BILL OF MATERIALS

QTY	SIZE	DESCRIPTION
2	10"	GROVE, B5, TRIM D0101, 600#, FP, WE(SCH 40) BALL VALVE W/ OPERATOR
3	8"	BALON 8F-T63-RF, 600#, RF, FP TRUNNION BALL VALVE
4	6"	6x4 TEXSTREAM 600# RF, PLUG VALVE
14	6"	BALON 6F-T63-RF, 600#, RF, FP TRUNNION BALL VALVE
4	4"	FISHER, MODEL FL-SR PILOT OP. REG, SET @ 435-475 PSIG
2	4"	FISHER, MODEL FL-SR PILOT OP. REG, SET @ 800-850 PSIG
2	4"	4x3 TEXSTREAM 9D-L4006R40C, 600#, RF, PLUG VALVE
4	4"	BALON 4F-T63-RF, 600#, RF, FP TRUNNION BALL VALVE
1	2"	BALON, 2F-F63-RF, 600#, RF, FP, FLOATING BALL VALVE
1	2"	FISHER, MODEL EZR TOKEN RELIEF W/ 6358 EBH PILOT, SET @ 500 PSIG
4	1"	BALL VALVE, BALON SERIES LS, 3000#
10	3/4"	BALL VALVE, BALON SERIES LS, 3000#
36	1/2"	BALL VALVE, BALON SERIES LS, 3000#
2	6"	MTD T-STRAINER, ANSI 600
5	8"	FLANGE, WN, 600, STD, RF, FS, A860 MSS-SP-75 WPHY 52
39	6"	FLANGE, WN, 600, STD, RF, FS, A860 MSS-SP-75 WPHY 52
26	4"	FLANGE, WN, 600, STD, RF, FS, A860 MSS-SP-75 WPHY 52
4	2"	FLANGE, WN, 600, STD, RF, FS, A860 MSS-SP-75 WPHY 52
1	8"	FLANGE, BLIND, 600, STD, RF, FS, A860 MSS-SP-75 WPHY 53
1	6"	FLANGE, BLIND, 600, STD, RF, FS, A860 MSS-SP-75 WPHY 53
2	4"	FLANGE, BLIND, 600, STD, RF, FS, A860 MSS-SP-75 WPHY 53
5	8"	GASKET, KAMMPRO, LP3 600 5/32 316L-APX2 316-L OR NS
30	6"	GASKET, KAMMPRO, LP3 600 5/32 316L-APX2 316-L OR NS
27	4"	GASKET, KAMMPRO, LP3 600 5/32 316L-APX2 316-L OR NS
4	2"	GASKET, KAMMPRO, LP3 600 5/32 316L-APX2 316-L OR NS
2	8"	GASKET, 600, INS, PIKOTEK PGE W/ G10 SLEEVE W/ HCS WASHERS
11	6"	GASKET, 600, INS, PIKOTEK PGE W/ G10 SLEEVE W/ HCS WASHERS
84	1.125"x8.5"	BOLTS, STUD, /A 193 GR.B7, W/ 2-HVY HEX NUTS, /A 194 2H
492	1"x7 3/4"	BOLTS, STUD, /A 193 GR.B7, W/ 2-HVY HEX NUTS, /A 194 2H
208	7/8"x6 3/4"	BOLTS, STUD, /A 193 GR.B7, W/ 2-HVY HEX NUTS, /A 194 2H
32	5/8"x5 1/4"	BOLTS, STUD, /A 193 GR.B7, W/ 2-HVY HEX NUTS, /A 194 2H
20		32# HIGH POTENTIAL MAGNESIUM ANODE
10		20# HIGH POTENTIAL MAGNESIUM ANODE
24		TOTAL CORROSION SOLUTIONS CATHODIC PROTECTION TEST STATION
	4400'	GREEN #12 THHN WIRE (CORROSION COUPON)
	2200'	BLACK #12 THHN WIRE (ANODE)
	4400'	YELLOW #12 THHN WIRE (TEST STATION)

BILL OF MATERIALS

QTY	SIZE	DESCRIPTION
4	8"	ELBOW, 90, STD, A860 MSS-SP-75 WPHY 52
28	6"	ELBOW, 90, STD, A860 MSS-SP-75 WPHY 52
2	4"	ELBOW, 90, STD, A860 MSS-SP-75 WPHY 52
4	12"X4"	TEE, STD, A860 MSS-SP-75 WPHY 52
1	10"X8"	TEE, STD, A860 MSS-SP-75 WPHY 52
1	10"X6"	TEE, STD, A860 MSS-SP-75 WPHY 52
1	8"X4"	TEE, STD, A860 MSS-SP-75 WPHY 52
1	6"X4"	TEE, STD, A860 MSS-SP-75 WPHY 52
5	6"X2"	TEE, STD, A860 MSS-SP-75 WPHY 52
10	6"	TEE, STD, A860 MSS-SP-75 WPHY 52
1	8"	CROSS, STD, A860 MSS-SP-75 WPHY 52
2	12"X10"	REDUCER, CONC, STD, A860 MSS-SP-75 WPHY 52
2	8"X6"	REDUCER, CONC, STD, A860 MSS-SP-75 WPHY 52
8	6"x4"	REDUCER, CONC, STD, A860 MSS-SP-75 WPHY 52
2	12"	CLOSURE, 600, HUBER-YALE, FIG. 500
4	2"	CAP, STD, A860 MSS-SP-75 WPHY 52
1	2"	WEATHERCAP, SCIENTIFIC LININGS & COATINGS, WCL-2
4	1"	THREADOLET, 3000#, CARBON STEEL
10	3/4"	THREADOLET, 3000#, CARBON STEEL
36	1/2"	THREADOLET, 3000#, CARBON STEEL
4	1"	PLUG, SQUARE HEAD, 316 SS, 3000#
10	3/4"	PLUG, SQUARE HEAD, 316 SS, 3000#
36	1/2"	PLUG, SQUARE HEAD, 316 SS, 3000#
4	1"	INDUSTRIAL PIPE NIPPLE, SHORT HEX, 316 SS, 3000#
10	3/4"	INDUSTRIAL PIPE NIPPLE, SHORT HEX, 316 SS, 3000#
36	1/2"	INDUSTRIAL PIPE NIPPLE, SHORT HEX, 316 SS, 3000#
2	N/A	CATADYNE DUAL PASS INSTRUMENT GAS PREHEATER
2	N/A	CATADYNE SINGLE PASS INSTRUMENT GAS PREHEATER
1	N/A	3L GAS FILTER/ SEPARATOR, MODEL GFSH2472C1440
2	N/A	ROSEMOUNT 2051TG4F2B21AS5B4E5M5 INLINE PRESSURE TRANSMITTER
2	N/A	ROSEMOUNT 0306RT22BA11 INTEGRAL MANIFOLD
1	N/A	ROSEMOUNT 644HFE5XAM5J6 SMART TEMP TRANSMITTER
1	N/A	ROSEMOUNT 0068N21C30A030T26E5XA THIN-FILM PLATINUM RTD SENSOR
2	3/4"	WEKSLER S3G4 T304 SS THERMOWELL X 4" LONG
1	3/4"	WEKSLER 3A04 3" DIAL X 2 1/2" INSERTION BI-METAL THERMOMETER 30-130° F, 1°
		PIPELINE MARKERS, RHINO, 66" TRIVIEW POST, YELLOW W/ BLACK CAP
		DENSO, PROTAL 7200
		TAPECOAT 20 HOT APPLIED WRAP
		TAPECOAT OMNIPRIME
		ROCK SHIELD, TUFF-N-NUFF, 3/8"
		XWRAP
		3M SKOTCHKOTE HOT MELT PATCH COMPOUND 226P, GREEN

BILL OF MATERIALS

QTY	SIZE	DESCRIPTION
16'	12"	PIPE, API5L, PSL2 GR. B, .375" W.T. X52
45'	10"	PIPE, API5L, PSL2 GR. B, .365" W.T. X52
24'	8"	PIPE, API5L, PSL2 GR. B, .322" W.T. X52
212'	6"	PIPE, API5L, PSL2 GR. B, .280" W.T. X52
40'	4"	PIPE, API5L, PSL2 GR. B, .237" W.T. X52
23'	2"	PIPE, API5L, PSL2 GR. B, .154" W.T. X52
27'	8"	PIPE, API5L, PSL2 GR B .322WT, X52 14-18 MILS FBE COATED
166'	6"	PIPE, API5L, PSL2 GR B ERW .280WT, X52 16-18 MILS FBE
10000'	10"	PIPE, 0.279WT, ERW, API5L, PSL2, X52, 16-18 MIL FBE W/ ARO COATING OF 30 MILS
63960'	10"	PIPE, 0.250WT, ERW, API5L, PSL2, X52, 16-18 MIL FBE
400'	10"	PIPE, 0.279WT, ERW, API5L, PSL2, X52 BARE
2	10"	SWEEP, 45°, 96" RADIUS, API5L, PLS2, 0.365"WT, X52
2	10"	SWEEP, 90°, 96" RADIUS, API5L, PLS2, .365"WT, X52
1	10"	SWEEP, 6°, 96" RADIUS, API5L, PLS2, 0.279"WT, X52, 16-20 MIL FBE(STA 487 + 37.45)
2	10"	SWEEP, 10°, 96" RADIUS, API5L, PLS2, 0.279"WT, X52, 16-20 MIL FBE
2	10"	SWEEP, 15°, 96" RADIUS, API5L, PLS2, 0.279"WT, X52, 16-20 MIL FBE
2	10"	SWEEP, 20°, 96" RADIUS, API5L, PLS2, 0.279"WT, X52, 16-20 MIL FBE
1	10"	SWEEP, 30°, 96" RADIUS, API5L, PLS2, 0.279"WT, X52, 16-20 MIL FBE(STA 84 + 43.97)
1	10"	SWEEP, 33°, 96" RADIUS, API5L, PLS2, 0.279"WT, X52, 16-20 MIL FBE(STA 594 +33.85)
1	10"	SWEEP, 55°, 96" RADIUS, API5L, PLS2, 0.279"WT, X52, 16-20 MIL FBE(STA 543 + 14.7)
1	10"	SWEEP, 61°, 96" RADIUS, API5L, PLS2, 0.279"WT, X52, 16-20 MIL FBE(STA 146 +86.41)
1	10"	SWEEP, 76°, 96" RADIUS, API5L, PLS2, 0.279"WT, X52, 16-20 MIL FBE(STA 312 +42.73)
1	10"	SWEEP, 82°, 96" RADIUS, API5L, PLS2, 0.279"WT, X52, 16-20 MIL FBE(STA 434 +67.91)
1	10"	SWEEP, 86°, 96" RADIUS, API5L, PLS2, 0.279"WT, X52, 16-20 MIL FBE(STA 160 +56.31)
1	10"	SWEEP, 87°, 96" RADIUS, API5L, PLS2, 0.279"WT, X52, 16-20 MIL FBE(STA 436 +64.27)
1	10"	SWEEP, 90°, 96" RADIUS, API5L, PLS2, 0.279"WT, X52, 16-20 MIL FBE(STA 310 +95.39)
2	10"	SWEEP, 91°, 96" RADIUS, API5L, PLS2, 0.279"WT, X52, 16-20 MIL FBE(STA 179+86.66 & STA 596+11.82)
1	10"	SWEEP, 92°, 96" RADIUS, API5L, PLS2, 0.279"WT, X52, 16-20 MIL FBE(STA 178 +26.59)
2	12"	PIPE SUPPORT, EZ LINE, MODEL 1218-E CRADLE "BASE PL W/ HIS", 12", D=3'6"
1	10"	PIPE SUPPORT, EZ LINE, MODEL 510-E CRADLE "BASE PL W/ HIS", 10", D=3'6"
8	6"	PIPE SUPPORT, EZ LINE, MODEL 510-E CRADLE "BASE PL W/ HIS", 6", D=3'6"
2	4"	PIPE SUPPORT, EZ LINE, MODEL 204-E CRADLE "BASE PL W/ HIS", 4", D=3'6"
1	8"	VALVE SUPPORT, EZ LINE, MODEL 510-E-VS "BASE PL W/ HIS", 8" D=3'6 ROUND HEAD
1	6"	VALVE SUPPORT, EZ LINE, MODEL 510-E-VS "BASE PL W/ HIS", 6" D=3'6 ROUND HEAD

AS BUILT

REGISTERED PROFESSIONAL ENGINEER
REG NO. 9918
DAVID P. YEXLEY
SOUTH DAKOTA

NO.	DATE	BY	REVISION
1	11/10/10	GB	AS BUILT

BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

MONTANA-DAKOTA UTILITIES CO.
A Division of MDU Resources Group, Inc.

MASTER BILL OF MATERIALS
DEER CREEK STATION

SCALE	DATE	DRAWN BY	APPROVED BY
NONE	6/2/10	CASSIE PETER	DAVE YEXLEY

DCS-MG-ONG-0003