

Galvanizing shall be done in accordance with material specification MT-82, Galvanizing.

Painting shall be in accordance with the system shown on the drawings or specified in section 5 of this specification. Painting of galvanized, epoxy-coated, or nonferrous metal surfaces will not be required.

When painting is required, the following shall apply:

Immediately prior to the application of the first coat of paint, the surfaces of metal to be painted shall be thoroughly cleaned, removing rust, loose mill scale, dirt, oil, or grease, and other foreign substances and shall be dry.

Prior to the application of the second and third coats, the paint shall be dry and hard and shall be cleaned of all dirt, oil, and grease, and shall have a dry surface.

The paint shall be thoroughly mixed or stirred immediately before applying in order to keep the pigments in uniform suspension.

The coating of paint applied shall be smoothly and uniformly spread so that no excess paint will collect at any point. On all surfaces which are inaccessible for paint brushes, the paint shall be applied by spraying or by sheepskin daubers. If the painting is unsatisfactory to the Technician, the paint shall be removed and the metal thoroughly cleaned and repainted.

Paint shall not be applied with the air temperature is below 40 degrees F, or when the air is misty, or when in the opinion of the Technician, conditions are otherwise unsatisfactory for the work. It shall not be applied upon damp or frosted surfaces.

Material painted undercover in damp or cold weather shall remain undercover until dry or until weather conditions permit its exposure in the open. Painting shall not be done when the metal is hot enough to cause the paint to blister and produce a porous paint film.

5. Paint Systems

Three coats of paint shall be applied. The first coat shall be zinc chromate primer. The second and third coats shall be of aluminum paint.

D. CONSTRUCTION OF PIPE STRUCTURE

1. Steel Pipe Conduits

Pipe shall be laid to the line and grade shown on the drawings. Unless otherwise specified, the pipe shall be installed in accordance with the manufacturer's recommendations. The pipe shall be firmly and uniformly bedded throughout its entire length to the depth and in the manner specified on the drawings.

The pipe shall be loaded sufficiently during backfilling around the sides to prevent its being lifted from the bedding.

2. Joints

Pipe joints shall conform to the details shown on the drawings and shall be sound and watertight at the pressures specified.

Welding and welded joints shall conform to the welding procedure details and the requirements for repair of welds of AWWA Standard C206 for Field Welding of Steel Water Pipe Joints (AWS D7.0). Field welding shall be done in such a way as to avoid burning the protective coating on the pipe except in the immediate vicinity of the weld.

The ends of pipe to be connected with mechanical couplings shall be machined so as to allow coupling the pipe sections without damaging or displacing the gaskets and to insure uniform end separation of the pipes.

Machined ends of the pipe that receive the coupling sleeves shall be free from dents, gouges, scale, or

protective coating (except coal tar epoxy paint). The pipe and couplings shall be assembled with continuous rubber ring gaskets conforming to the dimensions and tolerances recommended by the pipe manufacturer. Coupling followers shall be drawn up evenly to insure uniform pressure on the gaskets.

3. Field Coating and Wrappings

When coat tar enamel coated pipe is specified, joints and couplings shall be primed and coated in the manner specified in AWWA Standard C203, Section 4. Joints and couplings shall be primed, coated, and wrapped where wrapped pipe is used. The use of coal tar tapes, applied in compliance with the manufacturer's instructions, is acceptable for coating joints and couplings if the resulting coating is equivalent in durability and watertightness to the coating on the pipe.

When it is specified that the pipe be coated with coal tar-epoxy paint, couplings shall be coated with coat tar-epoxy paint will be limited to touch up required to repair damage that occurs during assembly.

4. Handling the Pipe

The Contractor shall furnish such equipment as is necessary to place the pipe without damaging the pipe or coating. Coated pipe shall be handled in the manner specified in AWWA Standard C203, Section 4.

5. Other Pipe

For other pipe, laying and bedding shall be in accordance with manufacturer's recommendations and as approved by the Technician.

6. Backfill

Earth backfill shall be placed in the manner specified for fill adjacent to structures in Construction Specifications MT-4 and MT-5, whichever is appropriate.

Care shall be taken to prevent lifting or jacking of the pipe off its foundation during backfilling operations.

TABLE OF QUANTITIES

ITEM NO.	ITEM	UNIT	QUANTITY	COST/UNIT	COST
1.	Mobilization	L.S.	1		
	DAM				
2.	Strip vegetation from crest, downstream slope and toe of old dam	Yds2	6,900		
3.	Seeding downstream slope and borrow areas	Acre	4		
4.	Common Excavation - Key Trench	Yds3	3,300		
5.	Common Excavation - for removal of old mechanical spillway	Yds3	2,700		
6.	Removal of old mechanical spillway - disposal off-site	L.S.	1		
7.	Installation of new mechanical spillway - labor only	L.S.	1		
8.	Specially compacted earthfill - mechanical spillway	Yds3	800		
9.	Embankment - machine compaction	Yds3	13,000		
10.	Pit-run gravel for 6" roadway	Yds3	360		
	INLET STRUCTURE MATERIALS				
11.	Concrete - type II cement, W/C ratio 0.4	Yds3	3.25		
12.	# 4 rebar	lbs	336		
13.	3' dia. CMP 16 ga.	ft.	6		
14.	3' dia. 24" long water tight connector	ea.	1		

15. 3/4" x 8" anchor bolt w/ nut
and washer ea. 4

TRASH RACK - INLET STRUCTURE

16. 1 1/2" dia. x 6'-6" steel pipe ea. 5

17. 5 I 10 x 4'-9" long steel I beam ea. 1

18. 5"x1/2"x4'-9" long steel bar ea. 2

19. 3"x5"x3/8" steel angle 3" long ea. 4

20. 3/4"x1 1/2" steel bolts, nuts
and washers ea. 4

INLET BARREL

21. 2' dia. CMP 16 gage ft. 21

22. 2' flanged galv. cut off collar -
2' dia. ea. 1

OUTLET BARREL

23. 3' dia. CMP 16 gage ft. 106

24. 2' flanged galv. cut off collars,
3' dia. ea. 3

PIPE RISER - MATERIALS

25. Concrete - Type II cement, w/c
ratio 0.40 Yds3 6.0

26. Gatewell - 3'6" dia. CMP 16 gage ft. 20

27. Drop Inlet - 4'-0" dia. CMP 16 gage ft. 15

28. 2'-0" dia. CMP 16 gage ft. 10

29. 3'-0" dia. CMP 16 gage ft. 5

30. # 4 rebar lbs. 160

31.	24" Waterman model C-20 gate or equivalent w/ approx. 17' stem	ea.	1
32.	24" dia. flanged water tight connector	ea.	1
33.	24" dia. 24" wide band flexible water tight connector	ea.	1
34.	36" dia. 24" wide band flexible water tight connector	ea.	1
35.	Oversize 42" hinged lid	ea.	1
36.	Locking hasp	ea.	1
	TRASH RACK - PIPE RISER		
37.	3"x12"x8'-6" treated planks	ea.	4
38.	2"x12"x8'-6" treated planks	ea.	6
39.	2"x6"x8'-6" treated planks	ea.	1
40.	2"x6"x6'-6" treated planks	ea.	3
41.	6"x6"x8'-0" treated posts	ea.	6
42.	1' dia. std. galv. pipe 7'-0" long	ea.	14
43.	1' dia. std. galv. pipe 9'-0" long	ea.	8
44.	1/4"x2 1/2" bolts and nuts	ea.	44
45.	1/2"x5" carriage bolts	ea.	45
46.	Heavy duty 12' hinges	ea.	3
47.	Heavy duty locking hasps	ea.	3
	PLUNGE POOL		
48.	Common Excavation	Yds3	680
49.	Gravel filter - 6" thickness	Yds3	76

50.	Riprap D50-8", 20" thickness	Yds3	215
	TIMBER BENT		
51.	12" dia x 14' creosote pressure treated posts	ea.	2
52.	2"x6"x6'-8" creosote pressure treated planks	ea.	4
53.	2"x12"x6'-8" creosote pressure treated planks	ea.	2
54.	2"x8"x5'-0" creosote pressure treated planks	ea.	4
55.	8"x8"x2'-0" creosote pressure treated filler block	ea.	1
56.	5/8"x15" wrought iron bolts and nuts	ea.	12
57.	5/8"x18 wrought iron bolts and nuts	ea.	8
58.	5/8" washers	ea.	40
59.	3/4"x18" wrought iron bolts and nuts	ea.	6
60.	3/4" washers	ea.	12
	EMERGENCY SPILLWAY		
61.	Earth Embankment	Yds3	37
62.	Excavation - trimming of existing dike	Yds3	313