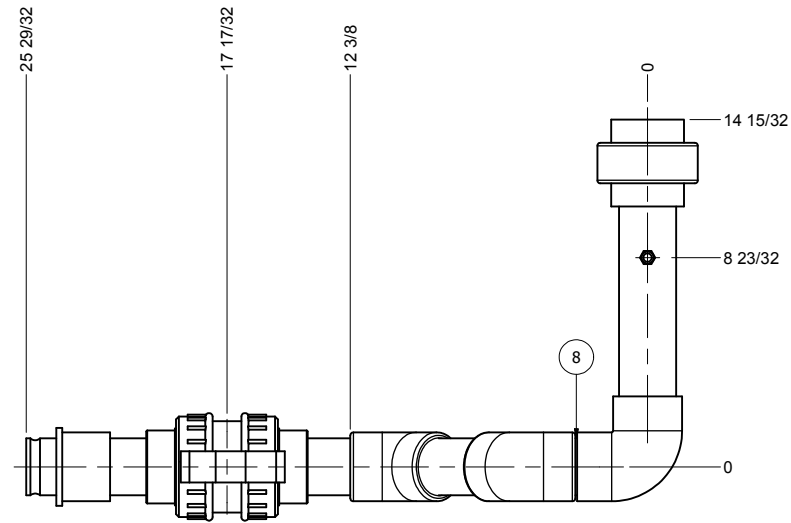


SPOOL SUMMARY OF PIPES

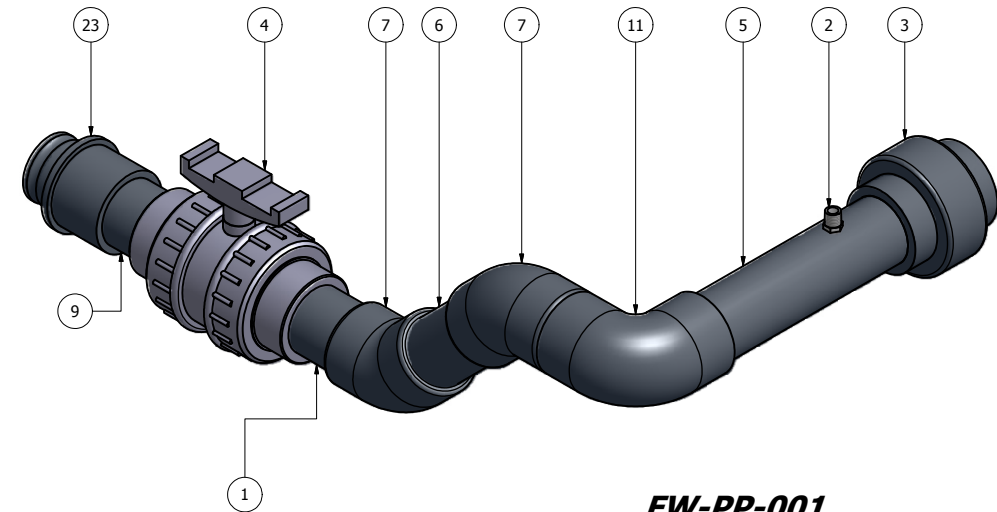
TOTAL SPOOL PIPES

SPOOL NO.	QTY
FW-PP-001	1
FW-PP-002	1
PW-PP-001	1
PW-PP-002	1
FW-SP-001	1
CW-SP-001	1
CIP-PP-001	1
CR-PP-001	1
PR-PP-001	1

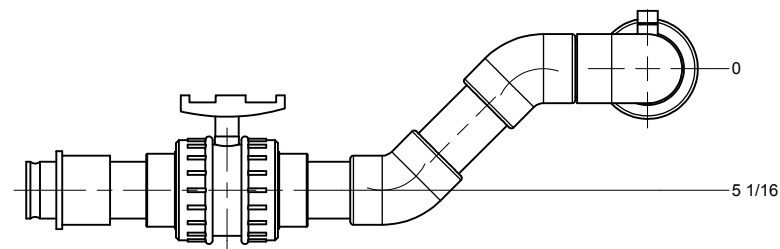
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	ASTM D 1785 SCH80 PVC Pipe 2"
2	1	ISO 4144 HEXAGON NIPPLES N1 1/4"
3	1	SPEARS, PVC UNION 2", (VITON-FXF)
4	1	GF BALL VALVE TYPE 375, 2" PVC SCH80
5	1	ASTM D 1785 SCH80 PVC Pipe 2"
6	1	ASTM D 1785 SCH80 PVC Pipe 2"
7	2	ASTM D PVC SCH80 ELBOW, 2", SXSX45
8	1	ASTM D 1785 SCH80 PVC Pipe 2"
9	1	ASTM D 1785 Sch80 PVC Pipe, 2"
11	1	ASTM D PVC SCH80 ELBOW, 2", SXSX90
23	1	QUICK-DISCONNECT, MALE COUPLER x SOCKET, 2"



PLAN



**FW-PP-001
2" PVC MAIN FEED**



**ELEVATION
SCALE: 1/4**

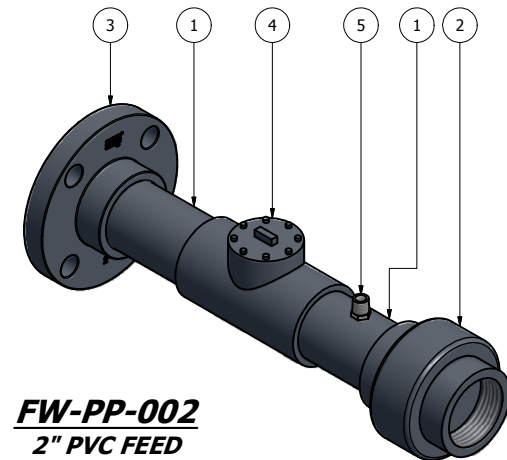
REV	DESCRIPTION	REV BY	DATE	CHKD	APPD
B	PER ENGINEERS COMMENTS 04/16/09	AWS	4/23/09		
A	FOR QUOTE	AWS	4/13/09		

DRAWN AWS ENGR	1/9/2009	SUBMITTAL NO.		STATUS FOR QUOTE	PROJECT WATER TREATMENT PLANT	TITLE SINGLE TEST UNIT MAIN FEED SPOOL
PROJ MGR		SPECS. REF. NO.		ENGINEER		
APPROVED		PROJECT NUMBER		GENERAL CONTRACTOR		
TOLERANCE BLOCK		INCH = +/- 1/32 (+/- 0.03)				
		METRIC = +/- 1.0 millimeter				

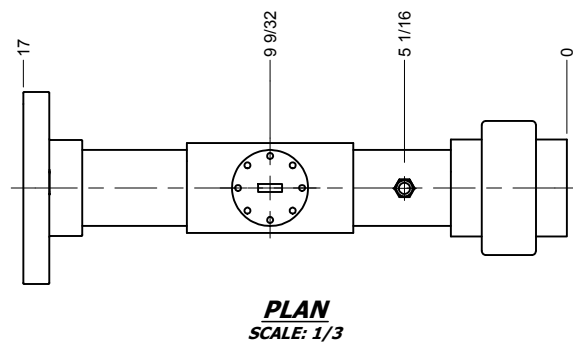
SIZE D	SCALE	DWG NO	SHEET 1 OF 5	REV B
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PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	ASTM D 2" X 10" PVC NIPPLE THRD'D BOTH ENDS
2	1	SPEARS, PVC SCH80 UNION 2"
3	1	FLANGE, (ONEPIECE-SLIP), PVC, SCH80 2"
4	1	FLOW DETECTOR, 4000 CPVC SERIES, 2"
5	1	ISO 4144 Hexagon Nipples N1 1/4"

NOTE:
ITEM1, IS A STANDARD 2"X10" (SPEARS 887-100) THREADED NIPPLE, CUT TO FIT.

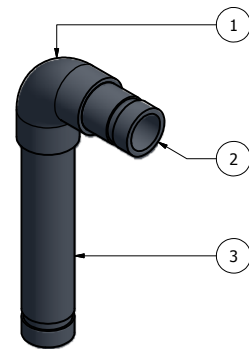


FW-PP-002
2" PVC FEED

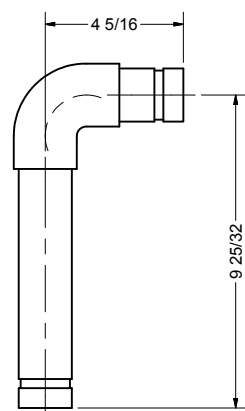


PLAN
SCALE: 1/3

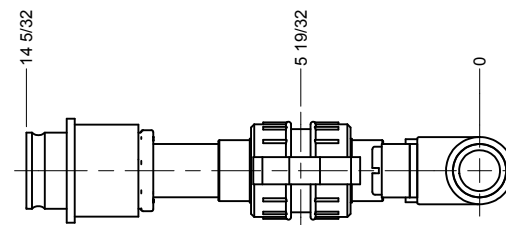
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	SPEARS PVC Sch80 ELBOW (SXS90), 1-1/4"
2	1	ASTM D 1785 PVC Sch80 PIPE 1 1/4", W/ CUT GROOVE END
3	1	ASTM D 1785 PVC Sch80 PIPE 1 1/4", W/ CUT GROOVE END



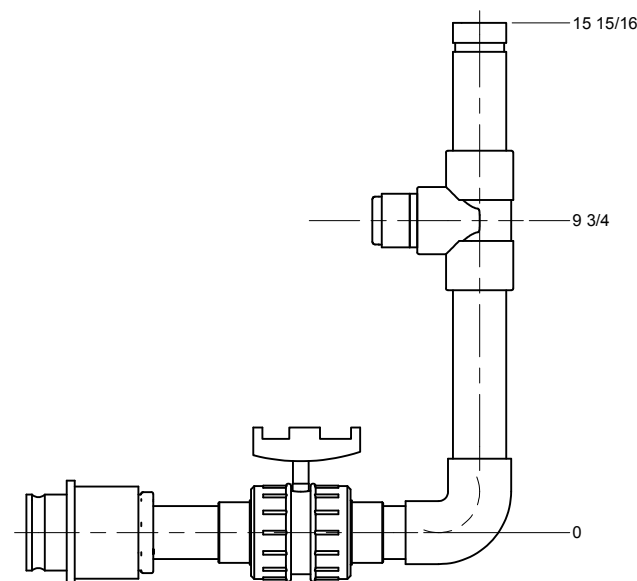
PW-PP-001
1 1/4" PERMEATE PIPE



ELEVATION
SCALE: 1/3

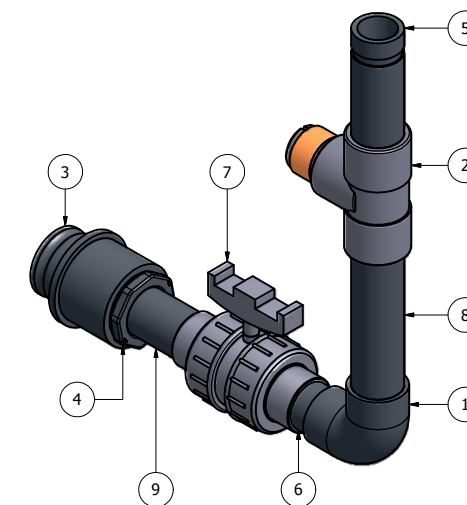


PLAN



ELEVATION
SCALE: 1/3

PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	SPEARS SCH80 PVC ELBOW, 1-1/4"
2	1	SIGNET- SCH80 PVC Tees, 1 1/4"
3	1	QUICK-DISCONNECT, MALE COUPLER x SOCKET, 2"
4	1	ASTM D PVC SCH80 REDUCER BUSHING 2"x1 1/4", SPXS
5	1	ASTM D 1785 SCH80 PVC PIPE 1 1/4", W/ CUT GROOVE END
6	1	ASTM D 1785 SCH80 PVC Pipe, 1 1/4"
7	1	GF 1 1/4" SCH80 PVC TYPE 375 BALL VALVE
8	1	ASTM D 1785 SCH80 PVC Pipe, 1 1/4"
9	1	ASTM D 1785 SCH80 PVC Pipe, 1 1/4"



PW-PP-002
1 1/4" PERMEATE PIPE

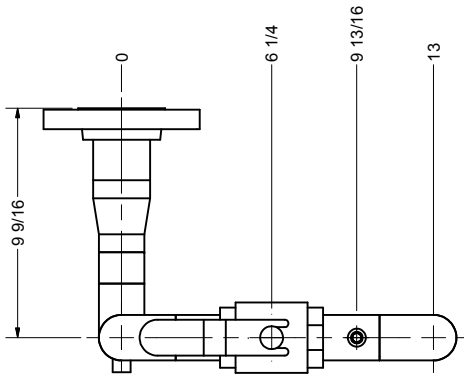
REV	DESCRIPTION	REV BY	DATE	CHKD	APPD
B	PER ENGINEERS COMMENTS 04/16/09	AWS	4/23/09		
A	FOR QUOTE	AWS	4/13/09		

DRAWN	1/9/2009	SUBMITTAL NO.		STATUS	FOR QUOTE
ENGR		SPECS. REF. NO.		PROJECT	
PROJ MGR		PROJECT NUMBER		ENGINEER	
APPROVED				GENERAL CONTRACTOR	

TOLERANCE BLOCK	INCH = +/- 1/32 (+/- 0.03)
	METRIC = +/- 1.0 millimeter

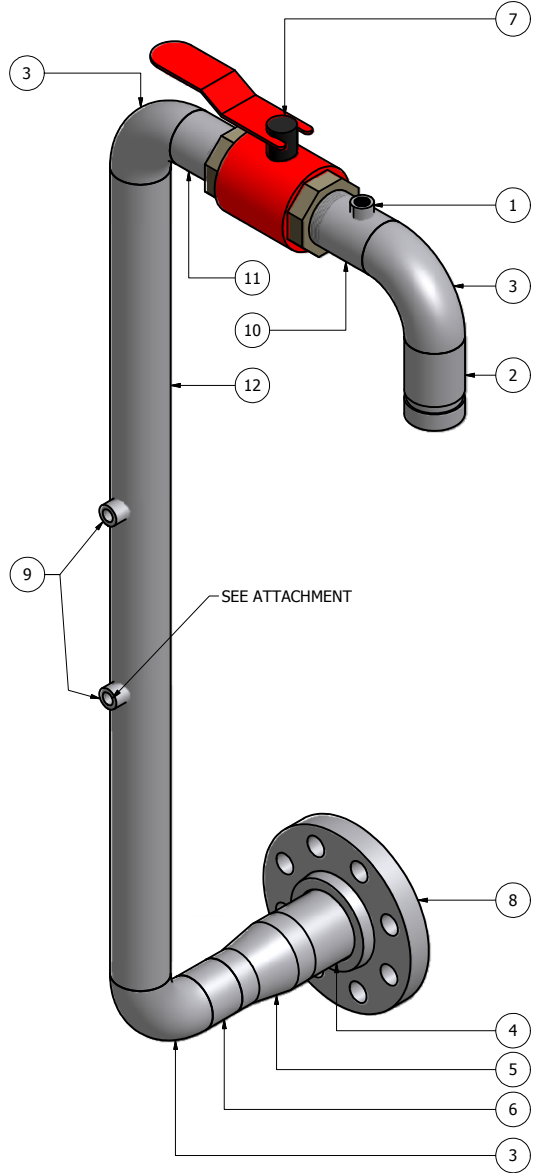
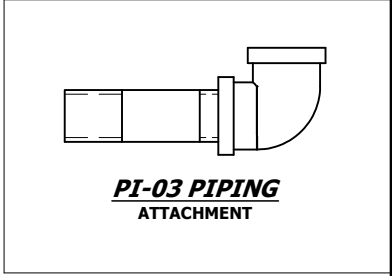
PROJECT	WATER TREATMENT PLANT
TITLE	SINGLE TEST UNIT
SIZE	D A/S
SCALE	
OWG NO	
SHEET 2 OF 5	REV B

TITLE	SINGLE TEST UNIT
TITLE	FEED & PERMEATE SPOOLS
SIZE	D A/S
SCALE	
OWG NO	
SHEET 2 OF 5	REV B

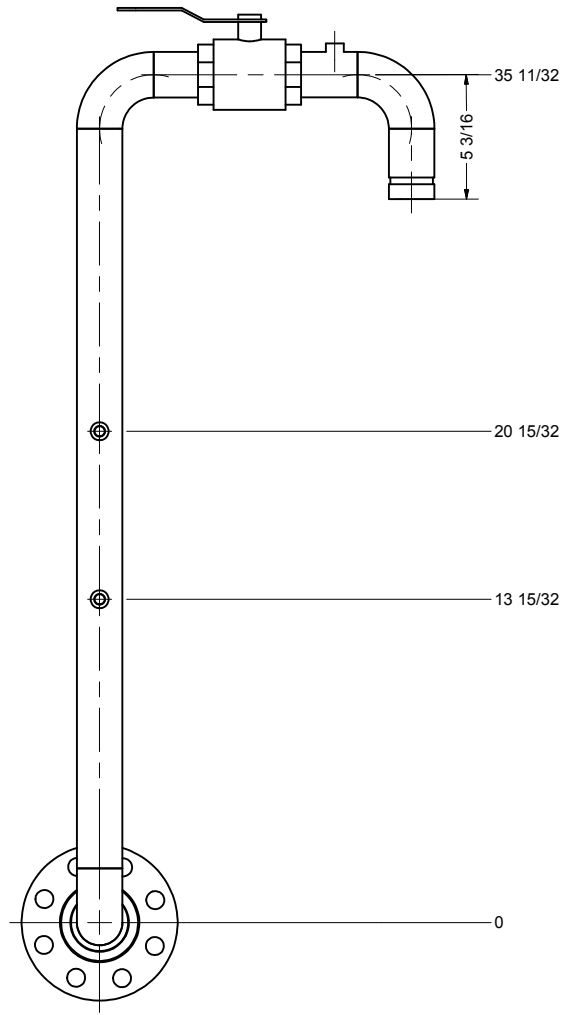


PLAN

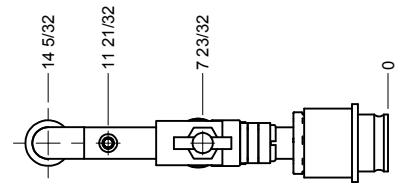
PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	ASME B16.11 Half Coupling Threaded, 316L SS, Class 3000 1/4"
2	1	ANSI/ASME B36.19M PIPE, 1 1/4", 316L SS, Sch40S Seamless W/ CUT GROOVE END
3	3	ASME B16.9 Long Radius 90 Deg Elbow 1 1/2", 316L SS, Sch40
4	1	ANSI/ASME B36.19M Pipe 2", 316L SS Sch40
5	1	ASME B16.9 Reducer 2"x1 1/2", 316L SS Sch40
6	1	ANSI/ASME B36.19M Pipe 1 1/2", 316L SS Sch40, 2"
7	1	2 PIECE THRD'D FULL PORT BV-1 1/4"
8	1	ASME B16.5 Flange Slip-On Welding, 316L SS, Class 300, 2"
9	2	ASME B16.11 Half Coupling Threaded, 316L SS, Class 3000 1/4"x1/4"
10	1	ANSI/ASME B36.19M Pipe 1 1/2", 316L SS, Sch40, W/NPT ONE END
11	1	ANSI/ASME B36.19M Pipe 1 1/2", 316L SS, Sch40, W/NPT ONE END
12	1	ANSI/ASME B36.19M Pipe 1 1/2", 316L SS, Sch40



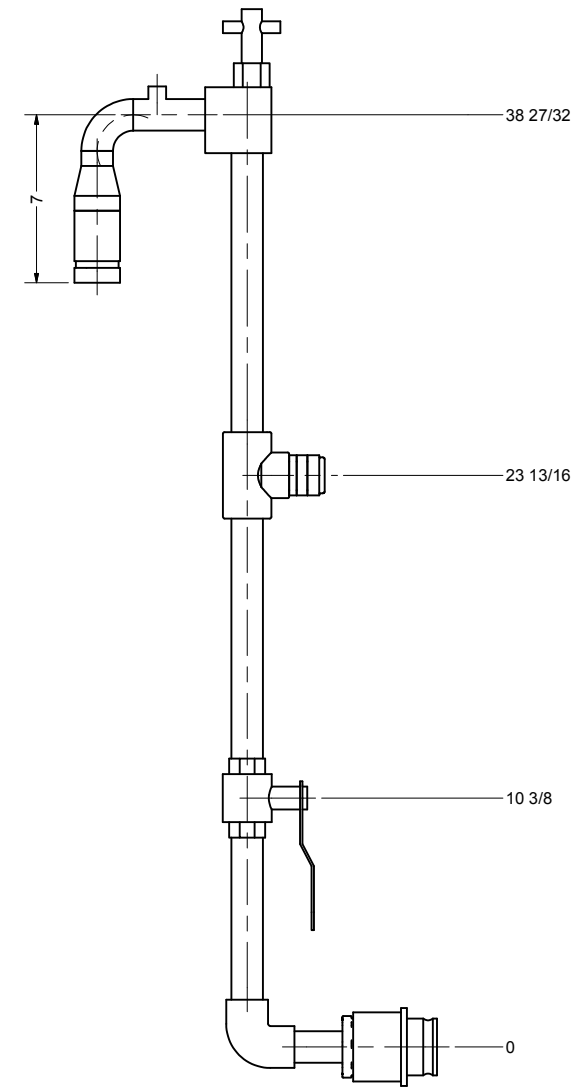
**FW-SP-001
RO 1 1/2" SS FEED**



**ELEVATION
SCALE: 1/4**

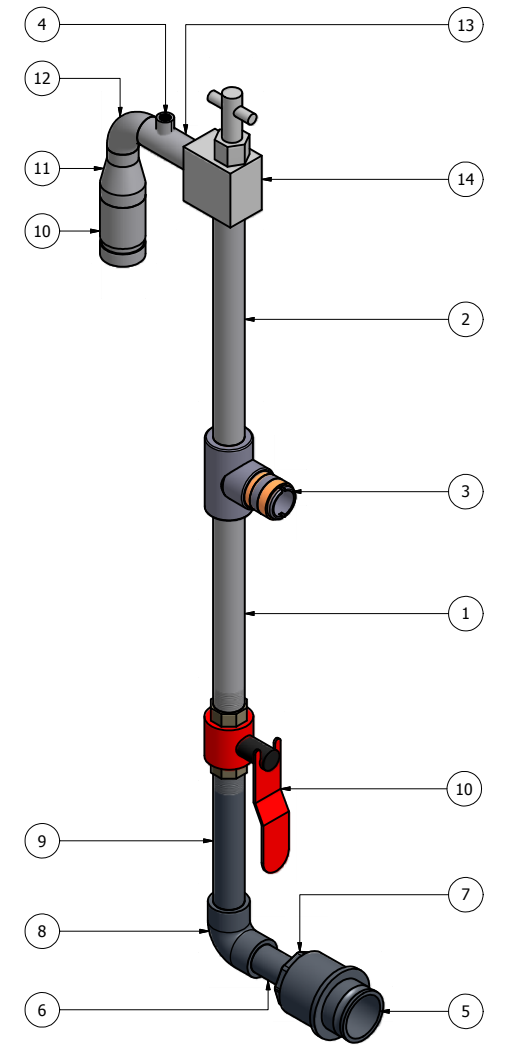


PLAN



**ELEVATION
SCALE: 1/4**

PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	ANSI/ASME B36.19M Pipe 1", 316L SS, Sch40, W/NPT BOTH ENDS
2	1	ANSI/ASME B36.19M Pipe 1", 316L SS, Sch40, W/NPT BOTH ENDS
3	1	SIGNET, 316L SS SENSOR TEE NPT, 1"
4	1	ASME B16.11 Half Coupling Threaded, 316L SS, Class 3000 1/4"
5	1	MALE COUPLER x SOC PVC Sch80, 2"
6	1	ASTM D 1785 PVC Sch80 Pipe, 1"
7	1	REDUCER BUSHING (SPXS), PVC Sch80 2"x1"
8	1	ELBOW, 1"x1", SOCXSOC, PVC, Sch80
9	1	ASTM D 1785 PVC Sch80 Pipe 1", W/NPT ONE END
10	1	FLOWTEK 2 PIECE THRD'D FULL PORT BV-1"
10	1	ANSI/ASME B36.19M 316L SS, Sch40 PIPE 1 1/2", Seamless W/ CUT GROOVE END
11	1	ASME B16.9 Reducer 1 1/2"x1", 316L SS, Sch40
12	1	ASME B16.9 Long Radius 90 Deg Elbow 1", 316L SS, Sch40
13	1	ANSI/ASME B36.19M Pipe 1", 316L SS, Sch40, W/NPT ONE END
14	1	SWAGELOK NEEDLE VALVE 1", ANGLE PATTERN, NPT BOTH ENDS



**CW-SP-001
1 1/4" SS CONCENTRATE OUT**

REV	DESCRIPTION	REV BY	DATE	CHKD	APPD
B	PER ENGINEERS COMMENTS 04/16/09	AWS	4/23/09		
A	FOR QUOTE	AWS	4/13/09		

REVISION HISTORY	

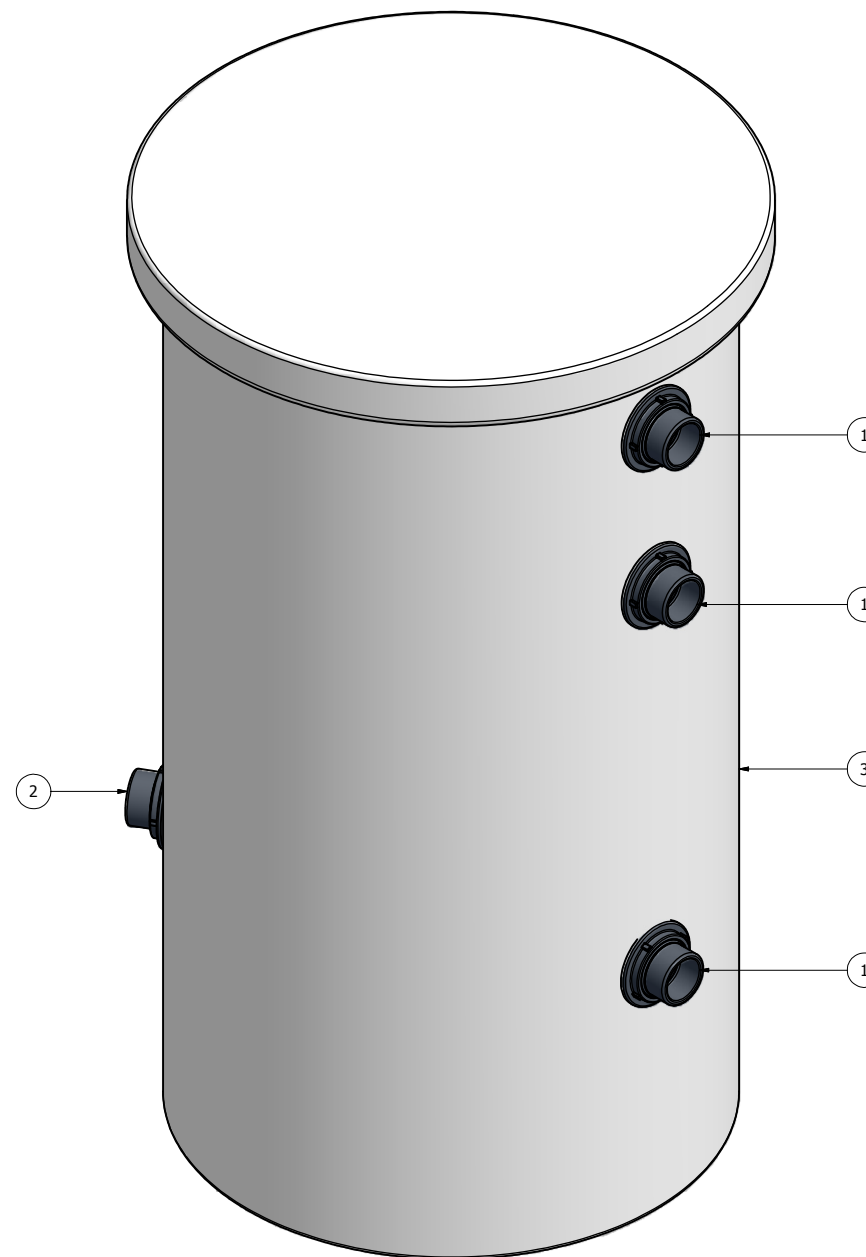
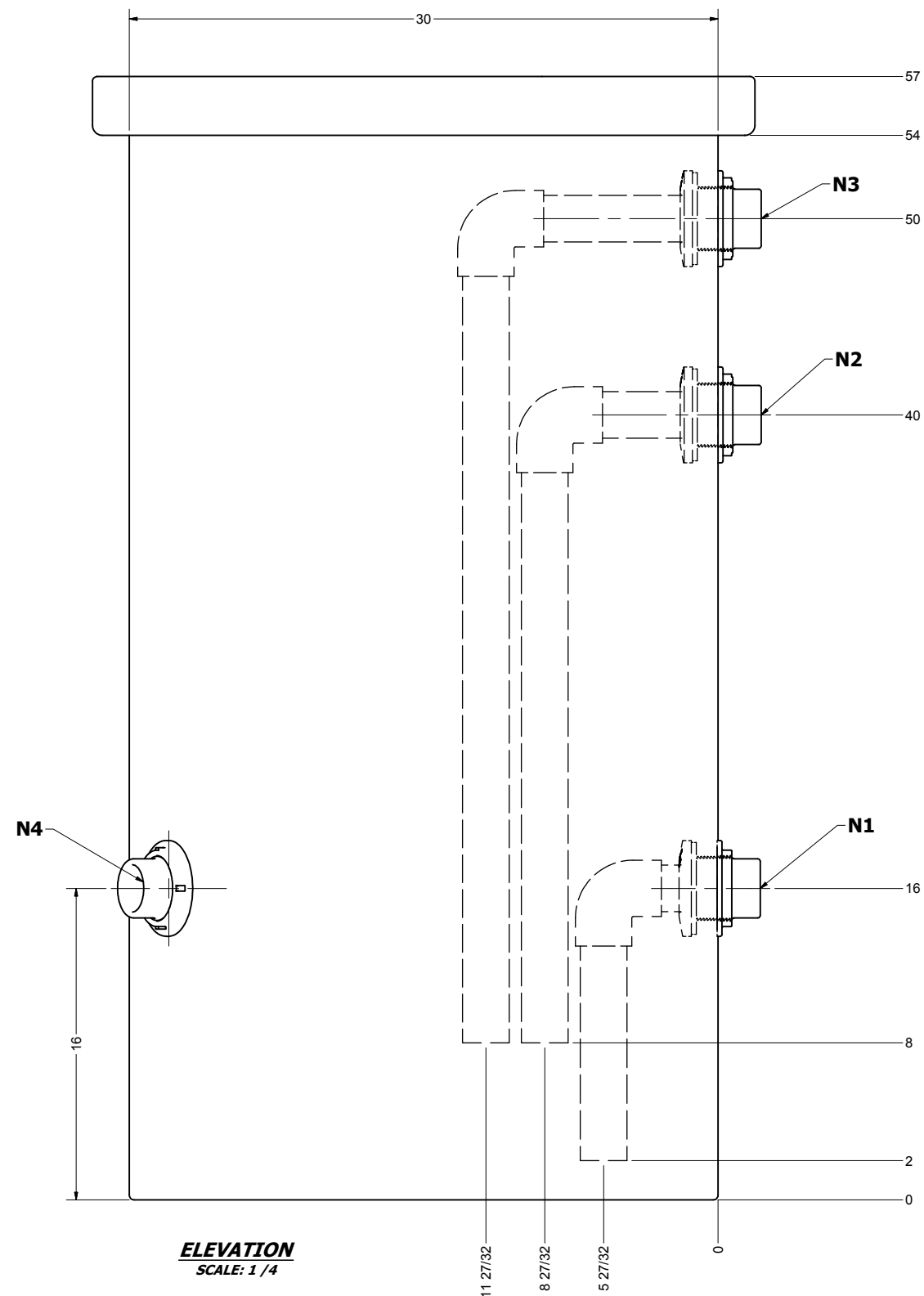
DRAWN AWS	1/9/2009	SUBMITTAL NO.		STATUS	FOR QUOTE
ENGR		SPECS. REF. NO.		ENGINEER	
PROJ MGR		PROJECT NUMBER		GENERAL CONTRACTOR	
APPROVED					
TOLERANCE BLOCK	INCH = +/- 1/32 (+/- 0.03)				
	METRIC = +/- 1.0 millimeter				

PROJECT	WATER TREATMENT PLANT
TITLE	SINGLE TEST UNIT
SIZE	SCALE
D	1/4

PROJECT	WATER TREATMENT PLANT
TITLE	SINGLE ELEMENT TEST UNIT
SIZE	SCALE
D	1/4

TITLE	SINGLE TEST UNIT
TITLE	FEED & CONCENTRATE SPOOLS
SIZE	SCALE
D	1/4
OWG NO.	
SHEET 3 of 5	REV B

PARTS LIST		
ITEM	QTY	PART NUMBER
1	3	2" PVC Sch80 BULKHEAD FITTING
2	1	2" PVC Sch80 BULKHEAD FITTING
3	1	150 GAL TANK



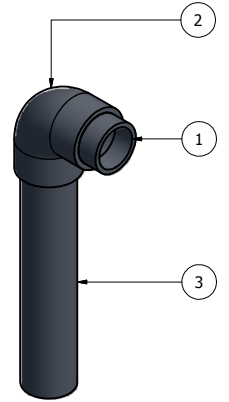
CONNECTIONS LOCATIONS			
CONNECTION	ELEVATION	ANGLE	DESCRIPTION
N1	15 7/8"	90	2" FEED OUTLET
N2	40"	90	2" CONCENTRATE RETURN
N3	50"	90	2" PERMEATE RETURN
N4	16"	240	2" HEATER CONNECTION

REV	DESCRIPTION	REV B	DATE	CHKD	APPD
B	PER ENGINEERS COMMENTS 04/16/09	AWS	4/23/09		
A	FOR QUOTE	AWS	4/13/09		

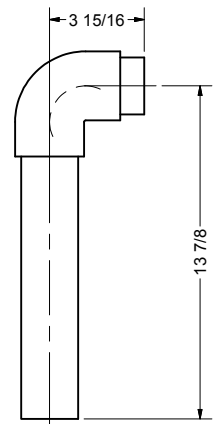
DRAWN AWS	1/9/2009	SUBMITTAL NO.		STATUS FOR QUOTE	PROJECT WATER TREATMENT PLANT
ENGR		SPECS. REF. NO.		ENGINEER	
PROJ MGR		PROJECT NUMBER		GENERAL CONTRACTOR	
APPROVED					
TOLERANCE BLOCK	INCH = +/- 1/32 (+/- 0.03)				
	METRIC = +/- 1.0 millimeter				

TITLE SINGLE TEST UNIT 150 GAL TANK DETAIL		SIZE D	SCALE NTS	DWG NO	SHEET 4 OF 5	REV B
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PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	ASTM D 1785 PVC Sch80 Pipe, 2"
2	1	SPEARS PVC Sch80 ELBOW (SXS90), 2"
3	1	ASTM D 1785 PVC Sch80 Pipe, 2"

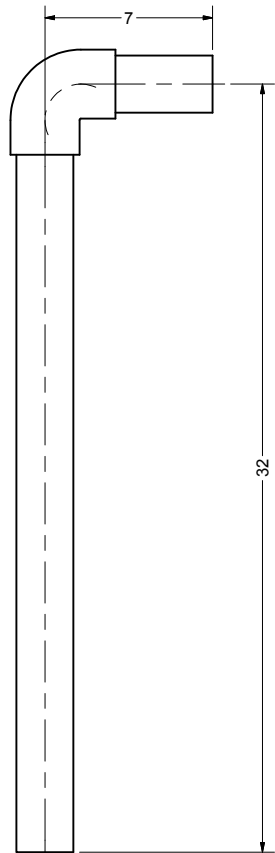


CIP-PP-001
2" FEED OUTLET FROM TANK
(INSIDE TANK)

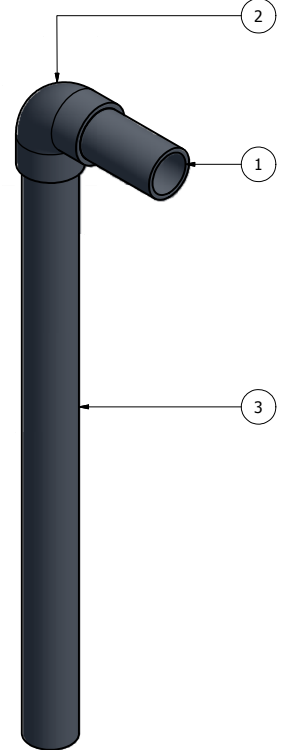


ELEVATION
SCALE: 1/4

PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	ASTM D 1785 PVC Sch80 Pipe, 2"
2	1	SPEARS PVC Sch80 ELBOW (SXS90), 2"
3	1	ASTM D 1785 PVC Sch80 Pipe, 2"

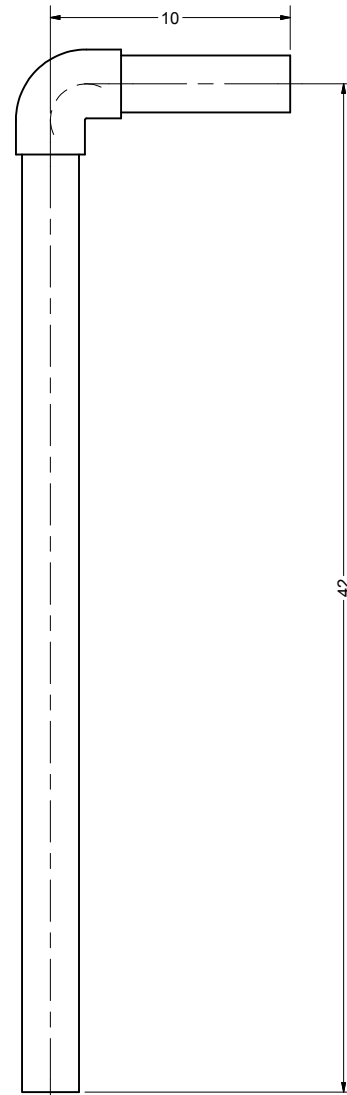


ELEVATION
SCALE: 1/4

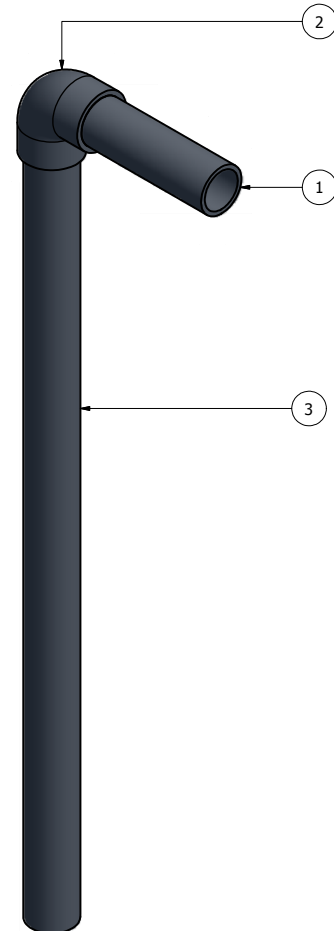


CR-PP-001
2" CONCENTRATE RETURN
(INSIDE TANK)

PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	ASTM D 1785 PVC Sch80 Pipe, 2"
2	1	SPEARS PVC Sch80 ELBOW (SXS90), 2"
3	1	ASTM D 1785 PVC Sch80 Pipe, 2"



ELEVATION
SCALE: 1/4



PR-PP-001
2" PERMEATE RETURN
(INSIDE TANK)

REV	DESCRIPTION	REV BY	DATE	CHKD	APPD
B	PER ENGINEERS COMMENTS 04/16/09	AWS	4/23/09		
A	FOR QUOTE	AWS	4/13/09		

DRAWN AWS	1/9/2009	SUBMITTAL NO.		STATUS FOR QUOTE
ENGR		SPECS. REF. NO.		
PROJ MGR		PROJECT NUMBER		ENGINEER
APPROVED				GENERAL CONTRACTOR
TOLERANCE BLOCK	INCH = +/- 1/32 (+/- 0.03)			
	METRIC = +/- 1.0 millimeter			

WATER TREATMENT PLANT
SINGLE ELEMENT TEST UNIT

TITLE SINGLE TEST UNIT CIP TANK SPOOLS		OWG NO.		REV B
SIZE D	SCALE A/S	SHEET 5 OF 5		