

NOVEC 1230 PIPING INSTALLATION NOTES

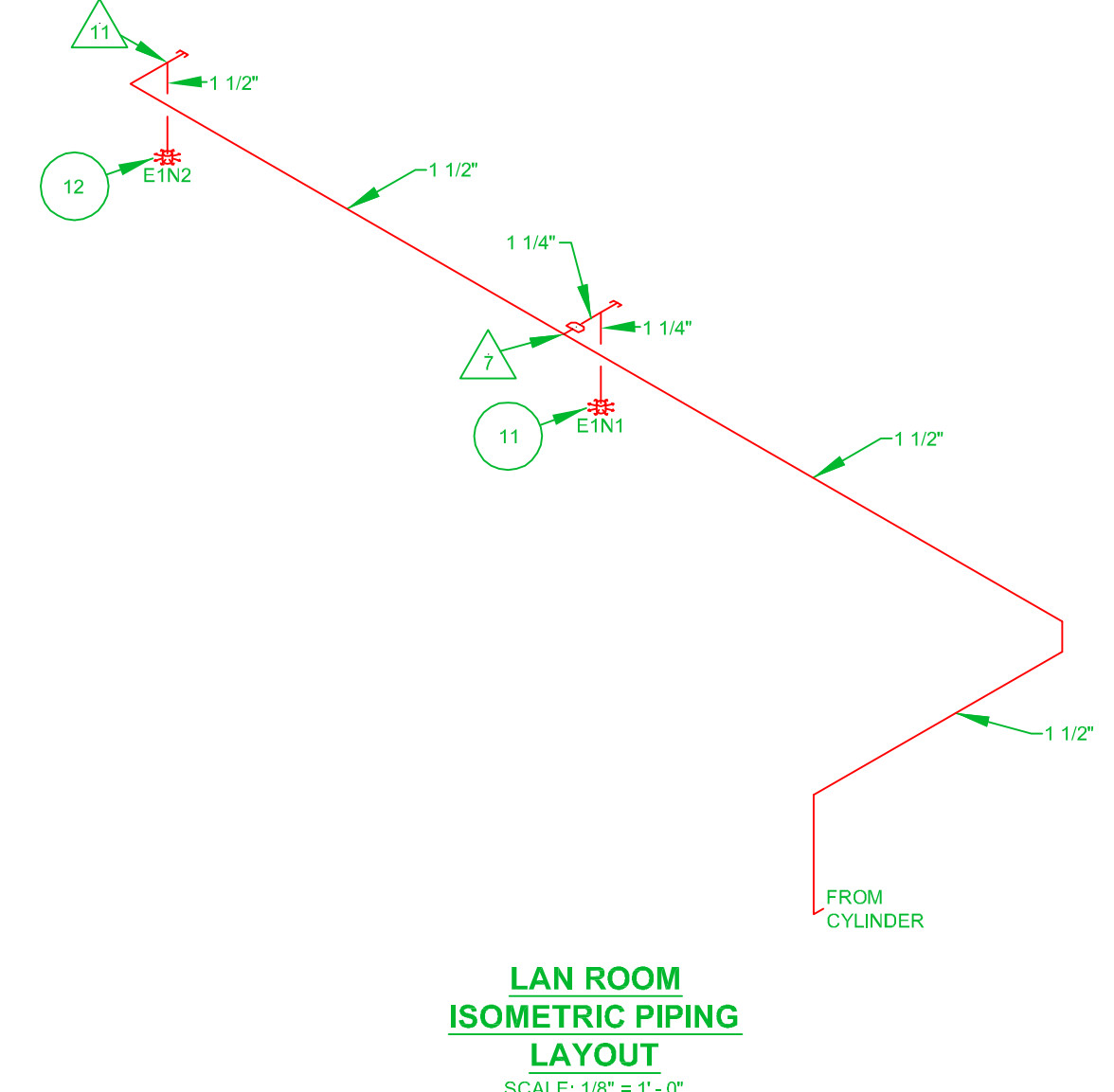
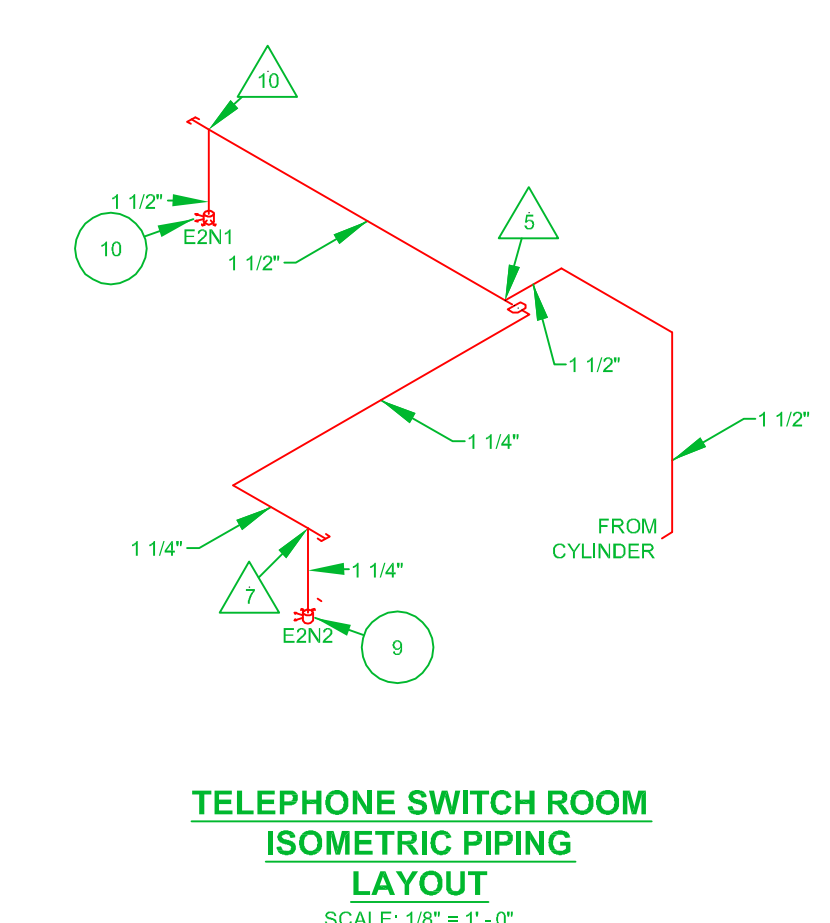
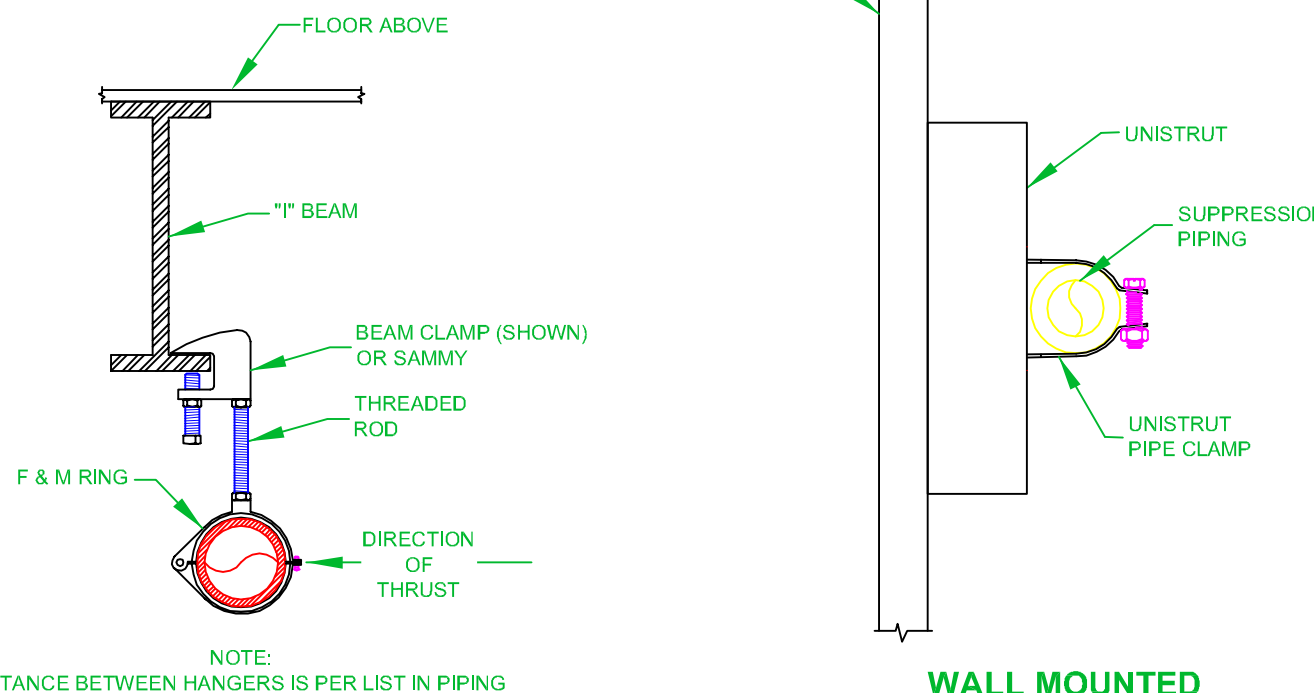
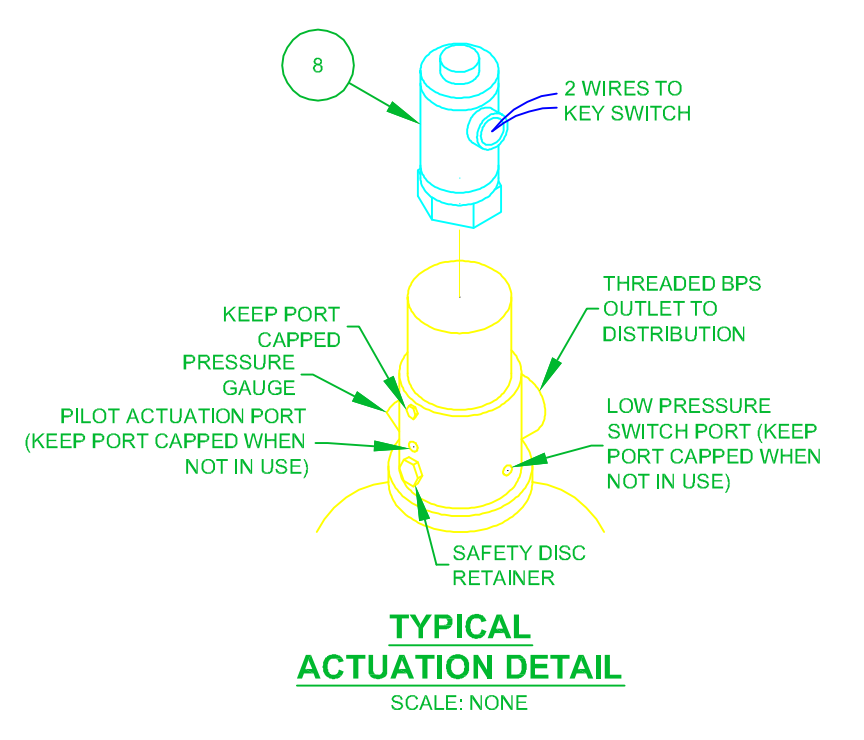
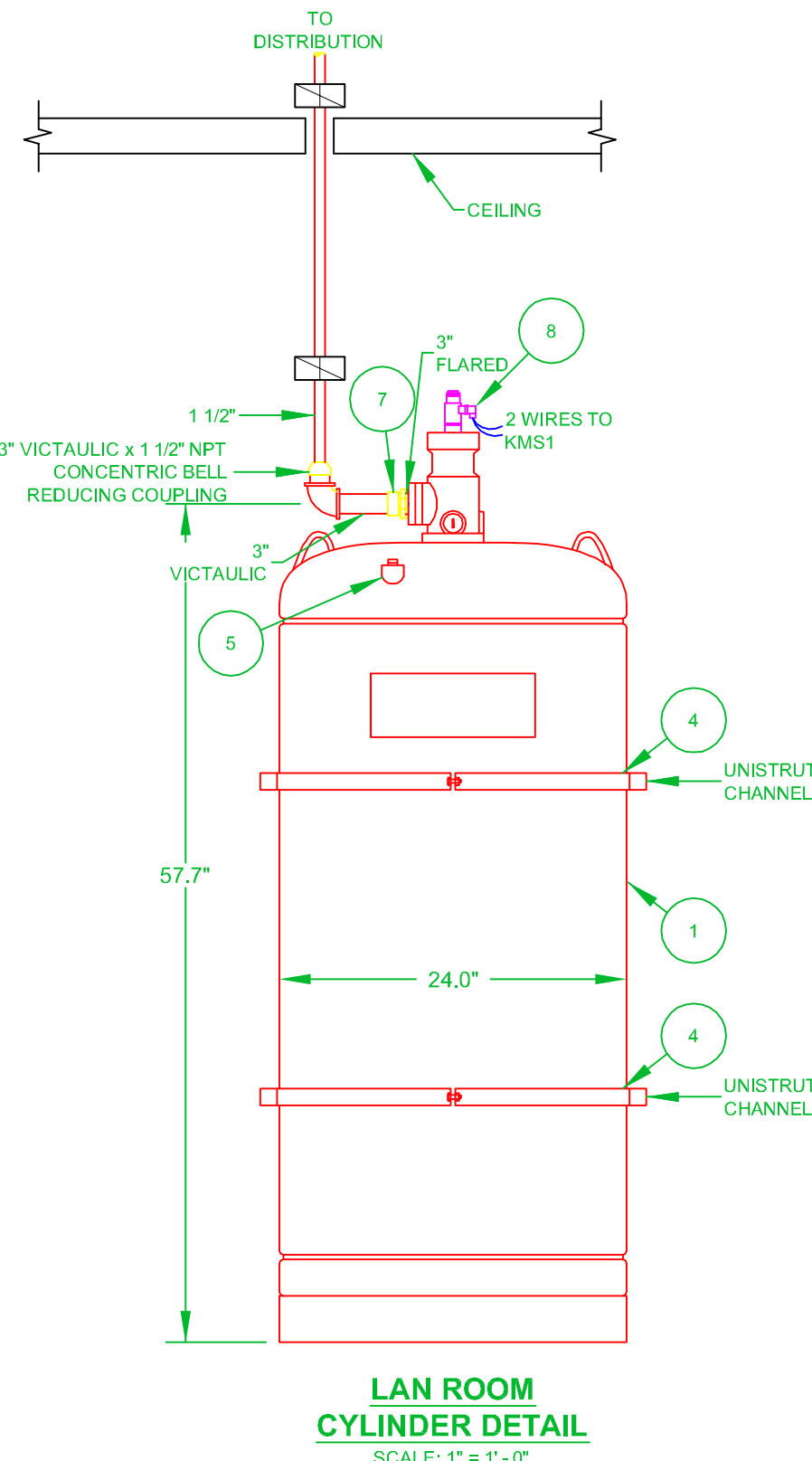
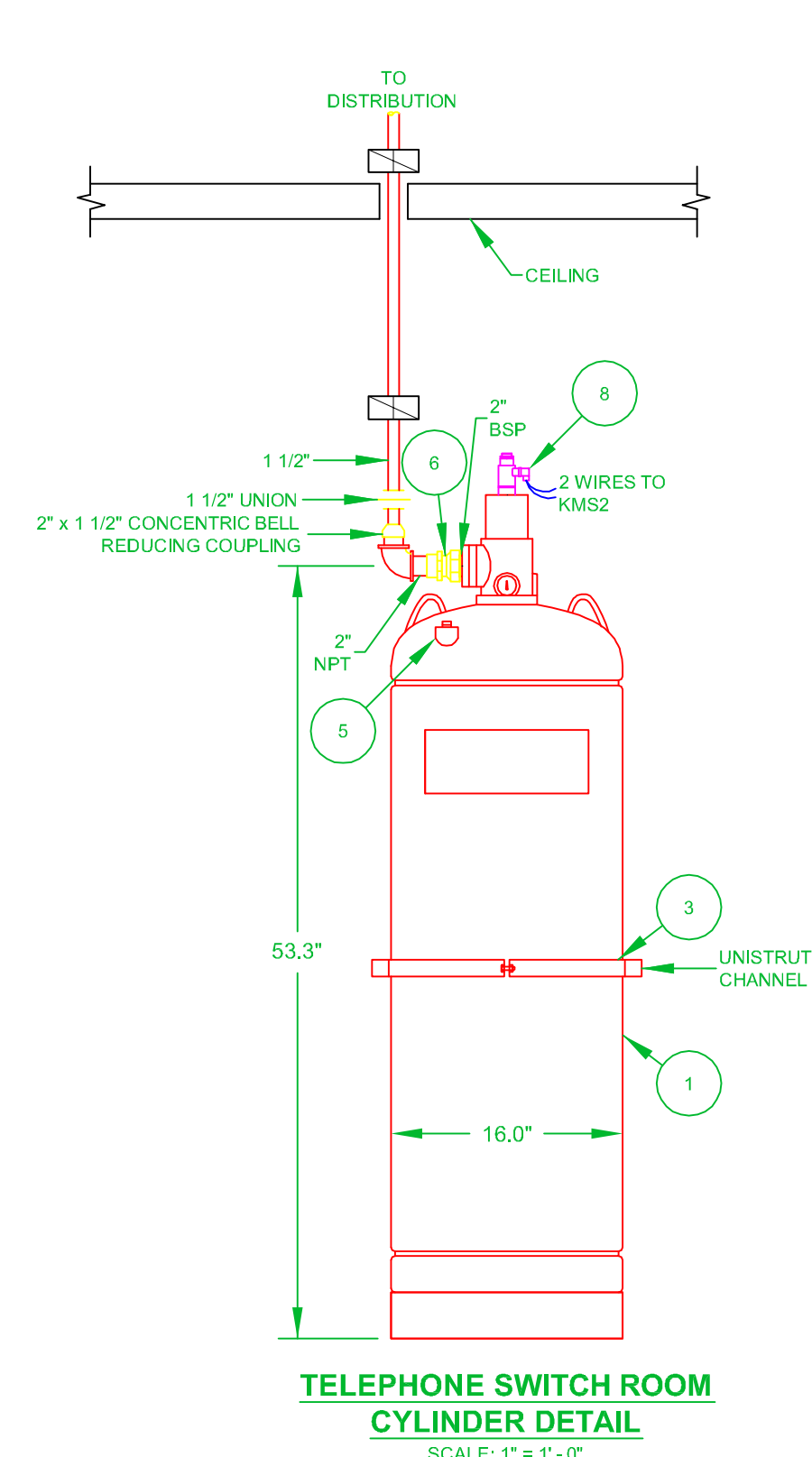
- ALL DIMENSIONS ARE TO BE FIELD CHECKED. IF PIPING SHOWS INTERFERENCE WITH ANY OBJECT, APPROVAL FOR CHANGES SHALL BE SECURED PRIOR TO INSTALLATION, WITH HILLER NEW ENGLAND FIRE PROTECTION, INC.
- BEFORE ASSEMBLY, PIPE IS TO BE REAMED, BLOWN CLEAR AND SWABBED WITH APPROPRIATE SOLVENT TO REMOVE MILL VARNISH AND CUTTING OIL.
- TEFLON PIPE TAPE IS THE ONLY ACCEPTABLE SEALANTS AND MUST BE APPLIED TO MALE THREADS ONLY. DO NOT ALLOW PIPE TAPE TO OVERLAP THE PIPE OPENING. THREAD SEALANT OR COMPOUND MUST NOT BE USED. TEFLON PIPE TAPE NEED NOT BE APPLIED TO THE CYLINDER SIDE OF THE CYLINDER SWIVEL ADAPTER OR DISCHARGE HOSE.
- SIZE REDUCTIONS MAY BE ACCOMPLISHED WITH THE USE OF REDUCING BUSHINGS, REDUCING COUPLINGS, REDUCING TEES OR REDUCING ELBOWS. THE LARGEST PIPE SIZE AT THE POINT OF REDUCTION DETERMINES FITTING SIZE.
- ALL TEE OUTLETS MUST BE HORIZONTAL AND PARALLEL WITH THE FLOOR.
- PIPE LENGTHS BETWEEN ANY TWO TEES OR A TEE AND AN ELBOW MUST BE 10 PIPE DIAMETERS, MINIMUM, OF THE SPECIFIED PIPE SIZE.
- ALL 180° DISCHARGE NOZZLES, IF USED, ARE TO BE WITHIN 12" OF A WALL. BACK TO BACK 180° NOZZLES MUST BE WITHIN 24" OF EACH OTHER.
- ALL NOZZLES MUST BE WITHIN 12" OF THE HIGHEST POINT OF THE HAZARD, UNLESS OTHERWISE SPECIFIED.
- ALL MATERIALS USED IN THE INSTALLATION OF THE NOVEC 1230 SYSTEM SHALL BE IN COMPLIANCE WITH ALL SECTIONS OF NFPA 2001, YEAR 2012 EDITION. THE FOLLOWING RESTRICTIONS APPLY:
 - PIPE AND FITTINGS:
 - THE DISTRIBUTION PIPING MUST BE CONSTRUCTED OF SCHEDULE 40 PIPING WITH CLASS 300 MALLEABLE IRON THREADED, VICTAULIC OR WELDED STEEL FITTINGS. ALL UNIONS MUST BE CLASS 300. ALL PIPE AND FITTINGS, 2 1/2" OR LARGER, MUST BE VICTAULIC, UNLESS OTHERWISE SPECIFIED. ALL PIPING MUST BE BLACK, CHROME-PLATED, STAINLESS STEEL OR GALVANIZED STEEL OF THE FOLLOWING TYPE AND GRADE: ASTM A-53 SEAMLESS GRADES A OR B, ASTM A-53 ERW GRADES A OR B, ASTM A-53 FURNACE WELD CLASS F OR ASTM A-106 SEAMLESS GRADES A, B OR C.
 - UNACCEPTABLE MATERIALS ARE ASTM A-120, ASTM A-135 OR ORDINARY CAST IRON PIPE OR FITTINGS.
 - ALL DEAD END PIPE LINES TO BE PROVIDED WITH A CAPPED NIPPLE, NO LESS THAN 2" IN LENGTH AND NOT TO EXCEED 10 PIPE DIAMETERS OF THE SPECIFIED PIPE.
 - ACTUATION PIPING:
 - WHEN PNEUMATICALLY ACTUATING SLAVE CYLINDERS WITH BACK PRESSURE FROM PILOT CYLINDER, UTILIZE 1/4" STAINLESS STEEL HOSE OR 1/4" O.D. STAINLESS STEEL TUBING WITH A WALL THICKNESS OF 0.065". THE MAXIMUM LENGTH FROM THE MASTER TANK TO THE LAST SLAVE TANK, INCLUDING ALL HORIZONTAL AND VERTICAL TUBING SEGMENTS SHALL NOT EXCEED 100'.
 - HANGERS:
 - THE MAXIMUM SPACING BETWEEN HANGERS SHALL NOT EXCEED THOSE LISTED IN THE HANGER SPACING BELOW:

PIPE SIZE IN NPT	MAXIMUM SPACING BETWEEN HANGERS	PIPE SIZE IN NPT	MAXIMUM SPACING BETWEEN HANGERS
1/2"	4'-0"	1 1/2"	12'-0"
3/4"	6'-0"	1 1/4" OR LARGER	15'-0"

ii. A HANGER SHOULD BE INSTALLED BETWEEN FITTINGS WHEN THE FITTINGS ARE MORE THAN 24" APART.
 iii. A HANGER SHOULD BE INSTALLED AT A MAXIMUM OF 12" FROM ANY NOZZLE.
 iv. THE HANGERS SHALL BE U.L. LISTED AND RIGIDLY SUPPORTED. NO CLEVIS HANGERS ARE ALLOWED.

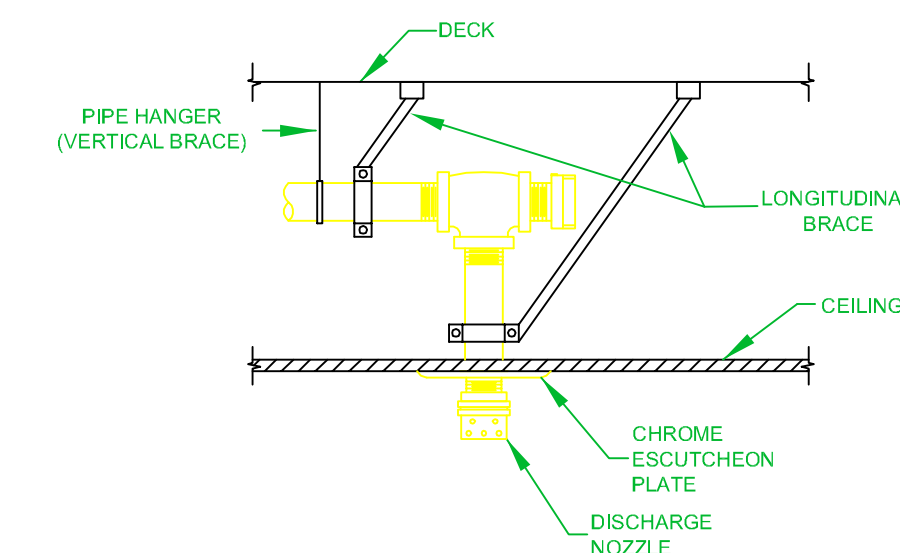
D. BRACING:
 i. SEISMIC BRACING SHALL BE PROVIDED IN THE ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL CODE REQUIREMENTS.

- LEGEND:**
- SCP SUPPRESSION CONTROL PANEL
 - PHOTOELECTRIC SMOKE DETECTOR (CEILING)
 - LXX-DXXX DETECTOR ADDRESS
 - C CONTROL MODULE
 - S RELEASING MODULE
 - R RELAY MODULE
 - M MONITOR MODULE
 - M MINI-MONITOR MODULE
 - LXX-MXXX MODULE ADDRESS
 - ELECTRIC RELEASE STATION
 - ABORT STATION
 - KEY MAINTENANCE SWITCH
 - HORN/STROBE
 - DISCHARGE STROBE
 - SUPPRESSION PIPING (CEILING)
 - DIRT TRAP (2" MINIMUM IN LENGTH)
 - 180° DISCHARGE NOZZLE (CEILING)
 - 360° DISCHARGE NOZZLE (CEILING)
 - XEXNX NOZZLE IDENTIFIER
 - HYDRAULIC CALCULATION POINT
 - SEISMIC BRACING
 - INTERMEDIATE HANGER
 - WALL MOUNTED UNISTRUT HANGER



CEILING SUPPRESSION PIPING INTERMEDIATE HANGER DETAIL SCALE: NONE

NOTE: DISTANCE BETWEEN HANGERS IS PER LIST IN PIPING NOTES.



CEILING SUPPRESSION PIPING SEISMIC BRACING DETAIL SCALE: NONE

NOTES:
 1) BRACING SHALL BE PARALLEL AND PERPENDICULAR WITH THE SUPPRESSION PIPING.
 2) TWO BRACES, BOTH VERTICAL AND HORIZONTAL, REQUIRED AT EVERY TEE. EVERY CHANGE OF DIRECTION AND AT THE END OF EVERY BRANCH. THIS INCLUDES ALL NOZZLES.

IMPORTANT NOTE:
 HILLER NEW ENGLAND FIRE PROTECTION IS NOT RESPONSIBLE FOR THE LOSS OF FM-200 FIRE EXTINGUISHING AGENT DUE TO LEAKS IN THE PROTECTED AREA. PRIOR TO ACCEPTANCE, ALL HOLES AND CRACKS SHOULD BE CHECKED FOR TIGHTNESS. EMPTY CONDUITS MUST BE SEALED AND ALL DUCTS AND DAMPERS SHOULD BE TIGHT FITTING.

ENGINEERED BY:
HILLER NEW ENGLAND FIRE PROTECTION, INC.
 400 WASHINGTON ST., PORTLAND, MAINE 04101
 (207) 657-5646 FAX: (207) 657-5647

EQUIPMENT LIST				
EQUIPMENT SUPPLIER	ITEM #	ITEM DESCRIPTION	# OF ITEMS	PART NUMBER
ANSUL	1	350 lb. NOVEC 1230 CYLINDER, FILLED TO 288 lbs.	1	570640
	2	850 lb. NOVEC 1230 CYLINDER, FILLED TO 379 lbs.	1	570566
	3	CYLINDER MOUNTING BRACKET: 140, 280, 390 & 450 lb. CYLS	1	570092
	4	CYLINDER MOUNTING BRACKET: 850 lb. NOVEC 1230 CYLS	1	570336
	5	LIQUID LEVEL INDICATOR: 390 & 850 lb. CYLINDERS	2	570278
	6	SWIVEL ADAPTOR: 2" FOR 140, 280, 390 & 450 lb. CYLINDERS	1	570558
	7	SWIVEL ADAPTOR: 3" FLARED TO 3" VICTAULIC, 850 lb. CYL.	1	69471
	8	ELECTRIC ACTUATOR: 24 VDC	2	570537
	9	180° DISCHARGE NOZZLE: 1 1/4", 0.5870 NOZZLE AREA	1	570516 - 8.30 mm
	10	180° DISCHARGE NOZZLE: 1 1/2", 0.8686 NOZZLE AREA	1	570519 - 10.20 mm
	11	360° DISCHARGE NOZZLE: 1 1/4", 0.5471 NOZZLE AREA	1	570805 - 5.30 mm
	12	360° DISCHARGE NOZZLE: 1 1/2", 0.9273 NOZZLE AREA	1	570808 - 6.90 mm
NOTIFIER	13	ADDRESSABLE FIRE ALARM PANEL	1	NFS - 320
	14	ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR	10	FSP - 351
	15	ADDRESSABLE DETECTOR BASE: PLUG-IN, 6" FLANGE TYPE	10	B210LP
	17	ADDRESSABLE MINI-MONITOR MODULE	4	FMM - 101
	18	ADDRESSABLE MONITOR MODULE	2	FMM - 1
	19	INTENTIONALLY LEFT BLANK	---	---
	20	ADDRESSABLE RELEASING MODULE	2	FCM - 1 - REL
	21	ADDRESSABLE RELAY MODULE	2	FRM - 1
	22	END OF LINE RESISTOR: 47k Ω	6	---
	23	END OF LINE RESISTOR: 2.2k Ω	4	---
	24	REMOTE FIRE ANNUNCIATOR	1	FDU - 80
	25	ELECTRIC AGENT RELEASE STATION	2	NBG - 12LR
ANSUL	26	ABORT STATION; FLUSH MOUNT	2	76495
GENTEX	27	COMMANDER HORN/STROBE; MULTI-CANDELA, RED LENS	2	904 - 1333 - 002
	28	COMMANDER STROBE; WALL MOUNT, RED BODY, RED LENS	2	904 - 1341 - 002
POWER SONIC	29	BATTERY: 12 VOLT, 18 A-H	2	PS - 12180
HILLER	30	KEY MAINTENANCE SWITCH; GEMCOM	2	HNE - 173
	31	NAMEPLATE; CAUTION	2	HNE - 502
	32	NAMEPLATE; CYLINDER(S)	2	HNE - 504
	33	NAMEPLATE; MANUAL RELEASE STATION	2	HNE - 501
	34	NAMEPLATE; ABORT STATION	2	HNE - 500
	35	NAMEPLATE; HORN/STROBE, 3 STAGE	2	HNE - 504A
	36	NAMEPLATE; DISCHARGE STROBE	2	HNE - 506
	37	NAMEPLATE; KEY SWITCH (HILLER/GEMCOM)	2	HNE - 505A

PROVIDED FOR:
DEAN & ALLYN, INC.
 FIRE PROTECTION - SPECIAL HAZARD
 PO BOX 709, GRAY, MAINE 04039
 (207) 657-5646 FAX: (207) 657-5647

JEFFERY S. KIDD NICET IV - #099721		DRAWING TITLE: NOVEC 1230 FIRE SUPPRESSION SYSTEM SUPPRESSION EQUIPMENT LAYOUT AND DETAILS		REV. 0
APPROVED BY	DATE	SURVEYED BY	JOB: UNUM 2211 CONGRESS ST. PORTLAND, ME	
		DRAWN BY	SCALE: AS NOTED	
		CHECKED BY	CONTRACT WITH: CONSIGLI CONSTRUCTION CO. PO NUMBER: XXXXXXXXXX	
		AT DEAN & ALLYN, INC	CONTRACT NO. C1211116	
		SCALE: AS NOTED		
		SHEET NO. 1 OF 2		
REVISIONS	DATE			