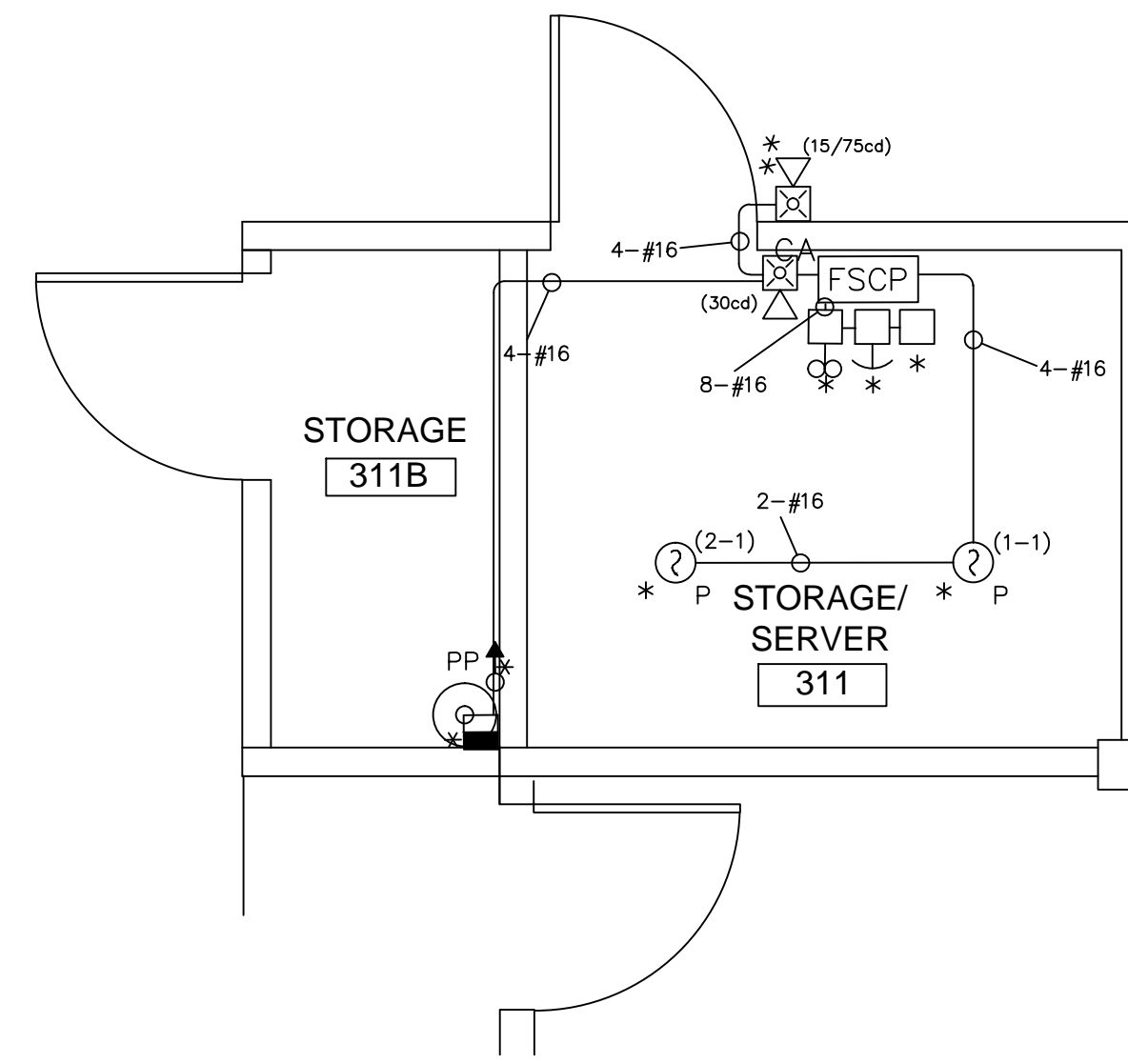
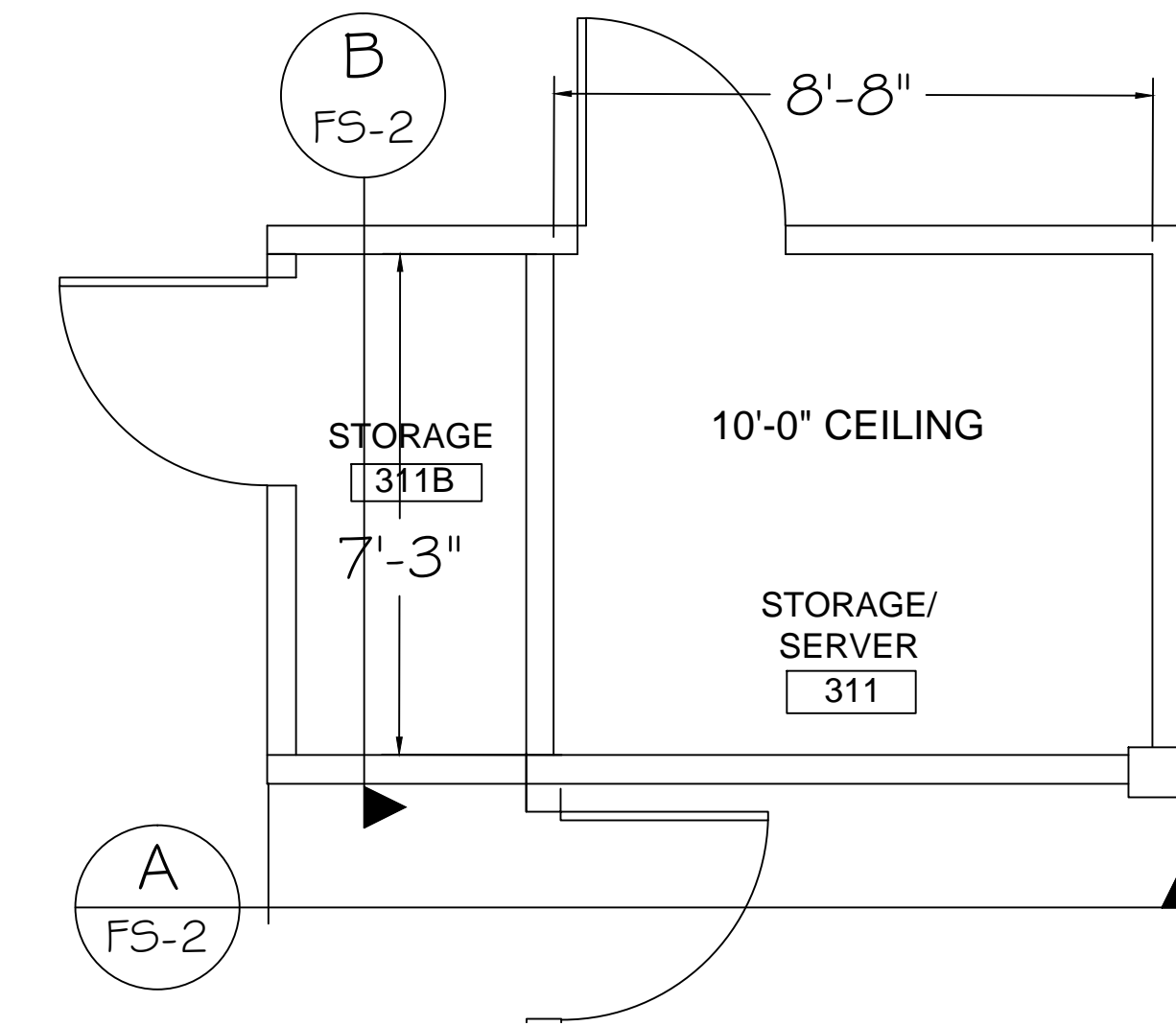


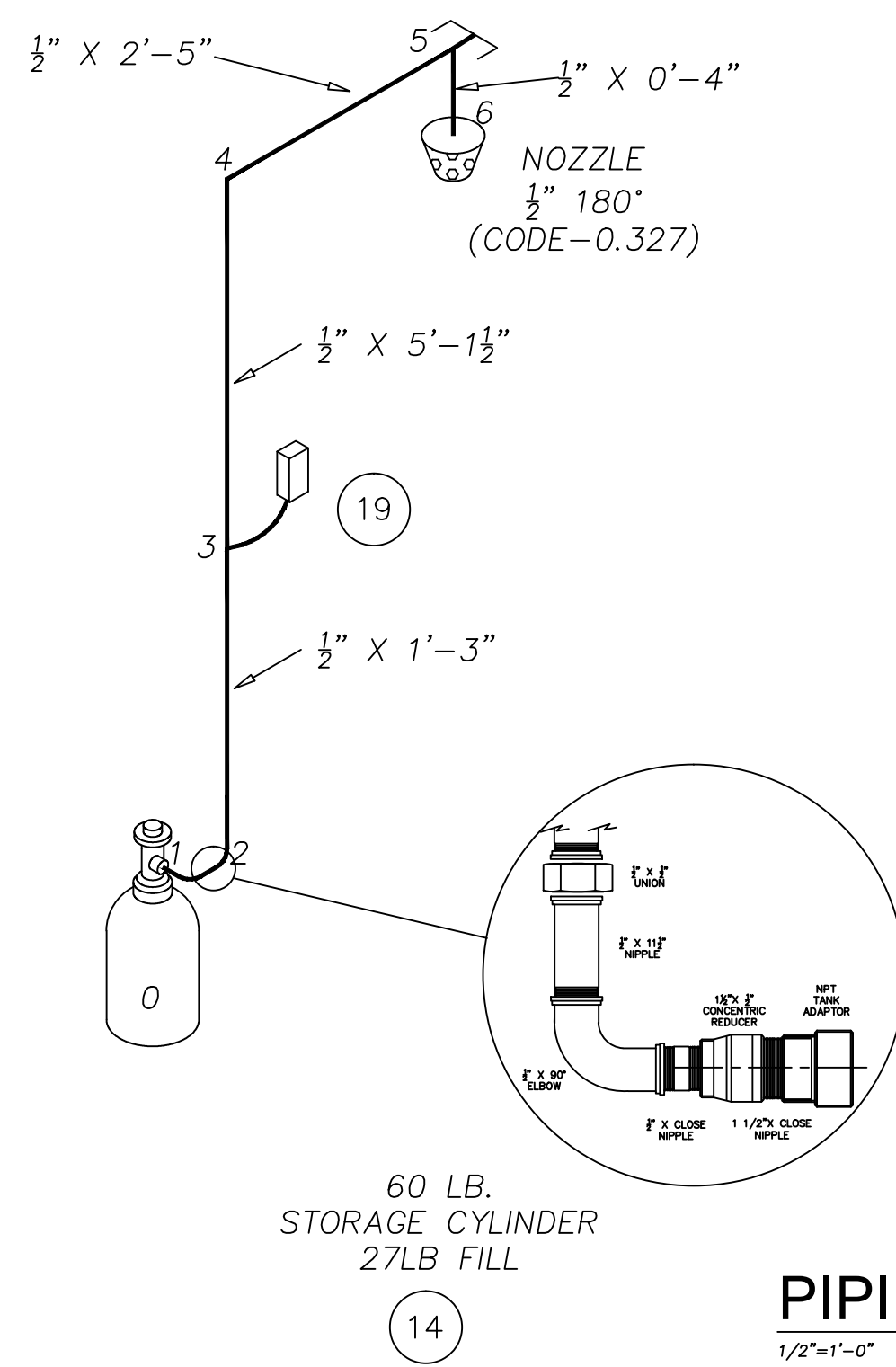
**FM-200 PIPING LAYOUT**  
1/4"=1'-0"  
NORTH



**DETECTION & CONTROL LAYOUT**  
1/4"=1'-0"  
NORTH

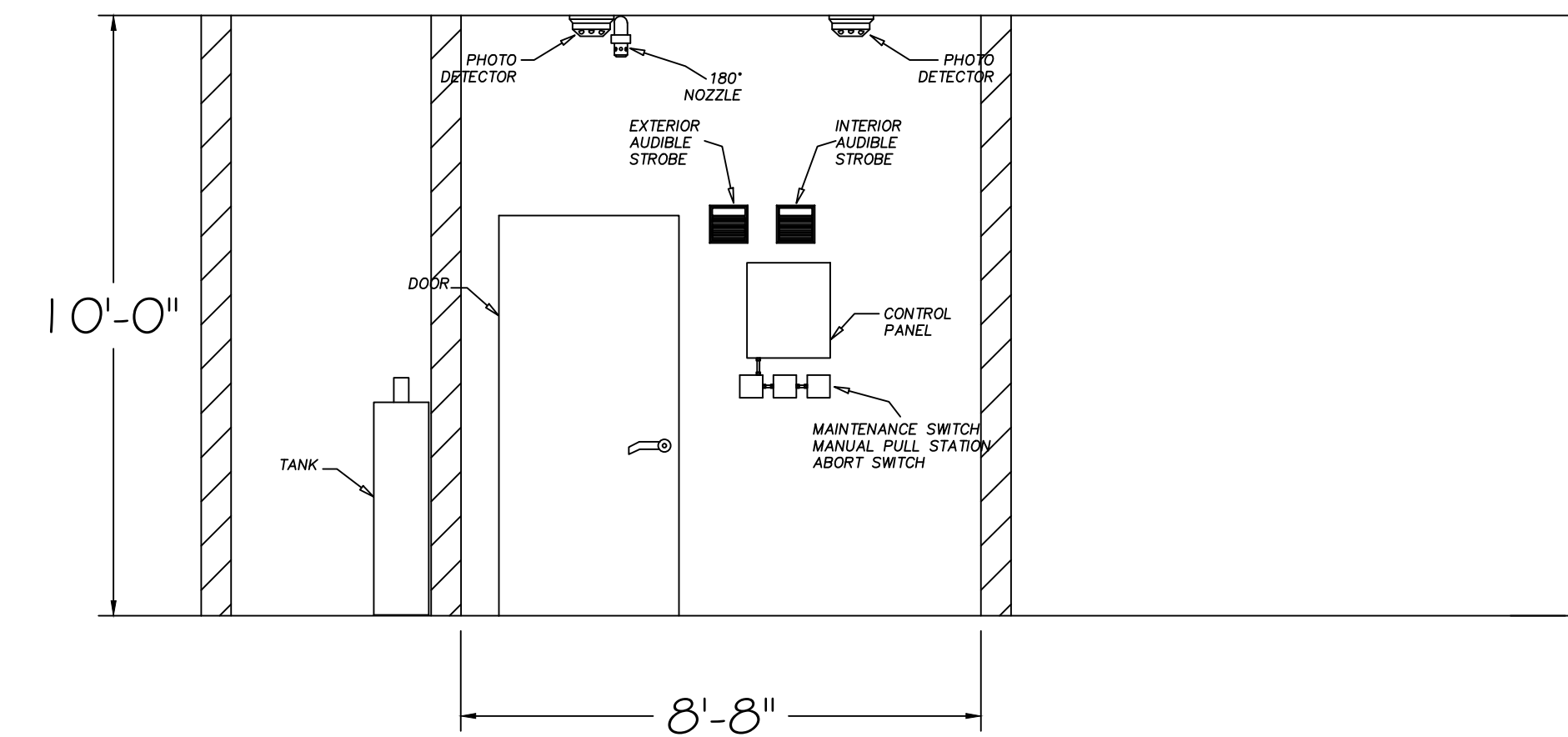


**STORAGE/SERVER ROOM PLAN VIEW**  
1/4"=1'-0"  
NORTH

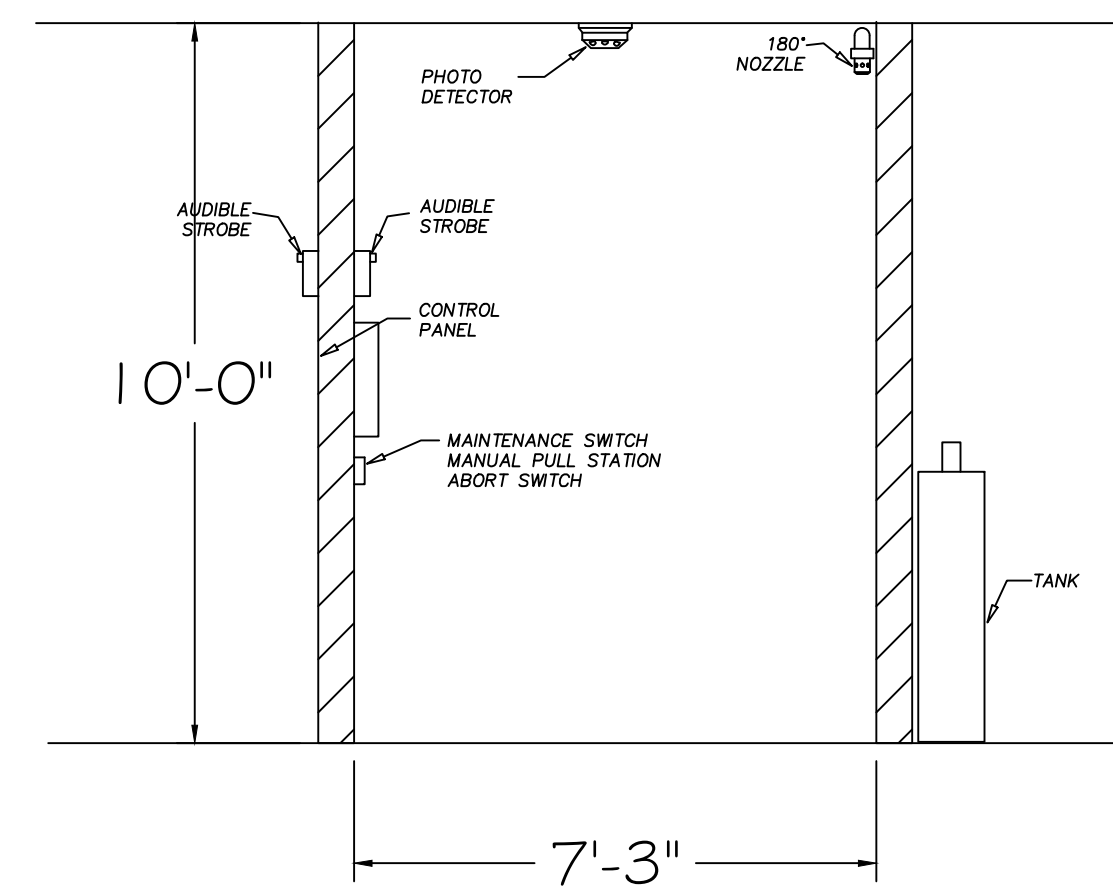


60 LB. STORAGE CYLINDER  
27LB FILL

**PIPING ISOMETRIC**  
1/2"=1'-0"



**SECTION VIEW A**  
3/8"=1'-0"



**SECTION VIEW B**  
3/8"=1'-0"

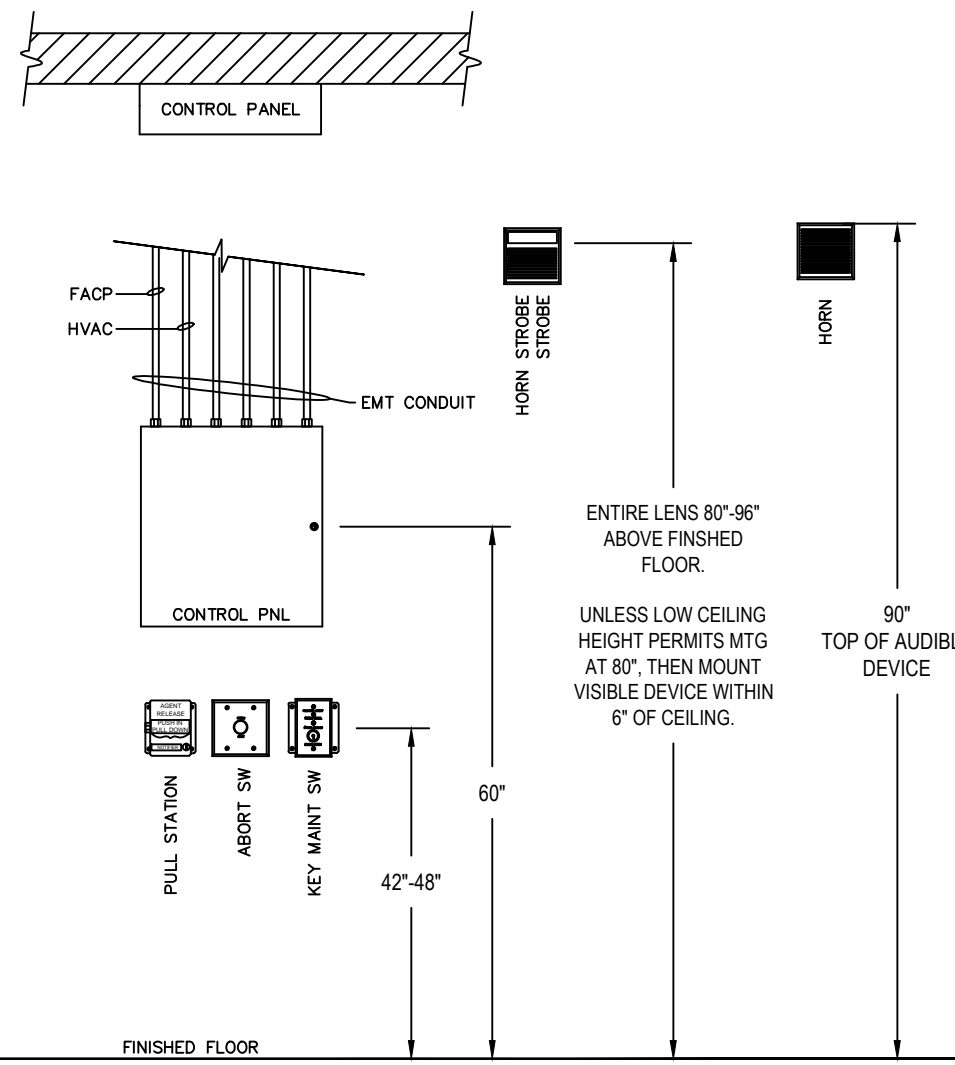
AS-BUILT  
8-24-16

**SYMBOL LEGEND**

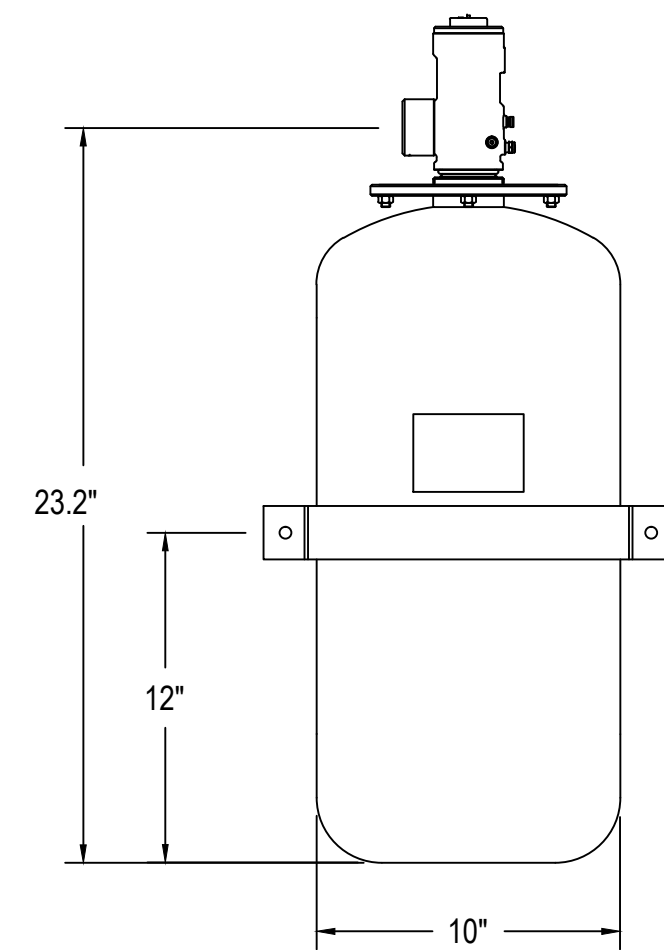
[FSCP]	CLEAN AGENT FIRE SUPPRESSION CONTROL PANEL
[P]	PHOTOELECTRIC SMOKE DETECTOR
[S]	AUDIBLE STROBE, MULTI-CANDELA
[M]	MANUAL PULL STATION
[A]	ABORT SWITCH
[K]	KEYED MAINTENANCE SWITCH
[C]	STORAGE CYLINDER
[PP]	PRESSURE SWITCH
[E]	HF ELECTRIC ACTUATOR
[N]	180° DISCHARGE NOZZLE
[J]	JUNCTION BOX
[A-FS-3]	SECTION MARK "A" = DETAIL DESIGNATION "FS-3" = SHEET NUMBER
[4-#16]	SIZE OF CONDUCTORS (AWG) # OF CONDUCTORS
[*]	END OF LINE RESISTOR LOCATION
[—]	1/2" E.M.T. CONDUIT

AGENT QUANTITY INFORMATION				
NAME OF PROTECTED AREA	PROTECTED AREA REDUCED VOLUME	MINIMUM TOTAL AGENT REQ'D (REDUCED VOL. X FLOODING FACTOR)	TOTAL AGENT SUPPLIED / -ER ROOM	DESIGN CONCENTRATION
STORAGE ROOM	629 CU. FT.	629 CU. FT. X .0412 = 25.91 LBS.	27.0 LBS.	4.75%
TOTAL AGENT AVAILABLE - 27.0 LBS.				

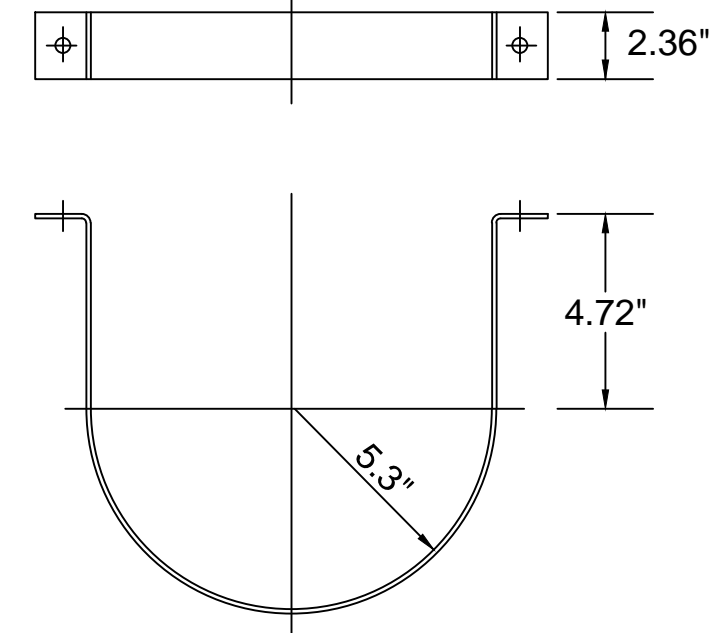
REV. NO.	ISSUE/REVISION DESCRIPTION	DATE			
<b>HOWLAND ENTERPRISES</b> ELECTRICAL CONTRACTORS 10112 Mast Boulevard Santee, CA 92071 O: (619) 247-9788   F: (619) 448-0535					
Cal. Contr. Lic. No. C10-768693					
CONTRACT WITH: <b>TATE FIRE PROTECTION SERVICES, INC.</b> 13771 DANIELSON ST., STE. G POWAY, CA 92064					
PROJECT: <b>NATIONAL MERCHANTS ASSN.</b> 43620 RIDGE PARK DRIVE TEMECULA, CA 92590					
CONTACT: KAREN BOBESON (DATE FIRE) (659) 448-0900					
DRAWN BY:	S.R.W.	DATE:	7-5-16		
CHECKED BY:	G.M.H.	DATE:			
SHEET SCALE:		AS NOTED			
JOB NUMBER:		G2013			
A.H.J.:		TEMECULA, F.D.			
SHEET DESCRIPTION:		SYSTEM LAYOUT			
SHEET NUMBER:		FS-2			



1 DEVICE ELEVATION DETAIL SCALE: N.T.S.



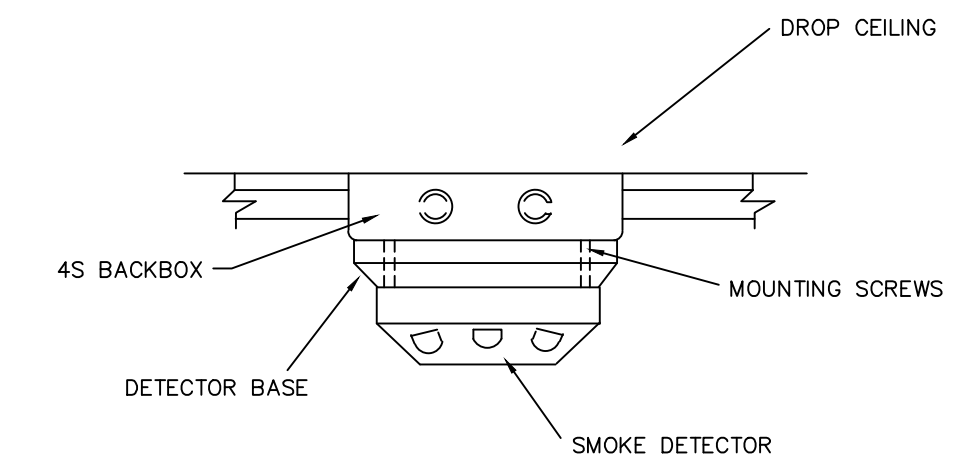
2 AGENT TANK DETAIL - 60LB. SCALE: N.T.S.



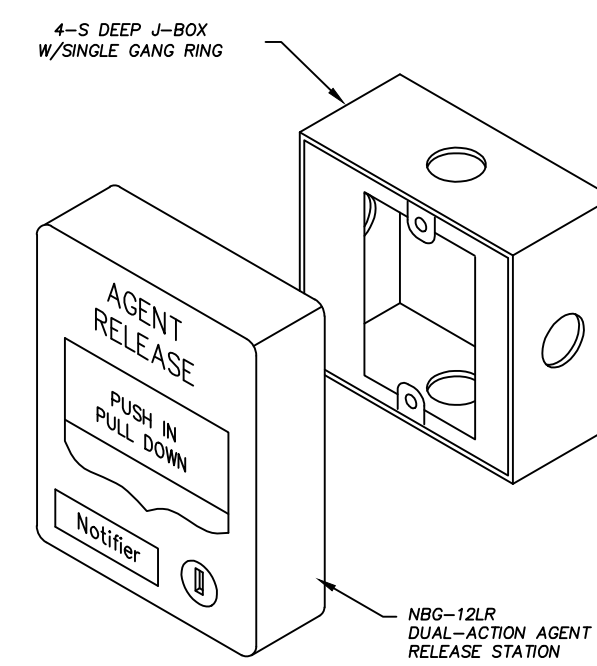
3 TANK MOUNTING BRACKET DETAIL SCALE: N.T.S.



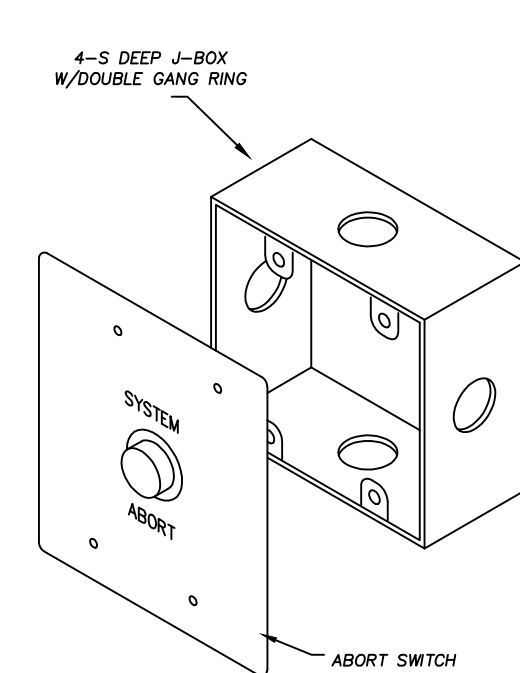
4 NOT USED SCALE: N.T.S.



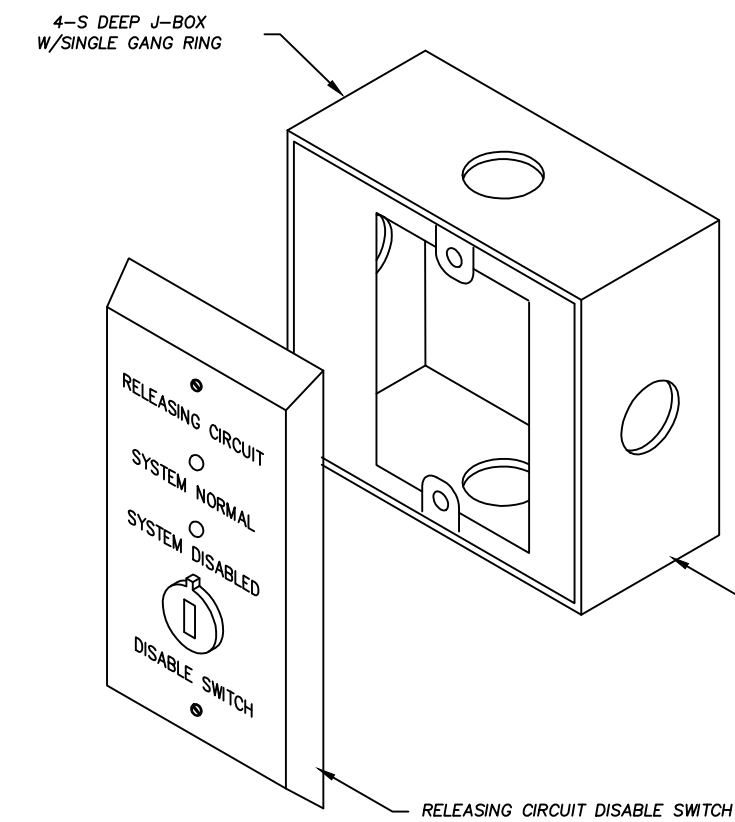
5 DETECTOR MOUNTING DETAIL SCALE: N.T.S.



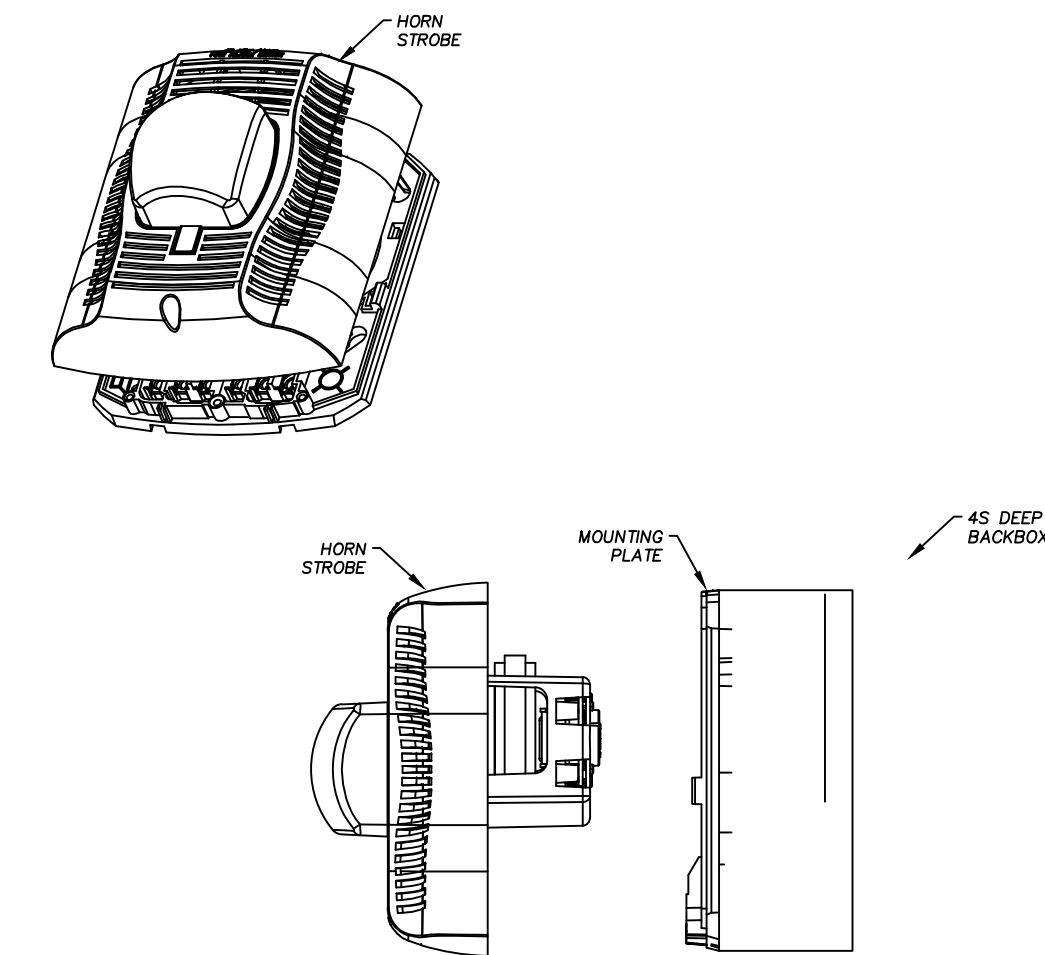
6 AGENT RELEASE STATION DETAIL SCALE: N.T.S.



7 ABORT SWITCH DETAIL SCALE: N.T.S.

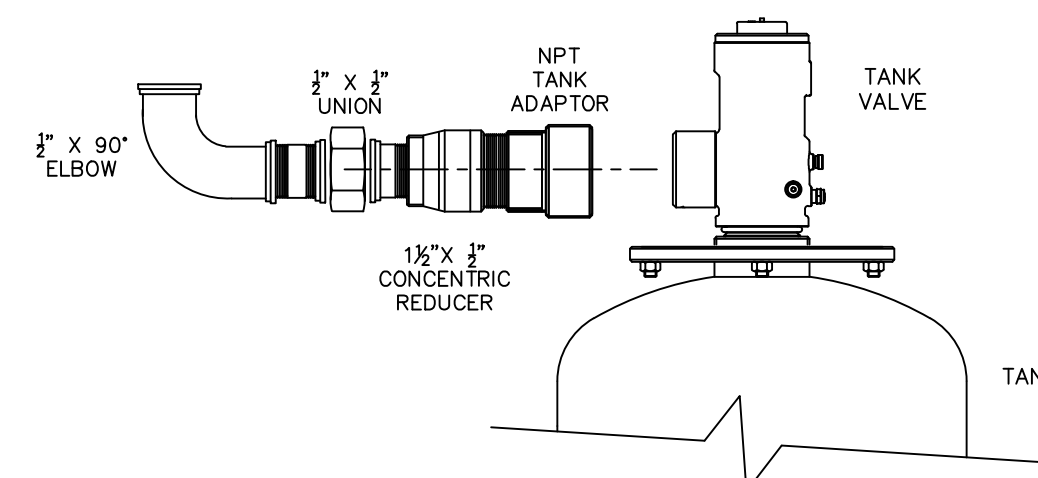


8 RELEASING CIRCUIT DISABLE SWITCH DETAIL SCALE: N.T.S.

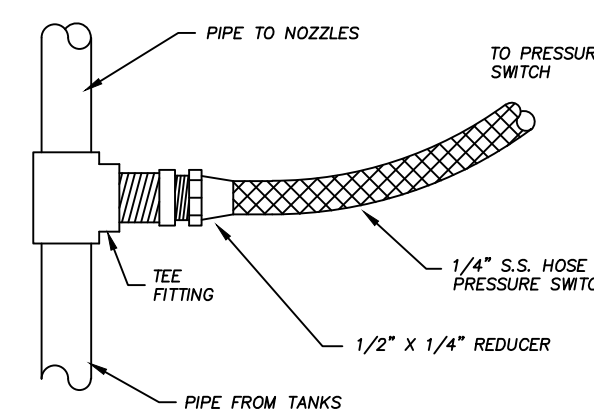


9 HORN STROBE DETAIL SCALE: N.T.S.

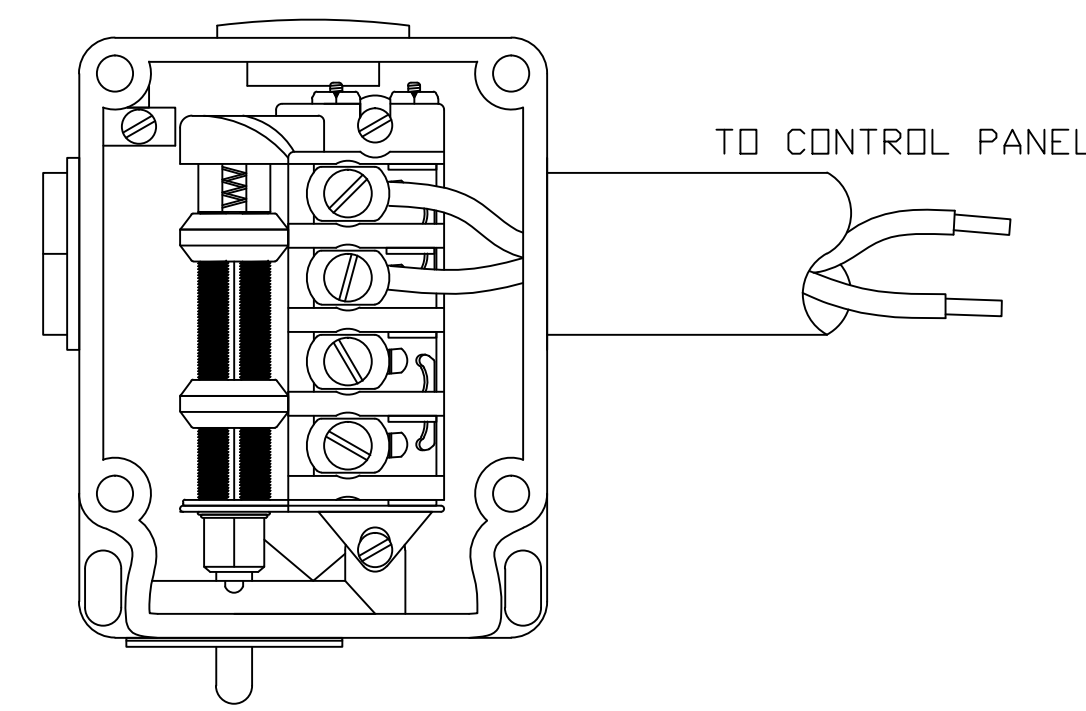
10 NOT USED SCALE: N.T.S.



11 TANK VALVE CONNECTION DETAIL SCALE: N.T.S.



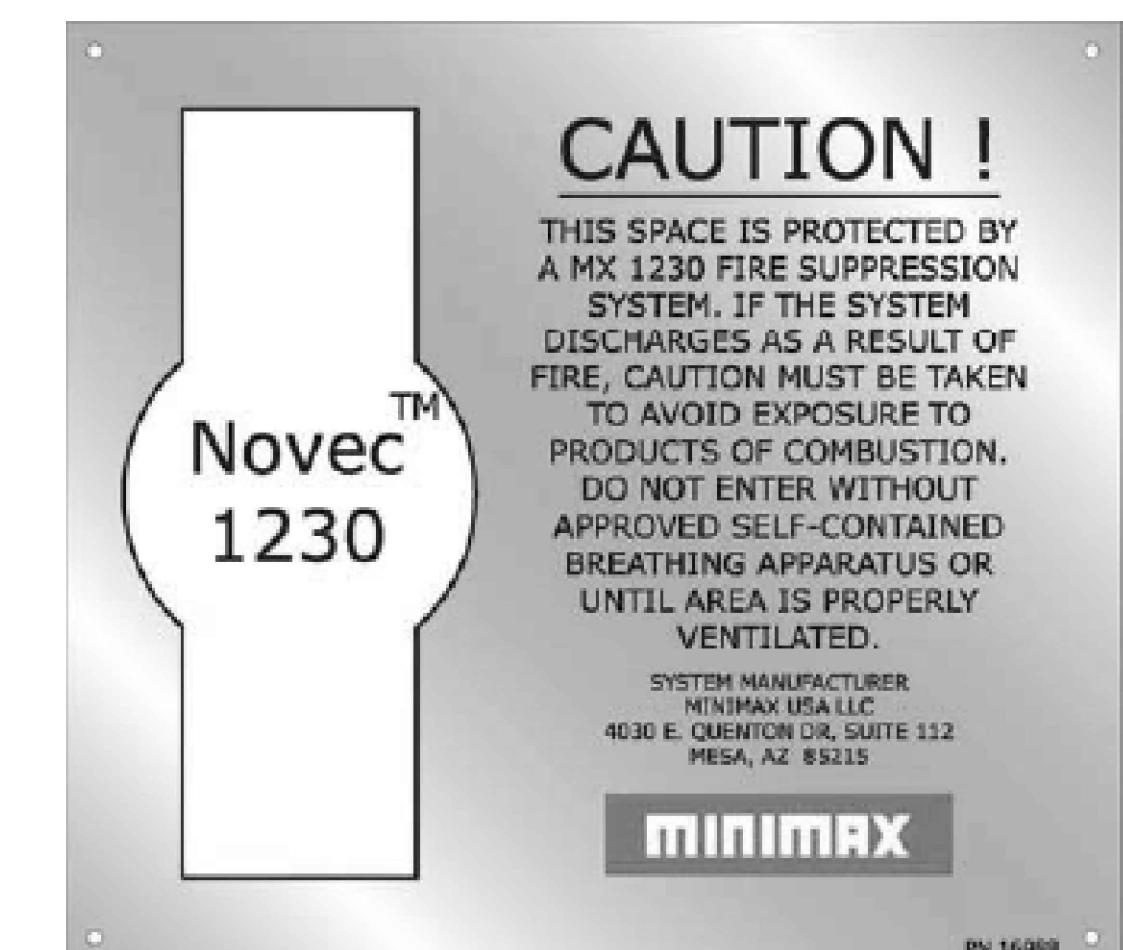
12 PRESSURE SWITCH ACTUATION DETAIL SCALE: N.T.S.



13 PRESSURE SWITCH WIRING DETAIL SCALE: N.T.S.



14 INTERIOR CAUTION LABEL SCALE: N.T.S.



15 EXTERIOR CAUTION LABEL SCALE: N.T.S.

REV. NO.	ISSUE/REVISION DESCRIPTION	DATE

**HOWLAND ENTERPRISES**  
 ELECTRICAL CONTRACTORS  
 10112 Mast Boulevard Santee, CA 92071  
 O: (619) 247-9788 | F: (619) 448-0535  
 Cal. Contr. Lic. No. C10-768693

CONTRACT WITH:  
**TATE FIRE PROTECTION SERVICES, INC.**  
 13771 DANIELSON ST., STE. G  
 POWAY, CA 92064  
 CONTACT: KAREN BORGESON (TATE FIRE) (619) 448-0900

PROJECT:  
**NATIONAL MERCHANTS ASSN.**  
 43620 RIDGE PARK DRIVE  
 TEMECULA, CA 92590  
 CONTACT: KAREN BORGESON (TATE FIRE) (619) 448-0900

DRAWN BY:	DATE:
S.R.W.	7-5-16
CHECKED BY:	DATE:
G.M.H.	
SHEET SCALE:	AS NOTED
JOB NUMBER:	G2013
A.H.J.:	TEMECULA, F.D.
SHEET DESCRIPTION:	DETAILS
SHEET NUMBER:	FS-3

### SEQUENCE OF OPERATION

INPUTS	OUTPUTS																	
	CONTROL UNIT ANNUNCIATION (AT PANEL)				NOTIFICATION				REQUIRED FIRE SAFETY CONTROL									
1	MANUAL PULL STATION ACTIVATION	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
2	MANUAL TANK ACTUATOR ACTIVATION																	
3	1ST DETECTOR IN ALARM: EITHER ZONE 1 OR 2																	
4	2ND DETECTOR IN ALARM: BOTH ZONE 1 AND 2																	
5	30 SECOND TIME DELAY REACHES ZERO																	
6	ABORT BUTTON DEPRESSED DURING COUNTDOWN**																	
7	NOTIFICATION APPLIANCE CIRCUIT SHORT																	
8	F.S.C.P. A.C. POWER FAILURE																	
9	F.S.C.P. SYSTEM LOW BATTERY																	
10	OPEN CIRCUIT																	
11	GROUND FAULT																	
12	RELEASING CIRCUIT DISABLE SWITCH																	

\* CONTROL PANEL MUST BE RESET DURING ABORT SWITCH OPERATION. DISCHARGE TIME DELAY WILL STOP W/O SECONDS REMAINING WHILE ABORT SWITCH IS PRESSED-IN. RELEASE OF ABORT SWITCH DURING THE 30 SECOND TIME DELAY WILL ALLOW THE COUNTDOWN TO CONTINUE COUNTING DOWN TO ZERO. THE AGENT DISCHARGE OCCURS WHEN COUNTDOWN REACHES ZERO.

#### MINIMAX, MX-2002 - VOLT DROP INFORMATION

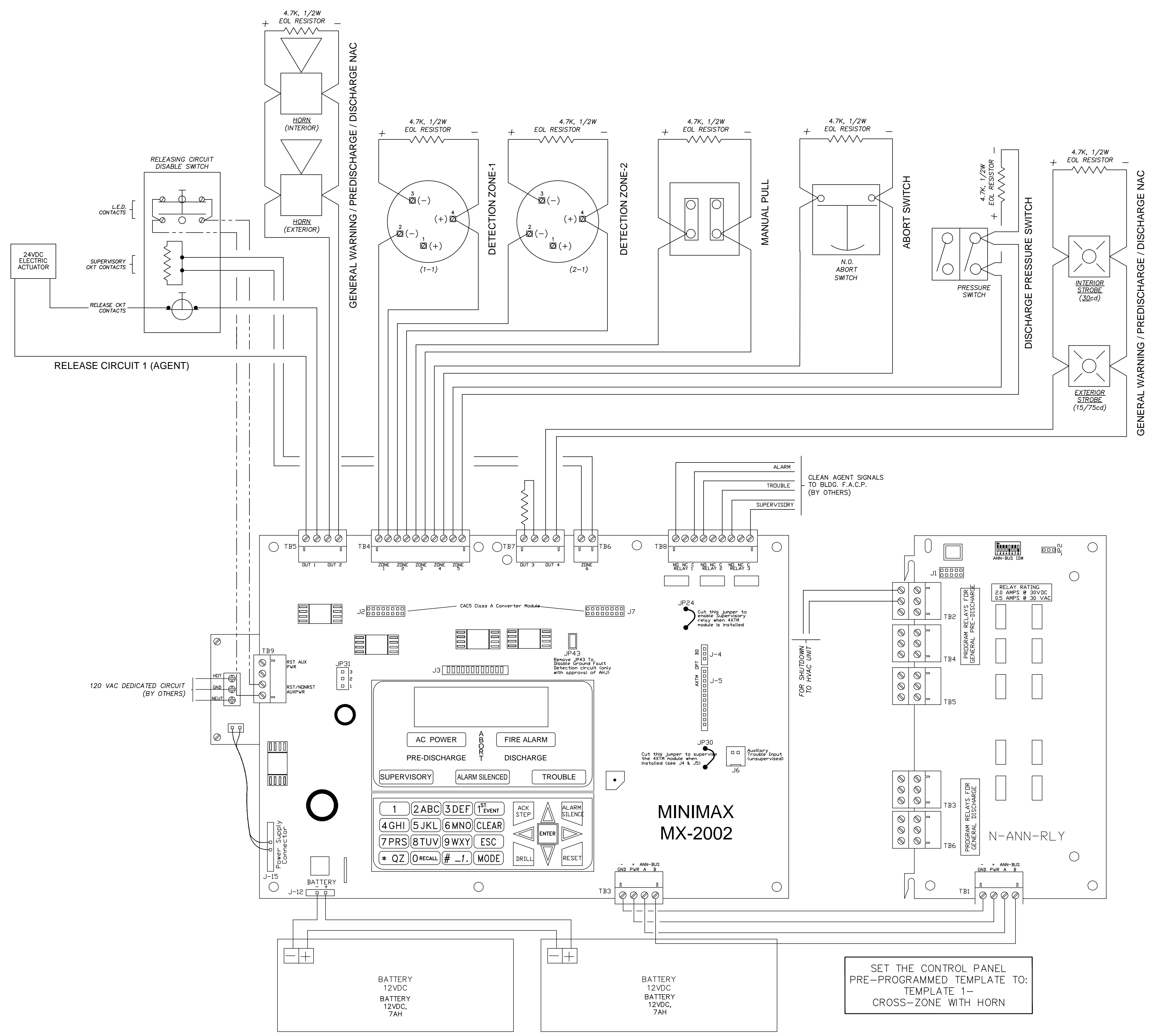
ZONE	CALCULATIONS	VOLTS DROP		% OF TOTAL VOLTAGE
		AWG. 12 = 6530	AWG. 18 = 1628	
ELECTRIC ACTUATOR	$\frac{0.500 \times 10 \times 21.6}{2580} = \frac{280.8}{2580}$	0.1088	0.1088	0.453%
TOTAL VOLTAGE DROP - OUTPUT CIRCUIT #1				
HORN	$\frac{0.116 \times 10 \times 21.6}{2580} = \frac{24.4}{2580}$	0.0095	0.0095	0.039%
TOTAL VOLTAGE DROP - OUTPUT CIRCUIT #2				
	$\frac{0.000 \times 00 \times 21.6}{2580} = \frac{00.00}{2580}$	0.0000	0.0000	0.000%
TOTAL VOLTAGE DROP - OUTPUT CIRCUIT #3				
STROBE	$\frac{0.171 \times 10 \times 21.6}{2580} = \frac{36.94}{2580}$	0.0143	0.0143	0.060%
TOTAL VOLTAGE DROP - OUTPUT CIRCUIT #4				

#### BATTERY CALCULATIONS MX-2002 CONTROL PANEL

DEVICE	DEVICE CURRENT (mA)		QUANTITY	TOTAL CURRENT (mA)	
	STANDBY	ALARM		STANDBY	ALARM
MX-2002 CONTROL PANEL	95.00	221.00	1	95.00	221.00
RELAY MODULE	15.00	75.00	1	15.00	75.00
RELEASE CIRCUIT	0.00	500.00	1	0.00	500.00
PHOTO DETECTOR (LIFE Alarm 2.8%)	0.00	130.00	2	0.00	260.00
GENERAL ALARM STROBE (15sec) INTERIOR	0.00	66.00	1	0.00	66.00
GENERAL ALARM STROBE (15/75sec) EXTERIOR	0.00	77.00	1	0.00	77.00
GEN ALARM/PREDIACHARG/DISCHARGE HORN (TEMPORAL MEDIUM)	0.00	58.00	2	0.00	116.00
TOTAL CURRENT REQ'D (mA)			110.00	1315.00	
TOTAL CURRENT REQ'D (A)			0.110	1.315	

BATTERY REQUIREMENT CALCULATIONS		
CURRENT (A)	HOURS	TOTAL (AH)
STANDBY: 0.110	24.00	2.640
ALARM: 1.315	0.084 (5 MIN.)	0.110
BATTERY AH REQUIRED = 2.75		
MULTIPLY BY DE-RATING FACTOR = x1.20		
TOTAL BATTERY AH REQUIRED = 3.30 AH		
BATTERIES SUPPLIED = 7.00 AH		



MX-2002 CONTROL PANEL SCHEMATIC

NO SCALE NTS

SET THE CONTROL PANEL  
PRE-PROGRAMMED TEMPLATE TO:  
TEMPLATE 1-  
CROSS-ZONE WITH HORN

AS-BUILT  
8-24-16

REV. NO.	ISSUE/REVISION DESCRIPTION	DATE

**HOWLAND ENTERPRISES**  
ELECTRICAL CONTRACTORS  
10112 Mast Boulevard Santee, CA 92071  
O: (619) 247-9788 | F: (619) 448-0535

Cal. Contr. Lic. No. **C10-768693**

CONTRACT WITH:  
**NATIONAL MERCHANTS ASSN.**  
43620 RIDGE PARK DRIVE  
TEMECULA, CA 92590

PROJECT:  
**TATE FIRE PROTECTION SERVICES, INC.**  
3771 DANIELSON ST., STE. G  
POWAY, CA 92064

CONTRACT WITH:  
**NATIONAL MERCHANTS ASSN.**  
43620 RIDGE PARK DRIVE  
TEMECULA, CA 92590

PROJECT:  
**TATE FIRE PROTECTION SERVICES, INC.**  
3771 DANIELSON ST., STE. G  
POWAY, CA 92064

DRAWN BY:	DATE:
S.R.W.	7-5-16
CHECKED BY:	DATE:
G.M.H.	
SHEET SCALE:	
AS NOTED	
JOB NUMBER:	
G2013	
A.H.J.	
TEMECULA, F.D.	
SHEET DESCRIPTION:	
CONTROL PANEL INFO	
SHEET NUMBER:	
<b>FS-4</b>	