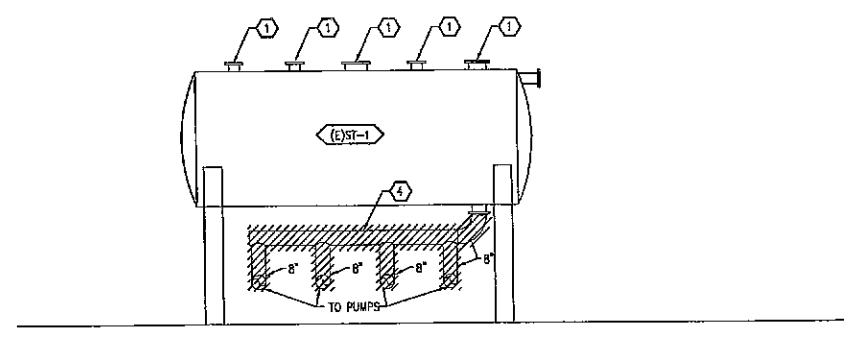
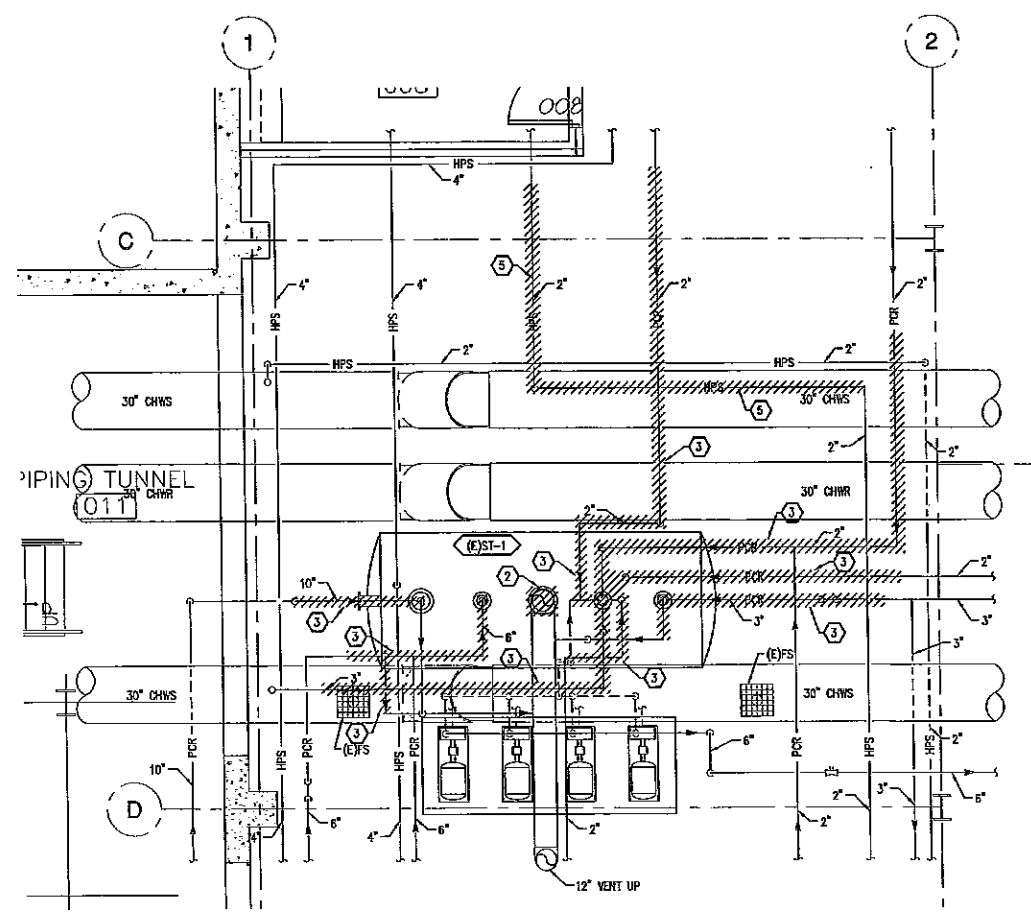


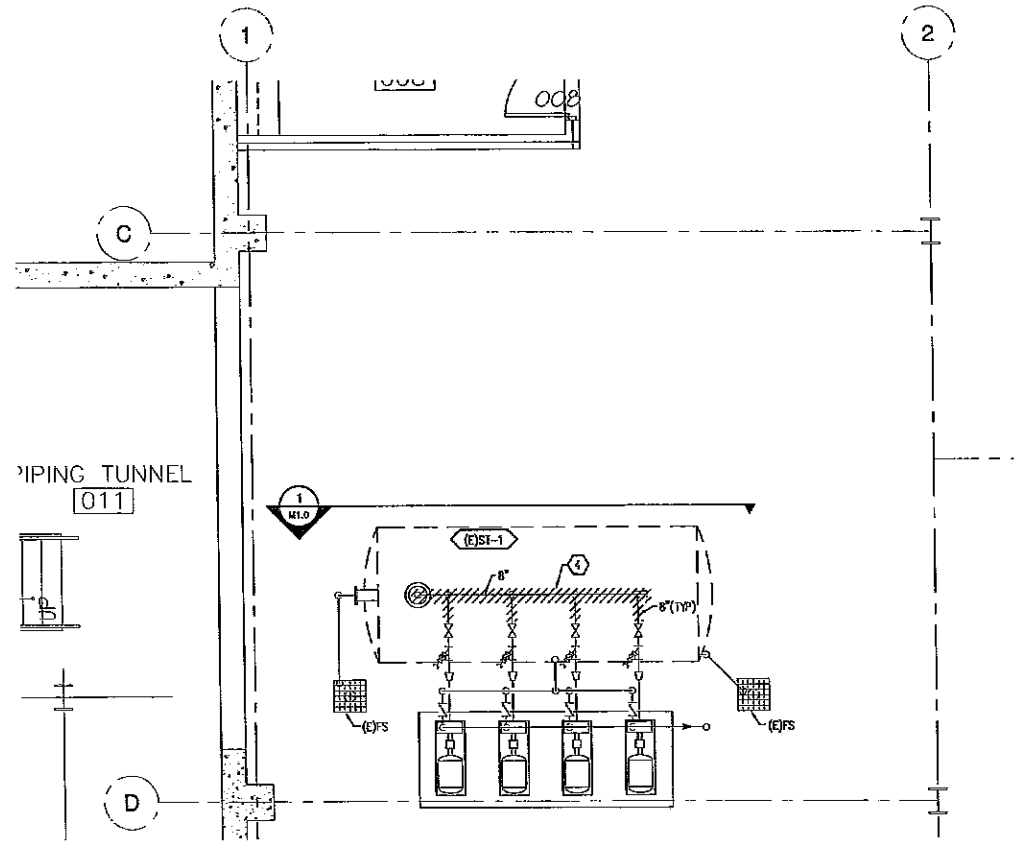
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 Plotted on: 8/13/2008 by: Lucas



1 (E) SURGE TANK ELEVATION - SOUTH
 MLO SCALE: NONE



1 SURGE TANK UPPER EXISTING PIPING PLAN
 SCALE: 1/4" = 1'-0"



1 SURGE TANK LOWER EXISTING PIPING PLAN
 SCALE: 1/4" = 1'-0"

SHEET NOTES

1. INSTALL BIRD FLANGES OR PLUGS IN SURGE TANK (ST-122) CONNECTIONS THAT ARE NOT USED.
2. IT IS CRITICAL TO MINIMIZE SYSTEM DOWN TIME. ALL D/DAM TIME SHALL BE SCHEDULED A MINIMUM OF 7 DAYS BEFORE A SHUTDOWN IS REQUIRED. DOWNTIME SHALL BE SCHEDULED WITH PLANT OPERATIONS (MARK TRAFFIC). PIPING SHALL BE PRE-FABRICATED AS MUCH AS POSSIBLE.

KEY NOTES

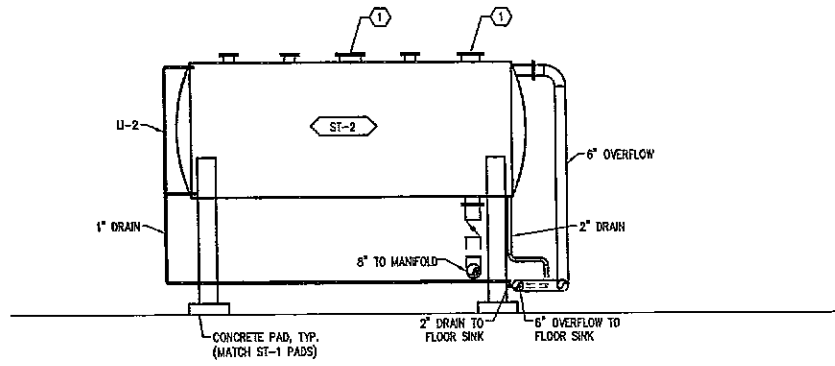
- 1 PIPING NOT SHOWN FOR CLARITY.
- 2 REMOVE AND DEMOLISH 12" V AT ELBOW.
- 3 REMOVE AND DEMOLISH PIPING TO ST-1 AS INDICATED.
- 4 REMOVE AND DEMOLISH PIPING FROM BOTTOM OUTLET OF SURGE TANK TO PUMP GATE VALVES.
- 5 REMOVE AND DEMOLISH HPS PIPING AS INDICATED.

ENGINEERS
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RMH GROUP
 Phone (303) 239-0909
 Fax (303) 235-0218
 RMH Job Number: 16988
 12600 WEST COLFAX AVE.
 LAKEWOOD, CO 80215
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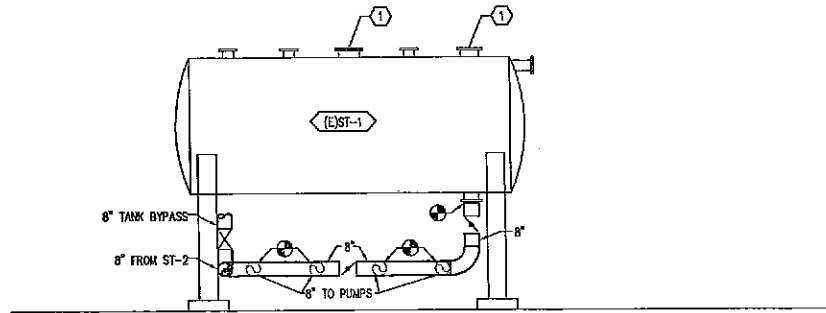
UCD CUP
 SURGE TANK #2 ADDITION
 AURORA, CO
 SURGE TANK
 DEMOLITION PIPING
 PLAN

DATE: 08/15/08	SCALE: AS SHOWN
DESIGN BY: G. PHIPPS	DRAWN BY: L. FELDS
APPROVED BY: G. PHILLIPS	PAL NO: 16988
CAD FILE: 16988 - M10.dwg	REV:
SHTNO. M1.0	REVISION 0

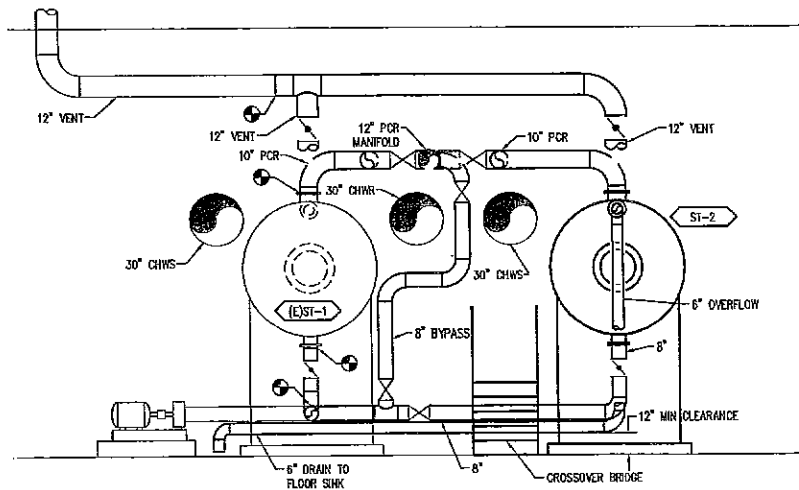
0	8/15/08	CONSTRUCTION DOCUMENTS
REV.		DESCRIPTION



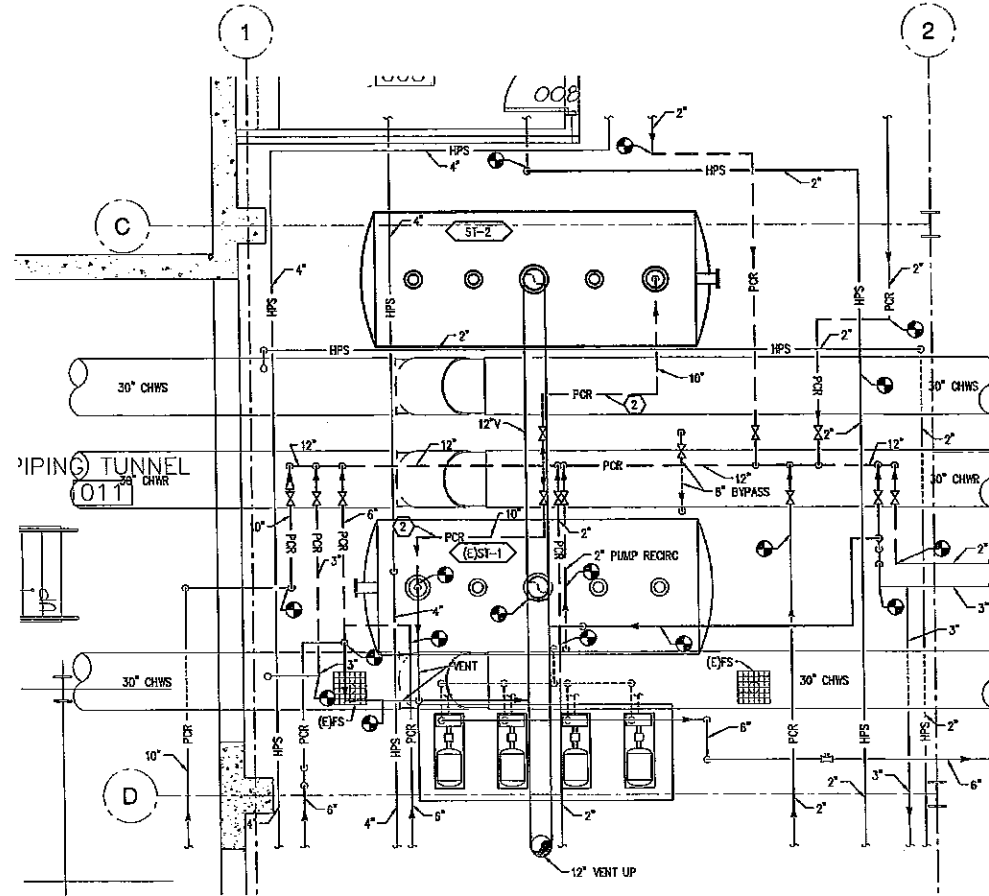
1 NEW SURGE TANK ELEVATION - NORTH
M1.1 SCALE: NONE



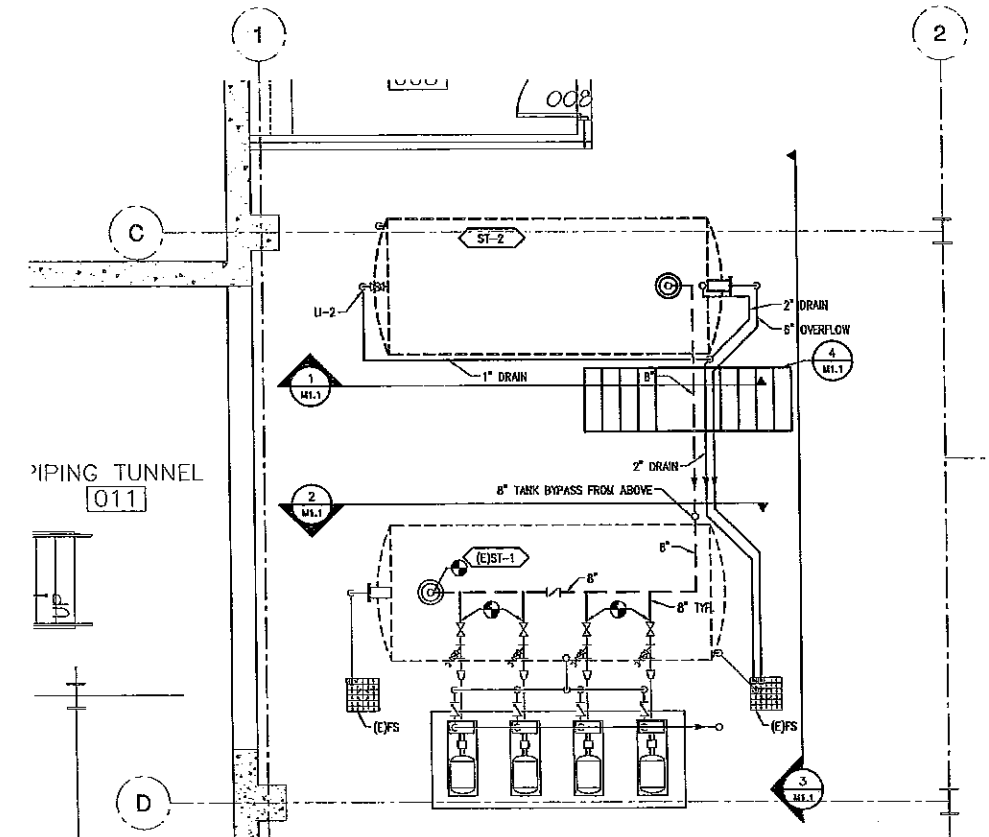
2 (E)SURGE TANK ELEVATION - SOUTH
M1.1 SCALE: NONE



3 SURGE TANK ELEVATION - WEST
M1.1 SCALE: NONE



↑ SURGE TANK UPPER NEW PIPING PLAN
SCALE: 1/4" = 1'-0"



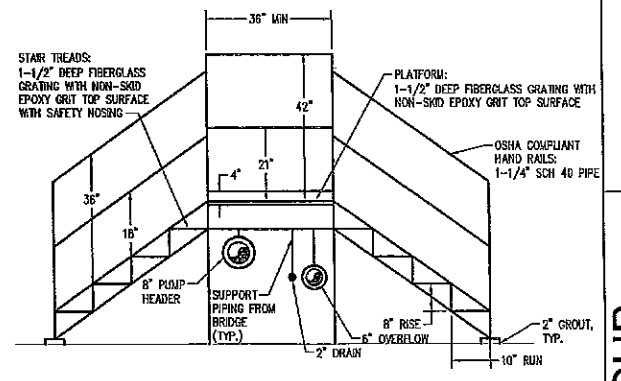
↑ SURGE TANK LOWER NEW PIPING PLAN
SCALE: 1/4" = 1'-0"

SHEET NOTES

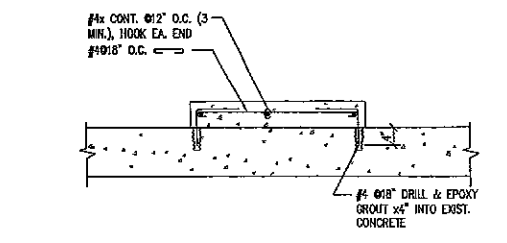
1. INSTALL BUND FLANGES OR PLUGS IN SURGE TANK (ST-1&2) CONNECTIONS THAT ARE NOT USED.
2. IT IS CRITICAL TO MINIMIZE SYSTEM DOWN TIME. ALL DOWN TIME SHALL BE SCHEDULED A MINIMUM OF 7 DAYS BEFORE A SHUTDOWN IS REQUIRED. DOWNTIME SHALL BE SCHEDULED WITH PLANT OPERATIONS (MARK TRAFFIC). PIPING SHALL BE PRE-FABRICATED AS MUCH AS POSSIBLE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL WORK REQUIRED DUE TO INTERFERENCES. A PRE-BID WALK-THROUGH WILL ALLOW THE CONTRACTOR TO IDENTIFY THESE PROBLEMS.
4. ROUTE HORIZONTAL PIPING TO ALLOW AT LEAST 12" CLEAR BETWEEN PIPE AND THE FLOOR.
5. SEE M2.0 AND M3.0 FOR ADDITIONAL PIPING DETAILS.
6. A DOUBLE STEEL DOOR FRAME AND CONCRETE BLOCK WILL NEED TO BE REMOVED TO ALLOW TANK TO BE MOVED INTO POSITION. THE DOOR ASSEMBLY AND WALL SHALL BE REPAIRED TO ORIGINAL CONDITION, INCLUDING PAINTING.

KEY NOTES

- 1 PIPING NOT SHOWN FOR CLARITY.
- 2 THESE PIPE RUNS SHALL BE AT EQUAL LENGTHS AND SLOPES.
- 3 FABRICATE A CROSSOVER BRIDGE TO THE FOLLOWING SPECIFICATIONS:
THE STRUCTURE SHALL BE WELDED CARBON STEEL (ASTM A-36) COATED WITH EPOXY PAINT APPLIED PER THE MANUFACTURER'S RECOMMENDATIONS. THE COLOR SHALL BE AS APPROVED BY THE OWNER. THE PLATFORM SHALL BE 1-1/2" DEEP FIBERGLASS GRATING WITH NON-SKID EPOXY GRIT TOP SURFACE (HARRINGTON SEASAFE GATOR-DECK G-18015, OR ENGINEER APPROVED EQUAL). THE STAIR TREADS SHALL BE OF THE SAME MATERIAL AS THE PLATFORM BUT WITH SAFETY HOUSING AND SPECIFICALLY DESIGNED FOR USE AS STAIR TREADS. GRATING HOLD-DOWN CLIPS SHALL BE STAINLESS STEEL WITH STAINLESS STEEL FASTENERS. THE BRIDGE SHALL BE 36" WIDE WITH A HEIGHT SUFFICIENT TO CLEAR THE INSULATED PIPES. THE PLATFORM SHALL BE AT LEAST 36" LONG. STAIR RISE SHALL BE 8" AND THE RUN SHALL BE 10". HANDRAILS SHALL BE FABRICATED FROM 1-1/4" DIAMETER SCHEDULE 40 PIPE. RAILINGS AND TOWERHEADS SHALL COMPLY WITH OSHA. THE STRUCTURE SHALL BE DESIGNED TO SUPPORT A 500 LB CONCENTRATED LIVE LOAD (IN ADDITION TO THE WEIGHT OF THE STRUCTURE AND THE SUPPORTED PIPING) WITHOUT TAKING A PERMANENT BEND. STAIR RISE MAY BE REDUCED IF REQUIRED TO GIVE 6'-6" CLEAR ABOVE THE BRIDGE.



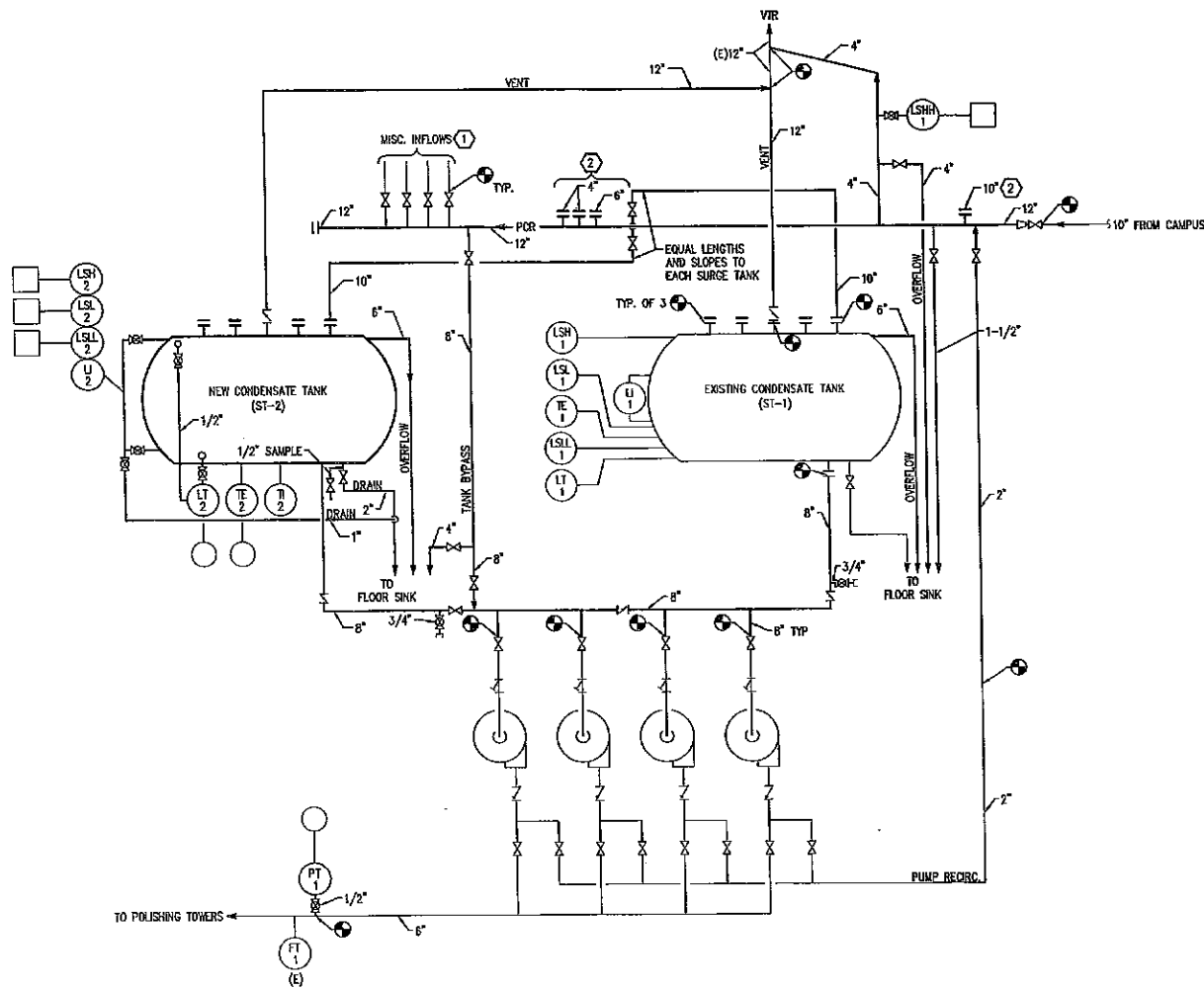
3 CROSSOVER BRIDGE DETAIL
M1.1 SCALE: NONE



5 TANK CONCRETE PAD DETAIL
M1.1 SCALE: NONE

CONSTRUCTION DOCUMENTS		DATE	DESCRIPTION
0	B/15/08		
ENGINEERS CONSULTANTS RMH GROUP Phone (303) 239-0809 Fax (303) 235-0218 RMH Job Number: 18988 Copyright 2008 12600 WEST COLFAX AVE. LAKEWOOD, CO 80215			
UCD CUP SURGE TANK #2 ADDITION AURORA, CO SURGE TANK PIPING PLAN			
DATE: 06/15/08	SCALE: AS SHOWN	DESIGN BY: G. PHIPPS	APPROVED BY: R. PHILLIPS
DRWN BY: J. REID	PRJ. NO: 16988	CAD FILE: 16988 - M1.1.dwg	REV.:
SHT. NO.	M1.1	REVISION	0

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 Save Date: 8/14/2008 by: reasdas
 Plotted on: 8/14/2008 by: reasdas




SURGE TANK P&ID AND PIPING SCHEMATIC
SCALE: NONE

SHEET NOTES

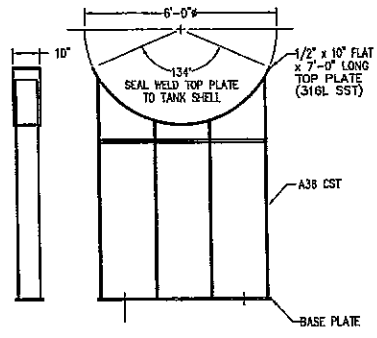
- 1. EXISTING COMPONENTS ARE SHOWN WITH A LIGHT LINE AND NEW COMPONENTS WITH A HEAVY LINE.

KEY NOTES

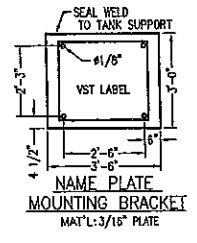
- ① PUMPED CONDENSATE RETURN CONNECTIONS. EXACT NUMBER AND LOCATION OF CONNECTIONS NOT SHOWN. REFER TO M1.1 FOR SIZE AND LOCATION.
- ② CAPPED CONNECTION FOR FUTURE USE. COORDINATE LOCATION WITH PLANT OPERATIONS (MARK TRAFFON).

CONSTRUCTION DOCUMENTS	
0	8/15/08
0	REV. DATE
ENGINEERS CONSULTANTS  RMH GROUP 12600 WEST COLFAX AVE. LAKEWOOD, CO 80215 Phone (303) 239-0809 Fax (303) 235-0218 RMH Job Number: 16988 Copyright: 2008	
UCD CUP SURGE TANK #2 ADDITION AURORA, CO SURGE TANK P&ID AND PIPING SCHEMATIC	
DATE: 08/15/08	SCALE: AS SHOWN
DESIGN BY: G. PHIPPS	DRAWN BY: J. FIELDS
APPROVED BY: R. PHILLIPS	FILE NO: 16988
CAD FILE: 16988 - M20.dwg	REV. NO: 0
SHT. NO. M2.0	REVISION 0

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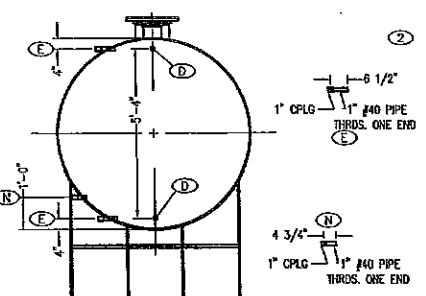
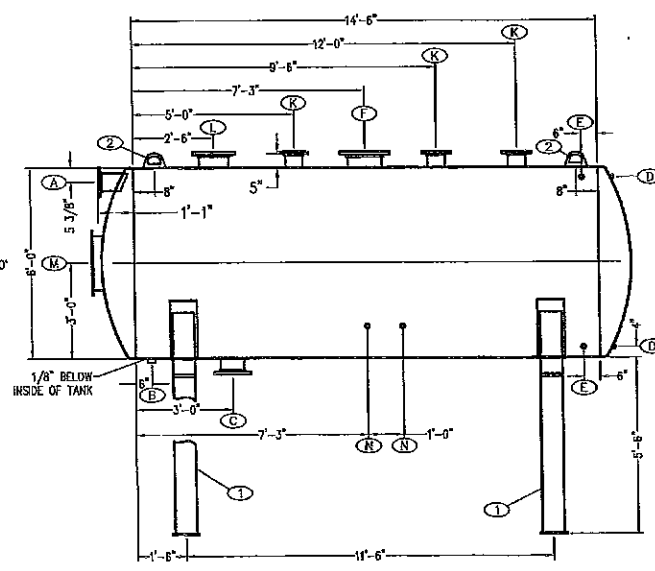
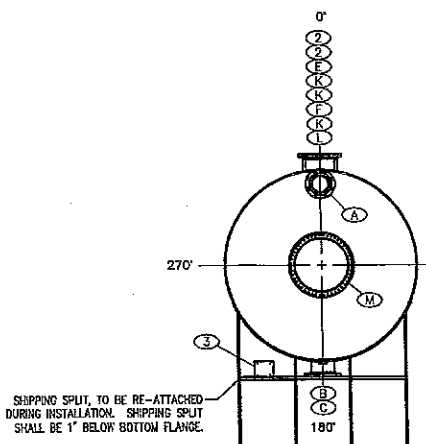
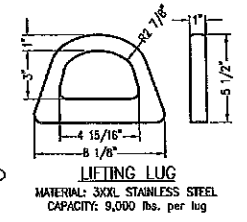
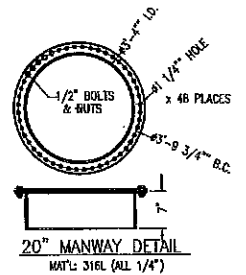


6' Ø TANK SADDLE ASSEMBLY DETAIL



- NOTES:**
- NOZZLE FLANGES TO BE ANSI B-16.5 150# FLANGES PER SPEC SA-182 & NOZZLES PER SPEC ASTM A-312 SCH. 40. (UNLESS OTHERWISE NOTED)
 - FLANGES INSTALLED IN SHELL SHALL BE INSTALLED W/BOLT HOLES STRADDLING THE TANK'S VERTICAL OR HORIZONTAL C. FLANGES INSTALLED IN THE HEADS WILL BE INSTALLED W/BOLT HOLES STRADDLING THE 0°-180° & 90°-270° C'S.
 - THE TANK SHALL BE DESIGNED TO STORE CONDENSATE AT 200°F AND 15 PSI PRESSURE.
 - INTERIOR: INTERIOR TANK SURFACES SHALL BE CLEANED FREE OF SLAG & ALL OTHER FOREIGN MATTER.
 - GASKET MATERIAL: JIL BEANED YELLOWOID
 - SHOP TEST TANK BY AIR PRESSURE TO 15 PSI. VERIFY LEAK-FREE.
 - ALL DIMENSIONS SHOWN AS NOMINAL (NGM) ARE ±1-1/2%.
 - REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
 - PRIME COAT OF PAINT AT FACTORY AND FIELD-APPLIED EPOXY FINISH COAT ON UNINSULATED COMPONENTS.

SCHEDULE OF FITTINGS			
SYM. QTY.	DESCRIPTION	SERVICE	PROJ.
A	1 6" RFSO 150# FLANGE	OVERFLOW	6"
B	1 2" NPT HALF COUPLING	DRAIN	
C	1 8" RFSO 150# FLANGE	PUMP CONNECTION	6"
D	2 1" FNPT COUPLING	SIGHT GAUGE	
E	2 1" FNPT COUPLING	LEVEL TRANSMITTER	
F	1 12" RFSO 150# FLANGE	VENT	6"
K	3 6" RFSO 150# FLANGE	INLET	6"
L	1 10" RFSO 150# FLANGE	PROCESS	6"
M	1 20" MANWAY	ACCESS	4"
N	1 1" FNPT COUPLING	THERMOWELL	
1	2	SADDLE ASSY	
2	2	LIFTING LUG	
3	1	NAMEPLATE BRACKET	



DESIGN CONDITIONS	MATERIAL CONSTRUCTION
PRESSURE: ATMOSPHERIC	MATERIAL: A316L
TEMPERATURE: 200°F	SHELL THK: 1/4" MIN
CONTENTS: CONDENSATE	HEAD THK: 1/4" MIN
SPECIFIC GRAVITY: 1.0	MFR. SPEC.
EMPTY WEIGHT: 6200# NOM	SENSING ZONE: 1
CAPACITY: 3250 GAL. NOM.	WIND VELOCITY: 80 MPH

SURGE TANK CONSTRUCTION DETAIL
SCALE: NONE

SURGE TANKS							
TAG	LOCATION	CAPACITY (GAL.)	LENGTH	DIAMETER	NORMAL LEVEL (GAL.)	MANUFACTURER & MODEL	NOTES
ST-1	BASEMENT	3000	15'-3"	6'	2000	PALMER	
ST-2	BASEMENT	3000	15'-3"	6'	2000	PALMER	1

NOTES:
1. WETTED PARTS FABRICATE FROM 316L STAINLESS STEEL

UCD CUP
SURGE TANK #2 ADDITION
AURORA, CO

SURGE TANK DETAIL

DATE: 08/15/08	SCALE: AS SHOWN	DESIGN BY: S. PHIPPS	DRAWN BY: J. REDDS	APPROVED BY: R. PHILLIPS	PROJ. NO: 16988	CAD FILE: 16988 - M30.dwg	REV:
SHT. NO.	M3.0	REVISION	0				

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12600 WEST COLFAX AVE.
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Fax (303) 235-0218
RPH Job Number: 16988

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		REV.	DATE

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Plotted on: 8/15/2008 by rccadops, rcc