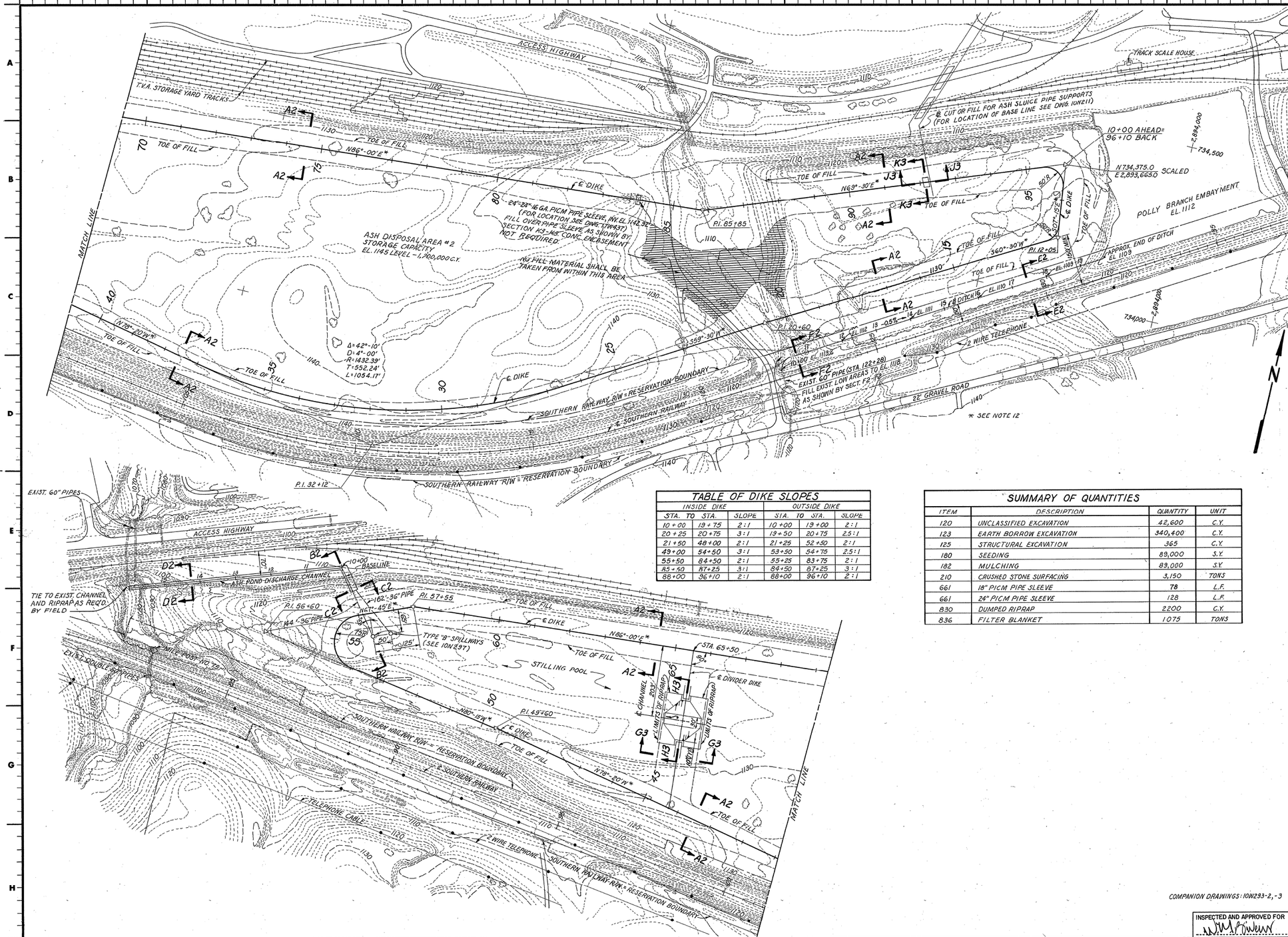


NOTES:

1. ALL CONSTRUCTION, EXCEPT ROLLED EARTHFILL, SHALL BE IN ACCORDANCE WITH T-1 SPEC.
2. THE RESULTS OF THE SOIL INVESTIGATION FOR THE CONSTRUCTION OF THE ASH DISPOSAL AREA DIKES ARE REPORTED IN A MEMO FROM GENE FARMER TO G.L. BUCHANAN DATED DECEMBER 10, 1976, JOHN SEVIER STEAM PLANT - NEW ASH DISPOSAL AREA - SOILS INVESTIGATION, EN DES. SOIL SCHEDULE NO. G.
3. ALL ROLLED EARTHFILL SHALL BE IN ACCORDANCE WITH CONSTRUCTION SPEC. G-9, ROLLED EARTHFILL FOR DAMS AND POWER PLANTS. ROLLED EARTHFILL SHALL CONSIST OF SOIL PLACED IN LAYERS NOT EXCEEDING 6" AFTER COMPACTION AND SHALL BE UNIFORMLY COMPACTED TO AT LEAST 95% OF STD. MAX. DRY DENSITY AS DETERMINED BY ASTM D-698 PROCEDURES (STANDARD PROCTOR). MOISTURE CONTENT OF EARTHFILL SHALL BE WITHIN ±3% OF OPTIMUM MOISTURE CONTENT.
4. FROM STA. 19+50 TO STA. 21+50 AND FROM STA. 84+00 TO STA. 88+00 (APPROXIMATELY BETWEEN EL. 1125 CONTOURS), A NARROW INSPECTION TRENCH SHALL BE EXCAVATED TO A DEPTH OF 10'. IN ANY AREA WHERE GRAVEL STRATUM IS EXPOSED, A CUTOFF TRENCH IS TO BE EXCAVATED THROUGH THE PERVIOUS STRATUM AND BACKFILLED WITH COMPACTED IMPERVIOUS EARTHFILL MATERIAL AS SHOWN BY SECT. A2-A2. WHERE A CUTOFF TRENCH IS NOT REQUIRED, THE INSPECTION TRENCH IS TO BE IMMEDIATELY BACKFILLED, AFTER INSPECTION, WITH THE EXCAVATED MATERIALS AND THOROUGHLY COMPACTED.
5. BORROW MATERIAL SHALL BE EXCAVATED TO A DEPTH OF 10' BENEATH THE EXISTING GROUND SURFACE OR 2' MINIMUM BENEATH GRAVEL STRATUM WHERE ENCOUNTERED, EXCEPT AT LOCATIONS WHERE INSPECTION TRENCH IS REQUIRED. WHERE GRAVEL STRATUM IS EXPOSED, THE EXCAVATED SLOPE SHALL BE BLANKETED WITH COMPACTED IMPERVIOUS EARTHFILL MATERIAL AS SHOWN BY SECTION A2-A2.
6. WHERE A CUTOFF TRENCH IS REQUIRED ADJACENT TO BLANKETED EXCAVATION SLOPE, THE CUTOFF TRENCH SHALL BE EXTENDED ACROSS THE WIDTH OF THE DIKE TO TIE INTO THE BLANKETED EXCAVATION SLOPE.
7. EARTHFILL FOR DIKE CONSTRUCTION SHALL CONSIST OF MATERIAL EXCAVATED FROM INSIDE ASH DISPOSAL AREA NO. 2. PERVIOUS GRANULAR SOILS COMPARABLE TO BORROW SOILS CLASS VII, AS DEFINED BY THE MEMO PER NOTE 2, SHALL NOT BE USED AS EARTHFILL. FOR DIKE CONSTRUCTION, CUT SLOPES FOR BORROW MATERIAL ADJACENT TO THE DIKE SHALL BE 3:1 OR FLATTER, AND THE TOP OF CUT SHALL BE A MINIMUM OF 25' FROM THE TOE OF DIKE SLOPE.
8. THE MINIMUM FACTOR OF SAFETY FOR ALL LOADING CONDITIONS INVESTIGATED BY STABILITY ANALYSIS FOR THE ASH DISPOSAL DIKES IS 1.21. THIS FACTOR OF SAFETY IS FOR THE SUDDEN DRAWDOWN CONDITION.
9. CRUSHED STONE OR GRAVEL SURFACING, 4" THICK, SHALL BE APPLIED FOR THE FULL WIDTH OF THE TOP OF DIKE IN ACCORDANCE WITH SECTION 210.
10. ALL CUT AND FILL SLOPES AND OTHER DISTURBED AREAS SHALL BE SEEDED WITH TYPE 6, MIXTURE E, IN ACCORDANCE WITH SECTION 180. DEPENDING ON THE TIME OF CONSTRUCTION, IT MAY BE NECESSARY TO PROVIDE A TEMPORARY COVER ON THE DIKE SLOPES. ALL GRASSED AREAS SHALL BE FERTILIZED AND MULCHED IN ACCORDANCE WITH SECTIONS 180 AND 182 RESPECTIVELY.
11. RIPRAP SHALL BE PLACED AS SHOWN ON THE DRAWINGS WITH A MINIMUM OF 50%, BY WEIGHT, CONSISTING OF STONES OF AT LEAST 150 LB. EACH. RIPRAP SHALL CONFORM TO SECTION 830.
12. FILTER SHALL CONFORM TO SECTION 836.
13. ALL CENTERLINE BEARINGS ARE APPROXIMATE SCALED BEARINGS.

TABLE OF DIKE SLOPES

INSIDE DIKE			OUTSIDE DIKE		
STA. TO	STA.	SLOPE	STA. TO	STA.	SLOPE
10+00	19+75	2:1	10+00	19+00	2:1
20+25	20+75	3:1	19+50	20+75	2.5:1
21+50	48+00	2:1	21+25	52+50	2:1
49+00	54+50	3:1	53+50	54+75	2.5:1
55+50	84+50	2:1	55+25	83+75	2:1
85+50	87+25	3:1	84+50	87+25	3:1
88+00	96+10	2:1	88+00	96+10	2:1

SUMMARY OF QUANTITIES

ITEM	DESCRIPTION	QUANTITY	UNIT
120	UNCLASSIFIED EXCAVATION	42,600	C.Y.
123	EARTH BORROW EXCAVATION	340,400	C.Y.
125	STRUCTURAL EXCAVATION	365	C.Y.
180	SEEDING	89,000	S.Y.
182	MULCHING	89,000	S.Y.
210	CRUSHED STONE SURFACING	3,150	TONS
661	18" PICM PIPE SLEEVE	78	L.F.
661	24" PICM PIPE SLEEVE	128	L.F.
830	DUMPED RIPRAP	2200	C.Y.
836	FILTER BLANKET	1075	TONS

COMPANION DRAWINGS: 10W293-2, -3

INSPECTED AND APPROVED FOR ISSUE

REV NO.	ECN NO.	DATE	DSGN	DRWN	CHKD	SUPV	ENGR	INSP	SUBM	RECM	APPD
2		12-20-80	GRD	TAC	JLG	JLG	WHB	RJB	RJB	FDS	GHB
	RECORD AS CONSTRUCTED; P.A. 3312										
1		4-25-78	VDC	BSM	VDC	DEW	WHB	RJB	JMG	GHB	
	REV. NOTES, TABLE OF DIKE SLOPES & EXCAV. QUANTITIES; MINOR REVISIONS; PA 3312										

DSGN R.D. POWELL
DRWN B.S. BRYCASTER
CHKD R.D. POWELL
SUPV J. L. GLOVER
INSP
ENGINEER A. W. Burnett

SCALE: 1" = 100' EXCEPT AS NOTED

MAIN PLANT

ASH DISPOSAL AREA NO. 2
PLAN

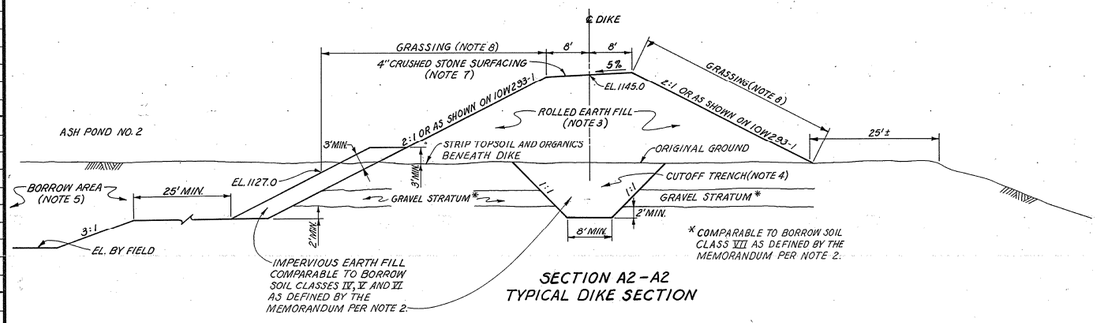
JOHN SEVIER STEAM PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED	RECOMMENDED	APPROVED
Robert G. Lawrence		

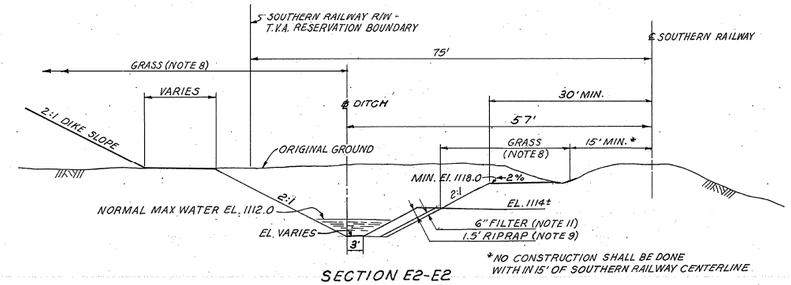
KNOXVILLE 8-18-77 | 41 | C | 10W293-1 R2

RECORD DRAWING AS CONSTRUCTED Frank Vanderbeck 1-20-80 R2

PRINT H 4
SIZE F
BR OR PROJ ME EE CE AD CD ED MD SW BL PA
PRINTS REQD - R 0

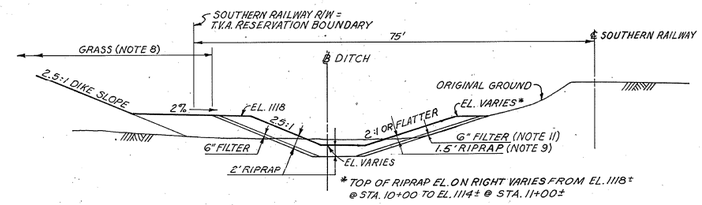


SECTION A2-A2
TYPICAL DIKE SECTION



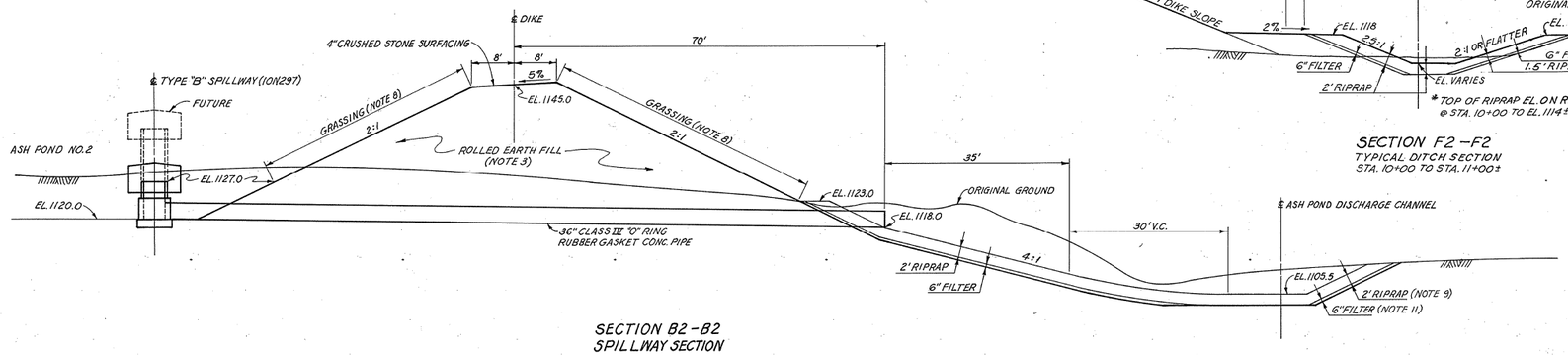
* NO CONSTRUCTION SHALL BE DONE WITHIN 15' OF SOUTHERN RAILWAY CENTERLINE

SECTION E2-E2
TYPICAL DITCH SECTION
STA. 11+00± TO STA. 19+50±



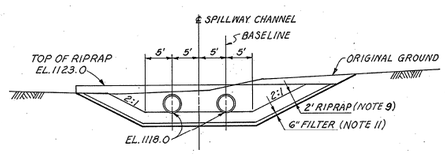
* TOP OF RIPRAP EL. ON RIGHT VARIES FROM EL. 1118± @ STA. 10+00 TO EL. 1114± @ STA. 11+00±

SECTION F2-F2
TYPICAL DITCH SECTION
STA. 10+00 TO STA. 11+00±

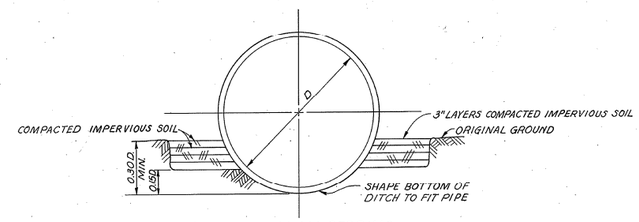


SECTION B2-B2
SPILLWAY SECTION

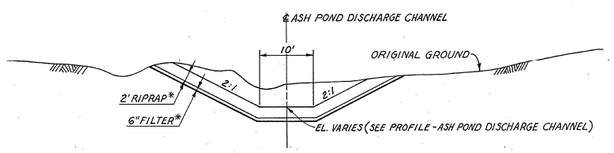
NOTES:
1. FOR GENERAL NOTES SEE 10W293-1.



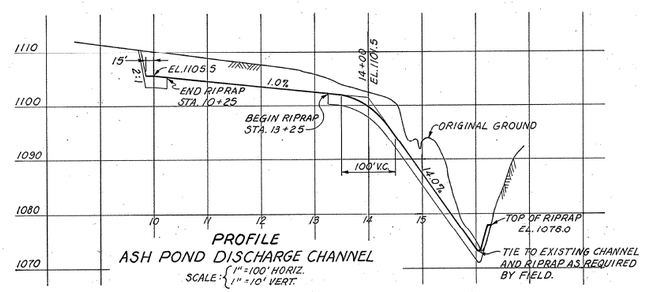
SECTION C2-C2
SPILLWAY DISCHARGE



DETAIL-CLASS "B" BEDDING
N.T.S.



SECTION D2-D2
* FOR LOCATION OF AREAS REQUIRING RIPRAP AND FILTER SEE PROFILE - ASH POND DISCHARGE CHANNEL



PROFILE
ASH POND DISCHARGE CHANNEL
SCALE: 1" = 100' HORIZ. / 1" = 10' VERT.

COMPANION DRAWINGS: 10W293-1, -3

INSPECTED AND APPROVED FOR ISSUE

REV NO.	ECN NO.	DATE	DSGN	DRWN	CHKD	SUPV	ENGR	INSP	SUBM	RECM	APPD
1		4-25-78	DDP	AHS	AGW	KWB		RDB	FD	DJS	

REVISED SECTIONS A2-A2 AND F2-F2. P.R. 8312

DSGN A.G. POWELL
DRWN R.S. HAYCASTER
CHKD J.D. POWELL
SUPV J.L. GLOVER
INSP
ENGINEER K. W. Burnett

SCALE 1" = 10' EXCEPT AS NOTED

MAIN PLANT

ASH DISPOSAL AREA NO. 2 SECTIONS AND DETAILS

JOHN SEVIER STEAM PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

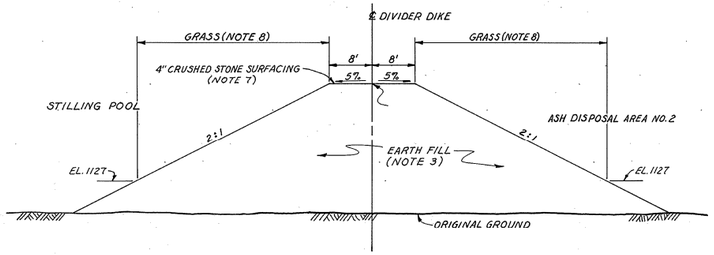
SUBMITTED Robert J. Bowman | RECOMMENDED | APPROVED

KNOXVILLE 8-18-77 | 41 | C | 10W293-2 R1

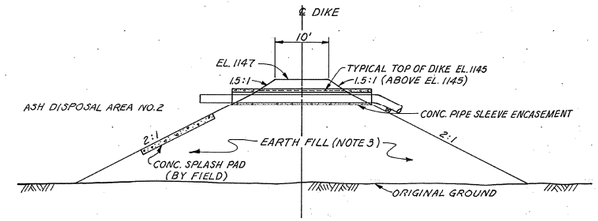
RECORD DRAWING AS CONSTRUCTED Frank Van Nolan 1-2-80 R1

PRINT H 4
SIZE F
DR OR PROJ MC EC CC AD CD CG MD SW BL PA
PRINTS REQD-R 0

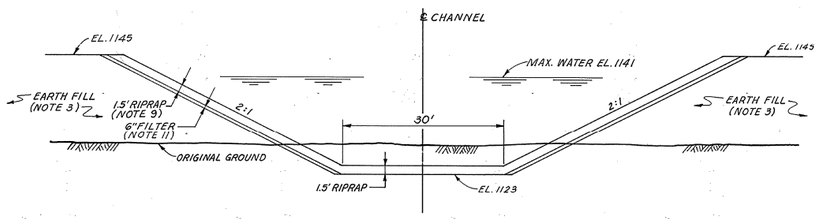
41 C 10W293-2



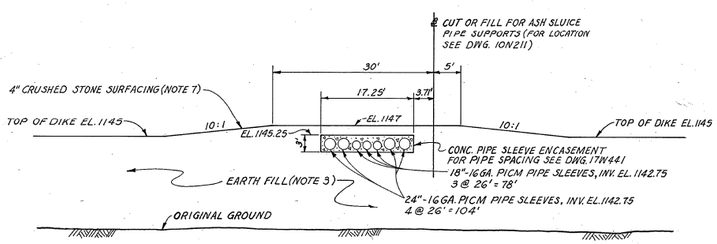
SECTION G3-G3
TYPICAL DIVIDER DIKE SECTION



SECTION K3-K3



SECTION H3-H3



SECTION J3-J3

NOTES:
1. FOR GENERAL NOTES SEE 10W293-1.

COMPANION DRAWINGS: 10W293-1, -2

INSPECTED AND APPROVED FOR ISSUE
W.M. Bowen

REV NO.	ECN NO.	DATE	DSGN	DRWN	CHKD	SUPV	ENGR	INSP	SUBM	RECM	APPD

DSGN R.O. POWELL
DRWN D.S. MAYCARTER
CHKD R.O. POWELL
SUPV L.L. GLOVER
INSP
ENGINEER K. W. Burnett

SCALE 1" = 10' EXCEPT AS NOTED

MAIN PLANT

ASH DISPOSAL AREA NO. 2
SECTIONS AND DETAILS

JOHN SEVIER STEAM PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED	RECOMMENDED	APPROVED
Robert J. Bowman	R. O. Powell	A. A. Beck

KNOXVILLE 8-18-77 | 41 | C | 10W293-3 R0

RECORD DRAWING AS CONSTRUCTED

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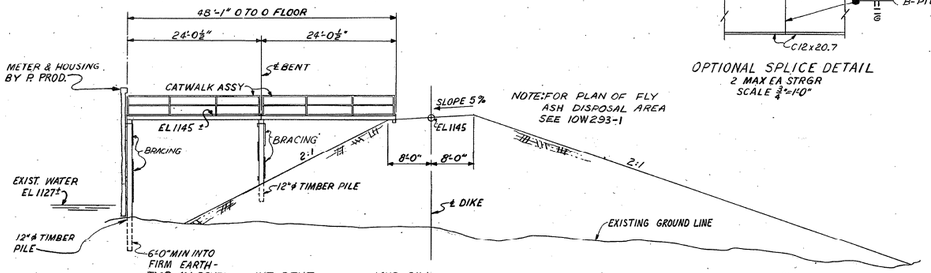
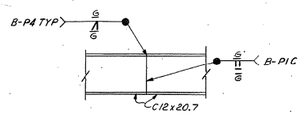
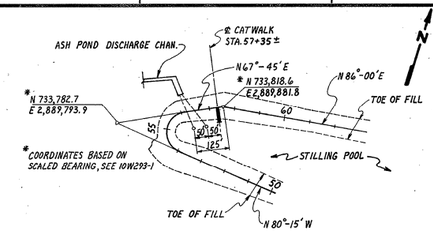
SIZE F
BR OR PROJ ME EE CE AD CD ED MD SW BL PA
PRINTS REQD-R 0



SECTION AT DIKE
LOOKING SOUTH
SCALE 1" = 10'



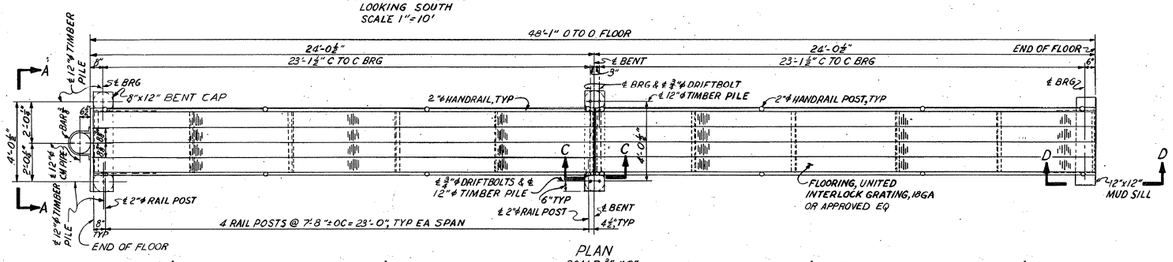
OPTIONAL SPLICE DETAIL
2 MAX EA STRGR
SCALE ¾" = 1'-0"



KEY PLAN
1" = 200'

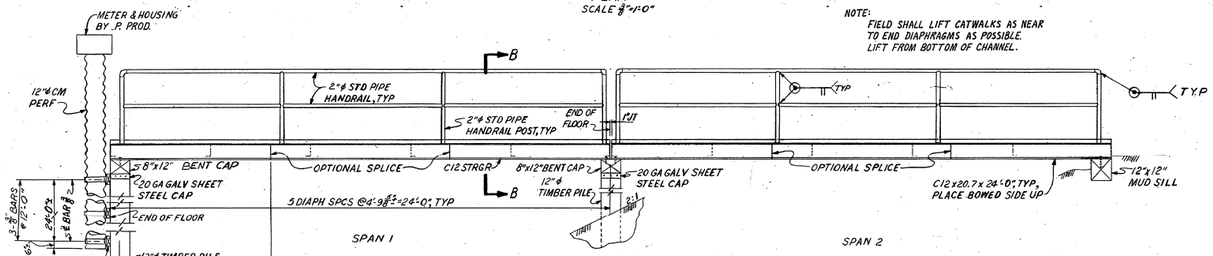
BILL OF MATERIAL				
ITEM	SIZE	NO	LENGTH	QUANTITY
TIMBER				
BRACING	2x6 ROUGH	5	5'-0"	.025 MBM
BRACING	2x6 ROUGH	9	6'-1"	.055 MBM
BENT CAP	8x12 S2S TO 7½x12	2	5'-0"	.080 MBM
MUD SILL	12x12 ROUGH	1	6'-0"	.064 MBM
TOTAL MBM				.222 MBM
PILING *	12"ϕ CLASS B	2	32'-0"	64 LF ±
PILING *	12"ϕ CLASS B	2	20'-0"	40 LF ±
TOTAL LF PILING				104 LF ±
HARDWARE				
CM PERF PIPE SUPPORT STRAP	BAR 3x⅜, BEND TO FIT	3	3'-5"	39 LBS
LAG BOLTS, OG TO MUD SILL & BENTS	⅝"ϕ, HEX HD	8	0'-6"	2 LBS
BOLTS, CM PIPE SUP TO BRCG	½"ϕ, SQ HD, HEX NUT	6	0'-6"	1 LB
BOLTS, BRACING TO PILE	¾"ϕ, SQ HD, HEX NUT	12	1'-7"	32 LBS
BOLTS, BRACING TO PILE	¾"ϕ, SQ HD, HEX NUT	4	1'-5"	10 LBS
BOLTS, ⅜" PL TO CAPS	½"ϕ, SQ HD, HEX NUT	4	1'-3"	10 LBS
DRIFT BOLTS, CAP TO PILE	¾"ϕ	8	1'-9"	24 LBS
OGEE WASHERS	FOR ¾"ϕ BOLTS	56		35 LBS
OGEE WASHERS	FOR ½"ϕ BOLTS	6		2 LBS
BENT CAP CONN PL	4x⅜	4	0'-10"	
ROOFING NAILS			0'-1"	2 LBS
CM PERF GALV	12"ϕ 16 GAGE		30'-0"	300 LBS
GALV SHEET STEEL	18" 20 GAGE	4	1'-6"	14 LBS
SCREWS, CM PIPE TO BAR	⅜"ϕ SELF TAPPING	9	0'-3½"	1 LBS
STEEL				
FLOORING, 18 GA GALV GRTG	2½" x 9" ANTI-SKID	8	24'-0"	620 LBS
HANDRAIL, STD STEEL PIPE	2" ϕ	24	8'-0"	700 LBS
HANDRAIL POST, STD. STEEL PIPE	2" ϕ	16	3'-9"	219 LBS
C8 x 11.5 DIAPHRAGM		12	3'-2"	420 LBS
C12 x 20.7 STRINGERS		4	24'-0"	1990 LBS

* LENGTH OF PILING ESTIMATED. ACTUAL LENGTHS REQUIRED TO BE DETERMINED BY FIELD.

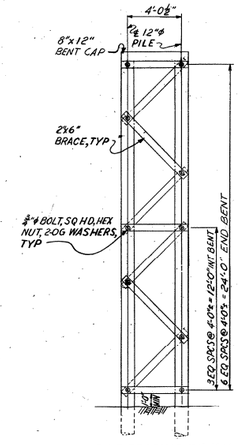


PLAN
SCALE ⅜" = 1'-0"

NOTE:
FIELD SHALL LIFT CATWALKS AS NEAR TO END DIAPHRAGMS AS POSSIBLE. LIFT FROM BOTTOM OF CHANNEL.

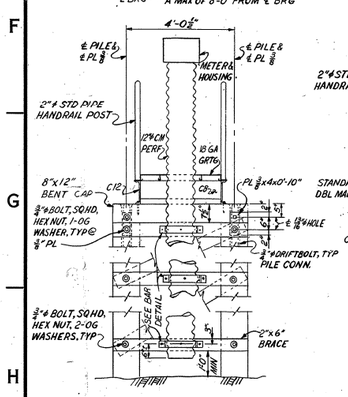


ELEVATION
SCALE ⅜" = 1'-0"

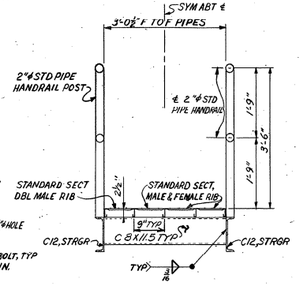


PILE BRACING DETAIL
SCALE ¼" = 1'-0"

NOTES:
1. MATERIALS: LUMBER: TREATED STRUCTURAL TIMBER DENSE STRUCTURAL 65 SOUTHERN PINE, SEE CONSTR SPEC T1, SECTION 440.
ALL TIMBER EXCEPT PILING MAY BE TREATED BY ANY OF THE METHODS LISTED IN AASHO MATERIALS SPEC M133.
HARDWARE: STANDARD COMMERCIAL QUALITY.
STRUCTURAL STEEL: ASTM A36
GALVANIZED STEEL GRATING: ASTM 4524
2. PILES ARE TO BE PLACED IN OVERSIZE HOLES A MINIMUM DEPTH OF SIX FEET INTO FIRM EARTH AND BACKFILLED IN 6" LAYERS HAND COMPACTED.
3. WELDING — SEE CONSTRUCTION SPEC G-29.
4. ALL BOLTS TO HAVE STD THREADED LENGTHS.
5. ALL MATERIAL TO BE FURNISHED AND FABRICATED BY FIELD
6. RAILING CONNECTIONS TO BE MADE WITH WAGNER FITTINGS OR APPROVED EQUAL.
7. GRATING SHALL BE 18 GAGE UNITED INTERLOCK GRATING, ANTI SKID TYPE, OR APPROVED EQUAL, GALVANIZED.
8. LARGER STEEL SHAPES MAY BE SUBSTITUTED FOR THOSE SHOWN WITH APPROVAL OF DED.
9. SHOP PAINT: ONE COAT RED LEAD IRON OXIDE.
10. FIELD PAINT: AFTER ERECTION TOUCH UP WITH RED LEAD BEFORE PAINTING WITH TWO COATS ALUMINUM (G-14, PART VII), FIRST COAT TINTED BLUE.
11. TO EXPEDITE PLANT OPERATION, THE EXISTING CATWALK ASSEMBLY FROM AREA "G" MAY BE MOVED TO AREA #2.

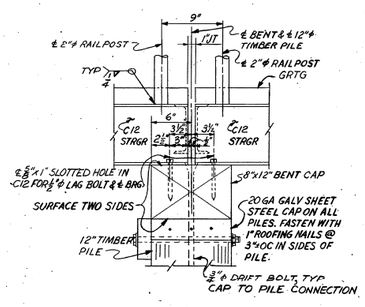


SECTION A-A
SCALE ½" = 1'-0"

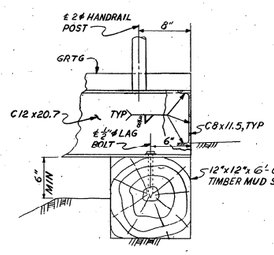


FIELD SHALL TACK WELD BOTTOM OF ALL PANELS AT DIAPHRAGMS. WELD AREAS SHALL BE TOUCHED UP WITH ZING RICH PAINT

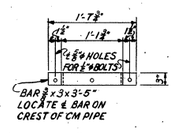
B B
SCALE ¾" = 1'-0"



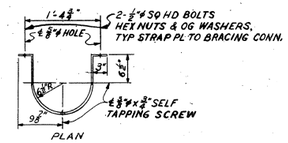
C-C
SCALE 1½" = 1'-0"



D-D
SCALE 1½" = 1'-0"



ELEV



PLAN

BAR DETAIL
SCALE 1" = 1'-0"

NOTE:
TO EXPEDITE PLANT OPERATION, THE CATWALK IS A DUPLICATE OF DRAWING 10W299 RO

SCALE AS NOTED

INSPECTED AND APPROVED FOR ISSUE
DESIGN PROJECT MANAGER

REV NO.	ECN NO.	DATE	DSGN	DRWN	CHKD	SUPV	ENGR	INSP	SUBM	RECM	APPR
DSGN	G.R. Owens	MITCH JERALD									
DRWN	G.R. Owens	MITCH JERALD									
CHKD	J. Tomastik	W.G. BARKS									
SUPV	R.L. Pritts	E. JACKSON									

INSP — E.J. Bowman
ENGINEER — H.C. Morris

MAIN PLANT

FLY ASH DISPOSAL AREA NO. 2 CATWALK TO WATER LEVEL MONITORING STATION

JOHN SEVIER STEAM PLANT
TENNESSEE VALLEY AUTHORITY
DIVISION OF ENGINEERING DESIGN

SUBMITTED	RECOMMENDED	APPROVED
R. A. Dansich		

KNOXVILLE | 3-26-79 | 41 | S | 10W294-01 | RO

RECORD DRAWING AS CONSTRUCTED

H.B.E. 19 1250 8-73 2071+