

CWM CHEMICAL SERVICES, LLC.
MODEL CITY FACILITY
1550 BALMER ROAD
MODEL CITY, NEW YORK 14107

SHEET NO.	DRAWING NO.	SHEET NAME	SHEET NO.	DRAWING NO.	SHEET NAME
1	C-INDEX	INDEX SHEET	14	C-TKFR	LEACHATE TANK FARM
2	C-110	LEGENDS AND SYMBOLS	15	C-FRACTK	FRAC TANK FT-3
3	C-RMU-1	RMU-1 LIFT STATION	16	C-111	UNLOADING AND PRETREATMENT
3A	C-T-165	TANK T-165 	17	C-111A	SOLIDS DISSOLVING, SULFURIC ACID, DRUMS AND SUMPS
4	C-N2	SLF 7 & 11 LEACHATE HOLDING	18	C-112	OXIDIZING AND REDUCING
5	C-N3	SLF 10 LEACHATE HOLDING	19	C-112A	BIOTOWERS & CHEMICAL FEED
6	C-N4	SLF 1-6,7,10&11 OIL WATER SEPARATOR	20	C-113	ALKALIZATION
7	C-PRETR	SLF 1-6 PRETREATMENT	21	C-113A	FILTER PRESSES
8	C-GW	GROUNDWATER PUMPING SYSTEMS 	22	C-113B	CAUSTIC SCRUBBER
8A	C-GWA	GROUNDWATER PUMPING SYSTEMS PA III & PA IV	23	C-113C	LIME SYSTEM
9	C-SLF12	SLF 12 OIL WATER SEPARATOR	24	C-200	MULTI-MEDIA FILTRATION SYSTEM
10	C-TRCKWA	TRUCK WASH SUMP	25	C-210	ADSORPTION SYSTEM
11	C-STAB	MAIN STABILIZATION	25a	C-220	ARSENIC REMOVAL SYSTEM 
12	C-STABN	STABILIZATION NORTH EXPANSION	26	C-109	FILTRATE AND TREATED EFFLUENT TANKS 
13	C-STABS	STABILIZATION SOUTH EXPANSION	27	C-T-58	TANK 58

NOTES

1. ADAPTED FROM RUST ENVIRONMENT & INFRASTRUCTURE, MAY 1993. UPDATED AND REVISED BY BBL MARCH AND DECEMBER 2001.

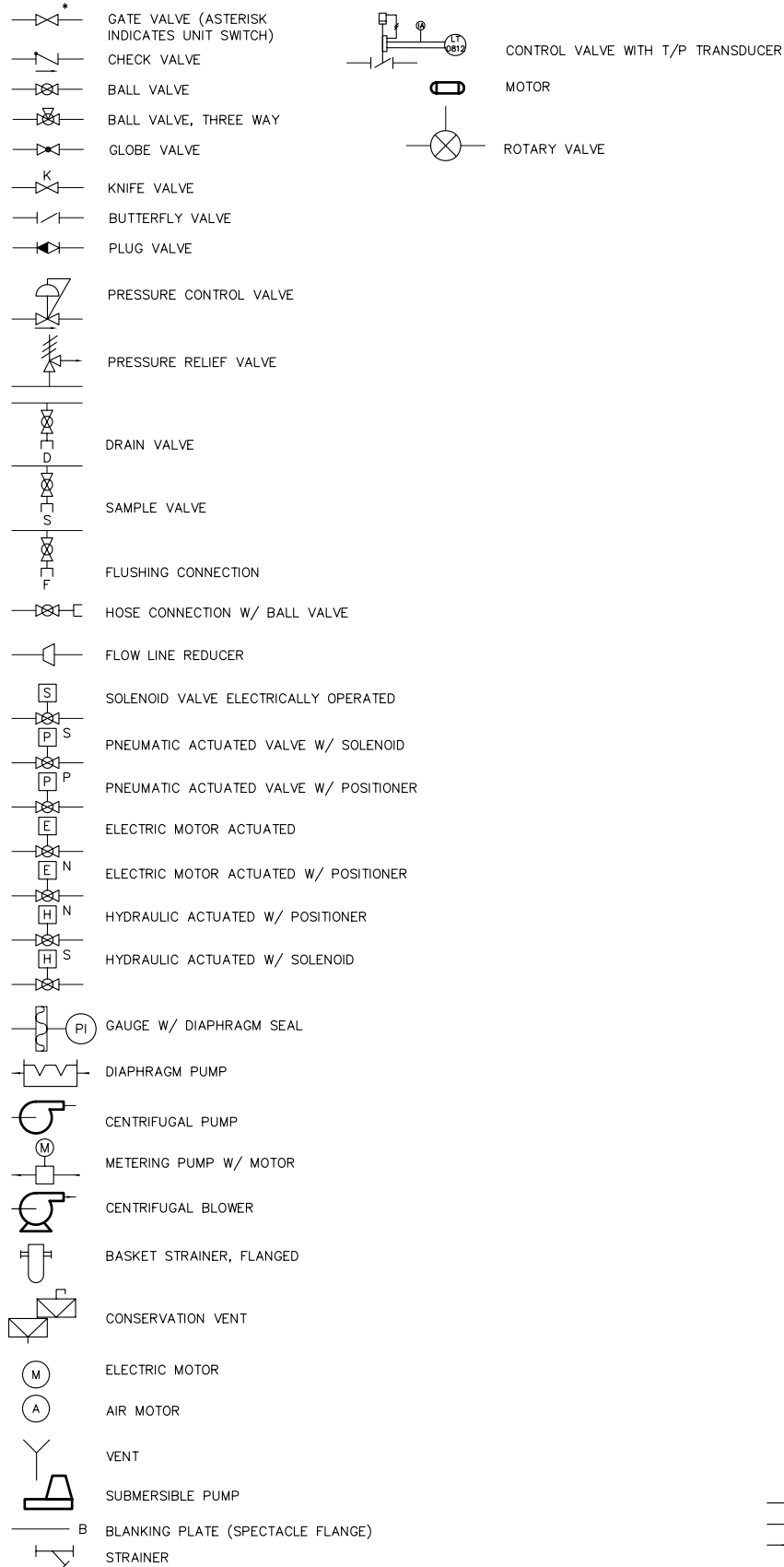
REVISION	NO.	BY	DATE	EnSol, Inc. Environmental Solutions 661 MAIN STREET NIAGARA FALLS, NY 14301 PHONE (716) 285-3920 FAX (716) 285-3928	PROJECT NO: 05-7017		TITLE: INDEX SHEET PROCESS AND INSTRUMENTATION DIAGRAM			
					SCALE: NOT TO SCALE					
ADDED SHEET NO. 25a.	4	TAS	9/10/13		DWG: 05-7017-INDEX SHT.DWG		PROJECT: CWM FACILITY P & ID UPDATES			DRAWING
ADDED SHEET NO. 3A.	3	JCD	5/16/12		DRAWN BY: AJZ CHECKED BY: BDS		PREPARED FOR: CWM CHEMICAL SERVICES, LLC., MODEL CITY FACILITY			C-INDEX
ADDED SHEET NO. 8A.	2	JCD	4/24/12		DATE: MAY 2006		TOWN OF PORTER		COUNTY OF NIAGARA	
RENAMED SHEET NO. 26.	1	BDS	5/2/06							
IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 SECTION 7209, FOR ANY PERSON UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER ANY ITEM IN ANY WAY.										

DRAWING

C-INDEX

(SHEET 1)

VALVE AND FLOW LINE EQUIPMENT LEGEND



DEFINITIONS—INSTRUMENT IDENTIFICATION LETTERS

	FIRST LETTER		SUCCEEDING LETTERS			
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER	
A	ANALYSIS	DEFERENTIAL	ALARM	USER'S CHOICE CONTROL	USER'S CHOICE	
B	BURNER FLAME					
C	CONDUCTIVITY (ELECTRICAL)					
D	DENSITY (MASS) OR SPECIFIC GRAVITY					
E	VOLTAGE (EMF)					
F	FLOW RATE	RATIO (FRACTIONAL)	PRIMARY ELEMENT		HIGH	
G	GAUGING (DIMENSIONAL)		GLASS			
H	HAND (MANUALLY INITIATED)	INDICATE				
I	CURRENT (ELECTRICAL)					
J	POWER					
K	TIME OR TIME SCHEDULE	SCAN		CONTROL STATION	LOW MIDDLE OR INTERMEDIATE USER'S CHOICE	
L	LEVEL	LIGHT (PILOT)				
M	MOISTURE OR HUMIDITY					
N	USER'S CHOICE	USER'S CHOICE OR AFICE (RESTRICTION)	USER'S CHOICE			
O	USER'S CHOICE					
P	PRESSURE OR VACUUM	POINT (TEST CONNECTION)				
Q	QUANTITY OR EVENT	INTERGRATE OR TOTALIZE	RECORD OR PRINT REGULATING			
R	RADIOACTIVITY	SAFETY				SWITCH
S	SPEED OR FREQUENCY					
T	TEMPERATURE	SAFETY	MULTIFUNCTION	TRANSMIT MULTIFUNCTION VALVE, DAMPER, OR LOUVER		MULTIFUNCTION
U	MULTIVARIABLE					
V	VISCOSITY					
W	WEIGHT OR FORCE		NELL UNCLASSIFIED	UNCLASSIFIED RELAY OR COMPUTE	UNCLASSIFIED	
X	UNCLASSIFIED					
Y	USER'S CHOICE			DRIVE, ACTUATE OR UNCLASSIFIED FINAL CONTROL ELEMENT		
Z	POSITION					

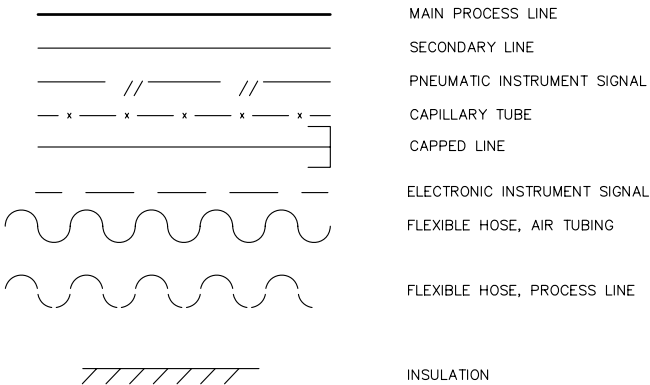
LINE ABBREVIATIONS AND DEFINITIONS

ASO	AMMONIA STRIPPER OVERFLOW	PA	PLANT AIR, 100 PSIG
ASF	AMMONIA STRIPPER FEED	RTV	REDUCING TANK VENT
ASD	AMMONIA STRIPPER DISCHARGE	RTD	REDUCING TANK DISCHARGE
ASV	AMMONIA STRIPPER VENT	RXV	REACTION TANK VENT
ASR	AMMONIA STRIPPER RECYCLE	RXD	REACTION TANK DISCHARGE
CAR	CHEMICAL ADDITION TO REACTORS	RTO	REDUCING TANK OVERFLOW
CSI	CAUSTIC SCRUBBER INTRODUCTION	RXO	REACTION TANK OVERFLOW
CSD	CAUSTIC SCRUBBER DISCHARGE	SAD	SULFURIC ACID DISCHARGE
CAR	CHEMICAL ADDITION DISCHARGE	STC	SPECIAL TREATMENT CAUSTIC
CTU	CAUSTIC TRUCK UNLOADING	STD	SPECIAL TREATMENT DISCHARGE
CSR	CAUSTIC SCRUBBER RECYCLE	SFD	STRIPPER FEED TO DRUMS
CSS	CAUSTIC STORAGE SUPPLY	STV	SPECIAL TREATMENT VENT
CSV	CAUSTIC SCRUBBER VENT	SAU	SULFURIC ACID UNLOADING
CSD	CAUSTIC SCRUBBER OVERFLOW	STC	SPECIAL TREATMENT TANK OVERFLOW
CTO	CAUSTIC STORAGE TANK OVERFLOW	SFD	STRIPPER FEED OVERFLOW
CSDA	CAUSTIC SCRUBBER DISCHARGE—A (112—XX)	SAO	SULFURIC ACID STORAGE TANK OVERFLOW
CSDB	CAUSTIC SCRUBBER DISCHARGE—B (112—XX)	SPO	SEAL POT OVERFLOW
DUR	DRUM UNLOADING — REDUCING	SSD	SLUDGE STORAGE DISCHARGE
DUO	DRUM UNLOADING — OXIDIZING	SLD	SPILL LIQUID DISCHARGE
DUV	DRUM UNLOADING VENT	SLS	SPILL LIQUID SUMP
DSO	DRUM SOLIDS DISCHARGE	SSD	SLUDGE STORAGE TANK OVERFLOW
ESD	EMERGENCY STORAGE DISCHARGE	STV	SLURRY (LIME) TANK VENT
ESO	EMERGENCY STORAGE OVERFLOW	SSV	SLUDGE STORAGE VENT
ESD	EMERGENCY STORAGE OVERFLOW	STH	SAMPLE TAP HEATER
FDN	FILTER DISCHARGE TO NEUTRALIZATION	TUO	TRUCK UNLOADING OXIDIZING
FDS	FILTER DISCHARGE TO SLUDGE STORAGE	TUR	TRUCK UNLOADING REDUCING
FFH	FINAL FILTRATE TO HOLDING	TUN	TRUCK UNLOADING NEUTRALIZATION
FPV	FILTER PRESS VENT	WH	PLANT WATER
FSH	FUME SCRUBBER HEADER	WHL	PLANT WATER, LIME SURRY TANK
FPD	FILTER PRESS DISCHARGE	WHD	PLANT WATER, CAUSTIC DILUTION
FFD	FINAL FILTER DISCHARGE	WHC	PLANT WATER TO CHEMICAL ADDITION
FEO	FILTRATE EQUALIZATION OVERFLOW	WHS	PLANT WATER TO SCRUBBER
FED	FILTRATE EQUALIZATION DISCHARGE	WSS	PLANT WATER, SLUDGE STORAGE
LLS	LANDFILL LEACHATE TO STORAGE		
LTO	LEACHATE TANK OVERFLOW		
LTU	LIME TRUCK UNLOADING		
LSF	LIME SLURRY TO FILTER		
LSO	LIME SLURRY TANK OVERFLOW		
LSO	LEACHATE SUMP DISCHARGE		
OSF	ORGANIC STORAGE FEED		
OSV	ORGANIC STORAGE VENT		
OTD	OXIDIZING TANK DISCHARGE		
OTV	OXIDIZING TANK VENT		
OTO	OXIDIZING TANK OVERFLOW		
OSO	ORGANIC STORAGE TANK OVERFLOW		
OSD	ORGANIC STORAGE DRAINAGE		

GENERAL INSTRUMENT SYMBOLS

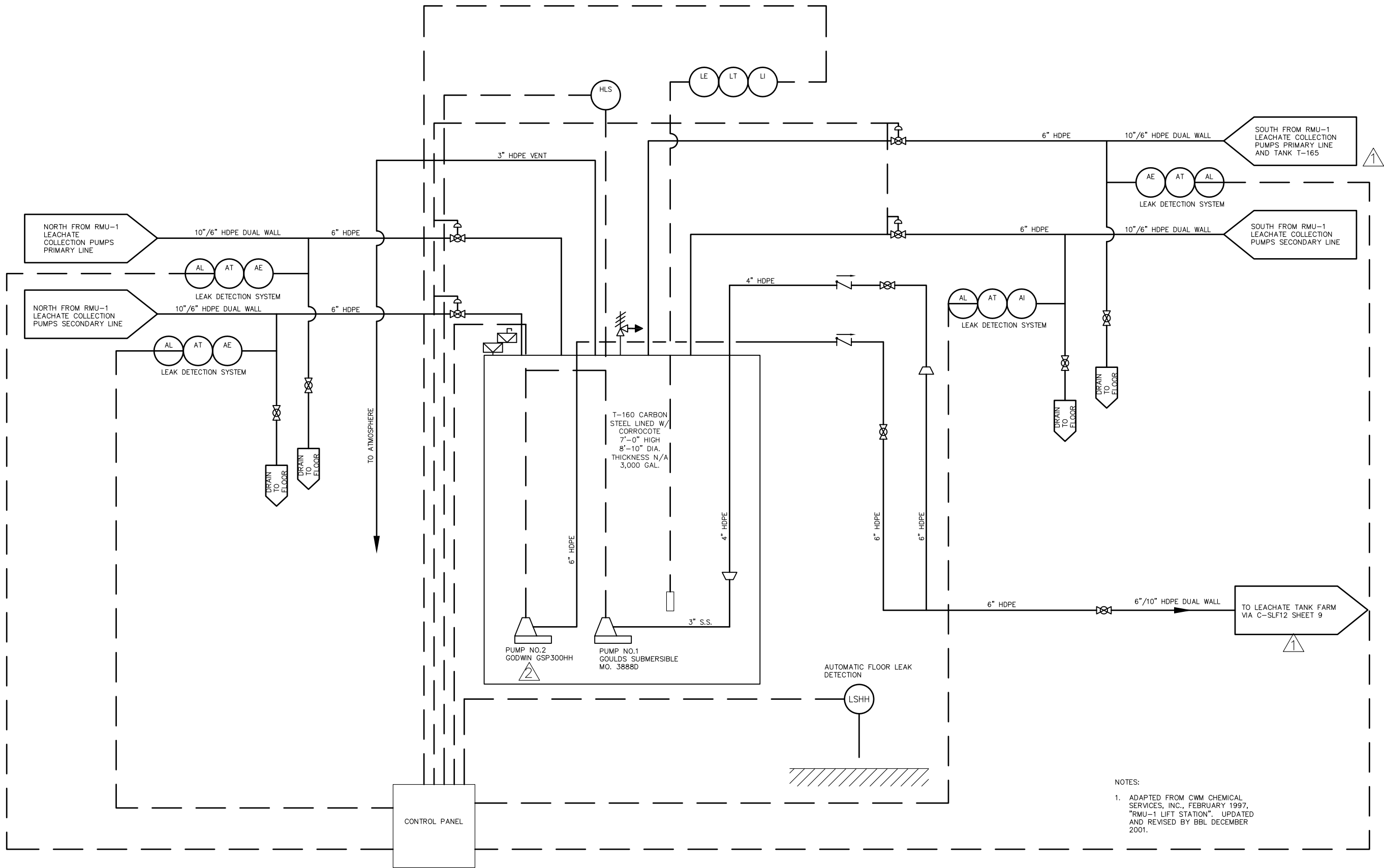


INSTRUMENT AND PROCESS LINE



NOTE:
1. ADAPTED FROM RUST ENVIRONMENT & INFRASTRUCTURE, MARCH 1993, "PROCESS & INSTRUMENTATION DIAGRAM LEGENDS AND SYMBOLS". UPDATED AND REVISED BY ENSOL, INC. MAY 2014.

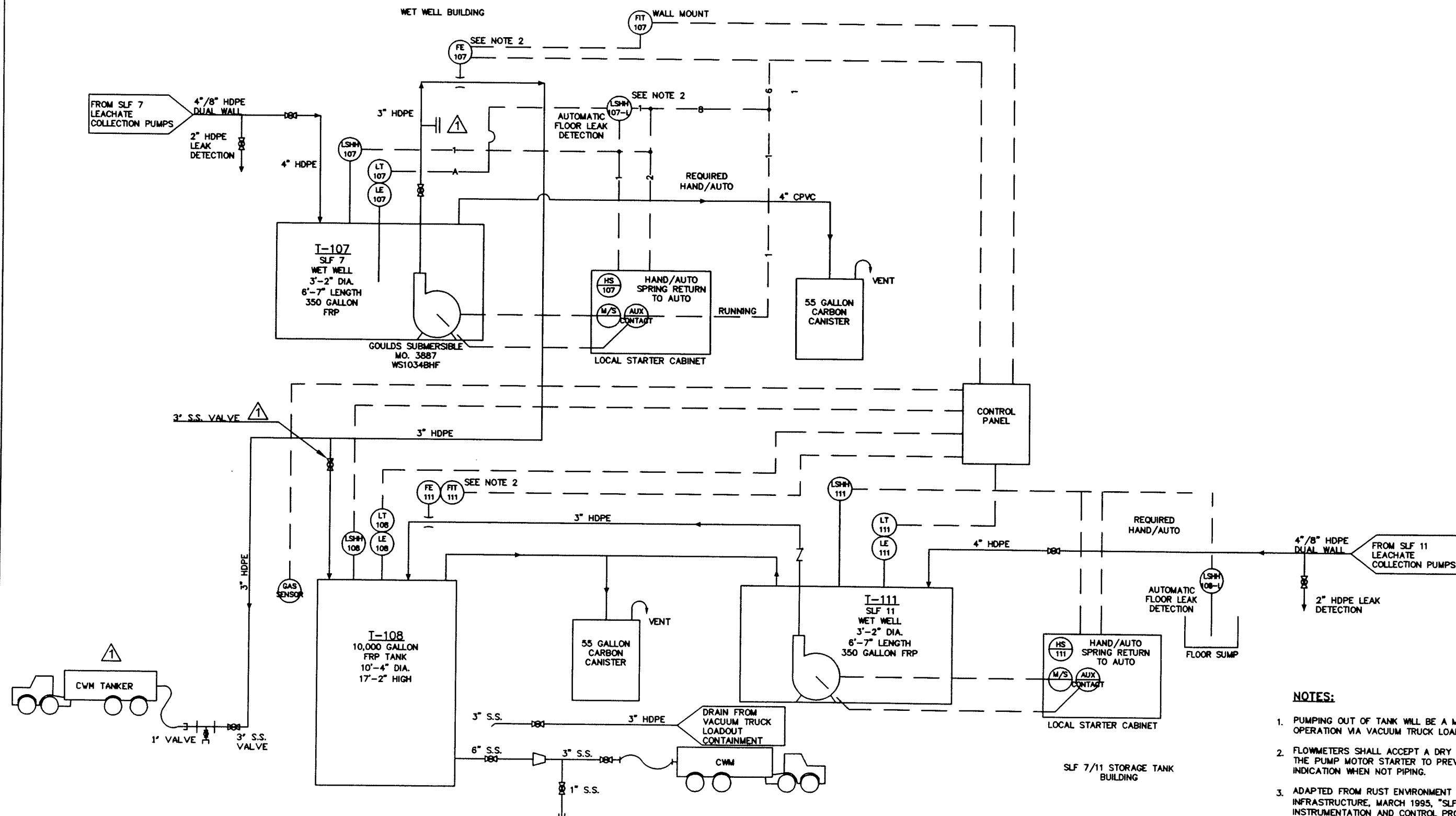
REVISION			BY	DATE		EnSol, Inc. Environmental Solutions 661 MAIN STREET NIAGARA FALLS, NY 14301 PHONE (716) 285-3920 FAX (716) 285-3928	PROJECT NO: 14-7005		TITLE: LEGENDS AND SYMBOLS PROCESS AND INSTRUMENTATION DIAGRAM					DRAWING
							SCALE: NOT TO SCALE							
						DWG: D02_14-7005 Legends And Symbols Sht 2.dwg		PREPARED FOR: CWM CHEMICAL SERVICES, LLC. MODEL CITY FACILITY					C-110	
						DES. BY: JCD	DRW. BY: JCD	CHK. BY: BDS						
						DATE: MAY 2014		TOWN OF PORTER		COUNTY OF NIAGARA		STATE OF NEW YORK		(SHEET 2)
IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 SECTION 7209, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER ANY ITEM IN ANY WAY.														



NOTES:
1. ADAPTED FROM CWM CHEMICAL SERVICES, INC., FEBRUARY 1997, "RMU-1 LIFT STATION". UPDATED AND REVISED BY BBL DECEMBER 2001.

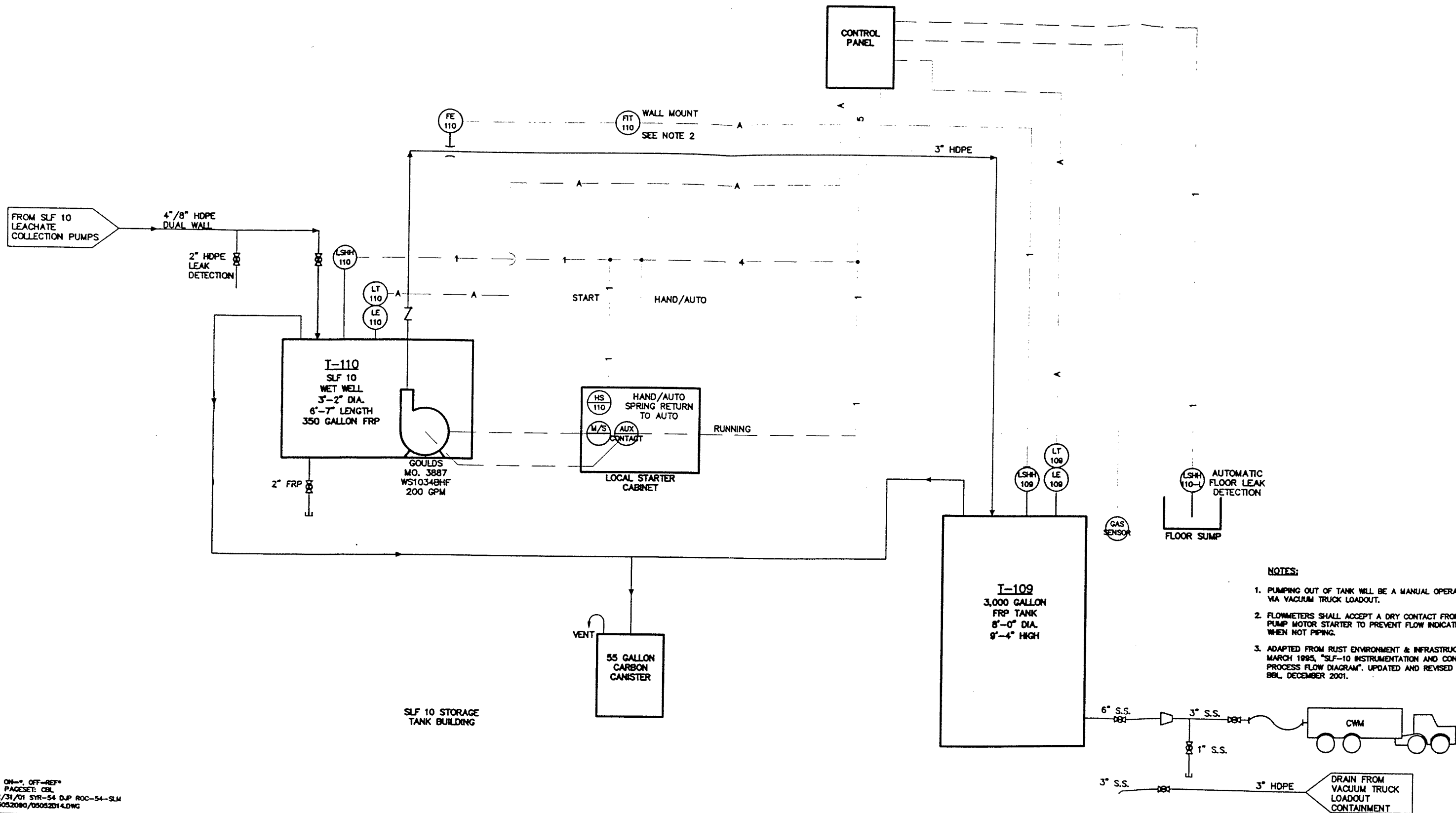
REVISION				NO.	BY	DATE	EnSol, Inc. Environmental Solutions 661 MAIN STREET NIAGARA FALLS, NY 14301 PHONE (716) 285-3920 FAX (716) 285-3928	PROJECT NO: 12-7008		TITLE: RMU-1 LIFT STATION PROCESS AND INSTRUMENTATION DIAGRAM			
								SCALE: NOT TO SCALE					
								DWG: D03_12-7008 C-RMU-1 SHT3 REV 2.dwg		PROJECT: CWM FACILITY P&ID UPDATES		DRAWING C-RMU-1	
CHANGED LIFT STATION PUMP NO. 2				△	JCD	12/10/13		DES. BY: JCD		DRW. BY: JCD	CHK. BY: BDS		PREPARED FOR: CWM CHEMICAL SERVICES, LLC. MODEL CITY FACILITY
GENERAL SYSTEM UPDATES				△	JCD	3/20/12		DATE: MARCH 2012		TOWN OF PORTER		COUNTY OF NIAGARA	STATE OF NEW YORK
IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 SECTION 7209, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY.													

DRAWING
C-RMU-1
(SHEET 3)



REVISION	REV	BY	DATE
Added blank flange. Added 3" HDPE bypass line with valves to tanker unloading from T-107.	1	KMH	7/23/08

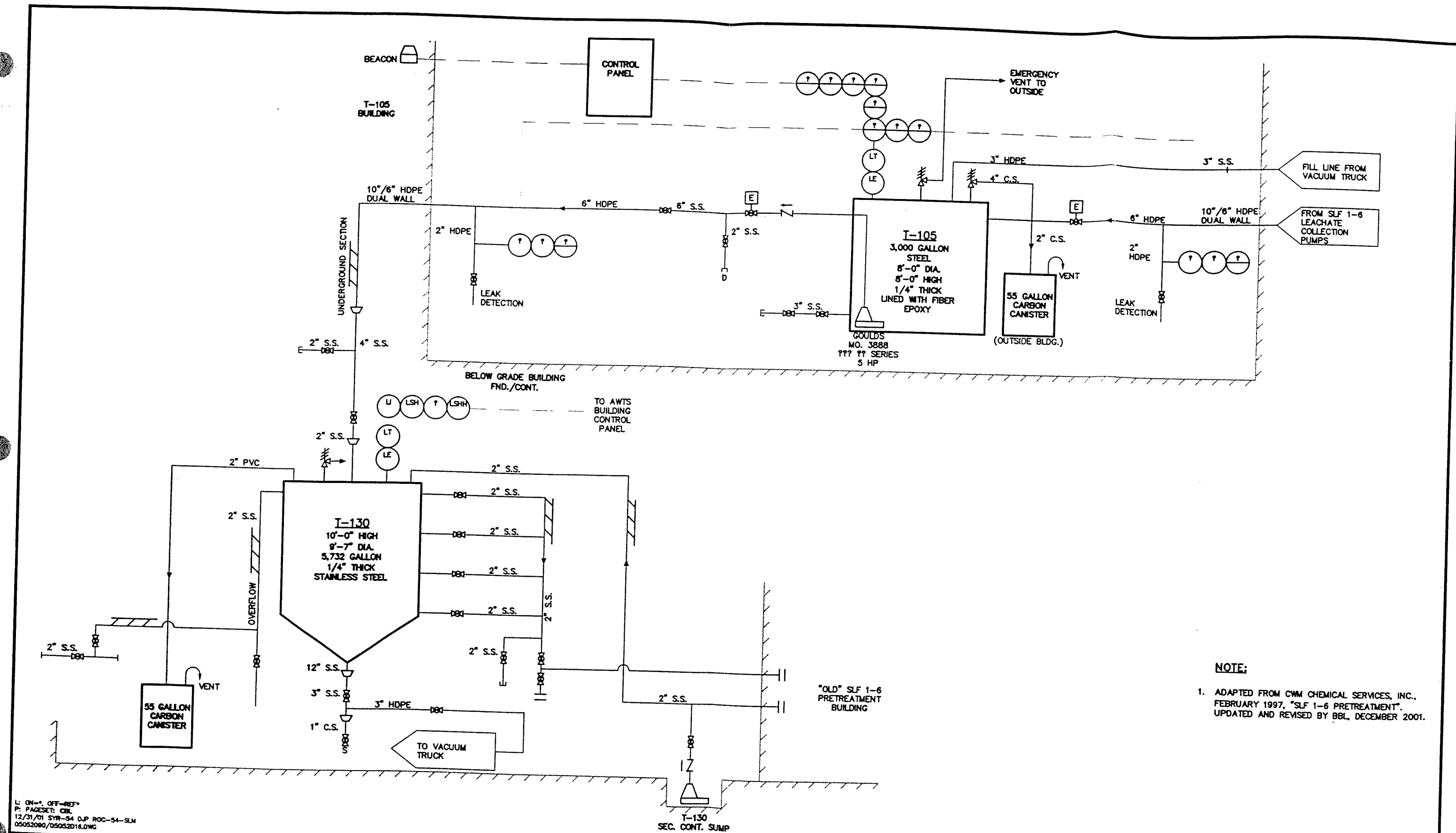
IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 146, SECTION 708, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER AN INSTRUMENT IN ANY WAY.



- NOTES:**
1. PUMPING OUT OF TANK WILL BE A MANUAL OPERATION VIA VACUUM TRUCK LOADOUT.
 2. FLOWMETERS SHALL ACCEPT A DRY CONTACT FROM THE PUMP MOTOR STARTER TO PREVENT FLOW INDICATION WHEN NOT PIPING.
 3. ADAPTED FROM RUST ENVIRONMENT & INFRASTRUCTURE, MARCH 1993, "SLF-10 INSTRUMENTATION AND CONTROL PROCESS FLOW DIAGRAM". UPDATED AND REVISED BY BBL, DECEMBER 2001.

L: ON=, OFF=REF
P: PAGESET: CBL
12/31/01 SYR-54 D.P. ROC-54-SLM
050520000/050520014.DWG

Graphic Scale	No.	Date	Revisions	Init	Project Mgr.	BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists	CWM CHEMICAL SERVICES, LLC MODEL CITY, NEW YORK	File Number FILE NO.	DRAWING NO. C-N3
NOT TO SCALE									
NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW									
								Date DECEMBER 2001	
								Blasland, Bouck & Lee, Inc. Corporate Headquarters 6723 Towpath Road Syracuse, NY 13214 315-446-9120	
									(SHEET 5)



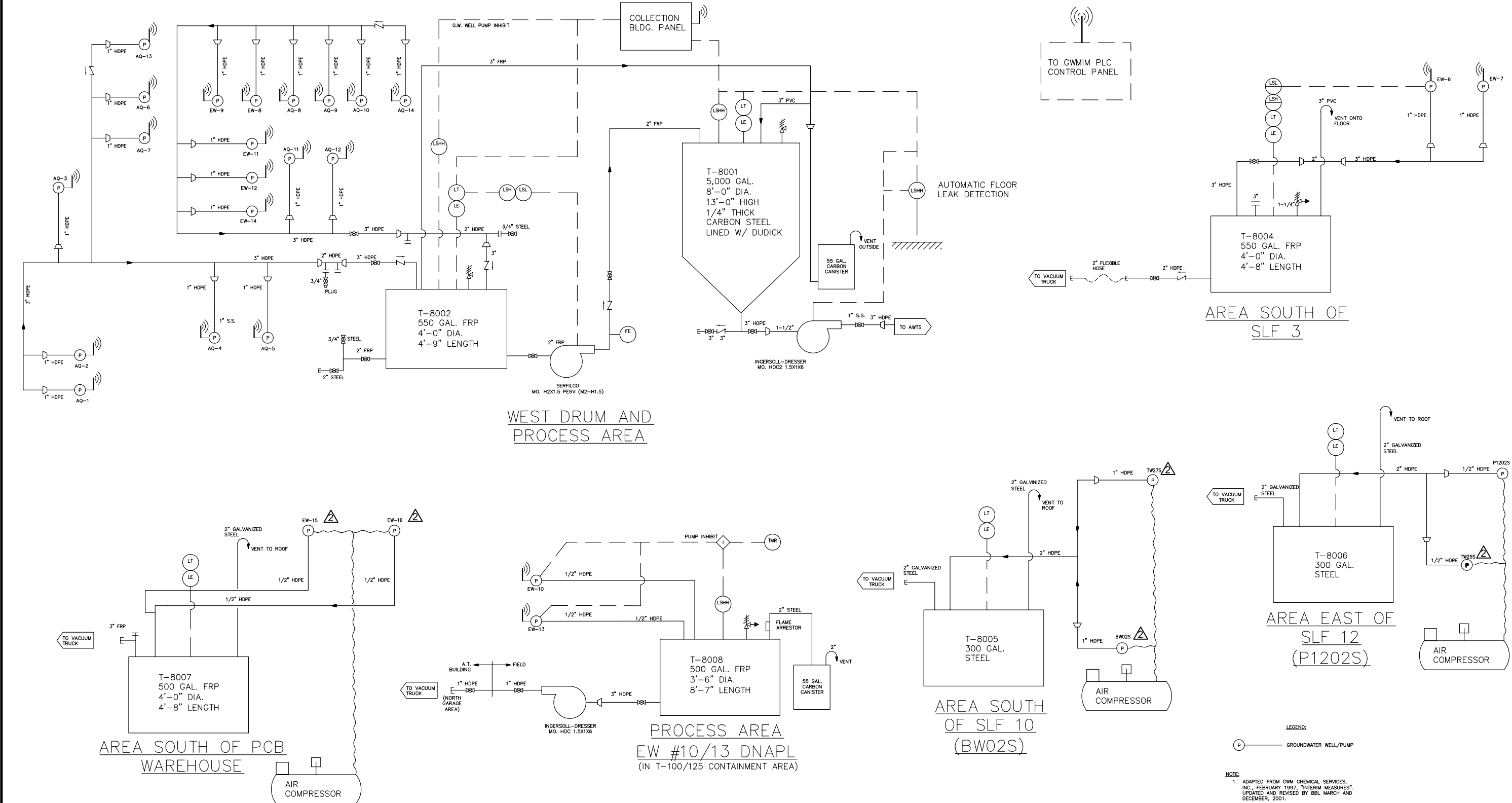
NOTE:

1. ADAPTED FROM CWM CHEMICAL SERVICES, INC., FEBRUARY 1997, "SLF 1-6 PRETREATMENT". UPDATED AND REVISED BY BBL, DECEMBER 2001.

L: ON=*, OFF=REF*
P: PAGESET: CBL
12/31/01 SYR-54 DUP ROC-54-SLM
05052090/05052016.DWG

NOT TO SCALE	No.	Date	Revisions	Init	Project Mgr.	 BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists	CWM CHEMICAL SERVICES, LLC MODEL CITY, NEW YORK PROCESS & INSTRUMENTATION DIAGRAM SLF 1-6 PRETREATMENT	File Number	DRAWING NO. C-PRETR
								Date	
NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW					PE License		DECEMBER 2001		Blasland, Bouck & Lee, Inc. Corporate Headquarters 6723 Tawpath Road Syracuse, NY 13214

X:\AAp\CWM\12-7008 Sitewide Permit P & ID Drawing Updates (Task 4) \Groundwater Pumping Systems (Sheets 8 & 8A) \D08_09-7026-C-GW-SHT8-REV2.DWG, 4/24/2012 2:56:37 PM, J. Daffing

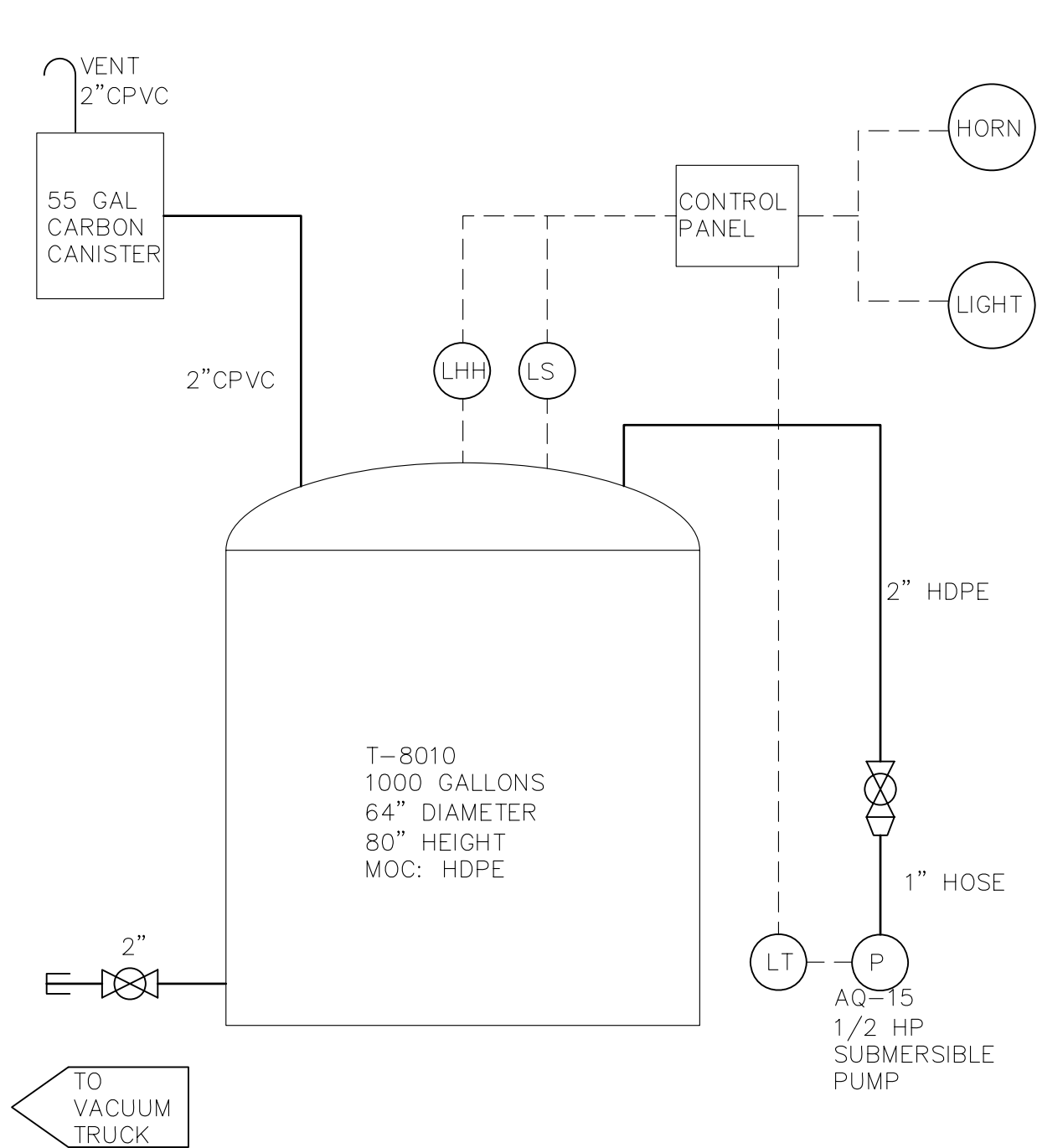


REVISION	NO.	BY	DATE	EnSol, Inc. Environmental Solutions 661 MAIN STREET NIAGARA FALLS, NY 14301 PHONE (716) 285-3920 FAX (716) 285-3928	PROJECT NO:	09-7026		TITLE: GROUNDWATER PUMPING SYSTEMS PROCESS AND INSTRUMENTATION DIAGRAM				
					SCALE:	NOT TO SCALE						
					DWG:	D08_09-7026-C-GW-SHT8-REV1.DWG		PROJECT: CWM FACILITY P & ID UPDATES			DRAWING C-GW (SHEET 8)	
ADDED WELL ID'S TO T-8005,T-8006,T-8007 SYSTEMS		JCD	4/24/12		DRAWN BY:	MJM	CHECKED BY:	BDS	PREPARED FOR: CWM CHEMICAL SERVICES, LLC., MODEL CITY FACILITY			
Revised tanks T-8001, T-8002, T-8004, T-8008 piping and controls.		MJM	5/14/10		DATE: MAY 2010				TOWN OF PORTER			COUNTY OF NIAGARA
IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 SECTION 7209, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY.												

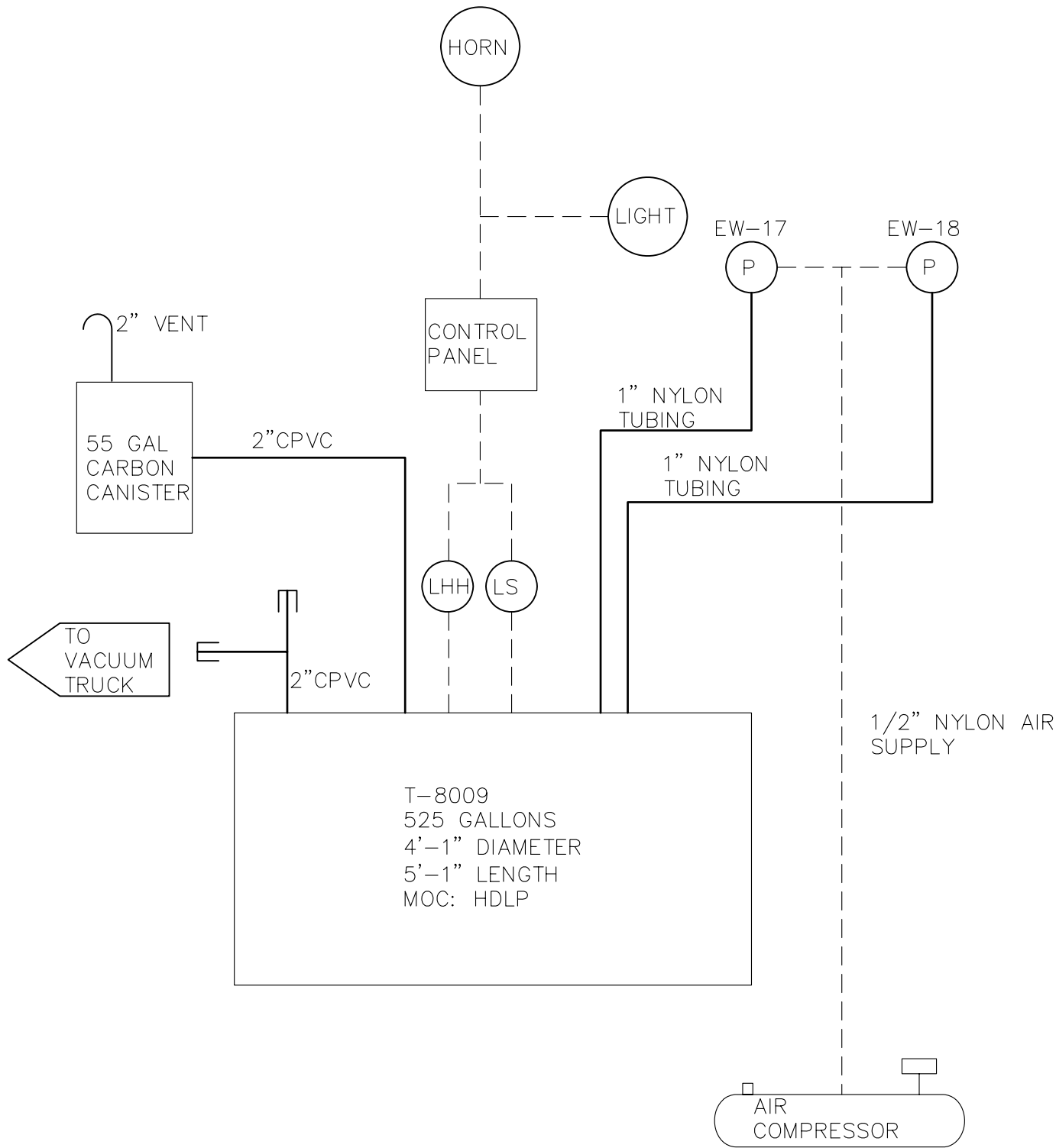
EnSol, Inc.
Environmental Solutions

661 MAIN STREET
NIAGARA FALLS, NY 14301
PHONE (716) 285-3920 FAX (716) 285-3928

X:\AA\Ap\CWM\12-7008 Sitewide Permit P & ID Drawing Updates (Task 4) Groundwater Pumping Systems (Sheets 8 & 8A) \D08A-12-7008-C-GWA-SHT8A.dwg, 4/24/2012 2:53:20 PM, J. Darling



PROCESS AREA III
(SOUTH OF TRAILER PARK AREA)



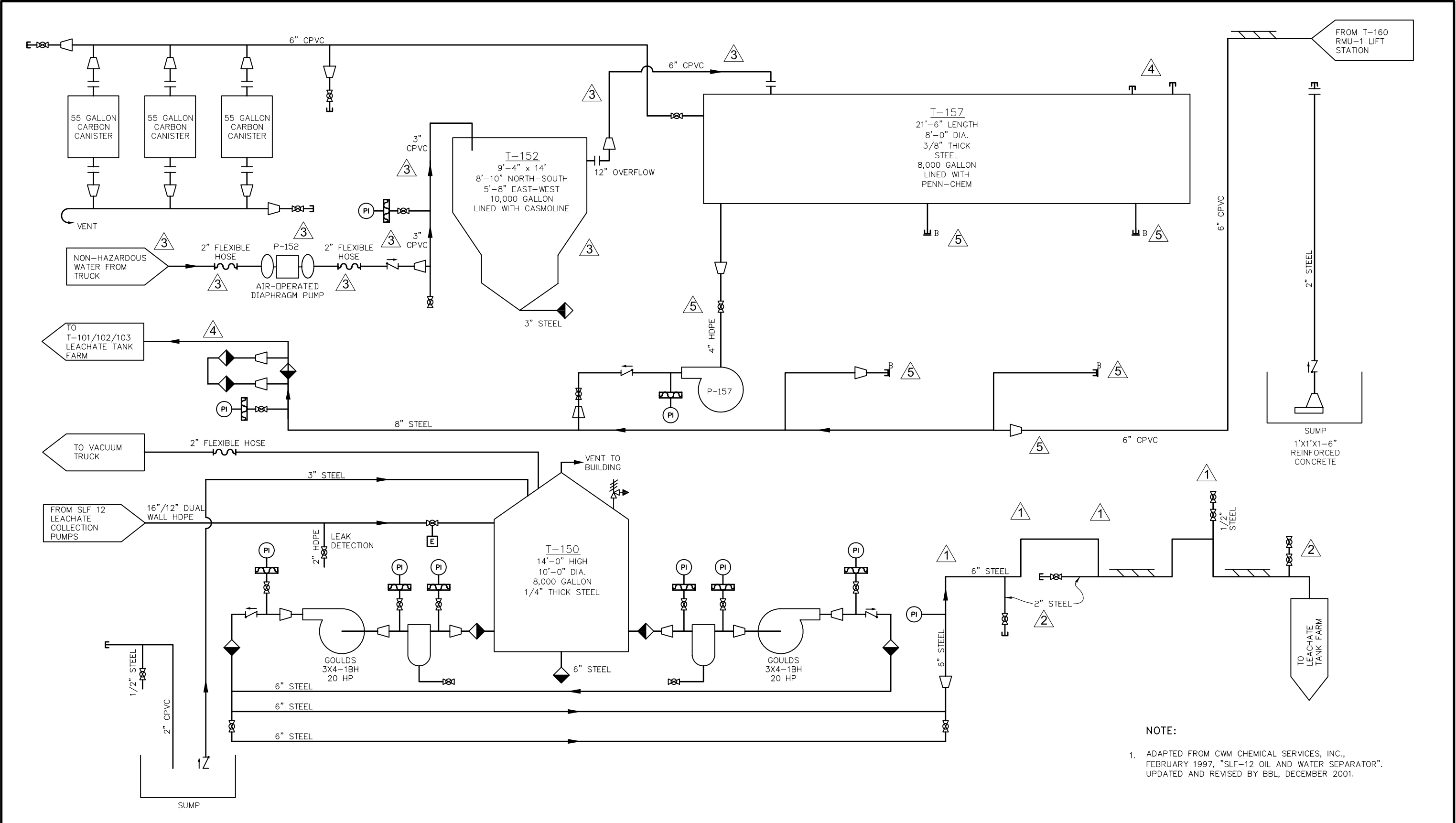
PROCESS AREA IV
(T.O. BUILDING)

REVISION	NO.	BY	DATE	
IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 SECTION 7209, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER ANY ITEM IN ANY WAY.				

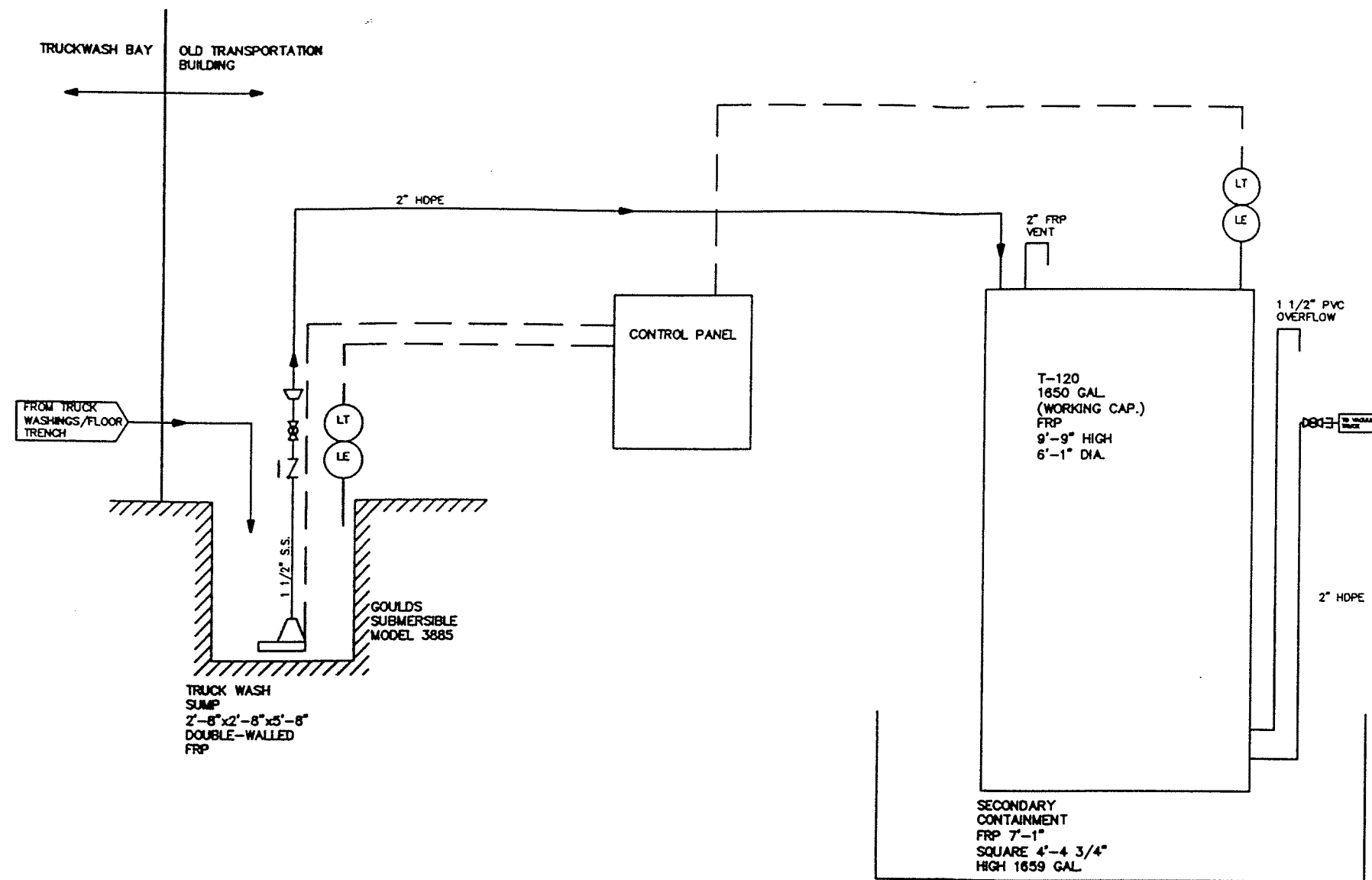
EnSol, Inc.
Environmental Solutions
661 MAIN STREET
NIAGARA FALLS, NY 14301
PHONE (716) 285-3920 FAX (716) 285-3928

PROJECT NO: 12-7008		TITLE: GROUNDWATER PUMPING SYSTEM PA III AND PA IV PROCESS AND INSTRUMENTATION DIAGRAM			
SCALE: NOT TO SCALE					
DWG: D08A-12-7008-C-GWA-SHT8A.dwg		PROJECT: CWM FACILITY P&ID UPDATES			DRAWING C-GWA (SHEET 8A)
DRAWN BY: JCD	CHECKED BY: BDS	PREPARED FOR: CWM CHEMICAL SERVICES, LLC. MODEL CITY FACILITY			
DATE: APRIL 2012		TOWN OF PORTER	COUNTY OF NIAGARA	STATE OF NEW YORK	

X:\AAApj\CWM\12-7008 Sitewide Permit P & ID Drawing Updates (Task 4) \SLF-12 OWS (Sheet 9) \ACAD\ID09_08-7020-SLF12 OWS SHT9 REV5.dwg, 4/24/2012 2:59:45 PM, J. Darling



REVISION		NO.	BY	DATE	EnSol, Inc. Environmental Solutions 661 MAIN STREET NIAGARA FALLS, NY 14301 PHONE (716) 285-3920 FAX (716) 285-3928	PROJECT NO: 05-7017		TITLE: SLF12 OIL WATER SEPARATOR PROCESS AND INSTRUMENTATION DIAGRAM				
REMOVED P-158 AND P-159 AND 8"Ø STEEL PIPING, BLIND FLANGED T-157 OUTLETS.		5	JCD	4/24/12		SCALE: NOT TO SCALE						
DISCONNECTED/ CLOSED TANK T-157. REMOVED 8" Ø PIPING, ADDED 6" Ø CPVC BY PASS.		4	CAC	9/14/11		DWG: 05-7017-SLF12 OWS SHT9.DWG		PROJECT: CWM FACILITY P & ID UPDATES			DRAWING	
ADDED TANK T-152 AND ASSOCIATED PIPING & COMPONENTS		3	MJM	4/25/08		DRAWN BY: MJM CHECKED BY: BDS		PREPARED FOR: CWM CHEMICAL SERVICES, LLC., MODEL CITY FACILITY			C-SLF12	
REMOVED BAG FILTERS; LABELLED PUMPS; REMOVED PRESSURE GAGE AND VALVES; LABELLED "2" STEEL".		2	MJM	11/15/06		DATE: JULY 2006		TOWN OF PORTER		COUNTY OF NIAGARA	STATE OF NEW YORK	(SHEET 9)
REMOVAL OF VACUUM RELIEFS		1	MJM	7/28/06		IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 SECTION 720b. FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY.						



NOTE:
 1. ADAPTED FROM CWM CHEMICAL SERVICES, INC., FEBRUARY 1997, "TRUCK WASH SUMP". UPDATED AND REVISED BY BBL MARCH 2001.

L: ON=, OFF=OFF
 P: CONT=MANUAL
 12/28/01 SYR-64 DJP ROC-54-SLM
 05052080/05052003.DWG

Graphic Scale
NOT TO SCALE
 NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW

No.	Date	Revisions	Init	Project Mgr.
1	12/01	GENERAL SYSTEM UPDATES	BDS	Designed by
				Drawn by
				Checked by
				Prof. Eng.
				PE License

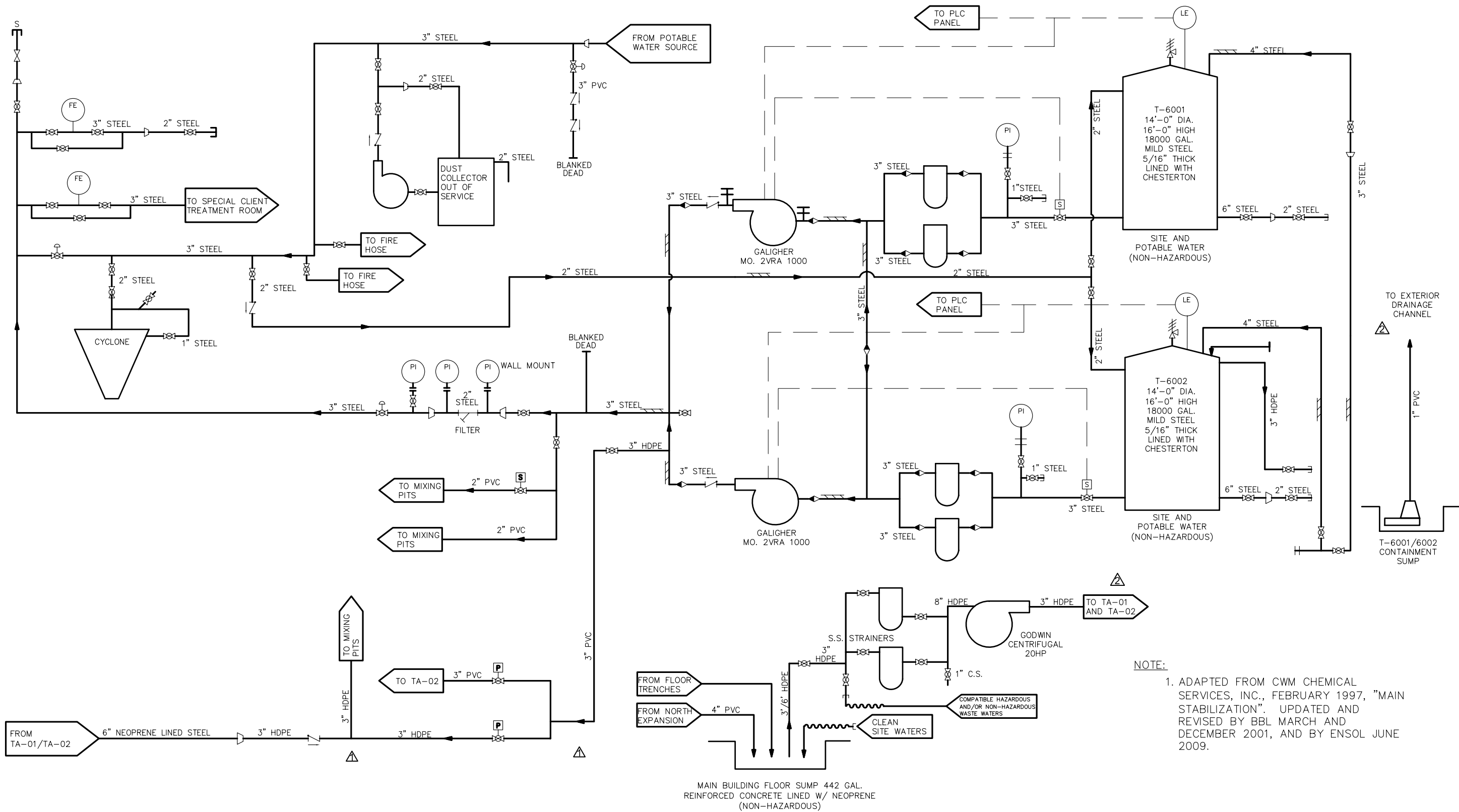
BBL
 BLASLAND, BOUCK & LEE, INC.
 engineers & scientists

CWM CHEMICAL SERVICES, LLC
 MODEL CITY, NEW YORK
PROCESS & INSTRUMENTATION DIAGRAM
TRUCK WASH SUMP

File Number
 FILE NO.
 Date
 DECEMBER 2001
 Blasland, Bouck & Lee, Inc.
 Corporate Headquarters
 8723 Towpath Road
 Syracuse, NY 13214
 315-446-9120

DRAWING NO.
C-TRCKWA
 (SHEET 10)

X:\AAAp\ICWM\10-7006 Stewdie Permit PID Drawing Updates (Task 3)\ACAD\011_10-7006 C-STAB Sht.11.dwg, HP 7345 11x17, 3/12/2010 1:19:33 PM, Charles C. Ensol Inc. Tabloid, 1:1



NOTE:
1. ADAPTED FROM CWM CHEMICAL SERVICES, INC., FEBRUARY 1997, "MAIN STABILIZATION". UPDATED AND REVISED BY BBL MARCH AND DECEMBER 2001, AND BY ENSOL JUNE 2009.

REVISION	NO.	BY	DATE
revised T-6001/6002 Cont. Sump outlet & added TA-02	△	BDS	3/12/10
Removed Shredder SH-01, Rolloff Box, Hydraulic Unit. Removed T-6003 FRP Tank, Control Panel and associated piping.	△	MJM	6/19/09

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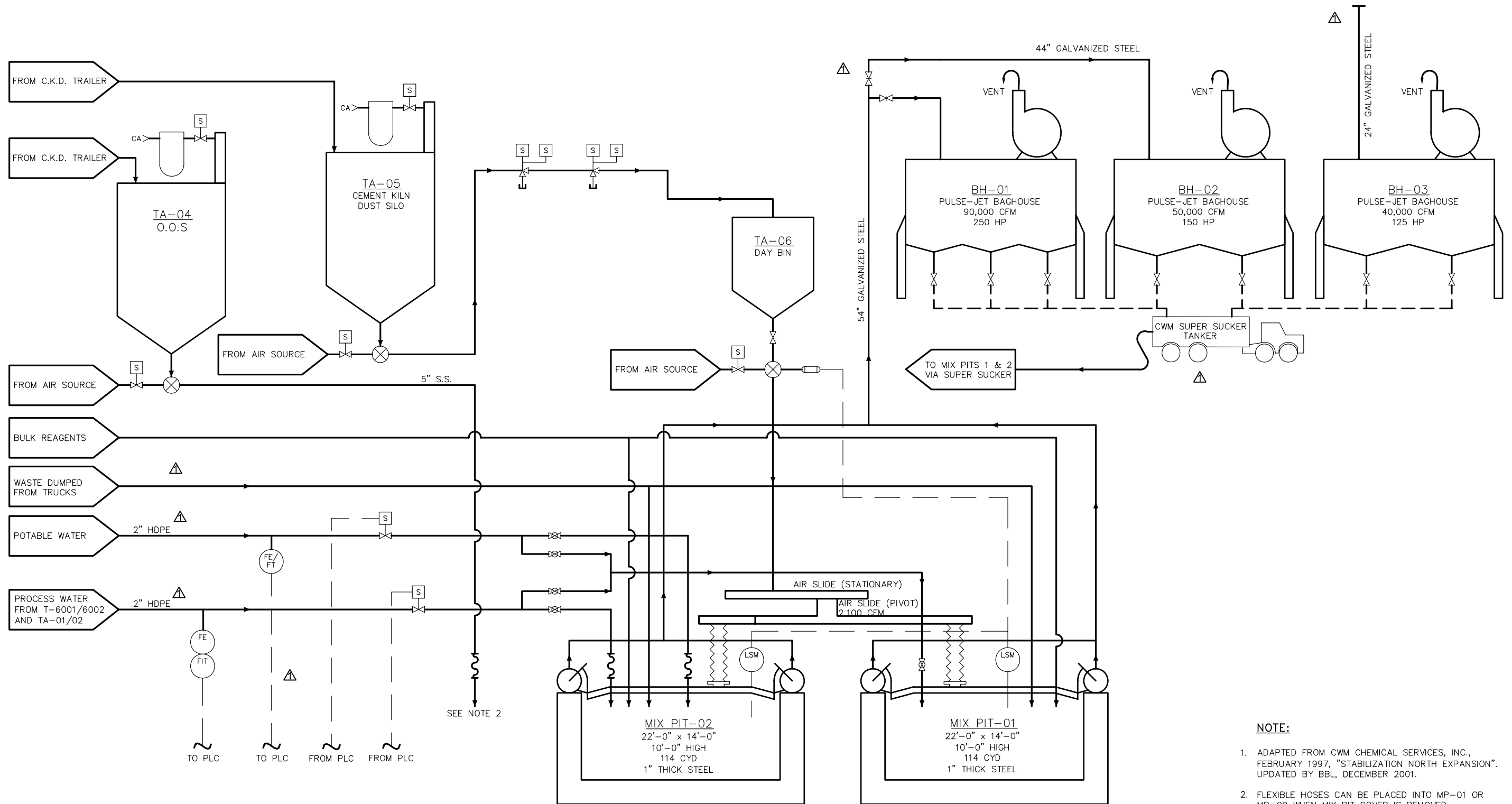
EnSol, Inc.
Environmental Solutions

661 MAIN STREET
NIAGARA FALLS, NY 14301
PHONE (716) 285-3920 FAX (716) 285-3928

PROJECT NO:	09-7010
SCALE:	NOT TO SCALE
DWG:	D11_09-7010 C-STAB Sht.11.dwg
DRAWN BY:	MJM
CHECKED BY:	BDS
DATE:	JUNE 2009

TITLE: MAIN STABILIZATION PROCESS AND INSTRUMENTATION DIAGRAM		
PROJECT: CWM FACILITY P & ID UPDATES		
PREPARED FOR: CWM CHEMICAL SERVICES, LLC., MODEL CITY FACILITY		
TOWN OF PORTER	COUNTY OF NIAGARA	STATE OF NEW YORK
DRAWING C-STAB (SHEET 11)		

X:\AAAp\CWM\10-7006 Stewdie Permit PID Drawing Updates (Task 3)\ACAD\012_10-7006 C-STABN Sht.12, Rev 2.dwg, HP 7345 11x17, 3/12/2010 1:18:18 PM, Charles C. Ensol Inc. Tabloid, 1:1



NOTE:

1. ADAPTED FROM CWM CHEMICAL SERVICES, INC., FEBRUARY 1997, "STABILIZATION NORTH EXPANSION". UPDATED BY BBL, DECEMBER 2001.
2. FLEXIBLE HOSES CAN BE PLACED INTO MP-01 OR MP-02 WHEN MIX PIT COVER IS REMOVED.

REVISION	NO.	BY	DATE
Designated TA-04 as O.O.S	△	BDS	3/12/10
Added Baghouses being emptied by Super Sucker to mix pits 1 & 2; Deleted lines from Shredder and from bldg. expansion ventilation; modified pipe mat. for Pot. & Proc. Wtr.	△	MJM	6/19/09

EnSol, Inc.
Environmental Solutions

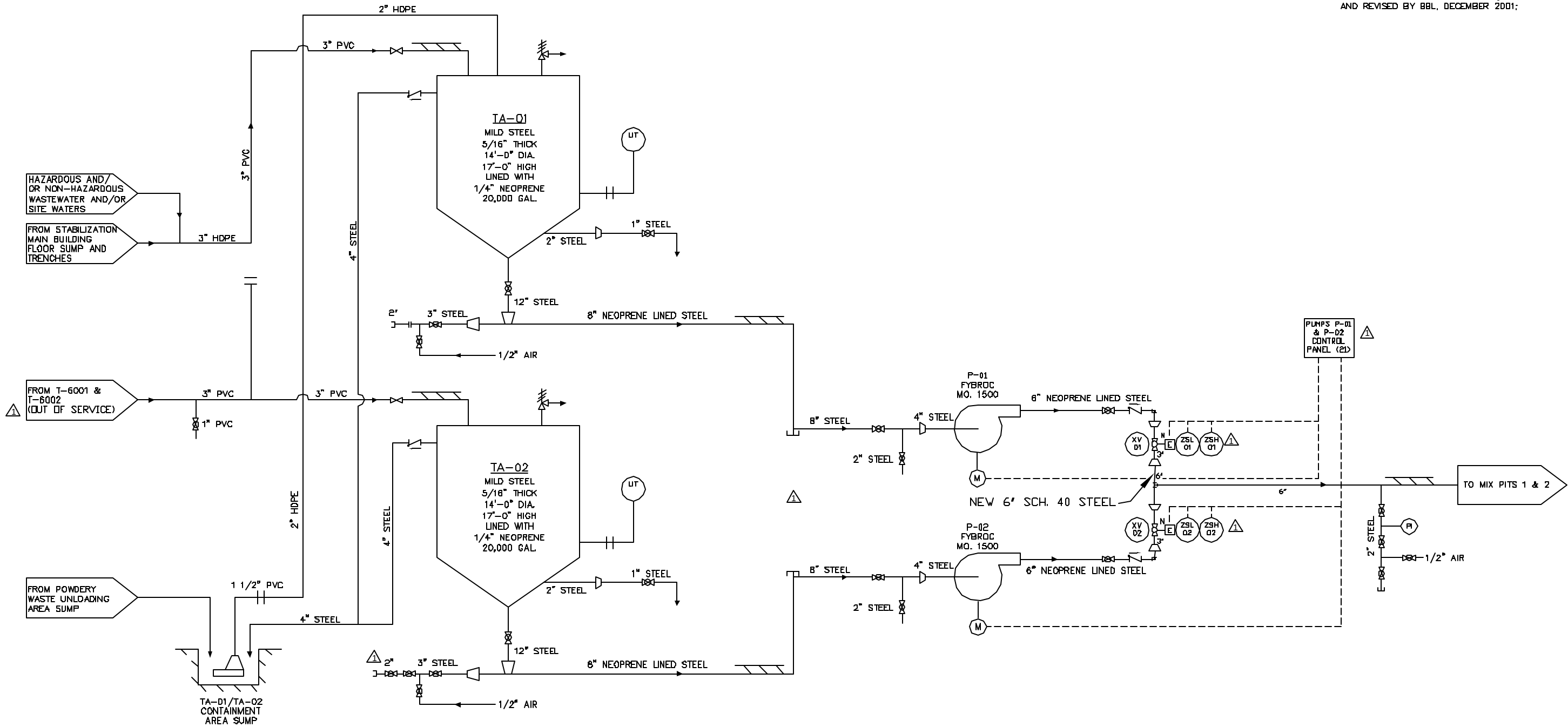
661 MAIN STREET
NIAGARA FALLS, NY 14301
PHONE (716) 285-3920 FAX (716) 285-3928

PROJECT NO:	09-7010
SCALE:	NOT TO SCALE
DWG:	D12_09-7010 C-STABN Sht.12.dwg
DRAWN BY:	MJM
CHECKED BY:	BDS
DATE:	JUNE 2009

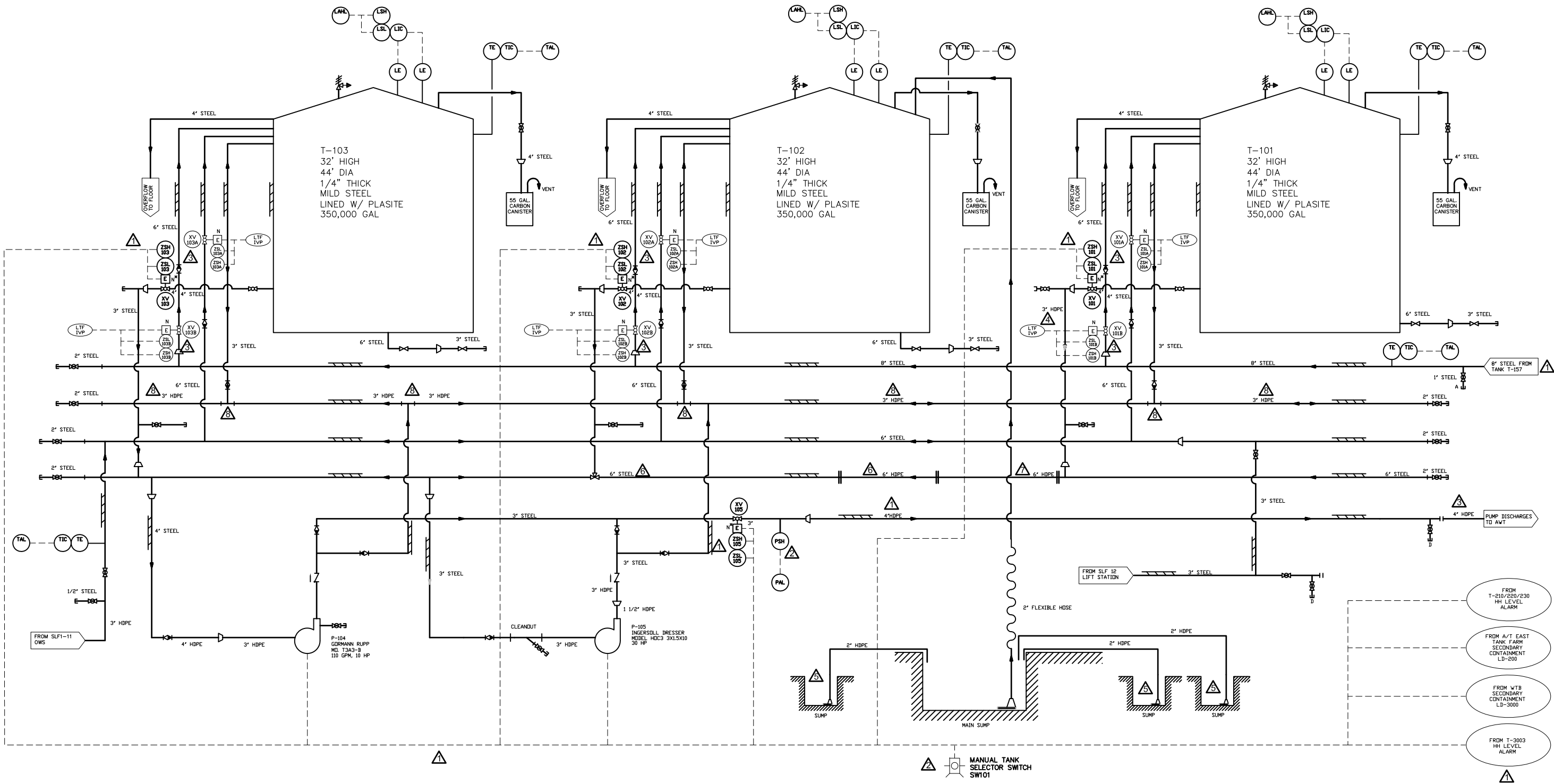
TITLE: STABILIZATION NORTH EXPANSION PROCESS AND INSTRUMENTATION DIAGRAM		
PROJECT: CWM FACILITY P & ID UPDATES		
PREPARED FOR: CWM CHEMICAL SERVICES, LLC., MODEL CITY FACILITY		
TOWN OF PORTER	COUNTY OF NIAGARA	STATE OF NEW YORK
DRAWING C-STABN (SHEET 12)		

NOTES

1. EXISTING PROCESS BASEMAP ADAPTED FROM CWM
CHEMICAL SERVICES, INC., FEBRUARY 1997,
"STABILIZATION SOUTH EXPANSION", UPDATED
AND REVISED BY BBL, DECEMBER 2001;



REVISION				NO.	BY	DATE	EnSol, Inc. Environmental Solutions 661 MAIN STREET NIAGARA FALLS, NY 14301 PHONE (716) 285-3920 FAX (716) 285-3928	PROJECT NO: 05-7017		TITLE: STABILIZATION SOUTH EXPANSION PROCESS AND INSTRUMENTATION DIAGRAM			
						SCALE: NOT TO SCALE							
						DWG: 05-7017-STAB Sht.13.DWG		PROJECT: CWM FACILITY P & ID UPDATES			DRAWING		
						DRAWN BY: MJM CHECKED BY: BDS		PREPARED FOR: CWM CHEMICAL SERVICES, LLC., MODEL CITY FACILITY			C-STABS (SHEET 13)		
ADDED INTERCONNECTED TANKS PROJECT DETAILS WITH GENERAL SYSTEM UPDATES.					BDS	5/2/06		DATE: MAY 2006		TOWN OF PORTER		COUNTY OF NIAGARA	STATE OF NEW YORK



NOTES

1. EXISTING PROCESS BASEMAP ADAPTED FROM CWM CHEMICAL SERVICES, INC., FEBRUARY 1997, "LEACHATE TANK FARM". UPDATED AND REVISED BY BBL MARCH & DEC. 2001.

REVISION	NO.	BY	DATE
CHANGED 3" STEEL PIPE TO 3" HDPE; ADDED FLANGES	1	STS	7/16/19
CHANGED 6" STEEL PIPE TO 6" HDPE	2	JFC	5/14/15
CHANGED 6" STEEL PIPE TO 6" HDPE	3	CAC	2/20/15
ADDED ADDITIONAL SUMPS IN SECONDARY CONTAINMENT	4	TAS	8/31/10
CHANGED 3" STEEL OUTLET LINE TO 3" HDPE	5	BDS	3/6/07
LEACHATE TANK FARM ACTUATOR VALVES RECORD REVISIONS; CHANGED PUMP DISCH. LINE TO AWT FROM 4" STEEL TO 4" HDPE.	6	BDS	7/25/06
INTERCONNECTED TANKS RECORD REVISIONS.	7	BDS	5/2/06

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 SECTION 7209, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY.

EnSol, Inc.
Environmental Solutions

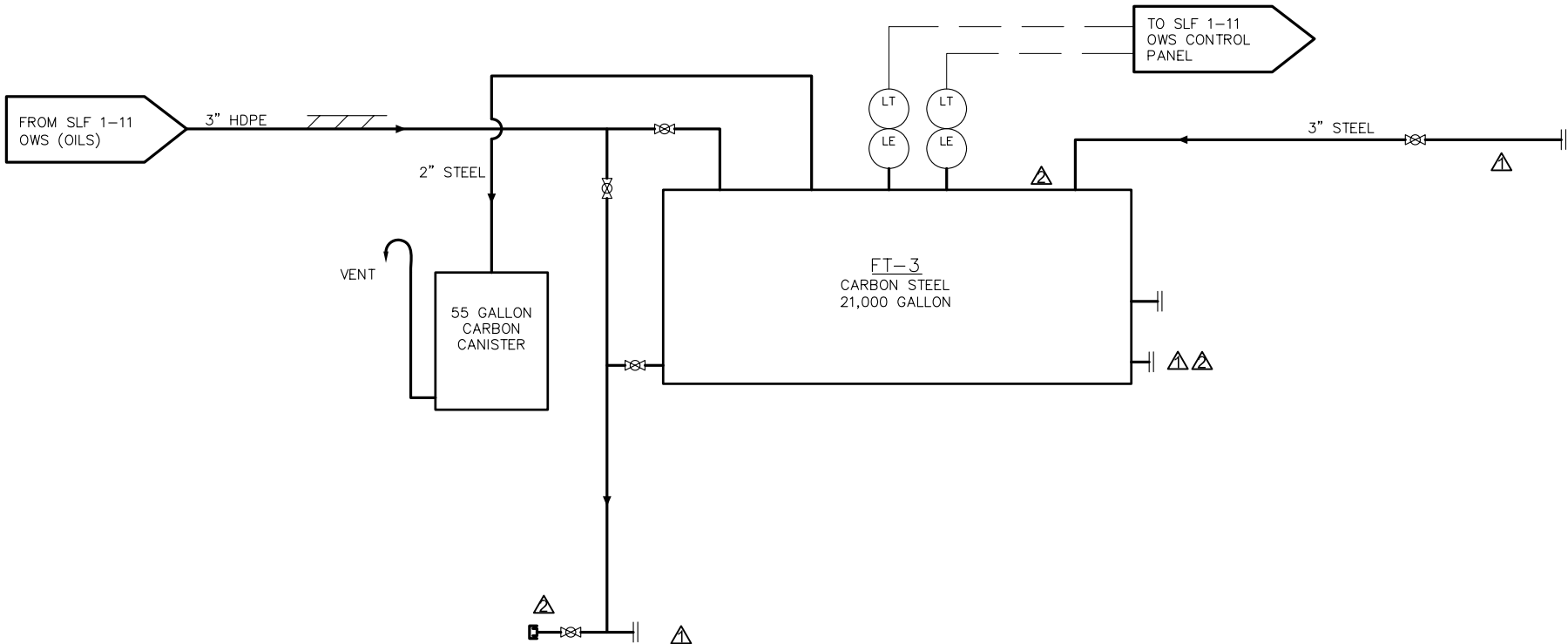
661 MAIN STREET
NIAGARA FALLS, NY 14301
PHONE (716) 285-3920 FAX (716) 285-3928

PROJECT NO:	05-7017		
SCALE:	NOT TO SCALE		
DWG:	05-7017-LTF-SHT14.DWG		
DRAWN BY:	MJM	CHECKED BY:	BDS
DATE:	NOVEMBER 2005		

TITLE:	LEACHATE TANK FARM PROCESS AND INSTRUMENTATION DIAGRAM		
PROJECT:	CWM FACILITY P & ID UPDATES		
PREPARED FOR:	CWM CHEMICAL SERVICES, LLC., MODEL CITY FACILITY		
	TOWN OF PORTER	COUNTY OF NIAGARA	STATE OF NEW YORK

DRAWING
C-TKFR
(SHEET 14)

X:\AAAp\CWM\14-7005 Sitewide Permit P & ID Drawing Updates (Task 1) \D15_09-7010 C-FRACTK Sht.15-Rev 2.dwg, HP 7345 11x17, 3/27/2014 4:54:30 PM, J. Darling

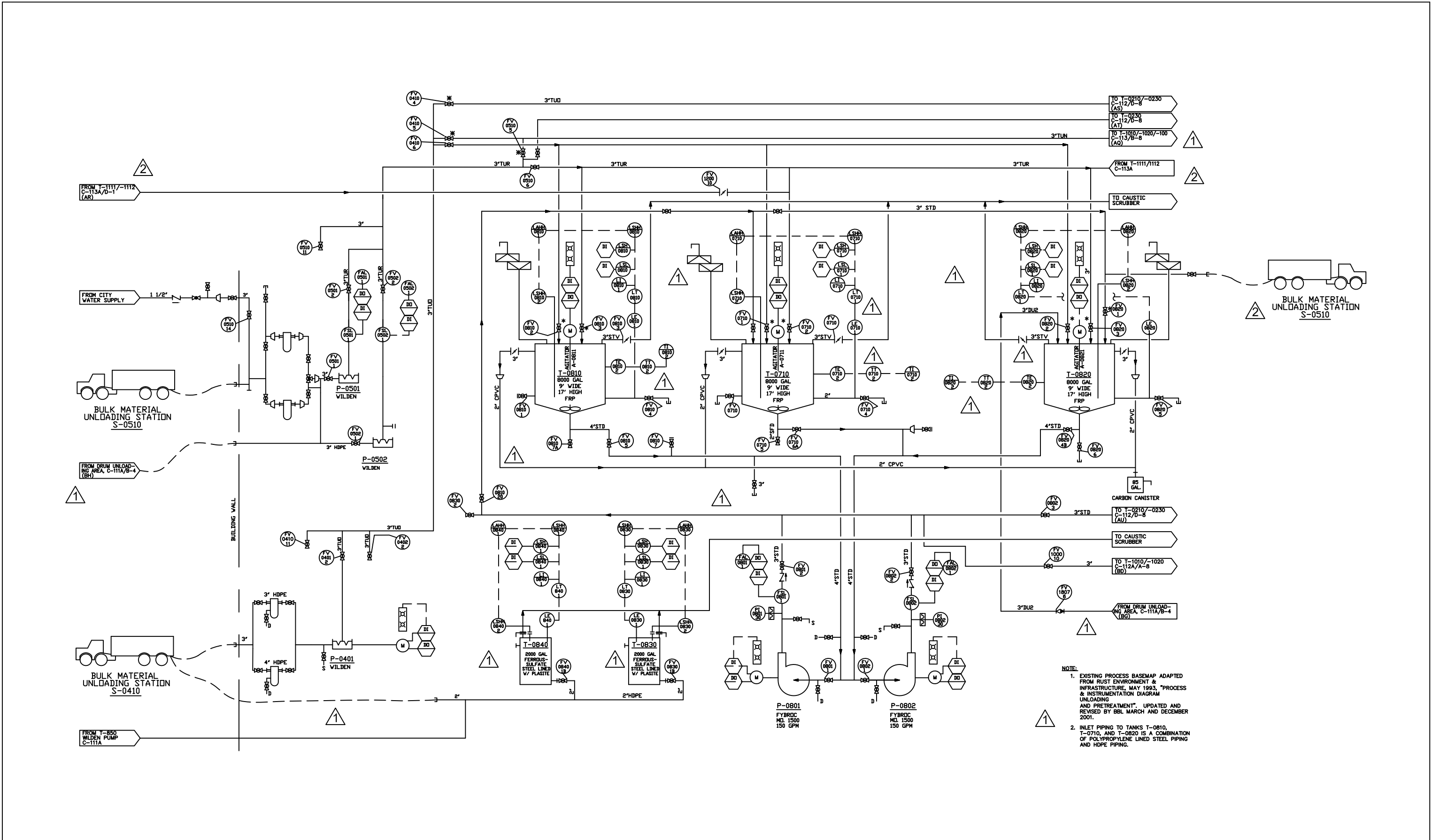


NOTE:

1. ADAPTED FROM CWM CHEMICAL SERVICES, INC., FEBRUARY 1997, "FRAC TANK FT-3". UPDATED AND REVISED BY BBL, DECEMBER 2001; UPDATED BY ENSOL, JUNE 2009.

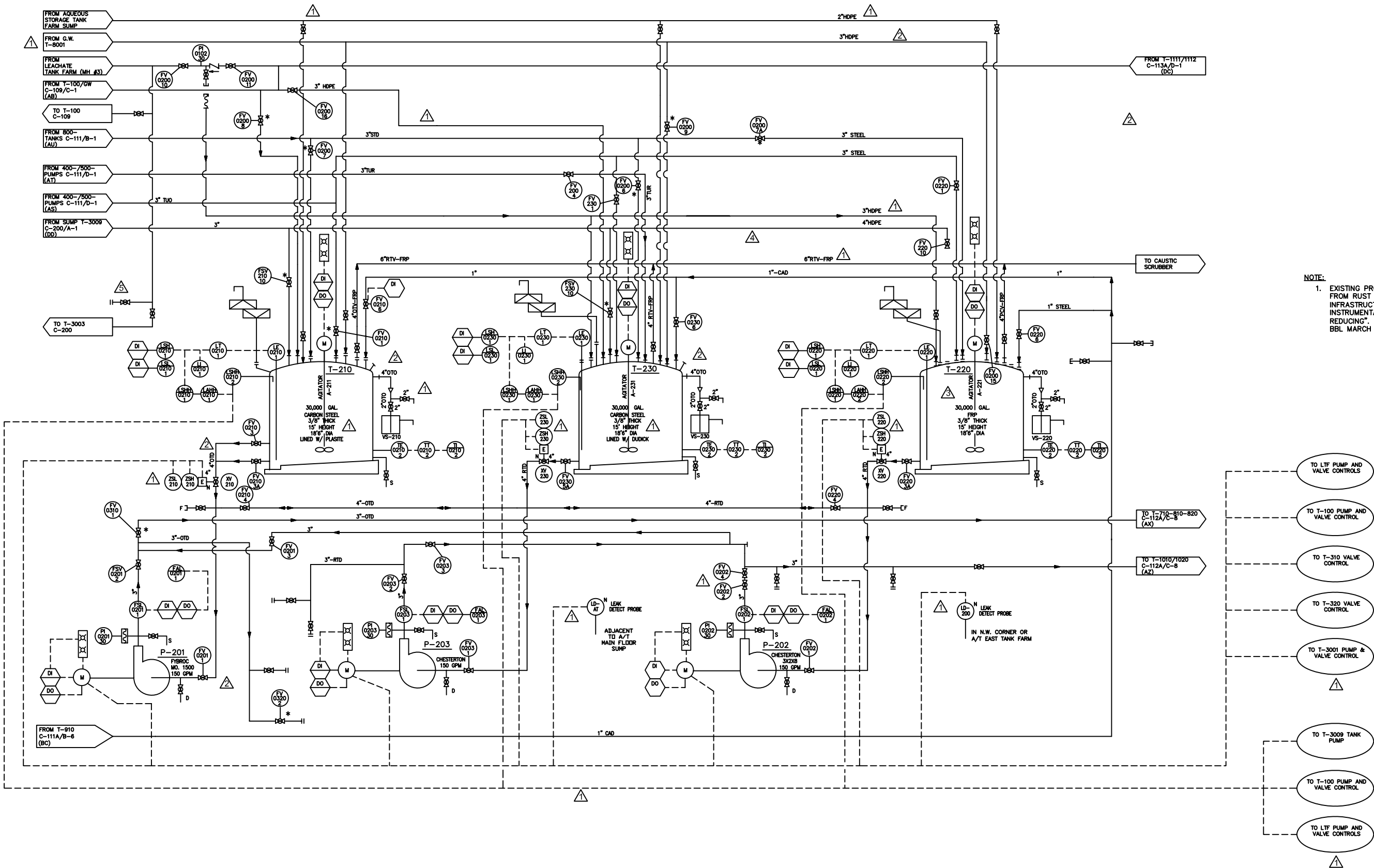
REVISION	NO.	BY	DATE	EnSol, Inc. Environmental Solutions 661 MAIN STREET NIAGARA FALLS, NY 14301 PHONE (716) 285-3920 FAX (716) 285-3928	PROJECT NO: 09-7010		TITLE: FRAC TANK FT-3				
					SCALE: NOT TO SCALE		PROCESS AND INSTRUMENTATION DIAGRAM				
					DWG: D15_09-7010 C-FRACTK Sht.15.dwg		PROJECT: CWM FACILITY P & ID UPDATES			DRAWING C-FRACTK (SHEET 15)	
REMOVED PRESSURE RELIEF VALVE, REMOVED WILDEN DIAPHRAGM PUMP AND ASSORTED PIPING.	⚠	JCD	3/27/14		DRAWN BY: MJM		CHECKED BY: BDS		PREPARED FOR: CWM CHEMICAL SERVICES, LLC., MODEL CITY FACILITY		
DELETED VACUUM TRUCK CONN.'S; ADDED CONN. TO SLF 1-11 OWS SEC. CONT. WITH PIPING, DIAPHRAGM PUMP AND VALVING.	⚠	MJM	6/19/09		DATE: JUNE 2009		TOWN OF PORTER		COUNTY OF NIAGARA		STATE OF NEW YORK
IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 SECTION 7209, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY.											

X:\AAApj\CWM\19-7014 Sitewide Permit P&ID Drawing Updates\16_07-7002 C111 Sht.16-Rev2.dwg, HP 1220C 11x17, 6/26/2019 12:55:17 PM, bshah, Adobe PDF, TabId: 11



REVISION		REV	BY	DATE	EnSol, Inc. Environmental Solutions 661 MAIN STREET NIAGARA FALLS, NY 14301 PHONE (716) 285-3920 FAX (716) 285-3928	PROJECT NO: 07-7002		TITLE: UNLOADING AND PRETREATMENT PROCESS AND INSTRUMENTATION DIAGRAM				
						SCALE: NOT TO SCALE						
Added Bulk Material Unloading Station S-0510; added inlet from T-1111/1112.		2	STS	6/21/19			DWG: 07-7002 C111 Sht.16.dwg		PROJECT: CWM FACILITY P & ID UPDATES			DRAWING C-111 (SHEET 16)
Removed carbon canisters from T-830/840; revised carbon canister for T-710/810/820; added inlet from T-850; removed P-0702; revised tank info.; general system updates.		1	MJM	1/29/07			DRAWN BY: MJM CHECKED BY: BDS		PREPARED FOR: CWM CHEMICAL SERVICES, LLC., MODEL CITY FACILITY			
IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 SECTION 7309, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY.							DATE: JANUARY 2007		TOWN OF PORTER		COUNTY OF NIAGARA	

X:\AAApj\CWM\14-7005 Sitewide Permit P & ID Drawing Updates (Task 1) ID18_05-7017-Sht.18, Rev 5.dwg, HP 1220C 11x17, 3/27/2014 4:55:24 PM, J. Daifeng



REVISION	NO.	BY	DATE
REMOVED PROCESS ARROW TO M/M FILTERS AND ADDED BLIND FLANGE	3	JCD	3/27/14
REMOVED FAC POND 3 CONNECTION FROM TANK T-220	4	JCD	6/7/11
ADDED TANK T-220 PROJECT DETAILS & INTERCONNECTED TANKS PROJECT DETAILS WITH GENERAL SYSTEM UPDATES.	3	BDS	8/10/07
DELETED TANK T-220, FOUNDATION, AND ALL ASSOCIATED INLET AND OUTLET PIPING; CHANGED P-201 INLET PIPE LABEL; REMOVED LINE FROM FAC POND #3 AND ASSOCIATED PIPING.	2	BDS	11/13/06

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 SECTION 7209, FOR ANY PERSON UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY.

EnSol, Inc.

Environmental Solutions

661 MAIN STREET
NIAGARA FALLS, NY 14301
PHONE (716) 285-3920 FAX (716) 285-3928

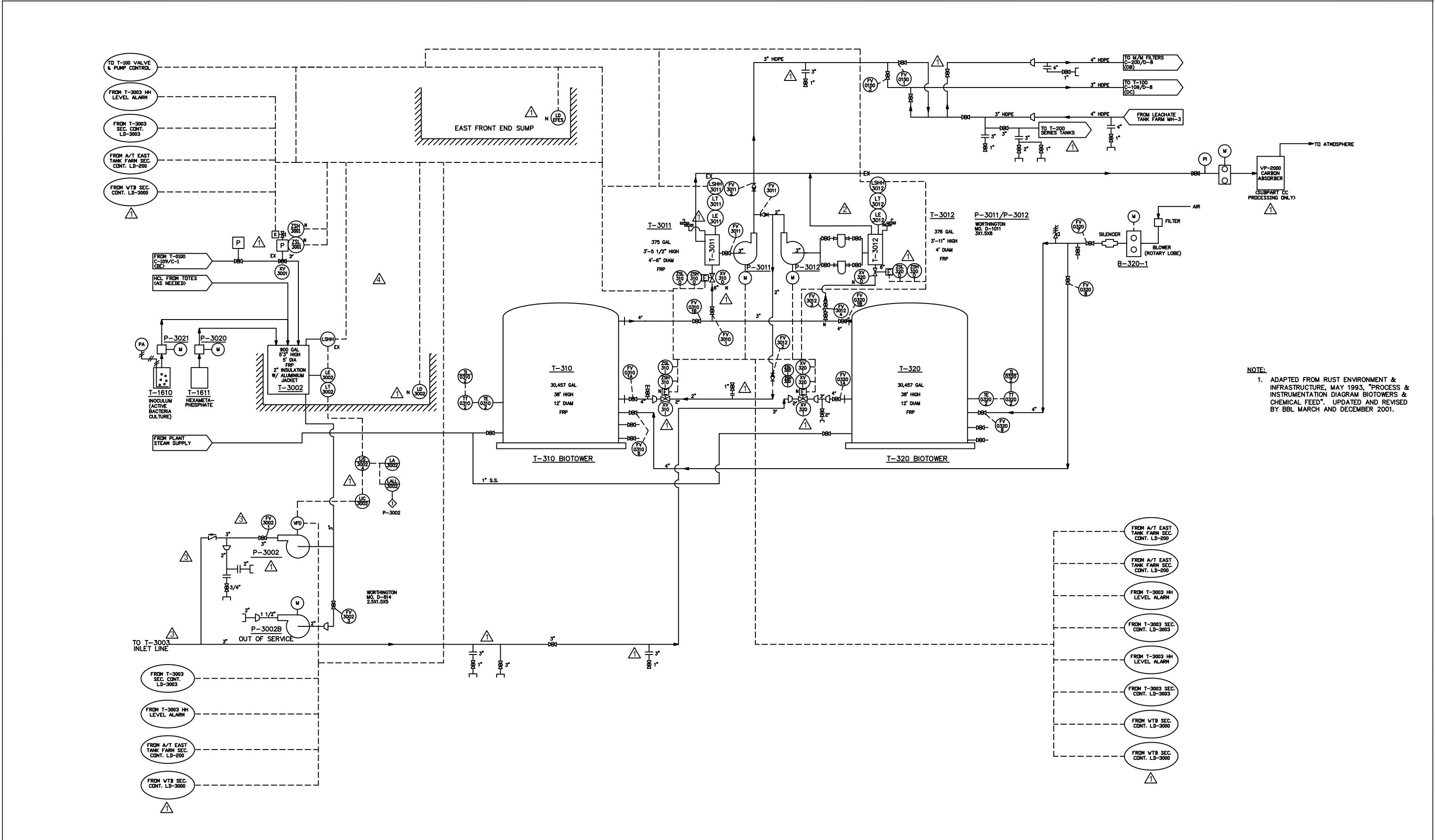
PROJECT NO:	05-7017		
SCALE:	NOT TO SCALE		
DWG:	05-7017-SHT.18.DWG		
DRAWN BY:	MJM	CHECKED BY:	BDS
DATE:	MAY 2006		

TITLE:

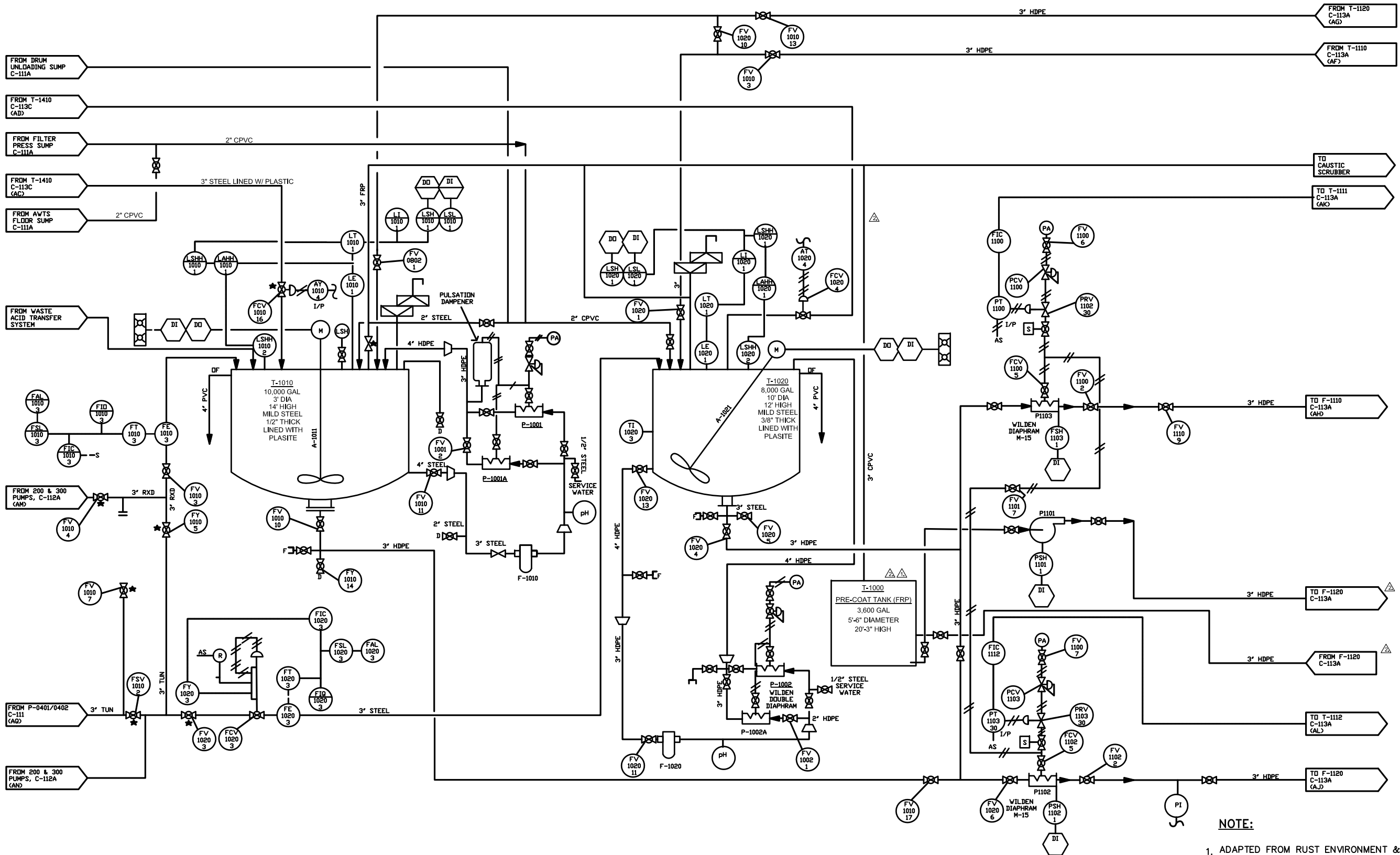
OXIDIZING & REDUCING PROCESS AND INSTRUMENTATION DIAGRAM

PROJECT:		CWM FACILITY P & ID UPDATES	
PREPARED FOR:		CWM CHEMICAL SERVICES, LLC., MODEL CITY FACILITY	
TOWN OF PORTER	COUNTY OF NIAGARA	STATE OF NEW YORK	

DRAWING
C-112
(SHEET 18)



REVISION	NO.	BY	DATE	EnSol, Inc. Environmental Solutions 661 MAIN STREET NIAGARA FALLS, NY 14301 PHONE (716) 285-3920 FAX (716) 285-3928	PROJECT NO: 10-7006		TITLE: BIO-TOWERS & CHEMICAL FEED PROCESS & INSTRUMENTATION DIAGRAM				
REMOVE TANK T-3001	④	JFC	11/21/14		SCALE: NOT TO SCALE						
REMOVE VALVES ON P-3002 OUTLET	③	BDS	3/3/10		DWG: D19_10-7006-SHT19, REV4.DWG		PROJECT: CWM FACILITY P & ID UPDATES			DRAWING	
ADDED DUAL BASKET STRAINERS TO T-3012 OUTLET	②	BDS	2/10/10		DRAWN BY: MJM CHECKED BY: BDS		PREPARED FOR: CWM CHEMICAL SERVICES, LLC., MODEL CITY FACILITY			C-112A	
ADDED INTERCONNECTED TANKS PROJECT DETAILS, CHANGED T-3011/3012 TO FULL PORT BALL VALVES, REMOVED P-3002 DISCHARGE CONTROL VALVE, WITH GENERAL SYSTEM UPDATES.	①	BDS	5/2/06		DATE: FEBRUARY 2010		TOWN OF PORTER		COUNTY OF NIAGARA	STATE OF NEW YORK	(SHEET 19)
IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 SECTION 7205, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY.											



NOTE:
1. ADAPTED FROM RUST ENVIRONMENT & INFRASTRUCTURE, MARCH 1993, "ALKALIZATION PROCESS AND INSTRUMENT DIAGRAM".

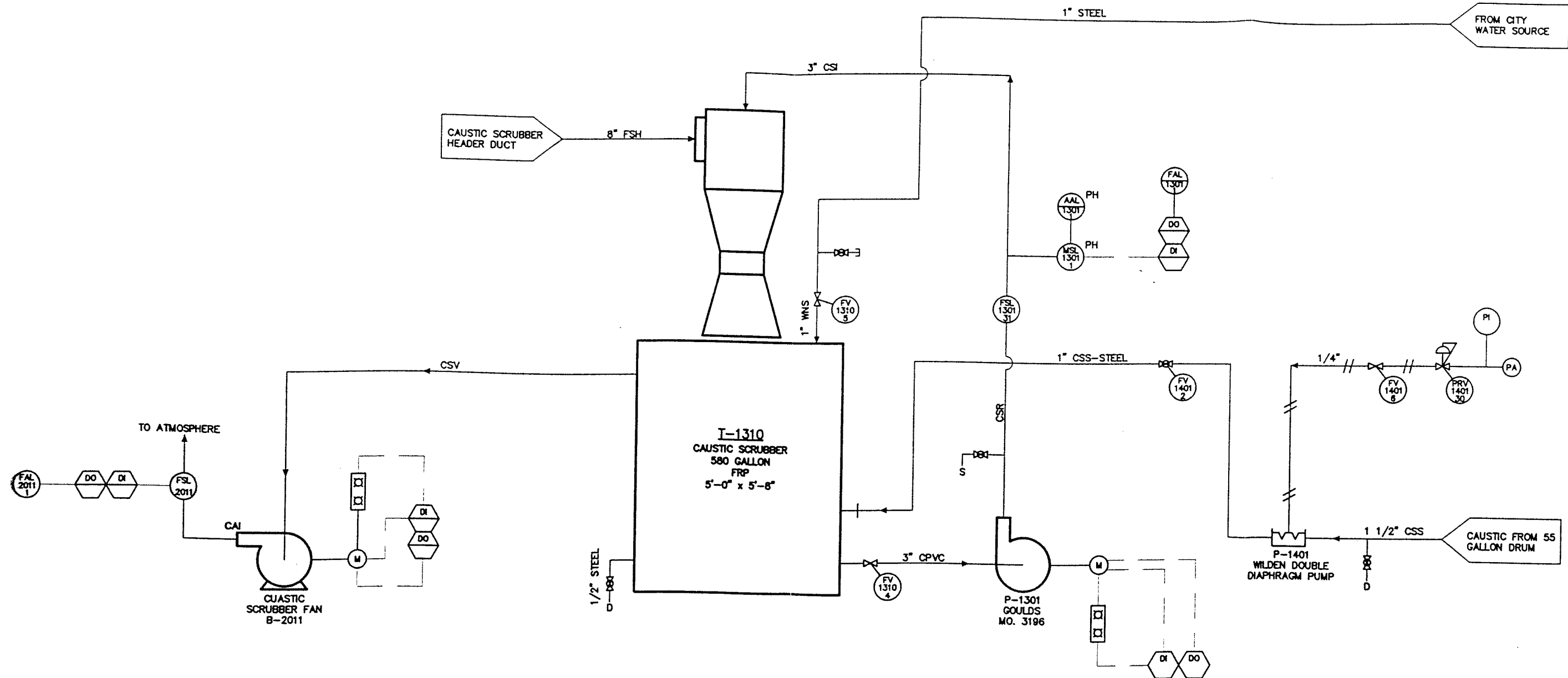
REVISION	BY	DATE
△		
△		
△		
△ Labeled pre-coat tank T-1000, added circulation piping.	BDS	11/2/17
△ Added pre-coat tank for F-1120.	BDS	4/21/17

IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 SECTION 7209, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY.

EnSol, Inc.
Environmental Solutions

661 MAIN STREET
NIAGARA FALLS, NY 14301
PHONE (716) 285-3920 FAX (716) 285-3928

PROJECT NO: 15-7009			TITLE: ALKALIZATION PROCESS AND INSTRUMENTATION DIAGRAM			DRAWING C-113 (SHEET 20)
SCALE: NOT TO SCALE						
DWG: D20_15-7009_C-113 Alkalization-Rev2.dwg			PROJECT: CWM FACILITY P & ID UPDATES			
DES. BY: CAC			PREPARED FOR: CWM CHEMICAL SERVICES, LLC MODEL CITY FACILITY			
DATE: APRIL 2017			TOWN OF PORTER			
			COUNTY OF NIAGARA			STATE OF NEW YORK



NOTE:

1. ADAPTED FROM RUST ENVIRONMENT & INFRASTRUCTURE, MAY 1993, "PROCESS WATER & PLANT AIR". UPDATED BY BBL, DECEMBER 2001.

L: ON-OFF-REF*
P: PAGESET: CBL
12/31/08 31R-54 DLP ROC-54-SLM
05052008/05052022.DWG

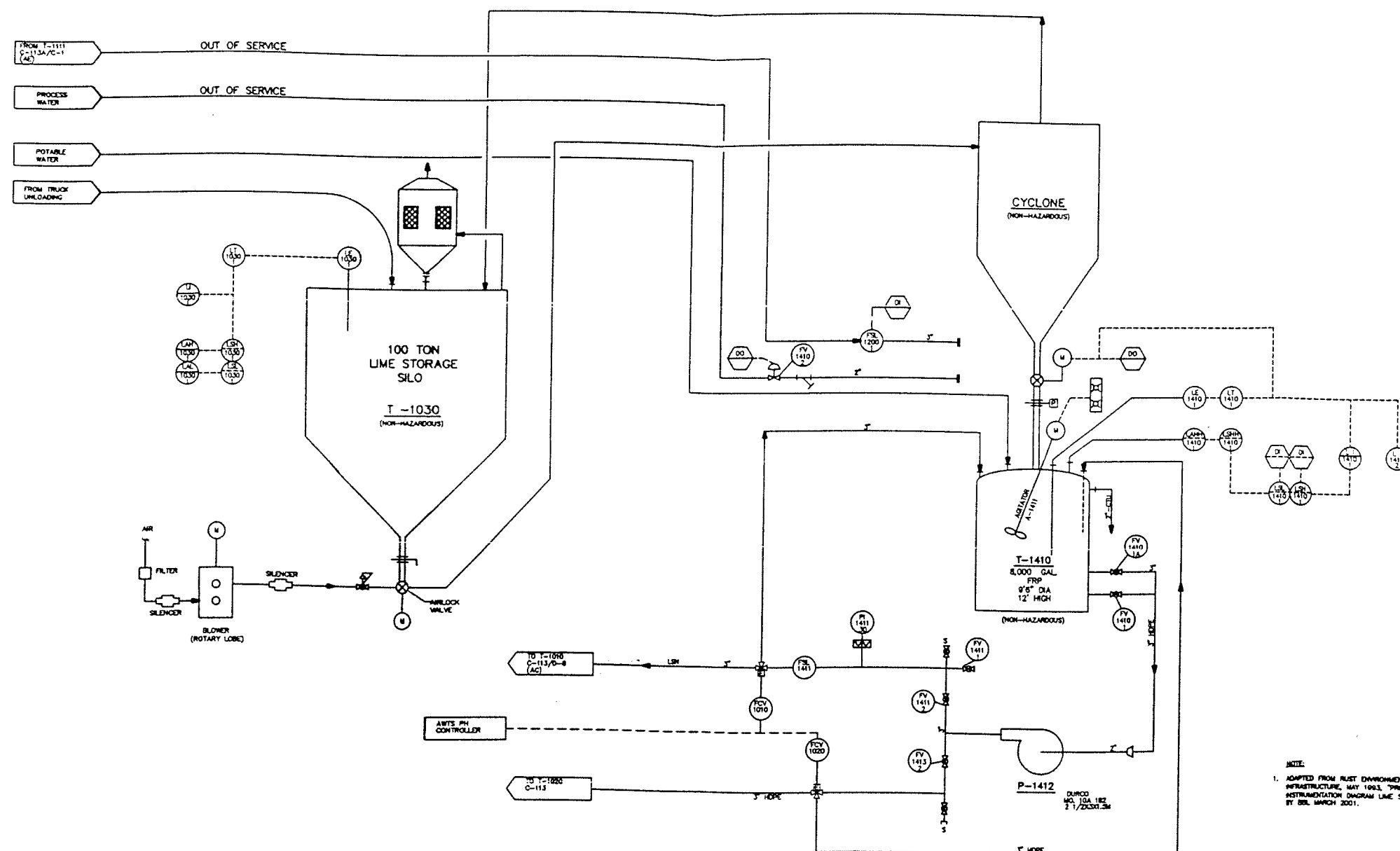
Graphic Scale	Revisions				Project Mgr.
	No.	Date	Revisions	Init	
NOT TO SCALE					Designed by
					Drawn by
					Checked by
					Prof. Eng.
NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW					PE License

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

CWM CHEMICAL SERVICES, LLC
MODEL CITY, NEW YORK
PROCESS & INSTRUMENTATION DIAGRAM
CAUSTIC SCRUBBER

File Number
FILE NO.
Date
DECEMBER 2001
Blasland, Bouck & Lee, Inc.
Corporate Headquarters
6723 Tompaw Road
Syracuse, NY 13214
315-448-9120

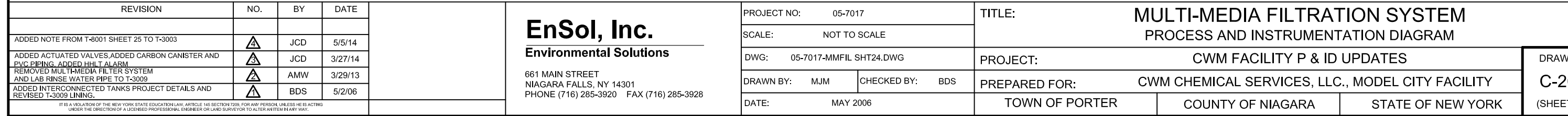
DRAWING NO.
C-113B
(SHEET 22)



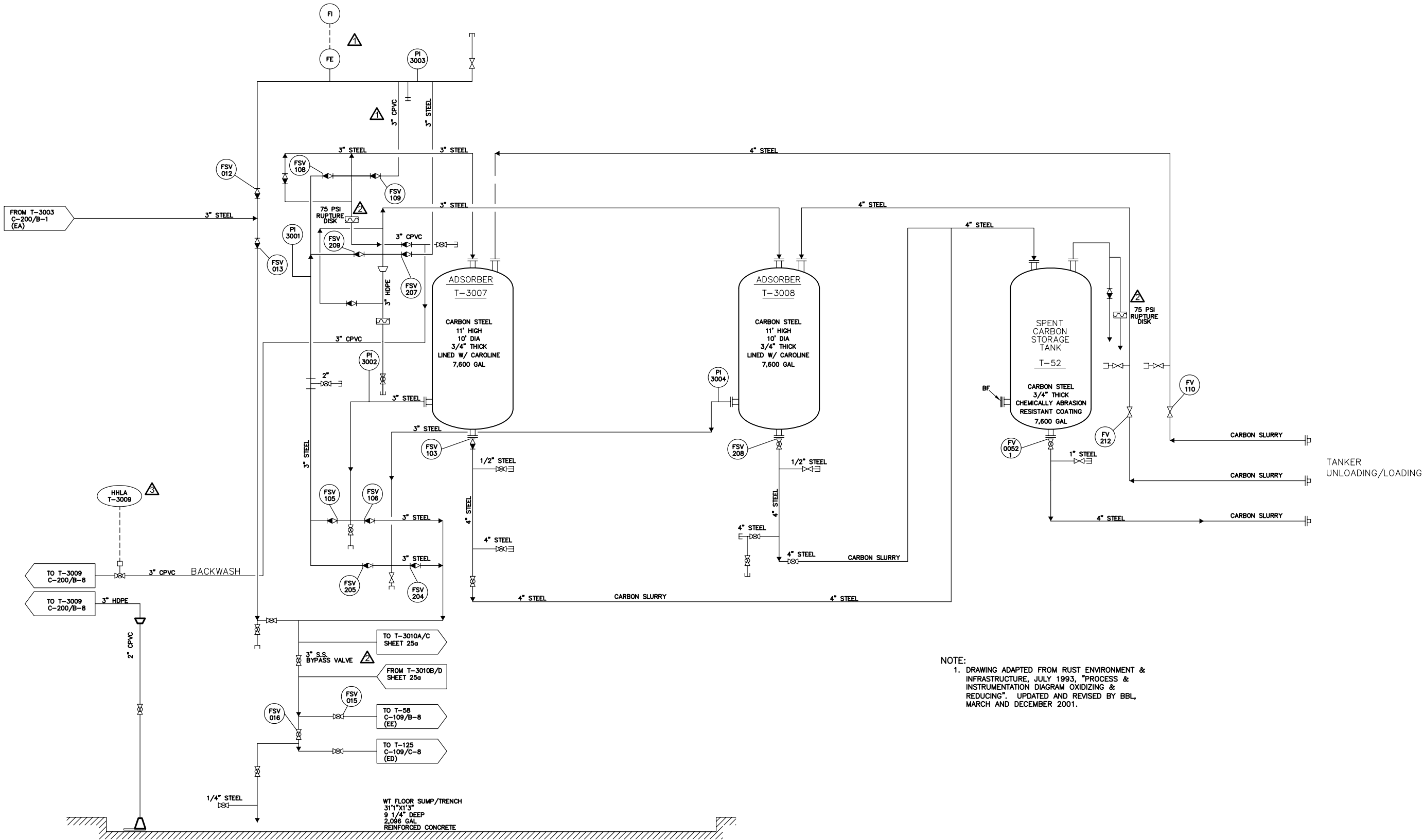
NOTE:
1. ADAPTED FROM RUST ENVIRONMENT & INFRASTRUCTURE, MAY 1993, "PROCESS & INSTRUMENTATION DIAGRAM LIME SYSTEM". UPDATED AND REVISED BY BBL MARCH 2001.

L: REF=OFF
P: STD=PCP/BL
12/31/01 ROC-54-SLM
05052090/05052006.DWG

Graphic Scale		No.	Date	Revisions	Init	Project Mgr.	BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists	CWM CHEMICAL SERVICES, LLC MODEL CITY, NEW YORK PROCESS & INSTRUMENTATION DIAGRAM LIME SYSTEM			File Number		DRAWING NO.
NOT TO SCALE		1	12/01	GENERAL SYSTEM UPDATES	BOS	Designed by					FILE NO.		
NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW						Drawn by					Date		
						Checked by					DECEMBER 2001		
						Prof. Eng.					Blasland, Bouck & Lee, Inc. Corporate Headquarters 6723 Towpath Road Syracuse, NY 13214 315-446-9120		
						PE License							
									C-113C				
									(SHEET 23)				



X:\AAApj\CWM\14-7005 Sitewide Permit P & ID Drawing Updates (Task 1) \D25_05-7017-Sht.25-Rev 3.DWG, Layout1, 3/27/2014 4:56:48 PM, J. Dattag

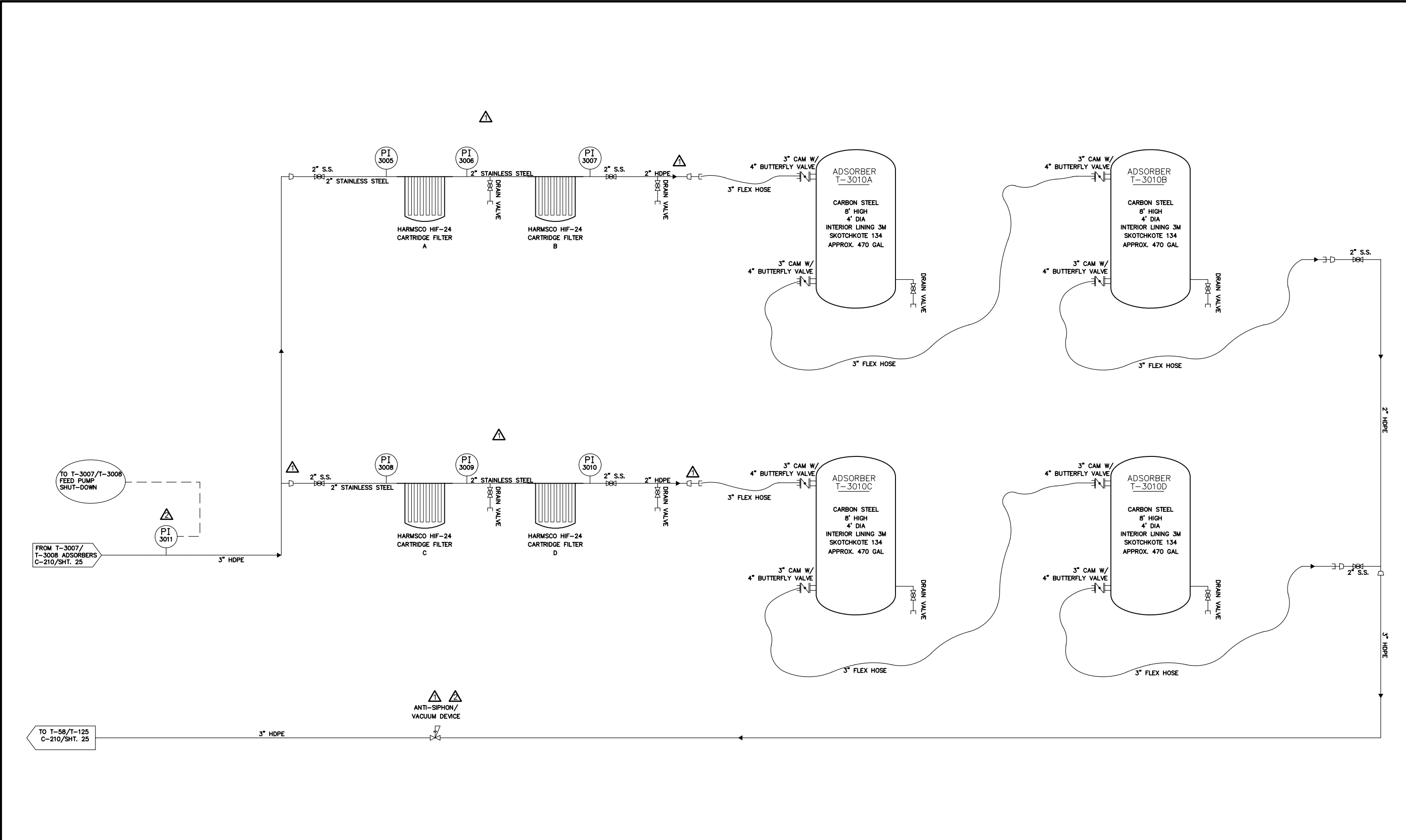


REVISION	NO.	BY	DATE
ADDED ACTUATED VALVE TO 3" CPVC TO T-3009	3	JCD	3/27/14
ADDED T-3010 SYSTEM BYPASS AND RUPTURE DISK PRESSURE	4	AMW	5/22/13
ADDED ADSORBER TANKS INLET FLOW METER.	5	BDS	5/2/06

EnSol, Inc.
Environmental Solutions

661 MAIN STREET
NIAGARA FALLS, NY 14301
PHONE (716) 285-3920 FAX (716) 285-3928

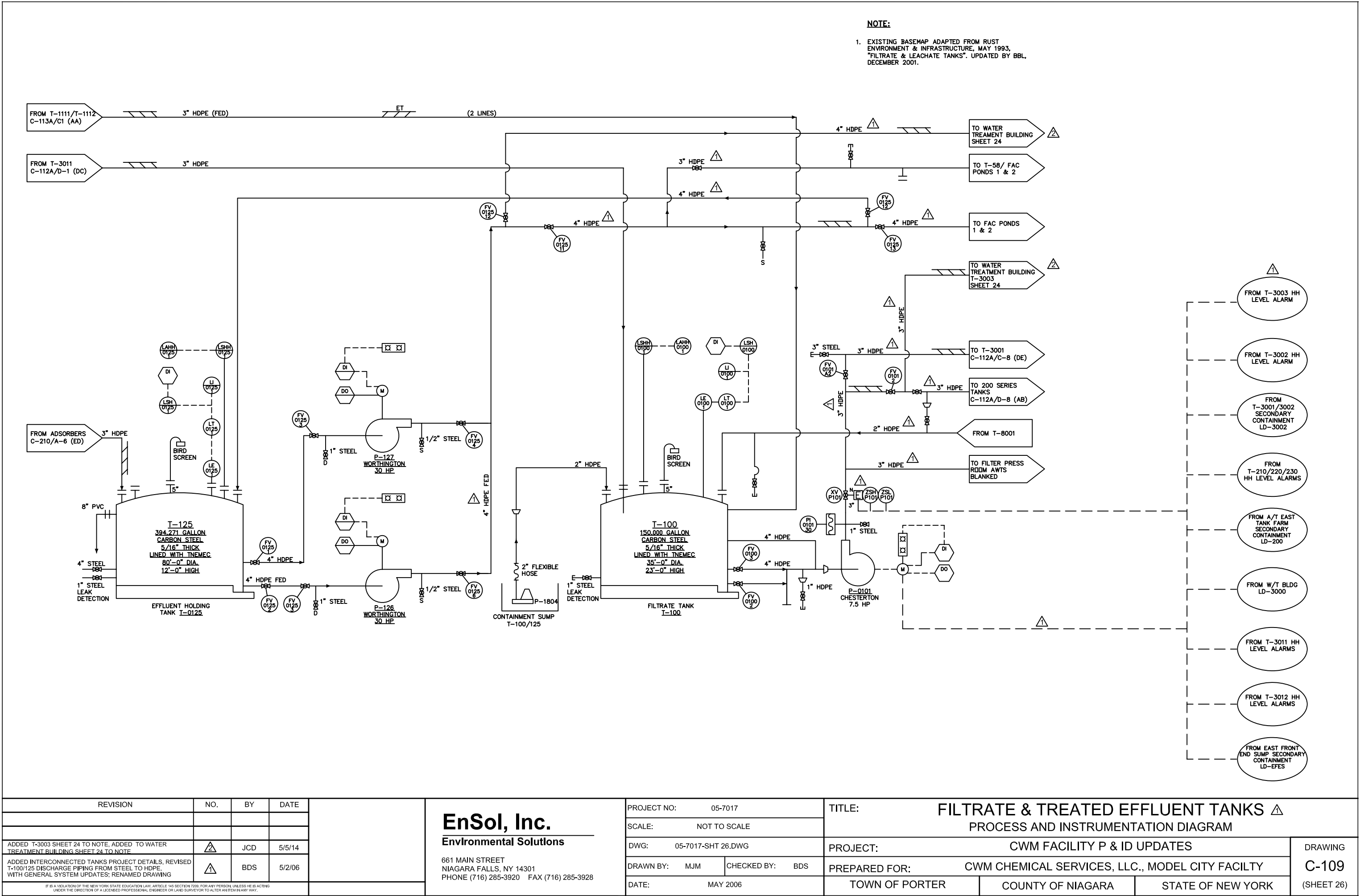
PROJECT NO:	05-7017	TITLE: CARBON ADSORPTION SYSTEM PROCESS AND INSTRUMENTATION DIAGRAM		
SCALE:	NOT TO SCALE			
DWG:	05-7017-Sht.25.DWG	PROJECT:	CWM FACILITY P & ID UPDATES	
DRAWN BY:	AJZ	CHECKED BY:	BDS	
DATE:	MAY 2006	PREPARED FOR:	CWM CHEMICAL SERVICES, LLC., MODEL CITY FACILITY	
		TOWN OF PORTER	COUNTY OF NIAGARA	STATE OF NEW YORK
				DRAWING C-210 (SHEET 25)

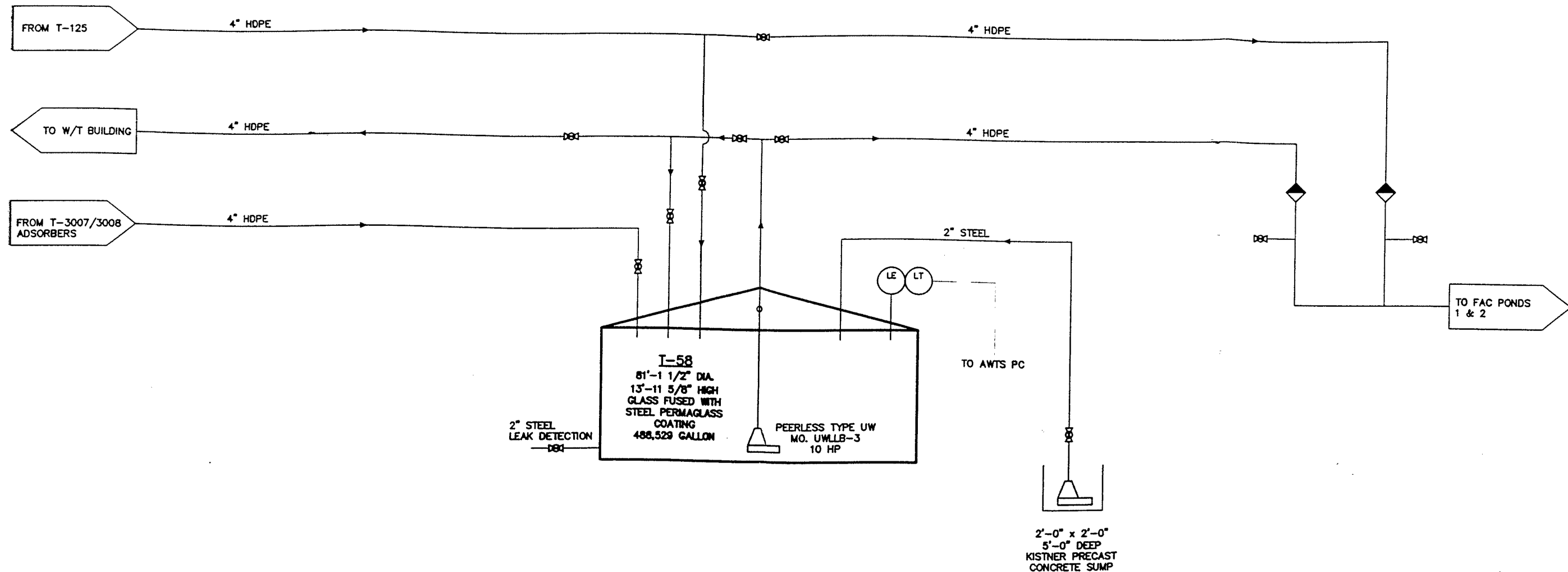


REVISION		NO.	BY	DATE	EnSol, Inc. Environmental Solutions 661 MAIN STREET NIAGARA FALLS, NY 14301 PHONE (716) 285-3920 FAX (716) 285-3928	PROJECT NO: 13-7009		TITLE: ARSENIC REMOVAL SYSTEM PROCESS AND INSTRUMENTATION DIAGRAM			
						SCALE: NOT TO SCALE					
						DWG: D25A_13-7009-SHT.25A-REV 2.DWG		PROJECT: AWT5 ARSENIC REMOVAL SYSTEM DESIGN			
						DRAWN BY: AMW CHECKED BY: BDS		PREPARED FOR: CWM CHEMICAL SERVICES, LLC., MODEL CITY FACILITY			
						DATE: APRIL 2013		TOWN OF PORTER		COUNTY OF NIAGARA	STATE OF NEW YORK
ADDED DIGITAL PRESSURE SYSTEM SHUTDOWN AND MOVED AND ANTI-SIPHON, RECORDED REVISIONS.		1	JCD	3/21/14							SHEET 25a
ADDED PRESSURE INDICATORS, ANTI-SIPHON LOOP, AND REDUCERS		2	AMW	5/22/13							
IT IS A VIOLATION OF THE NEW YORK STATE EDUCATION LAW, ARTICLE 145 SECTION 7209, FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER AN ITEM IN ANY WAY.											

X:\AAAp\IC\MM13-7009-3 AWTS Arsenic Removal System COA-Cert\Report\ACA\D025a_13-7009-Sht.25a-Rev 2.DWG, Layout1, 3/24/2014 11:56:13 AM, J. Darling

X:\AAApj\CWM\14-7005 Sitewide Permit P & ID Drawing Updates (Task 1) 15-5-14 Updates\DWG_05-7017-SHT 26- Rev 2.dwg, HP 1220C 11x17, 5/14/2014 11:42:20 AM, J. Darling





NOTE:

1. ADAPTED FROM CWM CHEMICAL SERVICES, INC., FEBRUARY 1997, "TANK 58". UPDATED AND REVISED BY BBL, DECEMBER 2001.

U: ON=*, OFF=DEP*
P: PAGES= CBL
12/31/01 SYR-96 DLP ROC-54-SLM
05052090/05052094.DWG

Graphic Scale
NOT TO SCALE
NO ALTERATIONS PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW

No.	Date	Revisions	Init	Project Mgr.

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

CWM CHEMICAL SERVICES, LLC
MODEL CITY, NEW YORK
**PROCESS & INSTRUMENTATION DIAGRAM
TANK 58**

File Number
FILE NO.
Date
DECEMBER 2001
Blasland, Bouck & Lee, Inc.
Corporate Headquarters
6723 Towpath Road
Syracuse, NY 13214
315-446-9120

DRAWING NO.
C-T-58
(SHEET 27)