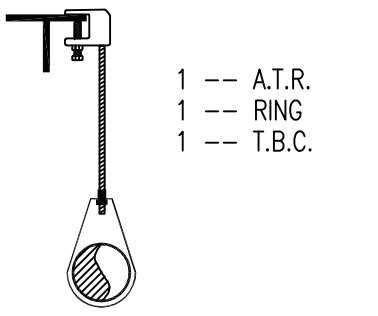
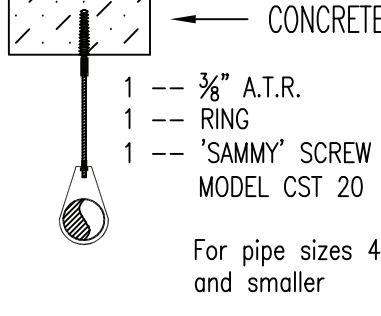
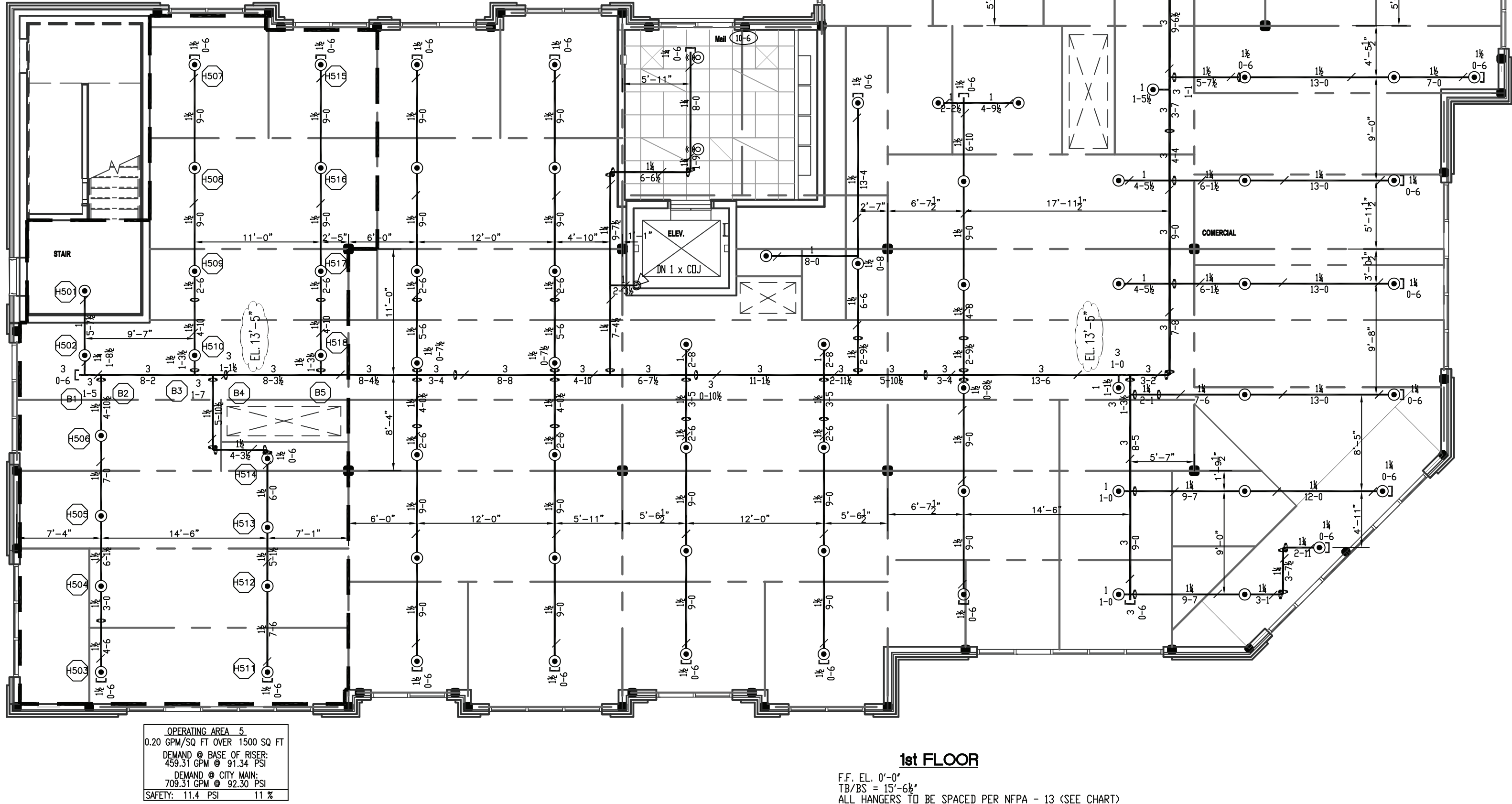
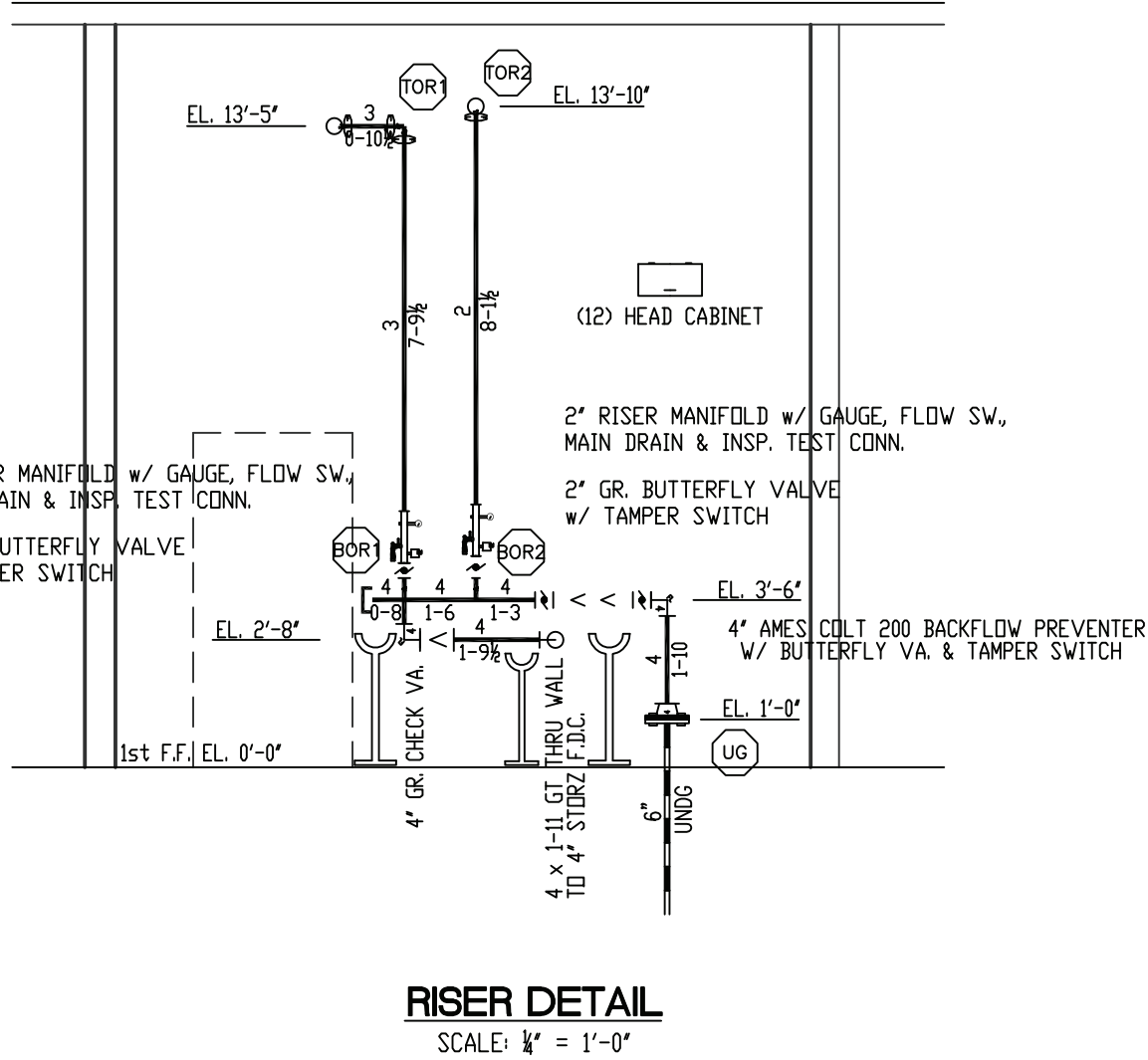


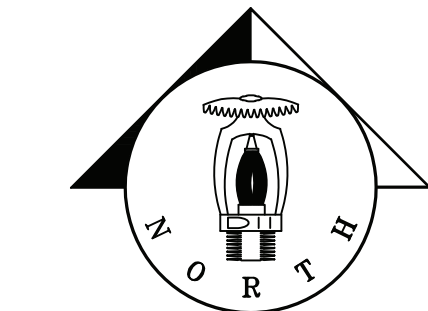
GENERAL NOTES: ALL FITTINGS CONFORM TO SECTION 2-4 OF NFPA PAMPHLET 13. VALVES ON CONNECTIONS TO WATER SUPPLIES, SECTIONAL CONTROL VALVES AND OTHER VALVES IN SUPPLY PIPES TO SPRINKLERS SHALL BE SUPERVISED OPEN BY AN APPROVED METHOD. IT IS THE OWNERS RESPONSIBILITY TO PROVIDE ADEQUATE HEAT TO KEEP THE SPRINKLER SYSTEM FROM FREEZING. ALL ELECTRICAL WIRING OF ALARM BELLS, FLOW SWITCHES AND TAMPER SWITCHES OF REQUIRED TO BE DONE BY OTHERS. THE SPRINKLER SYSTEM TO BE INSTALLED IN ACCORDANCE WITH NFPA 13. HANGERS TO BE SPACED TO MEET NFPA REQUIREMENTS CL = CENTER LINE OF PIPE BELOW TOP OF STEEL EL = CENTER LINE OF PIPE ABOVE FINISHED FLOOR	DESIGN CRITERIA: COMMERCIAL AREA: PER NFPA-13, 2016 EDITION, ORDINARY HAZARD GR. 1: 0.20 GPM/SQ. FT. FOR 1500 SQ. FT. OUTSIDE HOSE ALLOWANCE = 250 GPM. PARKING / STORAGE / MECH. AREAS: PER NFPA-13, 2016 EDITION, ORDINARY HAZARD GR. 1: 0.15 GPM/SQ. FT. FOR 1000 SQ. FT. OUTSIDE HOSE ALLOWANCE = 250 GPM. ALL OTHER AREAS: PER NFPA-13, 2016 EDITION, LIGHT HAZARD: 0.10 GPM/SQ. FT. FOR 900 SQ. FT. OUTSIDE HOSE ALLOWANCE = 100 GPM.
	PIPE TYPE: ALL WELDED/GROOVED PIPING TO BE SCHED. 10 ALL THREADED PIPING TO BE SCHED. 40
CONSTRUCTION: CONC. SLAB	

Maximum Distance between Hangers (ft.-in.) Per NFPA-13	
MINIMUM PIPE SIZE	1" 1 1/4" 1 1/2" 2" 2 1/2" 3" 4" 6" 8"
STEEL PIPE EXCEPT THREADED LIGHTWALL	12'-0" 12'-0" 15'-0" 15'-0" 15'-0" 15'-0" 15'-0" 15'-0"
THREADED LIGHTWALL	12'-0" 12'-0" 12'-0" 12'-0" 12'-0" N/A N/A N/A
STEEL PIPE	12'-0" 12'-0" 12'-0" 12'-0" 12'-0" N/A N/A N/A
CPVC	6'-0" 6'-6" 7'-0" 8'-0" 10'-0" N/A N/A N/A

	
TYP. HANGER #01	TYP. HANGER #56
NO SCALE	NO SCALE



1st FLOOR
F.F. EL. 0'-0"
B/R/S = 15'-6"
ALL HANGERS TO BE SPACED PER NFPA - 13 (SEE CHART)
ALL HANGERS TO BE CUL
ALL SPRINGS TO BE 1 x CUL
PENDENT HEADS TO BE ON 40\" data-bbox="632 875 707 916"/>

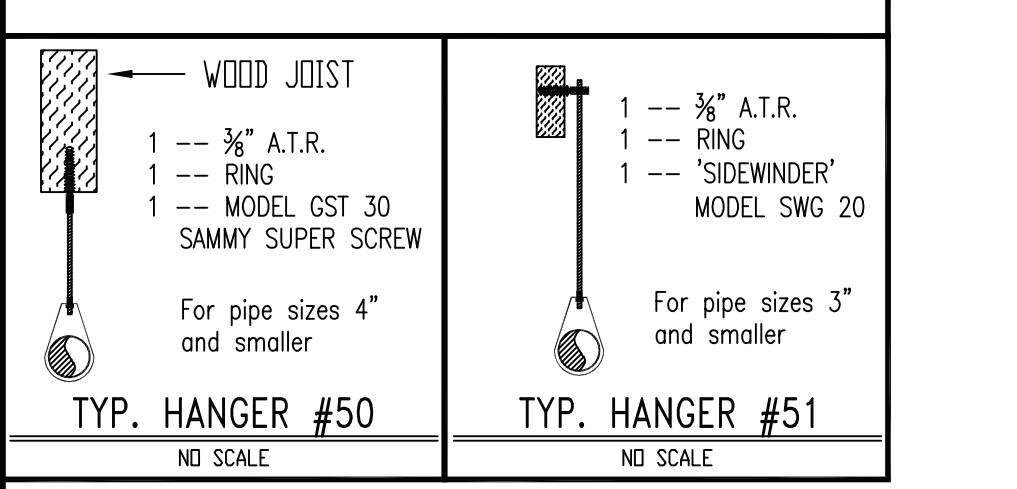


Job: THE VILLAGE AT DISCOVERY LOT 5 1900 NE DISCOVERY AVE LEE'S SUMMIT, MO		SHEET 1 OF 2	
1. All Pipe Locations are to be Field Measured Prior to Fabrication and Installation by Sprinkler Contractor. 2. All Pipe Dimensions Shown are Center to Center. 3. High Temperature Heads are to be Field Located Where Required. 4. All Pipes and Hangers are to be Installed per NFPA #13. 5. Hangers are to be U.L. listed and P.M. Approved.		SPRINKLER LEGEND	
Symbol	Description	Symbol	Description
○	Hydraulic Reference Points	○	Reliable Type of or Upstream (on spray)
○	Elev. Below Top of Steel	○	Reliable Type of or Upstream (on spray)
○	Elev. Above Finished Floor	○	Reliable Type of or Upstream (on spray)
○	Elev. of Top of Steel	○	Reliable Type of or Upstream (on spray)
○	Ceiling Height	○	Reliable Type of or Upstream (on spray)
○	Denotes Hanger Location	○	Reliable Type of or Upstream (on spray)
○	Rise up or down	○	Reliable Type of or Upstream (on spray)
Plan Notes		Drawing Title	
1. All Pipe Locations are to be Field Measured Prior to Fabrication and Installation by Sprinkler Contractor. 2. All Pipe Dimensions Shown are Center to Center. 3. High Temperature Heads are to be Field Located Where Required. 4. All Pipes and Hangers are to be Installed per NFPA #13. 5. Hangers are to be U.L. listed and P.M. Approved.		Contract No.:	
		Drawn By: B & K	
		Scale: 1/8" = 1'-0"	
		Date: 8-26-2025	
		TOTAL THIS SHEET	
		129	

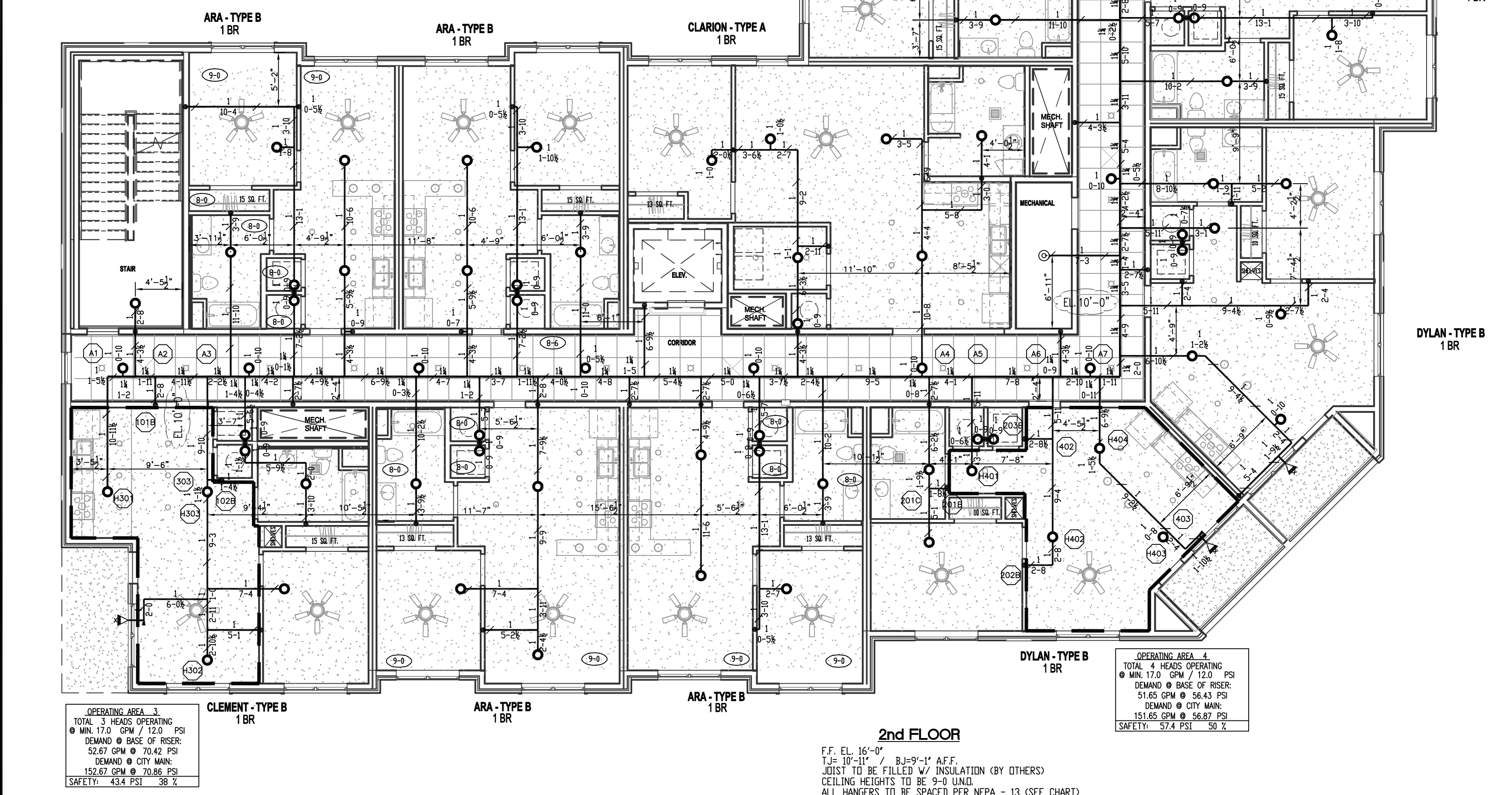
GENERAL NOTES:
ALL FITTINGS CONFORM TO SECTION 2-4 OF NFPA PAMPHLET 13.
VALVES IN CONNECTIONS TO WATER SUPPLIES, SECTIONAL CONTROL VALVES AND OTHER VALVES IN SUPPLY PIPES TO SPRINKLERS SHALL BE SUPERVISED OPEN BY AN APPROVED METHOD.
IT IS THE OWNERS RESPONSIBILITY TO PROVIDE ADEQUATE HEAT TO KEEP THE SPRINKLER SYSTEM FROM FREEZING.
ALL ELECTRICAL WIRING OF ALARM BELLS, FLOW SWITCHES AND TAMPER SWITCHES OF REQUIRED TO BE DONE BY OTHERS.
THE SPRINKLER SYSTEM TO BE INSTALLED IN ACCORDANCE WITH NFPA 13.
HANGERS TO BE SPACED TO MEET NFPA REQUIREMENTS
CL = CENTER LINE OF PIPE BELOW TOP OF STEEL
EL = CENTER LINE OF PIPE ABOVE FINISHED FLOOR

CONSTRUCTION:
WOOD JOISTS

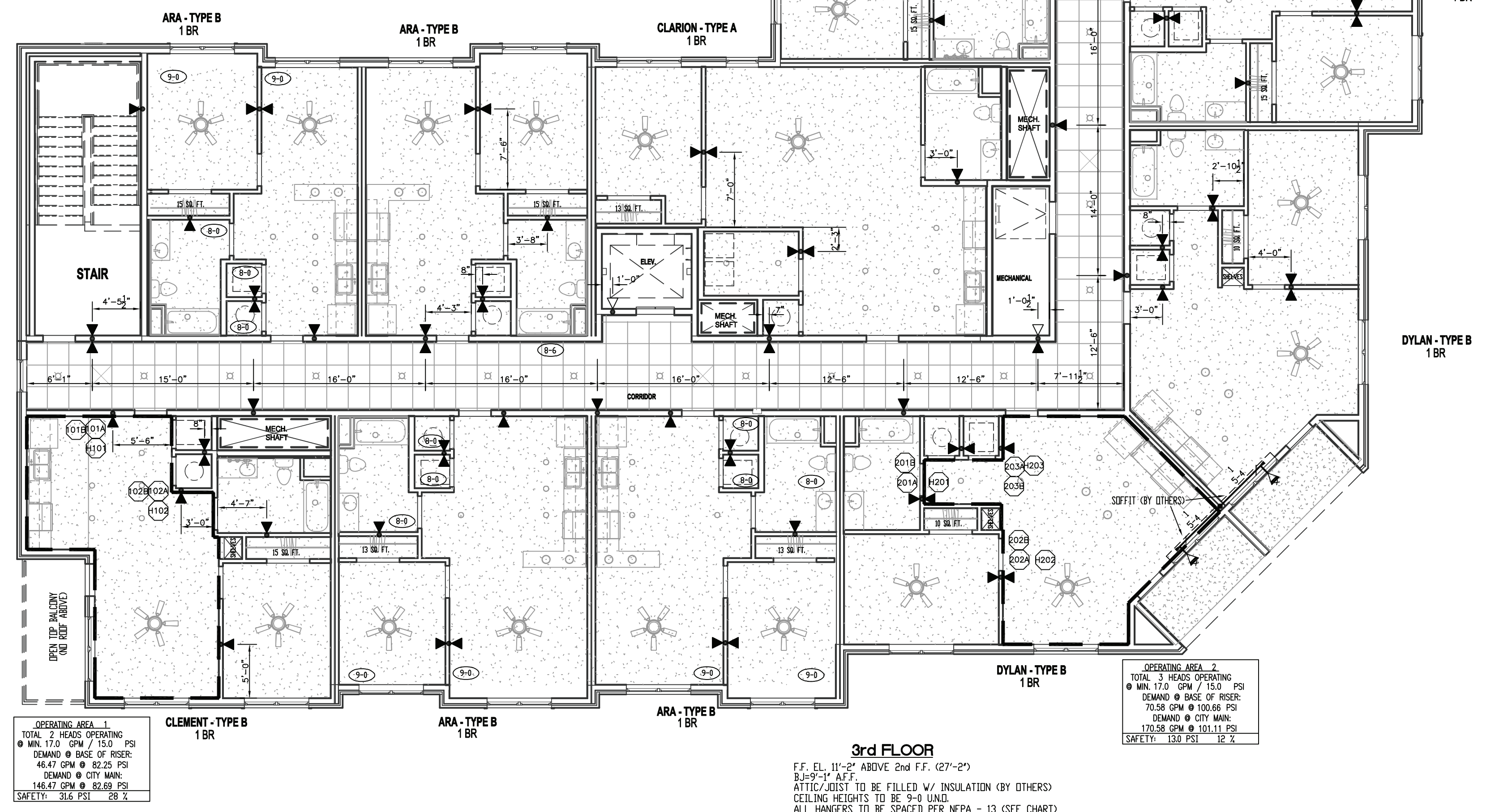
Maximum Distance between Hangers (ft-in.) Per NFPA-13									
NOMINAL PIPE SIZE	1 1/2"	1 3/4"	2"	2 1/2"	3"	4"	6"	8"	10"
STEEL PIPE EXCEPT THREADED LIGHTWALL	12'-0"	12'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"
THREADED LIGHTWALL	12'-0"	12'-0"	12'-0"	12'-0"	12'-0"	N/A	N/A	N/A	N/A
STEEL PIPE	12'-0"	12'-0"	12'-0"	12'-0"	12'-0"	N/A	N/A	N/A	N/A
CPVC	6'-0"	6'-6"	7'-0"	8'-0"	9'-0"	10'-0"	N/A	N/A	N/A



DESIGN CRITERIA:
LEVELS 2 & 3
PER NFPA-13R, 2016 EDITION:
ALL HEADS IN A SINGLE COMPARTMENT, UP TO 4 OPERATING
OUTSIDE HOSE ALLOWANCE = 100 GPM
PIPE TYPE:
ALL PIPING TO BE CPVC PLASTIC PIPE



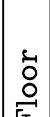
2nd FLOOR
F.F. EL. 16'-0" / 15'-9" B.U.P. 1" A.F.F.
JOIST TO BE FILLED W/ INSULATION (BY OTHERS)
CEILING HEIGHTS TO BE 9'-0" UNL.
ALL HANGERS TO BE SPACED PER NFPA - 13 (SEE CHART)
ALL HANGERS TO BE CCL
PER NFPA-13R HEADS ARE NOT REQUIRED
CLOSETS UNDER 24 SQ. FT.
• VERT. RISER IN WALL GTR HSW HEADS UNDER 9'-0" CEILING TO BE 1 x 9'-0"
• VERT. RISER IN WALL GTR HSW HEADS UNDER 8'-6" CEILING TO BE 1 x 8'-0"
• VERT. RISER IN WALL GTR HSW HEADS UNDER 8'-0" CEILING TO BE 1 x 8'-0"
* ALL PIPING TO BE @ EL. 10'-0" UNL. *



3rd FLOOR
F.F. EL. 11'-2" ABOVE 2nd F.F. (27'-2")
B.U.P. 1" A.F.F.
ATTIC/ROOF TO BE FILLED W/ INSULATION (BY OTHERS)
CEILING HEIGHTS TO BE 9'-0" UNL.
ALL HANGERS TO BE SPACED PER NFPA - 13 (SEE CHART)
ALL HANGERS TO BE CCL
PER NFPA-13R HEADS ARE NOT REQUIRED
CLOSETS UNDER 24 SQ. FT.
HSW HEADS TO BE 12" BELOW CEILING
HSW HEADS TO BE MAX. 8' OFF SIDE WALLS
• VERT. RISER IN WALL GTR HSW HEADS UNDER 9'-0" CEILING TO BE 1 x 9'-0"
• VERT. RISER IN WALL GTR HSW HEADS UNDER 8'-6" CEILING TO BE 1 x 8'-0"
• VERT. RISER IN WALL GTR HSW HEADS UNDER 8'-0" CEILING TO BE 1 x 8'-0"
* ALL PIPING TO BE 1 x CCL UNL. *

MISSOURI PE COA #2016025677
G Engineering, LLC
1624 N Glen Ellyn
Independence, MO 64056
816-516-9540
9-6-2025
REGISTERED PROFESSIONAL ENGINEER
CH-CHRISTOPHER T. GROSS
NUMBER
92-0033848

Drawing Title		COUNT	
130	4.4	130	4.4
131	4.9	131	4.9
132	5.6	132	5.6
133	5.6	133	5.6
134	5.6	134	5.6
135	5.6	135	5.6
136	5.6	136	5.6
137	5.6	137	5.6
138	5.6	138	5.6
139	5.6	139	5.6
140	5.6	140	5.6
141	5.6	141	5.6
142	5.6	142	5.6
143	5.6	143	5.6
144	5.6	144	5.6
145	5.6	145	5.6
146	5.6	146	5.6
147	5.6	147	5.6
148	5.6	148	5.6
149	5.6	149	5.6
150	5.6	150	5.6
151	5.6	151	5.6
152	5.6	152	5.6
153	5.6	153	5.6
154	5.6	154	5.6
155	5.6	155	5.6
156	5.6	156	5.6
157	5.6	157	5.6
158	5.6	158	5.6
159	5.6	159	5.6
160	5.6	160	5.6
161	5.6	161	5.6
162	5.6	162	5.6
163	5.6	163	5.6
164	5.6	164	5.6
165	5.6	165	5.6
166	5.6	166	5.6
167	5.6	167	5.6
168	5.6	168	5.6
169	5.6	169	5.6
170	5.6	170	5.6
171	5.6	171	5.6
172	5.6	172	5.6
173	5.6	173	5.6
174	5.6	174	5.6
175	5.6	175	5.6
176	5.6	176	5.6
177	5.6	177	5.6
178	5.6	178	5.6
179	5.6	179	5.6
180	5.6	180	5.6
181	5.6	181	5.6
182	5.6	182	5.6
183	5.6	183	5.6
184	5.6	184	5.6
185	5.6	185	5.6
186	5.6	186	5.6
187	5.6	187	5.6
188	5.6	188	5.6
189	5.6	189	5.6
190	5.6	190	5.6
191	5.6	191	5.6
192	5.6	192	5.6
193	5.6	193	5.6
194	5.6	194	5.6
195	5.6	195	5.6
196	5.6	196	5.6
197	5.6	197	5.6
198	5.6	198	5.6
199	5.6	199	5.6
200	5.6	200	5.6
201	5.6	201	5.6
202	5.6	202	5.6
203	5.6	203	5.6
204	5.6	204	5.6
205	5.6	205	5.6
206	5.6	206	5.6
207	5.6	207	5.6
208	5.6	208	5.6
209	5.6	209	5.6
210	5.6	210	5.6
211	5.6	211	5.6
212	5.6	212	5.6
213	5.6	213	5.6
214	5.6	214	5.6
215	5.6	215	5.6
216	5.6	216	5.6
217	5.6	217	5.6
218	5.6	218	5.6
219	5.6	219	5.6
220	5.6	220	5.6
221	5.6	221	5.6
222	5.6	222	5.6
223	5.6	223	5.6
224	5.6	224	5.6
225	5.6	225	5.6
226	5.6	226	5.6
227	5.6	227	5.6
228	5.6	228	5.6
229	5.6	229	5.6
230	5.6	230	5.6
231	5.6	231	5.6
232	5.6	232	5.6
233	5.6	233	5.6
234	5.6	234	5.6
235	5.6	235	5.6
236	5.6	236	5.6
237	5.6	237	5.6
238	5.6	238	5.6
239	5.6	239	5.6
240	5.6	240	5.6
241	5.6	241	5.6
242	5.6	242	5.6
243	5.6	243	5.6
244	5.6	244	5.6
245	5.6	245	5.6
246	5.6	246	5.6
247	5.6	247	5.6
248	5.6	248	5.6
249	5.6	249	5.6
250	5.6	250	5.6
251	5.6	251	5.6
252	5.6	252	5.6
253	5.6	253	5.6
254	5.6	254	5.6
255	5.6	255	5.6
256	5.6	256	5.6
257	5.6	257	5.6
258	5.6	258	5.6
259	5.6	259	5.6
260	5.6	260	5.6
261	5.6	261	5.6
262	5.6	262	5.6
263	5.6	263	5.6
264	5.6	264	5.6
265	5.6	265	5.6
266	5.6	266	5.6
267	5.6	267	5.6
268	5.6	268	5.6
269	5.6	269	5.6
270	5.6	270	5.6

Symbol		Description		Symbol		Description		SYN #		FRESH		TEMP		SURFACE		COUNT		Drawing Title	
	Hydraulic Reference Points		Elev. Below Top of Steel		Elev. Above Finned Floor		Elev. of Top of Steel	3503	WHITE	2597	1/2"	4.9	130	4.4	130	4.4	COUNT		Drawn By: B & K Scale: 1/8" = 1'-0"  Date: 8-26-2025
	Elev. of Top of Steel		Cutting Height		Denotes Hanger Location	3514	CLEAR	2597	1/2"	5.6	1	131	4.9	131	4.9	COUNT			
	Elev. of Top of Steel		Cutting Height		Denotes Hanger Location	3514	CLEAR	2597	1/2"	5.6	1	131	4.9	131	4.9	COUNT			
	Elev. of Top of Steel		Cutting Height		Denotes Hanger Location	3514	CLEAR	2597	1/2"	5.6	1	131	4.9	131	4.9	COUNT			
	Elev. of Top of Steel		Cutting Height		Denotes Hanger Location	3514	CLEAR	2597	1/2"	5.6	1	131	4.9	131	4.9	COUNT			