

**DURFEE WELL REHAB**  
**LIBERTY PIPELINE COMPANY**  
 PART OF SECTION 36,  
 TOWNSHIP 8 N, RANGE 1 W,  
 SALT LAKE BASE AND MERIDIAN  
 LIBERTY, WEBER, UTAH

**GENERAL NOTES**

1. ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION OF SITE IMPROVEMENTS SHALL MEET OR EXCEED THE STANDARDS AND SPECIFICATIONS SET FORTH BY THE ENGINEER, PLANNING, CODES AND SPECIFICATIONS AND APPLICABLE COUNTY, STATE AND FEDERAL REGULATIONS. WHERE THERE IS CONFLICT BETWEEN THESE PLANS AND SPECIFICATIONS, OR ANY APPLICABLE STANDARDS, THE HIGHER QUALITY STANDARD SHALL APPLY.
2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND OR ELEVATION OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY PERTINENT LOCATIONS AND ELEVATIONS, ESPECIALLY AT THE CONNECTION POINTS AND AT POTENTIAL UTILITY CONFLICTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.
3. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM ALL APPLICABLE AGENCIES. THE CONTRACTOR SHALL NOTIFY THE DESIGNATED PUBLIC WORKS INSPECTOR AT LEAST 48 HOURS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITY, OR CONSTRUCTION ON ANY AND ALL PUBLIC IMPROVEMENTS.
4. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH THE CITY AND ALL UTILITY COMPANIES INVOLVED WITH REGARD TO RELOCATIONS OR ADJUSTMENTS OF EXISTING UTILITIES DURING CONSTRUCTION AND TO ASSURE THAT THE WORK IS ACCOMPLISHED IN A TIMELY FASHION AND WITH A MINIMUM DISRUPTION OF SERVICE.
5. THE CONTRACTOR SHALL HAVE ONE (1) COPY OF APPROVED PLANS, AND ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS AND A COPY OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB, ON SITE AT ALL TIMES.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY INCLUDING BUT NOT LIMITED TO, EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND SECURITY.
7. IF DURING THE CONSTRUCTION PROCESS CONDITIONS ARE ENCOUNTERED BY THE CONTRACTOR, HIS SUBCONTRACTORS, OR OTHER AFFECTED PARTIES, WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
8. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS NECESSARY FOR THE COMPLETION OF THE INTENDED IMPROVEMENTS SHOWN ON THESE DRAWINGS OR DESIGNATED TO BE PROVIDED, INSTALLED, CONSTRUCTED, REMOVED AND RELOCATED UNLESS SPECIFICALLY NOTED OTHERWISE.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADWAYS FREE AND CLEAR OF ALL CONSTRUCTION DEBRIS AND DIRT TRACKED FROM THE SITE.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT DRAWINGS ON A SET OF RECORD DRAWINGS KEPT AT THE CONSTRUCTION SITE, AND AVAILABLE TO THE COUNTY INSPECTOR AT ALL TIMES.
11. THE CONTRACTOR SHALL SEQUENCE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO MINIMIZE POTENTIAL UTILITY CONFLICTS. IN GENERAL, STORM SEWER AND SANITARY SEWER SHOULD BE CONSTRUCTED PRIOR TO INSTALLATION OF WATER LINES AND DRY UTILITIES.
12. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL UTILITY RELOCATIONS CONSISTENT WITH THE CONTRACTORS SCHEDULE FOR THIS PROJECT, WHETHER SHOWN OR NOT SHOWN AS IT RELATES TO THE CONSTRUCTION ACTIVITIES CONTEMPLATED IN THESE PLANS.

**UTILITY DISCLAIMER**

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. IT SHALL BE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THOSE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ANY ADDITIONAL COSTS INCURRED AS A RESULT OF CONTRACTOR'S FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED IN THE CONTRACT.

**NOTICE TO CONTRACTOR**

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" OF THE U.S. DEPARTMENT OF LABOR AND THE STATE OF UTAH DEPARTMENT OF INDUSTRIAL RELATIONS CONSTRUCTION SAFETY ORDERS. THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR CONTRACTORS AND SUBCONTRACTORS COMPLIANCE WITH SAID REGULATIONS AND ORDERS.

CONTRACTOR FURTHER AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB-SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE CIVIL ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

**GENERAL GRADING NOTES**

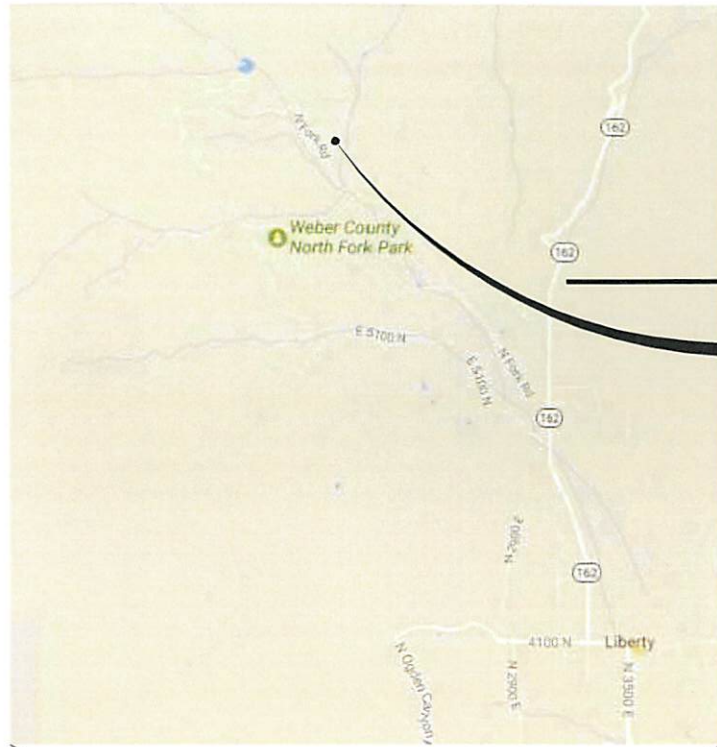
1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST APWA STANDARDS AND SPECIFICATION FOR PUBLIC WORKS AND THE COMPANY STANDARDS. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDING FOUNDATIONS AND ENTRIES. FINISHED GRADE AT FOUNDATION FOR WOOD FRAMED STRUCTURES SHALL BE 8 INCHES BELOW TOP OF FOUNDATION AND DRAINAGE SHALL BE A MINIMUM OF 5% WITHIN 10 FEET FROM THE BUILDING.
2. MAXIMUM SLOPES SHALL BE 3:1 FOR CUT AND FILL UNLESS OTHERWISE NOTED.
3. COMPACTION REQUIREMENTS AND TESTING SHALL BE PERFORMED TO MEET THE MANUAL OF STD. SPECIFICATIONS (ORANGE BOOK, LATEST EDITION).
4. NO FILL SHALL BE PLACED UNTIL VEGETATION HAS BEEN REMOVED AND SUB-GRADE PREPARED PER THE SOILS REPORT.
5. DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS.
6. CONTRACTOR SHALL COMPLY WITH STORM WATER POLLUTION PREVENTION PLAN BY INSTALLING BMP'S PRIOR TO COMMENCEMENT OF EXCAVATION ACTIVITIES. CONTACT THE COUNTY INSPECTOR FOR INSPECTION.
7. ALL RECOMMENDATIONS OF THE GEOTECHNICAL REPORT AND ALL SUBSEQUENT REPORTS, ADDENDUM ETC. SHALL BE CONSIDERED A PART OF THE GRADING PLAN CONTAINED HEREIN AND SHALL BE COMPLIED WITH.
8. THE CONTRACTOR SHALL CONTACT BLUE STAKES FOR LOCATION MARKING PRIOR TO COMMENCING EXCAVATION ACTIVITIES.
9. COUNTY MAY REQUIRE A PRE-CONSTRUCTION MEETING BEFORE A PERMIT IS ISSUED.
10. STREETS ADJACENT TO THE PROJECT SHALL BE CLEAN AT ALL TIMES.
11. CONTRACTOR IS RESPONSIBLE FOR ARRANGING FOR ALL REQUIRED INSPECTIONS.
12. PRIOR TO TAKING WATER FROM A FIRE HYDRANT, THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE WATER UTILITY TO OBTAIN A WATER METER.

**CULINARY WATER GENERAL NOTES**

1. ALL INSTALLATION AND MATERIALS INSTALLED SHALL BE NEW AND CONFORM TO LIBERTY PIPELINE COMPANY STANDARDS, SPECIFICATIONS AND PLANS.
2. ALL INTERIOR SURFACES AND COATINGS SHALL COMPLY WITH ANSISF STANDARD 61 OR OTHER STANDARDS APPROVED BY THE DIRECTOR. THIS REQUIREMENT APPLIES TO ANY PIPES AND FITTINGS, PROTECTIVE MATERIALS (E.G. PAINTS, COATINGS, CONCRETE ADMIXTURES, CONCRETE RELEASE AGENTS, OR CONCRETE SEALERS), JOINING AND SEALING MATERIALS (E.G. ADHESIVES, CAULKS, GASKETS, PRIMERS AND SEALANTS) AND MECHANICAL DEVICES (E.G. ELECTRICAL WIRE, SWITCHES, SENSORS, VALVES, OR SUBMERSIBLE PUMPS) THAT MAY COME INTO CONTACT WITH THE DRINKING WATER.
3. THE CURRENT REQUIREMENTS OF THE UTAH DIVISION OF DRINKING WATER, GOVERNING THE MATERIALS AND INSTALLATION USED IN THE PROJECT SHALL BE MET.
4. THRUST BLOCKING AND MECHANICAL RESTRAINTS ARE REQUIRED AT ALL BENDS AND FITTINGS.
5. ALL WATERLINES AT SEWER CROSSINGS SHALL BE LOCATED ABOVE AND HAVE AN 18-INCH VERTICAL SEPARATION FROM THE SEWER PIPE. IF THIS IS NOT PROVIDED, CARE SHALL BE TAKEN TO ENSURE, THERE ARE NO JOINTS IN EITHER PIPE WITHIN 20' OF THE POINT AT WHICH THE PIPES CROSS EACH OTHER, EITHER THROUGH INSTALLING THE PIPES IN CASINGS OR BY PLACEMENT OF JOINTS.
6. DISINFECTION TESTS SHALL BE PERFORMED BY THE WATER UTILITY WITH COOPERATION FROM THE CONTRACTOR IN PERFORMING ANY NECESSARY EXCAVATION AND SUBSEQUENT BACKFILLING AT NO COST TO THE COUNTY.
7. CHLORINATION OF COMPLETED WATER LINE. THE NEW WATER LINES SHALL BE DISINFECTED BY CHLORINATION IN ACCORDANCE WITH AWWA STANDARD C851-14. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL RELATED COSTS AND FEES RELATED TO THE CHLORINATION OF THE COMPLETED WATER LINE. THIS TEST SHALL BE PERFORMED PRIOR TO CONNECTION OF THE NEW WATER LINES TO THE EXISTING WATER SYSTEM. THE CONTRACTOR SHALL NOTIFY THE WATER UTILITY AT LEAST 24 HOURS BEFORE THE CHLORINATION IS DESIRED.
8. A MINIMUM HORIZONTAL CLEARANCE OF 10 FEET SHALL BE MAINTAINED FROM SANITARY SEWER MAINS.
9. UNLESS OTHERWISE SPECIFIED, ALL WATERLINES SHALL BE AWWA PVC C900 DR 18, MIN. WORKING PRESSURE 200 PSI AND SHALL BE PRESSURE TESTED AT 200 PSI FOR AT LEAST 2 HOUR.
10. CONTRACTOR SHALL LOCATE VALVES PRIOR TO CONNECTION WITH EXISTING SYSTEM, BUT SHALL NOT OPERATE ANY VALVE WITHOUT PERMISSION FROM THE WATER UTILITY.
11. ALL WATER MAINS, VALVES, FIRE HYDRANTS, SERVICES AND APPURTENANCES SHALL BE INSTALLED, TESTED, AND APPROVED PRIOR TO COMMISSIONING TANK.
12. THE WATER UTILITY REQUIRES THE USE OF CORROSION RESISTANT MATERIALS FOR ALL CULINARY WATER IMPROVEMENTS. SPECIFICALLY, TRIPAC BLUE BOLTS OR STAINLESS STEEL BOLTS MUST BE USED ON ALL FITTINGS. FURTHER, ALL METAL FITTINGS SHALL BE POLY WRAPPED.

**SWPPP GENERAL NOTES**

1. CONTRACTOR SHALL OBTAIN ALL NECESSARY UPDES PERMITS AS REQUIRED BY THE COUNTY ENGINEERING DEPARTMENT AND UTAH STATE DEPT. OF ENV. QUALITY.
2. ALL STRUCTURAL EROSION MEASURES SHALL BE INSTALLED AS SHOWN ON THE SWPPP PLAN, PRIOR TO ANY OTHER GROUND-DISTURBING ACTIVITY. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED IN GOOD REPAIR BY THE CONTRACTOR, UNTIL SUCH TIME AS THE ENTIRE DISTURBED AREAS ARE STABILIZED WITH HARD SURFACE OR LANDSCAPING.
3. INSPECTION TO BE PERFORMED WEEKLY BY A RSI OR OTHER CERTIFIED INSPECTOR.



PROJECT LOCATION



**SHEET INDEX**

SHEET C0	COVER
SHEET V1	VICINITY MAP
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SHEET C2	PLAN
SHEET C3	PROFILE A
SHEET C3	PROFILE B
SHEET C4	PART LIST
SHEET C5	GRADING PLAN
SHEET D1-D2	DETAILS
SHEETS SW1-SW2	SWPPP AND LANDSCAPING

**PROJECT ENGINEER**

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**SYSTEM VICE PRESIDENT**

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 3707 N 3500 E  
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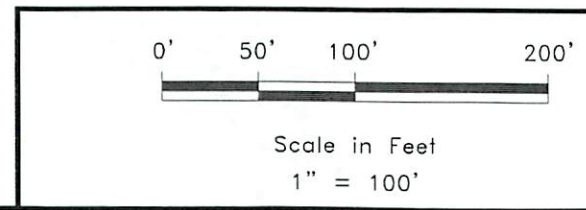
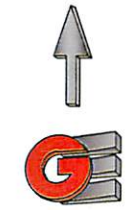
LIBERTY PIPELINE COMPANY  
 DURFEE WELL REHAB  
 2017 CONSTRUCTION DOCUMENTS







F-5 ZONE  
 PROJECT BOUNDARY  
 APPROX. 6000 SQ FT  
 PROPERTY ACREAGE 1.04 AC



Revisions		Date	Description

Date:	3/6/2017
Scale:	1" = 100'
Designed:	MDD
Drafted:	MDD
Checked:	DLW

VICINITY MAP
DURFEE WELL REHAB
LIBERTY PIPELINE COMPANY
LIBERTY, WEBER, UTAH

**GARDNER ENGINEERING**  
 CIVIL • LAND PLANNING  
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V1

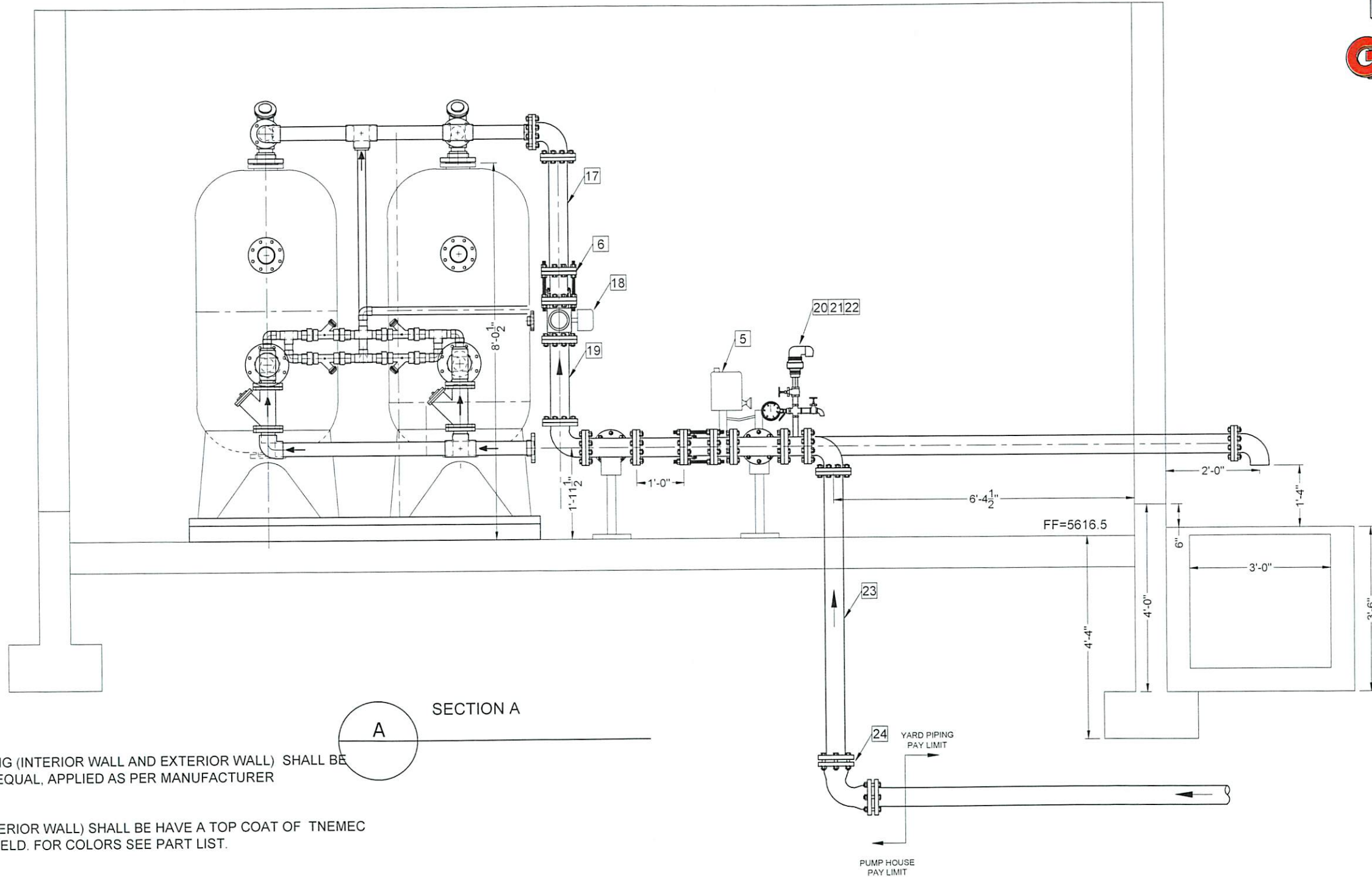






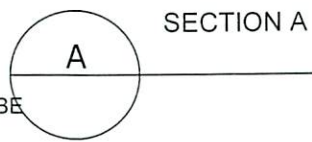


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NOTE:  
 ALL STEEL INTERIOR PIPING (INTERIOR WALL AND EXTERIOR WALL) SHALL BE TNE MEC SERIES FC22 OR EQUAL, APPLIED AS PER MANUFACTURER RECOMMENDATION.

ALL INTERIOR PIPING (EXTERIOR WALL) SHALL BE HAVE A TOP COAT OF TNE MEC SERIES 1081 - ENDURA-SHIELD. FOR COLORS SEE PART LIST.



Date:	3/6/2017
Scale:	N.T.S.
Designed:	MDD
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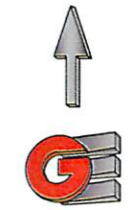
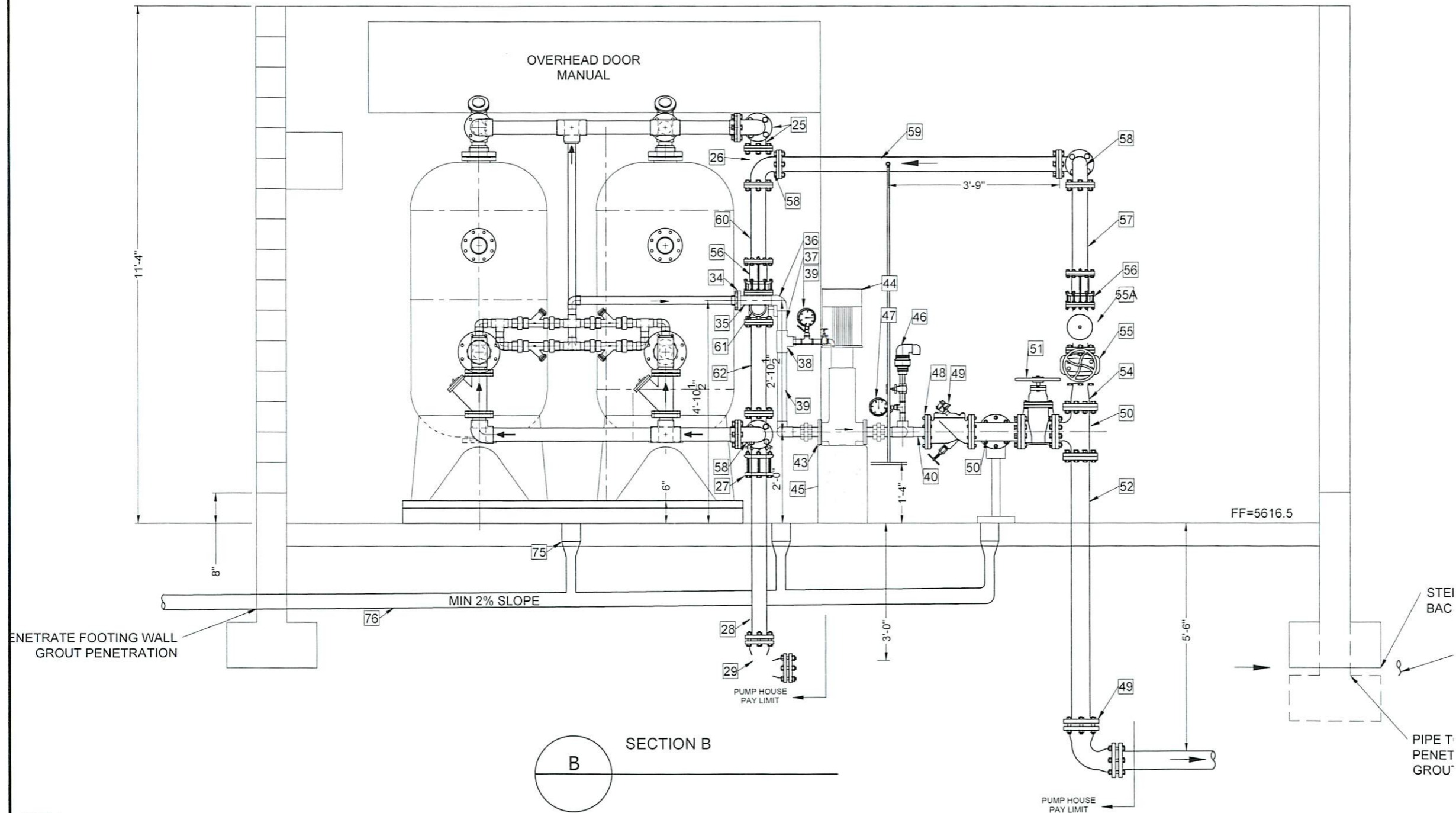
Revisions	Date	Description

PROFILE A  
 DURFEE WELL REHAB  
 LIBERTY PIPELINE COMPANY  
 LIBERTY, WEBER, UTAH

**GARDNER ENGINEERING**  
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Revisions	Date	Description

Date:	3/6/2017
Scale:	N.T.S.
Designed:	MDD
Drafted:	MDD
Checked:	DLW

PROFILE B  
 DURFEE WELL REHAB  
 LIBERTY PIPELINE COMPANY  
 LIBERTY, WEBER, UTAH

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C4

NOTE:  
 ALL STEEL INTERIOR PIPING (INTERIOR WALL AND EXTERIOR WALL) SHALL BE TNEDEC SERIES FC22 OR EQUAL, APPLIED AS PER MANUFACTURER RECOMMENDATION.  
 ALL INTERIOR PIPING (EXTERIOR WALL) SHALL BE HAVE A TOP COAT OF TNEDEC SERIES 1081 - ENDURA-SHIELD. FOR COLORS SEE PART LIST.



ITEM	SHEET	QTY	DESCRIPTION	SIZE	CONNECTION	COLOR	NOTES
<b>INLET FROM WELL TO FILTER</b>							
1	PLAN	1	DI SPOOL FL TO FL LENGTH 5"	4"	FL	AQUAMARINE	
2	PLAN	4	90 ELBOW	4"	FL	AQUAMARINE	
3	PLAN	3	TEE DI	4"	FL	AQUAMARINE	
4	PLAN	4	DI SPOOL FL TO FL LENGTH 12"	4"	FL	AQUAMARINE	
5	PLAN	1	THE VAL-MATIC 2004SV BUTTERFLY VALVE WITH 3-WAY LINKAGE ASSEMBLY AND ROTORK ACTUATOR 019	4"	FL	FACTORY	SUPPLY HOUSE TO BUILD ASSEMBLY
6	PLAN	2	DISMANTLING JOINT	4"	FL	AQUAMARINE	DJ400 OR APPROVED EQUIVALENT
7	PLAN	1	DI SPOOL FL TO FL LENGTH 6"	4"	FL	AQUAMARINE	1" TAP
8	PLAN	1	RFCA	4"	FL X MJ	FACTORY	ROMAC OR APPROVED EQUIVALENT
9	PLAN	1	DI SPOOL 7'-0" LONG FIELD FIT	4"	FL X PE	AQUAMARINE	CORE HOLE W/ 4" LINKSEAL W/ EPDM SEAL ELEMENTS
10	PLAN	1	90 ELBOW	4"	FL X PE	AQUAMARINE	PLACE #4 S.S. SCREENING BETWEEN FLANGES
11	PLAN	3	BLIND FLANGE	4"	-	AQUAMARINE	(2) 2" TAP NPT, (1) 2 1/2" TAP NPT
12	PLAN	2	BALL VALVE	2"	NPT	AQUAMARINE	
13	PLAN	1	90 ELBOW	2"	NPT	AQUAMARINE	
14	PLAN	5	NIPPLES FIELD FIT	2"	NPT	AQUAMARINE	
15	PLAN	1	RELIEF VALVE	2"	NPT	FACTORY	SINGER 106 RPS OR EQUIVALENT SET AT 65 PSI
16	PLAN	1	COUPLER/UNION	2"	NPT	FACTORY	
17	PROFILE A	1	DI SPOOL FL TO PE LENGTH 24"	4"	FL	FACTORY	5 ELEMENT KOFLO HYBRID STATIC MIXER FOR DI LINES, W/ 1" INJECTION PORT
18	PROFILE A	1	FLOW METER	4"	FL X FL	FACTORY	KROHN WATERFLUX 3070 OR APPROVED EQUIVALENT
19	PROFILE A	1	DI SPOOL FL TO FL LENGTH 21"	4"	FL X FL	AQUAMARINE	
20	PROFILE A	1	COMBINATION AIR VALVE	1"	NPT	FACTORY	A.R.I. D-040 - PLASTIC WITH 1" BRASS BALL VALVE
21	PROFILE A	1	PRESSURE GAUGE	1/4"	NPT		100 # LIQUID-FILLED, 1/4" THD W/ BALL VALVE
22	PROFILE A	1	SMOOTH NOSE SAMPLING TAP	1"	NPT		EPOXY ALL PIPING IN AIR VALVE ASSEMBLY
23	PROFILE A	1	DI SPOOL LENGTH 6'-0" FIELD FIT	4"	FL X PE	AQUAMARINE	EPOXY EXPOSED PIPING
24	PROFILE A	1	90 ELBOW	4"	MJ X MJ	FACTORY	MEGA LUG + BLUE BOLT PACK
<b>BACKWASH OUTLET TO WASTE</b>							
25	PROFILE B	2	90 ELBOW	3"	FL	LIGHT BROWN	
26	PROFILE B	1	DI SPOOL FL TO FL LENGTH 7'-1" FIELD FIT	3"	FL X PE	LIGHT BROWN	
27	PROFILE B	1	RFCA	3"	FL	FACTORY	ROMAC OR APPROVED EQUIVALENT
28	PROFILE B	1	DI SPOOL FL TO FL LENGTH 5'-4" FIELD FIT	3"	FL X PE	FACTORY	ROMAC OR APPROVED EQUIVALENT
29	PROFILE B	1	90 ELBOW	3"	MJ X MJ	LIGHT BROWN	MEGA LUG + BLUE BOLT PACK
30			BLANK				
31			BLANK				
32			BLANK				
33			BLANK				
<b>FILTERED WATER TO SYSTEM</b>							
34	PROFILE B	1	BLIND FLANGE	2"	NPT	DARK BLUE	
35	PROFILE B	1	NIPPLE STEEL FL TO 90 LENGTH 8 3/4"	2"	NPT	DARK BLUE	
36	PROFILE B	6	90 ELBOW	2"	NPT	DARK BLUE	
37	PROFILE B	1	NIPPLE STEEL 90 TO TEE LENGTH 5"	2"	NPT		
38	PROFILE B	3	TEE	2"	NPT		
39	PROFILE B	1	PRESSURE GAUGE W/ MILLI AMP WIRE & SAMPLING TAP ASSEMBLY	2" X 1/2"	NPT	DARK BLUE	100 # LIQUID-FILLED, 1/4" THD W/ BALL VALVE & 1/2" SMOOTH NOSE SAMPLING TAP SHOWN OUT OF PLANE, ORIENT TO SOUTH * PRESSURE GAUGE TO RELAY PRESSURE TO WELL PUMP CONTROL
40	PLAN	17	NIPPLE STEEL	2"	NPT	DARK BLUE	
41	PLAN	4	BALL VALVE	2"	NPT	FACTORY	
42	PLAN	4	COUPLER/UNION	2"	NPT	FACTORY	
43	PROFILE B	4	BLIND FLANGE	2"	-	DARK BLUE	
44	PROFILE B	2	VERTICAL MULTISTAGE CENTRIFUGAL PUMP	2"	FL	FACTORY	GRUNDFOS CR10-10 7.5 HP OR APPROVED EQUAL CHAMFERED EDGES, REINFORCED TO FLOOR, MEASURED HEIGHT FROM FLOOR ELEVATION NEAR WALL WITH NO SLOPED FLOOR ACCOUNTED FOR.
45	PROFILE B	1	PUMP PEDESTAL 13" X 42" X 20 1/2" TALL				
46	PROFILE B	1	COMBINATION AIR VALVE	1"	NPT	FACTORY	A.R.I. D-040 - PLASTIC WITH 1" BRASS BALL VALVE
47	PROFILE B	1	PRESSURE GAUGE W/ MILLI AMP WIRE		NPT		100 # LIQUID-FILLED, 1/4" THD W/ BALL VALVE
48	PROFILE B	1	BLIND FLANGE	4"		DARK BLUE	2" TAP
49	PROFILE B	1	SWING FLEX CHECK VALVE	4"	FL	FACTORY	VAL-MATIC W/MECHANICAL DISC POSITION INDICATOR AND BACKFLOW ACTUATOR
50	PROFILE B	2	DI TEE	4"	FL	DARK BLUE	
51	PROFILE B	1	GATE VALVE	4"	FL	DARK BLUE	
52	PROFILE B	1	DI SPOOL LENGTH 6'-0" FIELD FIT	4"	FL X PE	DARK BLUE	EPOXY PAINT ABOVE GRADE
53	PROFILE B	1	90 ELBOW	4"	MJ X MJ	FACTORY	

<b>BACKWASH INLET</b>							
54	PROFILE B	1	DI REDUCER	3" X 4"	FL	DARK BLUE	
55	PROFILE B	1	GATE VALVE	3"	FL	FACTORY	
55A	PROFILE B	1	PRESSURE REDUCING VALVE	3"	FL	FACTORY	VERTICAL INSTALLATION (COORDINATE WITH MANUFACTURER) DOWN STREAM PRESSURE AT 60 PSI. SINGER 106 OR APPROVED EQUAL
56	PROFILE B	2	DISMANTLING JOINT	3"	FL	DARK BLUE	DJ400 OR APPROVED EQUIVALENT
57	PROFILE B	1	DI SPOOL FL TO FL LENGTH 2'-0"	3"	FL	DARK BLUE	
58	PROFILE B	5	90 ELBOW	3"	FL	DARK BLUE	
59	PROFILE B	1	DI SPOOL FL TO FL 6' - 1 1/2"	3"	FL	DARK BLUE	
60	PROFILE B	1	DI SPOOL FL TO FL 1' - 8"	3"	FL	DARK BLUE	
61	PROFILE B	1	FLOW METER	3"	FL	FACTORY	KROHN WATER FLUX 3070 CONNECTED TO PLC
62	PROFILE B	1	DI SPOOL FL TO FL 2' - 0"	3"	FL	DARK BLUE	
<b>OUTLET RELIEF LINE</b>							
63	PLAN	1	BLIND FLANGE	4"	-	DARK BLUE	2" TAP NPT
64	PLAN	1	BALL VALVE	2"	NPT	DARK BLUE	
65	PLAN	3	90 ELBOW	2"	NPT	DARK BLUE	
66	PLAN	7	NIPPLES FIELD FIT	2"	NPT	DARK BLUE	
67	PLAN	1	RELIEF VALVE	2"	NPT	FACTORY	SINGER 106 RPS OR EQUIVALENT SET AT 165 PSI
68	PLAN	1	COUPLER/UNION	2"	NPT	FACTORY	
69	PLAN	1	90 ELBOW	2"	NPT	DARK BLUE	W/ #4 S.S. SCREENING BETWEEN PIPE AND 90
70	PLAN	1	LINKSEAL	2"	-		CORE WALL, LINKSEAL W/ EPDM SEAL ELEMENTS
<b>EYEWASH ASSEMBLY</b>							
71	PLAN	1	EYE WASH STATION			FACTORY	GUARDIAN EYEWASH STATION G1814- OR APPROVED EQUAL FASTENED TO WALL AT A HEIGHT 4', W/ 1/2" FLOTECT MINI-SIZE FLOW SWITCH - BRASS INCLUDING MANIFOLD TO SPICKET AND EYEWASH - SECURE PIPING AND MANIFOLD TO WALL
72	PLAN		1/2" STEEL PIPING W/ FITTINGS	1/2"	NPT	DARK BLUE	
73	PLAN	1	1/2" TAP	1/2"	NPT	DARK BLUE	
74	PLAN	1	3/4" HOSE SPICKET WITH VALVE	1/2" X 3/4"			
<b>FLOOR DRAIN TO DAYLIGHT</b>							
75	PROFILE B	3	FLOOR DRAIN W/ STRAINER	5"			NICKEL BRONZE, TOP OF DRAIN TO SIT 1/4" BELOW CONCRETE DRAIN TO DAYLIGHT SHOWN ON SITE PLAN, 4" S.S. SCREEN ON DISCHARGE, DISCHARGE ABOVE HIGH WATER MARK
76	PROFILE B		PVC DWV PIPING W/ FITTINGS	4"			

Date: 3/6/2017  
 Scale: N.T.S.  
 Designed: MDD  
 Drafted: MDD  
 Checked: DLW

Revisions	Description
Date	

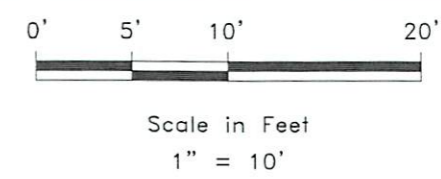
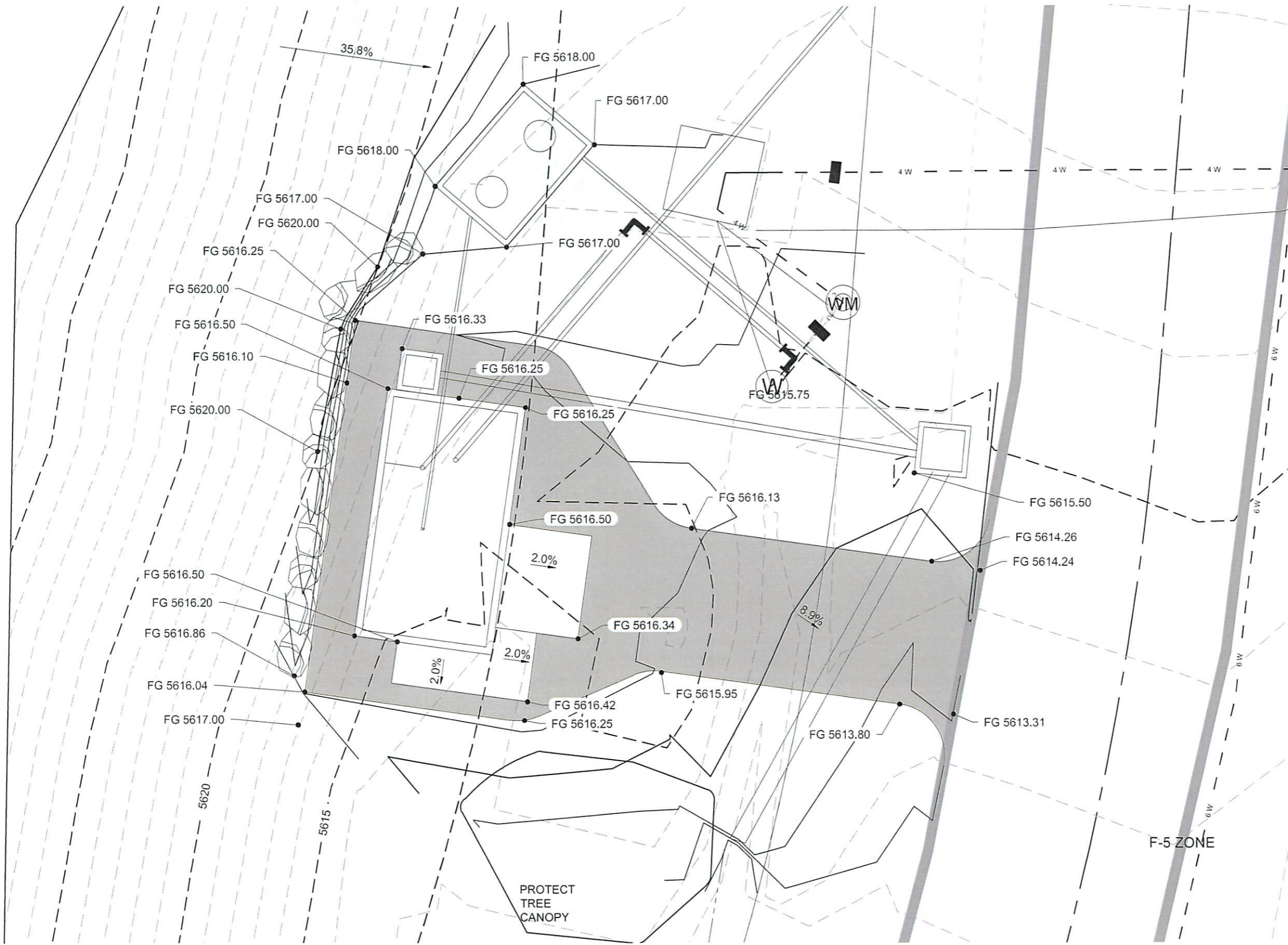
**PART LIST**  
 DURFEE WELL REHAB  
 LIBERTY PIPELINE COMPANY  
 LIBERTY, WEBER, UTAH

**GARDNER ENGINEERING**  
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C5



R:\LIBERTY PIPELINE\003 - DURFEE FILTRATION\DESIGN\WORKING 3-17 UWA 3/17/2017 1:35:28 PM.rvt



Date: 3/6/2017  
 Scale: 1" = 10'  
 Designed: MDD  
 Drafted: MDD  
 Checked: DLW

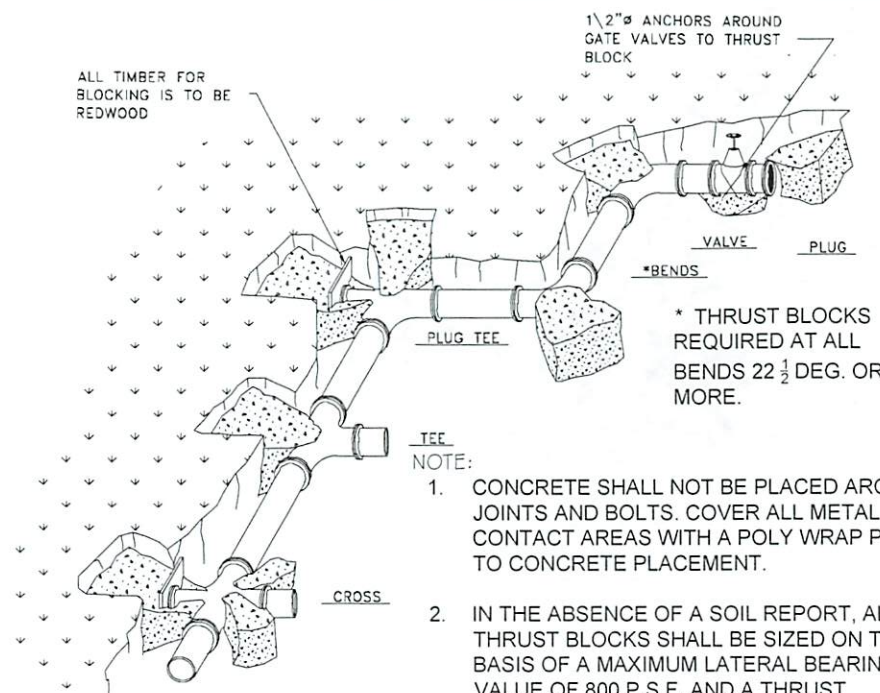
Revisions	Date	Description

**RADING**  
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C6  
 1





1. CONCRETE SHALL NOT BE PLACED AROUND JOINTS AND BOLTS. COVER ALL METAL CONTACT AREAS WITH A POLY WRAP PRIOR TO CONCRETE PLACEMENT.
2. IN THE ABSENCE OF A SOIL REPORT, ALL THRUST BLOCKS SHALL BE SIZED ON THE BASIS OF A MAXIMUM LATERAL BEARING VALUE OF 800 P.S.F. AND A THRUST RESULTING FROM 150% OF THE WATER LINE STATIC PRESSURE.

TABLE OF BEARING AREAS IN SQ. FT FOR CONCRETE THRUST BLOCKING

SIZE	BENDS				TEES*	GATE VALVES	DEAD ENDS	CROSSW/1 BRANCH PLUGGED	CROSSW/2 BRANCH PLUGGED
	90°	45°	22 1/2°	11 1/4°					
3	1.0	0.0	0.3	0	0.7	0.5	0.7	0.7	0.7
4	1.8	1.0	0.5	0	1.3	0.5	1.3	1.3	1.3
6	4.0	2.2	1.1	0	2.8	0.7	2.8	2.8	2.8
8	7.1	3.8	2.0	1.0	5.0	2.4	5.0	5.0	5.0
10	11.1	6.0	3.0	1.5	7.8	4.5	7.8	7.8	7.8
12	16.0	8.6	4.4	2.2	11.3	7.3	11.3	11.3	11.3
14	21.7	11.8	6.0	3.0	15.4	11.0	15.4	15.4	15.4
15	25.0	13.5	7.0	3.5	17.6		17.6	17.6	17.6
16	28.4	15.3	8.0	4.0	20.0		20.0	20.0	20.0
18	36.0	19.4	10.0	5.0	25.4		25.4	25.4	25.4
20	44.2	24.0	12.2	6.1	31.4		31.4	31.4	31.4
21	49.0	26.5	13.5	6.8	34.6		34.6	34.6	34.6
22	54.0	29.0	14.8	7.4	38.0		38.0	38.0	38.0
24	64.0	34.5	17.7	8.8	45.0		45.0	45.0	45.0
30	100.0	54.0	27.5	13.8	71.0		71.0	71.0	71.0
36	144.0	78.0	40.0	20.0	102.0		102.0	102.0	102.0

\*SIZE IS BRANCH SIZE.  
 FOR 100 P.S.I. INTERNAL STATIC PRESSURE AND 1000 LBS.PER SQ. FT. SOIL BEARING CAPACITY.

ALL VALVES, TEES, CROSSES AND BENDS SHALL ALSO BE FITTED WITH MECHANICAL RESTRAINTS, SUCH AS MEGA LUGS OR APPROVED EQUAL.

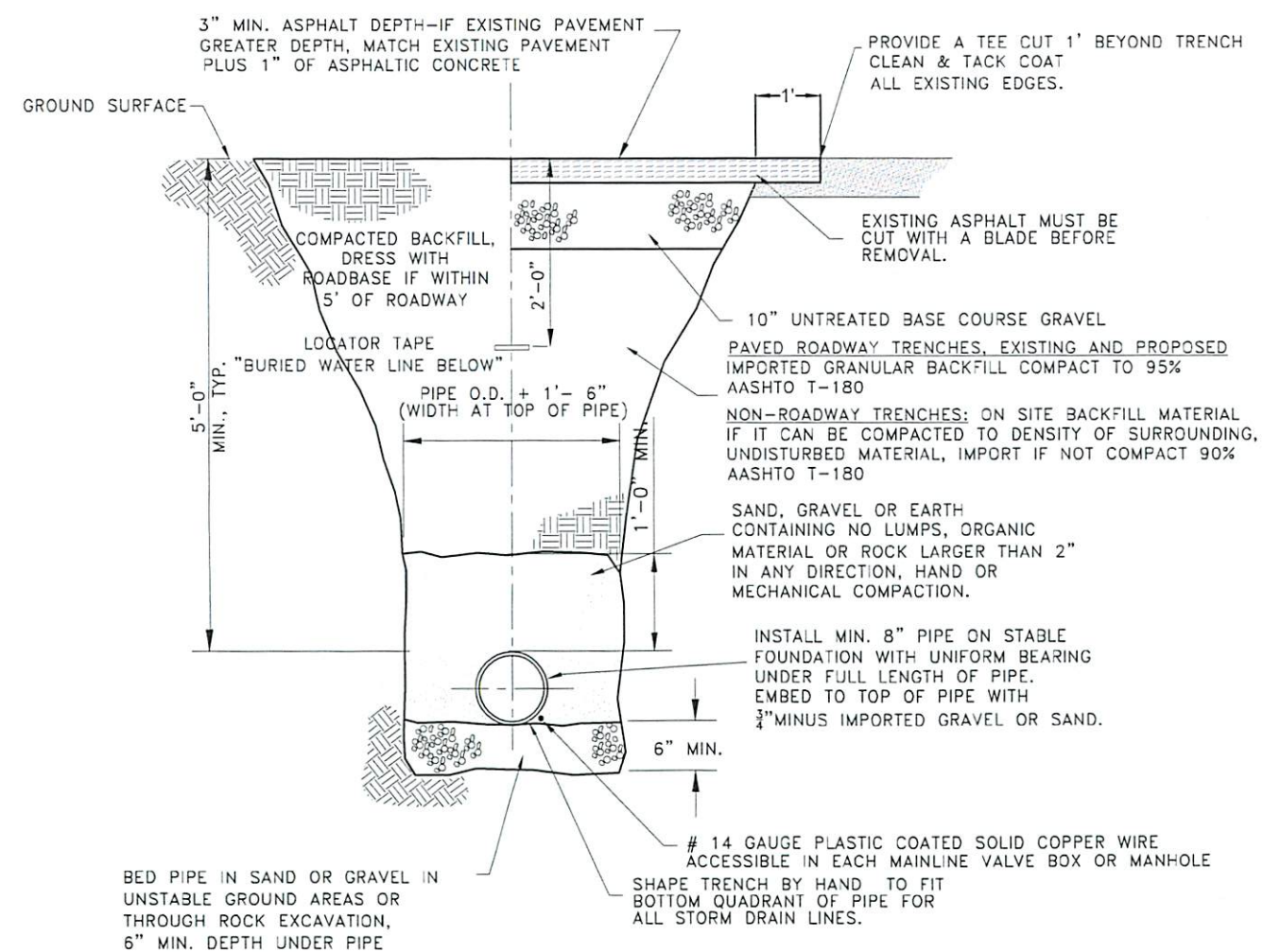
AREAS GIVEN IN TABLE ARE BASED UPON AN INTERNAL STATIC PRESSURE OF 100 P.S.I AND A SOIL BEARING CAPACITY OF 1000 LBS PER SQ. FT. BEARING AREAS FOR ANY PRESSURE AND SOIL BEARING CAPACITY MAY BE OBTAINED BY MULTIPLYING THE TABULATED VALUES BY A CORRECTION FACTOR "F".

$$F = \frac{\text{ACTUAL SPECIFIED TEST PRESSURE IN HUNDREDS OF LBS/SQ. IN.}}{\text{ACTUAL SOIL BEARING CAPACITY IN THOUSANDS OF LBS.}}$$

EXAMPLE: TO FIND BEARING AREA FOR 8"-90° BEND WITH A STATIC INTERNAL PRESSURE OF 1500 P.S.I AND WITH A SOIL BEARING CAPACITY OF 3000 LBS. PER SQ. FT.  
 $F = 1.5 / 3 = 0.5$  TABULATED VALUE = 7.1 SQ. FT.  
 $0.5 \times 7.1 = 3.56 \sim 4$  SQ. FT. (~OR 2FT. LONG BY 2FT. HIGH.)

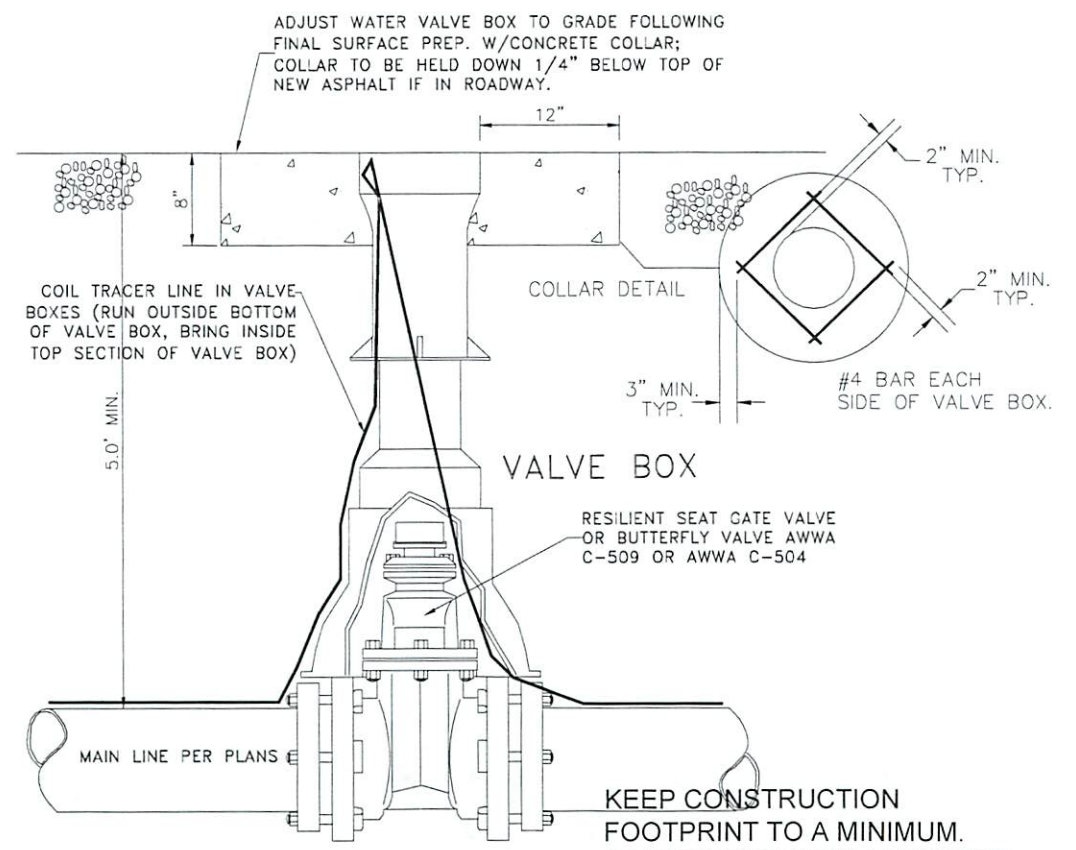
THRUST BLOCKING DETAIL

1  
D1



TYPICAL TRENCH DETAIL

2  
D1



TYPICAL VALVE DETAIL

3  
D1

Date: 3/6/2017  
 Scale: #####  
 Designed: MDD  
 Drafted: MDD  
 Checked: DLW

Revisions	Description
Date	

DETAILS  
 DURFEE WELL REHAB  
 LIBERTY PIPELINE COMPANY  
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D1



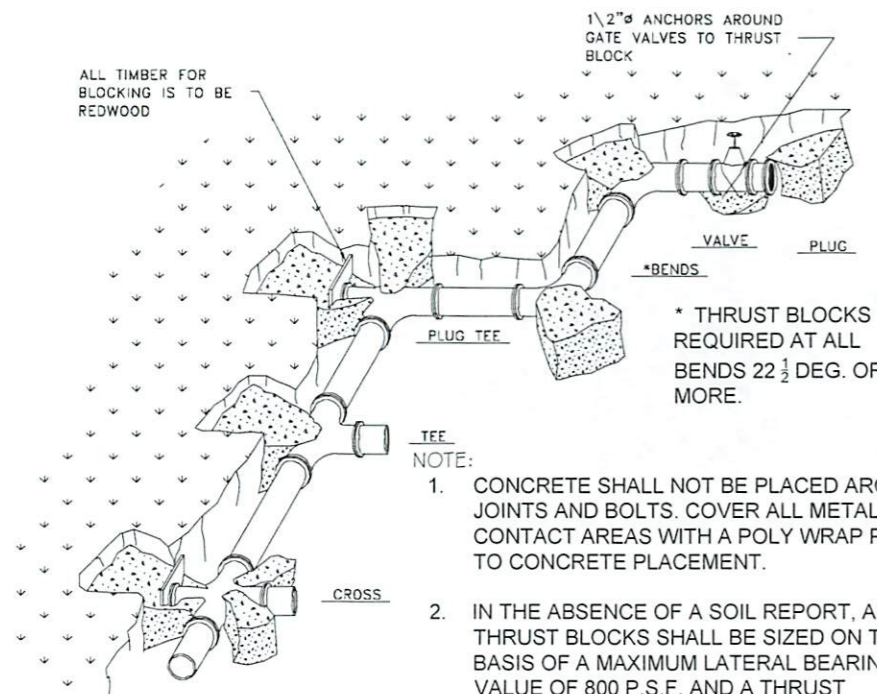


TABLE OF BEARING AREAS IN SQ. FT FOR CONCRETE THRUST BLOCKING

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18	36.0	19.4	10.0	5.0	25.4		25.4	25.4	25.4
20	44.2	24.0	12.2	6.1	31.4		31.4	31.4	31.4
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36	144.0	78.0	40.0	20.0	102.0		102.0	102.0	102.0

\*SIZE IS BRANCH SIZE.  
FOR 100 P.S.I. INTERNAL STATIC PRESSURE AND 1000 LBS.PER SQ. FT. SOIL BEARING CAPACITY.

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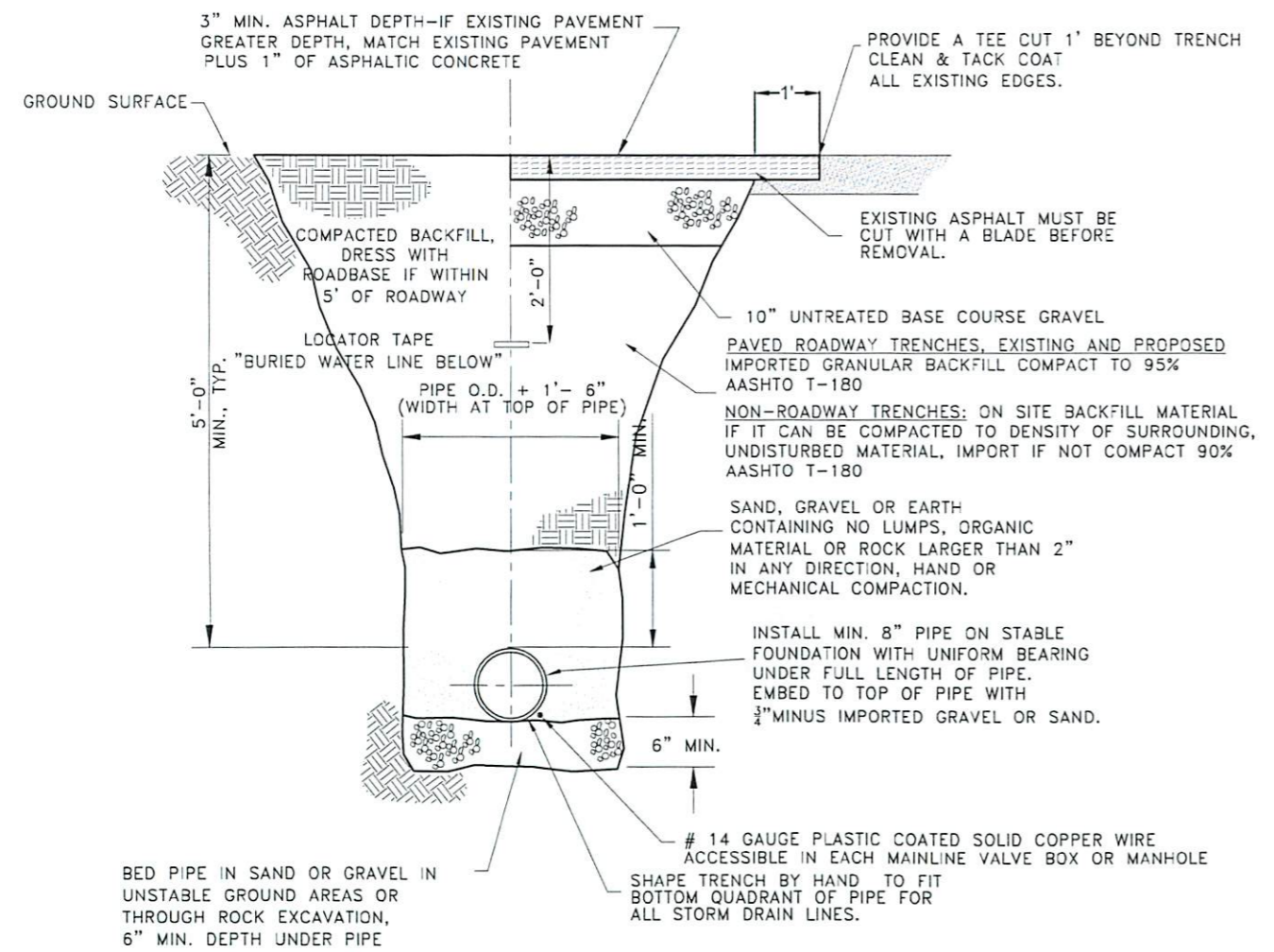
AREAS GIVEN IN TABLE ARE BASED UPON AN INTERNAL STATIC PRESSURE OF 100 P.S.I AND A SOIL BEARING CAPACITY OF 1000 LBS PER SQ. FT. BEARING AREAS FOR ANY PRESSURE AND SOIL BEARING CAPACITY MAY BE OBTAINED BY MULTIPLYING THE TABULATED VALUES BY A CORRECTION FACTOR "F".

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0.5 X 7.1 = 3.56 ~ 4 SQ. FT. (~OR 2FT. LONG BY 2FT. HIGH.)

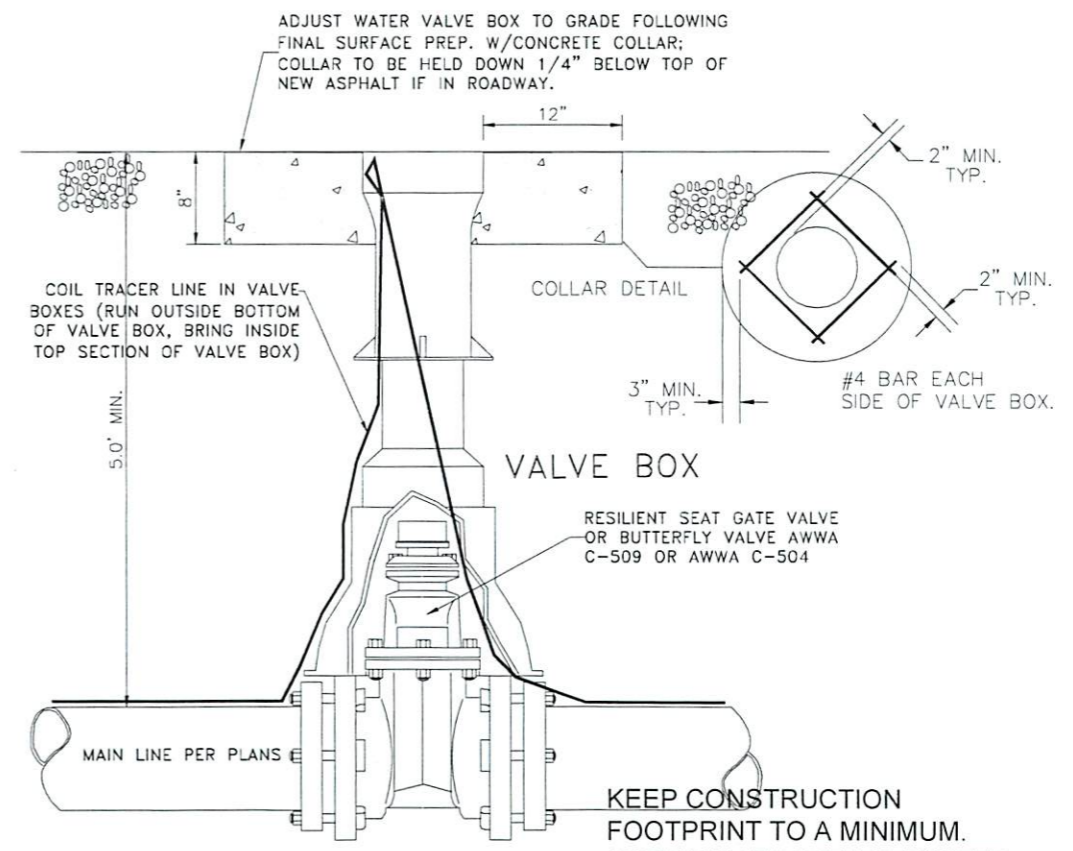
THRUST BLOCKING DETAIL  
NOT TO SCALE

1  
D1



TYPICAL TRENCH DETAIL  
NOT TO SCALE

2  
D1



TYPICAL VALVE DETAIL  
NOT TO SCALE

3  
D1

KEEP CONSTRUCTION FOOTPRINT TO A MINIMUM. COORDINATE WITH ENGINEER PRIOR TO REMOVAL OF ANY VEGETATION AND TREES.

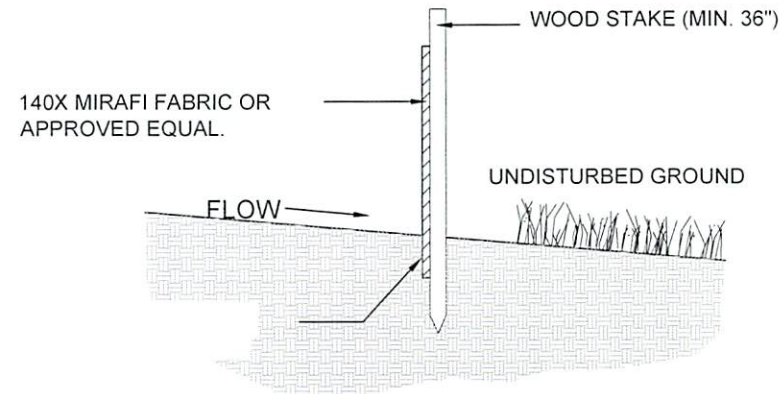
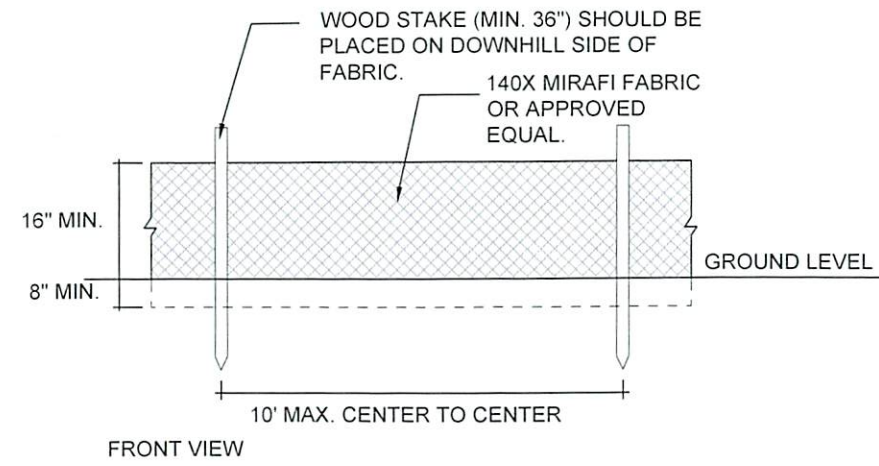
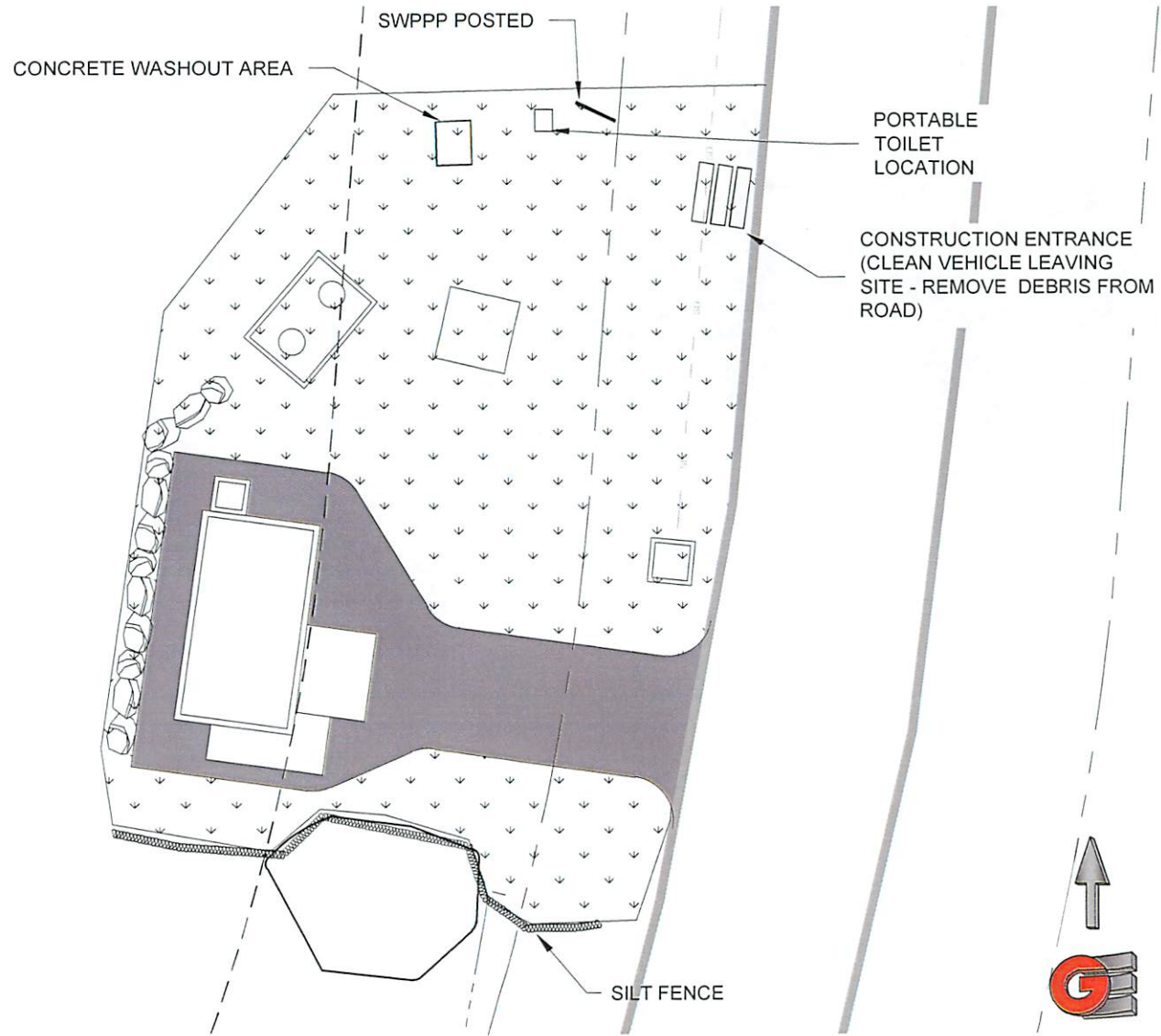
DETAILS (2)

DURFEE WELL REHAB  
LIBERTY PIPELINE COMPANY  
LIBERTY, WEBER, UTAH

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D1





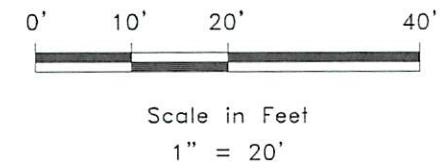
DRYLAND SEED MIX ANTICIPATED AREA = 4200 SQ FT

Species	PLS Pounds per Acre
Streambank wheatgrass ( <i>Elymus lanceolatus</i> ssp. <i>psammophilus</i> )	10
Mountain brome ( <i>Bromus marginatus</i> )	20
Western wheatgrass ( <i>Pascopyrum smithii</i> )	10
Sheep fescue ( <i>Festuca ovina</i> )	2.5
Lewis blue flax ( <i>Linum lewisii</i> )	2.5
<b>Total</b>	<b>45</b>



4200 SQ FT.  
 IMPORT 3" OF TOP SOIL, HYDROSEED WITH 2000#/AC WOOD MULCH, 100#/AC MBINDER TACKIFIER, HYDRO SEEDING TO TAKE PLACE BETWEEN OCTOBER 1 AND NOVEMBER 15 - APPROXIMATELY 42,000 SQ.FT.

NOTE: PROTECT DITCH FROM FALLING DEBRIS AND MATERIALS. ALL CONSTRUCTION TO CONFORM TO WEBER COUNTY STANDARDS AND SPECIFICATIONS.



Date:	3/6/2017
Scale:	1" = 20'
Designed:	MDD
Drafted:	MDD
Checked:	DLW

Revisions	Date	Description

WPPP-LANDSCAPING  
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S1



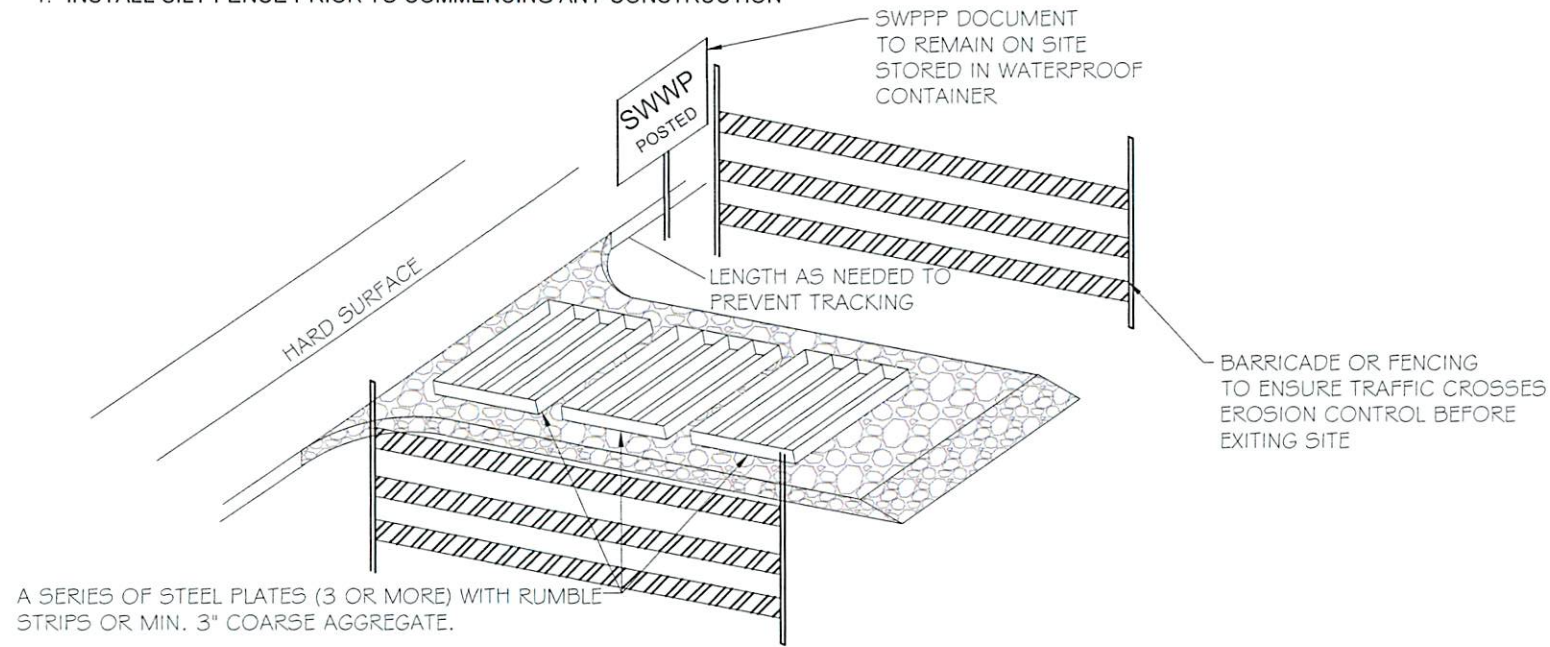
NOTE: ALL CONSTRUCTION TO CONFORM TO WEBER COUNTY STANDARDS AND SPECIFICATIONS.  
INSPECTION TO BE PERFORMED WEEKLY BY A RSI OR OTHER CERTIFIED INSPECTOR.

**STREET MAINTENANCE NOTES:**

1. REMOVE ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS IMMEDIATELY.
2. SWEEP PAVED AREAS THAT RECEIVE CONSTRUCTION TRAFFIC WHENEVER SEDIMENT BECOMES VISIBLE.
3. PAVEMENT WASHING WITH WATER IS PROHIBITED IF IT RESULTS IN A DISCHARGE TO THE STORM DRAIN SYSTEM OR NATURAL WATERWAY.

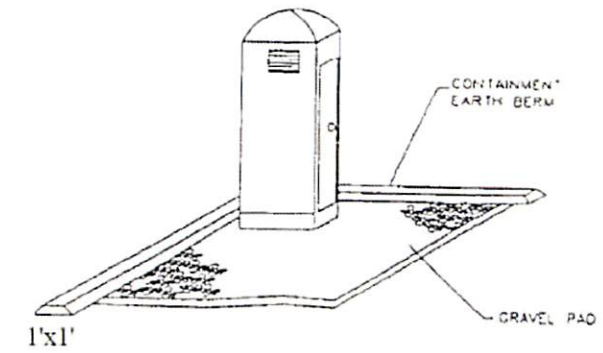
**EROSION CONTROL NOTES:**

1. INSTALL SILT FENCE PRIOR TO COMMENCING ANY CONSTRUCTION



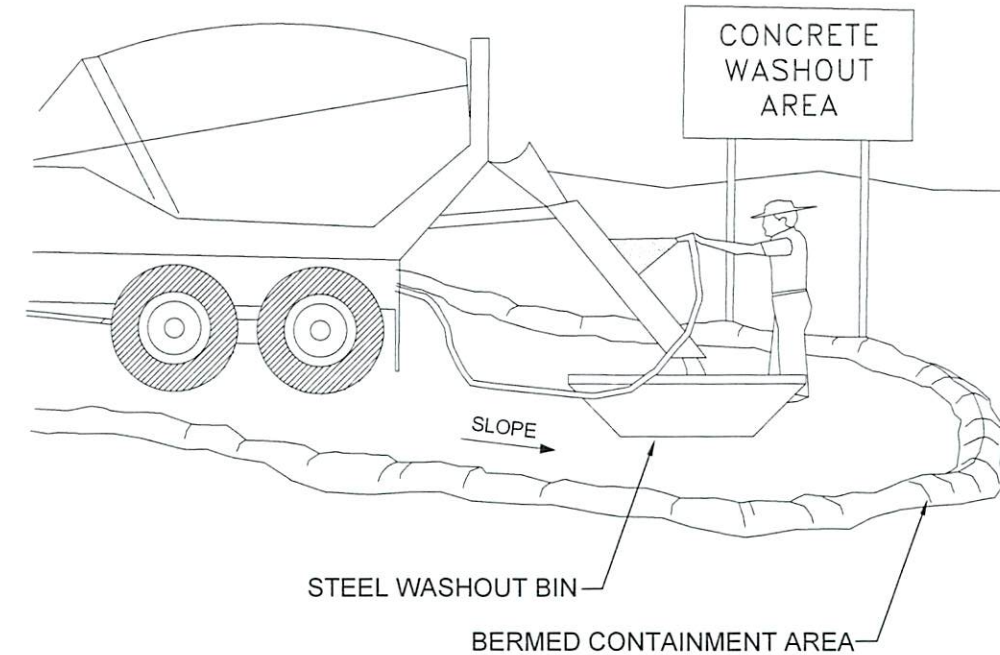
**ENTRANCE STABILIZATION NOTES:**

1. SEDIMENTS AND OTHER MATERIALS SHALL NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS SHALL BE STABILIZED SO AS TO PREVENT SEDIMENTS FROM BEING DEPOSITED INTO THE STORM DRAIN SYSTEMS. DEPOSITIONS MUST BE SWEEPED UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS INTO THE STORM DRAIN SYSTEM.
2. STABILIZED CONSTRUCTION ENTRANCE SHALL BE:
  - a. LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A HARD DRIVING SURFACE.
  - b. A SERIES OF STEEL PLATES WITH "RUMBLE STRIPS", AND/OR MIN. 3" COARSE AGGREGATE WITH LENGTH, WIDTH AND THICKNESS AS NEEDED TO ADEQUATELY PREVENT ANY TRACKING ONTO PAVED SURFACES.
3. ADDING A WASH RACK WITH A SEDIMENT TRAP LARGE ENOUGH TO COLLECT ALL WASH WATER CAN GREATLY IMPROVE EFFICIENCY.
4. ALL VEHICLES ACCESSING THE CONSTRUCTION SITE SHALL UTILIZE THE STABILIZED CONSTRUCTION ENTRANCE SITES.



**TEMPORARY ON-SITE FACILITIES (PORTA-POTTY) NOTES:**

1. PREPARE LEVEL, GRAVEL SURFACE AND PROVIDE CLEAR ACCESS TO THE TOILETS FOR SERVICING AND FOR ON-SITE PERSONNEL.
2. CONSTRUCT EARTH BERM PERIMETER, CONTROL FOR SPILL/PROTECTION LEAK.
3. STAKE PORTA-POTTY TO GROUND TO PREVENT TIP OVER.



**CONCRETE WASTE MANAGEMENT NOTES:**

1. EXCESS AND WASTE CONCRETE SHALL BE DISPOSED OF OFF SITE OR AT DESIGNATED AREAS ONLY.
2. EXCESS AND WASTE CONCRETE SHALL NOT BE WASHED INTO THE STREET OR INTO A DRAINAGE SYSTEM.
3. FOR WASHOUT OF CONCRETE AND MORTAR PRODUCTS ONSITE, A DESIGNATED CONTAINMENT FACILITY OF SUFFICIENT CAPACITY TO RETAIN LIQUID AND SOLID WASTE SHALL BE PROVIDED.
4. ONSITE CONCRETE WASHOUT CONTAINMENT FACILITY SHALL BE A STEEL BIN OR APPROVED ALTERNATE.
5. SLURRY FROM CONCRETE AND ASPHALT SAW CUTTING SHALL BE VACUUMED OR CONTAINED, DRIED, PICKED UP AND DISPOSED OF PROPERLY.
6. CONCRETE WASH OUT TO BE EMPTIED WHEN IT REACHES 1/2 CAPACITY.

Date: 3/6/2017  
Scale: #####  
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S2  
1