEW T8, 35K, 80 CRI LAMPS AND PROGRAM START BALLAST, WITH .77 BF, PER FIXTURE. FOR (G-1) FIXTURES: CLEAN LENSES AND PROVIDE 2 NEW BX40, 35K, 80 CRI LAMPS AND PROGRAM START BALLASTS, WITH .77 BF, PER FIXTURE.
- 3 CONNECT VESTIBULE LIGHT TO CORRIDOR LIGHTS SWITCH AND CIRCUIT, BNEHB8-9.
- 4 CONNECT LOUNGE CO27 LIGHTS TO VACANCY SENSORS AND WALL STATION AS INDICATED.
- 5 CONNECT EMERGENCY FIXTURES AND EXIT SIGNS TO EXISTING CIRCUIT, EEBNEHA-41. CONNECT EXIT SIGNS TO UNSWITCHED PORTION OF THAT CIRCUIT.
- 6 CONNECT FIXTURES TO EXISTING CIRCUIT, BNEHB8-6, AS INDICATED.
- 7 PROVIDE NEW EDGE LIGHTED, SINGLE FACED, ACRYLIC EXIT SIGN, TO MATCH EXISTING EXIT SIGNS.
- 8 CONNECT FIXTURES IN REMODELED SUITE #85 TO EXISTING CIRCUIT, BNEHB8-5, AS INDICATED.
- 9 COORDINATE EXACT LOCATION OF SALVAGED (TX-1) FIXTURES WITH ARCHITECT AND OWNER PRIOR TO ROUGH-IN.
- 10 ADD DUAL SWITCH FEATURE TO EXISTING (P3-6) FIXTURES INDICATED.
- 11 PROVIDE POWER CONNECTION TO MILLWORK WITH INTEGRAL LIGHTS. COORDINATE EXACT LOCATION WITH MILLWORK INSTALLER PRIOR TO ROUGH-IN.



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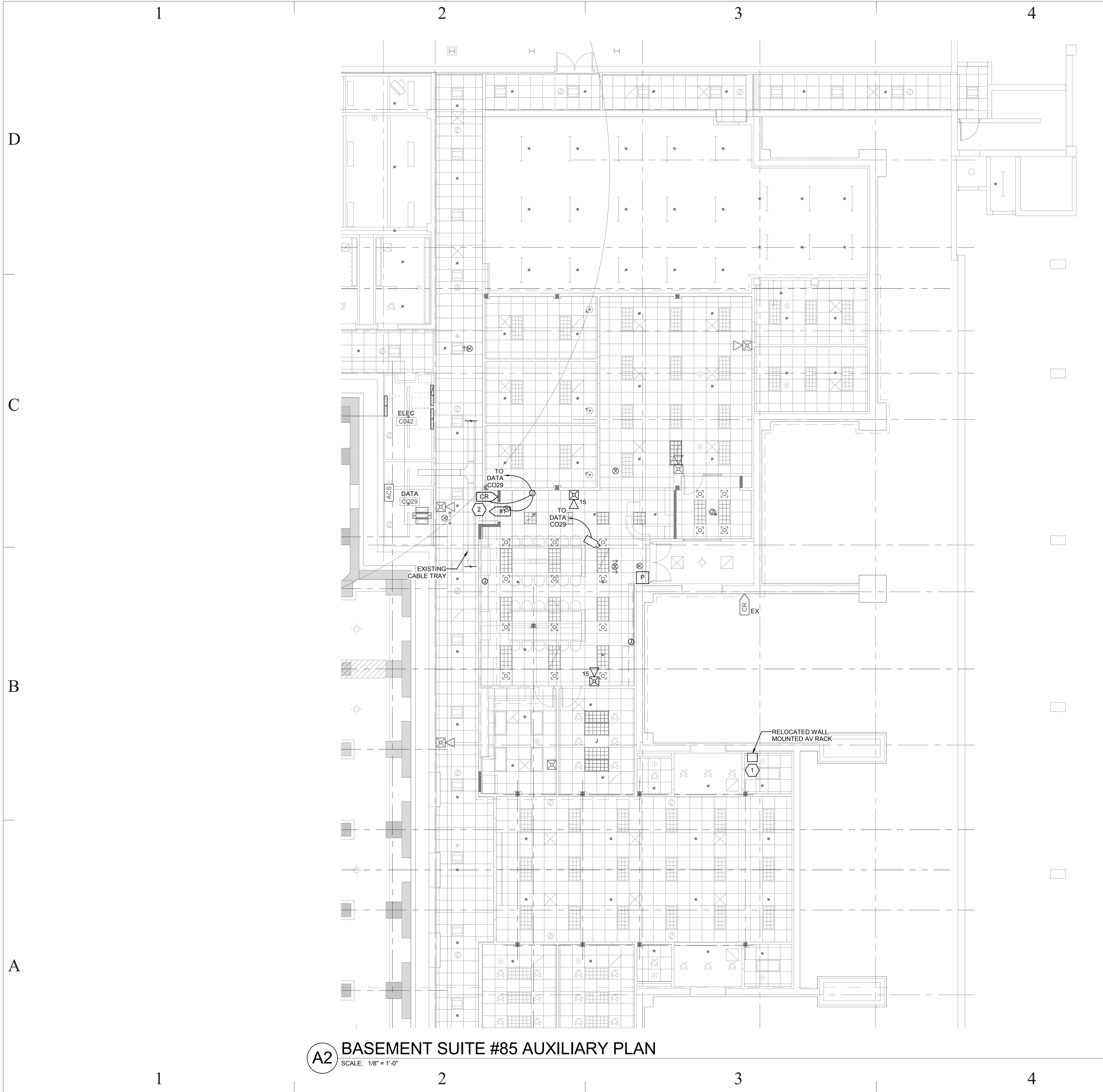
SHEET TITLE

**BASEMENT SUITE #85
LIGHTING PLAN**

SHEET NUMBER

EL-1-01

SHEET 36 OF 41



GENERAL SHEET NOTES

SHEET KEYNOTES

- 1 NEW LOCATION FOR WALL MOUNTED AV RACK. FIELD VERIFY AND PROVIDE NEW HOME RUN CABLES TO EQUIPMENT AND DEVICES SERVED BY AV RACK.
- 2 RELOCATED SALVAGED CARD READER. COORDINATE EXACT CARD READER AND ELECTRIFIED DOOR HARDWARE LOCATION WITH DOOR INSTALLER AND ARCHITECT PRIOR TO ROUGH-IN.

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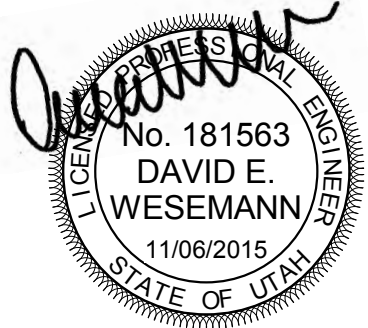
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BASEMENT SUITE #85
AUXILIARY PLAN

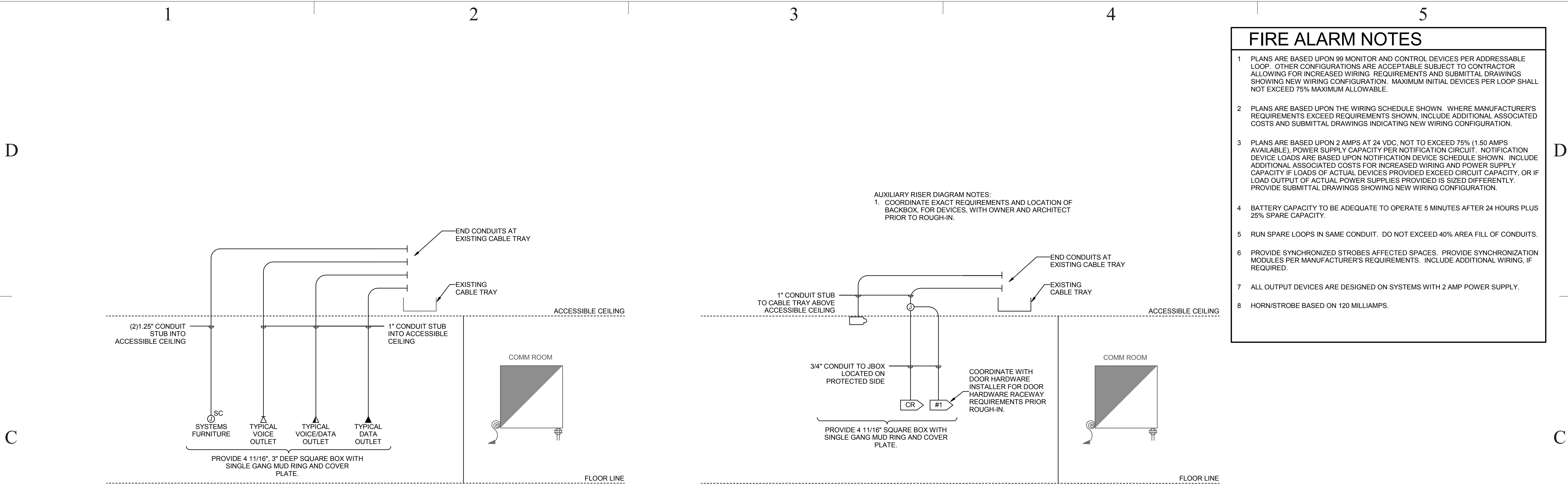
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EY-1-01

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C1 VOICE/DATA RISER DIAGRAM
SCALE: NTS

C3 AUXILIARY RISER DIAGRAM
SCALE: NTS

FIRE ALARM NOTES

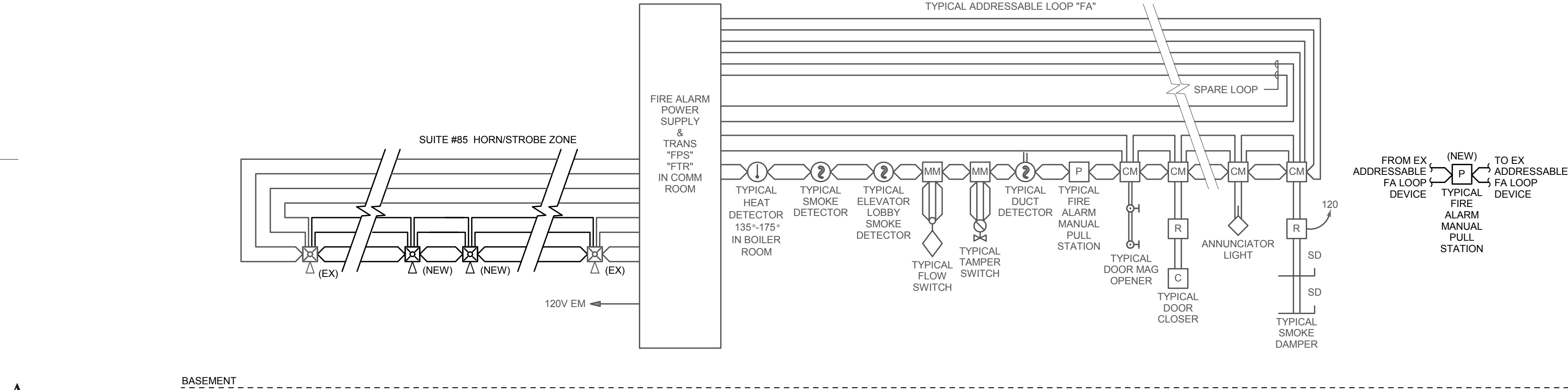
- 1 PLANS ARE BASED UPON 99 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP. OTHER CONFIGURATIONS ARE ACCEPTABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REQUIREMENTS AND SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75% MAXIMUM ALLOWABLE.
- 2 PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN. WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
- 3 PLANS ARE BASED UPON 2 AMPS AT 24 VDC, NOT TO EXCEED 75% (1.50 AMPS AVAILABLE), POWER SUPPLY CAPACITY PER NOTIFICATION CIRCUIT. NOTIFICATION DEVICE LOADS ARE BASED UPON NOTIFICATION DEVICE SCHEDULE SHOWN. INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY, OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION.
- 4 BATTERY CAPACITY TO BE ADEQUATE TO OPERATE 5 MINUTES AFTER 24 HOURS PLUS 25% SPARE CAPACITY.
- 5 RUN SPARE LOOPS IN SAME CONDUIT. DO NOT EXCEED 40% AREA FILL OF CONDUITS.
- 6 PROVIDE SYNCHRONIZED STROBES AFFECTED SPACES. PROVIDE SYNCHRONIZATION MODULES PER MANUFACTURER'S REQUIREMENTS. INCLUDE ADDITIONAL WIRING, IF REQUIRED.
- 7 ALL OUTPUT DEVICES ARE DESIGNED ON SYSTEMS WITH 2 AMP POWER SUPPLY.
- 8 HORN/STROBE BASED ON 120 MILLIAMPS.

NOTIFICATION SCHEDULE

SYMBOL	STROBE SIZE	COVERAGE	AVERAGE CURRENT	MAXIMUM PER CIRCUIT ALONE
15	15 CD	20'x20'	.085A	17
30	30 CD	30'x30'	.135A	11
75	75 CD	40'x40'	.200A	7
110	110 CD	50'x50'	.225A	6

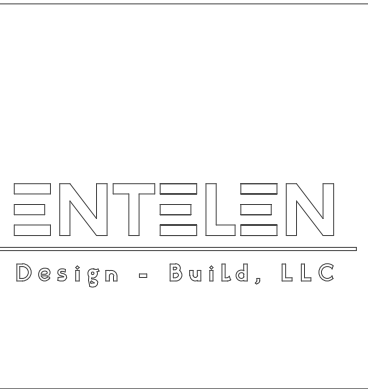
WIRING SCHEDULE

FUNCTION	< 500'	< 1000'	1000'-3000'	> 3000'
ADDRESSABLE LOOP	#18 TSP	#18 TSP	#16 TSP	#14 TSP
POWER LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
SPARE LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
STROBE HORNS	#14 THWN	#14 THWN	#12 THWN	#10 THWN
MAGNETIC DOOR HOLDER SPEAKERS	#12 THWN	#10 THWN		
	#16 TSP	#16 TSP	#14 TSP	#14 TSP



A1 ADDRESSABLE FIRE ALARM RISER
SCALE: NTS

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AUXILIARY RISER
DIAGRAMS

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SHEET 38 OF 41



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FIRE PROTECTION SHEET INDEX

F-0-01	FIRE PROTECTION GENERAL INFORMATION
FX-1-00	PARTIAL BASEMENT LEVEL DEMOLITION FIRE PROTECTION PLAN
FX-1-01	PARTIAL BASEMENT LEVEL FIRE PROTECTION PLAN

211313 - WET PIPE SPRINKLER SYSTEM

1. MODIFY, RELOCATE, AND/OR ADD FIRE SPRINKLER EQUIPMENT IN REMODEL AREAS AS NECESSARY TO PROVIDE A FULLY FUNCTIONAL SYSTEM COMPLYING WITH IBC 2012, NFPA 13, OWNER REQUIREMENTS, & LOCAL ORDINANCES.
2. PROVIDE LIGHT HAZARD DESIGN IN OFFICE AREAS, ORDINARY HAZARD GROUP 1 DESIGN IN MECHANICAL, ELECTRICAL, & STORAGE AREAS.
3. SUBMIT DESIGN TO ENGINEER AND AHJ FOR REVIEW AND PERMIT. PROVIDE HYDRAULIC CALCULATIONS IF REQUIRED BY AHJ. DESIGNER SHALL BE NICET LEVEL III MINIMUM.
4. PRODUCTS: ALL NEW EQUIPMENT SHALL BE DOMESTICALLY MANUFACTURED UNLESS OTHERWISE APPROVED BY OWNER. SPRINKLERS SHALL MATCH EQUIPMENT IN EXISTING AREAS AS CLOSELY AS POSSIBLE, APPROVED BY OWNER, AND SPACED TO MATCH EXISTING CONDITIONS IN UNAFFECTED AREAS. PIPING SHALL BE SCHEDULE 40 STEEL. PROVIDE HANGERS AS REQUIRED BY NFPA 13 AND MEETING THE REQUIREMENTS OF OWNER.
5. PROVIDE SEISMIC BRACING PER IBC 2012 REQUIREMENTS. REQUEST SEISMIC INFORMATION FROM OWNER.
6. PROVIDE LISTED FIRESTOPPING WHERE PIPING PENETRATES RATED CONSTRUCTION.
7. COORDINATE WITH OTHER TRADES. DUCT WORK SHALL TAKE PRIORITY OVER SPRINKLER PIPING.
8. FLUSH, TEST, & INSPECT PER NFPA 13 AFTER INSTALLATION.
9. PROVIDE OWNER WITH UPDATED PLANS UPON AHJ ACCEPTANCE

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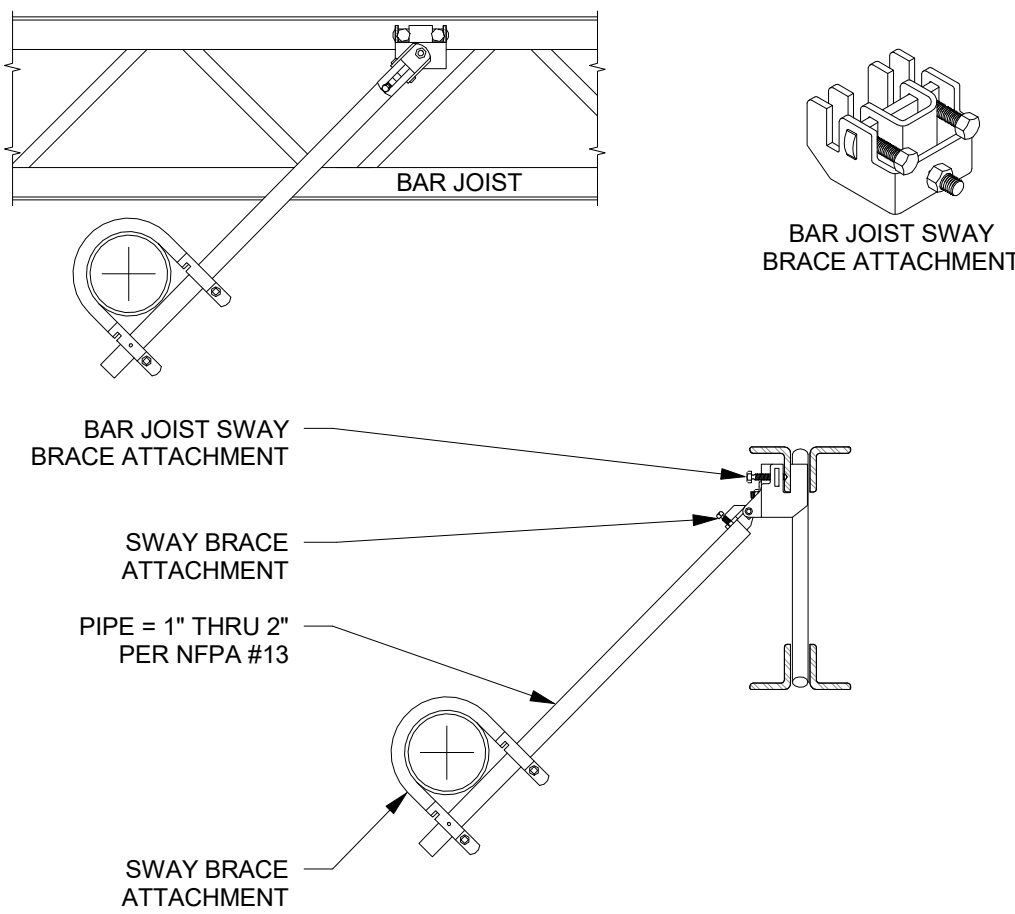
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FIRE PROTECTION
GENERAL INFORMATION

SHEET NUMBER

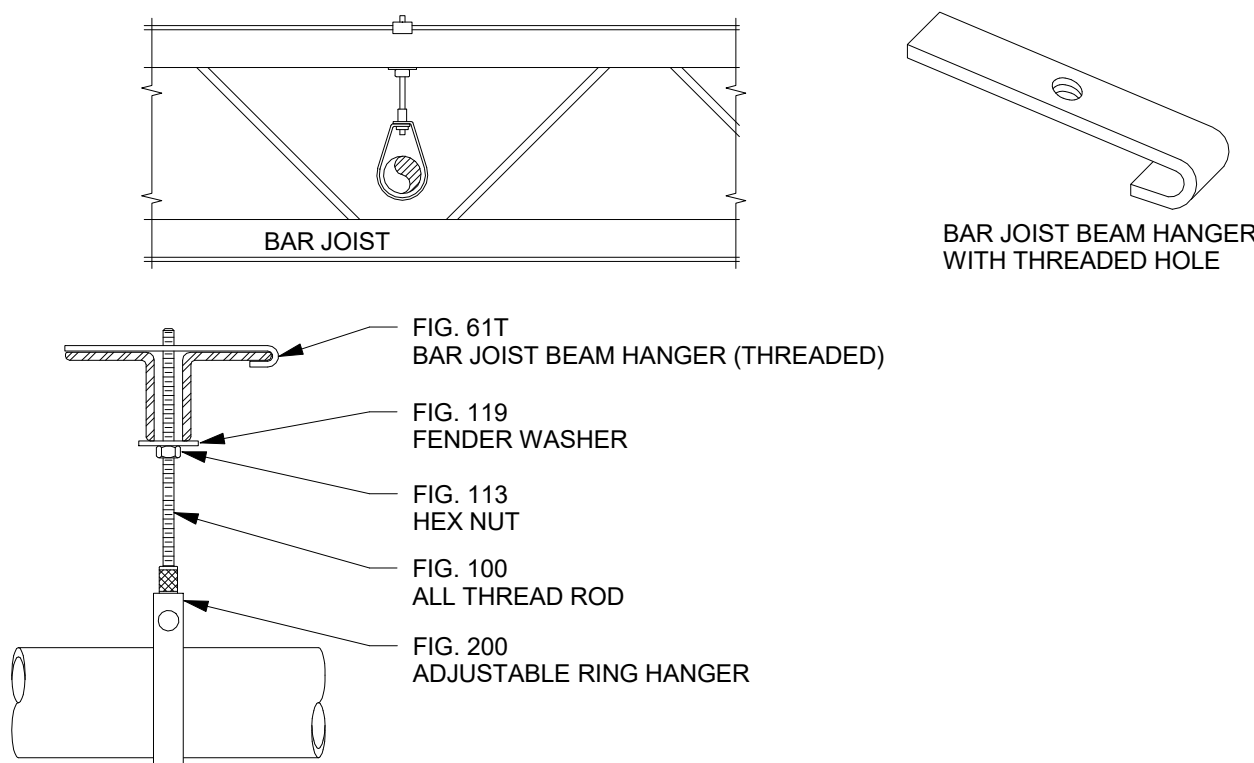
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SHEET 39 OF 41



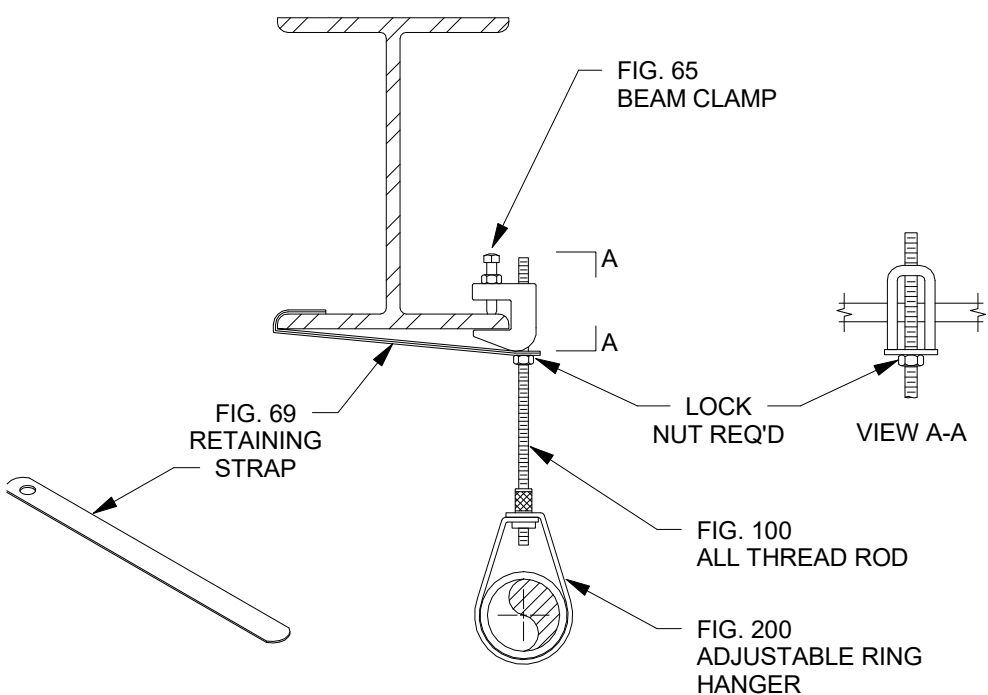
BAR JOIST SWAY BRACE
ATTACHMENT

SCALE: NTS



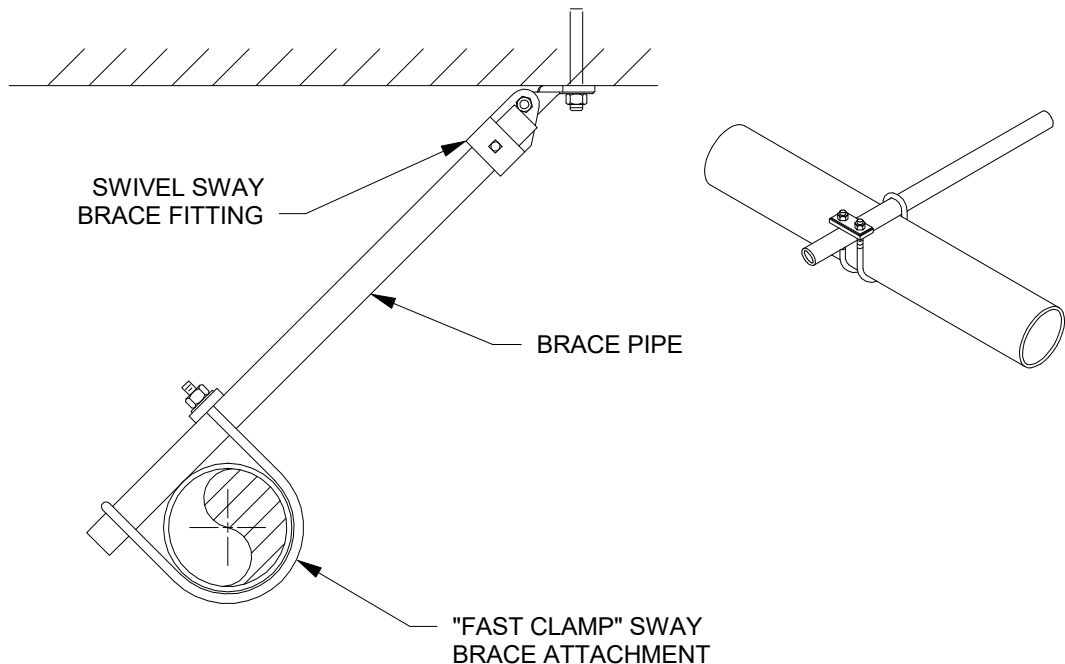
BOTTOM BEAM CLAMP, ROD, AND
RING

SCALE: NTS



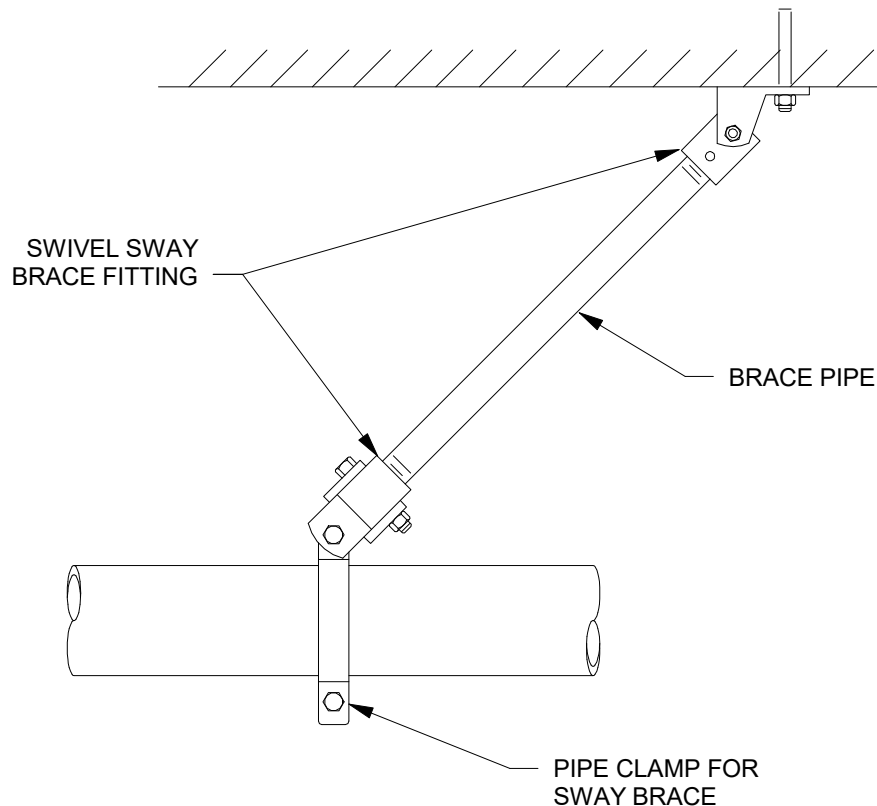
BOTTOM BEAM CLAMP, ROD, AND
RING

SCALE: NTS



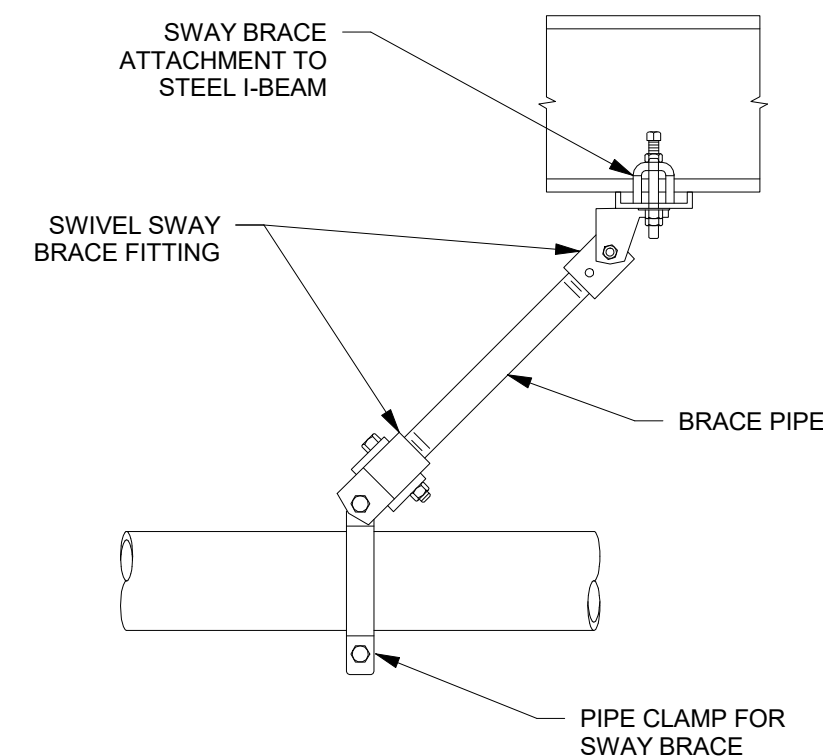
LATERAL EARTHQUAKE BRACE

SCALE: NTS



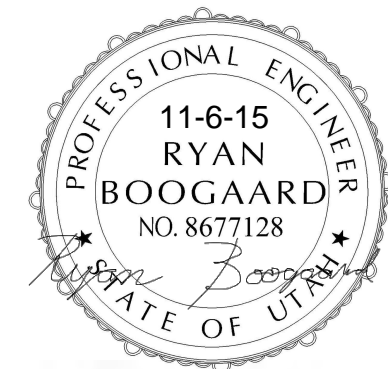
LONGITUDINAL EARTHQUAKE
BRACE

SCALE: NTS

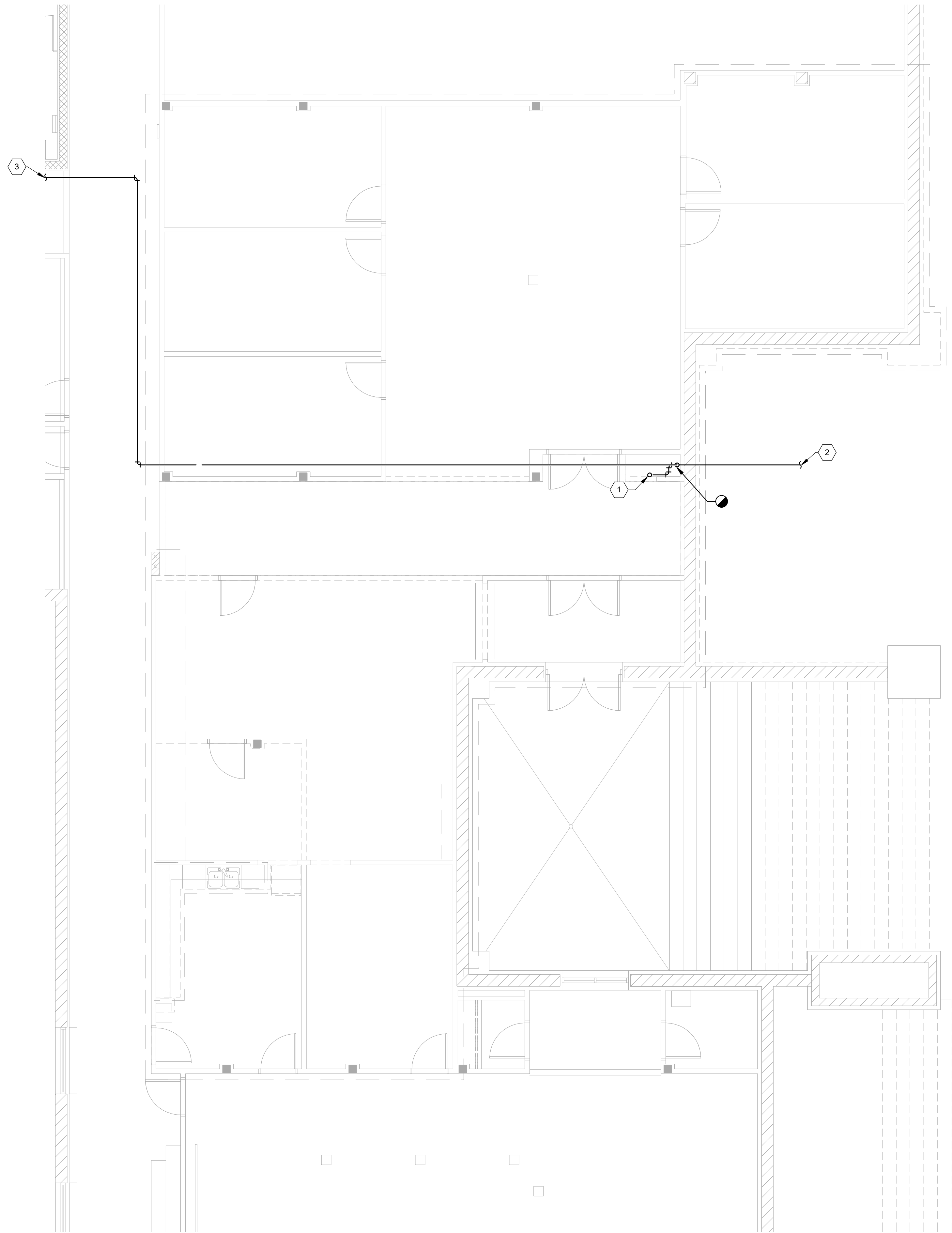


SWAY BRACE ATTACHMENT TO
STEEL I-BEAM

SCALE: NTS



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GENERAL SHEET NOTES

- 1 FIELD VERIFY EXACT SIZES AND LOCATIONS OF EXISTING PIPING AND ACCESSORIES PRIOR TO ORDERING OR FABRICATING.

SHEET KEYNOTES

- 1 REMOVE EXISTING STANDPIPE HOSE VALVE AND ALL PIPING AND COMPONENTS BACK TO AREA INDICATED. MAINTAIN EXISTING VALVE, CABINET, PIPING, AND ACCESSORIES TO BE RELOCATED SURING NEW WORK. CAP EXISTING TEE. FIELD VERIFY EXACT SIZES AND LOCATIONS OF PIPING AND ACCESSORIES PRIOR TO DEMOLITION.
- 2 FIRE LINE OUT TO FIRE DEPARTMENT CONNECTION.
- 3 EXISTING FIRE LINE CONTINUES.

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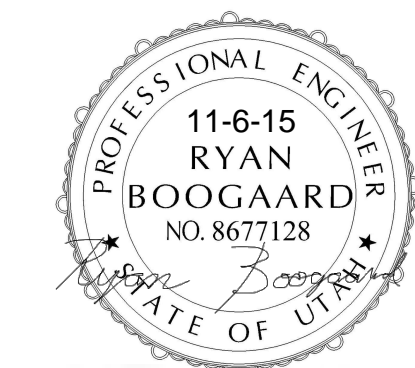
PARTIAL BASEMENT
LEVEL DEMOILITION
FIRE PROTECTION PLAN

SHEET NUMBER

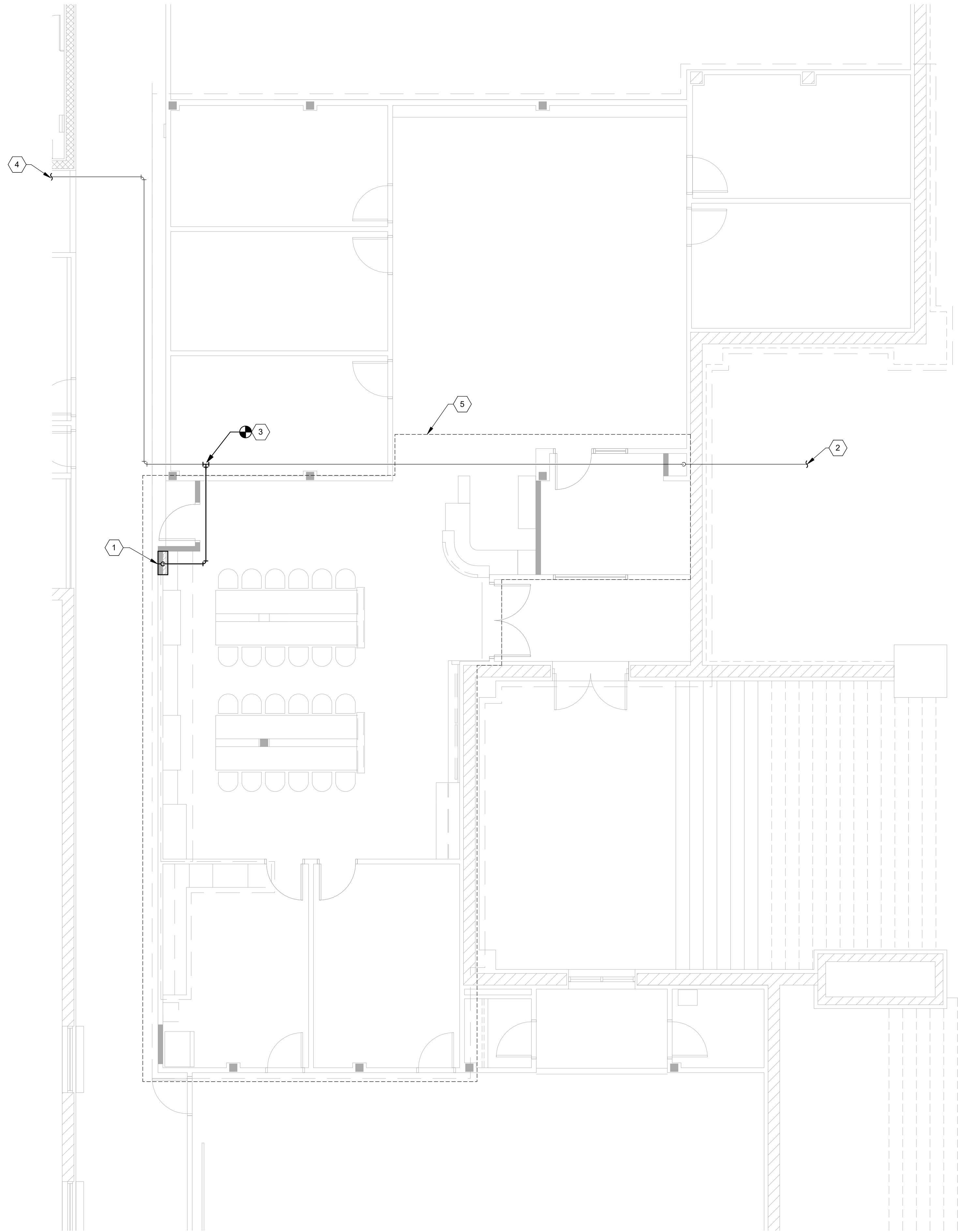
FX-1-00

SHEET 40 OF 41

1 PARTIAL BASEMENT FIRE PROTECTION DEMOLITION PLAN
SCALE: 3/16" = 1'-0"



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1 PARTIAL BASEMENT FIRE PROTECTION PLAN
SCALE: 3/16" = 1'-0"

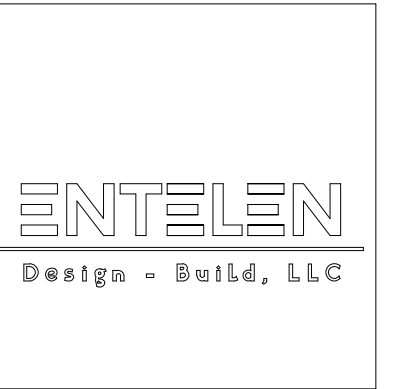
GENERAL SHEET NOTES

- 1 FIELD VERIFY EXACT SIZES AND LOCATIONS OF EXISTING PIPING AND ACCESSORIES PRIOR TO ORDERING OR FABRICATING.

SHEET KEYNOTES

- 1 RELOCATE EXISTING STANDPIPE HOSE VALVE AND CABINET TO THIS APPROXIMATE LOCATION, FACING CORRIDOR. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS.
- 2 FIRE LINE OUT TO FIRE DEPARTMENT CONNECTION.
- 3 TIE INTO EXISTING AT THIS APPROXIMATE LOCATION. FIELD VERIFY EXACT LOCATION AND SIZE OF PIPING PRIOR TO ORDERING OR FABRICATING.
- 4 EXISTING FIRE LINE CONTINUES.
- 5 ADJUST AND RELOCATE EXISTING SPRINKLER HEADS AS NECESSARY IN THE OUTLINED AREA TO ACCOMMODATE NEW CEILING LAYOUT. ADHERE TO SPECIFICATION FOR FIRE SPRINKLER DESIGN.

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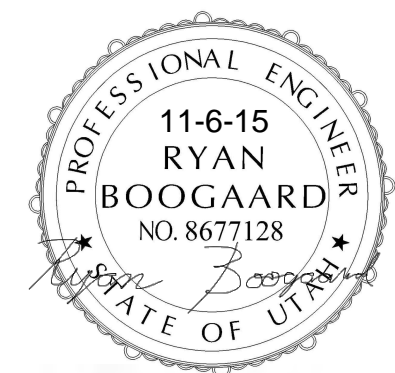
SHEET TITLE

PARTIAL BASEMENT
LEVEL FIRE
PROTECTION PLAN

SHEET NUMBER

FX-1-01

SHEET 41 OF 41



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