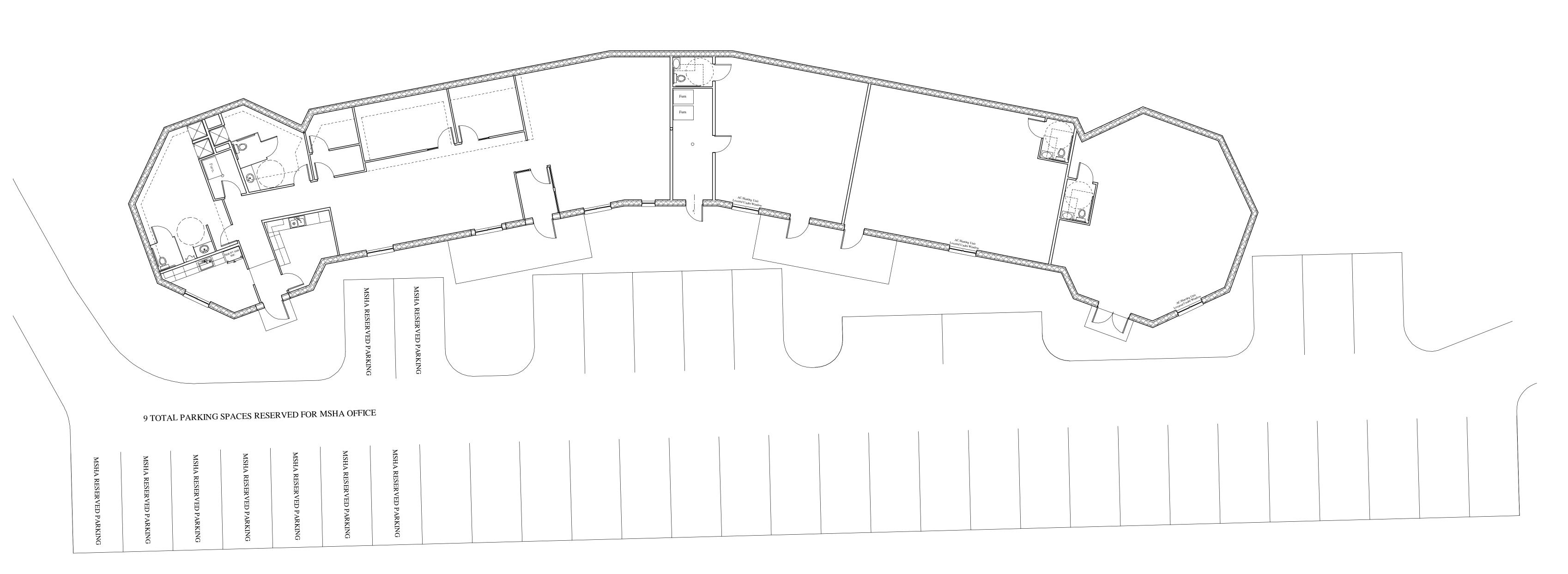
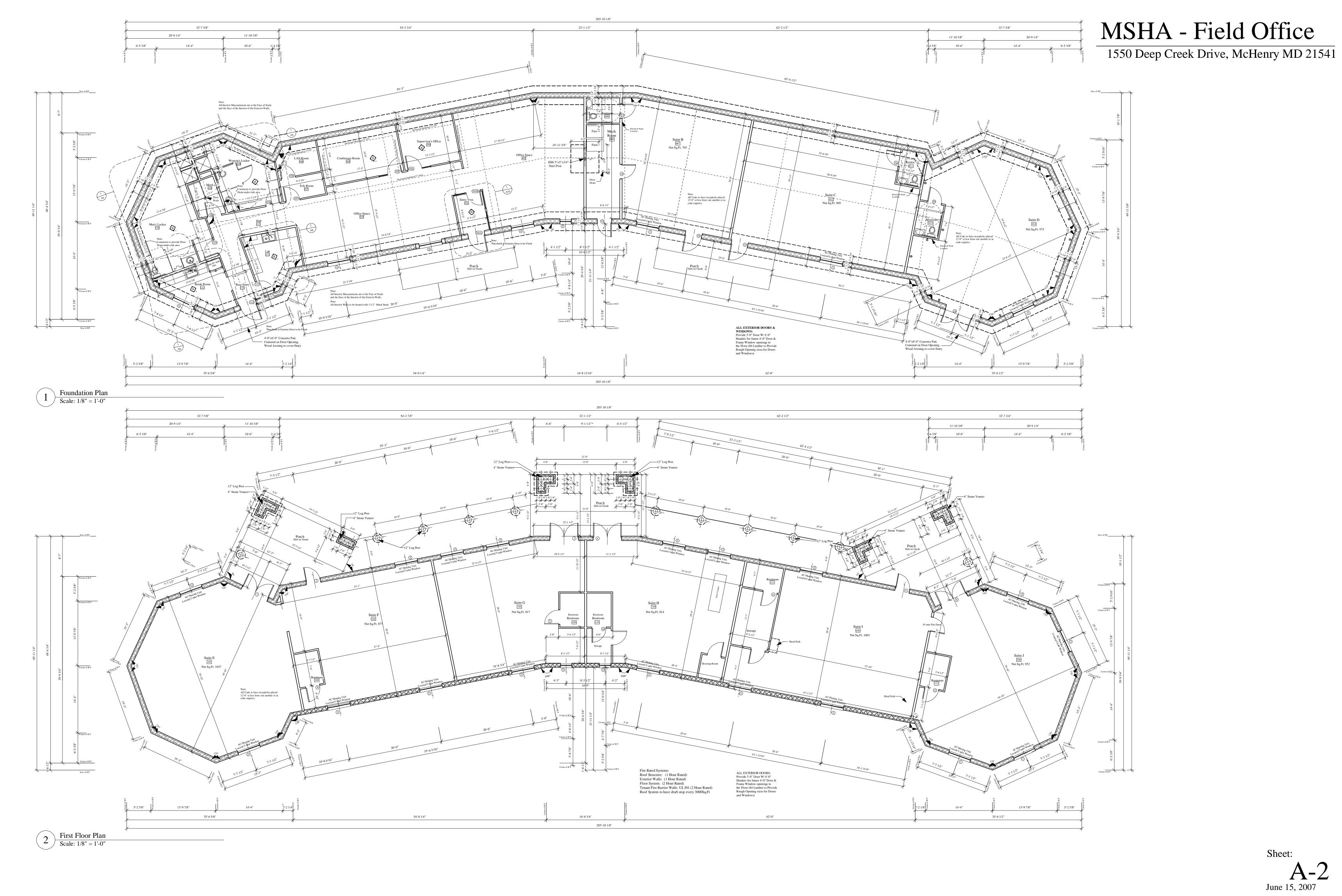
1550 Deep Creek Drive, McHenry MD 21541



Parking Plan
| Scale: 1/8" = 1'-0"



1550 Deep Creek Drive, McHenry MD, 21541



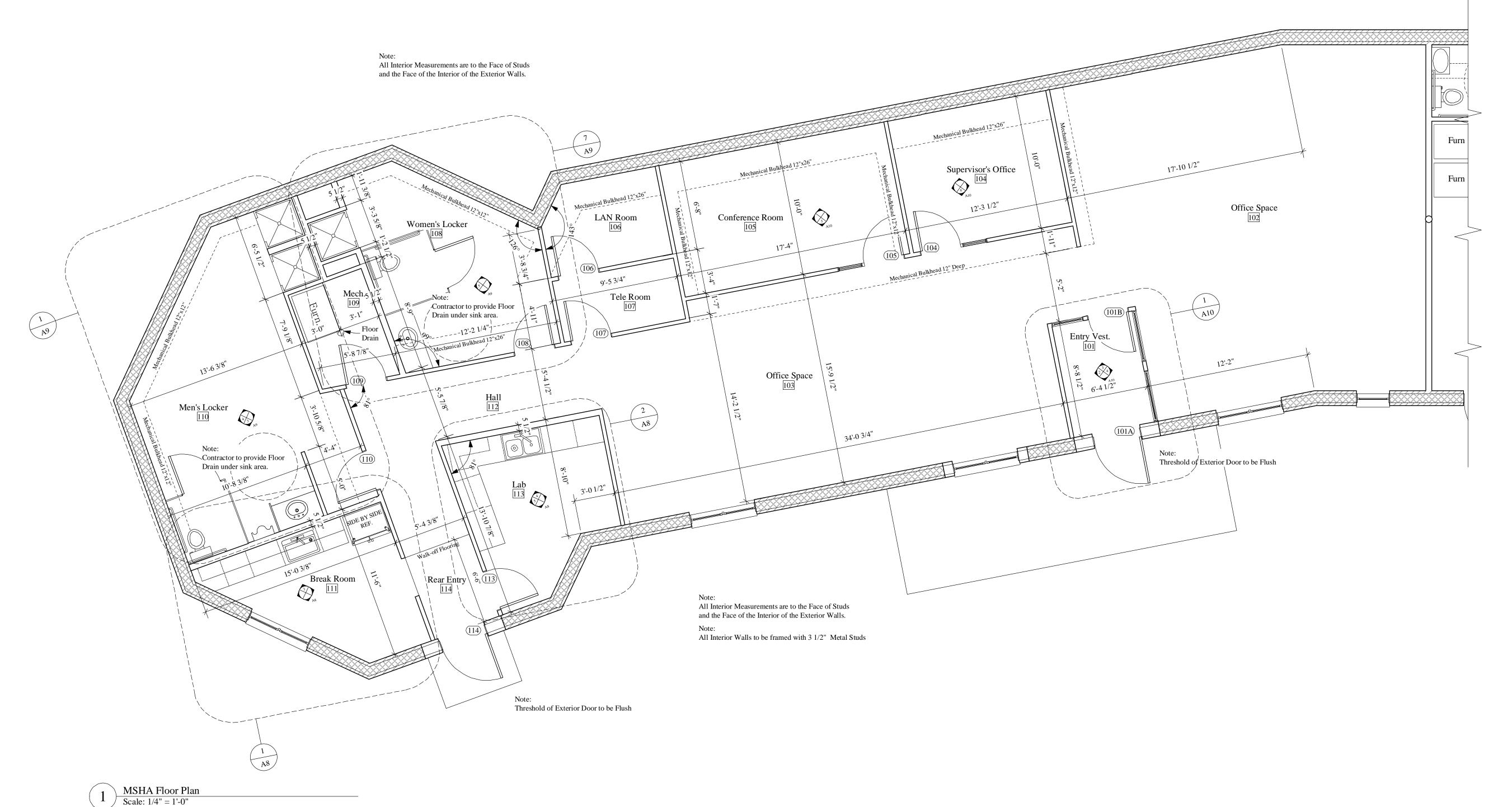
(Λ)	Rear Elevation	
(4)	Scale: $1/8'' = 1'-0''$	

Note: Unless Otherwise Stated, All Unit Colors are Sandstone

Entir	Buil	ding Wind	ow Schedule	[
					Rough Opening	Unit Size	Wdw.	Glazing			
Wdw#	Qty.	Mfg.	Mfg #	Window Type	Width x Height	Width x Height	Material	Туре	Grills	Screen	Remarks
1	12	Andersen	TW2442-2	Dbl. Hung	5'-0" x 4'-4 7/8"	4'-11 3/8" x 4'-4 7/8"	Wood/ Clad	Dbl. Insulated	No	Yes	Low e Glass, Sandtone Color
2	2	Andersen	TW2442	Dbl. Hung	2'-6 1/8" x 4'-4 7/8"	2'-5 5/8" x 4'-4 7/8"	Wood/ Clad	Dbl. Insulated	No	Yes	Low e Glass, Sandtone Color
3	9	Andersen	TW2442-2	Dbl. Hung	5'-0" x 4'-4 7/8"	4'-11 3/8" x 4'-4 7/8"	Wood/ Clad	Dbl. Insulated	No	Yes	Sandtone Color
4	4	Andersen	TW2442-2	Dbl. Hung	5'-0" x 4'-4 7/8"	4'-11 3/8" x 4'-4 7/8"	Wood/ Clad	Dbl. Insulated	No	Yes	Low e Glass, Sandtone Color, Window to be Fixed
5	1	Andersen	TW2442	Dbl. Hung	2'-6 1/8" x 4'-4 7/8"	2'-5 5/8" x 4'-4 7/8"	Wood/ Clad	Dbl. Insulated	No	Yes	Low e Glass, Sandtone Color, Window to be Fixed
Note: V	erify all	Quantities and	Rough Opening								

		Door Siz	e		Rough O _l	pening	Door	Door			
000r#	Location	Width	Height	Thickness	Width	Height	Material	Туре	Mfg.	Mfg. #	Remarks
1	Suite E	6'-0"	7'-0"		6'-4 1/2"	7'-2 1/2"		Swing BiPart			Handicap Threshold, Metal Frame, Push Guard, Automatic Closer
2	Suite F	3'-0"	7'-0"		3'-3 1/2"	7'-2 1/2"		Simple Swing			Handicap Threshold, Metal Frame, Push Guard, Automatic Closer
3	Suite G	6'-0"	7'-0"		6'-4 1/2"	7'-2 1/2"		Swing BiPart			Handicap Threshold, Metal Frame, Push Guard, Automatic Closer
4	Suite H	6'-0"	7'-0"		6'-4 1/2"	7'-2 1/2"		Swing BiPart			Handicap Threshold, Metal Frame, Push Guard, Automatic Closer
5	Suite I	3'-0"	7'-0"		3'3 1/2"	7'-2 1/2"		Simple Swing			Handicap Threshold, Metal Frame, Push Guard, Automatic Closer
6	Suite J	6'-0"	7'-0"		6'-4 1/2"	7'-2 1/2"		Swing BiPart			Handicap Threshold, Metal Frame, Push Guard, Automatic Closer
7	Restroom 107	3'-0"	6'-8"				Wood	Simple Swing			Privacy Lock Set, Handicap Accessible Hardware
8	Restroom 108	3'-0"	6'-8"				Wood	Simple Swing			Privacy Lock Set, Handicap Accessible Hardware
9	Restroom 109	3'-0"	6'-8"				Wood	Simple Swing			Privacy Lock Set, Handicap Accessible Hardware
10	Restroom 110	3'-0"	6'-8"				Wood	Simple Swing			Privacy Lock Set, Handicap Accessible Hardware
11	Restroom 111	3'-0"	6'-8"				Wood	Simple Swing			Privacy Lock Set, Handicap Accessible Hardware
12	Restroom 112	3'-0"	6'-8"				Wood	Simple Swing			Privacy Lock Set, Handicap Accessible Hardware
13	Mechanical Room	2'-6"	7'-0"		2'-7"	7'-2 1/2"		Simple Swing			Flush Door, Deadbolt Lock Set
14	Mechanical Room	3'-0"	6'-8"					Simple Swing			45 min Fire Rated, Deadbolt Lock Set
15	Restroom 008	3'-0"	6'-8"				Wood	Simple Swing			Privacy Lock Set, Handicap Accessible Hardware
16	Suite B	3'-6"	7'-0"		3'-10 1/2"	7'-2 1/2"		Simple Swing			Handicap Threshold, Metal Frame, Push Guard, Automatic Closer
17	Suite C	3'-6"	7'-0"		3'-10 1/2"	7'-2 1/2"		Simple Swing			Handicap Threshold, Metal Frame, Push Guard, Automatic Closer
18	Suite D	6'-0"	7'-0"		6'-4 1/2"	7'-2 1/2"		Swing BiPart			Handicap Threshold, Metal Frame, Push Guard, Automatic Closer
19	Restroom 011	3'-0"	6'-8"				Wood	Simple Swing			Privacy Lock Set, Handicap Accessible Hardware
20	Restroom 013	3'-0"	6'-8"				Wood	Simple Swing			Privacy Lock Set, Handicap Accessible Hardware

1). Contractor to Verify All R.O. Heights before Construction 2). All Exterior Doors to be Furnished with Handicap Thresholds 3). All Exterior Doors to be Installed in Metal Frames

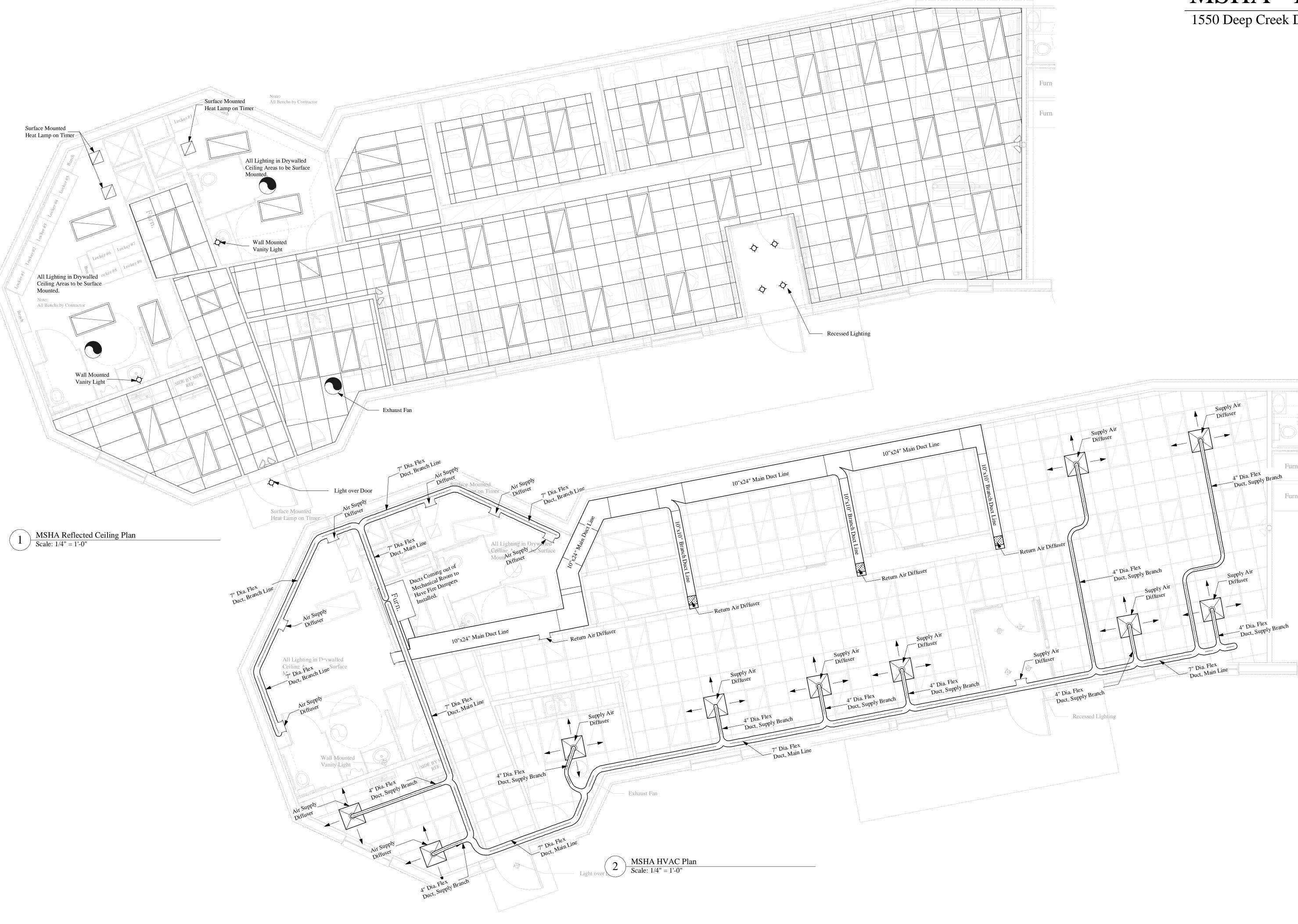


		Door Siz	ze		Rough Op	ening	Door	Door			
Door#	Location	Width	Height	Thickness	Width	Height	Material	Туре	Mfg.	Mfg. #	Remarks
101a	Entry Vestibule	3'-6"	7'-0"		3'-10 1/2"	7'-2 1/2"		Simple Swing			Handicap Threshold, Metal Frame, Push Guard, Automatic Closer, Color Sandtone, Wired for Handicap Push Pad
101b	Entry Vestibule	3'-0"	6'-8"	1 3/4"			Solid Core Wood	Simple Swing			Non-Rated, Metal Frame, Automatic Closer, Wired for Handicap Push Pad
104	Supervisor's Office	3'-0"	6'-8"	1 3/4'			Solid Core Wood	Simple Swing			Non-Rated, Sidelight, Metal Frame, Privacy Lock Set
105	Conference Room	3'-0"	6'-8"	1 3/4"			Solid Core Wood	Simple Swing			Non-Rated, Sidelight, Metal Frame, Privacy Lock Set
106	LAN Room	3'-0"	6'-8"	1 3/4"			Solid Core Wood	Simple Swing			Non-Rated, Metal Frame, Deadbolt Lock Set, Kick Plates
107	Tele Room	3'-0"	6'-8"	1 3/4"			Solid Core Wood	Simple Swing			Non-Rated, Metal Frame, Deadbolt Lock Set, Kick Plates
108	Woman's Locker	3'-0"	6'-8"	1 3/4"			Solid Core Wood	Simple Swing			Non-Rated, Metal Frame, Kick Plates, Privacy Lock Set, Automatic Closer
109	Mechanical Room	3'-0"	6'-8"	1 3/4"			Solid Core Wood	Simple Swing			45 min Rated, Metal Frame, Kick Plates
110	Men's Locker	3'-0"	6'-8"	1 3/4"			Solid Core Wood	Simple Swing			Non-Rated, Metal Frame, Kick Plates, Privacy Lock Set, Automatic Closer
113	Lab Storage	3'-0"	6'-8"	1 3/4"			Solid Core Wood	Simple Swing			Non-Rated, Metal Frames, Kick Plates
114	Rear Entry	3'-6"	7'-0"		3'-10 1/2"	7'-2 1/2"		Simple Swing			Handicap Threshold, Metal Frame, Push Guard, Automatic Closer, Color Sandtone

Contractor to Verify all Openings
 If Manufacturer is not available, it may be replace with comparable manufacturer
 All Doors to be installed in Metal Frames

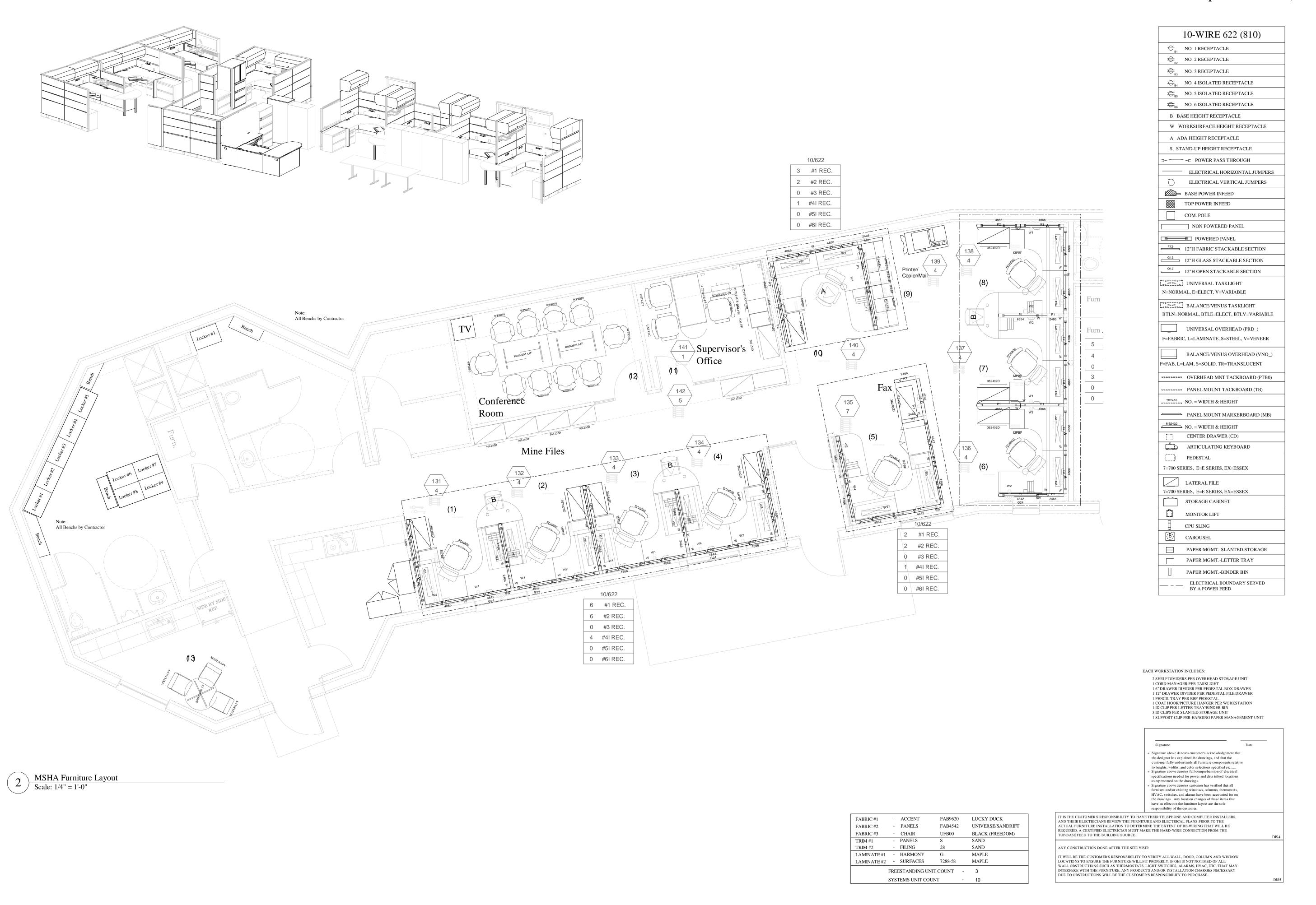
4). All Exterior Doors to be Furnished with Handicap Thresholds



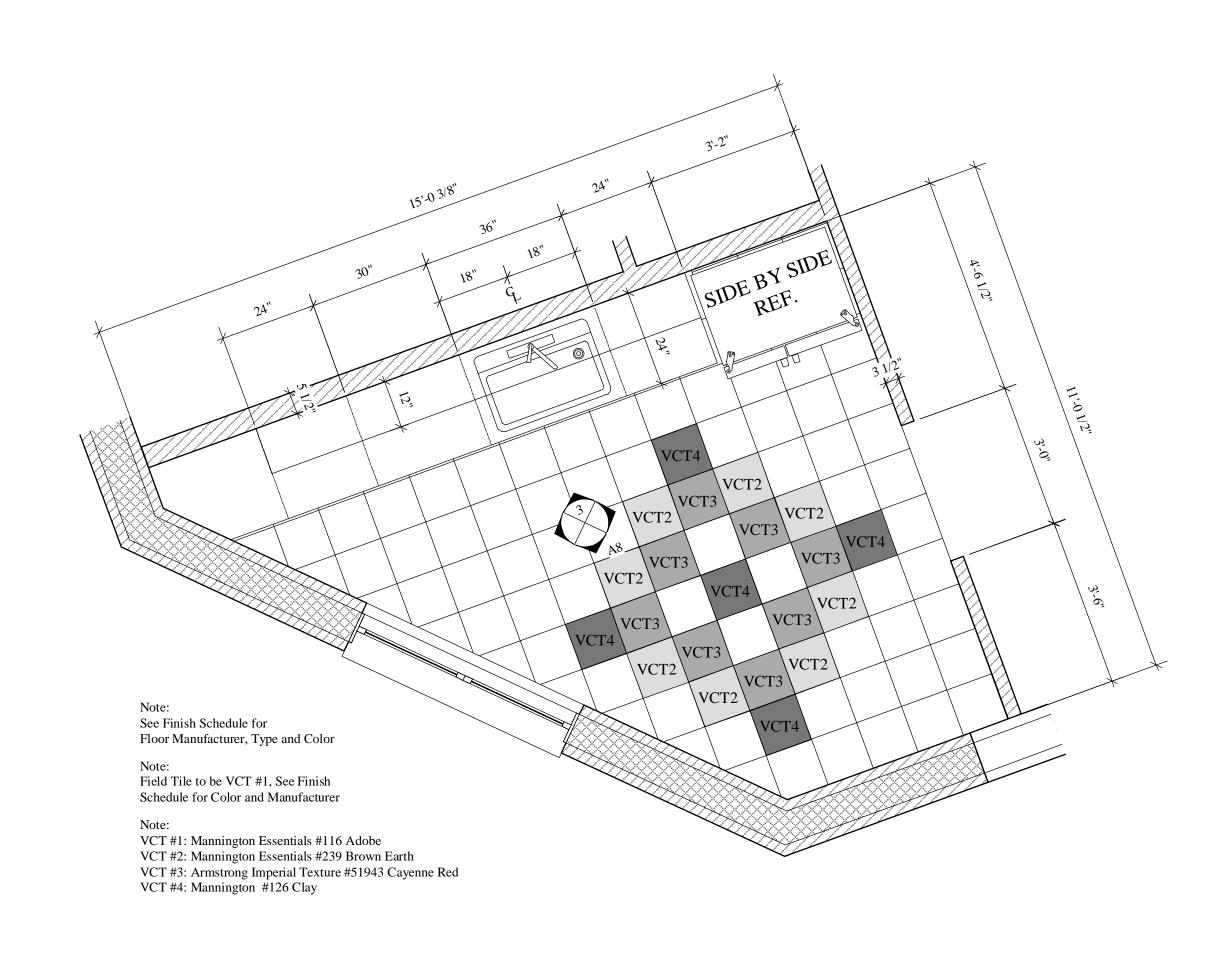


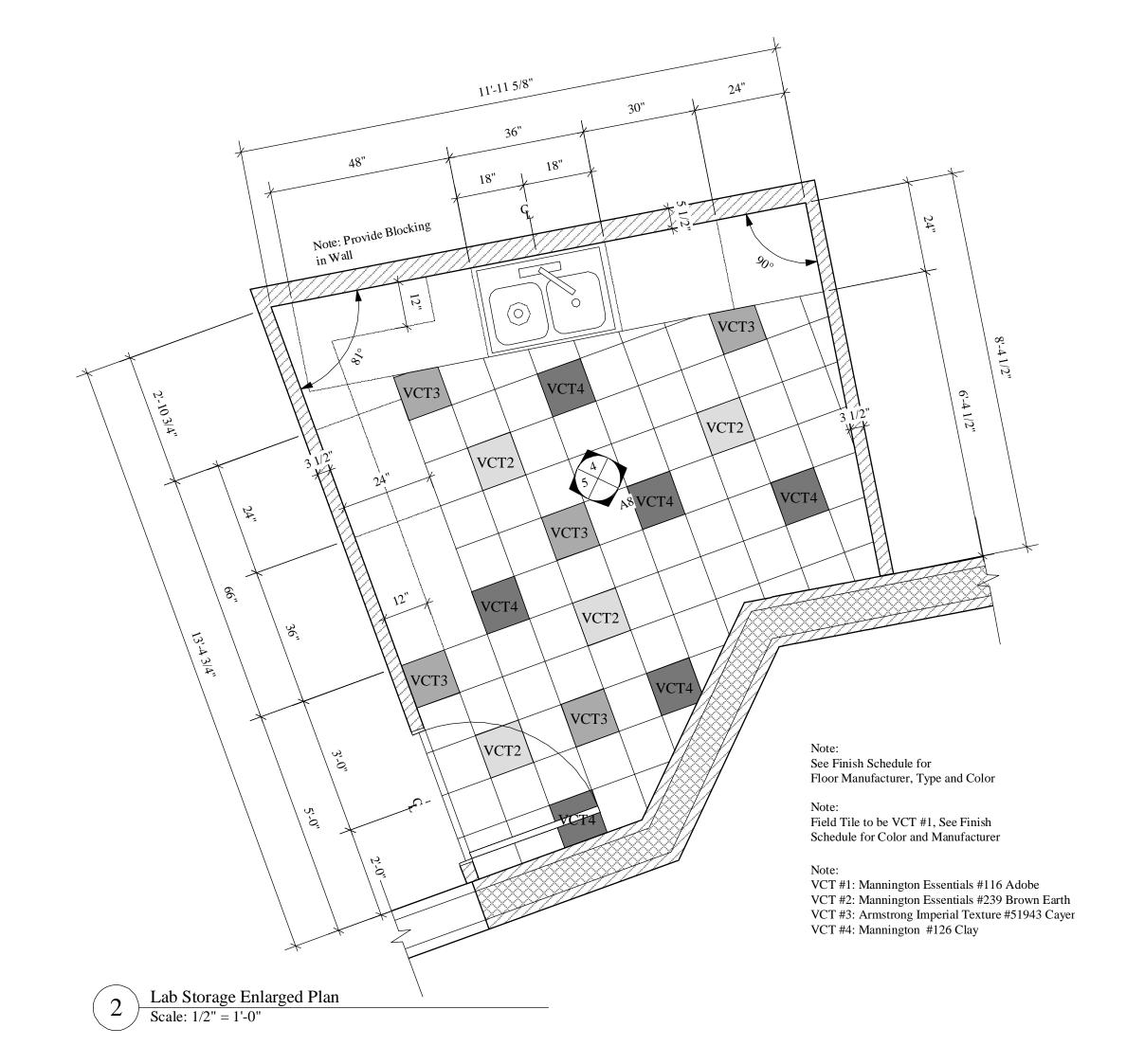
1550 Deep Creek Drive, McHenry MD, 21541

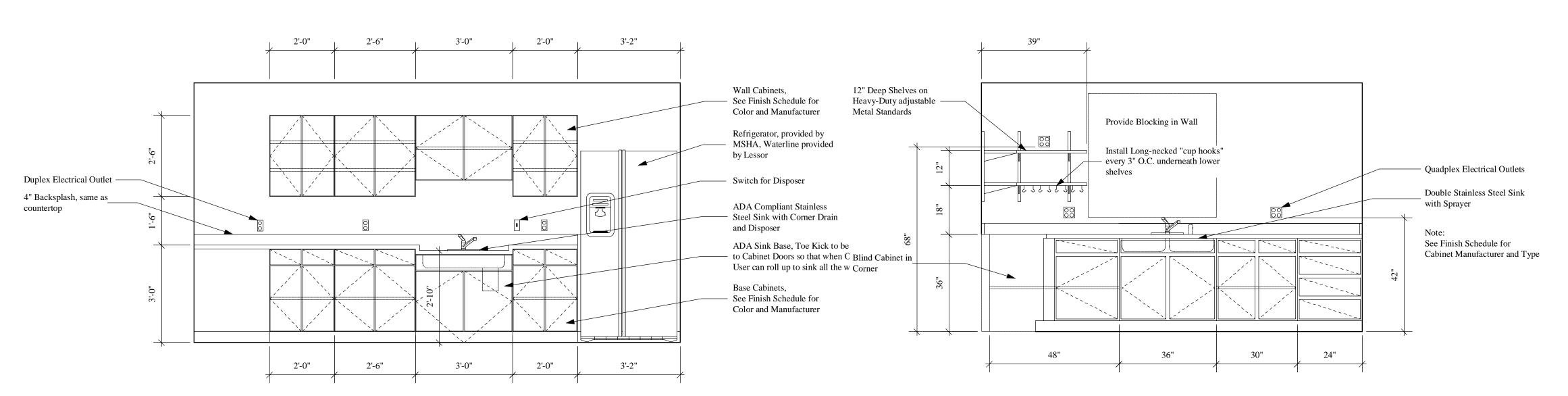
1550 Deep Creek Drive, McHenry MD, 21541

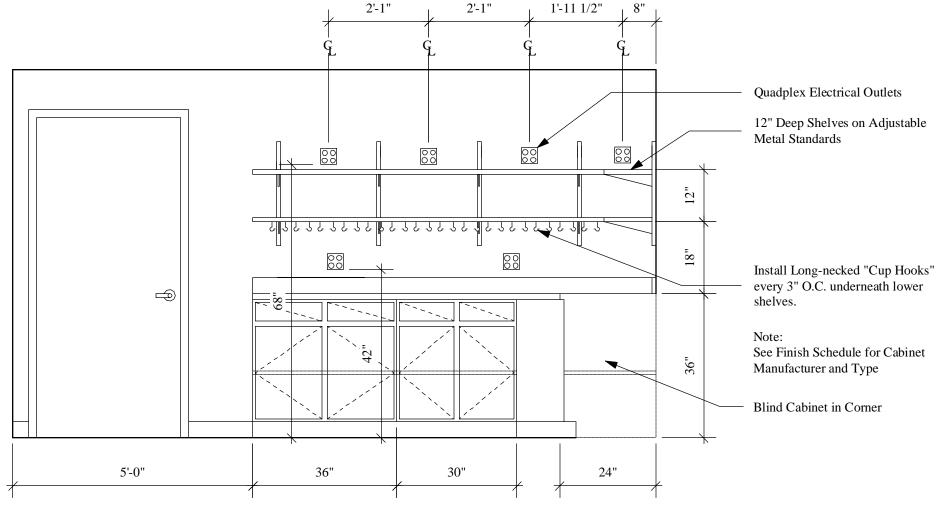


1550 Deep Creek Drive, McHenry MD, 21541









Break Room Wall Elevation
Scale: 1/2" = 1'-0"

Break Room Enlarged Plan
Scale: 1/2" = 1'-0"

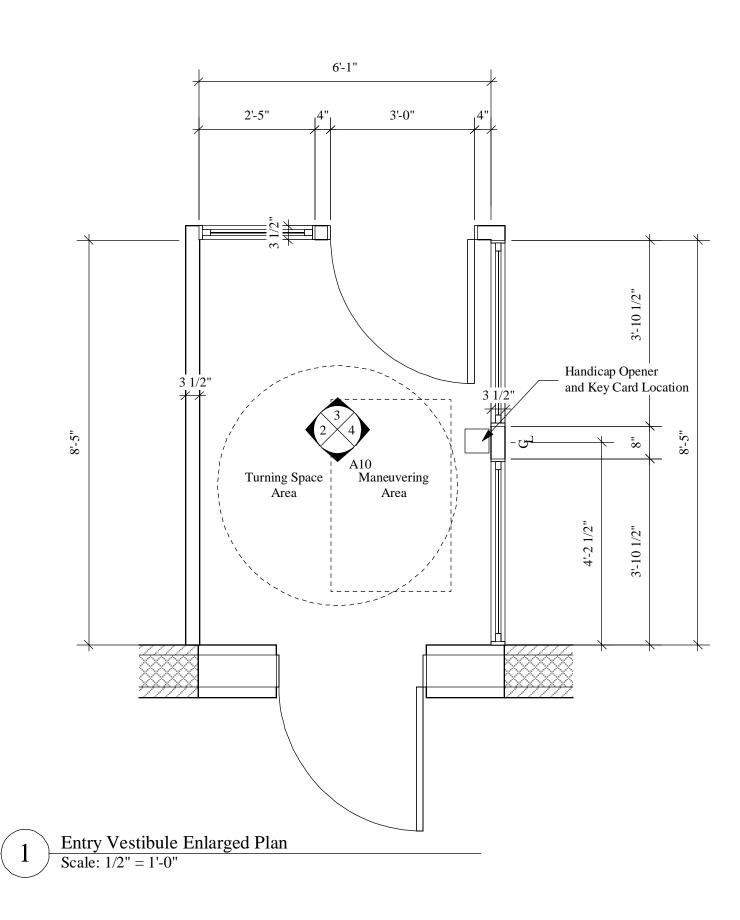
Lab Storage Wall Elevation
Scale: 1/2" = 1'-0"

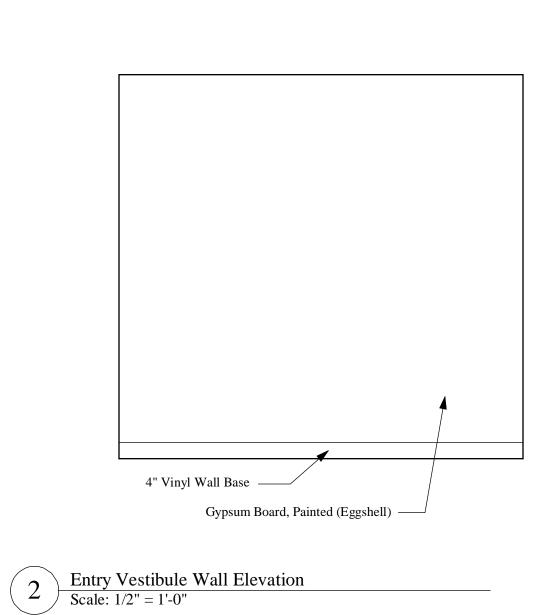
5 Lab Storage Wall Elevation
Scale: 1/2" = 1'-0"

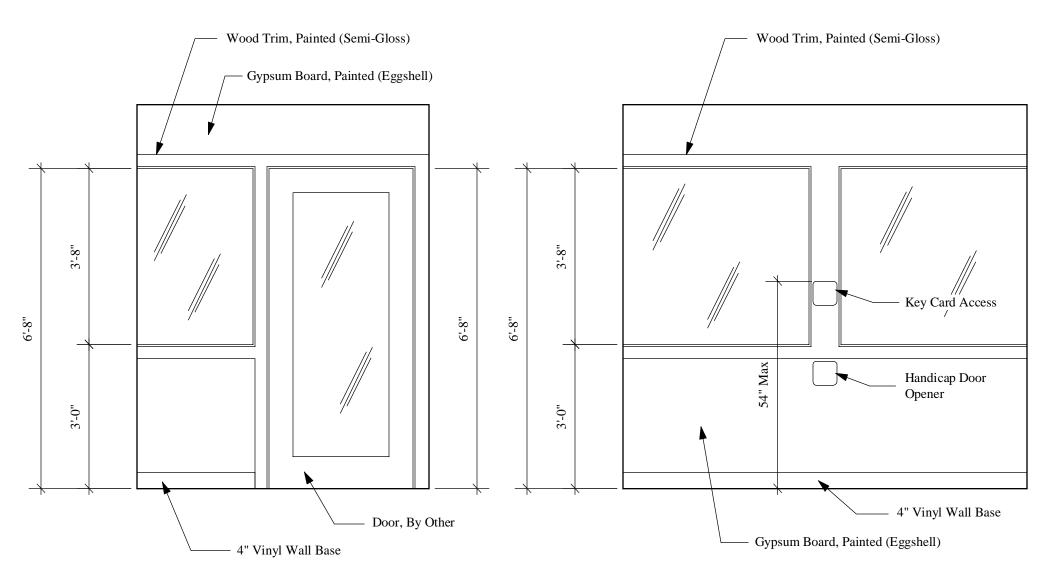
1550 Deep Creek Drive, McHenry MD 21541



1550 Deep Creek Drive, McHenry MD, 21541







Entry Vestibule Wall Elevation
Scale: 1/2" = 1'-0"

Entry Vestibule Wall Elevation
Scale: 1/2" = 1'-0"

— Wood Trim, Painted (Semi-Gloss)

Finish	Schedule

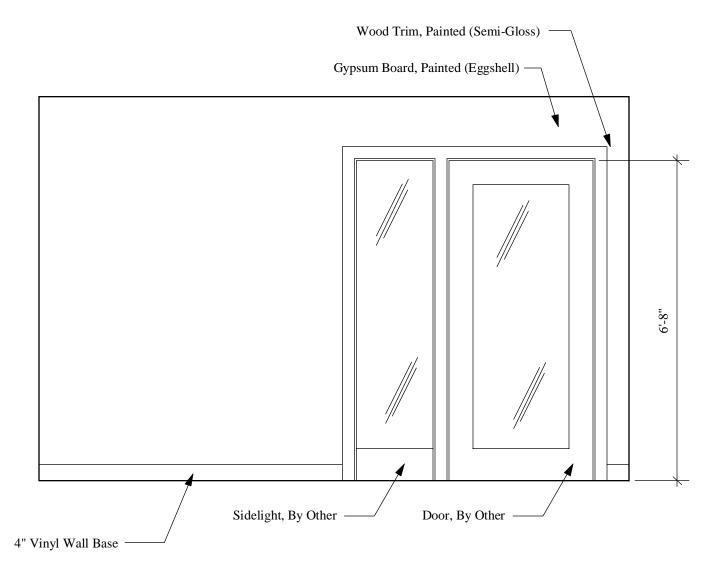
		Base			Floor			Wall			Ceiling		
Rm #	Room Name	Туре	Mfg	Color	Туре	Mfg	Color	Туре	Mfg	Color	Height	System Type	Remarks
101	Entry Vestibule	Vinyl Wall Base	Johnsonite	#45 Sandalwood	"First StepT" Walk Off Carpet #L8513	Lees	#534 Volcanic Stone	Gypsum Board Painted	Benjamin Moore	#OC-3 Lamskin (Eggshell)/ Trim: #1013 Taupetone (Semi-Gloss)	8'-6 3/4"	Gypsum Board	
102	Office Space	Vinyl Wall Base	Johnsonite	#45 Sandalwood	Fine Form Modular #DQ 383 Carpet Tile	Lees	#442 Imperial Red	Gypsum Board Painted	Benjamin Moore	#OC-3 Lamskin (Eggshell)/ Trim: #1013 Taupetone (Semi-Gloss)	8'-0"	2'-0"x2'-0" Acoustical Tile	Carpet Tile to be installed Quater-Turned (Typ.)
103	Office Space	Vinyl Wall Base	Johnsonite	#45 Sandalwood	Fine Form Modular #DQ 383 Carpet Tile	Lees	#442 Imperial Red	Gypsum Board Painted	Benjamin Moore	#OC-3 Lamskin (Eggshell)/ Trim: #1013 Taupetone (Semi-Gloss)	8'-0"	2'-0"x2'-0" Acoustical Tile	Carpet Tile to be installed Quater-Turned (Typ.)
104	Supervisor's Office	Vinyl Wall Base	Johnsonite	#45 Sandalwood	Fine Form Modular #DQ 383 Carpet Tile	Lees	#442 Imperial Red	Gypsum Board Painted	Benjamin Moore	#OC-3 Lamskin (Eggshell)/ Trim: #1013 Taupetone (Semi-Gloss)	8'-0"	2'-0"x2'-0" Acoustical Tile	Carpet Tile to be installed Quater-Turned (Typ.)
105	Conference Room	Vinyl Wall Base	Johnsonite	#45 Sandalwood	Fine Form Modular #DQ 383 Carpet Tile	Lees	#442 Imperial Red	Gypsum Board Painted	Benjamin Moore	#OC-3 Lamskin (Eggshell)/ Trim: #1013 Taupetone (Semi-Gloss)	8'-0"	2'-0"x2'-0" Acoustical Tile	Carpet Tile to be installed Quater-Turned (Typ.)
106	LAN Room	Vinyl Wall Base	Johnsonite	#45 Sandalwood	Vinyl Composite Tile (VCT)	Mannington	#116 Adobe	Gypsum Board Painted	Benjamin Moore	#OC-3 Lamskin (Eggshell)/ Trim: #1013 Taupetone (Semi-Gloss)	8'-0"	2'-0"x4'-0" Acoustical Tile	VCT Flooring to be Laid in with Grain in one Direction (Typ.) - Transition Strip Johnsonite #132 Espresso (Typ.)
107	Tele Room	Vinyl Wall Base	Johnsonite	#45 Sandalwood	Vinyl Composite Tile (VCT)	Mannington	#116 Adobe	Gypsum Board Painted	Benjamin Moore	#OC-3 Lamskin (Eggshell)/ Trim: #1013 Taupetone (Semi-Gloss)	8'-0"	2'-0"x4'-0" Acoustical Tile	VCT Flooring to be Laid in with Grain in one Direction (Typ.) - Transition Strip Johnsonite #132 Espresso (Typ.)
108	Women's Locker	Ceramic Tile	Daltile	#K175	Ceramic Tile	Daltile	#D050 ABR Mottled Medium Brown, Accent: #D179 Cotto Speckle, Accent: #D325 Cotto Marble	Ceramic Tile/Gypsum Board Painted	Daltile/Benjamin Moore	#K175 Biscuit, Accent: #Q181 Cotto, Accent: #K174 Mexican Sand/ #OC-3 Lambskin (Semi-Gloss), Trim: #1013 Taupetone (Semi-Gloss)	8'-6 3/4"	Gypsum Board	ADA Compliant Marble Threshold Transition
109	Mechanical Room	Vinyl Wall Base	Johnsonite	#45 Sandalwood	Vinyl Composite Tile (VCT)	Mannington	#116 Adobe	Gypsum Board Painted	Benjamin Moore	#OC-3 Lamskin (Eggshell)/ Trim: #1013 Taupetone (Semi-Gloss)	8'-0"	2'-0"x4'-0" Acoustical Tile	VCT Flooring to be Laid in with Grain in one Direction (Typ.) - Transition Strip Johnsonite #132 Espresso (Typ.)
110	Men's Locker	Ceramic Tile	Daltile	#K175	Ceramic Tile	Daltile	#D050 ABR Mottled Medium Brown, Accent: #D179 Cotto Speckle, Accent: #D325 Cotto Marble	Ceramic Tile/Gypsum Board Painted	Daltile/Benjamin Moore	#K175 Biscuit, Accent: #Q181 Cotto, Accent: #K174 Mexican Sand/ #OC-3 Lambskin (Semi-Gloss), Trim: #1013 Taupetone (Semi-Gloss)	8'-6 3/4"	Gypsum Board	ADA Compliant Marble Threshold Transition
111	Break Room	Vinyl Wall Base	Johnsonite	#45 Sandalwood	Vinyl Composite Tile (VCT)	Mannington/ Armstrong	#116 Adobe, Accent: #239 Brown Earth, Accent: #51943 Cayenne Red, Accent: #126 Clay	Gypsum Board Painted	Benjamin Moore	#OC-3 Lamskin (Eggshell)/ Trim: #1013 Taupetone (Semi-Gloss)	8'-0"	2'-0"x4'-0" Acoustical Tile	VCT Flooring to be Laid in with Grain in one Direction (Typ.) - Transition Strip Johnsonite #132 Espresso (Typ.) - Cabinets: Merillat Essentials Rutland II (Laminate) White Finish
112	Hall	Vinyl Wall Base	Johnsonite	#45 Sandalwood	Fine Form Modular #DQ 383 Carpet Tile	Lees	#442 Imperial Red	Gypsum Board Painted	Benjamin Moore	#OC-3 Lamskin (Eggshell)/ Trim: #1013 Taupetone (Semi-Gloss)	8'-0"	2'-0"x2'-0" Acoustical Tile	Carpet Tile to be installed Quater-Turned (Typ.)
113	Lab Storage	Vinyl Wall Base	Johnsonite	#45 Sandalwood	Vinyl Composite Tile (VCT)	Mannington/ Armstrong	#116 Adobe, Accent: #239 Brown Earth, Accent: #51943 Cayenne Red, Accent: #126 Clay	Gypsum Board Painted	Benjamin Moore	#OC-3 Lamskin (Eggshell)/ Trim: #1013 Taupetone (Semi-Gloss)	8'-0"	2'-0"x4'-0" Acoustical Tile	VCT Flooring to be Laid in with Grain in one Direction (Typ.) - Transition Strip Johnsonite #132 Espresso (Typ.) - Cabinets: Merillant Essentials Sundale (Maple) Toffee Finish
114	Rear Entry	Vinyl Wall Base	Johnsonite	#45 Sandalwood	"First StepT" Walk Off Carpet #L8513	Lees	#534 Volcanic Stone	Gypsum Board Painted	Benjamin Moore	#OC-3 Lamskin (Eggshell)/ Trim: #1013 Taupetone (Semi-Gloss)	8'-0"	2'-0"x2'-0" Acoustical Tile	

Gypsum Board, Painted (Eggshell)

56

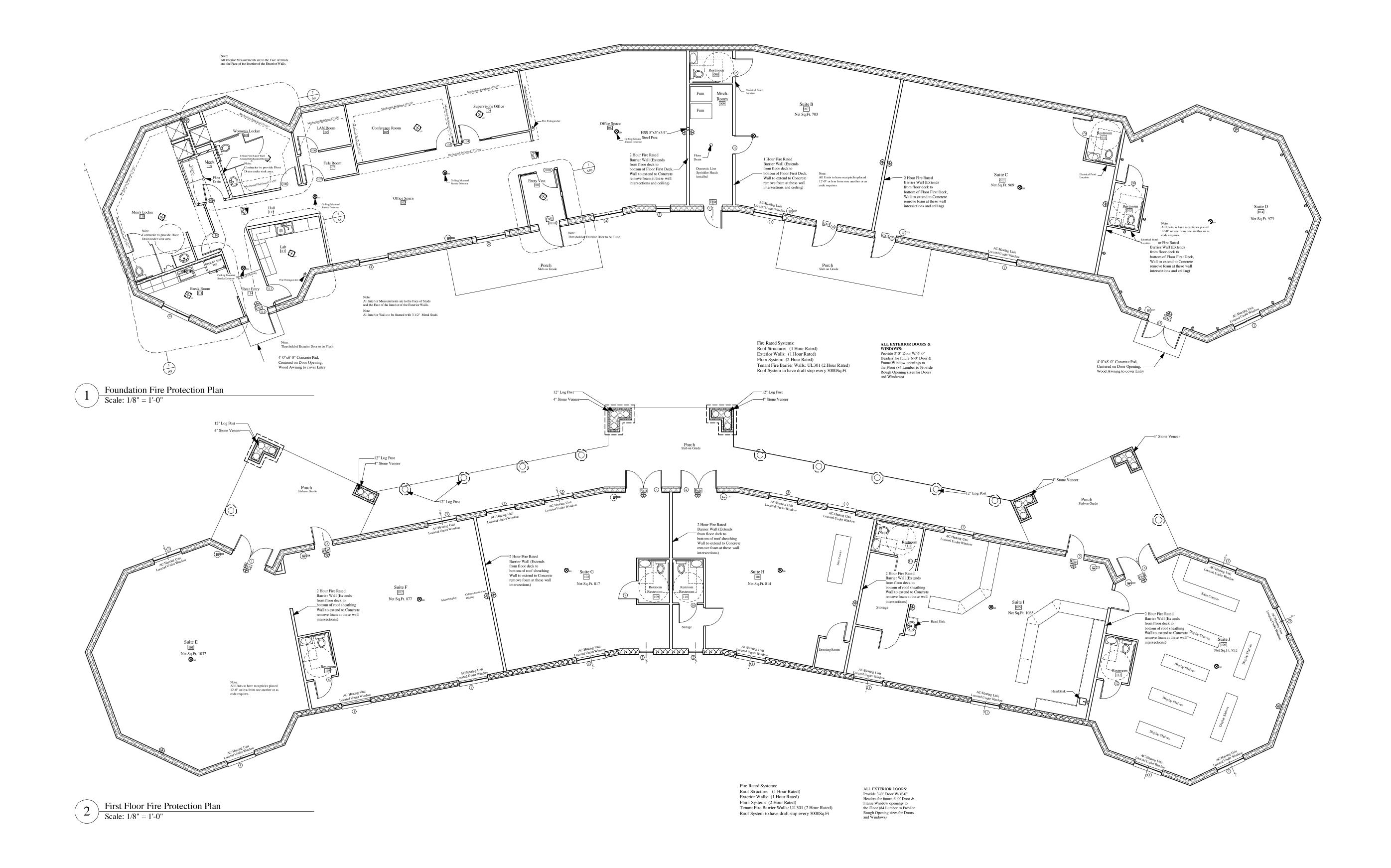
Compared to the state of the sta

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

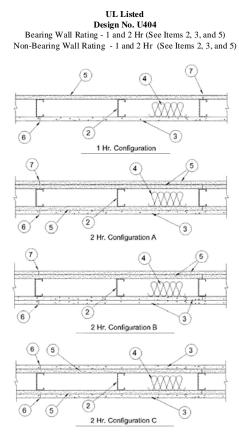


Supervisor's Office Wall Elevation

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



1550 Deep Creek Drive, McHenry MD 21541



1. **Steel Floor and Ceiling Runners** (Not Shown) Channel shaped, 3-1/2 in. wide by 1-1/4 in. deep, fabricated from min 20 MSG (0.0329 in., min bare metal thickness) galvanized steel. Attached to floor and ceiling with steel fasteners spaced at in CC man.

2. Steel Studs 3-1/2 in. wide, fabricated from min 20 MSG (0.0329 in., min bare metal thickness) galvanized steel, spaced max 16 in. OC. For bearing walls, studs shall be designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute. All design details enhancing the structural integrity of the bearing wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer and shall meet the requirements of all applicable local code agencies. Steel studs attached to floor and ceiling runners with 3/8 in. long Type S-12 steel screws on both sides of the studs or by welded or bolted connections designed in accordance with the AISI specifications. For nonbearing walls, studs to be cut 3/8 to 3/4 in. less than assembly height and friction-fitted into floor and ceiling runners.

3. Cementitious Backer Units* 1/2 in. or 5/8 in. thick, applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with corrosion resistant, chamfered, ribbed wafer head screws with a minimum head diameter of .400 inch. For nonbearing systems screws placed 1/2 in. to 2 in. below the bottom edge of the leg of the top runner. Horizontal joints need not be backed by framing. 1 Hr System - Screws shall be min 1-1/4 in. long and spaced a max of 8 in. OC. All vertical joints staggered one side of studs. Horizontal edge joints and horizontal butt joint on opposite sides of studs need not be staggered. 2-Hr System min 1-1/4 in. long and spaced a max of 12 in. OC. For the face layers, screws shall be 1-5/8 in. long and spaced a max of 8 in. OC. All face layer joints offset min 12 in. from underlying base layer joints. Joints in either layer need not be staggered from joints on the opposite side of the wall UNITED STATES GYPSUM CO DUROCK Exterio Cement Board, or DUROCK Brand Cement Board.

4. **Batts and Blankets*** Min 3 in. thick mineral wool insulation batts, friction-fitted between studs . **THERMAFIBER INC** Type SAFB.

5. **Gypsum Board*** 5/8 in. thick, with square or tapered edges, applied vertically or horizontally with vertical joints centered over studs. Horizontal joints need not be backed by framing. Fastened with Type S-12 screws. 1-Hr System - For vertical application, fastened to studs and runners with 1 in. long screws spaced max 8 in. OC at vertical edges and spaced max 12 in. OC in the field. For horizontal application, fastened to studs and runners with 1 in. long screws spaced max 8 in. OC. Vertical joints staggered one stud cavity from cement board vertical joints on opposite side of studs. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. 2-Hr System - Base layer with an overlying gypsum board face layer, fastened with 1 in. long screws spaced max 16 in. OC to studs and runners. Base layer with an overlying cement board face layer, fastened with 1 in. long screws spaced max 12 in. OC to studs and runners. Face layers fastened with 1-5/8 in. long screws spaced max 16 in. OC to studs and runners with screws offset 8 in. from face layer screws. Face layer joints offset min 12 in. from base layer joints. Joints in either layer need not be staggered from joints on the opposite side of the wall. When used in widths other

than 48 in., gypsum panels to be installed horizontally.

CANADIAN GYPSUM COMPANY Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.

UNITED STATES GYPSUM CO. Type AR, C, FRX-G.

IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC or WRX.

USG MEXICO S A DE C V Types AR, C, IP-AR, IP-X1,

6. **Joints** Covered with glass fiber mesh tape and latex modified Portland cement mortar or basecoat, or Type I organic adhesive.

7. Joints When tapered edge gypsum board is used, face layer joints covered with joint compound and paper tape. As an alternate, gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with joints reinforced. When square-edge gypsum board is used, treatment of joints is

8. Vapor Retarder, Water Barrier or Weather Resistive Barrier (Optional Not shown) As required.

*Bearing the UL Classification Mark

UL Listed
Design No. U419
Nonbearing Wall Rating - 1, 2, 3, and 4 Hr (See Items 3 & 4)

For Number of Layers
and Hourly Ratings
See Item 4

Floor and Ceiling Runners (Not shown) For use with Item 2 - Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

1A. Floor and Ceiling Runners* Not shown - In lieu of Item

1 For use with Item 2A, proprietary channel shaped, min.
3-5/8 in. wide with 1 in. long legs, fabricated from min.
0.0150 in. (0.0146 in., min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC max.

1B. Floor and Ceiling Runners (Not shown - In lieu of Item

min. 0.0150 in. galvanized steel, attached to floor and ceiling fasteners 24 in. OC. max.

2. Steel Studs Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width as indicated under Item 4, min 1-1/4 in. flanges and 1/4 in. return, spaced a max of 24 in.

OC. Studs to be cut 3/8 to 3/4 in. less than assembly height

2-9/16 in. wide with 1-3/16 in. wide flanges, fabricated from

2A. Steel Studs* In lieu of Item 2 - Proprietary channel shaped studs, min. width as indicated under Item 4, min. 1-1/4 in. long legs and 1/4 in. long folded back return flange legs, fabricated from min. 0.0155 in. (0.0149 in., min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height. Allowable use of studs is shown in the table below. For direct attachment of gypsum board only.

3. Batts and Blankets* (Required as indicated under Item 4) Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 4. See Batts and Blankets (BKNV or BZJZ) Categories for names of

3A. Batts and Blankets* (Optional) Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

4. **Gypsum Board*** Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multi-layer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multi-layer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

5. **Fasteners** (Not shown) For use with Item 2 - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 6). Single layer systems: 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally the field when panels are applied vertically. Two layer systems: First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with crews offset 8 in. from first layer. **Three-layer systems:** First ayer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick nnels, spaced 12 in. OC. Screws offset min 6 in. from layer below. Four-layer systems: First layer- 1 in. long for 1/2 in., /8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long

5A. Fasteners (Not shown) For use with Item 2A - Type S or

panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8-1/2

in. OC with additional screws 1 in. and 2-1/2 in. from edges of the board when panels are horizontally. or 8 in. OC along

S-12 steel screws used to attach panels to stude (Item 2)

Single layer systems: 1 in. long for 1/2 and 5/8 in. thick

vertical and bottom edges and 12 in. OC in the field when

panels are applied vertically. Two layer systems applied

vertically: First layer- 1 in. long for 1/2 and 5/8 in. thick

OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick

OC with screws offset 8 in. from first layer. **Two layer**

and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick

panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in.

panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in.

systems applied horizontally: First layer- 1 in. long for 1/2

panels, spaced 16 in. OC starting 8 in. from each edge of the

of the board. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in.

thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced

16 in. OC starting 8 in. from each edge of the board with an additional screw placed 1-1/4 in. from each edge of the board

vith screws offset 8 in. from first layer. Three-layer system

24 in. OC. Second layer-1-5/8 in. long for 1/2 in., 5/8 in. thick

panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2

panels, spaced 12 in. OC. Screws offset min 6 in. from layer

in. from each edge of the board. Four-layer systems: First

OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick

layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in.

panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in.

thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced

or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws

24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels

offset min 6 in. from layer below. For all layers, an additional

screw shall be placed 1-1/4 in. from each edge of the board

6. Furring Channels (Optional, not shown, for single or

double layer systems) Resilient furring channels fabricate

6A. Steel Framing Members (Not Shown)* (Optional on

a. Furring Channels Formed of No. 25 MSG galv steel.

in Item b. Gypsum board attached to furring channels as

b. Steel Framing Members* Used to attach furring channel

(Item 6Aa) to studs (Item 2). Clips spaced max. 48 in. OC.

self-drilling, S-12 steel screw through the center grommet.

RSIC-1 clips secured to studs with No. 8 x 1-1/2 in. minimum

RSIC-V clips secured to studs with No. 8 x 9/16 in. minimum

self-drilling, S-12 steel screw through the center hole. Furring

6B. Steel Framing Members (Optional, Not Shown)* As an

alternate to Item 6, furring channels and Steel Framing

Members on only one side of studs as described below

a. Furring Channels Formed of No. 25 MSG galv steel,

spaced 24 in. OC perpendicular to studs. Channels secured to

cavity as described in Item 4. Two layers of gypsum board

studs as described in Item b. Batts and Blankets placed in stud

attached to furring channels as described in Item 4. Not for use

b. Steel Framing Members* Used to attach furring channels

in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse

drywall screws, one through the hole at each end of the clip.

7. Joint Tape and Compound Vinyl or casein, dry or

screw heads of outer layers. Paper tape, nom 2 in. wide,

when gypsum panels are supplied with a square edge.

Aluminum, vinyl or steel siding, brick veneer or stucco,

meeting the requirements of local code agencies, installed over

gypsum panels. Brick veneer attached to studs with corrugated

9. Caulking and Sealants* (Optional, not shown) A bead of

acoustical sealant applied around the partition perimeter for

metal wall ties attached to each stud with steel screws, not

8. Siding, Brick or Stucco (Optional, not shown)

more than each sixth course of brick.

*Bearing the UL Classification Mark

layer panels. Paper tape and joint compound may be omitted

Furring channels are friction fitted into clips.

systems) As an alternate to Item 6, furring channels and Steel

ndicular to studs. Channels secured to studs as described

one or both sides, not shown, for single or double layer

2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC

described in Item 5. Not for use with Item 4A.

channels are friction fitted into clips.

a max of 24 in. OC. Flange portion attached to each

for use with Item 4A.

from min 25 MSG corrosion-protected steel, spaced vertically

ntersecting stud with 1/2 in. long Type S-12 steel screws. Not

below. For all layers, an additional screw shall be placed 1-1/4

in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick

First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced

board with an additional screw placed 1-1/4 in. from each edg

5A. Fasteners (Not shown) For use with Item 2A - Type S or S-12 steel screws used to attach panels to study (Item 2). Single layer systems: 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8-1/2 $\,$ in. OC with additional screws 1 in. and 2-1/2 in. from edges of e board when panels are horizontally. or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. Two layer systems applied vertically: First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer. Two layer systems applied horizontally: First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC starting 8 in. from each edge of the poard with an additional screw placed 1-1/4 in. from each edge of the board. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in.

for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8

panels, spaced 12 in. OC. Screws offset min 6 in. from layer

in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick

thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC starting 8 in. from each edge of the board with an additional screw placed 1-1/4 in. from each edge of the board vith screws offset 8 in. from first layer. Three-layer systems: First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. For all layers, an additional screw shall be placed 1-1/4 in. from each edge of the board. Four-layer systems: First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. For all layers, an additional screw shall be placed 1-1/4 in. from each edge of the board.

Rating	Min Stud	No. of Layers	Min Thkns
	Depth	& Thkns	of Insulation
		of Panel	(Item 3)
1	3-1/2	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional

4 2-1/2 2 layers, 3/4 in. thick

When Item 6B, Steel Framing Members*, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 3) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 5. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in

4A. **Gypsum Board*** (As an alternate to Item 4) 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 5.

Design No. P533

1. Roofing System* - Any UL Class A, B or C Roofing system (TGFU) or Prepared Roof Covering (TFWZ) acceptable for use over nom 15/32 in. thick plywood sheathing. Nom 15/32 in. thick plywood sheathing secured to trusses with construction adhesive and No. 6d ringed shank nails. Nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

2. Trusses Pitched or parallel chord wood trusses spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Truss members secured together with 0.0356 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approximately 7/8 in. centers with four rows of teeth per inch of plate width. Where the truss intersects with the interior face of the exterior walls, the min truss depth shall be 5-1/4 in. with a min roof slope of 3/12 and a min area in the plane of the truss of 21 sq/ft. Where the truss intersects with the interior face of the exterior walls, the min truss depth may be reduced to 3 in. if the batts and blankets (Item 3) are used as shown in the above illustration (Alternate Insulation Placement) and are firmly packed against the intersection of the bottom chords and the plywood sheathing.

3. Batts and Blankets * - Optional Glass fiber insulation fitted in the concealed space, draped over the resilient channels and gypsum wallboard ceiling membrane or fastened to underside of roofing system. Any glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance, having a min density of 0.5 pcf.

3A. Loose Fill Material* - As an alternate to item 3, any loose fill material bearing the UL Classification Marking for Surface Burning Characteristics, having a min density of 0.5 pcf.

4. Air Duct* - Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.
 5. Ceiling Damper* - Maximum nominal area, 324 sq in.

Maximum square size, 18 in. by 18 in. Rectangular sizes not exceed 324 sq in. with a maximum width of 18 in.

Maximum damper height is 14 in. Installed in accordance with the manufacturers installation instructions provided with the damper. Maximum damper openings not to exceed 324 sq in. per 100 sq ft of ceiling area.

6. Furring Channels Resilient channels, 3/8 in. deep by

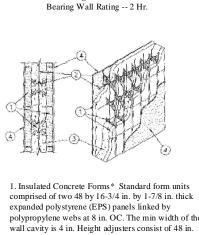
6. Furring Channels Resilient channels, 3/8 in. deep by 2-3/8 in. wide at the base and 1-3/8 in. wide at the face, formed from 0.020 in. thick galv steel, spaced 12 in. OC. Channels secured to each truss with 1-1/4 in. long Type S Steel screws. Channels overlapped 4 in. at splices. Channels oriented opposite at wallboard butt joints (spaced 6 in. OC) as shown in the above illustration.

. Gypsum Board* - Nom 5/8 in. thick, 48 in. wide,

installed with long dimension perpendicular to resilient channels with 1-1/8 in. long Type S screws spaced 12 in. OC and located a min of ½ in. from side joints and 3 in. from the end joints. At end joints, two resilient channels are used, extending a min of 6 in. beyond both ends of the joint. When insulation, Item 3 or 3A, is draped over the resilient channel/gypsum wallboard ceiling membrane, screws shall be installed at 8 in. OC.

8. Finishing System (Not shown) Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nom 3/32 in. thick veneer plaster may be applied to the entire surface of the gypsum wallboard.

*Bearing the UL Classification Mark



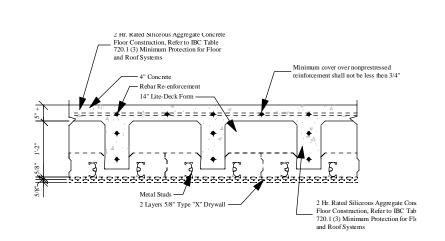
UL Listed Design No. U928

polypropylene webs at 8 in. OC. The min width of the wall cavity is 4 in. Height adjusters consist of 48 in. long, 3-3/8 in. high and 1-7/8 in. thick flat EPS panel. End caps are 4 in. long, 16-3/4 in. high and 2-1/4 in. thick flat EPS panels. ARXX BUILDING PRODUCTS INC

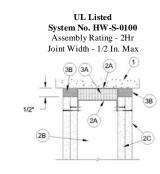
2. Steel Reinforcement No. 4 steel rebars inserted horizontally into each ICF course within polypropylene web notches. No. 4 steel rebars placed vertically at 16 in. OC into center of insulated concrete forms (Item 1).

3. Normal Weight Concrete 145 + or - 5 lb per cubic ft density, 2900 psi nom compressive strength. The concrete shall include 1.68 lb of 1/2 in. long polypropylene fiber reinforcement* per cubic yd of concrete. See Fiber Reinforcement* (CBXQ) Category for list of Classified Companies.

4. Gypsum Board (Classified or Unclassified)1/2 in. thick, 48 in. wide gypsum wallboard fastened to flanges of polypropylene webs with 1 in. long drywall screws at 16 in. OC vertically and 8 horizontally. Min weight 1.6 psf. Joints covered with joint compound, covered with joint tape and covered with an additional two coats of joint compound. Screwheads covered wit joint compound. See Gypsum Board (CKNX) Categor for names of manufacturers. When the Insulated Concrete Wall is used as an exterior wall, the Fire Resistance Rating is applicable from the inside only. The gypsum wallboard on the exterior face of the exterior wall may be omitted provided the EPS insulation is protected in accordance with building code requirements.



Floor Detail
Scale: Not to Scale



1. **Floor or Roof Assemblies** Min 4-1/2 in. thick lightweight or normal weight (90 to 155 pcf) concrete slab.

2. Wall Assembly Nonbearing 2 hr fire rated gypsum wallboard/steel stud assemblies constructed of the materials and in the manner described in the individual U400 Series Wall and Partition Design in the UL Fire Resistance Directory, including the following construction features:

A. Relief Runners Two channel-shaped members, located along ceiling. Outer member 1-1/4 in. deep and 1/8 in. wider than inner member. Outer member 20 MSG galv steel, attached to ceiling with fasteners 24 in. OC. Inner member 1-1/4 in. deep, 25 MSG galv steel, inserted in outer member. Width of inner member to match width of stud.

B. **Studs** Studs attached to inner relief ceiling member by welds or with 1/2 in. long Type S-12 pan head, self-drilling, self-tapping steel screws, on both sides of studs. Studs cut 3/4 in. shorter than assembly height.

C. Gypsum Board* Type, thickness, number of layers and orientation as specified in the individual Wall and Partition Design. When single 3/4 in. thick layer is used (Design No. U491), wallboard attached to inner ceiling runner (Item 2A) with 1-1/4 in. long Type S screws spaced 8 in. OC. When two layers are used, inner layer attached to inner ceiling runner with 1 in. long Type S screws spaced 16 in. OC and outer layer attached to inner ceiling runner with 1-5/8 in. long Type S screws spaced 12 in. OC. Screws placed 1/4 in. from the lower edge of the inner ceiling runner.

3. **Joint System** The joint system consists of a forming material and a caulk as follows:

A. Forming Material* Nom 1 in. thick, 4 pcf mineral wool insulation, cut to a nom width to match the inside width of the outer relief ceiling member (Item 2A).

THERMAFIBER INC Type SAF

B. Fill, Void or Cavity Material* Caulk Min 1/2 in. thickness of caulk, installed on each side of the wall between the top edge of the wallboard and the bottom of the concrete floor.

UNITED STATES GYPSUM CO Type AS
*Bearing the UL Classification Mark