

*ROOM FINISH SCHEDULE*											
NO.	ROOM NAME	FLOOR	BASE	WALLS				CEILING MATERIAL	WINDOW SHADES	WINDOW FILM	NOTES
				NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL				
001	CORRIDOR	CONC	-	P-1	P-1	P-1	P-1	ACT			
002	STORAGE							ACT			
003	MECH							ACT			
004	STORAGE							ACT			
005	MECH							ACT			
006	DATA							ACT			
100	LOBBY / MUSEUM	PT-1	PB	P-1	P-1,2/WC	P-1/WPS	P-1/WC/WPS	CLT/ACT-1			1,2,4
100A	VESTIBULE	WM-1.2	PB	P-1	P-1		P-1	CLT			
100B	VESTIBULE	WM-1.2	PB	P-1	P-1	P-1	P-1	CLT			
101	TOILET	PT-2	PB	P-3/CWT-1.2	P-3/CWT-1.2	P-3	P-3	GYP P-4			
102A	CONFERENCE ROOM	CPTT-2,3	WD	P-1/AWP-2	P-1/MW	P-1	P-1	CLT	WS-2		
102B	CONFERENCE ROOM	CPTT-2,3	WD	P-1/AWP-2	P-1/MW	P1	P-1/MW	CLT	WS-2		
102C	CONFERENCE ROOM	CPTT-2,3	WD	P-1/AWP-2	P-1	P-1	P-1/MW	CLT	WS-2		
103	LACTATION	LVT-1	RB-2	P-3	P-3	P-3	P-3	CLT			
104	CORRIDOR	PT-2	PB	P-1	P-1	P-1	P-1	ACT-1/CLT			
105	STORAGE/ AV	LVT-1	RB	P-1	P-1	P-1	P-1	CLT			
106	TOILET	PT-2	PB	P-3	P-3/CWT-1.2	P-3/CWT-1.2	P-3	GYP P-4			
107	TOILET	PT-2	PB	P-3/CWT-1.2	P-3/CWT-1.2	P-3	P-3	GYP P-4			
108	TOILET	PT-2	PB	P-3	P-3/CWT-1.2	P-3/CWT-1.2	P-3	GYP P-4			
109	OPEN OFFICE	CPTT-1	RB-1	P-1/AWP-2	P-1/AWP-2	P-1	P-1	CLT/ACT-2B	WS-1		
110	CORRIDOR	CPTT-1	RB-1	P-1	P-1	P-1	P-1	CLT/ACT-2B			
111	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	P-1	CLT/ACT-2B			
111A	WRITTEN TEST	CPTT-1	RB-1	P-1	P-1	P-1	P-1	CLT/ACT-2B	WS-1		
112	OPEN OFFICE	CPTT-1	RB-1	P-1/AWP-2	P-1	P-1,2/AWP-3	P-1,2	CLT/ACT-2B	WS-1		
113	MAPPING & ID TESTING	CPTT-1	RB-1	P-1	P-1	P-1	P-1	CLT	WS-1		
114	OFFICE	CPTT-1	RB-1	P-1	P-1	GW	P-1	CLT	WS-1	WF-1	
115	OFFICE	CPTT-1	RB-1	P-1	P-1	GW	P-1	CLT	WS-1	WF-1	
116	OFFICE	CPTT-1	RB-1	P-1	P-1	GW	P-1	CLT	WS-1	WF-1	
117	OFFICE	CPTT-1	RB-1	P-1	P-1	GW	P-1	CLT	WS-1	WF-1	
118	OPEN SEATING	CPTT-4,5	RB-1	P-1	P-1	P-1	P-1	CLT/ACT-2A	WS-1		
119	PRIVATE	CPTT-1	RB-1	P-1	P-1	P-1	P-1	CLT		WF-1	
120	TOILET	EP-2	EP-2	P-3	P-3/CWT-1.2	P-3/CWT-1.2	P-3	GYP/P-4			
121	TOILET	EP-2	EP-2	P-3/CWT-1.2	P-3/CWT-1.2	P-3	P-3	GYP/P-4			
122	CANTEEN	LVT-1	RB-2	P-1	P-1	P-1	P-1	CLT			
123	OFFICE	CPTT-1	RB-1	GW	P-1	P-1	P-1	CLT	WS-1	WF-1	
124	OFFICE	CPTT-1	RB-1	GW	P-1	P-1	P-1	CLT	WS-1	WF-1	
125	OFFICE	CPTT-1	RB-1	GW	P-1	P-1	P-1	CLT	WS-1	WF-1	
126	OFFICE	CPTT-1	RB-1	GW	P-1	P-1	P-1	CLT	WS-1	WF-1	
127	OPEN OFFICE	CPTT-1	RB-1	P-1,2/AWP-3	P-1	GW/P-1	P-1	CLT/ACT-2A	WS-1		
127A	OPEN OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	P-1	CLT/ACT-2A			
128	SHARED STORAGE	CPTT-1	RB-1	P-1	P-1	P-1	P-1	CLT			
129	ISSUE/ MAIL ROOM	CPTT-1	RB-1	P-1	P-1	P-1	P-1	CLT			
130	DATA	CONC	RB-2	P-1	P-1	P-1	P-1	CLT			
131	CUST	CONC	RB-2	WP	WP	WP	WP	CLT			
132	ELEC	CONC	RB-2	P-1	P-1	P-1	P-1	CLT			
133	BREAK ROOM	LVT-1	RB-2	P-1	P-1	P-1	P-1	ACT-1	WS-1	WF-1	
134	OPEN OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	-	ACT-1	WS-1		
135	BREAK-OUT AREA	LVT-1	RB-2	P-1	-	P-1,2	P-1	WD	WS-1		
136	COPY ROOM	CPTT-1	RB-1	P-1	P-1	P-1	P-1/GW	ACT-1	WS-1	WF-1	
137	CORRIDOR	CPTT-1,4,5	RB-1	P-1	P-1/GW	P-1	P-1/GW/AWP-3	WD/ACT-1	WS-1		
138	VACANT OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
139	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
140	VACANT OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
141	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
142	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
143	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
144	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
145	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
146	VACANT OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
147	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
148	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
149	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
150	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
151	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
152	CONFERENCE ROOM	CPTT-4,5	RB-1	P-1	P-1	P-1	GW	WD/GYP	WS-1	WF-2	
153	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
154	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
155	OPEN OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
156	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
157	FUTURE OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
158	DATA	CONC	RB-2	P-1	P-1	P-1	P-1	EXP			
159	CORRIDOR	LVT-1	RB-2	P-7	P-7	P-7	P-7	CLT			
160	STORAGE	CONC	RB-2	P-1	P-1	P-1	P-1	CLT			
161	NECROPSY	EP-1	EP-1	EPW	EPW	EPW	EPW	CLT	WS-1		3
162	FILES	LVT-1	RB-2	P-1	P-1	P-1	P-1	CLT			
163	TOILET	EP-2	EP-2	P-3/CWT-1.2	P-3/CWT-1.2	P-3	P-3	CLT			
164	CORRIDOR	EP-1	EP-1	P-7	P-7	P-7	P-7	CLT			
165	OPEN OFFICE	EP-1	EP-1	P-7	P-7	P-7	P-7	CLT	WS-1		
166	CUST	CONC	RB-1	WP	WP	WP	WP	CLT			
167	FISHERIES MAIN LAB	EP-1	EP-1	P-7	P-7	P-7	P-7	CLT	WS-1		
167A	COPY ROOM	LVT-1	RB-1	P-1	P-1	P-1	P-1	CLT			
168	BACTER- IOLOGY	EP-1	EP-1	P-7	P-7	P-7	P-7	CLT			
169	STORAGE	EP-1	EP-1	P-7	P-7	P-7	P-7	CLT			
170	TISSUE COLLECTION	EP-1	EP-1	P-7	P-7	P-7	P-7	CLT			
171	PCR ROOM	EP-1	EP-1	P-7	P-7	P-7	P-7	CLT			
200	CORRIDOR	CPTT-1/RUB/MAT-2	RB-1	P-1/AWP-1	P-1	P-1	P-1	CLT			
201	CORRIDOR	CPTT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1			
201A	VEST	WM-1	RB-1	P-1	P-1	P1	P-1	GYP/P-4			
202	TOILET	EP-2	EP-2	P-3/CWT-1.2	P-3/CWT-1.2	P-3	P-3	GYP/P-4			
203	TOILET	EP-2	EP-2	P-3/CWT-1.2	P-3	P-3	P-3/CWT-1.2	GYP/P-4			
204	TOILET	EP-2	EP-2	P-3/CWT-1.2	P-3/CWT-1.2	P-3	P-3	GYP/P-4			
205	TOILET	EP-2	EP-2	P-3/CWT-1.2	P-3	P-3	P-3/CWT-1.2	GYP/P-4			
206	CORRIDOR	CPTT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1			
206A	CORRIDOR	CPTT-1	RB-1	P-1/RAILING	P-1	P-1/RAILING	P-1	CLT			
207	TOILET	EP-2	EP-2	P-3/CWT-1.2	P-3/CWT-1.2	P-3	P-3	GYP/P-4			
208	CONFERENCE ROOM	CPTT-6	RB-1	GW	P-1	P-1	P-5	ACT-1		WF-3	
209	PLANS OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1	WS-1		
210	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1	WS-1		
211	CANTEEN	LVT-1	RB-2	P-1	P-1	P-1	P-1	ACT-1			
212	TOILET	EP-2	EP-2	P-3/CWT-1.2	P-3	P-3	P-3/CWT-1,2	GYP/P-4			
213	TOILET	EP-2	EP-2	P-3/CWT-1.2	P-3/CWT-1.2	P-3	P-3	GYP/P-4			
214	DATA	CONC	RB-2	P-1	P-1	P-1	P-1	-			
215	CORRIDOR	CPTT-1	RB-1	P-1	P-1	P-1	P-1	CLT			
216	CONFERENCE ROOM	CPTT-6	RB-1	P-1	P-1	P-1	P-5	ACT-1	WS-1		
217	OFFICE	CPTT-1	RB-1	P-1	P-1	P1	P-1	ACT-1	WS-1	WF-1	
218	OPEN OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1			
219	OFFICE	CPTT-1	RB-1	P-1	P-1	GW	P-1	ACT-1	WS-1	WF-1	
220	OFFICE	CPTT-1	RB-1	GW	P-1	P-1	P-1	ACT-1		WF-1	
221	WAITING AREA	CPTT-2	RB-1	P-1	P-1	-	P-1	CLT	WS-1		

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NO.	ROOM NAME	FLOOR	BASE	WALLS				CEILING MATERIAL	WINDOW SHADES	WINDOW FILM	NOTES
				NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL				
222	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1		WF-1	
223	OFFICE	CPTT-1	RB-1	P-1	P-1	GW	P-1	ACT-1	WS-1	WF-1	
224	COMMISSIONER OFFICE	CPTT-1	RB-1	P-1	P-1/GW	P-1	P-1	ACT-1	WS-1	WF-1	
225	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
226	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
227	CORRIDOR	CPTT-1	RB-1	P-1	P-1/GW	P-1/GW	P-5	CLT			
228	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1	WS-1	WF-1	
229	COPY/ FILE/ STORAGE	CPTT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1			
230	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	P-1/GW	ACT-1	WS-1	WF-1	
231	OPEN CONF	CPTT-1	RB-1	P-1,5/AWP-3	P-1	GW	P-1	CLT			
232	OFFICE	CPTT-1	RB-1	P-1/GW	P-1	P-1	P-1	ACT-1	WS-1	WF-1	
233	OFFICE	CPTT-1	RB-1	GW	P-1	P-1	P-1	ACT-1	WS-1	WF-1	
234	OFFICE	CPTT-1	RB-1	GW	P-1	P-1	P-1	ACT-1	WS-1	WF-1	
235	OFFICE	CPTT-1	RB-1	GW	P-1	P-1	P-1	ACT-1	WS-1	WF-1	
236	OPEN OFFICE	CPTT-1	RB-1	P-1	P-1,5	GW	P-1	CLT/ACT-2A	WS-1		
237	CUST	CONC	RB-2	WP	WP	WP	WP	CLT			
238	ELEC	CONC	RB-2	P-1	P-1	P-1	P-1	CLT			
239	CANTEEN	LVT-1	RB-2	P-1	P-1	P-1	P-1	ACT-1	WS-1	WF-1	
240	COPY	CPTT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1	WS-1	WF-1	
241	VACANT OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
242	VACANT OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
243	CONFERENCE ROOM	CPTT-6	RB-1	P-5	GW	P-1	P-1	WD	WS-1	WF-5	
244	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
245	HOTEL OFFICES	CPTT-1	RB-1	P-1	-	P-1	P-1	OPEN/ACT-1	WS-1		
246	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
247	CORRIDOR	CPTT-1,6	RB-1	P-1	P-1/GW	P-1	P-1/GW	WD/ACT-1			
248	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
249	VACANT OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
250	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
251	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
252	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
253	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
254	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
255	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
256	VACANT NRSC	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
257	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
258	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
259	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
260	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
261	OPEN SEATING	CPTT-6	RB-1	P-1	-	P-1	P-1	OPEN/WD	WS-1		
262	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
263	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
264	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
265	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
266	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
267	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
268	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
269	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
270	DATA	CONC	RB-2	P-1	P-1	P-1	P-1				
271	CORRIDOR	LVT-1	RB-2	P-7	P-7	P-7	P-7	CLT			
272	TOILET	EP-2	EP-2	P-3	P-3/CWT-1,2	P-3/CWT-1,2	P-3	GYP P-4		WF-1	PROVIDE WINDOW FILM ON EXTERIOR WINDOW
273	STOREHOUSE/ UNIFORMS	CONC	RB-2	P-7	P-7	P-7	P-7	CLT	WS-1		
274	DRESSING	LVT-1	RB-2	P-7	P-7	P-7	P-7	ACT-1			
275	I&E SECURE STORAGE	CONC	RB-2	P-1	P-1	P-1	P-1	CLT			
276	TOILET	EP-2	EP-2	P-3	P-3/CWT-1,2	P-3/CWT-1,2	P-3	GYP P-4		WF-1	PROVIDE WINDOW FILM ON EXTERIOR WINDOW
277	I&E/LICENSING HEATED STORAGE	CONC	RB-2	P-1	P-1	P-1	P-1	CLT	WS-1		
278	TOILET	EP-2	EP-2	P-3	P-3	P-3/CWT-1,2	P-3/CWT-1,2	GYP P-4			
279	RECEIVING	CONC	RB-2	P-7/WP	P-7	P-7	P-7	CLT	WS-1		
280	TOILET	EP-2	EP-2	P-3	P-3	P-3/CWT-1,2	P-3/CWT-1,2	GYP P-4			
281	SECURE FIREARM STORAGE	CONC	RB-2	P-7	P-7	P-7	P-7	CLT			
300	CORRIDOR	CPTT-1,7	RB-1	P-1	P-1/GW	P-1	P-1/GW	ACT-1/CLT			
301	TOILET	EP-2	EP-2	P-3/CWT-1,2	P-3/CWT-1,2	P-3	P-3	GYP P-4			
302	CUST	CONC	RB-2	WP	WP	WP	WP	CLT			
303	ELEC	CONC	RB-2	P-1	P-1	P-1	P-1	CLT			
304	TOILET	EP-2	EP-2	P-3	P-3/CWT-1,2	P-3/CWT-1,2	P-3	GYP/P-4			
305	CANTEEN	LVT-1	RB-2	P-1	P-1	P-1	P-1	ACT-1	WS-1	WF-1	
306	PLAN ROOM/PLOTTER	CPTT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1	WS-1	WF-1	
307	COPY	CPTT-1	RB-1	P-1	P-1	P-1	P-1	ACT-1	WS-1	WF-1	
308	VACANT OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
309	TELECON	CPTT-7	RB-1	P-6	GW	P-1	P-1	WD	WS-1	WF-4	
310	SEASONAL OFFICES	CPTT-1	RB-1	P-1	-	P-1	-	ACT-1	WS-1		
311	OPEN OFFICE	CPTT-1	RB-1	P-1	-	P-1	P-1	ACT-1	WS-1		
312	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
313	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
314	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
315	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
316	VACANT OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
317	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
318	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
319	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
320	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
321	OPEN	CPTT-7	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
322	VACANT OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
323	FUTURE OFFICE	CPTT-7	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
324	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
325	VACANT OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
326	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
327	OFFICE	CPTT-1	RB-1	P-1	GW	P-1	P-1	ACT-1	WS-1	WF-1	
328	OFFICE	CPTT-1	RB-1	P-1	P-1	P-1	GW	ACT-1	WS-1	WF-1	
330	DATA	CONC	RB-2	P-1	P-1	P-1	P-1	-			
401	ATTIC	-	-	-	-	-	-	-			
E1	ELEV	CPTT-1	-	-	-	-	-	-			
E1A	MACH ROOM	-	-	-	-	-	-	-			
E2	ELEV	LVT-1	-	-	-	-	-	-			
E2A	MACH ROOM	-	-	-	-	-	-	-			
M1	MECH	-	-	-	-	-	-	-			
M2	MECH ATTIC	-	-	-	-	-	-	-			
S1	STAIR	WM-1/RUB	RB-2	P-7	P-7	P-7	P-7	CLT			
S2	STAIR	WM-1/RUB	RB-2	P-7	P-7	P-7	P-7	CLT			
S3	STAIR	WM-1/RUB	RB-2	P-7	P-7	P-7	P-7	CLT			

GENERAL NOTES:

1. SEE SHEETS AE701-AE704 FOR CEILING HEIGHTS.

2. EPW LOCATIONS REQUIRE LEVEL 4/5 FINISH FOR GLASS-MAT, WATER-RESISTANT BACKING BOARD.

NOTES:

1. EAST AND WEST WALLS AWP-1. SEE AE402.

2. PROVIDE LEVEL 5 FINISH FOR WALL LOCATIONS RECEIVING WALL COVERING.

3. PROVIDE LEVEL 4/5 FINISH FOR WALL LOCATIONS RECEIVING EPOXY PAINT.

4. ACT-1 UNDERSIDE OF BRIDGE.

302/27/2025

02/13/2025

DATE

ADDENDUM NO.3

ADDENDUM NO.1

DESCRIPTION

HMG

HMG

BY

1

NO.

REVISIONS

DRAWN BY: Author

CHECK BY: Designer

DATE: 01/29/2025

DATE: 01/29/2025

231 Main Street, Biddeford, Maine 04005

DEPARTMENT OF INLAND FISHERIES & WILDLIFE

LOCATION: AUGUSTA, ME

TITLE: NEW OFFICE HEADQUARTERS

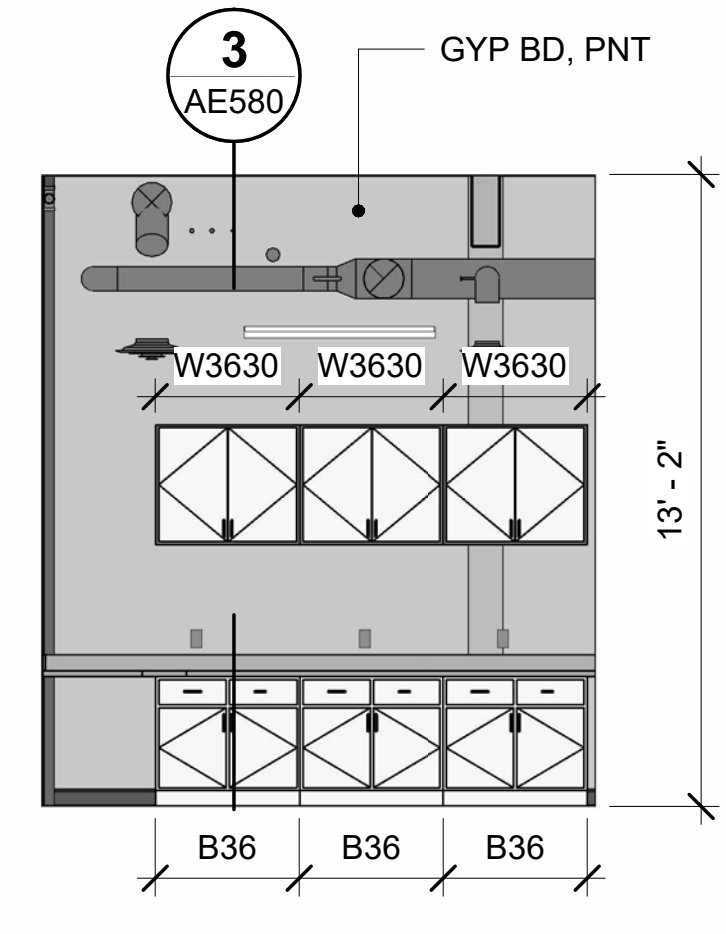
TITLE & THIS DWG: ROOM FINISH SCHEDULE

OAK POINT ASSOCIATES

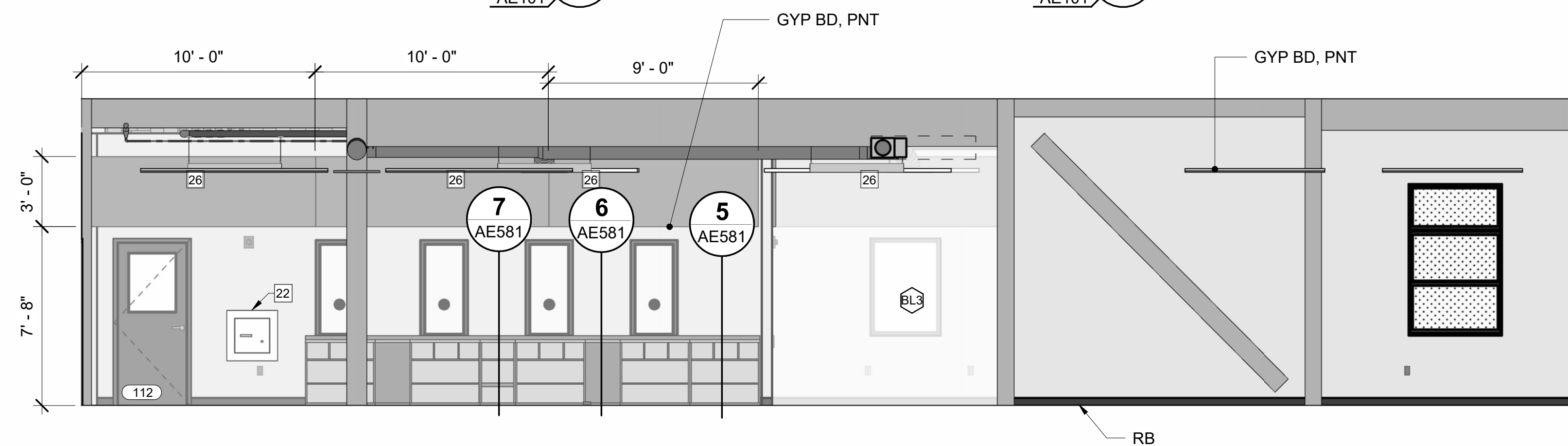
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COUNTING NO. AE640

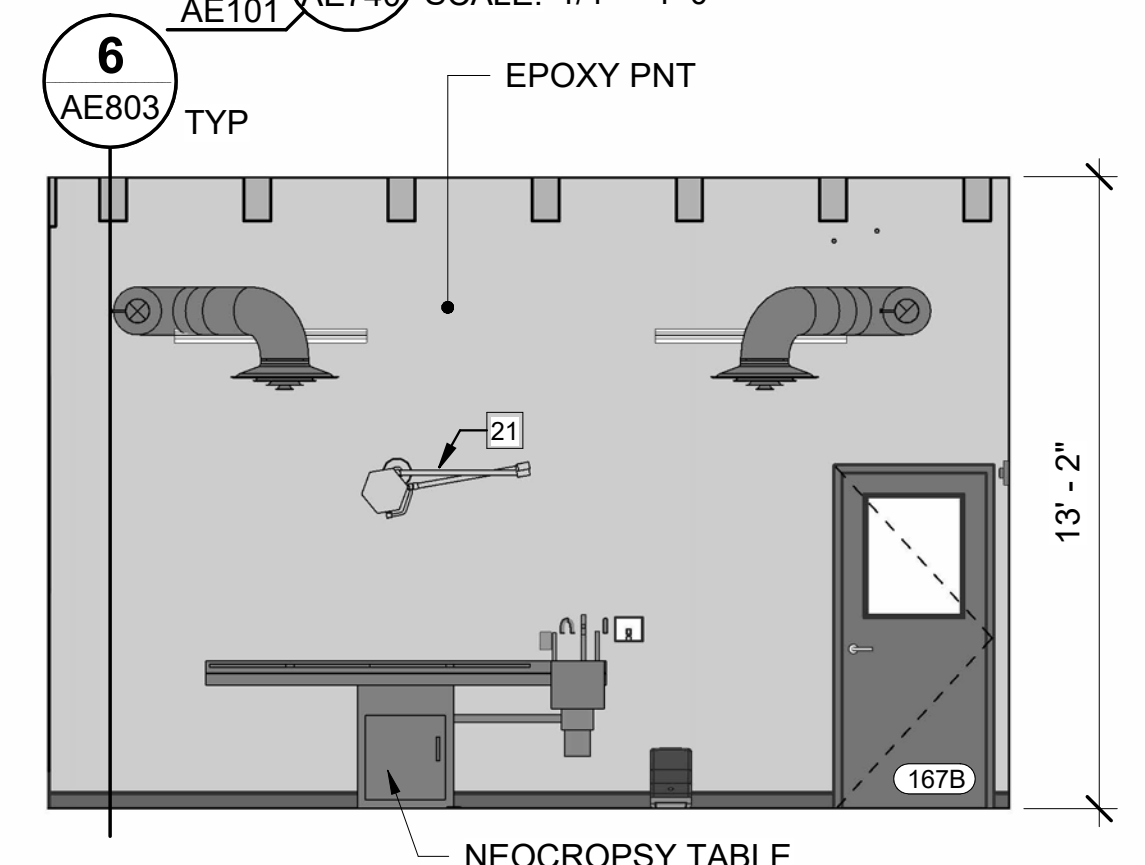
SHEET NO. 152 of 233



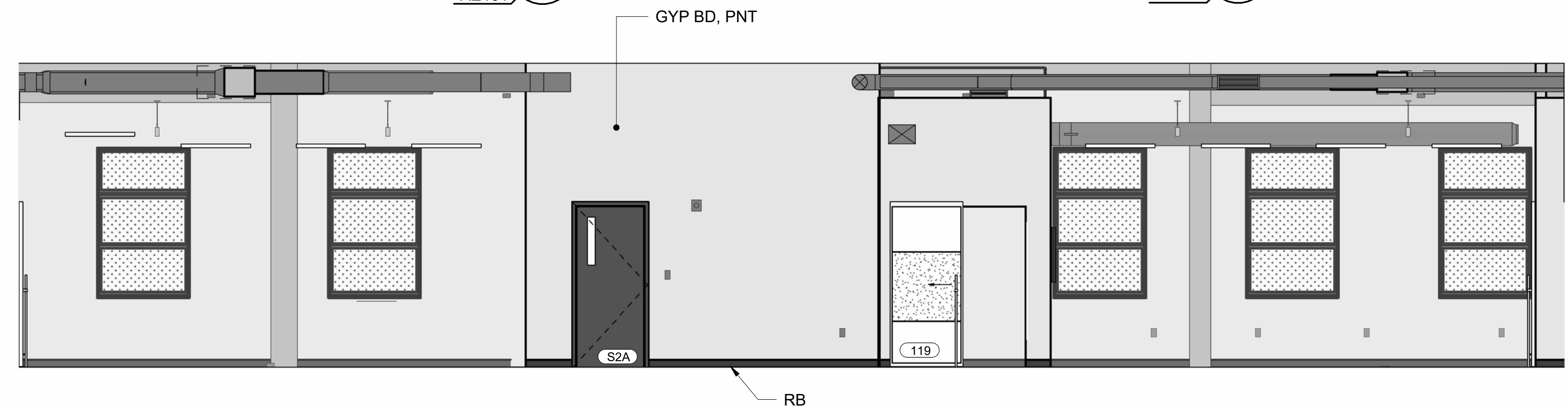
**BACTERIOLOGY 168 SOUTH**  
**ELEVATION**  
AE101 AE740 SCALE: 1/4" = 1'-0"



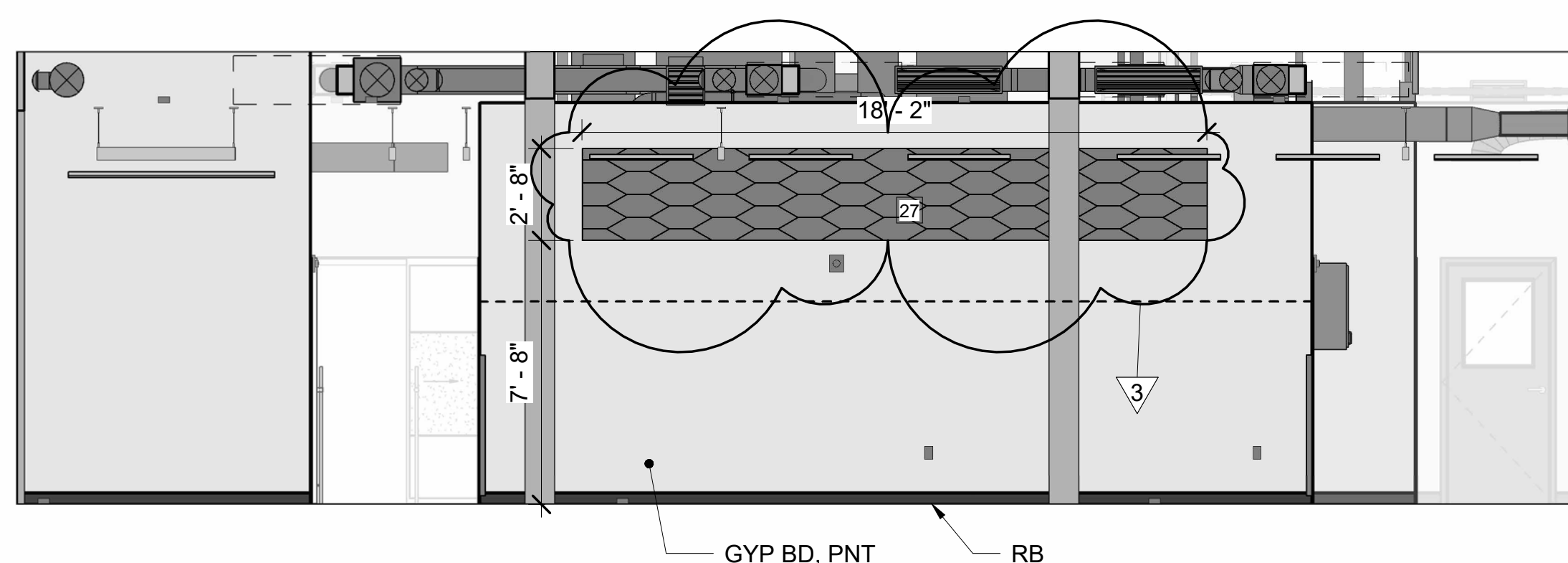
AE101 AE740 **OPEN SEATING 118 SOUTH ELEVATION**  
SCALE: 1/4" = 1'-0"



14 **NECROPSY 161 EAST ELEVATION**  
AE101 AE740 SCALE: 1/4" = 1'-0"

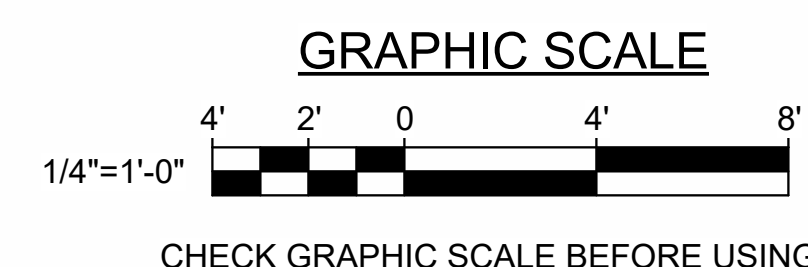


17 OPEN OFFICE 127 WEST ELEVATION  
AE101 AE740 SCALE: 1/4" = 1'-0"

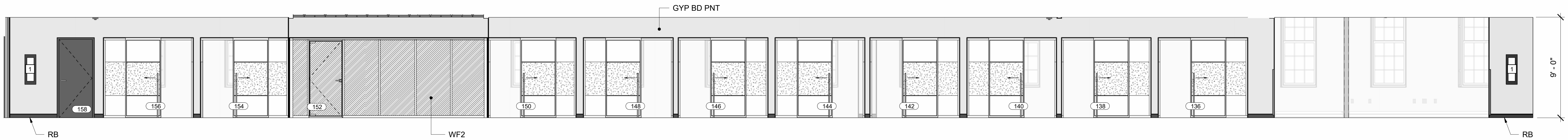


**19 OPEN OFFICE 127 NORTH ELEVATION**  
AE101 AE740 SCALE: 1/4" = 1'-0"

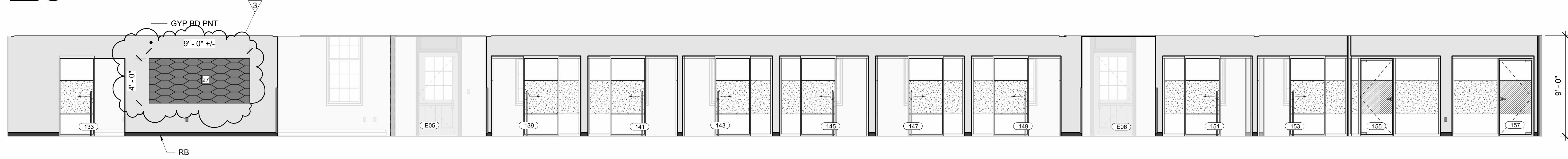
1. SEE SHEETS AE101, AE102, OR AE103 FOR KEYNOTES.
2. SEE SHEETS AE601-AE602 FOR DOOR SCHEDULE AND TYPES.
3. SEE SHEET AE620 FOR WINDOW, STOREFRONT, CURTAINWALL, AND BORROWED LITE TYPES.
4. SEE SHEET AE630 FOR DEMOUNTABLE PARTITION DETAILS.
5. SEE SHEETS AE640-AE641 FOR ROOM FINISH SCHEDULE.

[illegible]

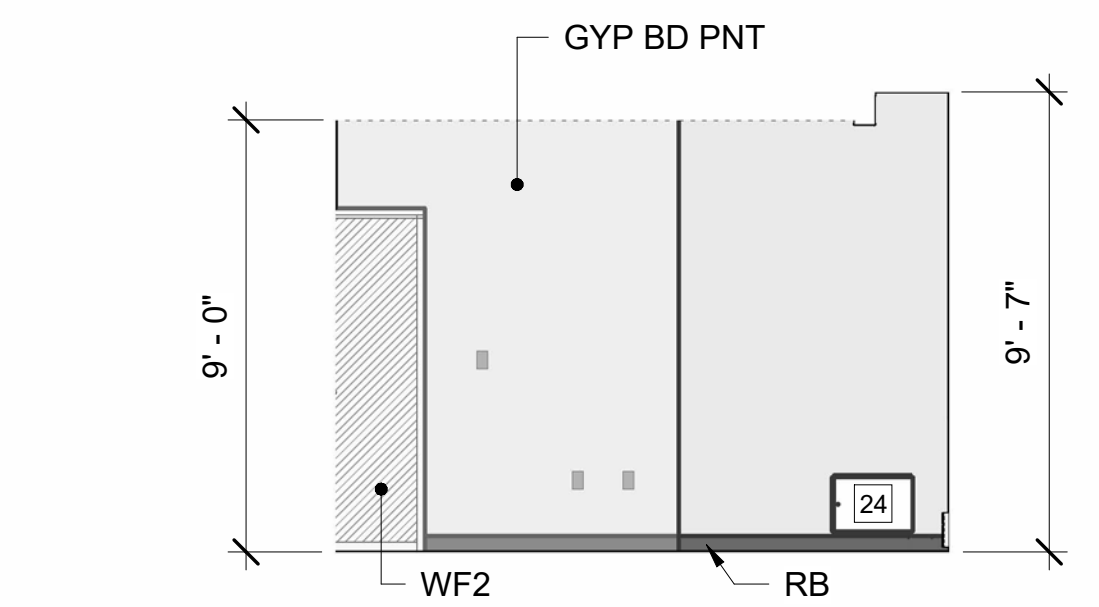




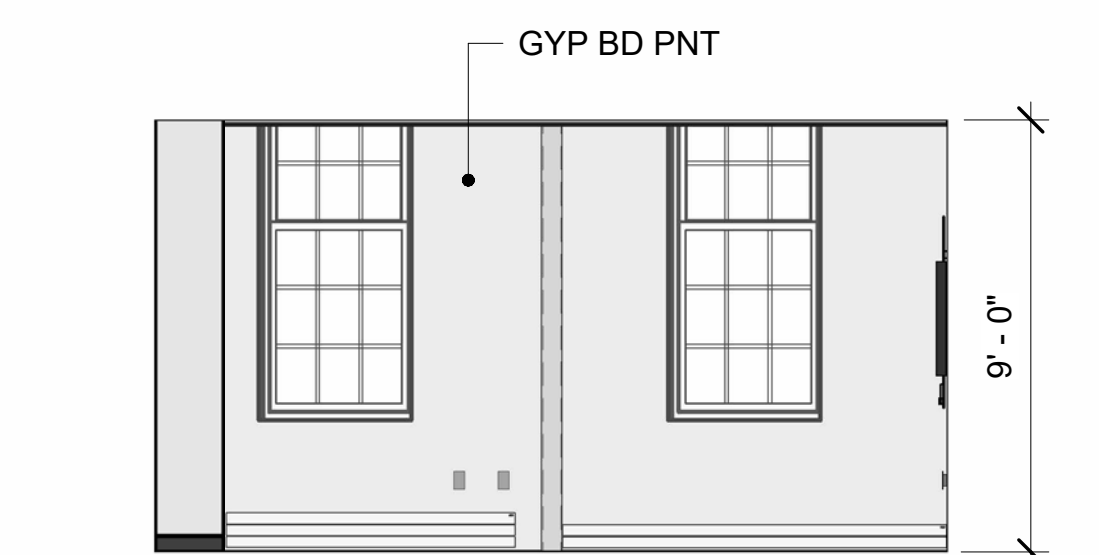
**1 CORRIDOR 137 EAST ELEVATION**  
AE101/AE741 SCALE: 1/4" = 1'-0"



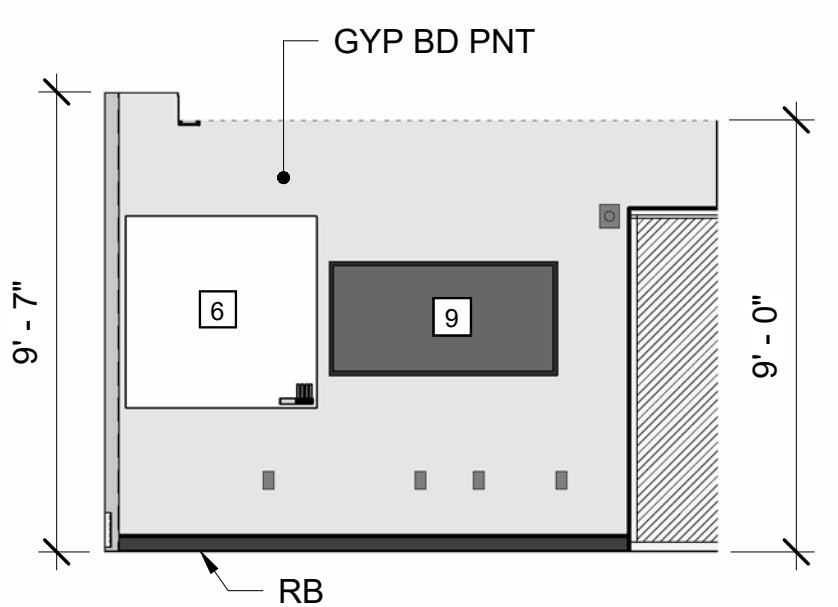
**2 CORRIDOR 137 WEST ELEVATION**  
AE101/AE741 SCALE: 1/4" = 1'-0"



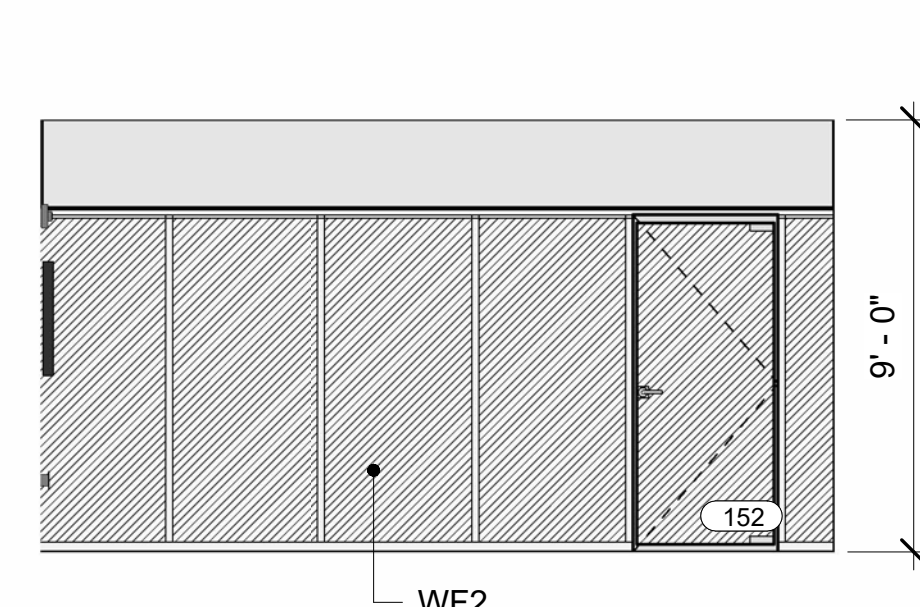
**3 CONFERENCE ROOM 152 NORTH ELEVATION**  
AE101/AE741 SCALE: 1/4" = 1'-0"



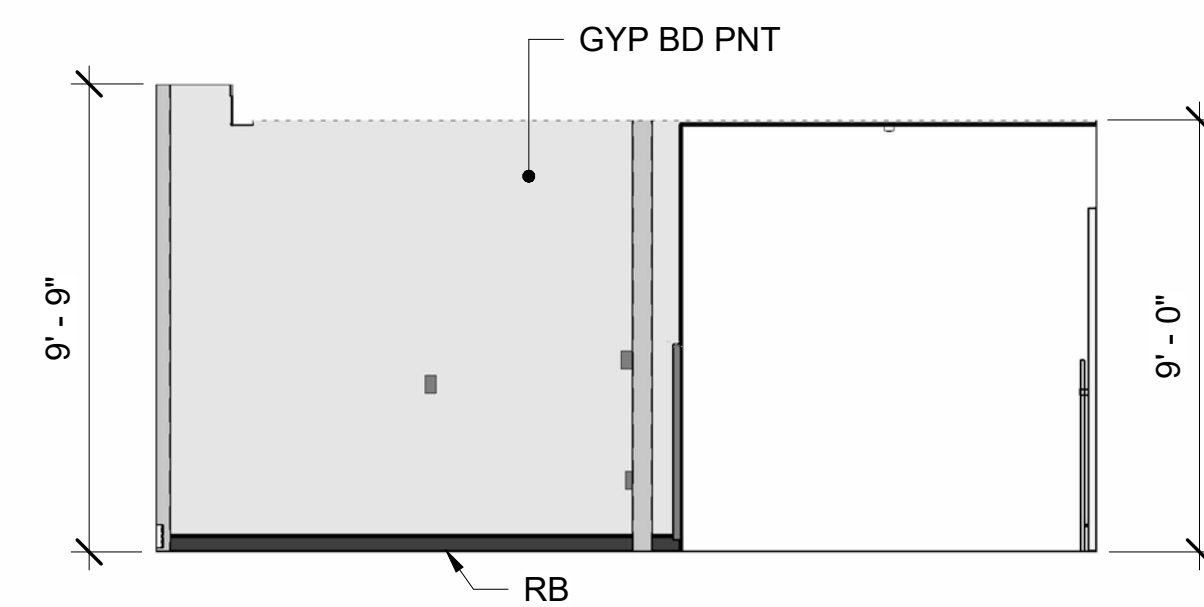
**4 CONFERENCE ROOM 152 EAST ELEVATION**  
AE101/AE741 SCALE: 1/4" = 1'-0"



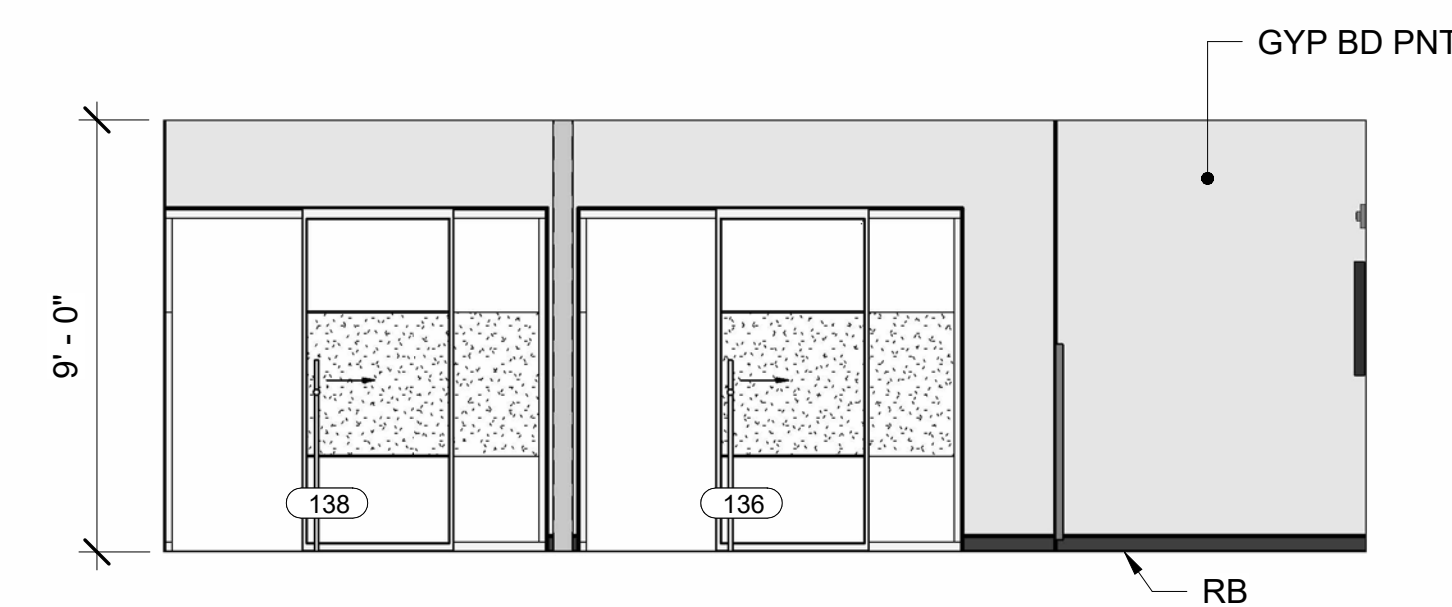
**5 CONFERENCE ROOM 152 SOUTH ELEVATION**  
AE101/AE741 SCALE: 1/4" = 1'-0"



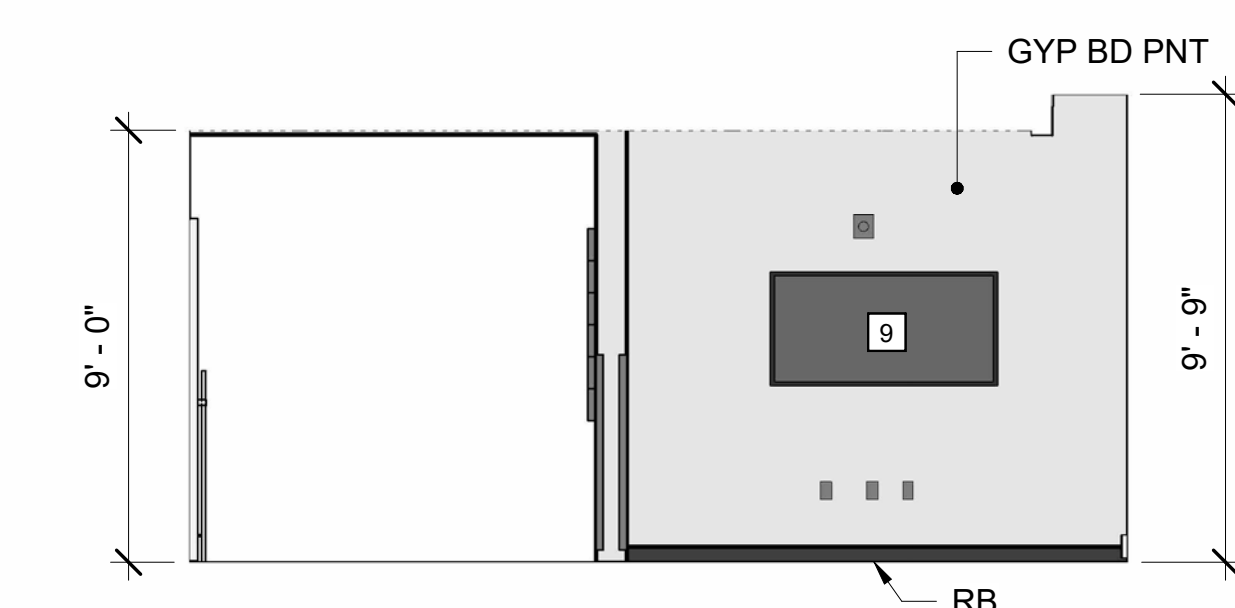
**6 CONFERENCE ROOM 152 WEST ELEVATION**  
AE101/AE741 SCALE: 1/4" = 1'-0"



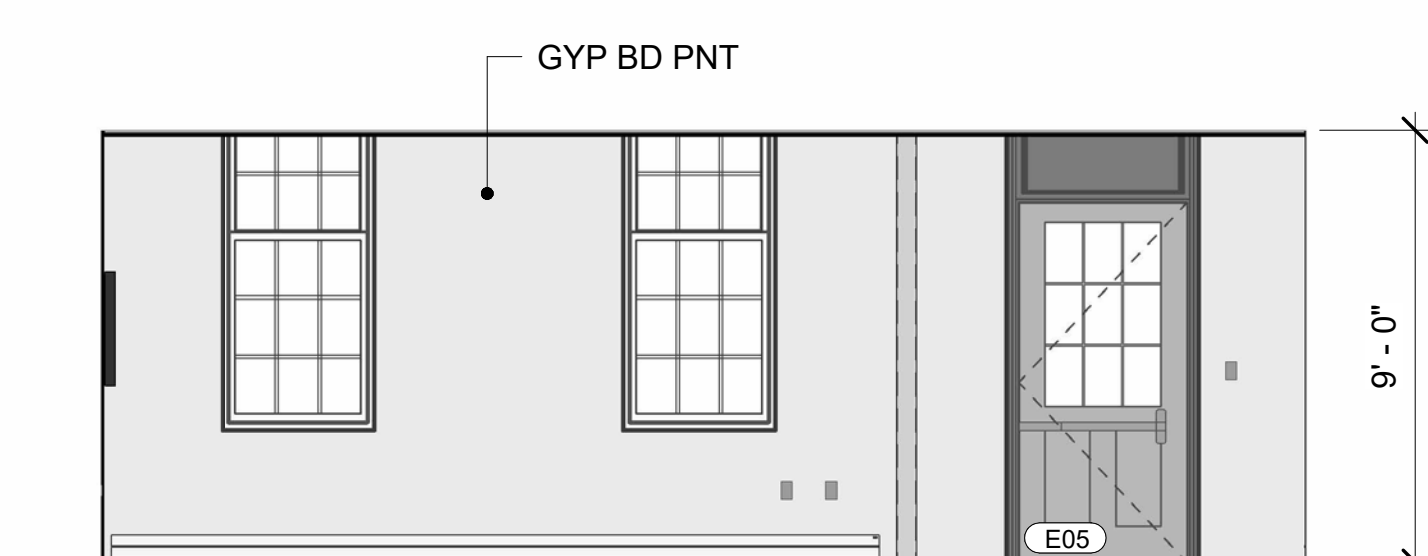
**7 BREAK OUT ROOM 135 NORTH ELEVATION**  
AE101/AE741 SCALE: 1/4" = 1'-0"



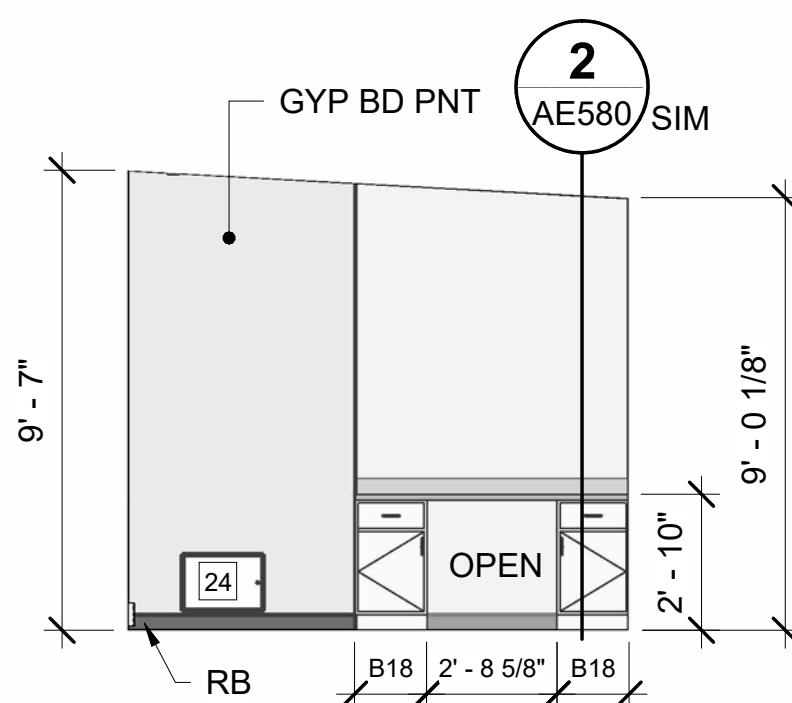
**8 BREAK OUT ROOM 135 EAST ELEVATION**  
AE101/AE741 SCALE: 1/4" = 1'-0"



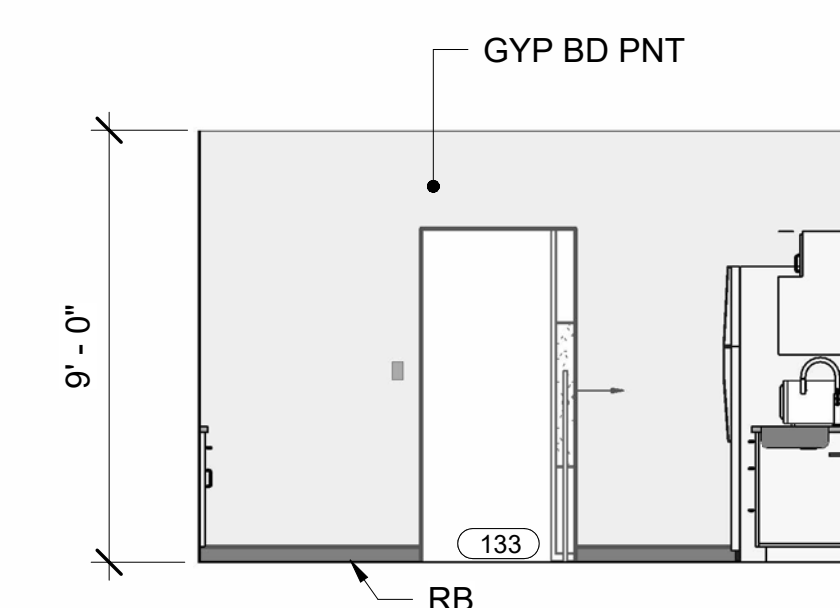
**9 BREAK OUT ROOM 135 SOUTH ELEVATION**  
AE101/AE741 SCALE: 1/4" = 1'-0"



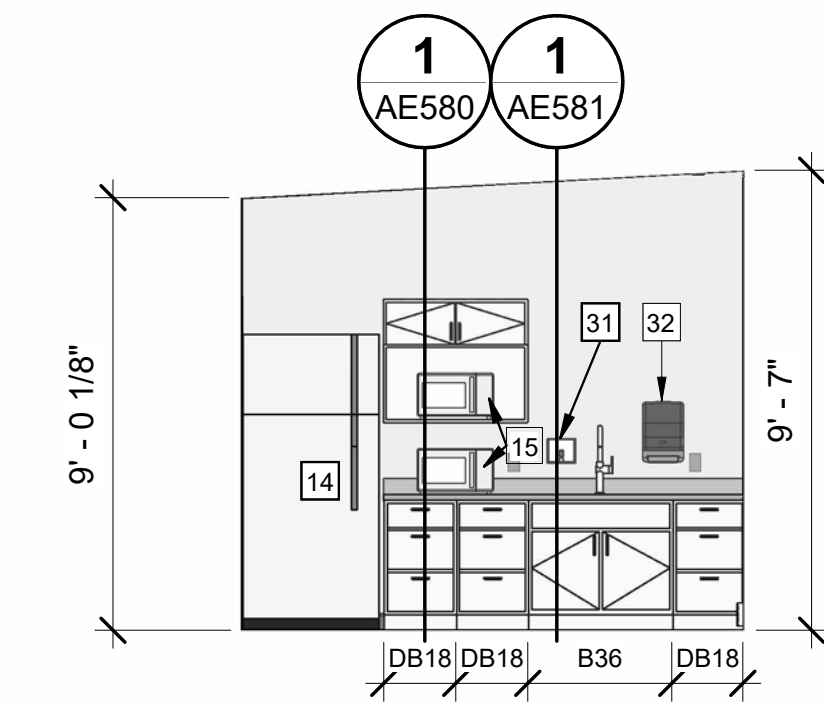
**10 BREAK OUT ROOM 135 WEST ELEVATION**  
AE101/AE741 SCALE: 1/4" = 1'-0"



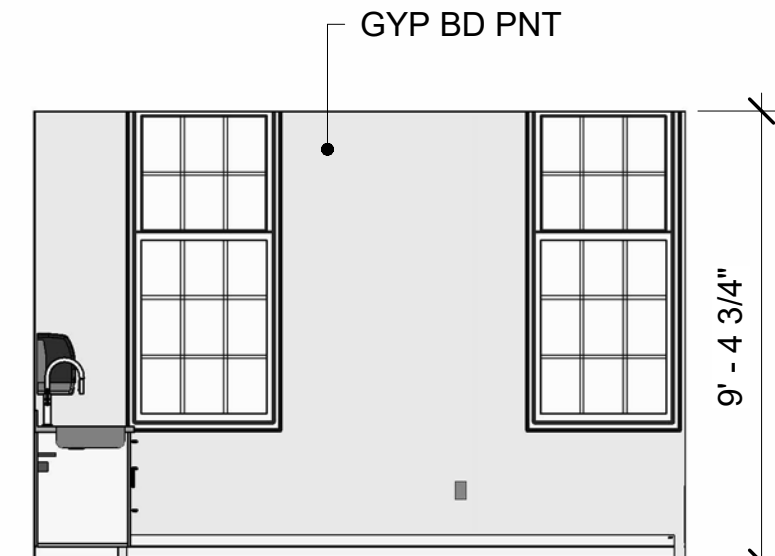
**11 BREAK ROOM 133 NORTH ELEVATION**  
AE101/AE741 SCALE: 1/4" = 1'-0"



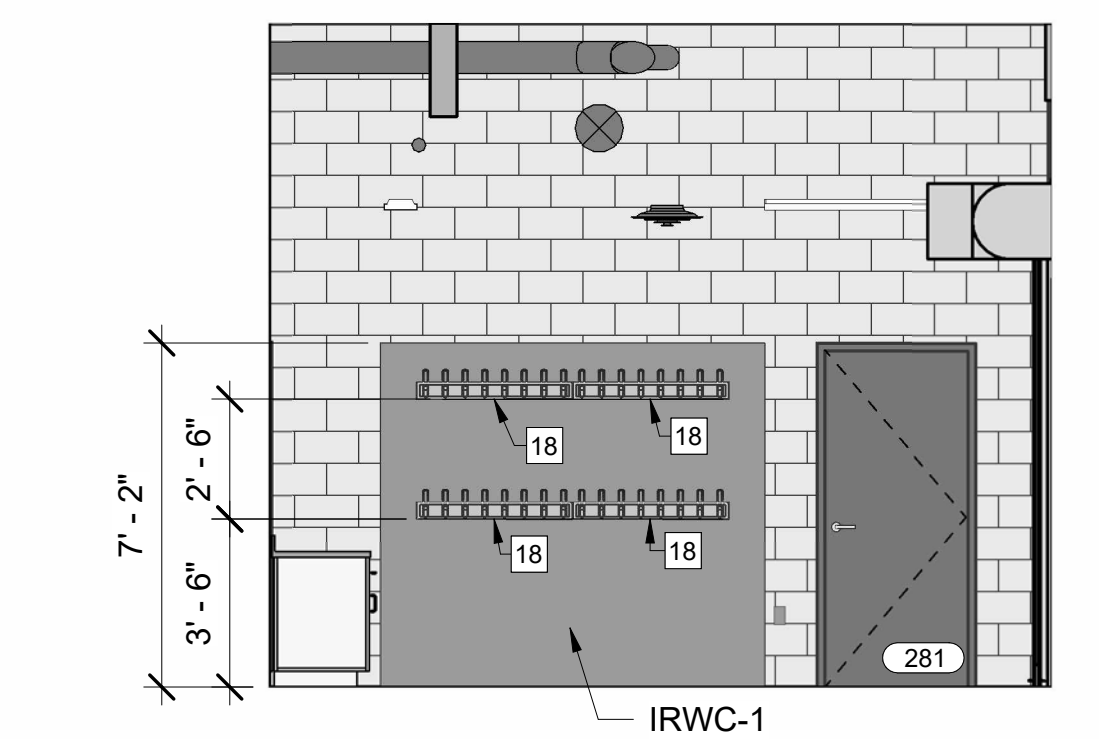
**12 BREAK ROOM 133 EAST ELEVATION**  
AE101/AE741 SCALE: 1/4" = 1'-0"



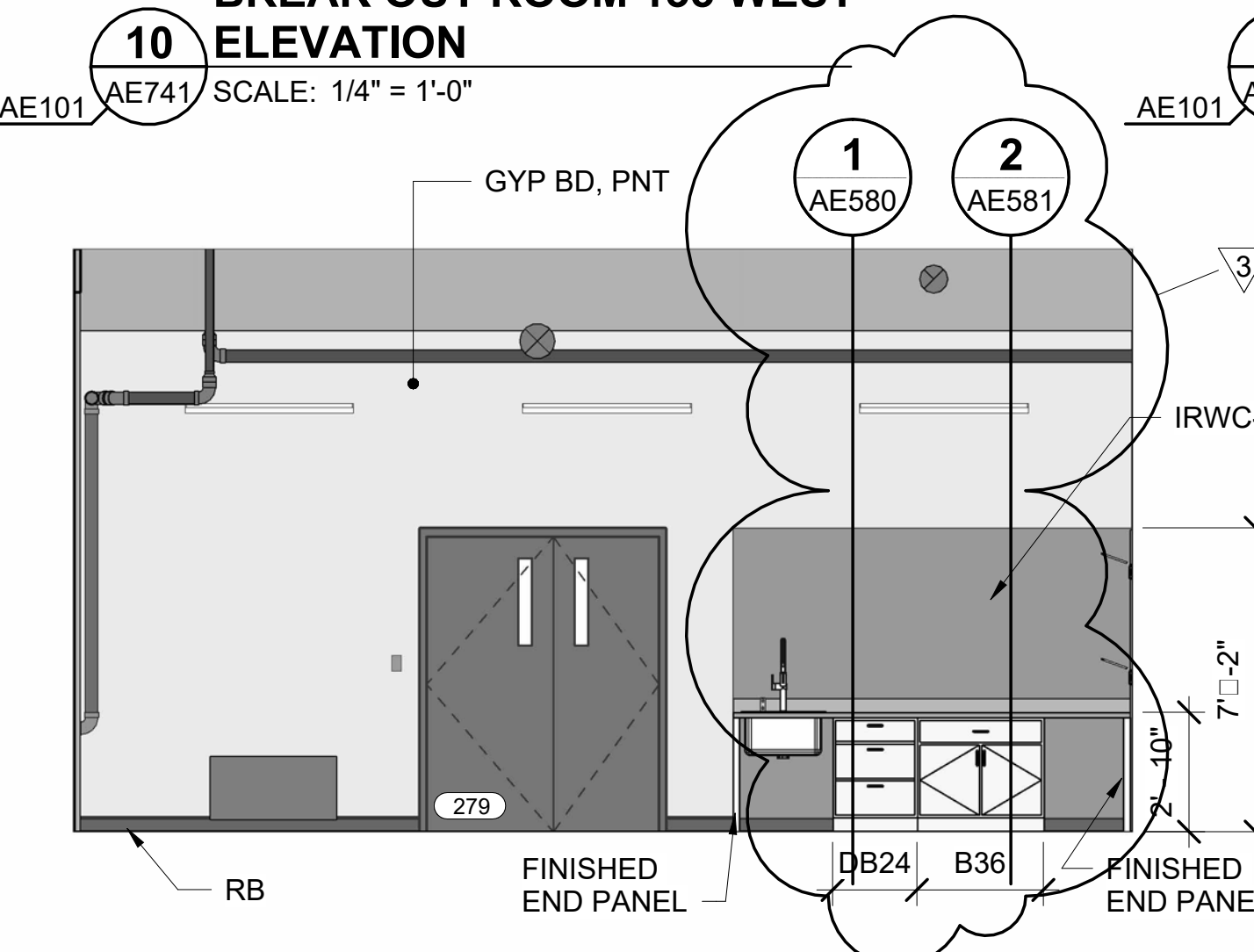
**13 BREAK ROOM 133 SOUTH ELEVATION**  
AE101/AE741 SCALE: 1/4" = 1'-0"



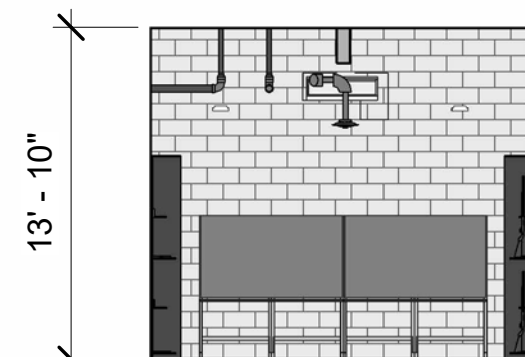
**14 BREAK ROOM 133 WEST ELEVATION**  
AE101/AE741 SCALE: 1/4" = 1'-0"



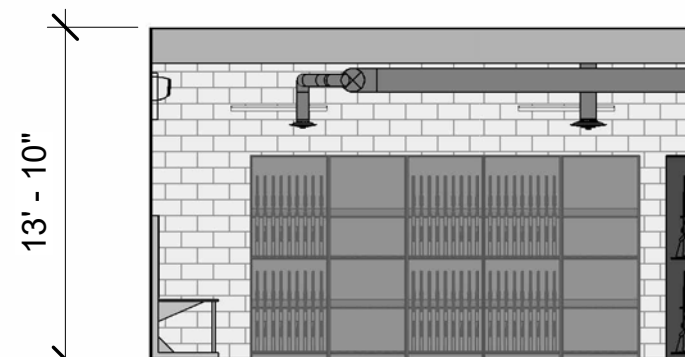
**15 RECEIVING 279 NORTH ELEVATION**  
AE102/AE741 SCALE: 1/4" = 1'-0"



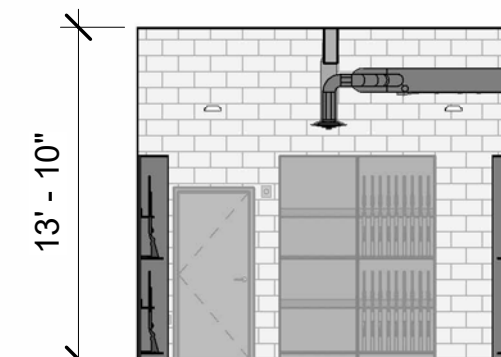
**16 RECEIVING 279 WEST ELEVATION**  
AE102/AE741 SCALE: 1/4" = 1'-0"



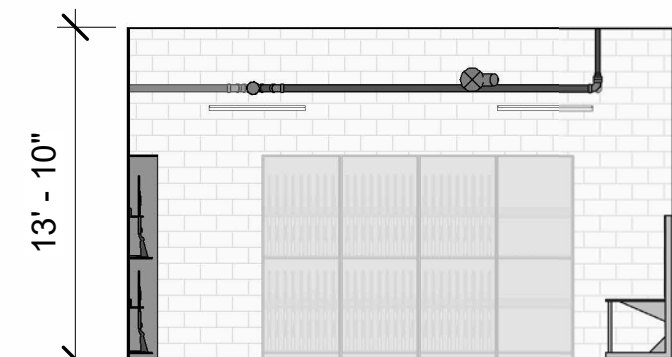
**17 SECURE FIREARM STORAGE 281 NORTH ELEVATION**  
AE102/AE741 SCALE: 1/8" = 1'-0"



**18 SECURE FIREARM STORAGE 281 EAST ELEVATION**  
AE102/AE741 SCALE: 1/8" = 1'-0"



**19 SECURE FIREARM STORAGE 281 SOUTH ELEVATION**  
AE102/AE741 SCALE: 1/8" = 1'-0"

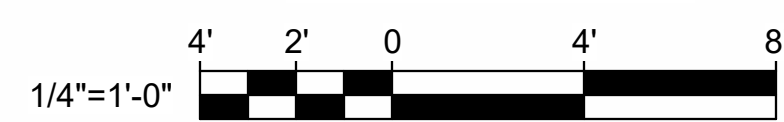


**20 SECURE FIREARM STORAGE 281 WEST ELEVATION**  
AE102/AE741 SCALE: 1/8" = 1'-0"

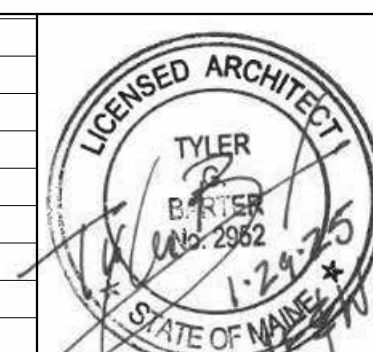
## GENERAL NOTES

1. SEE SHEETS AE101, AE102, OR AE103 FOR KEYNOTES.
2. SEE SHEETS AE601-AE602 FOR DOOR SCHEDULE AND TYPES.
3. SEE SHEET AE620 FOR WINDOW, STOREFRONT, CURTAINWALL, AND BORROWED LITE TYPES.
4. SEE SHEET AE630 FOR DEMOUNTABLE PARTITION DETAILS.
5. SEE SHEETS AE640-AE641 FOR ROOM FINISH SCHEDULE.

## GRAPHIC SCALE



CHECK GRAPHIC SCALE BEFORE USING



DEPARTMENT OF INLAND FISHERIES & WILDLIFE  
TITLE NEW OFFICE HEADQUARTERS  
LOCATION AUGUSTA, ME

TITLE THIS DWG INTERIOR ELEVATIONS 2

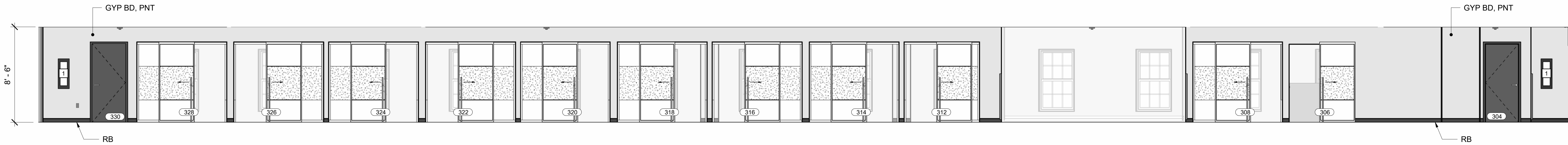
OAK POINT ASSOCIATES  
DRAWING NO. AE741  
SHEET NO. 162 OF 239

NO.	DATE	DESCRIPTION	BY	DATE
3	02/27/2025	ADDENDUM NO.3	HMG	
1	02/13/2025	ADDENDUM NO.1	HMG	

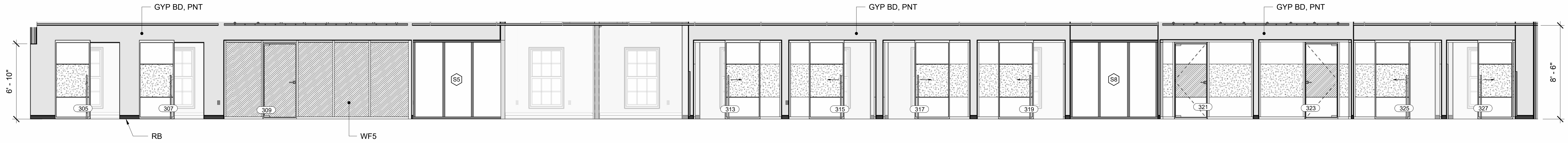
DRAWN BY: Author  
CHECK BY: Designer

DATE 01/29/2025

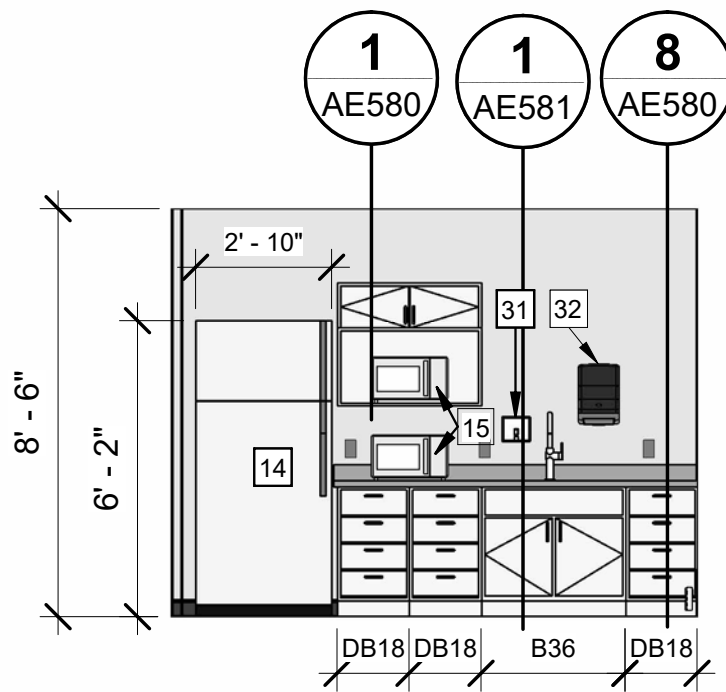




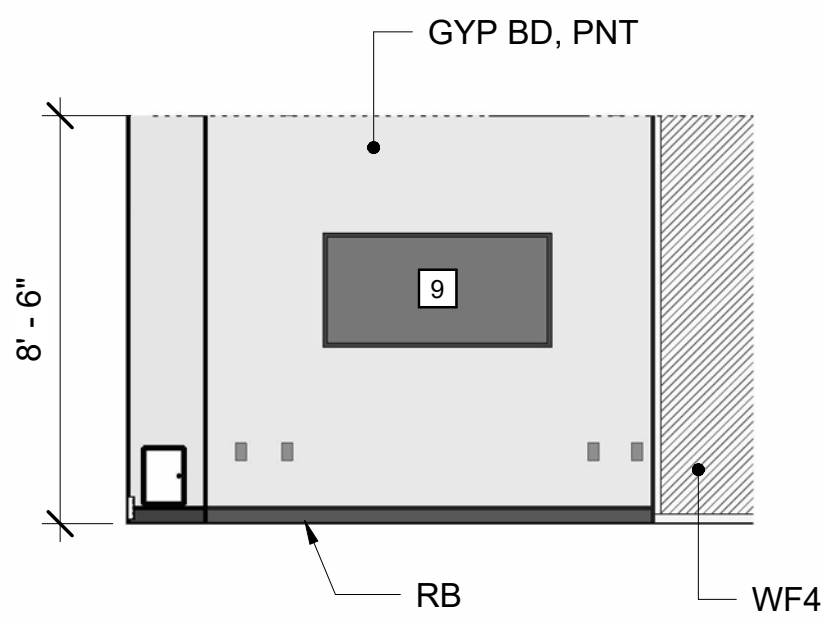
**1 CORRIDOR 300 EAST ELEVATION**  
AE103/AE743 SCALE: 1/4" = 1'-0"



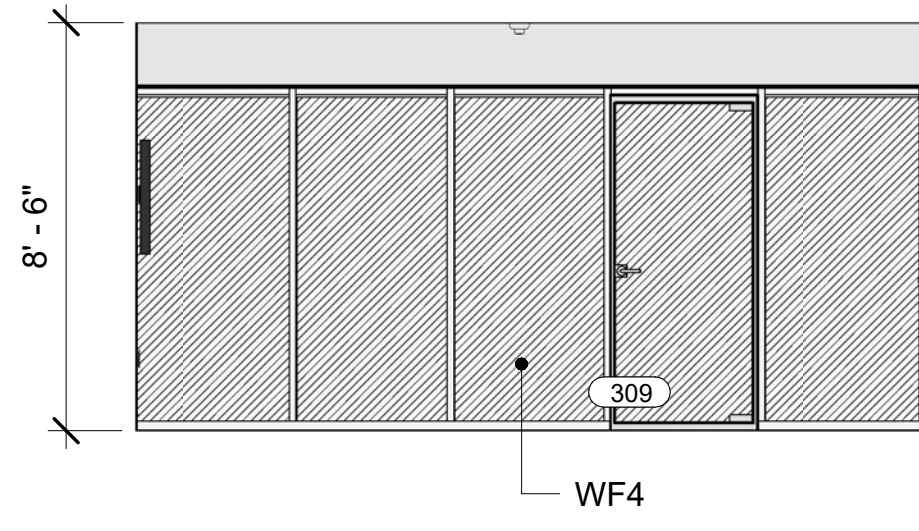
**2 CORRIDOR 300 WEST ELEVATION**  
AE103/AE743 SCALE: 1/4" = 1'-0"



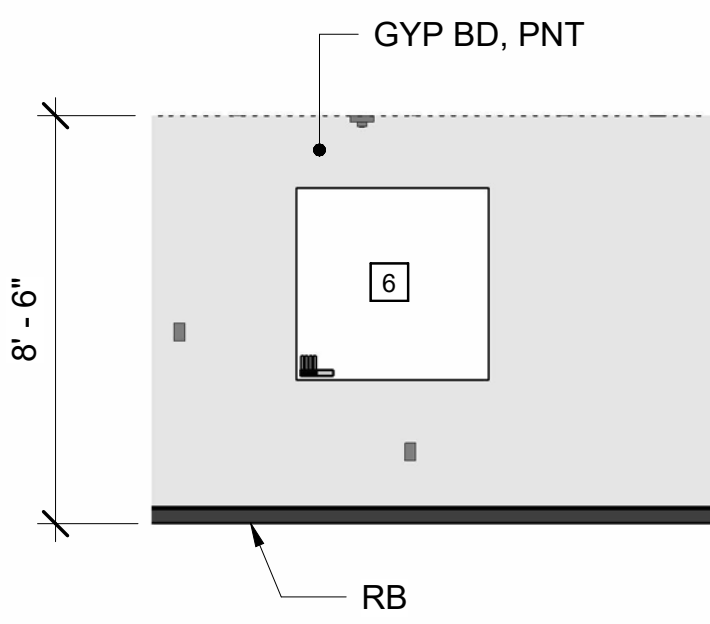
**3 CANTEEN 305 SOUTH ELEVATION**  
AE103/AE743 SCALE: 1/4" = 1'-0"



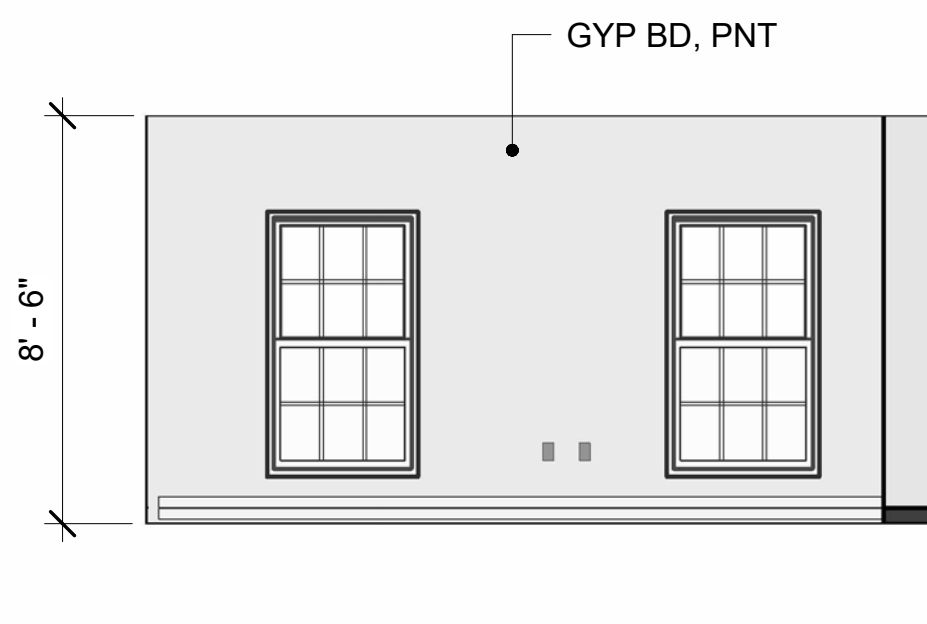
**4 TELECON 309 NORTH ELEVATION**  
AE103/AE743 SCALE: 1/4" = 1'-0"



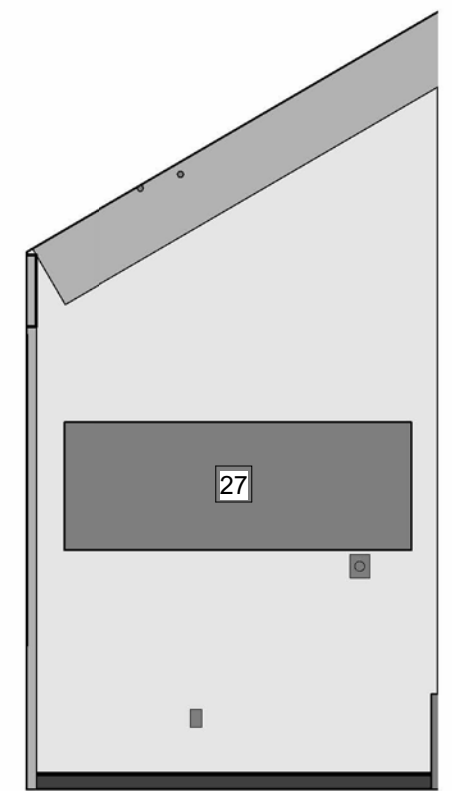
**5 TELECON 309 EAST ELEVATION**  
AE103/AE743 SCALE: 1/4" = 1'-0"



**6 TELECON 309 SOUTH ELEVATION**  
AE103/AE743 SCALE: 1/4" = 1'-0"



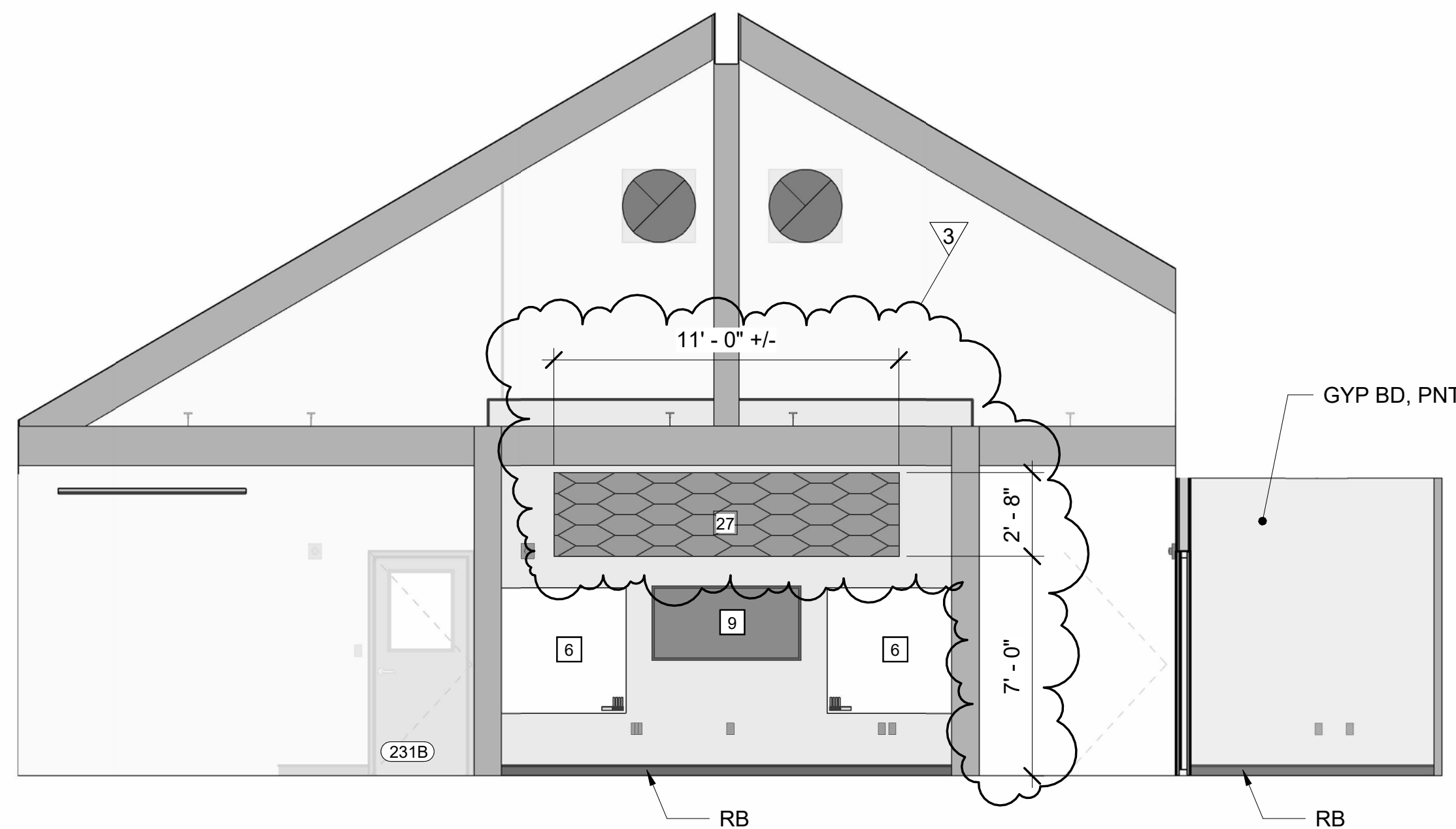
**7 TELECON 309 WEST ELEVATION**  
AE103/AE743 SCALE: 1/4" = 1'-0"



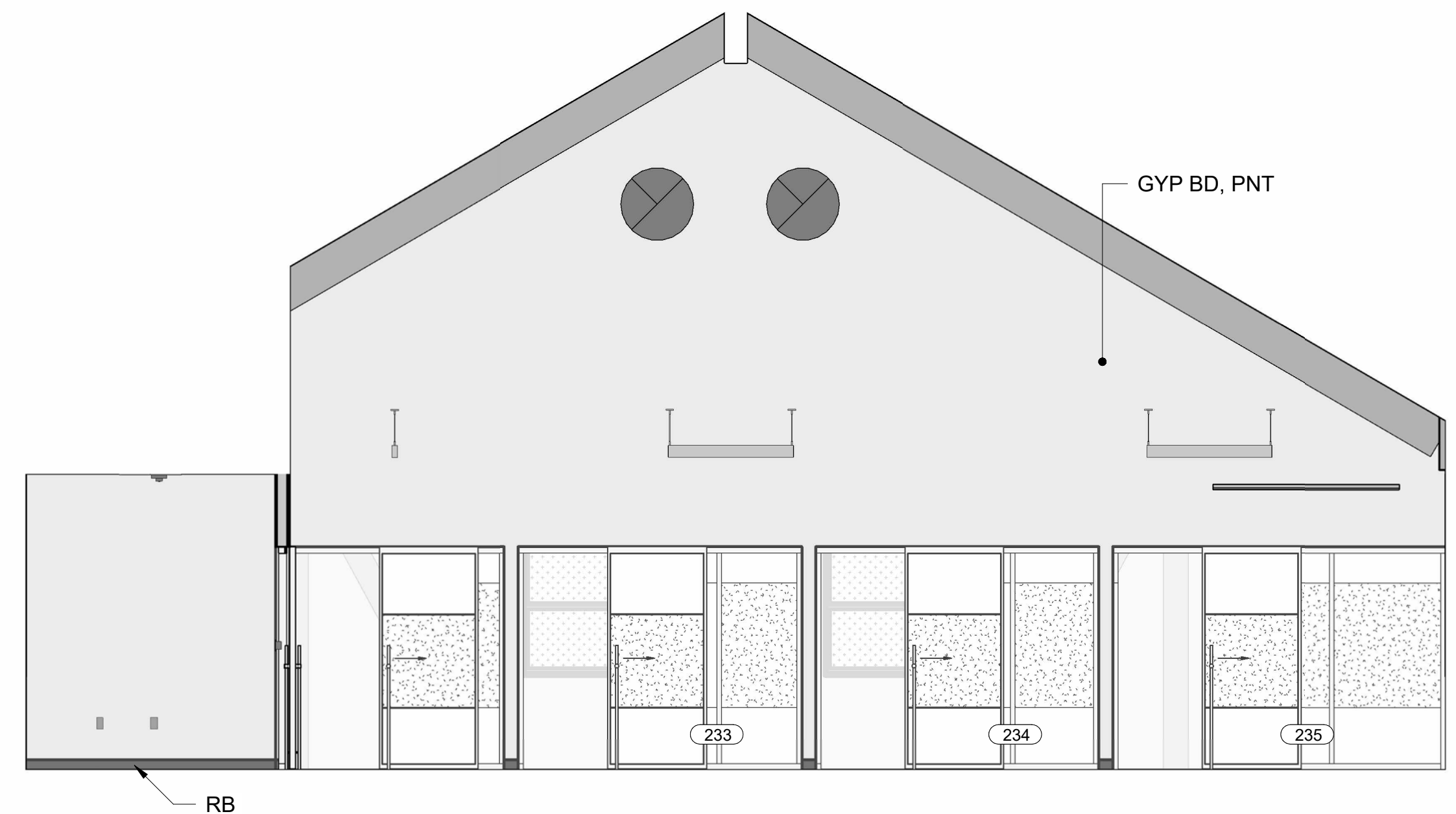
**11 WAITING ROOM 221**  
AE102/AE743 SCALE: 1/4" = 1'-0"



**8 CORRIDOR 215 WEST ELEVATION**  
AE102/AE743 SCALE: 1/4" = 1'-0"



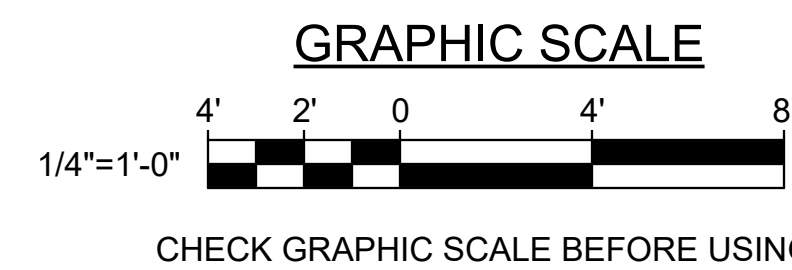
**9 OPEN CONF 231 NORTH ELEVATION**  
AE102/AE743 SCALE: 1/4" = 1'-0"



**10 OPEN CONF 231 SOUTH ELEVATIONS**  
AE102/AE743 SCALE: 1/4" = 1'-0"

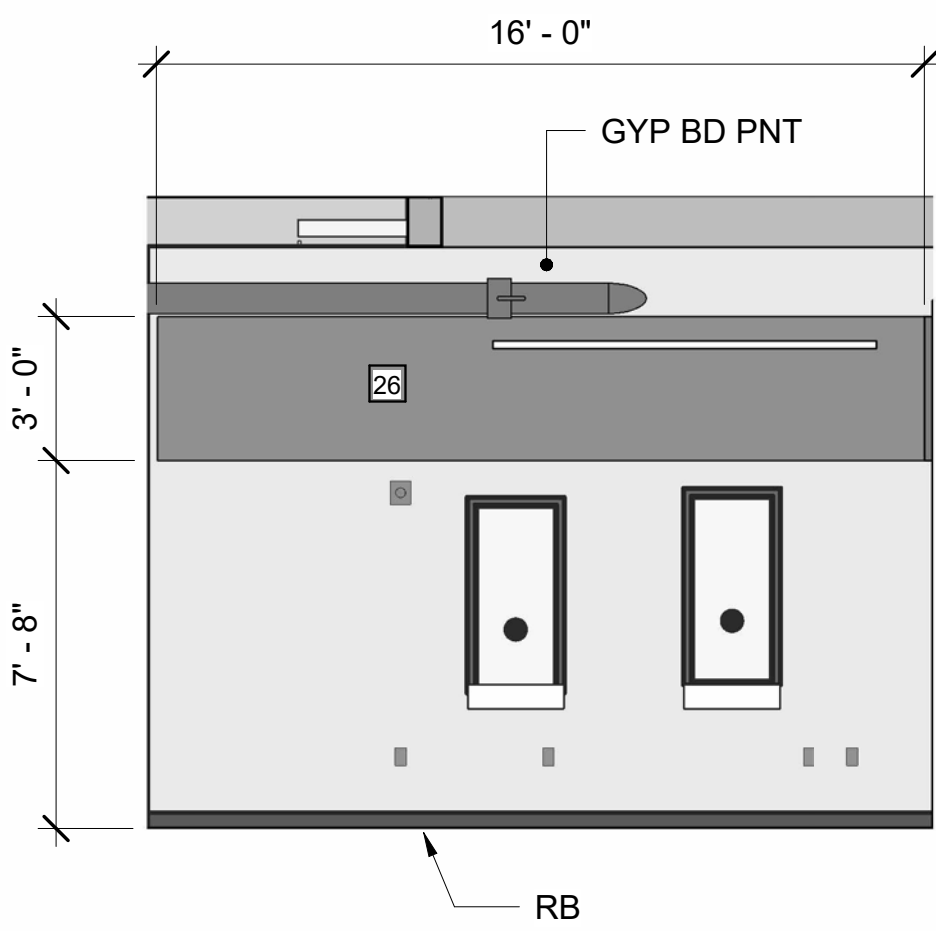
#### GENERAL NOTES

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3. SEE SHEET AE620 FOR WINDOW, STOREFRONT, CURTAINWALL, AND BORROWED LITE TYPES.
4. SEE SHEET AE630 FOR DEMOUNTABLE PARTITION DETAILS.
5. SEE SHEETS AE640-AE641 FOR ROOM FINISH SCHEDULE.

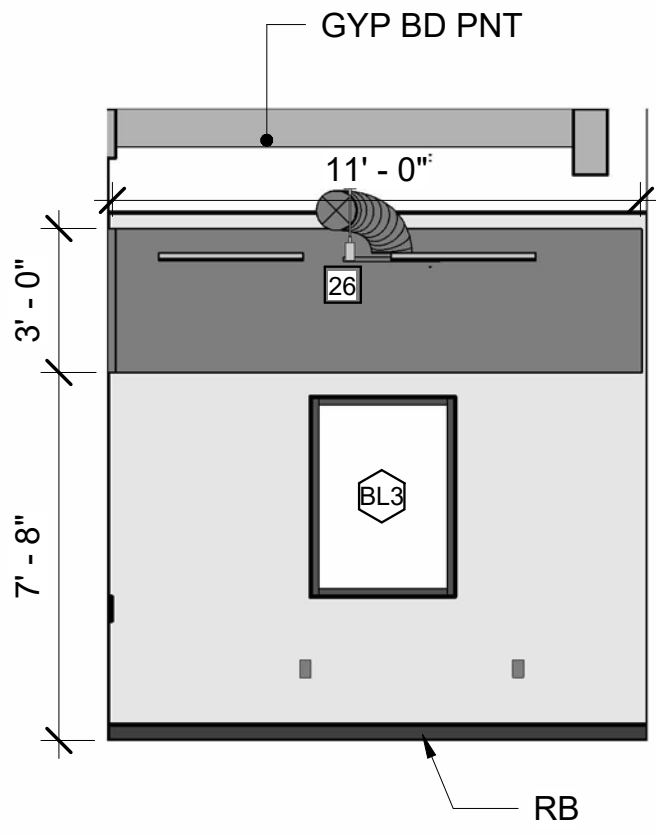


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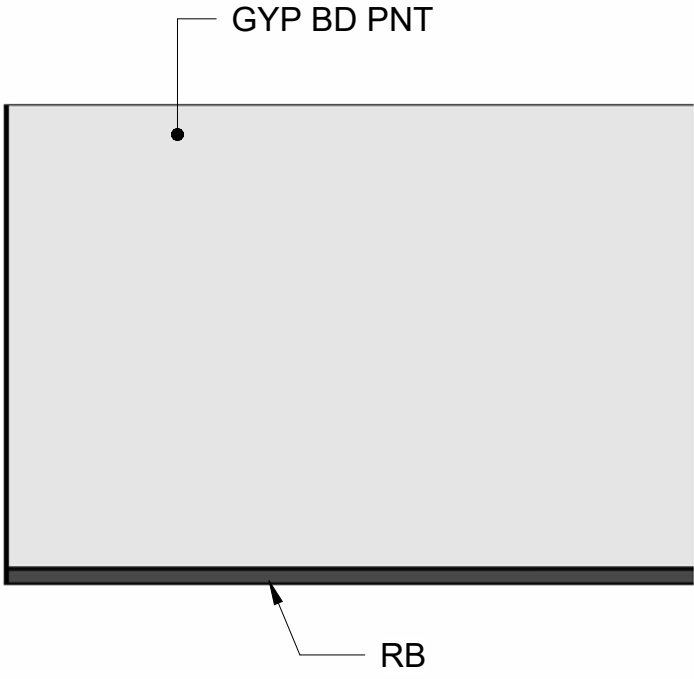




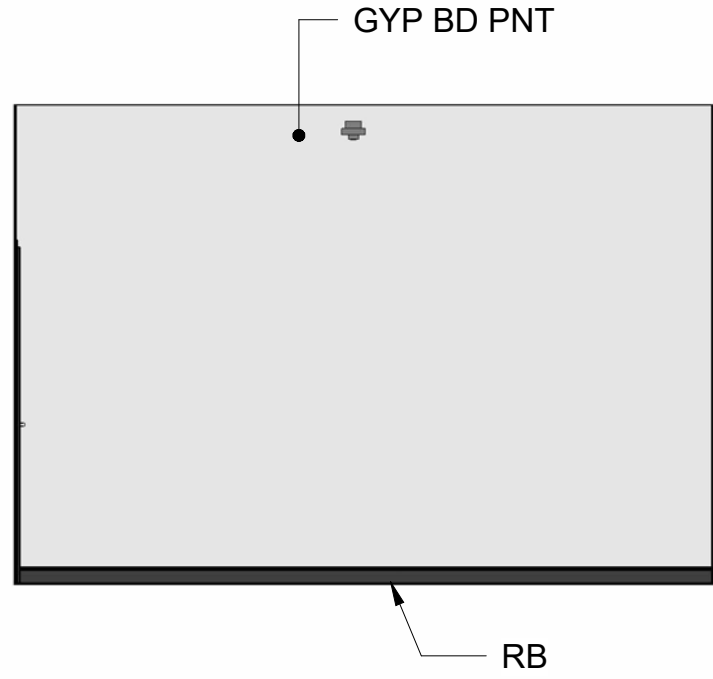
**1 OPEN OFFICE ROOM 109 NORTH ELEVATION**  
AE101 AE744 SCALE: 1/4" = 1'-0"



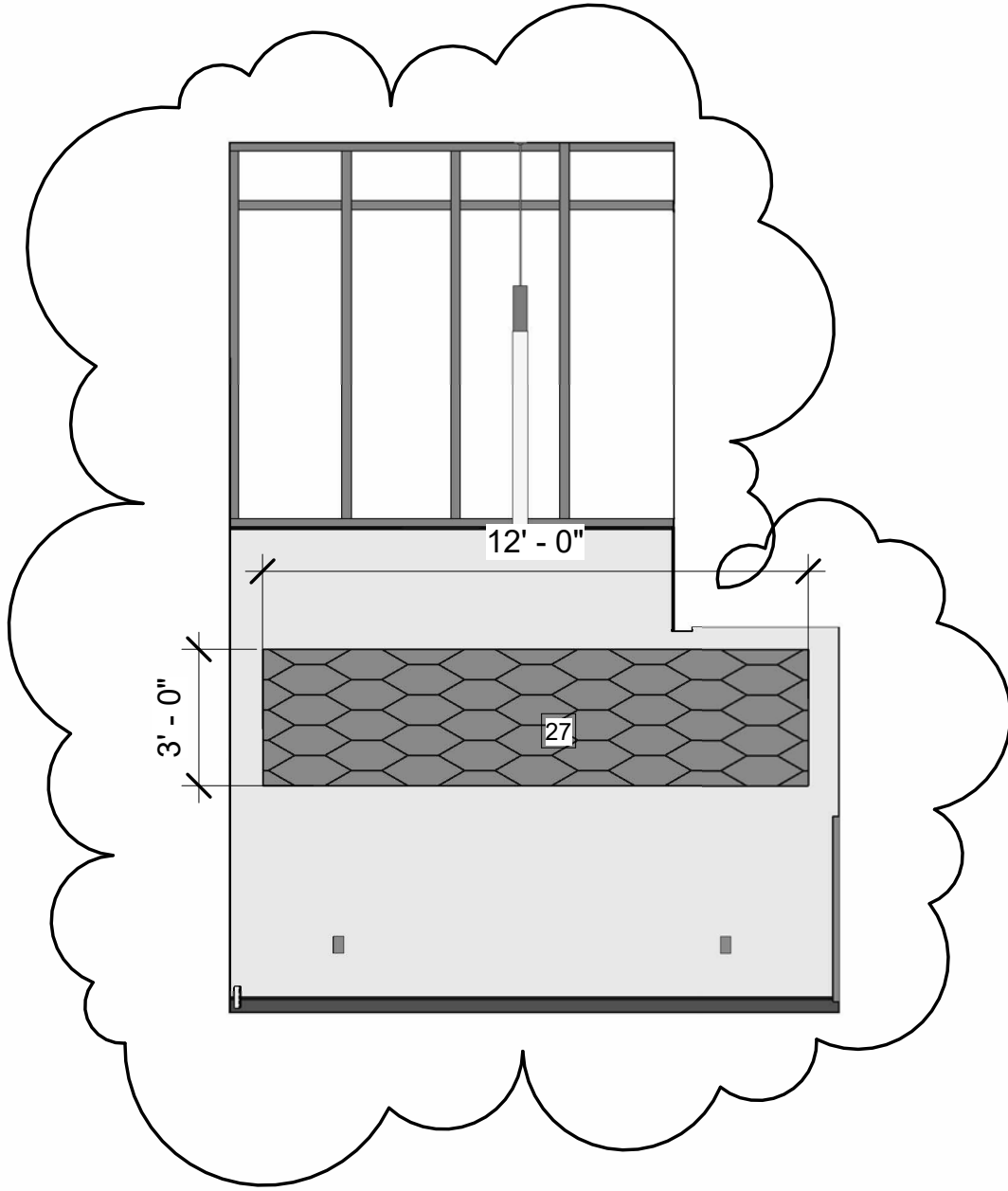
**2 OPEN OFFICE ROOM 109 EAST ELEVATION**  
AE101 AE744 SCALE: 1/4" = 1'-0"



**3 COPY/FILE/STORAGE ROOM 229 NORTH ELEVATION**  
AE102 AE744 SCALE: 1/4" = 1'-0"



**4 COPY/FILE/STORAGE ROOM 229 SOUTH ELEVATION**  
AE102 AE744 SCALE: 1/4" = 1'-0"

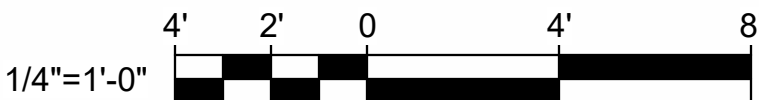


**5 HOTEL OFFICES 245**  
AE102 AE744 SCALE: 1/4" = 1'-0"

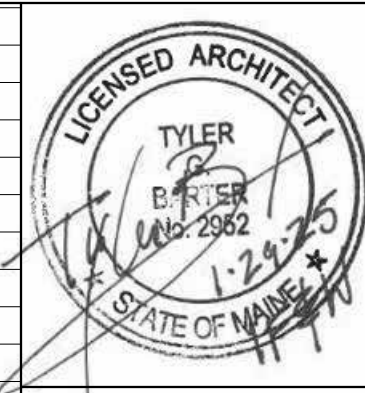
**GENERAL NOTES**

1. SEE SHEETS AE101, AE102, OR AE103 FOR KEYNOTES.
2. SEE SHEETS AE601-AE602 FOR DOOR SCHEDULE AND TYPES.
3. SEE SHEET AE620 FOR WINDOW, STOREFRONT, CURTAINWALL, AND BORROWED LITE TYPES.
4. SEE SHEET AE630 FOR DEMOUNTABLE PARTITION DETAILS.
5. SEE SHEETS AE640-AE641 FOR ROOM FINISH SCHEDULE.

**GRAPHIC SCALE**



CHECK GRAPHIC SCALE BEFORE USING



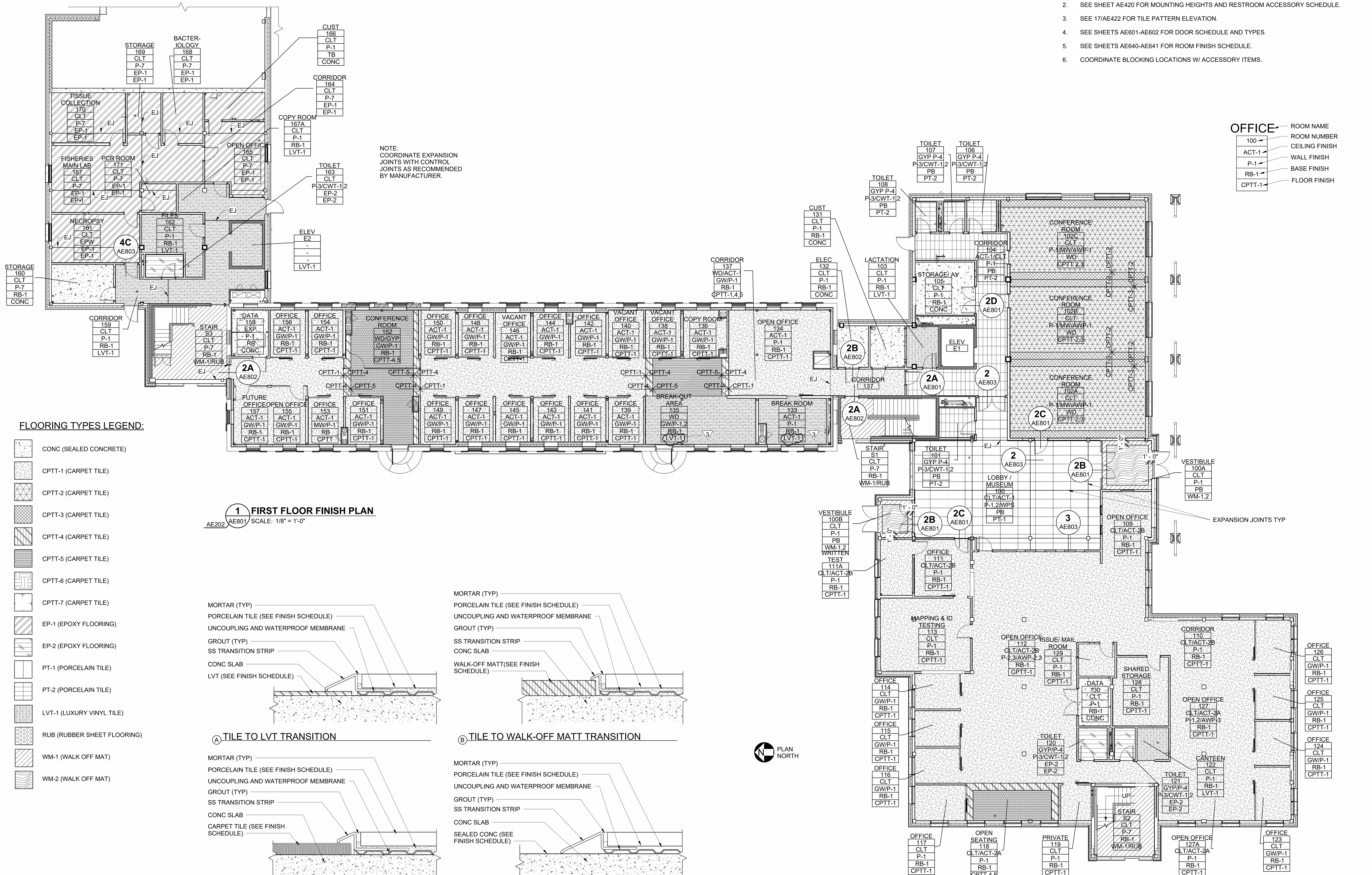
DEPARTMENT OF INLAND FISHERIES & WILDLIFE		
TITLE NEW OFFICE HEADQUARTERS		
LOCATION AUGUSTA, ME		
TITLE THIS DWG. INTERIOR ELEVATIONS 5		
DRAWN BY: Author		
CHECK BY: Designer		
DATE 01/29/2025		
DRAWING NO. AE744		
SHEET NO. 165 OF 239		



GENERAL NOTES

- SEE SHEETS AE101, AE102, OR AE103 FOR KEYNOTES.
- SEE SHEET AE420 FOR MOUNTING HEIGHTS AND RESTROOM ACCESSORY SCHEDULE.
- SEE 17/AE422 FOR TILE PATTERN ELEVATION.
- SEE SHEETS AE601-AE602 FOR DOOR SCHEDULE AND TYPES.
- SEE SHEETS AE640-AE641 FOR ROOM FINISH SCHEDULE.
- COORDINATE BLOCKING LOCATIONS W/ ACCESSORY ITEMS.

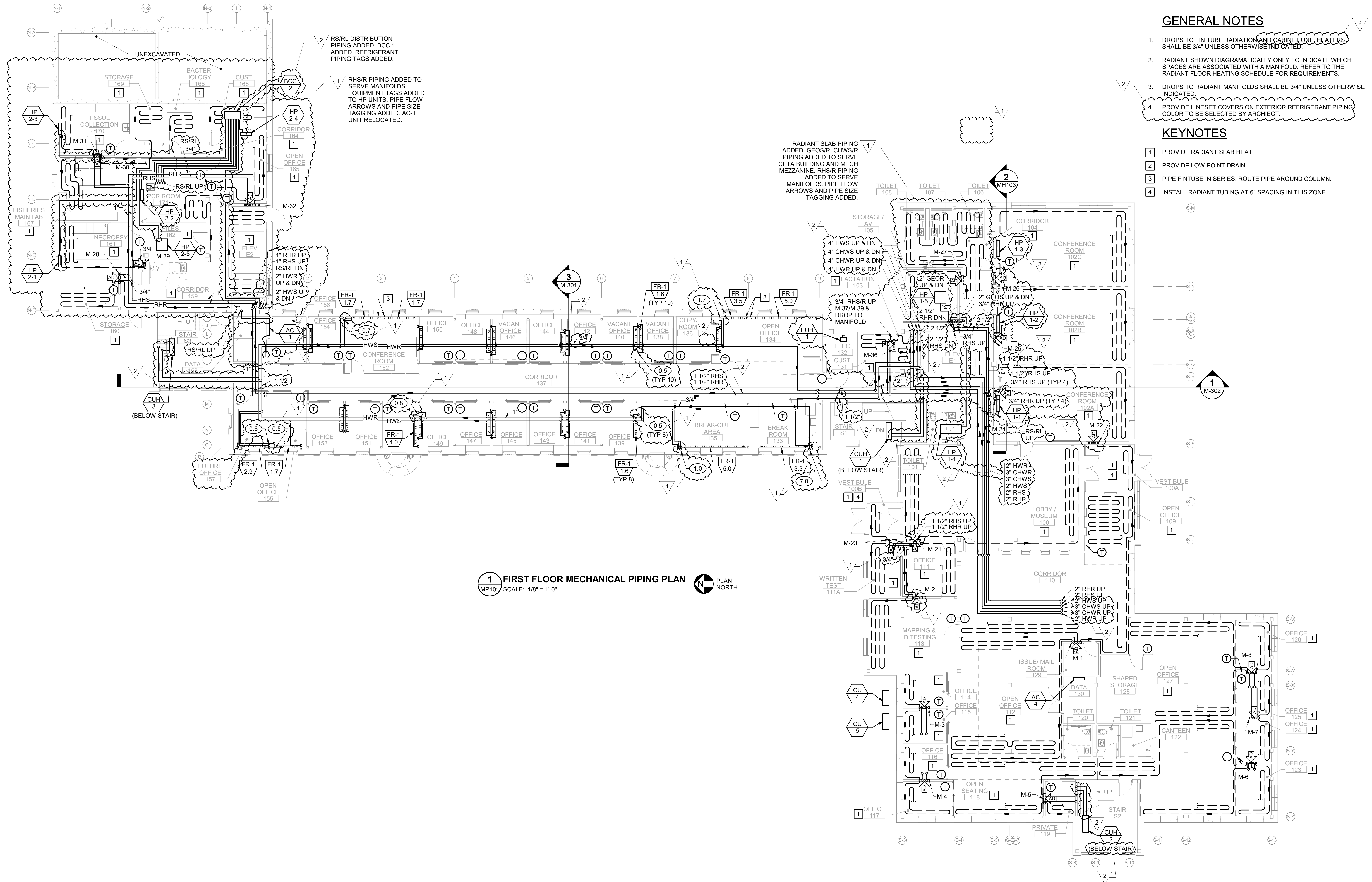
OFFICE	
100	ROOM NAME
ACT-1	ROOM NUMBER
P-1	CEILING FINISH
RB-1	WALL FINISH
CPTT-1	FLOOR FINISH











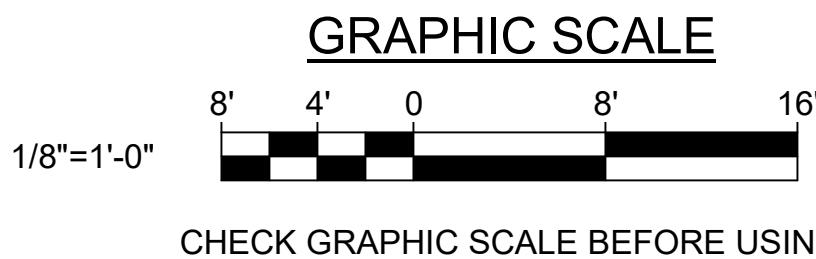
GENERAL NOTES

- 1. DROPS TO FIN TUBE RADIATION AND CABINET UNIT HEATERS SHALL BE 3/4" UNLESS OTHERWISE INDICATED.
- 2. RADIANT SHOWN DIAGRAMATICALLY ONLY TO INDICATE WHICH SPACES ARE ASSOCIATED WITH A MANIFOLD. REFER TO THE RADIANT FLOOR HEATING SCHEDULE FOR REQUIREMENTS.
- 3. DROPS TO RADIANT MANIFOLDS SHALL BE 3/4" UNLESS OTHERWISE INDICATED.
- 4. PROVIDE LINESSET COVERS ON EXTERIOR REFRIGERANT PIPING COLOR TO BE SELECTED BY ARCHITECT.

KEYNOTES

- 1 PROVIDE RADIANT SLAB HEAT.
- 2 PROVIDE LOW POINT DRAIN.
- 3 PIPE FIN TUBE IN SERIES. ROUTE PIPE AROUND COLUMN.
- 4 INSTALL RADIANT TUBING AT 6" SPACING IN THIS ZONE.

1 FIRST FLOOR MECHANICAL PIPING PLAN  
MP101 SCALE: 1/8" = 1'-0" PLAN NORTH



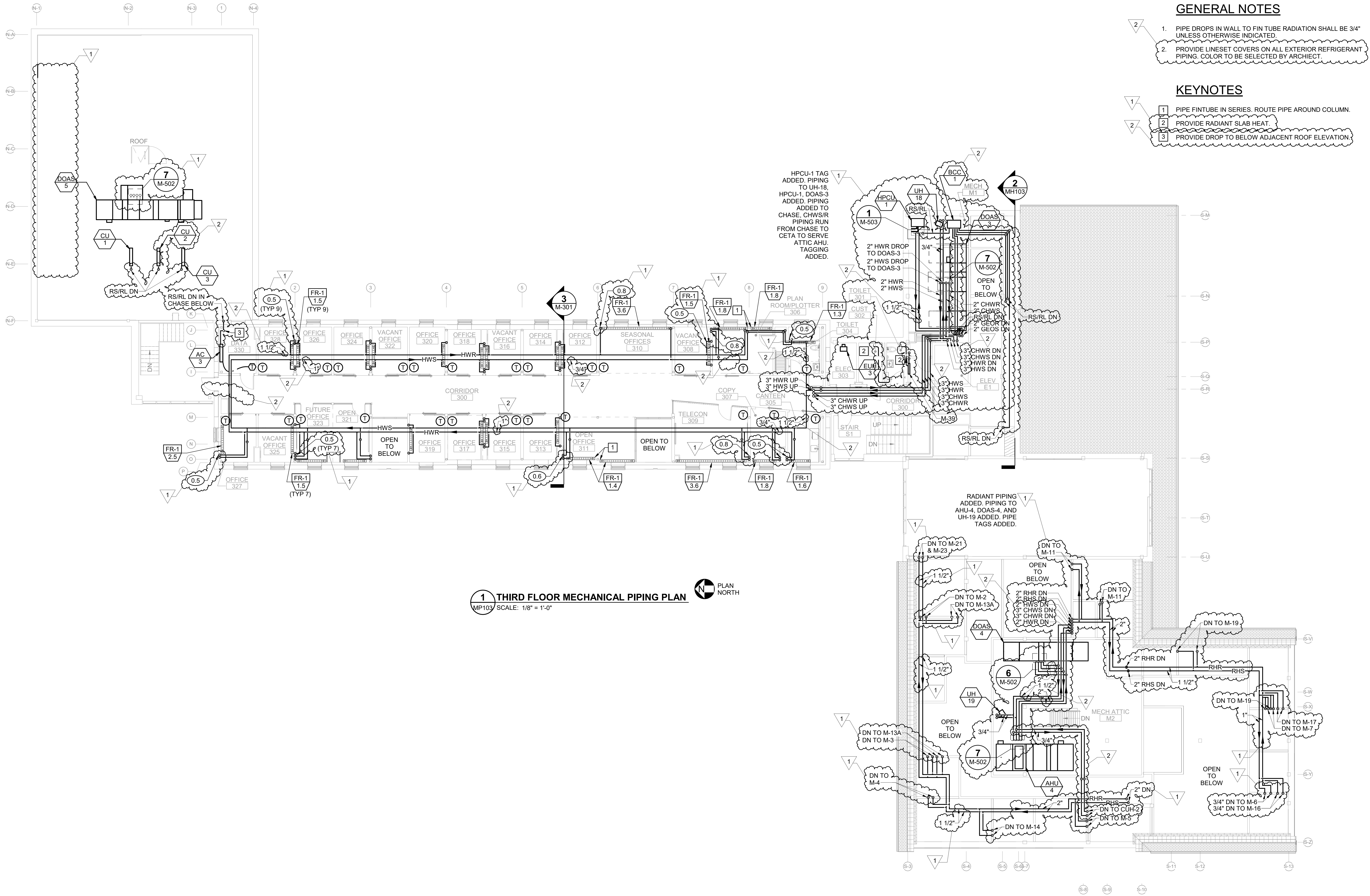
2 2/27/25 ADDENDUM NO. 3		MSA	DRAWN BY: JTZ	DEPARTMENT OF INLAND FISHERIES & WILDLIFE NEW OFFICE HEADQUARTERS AUGUSTA, ME FIRST FLOOR MECHANICAL PIPING PLAN OAK POINT ASSOCIATES MP101
1 2/14/25 ADDENDUM NO. 1		MSA	CHECK BY: MSA	
NO. DATE DESCRIPTION		BY	DATE 01/29/2025	

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195 OF 239







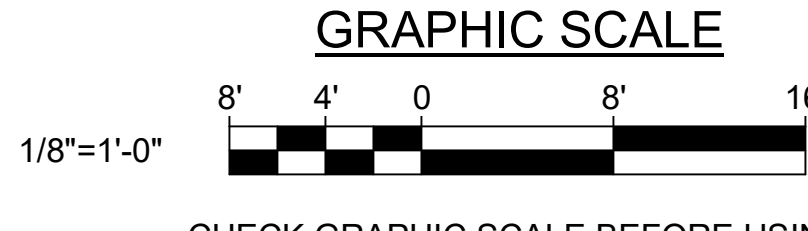
### GENERAL NOTES

1. PIPE DROPS IN WALL TO FIN TUBE RADIATION SHALL BE 3/4" UNLESS OTHERWISE INDICATED.
2. PROVIDE LINESSET COVERS ON ALL EXTERIOR REFRIGERANT PIPING. COLOR TO BE SELECTED BY ARCHITECT.

### KEYNOTES

1. PIPE FIN TUBE IN SERIES. ROUTE PIPE AROUND COLUMN.
2. PROVIDE RADIANT SLAB HEAT.
3. PROVIDE DROP TO BELOW ADJACENT ROOF ELEVATION.

**1 THIRD FLOOR MECHANICAL PIPING PLAN**  
MP103 SCALE: 1/8" = 1'-0"



				<b>DEPARTMENT OF INLAND FISHERIES &amp; WILDLIFE</b>	
DRAWN BY: CBM				TITLE: NEW OFFICE HEADQUARTERS	
CHECK BY: MSA				LOCATION: AUGUSTA, ME	
DATE: 01/29/2025				TITLE THIS DWG: THIRD FLOOR MECHANICAL PIPING PLAN	
NO. 1				DATE: 2/27/25	
DESCRIPTION: ADDENDUM NO. 3				DRAWING NO: MP103	
BY: MSA				SHEET NO: 197 OF 239	

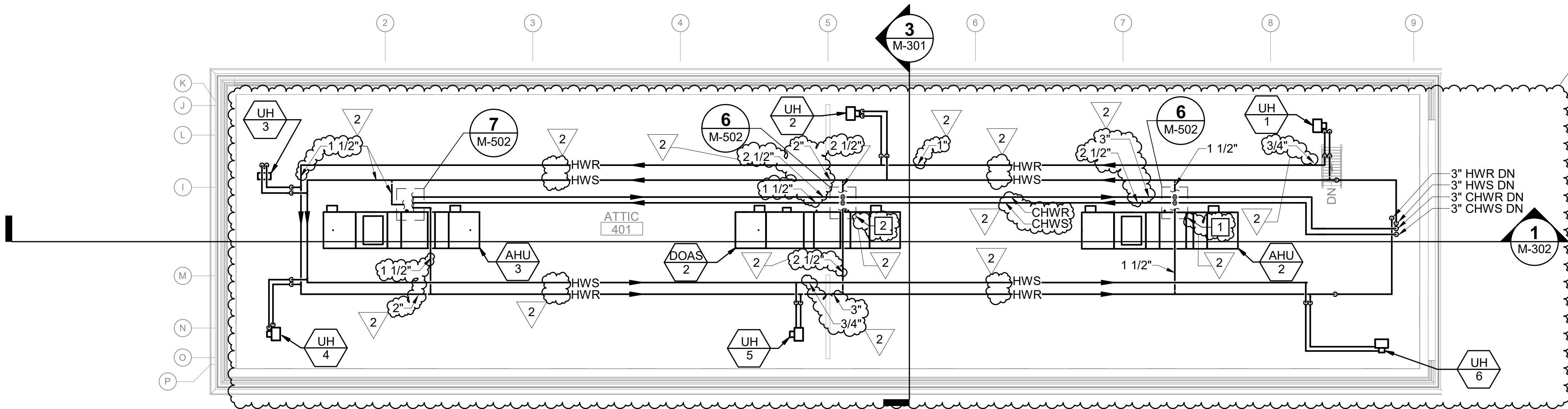


GENERAL NOTES

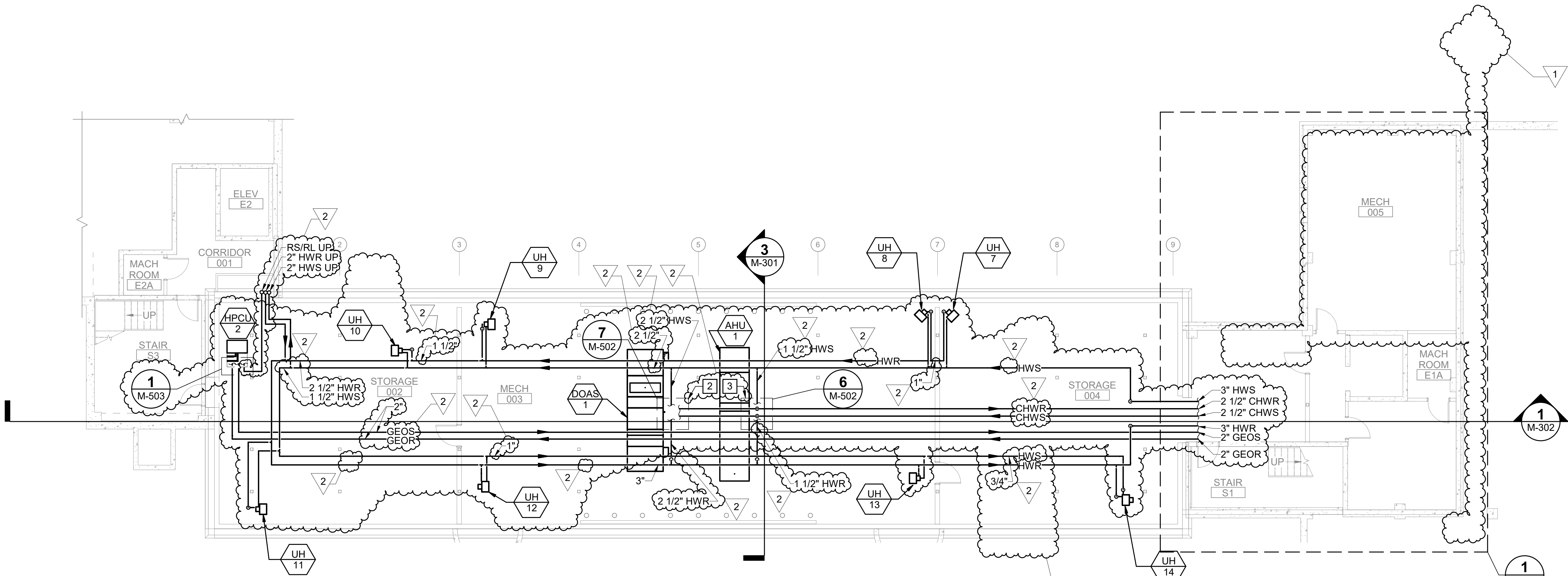
1. BRANCH PIPING TO UNIT HEATERS SHALL BE 3/4" UNLESS OTHERWISE INDICATED.

KEYNOTES

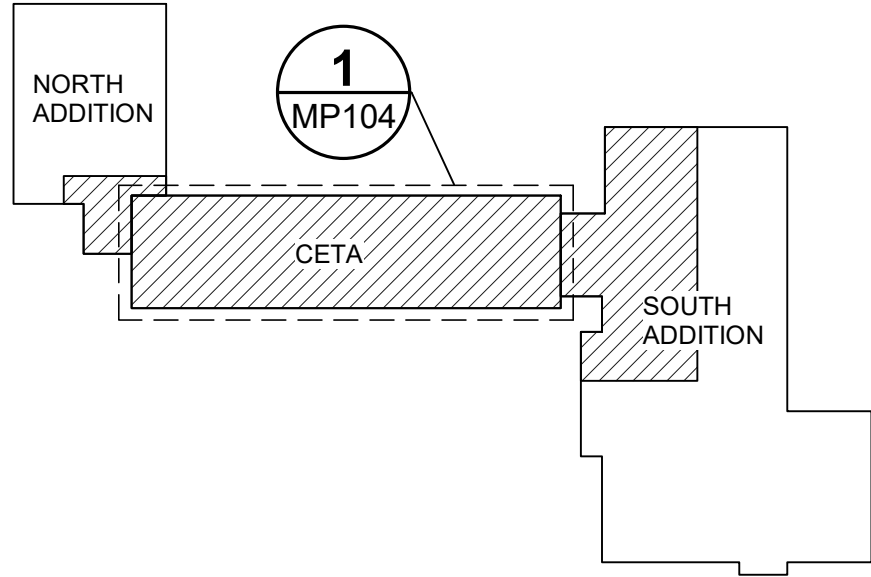
- 1 CHWS/R DROPS TO AHU-2 SHALL BE 1 1/2".  
2 CHWS/R DROPS TO DOAS SHALL BE 2 1/2".  
3 CHWS/R DROPS TO AHU-1 SHALL BE 2".



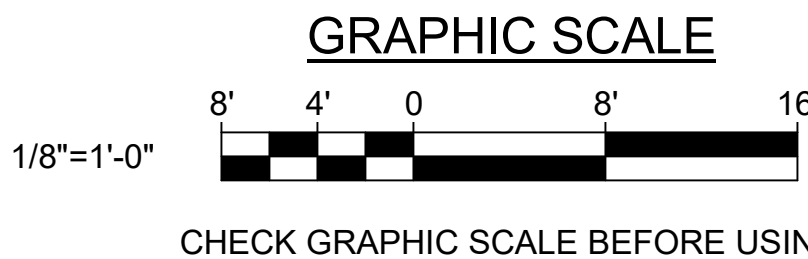
1 ATTIC MECHANICAL PIPING PLAN  
MP104 SCALE: 1/8" = 1'-0"



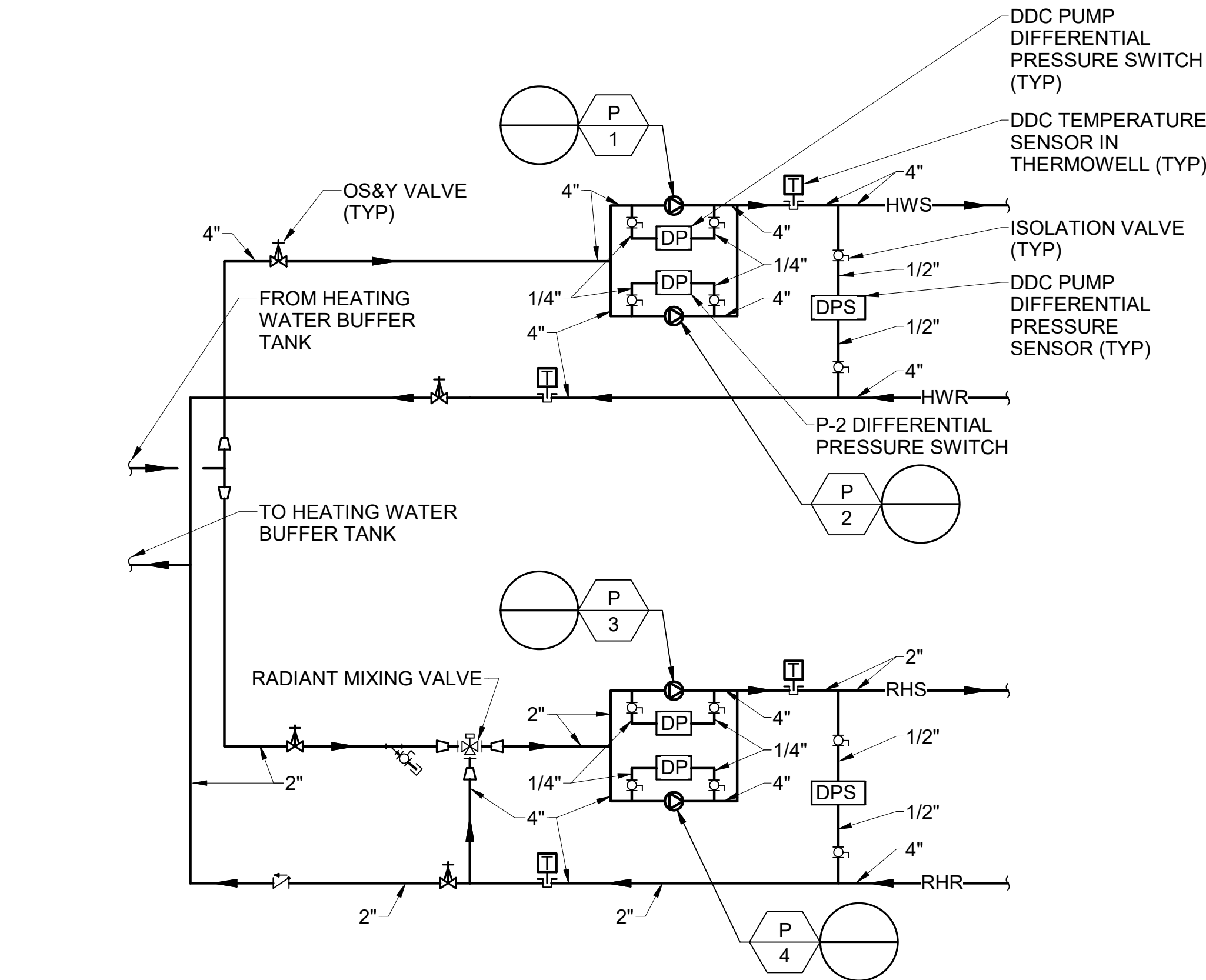
2 BASEMENT MECHANICAL PIPING PLAN  
MP104 SCALE: 1/8" = 1'-0"



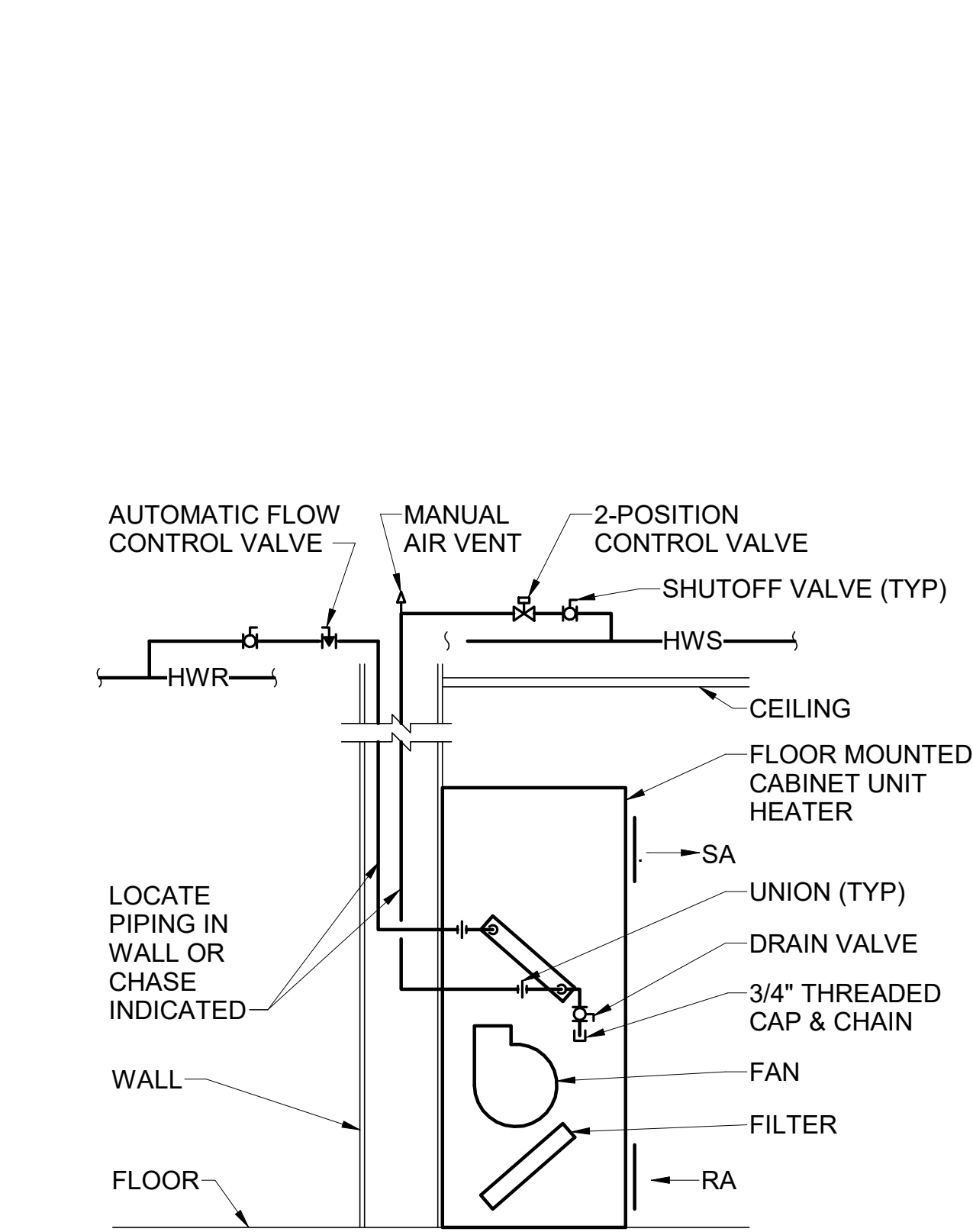
KEYPLAN  
NOT TO SCALE  
PLAN  
NORTH



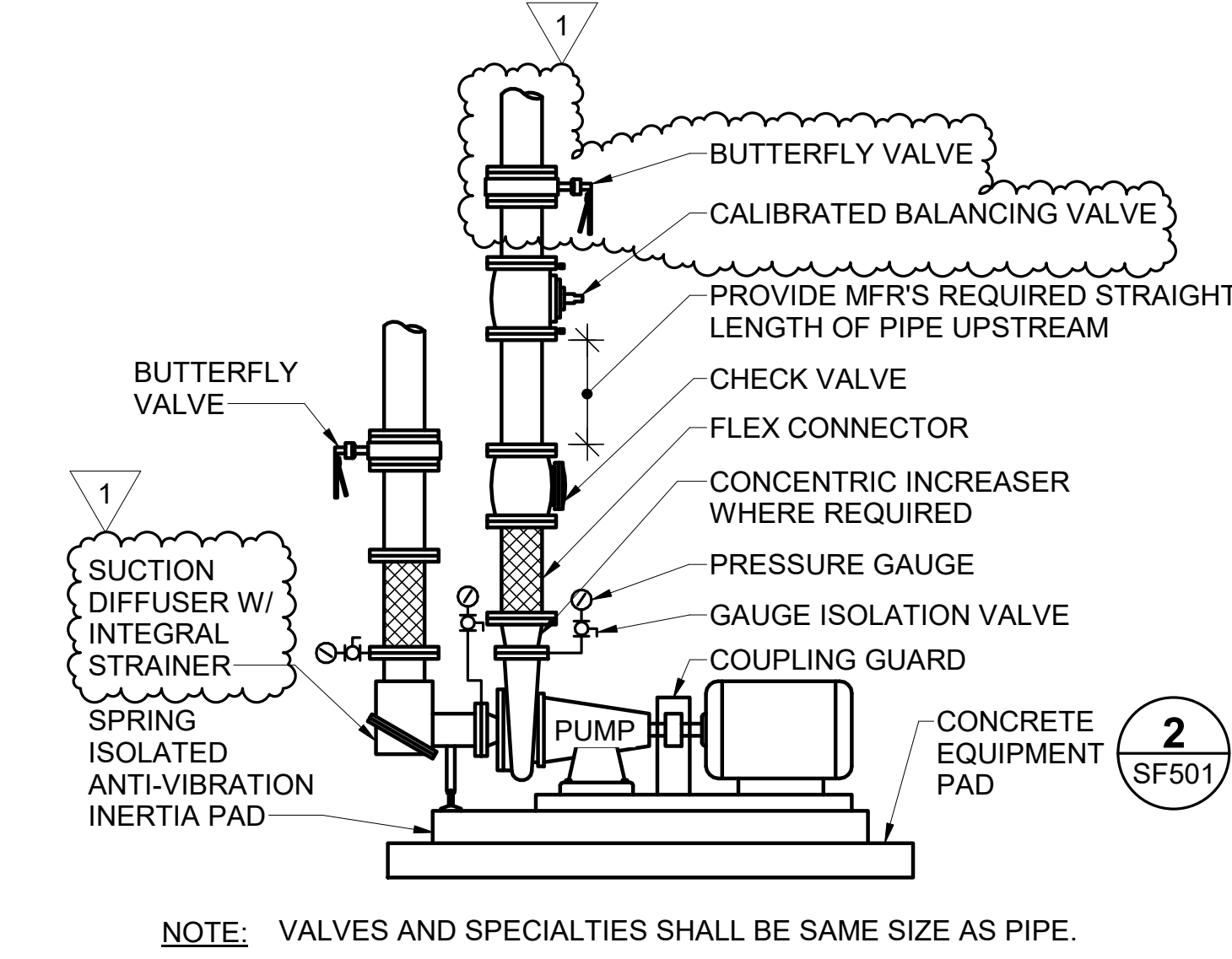
DEPARTMENT OF INLAND FISHERIES & WILDLIFE			
TITLE NEW OFFICE HEADQUARTERS			
LOCATION AUGUSTA, ME			
TITLE THIS DWG. BASEMENT AND ATTIC MECHANICAL PIPING PLANS			
OAK POINT ASSOCIATES			
DRAWN BY: JTZ			
CHECK BY: MSA			
DATE 01/29/2025			
NO. 198 OF 239			



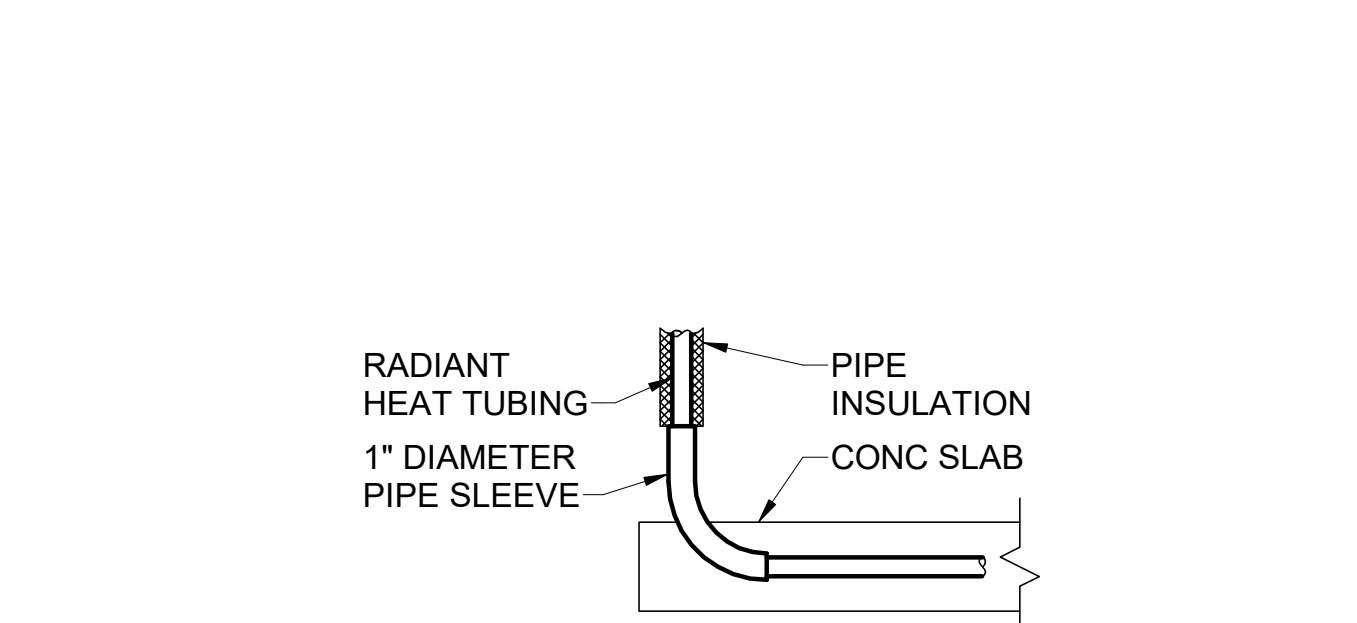
**1 HEATING WATER PUMPING SCHEMATIC**  
M-502 SCALE: NTS



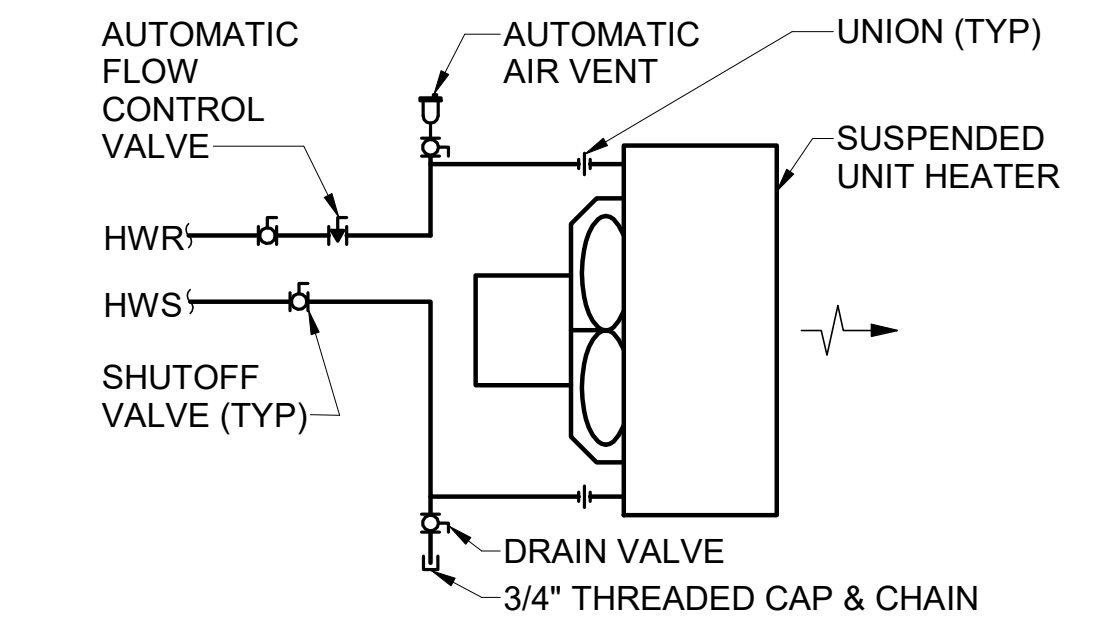
**2 CABINET HEATER PIPING SCHEMATIC**  
M-502 SCALE: NTS



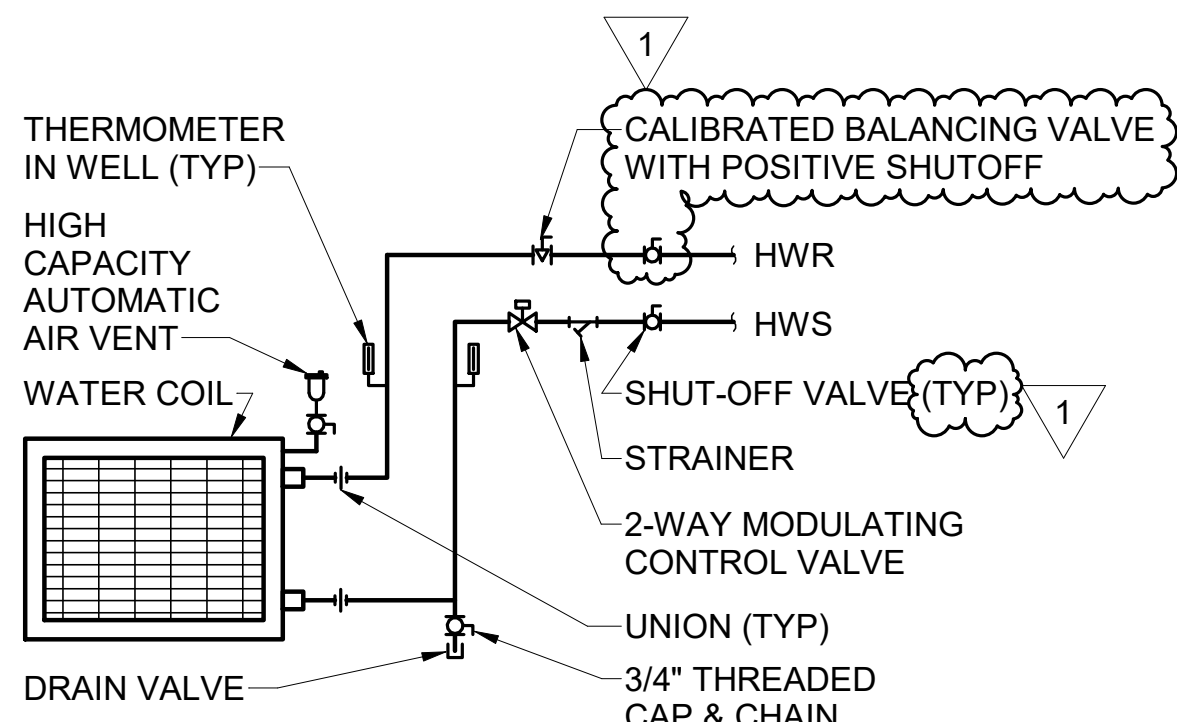
**3 SEPARATELY COUPLED END SUCTION PUMP DETAIL**  
M-501 M-502 SCALE: NTS



**4 TYPICAL RADIANT HEAT TUBING ENTERING OR EXITING CONCRETE SLAB DETAIL**  
M-502 SCALE: NTS

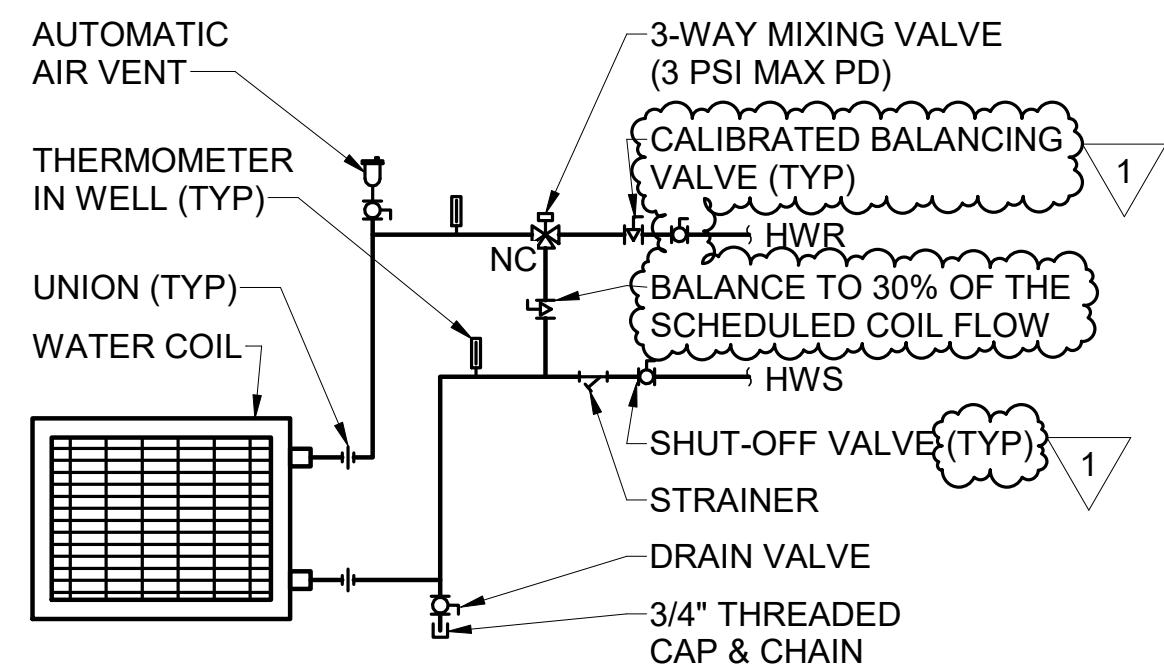


**5 UNIT HEATER WATER COIL PIPING SCHEMATIC**  
M-502 SCALE: NTS



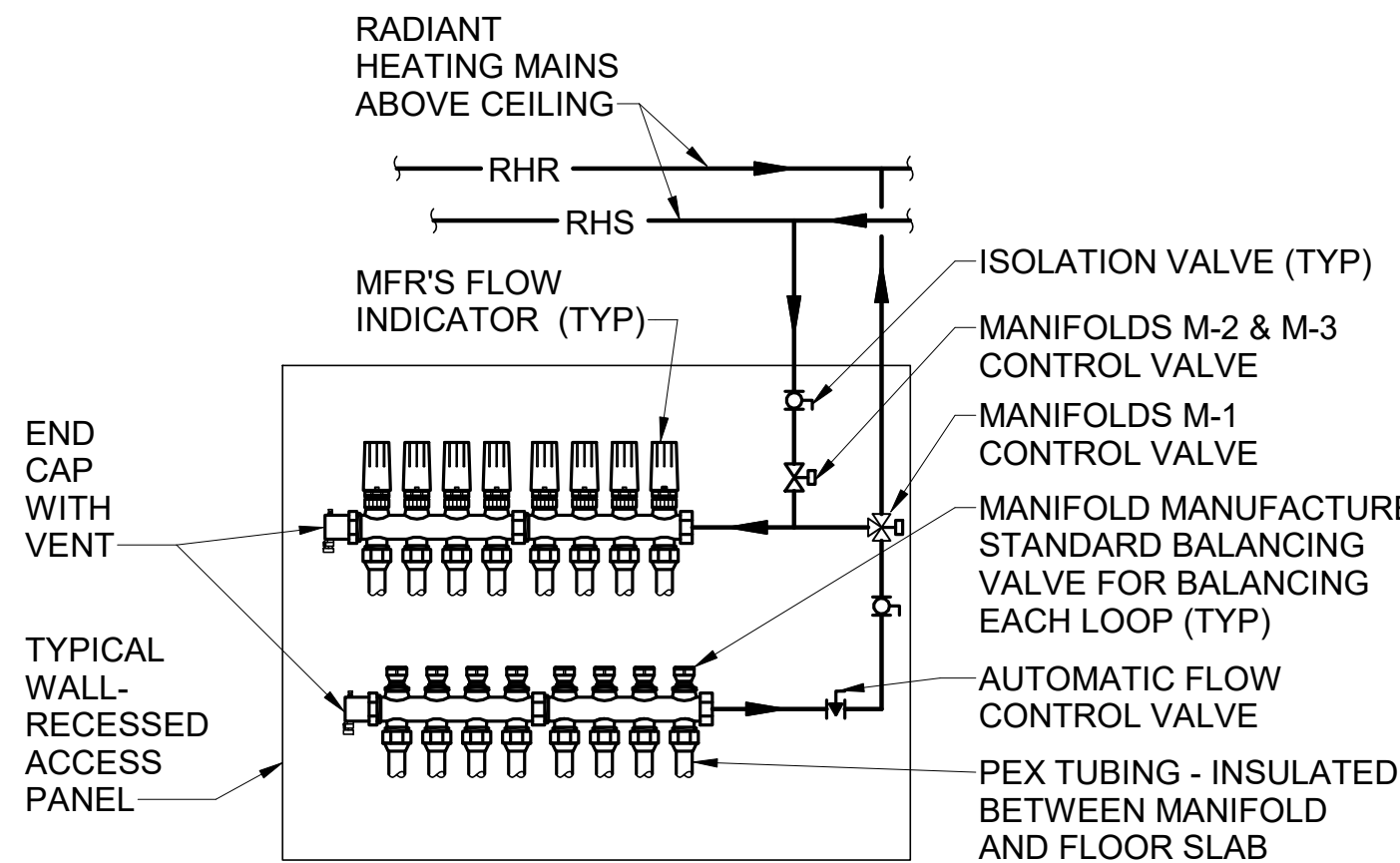
**NOTES:**  
1. VALVES SHALL BE SAME SIZE AS PIPE.  
2. SHUT-OFF VALVES MAY BE BALL OR BUTTERFLY. REFER TO SPECIFICATIONS FOR VALVE TYPE AND SIZE RESTRICTIONS.  
3. PROVIDE UNIONS AND/OR FLANGES AS REQUIRED FOR FIT-UP AND REMOVAL OF COIL.

**6 COIL WITH 2-WAY VALVE PIPING SCHEMATIC**  
M-502 SCALE: NTS

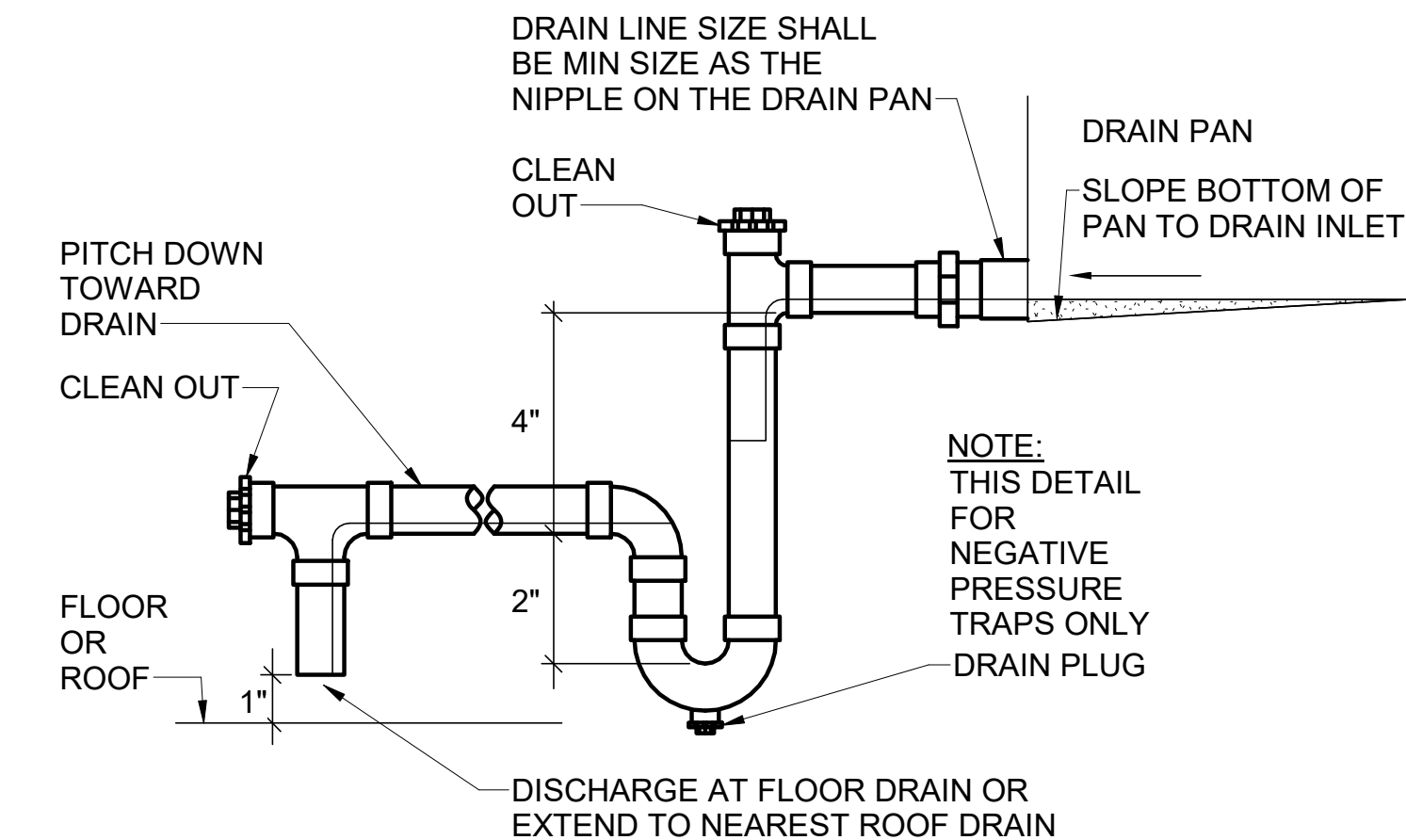


**NOTES:**  
1. VALVES SHALL BE SAME SIZE AS PIPE.  
2. SHUT-OFF VALVES MAY BE BALL OR BUTTERFLY. REFER TO SPECIFICATIONS FOR VALVE TYPE AND SIZE RESTRICTIONS.  
3. PROVIDE UNIONS AND/OR FLANGES AS REQUIRED FOR FIT-UP AND REMOVAL OF COIL.

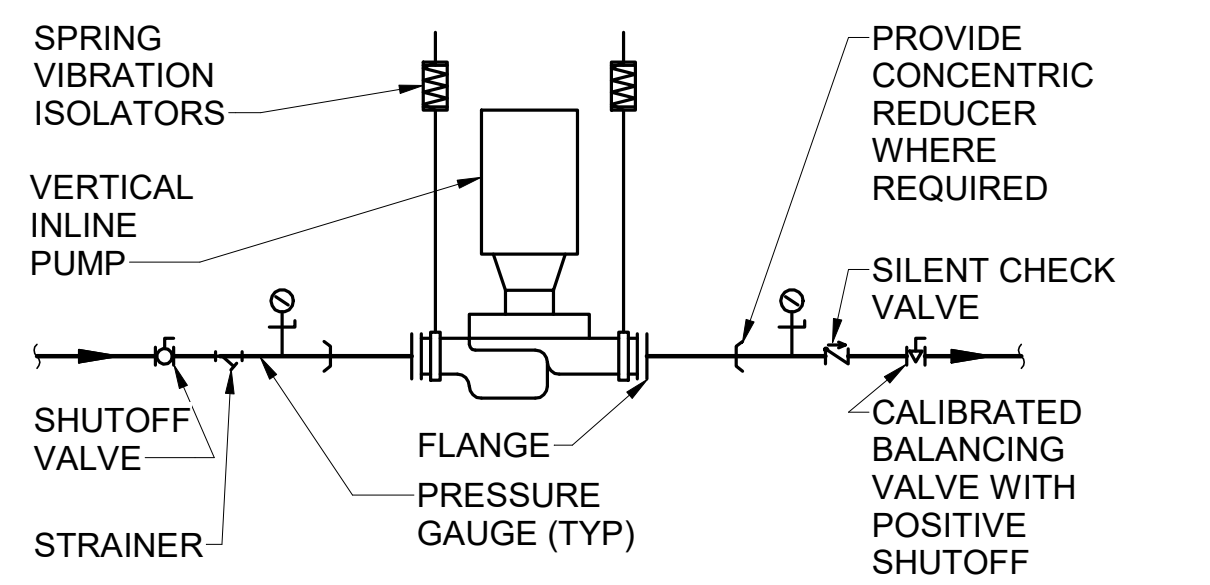
**7 COIL WITH 3-WAY VALVE PIPING SCHEMATIC**  
M-502 SCALE: NTS



**8 TYPICAL RADIANT HEAT MANIFOLD DIAGRAM**  
M-502 SCALE: NTS

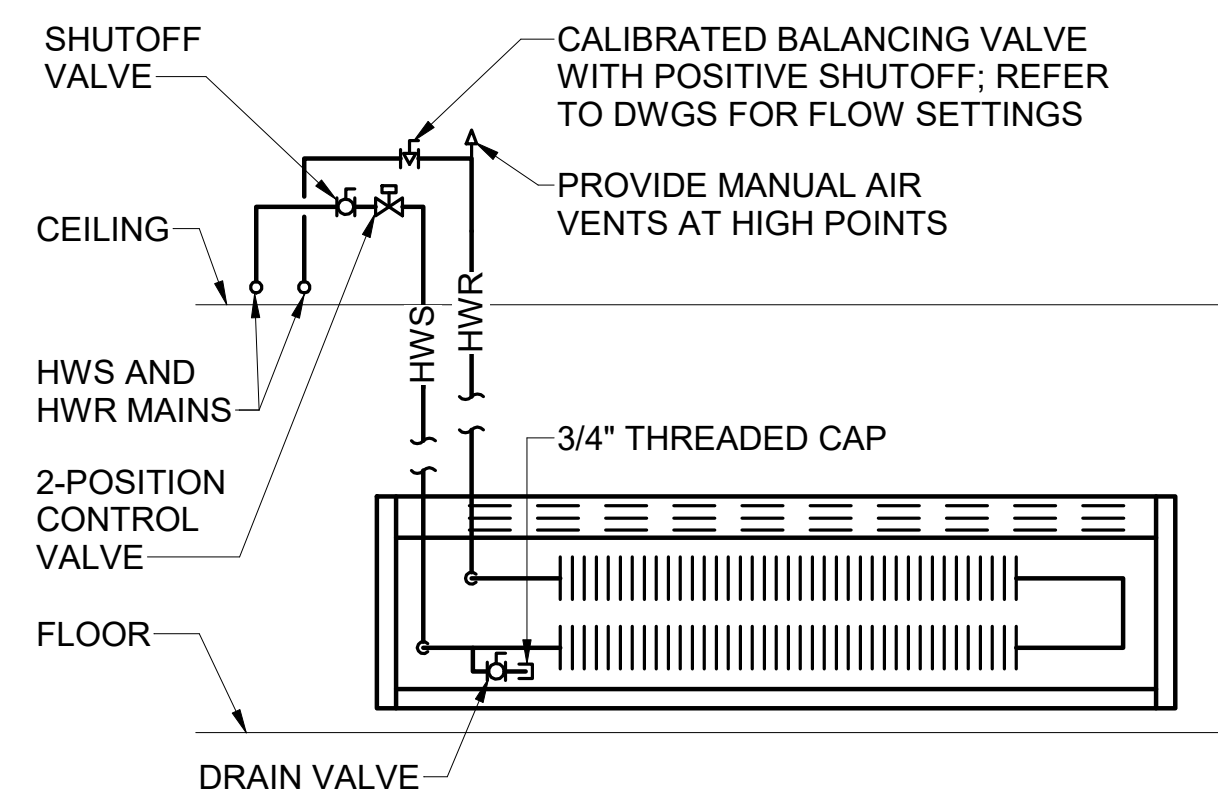


**9 CONDENSATE TRAP DETAIL**  
M-502 SCALE: NTS

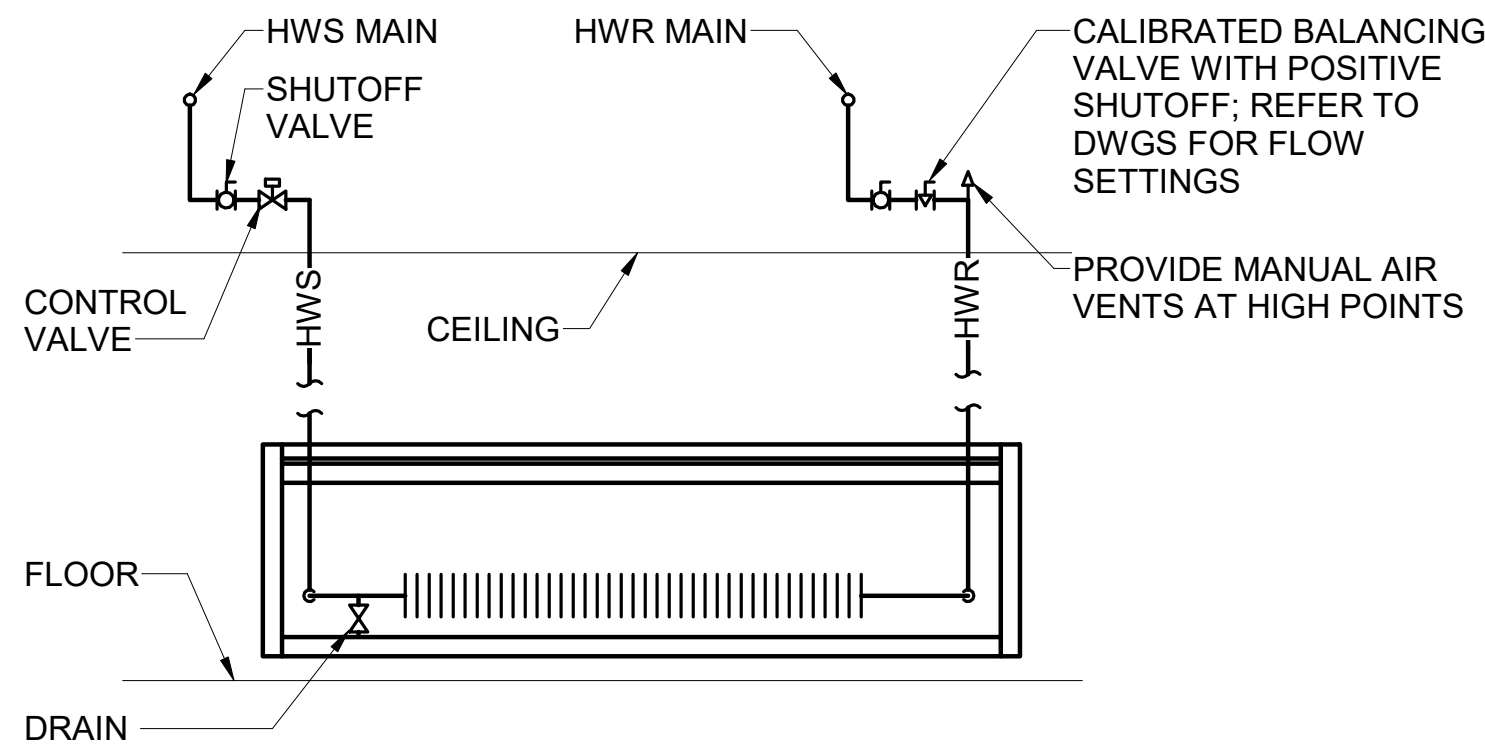


**NOTES:**  
1. VALVES SHALL BE SAME SIZE AS PIPE.  
2. PROVIDE SPRING VIBRATION ISOLATORS FOR PUMP.

**10 INLINE PUMP PIPING DETAIL**  
M-502 SCALE: NTS



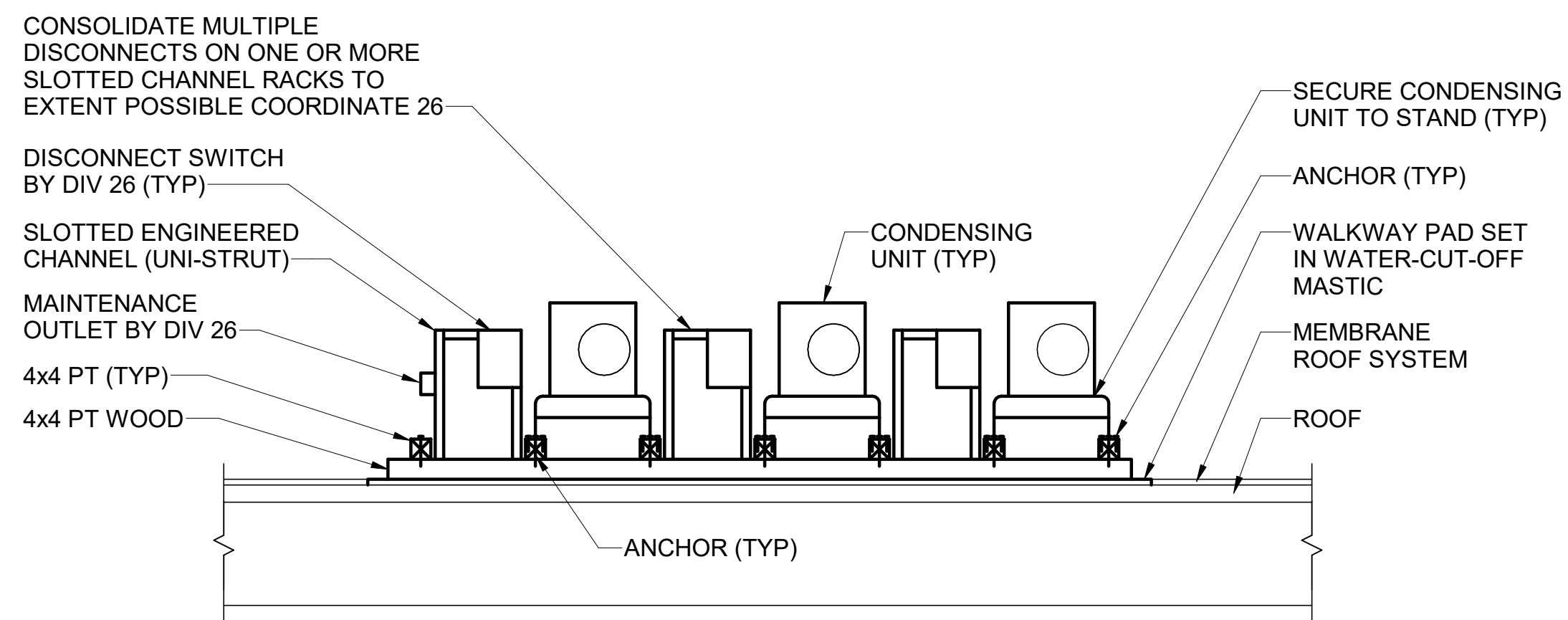
**DOUBLE ROW - DOWN FEED**



**SINGLE ROW - DOWN FEED**

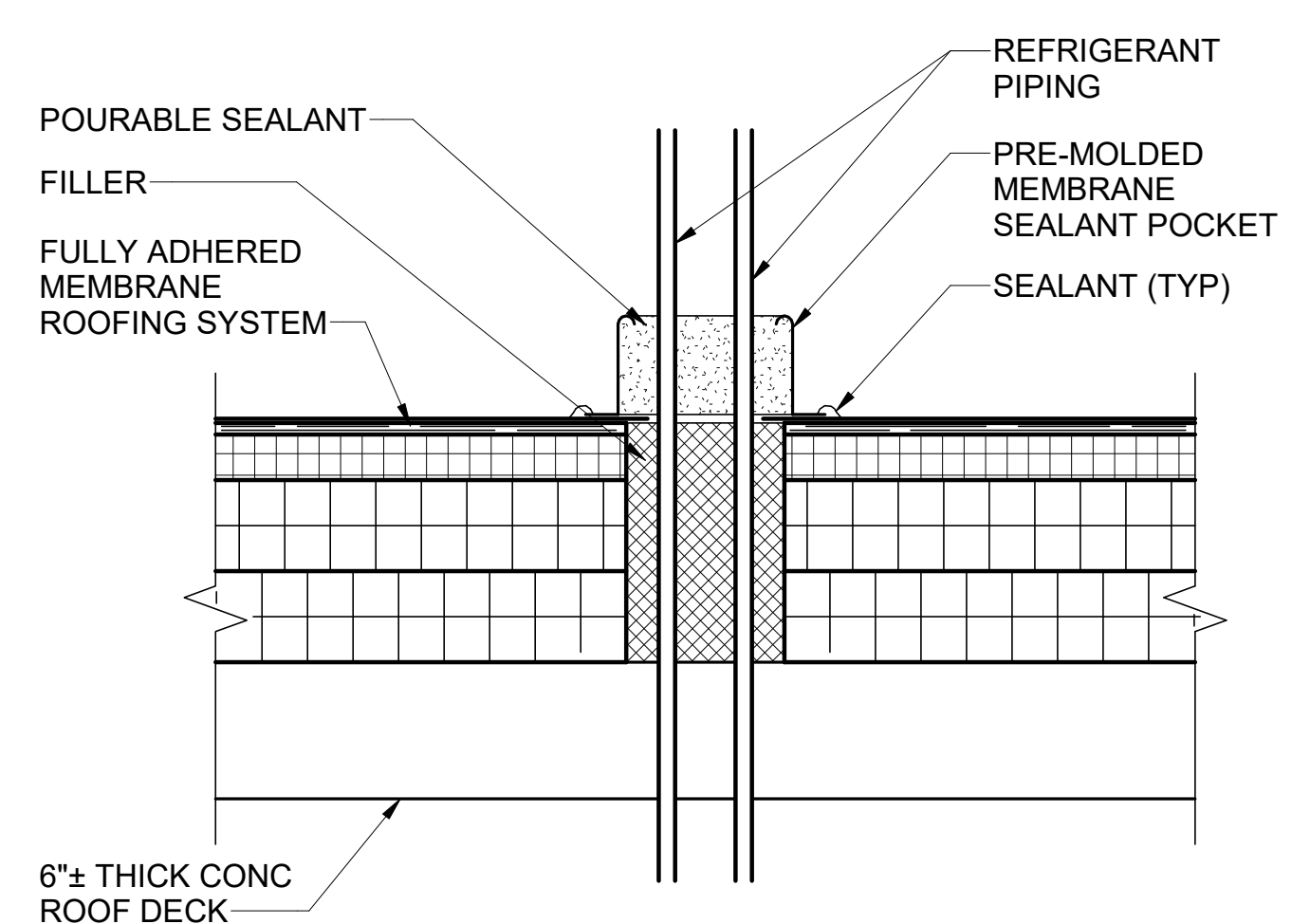
**NOTE:** LOCATE VALVES WITHIN ENCLOSURE ONLY WHERE SPECIFICALLY NOTED ON PLANS AND PROVIDE ACCESS DOORS IN ENCLOSURE

**11 FINTUBE RADIATION DETAILS**  
M-502 SCALE: NTS



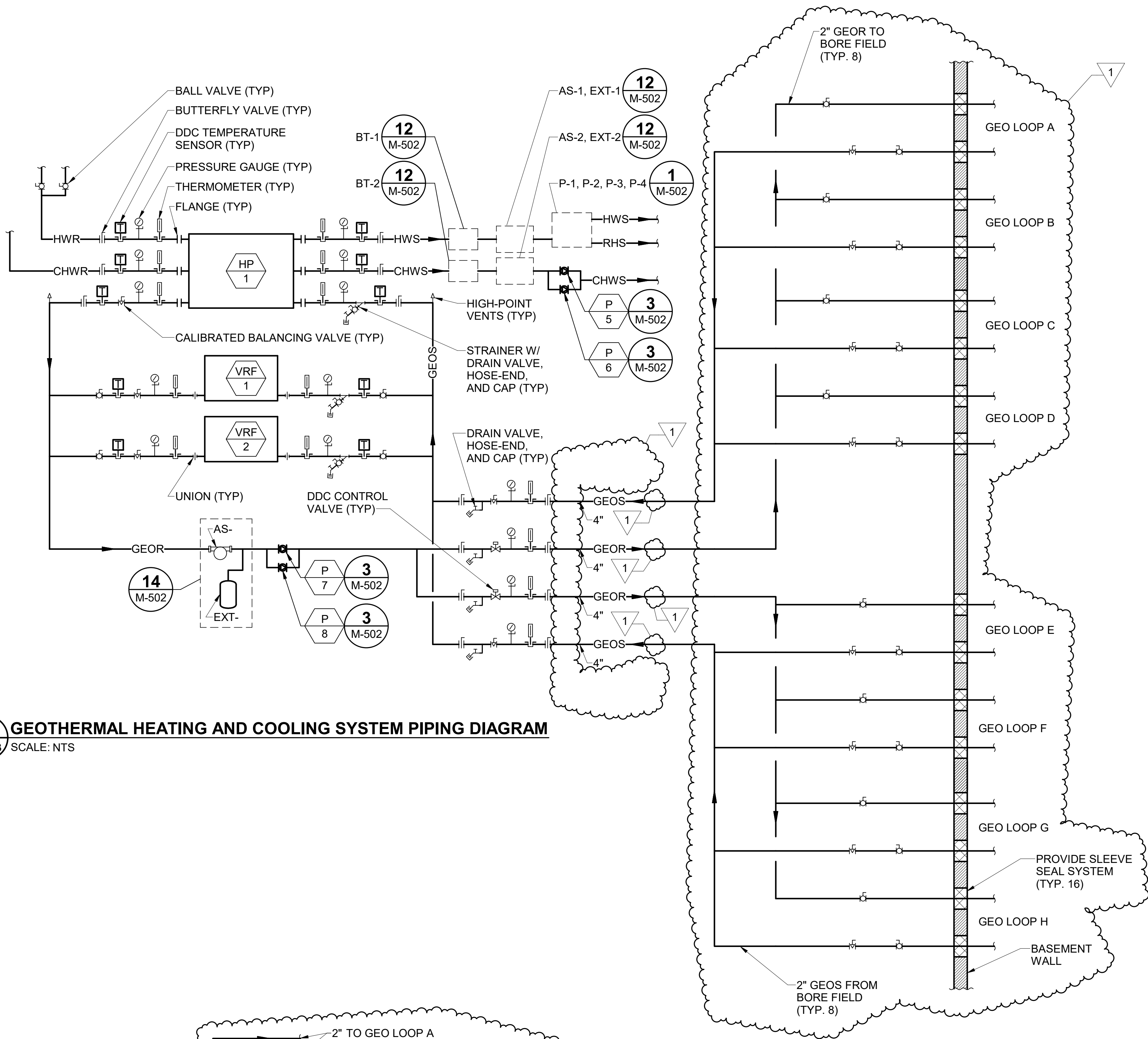
**NOTES:**  
1. PERFORM WORK TO MAINTAIN ROOF WARRANTIES.  
2. DETAIL SHOWS 3 CONDENSING UNITS. MOUNTING STANDS WITH 1 OR 2 CONDENSING UNITS TO BE SIMILAR CONSTRUCTION.  
3. PROVIDE ADDITIONAL 100LBS OF BALLAST (IE... CMU, SANDBAGS) PER EACH CONDENSING UNIT.

**12 TYPICAL CONDENSING UNIT MOUNTING STAND DETAIL**  
MH103 M-502 SCALE: NTS

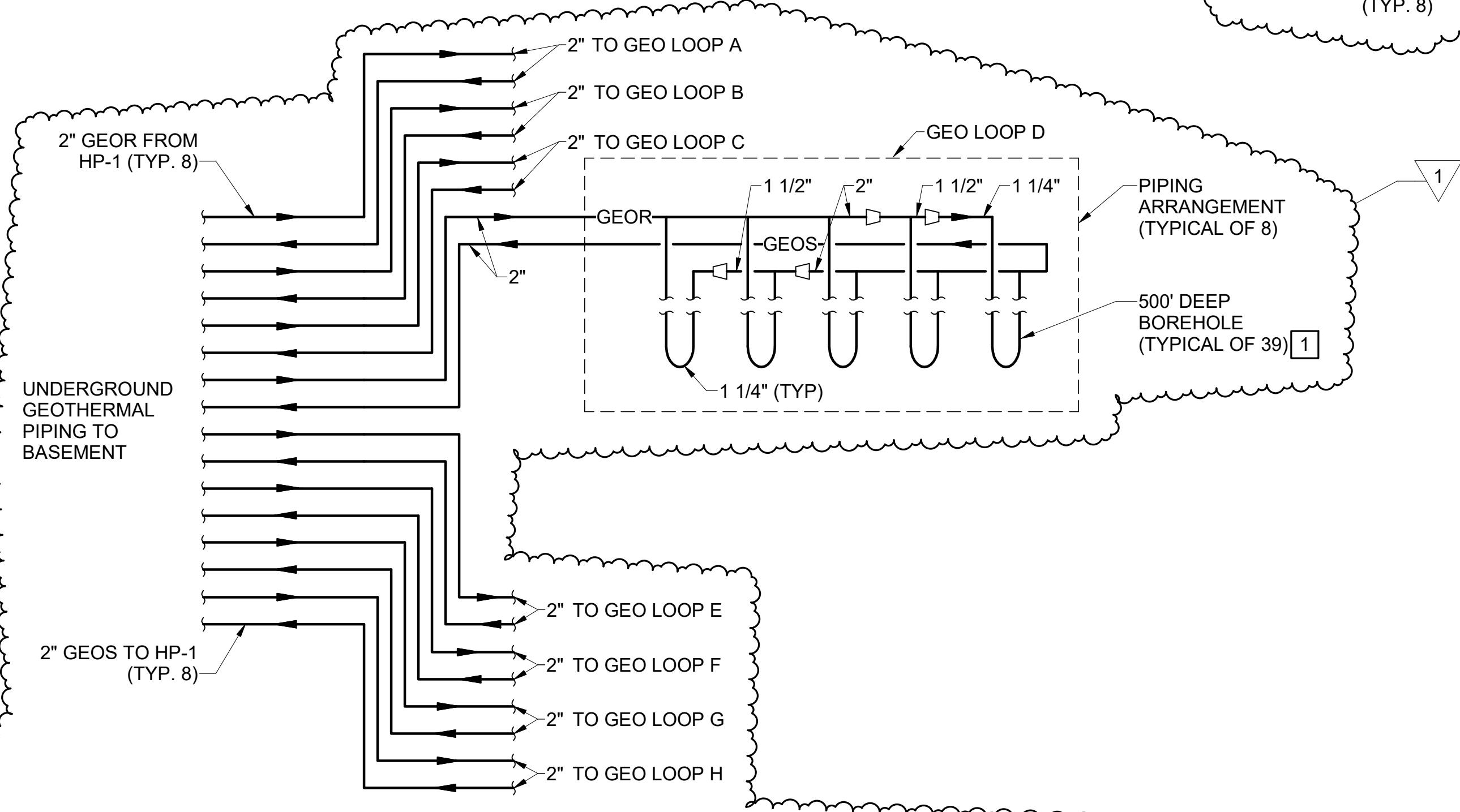


**13 TYPICAL PITCH POCKET DETAIL**  
MH103 M-502 SCALE: NTS





**1 GEOTHERMAL HEATING AND COOLING SYSTEM PIPING DIAGRAM**  
M-503 SCALE: NTS



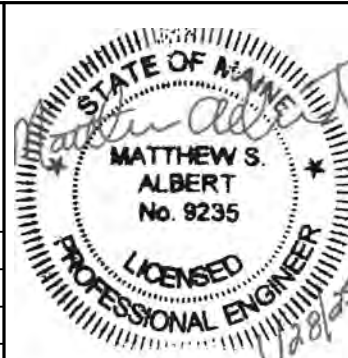

**2 GEOTHERMAL BORE FIELD PIPING DIAGRAM**  
CU101 M-503 SCALE: NTS


## GENERAL NOTE

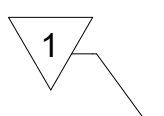
1. REFER TO SHEET CU101 FOR BORE FIELD LAYOUT, LOCATION OF EXISTING BORE HOLE, AND TRENCHES.

## KEYNOTE

1. IN ADDITION TO THE (39) 500' BOREHOLES, CONNECT TO EXISTING 460' DEEP BOREHOLE THAT WAS USED FOR THERMAL CONDUCTIVITY TESTING. TOTAL NUMBER OF BOREHOLES = 40.

						<b>DEPARTMENT OF INLAND FISHERIES &amp; WILDLIFE</b>	
				TITLE NEW OFFICE HEADQUARTERS		LOCATION AUGUSTA, ME	
				TITLE THIS DWS MECHANICAL DETAILS 3			
				DRAWN BY:		OAK POINT ASSOCIATES	
				CHECK BY: MSA			
				DATE 01/29/2025		DRAWING NO. M-503	
						SHEET NO.	
						204 OF 239	


- 




## GLOBAL BUILDING POINTS LIST

Diagram illustrating the power system for a building (BARN) and its associated power sub-meters:

- The system is powered by a **GENERATOR POWER SUB-METER**.
- The power is distributed to two sub-meters:
  - BARN POWER SUB-METER** (labeled M)
  - LIGHTING** (labeled M)
- The diagram shows a central power source (Generator) connected to two sub-meters (BARN and LIGHTING).


  
 BLDG
   
 BUILDING ELECTRIC
   
 METER




BLDG  
BUILDING WATER  
METER

(M) HVAC  
HVAC SYSTEMS  
ELECTRIC  
SUB METER  
(TYP 5)

④ LIGHTING  
LIGHTING SYSTEMS  
ELECTRIC SUB-METER  
(TYP 9)

**CO2**

OUTSIDE AIR CO2  
SENSOR. MOUNT IN A  
WELL VENTILATED  
SPACE AWAY FROM  
SOURCES OF CO2.



E AIR TEMPERATURE  
MOUNT OUTSIDE, OUT  
T SUNLIGHT AND AWAY  
SOURCES OF HEAT.

**[RH]**  
OUTSIDE AIR RELATIVE  
HUMIDITY SENSOR.  
MOUNT OUTSIDE, OUT  
OF DIRECT SUNLIGHT  
AND AWAY FROM  
SOURCES OF SUNLIGHT.

FA

ARM CONTROL PANEL

RECEPTILES

(M) RECEPTILES  
RECEPTICLE CIRCUITS  
ELECTRICAL SUB-METER  
(TYP 4)

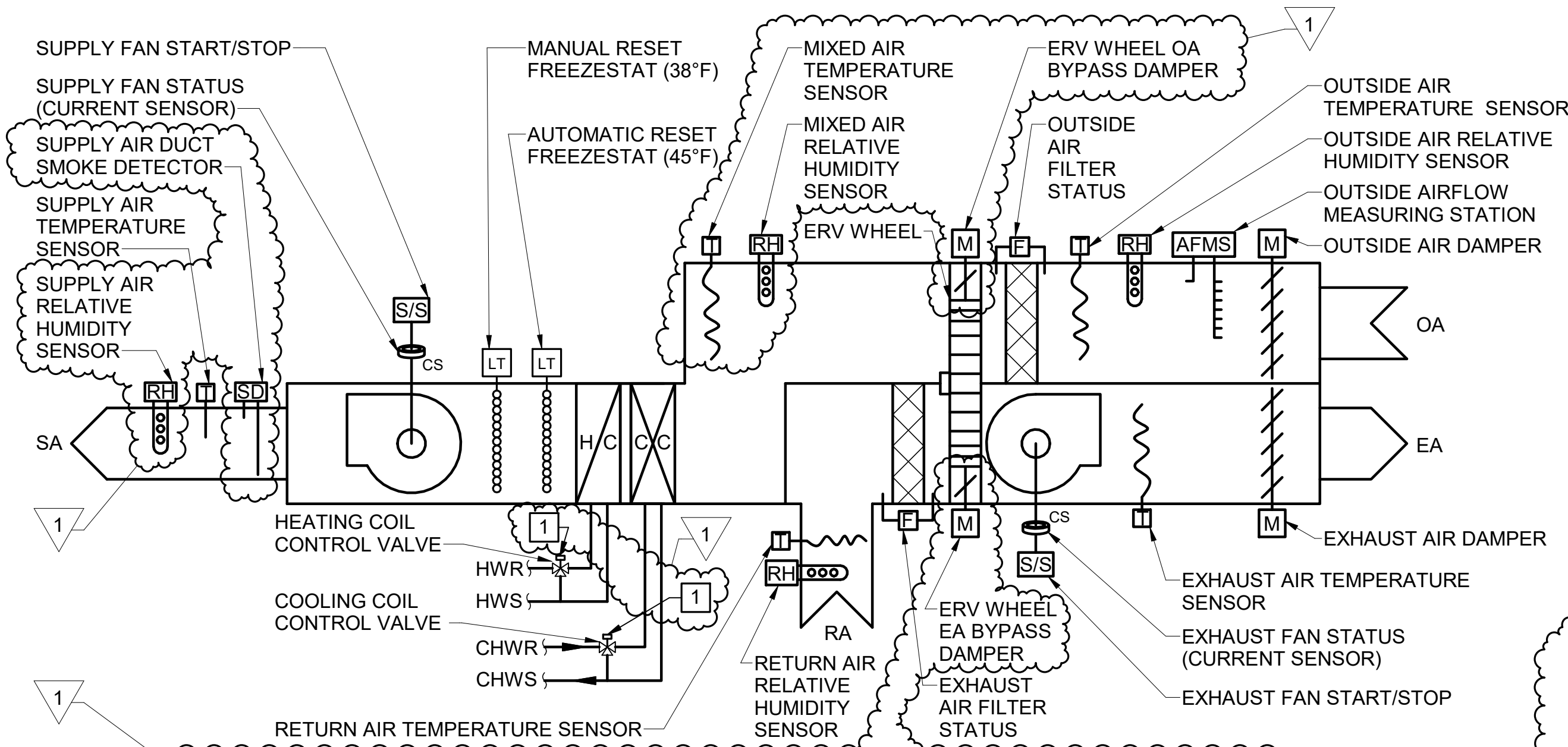
1  
M-701

M-701

2  
M-70

M-70





#### SEQUENCE OF OPERATION

OCCUPIED / UNOCCUPIED MODES:

DOAS-1 SHALL OPERATE IN THE OCCUPIED MODE WHENEVER AHU-1 IS IN THE OCCUPIED MODE.

DOAS-2 SHALL OPERATE IN THE OCCUPIED MODE WHENEVER AHU-2, OR AHU-3 IS IN THE OCCUPIED MODE.

DOAS-3 SHALL BE EQUIPPED WITH A DEDICATED OCCUPANCY SCHEDULE, SIMILAR TO THE OCCUPANCY SCHEDULES PROVIDED FOR THE AHUS.

DOAS-4 SHALL OPERATE IN THE OCCUPIED MODE WHENEVER AHU-4 IS IN THE IN THE OCCUPIED MODE.

DOAS-5 SHALL BE EQUIPPED WITH A DEDICATED OCCUPANCY SCHEDULE, SIMILAR TO THE OCCUPANCY SCHEDULES PROVIDED FOR THE AHUS.

OTHERWISE, THE DOAS UNITS SHALL REMAIN OFF.

OCCUPIED:  
DURING OCCUPIED MODE THE SUPPLY AND EXHAUST FANS SHALL OPERATE CONTINUOUSLY, THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL REMAN OPEN, THE ERV WHEEL SHALL TURN CONTINUOUSLY, AND THE SUPPLY AIR TEMPERATURE SHALL BE MAINTAINED ACCORDING TO THE FOLLOWING USER ADJUSTABLE RESET SCHEDULE:

OUTSIDE AIR TEMPERATURE	SUPPLY AIR SET POINT
55°F	65°F
65°F	55°F

THE ERV BYPASS DAMPERS, HEATING VALVE AND COOLING VALVE SHALL MODULATE IN SEQUENCE AND WITHOUT OVERLAP TO MAINTAIN THE SUPPLY AIR SET POINT.

IF THE SUPPLY AIR RELATIVE HUMIDITY EXCEEDS THE SUPPLY AIR RH HIGH LIMIT (65%RH, ADJUSTABLE) FOR LONGER THAN 15 MINUTES (ADJUSTABLE) THEN THE UNIT SHALL ENTER DEHUMIDIFICATION MODE. DURING DEHUMIDIFICATION MODE THE WHEEL BYPASS DAMPERS SHALL BE FULLY CLOSED, THE ERV WHEEL CONTINUE TO RUN,

THE COOLING COIL VALVE SHALL MODULATE TO MAINTAIN THE SUPPLY AIR DEHUMIDIFICATION SET POINT, 45%RH (ADJUSTABLE), AND THE HEATING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE SUPPLY AIR TEMPERATURE SET POINT.

THE UNIT SHALL REMAIN IN THE DEHUMIDIFICATION MODE FOR A MINIMUM OF 20-MINUTES (ADJUSTABLE). THE DEHUMIDIFICATION MODE SHALL END AFTER THE MINIMUM RUN TIME IF THE RETURN AIR RELATIVE HUMIDITY REMAINS BELOW 50%RH (ADJUSTABLE) FOR 10-MINUTES (ADJUSTABLE) AND THE MIXED AIR RELATIVE HUMIDITY IS BELOW 60%RH (ADJUSTABLE), OR IF THE OCCUPIED MODE ENDS.

UNOCCUPIED:  
DURING THE UNOCCUPIED MODE THE FANS SHALL REMAIN OFF. THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL REMAIN CLOSED, AND THE HEATING COIL SHALL MODULATE TO MAINTAIN 50°F (ADJUSTABLE) AT THE MIXED AIR TEMPERATURE SENSOR.

#### TYPICAL DOAS POINTS LIST

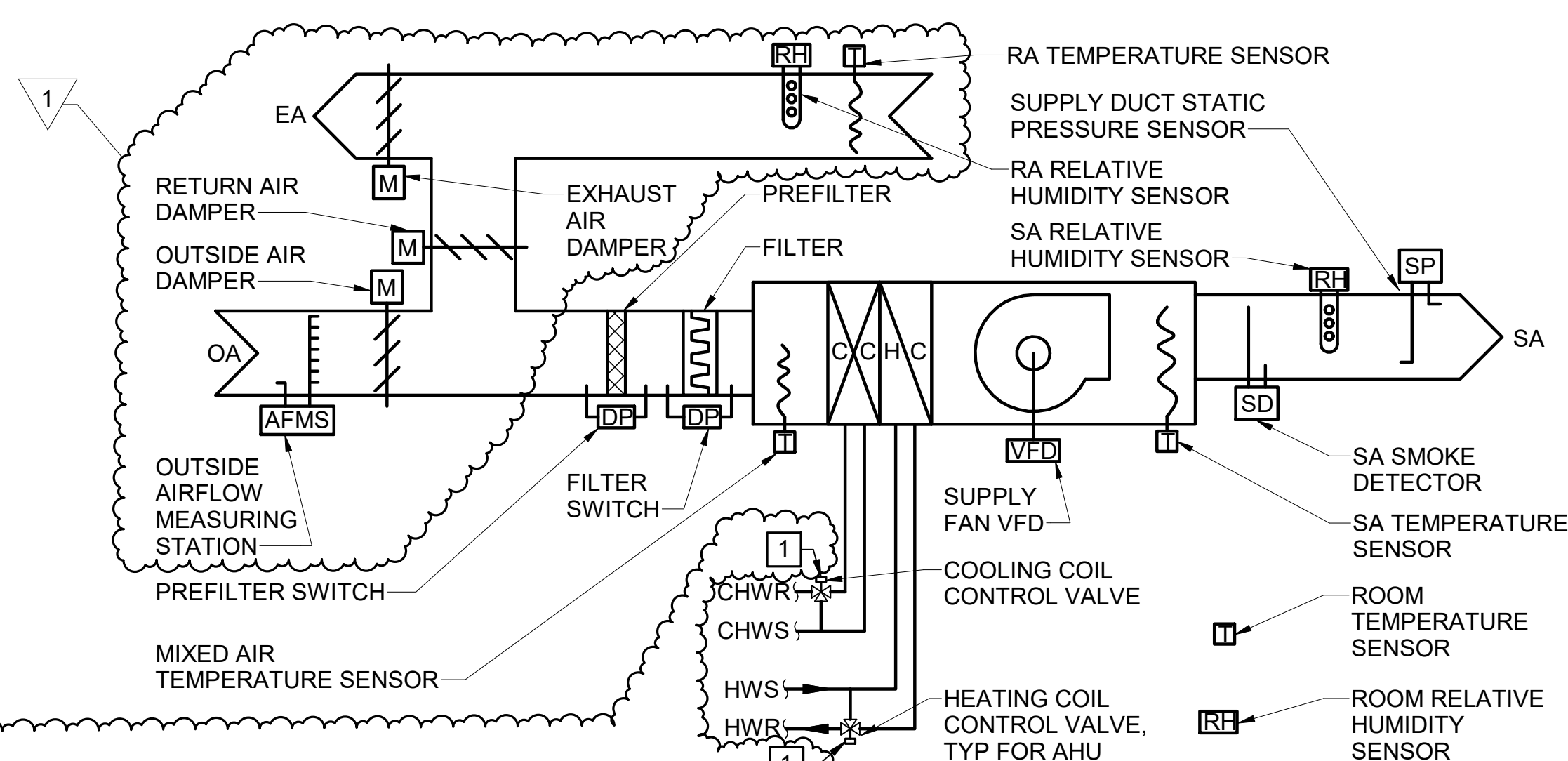
SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	ANALOG VARIABLE	BINARY VARIABLE	TREND LOG	NOTES
COOLING COIL CONTROL VALVE	X	X		X						
HEATING COIL CONTROL VALVE	X	X		X						
MANUAL RESET FREEZESTAT			X	X	X					4
AUTOMATIC RESET FREEZESTAT	X	X		X	X					4
SUPPLY AIR TEMPERATURE SENSOR	X	X		X	X					1
SUPPLY FAN START/STOP	X	X		X						
SUPPLY FAN STATUS CURRENT SENSOR	X	X		X						
EXHAUST AIR TEMPERATURE SENSOR	X	X		X	X					2
MIXED AIR RELATIVE HUMIDITY SENSOR	X	X								
EXHAUST FAN STATUS CURRENT SENSOR	X	X								
EXHAUST AIRFLOW DAMPER	X	X								
EXHAUST FAN START/STOP	X	X		X						
EXHAUST AIR FILTER STATUS	X	X								
RETURN AIR TEMPERATURE SENSOR	X	X								
RETURN AIR RELATIVE HUMIDITY SENSOR	X	X								
OUTSIDE AIR TEMPERATURE SENSOR	X	X		X	X					
OUTSIDE AIR RELATIVE HUMIDITY	X	X								
OUTSIDE AFMS	X	X								
OUTSIDE AIRFLOW DAMPER	X	X								
OUTSIDE AIR FILTER STATUS	X	X		X	X					5
OUTSIDE AIR FILTER STATUS	X	X								
AUTOMATIC RESET FREEZESTAT	X		X	X						3
ERV WHEEL START/STOP	X			X						
ERV WHEEL OA BYPASS DAMPER	X	X								
ERV WHEEL EA BYPASS DAMPER	X	X								
MIXED AIR TEMPERATURE	X	X								

#### NOTES:

1. GENERATE ALARM ON GUI IF TEMPERATURE IS NOT  $\pm 5^{\circ}\text{F}$  OF SET POINT.
2. GENERATE ALARM ON GUI IF TEMPERATURE IS BELOW  $15^{\circ}\text{F}$ .
3. GENERATE ALARM ON GUI IF SMOKE DETECTOR INDICATES AN ALARM CONDITION.
4. GENERATE ALARM ON GUI IF FREEZESTAT INDICATES A LOW TEMPERATURE CONDITION.
5. GENERATE MAINTENANCE ALARM ON GUI IF FILTER PRESSURE DROP EXCEEDS 0.70 IN H2O.

#### 1 TYPICAL DOAS CONTROL DIAGRAM

M-702 SCALE: NTS



#### SEQUENCE OF OPERATION

OCCUPIED / UNOCCUPIED MODES:  
THE OCCUPIED AND UNOCCUPIED MODES SHALL BE DETERMINED BY USER-ADJUSTABLE 7-DAY/24-HOUR SCHEDULES WHICH SHALL BE ADJUSTABLE BY THE BUILDING OPERATOR THROUGH THE GUI. EACH AHU SHALL HAVE A SEPARATE SCHEDULE. SCHEDULES SHALL BE PROVIDED FOR HOLIDAYS, EVENTS, AND EVERYDAY USE.

DE-HUMIDIFICATION MODE:  
THE AHU SHALL ENTER DE-HUMIDIFICATION MODE IF THE RETURN AIR RH INDICATES A RELATIVE HUMIDITY ABOVE THE MAXIMUM RH SETPOINT (55%RH, ADJUSTABLE). DE-HUMIDIFICATION MODE SHALL END WHEN THE RETURN AIR RH SENSOR REMAINS BELOW THE MAXIMUM RH SETPOINT FOR 20 MINUTES (ADJUSTABLE).

COOLING MODE:  
THE AHU SHALL ENTER THE COOLING MODE WHENEVER THE MAJORITY OF THE ZONES ARE CALLING FOR COOLING. DURING COOLING MODE, THE SUPPLY AIR SET POINT SHALL BE DETERMINED BY THE VAV ZONE WITH THE GREATEST COOLING DEMAND AND SHALL BE RESET ACCORDING TO THE FOLLOWING USER-ADJUSTABLE RESET SCHEDULE:

WARMEST ZONE	AHU SUPPLY AIR SET POINT
ZONE TEMP > ZONE CLG SET POINT	55° F
ZONE TEMP > ZONE CLG SET POINT - 1	65° F

AFTER THE AHU HAS ENTERED COOLING MODE THE UNIT SHALL REMAIN IN COOLING MODE UNTIL HEATING MODE IS ENABLED. WHILE THE UNIT IS IN COOLING MODE THE SUPPLY FAN SHALL STOP AND THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL CLOSE. IF ONE OR MORE ZONES CALL FOR COOLING THE SUPPLY FAN SHALL START AND THE DAMPERS SHALL OPERATE AS DESCRIBED BELOW.

HEATING MODE:  
THE AHU SHALL ENTER THE HEATING MODE WHENEVER THE MAJORITY OF THE ZONES ARE CALLING FOR HEAT. DURING HEATING MODE, THE SUPPLY AIR SET POINT SHALL BE DETERMINED BY THE VAV ZONE WITH THE GREATEST HEATING DEMAND AND SHALL BE RESET ACCORDING TO THE FOLLOWING USER-ADJUSTABLE RESET SCHEDULE:

COOLEST ZONE	AHU SUPPLY AIR SET POINT
ZONE TEMP < ZONE HTG SET POINT	95° F
ZONE TEMP < ZONE HTG SET POINT +1	75° F

AFTER THE AHU HAS ENTERED HEATING MODE THE UNIT SHALL REMAIN IN HEATING MODE UNTIL COOLING MODE IS ENABLED. WHILE THE UNIT IS IN HEATING MODE THE SUPPLY FAN SHALL STOP AND THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL CLOSE. IF ONE OR MORE ZONES CALL FOR HEATING THE SUPPLY FAN SHALL START AND THE DAMPERS SHALL OPERATE AS DESCRIBED BELOW.

OCCUPIED:  
DURING UNOCCUPIED MODE THE SUPPLY FAN SHALL OPERATE CONTINUOUSLY AS LONG A THERE IS A CALL FOR HEATING OR COOLING FROM A ZONE) AND ITS SPEED SHALL MODULATE TO ACCORDING TO A SUPPLY DUCT STATIC PRESSURE RESET SCHEDULE WHICH SHALL MAINTAIN AT LEAST ONE VAV AIRFLOW WITH ITS DAMPER 90% OPEN AT ALL TIMES.

DURING THE COOLING MODE THE HEATING CONTROL VALVE SHALL REMAIN CLOSED. THE COOLING CONTROL VALVE SHALL MODULATE TO MAINTAIN AHU SUPPLY AIR SET POINT WHENEVER THE SUPPLY FAN IS RUNNING AND ECONOMIZER COOLING IS DISABLED, OTHERWISE IT SHALL REMAIN CLOSED.

ECONOMIZER COOLING SHALL BE ENABLED WHENEVER THE OUTSIDE AIR TEMPERATURE IS AT LEAST  $5^{\circ}\text{F}$  (ADJUSTABLE) BELOW THE AHU SUPPLY AIR SET POINT AND THE OUTSIDE AIR ENTHALPY IS 10% (ADJUSTABLE) LOWER THAN THE RETURN AIR ENTHALPY. DURING ECONOMIZER COOLING THE COOLING CONTROL VALVE SHALL REMAIN CLOSED AND THE MIXED AIR DAMPERS (OUTSIDE, RETURN, & EXHAUST) SHALL MODULATE TO MAINTAIN THE SUPPLY AIR SET POINT.

DURING THE HEATING MODE THE COOLING CONTROL VALVE SHALL REMAIN CLOSED, THE OUTSIDE AND EXHAUST DAMPERS SHALL REMAIN CLOSED AND THE RETURN DAMPER SHALL REMAIN OPEN. THE HEATING CONTROL VALVE SHALL MODULATE TO MAINTAIN AHU SUPPLY AIR SET POINT WHENEVER THE SUPPLY FAN IS, OTHERWISE IT SHALL REMAIN CLOSED.

WHENEVER THE DE-HUMIDIFICATION MODE IS ENABLED, THE COOLING COIL VALVE SHALL MODULATE TO MAINTAIN THE DE-HUMIDIFICATION MODE SUPPLY AIR RELATIVE HUMIDITY SET POINT (45%RH, ADJUSTABLE), THE HEATING COIL VALVE SHALL MODULATE TO MAINTAIN THE SUPPLY AIR TEMPERATURE SET POINT, AND THE OUTSIDE AND EXHAUST DAMPERS SHALL BE CLOSED. WHEN THE DE-HUMIDIFICATION IS DISABLED THE HEATING COIL VALVE AND COOLING COIL VALVE SHALL RETURN TO STANDARD OPERATION.

UNOCCUPIED:  
DURING THE UNOCCUPIED MODE THE FAN SHALL REMAIN OFF, THE COOLING COIL VALVE SHALL REMAIN IN THE FULL BYPASS POSITION, AND THE HEATING COIL SHALL MODULATE TO MAINTAIN 50°F (ADJUSTABLE) AT THE MIXED AIR TEMPERATURE SENSOR.

#### TYPICAL AHU POINTS LIST

SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	ANALOG VARIABLE	BINARY VARIABLE	TREND LOG	NOTES
SUPPLY AIR TEMPERATURE	X	X				X	X			1
SUPPLY AIR RELATIVE HUMIDITY	X	X						X		
RETURN AIR TEMPERATURE	X	X						X		
RETURN AIR RELATIVE HUMIDITY	X	X						X		
SUPPLY AIR SMOKE DETECTOR	X		X	X	X					3
PREFILTER SWITCH	X		X	X	X					5
FILTER SWITCH	X		X	X	X					5
MIXED AIR TEMPERATURE	X	X								
COOLING COIL CONTROL VALVE	X	X	X					X		
HEATING COIL CONTROL VALVE	X	X						X		
SUPPLY FAN VFD ENABLE	X			X				X		
SUPPLY FAN VFD SIGNAL	X	X						X		
SUPPLY FAN VFD ALARM	X		X	X	X			X		6
OUTSIDE AFMS	X	X						X		
OUTSIDE AIRFLOW DAMPER	X		X					X		
ROOM TEMPERATURE	X	X						X		
ROOM RELATIVE HUMIDITY SENSOR	X	X						X		
SUPPLY DUCT STATIC PRESSURE	X	X						X		
OUTSIDE AIR DAMPER	X	X						X		
RETURN AIR DAMPER	X	X						X		
EXHAUST AIR DAMPER	X	X						X		
OUTSIDE AIRFLOW	X	X						X		

#### NOTES:

1. GENERATE ALARM ON GUI IF TEMPERATURE IS NOT  $\pm 5^{\circ}\text{F}$  OF SET POINT.
2. GENERATE ALARM ON GUI IF TEMPERATURE IS BELOW  $15^{\circ}\text{F}$ .
3. GENERATE ALARM ON GUI IF SMOKE DETECTOR INDICATES AN ALARM CONDITION.
4. GENERATE ALARM ON GUI IF FREEZESTAT INDICATES A LOW TEMPERATURE CONDITION.
5. GENERATE MAINTENANCE ALARM ON GUI IF FILTER PRESSURE DROP EXCEEDS 0.70 IN H2O.
6. GENERATE ALARM ON GUI IF VFD INDICATES AN ALARM CONDITION.

#### 2 TYPICAL AHU CONTROL DIAGRAM

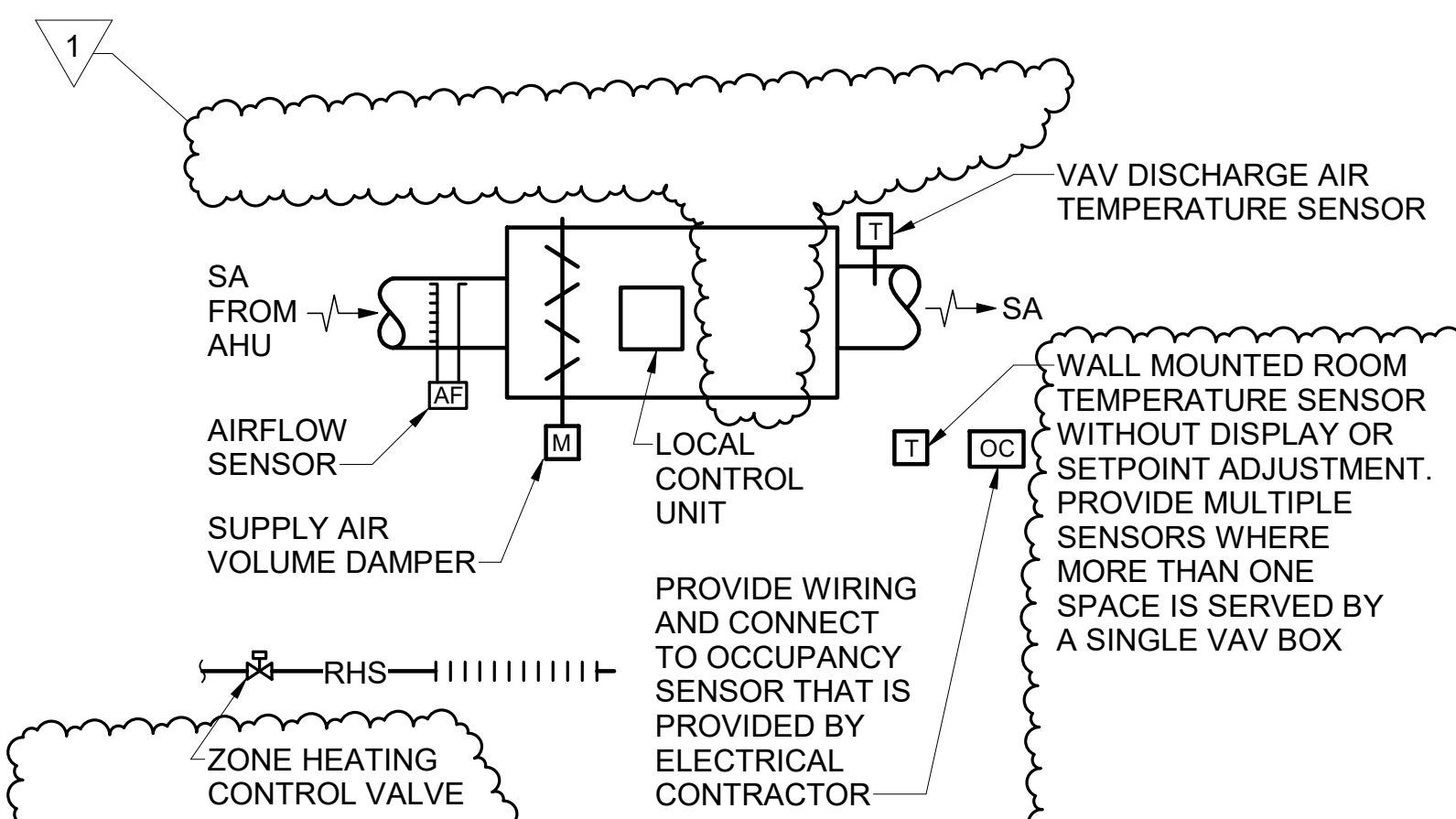
M-702 SCALE: NTS

#### GENERAL NOTES

1. REFER TO M-701 CONTROL SYSTEM GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.

#### KEYNOTES

- 1 PROVIDE 2-WAY VALVE FOR AHU-1 & -2, DOAS-2 & -4. PROVIDE 3-WAY VALVE FOR AHU-3 & -4, DOAS-1, -3, & -5.



#### SEQUENCE OF OPERATION

OCCUPIED MODE:  
THE VAV BOX SHALL MODULATE THE SUPPLY AIR VOLUME DAMPER TO MAINTAIN THE SUPPLY AIRFLOW SETPOINT. THE ZONE TEMPERATURE SENSOR SHALL RESET THE SUPPLY AIRFLOW SETPOINT. THE VAV BOX SHALL OPERATE IN EITHER THE HEATING MODE OR THE COOLING MODE. THE HEATING AND COOLING MODE SHALL BE DETERMINED BY THE AHU CONNECTED TO THE VAV.

COOLING MODE:  
AS THE ZONE TEMPERATURE RISES ABOVE THE ZONE COOLING SETPOINT (75° F ADJUSTABLE) THE SUPPLY AIRFLOW SETPOINT SHALL MODULATE BETWEEN THE SCHEDULED MINIMUM AND MAXIMUM AIRFLOW SET POINTS. THE SUPPLY AIRFLOW SETPOINT SHALL DECREASE AS THE ZONE TEMPERATURE APPROACHES THE COOLING SETPOINT. WHEN THE ROOM TEMPERATURE FALLS  $1^{\circ}\text{F}$  (ADJUSTABLE) BELOW THE COOLING SETPOINT THEN THE VAV BOX SUPPLY AIRFLOW SETPOINT SHALL BE ZERO CFM AND THE VAV BOX DAMPER SHALL CLOSE.

HEATING MODE:  
AS THE ZONE TEMPERATURE FALLS BELOW THE ZONE HEATING SETPOINT (68° F ADJUSTABLE) THE ZONE HEATING VALVE (FIN TUBE OR RADIANT SLAB) SHALL CYCLE TO MAINTAIN THE ZONE SET POINT. THE VALVE SHALL OPEN AT SET POINT AND CLOSE  $1^{\circ}\text{F}$  (ADJUSTABLE) ABOVE SET POINT.

IF THE ZONE HEATING VALVE IS OPEN FOR 20 MINUTES (ADJUSTABLE) OR MORE AND THE ZONE IS STILL BELOW SET POINT, OR THE ZONE IS NOT EQUIPPED WITH A ZONE HEATING VALVE THEN THE VAV BOX WIL SIGNAL A NEED FOR HEAT TO THE AHU. AS THE ZONE TEMPERATURE FALLS BELOW THE ZONE HEATING SETPOINT (68° F ADJUSTABLE) THE SUPPLY AIRFLOW SETPOINT SHALL MODULATE BETWEEN THE SCHEDULED MINIMUM AND MAXIMUM AIRFLOW SET POINTS. THE SUPPLY AIRFLOW SETPOINT SHALL DECREASE AS THE ZONE TEMPERATURE APPROACHES THE HEATING SETPOINT. WHEN THE ROOM TEMPERATURE RISES  $1^{\circ}\text{F}$  (ADJUSTABLE) ABOVE THE HEATING SETPOINT THEN THE VAV BOX SUPPLY AIRFLOW SET POINT SHALL BE ZERO CFM AND THE VAV BOX DAMPER SHALL CLOSE.

DEHUMIDIFICATION MODE:  
WHENEVER THE ASSOCIATED AHU ENTERS THE DEHUMIDIFICATION MODE, THE VAV BOXES THAT ARE CONNECTED TO THE AHU SHALL OPEN. IF THE ZONE IS IN DEADBAND BETWEEN HEATING AND COOLING THEN THE VAV SHALL MAINTAIN THE MINIMUM SCHEDULED AIR FLOW, OTHERWISE THE VAV SHALL OPERATE AS DESCRIBED ABOVE TO SATISFY THE ZONE LOADS. WHEN DEHUMIDIFICATION MODE ENDS THE VAV SHALL RETURN TO STANDARD OPERATION.

UNOCCUPIED MODE:  
THE VAV BOX DAMPER SHALL REMAIN CLOSED.

NIGHT SETBACK MODE:  
THE ZONE HEATING VALVE SHALL CYCLE TO MAINTAIN NIGHT HEATING SETBACK, (65° F ADJUSTABLE).

#### TYPICAL VAV BOX POINTS LIST

SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	ANALOG VARIABLE	BINARY VARIABLE	TREND LOG	NOTES
ROOM TEMPERATURE	X	X		X				X		1
HEATING SET POINT	X	X					X	X		
COOLING SET POINT	X	X					X	X		
AIR FLOW (CFM)	X	X		X				X		2
DAMPER POSITION	X	X						X		
ZONE HEATING CONTROL VALVE	X		X					X		
NIGHT HEATING SET-BACK	X						X	X		
NIGHT COOLING SET-BACK	X						X	X		
OCCUPANCY SENSOR	X		X					X		3

#### NOTES:

1. GENERATE ALARM ON GUI IF ROOM TEMPERATURE IS GREATER THAN  $3^{\circ}\text{F}$  ABOVE THE COOLING SET POINT OR LOWER THAN  $3^{\circ}\text{F}$  BELOW THE HEATING SET POINT.
2. GENERATE ALARM ON GUI IF AIRFLOW IS NOT BETWEEN MINIMUM AND THE MAXIMUM AIRFLOW SETTINGS.
3. CONNECT TO OCCUPANCY SENSOR PROVIDED BY ELECTRICAL CONTRACTOR.

#### 3 TYPICAL VAV BOX CONTROL DIAGRAM

M-702 SCALE: NTS

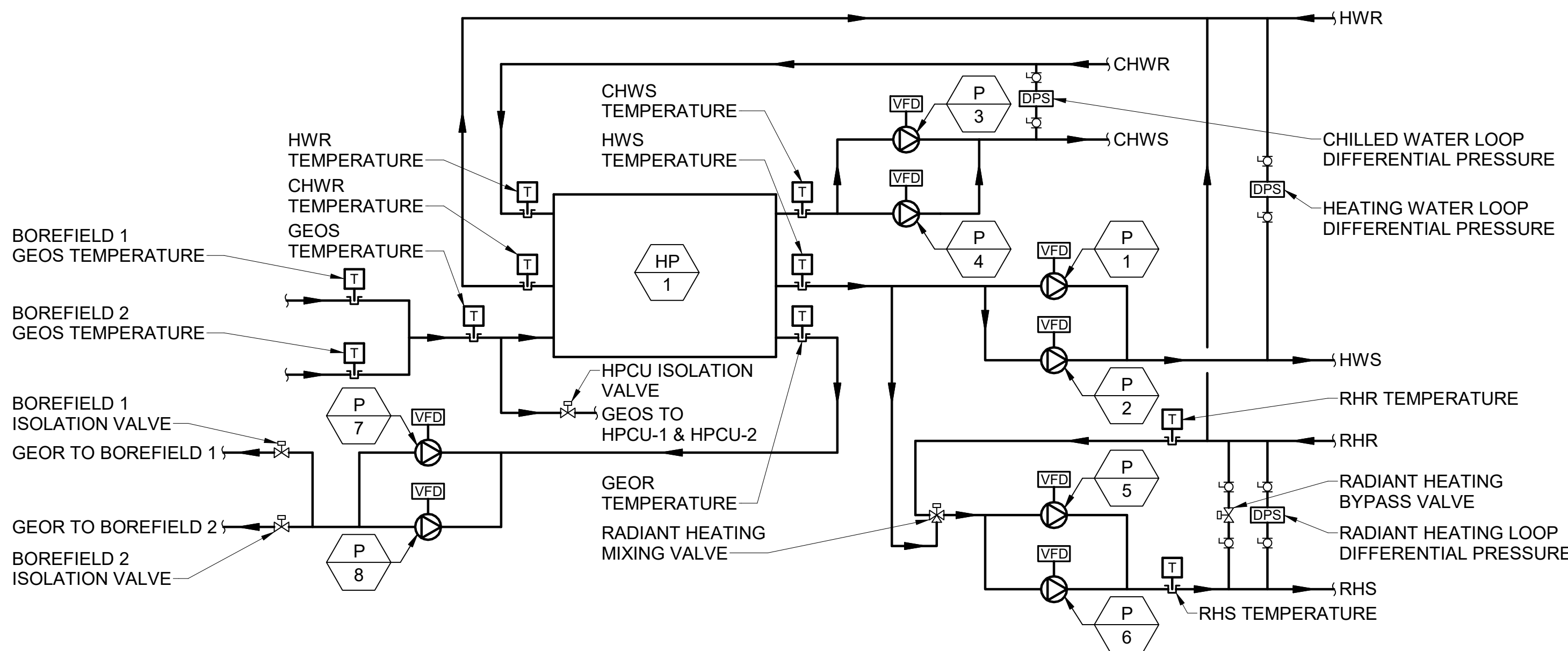
		<b>DEPARTMENT OF INLAND FISHERIES &amp; WILDLIFE</b> TITLE: NEW OFFICE HEADQUARTERS LOCATION: AUGUSTA, ME TITLE THIS DWG: MECHANICAL CONTROL DIAGRAMS 2	
DRAWN BY: _____ CHECK BY: MSA		OAK POINT ASSOCIATES M-702 SHEET NO. 208 OF 239	
NO.	DATE	DESCRIPTION	BY
1	2/27/25	ADDENDUM NO. 3	MSA
REVISIONS		DATE	01/29/2025

GENERAL NOTES

1. REFER TO M-701 CONTROL SYSTEM GENERAL NOTES FOR ADDITIONAL REQUIREMENTS.

KEYNOTES

1 -



SEQUENCE OF OPERATION

THE GEOTHERMAL HEAT PUMP CENTRAL PLANT SHALL BE ENABLED WHENEVER THERE IS A CALL FOR HEATING OR COOLING FROM A ZONE. ONCE ENABLED THE CENTRAL PLANT SHALL REMAIN ENABLED FOR A MINIMUM OF 1 HOUR (ADJUSTABLE).

HEATING MODE:  
HEATING MODE SHALL BE ENABLED WHENEVER THE OUTSIDE AIR TEMPERATURE IS BELOW 60°F (ADJUSTABLE) OR THERE IS A CALL FOR DEHUMIDIFICATION FROM AN AHU OR DOAS.

THE HEAT PUMP HEATING WATER SUPPLY SET POINT SHALL BE RESET ACCORDING TO THE FOLLOWING OPERATOR ADJUSTABLE SCHEDULE:

OUTSIDE AIR TEMPERATURE	HEATING WATER SUPPLY SET POINT
60°F	120°F
40°F	140°F

THE RADIANT HEATING SYSTEM MIXING VALVE SHALL MODULATE TO MAINTAIN THE RADIANT HEATING SUPPLY WATER TEMPERATURE ACCORDING TO THE FOLLOWING USER ADJUSTABLE RESET SCHEDULE:

OUTSIDE AIR TEMPERATURE	RADIANT HEATING SUPPLY SET POINT
60°F	80°F
20°F	120°F

DURING THE HEATING MODE THE HEATING WATER PUMPS (P-1 AND P-2) AND THE RADIANT HEATING PUMPS (P-5 AND P-6) SHALL OPERATE UNDER LEAD / LAG CONTROL.

THE HEATING WATER LEAD PUMP SHALL RUN CONTINUOUSLY DURING HEATING MODE.

THE RADIANT HEATING LEAD PUMP SHALL OPERATE WHENEVER THERE IS A CALL FOR HEATING FROM A RADIANT HEATING ZONE DURING HEATING MODE, OTHERWISE THE RADIANT PUMPS SHALL REMAIN OFF.

COOLING MODE:  
COOLING MODE SHALL BE ENABLED WHENEVER THERE IS A CALL FOR COOLING FROM AN AHU OR DOAS. THE CHILLED WATER SUPPLY SET POINT SHALL BE 42°F (ADJUSTABLE).

THE CHILLED WATER PUMPS (P-3 AND P-4) SHALL OPERATE UNDER LEAD/LAG CONTROL. THE LEAD CHILLED WATER PUMP SHALL RUN CONTINUOUSLY (MINIMUM RUN TIME = 5 MINUTES, ADJUSTABLE) WHENEVER THERE IS A CALL FOR COOLING FROM A COOLING COIL CONTROL VALVE. IF NO CHILLED WATER VALVES ARE OPEN THEN CHILLED WATER PUMPS SHALL REMAIN OFF.

DEHUMIDIFICATION MODE:  
WHENEVER AN AHU OR DOAS IS IN DEHUMIDIFICATION MODE THE LEAD HEATING AND CHILLED WATER PUMPS SHALL RUN CONTINUOUSLY AS DESCRIBED ABOVE. THE HEATING WATER SUPPLY SET POINT SHALL BE 140°F (ADJUSTABLE), AND THE CHILLED WATER SUPPLY SET POINT SHALL BE 42°F (ADJUSTABLE).

GEOTHERMAL BORE FIELD CONTROL:  
THE BORE FIELD SHALL BE SEPARATED INTO TWO SEPARATE GROUND LOOPS (BORE FIELD 1 & BORE FIELD 2) CONTROLLED BY AUTOMATIC ISOLATION VALVES. THE GEOTHERMAL BORE FIELD PUMPS (P-7 AND P-8) WILL OPERATE UNDER LEAD/LAG CONTROL. THE VFD SHALL CHANGE THE PUMP SPEED DEPENDING ON HOW MANY ISOLATION VALVES ARE OPEN. WHEN 1 ISOLATION VALVE IS OPEN THE PUMP SHALL RUN AT SPEED 1, AND WHEN 2 ISOLATION VALVES ARE OPEN THE PUMP SHALL RUN AT SPEED 2.

PUMP SPEEDS 1 AND 2 SHALL BE DETERMINED BY COORDINATION WITH THE BALANCING CONTRACTOR. EACH BORE FIELD HAS A 197-GPM FLOW REQUIREMENT.

LEAD/LAG PUMP CONTROL:  
UNDER NORMAL OPERATION THE LEAD PUMP RUNS AND THE LAG PUMP IS OFF. IF THE LEAD PUMP VFD SIGNALS AN ALARM THEN THE LAG PUMP SHALL START AUTOMATICALLY. THE LEAD PUMP SHALL BE STOPPED AND AN ALARM SHALL BE ANNOUNCED. OTHERWISE THE LAG PUMP SHALL REMAN OFF. THE LEAD PUMP SHALL BE ALTERNATED REGULARLY TO PROVIDE EQUAL WEAR. THE PUMP VFD SHALL MODULATE TO MAINTAIN A CONSTANT 30-PSI (ADJUSTABLE) DIFFERENTIAL PRESSURE BETWEEN THE SUPPLY AND RETURN PIPES, AS READ BY THE DIFFERENTIAL PRESSURE SENSOR. THE VFD SIGNAL SHALL NOT DROP BELOW 30%.

GEOTHERMAL HEATING/COOLING PLANT  
POINTS LIST

SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	LOG VARIABLE	ANALOG VARIABLE	TREND LOG	NOTES
HEATING MODE ENABLE	x			x					x	1
HEATING WATER SUPPLY SETPOINT	x						x			1
HEATING WATER SYSTEM DIFFERENTIAL PRESSURE	x	x					x		x	
HWS TEMPERATURE	x	x								
HWR TEMPERATURE	x	x								
P-1 VFD ENABLE	x			x					x	
P-1 VFD SIGNAL	x	x							x	
P-1 VFD ALARM	x		x	x						2
P-2 VFD ENABLE	x			x					x	
P-2 VFD SIGNAL	x	x							x	
P-2 VFD ALARM	x		x	x						2
RHS TEMPERATURE	x	x					x		x	
RHR TEMPERATURE	x	x							x	
P-5 VFD ENABLE	x			x					x	
P-5 SIGNAL	x	x							x	
P-5 ALARM	x		x	x						2
P-6 VFD ENABLE	x			x					x	
P-6 SIGNAL	x	x							x	
P-6 ALARM	x		x	x						2
RADIANT MIXING VALVE	x	x							x	
RADIANT BYPASS VALVE	x	x							x	
RADIANT LOOP DIFFERENTIAL PRESSURE	x	x					x		x	
CHILLED WATER ENABLE	x			x					x	
CHILLED WATER SUPPLY SETPOINT	x						x			3
CHILLED WATER SUPPLY TEMPERATURE	x	x					x		x	4
CHILLED WATER RETURN TEMPERATURE	x	x							x	
P-3 VFD ENABLE	x			x					x	
P-3 VFD SIGNAL	x	x							x	
P-3 VFD ALARM	x		x						x	2
P-4 VFD ENABLE	x			x					x	
P-4 VFD SIGNAL	x	x							x	
P-4 VFD ALARM	x		x						x	2
CHILLED WATER SYSTEM DIFFERENTIAL PRESSURE	x	x							x	
GEOS TEMPERATURE	x	x							x	
BOREFIELD 1 GEOS TEMPERATURE	x	x							x	
BOREFIELD 2 GEOS TEMPERATURE	x	x							x	
BOREFIELD 1 ISOLATION VALVE	x			x					x	
BOREFIELD 2 ISOLATION VALVE	x			x					x	
GEOR TEMPERATURE	x	x							x	
HPCU ISOLATION VALVE	x			x					x	
P-7 VFD ENABLE	x			x					x	
P-7 VFD SIGNAL	x	x							x	
P-7 VFD ALARM	x		x						x	2
P-8 VFD ENABLE	x			x					x	
P-8 VFD SIGNAL	x	x							x	
P-8 VFD ALARM	x		x						x	2

- NOTES:
1. GENERATE AN ALARM ON THE GUI IF THE VFD INDICATES AN ALARM CONDITION.
  2. GENERATE AN ALARM ON THE GUI IF THE PUMP FAILS TO SHOW PROOF OF FLOW.
  3. GENERATE AN ALARM ON THE GUI IF THE CHILLER INDICATES AN ALARM CONDITION.
  4. GENERATE AN ALARM ON THE GUI IF THE CHILLED WATER TEMPERATURE IS 5°F (ADJUSTABLE) ABOVE THE CHILLED WATER SETPOINT 15 MINUTES (ADJUSTABLE) AFTER THE CHILLER IS ENABLED.

1 GEOTHERMAL HEATING/COOLING PLANT CONTROL DIAGRAM  
M-704 SCALE: NTS

1

2/27/25

ADDENDUM NO. 3

MSA

NO.

DATE

DESCRIPTION

BY

REVISIONS

DATE

01/29/2025

STATE OF MAINE  
MATTHEW S. ALBERT  
No. 9235  
LICENSED PROFESSIONAL ENGINEER

DRAWN BY:  
CHECK BY: MSA

DEPARTMENT OF INLAND FISHERIES & WILDLIFE

NEW OFFICE HEADQUARTERS

AUGUSTA, ME

TITLE THIS DWS:  
MECHANICAL CONTROL DIAGRAMS 4

OAK POINT ASSOCIATES

231 Main Street, Biddeford, Maine 04005

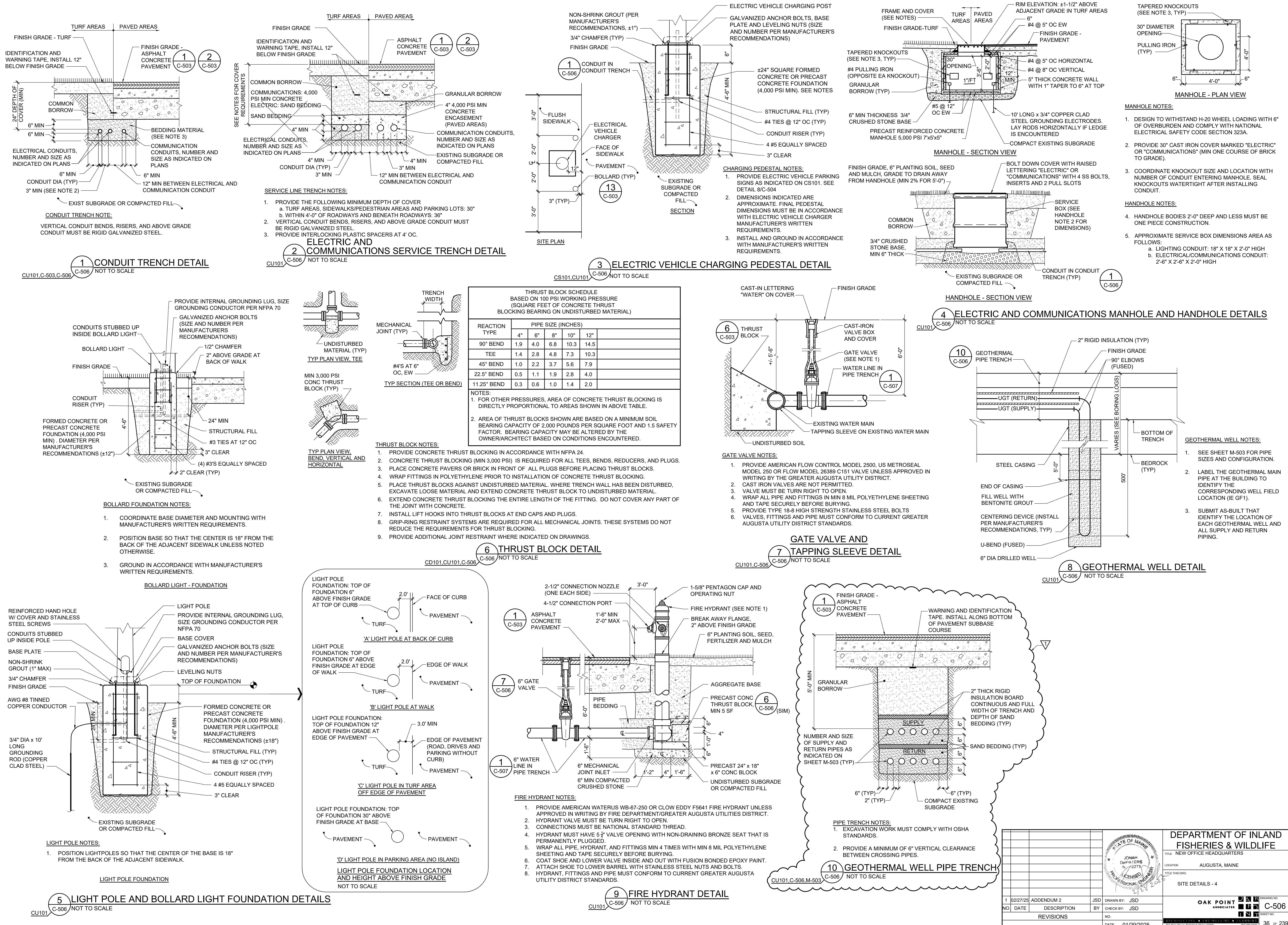
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DRAWING NO.  
M-704

SHEET NO.

210 OF 239





THRUST BLOCK SCHEDULE BASED ON 100 PSI WORKING PRESSURE (SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL)					
REACTION TYPE	PIPE SIZE (INCHES)				
	4"	6"	8"	10"	12"
90° BEND	1.9	4.0	6.8	10.3	14.5
TEE	1.4	2.8	4.8	7.3	10.3
45° BEND	1.0	2.2	3.7	5.6	7.9
22.5° BEND	0.5	1.1	1.9	2.8	4.0
11.25° BEND	0.3	0.6	1.0	1.4	2.0

NOTES:  
1. FOR OTHER PRESSURES, AREA OF CONCRETE THRUST BLOCKING IS DIRECTLY PROPORTIONAL TO AREAS SHOWN IN ABOVE TABLE.  
2. AREA OF THRUST BLOCKS SHOWN ARE BASED ON A MINIMUM SOIL BEARING CAPACITY OF 2,000 POUNDS PER SQUARE FOOT AND 1.5 SAFETY FACTOR. BEARING CAPACITY MAY BE ALTERED BY THE OWNER/ARCHITECT BASED ON CONDITIONS ENCOUNTERED.

- THRUST BLOCK NOTES:**
1. PROVIDE CONCRETE THRUST BLOCKING IN ACCORDANCE WITH NFPA 24.
  2. CONCRETE THRUST BLOCKING (MIN 3,000 PSI) IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, AND PLUGS.
  3. PLACE CONCRETE PAVERS OR BRICK IN FRONT OF ALL PLUGS BEFORE PLACING THRUST BLOCKS.
  4. WRAP FITTINGS IN POLYETHYLENE PRIOR TO INSTALLATION OF CONCRETE THRUST BLOCKING.
  5. PLACE THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND CONCRETE THRUST BLOCK TO UNDISTURBED MATERIAL.
  6. EXTEND CONCRETE THRUST BLOCKING THE ENTIRE LENGTH OF THE FITTING. DO NOT COVER ANY PART OF THE JOINT WITH CONCRETE.
  7. INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.
  8. GRIP-RING RESTRAINT SYSTEMS ARE REQUIRED FOR ALL MECHANICAL JOINTS. THESE SYSTEMS DO NOT REDUCE THE REQUIREMENTS FOR THRUST BLOCKING.
  9. PROVIDE ADDITIONAL JOINT RESTRAINT WHERE INDICATED ON DRAWINGS.

CD101,CU101,C-506

6 THRUST BLOCK DETAIL

C-506 NOT TO SCALE

1 CONDUIT TRENCH DETAIL

CU101,C-503,C-506

2 ELECTRIC AND COMMUNICATIONS SERVICE TRENCH DETAIL

CU101,C-506 NOT TO SCALE

3 ELECTRIC VEHICLE CHARGING PEDESTAL DETAIL

CS101,CU101,C-506 NOT TO SCALE

4 ELECTRIC AND COMMUNICATIONS MANHOLE AND HANDHOLE DETAILS

CU101,C-506 NOT TO SCALE

10 GEOTHERMAL PIPE TRENCH

C-506

8 GEOTHERMAL WELL DETAIL

CU101,C-506 NOT TO SCALE

7 GATE VALVE AND TAPPING SLEEVE DETAIL

CU101,C-506

6 THRUST BLOCK DETAIL

C-506 (SIM)

10 GEOTHERMAL WELL PIPE TRENCH

CU101,C-506,M-503

- LIGHT POLE NOTES:**
1. POSITION LIGHTPOLES SO THAT THE CENTER OF THE BASE IS 18" FROM THE BACK OF THE ADJACENT SIDEWALK.

LIGHT POLE FOUNDATION

5 LIGHT POLE AND BOLLARD LIGHT FOUNDATION DETAILS

CU101,C-506 NOT TO SCALE

9 FIRE HYDRANT DETAIL

CU101,C-506 NOT TO SCALE

GEOTHERMAL WELL NOTES:

1. SEE SHEET M-503 FOR PIPE SIZES AND CONFIGURATION.
2. LABEL THE GEOTHERMAL MAIN PIPE AT THE BUILDING TO IDENTIFY THE CORRESPONDING WELL FIELD LOCATION (IE GF1).
3. SUBMIT AS-BUILT THAT IDENTIFY THE LOCATION OF EACH GEOTHERMAL WELL AND ALL SUPPLY AND RETURN PIPING.

MANHOLE NOTES:

1. DESIGN TO WITHSTAND H-20 WHEEL LOADING WITH 6" OF OVERBURDEN AND COMPLY WITH NATIONAL ELECTRICAL SAFETY CODE SECTION 323A.
2. PROVIDE 30" CAST IRON COVER MARKED "ELECTRIC" OR "COMMUNICATIONS" (MIN ONE COURSE OF BRICK TO GRADE).
3. COORDINATE KNOCKOUT SIZE AND LOCATION WITH NUMBER OF CONDUIT ENTERING MANHOLE. SEAL KNOCKOUTS WATERTIGHT AFTER INSTALLING CONDUIT.

HANDHOLE NOTES:

4. HANDHOLE BODIES 2'-0" DEEP AND LESS MUST BE ONE PIECE CONSTRUCTION.
5. APPROXIMATE SERVICE BOX DIMENSIONS AREA AS FOLLOWS:
  - a. LIGHTING CONDUIT: 18" X 18" X 2'-0" HIGH
  - b. ELECTRICAL/COMMUNICATIONS CONDUIT: 2'-6" X 2'-6" X 2'-0" HIGH

MANHOLE - PLAN VIEW

MANHOLE - SECTION VIEW

HANDHOLE - SECTION VIEW

GEOTHERMAL WELL NOTES:

1. SEE SHEET M-503 FOR PIPE SIZES AND CONFIGURATION.
2. LABEL THE GEOTHERMAL MAIN PIPE AT THE BUILDING TO IDENTIFY THE CORRESPONDING WELL FIELD LOCATION (IE GF1).
3. SUBMIT AS-BUILT THAT IDENTIFY THE LOCATION OF EACH GEOTHERMAL WELL AND ALL SUPPLY AND RETURN PIPING.



SOIL AND SAND FILTER INSTALLATION/INSPECTION/MATERIAL NOTES:

INSTALLATION AND COMPACTION

1. INSTALL MATERIALS IN 2" TO 9" LIFTS.
2. COMPACT MATERIALS IN ACCORDANCE WITH ASTM D698 TO THE FOLLOWING LEVELS:
  - a. SAND FILTER: 92% TO 95% STANDARD PROCTOR
  - b. SAND FILTER TRANSITION LAYER: 90% TO 92% STANDARD PROCTOR
  - c. UNDERDRAIN BEDDING: 90% TO 92% STANDARD PROCTOR

CONSTRUCTION INSPECTION/OVERSIGHT

1. THE OWNER MUST RETAIN THE SERVICES OF AN INSPECTOR (DESIGN ENGINEER) TO INSPECT/OVERSEER THE CONSTRUCTION AND STABILIZATION OF ALL STORMWATER MANAGEMENT STRUCTURES. ONCE THE STORMWATER MANAGEMENT STRUCTURES ARE CONSTRUCTED AND TRIBUTARY AREAS ARE STABILIZED, THE INSPECTOR (OR OWNER) MUST NOTIFY THE DEP IN WRITING TO STATE THAT CONSTRUCTION OF THE TREATMENT AREA HAS BEEN COMPLETED. ACCOMPANYING THE NOTIFICATION MUST BE A LOG OF THE INSPECTIONS GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION, THE ITEMS INSPECTED ON EACH VISIT, AND THE RESULTS OF THE INSPECTION. INCLUDE IN THE NOTIFICATION TESTING DATA/SIEVE ANALYSIS DATA OF MATERIALS THAT MAKE UP THE SOIL FILTER (TYPE B AND TYPE C UNDERDRAIN MATERIAL AND FILTER MEDIA).
2. INSPECTION OF THE FILTER BASIN MUST BE PROVIDED FOR EACH PHASE OF CONSTRUCTION, WITH REQUIRED REPORTING TO THE DEP. AT A MINIMUM, INSPECTIONS WILL OCCUR:
  - a. AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED;
  - b. AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO THE INSTALLATION OF THE FILTER MEDIA/FILTER SAND;
  - c. AFTER THE FILTER MEDIA/FILTER SAND HAS BEEN INSTALLED.
  - d. AFTER THE SAND FILTER CHAMBERS HAVE BEEN INSTALLED BUT NOT BACKFILLED.
  - e. AFTER BACKFILLING OVER THE SAND FILTER CHAMBERS BUT PRIOR TO INSTALLING TOPSOIL.
  - f. ALL MATERIAL USED FOR THE CONSTRUCTION OF THE SAND FILTER IS SUBJECT TO APPROVAL BY THE INSPECTOR AFTER TESTS BY A CERTIFIED LABORATORY SHOW THAT THEY ARE PASSING DEP SPECIFICATIONS.
3. NOTIFY THE OWNER/INSPECTOR AT LEAST 72 HOURS PRIOR TO THE ANTICIPATED COMPLETION OF EACH OF THE ITEMS LISTED ABOVE TO COORDINATE TIMING OF INSPECTIONS.

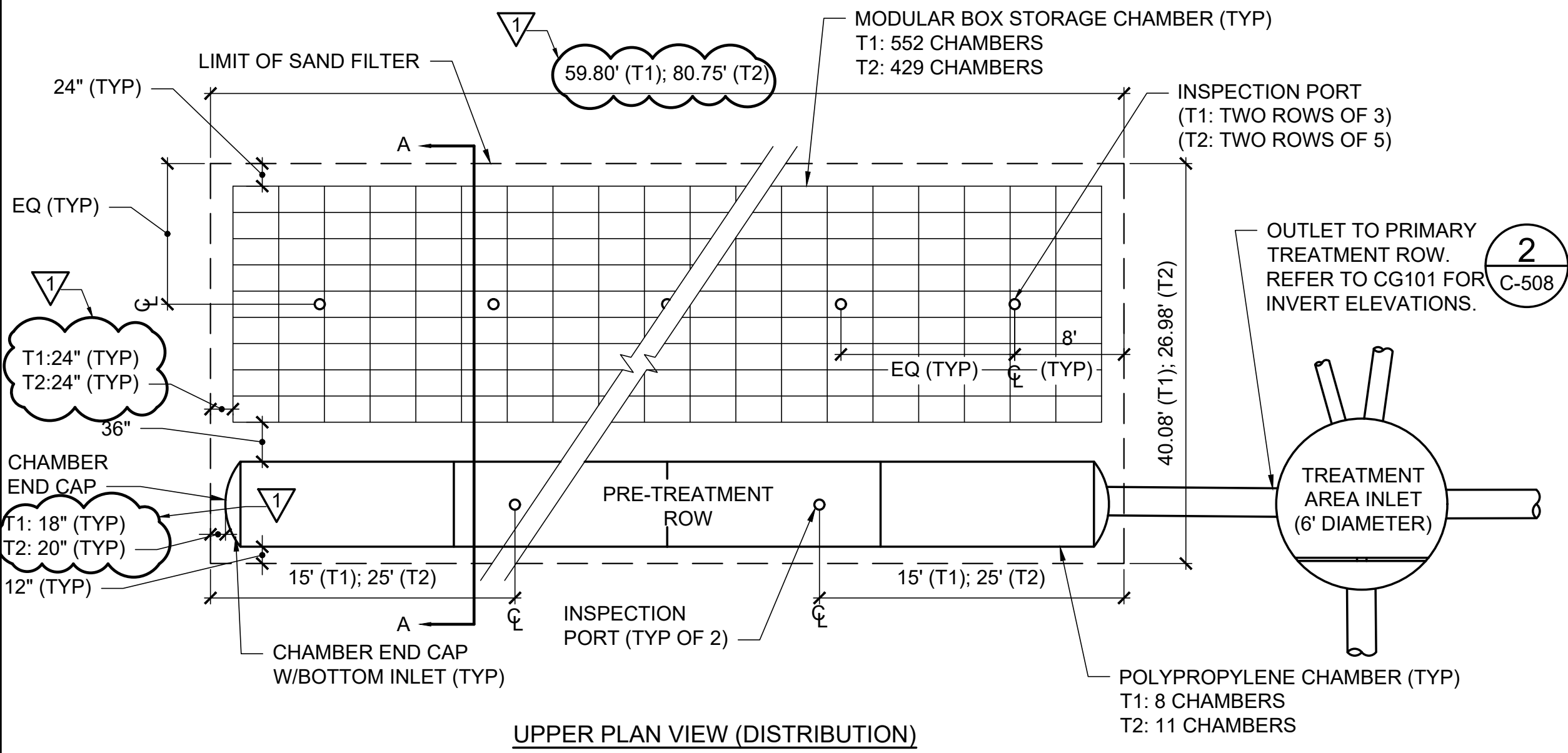
TESTING AND SUBMITTALS

1. TESTING AND SUBMITTALS: IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE SOIL FILTER SYSTEMS. SAMPLES USED FOR ANALYSIS MUST BE A COMPOSITE OF AT LEAST THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE (SAMPLE SIZE REQUIRED WILL BE DETERMINED BY THE TESTING LABORATORY). SUBMIT ALL RESULTS OF THE FOLLOWING FIELD AND LABORATORY TESTING TO THE OWNER/ARCHITECT FOR REVIEW AND APPROVAL:
  - a. PERFORM AND SUBMIT A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHOD FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES; 1996A) FOR MATERIALS INDICATED TO CONFIRM THE MEET THE REQUIRED GRADATIONS.
  - b. PERFORM A PERMEABILITY TEST ON THE FILTER SAND CONFORMING TO ASTM D2434 WITH THE MIXTURE COMPACTED TO 92-95% OF MAXIMUM DRY DENSITY BASED ON ASTM D698. THE RESULTING PERMEABILITY MUST BE BETWEEN 1 AND 2 INCHES PER HOUR.

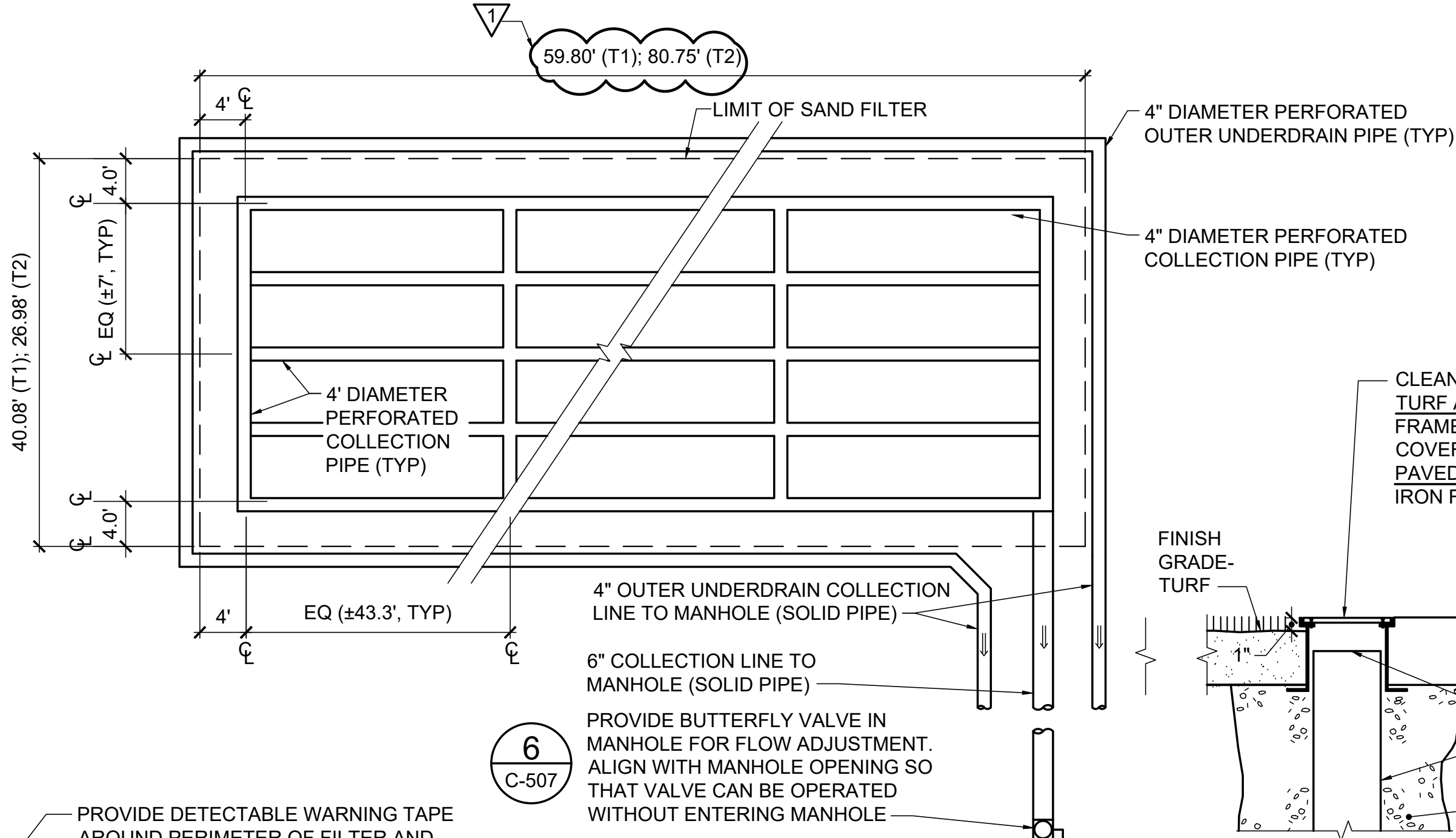
MATERIAL GRADATION REQUIREMENTS

SIEVE SIZE	% PASSING BY WEIGHT		
	MDOT 703.22, TYPE B	MDOT 703.22, TYPE C	FILTER SAND (MDOT 703.01)
2"	-	-	-
1"	95-100	100	-
3/4"	-	90-100	-
1/2"	75-100	-	-
3/8"	-	0-75	100
#4	50-100	0-25	95-100
#10	-	-	80-100
#16	-	0-5	-
#20	15-80	-	50-85
#30	-	-	25-60
#40	-	-	-
#50	0-15	-	-
#60	-	-	10-30
#100	-	-	2-10
#200	0-5	-	0-5 (8-10% PREFERRED)
CLAY	-	-	-

\*\*PERMEABILITY OF FILTER SAND BE BETWEEN 1 AND 2 INCHES PER HOUR.



UPPER PLAN VIEW (DISTRIBUTION)



LOWER PLAN VIEW (COLLECTION)

TYP INSPECTION PORT DETAIL

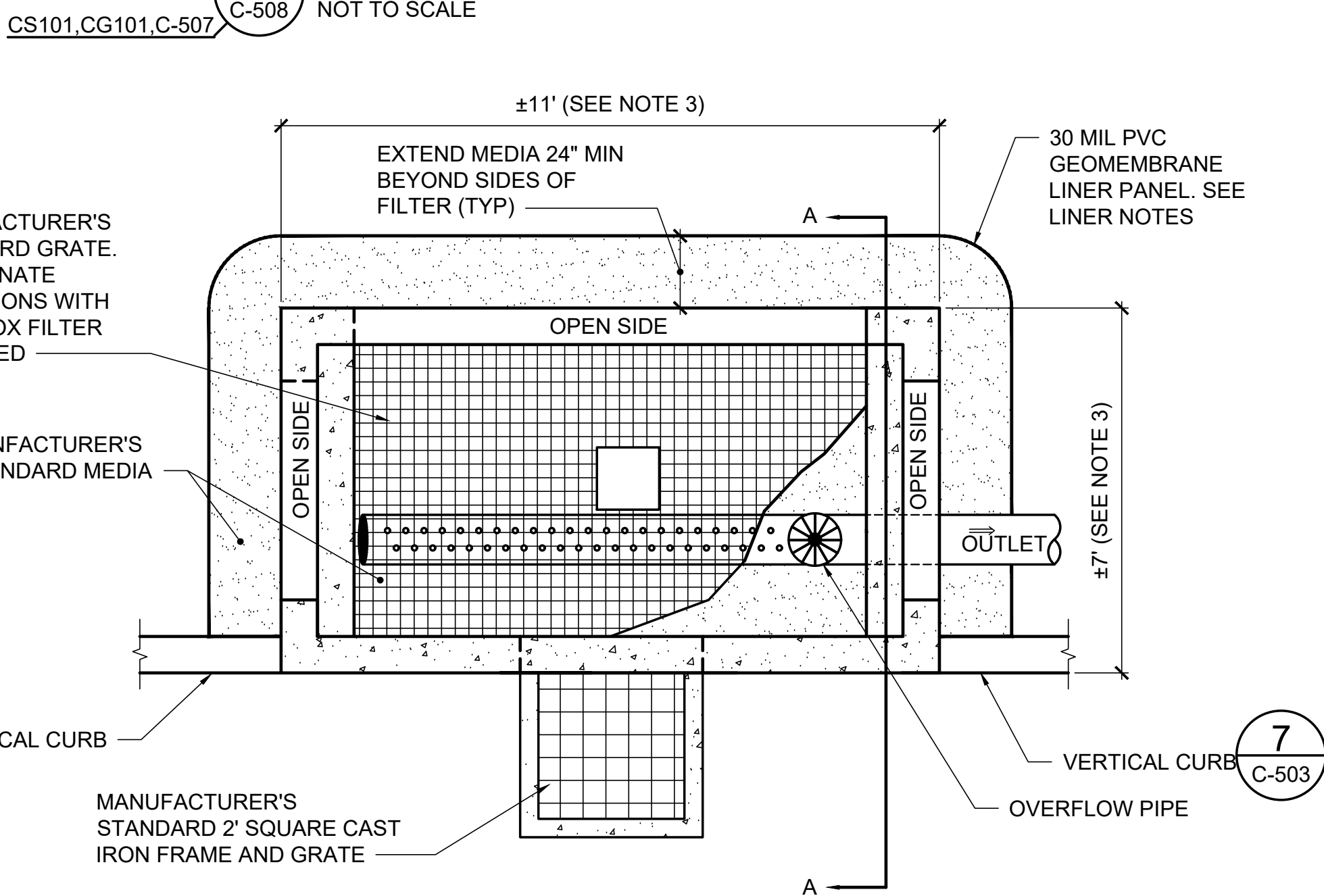
LINER NOTES:

1. PRIOR TO CONSTRUCTING THE TREATMENT AREA, DIG A TEST PIT TO AT LEAST 18" BELOW THE BOTTOM OF FILTER BED ELEVATION AND ENGAGE A CERTIFIED SOIL SCIENTIST TO DETERMINE THE BEDROCK AND SEASONAL HIGH WATER ELEVATIONS. NOTIFY THE DESIGN ENGINEER AT LEAST 72 HOURS PRIOR TO MAKING THE DETERMINATION AND PROVIDE A WRITTEN RECORD OF THE BEDROCK/ WATER ELEVATIONS TO THE ARCHITECT FOR REVIEW PRIOR TO CONTINUING CONSTRUCTION OF THE TREATMENT AREA.
2. SHOULD THE TEST PIT INDICATE THAT THE BOTTOM OF FILTER BED ELEVATION IS BOTH ABOVE THE SEASONAL HIGH WATER TABLE AND 18" ABOVE BEDROCK ELEVATION, LINER AND UNDERDRAINS OUTSIDE OF THE TREATMENT AREA MAY BE DELETED IF APPROVED IN WRITING BY THE ARCHITECT AS A CHANGE TO THE CONSTRUCTION CONTRACT. BASE BIDS ON INCLUSION OF A LINER AND UNDERDRAINS AS INDICATED.

UNDERDRAINED SUBSURFACE SAND FILTER NOTES:

1. SEE SOIL AND SAND FILTER INSTALLATION/INSPECTION/MATERIAL NOTES, THIS SHEET.
2. CHAMBERS SELECTED MUST ACCOMMODATE HS-20 LOADING.
3. DIMENSIONS ARE BASED ON ONE MANUFACTURER. BASIS OF DESIGN IS AS FOLLOWS:  
PRE-TREATMENT CHAMBERS: CULTEC RECHARGED 250 LB  
MODULAR BOX CHAMBERS: ACF ENVIRONMENTAL R-TANK SD (DOUBLE)
4. REQUIRED STORAGE VOLUME INSIDE CHAMBERS IS AS FOLLOWS:  
PRE-TREATMENT (EFFECTIVE STORAGE AFTER OVERLAP): 42.5 CF PER CHAMBER (37.7 CF AT 18")  
MODULAR BOX CHAMBERS (ASSUMES 95% VOID SPACE): 6.9 CF PER CHAMBER (4.4 CF AT 18")
5. INSTALL CHAMBERS AND CONNECT PIPING TO CHAMBERS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
6. INSTALL INSPECTION AND CLEANOUT PORTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
7. GEOTEXTILES USED AROUND CHAMBERS MUST CONFORM TO MANUFACTURER'S WRITTEN RECOMMENDATIONS.
8. SEE DRAWING CG101 FOR DRAINAGE STRUCTURE SCHEDULE.
9. WHERE LEDGE REMOVAL IS NECESSARY, REMOVE LOOSE ROCK TO EXPOSE SOUND, INTACT ROCK.

1 UNDERDRAINED SUBSURFACE SAND FILTER DETAILS



PLAN VIEW

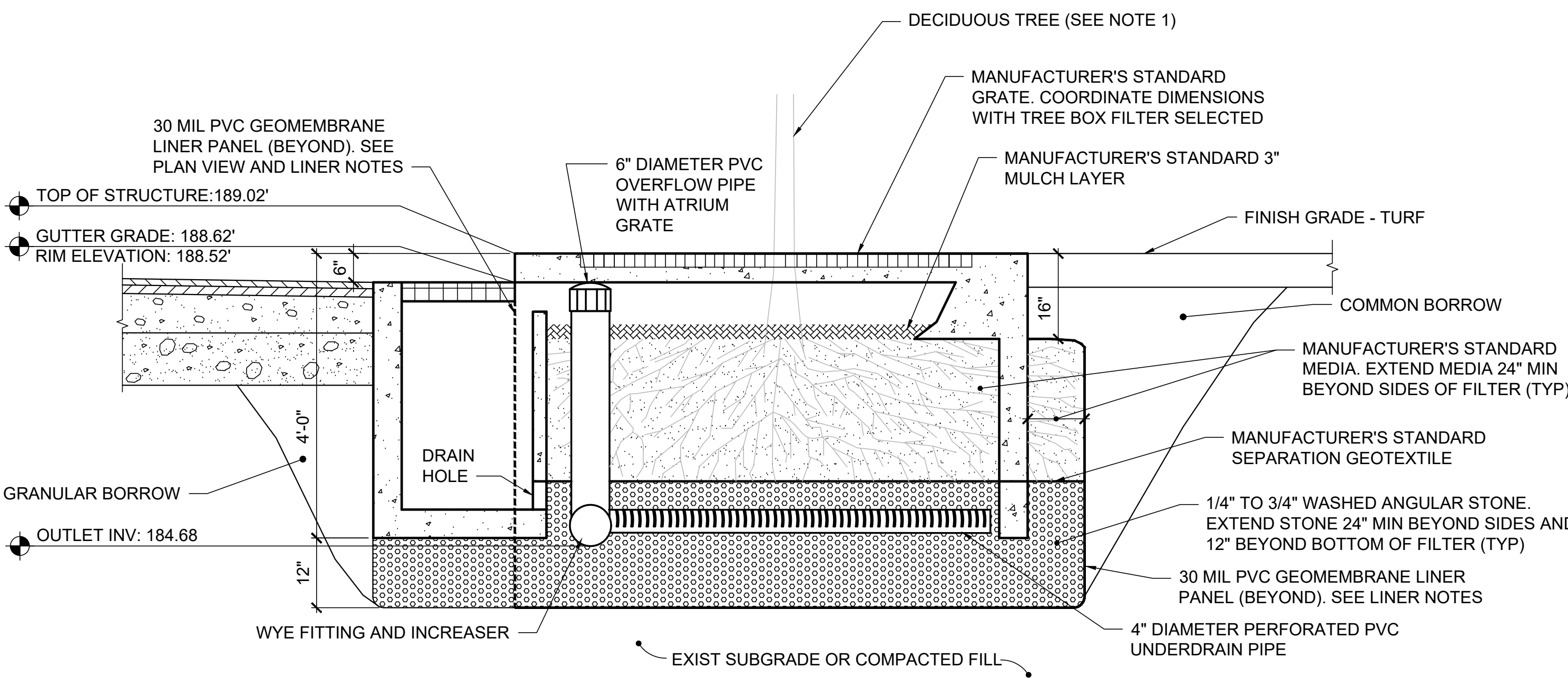
LINER NOTES:

1. PRIOR TO CONSTRUCTING THE TREATMENT AREA, DIG A TEST PIT TO AT LEAST 18" BELOW THE BOTTOM OF FILTER BED ELEVATION AND ENGAGE A CERTIFIED SOIL SCIENTIST TO DETERMINE THE BEDROCK AND SEASONAL HIGH WATER ELEVATIONS. NOTIFY THE DESIGN ENGINEER AT LEAST 72 HOURS PRIOR TO MAKING THE DETERMINATION AND PROVIDE A WRITTEN RECORD OF THE BEDROCK/ WATER ELEVATIONS TO THE ARCHITECT FOR REVIEW PRIOR TO CONTINUING CONSTRUCTION OF THE TREATMENT AREA.
2. SHOULD THE TEST PIT INDICATE THAT THE BOTTOM OF FILTER BED ELEVATION IS BOTH ABOVE THE SEASONAL HIGH WATER TABLE AND 18" ABOVE BEDROCK ELEVATION, THE LINER MAY BE DELETED IF APPROVED IN WRITING BY THE ARCHITECT AS A CHANGE TO THE CONSTRUCTION CONTRACT. BASE BIDS ON INCLUSION OF A LINER AND UNDERDRAINS AS INDICATED.

3 TREE BOX FILTER DETAILS

NOT TO SCALE

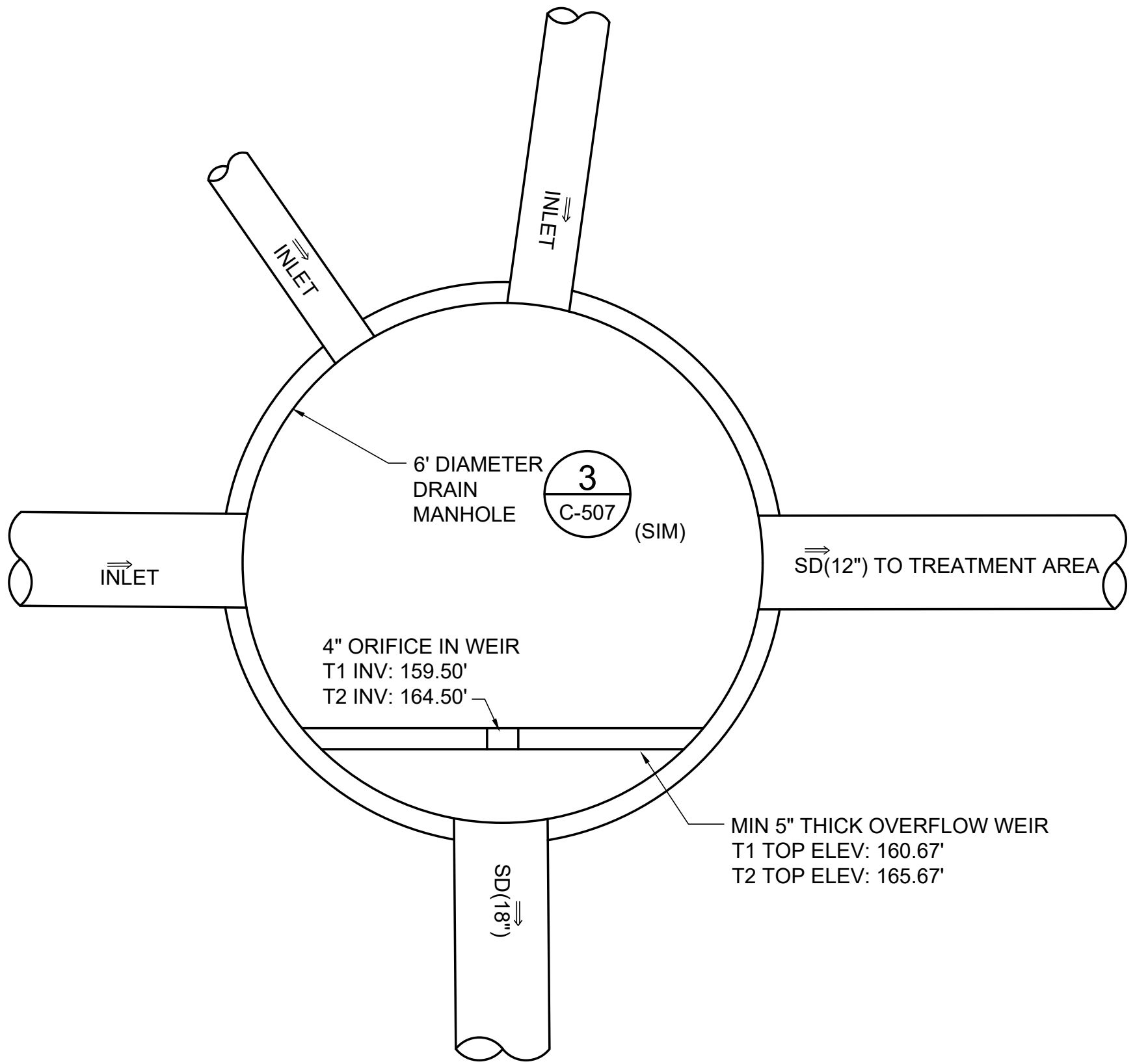
CS101,CG101



SECTION A-A

TREE BOX FILTER NOTES:

1. COORDINATE TREE/SHRUB SELECTION WITH MANUFACTURER'S RECOMMENDATIONS AND CITY OF AUGUSTA REQUIREMENTS.
2. BASIS OF DESIGN PRODUCT: STORMTREE ST 6X10 CB. ALTERNATE TREE BOX FILTERS SELECTED MUST BE APPROVED FOR USE BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THE ARCHITECT. PROVIDE WRITTEN DOCUMENTATION OF APPROVAL PRIOR TO INSTALLATION.
3. DIMENSIONS INDICATED ARE BASED ON ONE MANUFACTURER. COORDINATE FINAL DIMENSIONS WITH MANUFACTURER'S RECOMMENDATIONS FOR PRODUCT SELECTED.
4. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS. COORDINATE COMMISSIONING OF UNITS WITH MANUFACTURER AND ARCHITECT.



NOTE:

REFER TO SHEET CG101 FOR INLET SIZE, NUMBER, LOCATION AND INVERT ELEVATIONS.

2 TREATMENT AREA INLET DETAIL

NOT TO SCALE

CG101,C-508

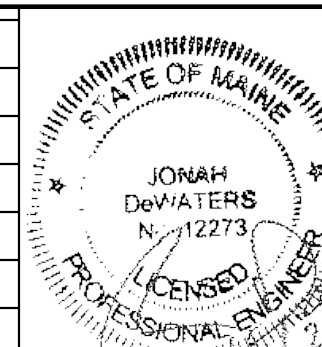
DEPARTMENT OF INLAND FISHERIES & WILDLIFE

TITLE NEW OFFICE HEADQUARTERS

LOCATION AUGUSTA, MAINE

TITLE THIS DWG.

SITE DETAILS - 6



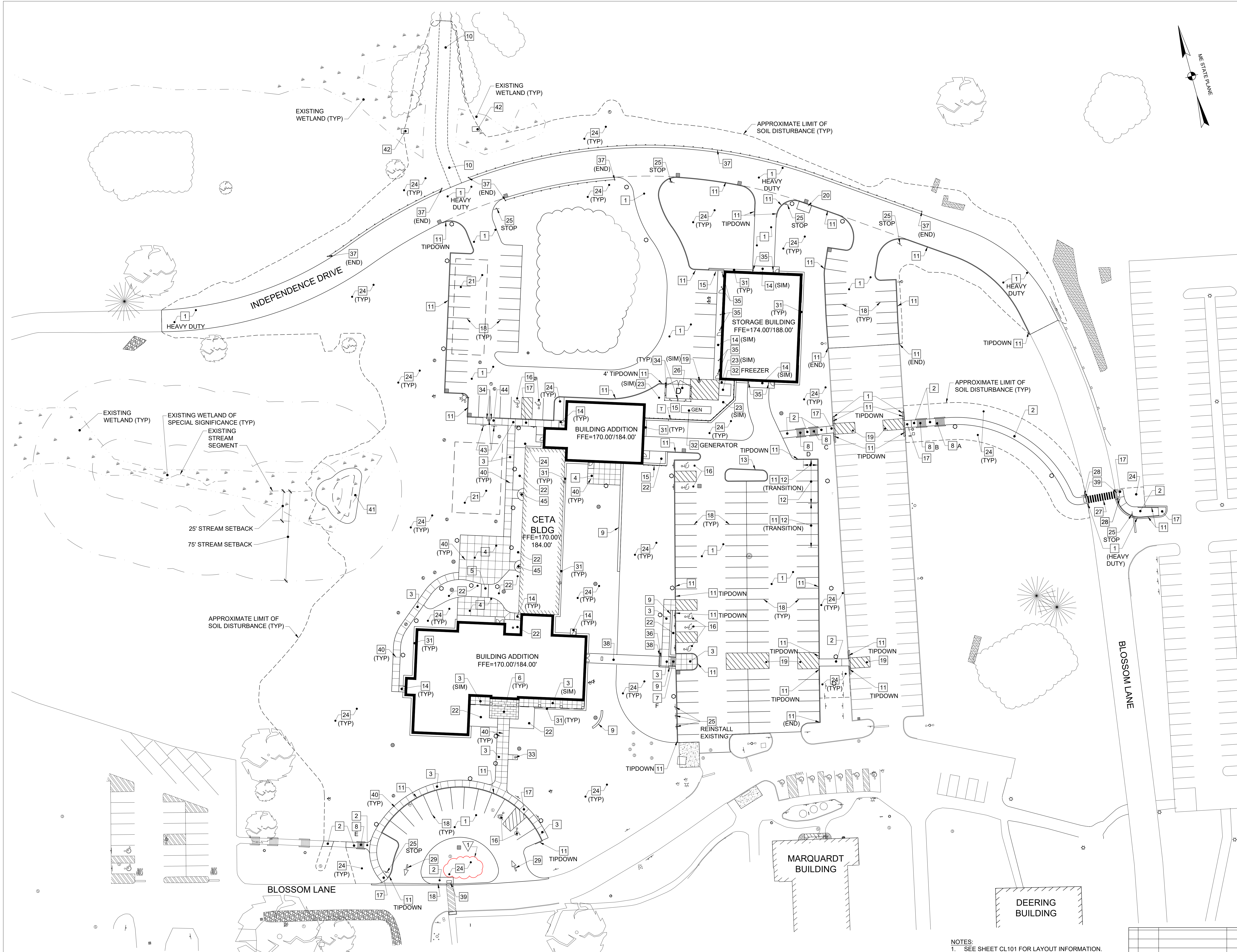
1	02/27/25	ADDENDUM 2	JSD	DRAWN BY: JSD	CHECK BY: JSD	DATE	01/29/2025	NO.	207,850,0193	38	OF 239
REVISIONS											

OAK POINT ASSOCIATES

C-508

231 Main Street, Biddeford, Maine 04005





- KEYNOTES: (THIS SHEET ONLY).**
- 1 ASPHALT CONCRETE PAVEMENT. PROVIDE HEAVY DUTY ASPHALT CONCRETE PAVEMENT WHERE NOTED. SEE DETAILS 1/C-503 AND 2/C-503
  - 2 ASPHALT CONCRETE SIDEWALK. SEE DETAIL 3/C-503
  - 3 REINFORCED CONCRETE SIDEWALK. SEE DETAIL 4/C-503
  - 4 REINFORCED CONCRETE PATIO. SEE DETAIL 4/C-503 (SIM)
  - 5 GRANITE PAVER WALK. SEE DETAIL 9/C-503
  - 6 GRANITE ENTRY PLAZA. SEE SHEET SB104 AND DETAIL 7/L-501
  - 7 8' WIDE CONCRETE STAIR WITH NO CHEEKWALLS. INSTALL RAILING INTO STEPS. SEE DETAIL 1/5-505 (SIM)
  - 8 CONCRETE STAIR. SEE DETAIL 1/C-505
  - 9 DRY STACKED STONE RETAINING WALL. SEE DETAIL 4/C-505
  - 10 GRAVEL TRAIL. SEE DETAIL 8/C-503
  - 11 VERTICAL GRANITE CURB WITH 6" REVEAL UNLESS INDICATED OTHERWISE. PROVIDE TIPDOWN WHERE INDICATED. SEE DETAIL 7/C-503
  - 12 VERTICAL GRANITE CURB WITH 12" REVEAL. SEE DETAIL 7/C-503
  - 13 SLOPED GRANITE CURB. SEE DETAIL 7/C-503
  - 14 CONCRETE STOOP. SEE SHEETS SB101-SB104
  - 15 CONCRETE RETAINING WALL. SEE SHEETS SB101, SB505, SB506 AND AE403
  - 16 ACCESSIBLE PARKING SPACE. SEE DETAIL 3/C-504
  - 17 ACCESSIBLE CURB CUT. SEE DETAIL 1/C-504
  - 18 PAVEMENT MARKING - 4" WIDE SINGLE LINE.
  - 19 PAVEMENT MARKING - WHITE PAINTED ISLAND
  - 20 STORMWATER TREATMENT AREA - TREE BOX FILTER. SEE DETAIL 3/C-508
  - 21 STORMWATER TREATMENT AREA - UNDERDRAINED SUBSURFACE SAND FILTER. SEE DETAIL 1/C-508
  - 22 PLANTING BED. SEE SHEET LS101
  - 23 CRUSHED STONE SURFACE. SEE DETAIL 12/C-503
  - 24 6" PLANTING SOIL. FERTILIZER, SEED/SOD AND MULCH (ALL DISTURBED AREAS UNLESS INDICATED OTHERWISE). SEE SHEET LS101 FOR SEEDING TYPES AND SOD LOCATIONS.
  - 25 PARKING SIGN AND SIGN POST. SEE DETAIL 8/C-504
  - 26 REINFORCED CONCRETE DUMPSTER PAD AND ENCLOSURE. SEE DETAIL 5/C-504
  - 27 CROSSWALK. SEE DETAIL 4/C-504
  - 28 PEDESTRIAN CROSSING SIGN: W11-2 PEDESTRIAN AND 16-7P DOWNWARD ARROW. SEE DETAIL 8/C-504
  - 29 TRAFFIC DIRECTIONAL ARROW. SEE DETAIL 5/C-505
  - 30 PRECAST CONCRETE WHEEL STOP. SEE DETAIL 10/C-503
  - 31 STONE DRIP EDGE. SEE DETAIL 6/C-502
  - 32 REINFORCED CONCRETE EQUIPMENT PAD. SEE DETAIL 7/C-504
  - 33 FLAGPOLE. SEE DETAIL 11/C-503
  - 34 BOLLARD WITH FULL FOUNDATION. SEE DETAIL 9/C-503
  - 35 SURFACE MOUNTED BOLLARD. SEE DETAIL 9/C-503
  - 36 TRENCH DRAIN. SEE DETAIL 8/C-507
  - 37 TIMBER GUARDRAIL. SEE DETAIL 10/C-503
  - 38 PEDESTRIAN BRIDGE AND PEDESTRIAN BRIDGE SUPPORTS. SEE SHEET AE403
  - 39 DETECTABLE WARNING PANEL. SEE DETAIL 2/C-504
  - 40 CONTROL OR EXPANSION JOINT. SEE SHEET LS101 AND DETAILS 5/C-503 AND 6/C-503
  - 41 LEVEL LIP SPREADER/ENERGY DISSIPATER. SEE SHEET CG101 AND DETAIL 5/C-502
  - 42 PIPE INLET/OUTLET PROTECTION. SEE SHEET CG101 AND DETAIL 3/C-502
  - 43 ELECTRICAL VEHICLE CHARGING STATION AND PARKING SIGN. SEE DETAILS 8/C-504 AND 3/C-506
  - 44 TIPDOWN AND 10' WIDE FLUSH SIDEWALK FOR ELECTRIC VEHICLE CHARGER. SEE DETAIL 1/C-504 (SIM)
  - 45 GRANITE STAIR. SEE SHEET AE404

**NOTES:**  
1. SEE SHEET CL101 FOR LAYOUT INFORMATION.  
2. SEE SHEET LS101 FOR PLANTING INFORMATION AND CONCRETE JOINT LAYOUT.

**GRAPHIC SCALE**  
30' 15' 0' 30' 90'  
1"=30'  
CHECK GRAPHIC SCALE BEFORE USING

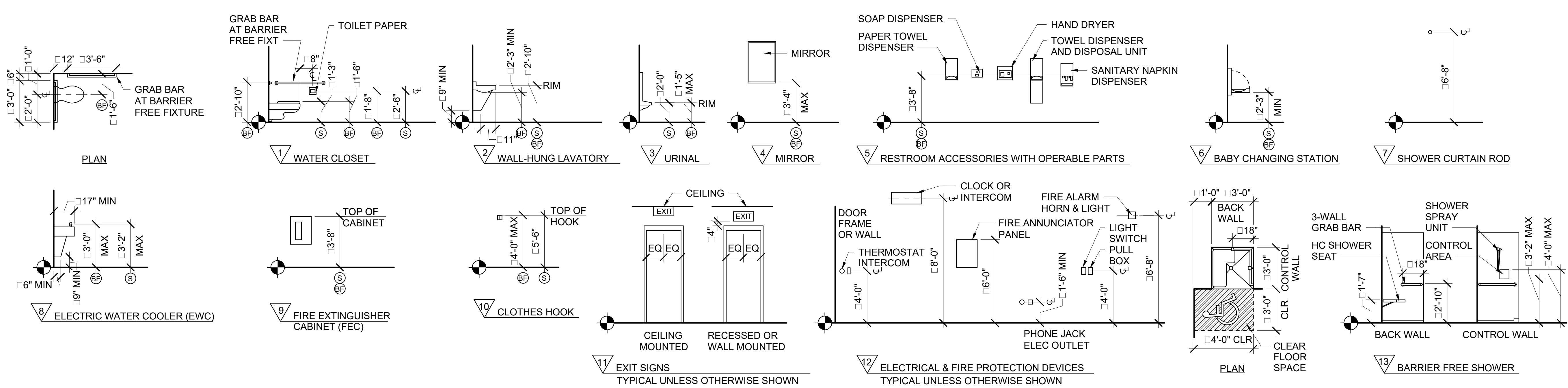
**1 SITE PLAN**  
CS101 SCALE: 1"=30'

DEPARTMENT OF INLAND FISHERIES & WILDLIFE			
TITLE NEW OFFICE HEADQUARTERS			
LOCATION AUGUSTA, MAINE			
TITLE THIS DWG. SITE PLAN			
1 02/27/25 ADDENDUM 2	JSD	DRAWN BY: JSD	CHECKED BY: SES
NO. DATE DESCRIPTION	BY	CHECK BY:	DATE
REVISIONS			
DATE 01/29/2025			
OAK POINT ASSOCIATES			
CS101			
23 OF 239			









- NOTES:**
1. COORDINATE BLOCKING LOCATIONS W/ ACCESSORY ITEMS.
  2. SEE AE420 FOR MOUNTING HEIGHTS AND ACCESSORY SCHEDULE.
  3. SEE SHEET AE601 FOR DOOR SCHEDULE AND TYPES.
  4. SEE SHEET AE740 FOR ROOM FINISH SCHEDULE.

ABBREVIATIONS		LEGEND	
PT DISP	PAPER TOWEL DISPENSER	Ⓢ	STANDARD MOUNTING HEIGHT
WC	WATER CLOSET	Ⓟ	BARRIER FREE ADULT MOUNTING HEIGHT
EA	EACH	Ⓜ	FINISH FLOOR LINE
BF OR Ⓜ	BARRIER FREE		
VIF	VERIFY IN FIELD		
BOD	BASIS OF DESIGN		
BE	BENCH		
IRWC	IMPACT RESISTANT WALL COVERING		

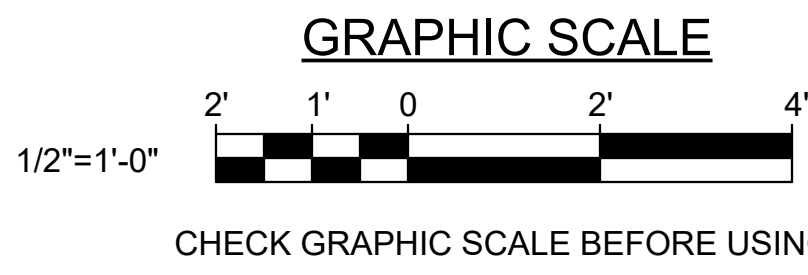
RESTROOM ACCESSORY SCHEDULE		
LTR	ITEM	COMMENTS
A	TOILET TISSUE DISPENSER	BOBRICK, B4288
B	RECESSED CONVERTIBLE AUTO ROLL TOWEL DISPENSER / WASTE RECEPTACLE	BOBRICK, B3974
C	AUTOMATIC SOAP DISPENSER (WALL...	BOBRICK, B-2012
D	NOT USED	
E	1 1/2" DIAMETER GRAB BAR	
F	MIRROR 24X42	BOBRICK B-290 GLASS MIRROR WITH SS ANGLE FRAME
H	SHOWER CURTAIN WITH ROD	BOBRICK B-6107 AND 204-2
I	HC SHOWER GRAB BAR	INCLUDED IN SHOWER SPECIFICATION
J	HC SHOWER SEAT	INCLUDED IN SHOWER SPECIFICATION
K	CLOTHES HOOK	BOBRICK B-76727 SURFACE-MOUNTED DOUBLE ROBE HOOK

1 TOILET 103 ENLARGED FLOOR PLAN  
AE101 AE420 SCALE: 1/2" = 1'-0"

2 TOILET 003 NORTH ELEVATION  
AE101 AE420 SCALE: 1/2" = 1'-0"

3 TOILET 003 EAST ELEVATION  
AE101 AE420 SCALE: 1/2" = 1'-0"

4 TOILET 003 SOUTH ELEVATION  
AE101 AE420 SCALE: 1/2" = 1'-0"



DEPARTMENT OF INLAND FISHERIES & WILDLIFE		DRAWING NO. AE420	
TITLE STORAGE BARN		SHEET NO.	
LOCATION AUGUSTA, ME		24 OF 48	
TITLE THIS DWG. MOUNTING HEIGHTS, RESTROOM ENLARGED PLAN AND INTERIOR ELEVATIONS		207,283,9192	
DRAWN BY: MJD		DATE 01/29/2025	
CHECK BY: CET		NO.	
NO. 3		DESCRIPTION	
DATE 02/27/2025		ADDENDUM NO.3	
HMG		BY	







MECHANICAL ABBREVIATIONS

A	AMPERE, AIR	HUMID	HUMIDIFIER
AC	AIR CONDITIONING, AIR CONDITIONER	HV	HEATING AND VENTILATING UNIT
AD	ACCESS DOOR	HVAC	HEATING, VENTILATION, AND AIR CONDITIONING (UNIT)
ADA	AMERICANS WITH DISABILITIES ACT	HW	HOT WATER
AFF	ABOVE FINISHED FLOOR	HWR	HOT WATER RETURN
AHU	AIR HANDLING UNIT	HWS	HOT WATER SUPPLY
AMB	AMBIENT	HX	HEAT EXCHANGER
AMS	AIRFLOW MEASURING STATION	HZ	HERTZ
APD	AIR PRESSURE DROP	IN	INSIDE DIAMETER
APPROX	APPROXIMATELY	INCH	INCHES
AS	AIR SEPARATOR	ID	INDIRECT WASTE
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	KW	KILOWATT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS ASSEMBLY	L	LOUVER, LENGTH
ASS'Y	ASSEMBLY	LAT	LEAVING AIR TEMPERATURE
ATT	ACOUSTIC ATTENUATOR	LBG	LINEAR BAR GRILLE
BDD	BACKDRAFT DAMPER	LBS	POUNDS
BHP	BRAKE HORSEPOWER	LDB	LEAVING DRY BULB
BLDG	BUILDING	LF	LINEAR FEET
BTU	BRITISH THERMAL UNIT	LOC	LOCATION, LOCATED
BTUH	BTU PER HOUR	LRA	LOOKED ROTOR AMPS
CAP	CAPACITY	LW	LOW TEMPERATURE
CC	COOLING COIL	LWB	LEAVING WET BULB
CD	CONDENSATE DRAIN	LWT	LEAVING WATER TEMPERATURE
CENT	CENTRIFUGAL	M	MOTOR
CFM	CUBIC FEET PER MINUTE	MAX	MAXIMUM
CH	CHILLER	MAX PD	MINIMUM PRESSURE DROP
CHW	CHILLED WATER	MBH	1000 BTU PER HOUR
CHWR	CHILLED WATER RETURN	MBU	1000 BTU
CHWS	CHILLED WATER SUPPLY	MCA	MINIMUM CIRCUIT AMPERES
CL	CLEARLINE	MECH	MECHANICAL
CLG	CEILING	MEERV	MINIMUM EFFICIENCY REPORTING VALUE
CO	CLEANOUT, CARBON MONOXIDE	MFR	MANUFACTURER
CO2	CARBON DIOXIDE	MIN	MINIMUM
CONN	CONNECTION	MTG	MOUNTING
CONC	CONCRETE	N/A	NOT APPLICABLE
COND	CONDENSATE, CONDENSING, CONDITIONS	NAT'L	NATURAL
COP	Coefficient of Performance	N/C	NOT IN CONTRACT
CS	CURRENT SENSOR	NCC	NOISE CRITERIA, NORMALLY CLOSED
CU	CONDENSING UNIT	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CUH	CABINET UNIT HEATER	NO	NUMBER, NORMALLY OPEN
CW	COLD WATER	NPT	NATIONAL PIPE THREAD
CWS	COLD WATER SUPPLY	NTS	NOT TO SCALE
DB	DEPTH, DAMPER	OA	OUTSIDE AIR
dB	DECIBELS	OAT	OUTSIDE AIR TEMPERATURE
DDC	DIRECT DIGITAL CONTROLS	OBD	OPPOSED BLADE DAMPER
DEG	DEGREES	OC	ON CENTER
ø, DIA	DIAMETER	OD	OUTSIDE DIAMETER
DIFF	DIFFERENTIAL	OED	OPEN ENDED DUCT
DISCH	DISCHARGE	OEP	OPEN ENDED PIPE
DISPL	DISPLACEMENT	OS&Y	OUTSIDE STEM & YOKE
DL	DRUM SLOT LOUVER	P	PUMP, PITCH, PRESSURE
DN	DOWN	PC	PUMPED CONDENSATE
DOM	DOMESTIC	PD	PRESSURE DIFFERENCE
DP	DIFFERENTIAL PRESSURE	PH	PHASE
DPDT	DOUBLE POLE, DOUBLE THROW	POS	POSITIVE
DPS	DIFFERENTIAL PRESSURE SWITCH	PRESS	PRESSURE
DVG	DRAWING	PRV	PRESSURE REDUCING VALVE
DX	DIRECT EXPANSION	PSI	POUNDS PER SQUARE INCH
E	EXISTING, EXHAUST	PSIG	POUNDS PER SQUARE INCH GAUGE
EA	EXHAUST AIR, EACH	PVS	POLY VINYL CHLORIDE
EAT	ENTERING AIR TEMPERATURE	QTY	QUANTITY
EDB	ENTERING DRY BULB TEMPERATURE	R	RADIUS, RETURN
EER	ENERGY EFFICIENCY RATIO	RA	RETURN AIR
EFF	EXHAUST FAN	RAT	RETURN AIR TEMPERATURE
ELEV	ELEVATION, ELEVATOR	RF	RETURN FAN
EQUIP	EQUIPMENT	REFRIG	REFRIGERANT
ERV	ENERGY RECOVERY VENTILATOR	REQ'D	REQUIRED
ESP	EXTERNAL STATIC PRESSURE	RL	RELATIVE HUMIDITY, RANGE HOOD
EUH	ELECTRIC UNIT HEATER	RLH	REFRIGERANT LIQUID
EWB	ENTERING WET BULB TEMPERATURE	RLA	RUNNING LOAD AMPERES
EWT	ENTERING WATER TEMPERATURE	RM	ROOM
EXIST	EXISTING	RPM	REVOLUTIONS PER MINUTE
EXP	EXPANSION	RSZ	REDUCED PRESSURE ZONE
EXT	EXPANSION TANK	S	REFRIGERANT SUCTION
*F	DEGREES FAHRENHEIT	SA	SUPPLY AIR, SOUND ATTENUATOR
FACP	FIRE ALARM CONTROL PANEL	SAT	SUPPLY AIR TEMPERATURE, SUSPENDED
FBO	FURNISHED BY OWNER	SC	ACOUSTICAL TILE
FC	FLEX CONNECTOR, FAN COIL	SD	SENSIBLE COOLING
FCO	FLOOR CLEANOUT	SEER	SEASONAL ENERGY EFFICIENCY RATIO
FD	FLOOR DRAIN, FIRE DAMPER	SF	SQUARE FOOT/FEET, SUPPLY FAN
FE	FIRE EXTINGUISHER	SIM	SIMILAR
FF	FINISHED FLOOR	SIMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION
FLA	FULL LOAD AMPS	SP	STATIC PRESSURE
FLR	FLOOR	SQ	SQUARE
FFM	FEET PER MINUTE	SS	STAINLESS STEEL
FR	FINTUBE RADIATION	T	THERMOSTAT, TRANSFER
FS	FLOW SWITCH	TA	TRANSFER AIR
FSD	FIRE AND SMOKE DAMPER	TC	TOTAL COOLING
FT	FOOT, FEET	TEMP	TEMPERATURE CONTROL PANEL
G	GAS	TEMP	TEMPERATURE
GA	GAUGE	TF	TRANSFER FAN
GAL	GALLONS	TS	TEMPERATURE SENSOR
GALV	GALVANIZED	TSP	TOTAL STATIC PRESSURE
GPH	GALLONS PER HOUR	TYP	TYPICAL
GPM	GALLONS PER MINUTE	UH	UNIT HEATER
GRV	GRAVITY RELIEF VENTILATOR	UL	UNDERWRITERS LABORATORY
GWB, GYP	GYPSPUM WALLBOARD	V	VENT, VALVE, VOLT(S)
H	HUMIDIFIER, HUMIDISTAT, HEIGHT	VAV	VARIABLE AIR VOLUME
H2O	WATER	VEL	VELOCITY
HC	HEATING COIL	VFD	VARIABLE FREQUENCY DRIVE
HTG	HEATING	VUH	VERTICAL UNIT HEATER
HGT	HEIGHT	W	WIDTH
HOA	HAND-OFF-AUTOMATIC	W/	WITH
HORIZ	HORIZONTAL	WB	WET BULB
HP	HORSEPOWER	WC	WATER COLUMN
HR	HOUR	WG	WATER GAUGE
HT	HEIGHT	WH	WATER HEATER
		WPD	WATER PRESSURE DROP

MECHANICAL SYMBOLS LEGEND

ANNOTATIONS	
	SYMBOL PER ABBREVIATION LIST
	EQUIPMENT SEQUENCE NUMBER
	AIR INLET OR OUTLET WITH CFM
	FINTUBE DESIGNATION
	MBH
	GPM SETTING FOR BALANCING VALVE
	KEYNOTE
	REMOVALS KEYNOTE
	CONNECT TO EXISTING
	INLET DIRECTION OF AIRFLOW
	OUTLET DIRECTION OF AIRFLOW
DUCTWORK	
	RETURN GRILLE/REGISTER
	SUPPLY DIFFUSER/GRILLE/REGISTER
	EXHAUST GRILLE/REGISTER
	TRANSFER GRILLE
	SIDEWALL REGISTER/GRILLE
	LINEAR SLOT DIFFUSER/RETURN
	ACCESS DOOR
	DUCT
	DUCT WITH FLEXIBLE CONNECTION
	RETURN DUCT UP
	RETURN DUCT DOWN
	SUPPLY DUCT UP
	SUPPLY DUCT DOWN
	EXHAUST DUCT UP
	EXHAUST DUCT DOWN
	RECTANGULAR ELBOW WITH TURNING VANES
	FLEXIBLE DUCT
	LINED DUCTWORK
	MANUAL DAMPER
	FIRE DAMPER
	SMOKE DAMPER
	MOTORIZED DAMPER, PARALLEL BLADE
	MOTORIZED DAMPER, OPPOSED BLADE
	HEATING COIL
	CHILLED WATER COOLING COIL
	DIRECT EXPANSION COOLING COIL

PIPING AND VALVES	
	PIPE ELBOW DOWN
	PIPE ELBOW UP, PIPE UP AND DOWN
	PIPE TEE DOWN
	PIPE TEE UP, PIPE UP AND DOWN
	PIPE CAP
	DIRECTION OF FLOW
	STRAINER
	BALL VALVE
	BUTTERFLY VALVE
	UNION
	GATE VALVE
	PRESSURE GAUGE
	CHECK VALVE
	CHECK VALVE, SPRING TYPE
	GLOBE VALVE
	CALIBRATED BALANCING VALVE WITH POSITIVE SHUTOFF
	AUTOMATIC FLOW CONTROL VALVE
	PIPE PITCH DOWN
	PRESSURE RELIEF VALVE
	2-WAY AUTOMATIC CONTROL VALVE
	3-WAY AUTOMATIC CONTROL VALVE
	PRESSURE REDUCING VALVE
	PIPE ANCHOR
	ALIGNMENT GUIDE
	PIPE REDUCER/INCREASER
	OS&Y VALVE
	THERMOMETER
	AIR VENT, AUTOMATIC
	AIR VENT, MANUAL
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	VACUUM BREAKER
	FLEXIBLE CONNECTOR
	IN-LINE PUMP
	AQUASTAT
	AIR SEPARATOR

CONTROLS AND METERING	
	OS&Y VALVE IN VERTICAL
	BALL VALVE IN VERTICAL
	TEMPERATURE SENSOR
	LOW TEMPERATURE FREEZE STAT
	OCCUPANCY SENSOR
	PRESSURE SWITCH
	FLOW SWITCH
	CARBON MONOXIDE SENSOR
	CURRENT SENSOR
	DIFFERENTIAL PRESSURE SWITCH
	VARIABLE FREQUENCY DRIVE
	AIRFLOW MEASURING STATION
	CARBON DIOXIDE SENSOR
	MANUAL SWITCH
	RELAY
	DUCT MOUNTED SMOKE DETECTOR
	START/STOP CONTROLLER
	AIR PRESSURE SENSOR
	WALL MOUNTED TEMPERATURE SENSOR
	AVERAGING DUCT MOUNTED TEMPERATURE SENSOR
	PROBE TYPE DUCT MOUNTED TEMPERATURE SENSOR
	FLUID TEMPERATURE SENSOR WITH WELL
	WALL MOUNTED THERMOSTAT
	PUMP SUCTION DIFFUSER
	RELATIVE HUMIDITY SENSOR
EQUIPMENT	
	FINTUBE RADIATION AND ENCLOSURE
	UNIT HEATER
	TERMINAL UNIT, VARIABLE VOLUME
	ROOF VENTILATOR, EXHAUST/RELIEF
	PUMP
	MOTOR
	PROPELLER FAN
	CENTRIFUGAL FAN
	CONDENSER

GENERAL MECHANICAL SYSTEM NOTES

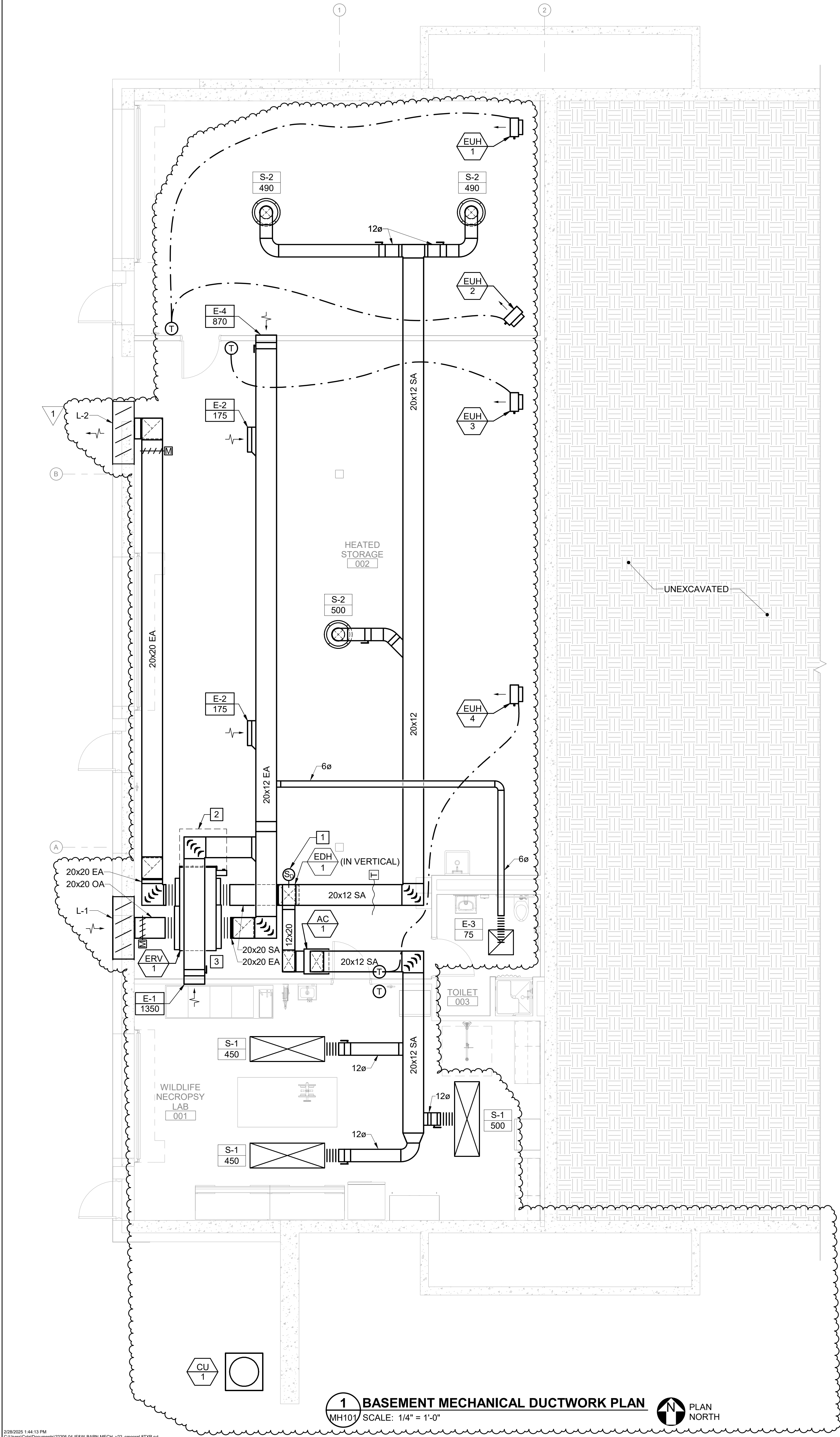
- MECHANICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE (IMC), CURRENT EDITION, AND THE INTERNATIONAL ENERGY AND CONSERVATION CODE (IECC), CURRENT EDITION.
- PIPING AND DUCTWORK ARE SHOWN DIAGRAMMATICALLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD.
- PIPING AND DUCTWORK SHALL BE INSTALLED CONCEALED ABOVE CEILINGS, IN WALLS AND IN CHASES, UNLESS OTHERWISE NOTED. PIPING AND DUCTWORK SHALL BE INSTALLED PARALLEL TO BUILDING LINES AND PITCHED TO LOW POINTS.
- COORDINATE LOCATIONS OF PIPING AND DUCTWORK WITH OTHER TRADES. PERFORM CUTTING WORK ASSOCIATED WITH MECHANICAL SYSTEMS.
- PIPING AND DUCTWORK SHALL BE SUPPORTED FROM BUILDING STRUCTURE. PIPING AND DUCTWORK SHALL BE SUPPORTED FROM TOP CHORD OF JOIST. NO STRUCTURAL MEMBERS SHALL BE CUT.

MECHANICAL LINE TYPE LEGEND

-----	REMOVE ITEMS
_____	EXISTING ITEMS TO REMAIN
_____	PROVIDE ITEMS
-----CHWS-----	CHILLED WATER SUPPLY
-----CHWR-----	CHILLED WATER RETURN
-----HWS-----	HOT WATER SUPPLY
-----HWR-----	HOT WATER RETURN
-----CD-----	CONDENSATE DRAIN
-----PC-----	PUMPED CONDENSATE
-----G-----	GAS
- - - - -	CONTROL WIRING

				<b>DEPARTMENT OF INLAND FISHERIES &amp; WILDLIFE</b>	
				TITLE: STORAGE BARN	
				LOCATION: AUGUSTA, ME	
				TITLE THIS DWG: MECHANICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES	
				DRAWING NO. M-001	
				SHEET NO.	
NO.	DATE	DESCRIPTION	BY	NO.	
REVISIONS			DATE	01/29/2025	
				39 OF 48	





**1 BASEMENT MECHANICAL DUCTWORK PLAN**  
MH101 SCALE: 1/4" = 1'-0" PLAN NORTH

UNIT HEATER AND CABINET UNIT HEATER SCHEDULE							
UNIT NO	LOCATION	CFM	HEATING KW	ELECTRICAL DATA		BASIS OF DESIGN	NOTES
				HP	VOLTS/ PHASE		
EUH-1	GARAGE 003	850	7.5	1/2	480 / 3	MODINE HEX	1,2
EUH-2	GARAGE 003	850	7.5	1/2	480 / 3	MODINE HEX	1,2
EUH-3	STORAGE 002	530	7.5	1/40	480 / 3	MODINE HER	1
EUH-4	STORAGE 002	530	7.5	1/40	480 / 3	MODINE HER	1
NOTES: 1. PROVIDE MOUNTING BRACKET. 2. EXPLOSION PROOF.							

DIFFUSER / REGISTER SCHEDULE								
UNIT NO	FACE SIZE IN	NECK SIZE IN	MAX PRESSURE DROP IN WC	MAX NOISE CRITERIA	CFM RANGE	TYPE	BASIS OF DESIGN	NOTES
S-1	24x72	12ø	0.15	25	300-600	LAMINAR FLOW DIFFUSER	PRICE LFD	1
S-2								
E-1								
E-2								
E-3								
NOTES: 1. PROVIDE WITH SECONDARY PLENUM FOR DIRECT DUCT CONNECTION.								

LOUVER SCHEDULE									
UNIT NO	SERVES	TYPE	CFM	DIMENSIONS			MIN FREE AREA SQUARE FT	BASIS OF DESIGN	NOTES
				LENGTH	HEIGHT	DEPTH			
L-1	-	FIXED	3960	60"	48"	6"	10	RUSKIN ELF3675	-
L-2	-	FIXED	3960	60"	48"	6"	10	RUSKIN ELF3675	-
NOTES: 1.									

DUCT MOUNTED ELECTRIC HEATING COIL SCHEDULE										
UNIT NO	SERVES	AIR SIDE				DUCT SIZE		ELECTRICAL		NOTES
		CFM	KW	CONTROL TYPE	EAT °F	LAT °F	WIDTH IN	LENGTH IN	VOLTS/PHASE	
EDC-1	ERV-1 SUPPLY AIR	2705	65	SCR	-7	70	-7	-7	460 / 3	1, 2, 3
NOTES: 1. PROVIDE SCR CONTROLLER. 2. INSTALL IN VERTICAL DUCT. 3. BASIS OF DESIGN: MARLEY OPEN COIL DUCT HEATER.										

ENERGY RECOVERY VENTILATOR SCHEDULE																
UNIT NO	SERVES	SUPPLY			ERV EXHAUST			HEATING				ELECTRICAL			BASIS OF DESIGN	NOTES
		CFM	ESP IN H2O	FAN HP	CFM	ESP IN H2O	FAN HP	SUPPLY		EXHAUST		VOLTS/ PHASE	MCA	MOP		
								EAT °F	LAT °F	EAT @ RH °F@%	LAT °F					
ERV-1	BARN BASEMENT	2980	0.5	2	2645	0.5	2	-6	34	68 @ 30%	-	460/3	6.5	15	RENEWAIRE HE4XINV	1,2
NOTES: 1. PROVIDE LOW LEAKAGE, MOTORIZED DAMPERS FOR OUTSIDE AIR AND EXHAUST. 2. PROVIDE MERV 13 FILTERS FOR SUPPLY AIR AND MERV 8 FILTERS FOR EXHAUST AIR.																

UNIT NO	SERVES	NOMINAL COOLING TONS	NOMINAL HEATING MBH	COOLING EFFICIENCY IEER / EER	HEATING COP @ 47°F	DESIGN COOLING OUTDOOR DB (°F)	DESIGN HEATING OUTDOOR DB	REFRIG TYPE	ELECTRICAL			BASIS OF DESIGN		NOTES
									VOLTS/ PHASE	MCA	MOCP			
CU-1	AC-1	3.5	48	18.7	3.44	95	47	R-410A	208/1	20	30	TRANE/MITSUBISHI TPV-A-A42		1,2,3,4,5
NOTES: 1. PROVIDE PRE-MANUFACTURED, GALVANIZED STEEL, MODULAR EQUIPMENT SUPPORT FRAME WITH EQUIPMENT CLAMPS FOR INSTALLATION ON ROOF AT ELEVATION REQUIRED BY VRF SYSTEM MANUFACTURER. PROVIDE SUPPORT MANUFACTURER'S RUBBER PAD FOR INSTALLATION BELOW SUPPORT FOOT FOR VIBRATION REDUCTION. EQUIPMENT SUPPORT FRAME SHALL BE SIMILAR TO BIGFOOT CO. SUPPORTS. 2. PROVIDE WITH LOW AMBIENT CONTROL. 3. PROVIDE DRAIN PAN HEATER. 4. PROVIDE SNOW/HAIL KIT. 5. PROVIDE BMS INTEGRATION.														

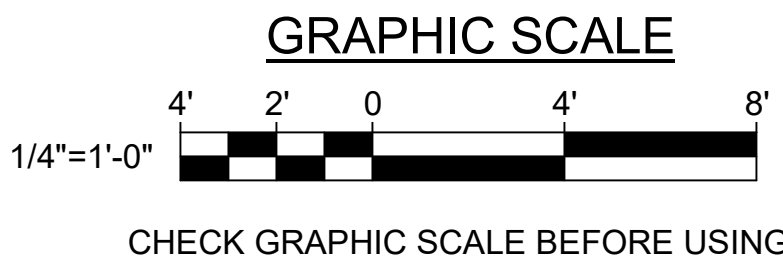
SPLIT SYSTEM HEAT PUMP FAN COIL SCHEDULE														
UNIT NO	SERVES	NOMINAL COOLING TONS	NOMINAL HEATING MBH	CABINET TYPE	NOMINAL CFM	ESP IN WC	COOLING LOAD TC/SC MBH	HEATING LOAD MBH	ELECTRIC COIL KW	ELECTRICAL		BASIS OF DESIGN		NOTES
										VOLTS/PH	MCA/MOCP			
AC-1	LAB 001	3.5	48	MULTI-POSITION AIR HANDLER	1400	0.5	36.1 / 29.8	46	17	208/1	5 / NOTE 5	TRANE MITSUBISHI TPVA-A42		1,2,3,4,5,6,7
NOTES: 1. PROVIDE WITH CONDENSATE PUMP. 2. PROVIDE WITH MANUFACTURER'S WIRED, WALL MOUNTED CONTROLLER. 3. HEATING OR COOLING UNIT. 4. PROVIDE ELECTRIC AUXILIARY COIL, PROVIDE SINGLE POINT POWER CONNECTION FOR UNIT AND ELECTRIC HEAT ACCESSORY. PROVIDE WITH ELECTRIC HEAT LOCKOUT CONTROLLER. 5. POWERED BY OUTDOOR UNIT. 6. INCLUDE FULL PORT BALL VALVES, 700 PSIG, 410A RATED. 7. BOTTOM RETURN, PROVIDE FLOOR STAND TO ACCOMODATE INLET DUCT CONNECTION.														

**GENERAL NOTES**

1. REFER TO M-001 FOR GENERAL MECHANICAL NOTES.

**KEYNOTES**

- 1 DUCT MOUNTED SMOKE DETECTOR IN VERTICAL DUCT.  
2 MAINTENANCE SERVICE CLEARANCE.  
3 PROVIDE 24-INCH TALL FLOOR STAND FOR ERV-1. BOLT FLOOR STAND TO FLOOR.



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22035 04-BARN-BASEMENT.dwg

207,283,9190

1 2/27/2025  
NO. DATE

ADDENDUM NO. 3  
DESCRIPTION

MSA  
BY

CHECK BY: MSA

DATE 01/29/2025

207,283,9190

40 OF 48

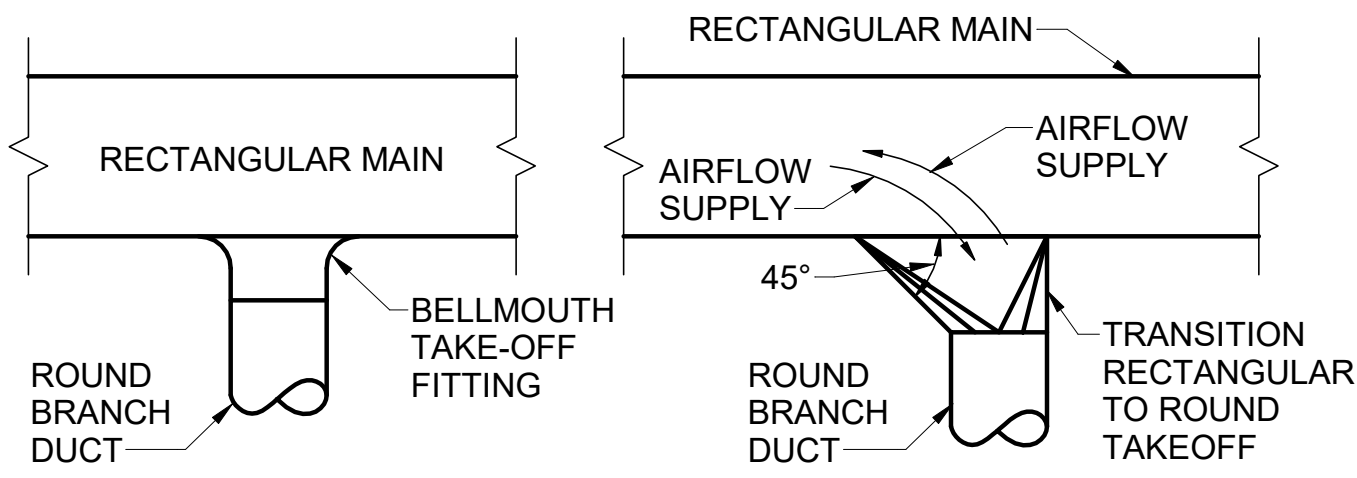
STATE OF MAINE  
MATTHEW S. ALBERT  
No. 9235  
LICENSED PROFESSIONAL ENGINEER

DEPARTMENT OF INLAND FISHERIES & WILDLIFE  
TITLE STORAGE BARN  
LOCATION AUGUSTA, ME  
TITLE THIS DWG. BASEMENT MECHANICAL DUCTWORK PLAN  
DRAWN BY: SRW  
CHECK BY: MSA  
DATE 01/29/2025

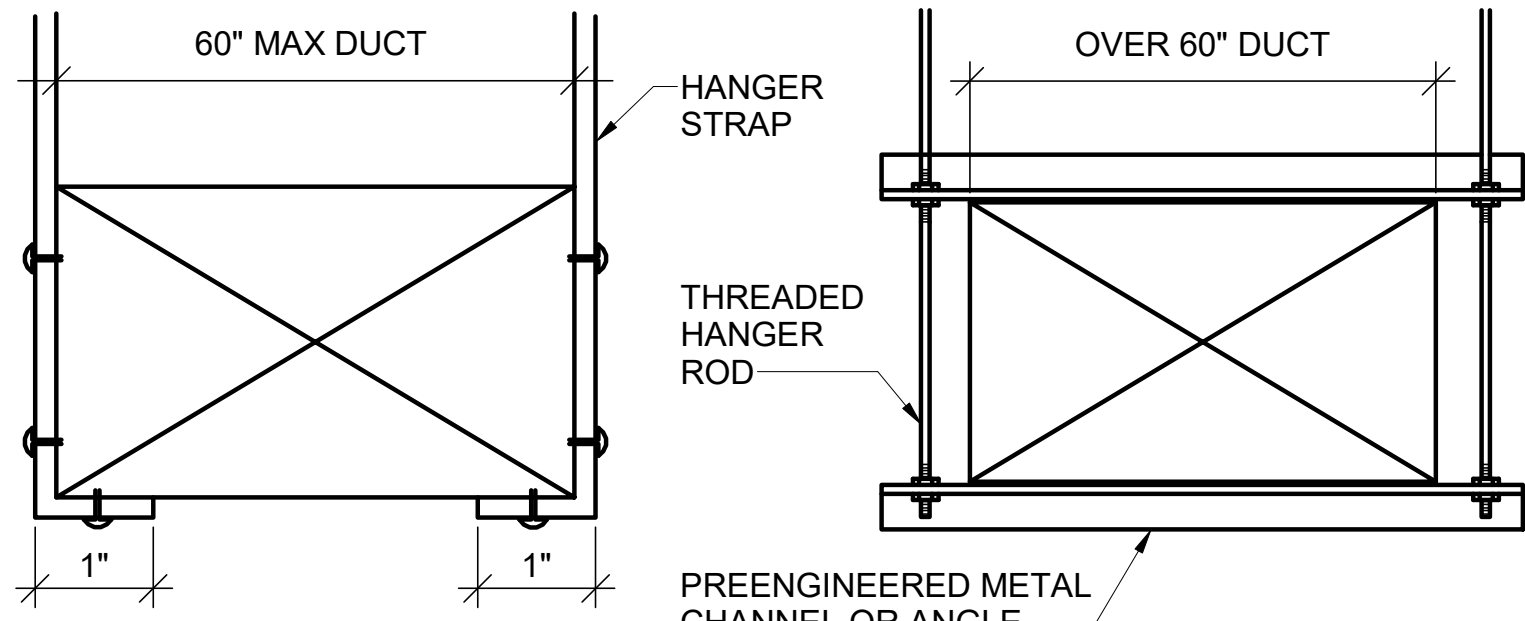
OAK POINT ASSOCIATES

DRAWING NO. MH101  
SHEET NO.

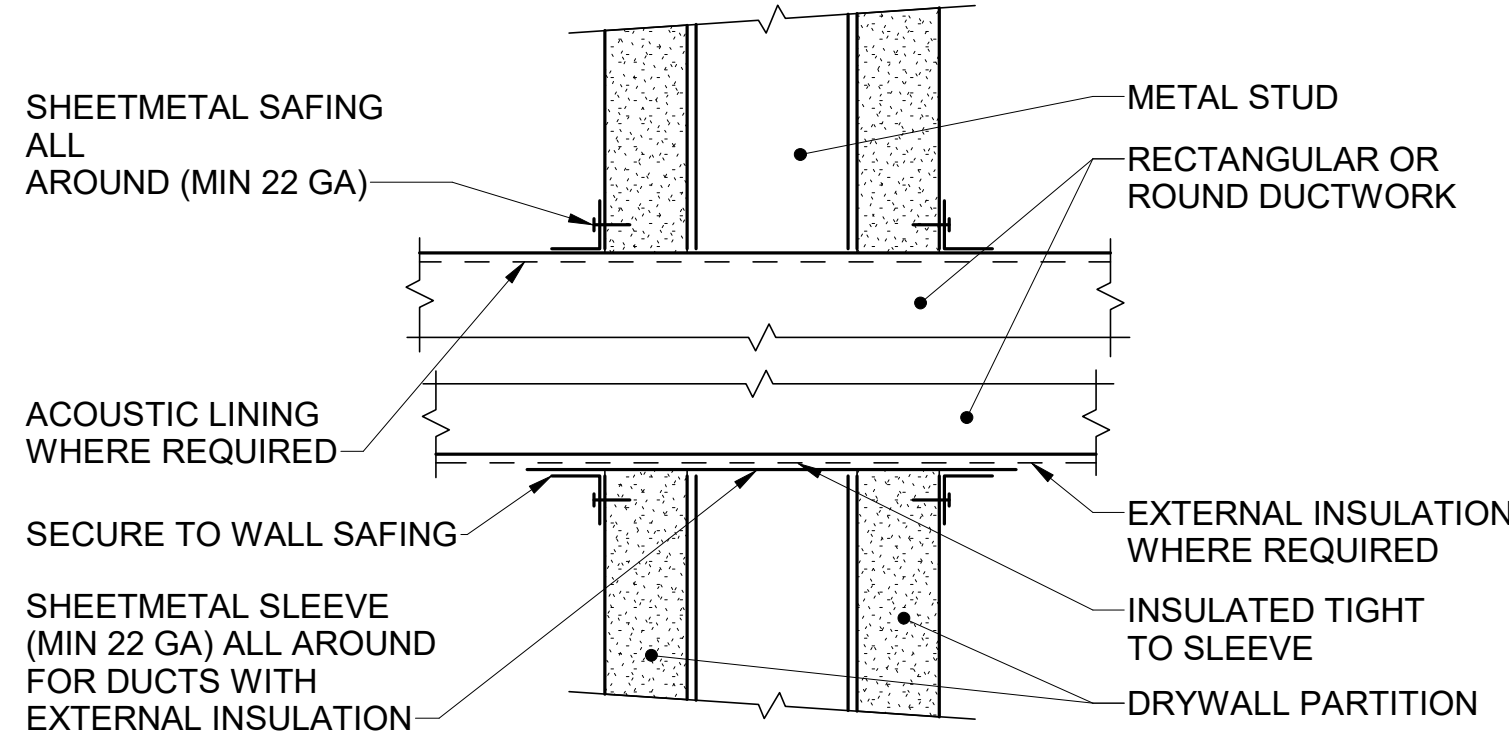




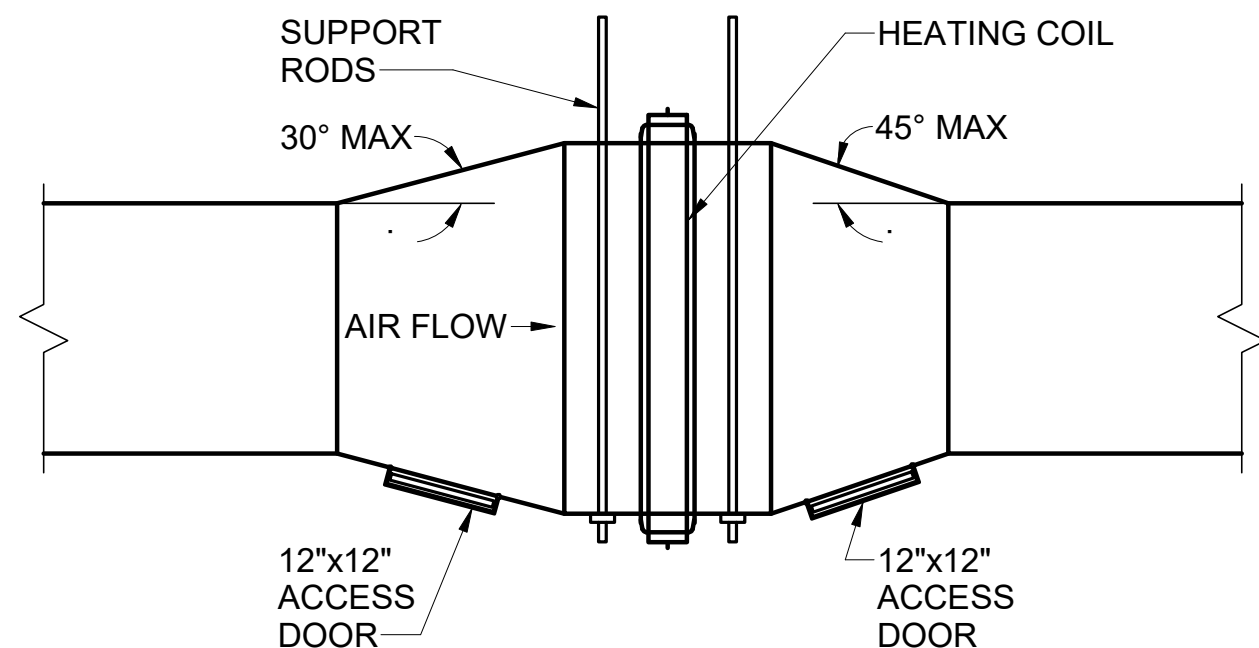
**1 TYPICAL ROUND BRANCH DUCT CONNECTIONS TO RECTANGULAR MAIN**  
M-501 SCALE: NTS



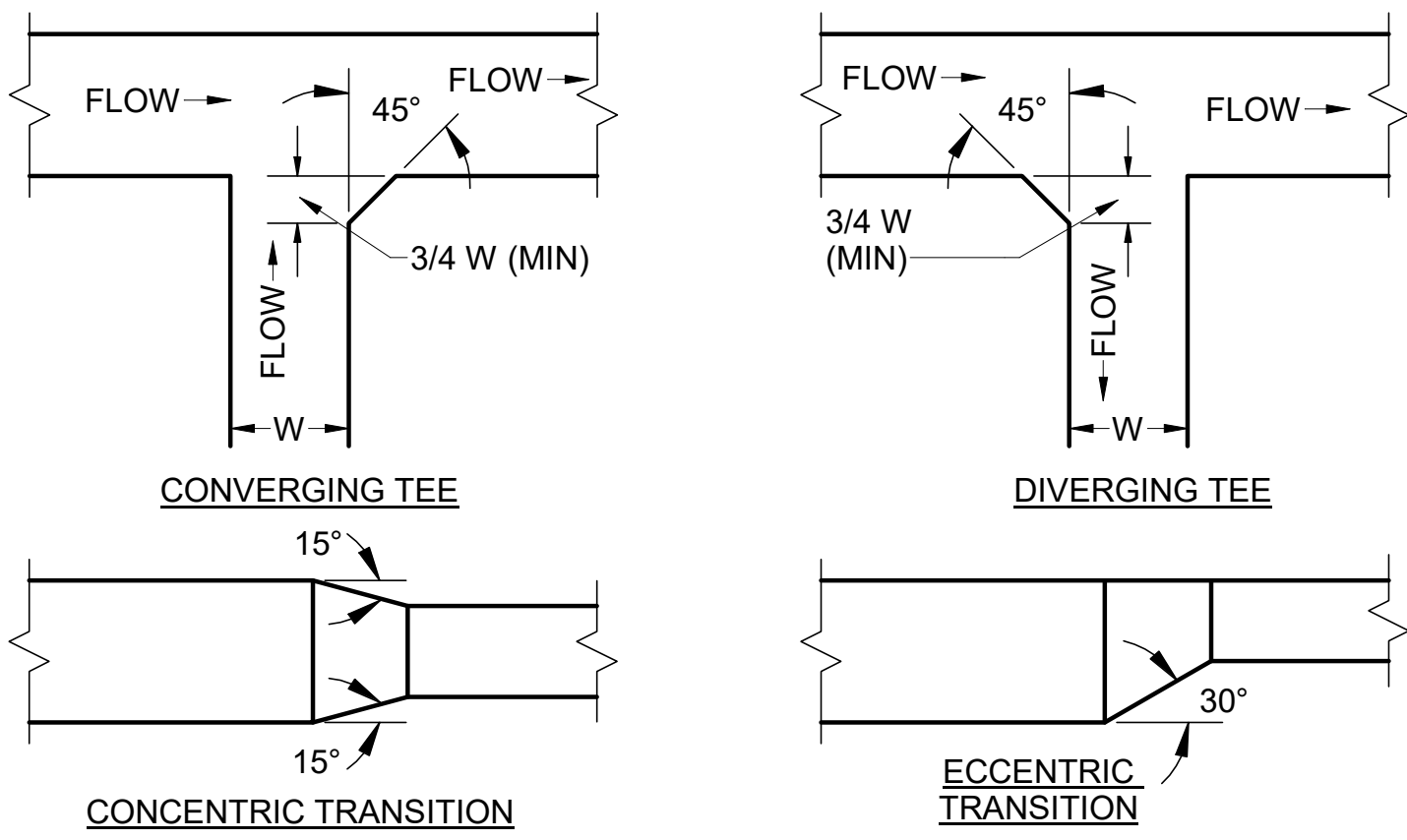
**2 DUCT SUPPORT ATTACHMENTS DETAIL**  
M-501 SCALE: NTS



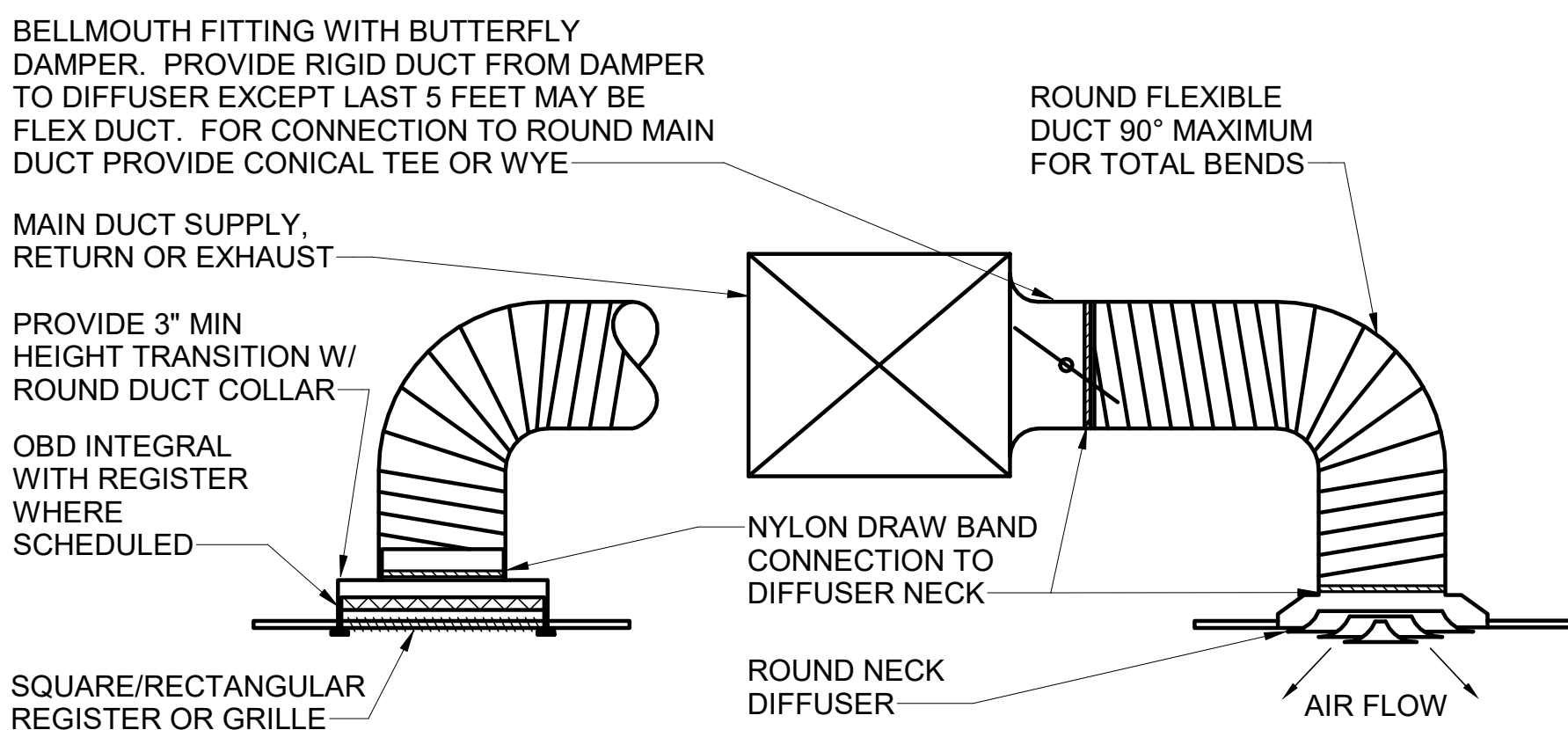
**3 DUCT PENETRATION THRU NON-FIRE RATED WALL**  
M-501 SCALE: NTS



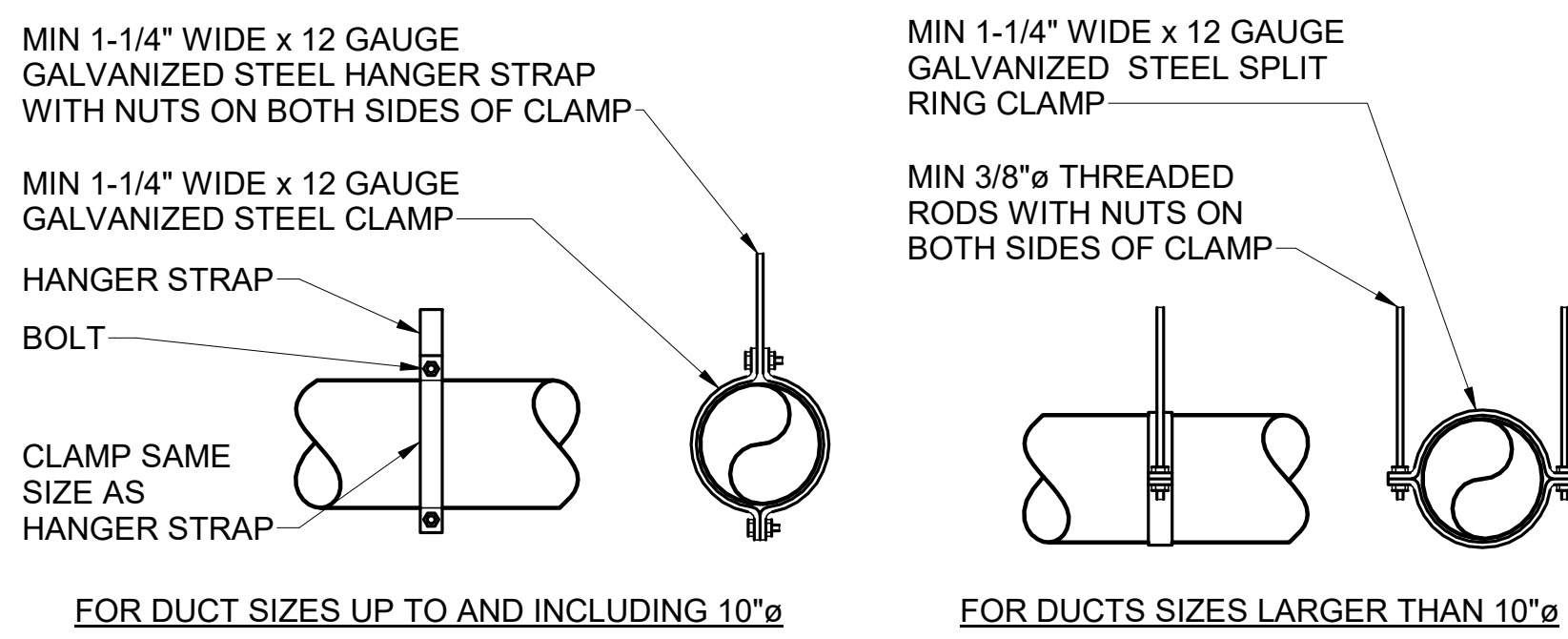
**4 DUCT MOUNTED HEATING COIL DETAIL**  
M-501 SCALE: NTS



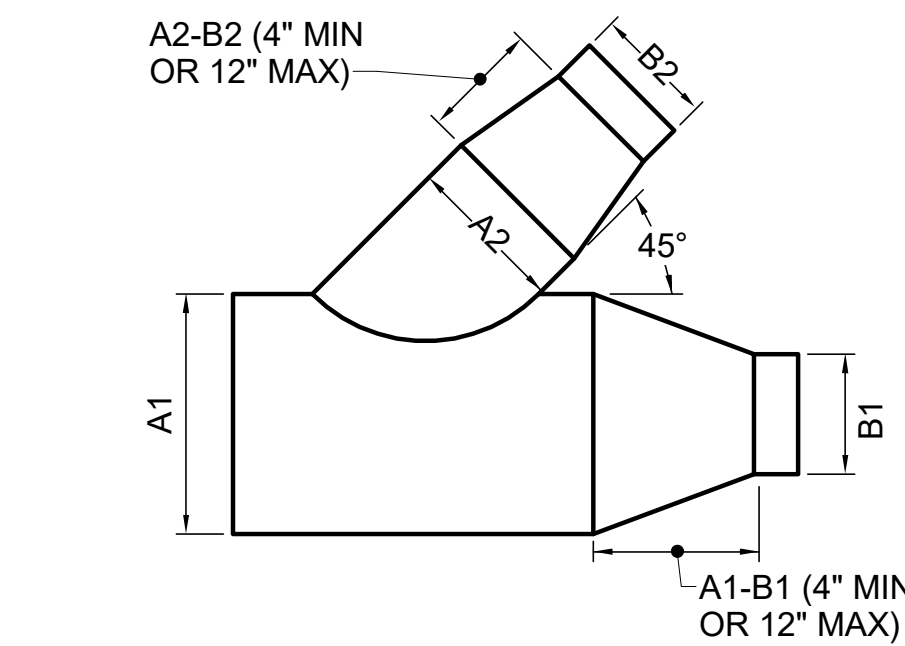
**5 RECTANGULAR DUCT TRANSITIONS DETAIL**  
M-501 SCALE: NTS



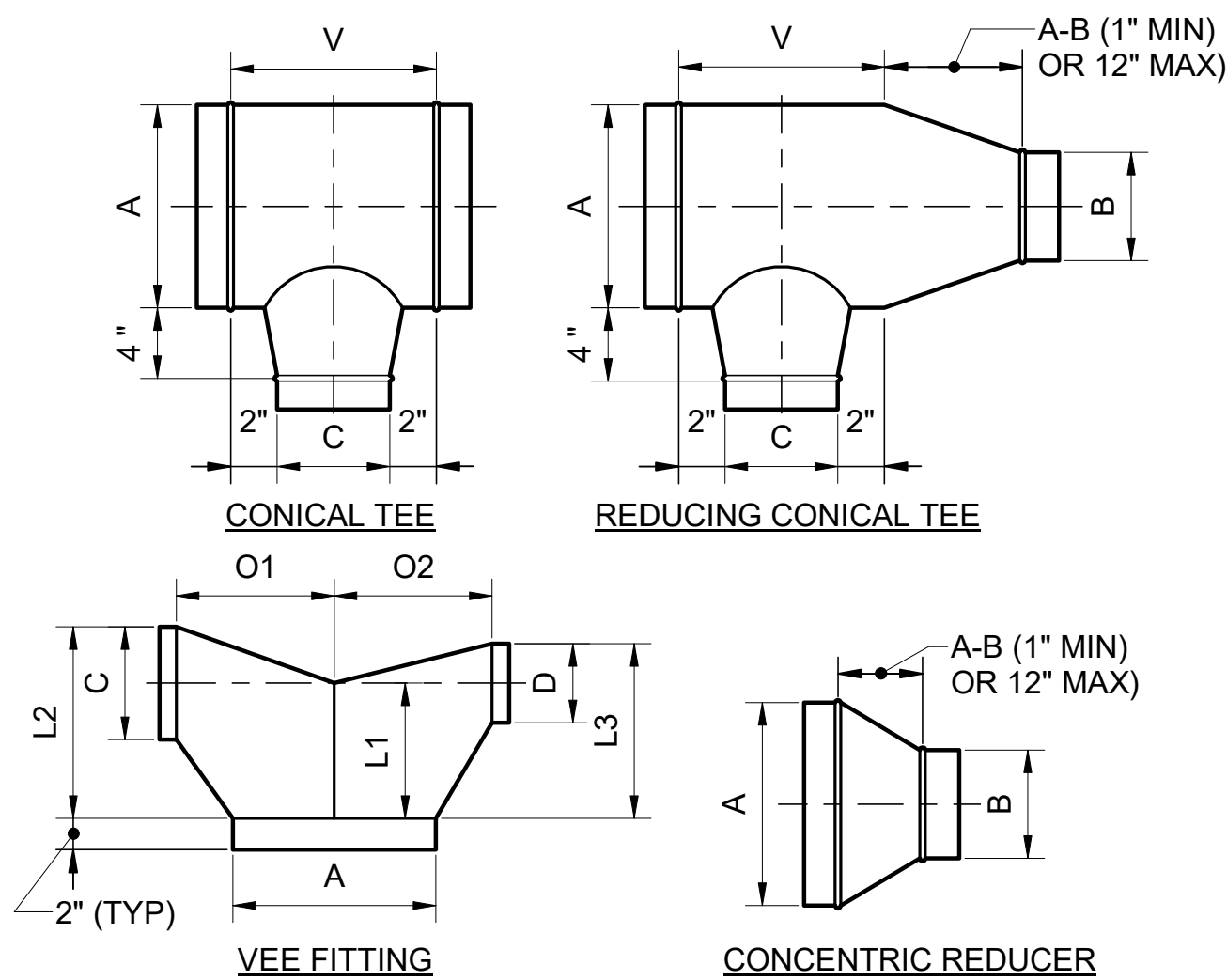
**6 DIFFUSER AND REGISTER RUNOUT DETAIL**  
M-501 SCALE: NTS



**7 ROUND DUCT HANGER DETAIL**  
M-501 SCALE: NTS



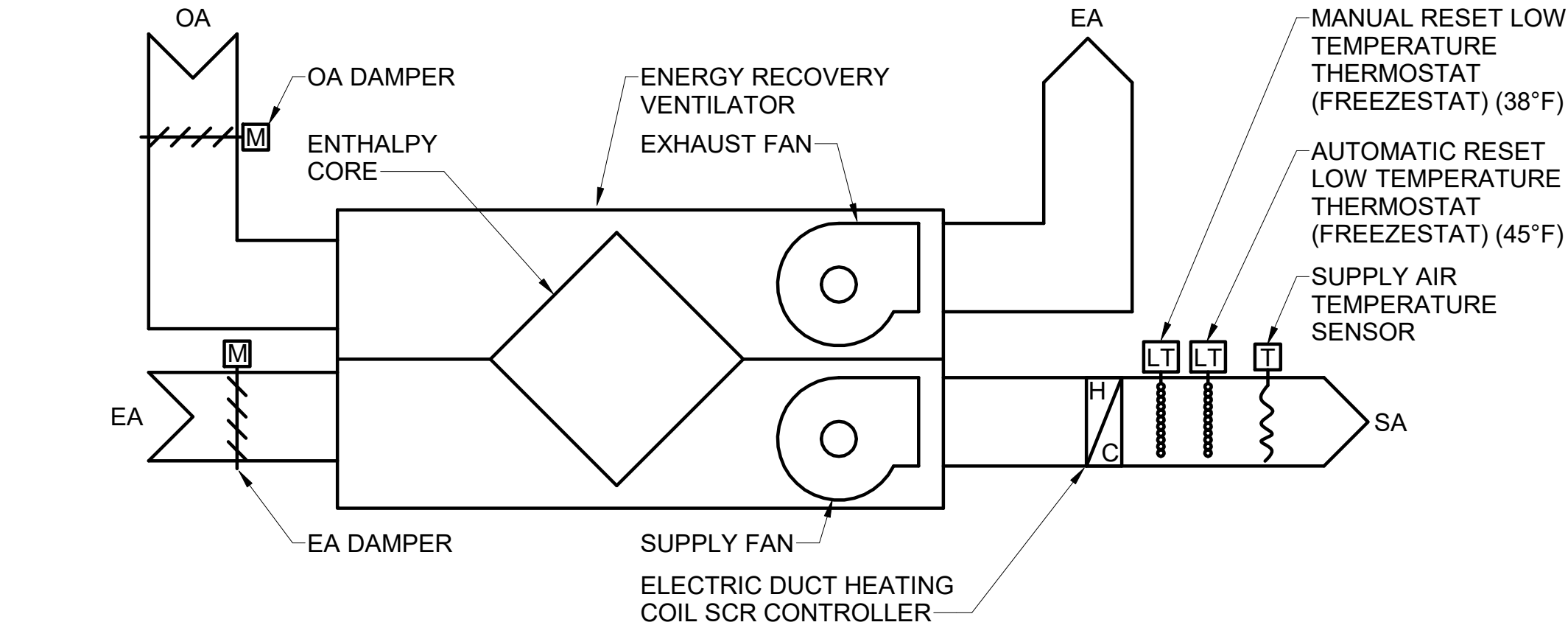
**8 ROUND DUCT-CONICAL REDUCING LATERAL**  
M-501 SCALE: NTS



**9 TYPICAL ROUND DUCT FITTINGS DETAIL**  
M-501 SCALE: NTS

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#### SEQUENCE OF OPERATION

ERV OCCUPANCY SHALL BE DETERMINED BY MANUFACTURER'S USER ADJUSTABLE SCHEDULE IN THE DDC SYSTEM.

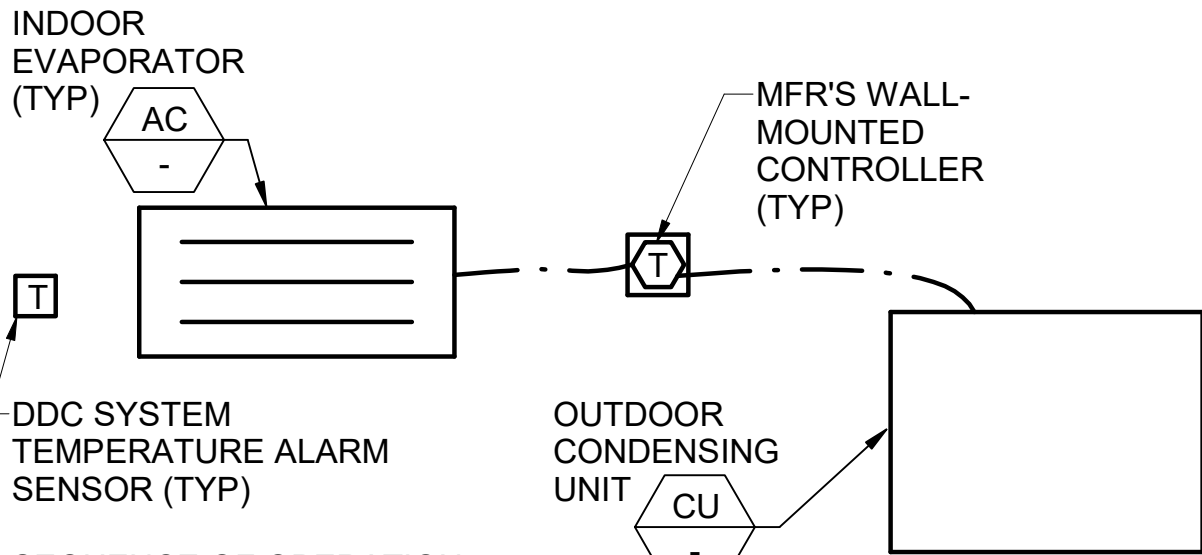
**ERV**  
OCCUPIED MODE - OUTSIDE AND EXHAUST AIR MOTORIZED DAMPERS SHALL OPEN. SUPPLY AND EXHAUST FANS SHALL RUN CONTINUOUSLY.

UNOCCUPIED MODE - OUTSIDE AND EXHAUST AIR MOTORIZED DAMPERS SHALL BE CLOSED. SUPPLY AND EXHAUST FANS SHALL STOP.

**HEATING COIL**  
SUPPLY AIR TEMPERATURE CONTROLLER SHALL MODULATE HEATING COIL TO MAINTAIN SUPPLY AIR TEMPERATURE SET POINT OF 65°F (ADJUSTABLE).

**SAFETIES**  
IF THE FREEZESTAT INDICATES A LOW TEMPERATURE CONDITION (BELOW 38°F) THEN ERV SHALL BE DISABLED, SUPPLY AND EXHAUST FANS SHALL STOP, AND THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL CLOSE.

ERV & HEATING COIL POINTS LIST									
SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	ANALOG VARIABLE	BINARY VARIABLE	TREND LOG
ERV SUPPLY FAN START/STOP	x			x				x	
ERV EXHAUST FAN START/STOP	x			x				x	
ERV OUTSIDE AIR DAMPER	x			x				x	
ERV EXHAUST AIR DAMPER	x			x				x	
ERV FREEZESTAT (MANUAL RESET)	x		x	x				x	1
ERV FREEZESTAT (AUTO RESET)	x		x	x				x	1
ERV SUPPLY AIR TEMPERATURE	x	x						x	
DUCT COIL SCR ENABLE	x				x			x	
DUCT COIL SCR SIGNAL	x	x						x	
NOTES: 1. GENERATE AN ALARM ON THE GUI IF THE FREEZESTAT INDICATES AN ALARM CONDITION.									



#### SEQUENCE OF OPERATION

THE SPLIT SYSTEM HEAT PUMP AIR CONDITIONING UNIT SHALL HAVE A STAND ALONE, WALL MOUNTED CONTROLLER WHICH SHALL HAVE A 24 HOUR, 7 DAY PROGRAMMABLE THERMOSTAT AND A COOLING ON/OFF SWITCH.

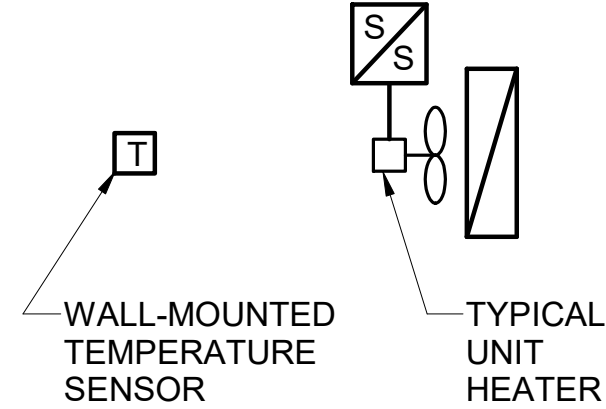
#### DUCTLESS SPLIT SYSTEM NOTES:

- THE CONTROLS CONTRACTOR SHALL PROVIDE INTERCONNECTING WIRING BETWEEN SYSTEM DEVICES AS REQUIRED BY THE EQUIPMENT MANUFACTURERS WRITTEN INSTRUCTIONS.
- REFER TO EQUIPMENT SCHEDULE SHEETS FOR DUCTLESS SPLIT SYSTEM CONFIGURATIONS.

SPLIT SYSTEM HEAT PUMP POINTS LIST									
SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	ANALOG VARIABLE	BINARY VARIABLE	TREND LOG
ROOM TEMPERATURE	x	x				x		x	1
NOTES: 1. GENERATE ALARM IF TEMPERATURE IS NOT ±5°F OF SET POINT.									

#### SEQUENCE OF OPERATION

ON CALL FOR HEAT FROM THE TEMPERATURE SENSOR, (ADJUSTABLE) THE FAN SHALL RUN.



TYPICAL UNIT HEATER POINTS LIST									
SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	ANALOG VARIABLE	BINARY VARIABLE	TREND LOG
ROOM TEMPERATURE	x	x				x		x	1
ROOM SET POINT	x	x						x	1
UNIT HEATER FAN START/STOP	x			x				x	1
NOTES: 1. GENERATE AN ALARM ON THE GUI IF THE ROOM TEMPERATURE FALLS BELOW 50°F (ADJUSTABLE) OR RISES ABOVE 85°F (ADJUSTABLE).									

### 1 ENERGY RECOVERY VENTILATOR AND HEATING COIL CONTROL DIAGRAM

M-701 SCALE: NTS

### 2 SPLIT SYSTEM HEAT PUMP CONTROL DIAGRAM

M-701 SCALE: NTS

### 3 TYPICAL UNIT HEATER CONTROL DIAGRAM

M-701 SCALE: NTS

GLOBAL BUILDING POINTS LIST									
SYSTEM POINT DESCRIPTION	GRAPHIC	ANALOG INPUT	ANALOG OUTPUT	BINARY INPUT	BINARY OUTPUT	ALARM	ANALOG VARIABLE	BINARY VARIABLE	TREND LOG
OUTSIDE AIR TEMPERATURE	x	x						x	
OUTSIDE AIR RELATIVE HUMIDITY	x	x						x	
NOTES: 1.									

### 4 BUILDING GLOBAL POINTS CONTROL DIAGRAM

M-701 SCALE: NTS

### CONTROL SYSTEM GENERAL NOTES

- ALARMS SHALL BE ANNUNCIATED ON THE GRAPHICAL USER INTERFACE (GUI) COMPUTERS AND SHALL BE FULLY INTEGRATED WITH EXISTING GRAPHICS.
- SETTINGS, MODES, AND SETPOINTS THAT ARE INDICATED AS BEING ADJUSTABLE SHALL BE ADJUSTABLE BY THE BUILDING OPERATOR THROUGH THE GUI WITHOUT THE NEED TO CHANGE OR EDIT PROGRAMMING.
- ALL INPUTS AND OUTPUTS SERVING A SINGLE PIECE OF EQUIPMENT (AHU, HEAT PUMP, ETC) SHALL BE WIRED TO A SINGLE CONTROLLER (WITH EXPANSION PANELS IF NECESSARY).
- DISPLAY OF HISTORICAL TREND DATA SHALL BE AVAILABLE TO THE OWNER THROUGH A POINT-AND-CLICK ICON ON THE GUI COMPUTERS.
- ANALOG DATA SHALL BE TRENDED AT REGULAR INTERVALS, DETERMINED BY THE EXPECTED RATE OF CHANGE OF THE DATA, AND SHALL BE ARCHIVED AND STORED ON THE GUI COMPUTER.
- BINARY DATA SHALL BE TRENDED ON A CHANGE OF STATE BASIS AND SHALL BE ARCHIVED AND STORED ON THE GUI COMPUTER.
- COORDINATE FINAL GUI COMPUTER LOCATION WITH OWNER.
- ALL LOW-VOLTAGE AND CONTROL WIRING SHALL BE CONCEALED IN WALLS AND ABOVE CEILINGS.
- THE CONTROL SYSTEM SHALL CONSIST OF A HIGH-SPEED, PEER-TO-PEER NETWORK OF DDC CONTROLLERS, A CONTROL SYSTEM SERVER, AND A WEB-BASED OPERATOR INTERFACE. DDC SYSTEM IS FOR MONITORING AND CONTROLLING VARIOUS HVAC SYSTEMS. THE CONTROL SYSTEM SHALL BE SEAMLESSLY INTEGRATED WITH THE STATE OF MAINE BUILDING CONTROL CENTER (BCC) WHICH PROVIDES 24 HOURS A DAY, 7 DAYS A WEEK, 365 DAYS A YEAR MONITORING OF STATE FACILITIES. THE HVAC CONTROLS SHALL BE AN EXTENSION OF THE EXISTING HONEYWELL ENTERPRISE BUILDING INTEGRATOR (EBI) WITH HOST SERVER HARDWARE LOCATED IN AUGUSTA MAINE. THE BUILDING AUTOMATION SYSTEM (BAS) SHALL ENABLE MONITORING AND CONTROL OF MECHANICAL SYSTEMS INSTALLED UNDER THE SCOPE OF THIS PROJECT THROUGH TO THE BCC. INTEGRATION OF HVAC SYSTEM, PANELS, ASSOCIATED DEVICES, FRONT-END PROGRAMMING, AND GRAPHICS IS PROPRIETARY TO HONEYWELL INTERNATIONAL INC. CONTACT: BOB MASLAND, SENIOR ACCOUNT EXECUTIVE, HONEYWELL BUILDING TECHNOLOGIES; ROBERT.MASLAND2@HONEYWELL.COM.
- DDC SYSTEM SHALL INTERFACE WITH AN EXISTING BCC BUILDING CONTROL CENTER ENTERPRISE SYSTEM TO ADHERE TO OWNER STANDARDS ALREADY IN-PLACE AND TO ACHIEVE INTEGRATION. INTEGRATION IS LIMITED TO 3 STATE OF MAINE NETWORK CONNECTIONS.
- ENGAGE OWNER'S CONTROL SYSTEM INTEGRATOR HONEYWELL EBI TO PROVIDE THE FOLLOWING SERVICES:
  - SYSTEM EXPANSION AND DEVELOPMENT OF GRAPHICS, LOGS, REPORTS, TRENDS, AND OTHER OPERATIONAL CAPABILITIES OF ENTERPRISE SYSTEM FOR I/O BEING ADDED TO DDC CONTROL SYSTEM FOR USE BY ENTERPRISE SYSTEM OPERATORS.
  - ASSISTANCE DURING COMMISSIONING TO EXTENT OF DDC SYSTEM INTEGRATION WITH EXISTING ENTERPRISE SYSTEM.
  - PREPARE ON-SITE DEMONSTRATION MOCKUP OF INTEGRATION OF DDC SYSTEM TO BE INSTALLED WITH EXISTING SYSTEM BEFORE INSTALLING DDC SYSTEM.
- REPORTS AND LOGS SHALL BE PROVIDED VIA THE EXISTING HONEYWELL EBI SYSTEM.
- THE STATE OF MAINE HAS A REQUIREMENT FOR NO LOCAL SPACE TEMPERATURE SENSOR CONTROL BY OCCUPANTS. SPACE SENSOR CONTROL WILL FOLLOW STATE STANDARD OF 68 DEGREES FOR HEATING AND 75 DEGREES FOR COOLING.
- THE STATE OF MAINE USES FORGE, AN INTUITIVE PROGRAM THAT USES ANALYTICS TO REPORT ABNORMALITIES WITHIN THE HVAC SYSTEMS. PROVIDE ASSET INTEGRATION INTO FORGE.
- THE STATE OF MAINE USES COMMAND & CONTROL, AN INTELLIGENT SOLUTION, THAT PROVIDES A MORE EFFECTIVELY MONITORING, OPTIMIZATION, AND AUTOMATE ESSENTIAL FUNCTIONS. FOR ENERGY MANAGEMENT AND HVAC ASSETS WILL REQUIRE MODIFICATIONS TO THE CURRENT FACILITY COMMAND AND CONTROL SUITE MODEL.
- LICENSING - PROVIDE REQUIRED ADDITIONAL HONEYWELL EBI HVAC LICENSING POINTS.