

- ### GENERAL NOTES
- FIRE PROTECTION SYSTEM TO COMPLY WITH NFPA 13, 14, AND 20 AS WELL AS ALL APPLICABLE LOCAL CODES.
 - ALL WIRING AND MONITORING OF ALARMS AND CLEANING AND PAINTING OF PIPE IS BY OTHERS.
 - PROVIDE STOCK OF EXTRA SPRINKLERS IN ACCORDANCE WITH NFPA 13.
 - ALL WIRING SHALL BE ACCOMPLISHED UNDER THE ELECTRICAL CONTRACT. COORDINATE ALL ELECTRICAL ITEMS WITH THE ELECTRICAL CONTRACTOR AND INSURE PROPER COORDINATION.
 - ALL DRILLING AND BORING OF HOLES SHALL BE DONE IN STRICT ACCORDANCE WITH THE STRUCTURAL ENGINEERS REQUIREMENTS. DO NOT UNDER ANY CIRCUMSTANCES CUT, MODIFY OR OTHERWISE MODIFY PRE-MANUFACTURED TRUSSES.
 - PIPE ROUTING SHALL BE STRICTLY ADHERED TO AND ANY ADDITIONAL OFFSETS OR FITTINGS REQUIRED FOR PROPER INSTALLATION, COORDINATION WITH OTHER TRADES, AND/OR TO MAINTAIN PROPER CLEARANCES SHALL BE PROVIDED. VERIFY EXISTING STRUCTURAL, MECHANICAL, ELECTRICAL INSTALLATIONS AND AVOID ANY/ALL OBSTRUCTIONS OR INTERFERENCES WITH FIRE PROTECTION PIPE ROUTING.
 - FIRE STOP ALL PENETRATIONS OF SMOKE/FIRE WALLS, CEILINGS, FLOORS, ROOFS, ETC. FIRE STOPPING MATERIAL SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTION. ALL FIRE STOP MATERIALS SHALL LISTED AS COMPATIBLE WITH CPVC.
 - ACCESS PANELS TO ALL VALVES ABOVE NON-ACCESSIBLE CEILINGS AND CHASES ARE BY THE GENERAL CONTRACTOR.
 - SPRINKLER HEADS ARE TO BE COORDINATED WITH ALL EXISTING/NEW DIFFUSERS, SPEAKERS, LIGHTING FIXTURES AND CEILING SYSTEMS WHERE POSSIBLE WITHOUT ADDING ADDITIONAL SPRINKLERS.
 - VERIFY FINISH CEILING ELEVATION PRIOR TO INSTALLATION OF SPRINKLER HEADS.
 - VERIFY LOCATION AND SIZE OF ALL OBSTRUCTIONS, LIGHT FIXTURES, CABINETS, HEAT SOURCES, SOFFITS, ETC...
 - METHODS OF HANGING PIPES, HEADERS AND BRANCHLINES SHALL BE IN ACCORDANCE WITH NFPA 13 AND THE HANGER CHART.
 - AUTOMATIC SPRINKLER TEMPERATURE RATINGS OF FUSIBLE ELEMENTS TO BE IN ACCORDANCE WITH NFPA 13.
 - ALL MATERIALS AND DEVICES TO BE U.L. LISTED AND/OR FM APPROVED. ALL DEVICES SHALL BE NEW AND FREE OF DEFECTS.
 - ALL SYSTEMS SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR 2 HOURS.
 - PROVIDE A PERMANENTLY ATTACHED PLACARD / SIGNAGE STATING THE REQUIRED DESIGN CRITERIA FOR EACH HYDRAULICALLY DESIGNED SYSTEM.
 - SYSTEM PIPING TO BE OF STEEL PIPE AND IRON FITTINGS MEETING THE CRITERIA OF ASTM AND NFPA 13.
 - ALL THREADED PIPE TO BE SCHEDULE 40 OR APPROVED EQUAL.
 - ALL 4" AND SMALLER GROOVED PIPE TO BE SCHEDULE 10 OR APPROVED EQUAL.
 - ALL 6" AND LARGER GROOVED PIPE TO BE SCHEDULE 10.
 - CPVC PIPE AND FITTINGS MAY BE UTILIZED PURSUANT TO MANUFACTURERS LISTING.
 - UNDERGROUND FIRE SERVICE SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 24 AND THE LOCAL AUTHORITY HAVING JURISDICTION (BY OTHERS).
 - HAZARDOUS MATERIAL SHALL BE PLACED IN A SECURE (LOCKED) AREA AT THE COMPLETION OF EACH WORK DAY.
 - ALL WORK SHALL BE INSTALLED IN A SAFE AND WORKMANLIKE MANNER. REPORT ANY UNSAFE ACTIVITY OR JOB-SITE HAZARD TO YOUR SUPERVISOR IMMEDIATELY.
 - REPORT ALL INJURIES REQUIRING MEDICAL ATTENTION THE SAME BUSINESS DAY IN WHICH THEY OCCUR.
 - SPRINKLER PIPE SIZING SHALL BE ESTABLISHED BY HYDRAULIC CALCULATIONS.
 - CONTRACTOR IS RESPONSIBLE FOR THE PROPER DESIGN AND INSTALLATION OF THE FIRE SPRINKLER SYSTEM, INCLUDING COORDINATION OF THE WORK OF OTHER TRADES.

- ### DESIGN NOTES (AS APPLICABLE)
- SPRINKLER SHALL BE PERMITTED TO BE LOCATED NOT MORE THAN 9 FEET OFF OF ANY SINGLE WALL IN SMALL ROOMS PER NFPA 13, 8.6.3.2.4 AND AS DEFINED BY [REDACTED].
 - SPRINKLERS HAVE BEEN OMITTED FROM BATHROOMS NOT EXCEEDING 55 SQ. FT. PER NFPA 13, 8.6.3.2.4.
 - SPRINKLERS HAVE BEEN OMITTED FROM NONCOMBUSTIBLE EXTERIOR OVERHANG PER NFPA 13, 8.6.3.2.4.
 - SPRINKLERS HAVE BEEN OMITTED FROM VERTICAL SHAFTS PER NFPA 13, 8.6.3.2.4 AND 8.6.3.2.5.
 - SPRINKLERS HAVE BEEN OMITTED FROM CONCEALED SPACES ENTIRELY FILLED WITH NONCOMBUSTIBLE INSULATION PER NFPA 13, 8.6.3.2.4.

- ### EARTHQUAKE PROTECTION NOTES
- EARTHQUAKE PROTECTION SHALL BE IN ACCORDANCE WITH NFPA 13, AND ALL APPLICABLE STATE AND LOCAL CODES.
 - ALL PIPING USED FOR BRACES SHALL BE SCH-40 BLACK PIPE.
 - LATERAL SWAY BRACING SHALL BE SPACED AT THE INTERVALS SPECIFIED BY THE SWAY BRACING CALCULATIONS UP TO A MAXIMUM OF 40 FT. ON ALL FEED AND CROSS MAINS REGARDLESS OF SIZE AND ALL BRANCH LINES AND OTHER PIPING 2 1/2" AND LARGER.
 - THE DISTANCE BETWEEN THE LAST BRACE AND THE END OF THE PIPE SHALL NOT EXCEED 6 FT.
 - A 4-WAY BRACE SHALL BE PROVIDED AT ALL RISERS EXCEEDING 3'-0".
 - WHERE BUILDING PRIMARY MEMBERS EXCEED 40 FT. ON CENTER, LATERAL BRACES SHALL BE PERMITTED TO BE SPACED UP TO 50 FT. ON CENTER, AND THE DISTANCE BETWEEN THE LAST BRACE AND THE END OF THE PIPE SHALL BE PERMITTED TO BE EXTENDED TO 25 FT.
 - THE LAST LENGTH OF PIPE AT THE END OF A FEED OR CROSS MAIN SHALL BE PROVIDED WITH A LATERAL BRACE.
 - LATERAL BRACES SHALL BE ALLOWED TO ACT AS LONGITUDINAL BRACES IF THE ARE WITHIN 24 IN. OF THE CENTER LINE OF THE PIPING BRACED LONGITUDINALLY FOR LINES 2 1/2" AND GREATER IN DIAMETER.
 - WHERE FLEXIBLE COUPLINGS ARE INSTALLED ON MAINS OTHER THAN AS REQUIRED IN 9.3.2, A LATERAL BRACE SHALL BE PROVIDED WITHIN 24 IN. OF EVERY OTHER COUPLING, BUT NOT MORE THAN 40 FT. ON CENTER.
 - LONGITUDINAL SWAY BRACING SHALL BE SPACED AT THE INTERVALS SPECIFIED BY THE SWAY BRACING CALCULATIONS UP TO A MAXIMUM OF 80 FT. ON CENTER SHALL BE PROVIDED FOR FEED AND CROSS MAINS.
 - LONGITUDINAL BRACES SHALL BE PERMITTED TO SERVE AS LATERAL BRACES WHERE THEY ARE INSTALLED WITHIN 24 IN. OF THE PIPING THAT IS TO BE BRACED LATERALLY.
 - WHERE BRANCHLINES ARE INDIVIDUALLY SUPPORTED BY RODS EXCEEDING 6" MEASURED BETWEEN THE TOP OF THE PIPE AND THE POINT OF ATTACHMENT TO THE BUILDING STRUCTURE, BRANCHLINES SHALL BE RESTRAINED AT INTERVALS AS SPECIFIED ON SHEET FP-D4. BRANCHLINE RESTRAINTS SHALL BE INSTALLED WITHIN 6" OF A VERTICAL HANGER.
 - NOT USED.
 - CLEARANCE SHALL BE PROVIDED AROUND ALL PIPING PER NFPA 13.

AQUA APARTMENTS

PARCEL 202

GEORGE TOWN, CAYMAN ISLANDS



SCOPE OF WORK

WORK SHALL BEGIN AT THE FLANGE LOCATED APPROXIMATELY 1'-0" A.F.F. ALL SUPERVISION, LABOR, EQUIPMENT, SUPPLIES, MATERIALS NECESSARY TO PROVIDE A COMPLETE FIRE SPRINKLER SYSTEM FOR THE PROJECT.

APPLICABLE CODES

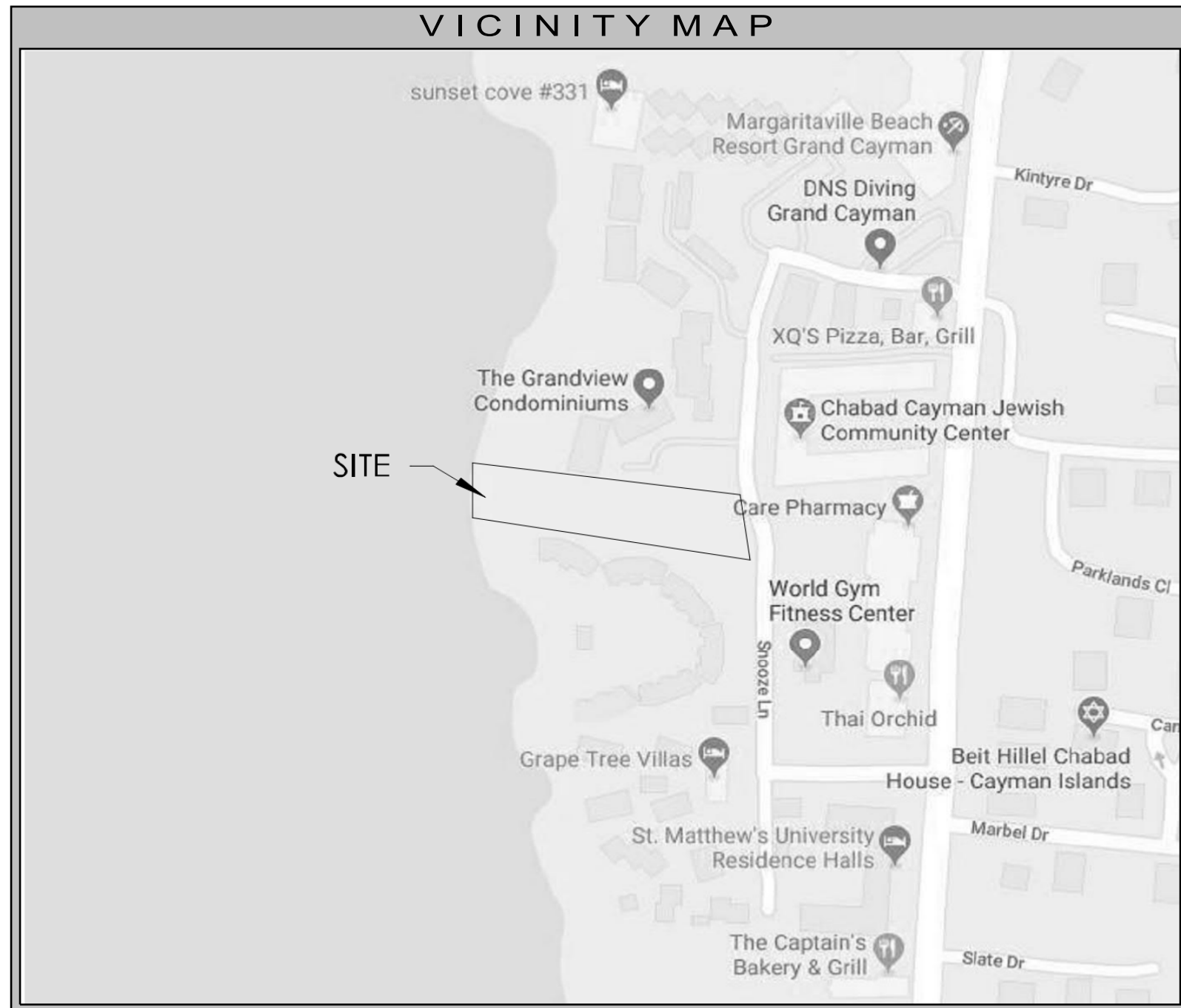
1. 2009 INTERNATIONAL BUILDING CODE

SCOPE OF WORK

THE WORK OF THIS CONTRACT INCLUDES PROVIDING ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES NECESSARY TO, AND CONSTRUCTION OF A TEN STORY APARTMENT BUILDING WITHIN THE 'SCOPE OF WORK' AREA. THE GENERAL CONTRACTOR SHALL THOROUGHLY REVIEW THE PLANS AND SPECIFICATIONS THEMSELVES AND WITH ALL TRADES AND ACCEPTS THE MATERIALS, SYSTEMS, DETAILS, AND ASSEMBLIES AS BEING CONSTRUCTIBLE AND CAN BE WARRANTED FOR A TIME PERIOD CONSISTENT WITH INDUSTRY STANDARDS UNLESS A SPECIFIC TIME PERIOD IS NOTED HEREIN.

PLANS NOTE

THESE PLANS CONFORM TO THE CONTRACT DOCUMENTS WHICH INCLUDE THE OWNER/CONTRACTOR AGREEMENT, THE DRAWINGS, AND ALL ADDENDA AND MODIFICATIONS ISSUED BY THE ARCHITECT PRIOR TO [REDACTED].



- ### FIRE SPRINKLER NOTES
- MAX. SPRINKLER SPACING FOR STANDARD SPRAY UPRIGHT & PENDENT SPRINKLERS IS 15', 225 FT² FOR LIGHT HAZARD.
 - MAX. SPRINKLER SPACING FOR STANDARD SPRAY UPRIGHT & PENDENT SPRINKLERS IS 15', 150 FT² FOR ORDINARY HAZARD.
 - MAX. SPRINKLER SPACING FOR RESIDENTIAL PENDENT SPRINKLERS IS 20' WITHIN RESIDENTIAL AREAS.
 - STANDARD SPRAY UPRIGHT & PENDENT SPRINKLER DEFLECTORS SHALL BE LOCATED BETWEEN 1" & 6" BELOW STRUCTURAL MEMBERS FOR OBSTRUCTED CONSTRUCTION.
 - STANDARD SPRAY UPRIGHT & PENDENT SPRINKLER DEFLECTORS SHALL BE LOCATED BETWEEN 1" & 12" BELOW FINISH CEILING FOR UNOBSTRUCTED CONSTRUCTION.
 - RESIDENTIAL PENDENT SPRINKLER DEFLECTORS SHALL BE LOCATED BETWEEN 1.25" & 4" BELOW FINISH CEILING FOR UNOBSTRUCTED CONSTRUCTION.
 - STANDARD SPRAY UPRIGHT, PENDENT, AND SIDEWALL SPRINKLERS SHALL BE INSTALLED IN ACCORDANCE WITH THE OBSTRUCTIONS RULES OF NFPA 13, 8.6.5 & 8.7.5.
 - RESIDENTIAL PENDENT SPRINKLERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS GUIDELINES, AND THE OBSTRUCTIONS RULES OF NFPA 13, 8.10.6.
 - SPRINKLERS SHALL BE PERMITTED TO BE OMITTED FROM CEILING POCKETS WHERE THE REQUIREMENTS OF NFPA 13, 8.6.7.2 ARE MET.

PROJECT INFORMATION

PROJECT NAME: JAPTANTOWN
 PROJECT ADDRESS: BLOCK 13B PARCEL 202 GEORGETOWN, CAYMAN ISLANDS
 CONSTRUCTION TYPE: TYPE IB
 OCCUPANCY: R2
 PROPOSED BUILDING HEIGHT: 130'

SHEET INDEX

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FP-10	LEVEL 5 SPRINKLER PLAN
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FP-16	LEVEL ROOF SPRINKLER PLAN
FP-17	BUILDING SECTIONS
FP-18	RATED PENETRATIONS
FP-19	SWAY BRACING CALCULATIONS

PROJECT TEAM

OWNER	BRONTE SMB DEVELOPMENT LTD PO BOX 10170 GRAND CAYMAN, KY1-1002
ARCHITECT	LIQUID DESIGN 1430 SOUTH MINT STREET STUDIO 105 CHARLOTTE, NC 28203 P: [REDACTED] WWW.LIQUIDDESIGN.NET
CIVIL ENGINEER	AMR CONSULTING ENGINEERS CANNON PLACE, NORTH SOUND ROAD, GEORGETOWN, GRAND CAYMAN, CAYMAN ISLANDS KY1-1001 P: [REDACTED]
STRUCTURAL ENGINEER	APEC CONSULTING ENGINEERS LTD. 59 MACLENDON DRIVE GEORGETOWN, GRAND CAYMAN, KY1-1001 P: [REDACTED]
MEP ENGINEER	JALRW ENGINEERING GROUP 2510 NORTHWEST 97TH AVENUE, SUITE 220 DORAL, FL 33172 P: [REDACTED]
INTERIOR DESIGNER	BRONTE FORT 51, FLOOR 2 PO BOX 10170 GRAND CAYMAN, KY1-1002

- #### STANDPIPE NOTES
- STANDPIPE SYSTEM TO COMPLY WITH NFPA 14, AND ALL APPLICABLE STATE AND LOCAL CODES.
 - ALL HOSE CONNECTIONS SHALL BE 2 1/2".
 - ALL HOSE VALVES SHALL BE LISTED AND EQUIPPED WITH CAPS TO PROTECT THE HOSE THREADS.
 - PRESSURE GAUGES SHALL BE INSTALLED ABOVE AND BELOW EACH ALARM CHECK VALVE, DRY PIPE VALVE, DELUGE VALVE, BACKFLOW PREVENTER, OR SYSTEM RISER CHECK VALVE WHERE SUCH DEVICES ARE PRESENT.
 - PRESSURE GAUGES SHALL BE INSTALLED ON THE UPSTREAM AND THE DOWNSTREAM SIDES OF EVERY PRESSURE-REGULATING DEVICE INSTALLED IN ACCORDANCE WITH 7.2.4(6).
 - EACH FIRE DEPARTMENT CONNECTION SHALL BE DESIGNATED BY A SIGN, WITH LETTERS AT LEAST 1 IN. IN HEIGHT, THAT READS "STANDPIPE." FOR MANUAL SYSTEMS, THE SIGN SHALL ALSO INDICATE THAT THE SYSTEM IS MANUAL AND THAT IT IS EITHER WET OR DRY.
 - IF AUTOMATIC SPRINKLERS ARE ALSO SUPPLIED BY THE FIRE DEPARTMENT CONNECTION, THE SIGN OR COMBINATION OF SIGNS SHALL INDICATE BOTH DESIGNATED SERVICES.

	STANDARD SYMBOLS - POST INDICATOR VALVE - KEY OPERATED VALVE - PUBLIC HYDRANT - FIRE DEPT. CONNECTION - O.S.&T. GATE VALVE - CHECK VALVE - NEW UNDERGROUND - EXISTING UNDERGROUND	STANDARD SYMBOLS - ALARM CHECK VALVE - THRUST BLOCK - BACKFLOW PREVENTER	STANDARD SPRINKLER SYMBOLS - UPRIGHT ON 1/2" OUTLET - PENDENT ON 1/2" SPRIG - UPRIGHT ON 1" SPRIG - PENDENT BELOW CEILING ON 1" DROP - UPRIGHT ABOVE PENDENT ON 1" DROP - SIDEWALL ON 1/2" OUTLET - SIDEWALL ON 1" SPRIG	GENERAL SYSTEM NOTES 1. HYDRAULIC INFORMATION TO BE PROVIDED ON SPRINKLER PIPES. 2. LATERAL BRACES SHALL BE PROVIDED PER NFPA 13, 9.3.2. 3. ALL WIRING FOR THE CONNECTION AND LOW POINT SHALL BE PROVIDED PER NFPA 13. 4. ALL HANGERS TO BE COMPLY WITH REQUIREMENTS (S.D.). 5. LINE PIPES SHALL BE S.D. FROM SPRINKLER PIPE WITH WELDED JOINTS. 6. MAIN PIPING SHALL BE S.D. WITH WELDED JOINTS AND UNDRIVEN FITTINGS (S.D.). 7. SYSTEM BRANCH SHALL BE PER K.F.A. 4.11. 8. OTHER TO PROVIDE PARTIAL WELDED EXPANSION. 9. HANGERS TO BE COMPLY WITH REQUIREMENTS (S.D.). 10. HYDRAULIC RECORD POINT. 11. ALL HYDRAULIC RECORD POINT SHALL BE LISTED AND BE APPROVED. 12. SHAVE HEAD CABINET TO INCLUDE (BLACK HEAD) AND (BLACK) COPY OF NFPA 13.
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NOTICE		REVISIONS	DATE
IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS.			
UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:			
CONTRACT WITH:			
ADDRESS:			
PHONE NUMBER:		FAX:	

FIRE SPRINKLER DESIGNS BY:

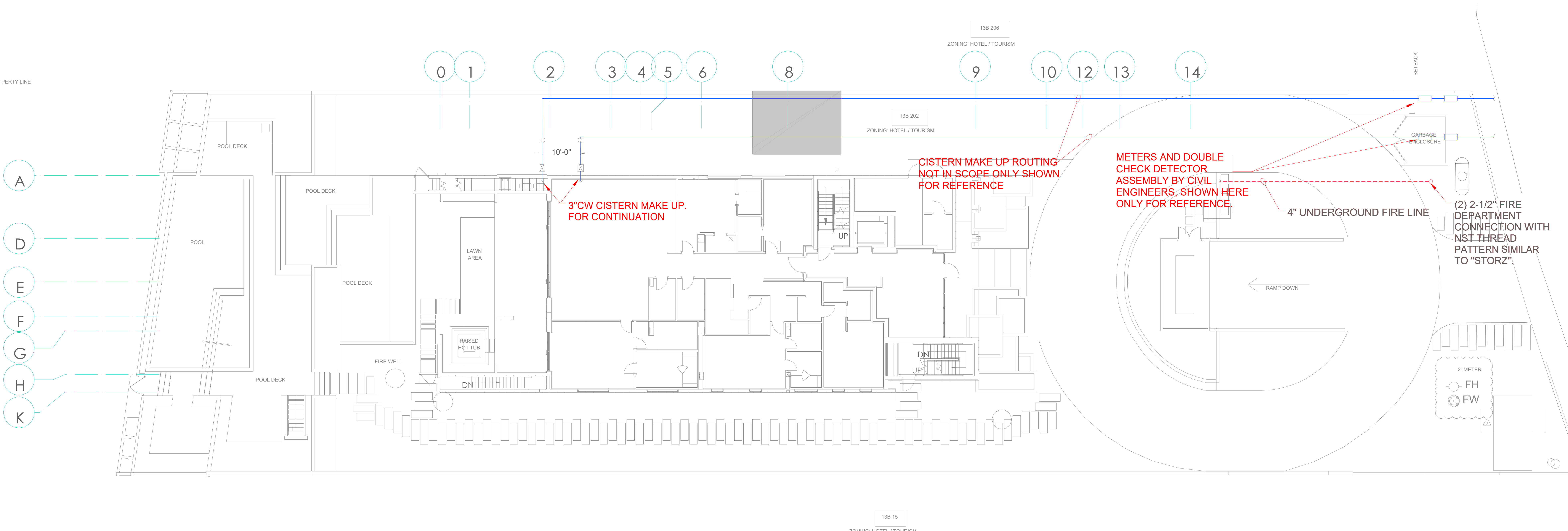
3D FIRE DESIGN, LLC
 GERALD W. EBELING, SET
 NICET LEVEL IV # 105930

AHJ STAMP

FIRE SPRINKLER CONTRACTOR:		COVER SHEET
JOB NO. AQUA-GTCI	LICENSE NO. [REDACTED]	
DATE [REDACTED]		
DESIGNER GERALD EBELING, SET		
APPROVED [REDACTED]		
SCALE AS NOTED		

AQUA APARTMENTS
 PARCEL 202
 GEORGE TOWN, CAYMAN ISLANDS

FP0



S FIRE SPRINKLER PLAN
1:120

STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	GENERAL SYSTEM NOTES
<ul style="list-style-type: none"> PIV - POST INDICATOR VALVE K.O.V. - KEY OPERATED VALVE PHD - PUBLIC HYDRANT FDC - FIRE DEPT. CONNECTION O.S.&T. GATE VALVE CHECK VALVE NEW UNDERGROUND EXISTING UNDERGROUND 	<ul style="list-style-type: none"> ALARM CHECK VALVE THRUST BLOCK BACKFLOW PREVENTER 	<ul style="list-style-type: none"> UPRIGHT ON 1" OUTLET PENDENT ON 1/2" OUTLET UPRIGHT ON 1" SPRIG PENDENT BELOW CEILING ON 1" DROP UPRIGHT ABOVE PENDENT ON 1" DROP SIDEWALL ON 1/2" OUTLET SIDEWALL ON 1" SPRIG 	<p>1. HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER PLANS.</p> <p>2. CAPTURED BRACKETS TO BE PROVIDED PER NFPA 13 IF REQUIRED.</p> <p>3. ALL INSPECTION TEST CONNECTIONS AND LOW POINT DRAIN TO BE PROVIDED PER NFPA 13.</p> <p>4. ALL HANGERS TO BE INSTALLED PER ALL REQUIREMENTS (E.G., 1. LINE PIPING SHALL BE SOUL FROM SPRINKLER PIPE WITH WELDED JOINTS. 2. HANGERS SHALL BE INSTALLED WITH WELDED FITTINGS UNLESS OTHERWISE NOTED.</p> <p>5. MAN PIPING SHALL BE SOUL PER TYPICAL WITH WELDED JOINTS. 6. HANGERS SHALL BE INSTALLED WITH WELDED FITTINGS UNLESS OTHERWISE NOTED.</p> <p>7. OTHER TO PROVIDE PARTIAL WALL FIRE EXTINGUISHING INFORMATION TO THE CONTRACTOR, INCLUDING CODES & SYSTEM REQUIREMENTS.</p> <p>8. HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER PLANS.</p> <p>9. ALL HYDRANT COMPANIES SHALL BE FULLY LISTED AND BE APPROVED.</p> <p>10. SPARK TEST SHALL BE REQUIRED (E.G. ALARM HEADS, ETC.) PER NFPA 13.</p>

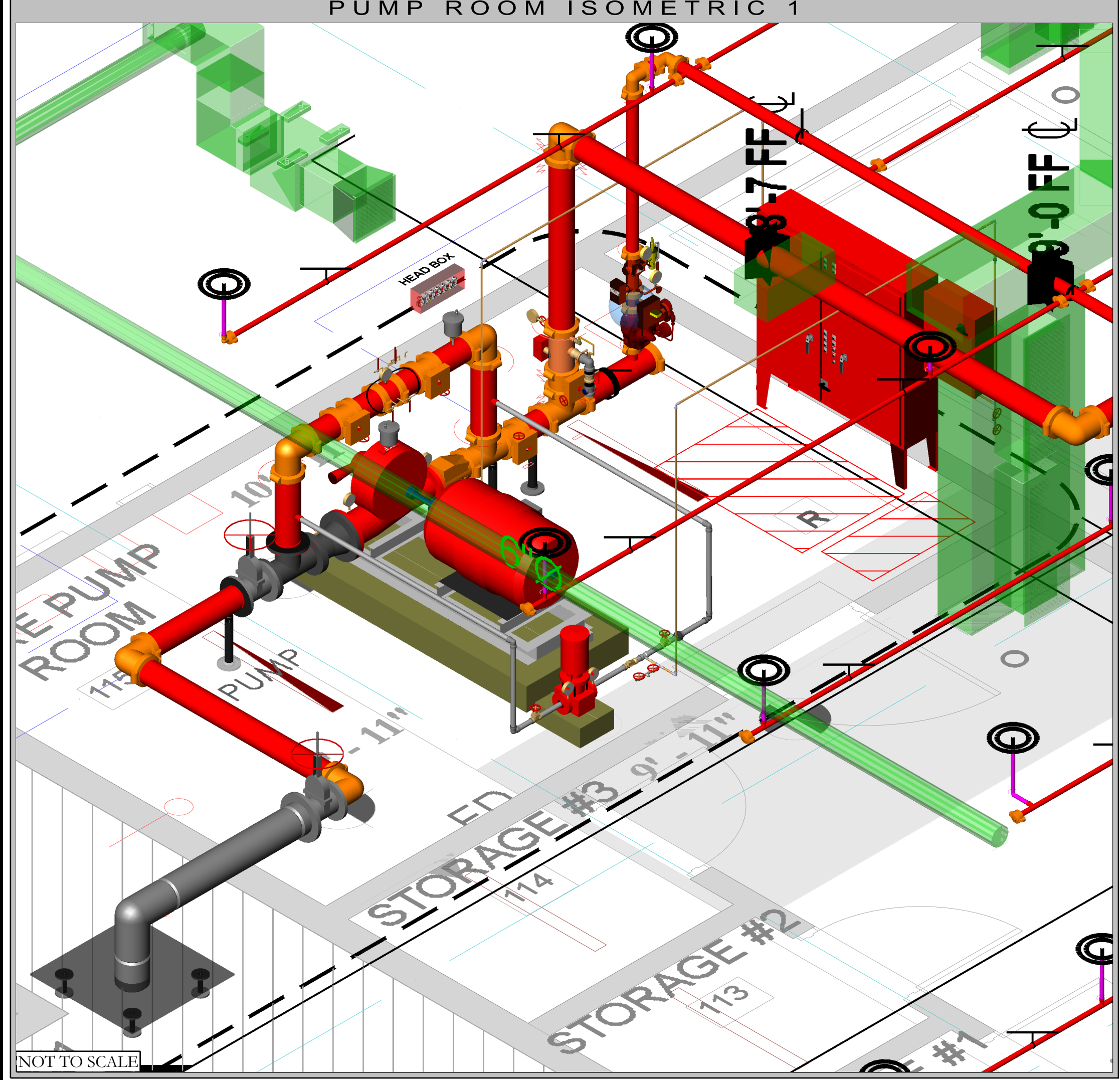
Sprinkler Legend											
SYMBOL	MANUF	SIN	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE

NOTICE	
IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS.	
UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:	
CONTRACT WITH:	
ADDRESS:	
PHONE NUMBER:	
FAX:	

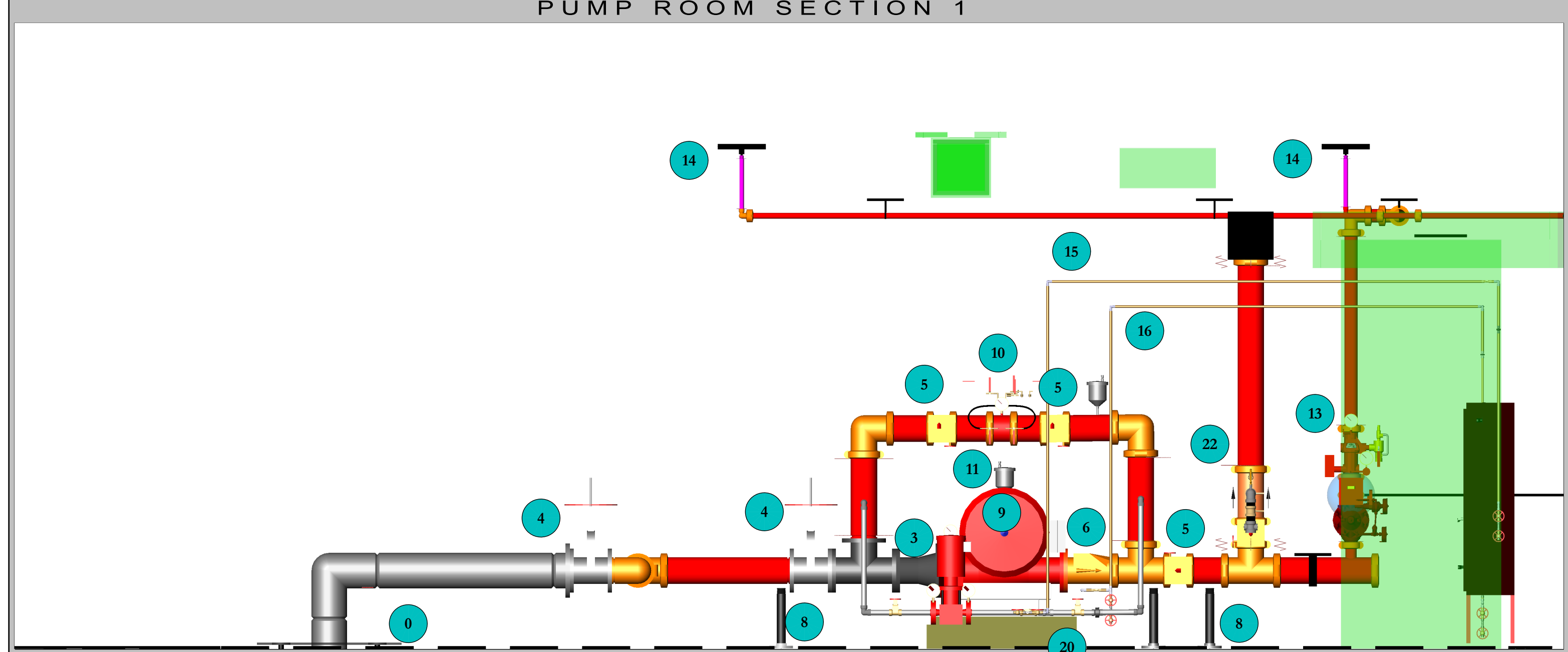
REVISIONS	DATE

FIRE SPRINKLER DESIGNS BY:		AHJ STAMP		FIRE SPRINKLER CONTRACTOR:	
<p>3D FIRE DESIGN, LLC GERALD W. EBELING, SET NICET LEVEL IV # 105930</p>				JOB NO. AQUA-GTCL LICENSE NO.:	
				DATE:	
DESIGNER: GERALD EBELING, SET APPROVED:		AQUA APARTMENTS PARCEL 202 GEORGE TOWN, CAYMAN ISLANDS		SITE PLAN FP1	
SCALE: AS NOTED					

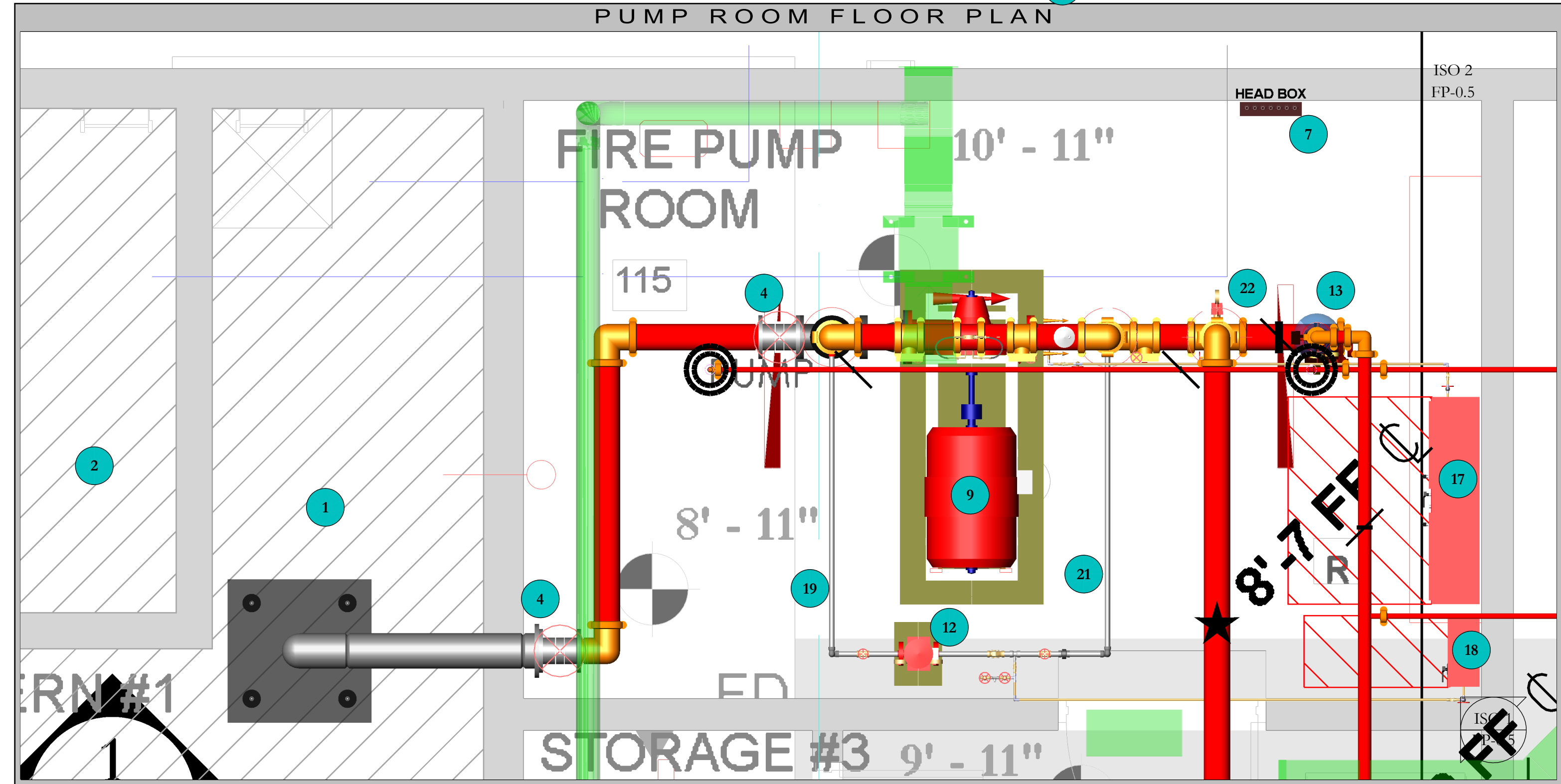
PUMP ROOM ISOMETRIC 1



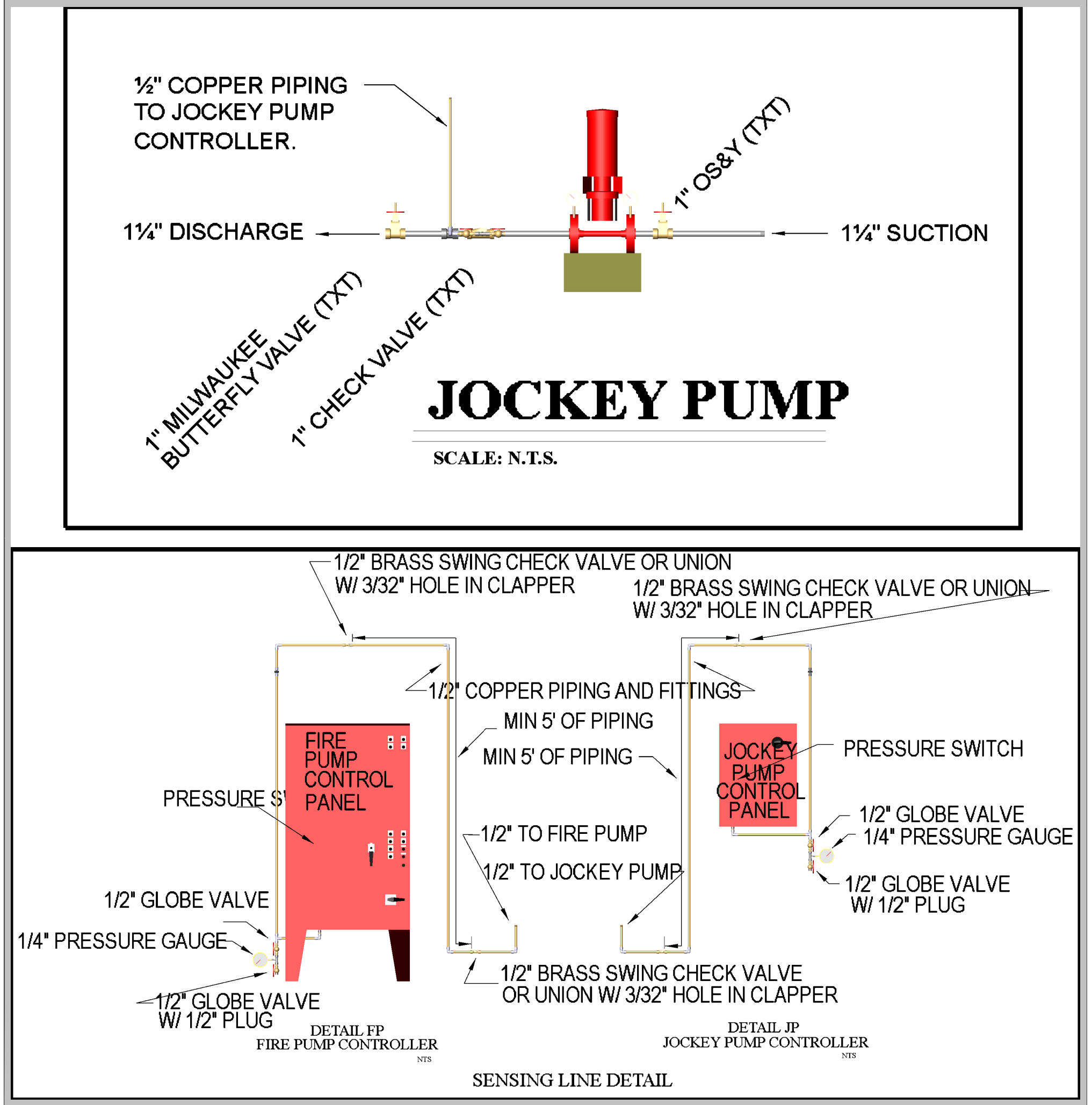
PUMP ROOM SECTION 1



PUMP ROOM FLOOR PLAN



TITLE



FIRE PUMP NOTES

1. FIRE PUMP SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 20.
2. THE COMPLETE FIRE PUMP UNIT SHALL BE FIELD ACCEPTANCE TESTED FOR PROPTER PERFORMANCE IN ACCORDANCE WITH THE PROVISIONS OF NFPA 20.
3. PUMPS SHALL BE DEDICATED TO AND LISTED FOR FIRE PROTECTION SERVICE.
4. PUMPS SHALL BE PROVIDED WITH A NAMEPLATE.
5. A PRESSURE GAUGE HAVING A DIAL NOT LESS THAN 3.5" IN DIAMETER SHALL BE CONNECTED NEAR THE DISCHARGE AND SUCTION CASTINGS WITH A NOMINAL .25" GAUGE VALVE. THE DIAL SHALL INDICATE PRESSURE TO AT LEAST TWICE THE RATED WORKING PRESSURE OF THE PUMP, BUT NOT LESS THAN 200 PSI FOR THE DISCHARGE GAUGE.
6. WHERE THE MINIMUM PUMP SUCTION PRESSURE IS BELOW 20 PSI UNDER ANY FLOW CONDITION, THE SUCTION GAUGE SHALL BE A COMPOUND PRESSURE AND VACUUM GAUGE.
7. AN AUTOMATIC RELIEF VALVE LISTED FOR FIRE PROTECTION SERVICE SHALL BE INSTALLED AND SET BELOW THE SHUTOFF PRESSURE AT MINIMUM EXPECTED SUCTION PRESSURE.
8. AN APPROVED OR LISTED SOURCE OF HEAT SHALL BE PROVIDED FOR MAINTAINING THE TEMPERATURE OF A PUMP ROOM OR PUMP HOUSE, WHERE REQUIRED, ABOVE 40°F.
9. ARTIFICIAL & EMERGENCY LIGHTING SHALL BE PROVIDED IN THE PUMP ROOM OR PUMP HOUSE.
10. PROVISIONS SHALL BE MADE FOR VENTILATION OF A PUMP ROOM OR PUMP HOUSE.
11. PIPE, FITTINGS, HANGERS, AND SEISMIC BRACING FOR THE FIRE PUMP UNIT, INCLUDING SUCTION AND DISCHARGE PIPING, SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF NFPA 13.
12. THE GAUGE PRESSURE AT THE SUCTION FLANGE SHALL NOT DROP BELOW -3 PSI WITH THE TANK AT ITS LOWEST WATER LEVEL AFTER THE MAXIMUM SYSTEM DEMAND AND DURATION HAVE BEEN SUPPLIED.
13. FOR PUMP(S) TAKING SUCTION FROM A STORED WATER SUPPLY, A VORTEX PLATE SHALL BE INSTALLED AT THE ENTRANCE TO THE SUCTION PIPE.
14. PUMP DISCHARGE PIPING SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH NFPA 13 AND NFPA 24.
15. THE SUCTION VALVE AND DISCHARGE VALVE SHALL BE SUPERVISED IN THE OPEN POSITION.
16. TEST OUTLET CONTROL VALVES SHALL BE SUPERVISED IN THE CLOSED POSITION.
17. TWO CHECK VALVES SHALL BE INSTALLED IN EACH PRESSURE SENSING LINE LOCATED AT LEAST 5 FEET APART WITH A 0.09375 HOLE IN THE CLAPPER TO SERVE AS DAMPENING.
18. ALL ELECTRICAL EQUIPMENT AND INSTALLATION METHODS SHALL COMPLY WITH NFPA 70.
19. ELECTRIC DRIVES FOR PUMPS SHALL BE INSTALLED IN COMPLIANCE WITH CHAPTER 9 OF NFPA 20.
20. ELECTRIC DRIVE CONTROLLERS AND ACCESSORIES SHALL BE INSTALLED IN COMPLIANCE WITH CHAPTER 10 OF NFPA 20.

SYSTEM MONITORING
VALVE MONITORING, WATER-FLOW ALARM, AND TROUBLE SIGNALS SHALL BE AUTOMATICALLY TRANSMITTED TO AN APPROVED CENTRAL STATION. THIS WORK IS BY OTHERS.

FIRE PUMP DATA	
MAKE & MODEL	FAIRBANKS NIJHUIS 6"-1923 BF
TYPE	HORIZONTAL SPLIT
SIZE	8 X 6
RATING	750 @ 177
RPM	1770
ROTATION	RIGHT
SUCTION SIZE	8
DISCHARGE SIZE	6
IMPELLER	15,0625
ESTIMATED WEIGHT	1515 LB
START PRESSURE (FIELD VERIFY)	PENDING
STOP PRESSURE (FIELD VERIFY)	PENDING

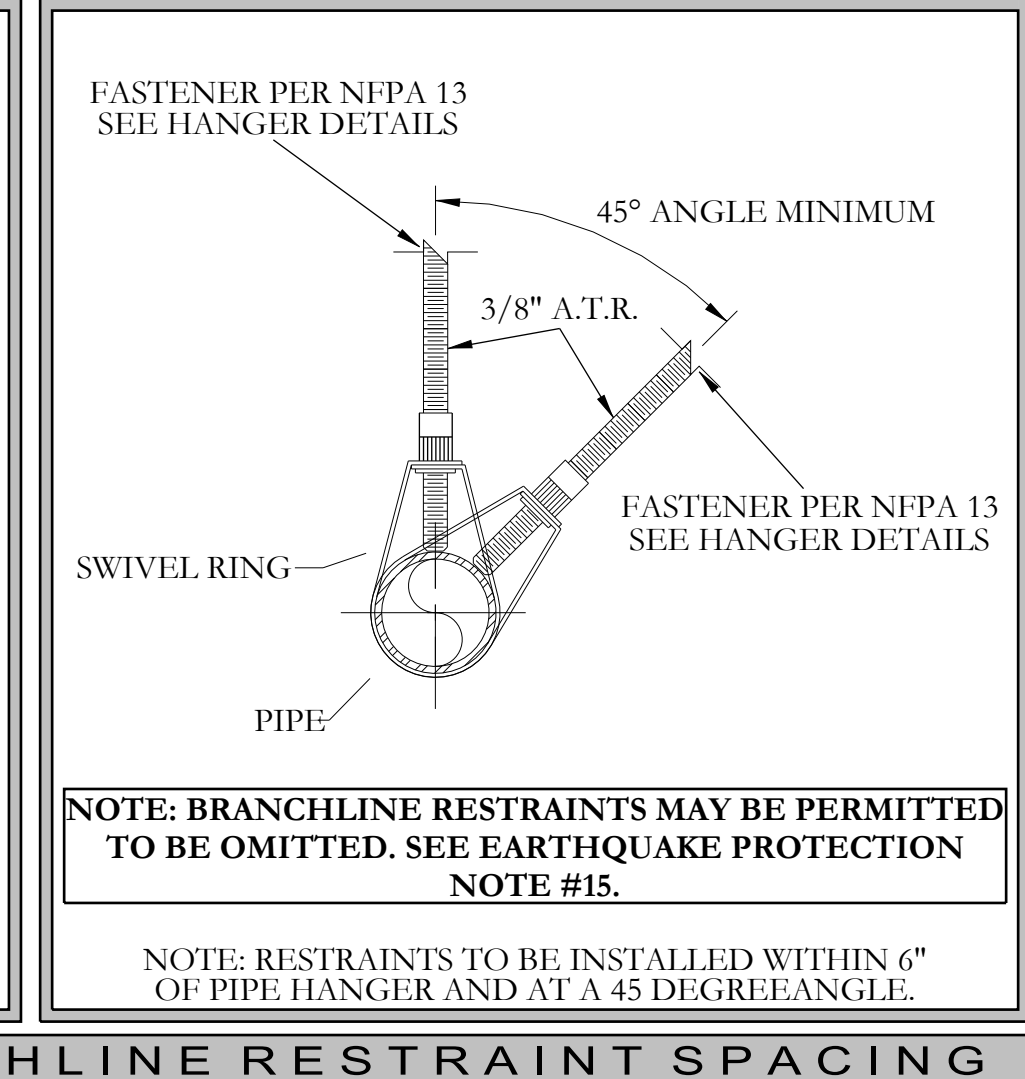
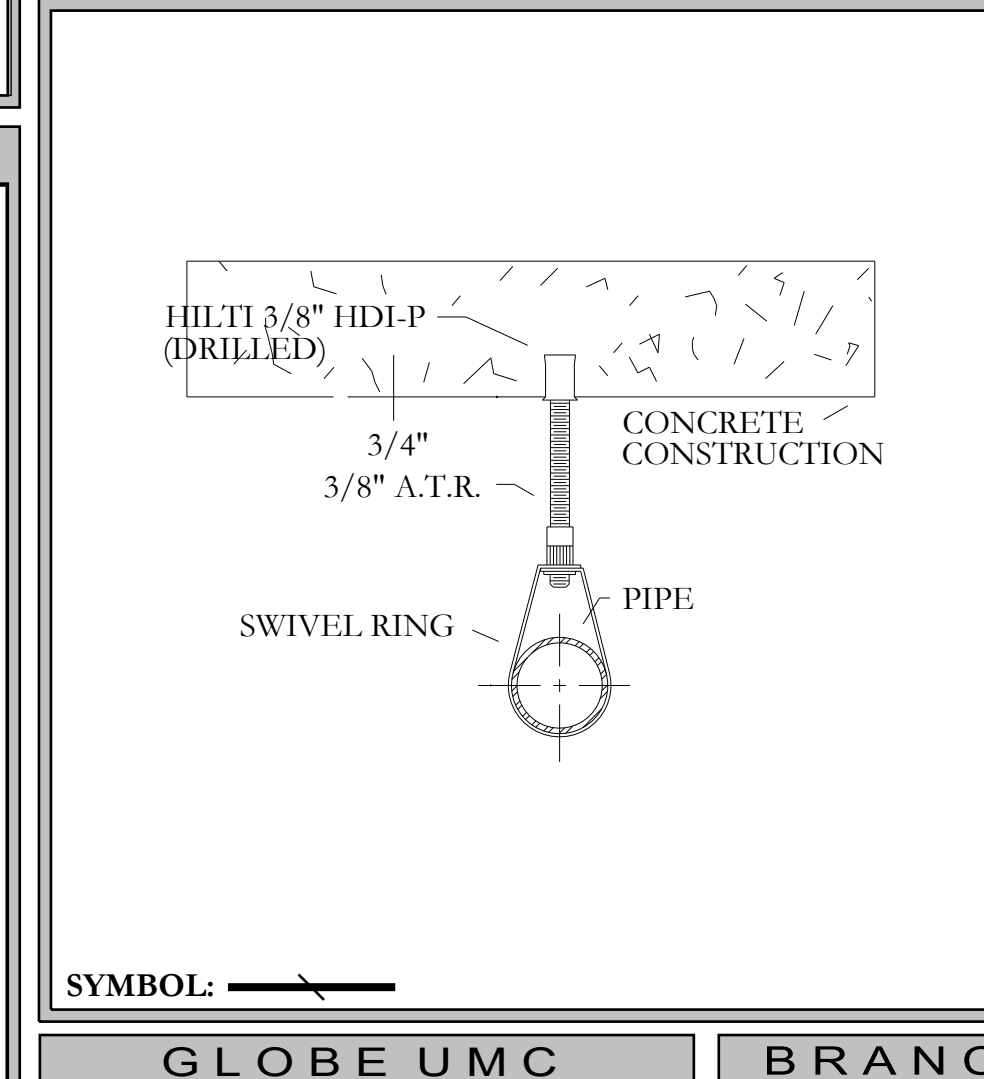
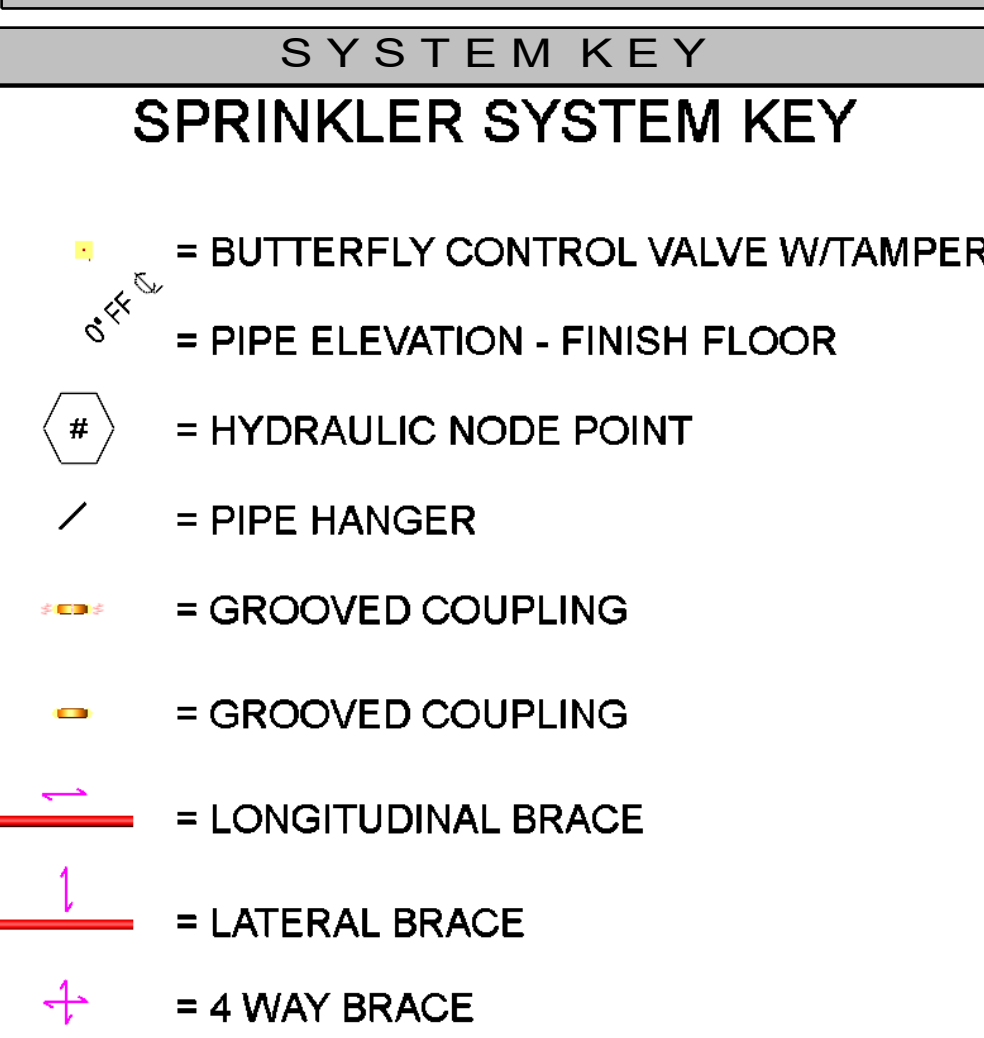
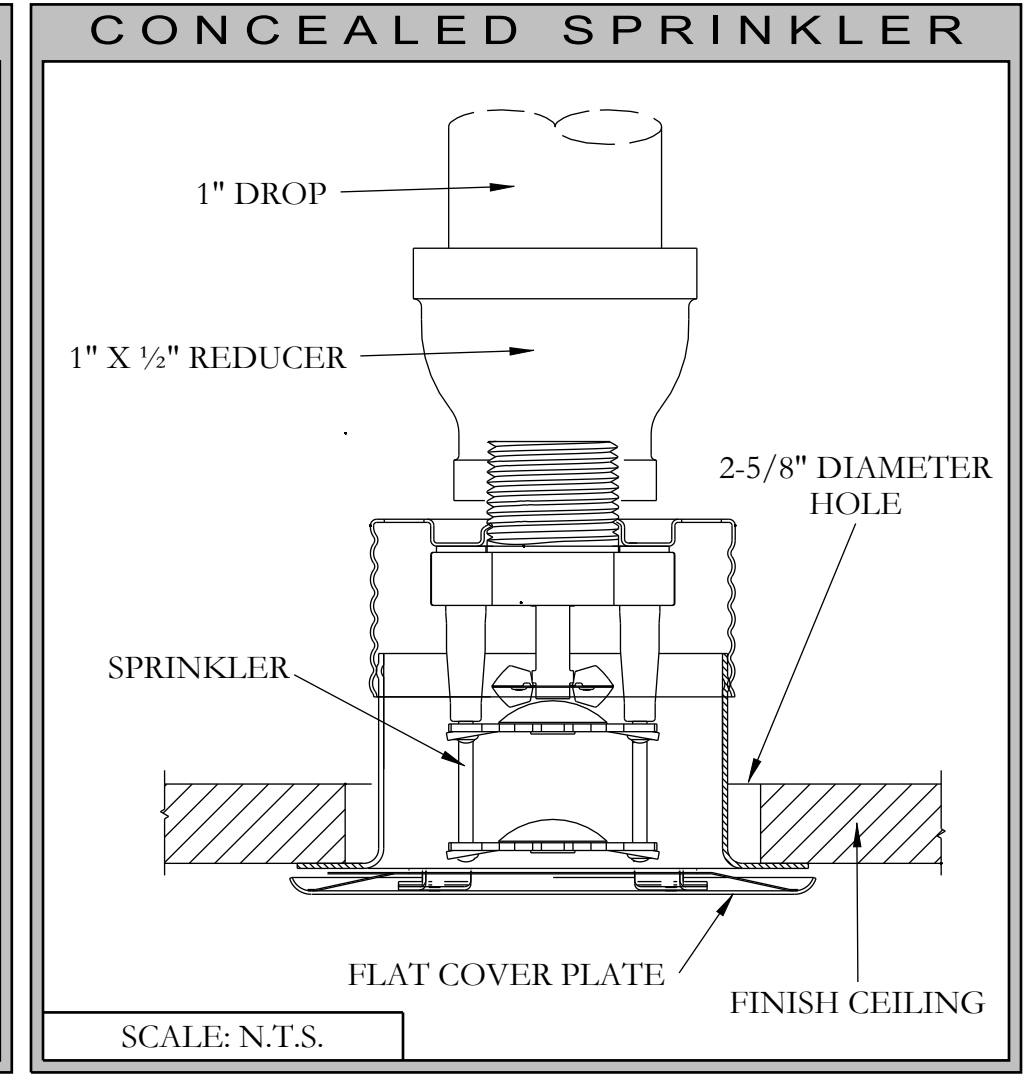
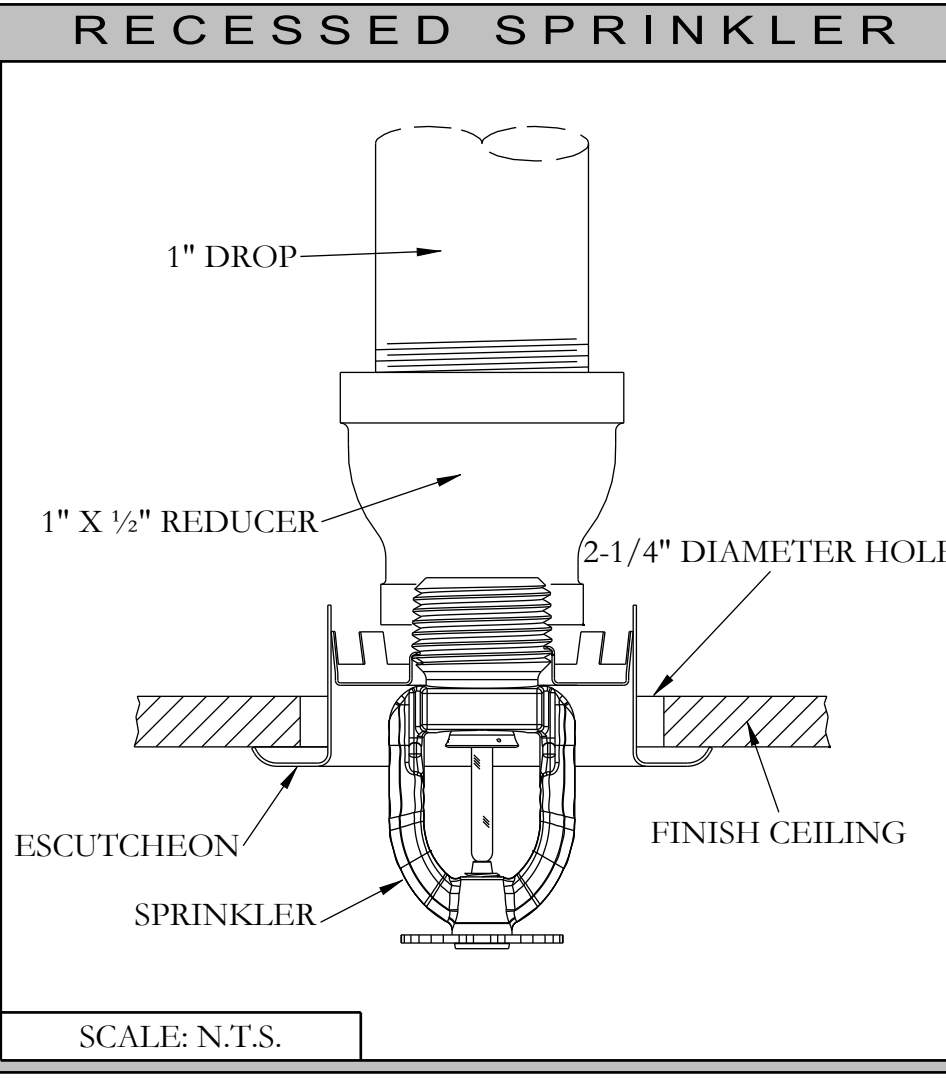
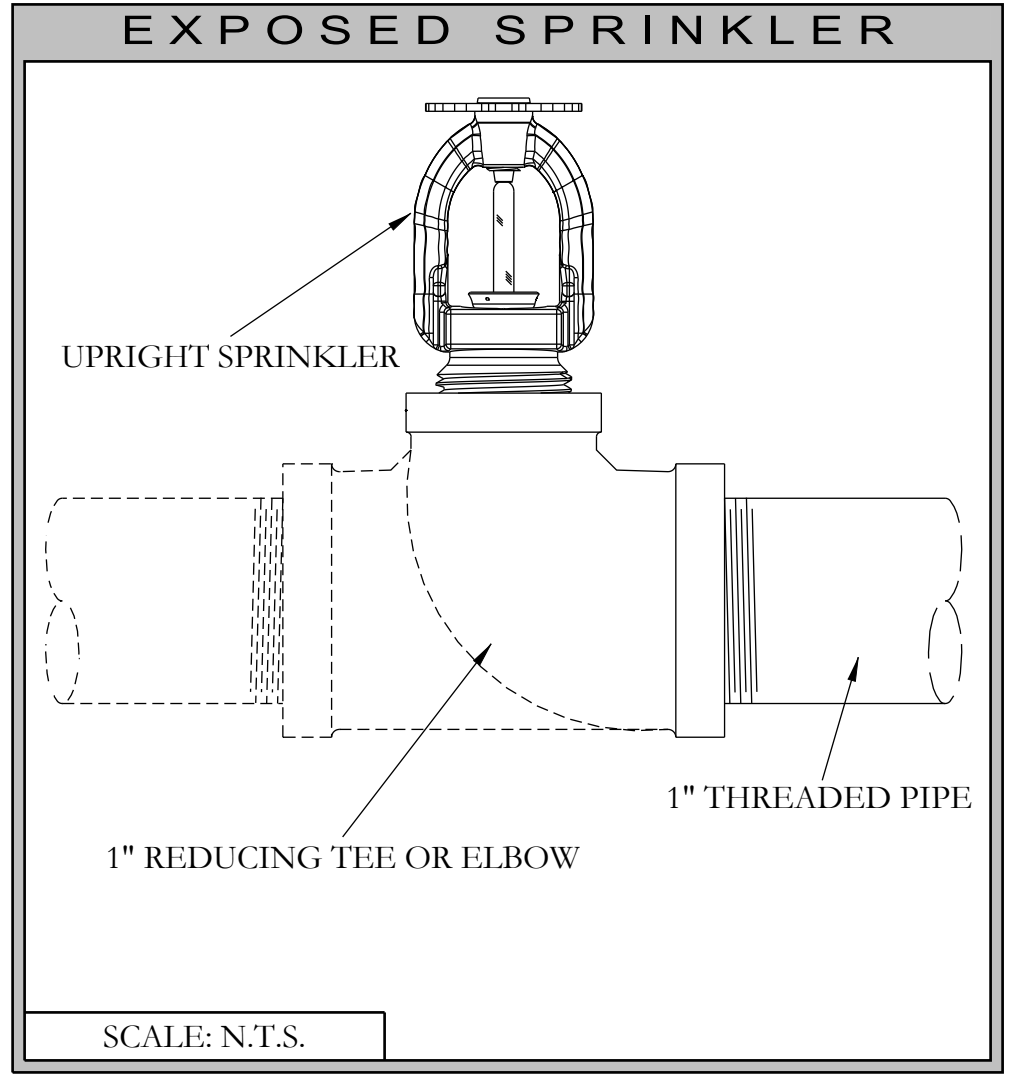
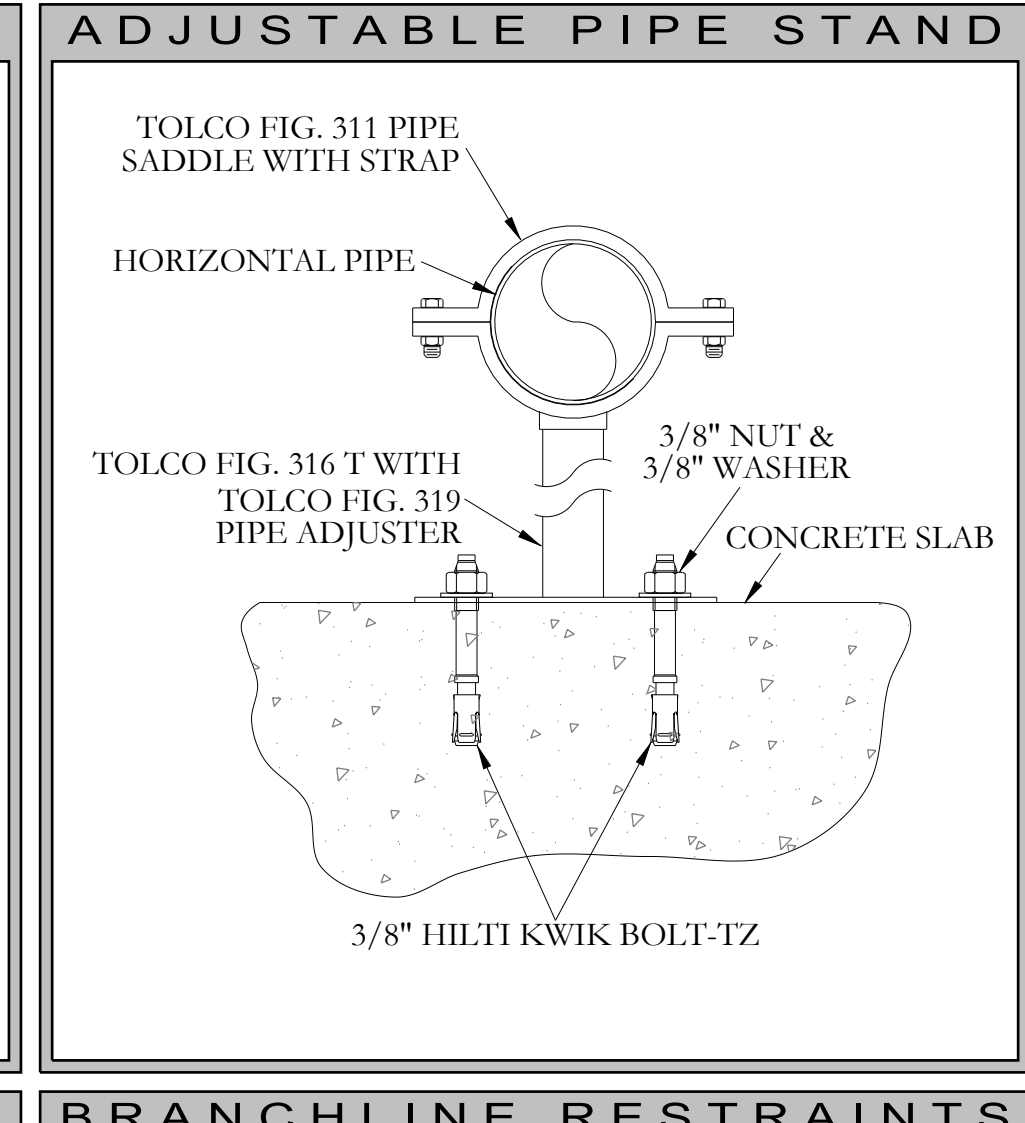
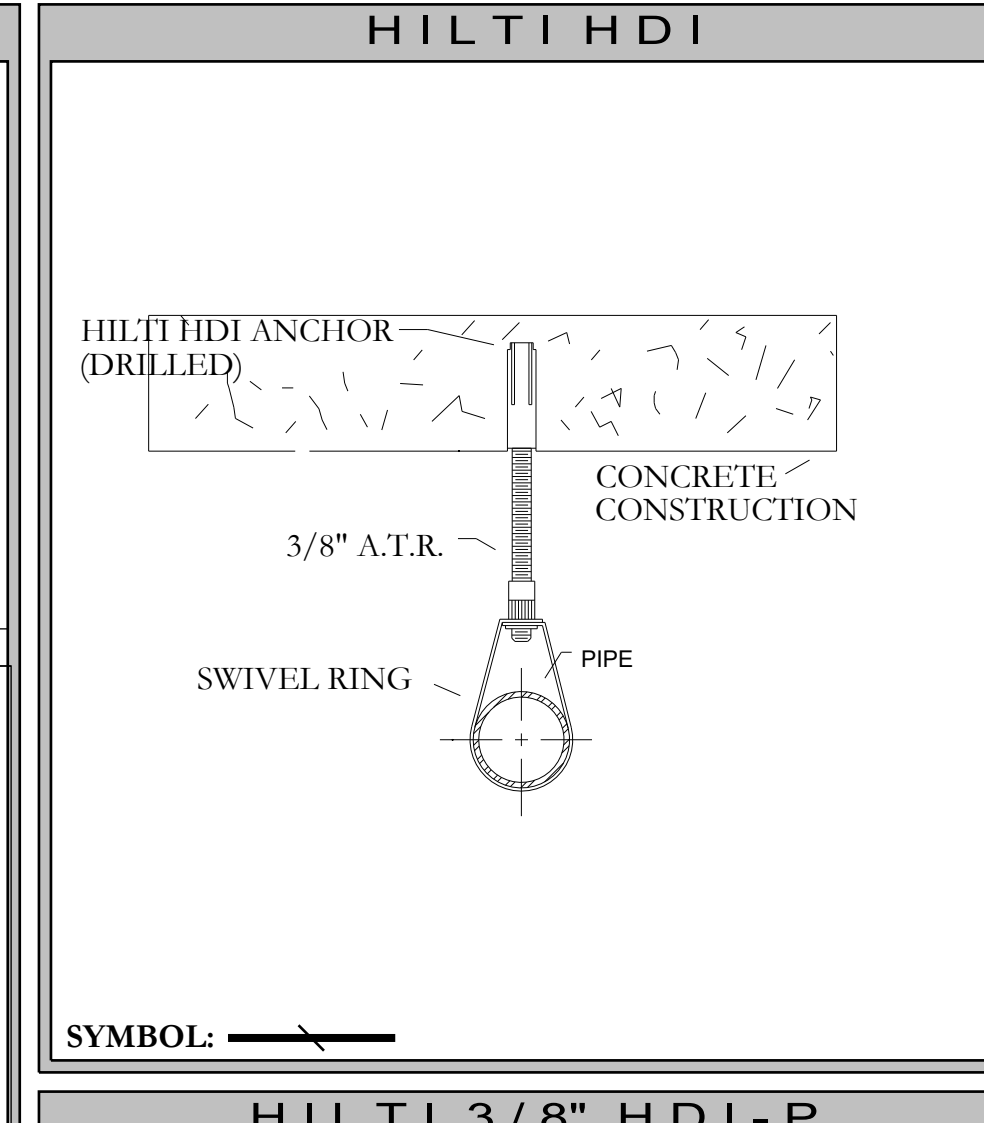
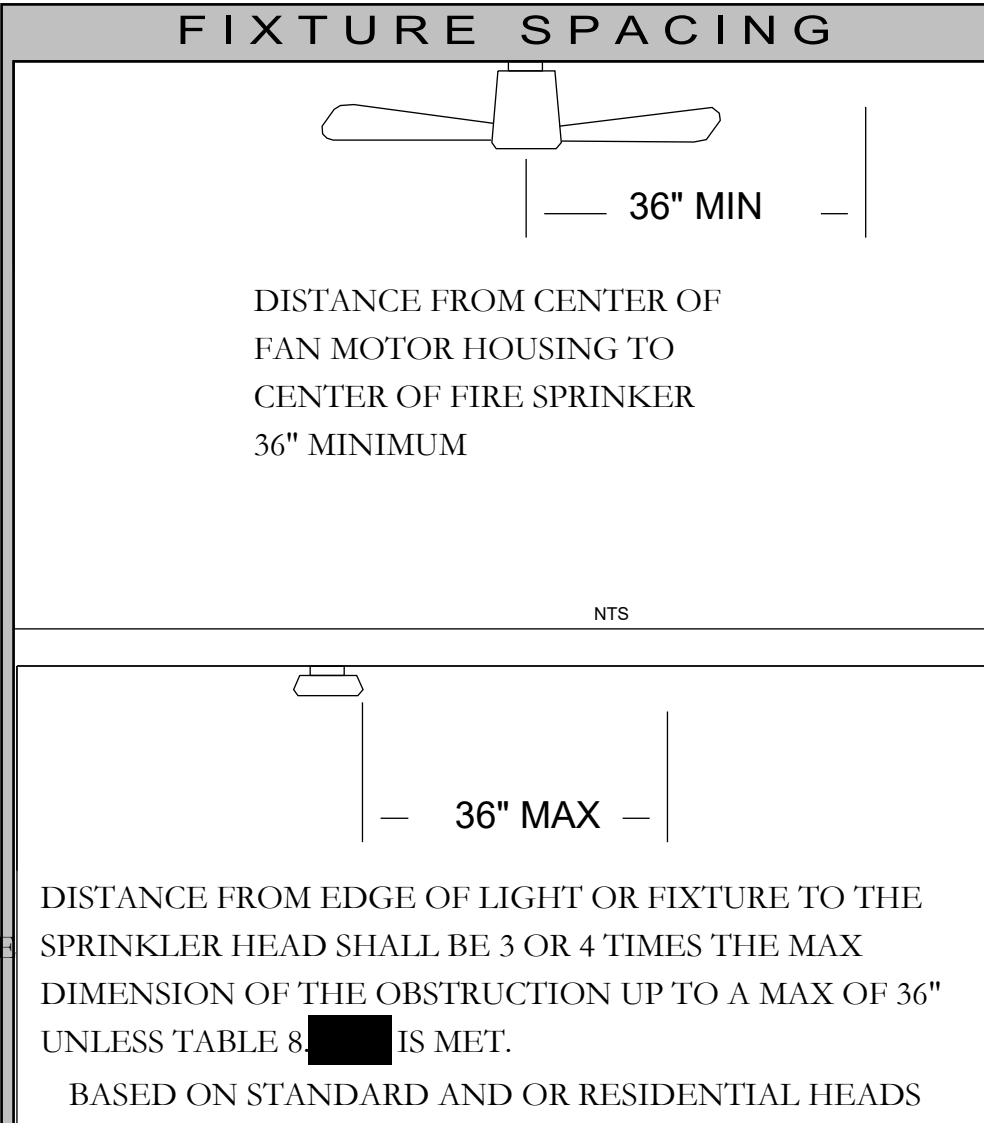
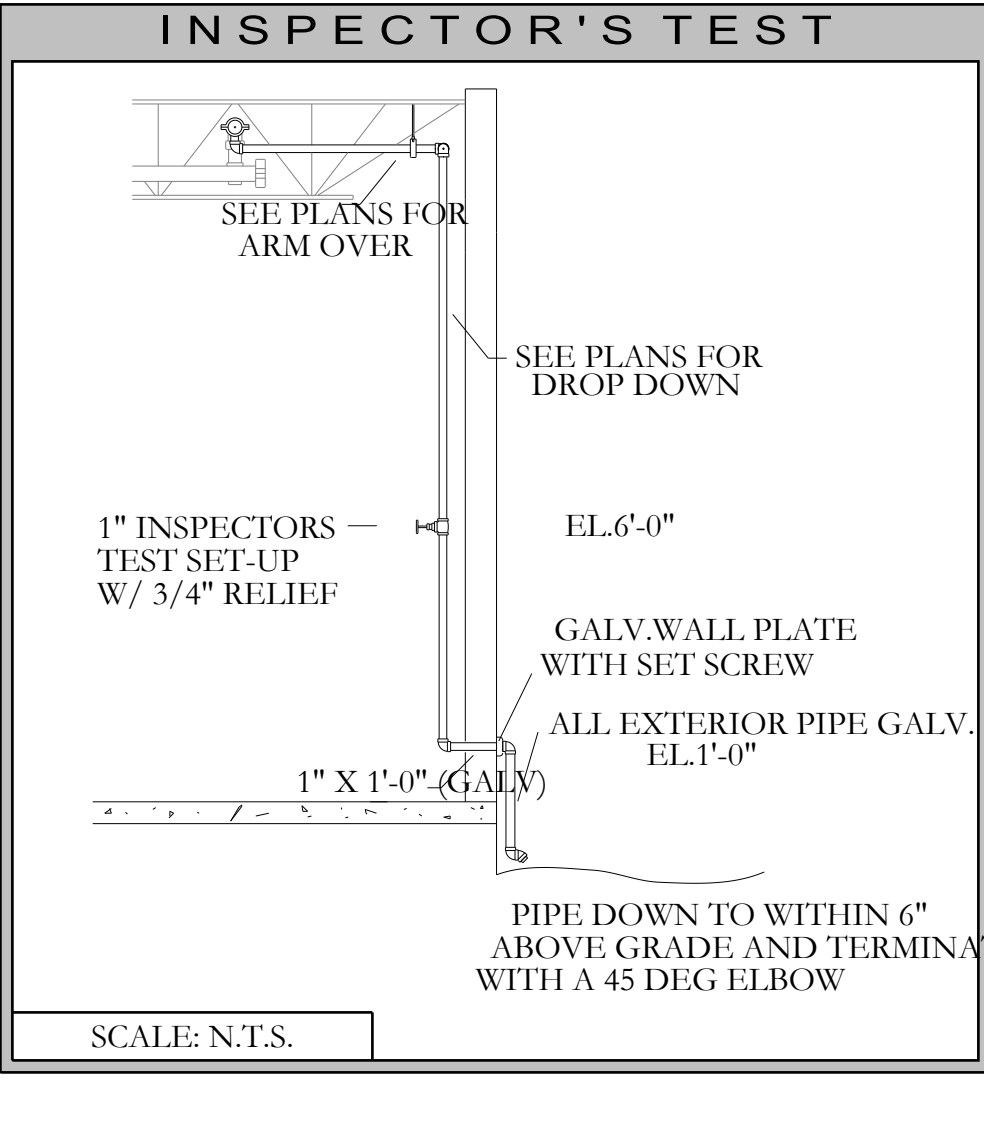
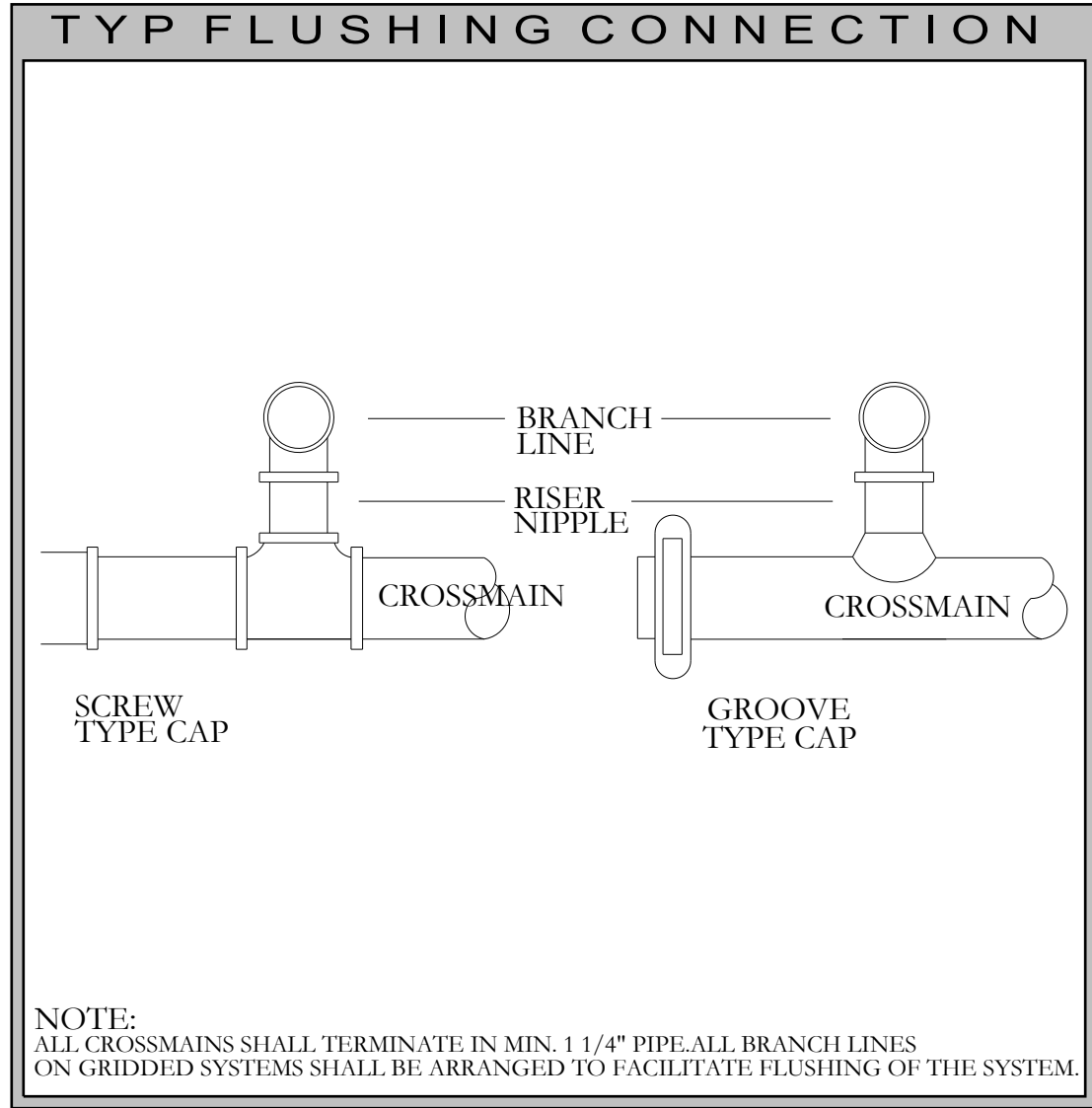
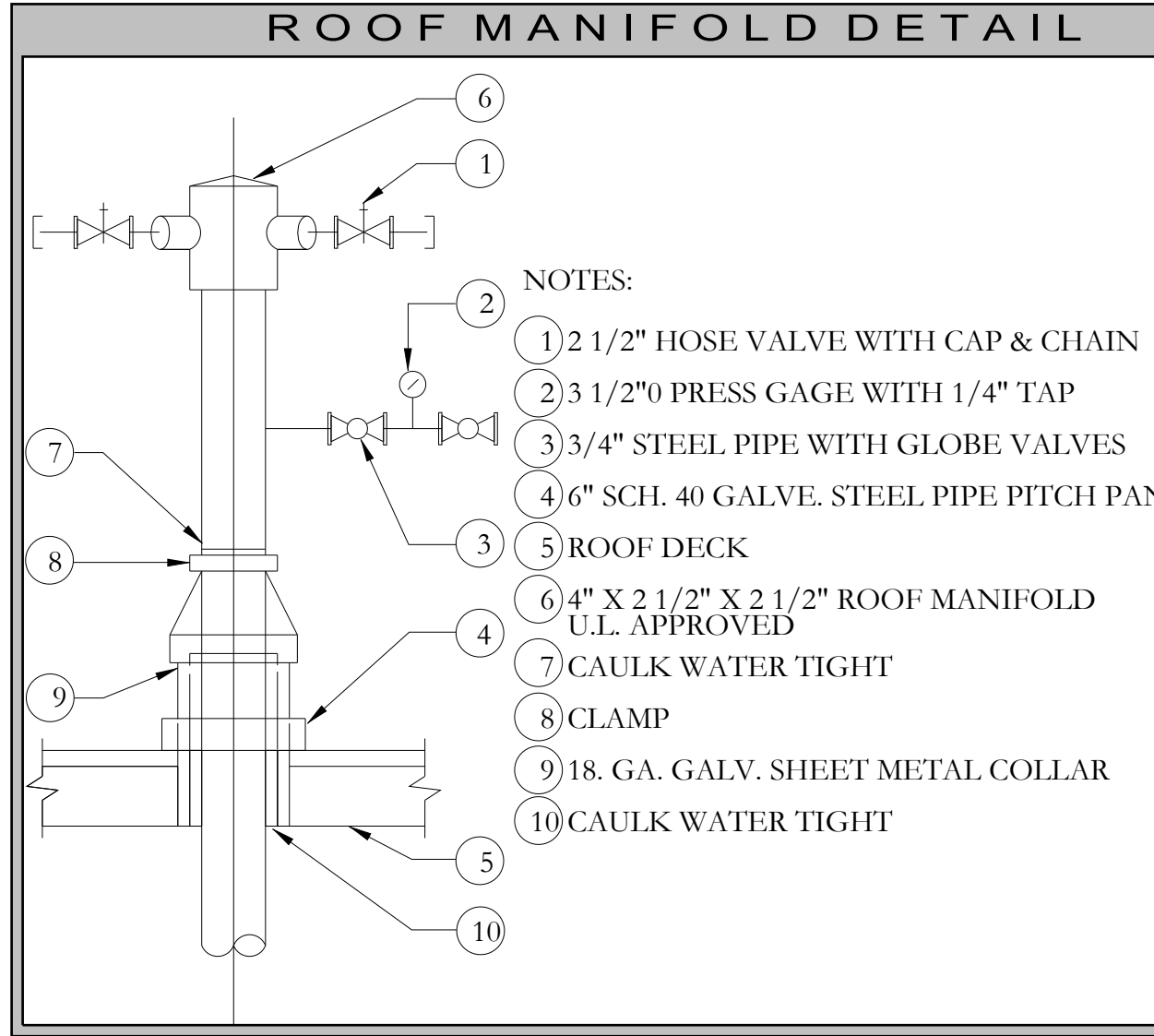
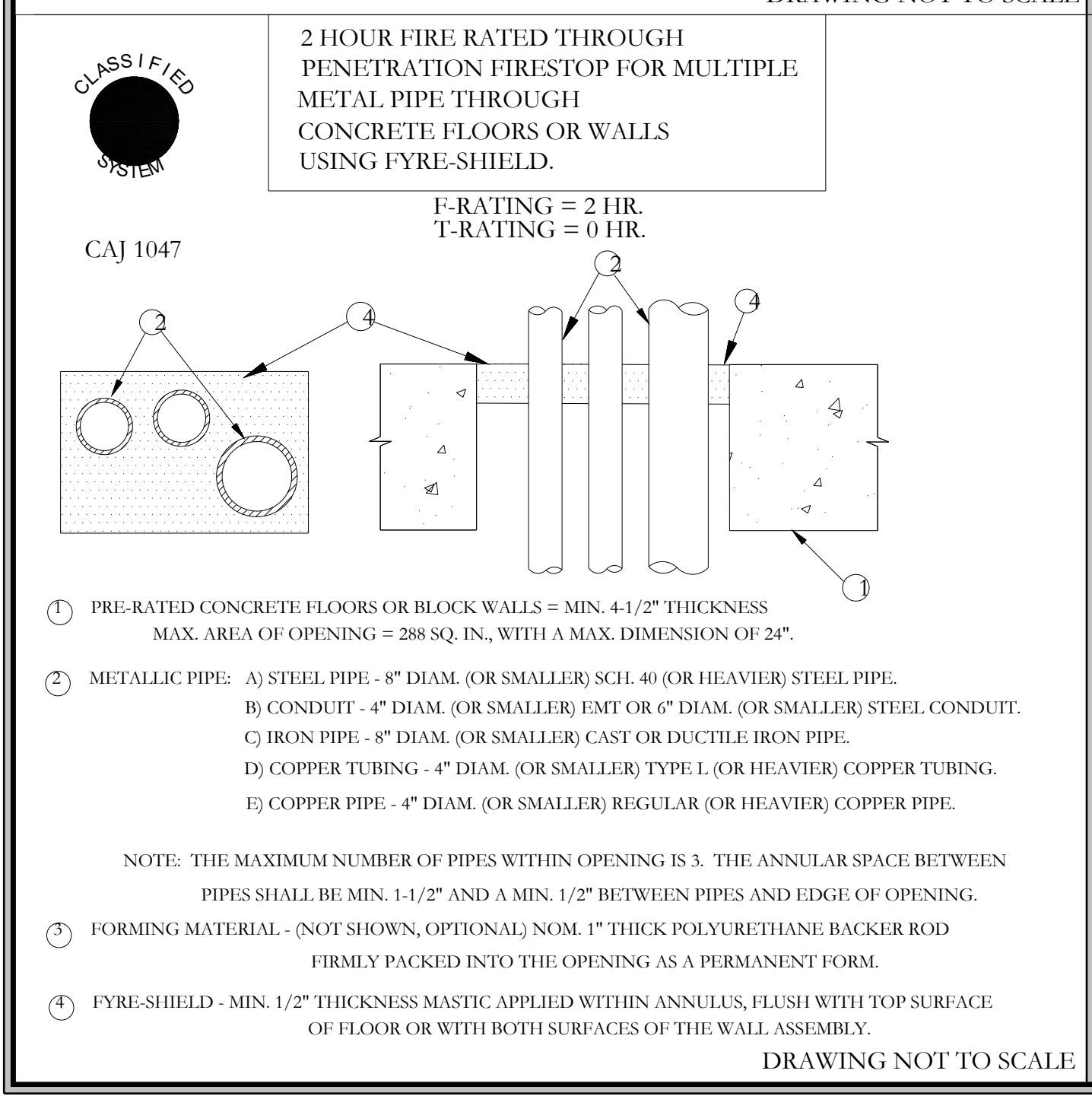
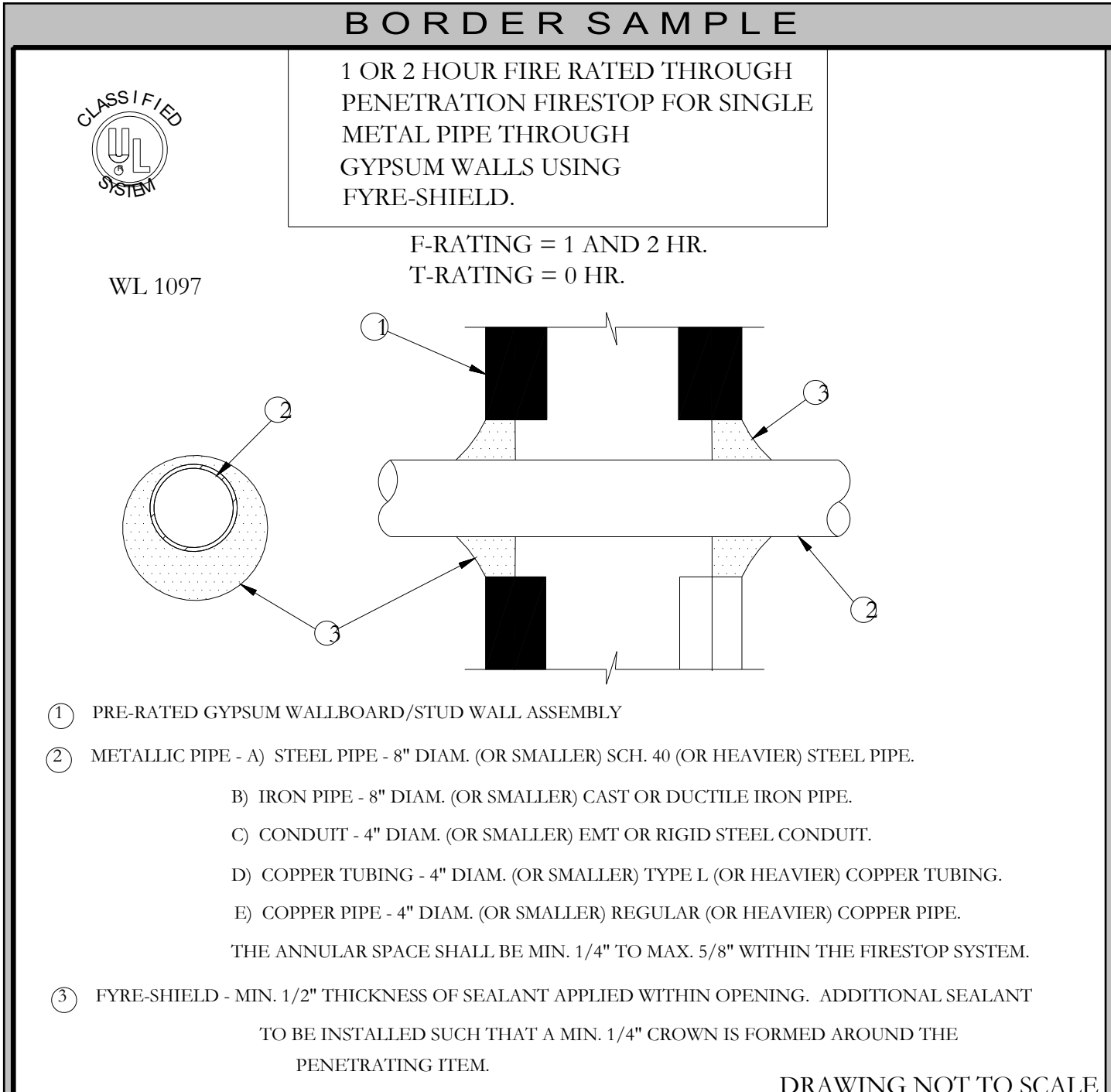
DRIVER DATA	
TYPE	ELECTRIC
POWER	150
PHASE	3 PHASE
HERTZ	60 HZ
VOLTS	460 V
RPM	1800
ESTIMATED WEIGHT	1225

JOCKEY PUMP DATA	
MAKE & MODEL	FAIRBANKS NIJHUIS MODEL PVMI-17
RATING	7.5
SUCTION & DISCHARGE SIZE	1-1/4
POWER	2HP
PHASE	3 PHASE
VOLTS	230/460 V
START PRESSURE (FIELD VERIFY)	PENDING
STOP PRESSURE (FIELD VERIFY)	PENDING

FIRE PUMP CONTROL PANEL DATA	
MAKE & MODEL	TORNATECH GPS
VOLTAGE	480V
HP RANGE	150
SOFT START	YES
AUTOMATIC TRANSFER SWITCH	YES
REMOTE ALARMS	PHASE REVERSAL, MOTOR RUN, FAIL TO START

PUMP ROOM LEGEND		
#	DESCRIPTION	REMARKS
0	ANTI VORTEX PLATE	
1	CISTERN - REFER TO ARCHITECTURAL PLANS	
2	CISTERN - REFER TO ARCHITECTURAL PLANS	
3	6"X8" GROOVED CONCENTRIC REDUCER	
4	6" OS&Y WITH TAMPER	
5	6" CONTROL VALVE W/TAMPER	
6	6" CHECK VALVE	
7	SPARE HEAD CABINET	
8	ADJUSTABLE PIPE STAND	
9	FIRE PUMP & DRIVER, SEE INFORMATION TABLE	
10	GLOBAL VISION FLOW METER	
11	AIR VENT	
12	JOCKEY PUMP, SEE INFORMATION TABLE	
13	FIRST FLOOR SYSTEM COMPONENTS. SEE BREAK DOWN BELOW	
14	UPRIGHT SPRINKLER. REFER TO PIPING PLANS	
15	FIRE PUMP SENSING LINE	
16	JOCKEY PUMP SENSING LINE	
17	FIRE PUMP CONTROL PANEL	
18	JOCKEY PUMP CONTROL PANEL	
19	1" JOCKEY PUMP SUCTION PIPING	
20	RAISED CONCRETE PAD	
21	1" JOCKEY PUMP DISCHARGE PIPING	
22	6" STANDPIPE RISER ASSEMBLY-SEE BREAKDOWN BELOW	
23	2-1/2" HOSE VALVE WITH CAP & CHAIN	
13	1ST LEVEL FLOOR RISER ASSY	
1	3" ZURN ZW209PP PRESSURE REDUCING VALVE	
2	3" CONTROL VALVE W/TAMPER	
3	3" GLOBE UMC RISER ASSY	
22	6" STANDPIPE RISER ASSY	
1	6" CONTROL VALVE W/TAMPER	
2	6" GLOBE UMC RISER ASSY	

<p>NORTH</p> <p>GRAPHIC SCALE 1/8"=1'-0" (U.N.O.)</p>	<p>STANDARD SYMBOLS</p> <ul style="list-style-type: none"> POST INDICATOR VALVE KEY OPERATED VALVE PUBLIC HYDRANT FIRE DEPT. CONNECTION O.S.&Y. GATE VALVE CHECK VALVE NEW UNDERGROUND EXISTING UNDERGROUND 	<p>STANDARD SYMBOLS</p> <ul style="list-style-type: none"> ALARM CHECK VALVE THRUST BLOCK BACKFLOW PREVENTER 	<p>STANDARD SPRINKLER SYMBOLS</p> <ul style="list-style-type: none"> UPRIGHT ON 1" OUTLET PENDENT ON 1" OUTLET UPRIGHT ON 1" SPRING PENDENT BELOW CEILING ON 1" DROP UPRIGHT ABOVE PENDENT ON 1" DROP SIDEWALL ON 1" OUTLET SIDEWALL ON 1" SPRING 	<p>GENERAL SYSTEM NOTES</p> <ol style="list-style-type: none"> 1. HYDRAULIC INFORMATION TO BE PROVIDED ON SPRINKLER PLANS. 2. CAPTURES BRACKETS (SEE PROVIDED NFPA 13) IF REQUIRED. 3. ALL WELDS TO BE FIELD CHECKED FOR CONNECTIONS AND LOW POINT. 4. DIMENSIONS TO BE PROVIDED PER NFPA 13. 5. ALL WELDS TO BE FIELD CHECKED FOR CONNECTIONS AND LOW POINT. 6. LINE PIPING SHALL BE 60% FIRM SPRINKLER PIPE WITH WELDED JOINTS AND SHROUDED FITTINGS (UNLESS OTHERWISE NOTED). 7. MAIN PIPING SHALL BE 60% FIRM SPRINKLER PIPE WITH WELDED JOINTS AND SHROUDED FITTINGS (UNLESS OTHERWISE NOTED). 8. SYSTEM DESIGN SHALL BE PER NFPA 13. 9. OTHER TO PROVIDE PARTIAL WRAP-FIRE EXTINGUISHING. 10. HYDRAULIC CODE, APPROVED CODES, & SYSTEM REQUIREMENTS SHALL BE PER NFPA 13. 11. HYDRAULIC DESIGN POINT SHALL BE PER NFPA 13. 12. ALL SYSTEM COMPONENTS SHALL BE LISTED AND BE APPROVED. 13. SPARE HEAD CABINET TO INCLUDE (BLACK HEAD) (SEE NFPA 13) 	<p>NOTICE</p> <p>IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS.</p> <p>UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION				<p>FIRE SPRINKLER DESIGNS BY:</p> <p>3D FIRE DESIGN, LLC GERALD W. EBELING, SET NICET LEVEL IV # 105930</p>	<p>AHJ STAMP</p>	<p>FIRE SPRINKLER CONTRACTOR:</p> <p>JOB NO: AQUA-GTCL LICENSE NO: [REDACTED]</p> <p>DATE: [REDACTED]</p> <p>DESIGNER: GERALD W. EBELING, SET</p> <p>APPROVED: [REDACTED]</p> <p>SCALE: AS NOTED</p>	<p>FIRE PUMP PLAN FP2</p>
	NO.	DATE	DESCRIPTION													



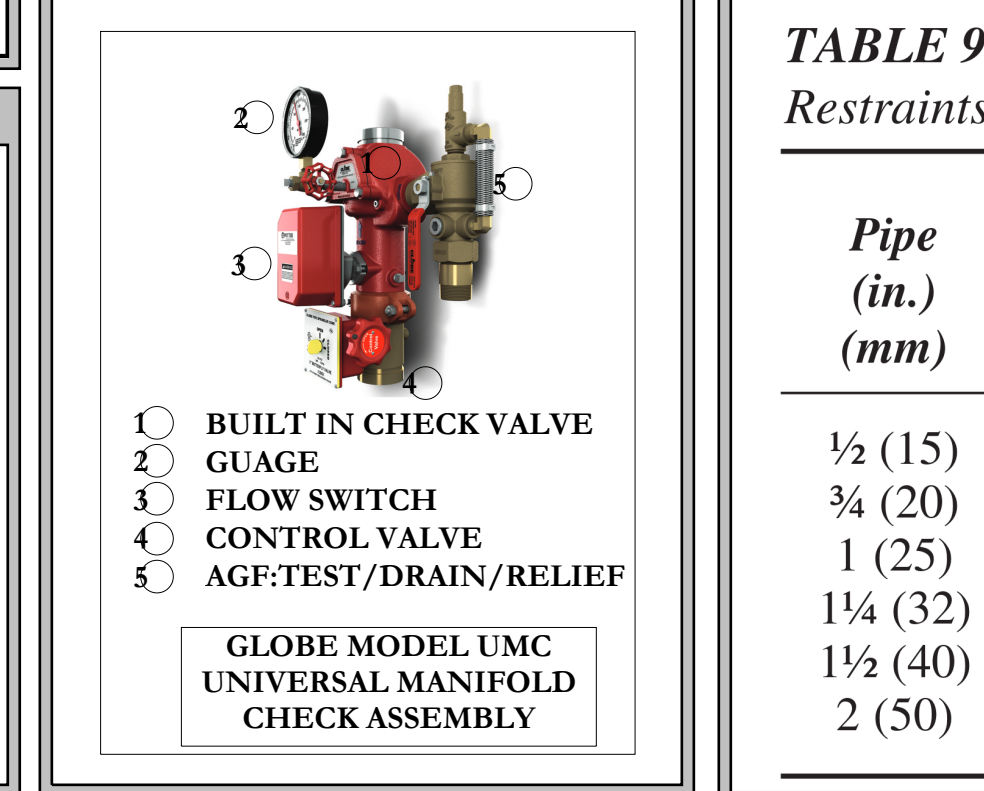
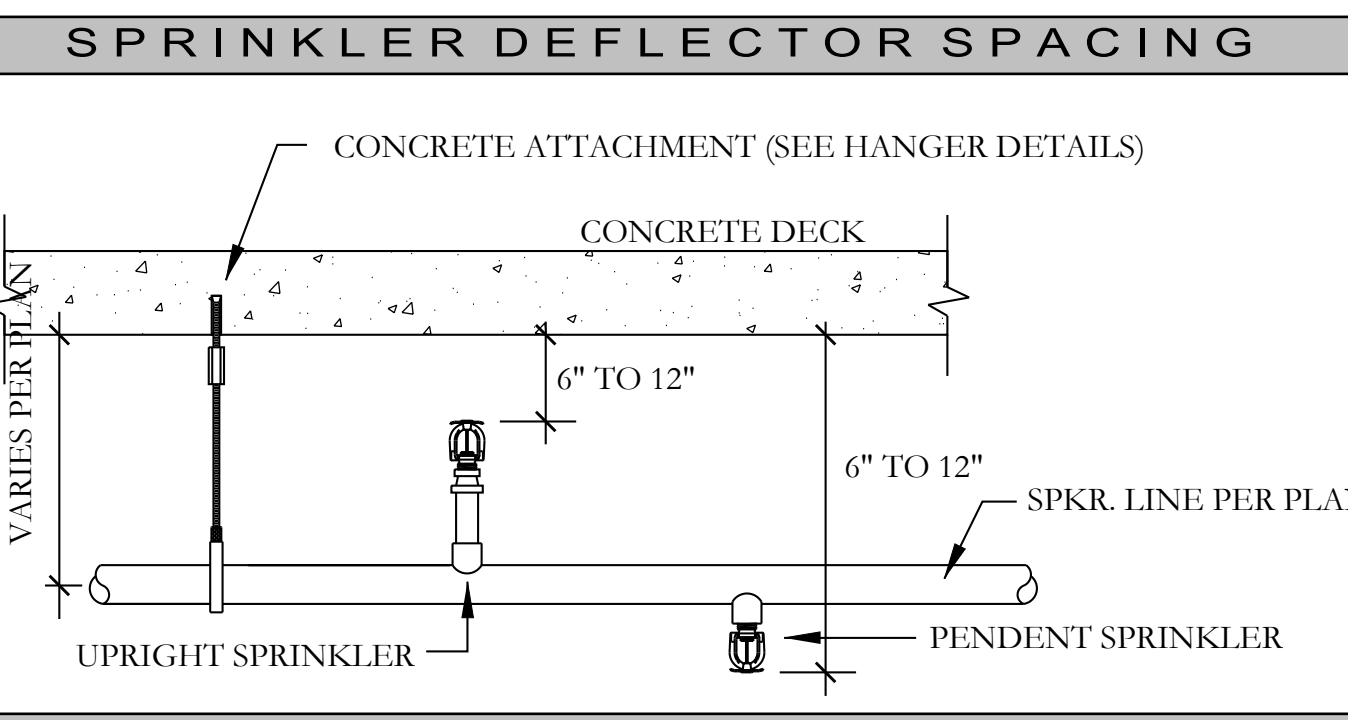
SPARE SPRINKLERS

A LIST OF THE SPRINKLERS INSTALLED IN THE PROPERTY SHALL BE POSTED IN THE SPRINKLER CABINET.

THE LIST SHALL INCLUDE:

- SPRINKLER IDENTIFICATION NUMBER
- GENERAL DESCRIPTION
- QUANTITY OF EACH SPRINKLER
- ISSUE OR REVISION DATE OF THE LIST

TOTAL HEADS	MINIMUM # SPARE HEADS
<300	6
300 - 1000	12
>1000	24



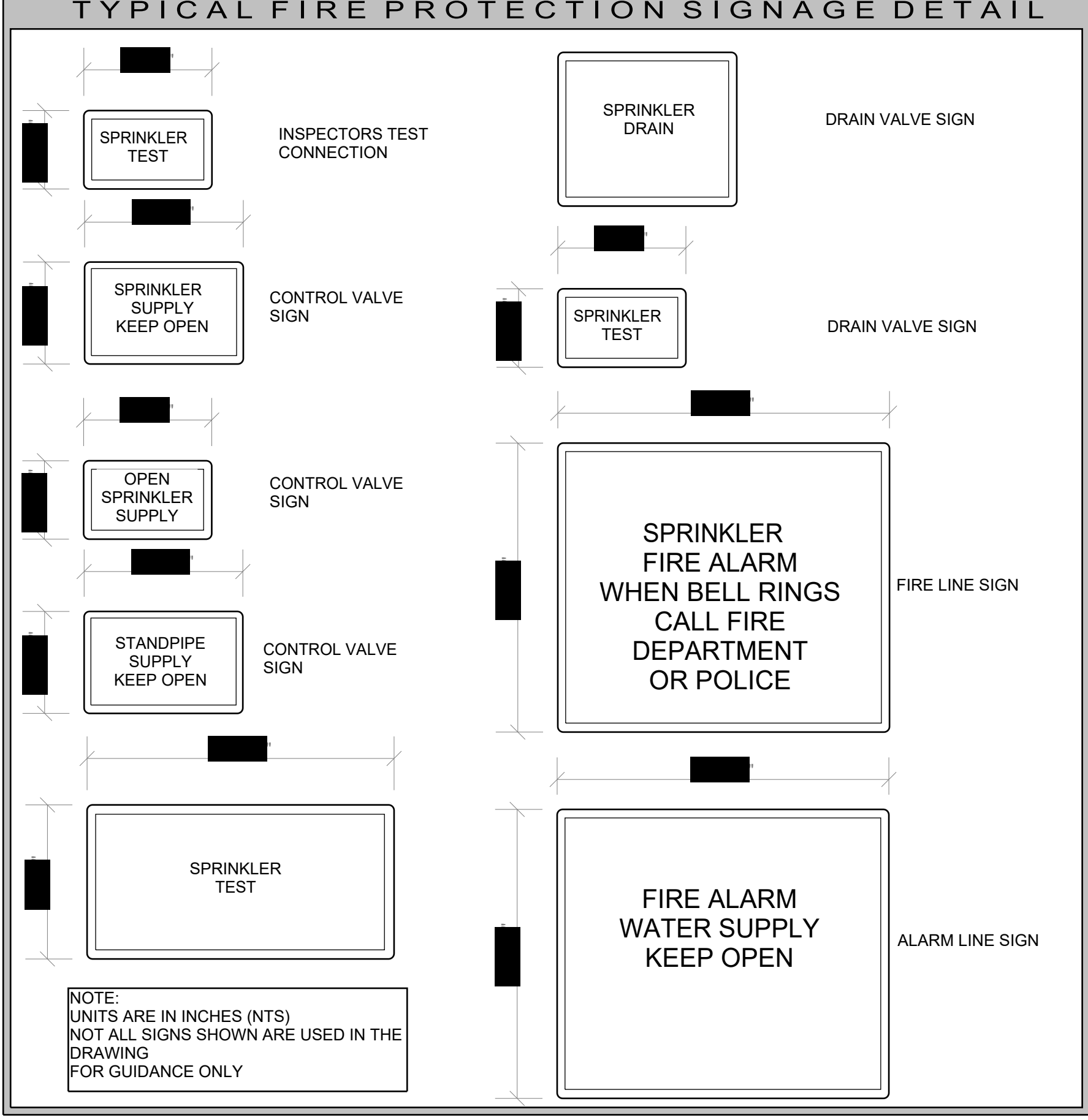
BRANCHLINE RESTRAINT SPACING

TABLE 9.3.6.4(a) Maximum Spacing (ft)(m) of Steel Pipe Restraints

Pipe (in.) (mm)	Seismic Coefficient, C _p			
	C _p ≤ 0.50	0.5 < C _p ≤ 0.71	0.71 < C _p ≤ 1.40	C _p ≥ 1.40
1/2 (15)	34 (10.3)	29 (8.8)	20 (6.1)	18 (5.5)
3/4 (20)	38 (11.6)	32 (9.7)	23 (7.0)	20 (6.1)
1 (25)	43 (13.1)	36 (11.0)	26 (7.9)	22 (6.7)
1 1/4 (32)	46 (14.0)	39 (11.9)	27 (8.2)	24 (7.3)
1 1/2 (40)	49 (14.9)	41 (12.5)	29 (8.8)	25 (7.6)
2 (50)	53 (16.1)	45 (13.7)	31 (9.4)	27 (8.2)

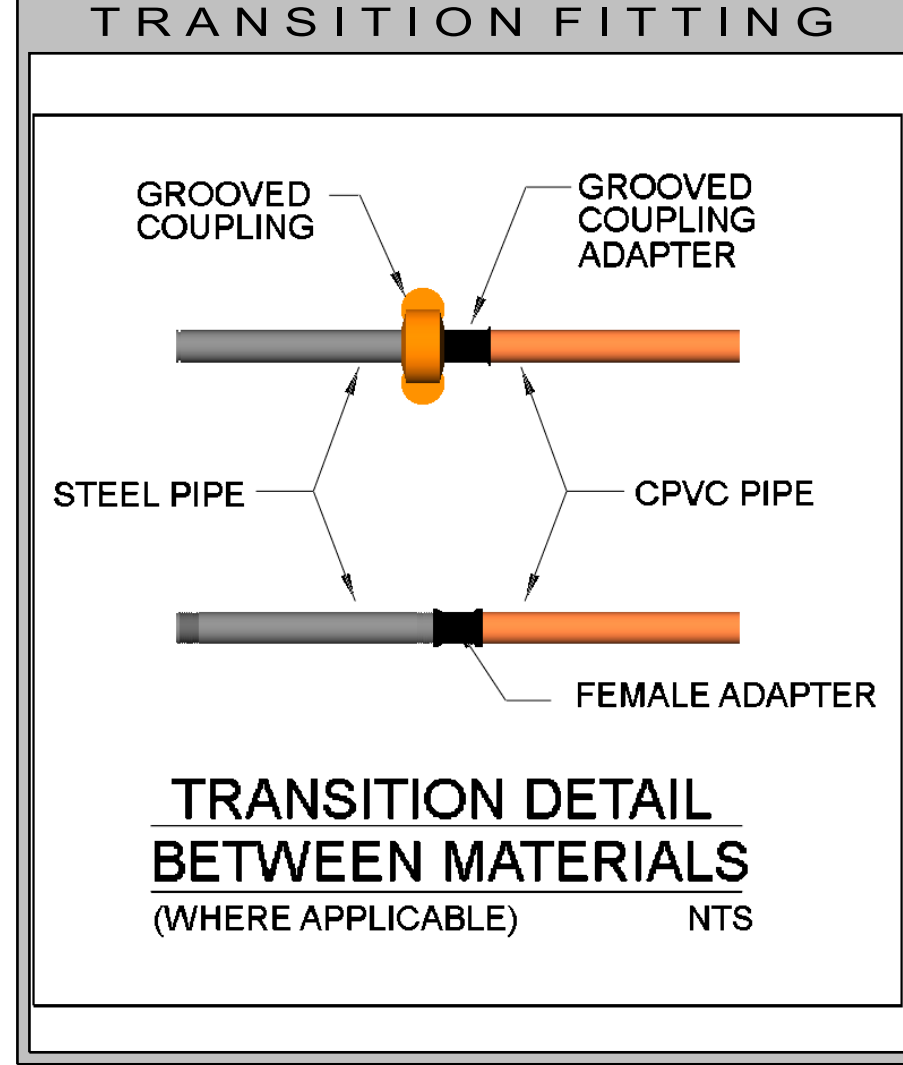
DRAIN SIZE

RISER OR MAIN SIZE: UP TO 2 (50)	SIZE OF DRAIN CONNECTION: 3/4 (20) OR LARGER 1-1/4 (32) OR LARGER 2 (50) OR LARGER
2/2 (65), 3 (80), 3V4 (90) 4 (100) AND LARGER	2 (50) OR LARGER



SPRINKLER DIST. TO RESIDENTIAL HEAT SOURCES

HEAT SOURCE	MINIMUM DISTANCE FROM EDGE OF SOURCE TO:	
	ORDINARY TEMPERATURE SPRINKLER	INTERMEDIATE TEMPERATURE SPRINKLER
SIDE OF OPEN OR RECESSED FIREPLACE	36"	12"
FRONT OF RECESSED FIREPLACE	60"	36"
COAL- OR WOOD-BURNING STOVE	42"	12"
KITCHEN RANGE	18"	9"
WALL OVEN	18"	9"
HOT AIR FLUES	18"	9"
UNINSULATED HEAT DUCTS	18"	9"
UNINSULATED HOT WATER PIPES	12"	6"
SIDE OF CEILING- OR WALL-MOUNTED HOT AIR DIFFUSERS	24"	12"
FRONT OF WALL-MOUNTED HOT AIR DIFFUSERS	36"	18"
HOT WATER HEATER OF FURNACE	6"	3"
LOW - 250W LIGHT FIXTURE	6"	3"
250W - 499W LIGHT FIXTURE	12"	6"



OBSTRUCTIONS TO STANDARD SPRAY UPRIGHT & PENDENT SPRINKLERS

TABLE 8.6.5.1.2 POSITIONING OF SPRINKLERS TO AVOID OBSTRUCTIONS TO DISCHARGE (STANDARD SPRAY UPRIGHT/STANDARD SPRAY PENDENT (SSU/SSP)).

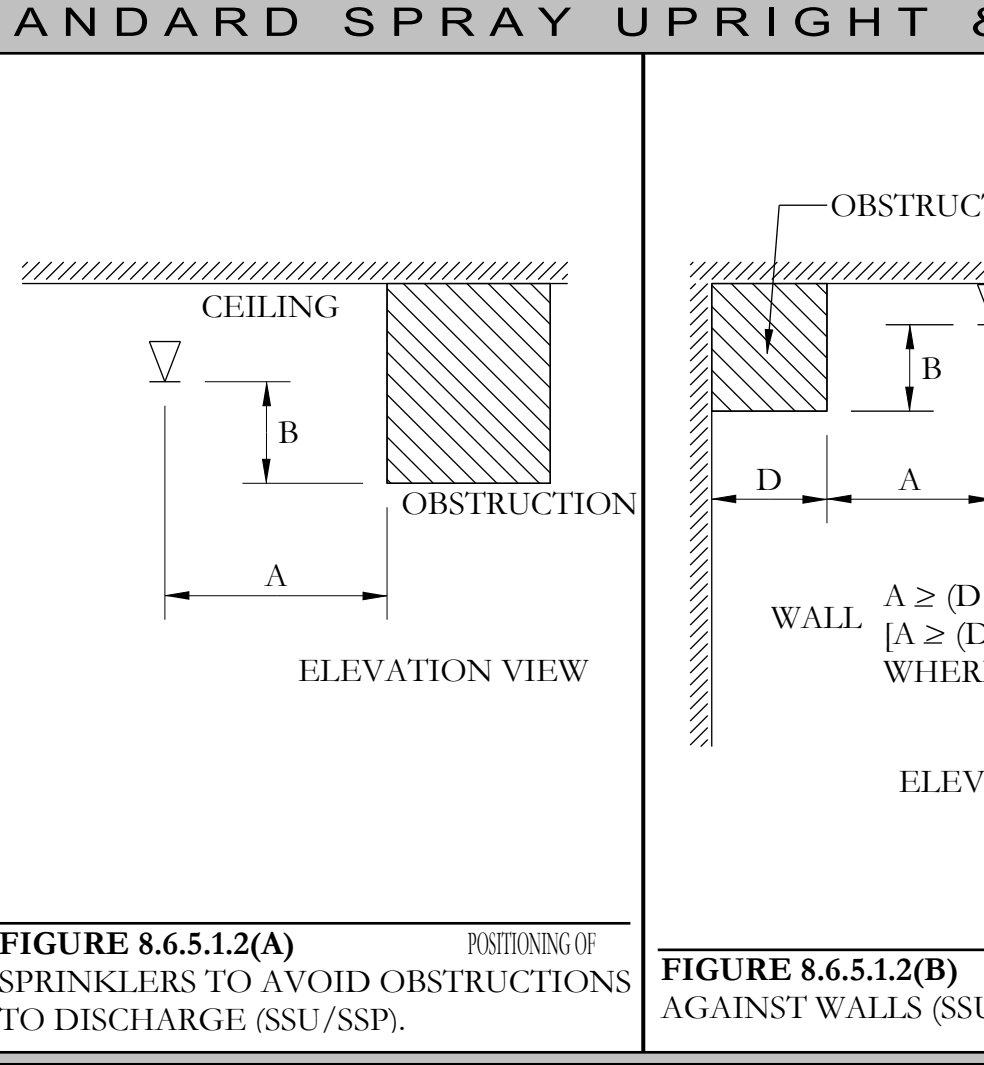
DISTANCE FROM SPRINKLERS TO SIDE OF OBSTRUCTION (A)	MAXIMUM ALLOWABLE DISTANCE OF DEFLECTOR ABOVE BOTTOM OF OBSTRUCTION (IN.) (B)
LESS THAN 1 FT	0
1 FT TO LESS THAN 1 FT 6 IN.	2 1/2"
1 FT 6 IN. TO LESS THAN 2 FT	3 1/2"
2 FT TO LESS THAN 2 FT 6 IN.	5 1/2"
2 FT 6 IN. TO LESS THAN 3 FT	7 1/2"
3 FT TO LESS THAN 3 FT 6 IN.	9 1/2"
3 FT 6 IN. TO LESS THAN 4 FT	12
4 FT TO LESS THAN 4 FT 6 IN.	14
4 FT 6 IN. TO LESS THAN 5 FT	16 1/2"
5 FT TO LESS THAN 5 FT 6 IN.	18
5 FT 6 IN. TO LESS THAN 6 FT	20
6 FT TO LESS THAN 6 FT 6 IN.	24
6 FT 6 IN. TO LESS THAN 7 FT	30
7 FT AND GREATER	32

FOR SI UNITS, 1 IN. = 25.4 MM; 1 FT = 0.3048 M.
NOTE: FOR (A) AND (B), REFER TO FIGURE 8.6.5.1.2 (A)

FIGURE 8.6.5.1.2(A) POSITIONING OF SPRINKLERS TO AVOID OBSTRUCTIONS TO DISCHARGE (SSU/SSP).

FIGURE 8.6.5.1.2(B) OBSTRUCTIONS AGAINST WALLS (SSU/SSP).

FIGURE 8.6.5.2.1.3 FROM OBSTRUCTION (SSU/SSP).



FDC

FIRE DEPT. CONNECTION (2) 2 1/2" INLETS

SWING CHECK VALVE

4'-0"

6"

3'-0" MIN. DEPTH OF BURY

NOTE: PROVIDE TAMPER PROOF SCREENS ON ALL EXPOSED HARDWARE.

HANGER CHART

TABLE 9.12.1 HANGER ROD SIZE

PIPE SIZE	DIAM. OF ROD	PIPE SIZE	DIAM. OF ROD
UP TO AND INCLUDING 4"	3/8"	6" AND 8"	1/2"

FIG. A9.2.3.4 DISTANCE FROM SPRINKLER TO HANGER

MAXIMUM

36" FOR 1" ANY LENGTH GREATER THAN: 36" FOR 1" 48" FOR 1 1/4" 60" FOR 1 1/2" 9" FOR CPVC PIPE

FIG. A9.2.3.4.4 DIST. FROM SPRINKLER TO HANGER > 100 P.S.I.

MAXIMUM

12" FOR STEEL PIPE ANY LENGTH GREATER THAN: 12" FOR STEEL PIPE 6" FOR COPPER PIPE 9" FOR CPVC PIPE

SCALE: N.T.S.

OBSTRUCTIONS TO RESIDENTIAL UPRIGHT & PENDENT SPRINKLERS

TABLE 8.6.5.1.2 POSITIONING OF SPRINKLERS TO AVOID OBSTRUCTIONS TO DISCHARGE (STANDARD SPRAY UPRIGHT/STANDARD SPRAY PENDENT (SSU/SSP)).

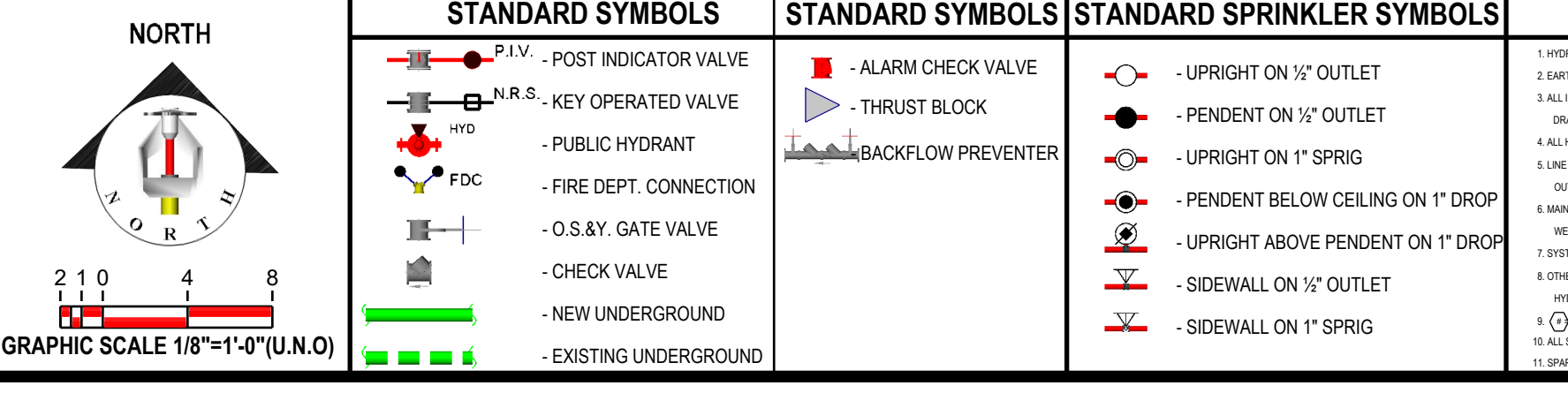
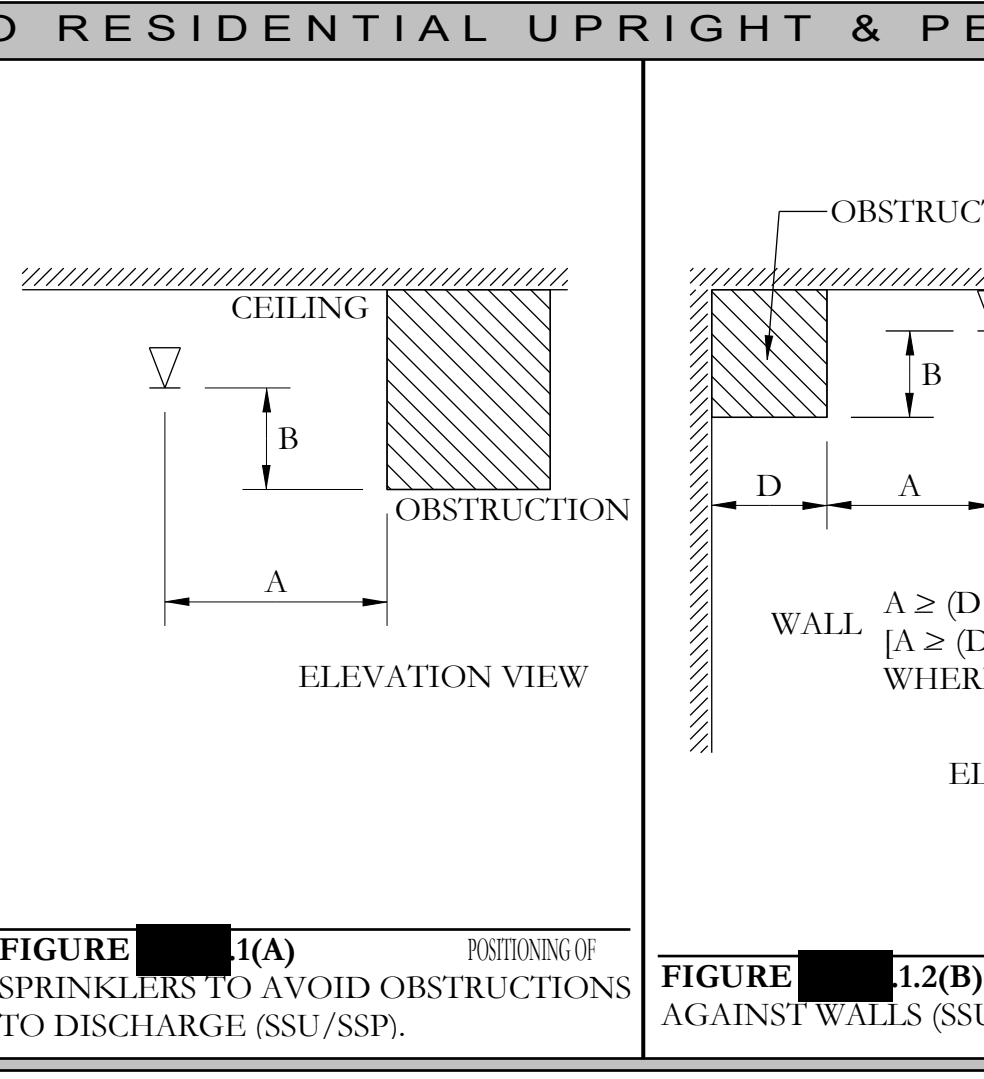
DISTANCE FROM SPRINKLERS TO SIDE OF OBSTRUCTION (A)	MAXIMUM ALLOWABLE DISTANCE OF DEFLECTOR ABOVE BOTTOM OF OBSTRUCTION (IN.) (B)
LESS THAN 1 FT	0
1 FT TO LESS THAN 1 FT 6 IN.	2 1/2"
1 FT 6 IN. TO LESS THAN 2 FT	3 1/2"
2 FT TO LESS THAN 2 FT 6 IN.	5 1/2"
2 FT 6 IN. TO LESS THAN 3 FT	7 1/2"
3 FT TO LESS THAN 3 FT 6 IN.	9 1/2"
3 FT 6 IN. TO LESS THAN 4 FT	12
4 FT TO LESS THAN 4 FT 6 IN.	14
4 FT 6 IN. TO LESS THAN 5 FT	16 1/2"
5 FT TO LESS THAN 5 FT 6 IN.	18
5 FT 6 IN. TO LESS THAN 6 FT	20
6 FT TO LESS THAN 6 FT 6 IN.	24
6 FT 6 IN. TO LESS THAN 7 FT	30
7 FT AND GREATER	32

FOR SI UNITS, 1 IN. = 25.4 MM; 1 FT = 0.3048 M.
NOTE: FOR (A) AND (B), REFER TO FIGURE 8.6.5.1.2 (A)

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FIGURE 8.6.5.1.2(B) OBSTRUCTIONS AGAINST WALLS (SSU/SSP).

FIGURE 8.6.5.2.1.3 FROM OBSTRUCTION (SSU/SSP).



GENERAL SYSTEM NOTES

- VERIFY ALL INFORMATION IS AS PROVIDED ON APPROVED PERMITS.
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NOTICE

IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS.

UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:

CONTRACT WITH: _____

ADDRESS: _____

PHONE NUMBER: _____

FAX: _____

REVISIONS

NO.	DATE	DESCRIPTION

DATE: _____

FIRE SPRINKLER DESIGNS BY: _____

AHJ STAMP: _____

FIRE SPRINKLER CONTRACTOR: _____

JOB NO. AQUA-GTCL

DATE: _____

DESIGNER: GERALD EBELING, SET

APPROVED: _____

SCALE: AS NOTED

LICENSE NO. _____

AQUA APARTMENTS

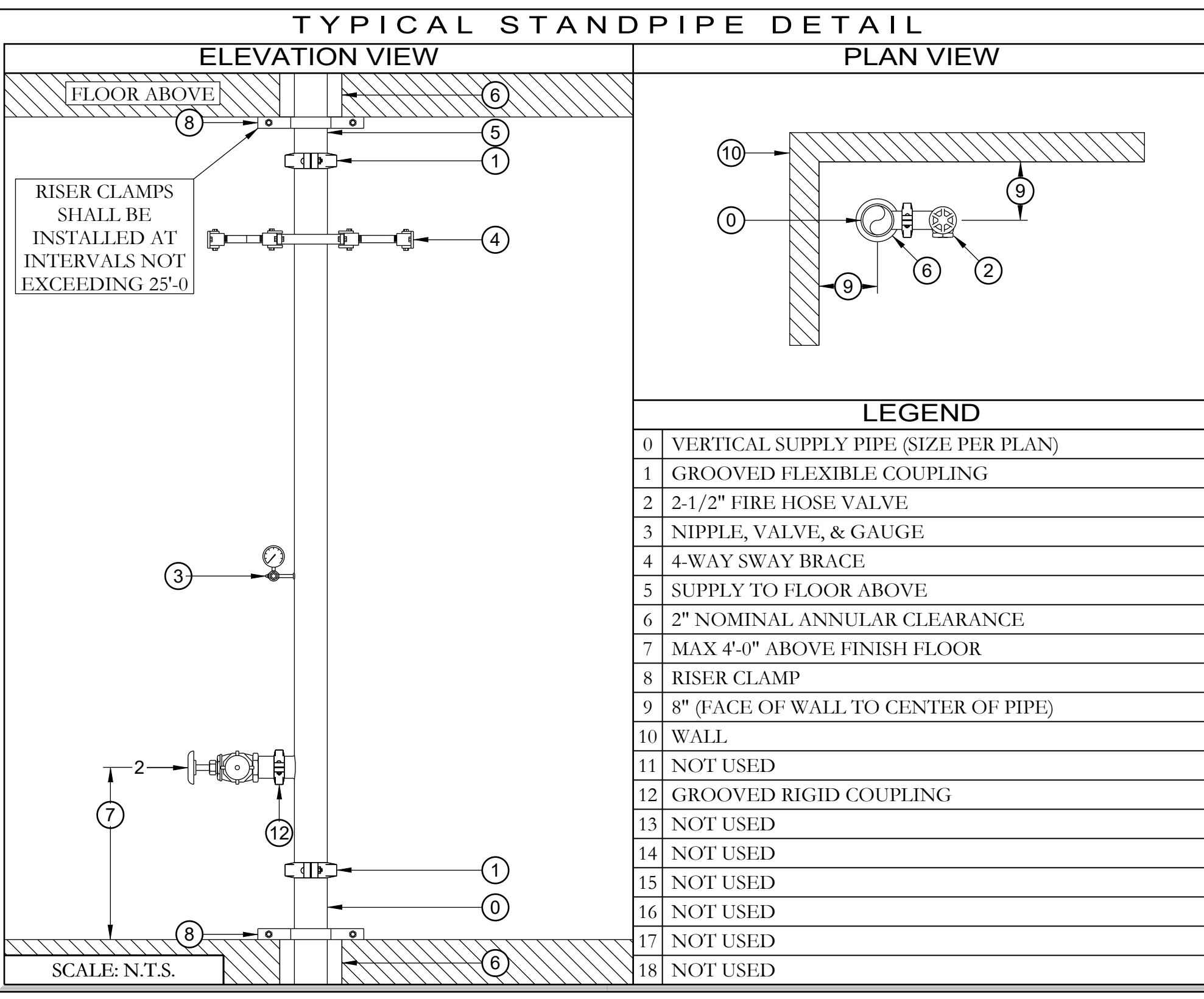
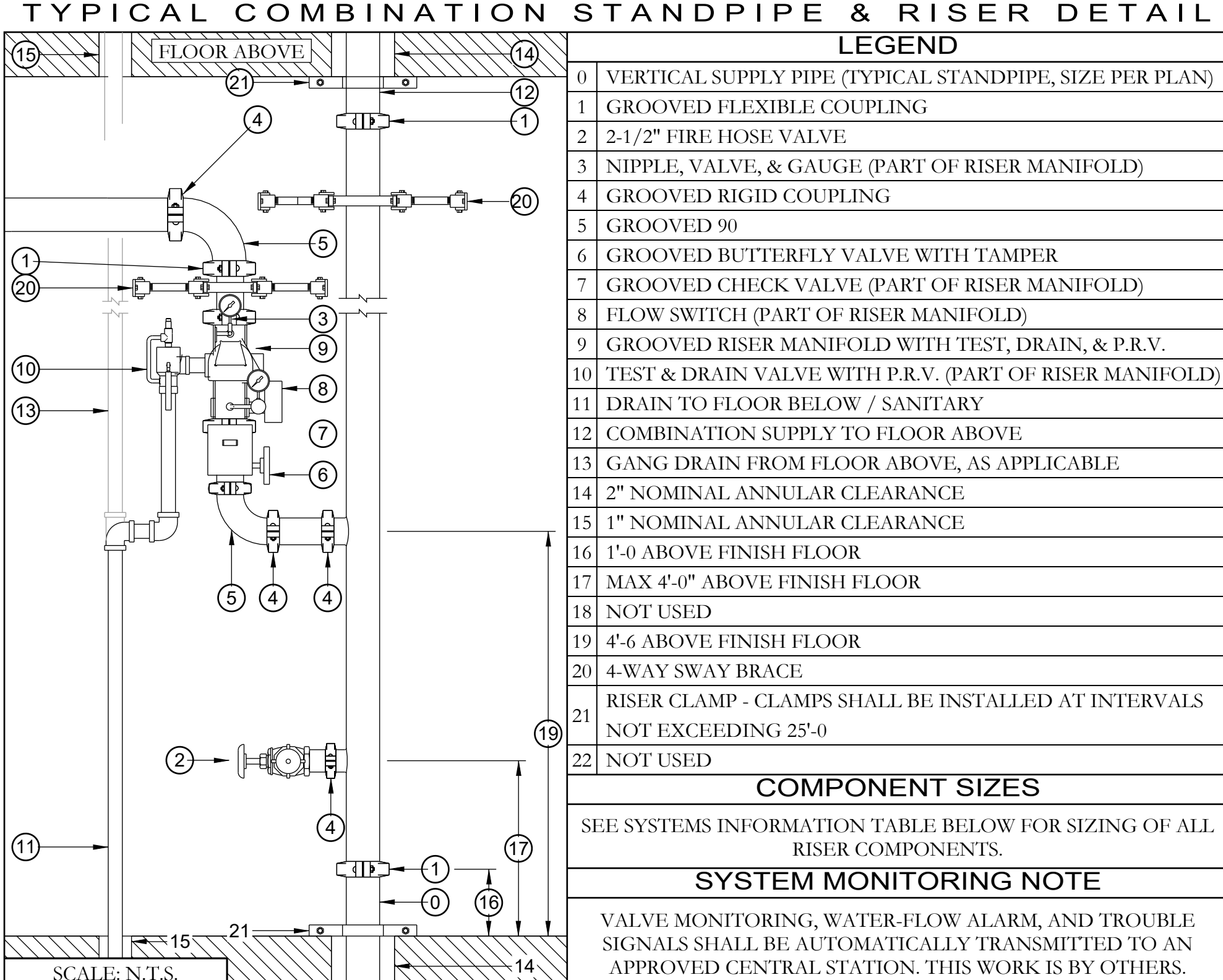
PARCEL 202

GEORGE TOWN, CAYMAN ISLANDS

FP NOTES AND DETAILS

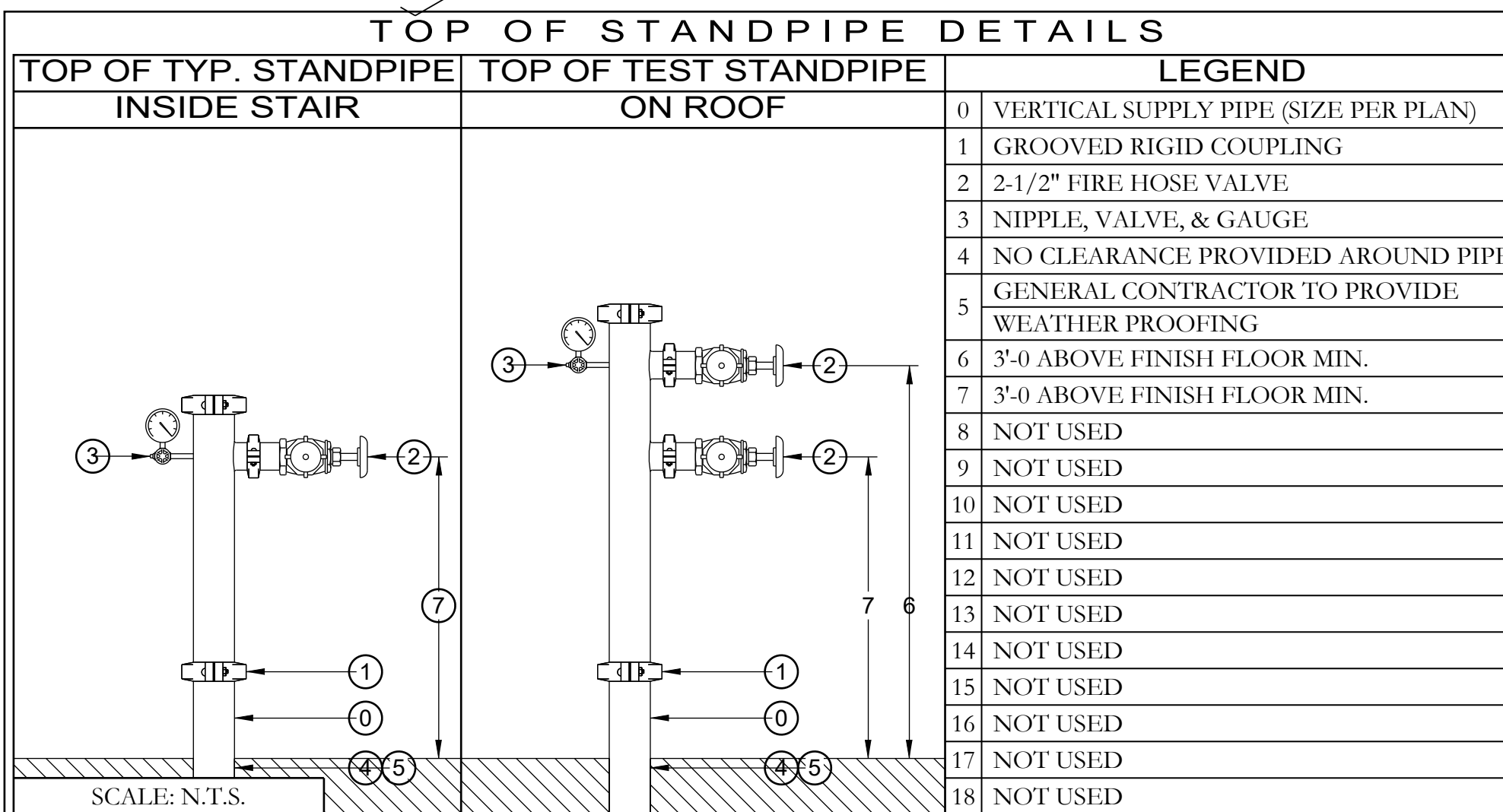
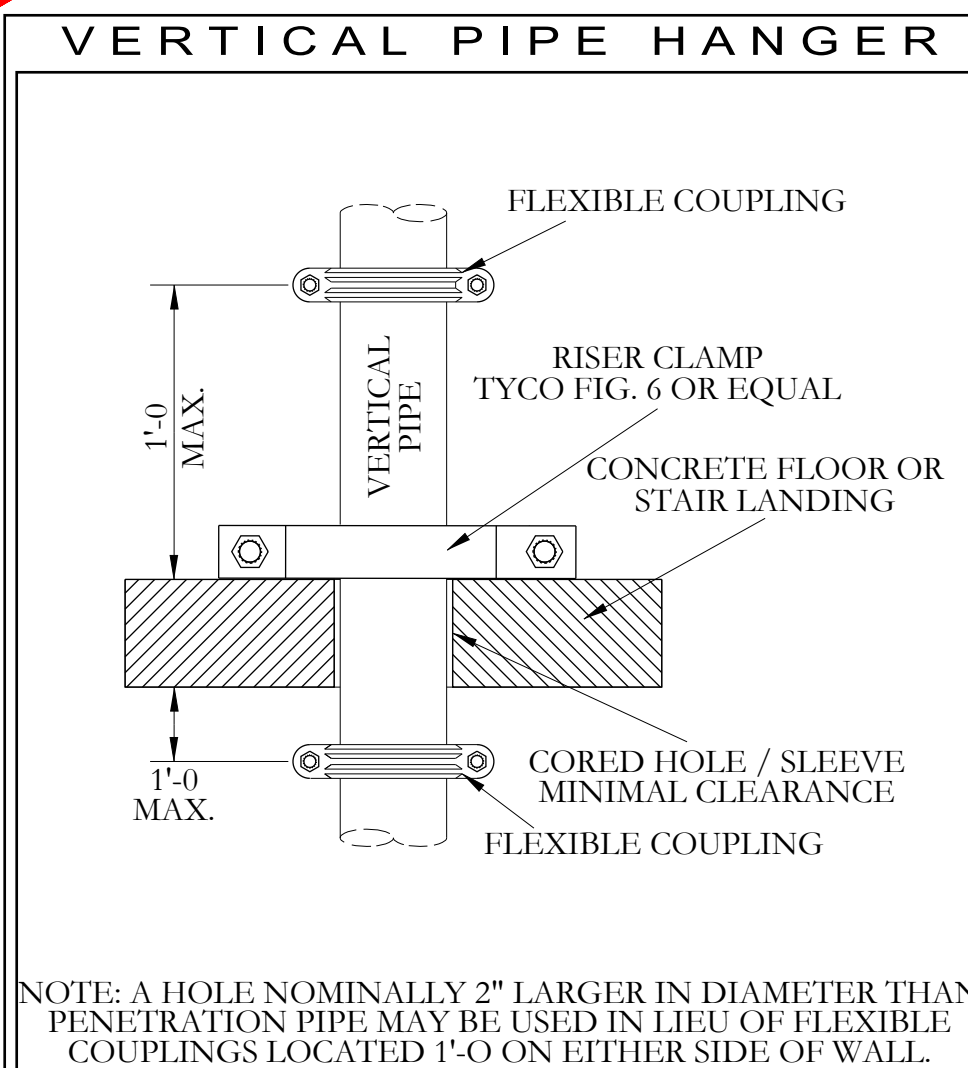
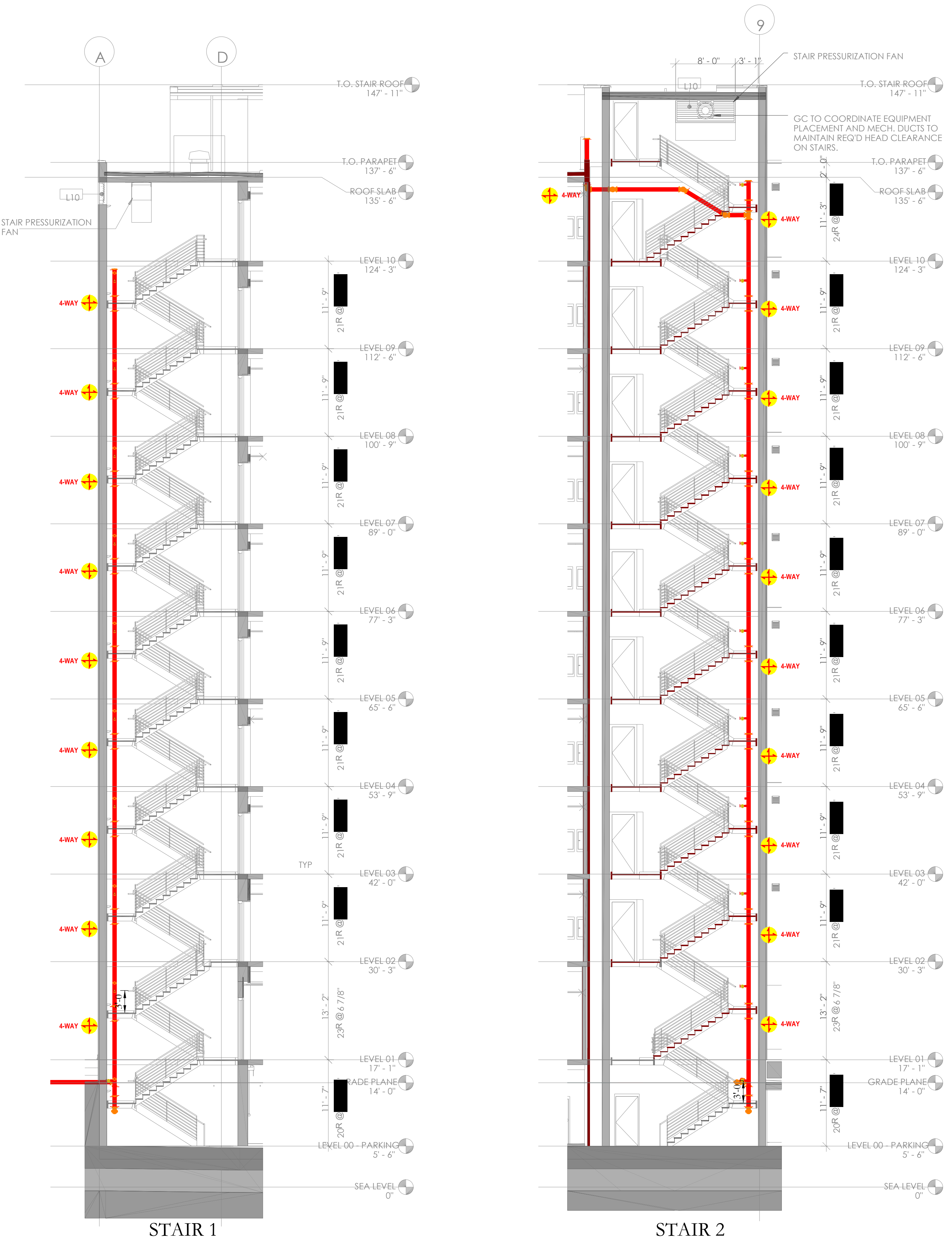
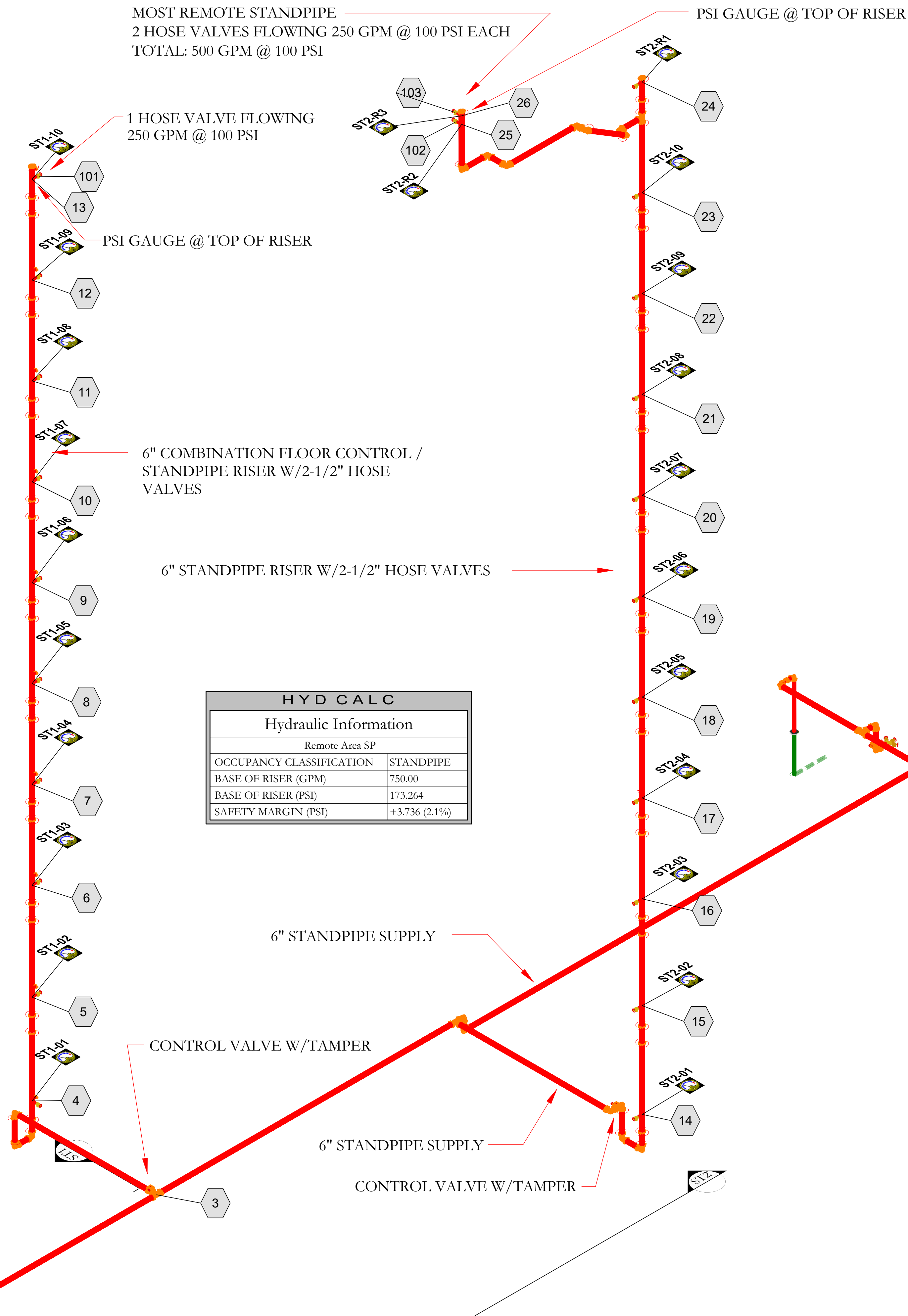
FP3





GENERAL NOTES:

1. ALL DESIGN MATERIAL, FABRICATION, AND INSTALLATION SHALL CONFORM TO THE STANDARDS SET FORTH IN NFPA PAMPHLET 14 2016 AS WELL AS LOCAL AND STATE REGULATIONS.
2. ALL MATERIAL AND DEVICES SHALL BE UNLISTED FOR FIRE PROTECTION SERVICE AND SHALL BE INSTALLED IN ACCORDANCE WITH THEIR LISTINGS.
3. STANDPIPE PIPING TO BE SCHEDULE 10 SPRINKLER PIPE AS PER ASTM A53/ASSM GRADE B USING ROLLED GROOVES AND MECHANICAL GROOVED FITTINGS.
4. PIPING SHALL BE SUBJECT TO AN ACCEPTANCE TESTING IN ACCORDANCE WITH NFPA. ALL TESTING SHALL BE WITNESSED BY THE APPROVING AUTHORITIES.



Stair	Level	Standpipe outlet		loss between valve and outlet (psi)	Valve Inlet Residual (psi)	Zurn Reducing Valve	Bonnet	Valve Outlet Static (psi)	Valve Outlet Residual (psi)
		Static (psi)	Residual (psi)						
1	1	194	167	9	157	Z3000	L	167	123
1	2	189	162	9	152	Z3000	L	170	121
1	3	183	156	9	147	Z3000	L	167	119
1	4	178	151	9	141	Z3000	L	164	117
2	1	194	166	9	156	Z3000	L	172	122
2	1	189	160	9	151	Z3000	L	170	120
2	1	183	155	9	145	Z3000	L	167	118
2	1	178	150	9	172	Z3000	L	164	116

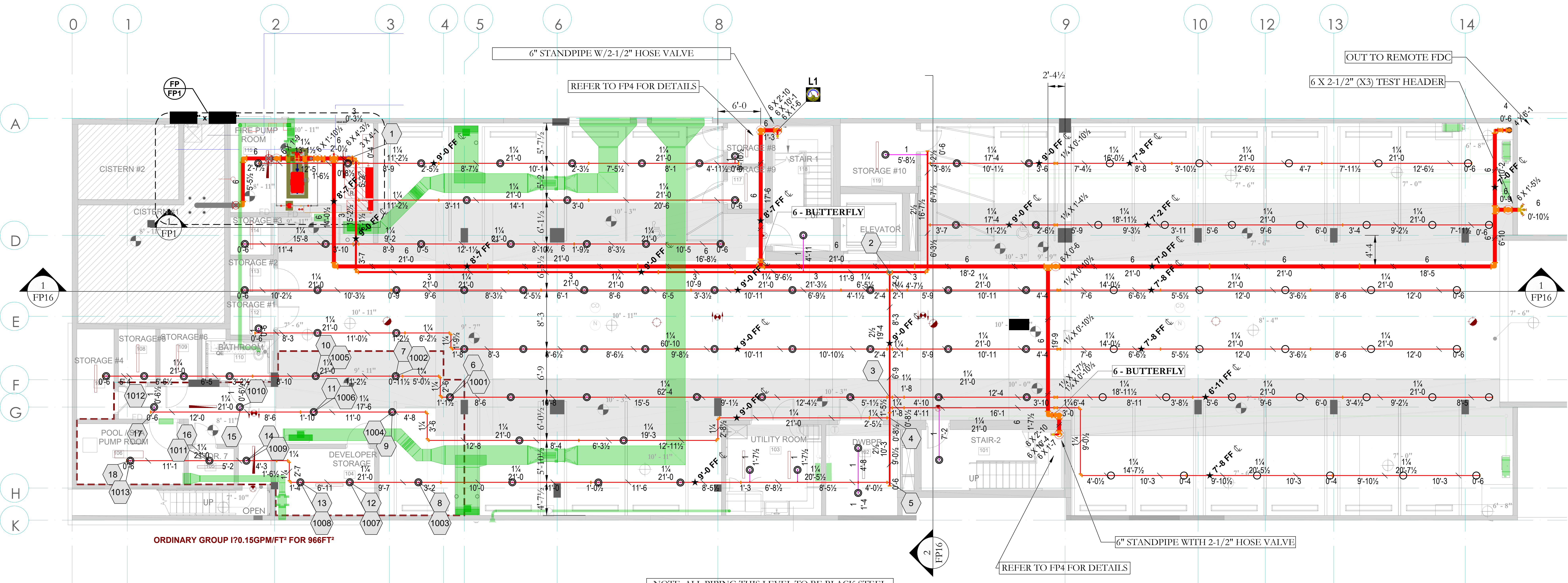
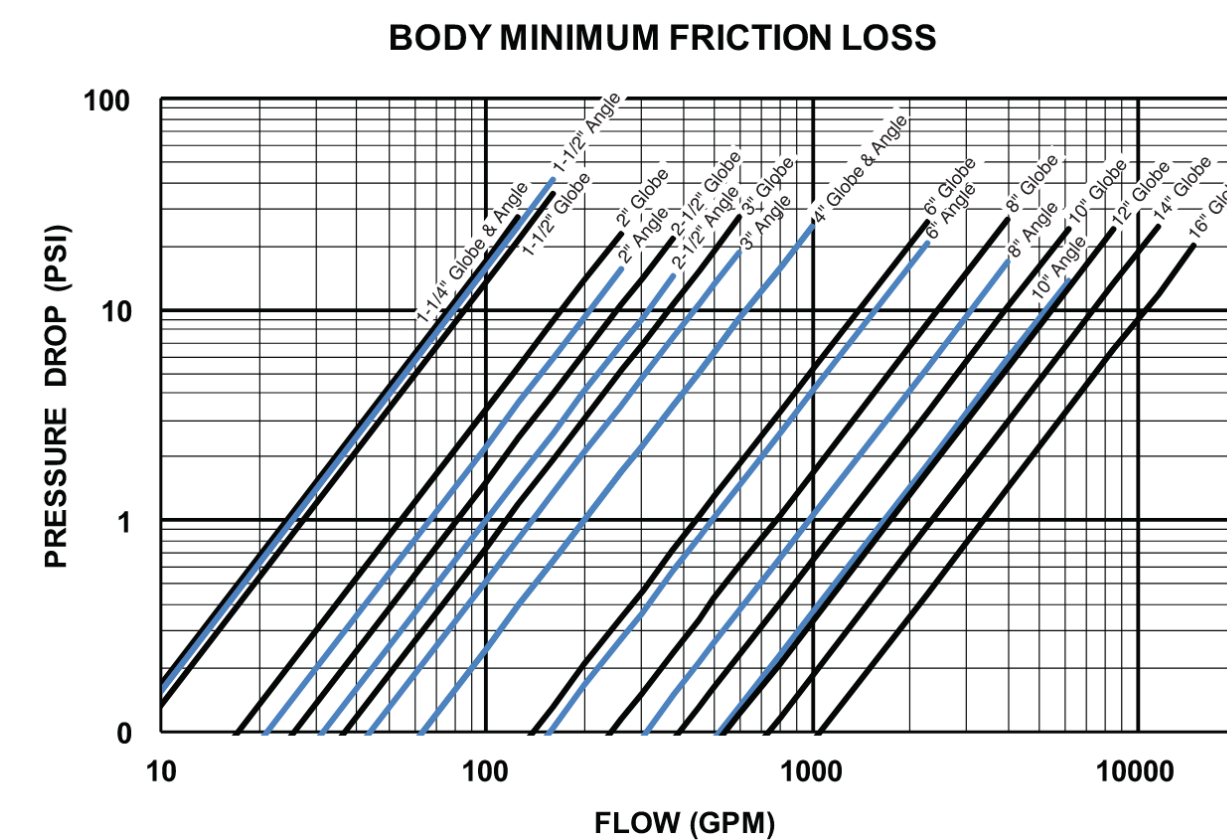
<p>STANDARD SYMBOLS</p> <p>POST INDICATOR VALVE</p> <p>KEY OPERATED VALVE</p> <p>PUBLIC HYDRANT</p> <p>FIRE DEPT. CONNECTION</p> <p>O.S.&T. GATE VALVE</p> <p>CHECK VALVE</p> <p>NEW UNDERGROUND</p> <p>EXISTING UNDERGROUND</p>	<p>STANDARD SYMBOLS</p> <p>ALARM CHECK VALVE</p> <p>BACKFLOW PREVENTER</p>	<p>STANDARD SPRINKLER SYMBOLS</p> <p>UPRIGHT ON 1/2" OUTLET</p> <p>PENDENT ON 1/2" OUTLET</p> <p>UPRIGHT ON 1" SPRING</p> <p>PENDENT BELOW CEILING ON 1" DROP</p> <p>UPRIGHT ABOVE PENDENT ON 1" DROP</p> <p>SIDEWALL ON 1/2" OUTLET</p> <p>SIDEWALL ON 1" SPRING</p>	<p>GENERAL SYSTEM NOTES</p> <p>1. HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER PLANS.</p> <p>2. CAPTURED BRACKETS TO BE PROVIDED PER NFPA 13 IF REQUIRED.</p> <p>3. ALL WELDED TEST CONNECTIONS AND LOW POINT DRAINS TO BE PROVIDED PER NFPA 13.</p> <p>4. ALL WELDED TEST CONNECTIONS AND LOW POINT DRAINS TO BE PROVIDED PER NFPA 13.</p> <p>5. LINE PIPING SHALL BE 3/4" PIPE SPRINKLER PIPE WITH WELDED OUTLET END AND GROOVED END WITH GROOVED FITTINGS (WITHIN UNITS).</p> <p>6. MAIN PIPING SHALL BE 3/4" PIPE WITH WELDED END AND GROOVED END WITH GROOVED FITTINGS (UNITS).</p> <p>7. SYSTEM DESIGN SHALL BE PER NFPA 13.</p> <p>8. OTHER TO PROVIDE PARTIAL WINDLIFT EXPANSION.</p> <p>9. HYDRANT CITY CONNECTION, ANCHORAGE, AND SYSTEM INFORMATION UNITS.</p> <p>10. HYDRANT CITY CONNECTION SHALL BE APPROVED.</p> <p>11. SHAVE HEAD GASKET TO INCLUDE (BLACK HEAD GASKET) PER NFPA 13.</p>	<p>Sprinkler Legend</p> <table border="1"> <thead> <tr> <th>SYMBOL</th> <th>MANUF</th> <th>SIN</th> <th>MODEL</th> <th>QUANTITY</th> <th>K-FACTOR</th> <th>TYPE</th> <th>SIZE</th> <th>RESPONSE</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>NOTE</th> </tr> </thead> </table>	SYMBOL	MANUF	SIN	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE	<p>NOTICE</p> <p>IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS.</p> <p>UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> </table>	NO.	DATE	DESCRIPTION	<p>DATE</p>	<p>FIRE SPRINKLER DESIGNS BY:</p> <p>3D FIRE DESIGN, LLC GERALD W. EBELING, SET NICET LEVEL IV # 105930</p>	<p>AHJ STAMP</p>	<p>FIRE SPRINKLER CONTRACTOR:</p>	<p>JOB NO: AQUA-GTCL</p> <p>LICENSE NO:</p>	<p>STANDPIPE PLAN</p>
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<p>CONTRACT WITH:</p> <p>ADDRESS:</p> <p>PHONE NUMBER:</p> <p>FAX:</p>	<p>DESIGNER: GERALD EBELING, SET</p> <p>APPROVED:</p> <p>SCALE: AS NOTED</p>	<p>AQUA APARTMENTS</p> <p>PARCEL 202</p> <p>GEORGE TOWN, CAYMAN ISLANDS</p>	<p>FP4</p>																								

Hydraulic Information

Remote Area 1	
OCCUPANCY CLASSIFICATION	ORDINARY GROUP I
DENSITY (GPM/FT ²)	0.15 FOR 1500FT ² (ACTUAL 966FT ²)
QUICK RESPONSE REDUCTION	10'-11 CEILING (38.6%) 921FT ²
TOTAL HEADS FLOWING	13
K-FACTOR	5.6
TOTAL WATER REQUIRED	355.99
TOTAL PRESSURE REQUIRED	122.778
BASE OF RISER (GPM)	355.99
BASE OF RISER (PSI)	122.778
SAFETY MARGIN (PSI)	+27.222 (18.1%)
CALC BASED ON PRESSURE REDUCING VALVE SET TO 150 PSI	

GRADE	Pressure (PSI)	K-Factor	Flow (GPM)	Head Static Pressure (PSI)	Elevation (ft)
LD	150.000	5.6	355.99	122.778	117.000
LD	150.000	5.6	355.99	122.778	117.000
LD	150.000	5.6	355.99	122.778	117.000
LD	150.000	5.6	355.99	122.778	117.000
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STATIC PSI CALC VALIDATION



ORDINARY GROUP I 0.15GPM/FT² FOR 966FT²

NOTE: ALL PIPING THIS LEVEL TO BE BLACK STEEL

FIRE SPRINKLER PLAN
1" = 1 Foot

	STANDARD SYMBOLS - POST INDICATOR VALVE - KEY OPERATED VALVE - PUBLIC HYDRANT - FIRE DEPT. CONNECTION - O.S.&T. GATE VALVE - CHECK VALVE - NEW UNDERGROUND - EXISTING UNDERGROUND	STANDARD SYMBOLS - ALARM CHECK VALVE - THRUST BLOCK - BACKFLOW PREVENTER	STANDARD SPRINKLER SYMBOLS - UPRIGHT ON 1/2" OUTLET - PENDENT ON 1/2" OUTLET - UPRIGHT ON 1" SPRIG - PENDENT BELOW CEILING ON 1" DROP - UPRIGHT ABOVE PENDENT ON 1" DROP - SIDEWALL ON 1/2" OUTLET - SIDEWALL ON 1" SPRIG	GENERAL SYSTEM NOTES 1. HYDRAULIC INFORMATION TO BE PROVIDED ON SPRINKLER PLAN. 2. SUPPLEMENTARY NOTES TO BE PROVIDED ON SPRINKLER PLAN. 3. ALL SPECIFICATIONS FOR CONNECTIONS AND LOW POINT DRAIN TO BE PROVIDED PER NFPA 13. 4. ALL HANDS TO BE CURRENT WITH REQUIREMENTS (E.G., OSHA). 5. LINE PIPING SHALL BE 60% FIBER SPRINKLER PIPE WITH WELDED JOINTS. ALL SPRINKLER HEADS SHALL BE WELDED TO THE PIPING. 6. MAIN PIPING SHALL BE 60% FIBER SPRINKLER PIPE WITH WELDED JOINTS. ALL SPRINKLER HEADS SHALL BE WELDED TO THE PIPING. 7. SYSTEM DESIGN SHALL BE PER NFPA 13. 8. OTHER TO PROVIDE PARTIAL WALL, FIRE EXTERMINATOR, HYDRANT, CITY CONNECTION, EXISTING TOOLS, & SYSTEM REQUIREMENTS, ETC. 9. HYDRAULIC DESIGN POINT. 10. ALL SYSTEM COMPONENTS SHALL BE LISTED AND IAPMO APPROVED. 11. SHAW-WALKER CANNOT TO INCLUDE (BLACK HEADS/BLACK WELDS) COPY OF NFPA 13.	Sprinkler Legend <table border="1"> <thead> <tr> <th>SYMBOL</th> <th>MANUF.</th> <th>SIN</th> <th>MODEL</th> <th>QUANTITY</th> <th>K-FACTOR</th> <th>TYPE</th> <th>SIZE</th> <th>RESPONSE</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>NOTE</th> </tr> </thead> <tbody> <tr> <td></td> <td>TYCO</td> <td>TY1311</td> <td>TY-FRB</td> <td>82</td> <td>5.6</td> <td>UPRIGHT</td> <td>1/2"</td> <td>QUICK</td> <td>NATURAL BRASS</td> <td>155°F</td> <td>ON SPRIG</td> </tr> <tr> <td></td> <td>TYCO</td> <td>TY1311</td> <td>TY-FRB</td> <td>35</td> <td>5.6</td> <td>UPRIGHT</td> <td>1/2"</td> <td>QUICK</td> <td>NATURAL BRASS</td> <td>155°F</td> <td></td> </tr> <tr> <td colspan="5">TOTAL = 117</td> <td colspan="7"></td> </tr> </tbody> </table>	SYMBOL	MANUF.	SIN	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE		TYCO	TY1311	TY-FRB	82	5.6	UPRIGHT	1/2"	QUICK	NATURAL BRASS	155°F	ON SPRIG		TYCO	TY1311	TY-FRB	35	5.6	UPRIGHT	1/2"	QUICK	NATURAL BRASS	155°F		TOTAL = 117												NOTICE IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS. UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:	REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION				DATE _____	FIRE SPRINKLER DESIGNS BY: GERALD W. EBELING, SET NICET LEVEL IV # 105930	AHJ STAMP _____	FIRE SPRINKLER CONTRACTOR: _____
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Hydraulic Information

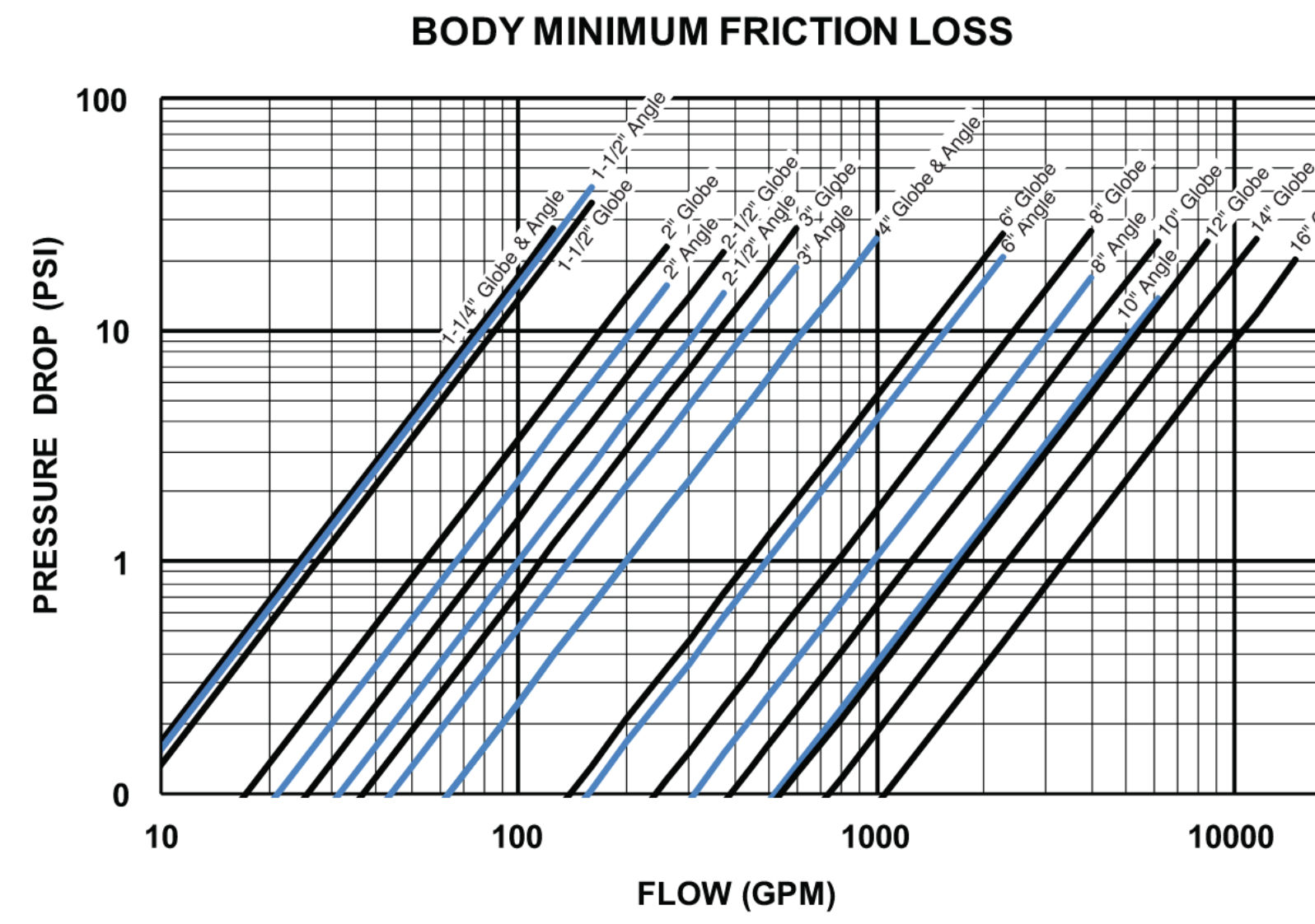
Remote Area 1

OCCUPANCY CLASSIFICATION	RESIDENTIAL
TOTAL HEADS FLOWING	4
K-FACTOR	4.9
TOTAL WATER REQUIRED	82.15
TOTAL PRESSURE REQUIRED	72.282
BASE OF RISER (GPM)	82.15
BASE OF RISER (PSI)	72.282
SAFETY MARGIN (PSI)	+77.718 (51.8%)

CALC BASED ON PRESSURE
REDUCING VALVE SET TO 150 PSI

Gauge	Pressure(psi)	K-Factor(K)	Flow(gpm)	Inlet Static Pressure(psi)	Elevation(Foot)
L1	0.000	0	0.00	182.000	117-2
L2	193.245	7.88	109.86	183.803	21-10%
L3	0.000	0	0.00	188.219	34-11
L4	0.000	0	0.00	182.572	48-8
L5	0.000	0	0.00	177.476	58-5
L6	0.000	0	0.00	167.291	70-2
L7	0.000	0	0.00	152.197	81-11
L8	0.000	0	0.00	157.103	93-8
L9	0.000	0	0.00	152.009	105-5

STATIC PSI CALC VALIDATION



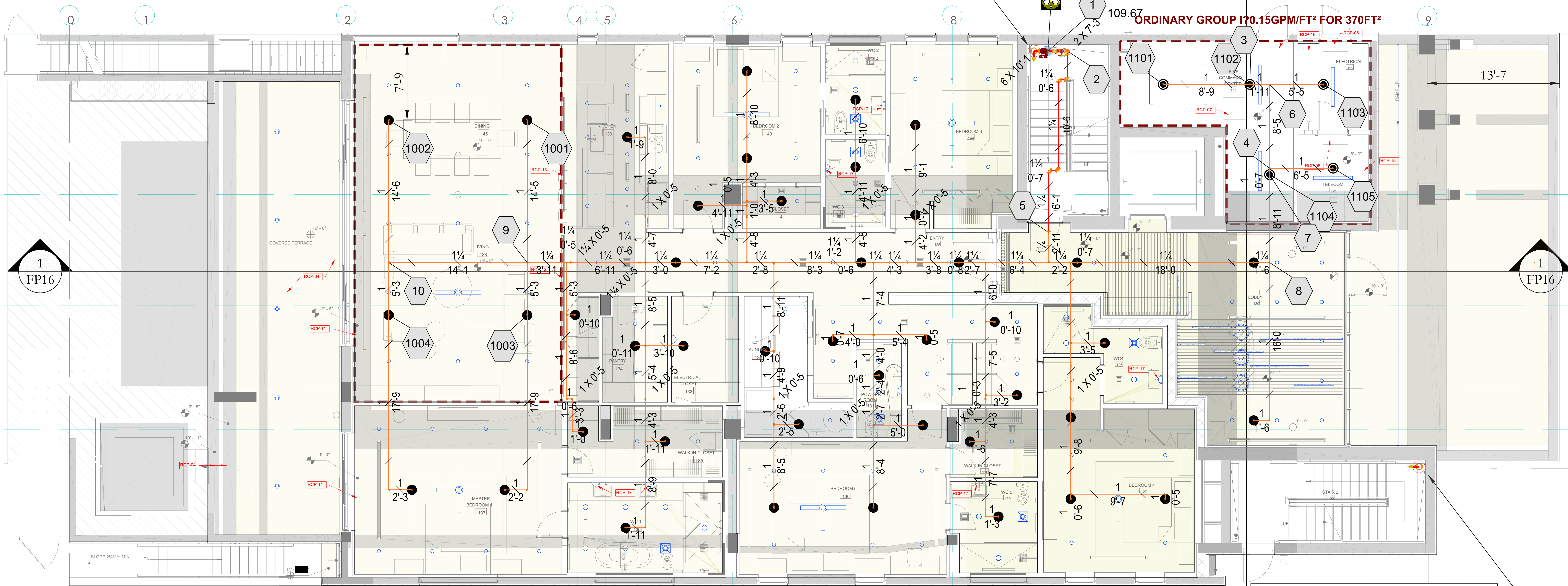
6" STANDPIPE W/2-1/2" HOSE VALVE, 2" ZURN 209FP PRV, AND 2" FLOOR CONTROL ASSY

Hydraulic Information

Remote Area 2

OCCUPANCY CLASSIFICATION	ORDINARY GROUP I
DENSITY (GPM/FT ²)	0.15 FOR 1500FT ² (ACTUAL 370FT ²)
TOTAL HEADS FLOWING	5
K-FACTOR	5.6
TOTAL WATER REQUIRED	109.67
TOTAL PRESSURE REQUIRED	93.035
BASE OF RISER (GPM)	109.67
BASE OF RISER (PSI)	93.035
SAFETY MARGIN (PSI)	+56.965 (38.0%)

CALC BASED ON PRESSURE
REDUCING VALVE SET TO 150 PSI



NOTE: ALL PIPING THIS LEVEL TO BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS

L1 FIRE SPRINKLER PLAN
1/4" = 1 Foot

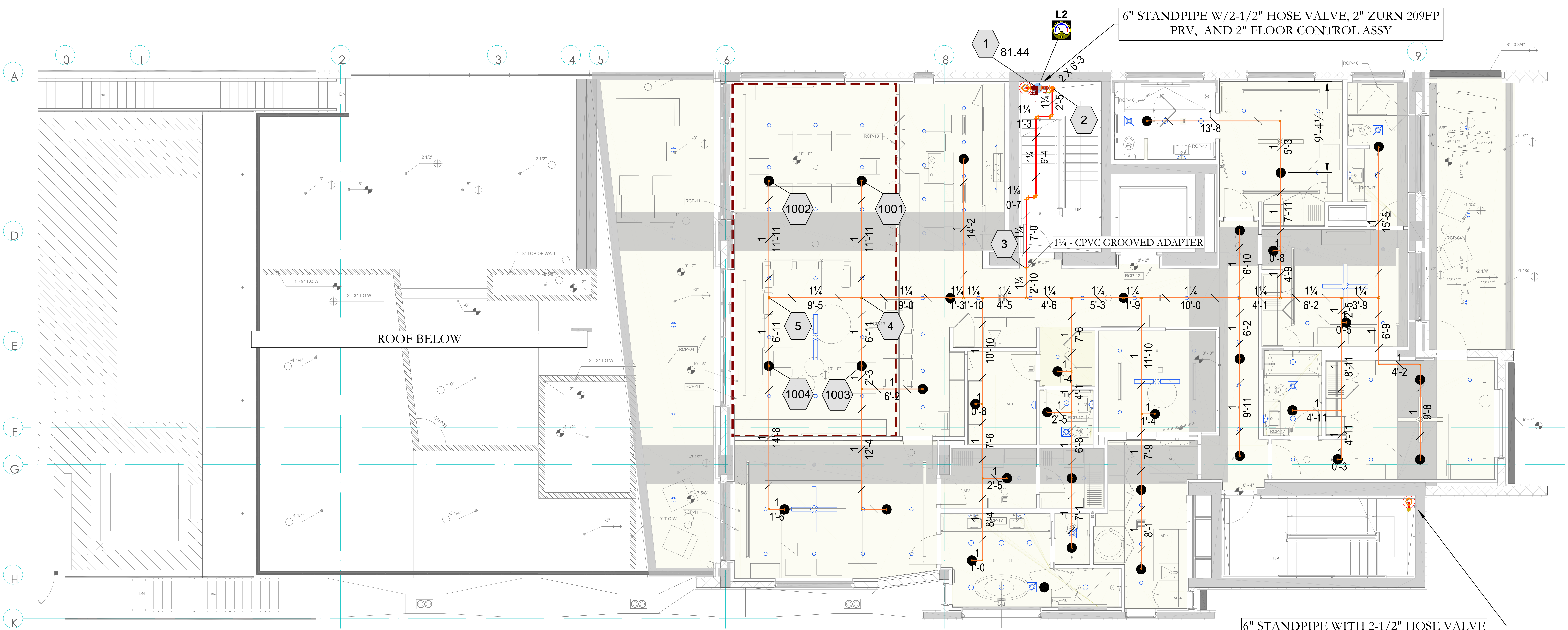
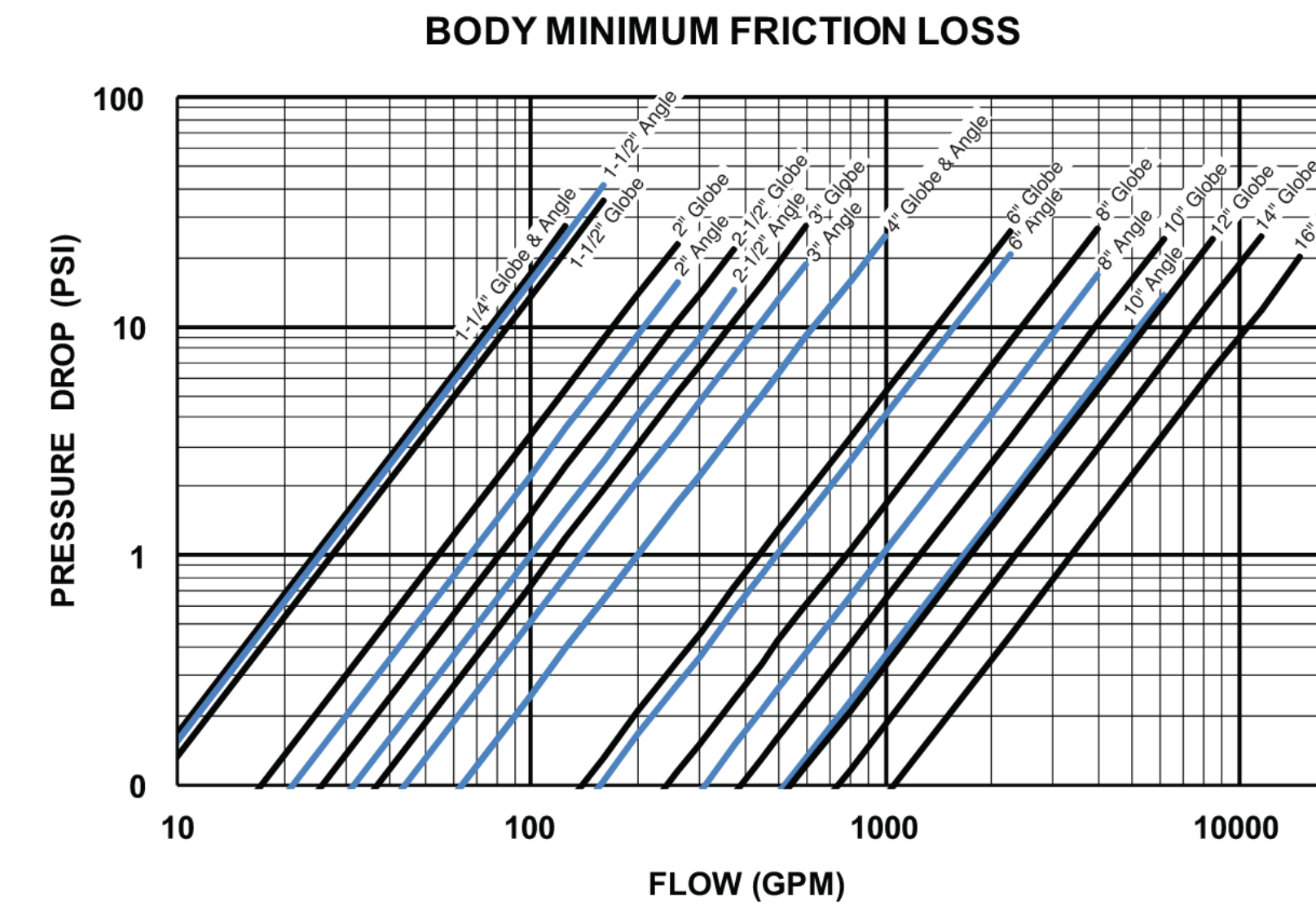
<p>STANDARD SYMBOLS</p> <ul style="list-style-type: none"> POST INDICATOR VALVE KEY OPERATED VALVE PUBLIC HYDRANT FIRE DEPT. CONNECTION O.S.&T. GATE VALVE CHECK VALVE NEW UNDERGROUND EXISTING UNDERGROUND 	<p>STANDARD SYMBOLS</p> <ul style="list-style-type: none"> ALARM CHECK VALVE THRUST BLOCK BACKFLOW PREVENTER 	<p>STANDARD SPRINKLER SYMBOLS</p> <ul style="list-style-type: none"> UPRIGHT ON 1/2" OUTLET PENDENT ON 1/2" OUTLET UPRIGHT ON 1" SPRING PENDENT BELOW CEILING ON 1" DROP UPRIGHT ABOVE PENDENT ON 1" DROP SIDEWALL ON 1/2" OUTLET SIDEWALL ON 1" SPRING 	<p>GENERAL SYSTEM NOTES</p> <ol style="list-style-type: none"> HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER PLANS. CONNECTIONS SHALL BE MADE TO THE MAIN BY THE CONTRACTOR. ALL PIPING TO BE INSTALLED WITH A MINIMUM OF 1/2" CLEARANCE FROM ALL OBSTACLES. ALL PIPING SHALL BE INSTALLED WITH A MINIMUM OF 1/2" CLEARANCE FROM ALL OBSTACLES. ALL PIPING SHALL BE INSTALLED WITH A MINIMUM OF 1/2" CLEARANCE FROM ALL OBSTACLES. ALL PIPING SHALL BE INSTALLED WITH A MINIMUM OF 1/2" CLEARANCE FROM ALL OBSTACLES. ALL PIPING SHALL BE INSTALLED WITH A MINIMUM OF 1/2" CLEARANCE FROM ALL OBSTACLES. ALL PIPING SHALL BE INSTALLED WITH A MINIMUM OF 1/2" CLEARANCE FROM ALL OBSTACLES. ALL PIPING SHALL BE INSTALLED WITH A MINIMUM OF 1/2" CLEARANCE FROM ALL OBSTACLES. ALL PIPING SHALL BE INSTALLED WITH A MINIMUM OF 1/2" CLEARANCE FROM ALL OBSTACLES. 	<p>Sprinkler Legend</p> <table border="1"> <thead> <tr> <th>SYMBOL</th> <th>MANUF.</th> <th>SIN</th> <th>MODEL</th> <th>QUANTITY</th> <th>K-FACTOR</th> <th>TYPE</th> <th>SIZE</th> <th>RESPONSE</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>NOTE</th> </tr> </thead> <tbody> <tr> <td>TYCO</td> <td>TY3566</td> <td>LF1</td> <td>43</td> <td>43</td> <td>4.9</td> <td>PENDENT</td> <td>1/2"</td> <td>FAST</td> <td>CHROME</td> <td>160°F</td> <td></td> </tr> <tr> <td>TYCO</td> <td>TY3531</td> <td>RF1</td> <td>5</td> <td>5</td> <td>5.6</td> <td>PENDENT</td> <td>1/2"</td> <td>QUICK</td> <td>WHITE</td> <td>155°F</td> <td></td> </tr> <tr> <td colspan="4"></td> <td>TOTAL = 48</td> <td colspan="7"></td> </tr> </tbody> </table>	SYMBOL	MANUF.	SIN	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE	TYCO	TY3566	LF1	43	43	4.9	PENDENT	1/2"	FAST	CHROME	160°F		TYCO	TY3531	RF1	5	5	5.6	PENDENT	1/2"	QUICK	WHITE	155°F						TOTAL = 48								<p>NOTICE</p> <p>IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS.</p> <p>UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION				<p>DATE</p> <p> </p>	<p>FIRE SPRINKLER DESIGNS BY:</p> <p>3D FIRE DESIGN, LLC GERALD W. EBELING, SET NICET LEVEL IV # 105930</p>	<p>AHJ STAMP</p> <p> </p>	<p>FIRE SPRINKLER CONTRACTOR:</p> <p> </p>
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Hydraulic Information

Remote Area 1	
OCCUPANCY CLASSIFICATION	RESIDENTIAL
TOTAL HEADS FLOWING	4
K-FACTOR	4.9
BASE OF RISER (GPM)	81.44
BASE OF RISER (PSI)	47.952
SAFETY MARGIN (PSI)	+102.048 (68.0%)
CALC BASED ON PRESSURE REDUCING VALVE SET TO 150 PSI	

Gauge	Pressure(psi)	K-Factor(K)	Flow(gpm)	Inlet Static Pressure(psi)	Elevation(Foot)
L0	0.000	0	0.00	197.000	1'-7 1/2"
L1	193.467	5.86	81.44	193.803	9'-0"
L1.5	0.000	0	0.00	148.048	44'-3"
L2	187.880	5.94	81.44	188.219	21'-10 1/2"
L3	0.000	0	0.00	182.572	34'-11"
L4	0.000	0	0.00	177.478	46'-8"
L5	0.000	0	0.00	172.385	58'-5"
L6	0.000	0	0.00	167.291	70'-2"
L7	0.000	0	0.00	162.197	81'-11"
L8	0.000	0	0.00	157.103	93'-8"
L9	0.000	0	0.00	152.009	105'-5"

STATIC PSI CALC VALIDATION



NOTE: ALL PIPING THIS LEVEL TO BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS

L2 FIRE SPRINKLER PLAN
1/4" = 1 Foot

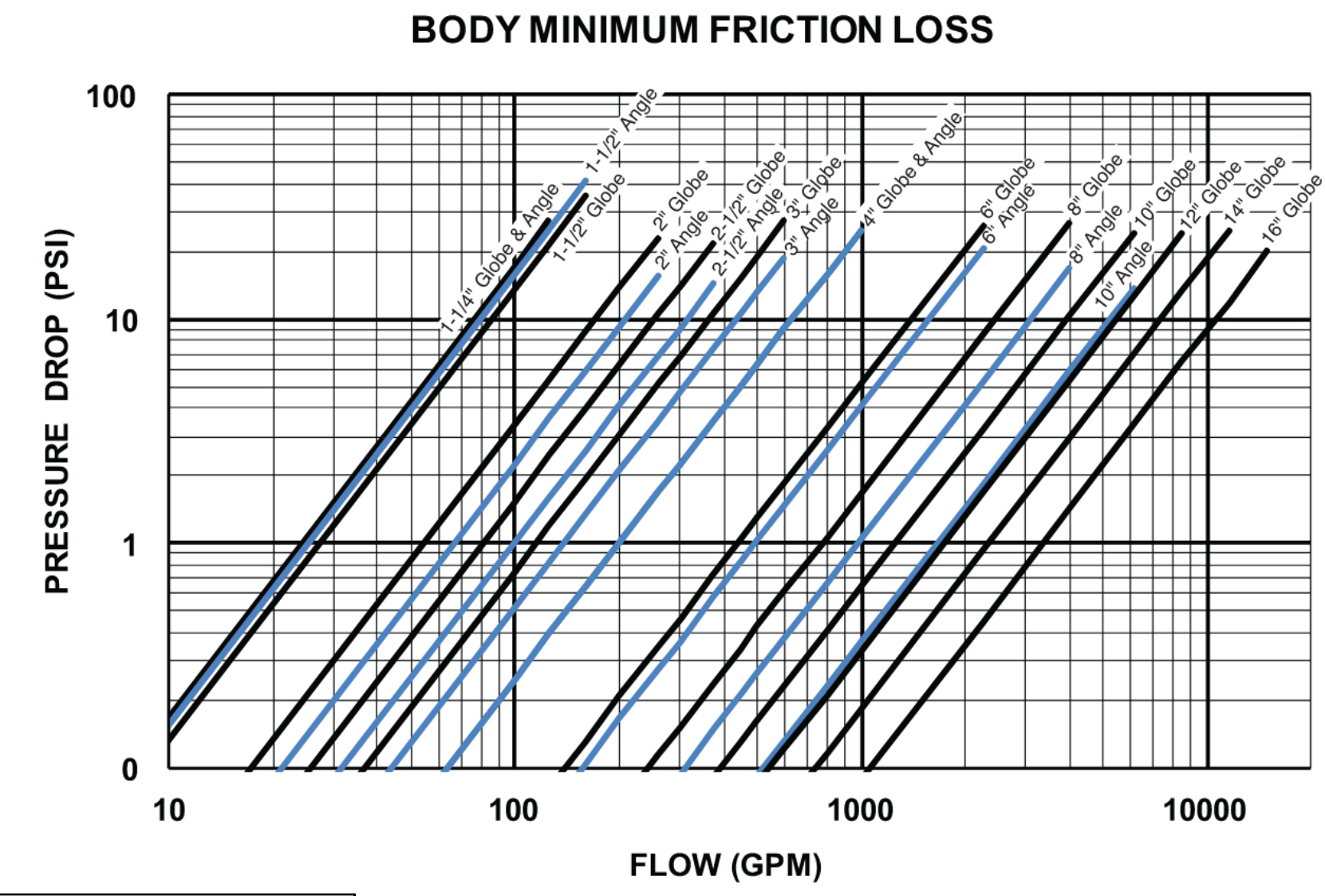
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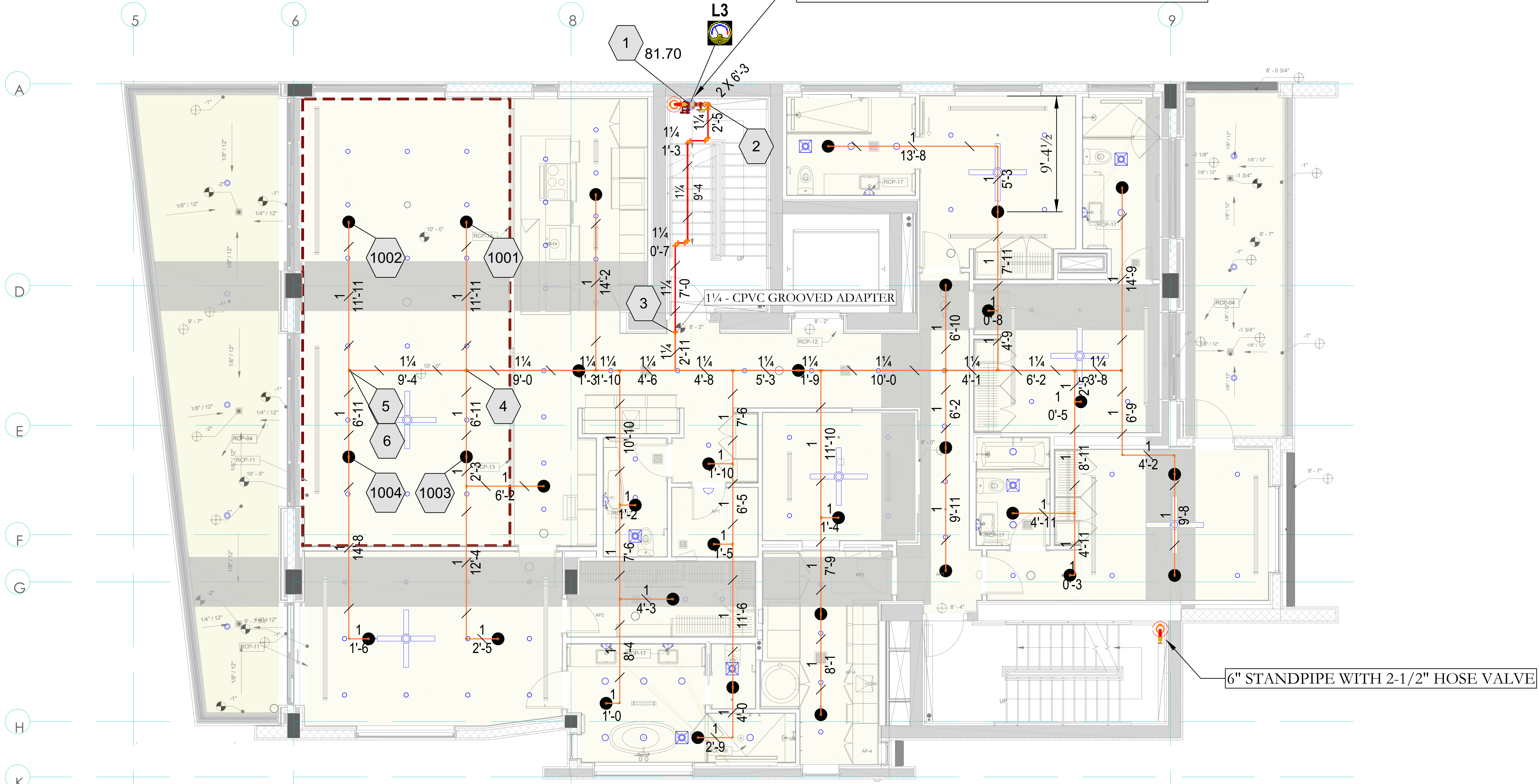
Remote Area 1	
OCCUPANCY CLASSIFICATION	RESIDENTIAL
TOTAL HEADS FLOWING	4
K-FACTOR	4.9
TOTAL WATER REQUIRED	81.70
TOTAL PRESSURE REQUIRED	48.334
BASE OF RISER (GPM)	81.70
BASE OF RISER (PSI)	48.334
SAFETY MARGIN (PSI)	+101.666 (67.8%)
CALC BASED ON PRESSURE REDUCING VALVE SET TO 150 PSI	

Check Point Gauge Data					
Gauge	Pressure(psi)	K-Factor(K)	Flow(gpm)	Inlet Static Pressure(psi)	Elevation(foot)
L0	0.000	0	0.00	197.000	1'-7.5
L1	193.569	5.87	81.70	193.803	9'-0
L10	0.000	0	0.00	146.915	117'-2
L2	189.663	4.96	81.70	189.219	23'-1.05
L3	182.332	6.05	81.70	182.572	34'-11
L4	0.000	0	0.00	177.478	46'-6
L5	0.000	0	0.00	172.385	58'-5
L6	0.000	0	0.00	167.291	70'-2
L7	0.000	0	0.00	162.197	81'-11
L8	0.000	0	0.00	157.103	93'-8
L9	0.000	0	0.00	152.009	105'-5

STATIC PSI CALC VALIDATION



6" STANDPIPE W/2-1/2" HOSE VALVE, 2" ZURN 209FP PRV, AND 2" FLOOR CONTROL ASSY



NOTE: ALL PIPING THIS LEVEL TO BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS

FIRE SPRINKLER PLAN
1/2" = 1 Foot

	STANDARD SYMBOLS - P.I.V. - POST INDICATOR VALVE - K.O.V. - KEY OPERATED VALVE - PUBLIC HYDRANT - FIRE DEPT. CONNECTION - O.S.&T. GATE VALVE - CHECK VALVE - NEW UNDERGROUND - EXISTING UNDERGROUND	STANDARD SYMBOLS - ALARM CHECK VALVE - THRUST BLOCK - BACKFLOW PREVENTER	STANDARD SPRINKLER SYMBOLS - UPRIGHT ON 1/2" OUTLET - PENDENT ON 1/2" OUTLET - UPRIGHT ON 1" SPRIG - PENDENT BELOW CEILING ON 1" DROP - UPRIGHT ABOVE PENDENT ON 1" DROP - SIDEWALL ON 1/2" OUTLET - SIDEWALL ON 1" SPRIG	GENERAL SYSTEM NOTES 1. HYDRAULIC INFORMATION TO BE PROVIDED ON SPRINKLER PIPES. 2. CAPTURED BRACKETS TO BE PROVIDED ON RISA 1/2" PIPING. 3. ALL INSPECTION TEST CONNECTIONS AND LOW POINT DRAIN TO BE PROVIDED PER NFPA 13. 4. ALL HANGERS TO BE COMPLY WITH ALL REQUIREMENTS (E.G., 1. LINE PIPES SHALL BE SOIL PIPER SPRINKLER PIPE WITH WELDED JOINTS AND APPROVED HANGERS (E.G., HANGERS WITH INSULATED END CAPS). 5. MAIN PIPING SHALL BE SOIL PIPER WITH WELDED JOINTS, SOIL INSULATED, AND APPROVED FITTINGS (E.G., HANGERS, JOINT CONNECTIONS, HANGING HOLES, & SYSTEM SUPPORTS). 6. OTHER TO PROVIDE PARTIAL WALL FIRE EXTINGUISHERS. 7. HANGERS TO BE COMPLY WITH ALL REQUIREMENTS (E.G., HANGERS WITH INSULATED END CAPS). 8. HYDRAULIC TEST POINT. 9. ALL SYSTEM COMPONENTS SHALL BE LISTED AND BE APPROVED. 10. SHOWN HEAD CAPABILITY TO INCLUDE (BLACK HEADS) PER NFPA 13.	Sprinkler Legend <table border="1"> <thead> <tr> <th>SYMBOL</th> <th>MANUF</th> <th>SIN</th> <th>MODEL</th> <th>QUANTITY</th> <th>K-FACTOR</th> <th>TYPE</th> <th>SIZE</th> <th>RESPONSE</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>NOTE</th> </tr> </thead> <tbody> <tr> <td>●</td> <td>TYCO</td> <td>TY3596</td> <td>LPI</td> <td>32</td> <td>4.9</td> <td>PENDENT</td> <td>1/2"</td> <td>FAST</td> <td>CHROME</td> <td>160°F</td> <td></td> </tr> <tr> <td colspan="5">TOTAL = 32</td> <td colspan="7"></td> </tr> </tbody> </table>	SYMBOL	MANUF	SIN	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE	●	TYCO	TY3596	LPI	32	4.9	PENDENT	1/2"	FAST	CHROME	160°F		TOTAL = 32												NOTICE IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS. UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:	REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION				DATE _____	FIRE SPRINKLER DESIGNS BY: GERALD W. EBELING, SET NICET LEVEL IV # 105930	AHJ STAMP _____	FIRE SPRINKLER CONTRACTOR: _____
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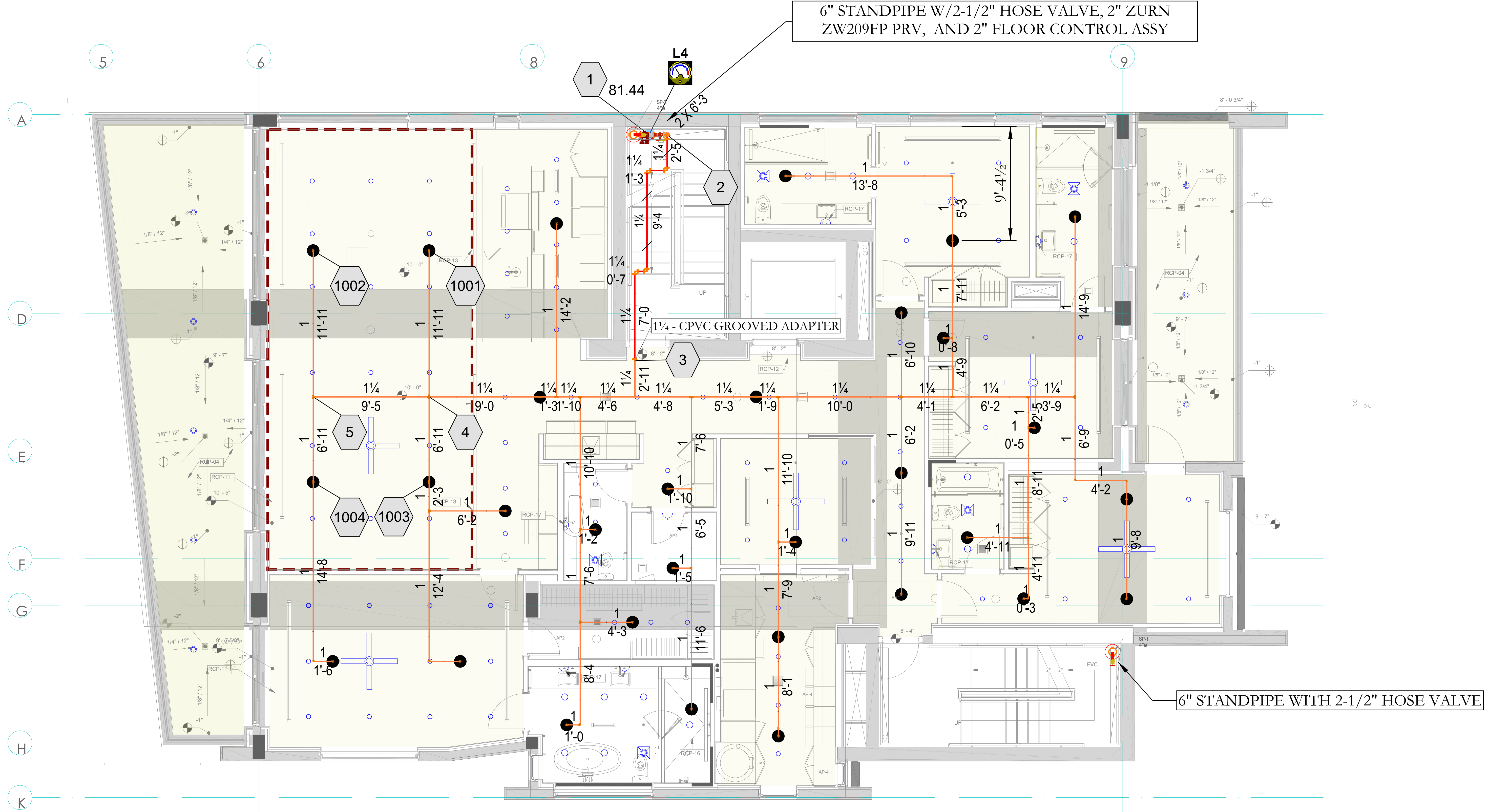
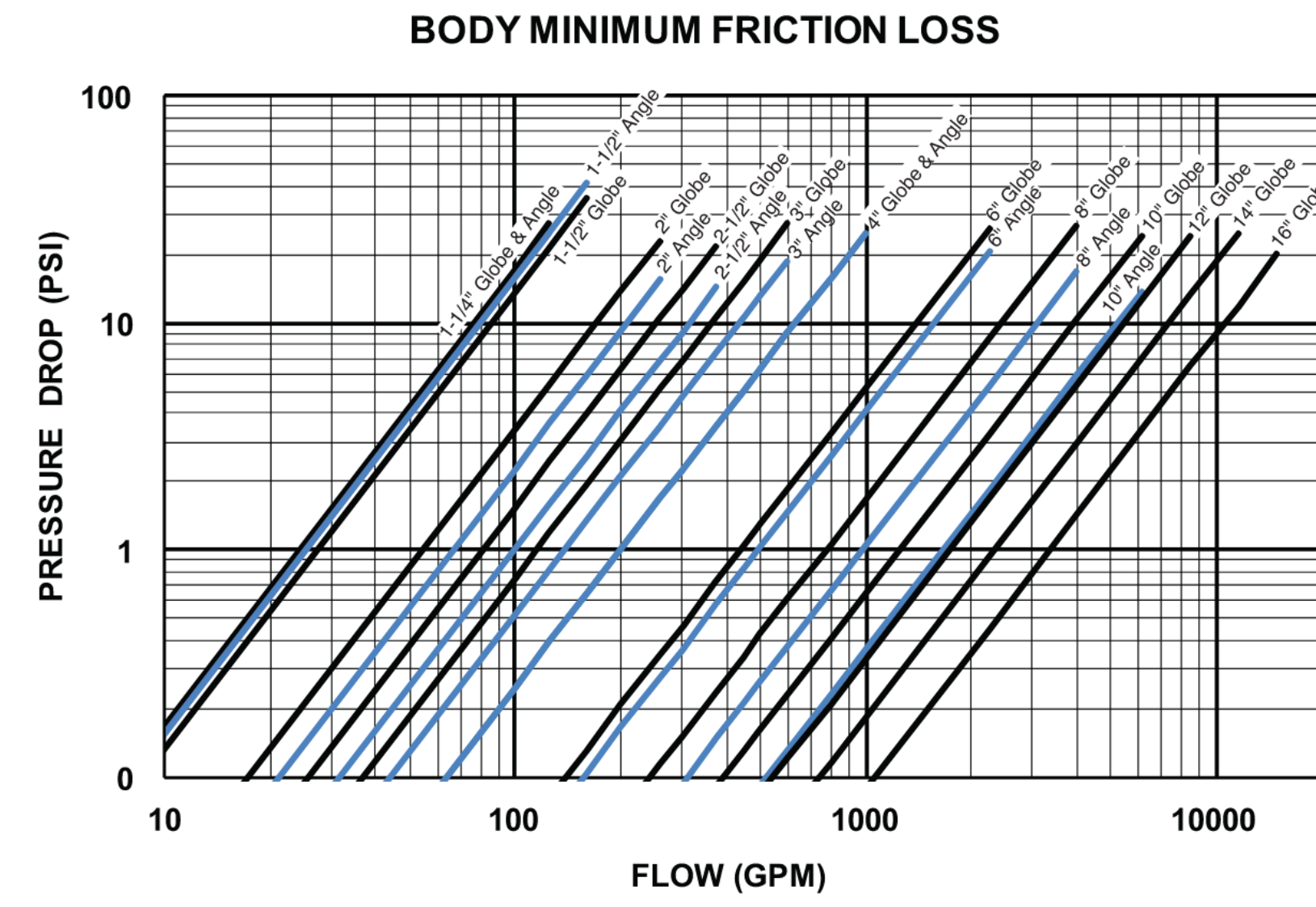
Hydraulic Information

Remote Area 1

OCCUPANCY CLASSIFICATION	RESIDENTIAL
TOTAL HEADS FLOWING	4
K-FACTOR	4.9
BASE OF RISER (GPM)	81.44
BASE OF RISER (PSI)	47.952
SAFETY MARGIN (PSI)	+102.048 (68.0%)
CALC BASED ON REDUCED PRESSURE VALVE SET TO 150 PSI	

Gauge	Pressure(psi)	K-Factor(K)	Flow(gpm)	Inlet Static Pressure(psi)	Elevation(Foot)
L0	0.000	0	0.00	197.000	11-7½
L1	193.427	5.86	81.44	193.803	9'-0
L10	0.000	0	0.00	146.916	117'-2
L2	187.940	5.94	81.44	188.219	21'-10½
L3	185.100	6.03	81.44	185.492	24'-11
L4	177.093	6.12	81.44	177.478	48'-8
L5	0.000	0	0.00	172.389	98'-8
L6	0.000	0	0.00	167.291	70'-2
L7	0.000	0	0.00	162.197	81'-11
L8	0.000	0	0.00	167.103	93'-8
L9	0.000	0	0.00	152.009	108'-5

STATUS CALC VALIDATION



NOTE: ALL PIPING THIS LEVEL TO BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS

FIRE SPRINKLER PLAN
1/2" = 1 Foot

	STANDARD SYMBOLS - P.I.V. - POST INDICATOR VALVE - K.O.V. - KEY OPERATED VALVE - PUBLIC HYDRANT - FIRE DEPT. CONNECTION - O.S.&T. GATE VALVE - CHECK VALVE - NEW UNDERGROUND - EXISTING UNDERGROUND	STANDARD SYMBOLS - ALARM CHECK VALVE - THRUST BLOCK - BACKFLOW PREVENTER	STANDARD SPRINKLER SYMBOLS - UPRIGHT ON 1/2" OUTLET - PENDENT ON 1/2" OUTLET - UPRIGHT ON 1" SPRIG - PENDENT BELOW CEILING ON 1" DROP - UPRIGHT ABOVE PENDENT ON 1" DROP - SIDEWALL ON 1/2" OUTLET - SIDEWALL ON 1" SPRIG	GENERAL SYSTEM NOTES 1. HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER PIPES. 2. CAPTURED BACKFLOW PREVENTER SHALL BE 1 1/2" OR 2" APPROVED. 3. ALL WELDED STEEL CONNECTIONS AND LOW POINT DRAIN TO BE PROVIDED PER NFPA 13. 4. ALL WELDED STEEL CONNECTIONS WITH REQUIREMENTS (E.G., 1. LINE PIPING SHALL BE SOLID PIPING SPRINKLER PIPE WITH WELDED FITTINGS. 2. ALL WELDED FITTINGS SHALL BE WELDED TO THE PIPE. 3. WELDED FITTINGS SHALL BE WELDED TO THE PIPE. 4. WELDED FITTINGS SHALL BE WELDED TO THE PIPE. 5. WELDED FITTINGS SHALL BE WELDED TO THE PIPE. 6. WELDED FITTINGS SHALL BE WELDED TO THE PIPE. 7. WELDED FITTINGS SHALL BE WELDED TO THE PIPE. 8. WELDED FITTINGS SHALL BE WELDED TO THE PIPE. 9. WELDED FITTINGS SHALL BE WELDED TO THE PIPE. 10. WELDED FITTINGS SHALL BE WELDED TO THE PIPE.	Sprinkler Legend <table border="1"> <thead> <tr> <th>SYMBOL</th> <th>MANUF.</th> <th>SIN</th> <th>MODEL</th> <th>QUANTITY</th> <th>K-FACTOR</th> <th>TYPE</th> <th>SIZE</th> <th>RESPONSE</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>NOTE</th> </tr> </thead> <tbody> <tr> <td>●</td> <td>TYCO</td> <td>TY3596</td> <td>LFII</td> <td>31</td> <td>4.9</td> <td>PENDENT</td> <td>1/2"</td> <td>FAST</td> <td>CHROME</td> <td>160°F</td> <td></td> </tr> <tr> <td colspan="5">TOTAL = 31</td> <td colspan="7"></td> </tr> </tbody> </table>	SYMBOL	MANUF.	SIN	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE	●	TYCO	TY3596	LFII	31	4.9	PENDENT	1/2"	FAST	CHROME	160°F		TOTAL = 31												NOTICE IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS. UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY: CONTRACT WITH: ADDRESS: PHONE NUMBER:	REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION				DATE _____	FIRE SPRINKLER DESIGNS BY: GERALD W. EBELING, SET NICET LEVEL IV # 105930	AHJ STAMP _____	FIRE SPRINKLER CONTRACTOR: _____
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Hydraulic Information	
Remote Area 1	
OCCUPANCY CLASSIFICATION	RESIDENTIAL
TOTAL HEADS FLOWING	4
K-FACTOR	4.9
L5 BASE OF RISER (GPM)	81.44
L5 BASE OF RISER (PSI)	48.316
BASE OF RISER BASE OF RISER (GPM)	81.44
BASE OF RISER BASE OF RISER (PSI)	73.016
SAFETY MARGIN (PSI)	+123.640 (62.9%)

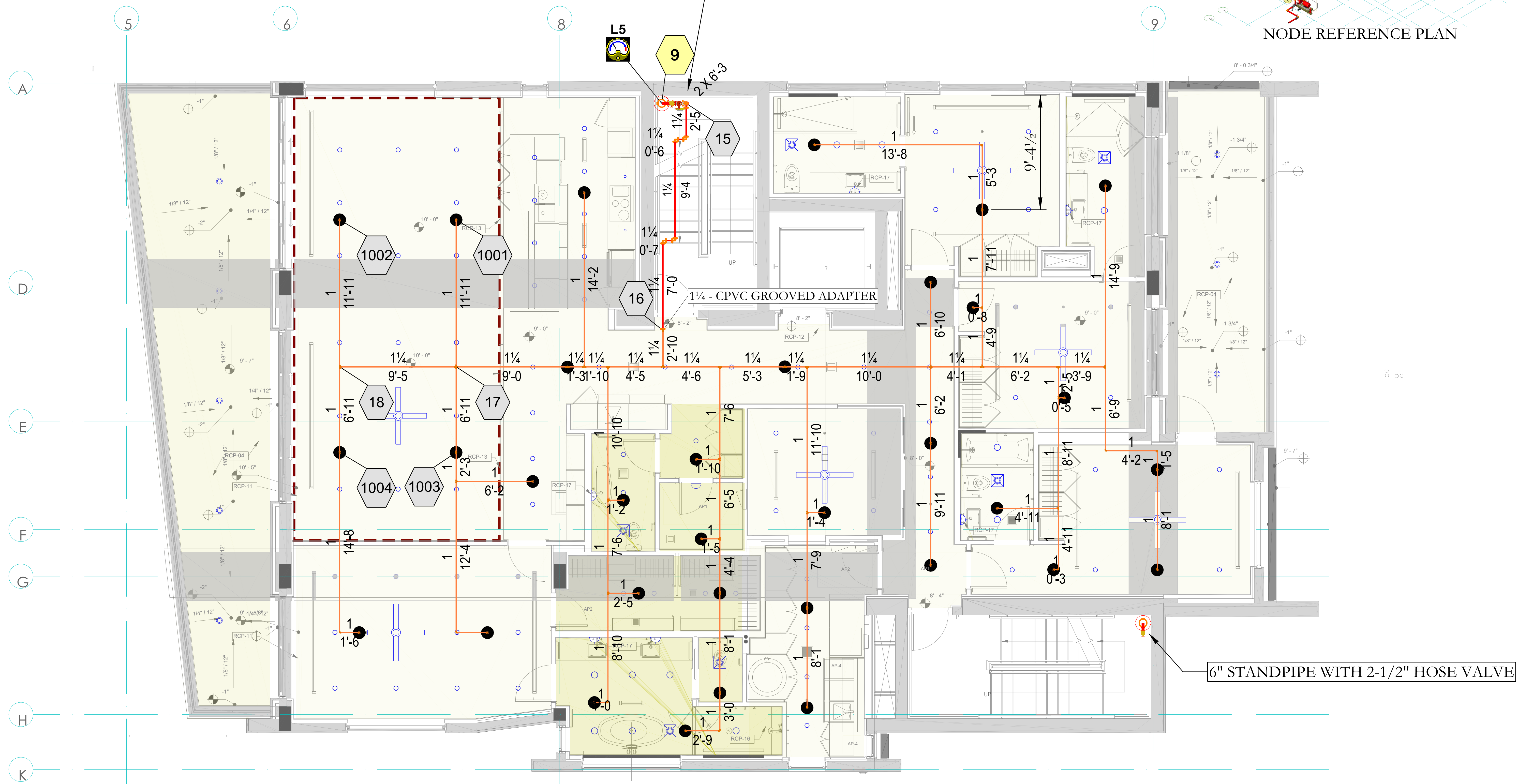
Check Point Gauge Data					
Gauge	Pressure (psi)	K-Factor (K)	Flow (gpm)	Inlet Static Pressure (psi)	Elevation (Foot)
L0	0.000	0	0.00	197.000	11-7.5
L1	193.576	6.84	81.30	193.803	9-0
L10	146.669	6.71	81.30	146.915	117-2
L2	187.988	5.93	81.30	188.219	21-10.5
L3	182.539	5.02	81.30	182.592	34-11
L4	177.741	5.11	81.30	177.278	46-3
L5	172.144	6.2	81.30	172.385	58-5
L6	167.067	5.23	81.30	167.291	70-2
L7	161.950	6.39	81.30	162.197	81-11
L8	156.853	6.49	81.30	157.103	93-8
L9	151.756	6.6	81.30	152.009	105-5

STATIC PSI CALC VALIDATION

LEVEL 5

NODE REFERENCE PLAN

6" STANDPIPE W/2-1/2" HOSE VALVE AND 2" FLOOR CONTROL ASSY



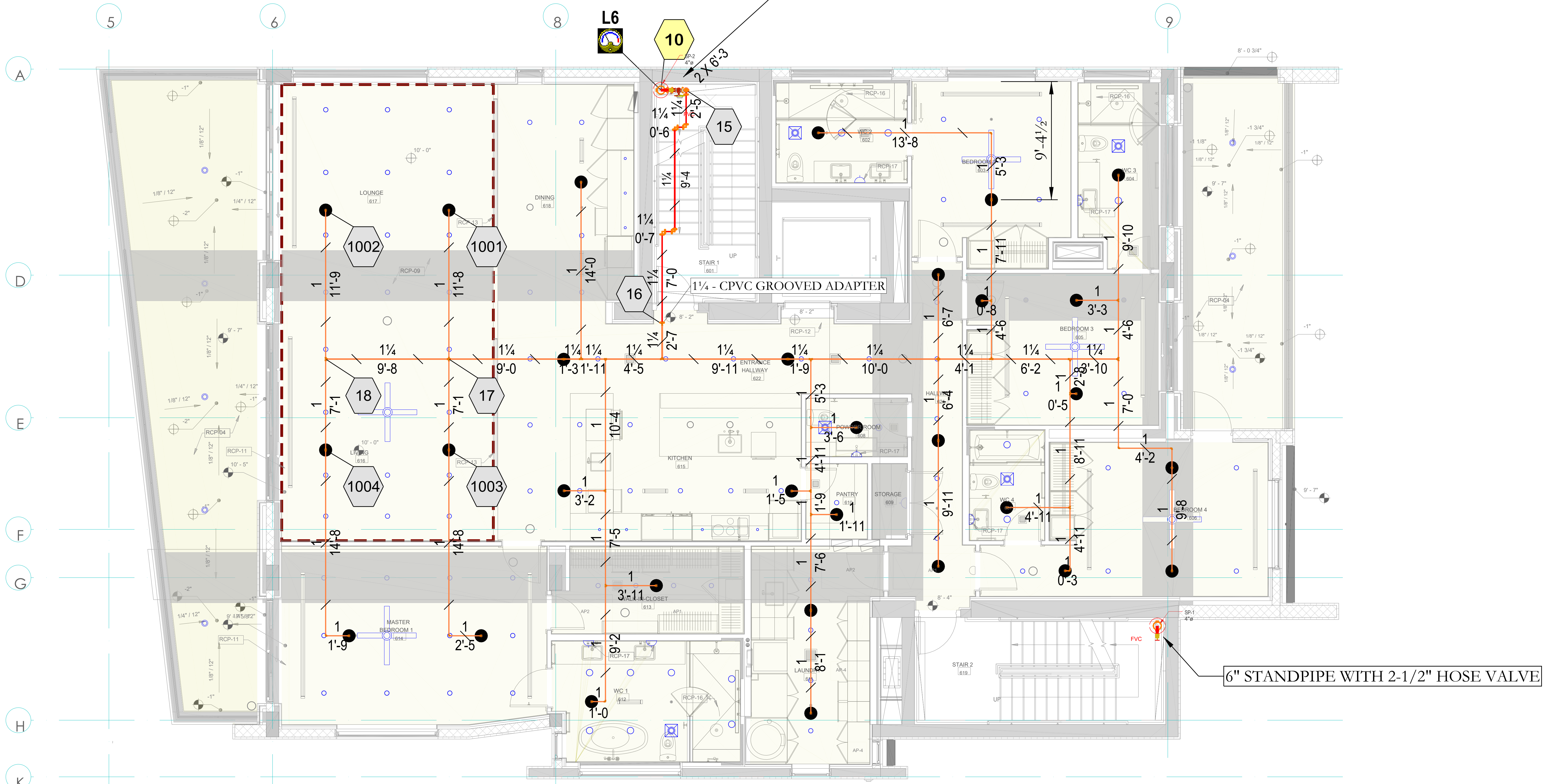
NOTE: ALL PIPING THIS LEVEL TO BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS

FIRE SPRINKLER PLAN
1/2" = 1 Foot

<p>GRAPHIC SCALE 1/8"=1'-0" (U.N.O)</p>	<p>STANDARD SYMBOLS</p> <ul style="list-style-type: none"> POST INDICATOR VALVE KEY OPERATED VALVE PUBLIC HYDRANT FIRE DEPT. CONNECTION O.S.&Y. GATE VALVE CHECK VALVE NEW UNDERGROUND EXISTING UNDERGROUND 	<p>STANDARD SYMBOLS</p> <ul style="list-style-type: none"> ALARM CHECK VALVE THRUST BLOCK BACKFLOW PREVENTER 	<p>STANDARD SPRINKLER SYMBOLS</p> <ul style="list-style-type: none"> UPRIGHT ON 1/2" OUTLET PENDENT ON 1/2" OUTLET UPRIGHT ON 1" SPRING PENDENT BELOW CEILING ON 1" DROP UPRIGHT ABOVE PENDENT ON 1" DROP SIDEWALL ON 1/2" OUTLET SIDEWALL ON 1" SPRING 	<p>GENERAL SYSTEM NOTES</p> <ol style="list-style-type: none"> HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER PIPES. CAPTURED BRACKETS TO BE PROVIDED PER NFPA 13.19. ALL WELDED JOINTS TO BE WELDED PER NFPA 13. ALL WELDED JOINTS TO BE WELDED PER NFPA 13. ALL WELDED JOINTS TO BE WELDED PER NFPA 13. ALL WELDED JOINTS TO BE WELDED PER NFPA 13. ALL WELDED JOINTS TO BE WELDED PER NFPA 13. ALL WELDED JOINTS TO BE WELDED PER NFPA 13. ALL WELDED JOINTS TO BE WELDED PER NFPA 13. ALL WELDED JOINTS TO BE WELDED PER NFPA 13. 	<p>Sprinkler Legend</p> <table border="1"> <thead> <tr> <th>SYMBOL</th> <th>MANUF</th> <th>SIN</th> <th>MODEL</th> <th>QUANTITY</th> <th>K-FACTOR</th> <th>TYPE</th> <th>SIZE</th> <th>RESPONSE</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>NOTE</th> </tr> </thead> <tbody> <tr> <td>●</td> <td>TYCO</td> <td>TY3596</td> <td>LPI</td> <td>33</td> <td>4.9</td> <td>PENDENT</td> <td>1/2"</td> <td>FAST</td> <td>CHROME</td> <td>160°F</td> <td></td> </tr> <tr> <td colspan="4"></td> <td>TOTAL = 33</td> <td colspan="7"></td> </tr> </tbody> </table>	SYMBOL	MANUF	SIN	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE	●	TYCO	TY3596	LPI	33	4.9	PENDENT	1/2"	FAST	CHROME	160°F						TOTAL = 33								<p>NOTICE</p> <p>IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS.</p> <p>UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:</p> <p>CONTRACT WITH:</p> <p>ADDRESS:</p> <p>PHONE NUMBER:</p> <p>FAX:</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION				<p>DATE</p> <p> </p>	<p>FIRE SPRINKLER DESIGNS BY:</p> <p>3D</p> <p>FIRE DESIGN, LLC GERALD W. EBELING, SET NICET LEVEL IV # 105930</p>	<p>AHJ STAMP</p> <p> </p>	<p>FIRE SPRINKLER CONTRACTOR:</p> <p> </p>
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Hydraulic Information	
Remote Area 1	
OCCUPANCY CLASSIFICATION	RESIDENTIAL
TOTAL HEADS FLOWING	4
K-FACTOR	4.9
TOTAL WATER REQUIRED	81.43
TOTAL PRESSURE REQUIRED	78.066
L6 BASE OF RISER (GPM)	81.43
L6 BASE OF RISER (PSI)	48.255
BASE OF RISER BASE OF RISER (GPM)	81.43
BASE OF RISER BASE OF RISER (PSI)	78.052
SAFETY MARGIN (PSI)	+118.605 (60.3%)

Check Point Gauge Data					
Gauge	Pressure(psi)	K-Factor(K)	Flow(gpm)	Inlet Static Pressure(psi)	Elevation(Foot)
L0	0.000	0	0.00	197.000	1'-7 1/2"
L1	193.576	6.84	81.30	193.803	9'-0"
L10	146.659	6.71	81.30	146.915	117'-2"
L2	187.588	6.93	81.30	188.219	211'-10 1/2"
L3	182.339	6.02	81.30	182.572	34'-11"
L4	177.241	6.11	81.30	177.478	48'-8"
L5	179.144	6.3	81.30	179.366	59'-8"
L6	167.047	6.29	81.30	167.291	70'-2"
L7	161.300	6.39	81.30	162.197	81'-11"
L8	156.853	6.49	81.30	157.103	93'-8"
L9	151.756	6.6	81.30	152.009	106'-5"



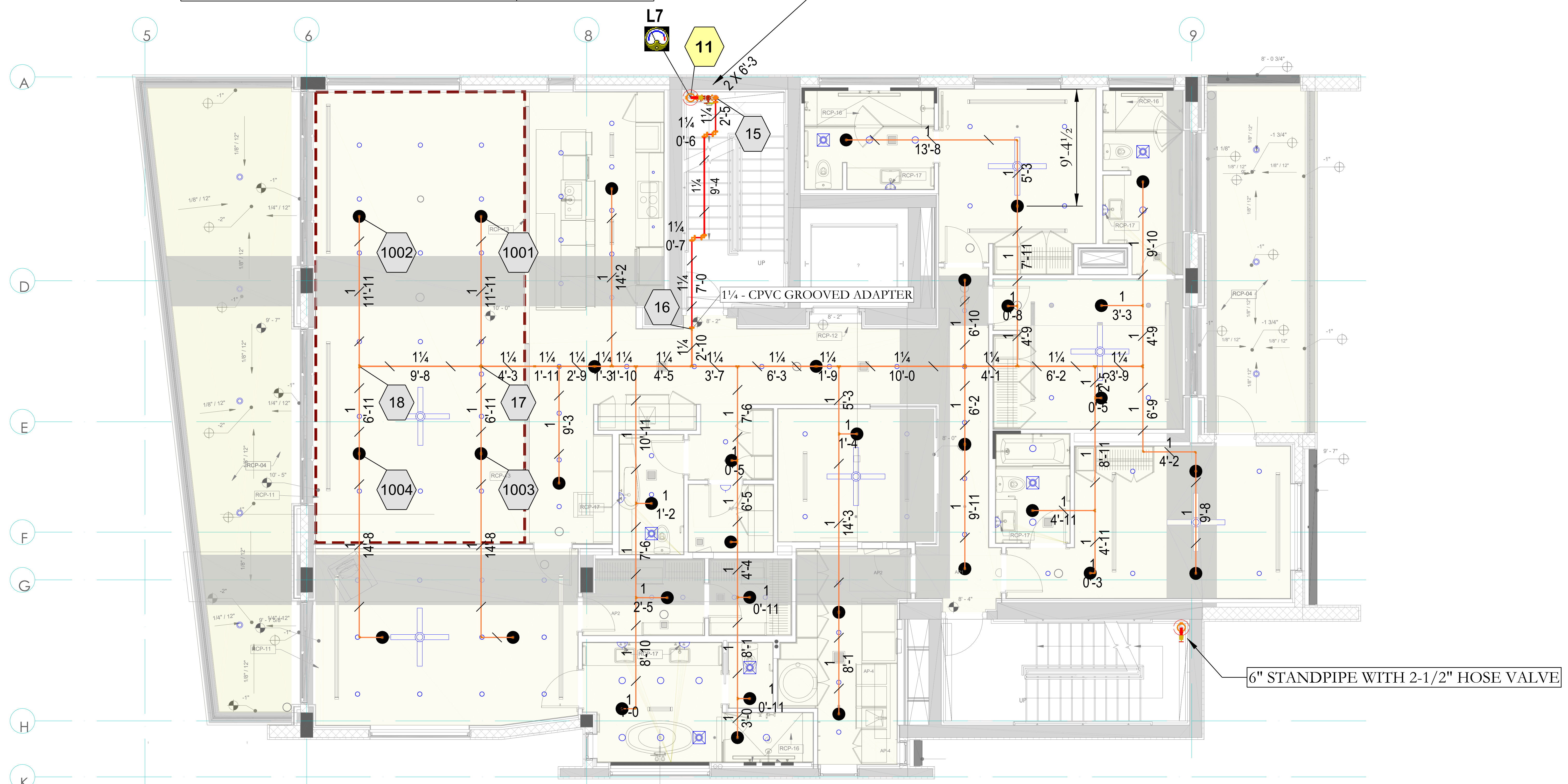
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FIRE SPRINKLER PLAN
1/2" = 1 Foot

	STANDARD SYMBOLS - POST INDICATOR VALVE - KEY OPERATED VALVE - PUBLIC HYDRANT - FIRE DEPT. CONNECTION - O.S.&Y. GATE VALVE - CHECK VALVE - NEW UNDERGROUND - EXISTING UNDERGROUND	STANDARD SYMBOLS - ALARM CHECK VALVE - THRUST BLOCK - BACKFLOW PREVENTER	STANDARD SPRINKLER SYMBOLS - UPRIGHT ON 1/2" OUTLET - PENDENT ON 1/2" OUTLET - UPRIGHT ON 1" SPRING - PENDENT BELOW CEILING ON 1" DROP - UPRIGHT ABOVE PENDENT ON 1" DROP - SIDEWALL ON 1/2" OUTLET - SIDEWALL ON 1" SPRING	GENERAL SYSTEM NOTES 1. HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER PIPES. 2. CAPTURED BRACKETS TO BE PROVIDED ON 1/2" PIPES. 3. ALL INSPECTION TEST CONNECTIONS AND LOW POINT DRAIN TO BE PROVIDED PER NFPA 13. 4. ALL HANGERS TO BE COMPLY WITH REQUIREMENTS (E.G., 1. LINE PIPES SHALL BE SOLO PIPER SPRINKLER PIPE WITH WELDED JOINTS AND APPROVED HANGERS (E.G., HANGERS WITH WELDED JOINTS). 5. MAIN PIPING SHALL BE SOLO PIPER WITH WELDED JOINTS, SOLO BRACKETS, AND APPROVED FITTINGS (E.G., 1. SYSTEM BRACKETS SHALL BE PER K-1.4.1). 6. OTHER TO PROVIDE PARTIAL WIRE FREE EXTENSION. 7. HANGERS TO BE COMPLY WITH REQUIREMENTS (E.G., HANGERS WITH WELDED JOINTS). 8. HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER PIPES. 9. ALL SYSTEM COMPONENTS SHALL BE LISTED AND BE APPROVED. 10. SHOWN HEAD CAPABILITY TO INCLUDE (E.G., HEADS AVAILABLE) PER NFPA 13.	Sprinkler Legend <table border="1"> <thead> <tr> <th>SYMBOL</th> <th>MANUF.</th> <th>SIN</th> <th>MODEL</th> <th>QUANTITY</th> <th>K-FACTOR</th> <th>TYPE</th> <th>SIZE</th> <th>RESPONSE</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>NOTE</th> </tr> </thead> <tbody> <tr> <td>●</td> <td>TYCO</td> <td>TY3596</td> <td>LPI</td> <td>30</td> <td>4.9</td> <td>PENDENT</td> <td>1/2"</td> <td>FAST</td> <td>CHROME</td> <td>160°F</td> <td></td> </tr> <tr> <td colspan="5">TOTAL = 30</td> <td colspan="7"></td> </tr> </tbody> </table>	SYMBOL	MANUF.	SIN	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE	●	TYCO	TY3596	LPI	30	4.9	PENDENT	1/2"	FAST	CHROME	160°F		TOTAL = 30												NOTICE IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS. UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY: CONTRACT WITH: ADDRESS: PHONE NUMBER:	REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION				DATE DATE:	FIRE SPRINKLER DESIGNS BY: GERALD W. EBELING, SET NICET LEVEL IV # 105930	AHJ STAMP AHJ STAMP:	FIRE SPRINKLER CONTRACTOR: CONTRACTOR:
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Hydraulic Information	
Remote Area 1	
OCCUPANCY CLASSIFICATION	RESIDENTIAL
TOTAL HEADS FLOWING	4
K-FACTOR	4.9
TOTAL WATER REQUIRED	81.46
TOTAL PRESSURE REQUIRED	83.547
L7 BASE OF RISER (GPM)	81.46
L7 BASE OF RISER (PSI)	48.637
BASE OF RISER BASE OF RISER (GPM)	81.46
BASE OF RISER BASE OF RISER (PSI)	83.532
SAFETY MARGIN (PSI)	+113.124 (57.5%)

Check Point Gauge Data						Job Number: 1
Gauge	Pressure(psi)	K-Factor(K)	Flow(gpm)	Inlet Static Pressure(psi)	Elevation(Foot)	Report Description
L0	0.000	0	0.00	197.000	1-75	
L1	193.576	5.84	81.30	193.503	9-0	
L10	148.659	6.71	81.30	148.915	117-2	
L2	187.988	5.93	81.30	188.219	21-10%	
L3	182.339	6.02	81.30	182.572	34-11	
L4	177.241	6.11	81.30	177.478	46-8	
L5	172.144	6.2	81.30	172.385	58-5	
L6	167.047	6.29	81.30	167.323	70-3	
L7	161.950	6.39	81.30	162.197	81-11	
L8	156.853	6.48	81.30	157.133	93-8	
L9	151.756	6.6	81.30	152.009	105-5	



NOTE: ALL PIPING THIS LEVEL TO BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS

FIRE SPRINKLER PLAN
1/2" = 1 Foot

STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	GENERAL SYSTEM NOTES	Sprinkler Legend	NOTICE	REVISIONS	DATE	FIRE SPRINKLER DESIGNS BY:	AHJ STAMP	FIRE SPRINKLER CONTRACTOR:																																						
<ul style="list-style-type: none"> POST INDICATOR VALVE KEY OPERATED VALVE PUBLIC HYDRANT FIRE DEPT. CONNECTION O.S.&T. GATE VALVE CHECK VALVE NEW UNDERGROUND EXISTING UNDERGROUND 	<ul style="list-style-type: none"> ALARM CHECK VALVE THRUST BLOCK BACKFLOW PREVENTER 	<ul style="list-style-type: none"> UPRIGHT ON 1" OUTLET PENDENT ON 1/2" OUTLET UPRIGHT ON 1" SPRIG PENDENT BELOW CEILING ON 1" DROP UPRIGHT ABOVE PENDENT ON 1" DROP SIDEWALL ON 1" OUTLET SIDEWALL ON 1" SPRIG 	<ul style="list-style-type: none"> HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER PLAN ALL PIPING SHALL BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS ALL PIPING SHALL BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS ALL PIPING SHALL BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS ALL PIPING SHALL BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS ALL PIPING SHALL BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS ALL PIPING SHALL BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS ALL PIPING SHALL BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS 	<table border="1"> <thead> <tr> <th>SYMBOL</th> <th>MANUF.</th> <th>SIN</th> <th>MODEL</th> <th>QUANTITY</th> <th>K-FACTOR</th> <th>TYPE</th> <th>SIZE</th> <th>RESPONSE</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>NOTE</th> </tr> </thead> <tbody> <tr> <td>●</td> <td>TYCO</td> <td>TY3596</td> <td>LPI</td> <td>34</td> <td>4.9</td> <td>PENDENT</td> <td>3/4"</td> <td>FAST</td> <td>CHROME</td> <td>160°F</td> <td></td> </tr> <tr> <td colspan="5">TOTAL = 34</td> <td colspan="7"></td> </tr> </tbody> </table>	SYMBOL	MANUF.	SIN	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE	●	TYCO	TY3596	LPI	34	4.9	PENDENT	3/4"	FAST	CHROME	160°F		TOTAL = 34												<p>IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS.</p> <p>UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:</p> <p>CONTRACT WITH:</p> <p>ADDRESS:</p> <p>PHONE NUMBER:</p> <p>FAX:</p>			<p>FIRE DESIGN, LLC GERALD W. EBELING, SET NICET LEVEL IV # 105930</p>		<p>JOB NO. AQUA-GTCL DATE DESIGNER GERALD EBELING, SET APPROVED SCALE AS NOTED</p>	<p>LICENSE NO. AQUA APARTMENTS PARCEL 202 GEORGE TOWN, CAYMAN ISLANDS</p>	<p>LEVEL 7 FP12</p>
SYMBOL	MANUF.	SIN	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE																																					
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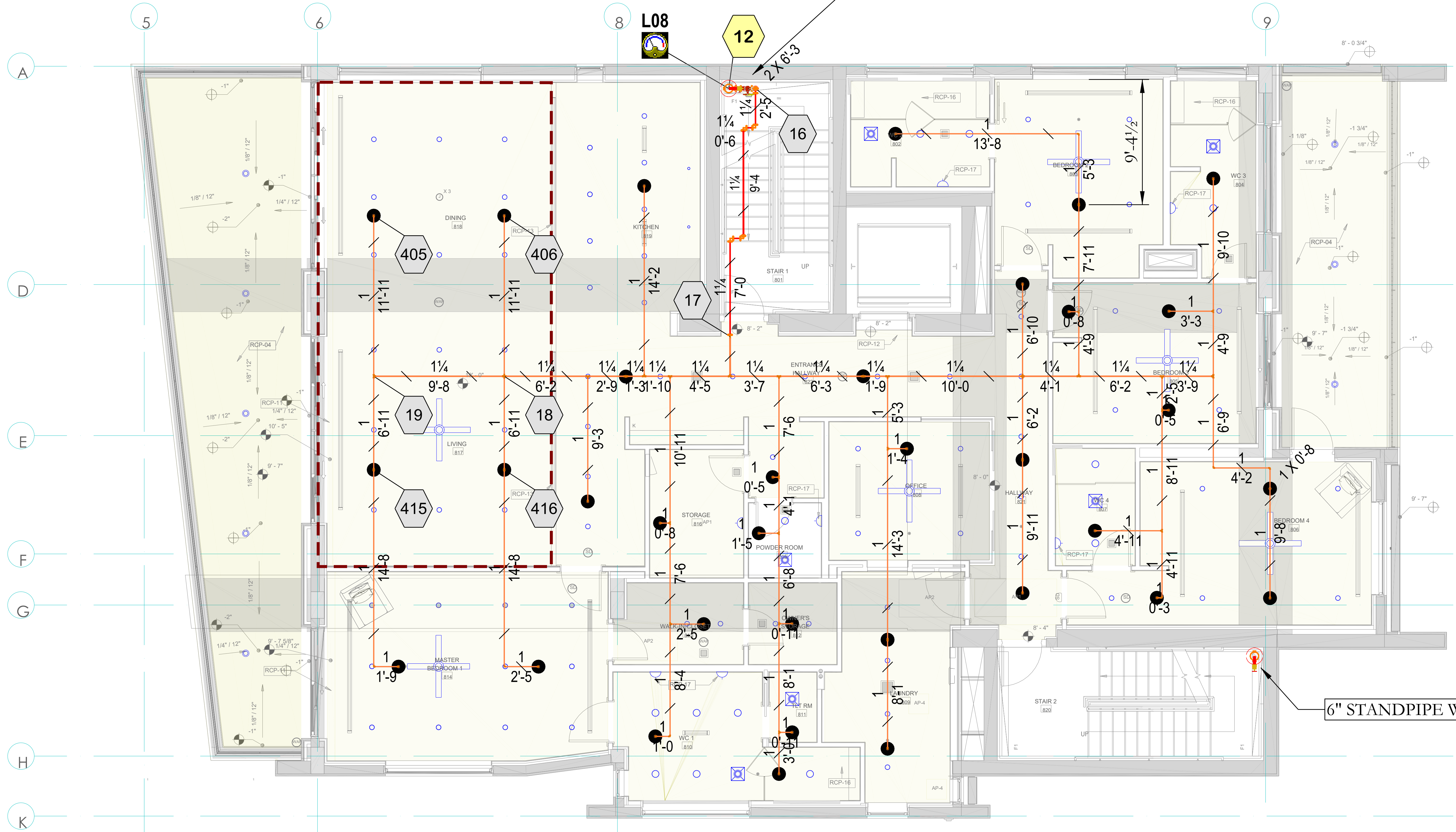
Hydraulic Information

Remote Area 1

OCCUPANCY CLASSIFICATION	RESIDENTIAL
TOTAL HEADS FLOWING	4
K-FACTOR	4.9
TOTAL WATER REQUIRED	81.46
TOTAL PRESSURE REQUIRED	88.644
L08 BASE OF RISER (GPM)	81.46
L08 BASE OF RISER (PSI)	48.638
BASE OF RISER BASE OF RISER (GPM)	81.46
BASE OF RISER BASE OF RISER (PSI)	88.629
SAFETY MARGIN (PSI)	+108.027 (54.9%)

Gauge	Pressure(psi)	K-Factor(K)	Flow(gpm)	Inlet Static Pressure(psi)	Elevation(foot)
L0	0.000	0	0.00	187.000	11-7 1/2
L1	193.576	6.84	81.30	193.803	9'-0
L10	146.669	6.71	81.30	146.915	117'-2
L2	187.888	8.53	81.30	188.219	211-10 1/2
L3	182.339	6.02	81.30	182.572	34'-11
L4	177.241	6.11	81.30	177.478	48'-8
L5	172.144	6.2	81.30	172.385	58'-5
L6	167.047	6.29	81.30	167.291	70'-2
L7	161.950	6.38	81.30	162.194	81'-11
L8	156.853	6.49	81.30	157.103	93'-8
L9	151.756	6.6	81.30	152.008	108'-8

6" STANDPIPE W/ 2-1/2" HOSE VALVE AND 2" FLOOR CONTROL ASSY



6" STANDPIPE WITH 2-1/2" HOSE VALVE

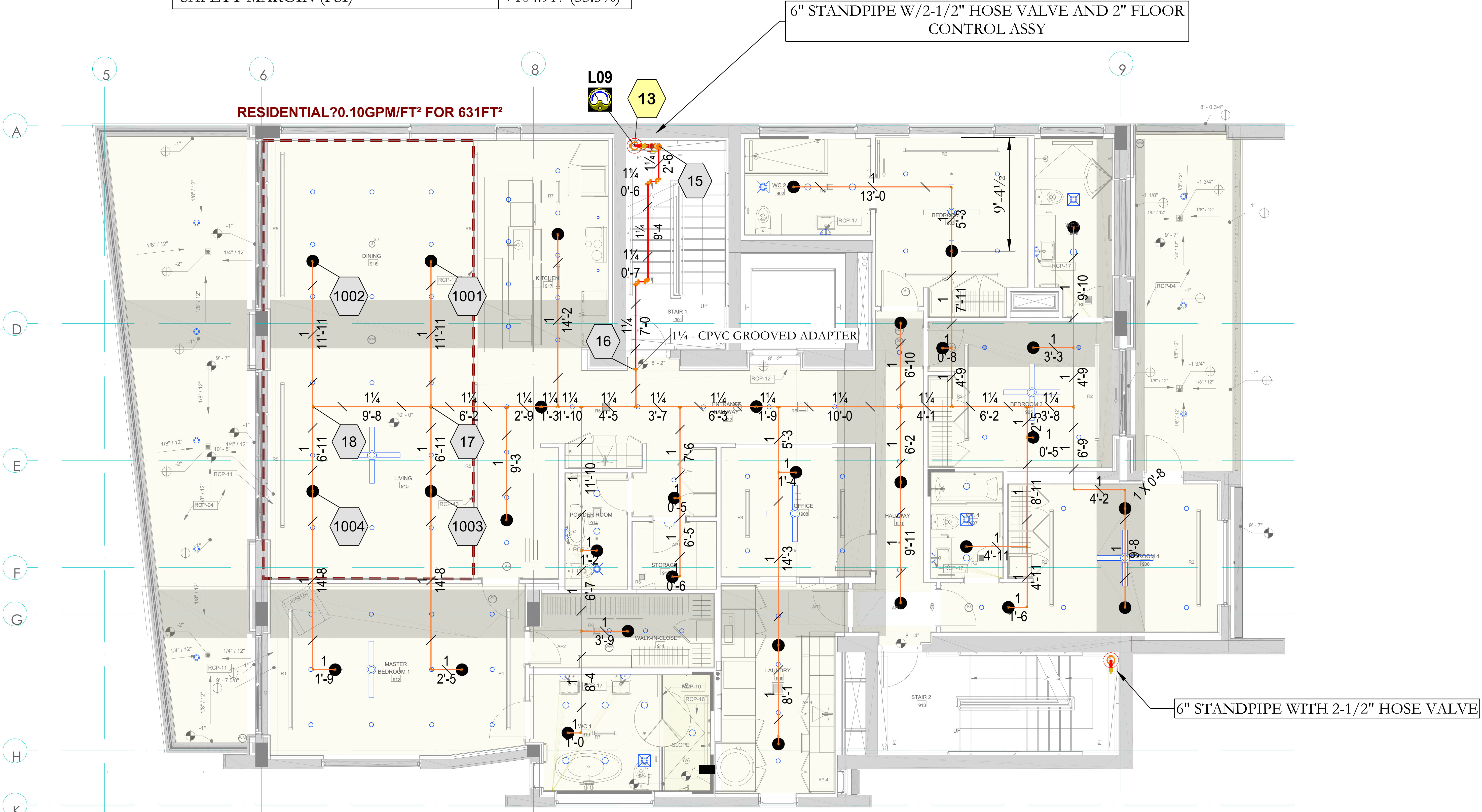
NOTE: ALL PIPING THIS LEVEL TO BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS

FIRE SPRINKLER PLAN
1/2" = 1 Foot

	STANDARD SYMBOLS - POST INDICATOR VALVE - KEY OPERATED VALVE - PUBLIC HYDRANT - FIRE DEPT. CONNECTION - O.S.&T. GATE VALVE - CHECK VALVE - NEW UNDERGROUND - EXISTING UNDERGROUND	STANDARD SYMBOLS - ALARM CHECK VALVE - THRUST BLOCK - BACKFLOW PREVENTER	STANDARD SPRINKLER SYMBOLS - UPRIGHT ON 1/2" OUTLET - PENDENT ON 1/2" OUTLET - UPRIGHT ON 1" SPRIG - PENDENT BELOW CEILING ON 1" DROP - UPRIGHT ABOVE PENDENT ON 1" DROP - SIDEWALL ON 1/2" OUTLET - SIDEWALL ON 1" SPRIG	GENERAL SYSTEM NOTES 1. HYDRAULIC INFORMATION TO BE PROVIDED ON SPRINKLER PLANS. 2. CAPTURED BACKFLOW SHALL BE PROVIDED WITHIN 1/2" OF SPRINKLER. 3. ALL WELDED JOINTS SHALL BE WELDED TO THE CONNECTION AND LOW POINT. 4. ALL WELDED JOINTS SHALL BE WELDED TO THE CONNECTION AND LOW POINT. 5. LINE PIPING SHALL BE 1/2" FROM SPRINKLER PIPE WITH WELDED JOINTS. 6. WELDED JOINTS SHALL BE WELDED TO THE CONNECTION AND LOW POINT. 7. SYSTEM DESIGN SHALL BE PER NFPA 13. 8. MAIN PIPING SHALL BE 1/2" FROM SPRINKLER PIPE WITH WELDED JOINTS. 9. WELDED JOINTS SHALL BE WELDED TO THE CONNECTION AND LOW POINT. 10. SYSTEM DESIGN SHALL BE PER NFPA 13. 11. OTHER TO PROVIDE PARTIAL WELDED JOINTS. 12. HYDRAULIC DESIGN POINT. 13. ALL WELDED JOINTS SHALL BE WELDED TO THE CONNECTION AND LOW POINT. 14. SPARK TEST SHALL BE PER NFPA 13.	Sprinkler Legend <table border="1"> <thead> <tr> <th>SYMBOL</th> <th>MANUF.</th> <th>SIN.</th> <th>MODEL</th> <th>QUANTITY</th> <th>K-FACTOR</th> <th>TYPE</th> <th>SIZE</th> <th>RESPONSE</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>NOTE</th> </tr> </thead> <tbody> <tr> <td>●</td> <td>TYCO</td> <td>TY3596</td> <td>LF1</td> <td>34</td> <td>4.9</td> <td>PENDENT</td> <td>1/2"</td> <td>FAST</td> <td>CHROME</td> <td>160°F</td> <td></td> </tr> <tr> <td colspan="5">TOTAL = 34</td> <td colspan="7"></td> </tr> </tbody> </table>	SYMBOL	MANUF.	SIN.	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE	●	TYCO	TY3596	LF1	34	4.9	PENDENT	1/2"	FAST	CHROME	160°F		TOTAL = 34												NOTICE IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS. UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY: CONTRACT WITH: ADDRESS: PHONE NUMBER:	REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION				DATE DATE:	FIRE SPRINKLER DESIGNS BY: GERALD W. EBELING, SET NICET LEVEL IV # 105930	AHJ STAMP DATE: _____ DESIGNER: _____ APPROVED: _____ SCALE: AS NOTED	FIRE SPRINKLER CONTRACTOR: JOB NO.: AQUA-GTCL LICENSE NO.: _____ AQUA APARTMENTS PARCEL 202 GEORGE TOWN, CAYMAN ISLANDS LEVEL 8 FP13
	SYMBOL	MANUF.	SIN.	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE																																									
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TOTAL = 34																																																					
NO.	DATE	DESCRIPTION																																																			

Hydraulic Information	
Remote Area 1	
OCCUPANCY CLASSIFICATION	RESIDENTIAL
TOTAL WATER REQUIRED	81.46
TOTAL PRESSURE REQUIRED	91.754
L09 BASE OF RISER (GPM)	81.46
L09 BASE OF RISER (PSI)	46.651
BASE OF RISER BASE OF RISER (GPM)	81.46
BASE OF RISER BASE OF RISER (PSI)	91.740
SAFETY MARGIN (PSI)	+104.917 (53.3%)

Check Point Gauge Data					
Gauge	Pressure(psi)	K-Factor(K)	Flow(gpm)	Inlet Static Pressure(psi)	Elevation(Foot)
L0	0.000	0	0.00	197.000	1-7½
L1	193.976	6.84	81.30	193.903	9'-0
L10	146.669	6.71	81.30	146.915	117'-2
L2	187.988	5.93	81.30	188.219	21'-10½
L3	182.339	6.02	81.30	182.572	34'-11
L4	177.241	6.11	81.30	177.478	48'-3
L5	172.144	6.2	81.30	172.385	58'-6
L6	167.047	6.29	81.30	167.291	70'-2
L7	161.950	6.39	81.30	162.197	81'-11
L8	156.853	6.48	81.30	157.103	93'-4
L9	151.756	6.58	81.30	152.009	105'-5



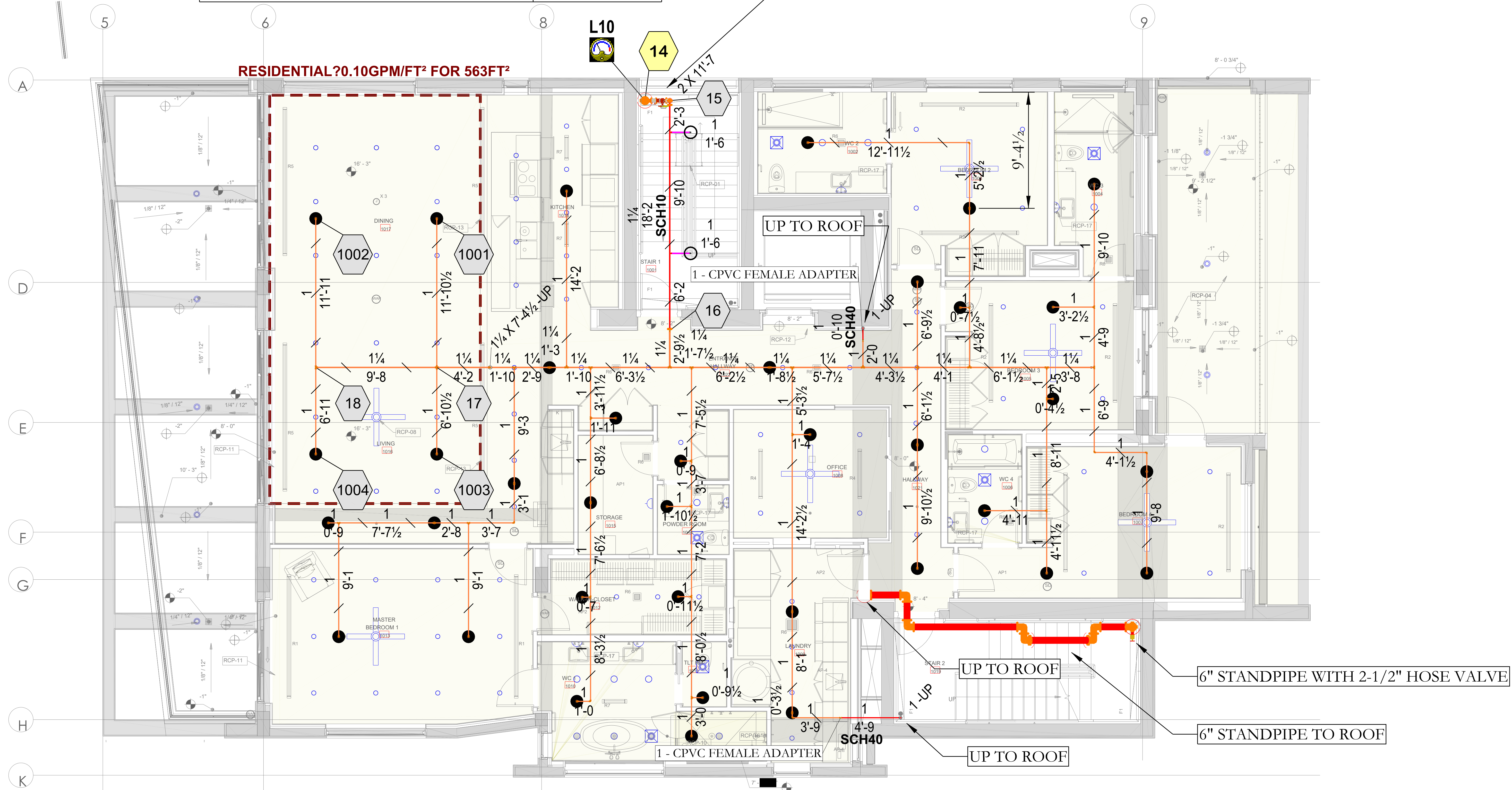
NOTE: ALL PIPING THIS LEVEL TO BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS

FIRE SPRINKLER PLAN
1/2" = 1 Foot

	STANDARD SYMBOLS P.I.V. - POST INDICATOR VALVE R.S. - KEY OPERATED VALVE PUBLIC HYDRANT FIRE DEPT. CONNECTION O.S.&T. GATE VALVE CHECK VALVE NEW UNDERGROUND EXISTING UNDERGROUND	STANDARD SYMBOLS ALARM CHECK VALVE THURST BLOCK BACKFLOW PREVENTER	STANDARD SPRINKLER SYMBOLS UPRIGHT ON 1/2\"/>	GENERAL SYSTEM NOTES 1. HYDRAULIC INFORMATION TO BE PROVIDED ON SPRINKLER PIPES. 2. CAPTURED BACKFLOW TEST PROVIDED BY A.P.F. IS REQUIRED. 3. ALL INSPECTION TEST CONNECTIONS AND LOW POINT DRAIN TO BE PROVIDED PER NFPA 13. 4. ALL HANGERS TO BE CORRECT TYPE & REQUIREMENTS (E.G., 1/2\"/>	Sprinkler Legend <table border="1"> <thead> <tr> <th>SYMBOL</th> <th>MANUF</th> <th>SIN</th> <th>MODEL</th> <th>QUANTITY</th> <th>K-FACTOR</th> <th>TYPE</th> <th>SIZE</th> <th>RESPONSE</th> <th>FINISH</th> <th>TEMPERATURE</th> <th>NOTE</th> </tr> </thead> <tbody> <tr> <td>●</td> <td>TYCO</td> <td>TY3596</td> <td>LPI</td> <td>31</td> <td>4.9</td> <td>PENDENT</td> <td>1/2</td> <td>FAST</td> <td>CHROME</td> <td>160°F</td> <td></td> </tr> <tr> <td colspan="5">TOTAL = 31</td> <td colspan="7"></td> </tr> </tbody> </table>	SYMBOL	MANUF	SIN	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE	●	TYCO	TY3596	LPI	31	4.9	PENDENT	1/2	FAST	CHROME	160°F		TOTAL = 31												NOTICE IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS. UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:	REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION				DATE _____	FIRE SPRINKLER DESIGNS BY: GERALD W. EBELING, SET NICET LEVEL IV # 105930	AHJ STAMP _____	FIRE SPRINKLER CONTRACTOR: _____
	SYMBOL	MANUF	SIN	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE																																									
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CONTRACT WITH: ADDRESS: _____ PHONE NUMBER: _____ FAX: _____		JOB NO.: AQUA-GTCL DATE: _____ DESIGNER: GERALD EBELING, SET APPROVED: _____ SCALE: AS NOTED		LICENSE NO.: _____ AQUA APARTMENTS PARCEL 202 GEORGE TOWN, CAYMAN ISLANDS		LEVEL 9 FP14																																															

Hydraulic Information	
Remote Area 1	
OCCUPANCY CLASSIFICATION	RESIDENTIAL
TOTAL HEADS FLOWING	4
K-FACTOR	4.9
TOTAL WATER REQUIRED	81.30
TOTAL PRESSURE REQUIRED	105.371
L10 BASE OF RISER (GPM)	81.30
L10 BASE OF RISER (PSI)	55.171
BASE OF RISER BASE OF RISER (GPM)	81.30
BASE OF RISER BASE OF RISER (PSI)	105.357
SAFETY MARGIN (PSI)	+91.301 (46.4%)

Check Point Gauge Data					
Gauge	Pressure(psi)	K-Factor(K)	Flow(gpm)	Inlet Static Pressure(psi)	Elevation(ft)
L0	0.000	0	0.00	157.000	117.2
L1	104.576	5.3	81.30	104.500	117.2
L10	146.659	6.71	81.30	146.915	117.2
L2	187.988	8.93	81.30	189.219	211.075
L3	182.339	8.02	81.30	182.972	34-11
L4	177.241	8.11	81.30	177.276	48-8
L5	172.144	8.2	81.30	172.385	58-5
L6	167.047	8.29	81.30	167.291	70-2
L7	161.950	8.38	81.30	162.197	81-11
L8	156.853	8.49	81.30	157.103	93-8
L9	151.756	8.6	81.30	152.008	105-5



NOTE: ALL PIPING THIS LEVEL TO BE CPVC EXCEPT VERTICAL STANDPIPE AND PIPING WITHIN STAIRS

L10 FIRE SPRINKLER PLAN
1/2" = 1 Foot

STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	GENERAL SYSTEM NOTES
<ul style="list-style-type: none"> POST INDICATOR VALVE KEY OPERATED VALVE PUBLIC HYDRANT FIRE DEPT. CONNECTION O.S.&T. GATE VALVE CHECK VALVE NEW UNDERGROUND EXISTING UNDERGROUND 	<ul style="list-style-type: none"> ALARM CHECK VALVE THRUST BLOCK BACKFLOW PREVENTER 	<ul style="list-style-type: none"> UPRIGHT ON 1/2" OUTLET PENDENT ON 1/2" OUTLET UPRIGHT ON 1" SPRIG PENDENT BELOW CEILING ON 1" DROP UPRIGHT ABOVE PENDENT ON 1" DROP SIDEWALL ON 1/2" OUTLET SIDEWALL ON 1" SPRIG 	<p>1. HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER PLANS.</p> <p>2. CAPTURED BRACKETS SHALL BE PROVIDED ON 1/2" & 3/4" RISERS.</p> <p>3. ALL SPECIFIC TEST CONNECTIONS AND LOW POINT DRAINAGE TO BE PROVIDED PER NFPA 13.</p> <p>4. ALL HANDS TO BE CORRECT WITH REQUIREMENTS (E.G., 1. LINE PIPING SHALL BE SDR 41 PER NFPA 13 WITH WELDED JOINTS AND APPROVED FITTINGS (FITTINGS UNLESS OTHERWISE NOTED).</p> <p>5. MAIN PIPING SHALL BE SDR 41 PER NFPA 13 WITH WELDED JOINTS, SDR 41 APPROVED FITTINGS (FITTINGS UNLESS OTHERWISE NOTED), AND APPROVED FITTINGS (UNLESS OTHERWISE NOTED).</p> <p>6. SYSTEM DESIGN SHALL BE PER NFPA 13.</p> <p>7. OTHER TO PROVIDE PARTIAL WALL FIRE EXTINGUISHING.</p> <p>8. HYDRANT TEST CONNECTIONS, HANDYWAY DOORS, & SYSTEM PARTS SHALL BE PROVIDED.</p> <p>9. ALL HYDRANT CONNECTIONS SHALL BE 1 1/2" UNLESS NOTED OTHERWISE.</p> <p>10. SPARK TEST SHALL BE PER NFPA 13.</p>

Sprinkler Legend							
SYMBOL	MANUF	SIN	MODEL	QUANTITY	K-FACTOR	TYPE	TEMPERATURE
TYCO	TY3596	LFI1	37	4.9	PENDENT	1/2"	FAST CHROME 160°F
TYCO	TY3131		2	5.6	UPRIGHT	1/2"	QUICK BRASS 155°F
				TOTAL = 39			

NOTICE

IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS.

UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:

CONTRACT WITH: _____

ADDRESS: _____

PHONE NUMBER: _____ FAX: _____

REVISIONS

NO.	DATE	DESCRIPTION

DATE

FIRE SPRINKLER DESIGNS BY: **3D FIRE DESIGN, LLC**
GERALD W. EBELING, SET
NICET LEVEL IV # 105930

AHJ STAMP

FIRE SPRINKLER CONTRACTOR:

JOB NO. AQUA-GTCL LICENSE NO. _____

DATE _____

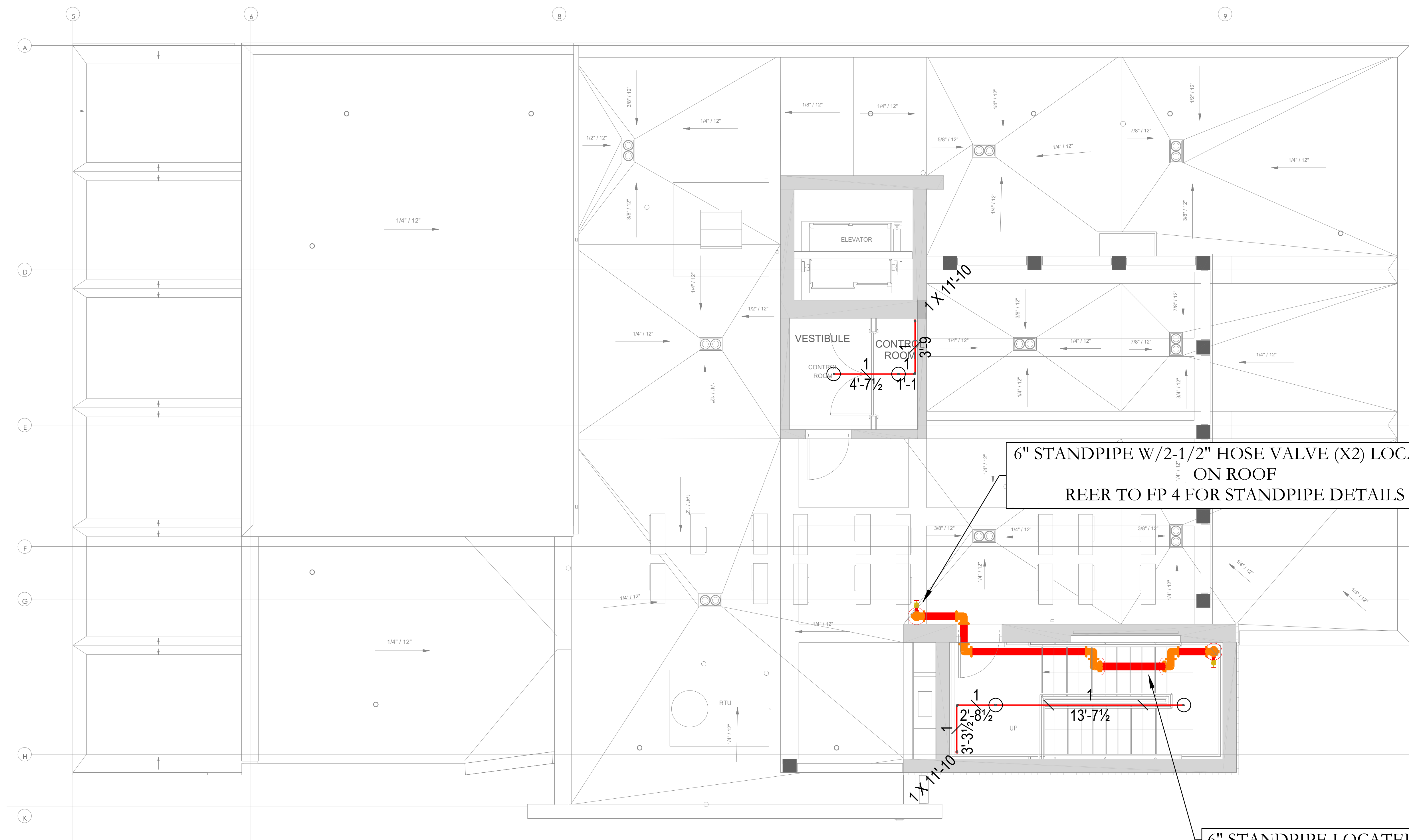
DESIGNER GERALD EBELING, SET

APPROVED _____

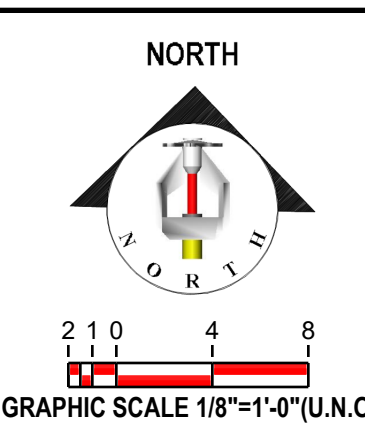
SCALE AS NOTED

AQUA APARTMENTS
PARCEL 202
GEORGE TOWN, CAYMAN ISLANDS

LEVEL 10
FP15



FIRE SPRINKLER PLAN
0 1/4" = 1 Foot



STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	GENERAL SYSTEM NOTES
<ul style="list-style-type: none"> PIV - POST INDICATOR VALVE ROV - REMOTE OPERATED VALVE PH - PUBLIC HYDRANT FDC - FIRE DEPT. CONNECTION O.S.&T. - GATE VALVE CV - CHECK VALVE NU - NEW UNDERGROUND EX - EXISTING UNDERGROUND 	<ul style="list-style-type: none"> ACV - ALARM CHECK VALVE TB - THRUST BLOCK BP - BACKFLOW PREVENTER 	<ul style="list-style-type: none"> UO - UPRIGHT ON 1" OUTLET PO - PENDENT ON 1" OUTLET US - UPRIGHT ON 1" SPRIG PC - PENDENT BELOW CEILING ON 1" DROP UA - UPRIGHT ABOVE PENDENT ON 1" DROP SO - SIDEWALL ON 1" OUTLET SS - SIDEWALL ON 1" SPRIG 	<ol style="list-style-type: none"> HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER PIPES. CAPTURED BRACKETS TO BE PROVIDED FOR 1/2" OR 3/4" REQUIREMENTS. ALL WELDED JOINTS TO BE WELDED TO MEET ALL REQUIREMENTS AND LOW POINT DRAINAGE TO BE PROVIDED FOR NFPA 13. ALL WELDED JOINTS TO BE WELDED TO MEET ALL REQUIREMENTS AND LOW POINT DRAINAGE TO BE PROVIDED FOR NFPA 13. LINE PIPING SHALL BE 60% FROM SPRINKLER PIPE WITH WELDED JOINTS AND 40% FROM SPRINKLER PIPE WITH WELDED JOINTS. MAN PIPING SHALL BE 60% FROM SPRINKLER PIPE WITH WELDED JOINTS AND 40% FROM SPRINKLER PIPE WITH WELDED JOINTS. SYSTEM DESIGN SHALL BE PER NFPA 13. OTHER TO PROVIDE PARTIAL WALL FIRE EXTINGUISHING. HYDRANT CITY CONNECTION, KNOCKOUT TOOLS, & SYSTEM INFORMATION, UNLESS OTHERWISE NOTED. HYDRANT CITY CONNECTION, KNOCKOUT TOOLS, & SYSTEM INFORMATION, UNLESS OTHERWISE NOTED. SPRINKLER CITY CONNECTION, KNOCKOUT TOOLS, & SYSTEM INFORMATION, UNLESS OTHERWISE NOTED.

STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	GENERAL SYSTEM NOTES
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Sprinkler Legend											
SYMBOL	MANUF.	SIN.	MODEL	QUANTITY	K-FACTOR	TYPE	SIZE	RESPONSE	FINISH	TEMPERATURE	NOTE
○	TYCO	TY3131	TY-FRD	4	5.6	UPRIGHT	1/2"	QUICK	NATURAL BRASS	155°F	
				TOTAL = 4							

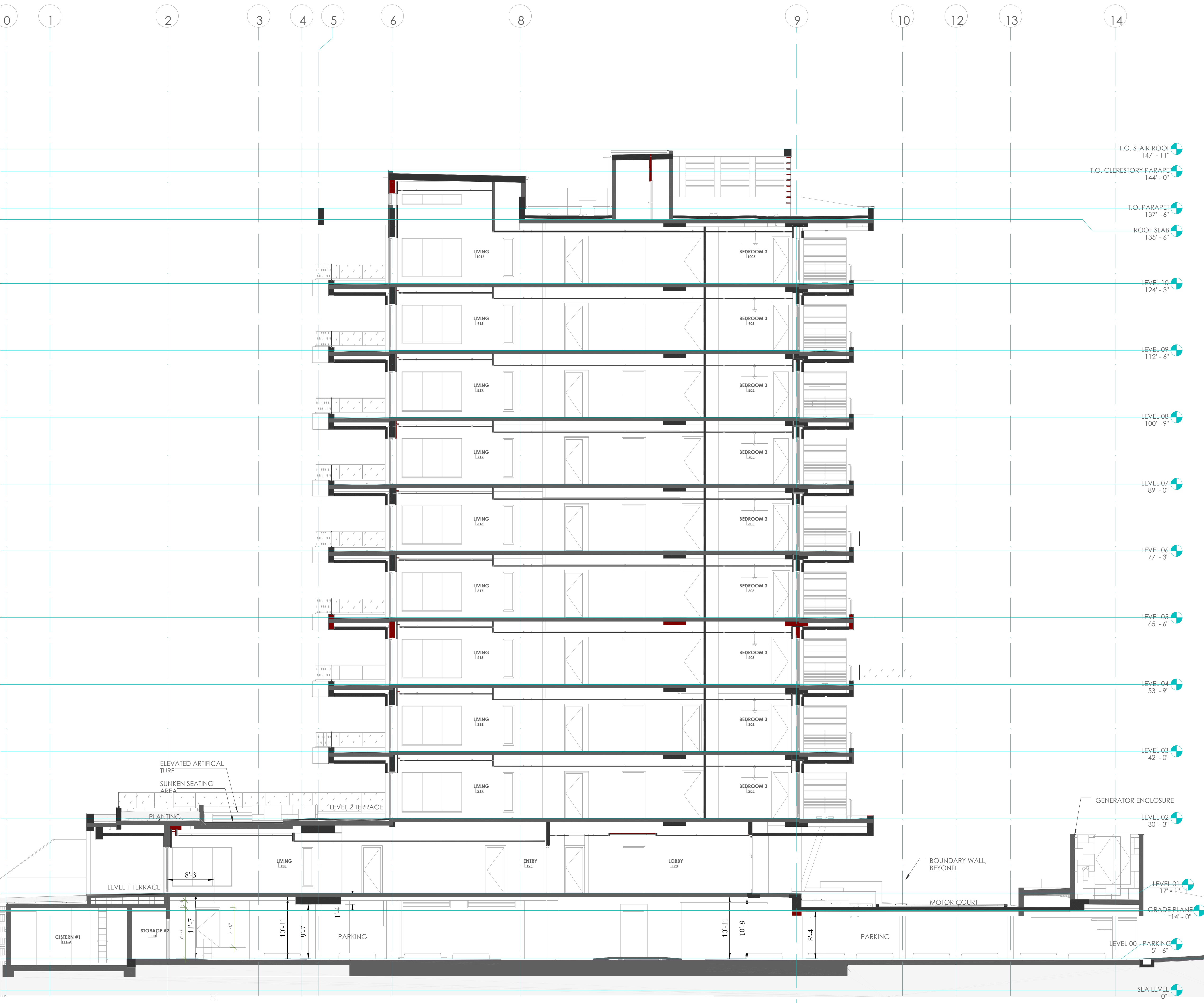
NOTICE									
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UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:									
CONTRACT WITH:									
ADDRESS:									
PHONE NUMBER:									
FAX:									

REVISIONS	DATE

FIRE SPRINKLER DESIGNS BY:	AHJ STAMP
<p>3D FIRE DESIGN, LLC GERALD W. EBELING, SET NICET LEVEL IV # 105930</p>	

FIRE SPRINKLER CONTRACTOR:	ROOF LEVEL
<p> </p>	<p>FP16</p>

JOB NO.	LICENSE NO.	PARCEL	ADDRESS
AQUA-GTCI		202	GEORGE TOWN, CAYMAN ISLANDS



S1 SECTION 1
0-1/8" = 1 Foot

S2 SECTION 2
0-1/8" = 1 Foot

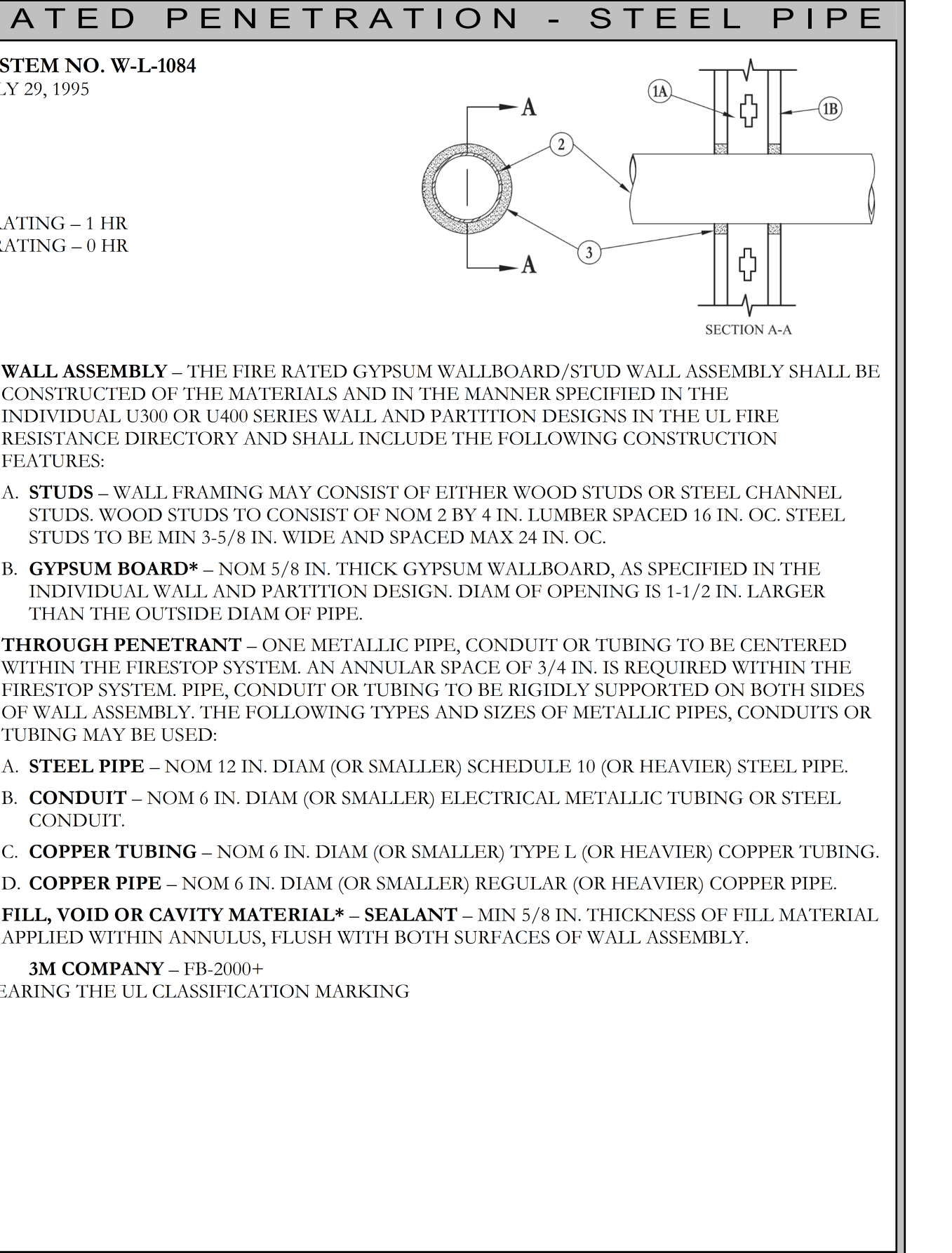
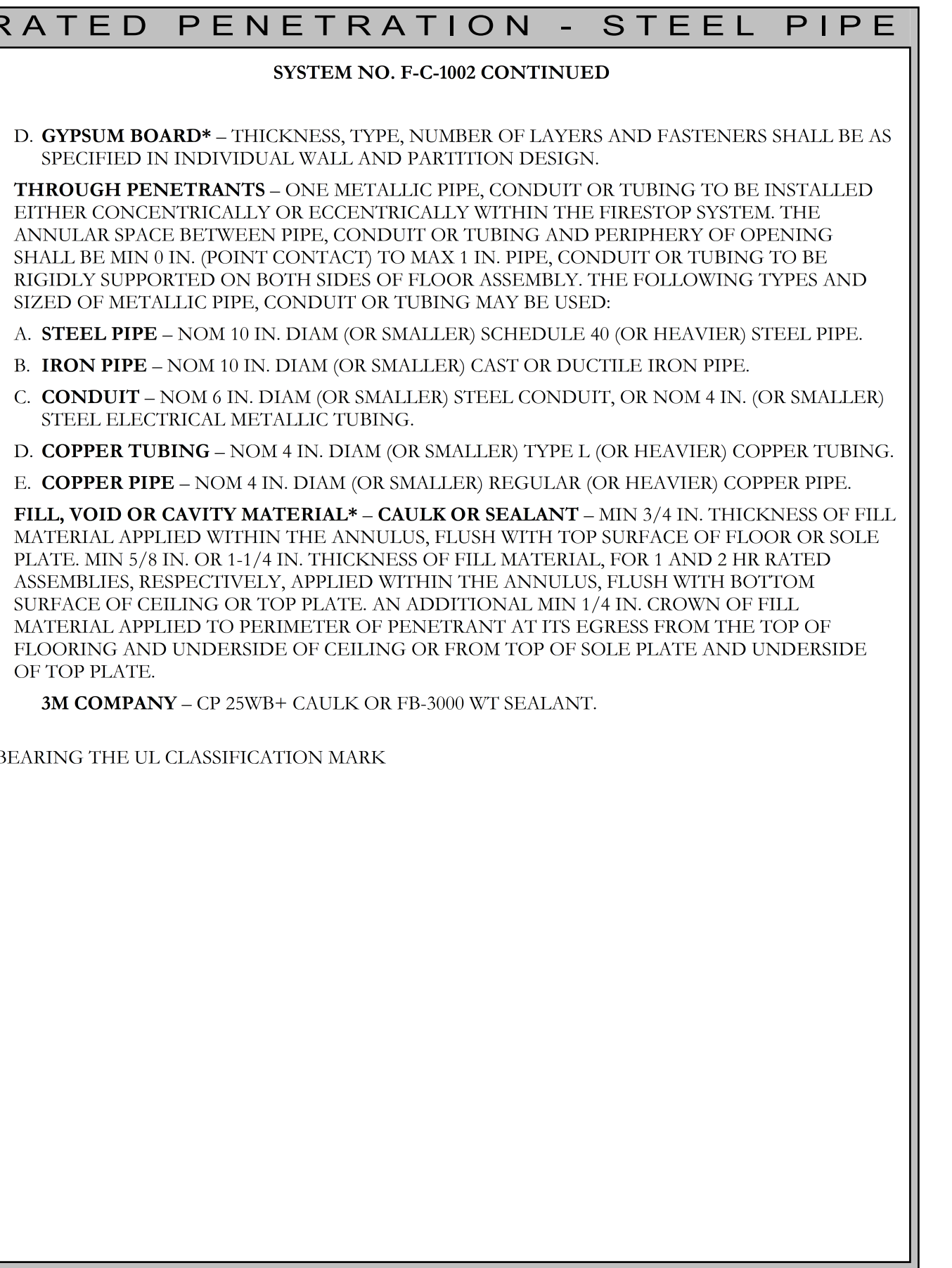
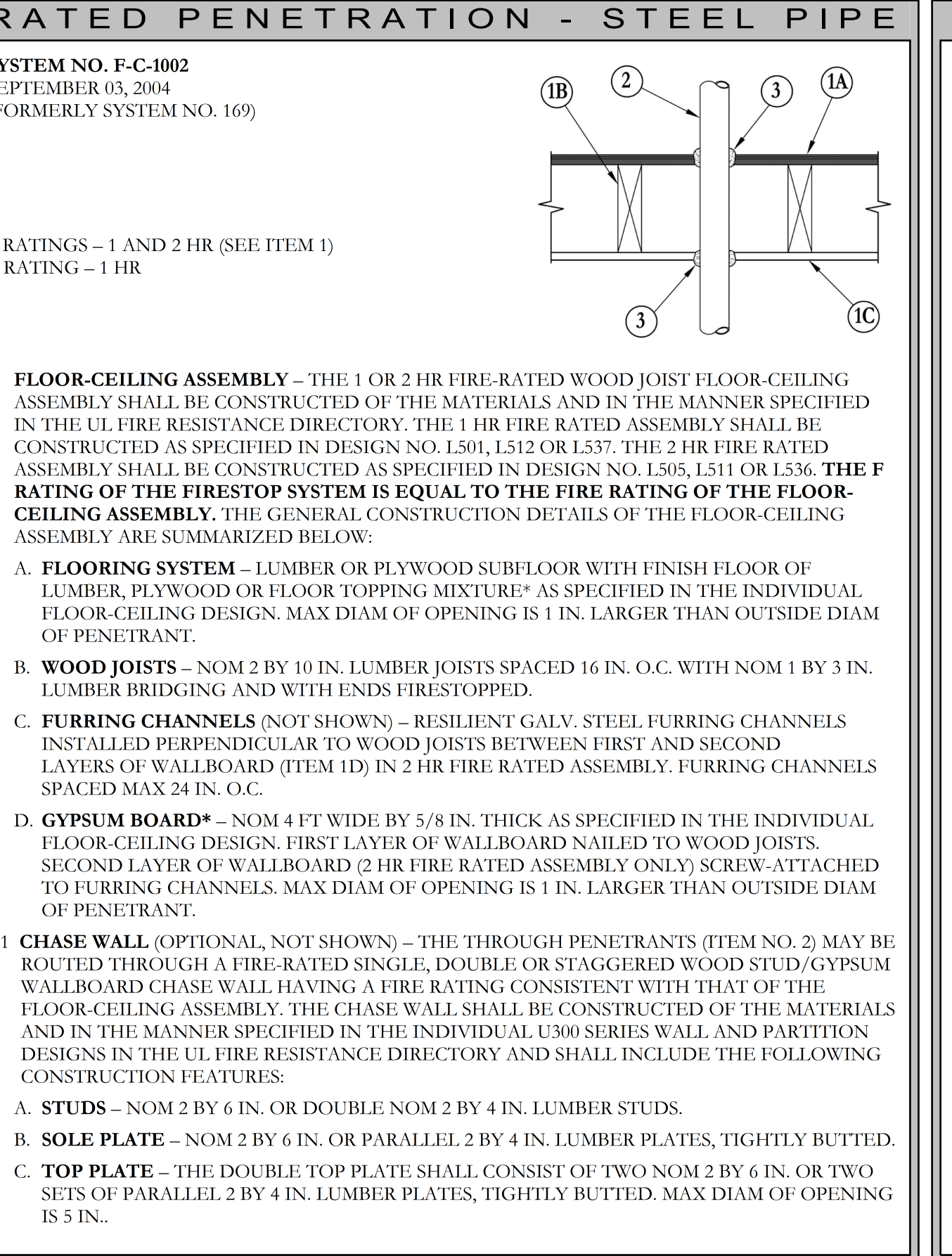
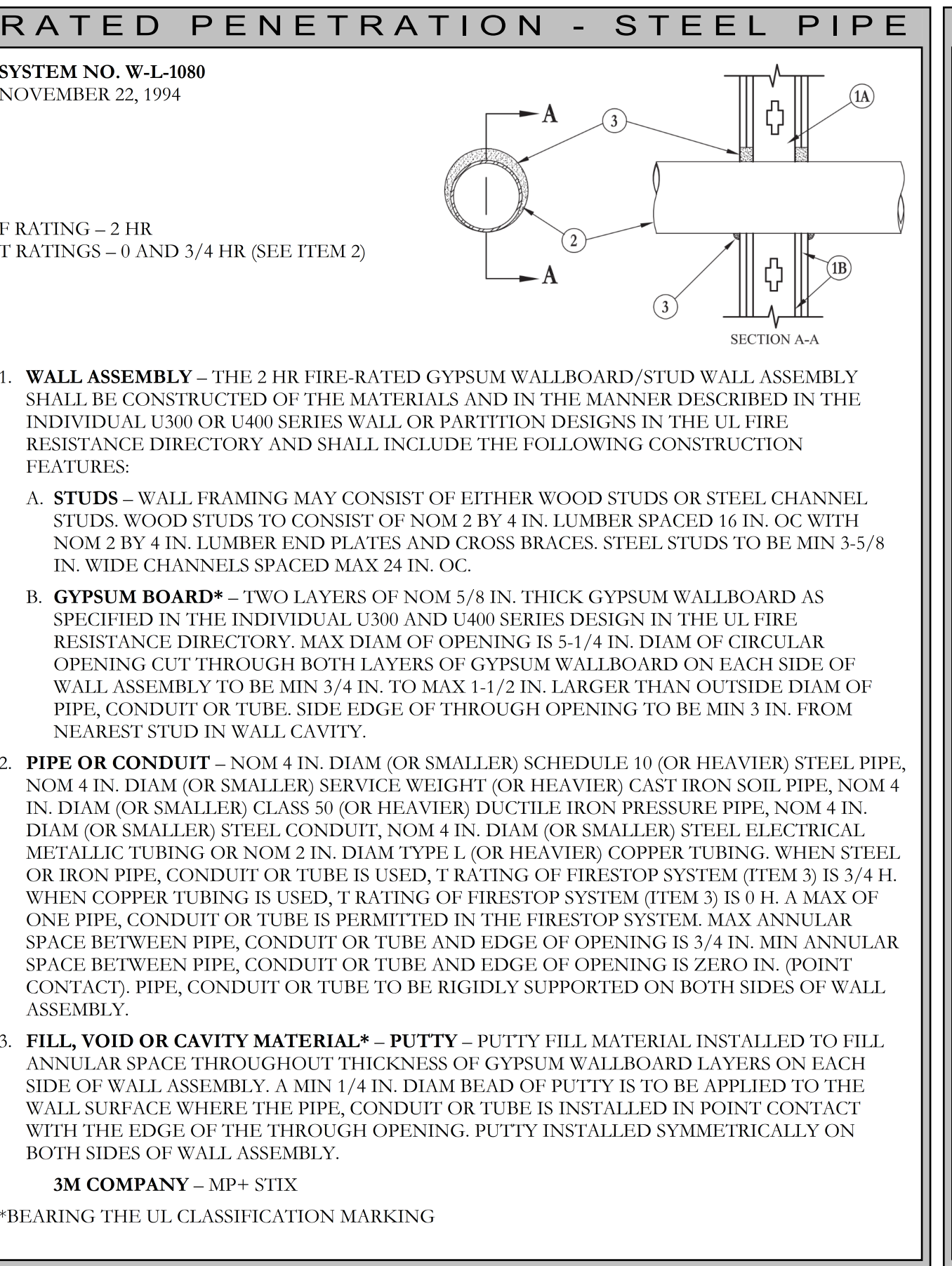
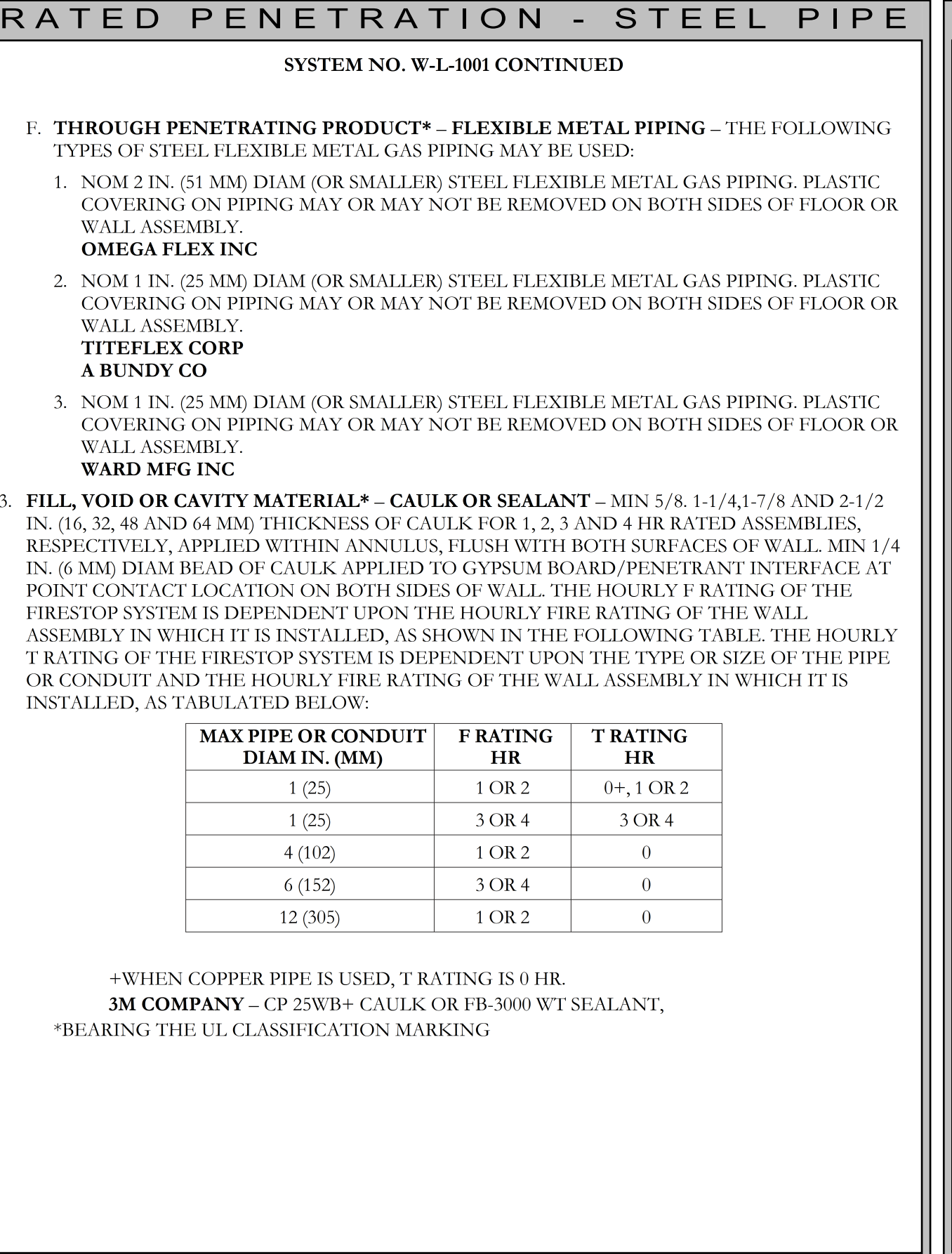
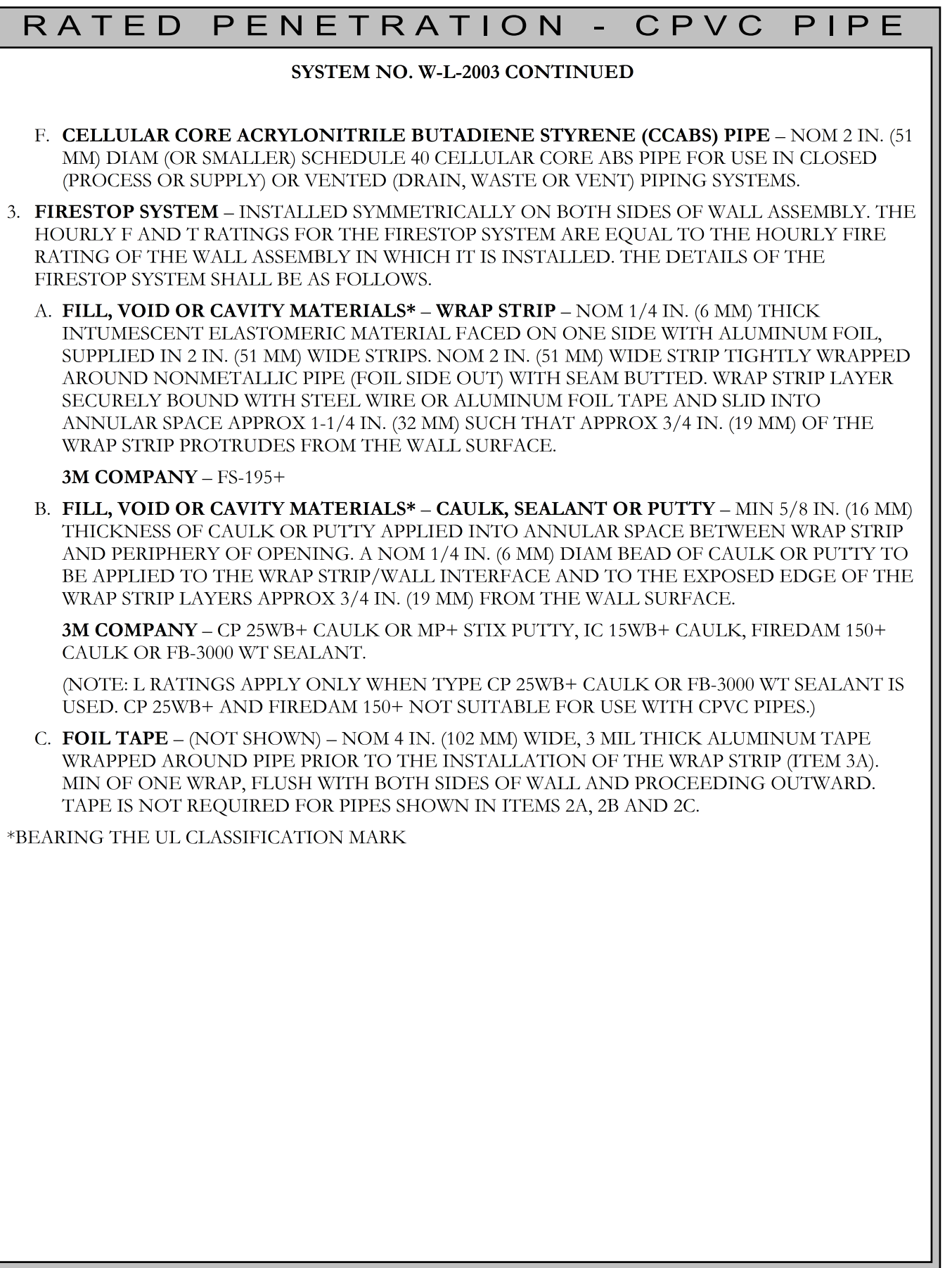
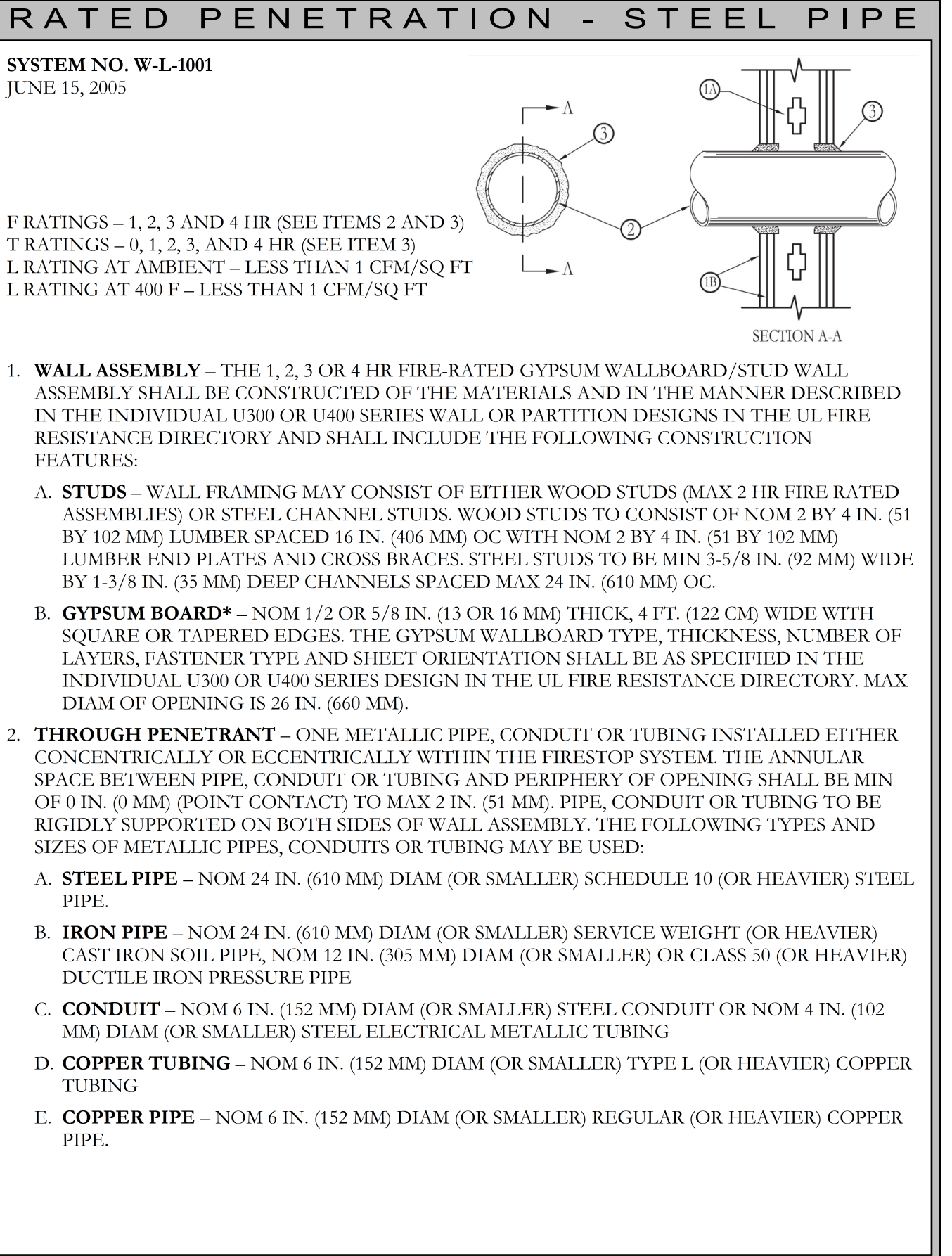
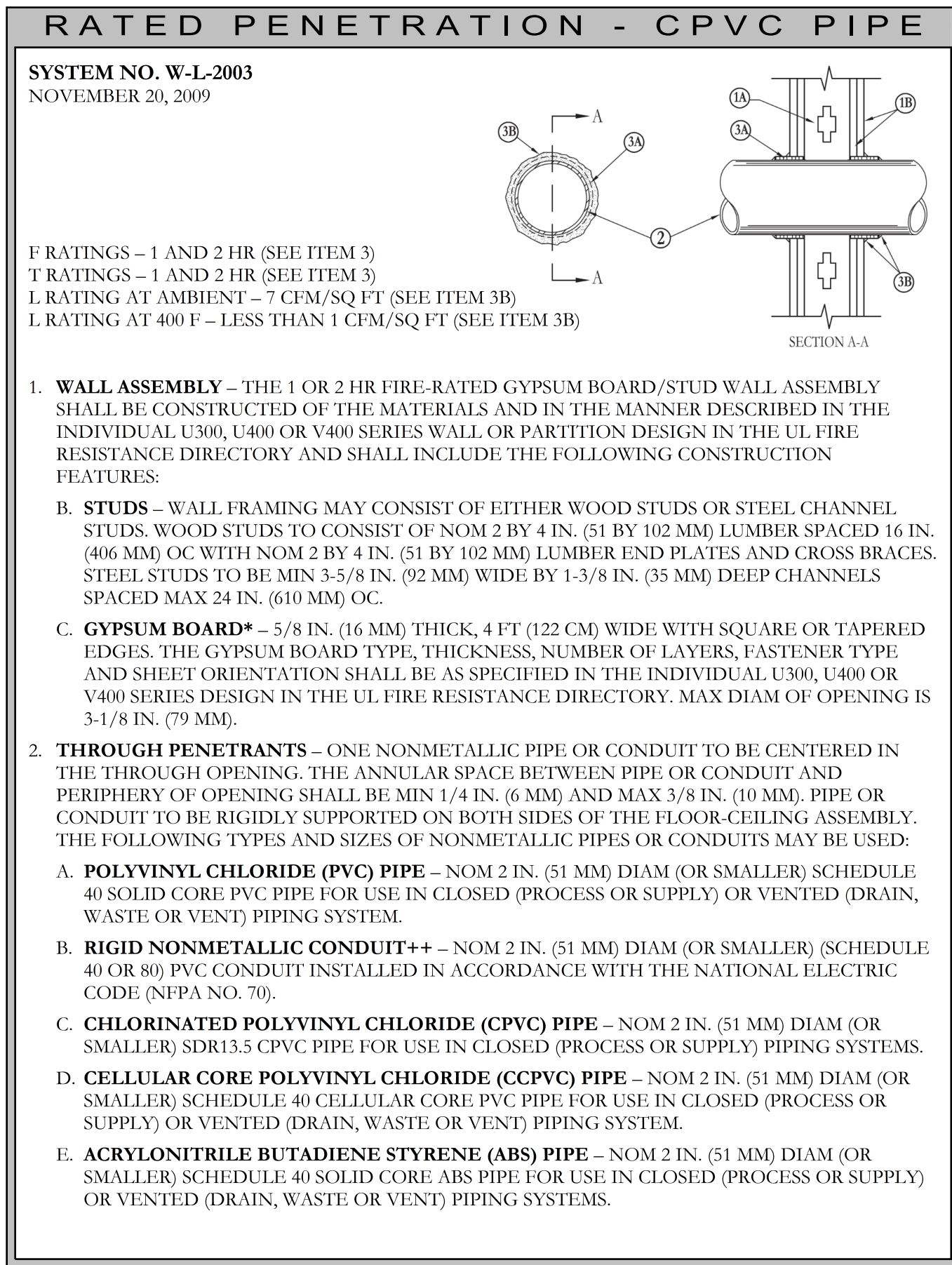
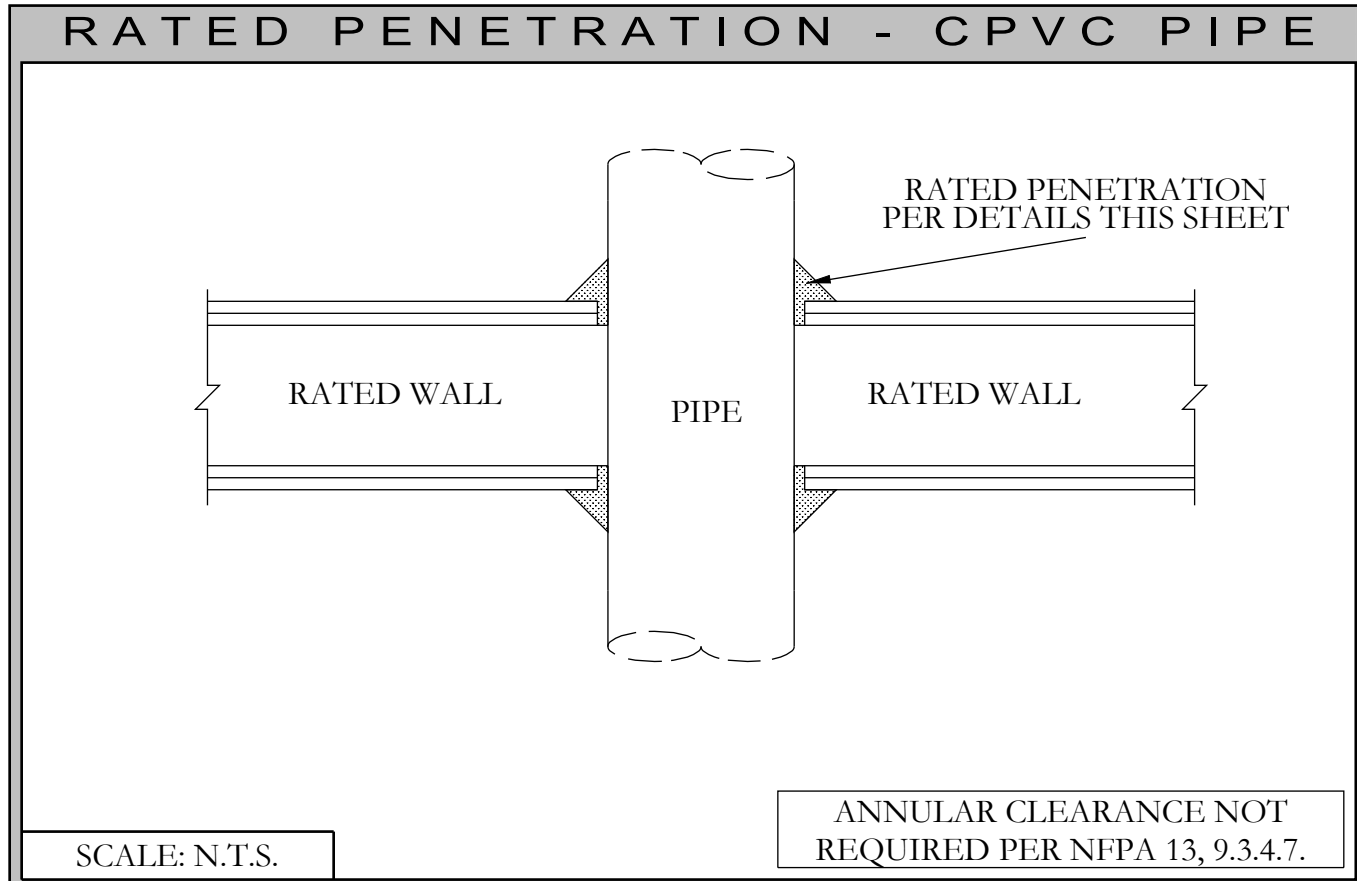
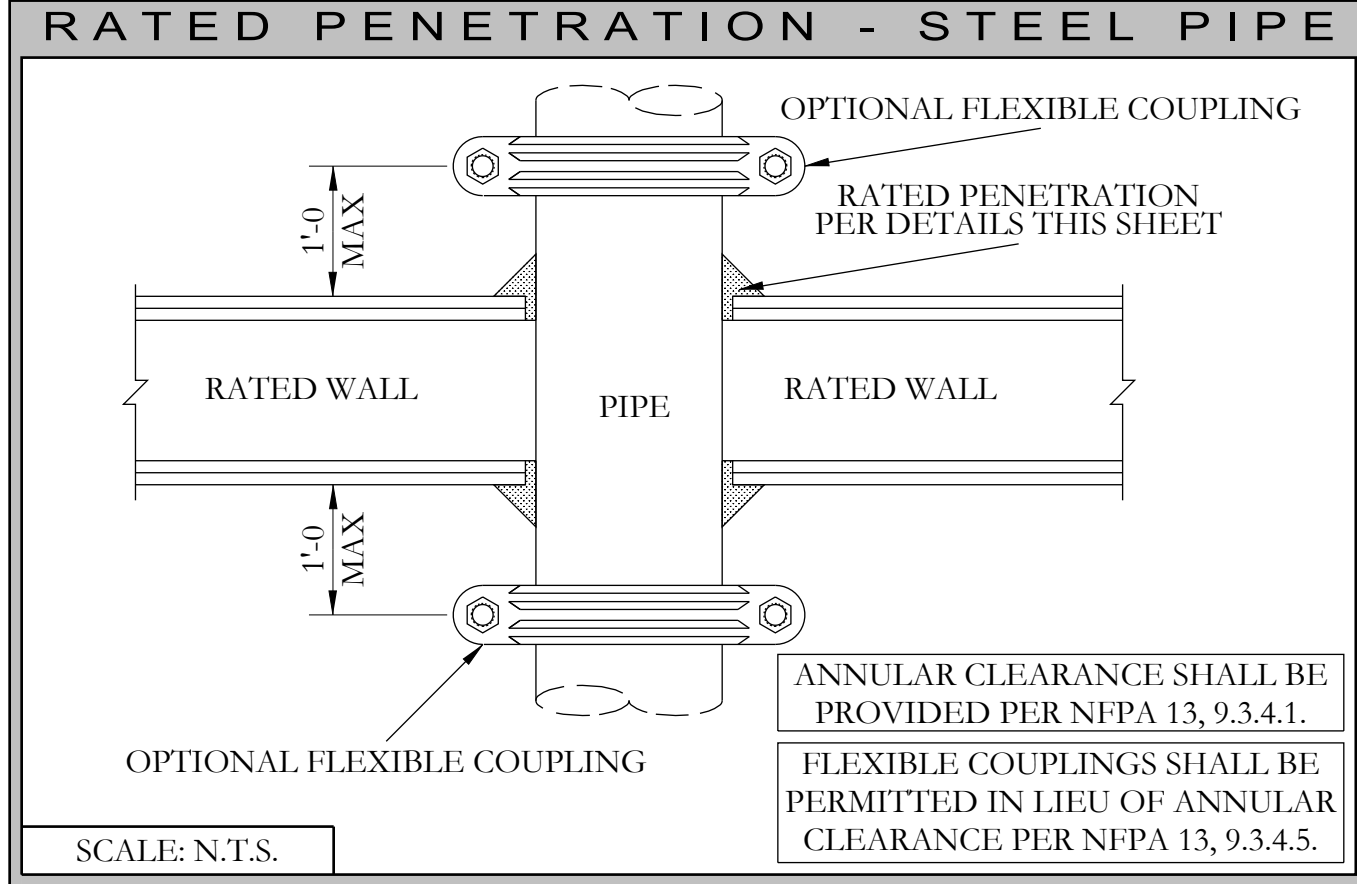
STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	GENERAL SYSTEM NOTES
<ul style="list-style-type: none"> POST INDICATOR VALVE KEY OPERATED VALVE PUBLIC HYDRANT FIRE DEPT. CONNECTION O.S.&Y. GATE VALVE CHECK VALVE NEW UNDERGROUND EXISTING UNDERGROUND 	<ul style="list-style-type: none"> ALARM CHECK VALVE THRUST BLOCK BACKFLOW PREVENTER 	<ul style="list-style-type: none"> UPRIGHT ON 1/2" OUTLET PENDENT ON 1/2" OUTLET UPRIGHT ON 1" SPRIG PENDENT BELOW CEILING ON 1" DROP UPRIGHT ABOVE PENDENT ON 1" DROP SIDEWALL ON 1/2" OUTLET SIDEWALL ON 1" SPRIG 	<p>1. HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER PIPES.</p> <p>2. CAPTURED BRACKETS TO BE PROVIDED PER NFPA 13 IF REQUIRED.</p> <p>3. ALL INSPECTOR TEST CONNECTIONS AND LOW POINT DRAINAGE TO BE PROVIDED PER NFPA 13.</p> <p>4. ALL WANDS TO BE CONFORM WITH REQUIREMENTS (E.G., 1. LINE PIPES SHALL BE SOUL FROM SPRINKLER PIPE WITH WELDED JOINTS. 2. BRANCHES SHALL BE WELDED TO MAIN PIPES WITH WELDED JOINTS. 3. SYSTEM BRANCH SHALL BE PER NFPA 13. 4. MAIN PIPING SHALL BE SOUL FROM THERMAL WITH WELDED JOINTS. 5. BRANCHES SHALL BE WELDED TO MAIN PIPES WITH WELDED JOINTS. 6. SYSTEM BRANCH SHALL BE PER NFPA 13. 7. OTHER TO PROVIDE PARTIAL WALL FIRE EXTINGUISHERS.</p> <p>8. HYDRANT CITY CONNECTION, HADWAY COVER, & SYSTEM IDENTIFICATION TAGS.</p> <p>9. HYDRANT CITY CONNECTION POINT.</p> <p>10. ALL HYDRANT CONNECTIONS SHALL BE FULL TEST AND APPROVED.</p> <p>11. SPARK TEST CAPABILITY TO INCLUDE (E.G., HADWAY COVER, WELDED JOINTS PER NFPA 13).</p>

NOTICE	REVISIONS	DATE
<p>IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS.</p> <p>UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:</p> <p>CONTRACT WITH:</p> <p>ADDRESS:</p> <p>PHONE NUMBER:</p> <p>FAX:</p>		

FIRE SPRINKLER DESIGNS BY:	AHJ STAMP	FIRE SPRINKLER CONTRACTOR:
<p>3D FIRE DESIGN, LLC GERALD W. EBELING, SET NICET LEVEL IV # 105930</p>		

JOB NO.	DATE	DESIGNER	APPROVED	SCALE	LICENSE NO.	BUILDING SECTIONS
AQUA-GTCI		GERALD EBELING, SET		AS NOTED		FP17

AQUA APARTMENTS
PARCEL 202
GEORGE TOWN, CAYMAN ISLANDS



STANDARD SYMBOLS	STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	GENERAL SYSTEM NOTES
ALARM CHECK VALVE	THRUST BLOCK		1. HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER SCHEDULES.
KEY OPERATED VALVE	BACKFLOW PREVENTER		2. ALL HYDRANT TEST CONNECTIONS AND LOW POINT DRAINS TO BE PROVIDED PER NFPA 13.
PUBLIC HYDRANT			3. ALL HANGERS TO BE IDENTIFIED WITH REQUIREMENTS (S.D.).
FIRE DEPT. CONNECTION			4. LINE PIPES SHALL BE S.O.D. FROM SPRINKLER PIPE WITH WELDED JOINTS AND SHALL BE IDENTIFIED WITH REQUIREMENTS (S.D.).
O.S.&T. GATE VALVE			5. MAIN PIPING SHALL BE S.O.D. FROM WALL WITH WELDED JOINTS, SHALL BE IDENTIFIED WITH REQUIREMENTS (S.D.).
CHECK VALVE			6. SYSTEM DESIGN SHALL BE PER NFPA 13.
NEW UNDERGROUND			7. OTHER TO PROVIDE PARTIAL WALL FIRE EXPOSURE.
EXISTING UNDERGROUND			8. HYDRANT TO BE IDENTIFIED WITH REQUIREMENTS (S.D.).
			9. HYDRANT TO BE IDENTIFIED WITH REQUIREMENTS (S.D.).
			10. SHOWN FOR IDENTIFICATION ONLY. NOT TO BE APPROVED.
			11. SHOWN FOR IDENTIFICATION ONLY. NOT TO BE APPROVED.
			12. SHOWN FOR IDENTIFICATION ONLY. NOT TO BE APPROVED.

STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	GENERAL SYSTEM NOTES
ALARM CHECK VALVE		1. HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER SCHEDULES.
THRUST BLOCK		2. ALL HYDRANT TEST CONNECTIONS AND LOW POINT DRAINS TO BE PROVIDED PER NFPA 13.
BACKFLOW PREVENTER		3. ALL HANGERS TO BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		4. LINE PIPES SHALL BE S.O.D. FROM SPRINKLER PIPE WITH WELDED JOINTS AND SHALL BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		5. MAIN PIPING SHALL BE S.O.D. FROM WALL WITH WELDED JOINTS, SHALL BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		6. SYSTEM DESIGN SHALL BE PER NFPA 13.
		7. OTHER TO PROVIDE PARTIAL WALL FIRE EXPOSURE.
		8. HYDRANT TO BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		9. HYDRANT TO BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		10. SHOWN FOR IDENTIFICATION ONLY. NOT TO BE APPROVED.
		11. SHOWN FOR IDENTIFICATION ONLY. NOT TO BE APPROVED.
		12. SHOWN FOR IDENTIFICATION ONLY. NOT TO BE APPROVED.

STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	GENERAL SYSTEM NOTES
ALARM CHECK VALVE		1. HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER SCHEDULES.
THRUST BLOCK		2. ALL HYDRANT TEST CONNECTIONS AND LOW POINT DRAINS TO BE PROVIDED PER NFPA 13.
BACKFLOW PREVENTER		3. ALL HANGERS TO BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		4. LINE PIPES SHALL BE S.O.D. FROM SPRINKLER PIPE WITH WELDED JOINTS AND SHALL BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		5. MAIN PIPING SHALL BE S.O.D. FROM WALL WITH WELDED JOINTS, SHALL BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		6. SYSTEM DESIGN SHALL BE PER NFPA 13.
		7. OTHER TO PROVIDE PARTIAL WALL FIRE EXPOSURE.
		8. HYDRANT TO BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		9. HYDRANT TO BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		10. SHOWN FOR IDENTIFICATION ONLY. NOT TO BE APPROVED.
		11. SHOWN FOR IDENTIFICATION ONLY. NOT TO BE APPROVED.
		12. SHOWN FOR IDENTIFICATION ONLY. NOT TO BE APPROVED.

STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	GENERAL SYSTEM NOTES
ALARM CHECK VALVE		1. HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER SCHEDULES.
THRUST BLOCK		2. ALL HYDRANT TEST CONNECTIONS AND LOW POINT DRAINS TO BE PROVIDED PER NFPA 13.
BACKFLOW PREVENTER		3. ALL HANGERS TO BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		4. LINE PIPES SHALL BE S.O.D. FROM SPRINKLER PIPE WITH WELDED JOINTS AND SHALL BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		5. MAIN PIPING SHALL BE S.O.D. FROM WALL WITH WELDED JOINTS, SHALL BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		6. SYSTEM DESIGN SHALL BE PER NFPA 13.
		7. OTHER TO PROVIDE PARTIAL WALL FIRE EXPOSURE.
		8. HYDRANT TO BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		9. HYDRANT TO BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		10. SHOWN FOR IDENTIFICATION ONLY. NOT TO BE APPROVED.
		11. SHOWN FOR IDENTIFICATION ONLY. NOT TO BE APPROVED.
		12. SHOWN FOR IDENTIFICATION ONLY. NOT TO BE APPROVED.

STANDARD SYMBOLS	STANDARD SPRINKLER SYMBOLS	GENERAL SYSTEM NOTES
ALARM CHECK VALVE		1. HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER SCHEDULES.
THRUST BLOCK		2. ALL HYDRANT TEST CONNECTIONS AND LOW POINT DRAINS TO BE PROVIDED PER NFPA 13.
BACKFLOW PREVENTER		3. ALL HANGERS TO BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		4. LINE PIPES SHALL BE S.O.D. FROM SPRINKLER PIPE WITH WELDED JOINTS AND SHALL BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		5. MAIN PIPING SHALL BE S.O.D. FROM WALL WITH WELDED JOINTS, SHALL BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		6. SYSTEM DESIGN SHALL BE PER NFPA 13.
		7. OTHER TO PROVIDE PARTIAL WALL FIRE EXPOSURE.
		8. HYDRANT TO BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		9. HYDRANT TO BE IDENTIFIED WITH REQUIREMENTS (S.D.).
		10. SHOWN FOR IDENTIFICATION ONLY. NOT TO BE APPROVED.
		11. SHOWN FOR IDENTIFICATION ONLY. NOT TO BE APPROVED.
		12. SHOWN FOR IDENTIFICATION ONLY. NOT TO BE APPROVED.

NOTICE		REVISIONS	DATE	FIRE SPRINKLER DESIGNS BY:	AJH STAMP	FIRE SPRINKLER CONTRACTOR:
IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS.						
UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:						
CONTRACT WITH:	ADDRESS:	PHONE NUMBER:	FAX:			
JOB NO. AQUA-GTCI	LICENSE NO.:	DESIGNER GERALD EBELING, SET	APPROVED:	SCALE AS NOTED	PARCEL 202	RATED PENETRATIONS FP18
DATE:	APPROVED:	SCALE:			GEORGE TOWN, CAYMAN ISLANDS	

NFPA 13 2016 Seismic Bracing Calculations

Project Name: AQUA APARTMENTS
Address: BLOCK 13B PARCEL 202
City, State, Zip: GEORGE TOWN, GRAND KAYMAN KY1-1201

Contractor Name: United Contracting Ltd.
Address: PO Box 11987
City, State, Zip: GRAND KAYMAN KY1-1010

Prepared By: Ebeling, Gerald
Date: 28-Sep-2021

Brace Design: 6" 4 WAY
Model: CSBU1 Pr = 1.07

Seismic Brace Attachments

Maximum Length of Brace: 7'-0"
Brace Length (ft): 3.88
Size of Brace (in): 1"
Type of Brace: Sch 40 Pipe
Brace Angle Range: 45-59 Degrees
Maximum Brace Spacing (ft): 10.00
Least Radius of Gyration* (in): 0.421
k/r Value: * 200
Maximum Horizontal Load (lbs): 1310

Structure Attachment Fitting: Universal Structural Bracket, EG, 9/16" Hole
Make: CADDY Model: CSBU1 Pr = 1.07
UL Load Rating (lbs): 3000 Adjusted Per 9.3.5.2.3 (lbs): 2121

Structure Attachment Adapter: n/a
Make: CADDY Model: n/a
UL Load Rating (lbs): n/a Adjusted Per 9.3.5.2.3 (lbs): n/a

Sway Brace Fitting: 6" Single Pipe/Conduit Rigid Universal Sway Brace, electrogalvanized
Make: CADDY Model: CSB0600
UL Load Rating (lbs): 2600 Adjusted Per 9.3.5.2.3 (lbs): 1838

Fastener Information

Fastener Orientation: B
Structure: Concrete (Cracked) - 4,000 psi NW

Fastener Qty: 1
Prying Factor: 1.07
Fastener Type: Powers 7422SD2
Powers Power-Stud+ SD2
Fastener Size: 1/2" x 3 3/4"
Fastener Embedment: 2 1/2"
Fastener Max. Load (lbs): 420

Brace Orientation: 4 Way (Roof Type)

Brace I.D. (on plan): 6" 4 WAY

Sprinkler System Zone of Influence (ZOI) Load Calculation (Fpw = Cp x Wp)

Pipe Size	Pipe Description	Wt/ft (lbs)	15% for Fittings	Total Wt/ft	Length (ft)	Total Wt	Cp = 0.42 per NFPA 13 2016 2009 IBC	
6"	Sch 10	23.03	3.45	26.48	10.00	264.85		
							Sway Brace Attached to 6" Sch10 Pipe	
							Max Fpw Based on 6" Sch10 Pipe	
							Horizontal Earthquake Load	
Weight of Misc. ZOI Valves and Fittings							0.00	Fpw = Cp x Wp
Total Zone of Influence (ZOI) Weight (Wp)							264.85	Fpw = 0.42 x 264.85
Max Fpw per NFPA 13 2016, Section 9.3.5.5.2 including Section 9.3.5.5.2.4							4039 lbs	Fpw = 111.00 lbs

*Excludes tension-only bracing systems

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NFPA 13 2016 Seismic Bracing Calculations

Project Name: AQUA APARTMENTS
Address: BLOCK 13B PARCEL 202
City, State, Zip: GEORGE TOWN, GRAND KAYMAN KY1-1201

Contractor Name: United Contracting Ltd.
Address: PO Box 11987
City, State, Zip: GRAND KAYMAN KY1-1010

Prepared By: Ebeling, Gerald
Date: 28-Sep-2021

Brace Design: 3" 4AY
Model: CSBU1 Pr = 1.07

Seismic Brace Attachments

Maximum Length of Brace: 7'-0"
Brace Length (ft): 3.88
Size of Brace (in): 1"
Type of Brace: Sch 40 Pipe
Brace Angle Range: 45-59 Degrees
Maximum Brace Spacing (ft): 10.00
Least Radius of Gyration* (in): 0.421
k/r Value: * 200
Maximum Horizontal Load (lbs): 1310

Structure Attachment Fitting: Universal Structural Bracket, EG, 9/16" Hole
Make: CADDY Model: CSBU1 Pr = 1.07
UL Load Rating (lbs): 3000 Adjusted Per 9.3.5.2.3 (lbs): 2121

Structure Attachment Adapter: n/a
Make: CADDY Model: n/a
UL Load Rating (lbs): n/a Adjusted Per 9.3.5.2.3 (lbs): n/a

Sway Brace Fitting: 3" Single Pipe/Conduit Rigid Universal Sway Brace, electrogalvanized
Make: CADDY Model: CSB0300
UL Load Rating (lbs): 2100 Adjusted Per 9.3.5.2.3 (lbs): 1485

Fastener Information

Fastener Orientation: B
Structure: Concrete (Cracked) - 4,000 psi NW

Fastener Qty: 1
Prying Factor: 1.07
Fastener Type: Powers 7422SD2
Powers Power-Stud+ SD2
Fastener Size: 1/2" x 3 3/4"
Fastener Embedment: 2 1/2"
Fastener Max. Load (lbs): 420

Brace Orientation: 4 Way (Roof Type)

Brace I.D. (on plan): 3" 4AY

Sprinkler System Zone of Influence (ZOI) Load Calculation (Fpw = Cp x Wp)

Pipe Size	Pipe Description	Wt/ft (lbs)	15% for Fittings	Total Wt/ft	Length (ft)	Total Wt	Cp = 0.42 per NFPA 13 2016 2009 IBC	
3"	Sch 10	7.94	1.19	9.13	10.00	91.31		
							Sway Brace Attached to 3" Sch10 Pipe	
							Max Fpw Based on 3" Sch10 Pipe	
							Horizontal Earthquake Load	
Weight of Misc. ZOI Valves and Fittings							0.00	Fpw = Cp x Wp
Total Zone of Influence (ZOI) Weight (Wp)							91.31	Fpw = 0.42 x 91.31
Max Fpw per NFPA 13 2016, Section 9.3.5.5.2 including Section 9.3.5.5.2.4							966 lbs	Fpw = 38.00 lbs

*Excludes tension-only bracing systems

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NFPA 13 2016 Seismic Bracing Calculations

Project Name: AQUA APARTMENTS
Address: BLOCK 13B PARCEL 202
City, State, Zip: GEORGE TOWN, GRAND KAYMAN KY1-1201

Contractor Name: United Contracting Ltd.
Address: PO Box 11987
City, State, Zip: GRAND KAYMAN KY1-1010

Prepared By: Ebeling, Gerald
Date: 28-Sep-2021

Brace Design: SB-1
Model: CSBU1 Pr = 1.07

Seismic Brace Attachments

Maximum Length of Brace: 7'-0"
Brace Length (ft): 3.88
Size of Brace (in): 1"
Type of Brace: Sch 40 Pipe
Brace Angle Range: 45-59 Degrees
Maximum Brace Spacing (ft): 30.00
Least Radius of Gyration* (in): 0.421
k/r Value: * 200
Maximum Horizontal Load (lbs): 1310

Structure Attachment Fitting: Universal Structural Bracket, EG, 9/16" Hole
Make: CADDY Model: CSBU1 Pr = 1.07
UL Load Rating (lbs): 3000 Adjusted Per 9.3.5.2.3 (lbs): 2121

Structure Attachment Adapter: n/a
Make: CADDY Model: n/a
UL Load Rating (lbs): n/a Adjusted Per 9.3.5.2.3 (lbs): n/a

Sway Brace Fitting: 6" Single Pipe/Conduit Rigid Universal Sway Brace, electrogalvanized
Make: CADDY Model: CSB0600
UL Load Rating (lbs): 2765 Adjusted Per 9.3.5.2.3 (lbs): 1955

Fastener Information

Fastener Orientation: B
Structure: Concrete (Cracked) - 4,000 psi NW

Fastener Qty: 1
Prying Factor: 1.07
Fastener Type: Powers 7422SD2
Powers Power-Stud+ SD2
Fastener Size: 1/2" x 3 3/4"
Fastener Embedment: 2 1/2"
Fastener Max. Load (lbs): 420

Brace Orientation: Lateral

Brace I.D. (on plan): SB-1

Sprinkler System Zone of Influence (ZOI) Load Calculation (Fpw = Cp x Wp)

Pipe Size	Pipe Description	Wt/ft (lbs)	15% for Fittings	Total Wt/ft	Length (ft)	Total Wt	Cp = 0.42 per NFPA 13 2016 2009 IBC	
6"	Sch 10	23.03	3.45	26.48	30.00	794.54		
							Sway Brace Attached to 6" Sch10 Pipe	
							Max Fpw Based on 6" Sch10 Pipe	
							Horizontal Earthquake Load	
Weight of Misc. ZOI Valves and Fittings							0.00	Fpw = Cp x Wp
Total Zone of Influence (ZOI) Weight (Wp)							794.54	Fpw = 0.42 x 794.54
Max Fpw per NFPA 13 2016, Section 9.3.5.5.2 including Section 9.3.5.5.2.4							2647 lbs	Fpw = 334.00 lbs

*Excludes tension-only bracing systems

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NFPA 13 2016 Seismic Bracing Calculations

Project Name: AQUA APARTMENTS
Address: BLOCK 13B PARCEL 202
City, State, Zip: GEORGE TOWN, GRAND KAYMAN KY1-1201

Contractor Name: United Contracting Ltd.
Address: PO Box 11987
City, State, Zip: GRAND KAYMAN KY1-1010

Prepared By: Ebeling, Gerald
Date: 28-Sep-2021

Brace Design: SB-2
Model: CSBU1 Pr = 1.07

Seismic Brace Attachments

Maximum Length of Brace: 7'-0"
Brace Length (ft): 3.88
Size of Brace (in): 1"
Type of Brace: Sch 40 Pipe
Brace Angle Range: 45-59 Degrees
Maximum Brace Spacing (ft): 30.00
Least Radius of Gyration* (in): 0.421
k/r Value: * 200
Maximum Horizontal Load (lbs): 1310

Structure Attachment Fitting: Universal Structural Bracket, EG, 9/16" Hole
Make: CADDY Model: CSBU1 Pr = 1.07
UL Load Rating (lbs): 3000 Adjusted Per 9.3.5.2.3 (lbs): 2121

Structure Attachment Adapter: n/a
Make: CADDY Model: n/a
UL Load Rating (lbs): n/a Adjusted Per 9.3.5.2.3 (lbs): n/a

Sway Brace Fitting: 6" Single Pipe/Conduit Rigid Universal Sway Brace, electrogalvanized
Make: CADDY Model: CSB0600
UL Load Rating (lbs): 2600 Adjusted Per 9.3.5.2.3 (lbs): 1838

Fastener Information

Fastener Orientation: B
Structure: Concrete (Cracked) - 4,000 psi NW

Fastener Qty: 1
Prying Factor: 1.07
Fastener Type: Powers 7422SD2
Powers Power-Stud+ SD2
Fastener Size: 1/2" x 3 3/4"
Fastener Embedment: 2 1/2"
Fastener Max. Load (lbs): 420

Brace Orientation: Longitudinal

Brace I.D. (on plan): SB-2

Sprinkler System Zone of Influence (ZOI) Load Calculation (Fpw = Cp x Wp)

Pipe Size	Pipe Description	Wt/ft (lbs)	15% for Fittings	Total Wt/ft	Length (ft)	Total Wt	Cp = 0.42 per NFPA 13 2016 2009 IBC	
6"	Sch 10	23.03	3.45	26.48	30.00	794.54		
							Sway Brace Attached to 6" Sch10 Pipe	
							Max Fpw Based on 6" Sch10 Pipe	
							Horizontal Earthquake Load	
Weight of Misc. ZOI Valves and Fittings							0.00	Fpw = Cp x Wp
Total Zone of Influence (ZOI) Weight (Wp)							794.54	Fpw = 0.42 x 794.54
Max Fpw per NFPA 13 2016, Section 9.3.5.5.2 including Section 9.3.5.5.2.4							641 lbs	Fpw = 334.00 lbs

*Excludes tension-only bracing systems

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NFPA 13 2016 Seismic Bracing Calculations

Project Name: AQUA APARTMENTS
Address: BLOCK 13B PARCEL 202
City, State, Zip: GEORGE TOWN, GRAND KAYMAN KY1-1201

Contractor Name: United Contracting Ltd.
Address: PO Box 11987
City, State, Zip: GRAND KAYMAN KY1-1010

Prepared By: Ebeling, Gerald
Date: 28-Sep-2021

Brace Design: SB-3
Model: CSBU1 Pr = 1.07

Seismic Brace Attachments

Maximum Length of Brace: 7'-0"
Brace Length (ft): 3.88
Size of Brace (in): 1"
Type of Brace: Sch 40 Pipe
Brace Angle Range: 45-59 Degrees
Maximum Brace Spacing (ft): 20.00
Least Radius of Gyration* (in): 0.421
k/r Value: * 200
Maximum Horizontal Load (lbs): 1310

Structure Attachment Fitting: Universal Structural Bracket, EG, 9/16" Hole
Make: CADDY Model: CSBU1 Pr = 1.07
UL Load Rating (lbs): 3000 Adjusted Per 9.3.5.2.3 (lbs): 2121

Structure Attachment Adapter: n/a
Make: CADDY Model: n/a
UL Load Rating (lbs): n/a Adjusted Per 9.3.5.2.3 (lbs): n/a

Sway Brace Fitting: Universal Sway Brace, EG, 2 1/2" Pipe
Make: CADDY Model: CSB0250
UL Load Rating (lbs): 2765 Adjusted Per 9.3.5.2.3 (lbs): 1955

Fastener Information

Fastener Orientation: B
Structure: Concrete (Cracked) - 4,000 psi NW

Fastener Qty: 1
Prying Factor: 1.07
Fastener Type: Powers 7424SD2
Powers Power-Stud+ SD2
Fastener Size: 1/2" x 5 1/2"
Fastener Embedment: 3 3/4"
Fastener Max. Load (lbs): 717

Brace Orientation: Lateral

Brace I.D. (on plan): SB-3

Sprinkler System Zone of Influence (ZOI) Load Calculation (Fpw = Cp x Wp)

Pipe Size	Pipe Description	Wt/ft (lbs)	15% for Fittings	Total Wt/ft	Length (ft)	Total Wt	Cp = 0.42 per NFPA 13 2016 2009 IBC	
2 1/2"	Sch 10	5.89	0.88	6.77	20.00	135.47		
1 1/4"	Sch 10	2.52	0.38	2.90	310.00	898.38		
1"	Sch 40	2.05	0.31	2.36	40.00	94.30		
							Sway Brace Attached to 2 1/2" Sch10 Pipe	
							Max Fpw Based on 2 1/2" Sch10 Pipe	
							Horizontal Earthquake Load	
Weight of Misc. ZOI Valves and Fittings							0.00	Fpw = Cp x Wp
Total Zone of Influence (ZOI) Weight (Wp)							1,128.15	Fpw = 0.42 x 1,128.15
Max Fpw per NFPA 13 2016, Section 9.3.5.5.2 including Section 9.3.5.5.2.4							641 lbs	Fpw = 474.00 lbs

*Excludes tension-only bracing systems

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NFPA 13 2016 Seismic Bracing Calculations

Project Name: AQUA APARTMENTS
Address: BLOCK 13B PARCEL 202
City, State, Zip: GEORGE TOWN, GRAND KAYMAN KY1-1201

Contractor Name: United Contracting Ltd.
Address: PO Box 11987
City, State, Zip: GRAND KAYMAN KY1-1010

Prepared By: Ebeling, Gerald
Date: 28-Sep-2021

Brace Design: SB-4
Model: CSBU1 Pr = 1.07

Seismic Brace Attachments

Maximum Length of Brace: 7'-0"
Brace Length (ft): 3.88
Size of Brace (in): 1"
Type of Brace: Sch 40 Pipe
Brace Angle Range: 45-59 Degrees
Maximum Brace Spacing (ft): 80.00
Least Radius of Gyration* (in): 0.421
k/r Value: * 200
Maximum Horizontal Load (lbs): 1310

Structure Attachment Fitting: Universal Structural Bracket, EG, 9/16" Hole
Make: CADDY Model: CSBU1 Pr = 1.07
UL Load Rating (lbs): 3000 Adjusted Per 9.3.5.2.3 (lbs): 2121

Structure Attachment Adapter: n/a
Make: CADDY Model: n/a
UL Load Rating (lbs): n/a Adjusted Per 9.3.5.2.3 (lbs): n/a

Sway Brace Fitting: Universal Sway Brace, EG, 2 1/2" Pipe
Make: CADDY Model: CSB0250
UL Load Rating (lbs): 2015 Adjusted Per 9.3.5.2.3 (lbs): 1425

Fastener Information

Fastener Orientation: B
Structure: Concrete (Cracked) - 4,000 psi NW

Fastener Qty: 1
Prying Factor: 1.07
Fastener Type: Powers 7422SD2
Powers Power-Stud+ SD2
Fastener Size: 1/2" x 3 3/4"
Fastener Embedment: 2 1/2"
Fastener Max. Load (lbs): 420

Brace Orientation: Longitudinal

Brace I.D. (on plan): SB-4

Sprinkler System Zone of Influence (ZOI) Load Calculation (Fpw = Cp x Wp)

Pipe Size	Pipe Description	Wt/ft (lbs)	15% for Fittings	Total Wt/ft	Length (ft)	Total Wt	Cp = 0.42 per NFPA 13 2016 2009 IBC	
2 1/2"	Sch 10	5.89	0.88	6.77	80.00	541.88		
							Sway Brace Attached to 2 1/2" Sch10 Pipe	
							Max Fpw Based on 2 1/2" Sch10 Pipe	
							Horizontal Earthquake Load	
Weight of Misc. ZOI Valves and Fittings							0.00	Fpw = Cp x Wp
Total Zone of Influence (ZOI) Weight (Wp)							541.88	Fpw = 0.42 x 541.88
Max Fpw per NFPA 13 2016, Section 9.3.5.5.2 including Section 9.3.5.5.2.4							641 lbs	Fpw = 228.00 lbs

*Excludes tension-only bracing systems

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STANDARD SYMBOLS

POST INDICATOR VALVE
KEY OPERATED VALVE
PUBLIC HYDRANT
FIRE DEPT. CONNECTION
O.S.&Y. GATE VALVE
CHECK VALVE
NEW UNDERGROUND
EXISTING UNDERGROUND

STANDARD SYMBOLS

ALARM CHECK VALVE
THRUST BLOCK
BACKFLOW PREVENTER

STANDARD SPRINKLER SYMBOLS

UPRIGHT ON 1" OUTLET
PENDENT ON 1" SPRING
PENDENT BELOW CEILING ON 1" DROP
UPRIGHT ABOVE PENDENT ON 1" DROP
SIDEWALL ON 1" SPRING
SIDEWALL ON 1" SPRING

GENERAL SYSTEM NOTES

- HYDRANT INFORMATION TO BE PROVIDED ON SPRINKLER PLANS.
- UPRIGHT BRACES TO BE PROVIDED ON SPRINKLER PLANS.
- ALL SPECIFICATIONS TO BE CONFORMED TO AND LISTED PER NFPA 13.
- ALL BRACES TO BE CONFORMED WITH THE REQUIREMENTS OF NFPA 13.
- LINE PIPES SHALL BE 60% FLOW PIPING IN PIPE WITH WELDED JOINTS AND APPROVED BRACES AND FITTINGS (SEE NOTES).
- MAX FLOW PIPING SHALL BE 60% FLOW PIPING WITH WELDED JOINTS AND APPROVED BRACES AND FITTINGS (SEE NOTES).
- OTHER TO PROVIDE PARTIAL WELDED JOINTS.
- HYDRANT ZONE CONNECTIONS, HYDRANT ZONES, & OTHER INFORMATION TO BE PROVIDED ON SPRINKLER PLANS.
- HYDRANT ZONE CONNECTIONS SHALL BE APPROVED.
- ALL HYDRANT CONNECTIONS SHALL BE APPROVED.
- SHOWN TO BE CONFORMED TO NFPA 13.

NOTICE

IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS.

UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:

CONTRACT WITH:
ADDRESS:
PHONE NUMBER:
FAX:

REVISIONS

DATE

FIRE SPRINKLER DESIGNS BY:

AHJ STAMP

FIRE SPRINKLER CONTRACTOR:

3D FIRE DESIGN, LLC
GERALD W. EBELING, SET
NICET LEVEL IV # 105930

JOB NO: AQUA-GTCL
LICENSE NO:

DATE: [REDACTED]
DESIGNER: GERALD EBELING, SET
APPROVED: [REDACTED]
SCALE: AS NOTED

AQUA APARTMENTS
PARCEL 202
GEORGE TOWN, CAYMAN ISLANDS

EQ BRACING
FP19

GRAPHIC SCALE 1/8"=1'-0" (U.N.O.)

0 1 2 3 4 5

NOTICE

IT IS THE OWNER'S RESPONSIBILITY TO PROVIDE HEAT ADEQUATE TO PREVENT FREEZING THROUGHOUT WET PIPE SPRINKLER SYSTEM AREAS, AND ALSO IN ENCLOSURES FOR DRY PIPE, DELUGE AND OTHER TYPES OF VALVES CONTROLLING WATER SUPPLIES TO SPRINKLER SYSTEMS.

UNDERGROUND AND OVERHEAD TESTS TO BE WITNESSED BY:

CONTRACT WITH:
ADDRESS:
PHONE NUMBER:
FAX:

REVISIONS

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JOB NO: AQUA-GTCL
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APPROVED: [REDACTED]
SCALE: AS NOTED

AQUA APARTMENTS
PARCEL 202
GEORGE TOWN, CAYMAN ISLANDS

EQ BRACING
FP19