

NOTES:

1. ENCLOSURE ASSEMBLY:

a.) FOR A CATERPILLAR 3000 kW C175 GEN-SET w/ 50 C RADIATOR.

b.) FULLY ASSEMBLED ACOUSTICAL ENCLOSURE TO BE ANCHORED TO THE FOUNDATION.

c.) PANEL JOINTS ARE SKIP WELDED AND CAULKED.

d.) 125 MPH WIND LOAD – ZONE 2 SEISMIC RATED
2. ENCLOSURE CONSTRUCTION:

a.) SKIN – 12 GA. GALVANNEAL STEEL (WALLS).

12 GA. GALVANNEAL STEEL (ROOF).

b.) FRAMING – A36 STRUCTURAL CHANNEL & A500-B TUBING.

c.) INNER LINER – GALVANIZED PERFORATED STEEL.

d.) INSULATION – MINERAL WOOL PROTECTED BY 2 MIL POLY COVERING WALLS AND ROOF.

e.) DOORS – FOUR (4) SINGLE ACCESS SERVICE DOORS WITH STAINLESS STEEL HINGES & REFRIGERATOR DOOR LATCH w/ INSIDE RELEASE AND KEY LOCKING HANDLES.

f.) ONE (1) INLET HOOD (GALVANIZED CONST.).

g.) 60” DEEP INLET BAFFLE PANELS –(GALVANNEALED CONST.).

h.) ONE (1) GRAVITY BACKDRAFT DAMPER – ALUMINUM CONSTRUCTION.

i.) 84” DEEP DISCHARGE BAFFLE PANELS –(GALVANNEALED CONST.).
3. DESIGN CONSTRUCTION:

a.) AIR FLOW RATES;

RADIATOR – 145,000 CFM

COMBUSTION – 9,356 CFM

b.) PRESSURE DROPS;

INLET & DISCHARGE LOUVERS/BAFFLES 0.75” W.G. OR LESS (TOTAL).

c.) PERFORMANCE;

DESIGNED TO REDUCE THE GEN-SET EQUIPMENT NOISE LEVEL TO 85 dBA WHEN MEASURED AT A DISTANCE OF 3 FEET FROM THE ENCLOSURE AND 5 1/2 FEET ABOVE GRADE.

(PROVIDING THE EQUIPMENT NOISE DOES NOT EXCEED 131 dBA @ 3 FEET.)
4. PAINTING:

a.) ALL EXTERIOR GALVANIZED SURFACES TO BE SOLVENT CLEANED PER SSPC-SP1 AND PAINTED AS FOLLOWS;

* PRIMER – INDUSTRIAL WASH PRIMER.

* INTERMEDIATE – ONE COAT AMERON AMERLOCK 2 (3-5 MILS DFT).

* FINISH – ONE COAT AMERON PSX 700 POLYURETHANE TEXTURE (2-3 MILS DFT).

b.) ALL CARBON STEEL SURFACES TO BE POWER TOOL CLEANED PER SSPC-SP3 AND PAINTED AS FOLLOWS;

* PRIMER – ONE COAT AMERON AMERLOCK 2 (2-3 MILS DFT).

* INTERMEDIATE – ONE COAT AMERON AMERLOCK 2 (3-5 MILS DFT).

* FINISH – ONE COAT AMERON PSX 700 POLYURETHANE TEXTURE (2-3 MILS DFT).

* INTERIOR WALL AND ROOF SURFACES WILL NOT BE PAINTED.

c.) COLOR– PRECISION TAN.

5. FUEL TANK: U.L. 142, DAY TANK, 400 GALLON CAPACITY
FINISH PAINTED TO MATCH ENCLOSURE.
6. ELECTRICAL:

a.) SEE ELECTRICAL 11773-10E.
7. QUANTITY REQUIRED:

ONE (1) GEN-SET ENCLOSURE ASSEMBLY AS SHOWN

ONE (1) U.L. 142 DAY TANK

8. WEIGHTS:

ESTIMATED WEIGHTS ARE AS FOLLOWS:

1) ENCLOSURE ASSEMBLY – 49,200 LBS

2) DAY TANK – 2,300 LBS

3) GEN-SET w/ RADIATOR – 62,000 LBS

4) MUFFLER – 2,600 LBS

TOTAL – 116,100 LBS

9. SHIPPING SIZES:

1) ENCLOSURE ASSEMBLY – 696”L x 162”W x 168”H

2) DAY TANK – 49”L x 60”W x 48”H

3) GEN-SET – 328”L x 125”W x 154”H

10. ACS CONTACT INFORMATION

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PROJECT MANAGER: STEVE ORRICK
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MANUFACTURING PROCESS

QUOTE NO.: 1109038 REV. 2
PO NO.: 10-578
WO NO.: T.B.D.
JOB NAME: MOLYCORP

*CUSTOMER TO VERIFY ALL NOTES AND DIMENSIONS

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C	–	SEE SHEET 2	MS	SO	05/24/12
B	–	UPDATED PER CUSTOMER REQUESTS	MS	SO	05/15/12
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REV	ECO NUMBER	DESCRIPTION	BY	APPD	DATE

ACS

MANUFACTURING, INC.

1601 COMMERCE BLVD. - DENISON, TEXAS - 75020

TOLERANCES
(EXCEPT AS NOTED)

DECIMAL ± 0.125"

FRACTIONAL ± 1/8"

ANGULAR ± 3°

SCALE 48:1

DATE 01/06/12

CASHMAN CAT

ACOUSTICAL ENCLOSURE ASSEMBLY
TEXT SHEET

DRAWING NUMBER 11773-10

DRAWN BY: MTS

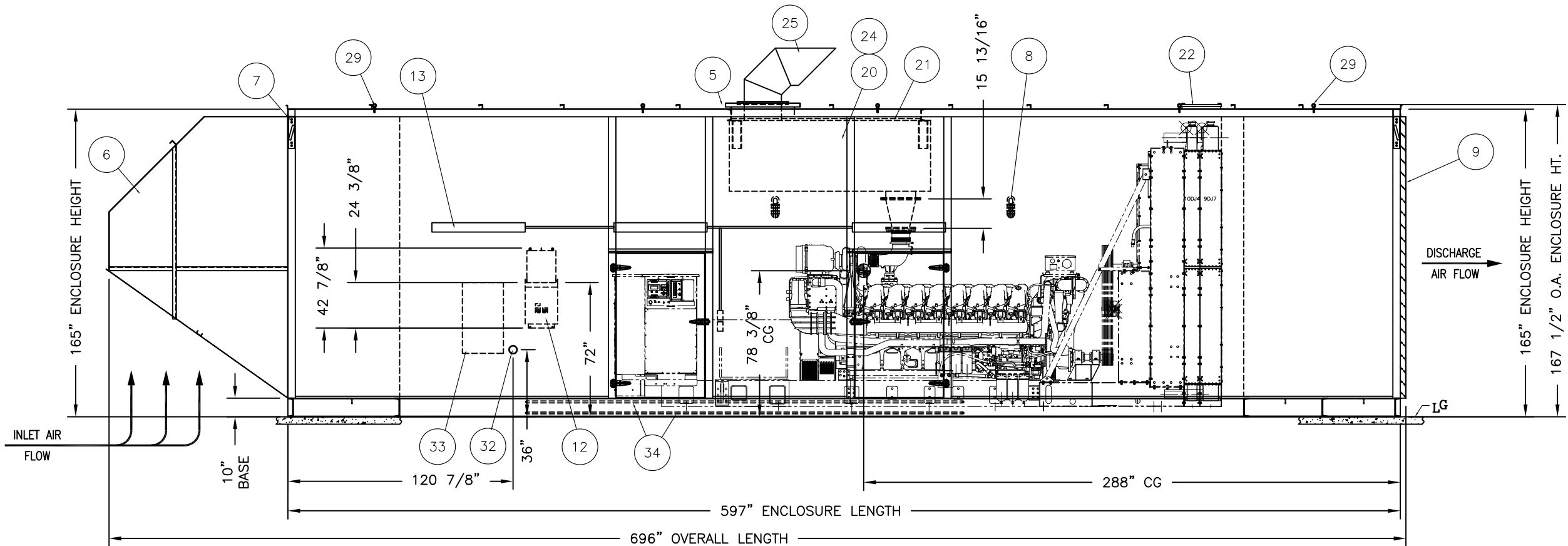
CHECKED BY:

APPROVED BY: SO

SHEET 1 of 11

REV. E

Parts List	
ITEM	DESCRIPTION
1	24
2	2
3	4
4	1
5	1
6	1
7	4
8	4
9	1
10	1
11	2
12	1
13	6
14	1
15	1
16	1
17	1
18	2
19	1
20	1
21	2
22	1
23	1
24	1
25	1
26	2
27	1
28	1
29	10
30	1
31	1
32	1
33	1
34	AR
35	1
36	2



RH ELEVATION VIEW

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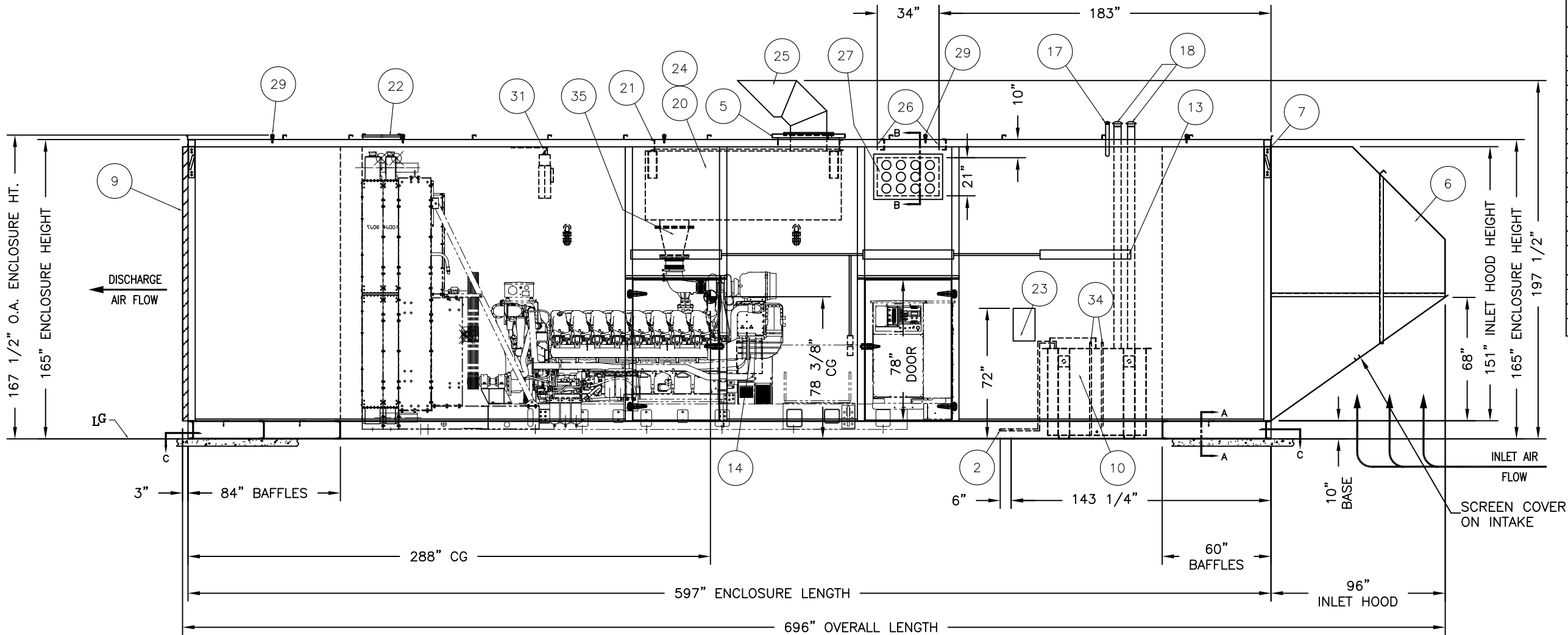
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ANGULAR	± 3°	APPROVED BY: SO	
SCALE	1 TO 1	SHEET	
DATE	01/06/12	REV.	
DRAWING NUMBER		3 of 11	

CASHMAN CAT

ACOUSTICAL ENCLOSURE ASSEMBLY

11773-10



LH ELEVATION VIEW
ROTATED 180°

Parts List	
ITEM	DESCRIPTION
1	24 BAFFLE PANELS w/ MINERAL WOOL
2	2 1" FUEL SUPPLY AND RETURN COUPLINGS
3	4 48" X 78" SINGLE DOOR (DOUBLE SEAL)
4	1 RADIATOR FLASHING
5	1 SSSL EXHAUST COVER w/ 20" ANSI FLANGE
6	1 INLET HOOD w/ GALVANIZED MESH SCREEN
7	4 ENCLOSURE LIFTING LUGS - BOLT ON
8	4 12/24V DC LIGHTS, 100W INCANDESCENT w/ 0-60 MIN. TIMER, GLASS GLOBE & WIRE GUARD - POWERED FROM GEN-SET BATTERIES
9	1 DISCHARGE GRAVITY BACKDRAFT DAMPERS
10	1 400 GALLON CAPACITY U.L. 142 DAY TANK w/ FUEL LINES TO GENSET THEN HOSED TO FUEL CONNECTIONS ON ENGINE
11	2 3 WAY LIGHT SWITCH/DUPLEX RECEPTACLE
12	1 15 KVA MPZ 480V-120/240V, 1 PH
13	6 FLOURESCENT LIGHT FIXTURE (T8)
14	1 BATTERY CHARGER
15	1 GENERATOR POWER & CONTROL CABINET
16	1 GENERATOR TERMINAL STRIP CONNECTIONS
17	1 FUEL TANK NORMAL VENT (EXTENDED OUTSIDE OF ENCLOSURE)
18	2 FUEL TANK EMERGENCY VENT (EXTENDED OUTSIDE OF ENCLOSURE)
19	1 CATERPILLAR 3000kW C175 w/ 50C RADIATOR
20	1 GT EXHAUST MUFFLER - PART # 518-C2-10-5124
21	2 INTERNAL MUFFLER SUPPORT CHANNEL
22	1 RADIATOR CAP ACCESS HATCH
23	1 ACS DAY TANK CONTROL
24	1 REMOVABLE EXHAUST BLANKETS FOR ALL COMPONENTS
25	1 24" EXHAUST TAIL PIPE
26	2 ELECTRICAL CONDUIT SUPPORT CHANNEL
27	1 ELECTRICAL CONDUIT ENTRY PANEL
28	1 TOP CABLE ENTRY - REMOVABLE COVER PLATE
29	10 1" EYE BOLT SAFETY RINGS (MOUNTED BY ACS)
30	1 BATTERY RACK (BY OTHERS - MOUNTED BY ACS)
31	1 5kW SPACE HEATER
32	1 4" MERCHANT COUPLING FOR ELECTRICAL CONDUIT CONNECTION
33	1 480V 100A PANELBOARD
34	AR 2" SCH. 40 BLACK IRON FUEL LINES
35	1 16" ANSI TO 10" ANSI EXHAUST CONE - (BY ACS)
36	2 1" MERCHANT COUPLING-WATER & OIL DRAIN

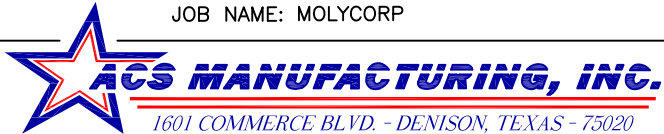
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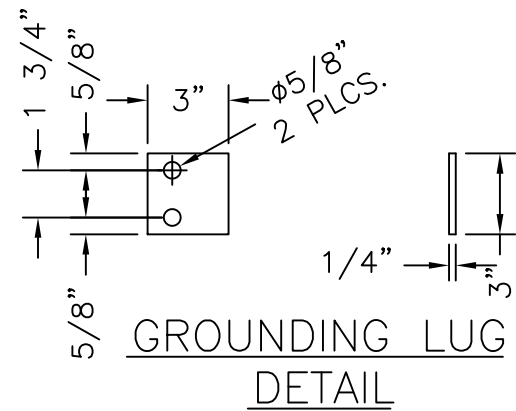
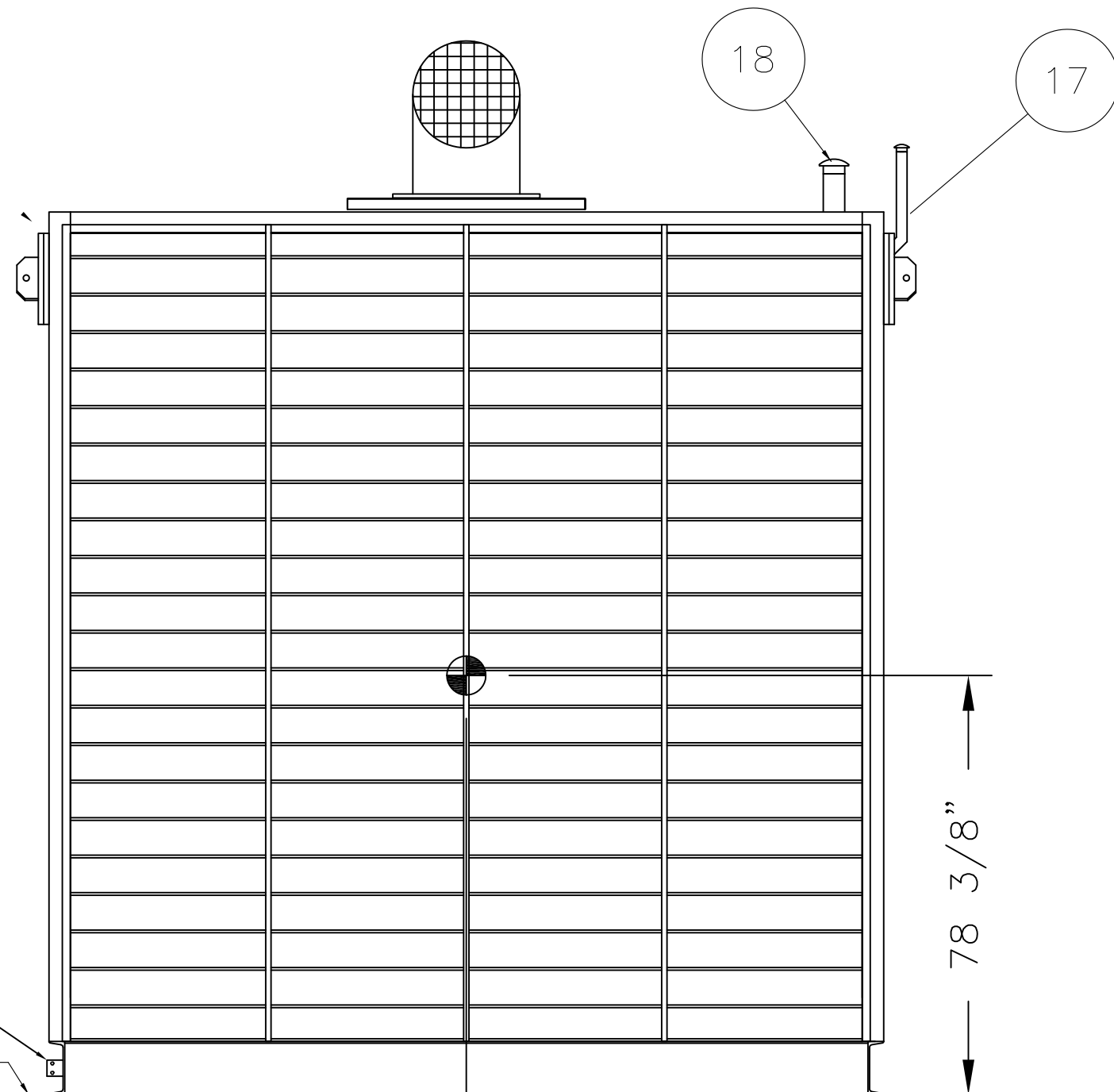
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SCALE	1 TO 1	SHEET	
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CASHMAN CAT
ACOUSTICAL ENCLOSURE ASSEMBLY

11773-10

REV	ECO NUMBER	DESCRIPTION	BY	APPD	DATE
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304 S.S.
GROUNDING LUG
RH DISCHARGE
CORNER ONLY
(SEE DETAIL)

GL

78 3/8"

78"

156" ENCLOSURE WIDTH

END VIEW

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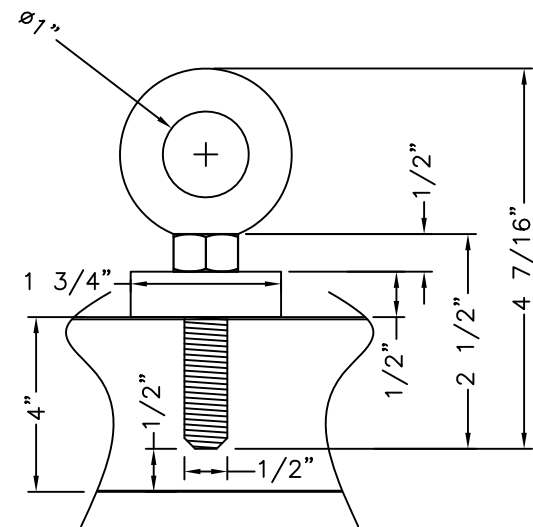
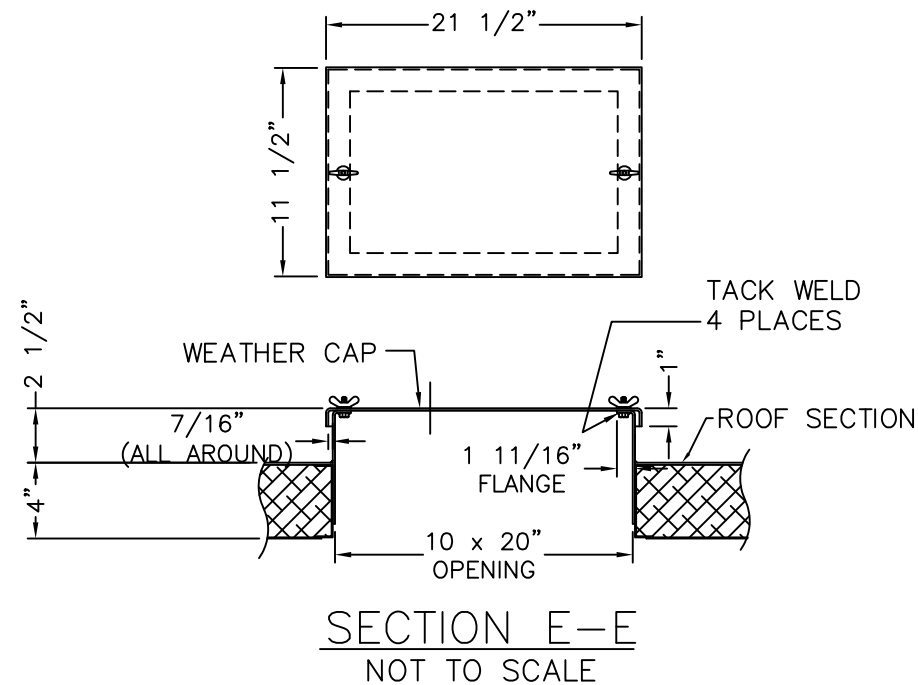
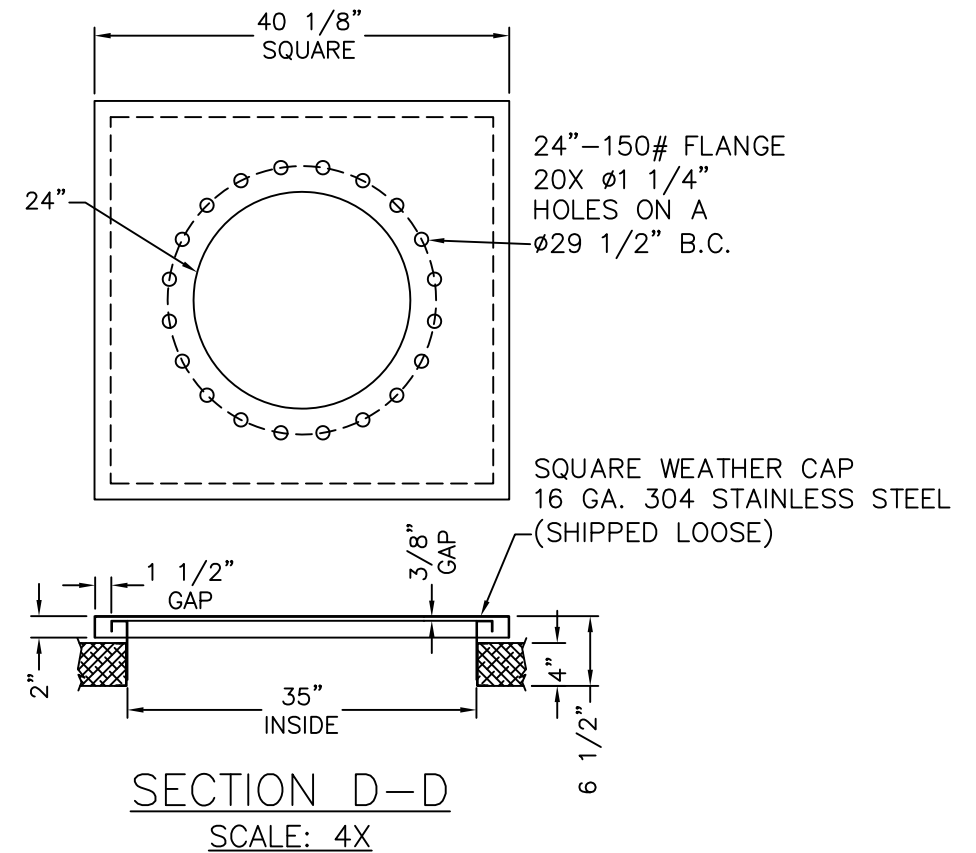
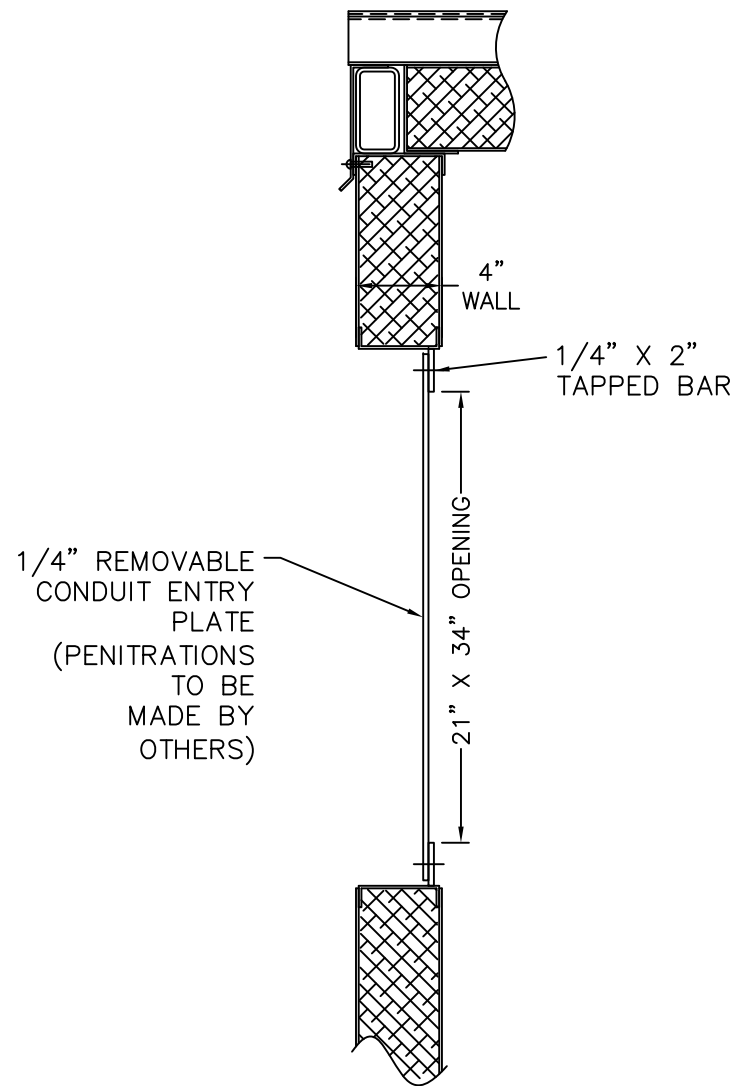
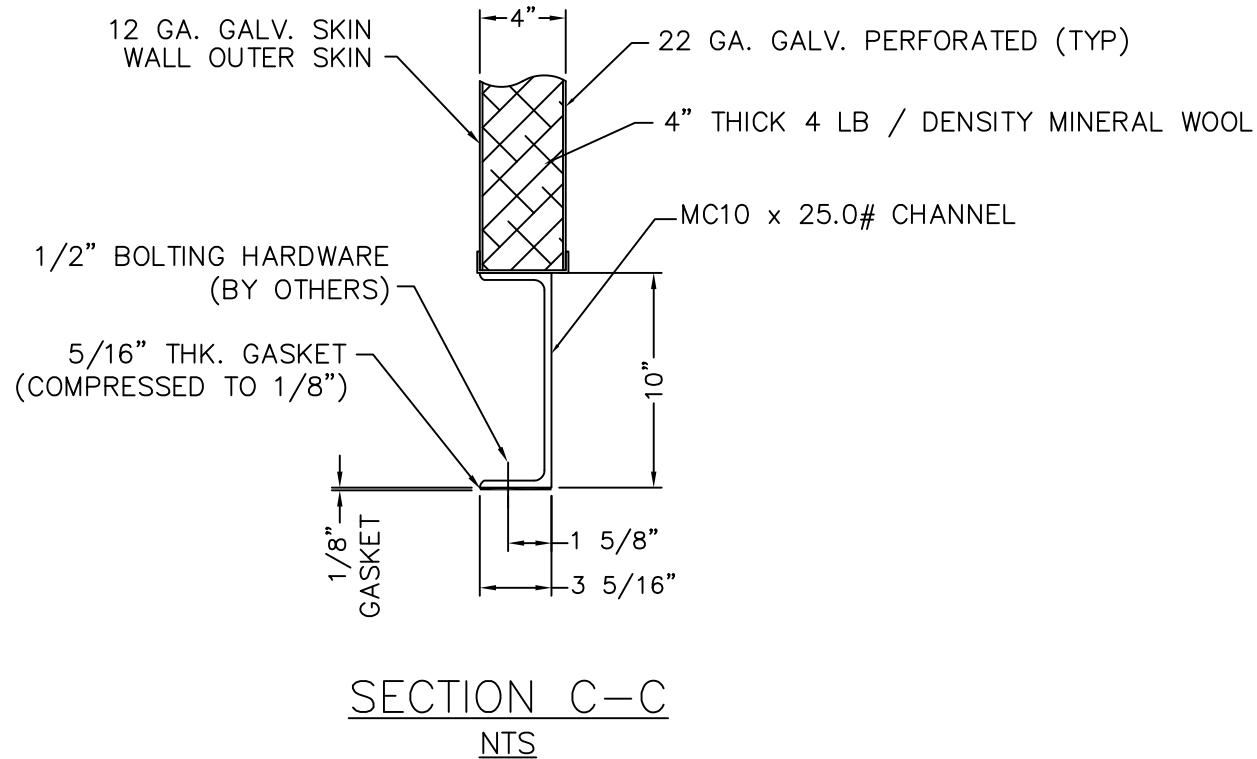


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TITLE ACOUSTICAL ENCLOSURE ASSEMBLY					E	

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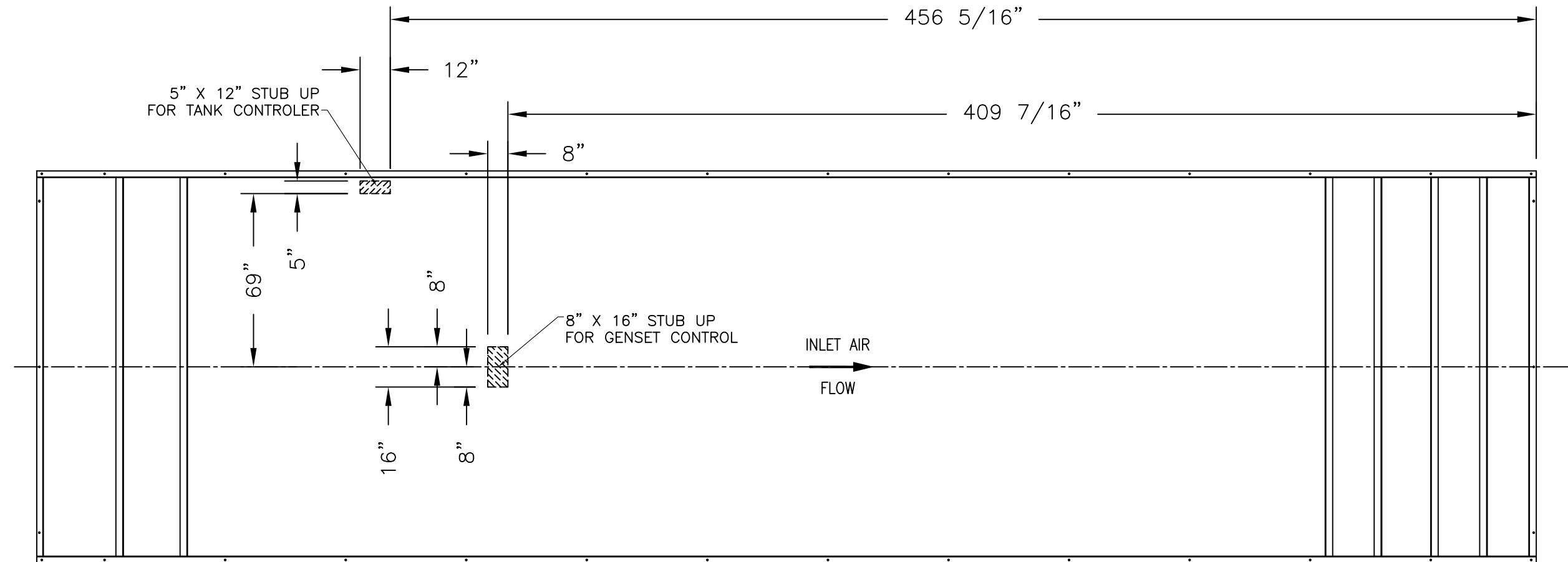


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STUB UP DETAIL

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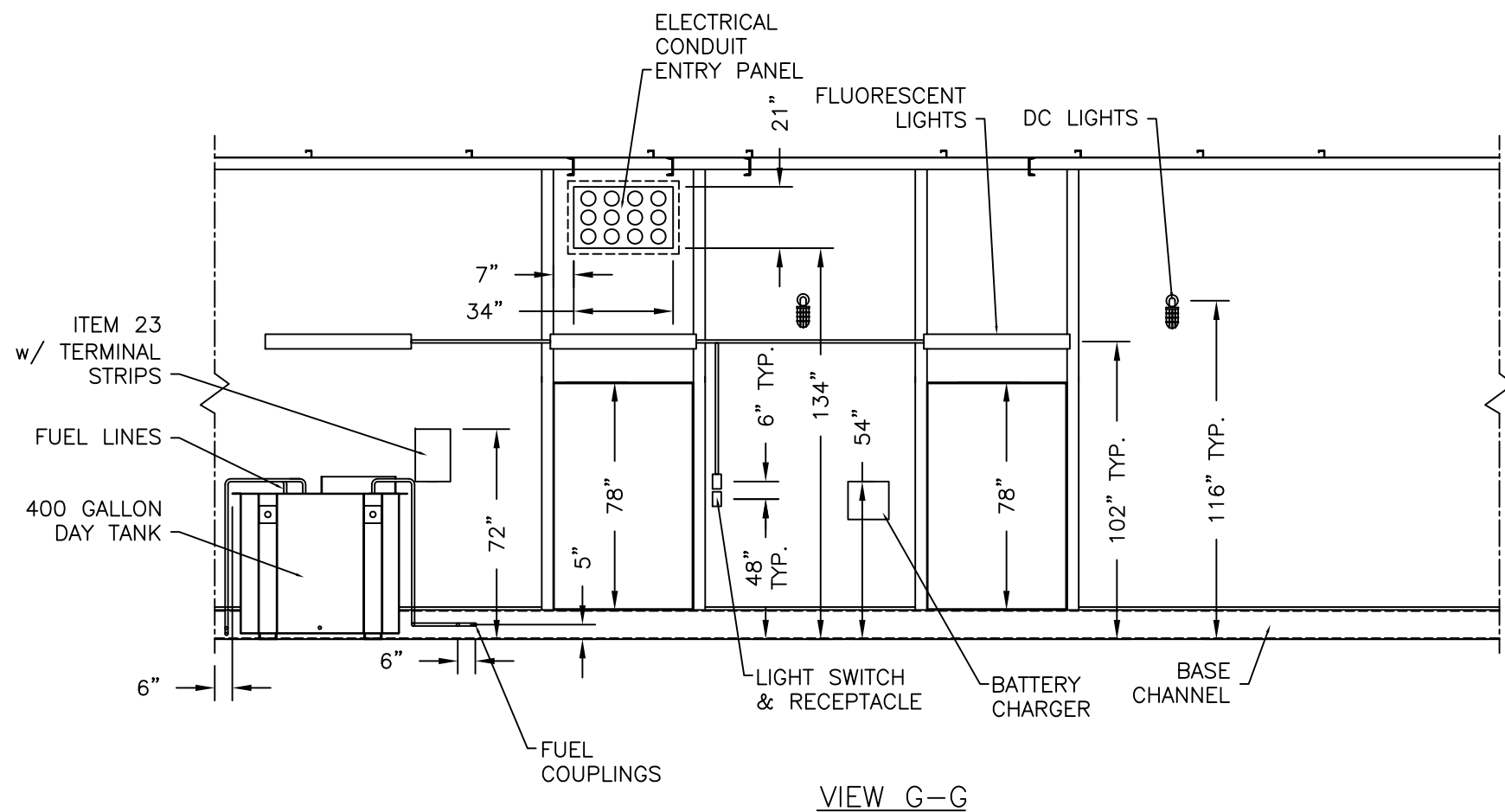


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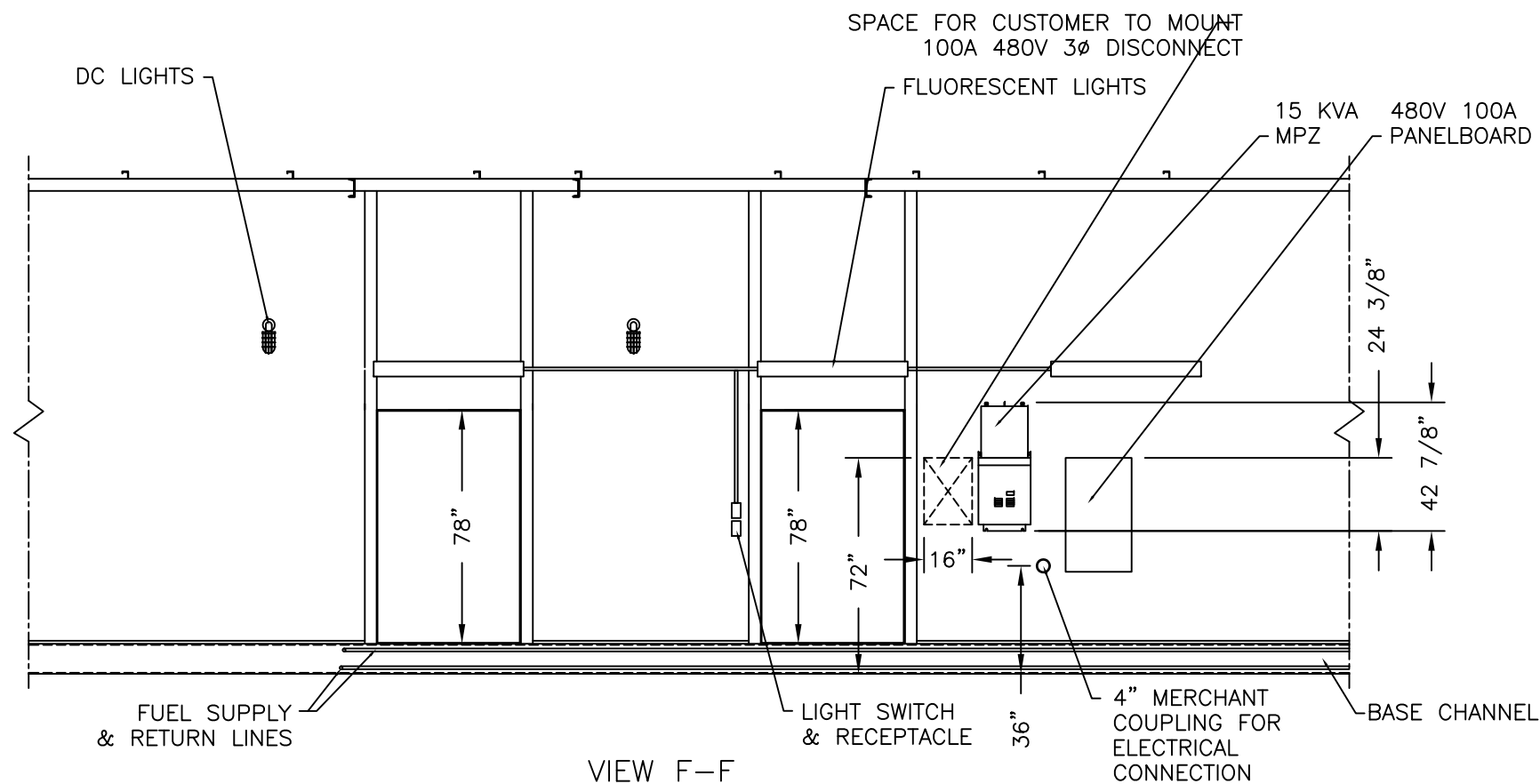
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NOTE:
BAFFLES REMOVED FOR CLARITY



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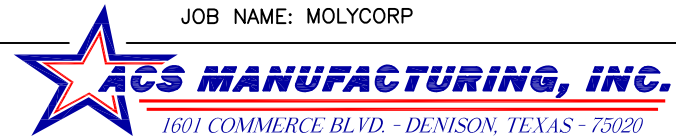
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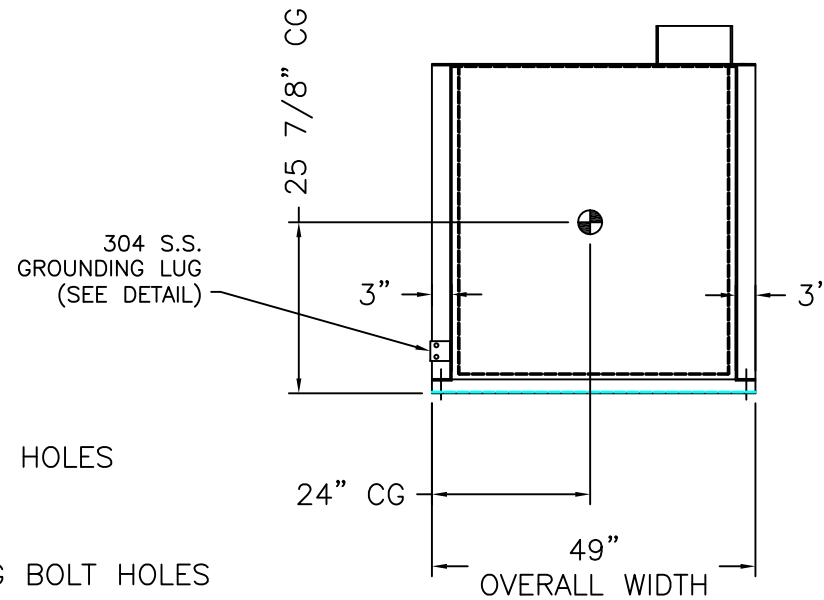
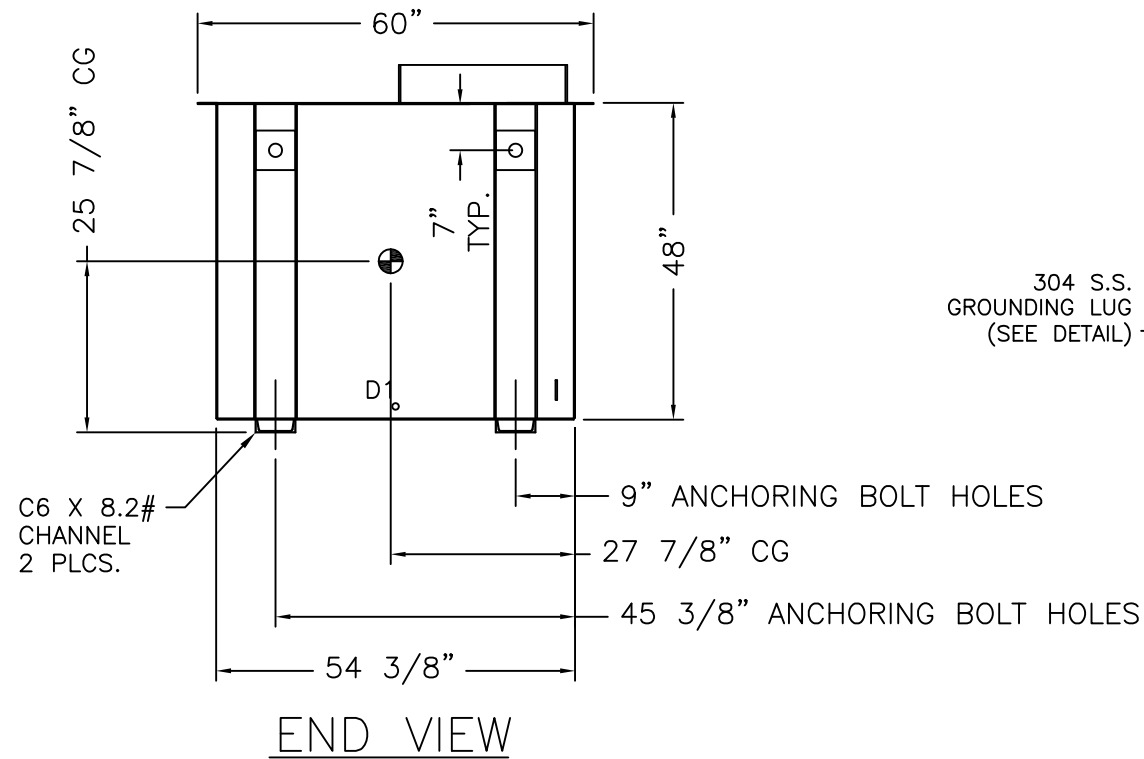
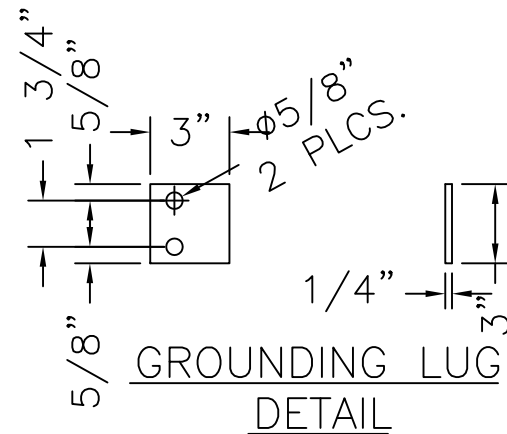
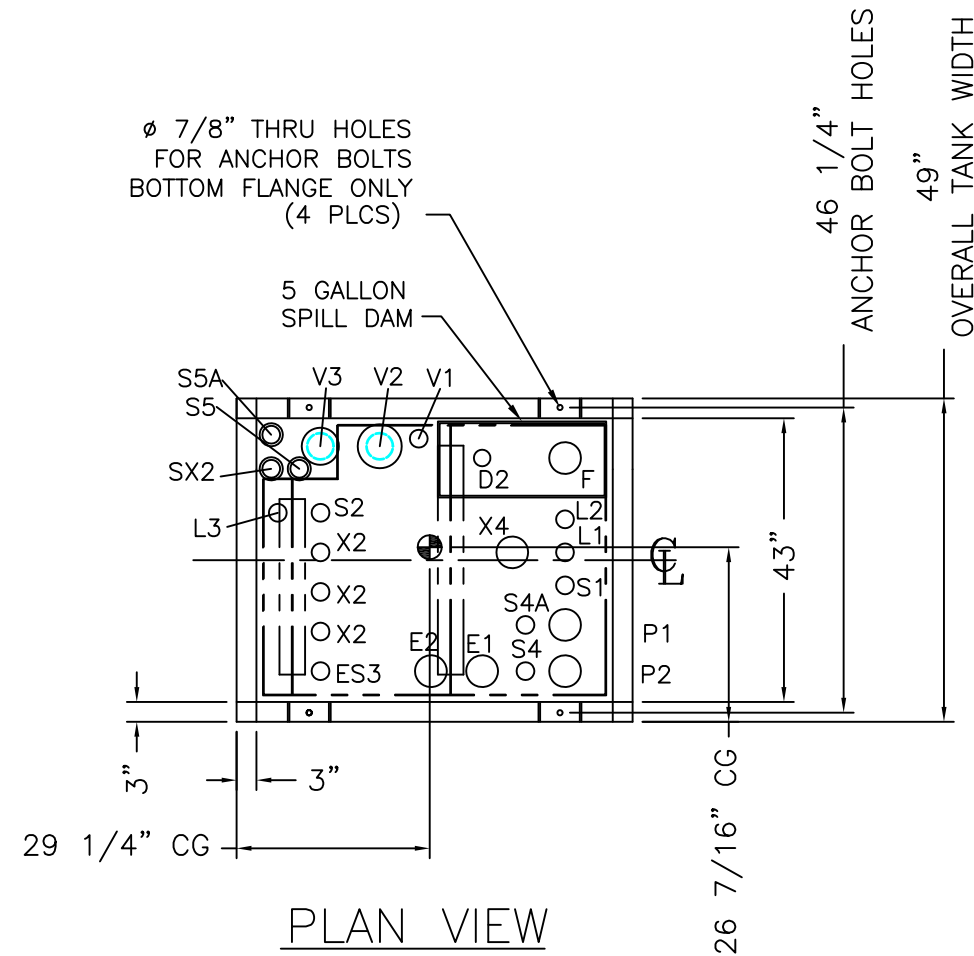
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SCALE	1 TO 1	ACOUSTICAL ENCLOSURE ASSEMBLY		REV.	
DATE	01/06/12	DRAWING NUMBER		8 of 11	
		11773-10		E	



REF.	FITTING SIZE	DESCRIPTION
D1	1" NPT	TANK DRAIN – SECONDARY
D2	3/4" NPT	SPILL CONTAINMENT DRAIN
E1	4" NPT	ENGINE FUEL SUPPLY – 2" NPT DIP TUBE
E2	4" NPT	ENGINE FUEL RETURN – 2" NPT DIP TUBE
ES3	2" NPT	CRITICAL LOW LEVEL SWITCH (ENGINE SHUTDOWN) – N.C. – 10%
F	4" NPT	FUEL FILL W/ DUST CAP & 2" CAMLOCK – DRY CONNECT
L1	2" NPT	FUEL LEVEL GAUGE – DIRECT SITE READING
L2	2" NPT	FUEL LEVEL PROBE
L3	2" NPT	REDUNDANT FUEL LEVEL SENSOR – N.C. – 35% & N.C. – 85%
P1	4" NPT	PUMP IN – 2" NPT DIP TUBE (STORAGE TANK TO DAY TANK) WIRED TO GEN-SET CONTROL GUAGE
P2	4" NPT	PUMP OUT – 2" NPT DIP TUBE (DAY TANK TO STORAGE TANK) WIRED TO GEN-SET CONTROL GUAGE
S1	2" NPT	LOW LEVEL SWITCH – N.C. – 35%
S2	2" NPT	HIGH LEVEL SWITCH – N.O. – 90%
S4	2" NPT	CRITICAL HIGH LEVEL SWITCH – N.O. – 95%
S4A	2" NPT	CRITICAL HIGH LEVEL SWITCH – N.C. – 95%
S5	2" NPT	LEAK DETECTOR SWITCH – N.O.
S5A	2" NPT	LEAK DETECTOR SWITCH – N.C.
SX2	2" NPT	SPARE FITTING w/ PLUG – SECONDARY – (1)
V1	2" NPT	PRIMARY TANK NORMAL VENT – 2"
V2	4" NPT	EMERGENCY VENT – PRIMARY
V3	4" NPT	EMERGENCY VENT – SECONDARY
X2	2" NPT	SPARE FITTING w/ PLUG – (3)
X4	4" NPT	SPARE FITTING w/ PLUG – (1)

*TANK ALARMS EXTENDED TO REACH FUEL TANK ANNUNCIATOR & GENSET CONTROL PANEL VIA SEAL TIGHT

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☐ NOT APPROVED – Correct drawing as noted and resubmit for approval before manufacturing begins.

BY: _____ DATE: _____

COMPANY: _____

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QUOTE NO.: 1109038 REV. 2
PO NO.: 10-578
WO NO.: T.B.D.
JOB NAME: MOLYCORP



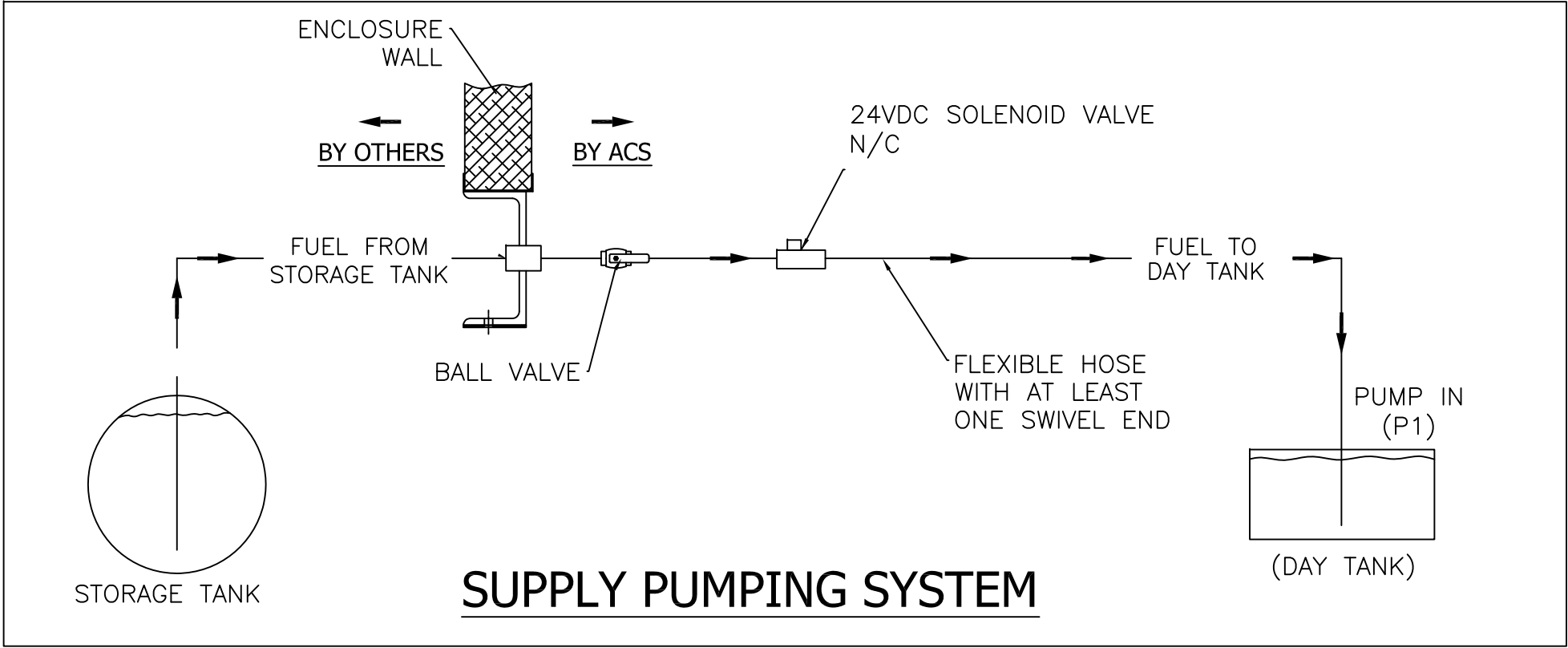
TOLERANCES (EXCEPT AS NOTED)				DRAWN BY: MTS	
DECIMAL	± 0.125"	CASHMAN CAT		CHECKED BY:	
FRACTIONAL	± 1/8"	TITLE		APPROVED BY: SO	
ANGULAR	± 3°	U.L. 142 STAND ALONE		SHEET	
SCALE	1 TO 1	400 GALLON CAPACITY FUEL TANK		REV.	
DATE	01/06/12	DRAWING NUMBER		9 of 11	
		11773-10		E	

U.L. 142 DAY TANK
400 GALLON CAPACITY

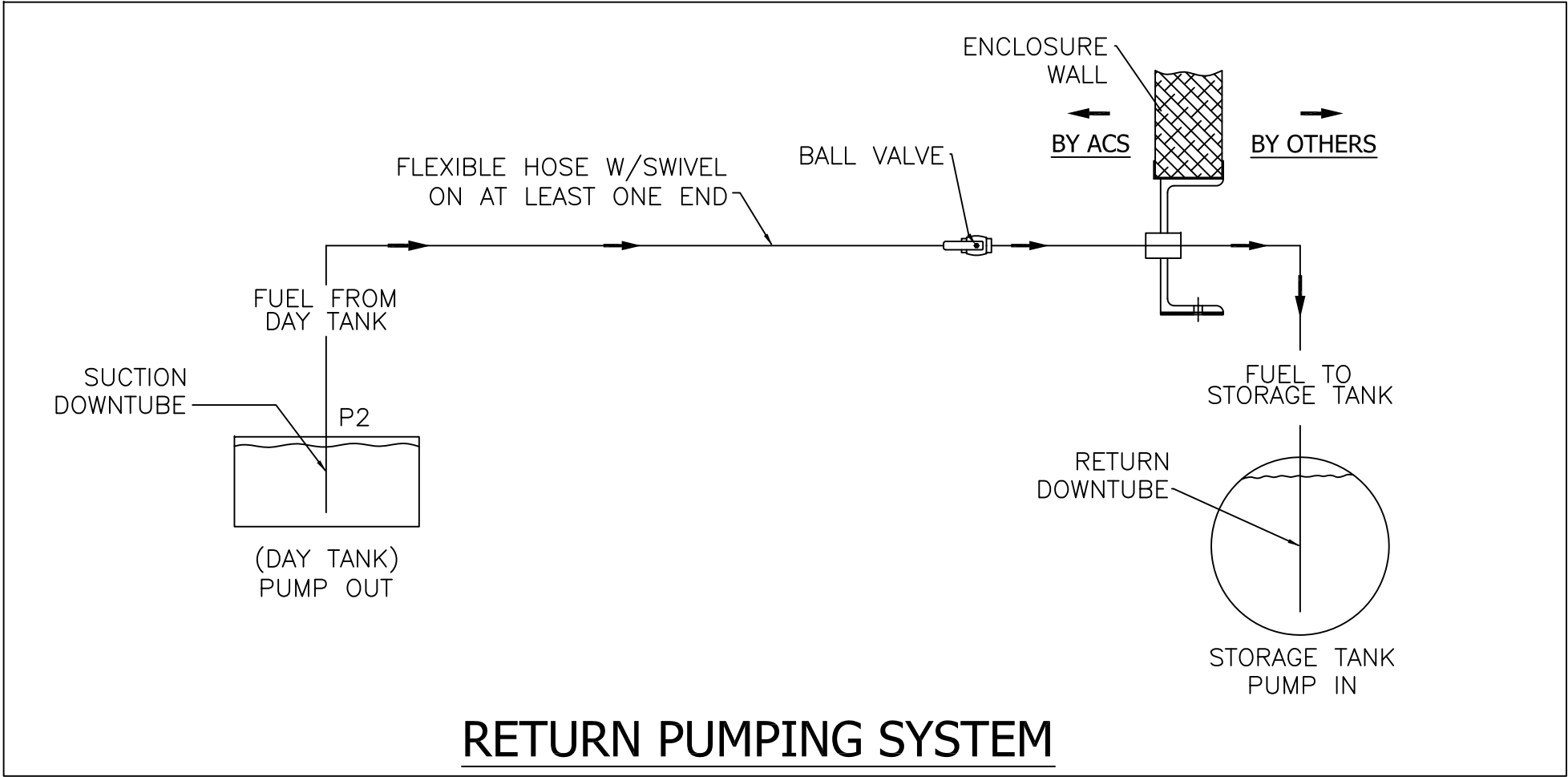
E	SEE OTHER SHEETS	MS	SO	06/19/12
D	UPDATED PER CUSTOMER REQUESTS	MS	SO	06/08/12
C	SEE SHEET 2	MS	SO	05/24/12
B	UPDATED PER CUSTOMER REQUESTS	MS	SO	05/15/12
A	UPDATED PER CUSTOMER REQUESTS	MS	SO	03/21/12
REV	ECO NUMBER	BY	APPD	DATE

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SUPPLY PUMPING SYSTEM



RETURN PUMPING SYSTEM

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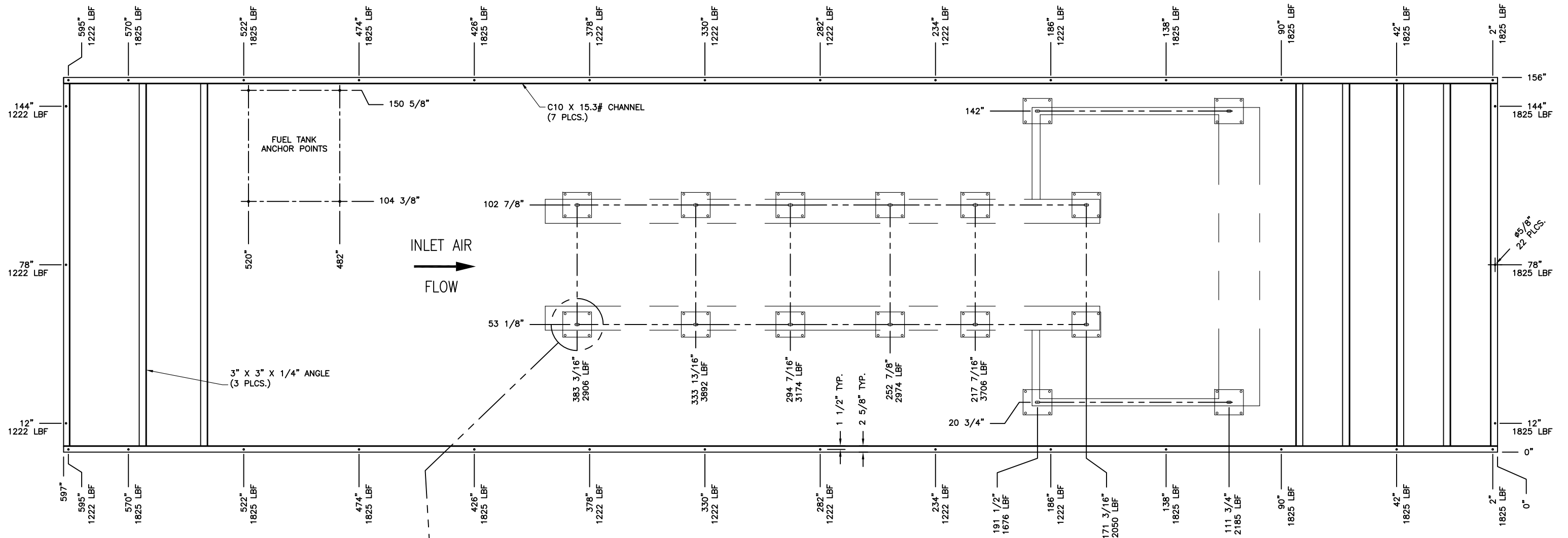


TOLERANCES (EXCEPT AS NOTED)				DRAWN BY: MTS	
DECIMAL ± 0.125"				CHECKED BY:	
FRACTIONAL ± 1/8"				CHECKED BY:	
ANGULAR ± 3°				APPROVED BY: SO	
SCALE NTS				SHEET REV.	
DATE 01/06/12				10 of 11 E	
TITLE GEN-SET ACOUSTICAL ENCLOSURE ASSY. DAY TANK CONTROLLER DETAILS				DRAWING NUMBER 11773-10	

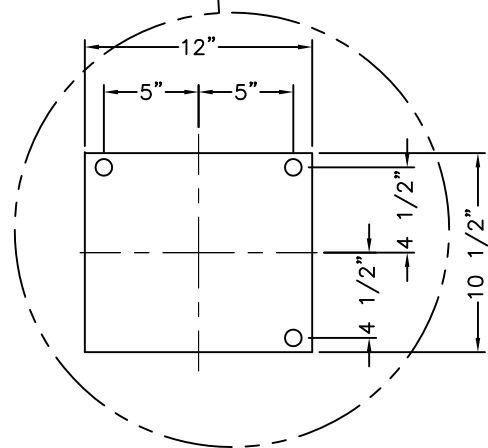
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E	-	SEE OTHER SHEETS	MS	SO	06/19/12
D	-	SEE OTHER SHEETS	MS	SO	06/08/12
C	-	SEE SHEET 2	MS	SO	05/24/12
B	-	UPDATED PER CUSTOMER REQUESTS	MS	SO	05/15/12
A	-	UPDATED PER CUSTOMER REQUESTS	MS	SO	03/21/12
REV	ECO NUMBER	DESCRIPTION	BY	APPD	DATE



SECTION C-C
ENCLOSURE ANCHORING BOLT PATTERN
FOR CONSTRUCTION



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QUOTE NO.: 1109038 REV. 2
PO NO.: 10-578
WO NO.: T.B.D.
JOB NAME: MOLYCORP



CASHMAN CAT

TOLERANCES (EXCEPT AS NOTED)	
DECIMAL	±
FRACTIONAL	±
ANGULAR	±
SCALE	1 TO 1
DATE	01/06/12

TITLE
ACOUSTICAL GEN-SET
ENCLOSURE ASSEMBLY

DRAWING NUMBER
11773-10

DRAWN BY: MTS

CHECKED BY:

APPROVED BY: SO

SHEET

REV.

11 of 11

E

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E		SEE OTHER SHEETS	MS	SO	06/19/12
D		UPDATED PER CUSTOMER REQUESTS	MS	SO	06/08/12
C		SEE SHEET 2	MS	SO	05/24/12
B		UPDATED PER CUSTOMER REQUESTS	MS	SO	05/15/12
A		UPDATED PER CUSTOMER REQUESTS	MS	SO	03/21/12
REV	ECO NUMBER	DESCRIPTION	BY	APPD	DATE

NO.	LOAD DESCRIPTION	A	B	C	A	B	C	LOAD DESCRIPTION	NO.		
1	JACKET WATER HEATER	20			0			SPACE	2		
3			20			0		SPACE	4		
5				20			15	SPACE HEATER	6		
7	15KVA MINI POWER ZONE	50			15				8		
9			50			0		SPACE	10		
		↓	↓	↓	↓	↓	↓				
		A	70			15		TOTAL→	85	AMPS	
		B		70			0	TOTAL→	70	AMPS	
		C			20			15	TOTAL→	35	AMPS

Diagram illustrating the wiring for a 100A 3-phase panel board (NF Series Panel Board, N3R, 100A, 3 ϕ , 4 Wire, w/ EJB Breakers 65KA).

Inputs:

- 480VAC (Three Phase, 60Hz, supplied by others)
- 15kVA MPZ (See Sheet 2, 2- #6, 1- #10g, CIR- 7,9)

Panel Board Components:

- Busbars: N, A, B, C, N
- Breakers: 20A, 50A, 15A, 100A MCB

Outputs:

- SPACE CIR - 2
- SPACE CIR - 4
- 5 KW SPACE HEATER (480 VAC, wired by ACS, 3- #12, CIR- 6,8)
- SPACE CIR - 10

Grounding:

- Grounding symbol (circle with three horizontal lines) labeled #8

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ELECTRICAL BILL OF MATERIAL	
QTY	DESCRIPTION
1	NEMA 3R, 277/480V, 100A MAIN BREAKER, THREE PHASE, NON-FUSED, DISTRIBUTION PANEL
	w/65K AIC BOLT ON BREAKERS TYPE EJB
1	EQUIPMENT GROUND BAR
1	5kW SPACE HEATER 480V 1Ø
1	15 AMP TWO POLE BREAKER EJB 65kVA
1	20 AMP THREE POLE BREAKER EJB 65kVA
1	50 AMP TWO POLE BREAKER EJB 65kVA
1LT.	EMT CONDUIT, SEAL TIGHT & COMPRESSION FITTINGS

JOB NAME: MOLYCORP

 **ACS MANUFACTURING, INC.**

1601 COMMERCE BLVD. - DENISON, TEXAS - 75020

C	—	UPDATED DAY TANK CONTROLLER	MS	SO	08/22/12	ANGULAR	\pm N/A	TITLE	ACOUSTICAL ENCLOSURE ASSEMBLY ELECTRICAL SCHEMATIC	APPROVED BY: SO	
B	—	UPDATED PER CUSTOMER REQUESTS	MS	SO	06/26/12	SCALE	N/A			SHEET	REV.
A	—	UPDATED PER CUSTOMER REQUESTS	MS	SO	03/21/12	DATE	01/06/12			1 of 5	C
REV	ECO NUMBER	DESCRIPTION	BY	APPD	DATE	DRAWING NUMBER					11773-10E

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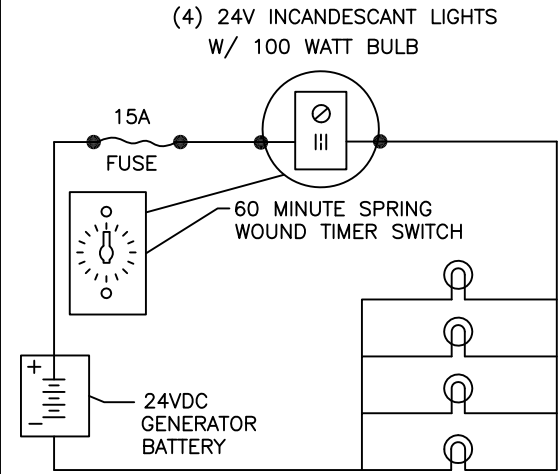
NO.	LOAD DESCRIPTION	A	B	A	B	LOAD DESCRIPTION	NO.		
1	ALT HEATER	10		20		INTERIOR LIGHTS	2		
3	BATTERY CHARGER		20		20	DUPLEX RECEPTACLE	4		
5	SPACE	0		30		DAY TANK CONTROL	6		
7	SPACE		0		30		8		
		↓	↓	↓	↓				
		A	10		50	TOTAL→	60	AMPS	
		B		20		50	TOTAL→	70	AMPS

- 1) INSTALL BOND ON ENCLOSURE.
- 2) INSTALL GROUND WIRE IN EVERY RACEWAY.
- 3) EXTEND TANK ALARMS TO FUEL TANK ANNUNCIATOR & GENSET CONTROL VIA SEAL TIGHT.

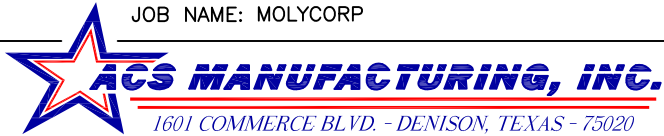
- 1) RUN CONDUIT FOR JACKET WATER HEATER
OVERHEAD — NOT ON FLOOR
- 2) FASTEN CONDUIT FROM CONTROLLER TO DAY
TANK FLOATS ALONG THE ENCLOSURE WALL.
LEAVE AT LEAST AN EXTRA 12" OF FLEX & WIRE
TO REACH DAY TANK FLOATS.

ELECTRICAL BILL OF MATERIAL	
QTY	DESCRIPTION
1	SQUARE D MINI POWER ZONE, 15KVA, 480V-120/240V, 1PH, NEMA 3R DISTRIBUTION PANEL 16 CIRCUIT 80A w/ 15KAIC BOLT ON BREAKERS TYPE QOB
1	EQUIPMENT GROUNDING BLOCK
6	FLUORESCENT (T8) LIGHT FIXTURE
2	3-WAY LIGHT SWITCH
2	20 AMP GFCI DUPLEX RECEPTACLE
4	EMERGENCY DC LIGHT FIXTURE 100WATT INCANDESCENT WITH GLASS GLOBE AND WIRE GUARD 24V
1	TIMER, SPRING WOUND, 0-60 SEC DC
1	ACS DAY TANK CONTROL 240V
1	10 AMP SINGLE POLE BREAKER QOB
3	20 AMP SINGLE POLE BREAKER QOB
1	30 AMP DOUBLE POLE BREAKER QOB
1LT.	EMT CONDUIT, SEAL TIGHT & COMPRESSION FITTINGS

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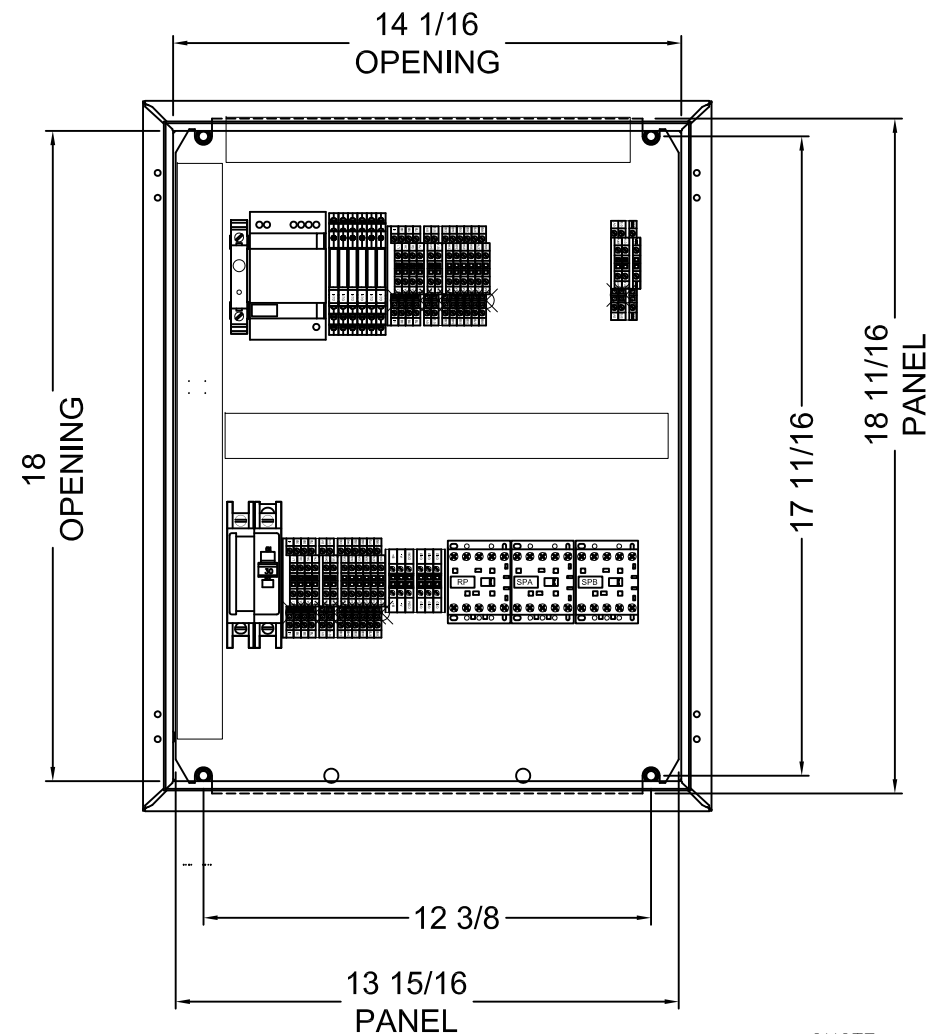
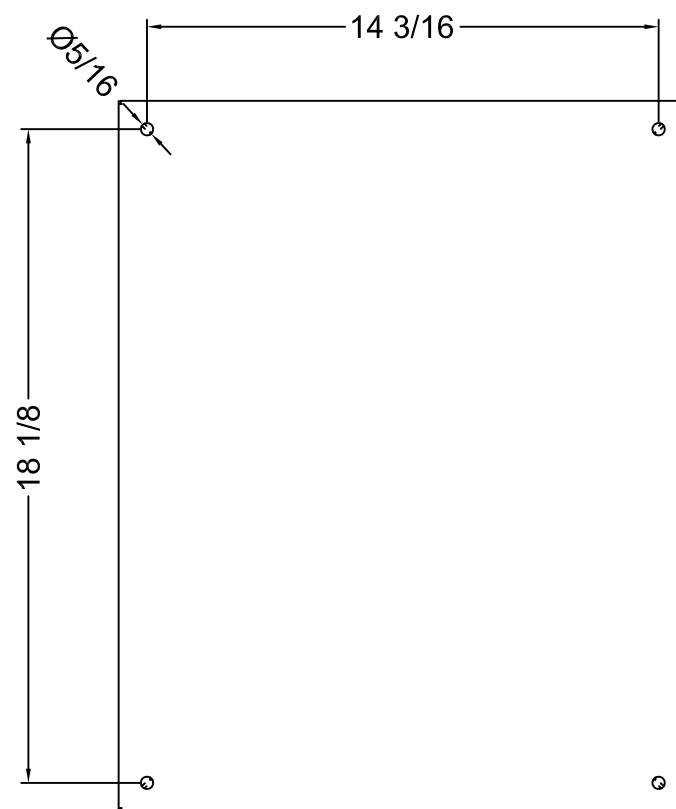
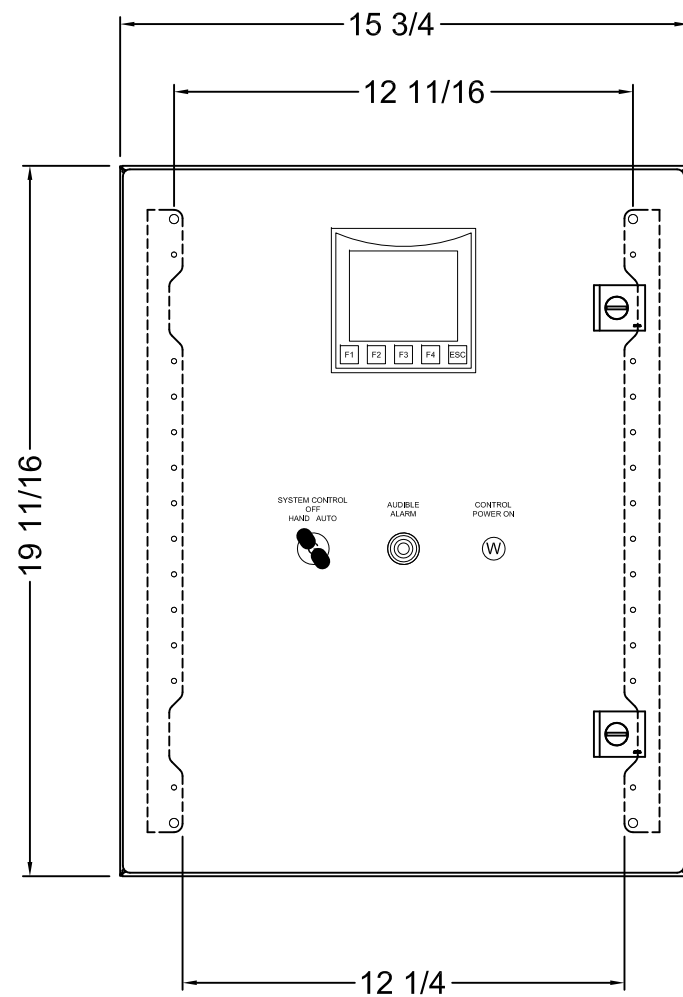
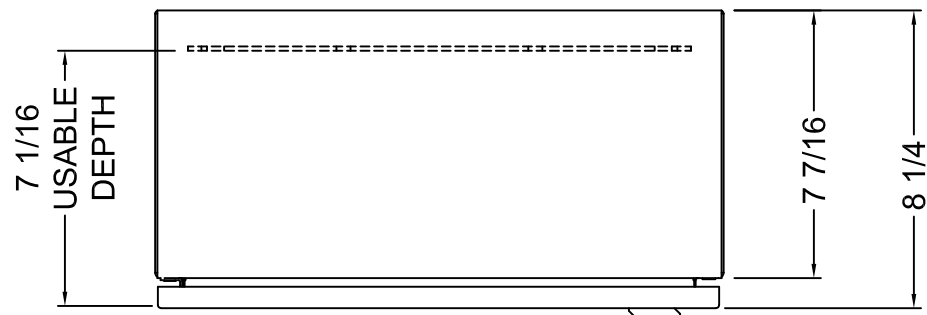


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TOLERANCES (EXCEPT AS NOTED)		CASHMAN CAT		DRAWN BY: MTS	
DECIMAL \pm N/A				CHECKED BY:	
FRACTIONAL \pm N/A		ACOUSTICAL ENCLOSURE ASSEMBLY ELECTRICAL SCHEMATIC		CHECKED BY:	
ANGULAR \pm N/A				APPROVED BY: SO	
SCALE N/A				SHEET 2 OF 5	
DATE 01/06/12		DRAWING NUMBER 11773-10E		REV. C	

C	—	UPDATED DAY TANK CONTROLLER	MS	SO	08/22/12		
B	—	UPDATED PER CUSTOMER REQUESTS	MS	SO	06/26/12		
A	—	UPDATED PER CUSTOMER REQUESTS	MS	SO	03/21/12		
REV	ECO	NUMBER	DESCRIPTION		BY	APPD	DATE



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PO NO.: 10-578
WO NO.: TBD
JOB NAME: MOLYCORP

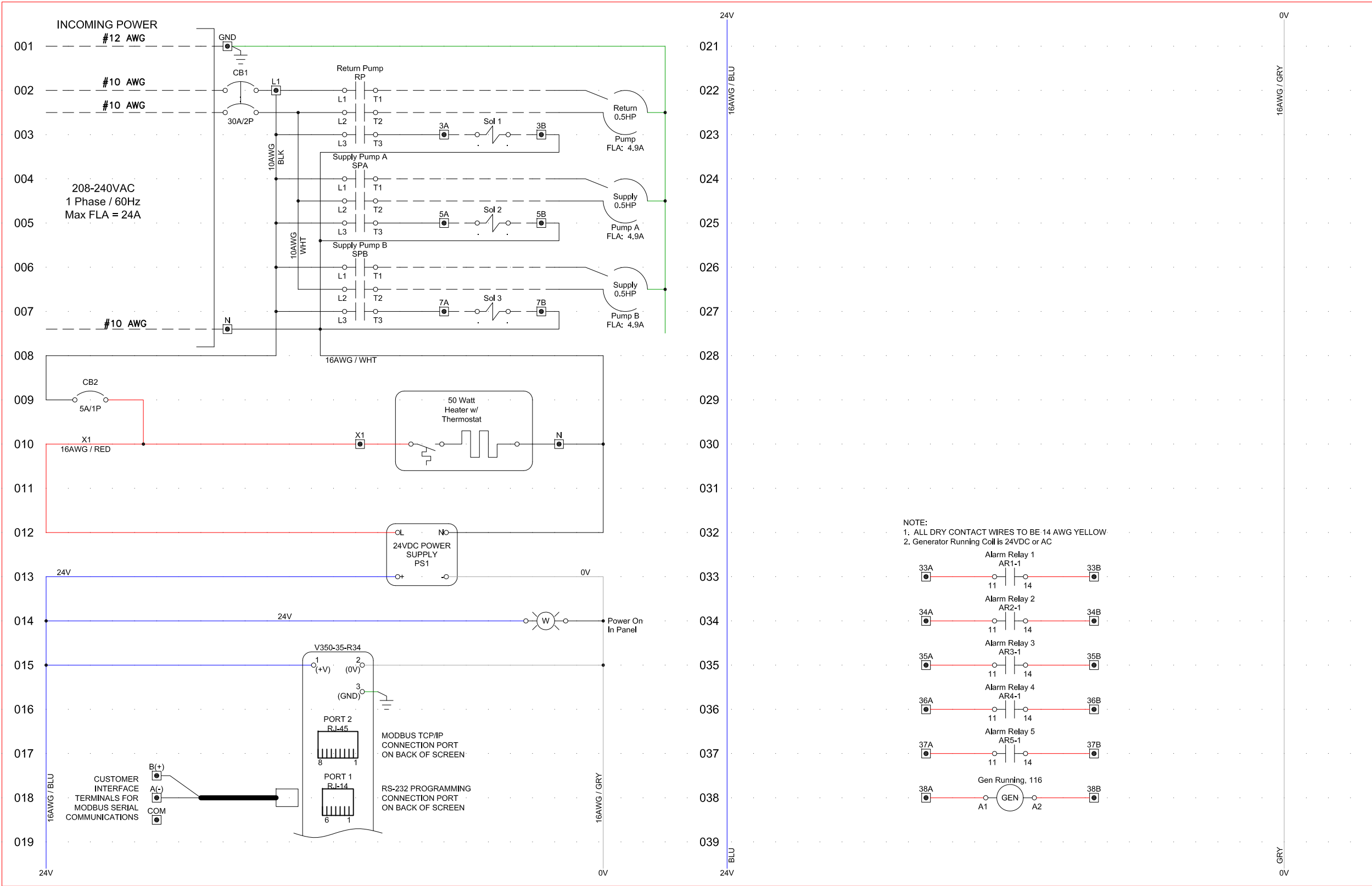


TOLERANCES (EXCEPT AS NOTED)		CASHMAN CAT		DRAWN BY: MTS	
DECIMAL	± N/A			CHECKED BY:	
FRACTIONAL	± N/A			CHECKED BY:	
ANGULAR	± N/A			APPROVED BY: SO	
SCALE	N/A			SHEET	
DATE	08/18/12	TITLE		REV.	
		DAY TANK CONTROLLER CABINET DETAIL		3 of 5	
		DRAWING NUMBER		C	
		11773-10E			

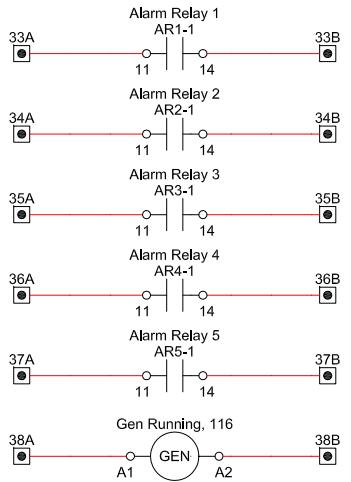
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REV	ECO NUMBER	DESCRIPTION	BY	APPD	DATE
-	-	-	-	-	-



NOTE:
1. ALL DRY CONTACT WIRES TO BE 14 AWG YELLOW
2. Generator Running Coil is 24VDC or AC



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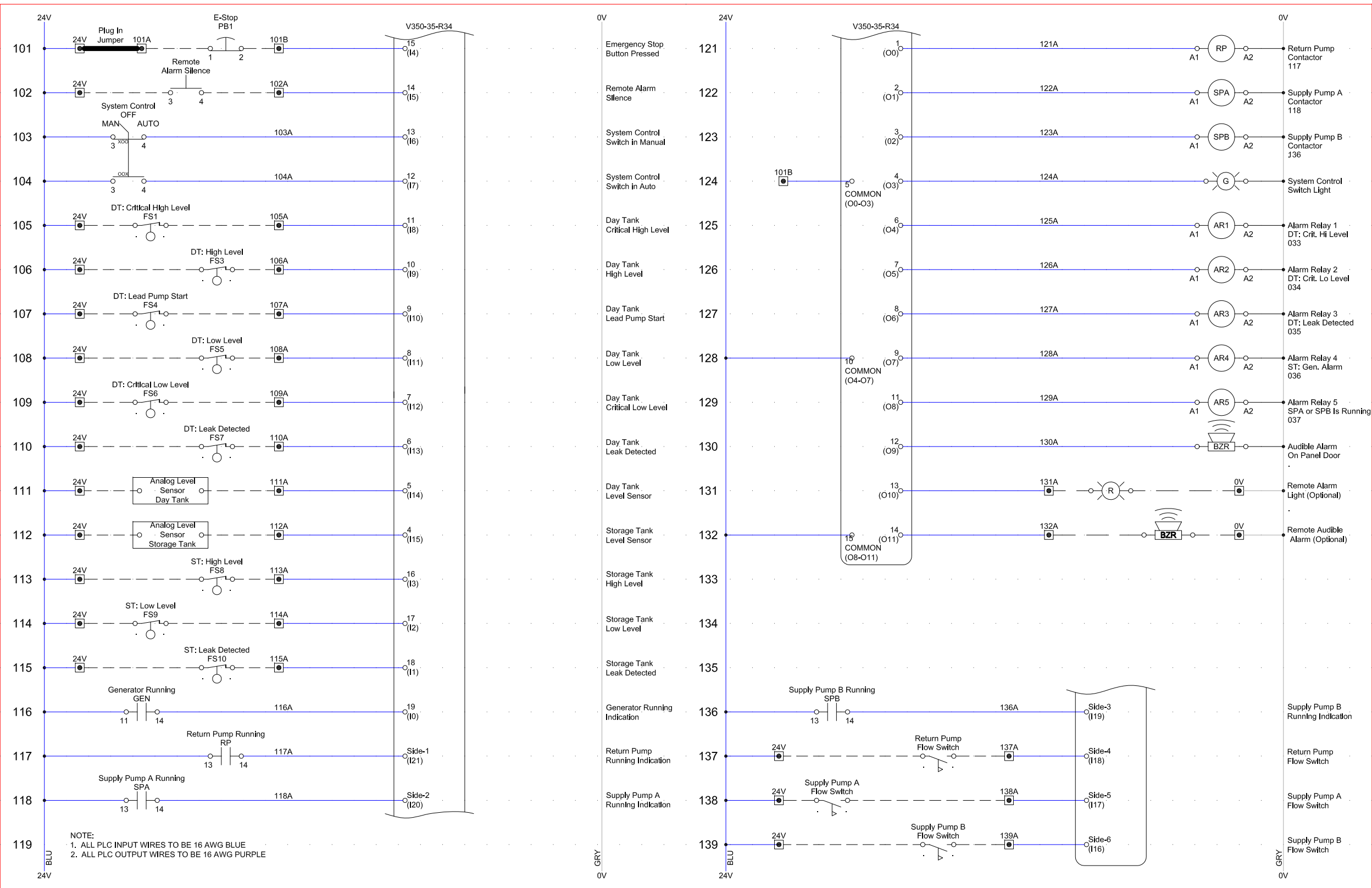


TOLERANCES (EXCEPT AS NOTED)	DECIMAL ± N/A	FRACTIONAL ± N/A	ANGULAR ± N/A	SCALE N/A	DATE 08/18/12	DRAWING NUMBER 11773-10E	TITLE DAY TANK CONTROLLER ELECTRICAL SCHEMATIC	DRAWN BY: MTS	CHECKED BY:	APPROVED BY: SO	SHEET 4 of 5	REV. C
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DECIMAL	± N/A			CHECKED BY:	
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ANGULAR	± N/A	TITLE		SHEET	
SCALE	N/A	DAY TANK CONTROLLER ELECTRICAL SCHEMATIC		REV.	
DATE	08/18/12	DRAWING NUMBER		5 of 5	
		11773-10E		C	

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