

PART V
DRAWINGS

Plum Creek Watershed – UPGRADE
Floodwater Retarding Structure Site 2
Hays County, Texas

Cover Page + Sheets 1 through 71



TEXAS STATE
Soil & Water
 CONSERVATION BOARD

PLUM CREEK WATERSHED

FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 HAYS COUNTY, TEXAS

DRAINAGE AREA	1,815 ACRES
TOTAL STORAGE	976 AC. FT.
EFFECTIVE HEIGHT OF DAM	34 FEET
OVERALL HEIGHT OF DAM	38 FEET

SPONSORED BY

HAYS COUNTY SOIL AND WATER CONSERVATION DISTRICT
 CALDWELL-TRAVIS SOIL AND WATER CONSERVATION DISTRICT
 PLUM CREEK CONSERVATION DISTRICT

COOPERATING WITH

TEXAS STATE SOIL AND WATER CONSERVATION BOARD

2021

AECOM

AECOM Technical Services, Inc.
 9400 Amberglenn Blvd
 Austin, Texas 78729
 www.aecom.com
 TBPE Reg. No. F-3580

Luis E. Alday

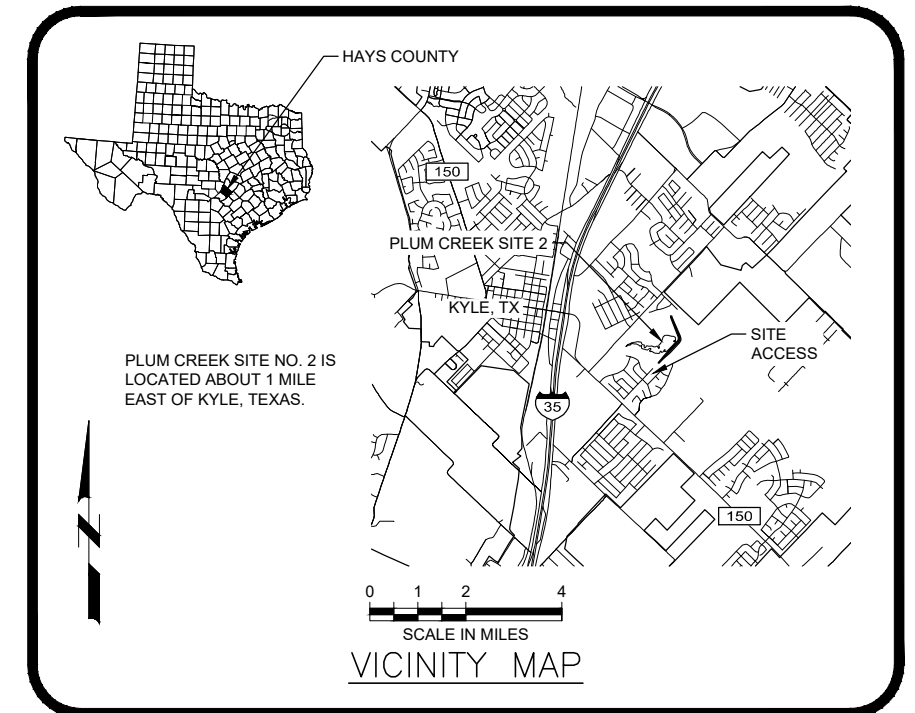
LUIS E. ALDAY, PE
 TEXAS PE NO. 104522



8/20/2021

DATE

SEE SHEET 1 FOR INDEX OF DRAWINGS



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SYMBOLS LEGEND

--- EXISTING PROPERTY LINE

---358--- EXISTING CONTOUR

--- · · · · · --- STREAM

--- EXISTING OVERHEAD ELECTRIC LINES

---UE---UE--- EXISTING UNDERGROUND ELECTRIC LINES

---WW--- EXISTING WASTEWATER LINES

---RWL--- EXISTING RECLAIM WATER LINES

--- · · · · · --- TEMPORARY EASEMENT

--- WORK LIMITS

---SF---SF--- SILT FENCE

--- · · · · · --- 100-YR FLOOD INUNDATION LEVEL

---X---X--- EXISTING FENCE TO REMAIN

---C---C--- FENCE TO BE CONSTRUCTED

---R---R--- EXISTING FENCE TO BE REMOVED

○ ○ PROPOSED HANDRAIL

---C---X---C--- PROPOSED GATE

⊕ B-X EXISTING BOREHOLES

● EXISTING POWER POLE

△BMX EXISTING BENCHMARK

Ⓟ EXISTING PIEZOMETER

← DIRECTION OF STORMWATER RUNOFF

▽ WATER LEVELS

▨ FILL MATERIAL/TOPSOIL

▩ FLEX ROAD

▧ CONCRETE

▦ STABILIZED CONSTRUCTION ENTRANCE

▥ HIGH-SERVICE ROCK BERM

Y Y CUT SLOPE

Y Y FILL SLOPE

← RIGHT
→ LEFT

ORIENTATION WHEN LOOKING DOWNSTREAM

SECTION NUMBER

DIRECTION IN WHICH SECTION IS TAKEN

SHEET ON WHICH SECTION IS SHOWN

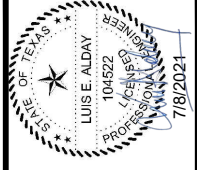
DETAIL NUMBER

SHEET ON WHICH DETAIL IS TAKEN

ABBREVIATIONS

AB	ANCHOR BOLT	K	RATE OF VERTICAL CURVATURE
ACI	AMERICAN CONCRETE INSTITUTE	MAX.	MAXIMUM
AFF	ABOVE FINISH FLOOR	MH	MANHOLE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	MIN.	MINIMUM
~ OR APPROX.	APPROXIMATE	MSL	MEAN SEA LEVEL
@	AT	#	NUMBER OR POUND
BA	BORROW AREA	N	NORTH OR NORTHING
BGS	BELOW GROUND SURFACE	NF	NEAR FACE
BF	BOTTOM FACE	NGVD	NATIONAL GEODETIC VERTICAL DATUM
BL OR \bar{r}	BASELINE	NO.	NUMBER
BM	BENCHMARK	NOI	NOTICE OF INTENT
BMP	BEST MANAGEMENT PRACTICE	NTS	NOT TO SCALE
BO	BOTTOM OF	NWE	NO WATER ENCOUNTERED
BVCE	BEGIN VERTICAL CURVE ELEVATION	OC	ON CENTER
BVCS	BEGIN VERTICAL CURVE STATION	OCEW	ON CENTER EACH WAY
CC OR C TO C	CENTER TO CENTER	OD	OUTSIDE DIAMETER
CIR	CIRCULAR	OF	OUTSIDE FACE
CJ	CONSTRUCTION JOINT	±	PLUS OR MINUS
CL OR CL	CENTERLINE	PC	POINT OF CURVATURE
CFS	CUBIC FEET PER SECOND	PE	PROFESSIONAL ENGINEER
C.J.	CONSTRUCTION JOINT	PI	POINT OF INTERSECTION OR POINT OF INFLECTION
CT.J.	CONTRACTION JOINT	PSI	POUNDS PER SQUARE INCH
CLR	CLEAR	PT	POINT OF TANGENCY
CM	CENTIMETER	PVC	POLYVINYL CHLORIDE OR POINT OF VERTICAL CURVATURE
CMP	CORRUGATED METAL PIPE	PVI	POINT OF VERTICAL INTERSECTION
CO	CLEANOUT	PVT	MEAN OF VERTICAL TANGENCY
CONST.	CONSTRUCTION	R	RADIUS OR RANGE
CONT.	CONTINUOUS	RAD	RADIUS
CTR	CENTER OR CENTERS	REINF.	REINFORCED OR REINFORCEMENT
CU.	CUBIC	REQD	REQUIRED
CY	CUBIC YARD	S	SOUTH OR SECTION
° OR DEG.	DEGREES	SAN.	SANITARY
Ø OR DIA.	DIAMETER	SCH.	SCHEDULE
D	DAM	SDR	STANDARD DIMENSION RATIO
DC	DIVERSION CHANNEL	SF	SQUARE FEET OR SILF FENCE
DIP	DUCTILE IRON PIPE	SEC.	SECTION OR SECOND
DS OR D/S	DOWNSTREAM	SHT.	SHEET
E	EAST OR EASTING	SQ	SQUARE
EA	EACH	SS	STAINLESS STEEL
EF OR E/F	EACH FACE	ST	SHELBY TUBE
EJ	EXPANSION JOINT	STA.	STATION
EL. OR ELEV.	ELEVATION	STD	STANDARD
EQ.	EQUAL	SWPPP	STORMWATER POLLUTION PREVENTION PLAN
EQ. SPC.	EQUALLY SPACED	S.D.	STUB DIVERSION
EVCE	END VERTICAL CURVE ELEVATION	T	TOWNSHIP
EVCS	END VERTICAL CURVE STATION	TBM	TEMPORARY BENCHMARK
EW OR E/W	EACH WAY	TF	TOP FACE
EXIST.	EXISTING	THK	THICK
EXP	EXPOSED	TO	TOP OF
'	FEET OR MINUTES	T&B	TOP AND BOTTOM
FF	FAR FACE	TYP.	TYPICAL
FL OR \bar{r}	FLOWLINE	UG	UNDERGROUND
FT	FEET	US OR U/S	UPSTREAM
GA	GAUGE	USGS	UNITED STATES GEOLOGICAL SURVEY
GB	GRADE BREAK	V	VERTICAL OR VOLT
GND OR GRND	GROUND	VC	VERTICAL CURVE
GOVT.	GOVERNMENT	W	WEST
GPM	GALLONS PER MINUTE	W/	WITH
GR	GRADE	WM	WATER METER
H	HORIZONTAL	WPAP	WATER POLLUTION ABATEMENT PLAN
HDPE	HIGH DENSITY POLYETHYLENE	WS	WATERSTOP
HYD	HYDRAULIC	YR	YEAR
"	INCHES OR SECONDS		
ID	INSIDE DIAMETER		
IF	INSIDE FACE		
IE	INVERT ELEVATION		
IN	INCHES		
INV.	INVERT		
JT	JOINT		
LBS	POUNDS		
LONG	LONGITUDINAL		
LOC	LIMITS OF CONSTRUCTION		
LP	LOW POINT		

INDEX OF DRAWINGS	
SHEET NO.	SHEET TITLE
-	COVER SHEET
1	LEGEND, ABBREVIATIONS, AND INDEX OF DRAWINGS
2	GENERAL NOTES
3	RESERVOIR AREA MAP
4	EXISTING SITE PLAN
5	GENERAL PLAN OF MODIFICATIONS
6	EXISTING PRINCIPAL SPILLWAY DECOMMISSIONING
7	TYPICAL EMBANKMENT SECTIONS AND NOTES
8	EMBANKMENT PLAN & PROFILE (1 OF 2)
9	EMBANKMENT PLAN & PROFILE (2 OF 2)
10	PRINCIPAL SPILLWAY PLAN & PROFILE (1 OF 2)
11	PRINCIPAL SPILLWAY PLAN & PROFILE (1 OF 2)
12	PRINCIPAL SPILLWAY OUTLET CHANNEL DETAILS
13	PRINCIPAL SPILLWAY OUTLET CHANNEL CROSS-SECTIONS
14	PRINCIPAL SPILLWAY INLET PLAN AND SECTIONS
15	PRINCIPAL SPILLWAY INLET REINFORCEMENT SCHEDULE
16	PRINCIPAL SPILLWAY INLET REINFORCEMENT (1 OF 3)
17	PRINCIPAL SPILLWAY INLET REINFORCEMENT (2 OF 3)
18	PRINCIPAL SPILLWAY INLET REINFORCEMENT (3 OF 3)
19	PRINCIPAL SPILLWAY INLET - TRASHRACK DETAILS
20	PRINCIPAL SPILLWAY INLET - SLIDE GATE DETAILS
21	PRINCIPAL SPILLWAY RCP SECTIONS AND DETAILS
22	IMPACT BASIN SECTIONS AND DETAILS
23	IMPACT BASIN REINFORCEMENT (1 OF 3)
24	IMPACT BASIN REINFORCEMENT (2 OF 3)
25	IMPACT BASIN REINFORCEMENT (3 OF 3)
26	IMPACT BASIN REINFORCEMENT SCHEDULE
27	IMPACT BASIN DETAILS
28	VEGETATED AUXILIARY SPILLWAY PLAN AND PROFILE
29	VEGETATED AUXILIARY SPILLWAY SECTIONS (1 OF 5)
30	VEGETATED AUXILIARY SPILLWAY SECTIONS (2 OF 5)
31	VEGETATED AUXILIARY SPILLWAY SECTIONS (3 OF 5)
32	VEGETATED AUXILIARY SPILLWAY SECTIONS (4 OF 5)
33	VEGETATED AUXILIARY SPILLWAY SECTIONS (5 OF 5)
34	RCC AUXILIARY SPILLWAY PLAN
35	RCC AUXILIARY SPILLWAY PROFILE
36	RCC AUXILIARY SPILLWAY EXCAVATION PLAN
37	RCC AUXILIARY SPILLWAY EXCAVATION SECTIONS
38	RCC AUXILIARY SPILLWAY SECTIONS AND DETAILS (1 OF 4)
39	RCC AUXILIARY SPILLWAY SECTIONS AND DETAILS (2 OF 4)
40	RCC AUXILIARY SPILLWAY SECTIONS AND DETAILS (3 OF 4)
41	RCC AUXILIARY SPILLWAY SECTIONS AND DETAILS (4 OF 4)
42	RCC AUXILIARY SPILLWAY OUTLET CHANNEL
43	DRAINAGE SYSTEM DETAILS (1 OF 6)
44	DRAINAGE SYSTEM DETAILS (2 OF 6)
45	DRAINAGE SYSTEM DETAILS (3 OF 6)
46	DRAINAGE SYSTEM DETAILS (4 OF 6)
47	DRAINAGE SYSTEM DETAILS (5 OF 6)
48	DRAINAGE SYSTEM DETAILS (6 OF 6)
49	RCC AUXILIARY SPILLWAY LIFT SCHEMATIC (1 OF 7)
50	RCC AUXILIARY SPILLWAY LIFT SCHEMATIC (2 OF 7)
51	RCC AUXILIARY SPILLWAY LIFT SCHEMATIC (3 OF 7)
52	RCC AUXILIARY SPILLWAY LIFT SCHEMATIC (4 OF 7)
53	RCC AUXILIARY SPILLWAY LIFT SCHEMATIC (5 OF 7)
54	RCC AUXILIARY SPILLWAY LIFT SCHEMATIC (6 OF 7)
55	RCC AUXILIARY SPILLWAY LIFT SCHEMATIC (7 OF 7)
56	RCC SPILLWAY FENCE DETAILS
57	RCC SPILLWAY FENCE BRACKETS AND DETAILS
58	FENCE DETAILS
59	PLAN OF INSTRUMENTATION
60	INSTRUMENTATION DETAILS (1 OF 2)
61	INSTRUMENTATION DETAILS (2 OF 2)
62	PLAN OF GEOLOGIC INVESTIGATIONS
63	GEOLOGIC INVESTIGATIONS - PROFILES (1 OF 7)
64	GEOLOGIC INVESTIGATIONS - PROFILES (2 OF 7)
65	GEOLOGIC INVESTIGATIONS - PROFILES (3 OF 7)
66	GEOLOGIC INVESTIGATIONS - PROFILES (4 OF 7)
67	GEOLOGIC INVESTIGATIONS - PROFILES (5 OF 7)
68	GEOLOGIC INVESTIGATIONS - PROFILES (6 OF 7)
69	GEOLOGIC INVESTIGATIONS - PROFILES (6 OF 7)
70	STORM WATER POLLUTION PREVENTION PLAN (1 OF 2)
71	STORM WATER POLLUTION PREVENTION PLAN (2 OF 2)



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LEGEND, ABBREVIATIONS, AND INDEX OF DRAWINGS
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
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AECOM Technical Services, Inc.
 9400 Armburgen Blvd
 Austin, Texas 78729
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SHEET NO. 1
 OF 71

GENERAL NOTES:

- THE GENERAL NOTES AND TYPICAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS, INCLUDING LOCATION AND DIMENSIONS OF ALL EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY OWNER'S RESIDENT REPRESENTATIVE IF THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONDITIONS BEFORE PROCEEDING WITH WORK.
- CONTOURS WERE OBTAINED FROM SURVEYS PERFORMED IN NOVEMBER 2019. CONTRACTOR SHALL MAKE SITE SURVEYS AS NECESSARY FOR CONSTRUCTION AND IN ACCORDANCE WITH CONSTRUCTION SPECIFICATION 7, CONSTRUCTION SURVEYS.
- THE LIMITS OF CONSTRUCTION ARE SET 2 FEET INSIDE PERMANENT AND TEMPORARY EASEMENTS UNLESS OTHERWISE SHOWN. CONTRACTOR SHALL STAY WITHIN THE LIMITS OF CONSTRUCTION AND NOT VENTURE OFF THE ACCESS ROADS EXCEPT FOR DIRECT ACCESS TO THE WORK AREAS. CONTRACTOR SHALL CLEARLY MARK THE LIMITS OF CONSTRUCTION WITH SILT FENCE.
- COMPLY AND CONDUCT WORK IN ACCORDANCE WITH OWNER'S SECURITY REGULATIONS AND REQUIREMENTS. PROVIDE SITE SECURITY AS NECESSARY TO PROTECT AGAINST VANDALISM AND LOSS BY THEFT.
- CONTRACTOR SHALL MANAGE AND PROTECT THE WORK FROM FLOOD FLOWS, STREAM FLOWS, SURFACE WATER RUNOFF, GROUNDWATER OR ANY OTHER WATER ENCOUNTERED DURING THE PROGRESS OF THE WORK IN ACCORDANCE WITH CONSTRUCTION SPECIFICATION 11, REMOVAL OF WATER.
- NOTIFY OWNER OF ANY SIGNS TO BE TEMPORARILY REMOVED. ALL EXISTING SIGNS TEMPORARILY REMOVED, IF ANY, SHALL BE STORED ON SITE BY THE CONTRACTOR AND SHALL BE REINSTALLED BY THE CONTRACTOR AT THE END OF CONSTRUCTION IN THEIR ORIGINAL CONDITION.
- THE AREA AROUND OVERHEAD ELECTRICAL TOWERS SHALL BE PROTECTED. PROTECTION SHALL BE PROVIDED TO ANY TOWER, POLE OR GUY STRUCTURE WHEN TRAFFIC OR CONSTRUCTION ACTIVITY IS WITHIN 50 FEET OF THE STRUCTURE.
- WORK UNDER THIS CONTRACT IS AUTHORIZED UNDER THE TERMS AND CONDITIONS OF THE U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT 3, MAINTENANCE. SEE THE SWPPP FOR DETAILS.
- CONTRACTOR SHALL FOLLOW REQUIREMENTS OF SWPPP.
- CONSTRUCT THE STAGING AREAS AND VEHICLE MAINTENANCE AREAS IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS.
- NO ON-SITE CONCRETE BATCH PLANT WILL BE PERMITTED.
- NO CONSTRUCTION FILL OR MATERIALS SHALL BE PLACED OR STORED IN AREAS NOT SPECIFICALLY DESIGNATED FOR THAT PURPOSE.
- PROVIDE PROTECTED STORAGE FOR PAINTS, CHEMICALS, SOLVENTS, AND OTHER POTENTIALLY HAZARDOUS MATERIALS.
- HANDLING, STORAGE, AND DISPOSAL OF ALL WASTE MATERIAL SHALL CONFORM TO THE SWPPP.
- PREVENT POLLUTION OF SURFACE WATER AND GROUNDWATER WITH PETROLEUM PRODUCTS OR OTHER HAZARDOUS OR REGULATED SUBSTANCES. TAKE SPECIAL MEASURES TO PREVENT CHEMICALS, FUELS, OILS, GREASES, HERBICIDES, AND INSECTICIDES FROM ENTERING DRAINAGE WAYS. DO NOT ALLOW WATER USED IN ON-SITE MATERIAL PROCESSING AND CLEANUP, AND OTHER WASTEWATERS TO ENTER A DRAINAGE WAY, STREAM, OR RIVER.
- PROMPTLY REPAIR EQUIPMENT LEAKING OIL/HYDRAULIC FLUID/ETC. IMMEDIATELY REMOVE AND REPLACE, AS NECESSARY, ALL SOILS ON WHICH SUCH LEAKAGE OCCURRED. PREVENT THE SPREAD OF LEAKED FLUIDS OR FLUID CONTAMINATED MATERIALS FROM THE ORIGINAL LEAK AREA. BE RESPONSIBLE FOR THE PROPER HANDLING AND DISPOSAL OF ALL SUCH CONTAMINATED MATERIALS.
- PROVIDE SECONDARY CONTAINMENT AROUND ANY FUEL AND CHEMICAL STORAGE AREAS TO ENSURE THAT SPILLS FROM ANY SUCH AREAS DO NOT DISCHARGE FROM THE SECONDARY CONTAINMENT AREA. THE SECONDARY CONTAINMENT CAPACITY SHALL BE ADEQUATE TO CONTAIN THE CAPACITY OF THE LARGEST TANK/CONTAINER PLUS SUFFICIENT FREEBOARD TO CONTAIN PRECIPITATION.
- PRECAUTIONS SHALL BE TAKEN DURING EQUIPMENT FUELING AND CHEMICAL TRANSFER OPERATIONS IN ORDER TO PREVENT SPILLS FROM OCCURRING AND TO MINIMIZE THE IMPACT OF ANY SPILL THAT DOES OCCUR. ALL FUEL AND CHEMICAL TRANSFERS SHALL BE CONTINUOUSLY MONITORED. MAINTAIN APPROPRIATE EQUIPMENT ON-SITE FOR RESPONDING TO ANY OIL OR HAZARDOUS SUBSTANCE SPILL. ADDITIONALLY, THERE SHALL BE AN ON-SITE PROHIBITION AGAINST THE TOPPING OFF OF TANKS AND EQUIPMENT.
- REMOVE ALL FORM WORK FOLLOWING CONSTRUCTION.
- EXISTING ROADS, ACCESS DRIVES, UTILITIES AND PROPERTY WITHIN THE LIMITS OF CONSTRUCTION DAMAGED BY CONTRACTOR AND ALL DISTURBED AREAS SHALL BE REPAIRED BY CONTRACTOR TO SAME OR BETTER CONDITION PRIOR TO END OF CONSTRUCTION.
- DATUM INFORMATION:
HORIZONTAL DATUM IS TEXAS STATE PLANE, NAD83, SOUTH CENTRAL ZONE, 4204, US SURVEY FEET
VERTICAL DATUM IS NAVD 88. ALL ELEVATIONS ARE IN FEET ABOVE MEAN SEA LEVEL (MSL).
- PLANS AND SPECIFICATIONS WILL NOT BE SUBSTANTIALLY CHANGED WITHOUT EITHER WRITTEN APPROVAL OF THE TCEQ EXECUTIVE DIRECTOR BEFORE THE WORK IS STARTED, OR NOTIFICATION OF THE CHANGES AS DEFINED IN 30 TAC 299.26, 'CONSTRUCTION CHANGE ORDERS'.

FLEXBASE SPECIFICATION

**Table 1
Material Requirements**

Property	Test Method	Grade 1-2
Sampling	Tex-400-A	
Master gradation sieve size (cumulative % retained)		
2-1/2"		0
1-3/4"	Tex-110-E	0-10
7/8"		10-35
3/8"		30-65
#4		45-75
#40		65-90
Liquid Limit, % Max	Tex-104-E	40
Plasticity Index, Max		10
Plasticity index, Min	Tex-106-E	As shown on the plans
Wet ball mill, % Max		40
Wet ball mill, % Max increase passing the #40 sieve	Tex-116-E	20
Min compressive strength, psi		
lateral pressure 0 psi		35
lateral pressure 3 psi	Tex-117-E	-
lateral pressure 15 psi		175

- Determine plastic index in accordance with Tex-107-E (linear shrinkage) when liquid limit is unattainable as defined in Tex-104-E.
- Grade 4 may be further designated as Grade 4A, Grade 4B, etc.

PVC PIPE AND DUCTILE IRON PIPE SCHEDULE OF QUANTITIES

SCHEDULE OF QUANTITIES				EXISTING PRINCIPAL SPILLWAY FILTER DIAPHRAGM AND DRAIN PIPE
ITEM NO.	QTY	UNIT	SIZE	DESCRIPTION
1	180	LF	6"	PIPE, PVC SCHEDULE 40
2	11	LF	6"	PERFORATED PIPE, PVC SCHEDULE 40
3	1	EA	6"	90 DEGREE ELBOW, PVC SCHEDULE 40
4	2	EA	6"	END CAP, PVC SCHEDULE 40
5	20	LF	6"	PIPE, DUCTILE IRON SCHEDULE 40

SCHEDULE OF QUANTITIES				NEW PRINCIPAL SPILLWAY FILTER DIAPHRAGM AND DRAIN PIPES
ITEM NO.	QTY	UNIT	SIZE	DESCRIPTION
1	4	LF	6"	PIPE, PVC SCHEDULE 40
2	50	LF	6"	PERFORATED PIPE, PVC SCHEDULE 40
3	4	EA	6"	90 DEGREE ELBOW, PVC SCHEDULE 40
4	2	EA	6"	END CAP, PVC SCHEDULE 40
5	2	EA	N/A	RODENT GUARD

SCHEDULE OF QUANTITIES				RCC AUXILIARY SPILLWAY DRAINAGE SYSTEM
ITEM NO.	QTY	UNIT	SIZE	DESCRIPTION
1	200	LF	6"	PIPE, PVC SCHEDULE 40
2	430	LF	6"	PERFORATED PIPE, PVC SCHEDULE 40
3	12	EA	6"	22.5 DEGREE LONG RADIUS ELBOW, PVC SCHEDULE 40
4	8	EA	6"	TEE, PVC SCHEDULE 40
5	4	EA	6"	FLEXIBLE COUPLER
6	4	EA	6"	SCREW-IN PLUG
7	8	EA	N/A	RODENT GUARD
8	4	EA	N/A	CLEANOUT COVER

FINE FILTER GRADATION

Sieve Size	Particle Size (mm)	Recommended Fine Filter Gradation Percent Finer by Weight	
		Coarse Band	Fine Band
3/8"	9.5	100	---
No. 4	4.75	100	---
No. 8	2.36	90	100
No. 16	1.18	65	100
No. 30	0.6	45	90
No. 50	0.3	45	93
No. 100	0.15	7	40
No. 200	0.074	0	3

COARSE FILTER GRADATION

Sieve Size	Particle Size (mm)	Recommended Coarse Filter Gradation Percent Finer by Weight	
		Coarse Band	Fine Band
2 in.	50	100	---
1 in.	25	90	100
1/2 in.	12.7	75	100
3/8 in.	9.5	65	100
No. 4	4.75	45	90
No. 10	2	20	65
No. 18	1	3	50
No. 40	0.425	0	25
No. 100	0.15	0	8
No. 200	0.075	0	3



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GENERAL NOTES
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SHEET NO. **2**
 OF **71**

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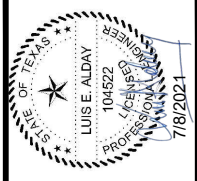
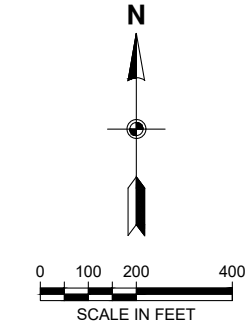
- UPGRADE PRINCIPAL SPILLWAY LOW PORT ELEVATION (NORMAL POOL)
- UPGRADE PRINCIPAL SPILLWAY CREST ELEVATION
- UPGRADE AUXILIARY SPILLWAY CREST ELEVATION
- UPGRADE TOP OF DAM ELEVATION



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STORAGE TABLE

Elevation (ft)	Surface Acres	Storage	
		Acre Feet	Inches
640.4	12.9	1.0	0.01
642.0	15.8	23.5	0.16
644.0	21.7	61.0	0.40
645.4	26.2	94.3	0.62
646.0	28.0	110.4	0.73
647.0	32.3	140.5	0.93
648.0	37.3	175.3	1.16
650.0	48.4	260.6	1.72
652.0	62.4	371.2	2.45
654.0	78.9	512.1	3.39
656.0	98.5	689.2	4.56
658.0	116.7	904.7	5.98
658.6	121.0	976.1	6.45
659.0	123.7	1024.9	6.78
659.8	128.8	1126.1	7.45
660.0	130.1	1151.8	7.62
662.0	146.4	1427.9	9.44
662.8	153.2	1547.9	10.23
Top of Dam (Effective) Elev.		662.8	
Vegetated Spillway Crest Elev.		659.8	
RCC Spillway Crest Elev.		658.6	
Principal Spillway Crest Elev.		645.4	
Low Level Port Elev.		640.4	
Sediment Storage Total, Acre Feet		94.3	
Floodwater Storage, Acre Feet		881.8	
Drainage Area, Acres		1815	
Auxiliary Spillway Capacity at El. 662.8 (CFS)		8339.5	
Principal Spillway Discharge at El. 658.6 (CFS)		292.3	



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RESERVOIR AREA MAP
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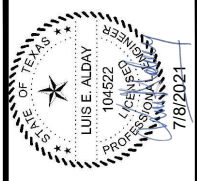
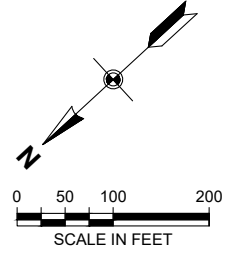
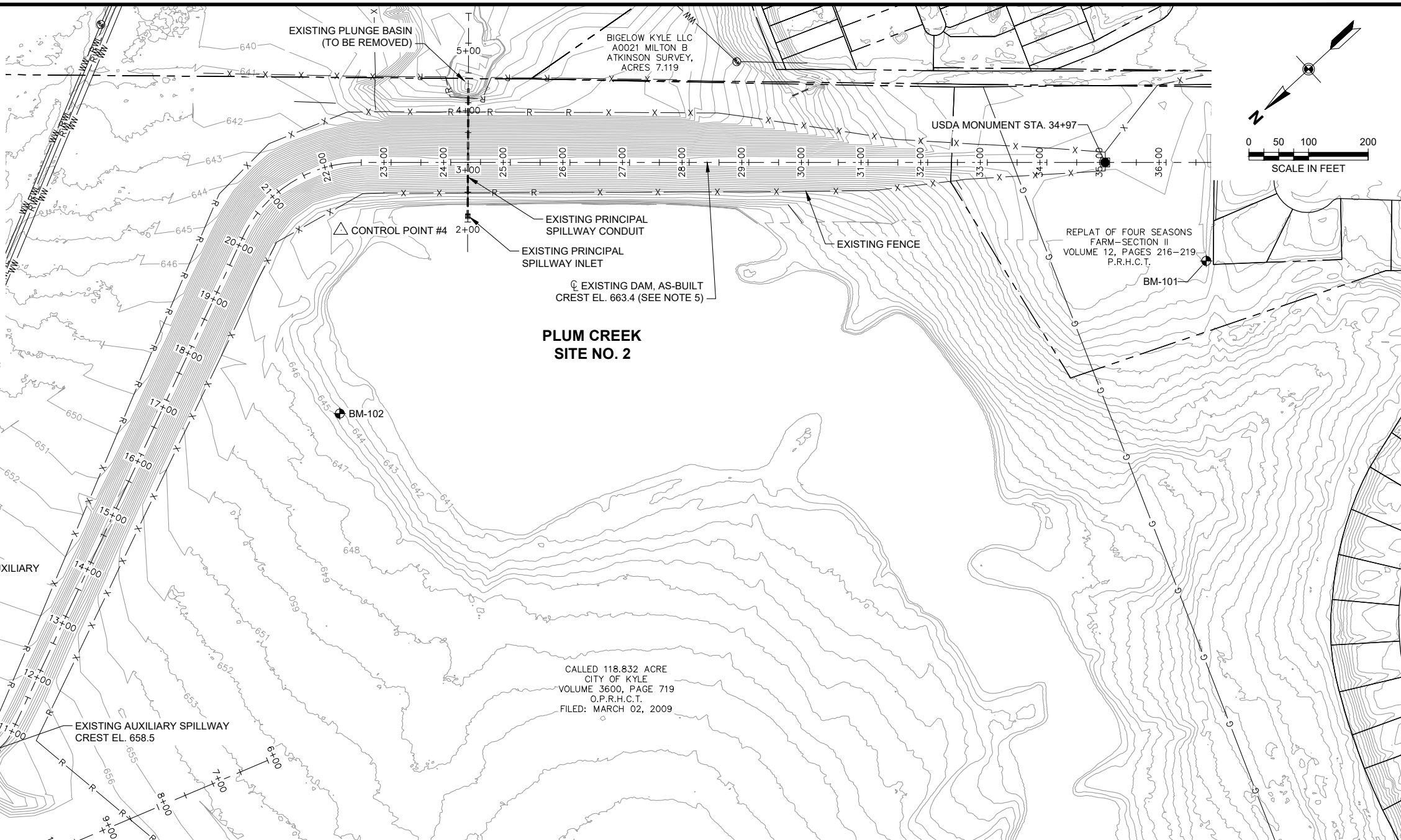
SHEET NO. 3
 OF 71

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DATE	APPROVED	TITLE



NOTES:

1. TOPOGRAPHY AND EXISTING SITE FEATURES ARE BASED ON FIELD SURVEYS PERFORMED IN NOVEMBER 2019 BY CP&Y, INC., ROUND ROCK, TEXAS.
2. THE HORIZONTAL CONTROL DATUM IS TEXAS STATE PLANE, SOUTH CENTRAL ZONE, NORTH AMERICAN DATUM 1983 (NAD83). THE VERTICAL CONTROL DATUM IS NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88) USING GEOID 12B. ALL REFERENCED ELEVATIONS AND HORIZONTAL COORDINATES ARE IN U.S. SURVEY FEET.
3. SEE SHEETS 62 THROUGH 69 FOR RESULTS OF 2020 GEOLOGIC INVESTIGATION.
4. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE START OF WORK.
5. TYPICAL EXISTING EMBANKMENT SECTION ELEVATION INFORMATION SHOWN HEREON IS PER AS-BUILT DRAWINGS USING A VERTICAL DATUM NGVD29.
6. THE AS-BUILT DRAWINGS WILL BE AVAILABLE FOR REVIEW.
7. LOCATION OF EXISTING STRUCTURES AND FENCES SHOWN ARE APPROXIMATE, AND MAY NOT INCLUDE ALL STRUCTURES AND FENCES IN THE AREA. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL STRUCTURES AND FENCES IN THE VICINITY OF THE WORK.



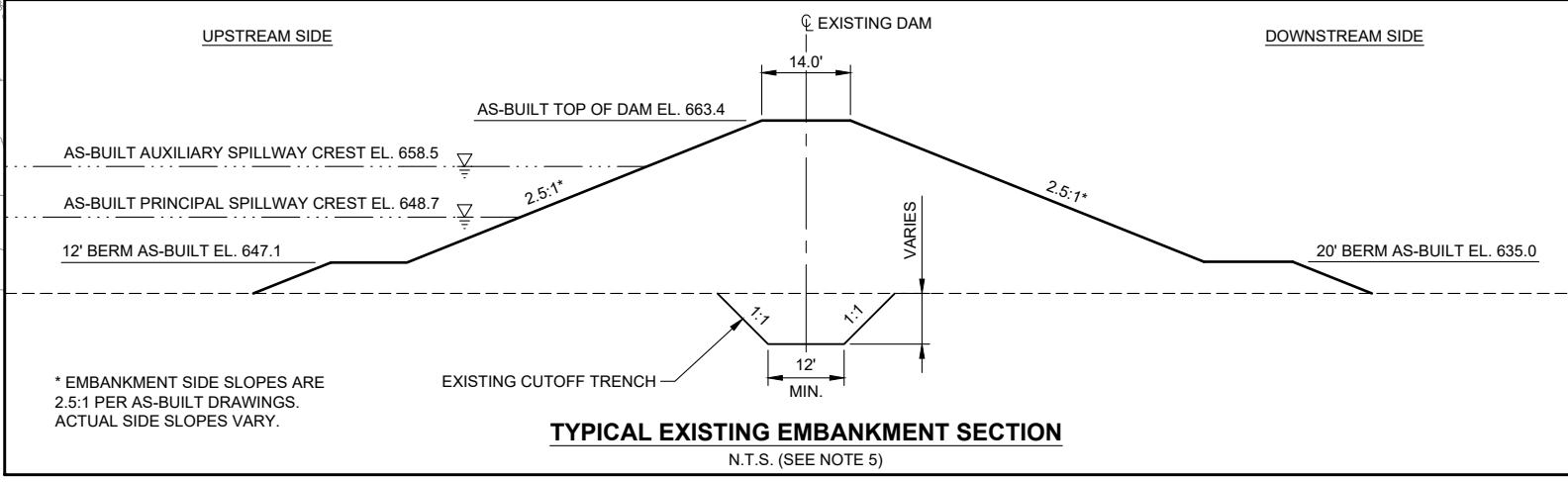
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 DATE CHECKED: 7/9/2021

**PLUM CREEK
SITE NO. 2**

EXISTING SITE PLAN
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

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BENCHMARKS				
BM ID	NORTHING	EASTING	ELEVATION	DESCRIPTION
BM-101	13,906,382.02	2,329,281.65	663.04	5/8" IRON ROD WITH RED PLASTIC CAP STAMPED "CP&Y TRAV POINT"
BM-102	13,907,623.95	2,330,078.80	644.13	5/8" IRON ROD WITH RED PLASTIC CAP STAMPED "CP&Y TRAV POINT"
BM-103	13,908,547.06	2,329,548.82	660.14	5/8" IRON ROD WITH RED PLASTIC CAP STAMPED "CP&Y TRAV POINT"
CONTROL POINT #4	13,907,414.02	2,330,303.52	643.77	5/8" IRON ROD WITH RED PLASTIC CAP STAMPED "CP&Y TRAV POINT"
USDA MONUMENT STA. 8+10	13,908,654.17	2,330,124.96	657.85	USDA SOIL CONSERVATION SERVICE MONUMENT STA. 8+10
USDA MONUMENT STA. 34+97	13,906,394.49	2,329,518.16	662.78	USDA SOIL CONSERVATION SERVICE MONUMENT STA. 34+97



- LEGEND:**
- X- EXISTING FENCE TO REMAIN
 - R-R EXISTING FENCE TO BE REMOVED
 - G- EXISTING GAS LINE
 - WW- EXISTING WASTEWATER LINE
 - RWL- EXISTING RECLAIM WATER LINE

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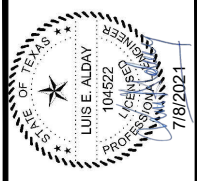
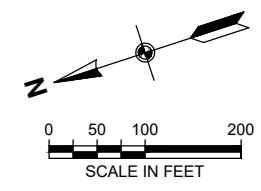
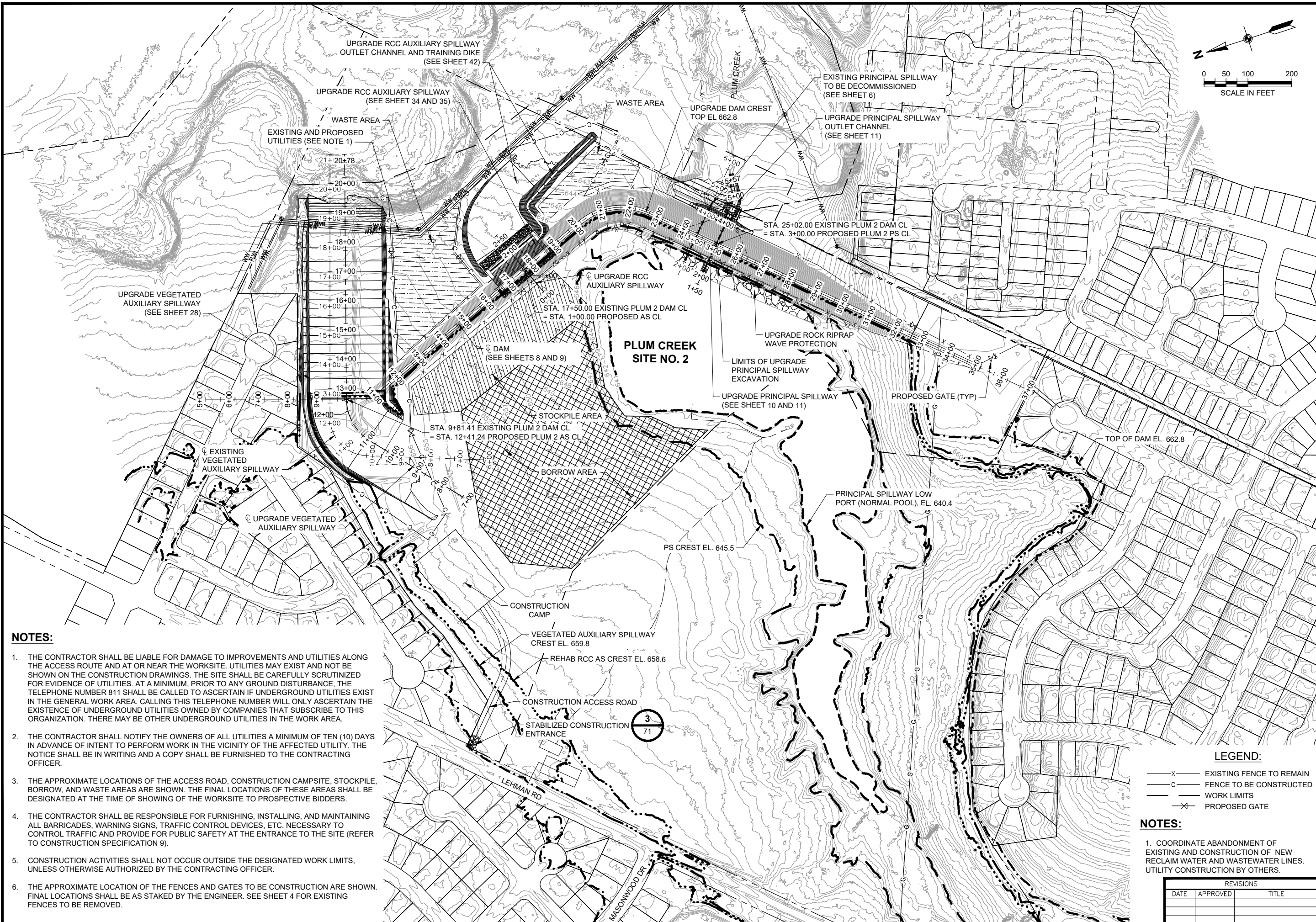
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SHEET NO. 4
 OF 71

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NOTES:

1. THE CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO IMPROVEMENTS AND UTILITIES ALONG THE ACCESS ROUTE AND AT OR NEAR THE WORKSITE. UTILITIES MAY EXIST AND NOT BE SHOWN ON THE CONSTRUCTION DRAWINGS. THE SITE SHALL BE CAREFULLY SCRUTINIZED FOR EVIDENCE OF UTILITIES. AT A MINIMUM, PRIOR TO ANY GROUND DISTURBANCE, THE TELEPHONE NUMBER 811 SHALL BE CALLED TO ASCERTAIN IF UNDERGROUND UTILITIES EXIST IN THE GENERAL WORK AREA. CALLING THIS TELEPHONE NUMBER WILL ONLY ASCERTAIN THE EXISTENCE OF UNDERGROUND UTILITIES OWNED BY COMPANIES THAT SUBSCRIBE TO THIS ORGANIZATION. THERE MAY BE OTHER UNDERGROUND UTILITIES IN THE WORK AREA.
2. THE CONTRACTOR SHALL NOTIFY THE OWNERS OF ALL UTILITIES A MINIMUM OF TEN (10) DAYS IN ADVANCE OF INTENT TO PERFORM WORK IN THE VICINITY OF THE AFFECTED UTILITY. THE NOTICE SHALL BE IN WRITING AND A COPY SHALL BE FURNISHED TO THE CONTRACTING OFFICER.
3. THE APPROXIMATE LOCATIONS OF THE ACCESS ROAD, CONSTRUCTION CAMPSITE, STOCKPILE, BORROW, AND WASTE AREAS ARE SHOWN. THE FINAL LOCATIONS OF THESE AREAS SHALL BE DESIGNATED AT THE TIME OF SHOWING OF THE WORKSITE TO PROSPECTIVE BIDDERS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING, AND MAINTAINING ALL BARRICADES, WARNING SIGNS, TRAFFIC CONTROL DEVICES, ETC. NECESSARY TO CONTROL TRAFFIC AND PROVIDE FOR PUBLIC SAFETY AT THE ENTRANCE TO THE SITE (REFER TO CONSTRUCTION SPECIFICATION 9).
5. CONSTRUCTION ACTIVITIES SHALL NOT OCCUR OUTSIDE THE DESIGNATED WORK LIMITS, UNLESS OTHERWISE AUTHORIZED BY THE CONTRACTING OFFICER.
6. THE APPROXIMATE LOCATION OF THE FENCES AND GATES TO BE CONSTRUCTION ARE SHOWN. FINAL LOCATIONS SHALL BE AS STAKED BY THE ENGINEER. SEE SHEET 4 FOR EXISTING FENCES TO BE REMOVED.

LEGEND:

- x — EXISTING FENCE TO REMAIN
- c — FENCE TO BE CONSTRUCTED
- — WORK LIMITS
- X — PROPOSED GATE

NOTES:

1. COORDINATE ABANDONMENT OF EXISTING AND CONSTRUCTION OF NEW RECLAIM WATER AND WASTEWATER LINES. UTILITY CONSTRUCTION BY OTHERS.

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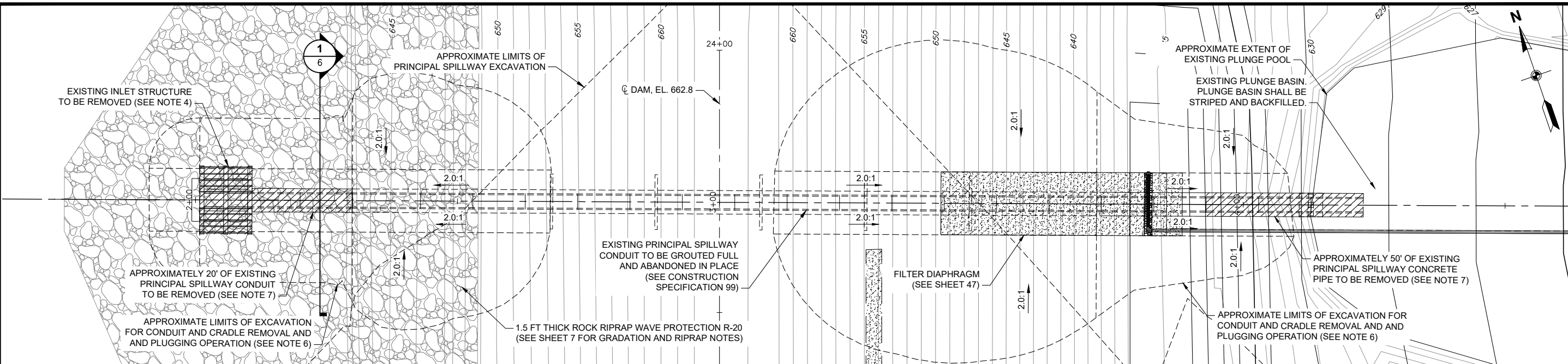
GENERAL PLAN OF MODIFICATIONS
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

**Texas State
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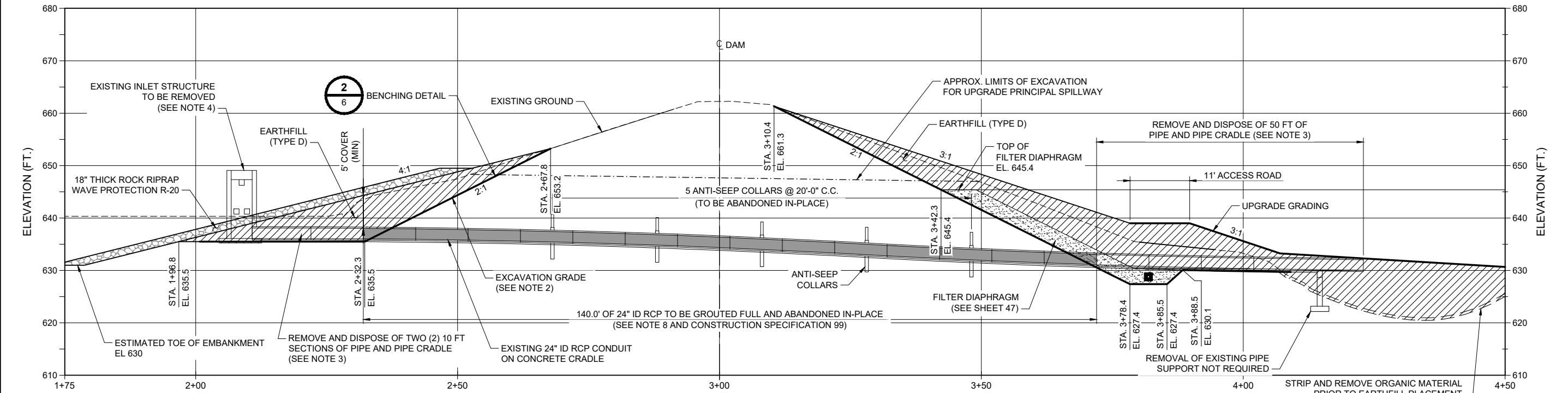
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SHEET NO. **5**
 OF **71**

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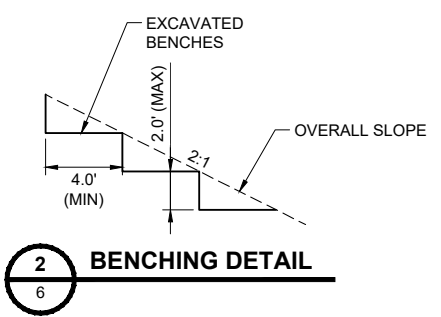
PLAN - EXISTING PRINCIPAL SPILLWAY DECOMMISSIONING
SCALE IN FEET



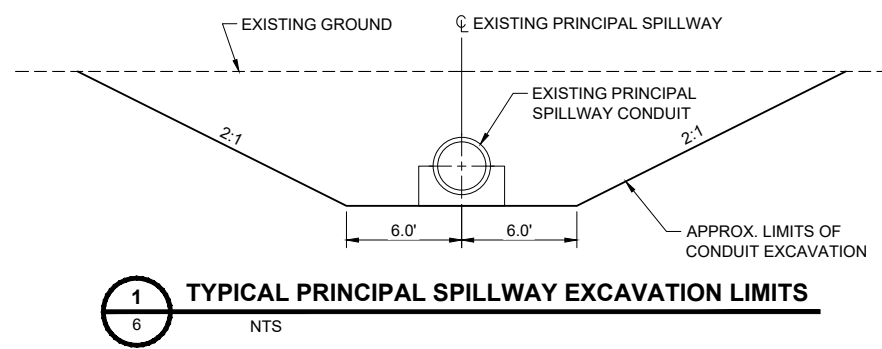
PROFILE - EXISTING PRINCIPAL SPILLWAY DECOMMISSIONING
SCALE IN FEET

- NOTES:**
- EXISTING CONDUIT MAY BE USED TO DEWATER THE RESERVOIR / SITE DURING CONSTRUCTION. SEE CONSTRUCTION SPECIFICATION 11.
 - DRAWINGS OF EXISTING STRUCTURES WERE DEVELOPED FROM THE AS-BUILT DRAWINGS. AS A RESULT, THE DIMENSIONS OF EXISTING FACILITIES ARE APPROXIMATE. ACTUAL DIMENSIONS COULD VARY FROM DIMENSIONS AND THICKNESS SHOWN. CONTRACTOR SHALL FIELD VERIFY ACTUAL DIMENSIONS PRIOR TO THE START OF WORK. A COPY OF THE AS-BUILT DRAWINGS WILL BE POSTED ON THE PCCD WEBSITE ALONG WITH BID DOCUMENTS.
 - REINFORCEMENT AND EMBEDDED METALWORK NOT SHOWN. HOWEVER, AS-BUILT DRAWINGS INDICATE THAT ALL CONCRETE EXCEPT THE PIPE CRADLE IS REINFORCED.
 - REMOVE AND DISPOSE OF EXISTING INLET STRUCTURE, INCLUDING TRASH RACK, METAL GRATING, SLIDE GATE, AND ALL ASSOCIATED APPURTENANCES IN ACCORDANCE WITH THE REQUIREMENTS OF CONSTRUCTION SPECIFICATION 3.
 - EXCAVATION FOR REMOVAL OF THE EXISTING PRINCIPAL SPILLWAY INLET STRUCTURE SHALL BE COORDINATED WITH CONSTRUCTION OF NEW STRUCTURES.

- THE LIMITS OF EXCAVATION SHOWN ARE APPROXIMATE. FINAL EXCAVATION LIMITS SHALL BE APPROVED BY THE ENGINEER.
- REMOVE AND DISPOSE OF EXISTING RCP CONDUIT AND CONCRETE CRADLE IN ACCORDANCE WITH CONSTRUCTION SPECIFICATION 3. THE BOTTOM OF THE EXISTING CONCRETE CRADLE SHALL BE THE LOWER LIMIT OF EXCAVATION ALONG THE LENGTH OF THE CONDUIT AT THE AREAS OF CONDUIT REMOVAL.
- GROUT EXISTING RCP FOLLOWING REMOVAL OF EXISTING INLET STRUCTURE AND REMOVAL OF SPECIFIED PORTIONS OF EXISTING RCP. GROUT RCP FROM DOWNSTREAM END OF RCP TO REMAIN IN-PLACE. SEE CONSTRUCTION SPECIFICATION 3 AND CONSTRUCTION SPECIFICATION 99 FOR REQUIREMENTS REGARDING REMOVAL OF EXISTING INLET STRUCTURE AND GROUTING OF EXISTING PRINCIPAL SPILLWAY CONDUIT RESPECTIVELY.
- UPSTREAM END OF GROUTED RCP TO HAVE A MINIMUM OF 5' OF EARTHFILL COVER.



2 BENCHING DETAIL



1 TYPICAL PRINCIPAL SPILLWAY EXCAVATION LIMITS
NTS

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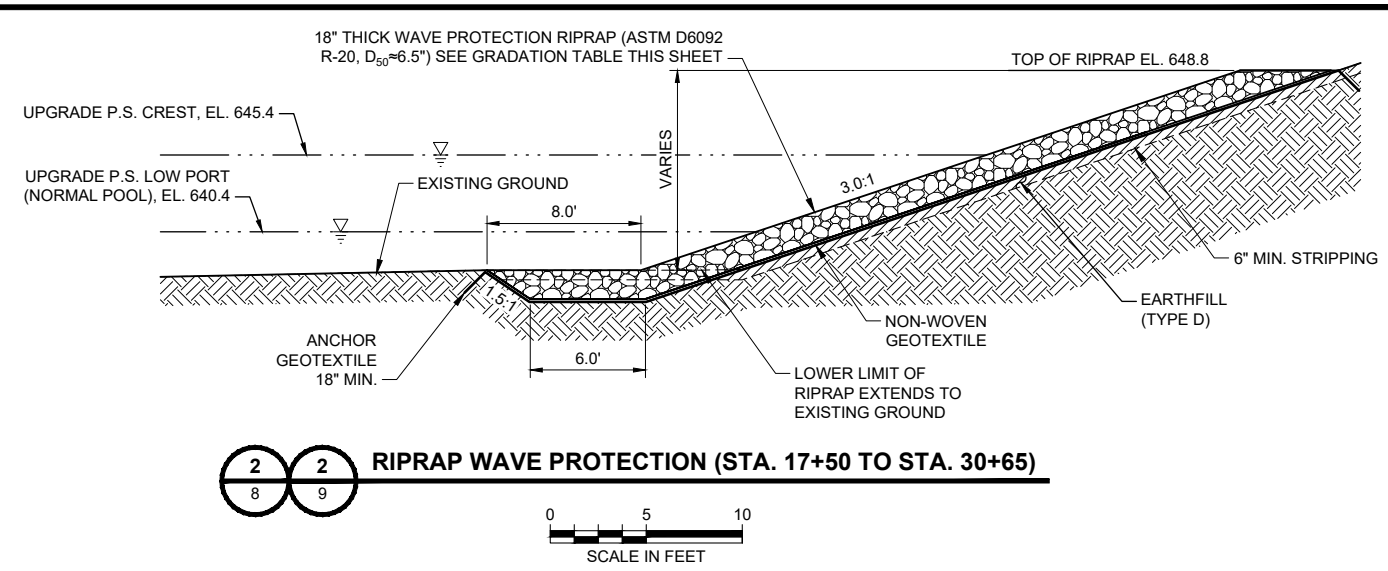
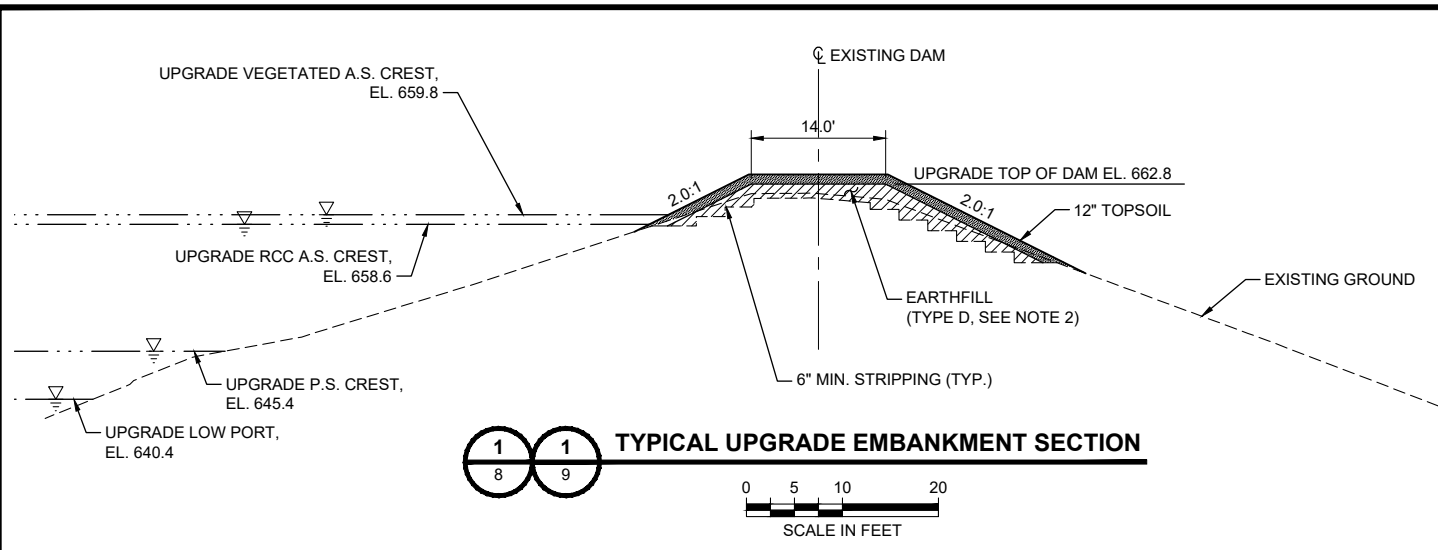
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EXISTING PRINCIPAL SPILLWAY DECOMMISSIONING
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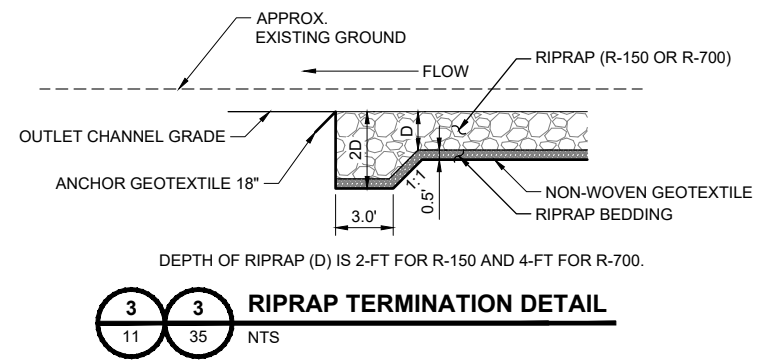
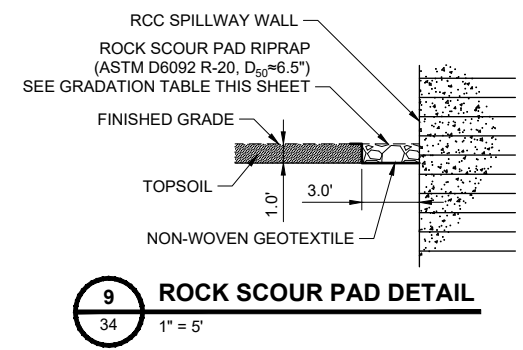
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SHEET NO. 6
 OF 71



ASTM D6092 R-700 RIPRAP GRADATION		ASTM D6092 R-150 RIPRAP GRADATION		ASTM D6092 R-20 RIPRAP GRADATION	
SIZE (POUNDS)	% LIGHTER	SIZE (POUNDS)	% LIGHTER	SIZE (POUNDS)	% LIGHTER
1500	100	300	100	45	100
700	50 - 100	150	50 - 100	20	50 - 100
300	15 - 50	60	15 - 50	10	15 - 50
60	0 - 15	20	0 - 15	2	0 - 15

- RIPRAP NOTES:**
- ALL ROCK RIPRAP SHALL COMPLY WITH CONSTRUCTION SPECIFICATION 61, AND MATERIAL SPECIFICATION 523.
 - SPALLS AND ROCK DUST THAT PASS A 3" SIEVE SHALL CONSIST OF LESS THAN 5 PERCENT BY WEIGHT.
 - ROCK PLACED AGAINST CONCRETE WORKS SHALL BE PLACED CAREFULLY TO AVOID DAMAGE.
 - SEE TABLES (THIS SHEET) FOR RIPRAP BEDDING GRADATION.



PROPOSED FILL MATERIALS			MATERIAL SOURCE INFORMATION				FILL MATERIAL REQUIREMENTS											
MATERIAL TYPE	DESCRIPTION	PLACEMENT LOCATION	MATERIAL SOURCE	TYPICAL DEPTHS		REQUIRED USCS GROUP SYMBOL (SEE NOTE 5)	REQUIRED ATTERBERG LIMITS		MAX. PARTICLE SIZE (SEE NOTE 6)	MAXIMUM UNCOMPACTED LIFT THICKNESS	SPECIFIED COMPACTION CLASS	CRUMB TEST	PINHOLE DISPERSION	FIELD MOISTURE DENSITY TEST		REQUIRED RELATIVE COMPACTION (%)	COMPACTION MOISTURE LIMITS (±OPTIMUM)	
				TOP (FT)	BOTTOM (FT)		LL	PI						ASTM NO.	METHOD			
A	IMPORTED FILL	ADJACENT TO RCC SPILLWAY (SEE NOTE 1) BACKFILL OVER PS CONDUIT	OFF-SITE BORROW AREA (TBD)	---	---	CL, SC	< 45	7 - 20	2"	9"	A	GRADE 1 OR 2	ND1 OR ND2	D698	A	95 - 100	OPT	+4%
B	IMPORTED FILL	UNDER RCC SPILLWAY (SEE NOTE 2)	OFF-SITE BORROW AREA (TBD)	---	---	CL, SC	< 45	7 - 20	2"	9"	A	GRADE 1 OR 2	ND1 OR ND2	D698	A	98 MIN.	OPT	+4%
C	ON-SITE FILL	INTERIOR ZONE OF EMBANKMENT (SEE NOTE 3)	BORROW AREA (LAYER B) SUPPLEMENTAL OFF-SITE BORROW AREA (AS NEEDED)	4.0 ---	8.0 ---	CL, SC, CL-ML, CH	< 60	10 - 35	2"	9"	A	GRADE 1 OR 2	ND1 OR ND2	D698	A	95 - 100	OPT	+4%
D	ON-SITE FILL	OUTER ZONE OF EMBANKMENT (SEE NOTE 3 AND NOTE 4)	BORROW AREA (LAYER B) SUPPLEMENTAL OFF-SITE BORROW AREA (AS NEEDED)	4.0 ---	8.0 ---	CL, SC	< 50	10 - 30	2"	9"	A	GRADE 1 OR 2	ND1 OR ND2	D698	A	95 - 100	OPT	+4%
E	ON-SITE FILL	AUXILIARY SPILLWAY CHANNEL AND BERMS RCC OUTLET CHANNEL BERMS	BORROW AREA (LAYER C) PSW EMBANKMENT EXCAVATION PSW DOWNSTREAM TOE EXCAVATION RCC EMBANKMENT EXCAVATION RCC DOWNSTREAM TOE EXCAVATION RCC OUTLET CHANNEL EXCAVATION	8.0 0.0 0.0 0.0 4.0 1.0	10.0 32.0 11.0 15.0 18.0 4.0	CH, CL	30 - 75	10 - 55	2"	9"	A	GRADE 1 OR 2	ND1 OR ND2	D698	A	95 - 100	OPT	+4%

RIPRAP BEDDING FOR R-150 RIPRAP (C-33 No. 2)

PARTICLE SIZE (INCHES)	% SMALLER
3	100
2.5	90 - 100
2	35 - 70
1.5	0 - 15
0.75	0 - 5

RIPRAP BEDDING FOR R-700 RIPRAP (C-33 No. 1)

PARTICLE SIZE (INCHES)	% SMALLER
4	100
3.5	90 - 100
2.5	25 - 60
1.5	0 - 15
0.75	0 - 5

- NOTES:**
- APPLIES TO FILL ZONES LOCATED WITHIN A HORIZONTAL DISTANCE EQUAL TO THE WALL HEIGHT (1H) BEHIND PROPOSED SPILLWAY WALLS.
 - APPLIES TO FILL ZONES WITHIN THE FOOTPRINT OF THE RCC CREST WEIR FOUNDATION, RCC CHUTE, IMPACT BASIN, INLET TOWER, CONDUIT PIPE, AND WITHIN 5-FOOT HORIZONTAL DISTANCE BEYOND THE FOOTPRINT.
 - APPLIES TO EMBANKMENT FILLS LOCATED A DISTANCE GREATER THAN 1H BEYOND STRUCTURES.
 - APPLIES TO FILL PLACED IN THE OUTER 5-FT (VERTICAL) OF THE EMBANKMENT. MINIMUM PLACEMENT WIDTH OF 10-FT (HORIZONTAL) FOR EMBANKMENT RECONSTRUCTION AT THE NEW PRINCIPAL SPILLWAY.
 - ALL MATERIALS SHALL HAVE MINIMUM 40% FINES CONTENT (I.E., PERCENT PASSING THE NO. 200 US SIEVE BY WEIGHT) AND NO GREATER THAN 20% GRAVEL (I.E., PERCENT COARSER THAN THE US NO. 4 SIEVE BY WEIGHT).
 - EARTHFILLS AND BACKFILLS NEAR STRUCTURES TO BE COMPACTED BY HAND TAMPING OR WITH MANUALLY-DIRECTED POWER TAMPERS OR PLATE VIBRATORS SHALL BE PLACED IN LAYERS NOT EXCEEDING 4 INCHES IN THICKNESS BEFORE COMPACTION. MAXIMUM ALLOWABLE PARTICLE SIZE FOR SUCH MATERIAL SHALL BE 2 INCHES.

- NOTES:**
- EXISTING DAM WILL BE RESTORED TO CURRENT NOMINAL ELEVATION OF 662.8 ALONG THE ENTIRE DAM CREST.
 - EXCAVATED SURFACES TO BE BENCHED PRIOR TO FILL PLACEMENT IN ACCORDANCE WITH THE SPECIFICATIONS.

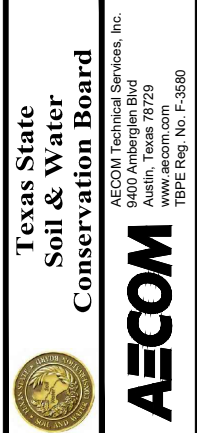
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TYPICAL EMBANKMENT SECTIONS AND NOTES

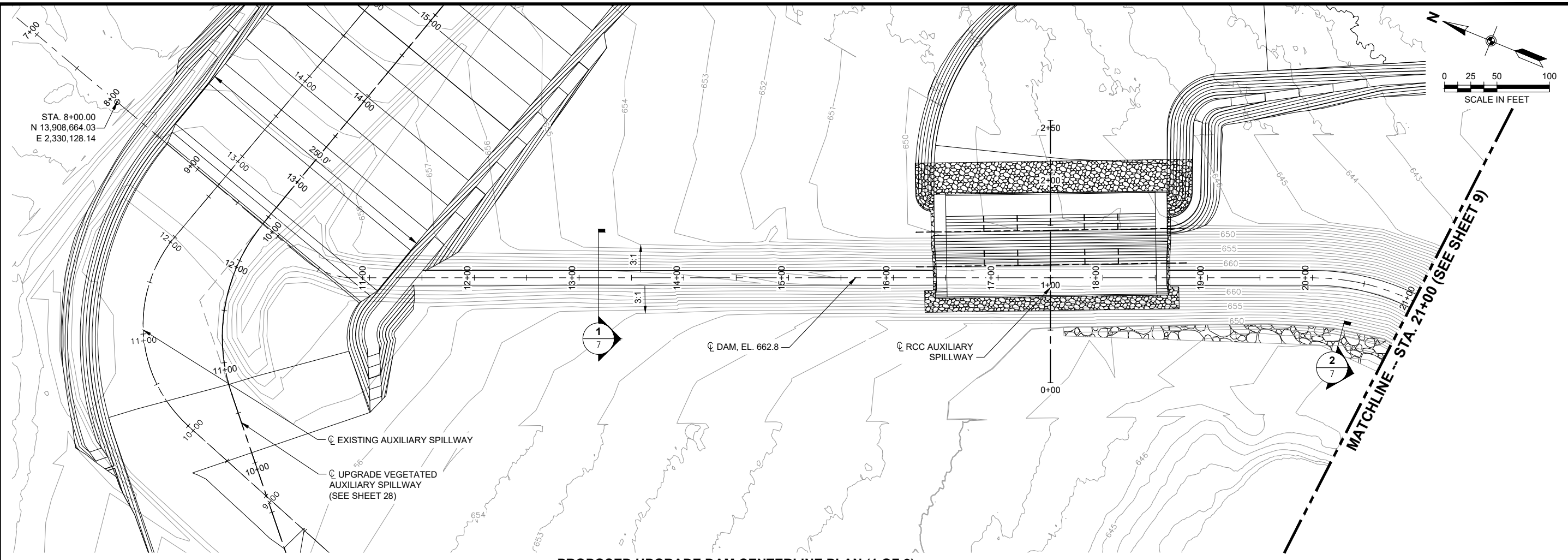
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 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS



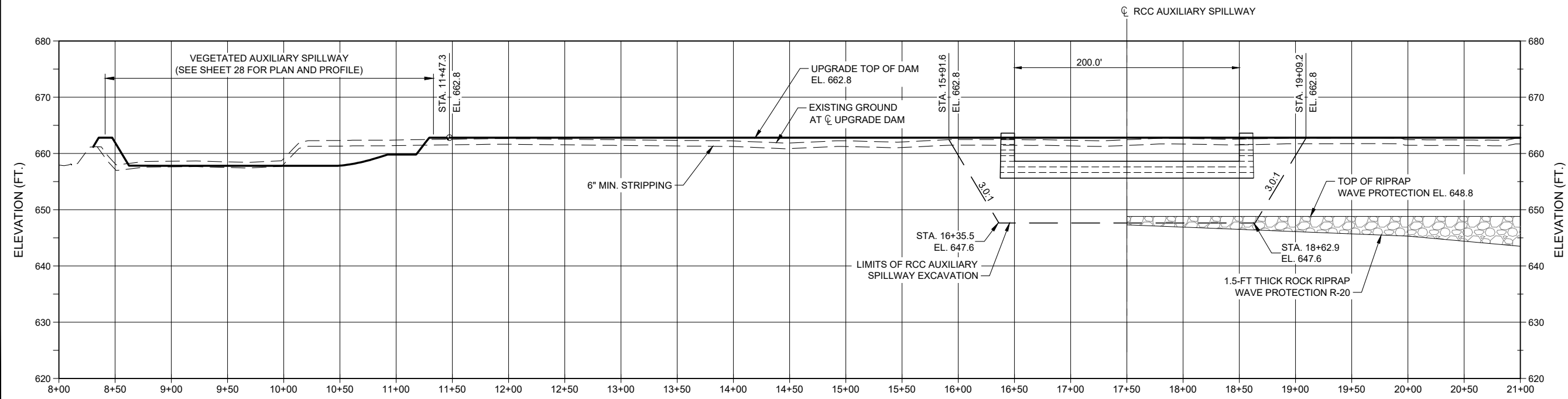
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PROPOSED UPGRADE DAM CENTERLINE PLAN (1 OF 2)



PROPOSED DAM CENTERLINE PROFILE (1 OF 2)

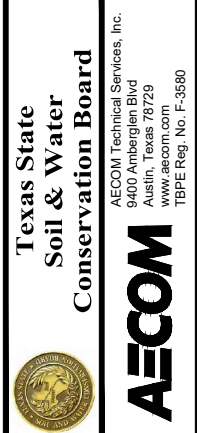


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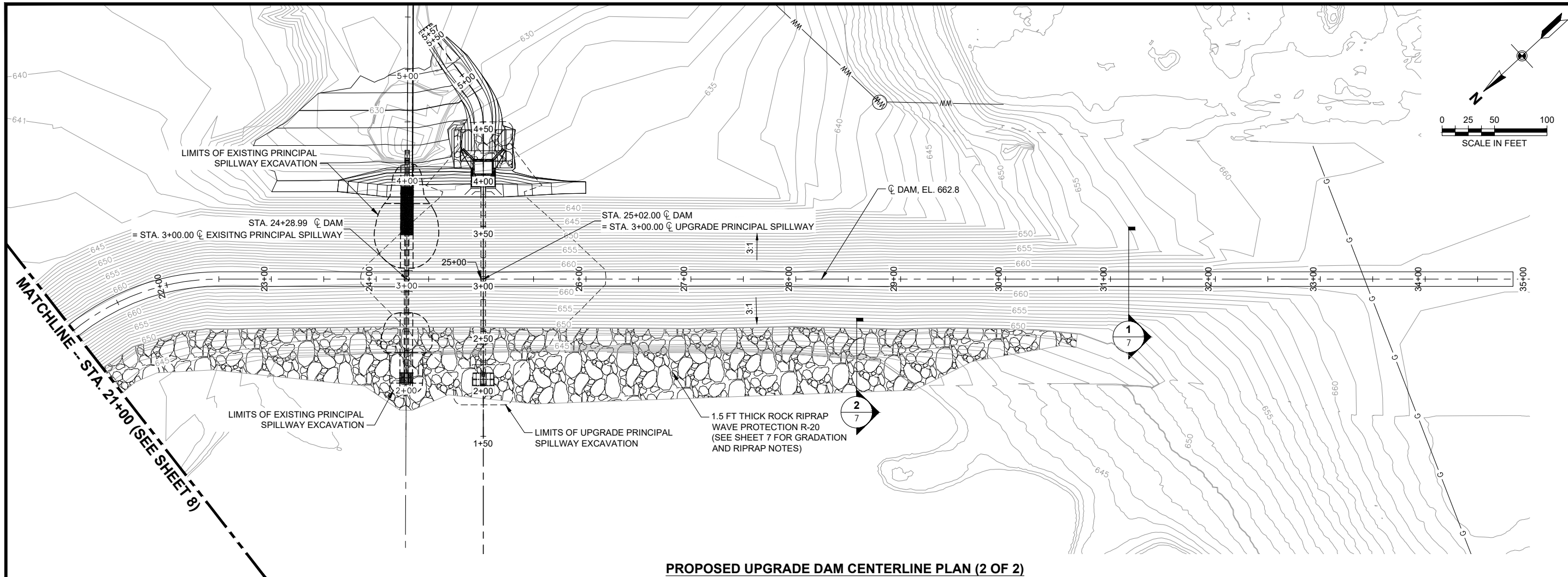
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EMBANKMENT PLAN & PROFILE (1 OF 2)
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN HAYS COUNTY, TEXAS

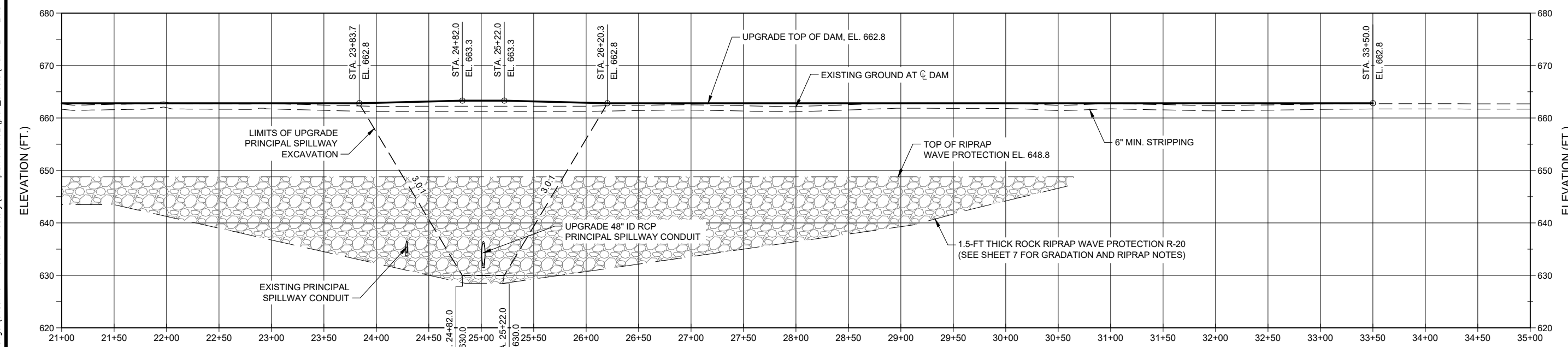


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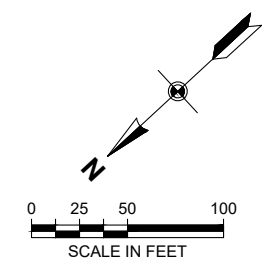
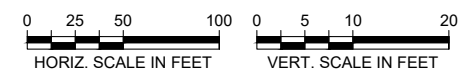
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PROPOSED UPGRADE DAM CENTERLINE PLAN (2 OF 2)



PROPOSED UPGRADE DAM CENTERLINE PROFILE (2 OF 2)



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EMBANKMENT PLAN & PROFILE (2 OF 2)
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

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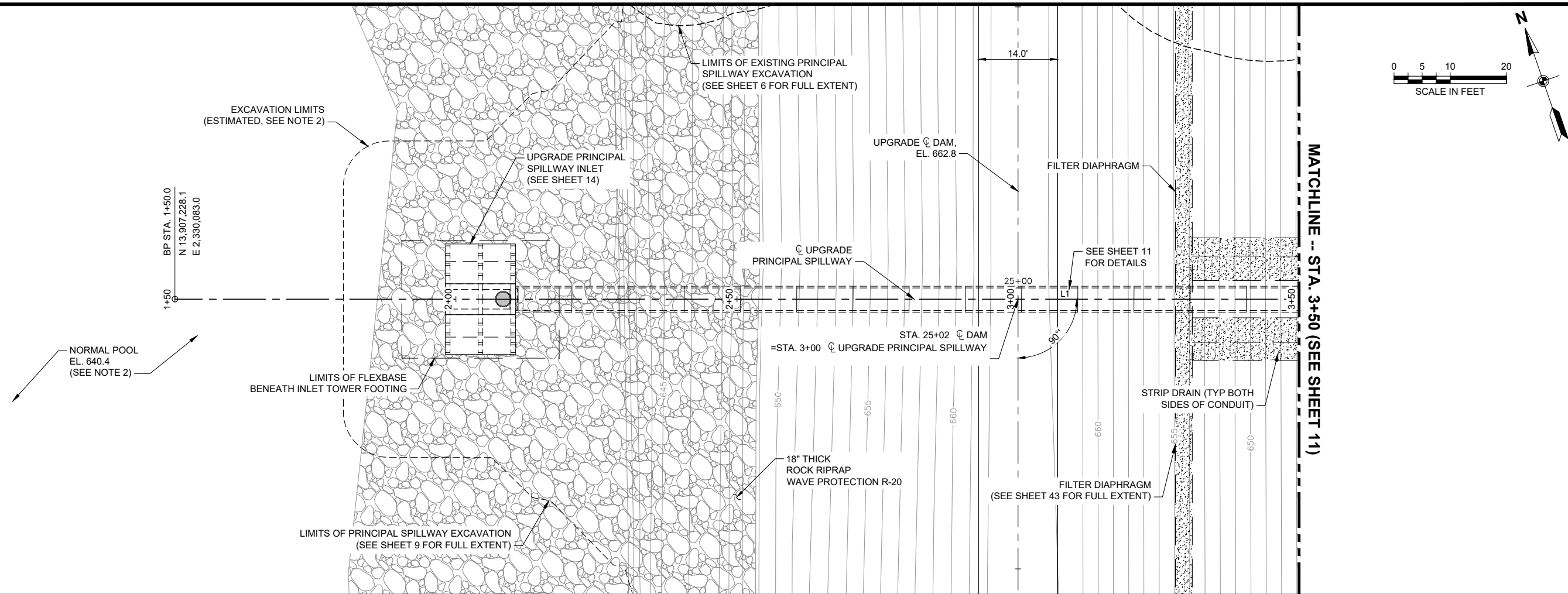
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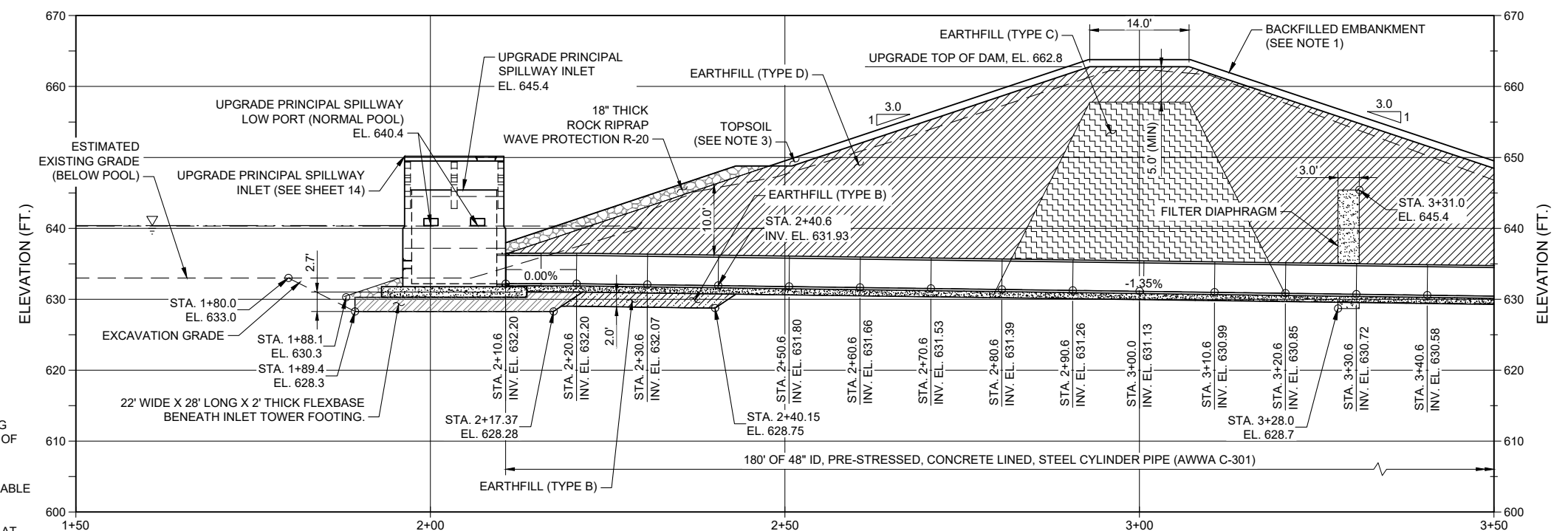
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UPGRADE PRINCIPAL SPILLWAY PLAN (1 OF 2)



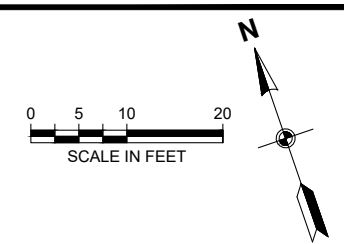
UPGRADE PRINCIPAL SPILLWAY PROFILE (1 OF 2)

- NOTES:**
1. EMBANKMENT FILLS TO MATCH EXISTING EMBANKMENT SLOPES ON EITHER SIDE OF THE UPGRADE PRINCIPAL SPILLWAY EXCAVATION.
 2. BATHYMETRIC SURVEY WAS NOT AVAILABLE FOR THIS DESIGN. EXISTING GROUND BELOW THE WATER LEVEL NEAR THE UPSTREAM TOE WAS ESTIMATED TO BE AT EL. 633 BASED ON AVAILABLE AS-BUILT DATA AND AN ASSUMED 3-FT OF SEDIMENTATION.
 3. TOPSOIL THICKNESS IS 12" ON EMBANKMENT CREST/SLOPES AND 6" IN ALL OTHER LOCATIONS.

LEGEND:

	EARTHFILL (TYPE B)
	EARTHFILL (TYPE C)
	EARTHFILL (TYPE D)
	FINE FILTER
	RIPRAP
	FLEXBASE

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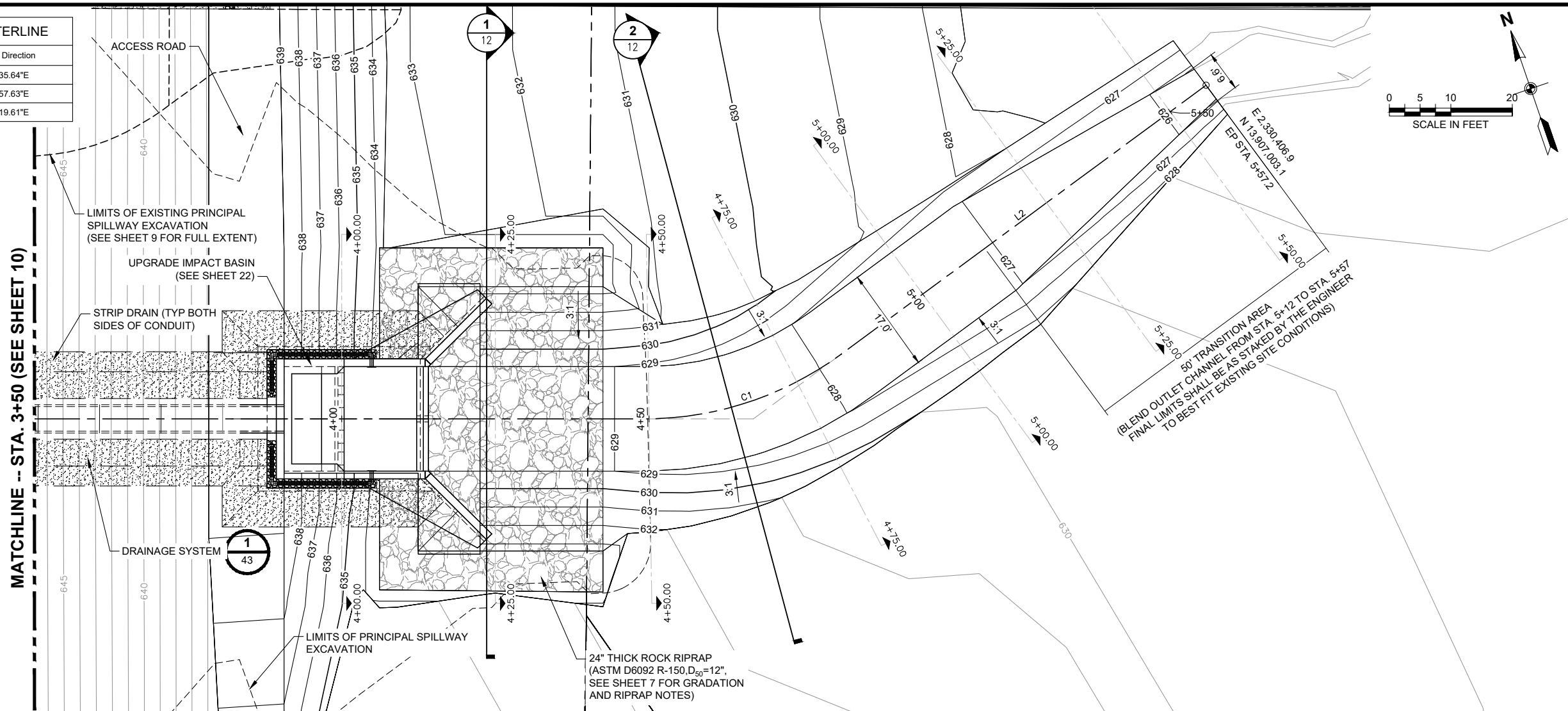
PRINCIPAL SPILLWAY PLAN & PROFILE (1 OF 2)
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 IN PLUM CREEK WATERSHED
 HAYS COUNTY, TEXAS

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SHEET NO. 10
 OF 71

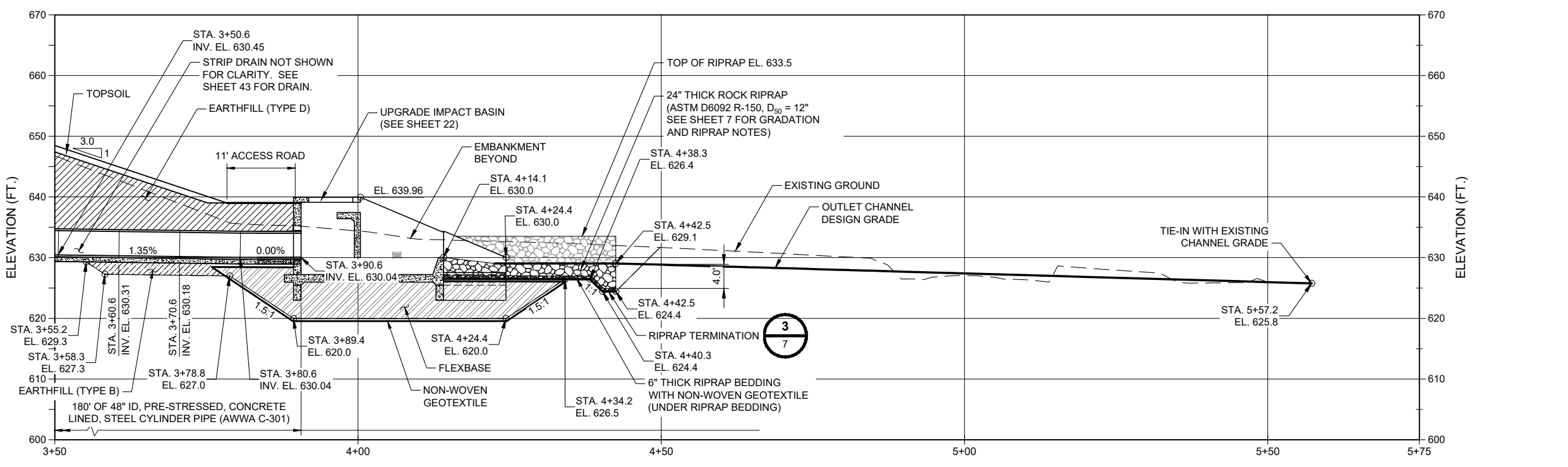
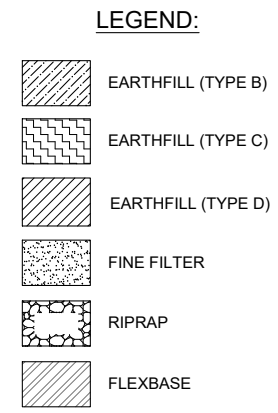
UPGRADE PRINCIPAL SPILLWAY CENTERLINE

Number	Radius	Length	Line/Chord Direction
L1		299.22	S47° 18' 35.64"E
C1	54.05	34.32	S65° 29' 57.63"E
L2		73.71	S83° 41' 19.61"E



UPGRADE PRINCIPAL SPILLWAY PLAN (2 OF 2)

- NOTES:**
- EXCAVATION PROFILE IS APPROXIMATE AND MAY NEED TO BE ADJUSTED BY CONTRACTOR BASED ON PIPE WALL THICKNESS TO MEET INVERT PROFILE AND CONCRETE CRADLE DIMENSIONS AS SHOWN ON SHEET 21.



UPGRADE PRINCIPAL SPILLWAY PROFILE (2 OF 2)

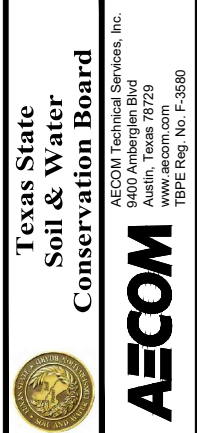


REVISIONS		
DATE	APPROVED	TITLE



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 DRAWN BY: MDE
 CHECKED BY: LEA
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 DATE CHECKED: 7/9/2021

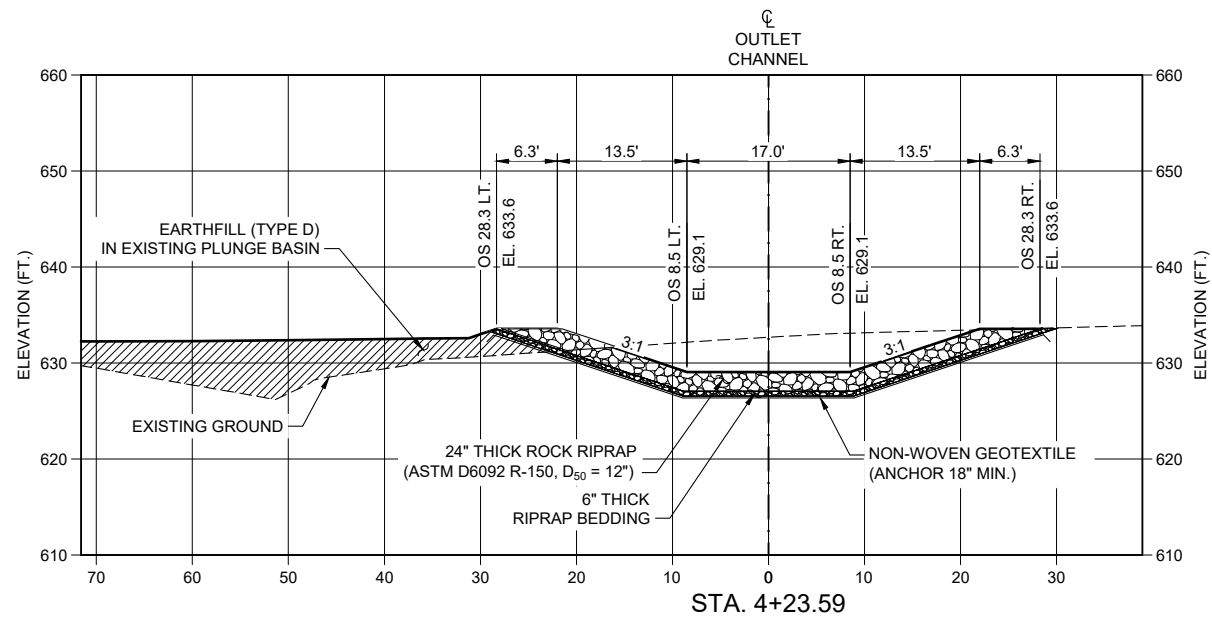
PRINCIPAL SPILLWAY PLAN & PROFILE (2 OF 2)
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN HAYS COUNTY, TEXAS



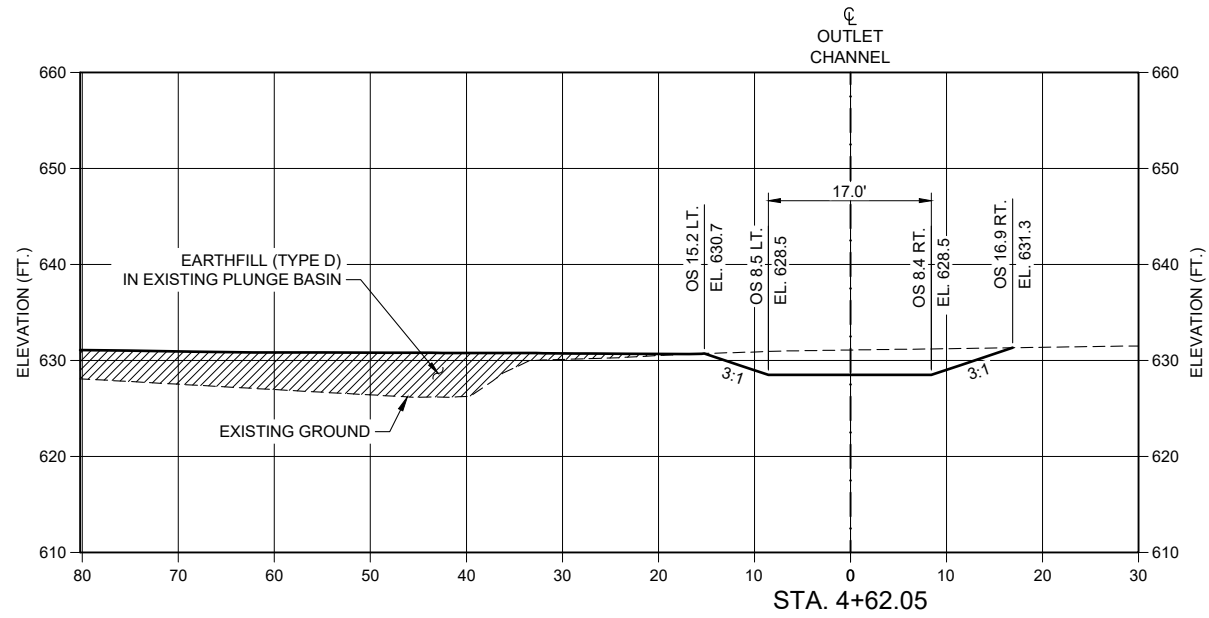
SHEET NO. 11 OF 71

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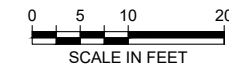
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1 PRINCIPAL SPILLWAY OUTLET CHANNEL SECTION



2 PRINCIPAL SPILLWAY OUTLET CHANNEL SECTION



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PRINCIPAL SPILLWAY OUTLET CHANNEL DETAILS

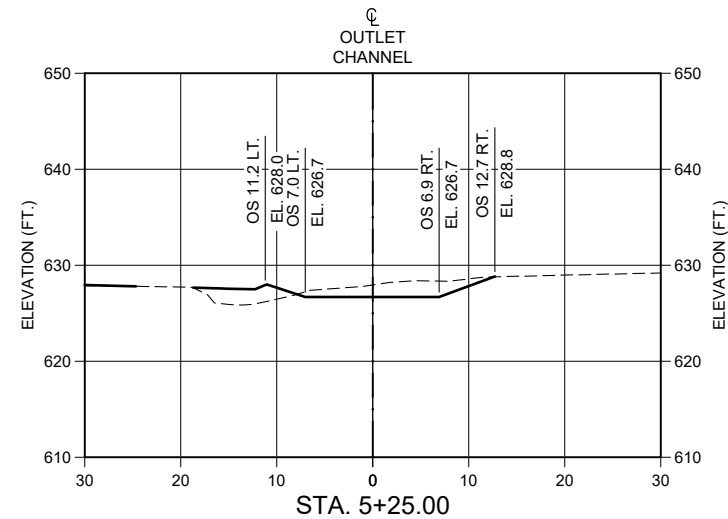
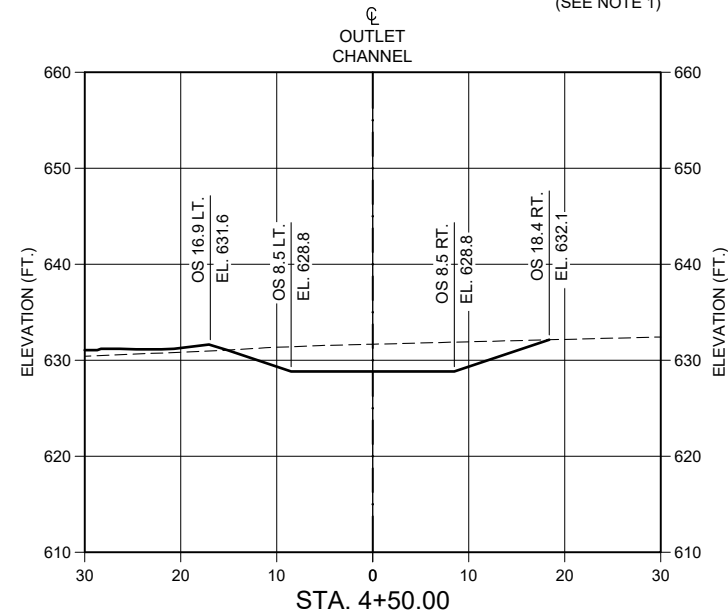
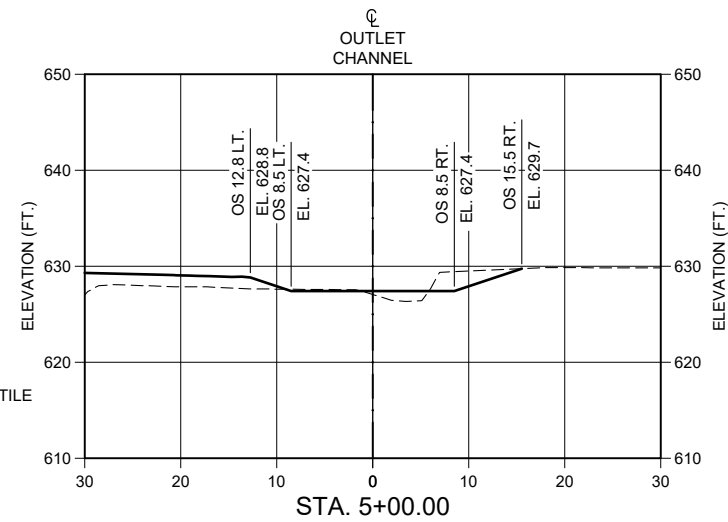
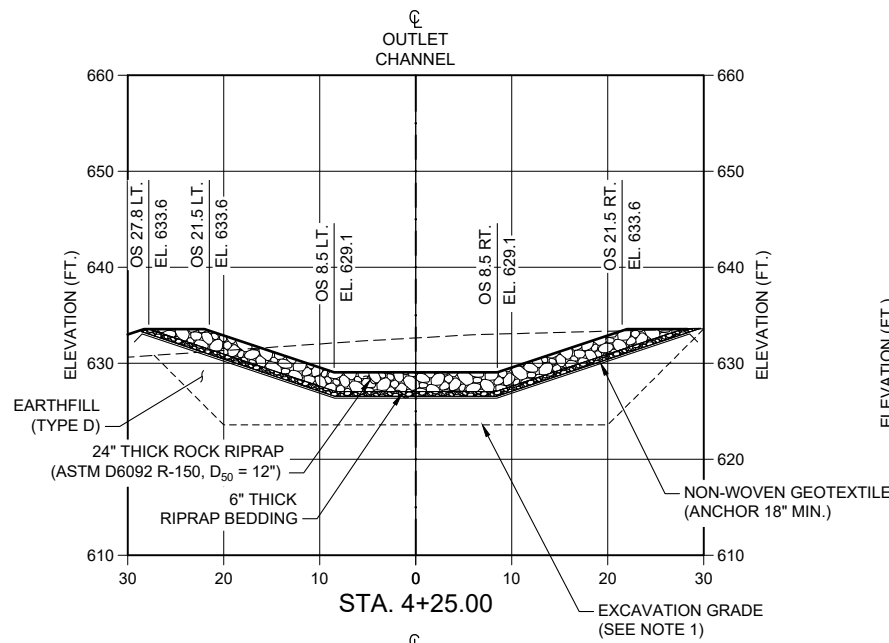
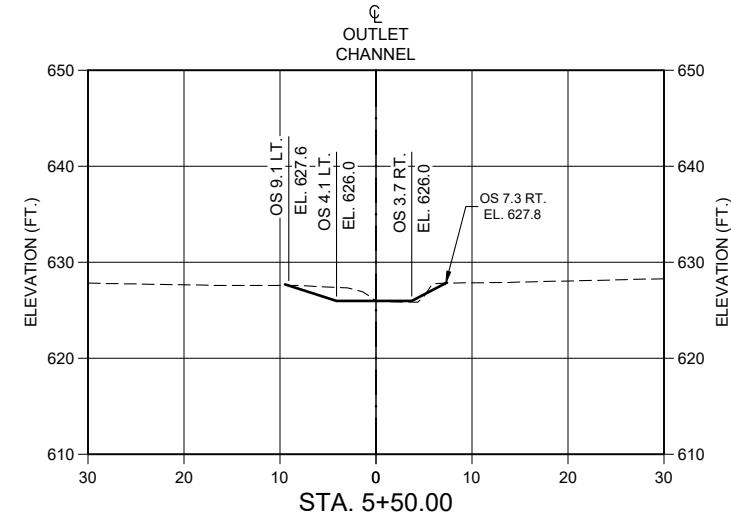
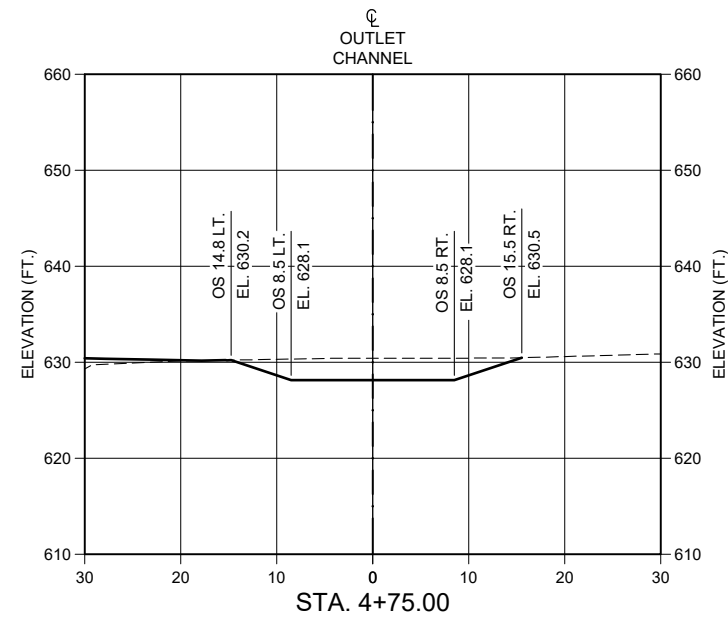
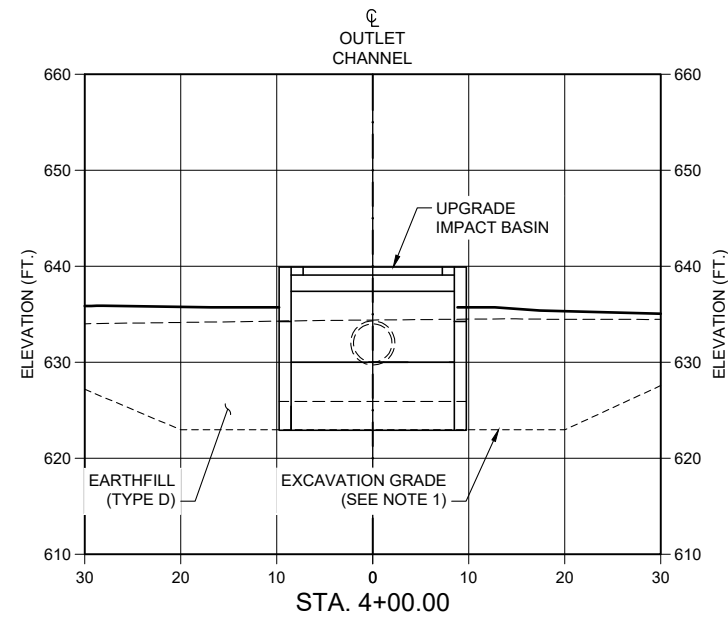
FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

Texas State Soil & Water Conservation Board
AECOM
 AECOM Technical Services, Inc.
 9400 Amberglenn Blvd
 Austin, Texas 78729
 www.aecom.com
 TBPE Reg. No. F-3580

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DATE	APPROVED	TITLE

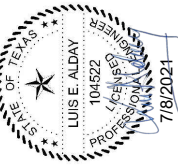
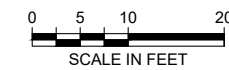
SHEET NO. 12
 OF 71

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NOTES:

- EXCAVATION GRADE IS APPROXIMATE AND MAY NEED TO BE ADJUSTED BY CONTRACTOR FOR CONSTRUCTIBILITY WITH ENGINEER APPROVAL.



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 DATE CHECKED: 7/9/2021

PRINCIPAL SPILLWAY OUTLET CHANNEL CROSS SECTIONS

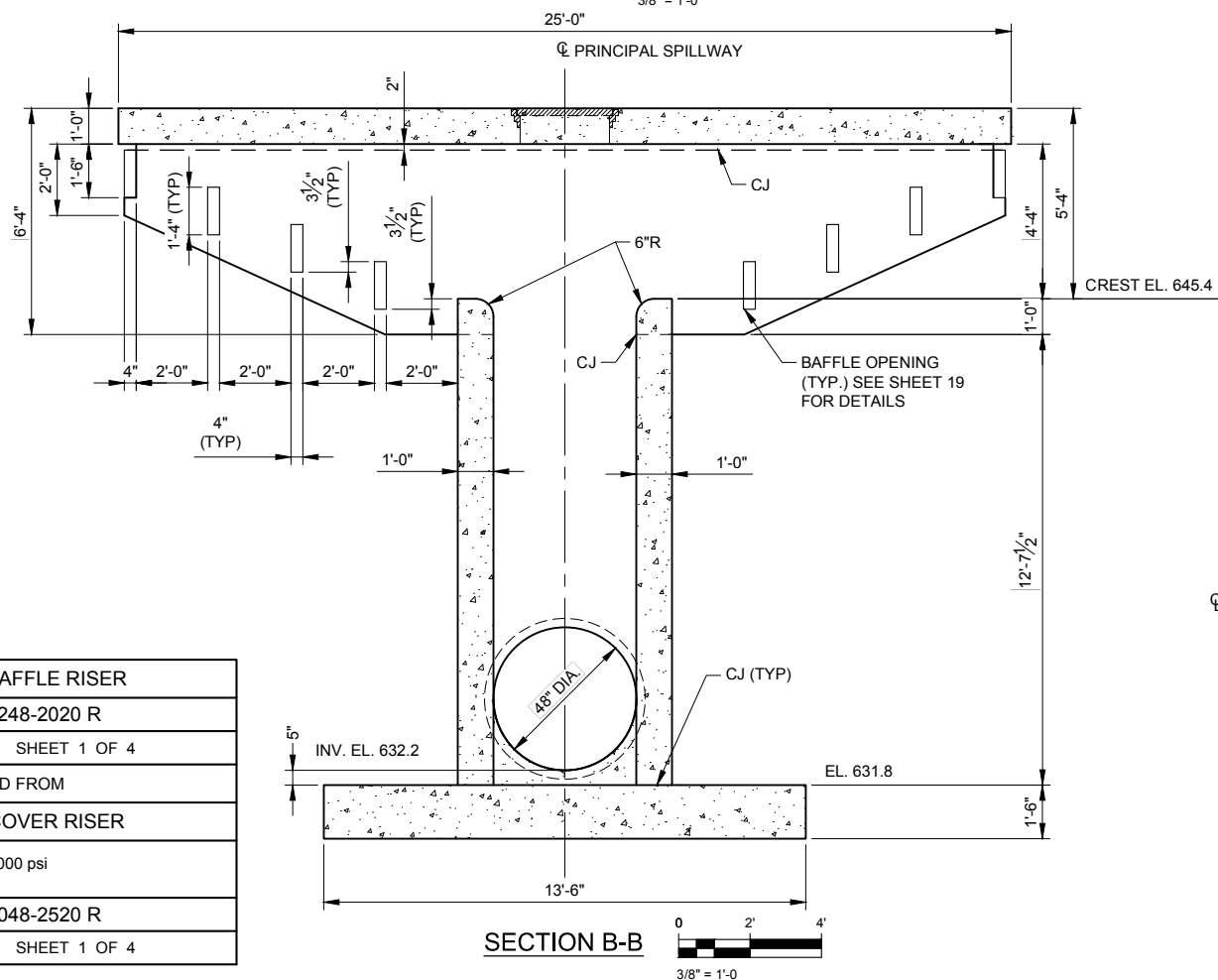
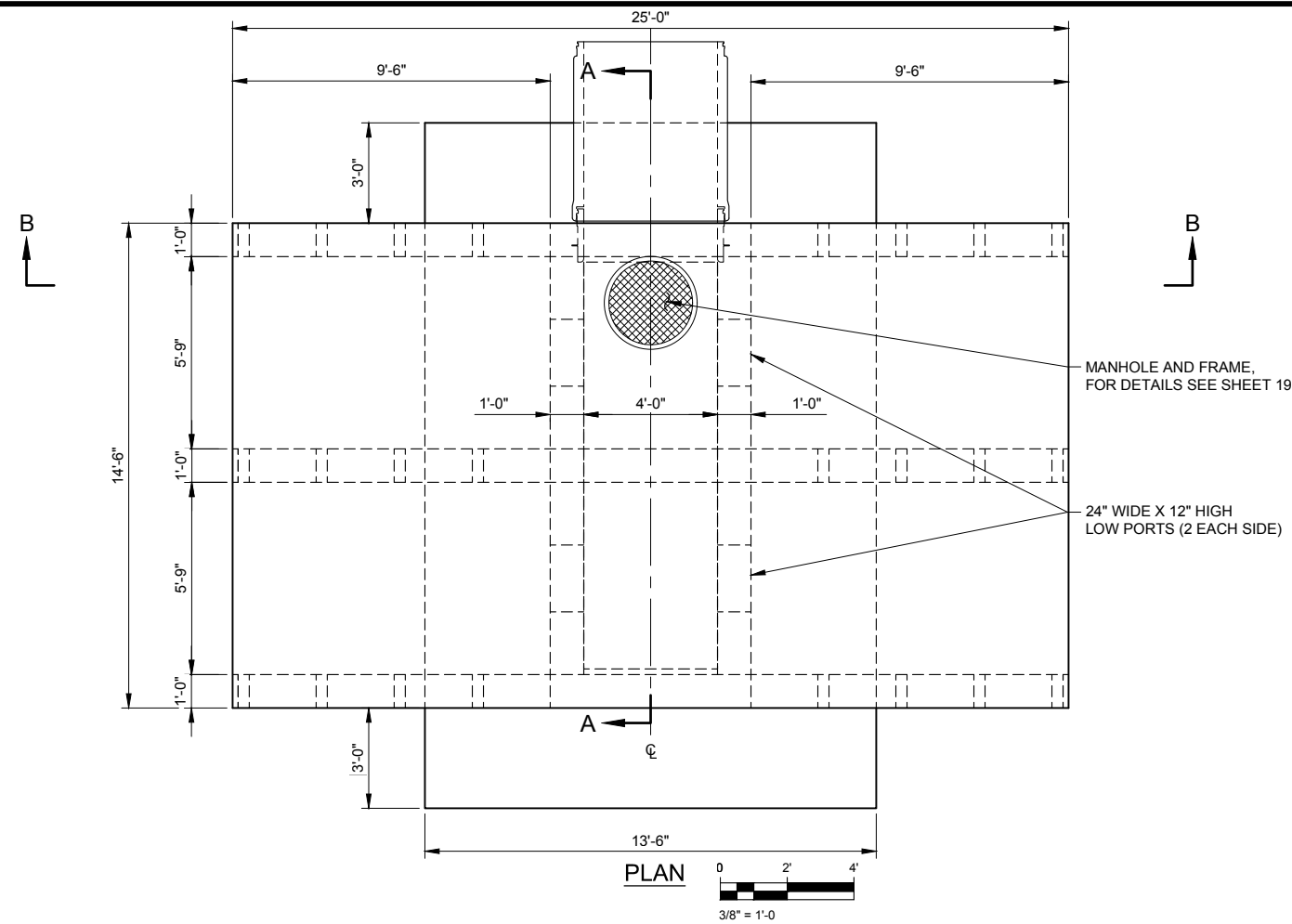
FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

Texas State Soil & Water Conservation Board
 AECOM Technical Services, Inc.
 9400 Amberglenn Blvd
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SHEET NO. 13 OF 71

REVISIONS		
DATE	APPROVED	TITLE

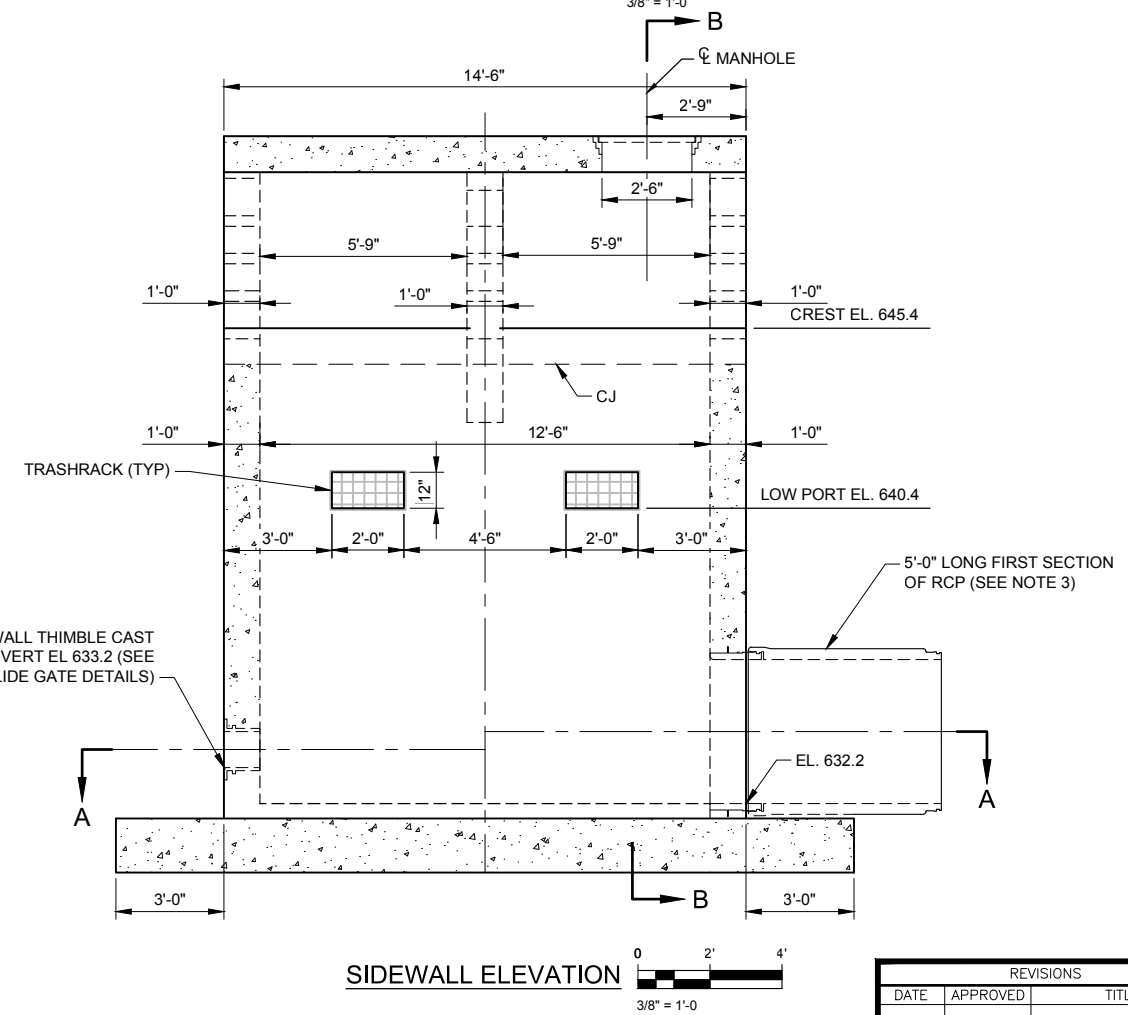
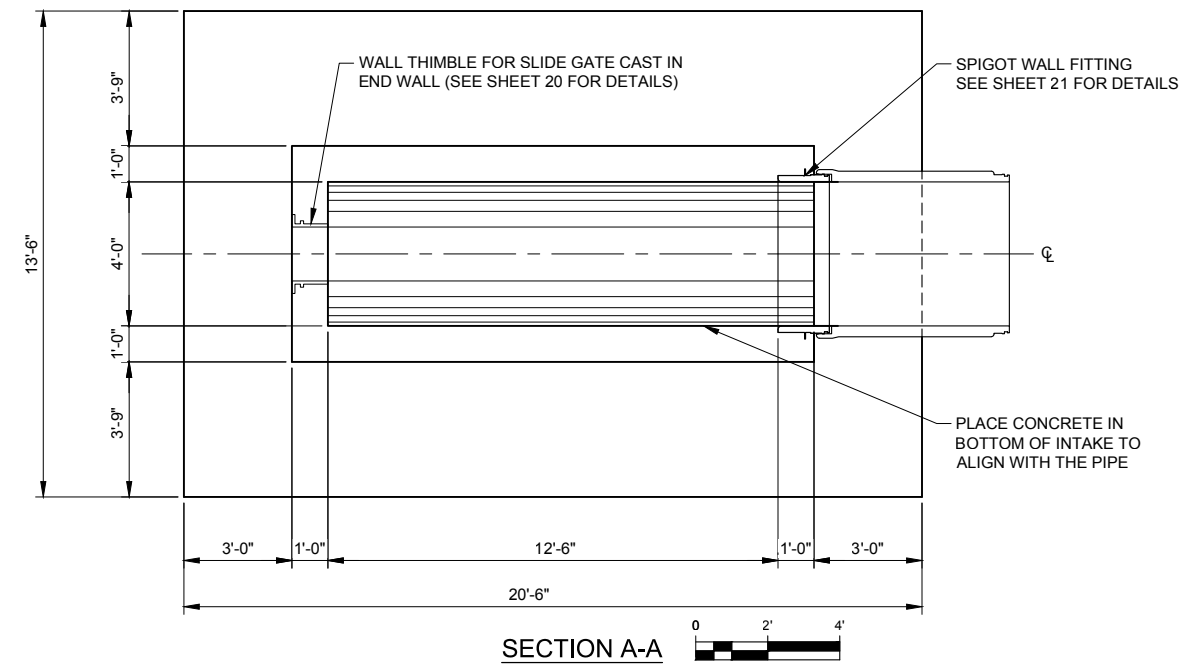
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STANDARD BAFFLE RISER	
STANDARD DWG. NO.	ES-3248-2020 R
DATE	9-79
SHEET 1 OF 4	
ADAPTED FROM	
STANDARD COVER RISER	
DESIGN CONSTANTS	f _c = 4,000 psi n = 8
STANDARD DWG. NO.	ES-3048-2520 R
DATE	4-65
SHEET 1 OF 4	

NOTES:

1. REINFORCEMENT NOT SHOWN. (SEE SHEETS 15 THRU 18 FOR DETAILS).
2. SEE SHEET 20 FOR SLIDE GATE SECTIONS AND DETAILS.
3. SEE SHEET 21 FOR RCP SECTIONS AND DETAILS.
4. CHAMFER ALL EXPOSED EDGES 3/4 INCH.



REVISIONS		
DATE	APPROVED	TITLE



DESIGNED BY: KNE
 DRAWN BY: JAM
 CHECKED BY: ALL
 FILE NAME: Plum_2 - Sht. 14.dwg
 DATE CHECKED: 7/8/2021

PRINCIPAL SPILLWAY INLET PLAN AND SECTIONS

FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
 PLUM CREEK WATERSHED
 HAYS COUNTY, TEXAS

Texas State
 Soil & Water
 Conservation Board



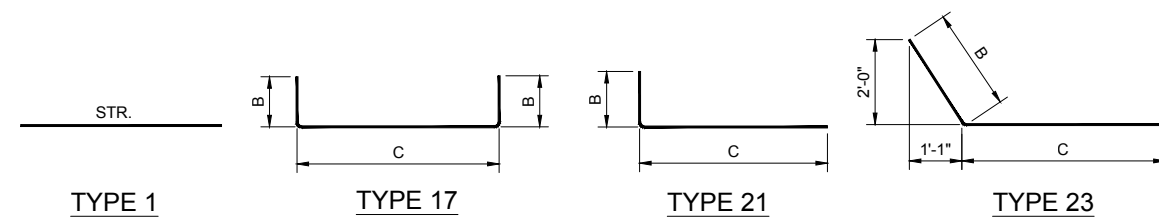
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SHEET NO. 14
 OF 71

Reinforcing Steel Schedule															
Mark	Size (Bar #)	Quantity	Type	B		C		Length		Total Length					
				(ft)	(in)	(ft)	(in)	(ft)	(in)	(ft)	(in)				
B1	6	13	1	-	-	-	-	12	-	0	156	-	0		
B2	6	14	1	-	-	-	-	12	-	0	168	-	0		
B3	7	44	21	4	-	0	7	-	8	11	-	8	513	-	4
B4	6	14	1	-	-	-	-	12	-	0	168	-	0		
B5	6	12	1	-	-	-	-	12	-	0	144	-	0		
B6	6	2	1	-	-	-	-	5	-	4	10	-	8		
B7	6	4	21	1	-	0	7	-	8	8	-	8	34	-	8
B8	6	4	21	1	-	0	7	-	8	8	-	8	34	-	8
B9	6	14	21	1	-	0	7	-	8	8	-	8	121	-	4
B10	6	2	21	1	-	0	7	-	8	8	-	8	17	-	4
B11	6	14	1	-	-	-	-	11	-	2	156	-	4		
B12	6	4	1	-	-	-	-	4	-	2	16	-	8		
B13	6	20	21	3	-	7	7	-	1	10	-	8	213	-	4
B14	6	4	21	1	-	1	7	-	1	8	-	2	32	-	8
B15	6	4	21	0	-	9	7	-	1	7	-	10	31	-	4
B16	6	6	21	0	-	6	7	-	1	7	-	7	45	-	6
B17	6	2	21	2	-	1	7	-	1	9	-	2	18	-	4
B18	6	2	1	-	-	-	-	2	-	9	5	-	6		
B19	6	2	1	-	-	-	-	2	-	10	5	-	8		
R1	6	14	1	-	-	-	-	5	-	2	72	-	4		
R2	6	6	1	-	-	-	-	5	-	2	31	-	0		
R3	6	16	1	-	-	-	-	5	-	2	82	-	8		
R4	6	8	1	-	-	-	-	5	-	2	41	-	4		
R5	6	12	1	-	-	-	-	11	-	2	134	-	0		
R6	6	8	1	-	-	-	-	4	-	2	33	-	4		
R7	6	28	21	3	-	7	7	-	1	10	-	8	298	-	8
T1	5	12	1	-	-	-	-	9	-	9	117	-	0		
T2	5	16	1	-	-	-	-	5	-	2	82	-	8		
T3	5	6	1	-	-	-	-	4	-	4	26	-	0		
T4	5	12	1	-	-	-	-	11	-	6	138	-	0		
T5	5	4	1	-	-	-	-	9	-	9	39	-	0		
T6	5	4	21	1	-	9	10	-	0	11	-	9	47	-	0
T7	5	16	1	-	-	-	-	5	-	3	84	-	0		
T8	5	24	21	3	-	5	6	-	11	10	-	4	248	-	0
T9	5	4	1	-	-	-	-	4	-	4	17	-	4		
T10	5	4	1	-	-	-	-	11	-	6	46	-	0		
T11	5	4	1	-	-	-	-	8	-	8	34	-	8		
T12	5	4	1	-	-	-	-	8	-	2	32	-	8		
T13	5	4	1	-	-	-	-	11	-	8	46	-	8		
T14	5	4	1	-	-	-	-	15	-	2	60	-	8		
T15	5	4	1	-	-	-	-	18	-	8	74	-	8		
T16	5	24	1	-	-	-	-	5	-	1	122	-	0		
T17	5	8	1	-	-	-	-	4	-	8	37	-	4		
T18	5	8	1	-	-	-	-	4	-	3	34	-	0		
T19	5	8	1	-	-	-	-	3	-	9	30	-	0		
T20	5	8	1	-	-	-	-	3	-	3	26	-	0		
T21	5	8	1	-	-	-	-	2	-	10	22	-	8		
T22	5	8	23	2	-	4	5	-	10	8	-	2	65	-	4
T23	5	8	21	3	-	5	6	-	11	10	-	4	82	-	8
T24	5	2	1	-	-	-	-	8	-	8	17	-	4		
T25	5	2	1	-	-	-	-	8	-	2	16	-	4		
T26	5	2	1	-	-	-	-	11	-	8	23	-	4		
T27	5	2	1	-	-	-	-	15	-	2	30	-	4		
T28	5	2	1	-	-	-	-	18	-	8	37	-	4		
T29	5	8	21	1	-	9	5	-	4	7	-	1	56	-	8
T30	5	4	21	1	-	9	4	-	11	6	-	8	26	-	8
T31	5	4	21	1	-	9	4	-	6	6	-	3	25	-	0
T32	5	4	21	1	-	9	4	-	0	5	-	9	23	-	0
T33	5	4	21	1	-	9	3	-	7	5	-	4	21	-	4
T34	5	4	21	1	-	9	3	-	1	4	-	10	19	-	4
T35	5	4	21	1	-	9	2	-	8	4	-	5	17	-	8
T36	5	4	1	-	-	-	-	5	-	11	23	-	8		
T37	5	6	21	1	-	9	1	-	9	3	-	6	21	-	0
T38	5	2	21	0	-	10	1	-	9	2	-	7	5	-	2
T39	4	2	1	-	-	-	-	8	-	1	16	-	2		
T40	4	20	1	-	-	-	-	11	-	6	230	-	0		
T41	4	10	1	-	-	-	-	19	-	4	193	-	4		
T42	4	4	1	-	-	-	-	8	-	3	33	-	0		
T43	5	2	1	-	-	-	-	8	-	2	16	-	4		
T44	5	20	1	-	-	-	-	11	-	9	235	-	0		
T45	5	2	1	-	-	-	-	12	-	2	24	-	4		
T46	4	10	1	-	-	-	-	19	-	4	193	-	4		
T47	4	4	1	-	-	-	-	8	-	2	32	-	8		

PRINCIPAL SPILLWAY INLET STRUCTURE REINFORCEMENT SUMMARY			
Bar Size	Weight (lbs./l.f.)	Total Length (ft)	Total Weight (lbs.)
4	0.668	698 - 6	467
5	1.043	2,154 - 2	2247
6	1.502	2,073 - 4	3114
7	2.044	513 - 4	1049
TOTAL REINFORCING (lb.):			6877



**TABLE 1
PIN DIAMETER IN INCHES**

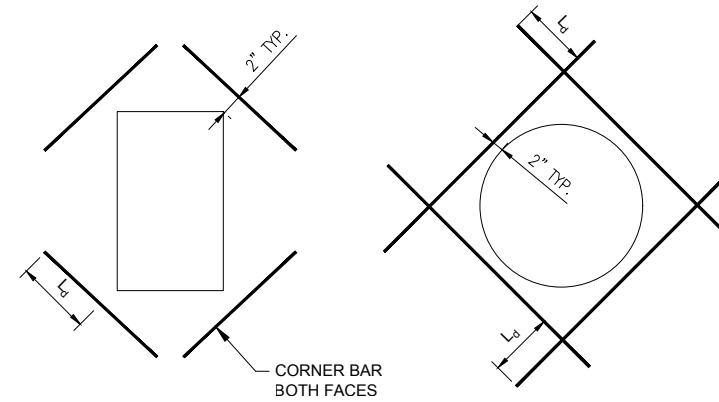
BAR NO.	3	4	5	6	7	8	9	10	11
STANDARD BENDS	2 1/2	3	3 3/4	4 1/2	5 1/2	6	9 1/2	10 3/4	12
STIRRUP AND TIE BENDS	1 1/2	2	2 1/2	4 1/2	5 1/4	6	-	-	-

**TABLE 2
REINFORCEMENT REQUIREMENTS**

BAR SIZE #	MINIMUM CLEAR BAR SPACING (INCHES)	DEVELOPMENT LENGTH, L _d		CLASS B SPLICE LENGTH	
		OTHER BARS (INCHES)	TOP BAR (INCHES)	OTHER BARS (INCHES)	TOP BAR (INCHES)
3	3	12	12	16	16
4	3	12	15	16	20
5	4	15	19	19	24
6	5	18	23	23	29
7	5	25	33	33	43
8	6	29	37	37	49
9	7	36	46	46	60
10	8	44	57	57	74
11	9	53	68	68	89

TABLE 2 NOTES:

- SPLICE LENGTHS AND DEVELOPMENT LENGTHS INDICATED ARE MINIMUM LENGTHS REQUIRED BASED ON THE PROVISIONS OF ACI 318, SECTIONS 12.2.3 AND 12.15.1. WHEN SPLICE LENGTHS BASED ON THE REINFORCEMENT SCHEDULES ARE LONGER THAN THOSE INDICATED IN TABLE 2, THE REINFORCEMENT SCHEDULE SHALL GOVERN. NO FIELD CUTTING OF REINFORCEMENT WILL BE ALLOWED UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR APPROVED BY THE CONTRACTING OFFICER.



**TABLE 3
TABLE FOR REINFORCEMENT AROUND OPENINGS**

MEMBER THICKNESS	CORNER BARS
LESS THAN 10"	1-#4 CTR.
10" THRU 1'-6"	2-#4 (1EF)
1'-7" THRU 3'-0"	2-#6 (1EF)
OVER 3'-0"	2-#8 (1EF)

NOTE:
REBAR SCHEDULES AND LAYOUTS ARE FOR INFORMATION AND MAY BE USED AS A GUIDE. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING FULL REBAR LAYOUTS AND SCHEDULES FOR REVIEW AND APPROVAL.

ABBREVIATIONS:

BO = BOTTOM OF	HP = HIGH POINT	SST = STAINLESS STEEL
TO = TOP OF	OC = ON CENTER	TOC = TOP OF CONCRETE
BF = BOTTOM FACE	CRJ = CONTRACTION JOINT	BL = BOTTOM LAYER
TF = TOP FACE	EJ = EXPANSION JOINT	TL = TOP LAYER
NF = NEAR FACE	BR = BOTTOM ROW	ML = MIDDLE LAYER
FF = FAR FACE	TR = TOP ROW	NS = NEAR SIDE
EF = EACH FACE	NR = NEAR ROW	FS = FAR SIDE
IF = INSIDE FACE	FR = FAR ROW	ES = EACH SIDE
OF = OUTSIDE FACE	ER = EACH ROW	EW = EACH WAY
CJ = CONSTRUCTION JOINT	IR = INSIDE ROW	EC = EACH CORNER
OCJ = OPTIONAL CONSTRUCTION JOINT	OR = OUTSIDE ROW	L _d = DEVELOPMENT LENGTH
CTJ = CONTROL JOINT	MR = MIDDLE ROW	D _b = NOMINAL DIAMETER OF REINFORCING BAR

SPC = SPACE OR SPACES
EQ SPC = EQUALLY SPACED, EQUAL SPACES
UV = UNIFORMLY VARYING LENGTHS OF BARS BETWEEN LENGTHS SHOWN
CLR = CLEAR
CTR = CENTER OR CENTERS
WS = PVC WATERSTOP
CL = CENTERLINE

SYMBOLS:
 SPLICES SHOWN THUS INDICATE A LAPPED SPLICE, NOT A BEND IN THE BAR.

DIMENSIONS:
 DIMENSIONS ARE TO THE CENTERLINE OF THE BARS UNLESS OTHERWISE SHOWN.

COVER:
 UNLESS INDICATED ON THE DRAWINGS, PLACE THE REINFORCEMENT SO THAT THE CLEAR DISTANCE BETWEEN FACE OF CONCRETE AND NEAREST REINFORCEMENT IS 2". PROVIDE 3" CLEAR DISTANCE FROM FACE OF CONCRETE FOR ALL BARS WHEN THE CONCRETE IS PLACED AGAINST EARTH OR ROCK. CLEAR DISTANCE IS THE DESIGN DIMENSION LINE. REINFORCEMENT PARALLELING CONSTRUCTION JOINTS SHALL HAVE A MINIMUM OF 2" CLEAR COVER.

BENT BARS:
 UNLESS OTHER RADIUS BENDS ARE INDICATED ON THE DRAWINGS, ALL REINFORCEMENT REQUIRING BENDING SHALL BE BENT AROUND A PIN HAVING A DIAMETER AS INDICATED IN TABLE 1.

ACCESSORIES:
 BAR SUPPORTS, SPACERS, AND OTHER ACCESSORIES ARE NOT SHOWN ON THE DRAWINGS. THE RECOMMENDATIONS OF THE ACI DETAILING MANUAL-CURRENT EDITION, OR OTHER ENGINEER APPROVED SUPPORTING SYSTEM MAY BE USED.

REFERENCE CODE:
 UNLESS OTHERWISE SHOWN FOLLOW THE RECOMMENDATIONS ESTABLISHED BY THE AMERICAN CONCRETE INSTITUTE'S DETAILING MANUAL (ACI SP-66).

SPLICES:
 THE MINIMUM LENGTH OF LAP FOR SPLICING PARALLEL BARS SHALL BE GIVEN IN TABLE 2. WHEN REINFORCING BARS OF DIFFERENT SIZE ARE TO BE SPLICED, THE LENGTHS OF LAP SHALL BE GOVERNED BY THE SMALLER DIAMETER BAR. SPLICES ARE TO BE MADE SO THAT THE REQUIRED CLEAR DISTANCES TO FACE OF CONCRETE WILL BE MAINTAINED.

REVISIONS		
DATE	APPROVED	TITLE



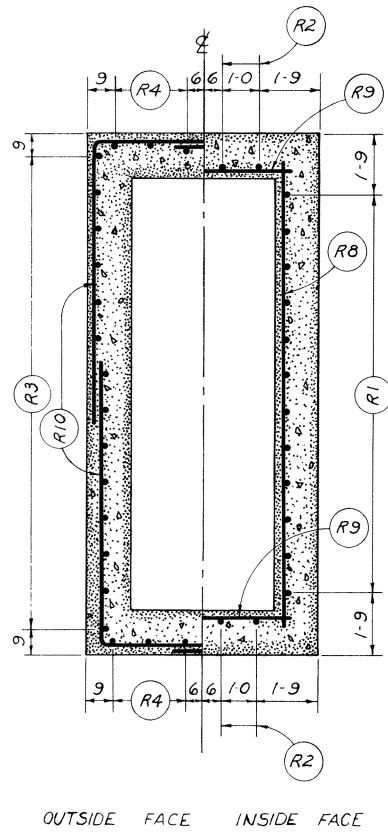
DESIGNED BY: KNE
 DRAWN BY: JAM
 CHECKED BY: ALL
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 DATE CHECKED: 7/8/2021

PRINCIPAL SPILLWAY INLET REINFORCEMENT SCHEDULE
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

Texas State
Soil & Water Conservation Board
 AECOM Technical Services, Inc.
 9400 Armbeglen Blvd
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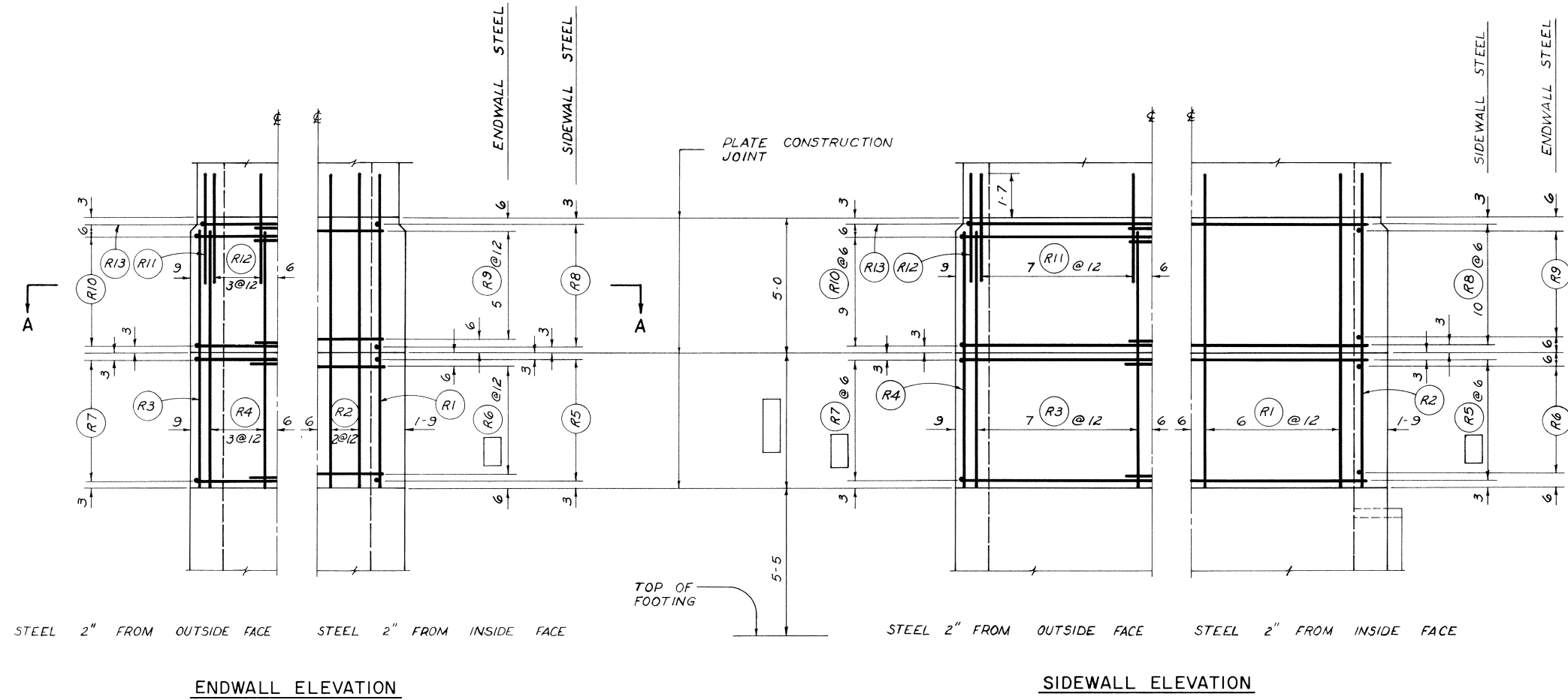
SHEET NO. 15
 OF 71

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SECTION A-A

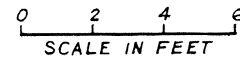
OTHER SECTIONS SIMILAR



ENDWALL ELEVATION

SIDEWALL ELEVATION

STANDARD BAFFLE RISER	
STANDARD DWG. NO. ES- 3248- 2020 R	
DATE 9-79	SHEET 3 OF 4
ADAPTED FROM	
STANDARD COVERED RISER	
DESIGN CONSTANTS $f'_c = 4000$ psi $f'_c = 1600$ psi $n = 8$ $f_s = 20,000$ psi	
STANDARD DWG. NO. ES. 3048- 2520 R	
DATE 8-68	SHEET 3 OF 4



NOTE:
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REVISIONS		
DATE	APPROVED	TITLE

SHEET NO. 17
OF 71

Texas State
Soil & Water
Conservation Board

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TBPPE Reg. No. F-3580

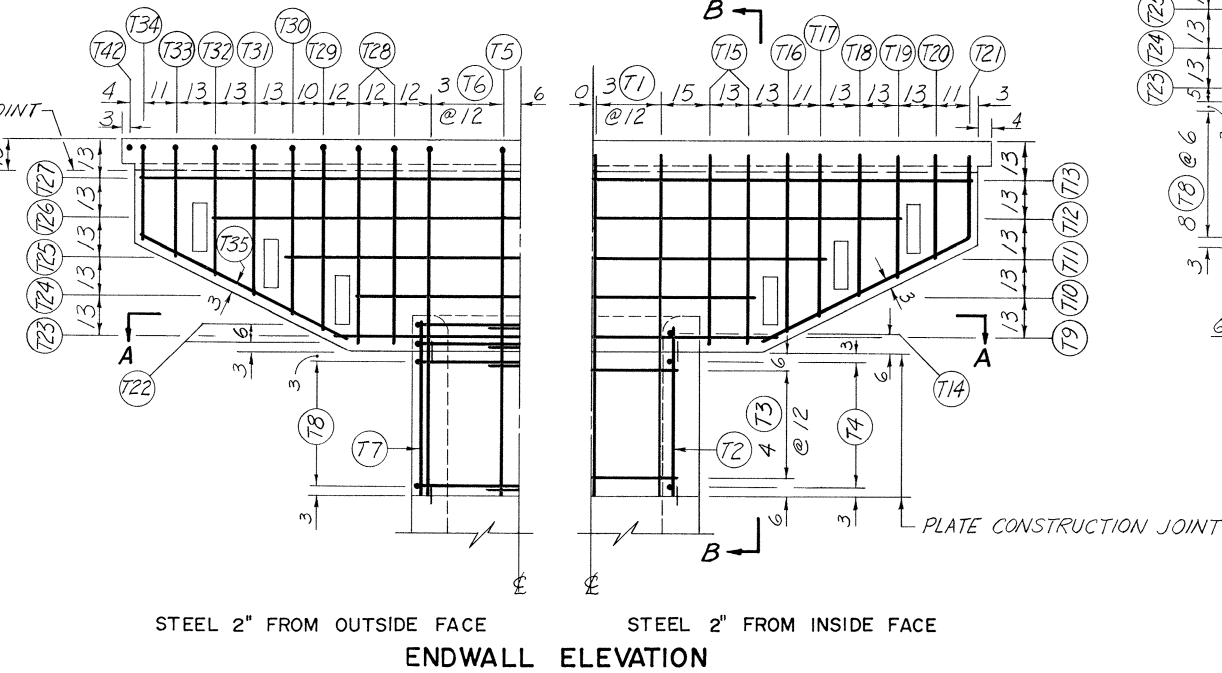
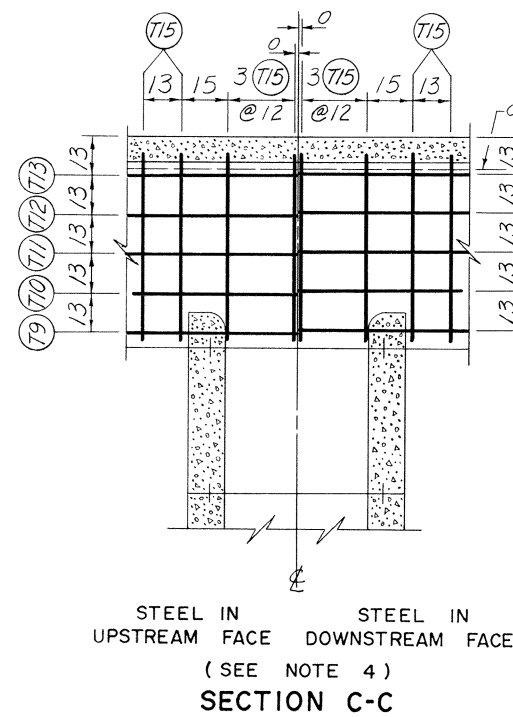
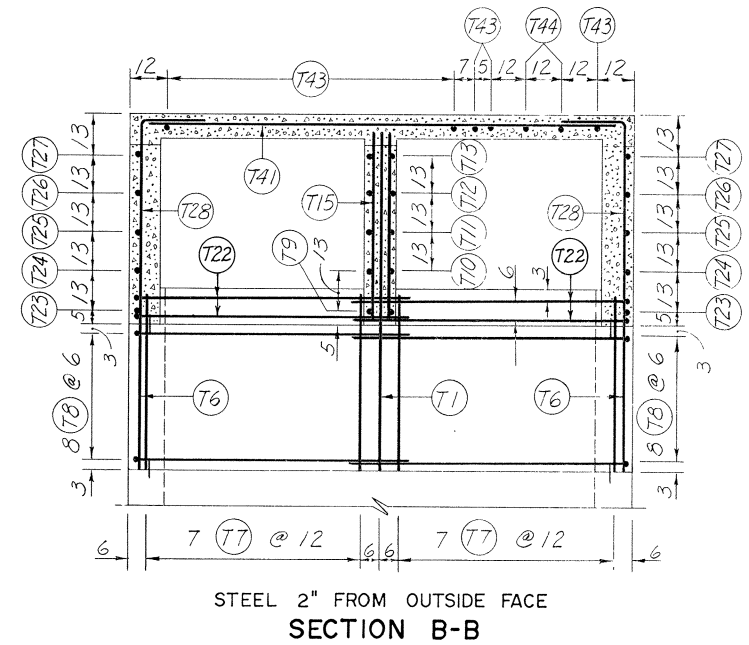
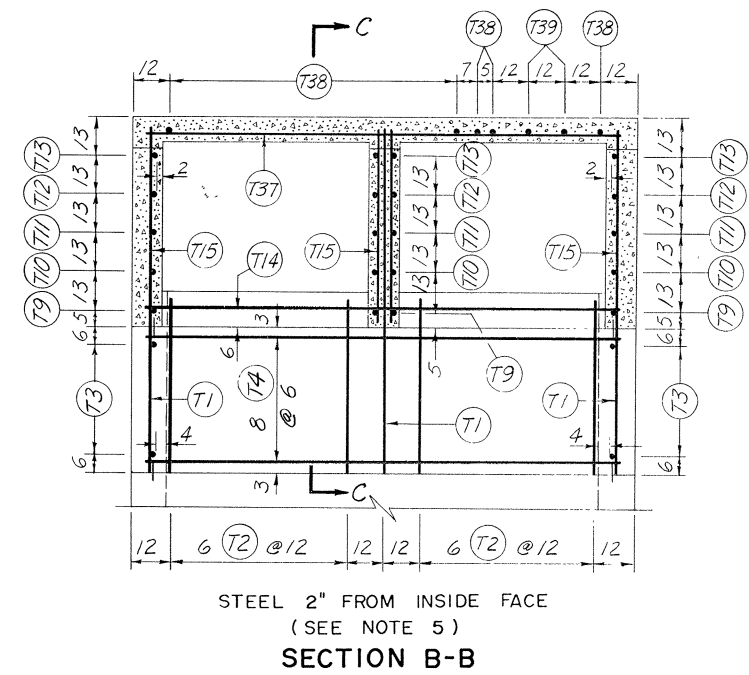
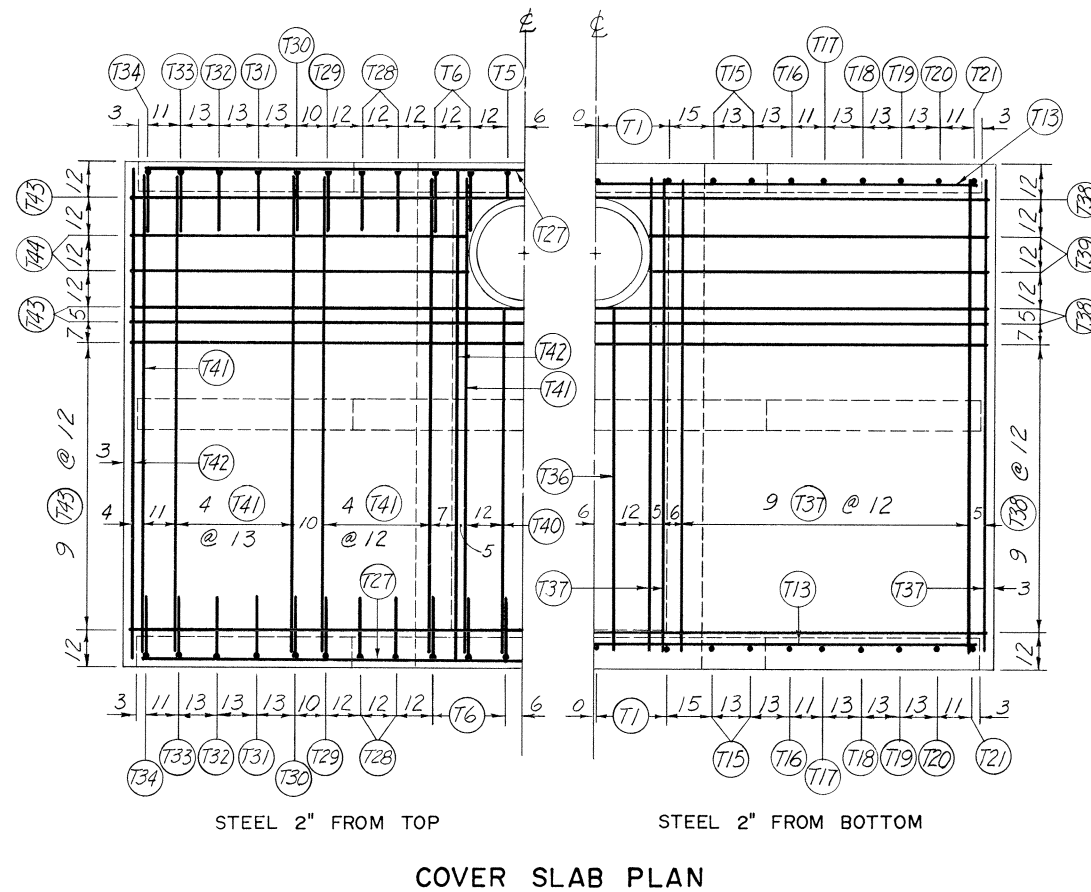
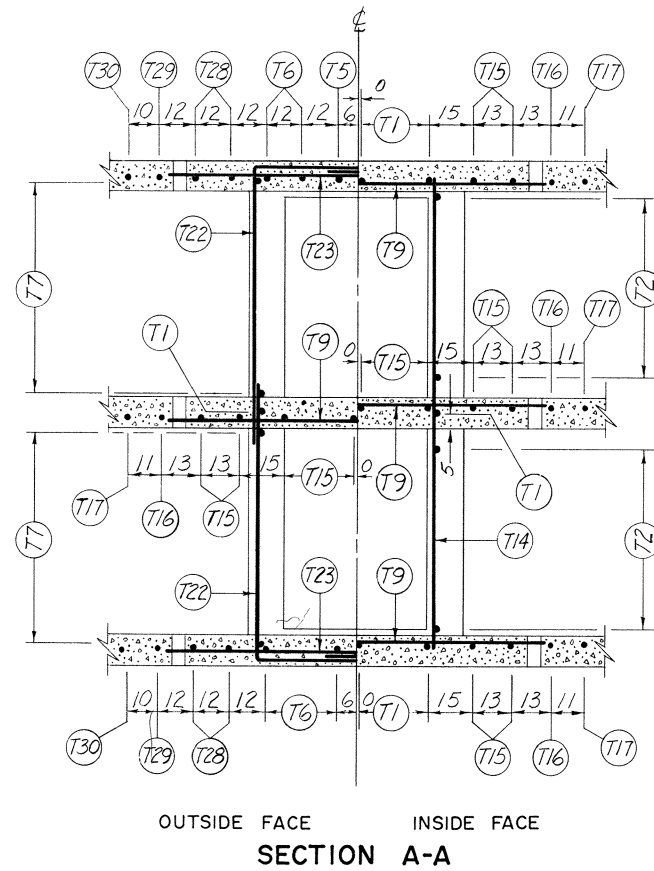
PRINCIPAL SPILLWAY INLET REINFORCEMENT (2 OF 3)

FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
PLUM CREEK WATERSHED
IN
HAYS COUNTY, TEXAS

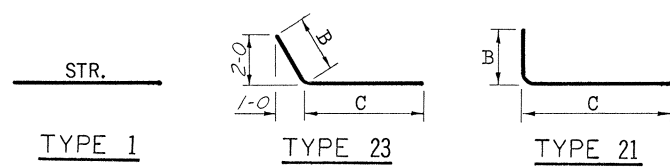
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DRAWN BY: JAM
CHECKED BY: ALL
FILE NAME: Plum 2 - Sht 17.dwg
DATE CHECKED: 7/8/2021



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BAR TYPES



NOTES:

1. BAR DIMENSIONS ARE OUT TO OUT OF BAR.
2. RADIUS OF BENDS EQUAL 3 BAR DIAMETERS FOR SIZES ≤ #7 AND 4 BAR DIAMETERS FOR #8.
3. THE 2", 3", AND 4" DISTANCES FROM SPECIFIED CONCRETE SURFACES ARE CLEAR DISTANCE.
4. STEEL NOT SHOWN IS IDENTICAL TO INSIDE ENDWALL STEEL.
5. BARS (T3) AND (T9) IN ENDWALLS BELOW CREST ARE 4" FROM INSIDE FACE.

NOTE:

REBAR SCHEDULES AND LAYOUTS ARE FOR INFORMATION AND MAY BE USED AS A GUIDE. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING FULL REBAR LAYOUTS AND SCHEDULES FOR REVIEW AND APPROVAL.

0 1 2 3 4
Scale in Feet

STANDARD BAFFLE RISER	
DESIGN CONSTANTS	$f'_c = 4000$ psi $f_c = 1600$ psi $n = 8$ $f_s = 20,000$ psi
STANDARD DWG. NO.	ES-3248 - 2020R
DATE	9 - 79
SHEET	4 OF 4

REVISIONS		
DATE	APPROVED	TITLE

PRINCIPAL SPILLWAY INLET REINFORCEMENT (3 OF 3)

FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
PLUM CREEK WATERSHED
IN
HAYS COUNTY, TEXAS

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SHEET NO.

18

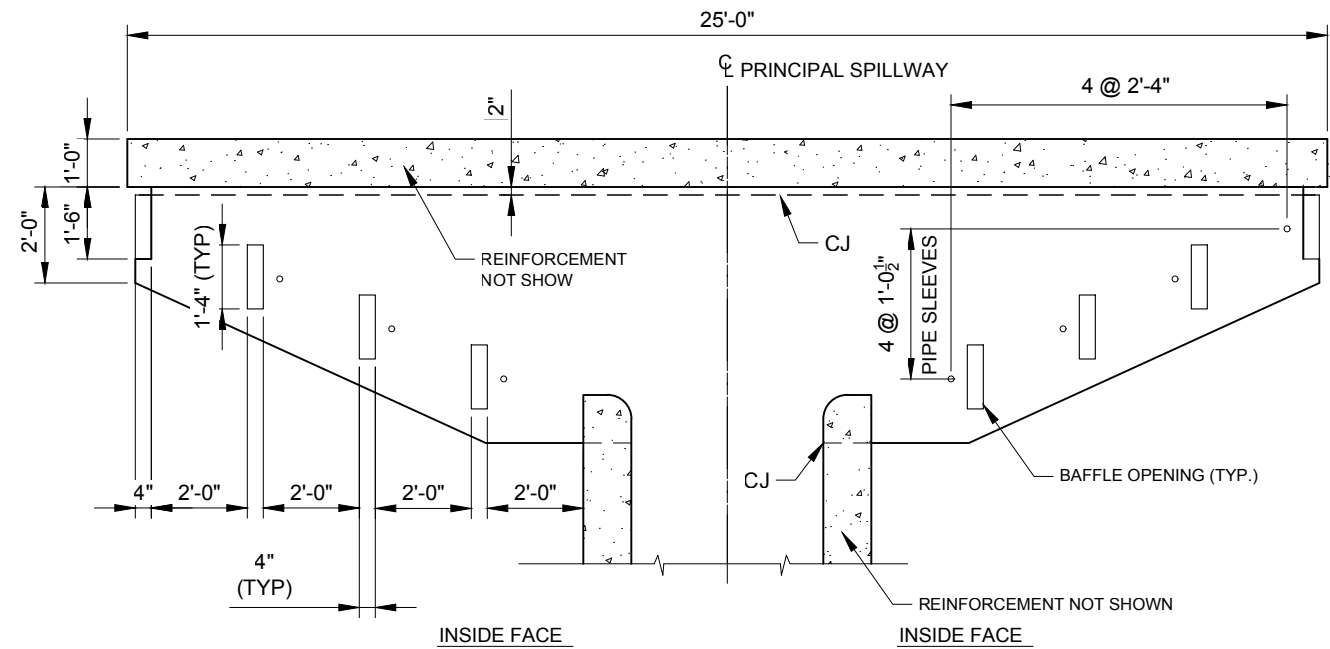
OF

71

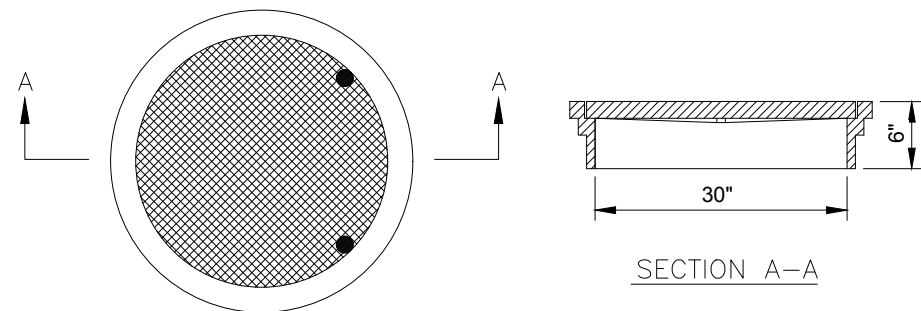
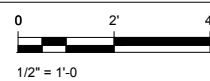
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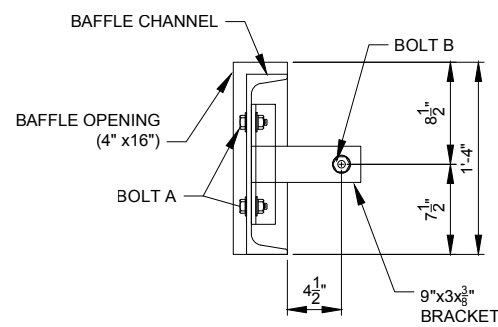


ENDWALL ELEVATION

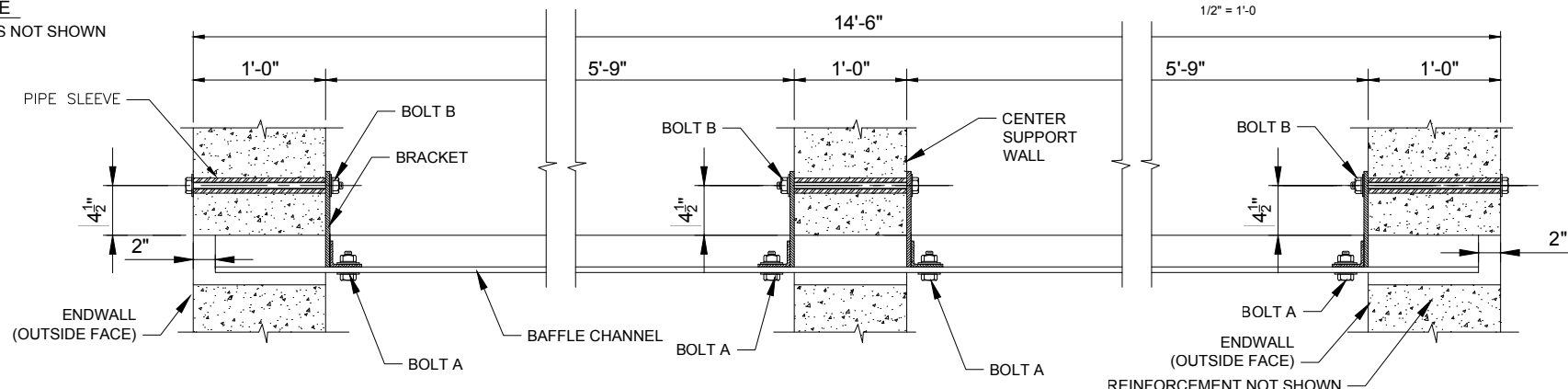
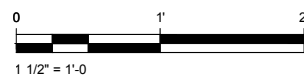


MANHOLE COVER DETAILS

NOT TO SCALE

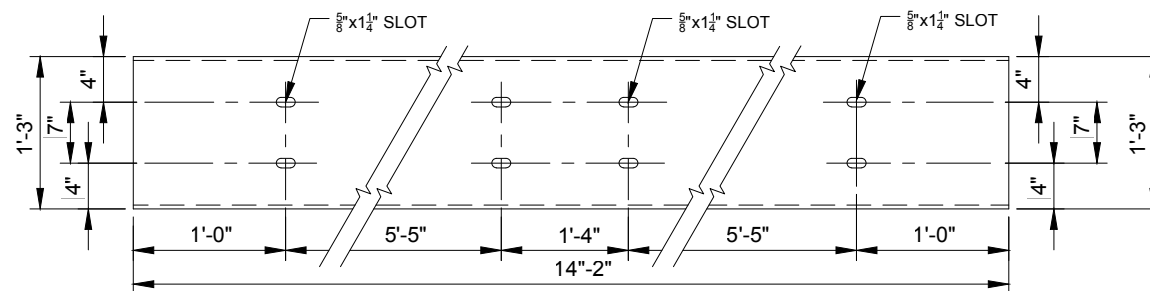


SIDE VIEW



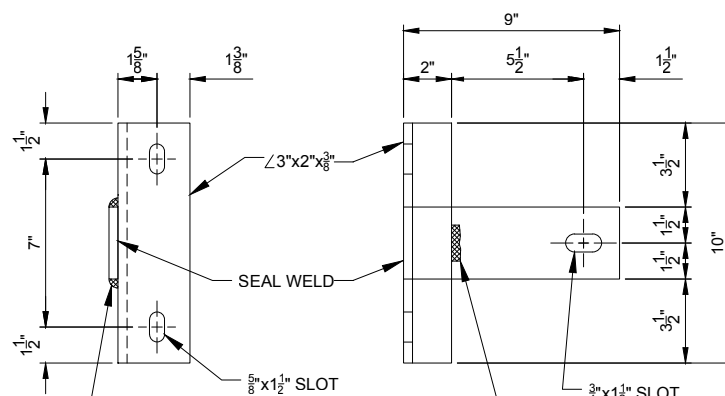
SECTIONAL TOP VIEW

NOT TO SCALE



BAFFLE CHANNEL

NOT TO SCALE



BRACKET

NOT TO SCALE

SCHEDULE OF QUANTITIES		
ITEM	SIZE	QUANTITY
CHANNEL	C 15 x 33.9	8
BRACKET	SEE DETAIL	32
BOLT A 1/2	1/2 x 2 1/2	64
BOLT B 1/2	5/8 x 12	24
PIPE SLEEVE	3/4 x 10	24

1/2 BOLT WITH TWO FLAT WASHERS, ONE LOCK WASHER AND NUT.

NOTE: ALL PARTS OF TRASHRACK SHALL BE GALVANIZED AFTER FABRICATION. (SEE MATERIAL SPECIFICATION 582.)

REVISIONS		
DATE	APPROVED	TITLE



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 FILE NAME: Plum 2 - Sht. 19.dwg
 DATE CHECKED: 7/8/2021

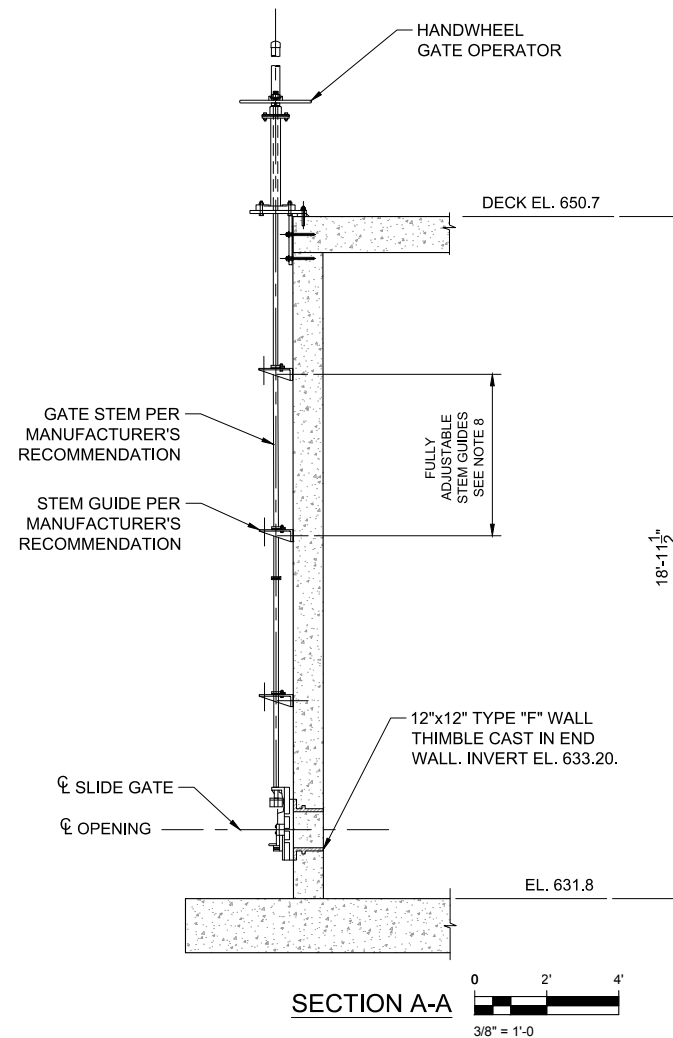
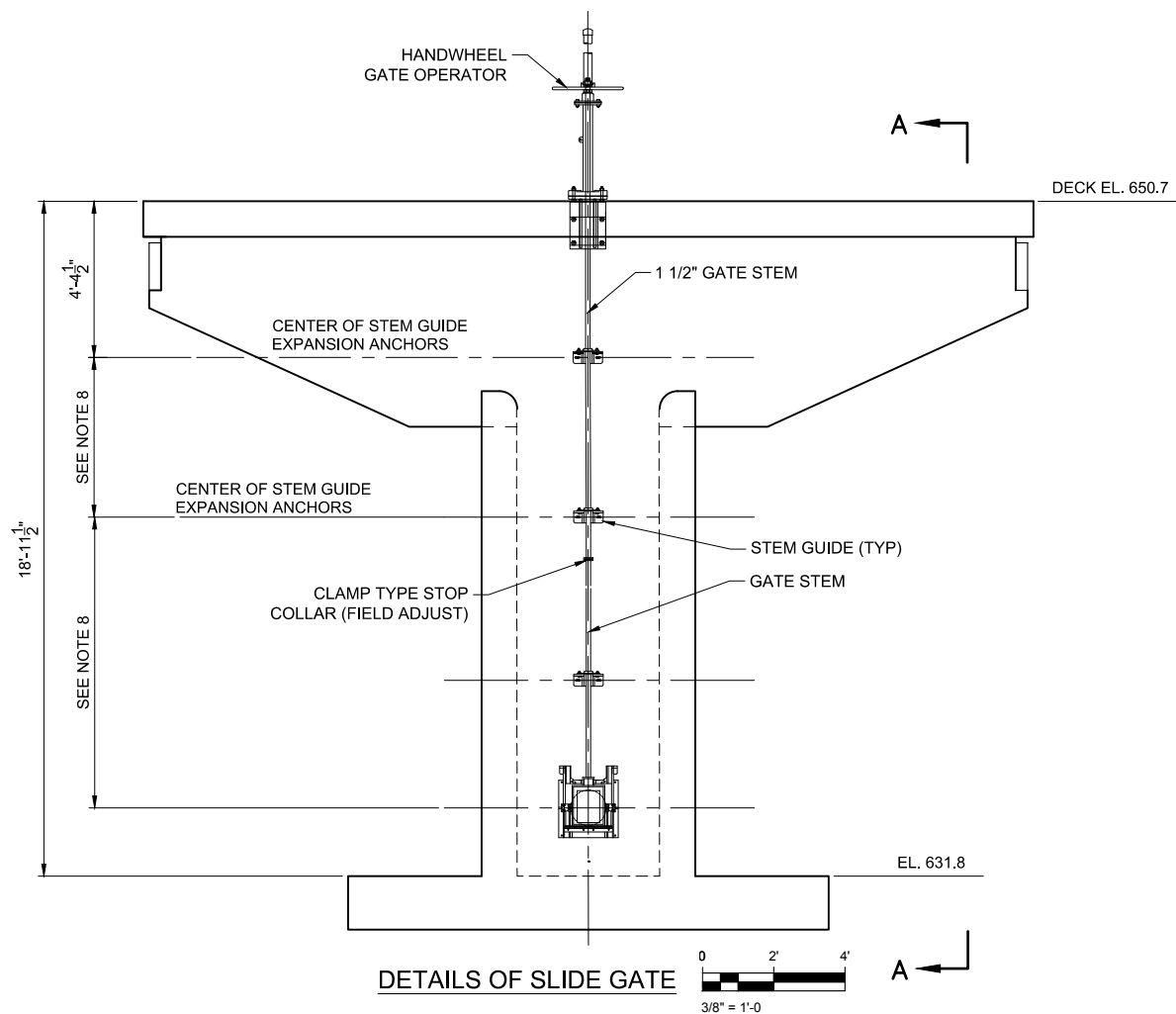
PRINCIPAL SPILLWAY INLET - TRASHRACK DETAILS

FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
 PLUM CREEK WATERSHED
 IN
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 AECOM

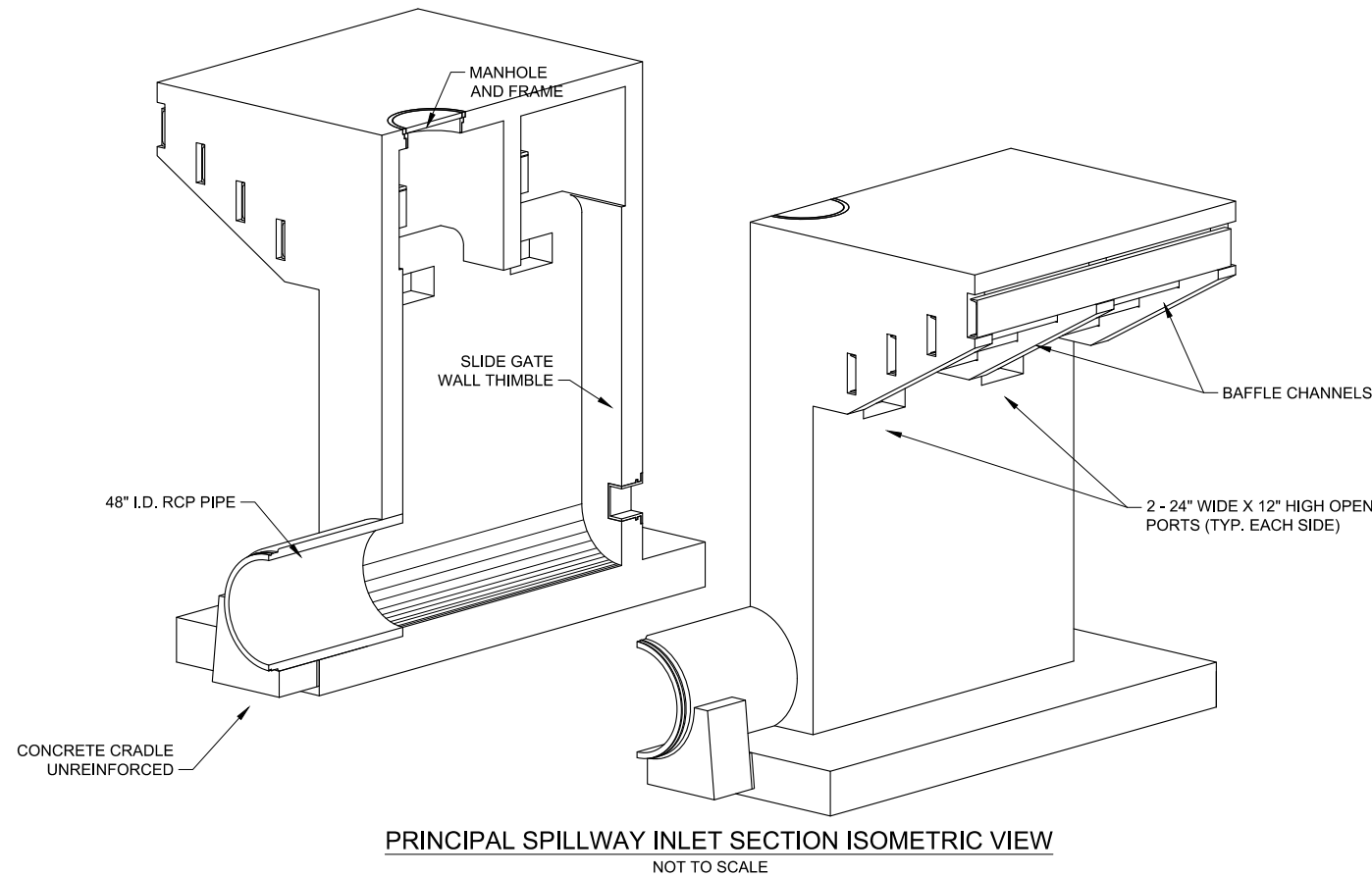
SHEET NO.
 19
 OF
 71

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NOTES:

1. REINFORCEMENT NOT SHOWN. (SEE SHEETS 15 THRU 18 FOR DETAILS).
2. THE SLIDE GATE SHALL BE CENTERED IN THE UPSTREAM ENDWALL OF THE PRINCIPAL SPILLWAY INLET. WALL BRACKET AND STEM GUIDES SHALL HAVE SUFFICIENT ADJUSTMENT TO ENSURE VERTICAL MOUNTING FOR THE GATE WALL FITTING.
3. 12" SQUARE FABRICATED CAST IRON SLIDE GATE, SELF CONTAINED, CLASS 30-20, TYPE MLS-2, FLANGE BACK, WITH THIMBLE AND RUBBER GASKET. THIMBLE - TYPE F, CAST IRON. FOR ADDITIONAL SLIDE GATE DETAILS SEE CONSTRUCTION SPECIFICATION 71.
4. 1-1/2" DIA. STAINLESS STEEL PIPE NON-RISING STEM EXTENSION AND BRACKETS (TORQUE TUBE).
5. 10" DIAMETER HANDWHEEL, TYPE 1.
6. STAINLESS STEEL BOLTS AND NUTS.
7. GATE TO BE INSTALLED ACCORDING TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.
8. STEM GUIDE SPACING SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS OR AT 6 FOOT MAX. SPACING, WHICHEVER CONTROLS. CONTRACTOR SHALL COORDINATE BOLT LOCATIONS TO MAINTAIN 2 INCH MINIMUM CLEARANCE FROM REINFORCEMENT AND 6 INCH MINIMUM DISTANCE FROM CONSTRUCTION JOINTS.



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 FILE NAME: Plum 2 - Sht. 20.dwg
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PRINCIPAL SPILLWAY INLET - SLIDE GATE DETAILS

FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
 PLUM CREEK WATERSHED
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REVISIONS		
DATE	APPROVED	TITLE

SHEET NO. 20
 OF 71

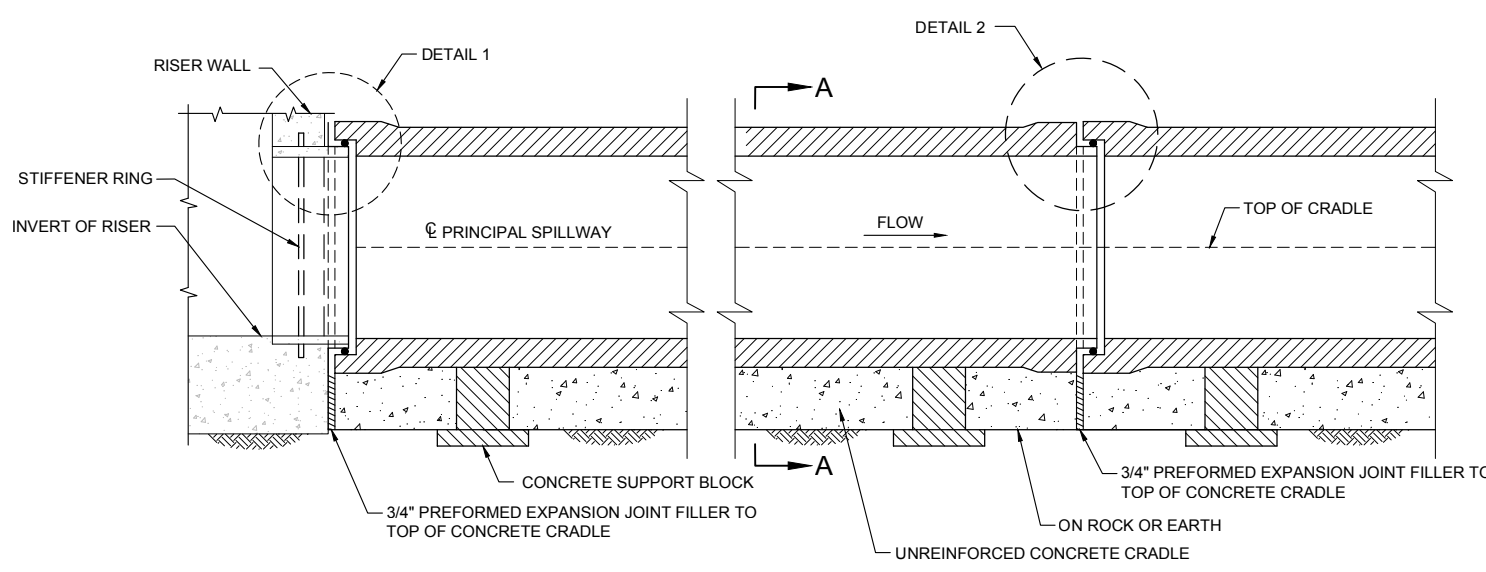


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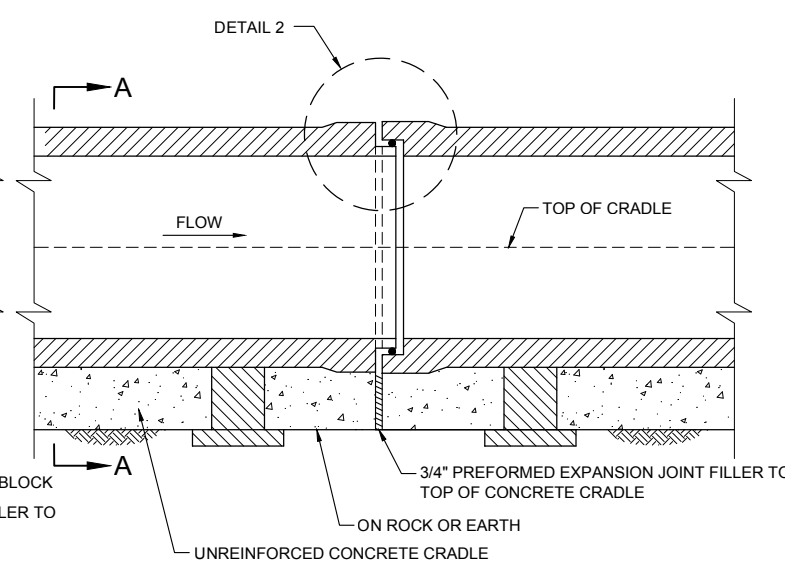
PRINCIPAL SPILLWAY RCP SECTIONS AND DETAILS
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
 PLUM CREEK WATERSHED
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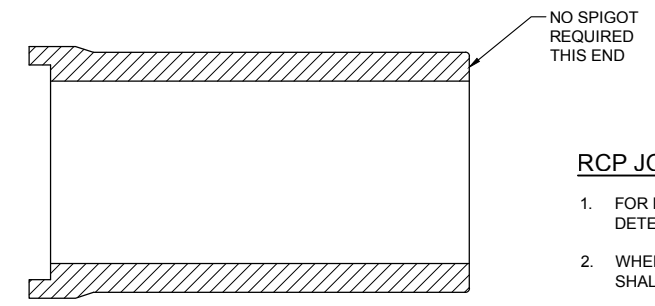
SHEET NO. 21
 OF 71



DETAIL 1
 DETAIL OF SPIGOT WALL FITTING
 NOT TO SCALE



DETAIL 2
 DETAIL OF PIPE JOINT
 NOT TO SCALE



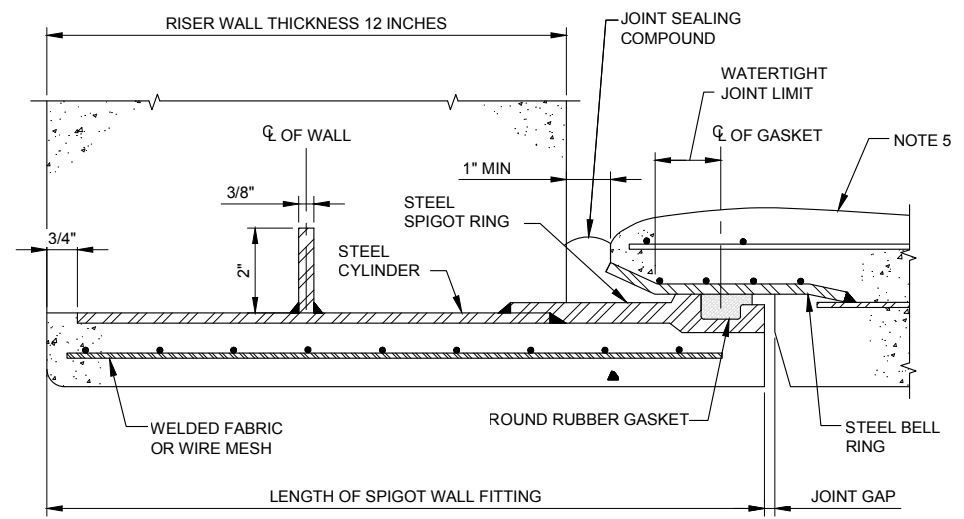
TERMINAL PIPE SECTION
 (ONE REQUIRED)
 NOT TO SCALE

RCP JOINT NOTES:

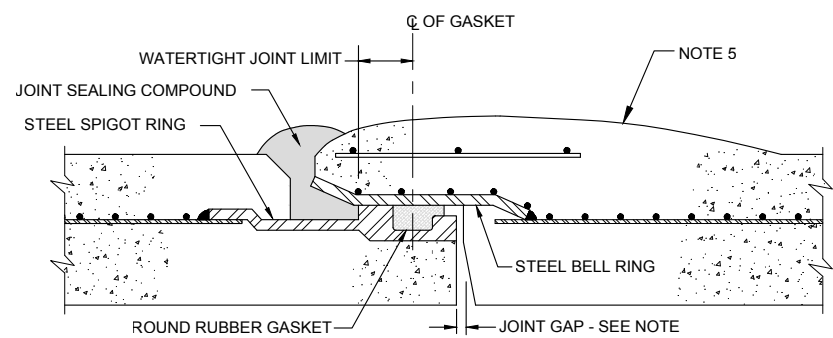
- FOR PIPE LENGTH OTHER THAN SHOWN, JOINT REQUIREMENTS WILL BE DETERMINED BY THE ENGINEER.
- WHERE PIPES OF DIFFERENT LENGTH ARE CONNECTED, ADJOINING PIPES SHALL MEET THE REQUIREMENTS OF THE LONGER PIPE.
- PRIOR TO DELIVERY OF PIPE, THE PIPE JOINT DETAIL PROPOSED FOR USE SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER.
- FIRST AND LAST SECTION OF PIPE HAVE NO SLOPE. SEE SHEETS 10 AND 11 FOR REMAINDER OF PIPE SLOPE.
- CONTRACTOR MAY SUBMIT ALTERNATE RCP CONNECTION DETAILS. CONNECTIONS MUST BE WATER TIGHT AND APPROVED BY THE ENGINEER.

SUPPORT BLOCK NOTES:

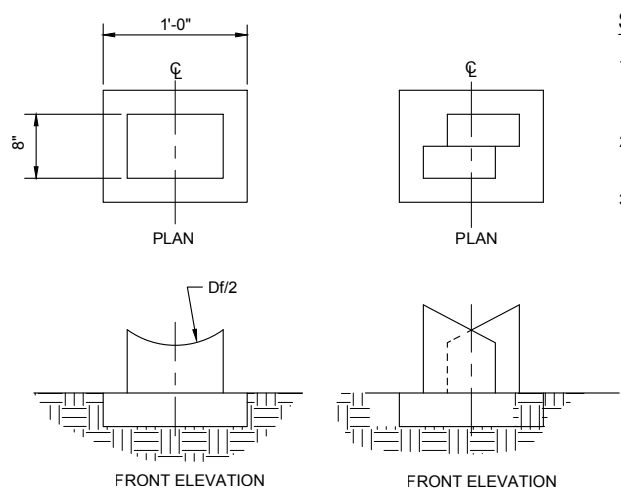
- SUFFICIENT BLOCKS OR WEDGES SHALL BE PROVIDED TO SUPPORT THE PIPE TO THE REQUIRED LINE AND GRADE. THE CONTRACTOR SHALL DETERMINE THE NUMBER AND SIZE OF BLOCKS OR WEDGES REQUIRED.
- A MINIMUM OF TWO SUPPORTS SHALL BE REQUIRED FOR EACH SECTION OF PIPE.
- AT LEAST 6" SHALL BE MAINTAINED BETWEEN THE SIDE OF THE FINISHED CRADLE SURFACE AND THE COMPLETED SUPPORT BLOCK OR WEDGE.



DETAIL 1
 NOT TO SCALE



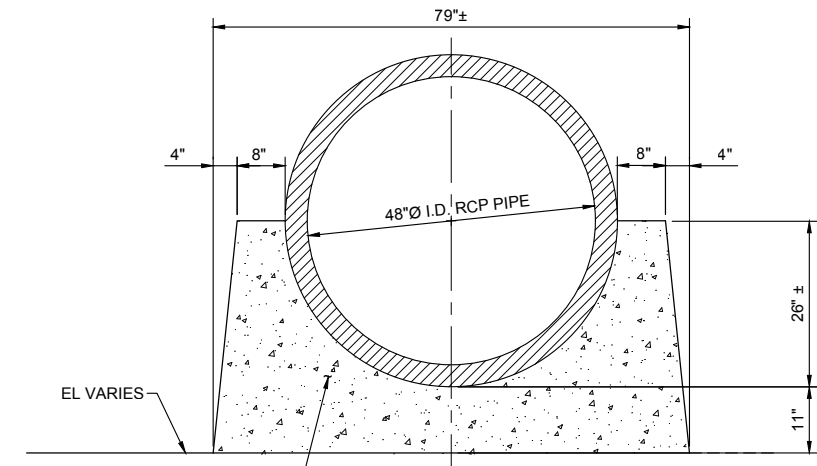
DETAIL 2
 NOT TO SCALE



SUGGESTED SUPPORT BLOCKS AND WEDGES
 NOT TO SCALE

RCP STRENGTH REQUIREMENTS		
I.D. OF PIPE	INTERNAL LOAD	EXTERNAL LOAD
	HYDROSTATIC PRESSURE HEAD OF WATER IN FEET	MINIMUM 3-EDGE BEARING STRENGTH IN POUNDS PER LINEAL FOOT OF PIPE (SEE AWWA C-301 FOR REFERENCE) OR EQUIVALENT LOAD TO PRODUCE 0.001 IN. CRACK ONE FOOT LONG
INCHES	FEET	LBS/FT
48	32	10,500

JOINT REQUIREMENTS				
PIPE I.D.	LENGTH OF PIPE SECTION	MINIMUM JOINT LENGTH	MINIMUM JOINT LIMITING ANGLE	
			RADIANS	DEGREES
48	10	3 1/8	0.0157	0.90



UNREINFORCED CONCRETE CRADLE

SECTION A-A

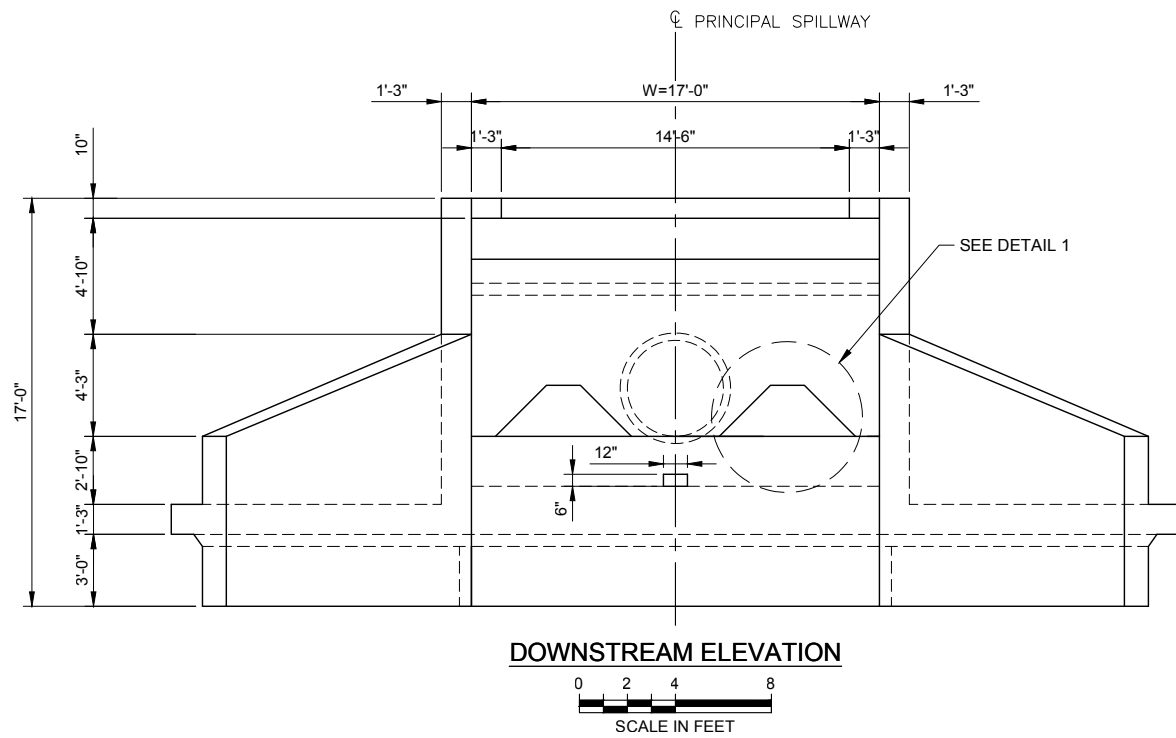


NOTE:
 JOINT LENGTH EQUALS WATERTIGHT JOINT EXTENSIBILITY PLUS JOINT GAP. THE PIPE SHALL BE DRAWN TOGETHER SO THAT THE MAXIMUM JOINT GAP DOES NOT EXCEED 3/8" FOR PIPE LAID ON A STRAIGHT LINE.

REVISIONS		
DATE	APPROVED	TITLE

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3/4" THICK x 12" WIDE VIRGIN SPONGE RUBBER EXPANSION JOINT FILLER ALL AROUND PIPE, ASTM D1752, TYPE 1 (SEE MATERIAL SPECIFICATION 535)

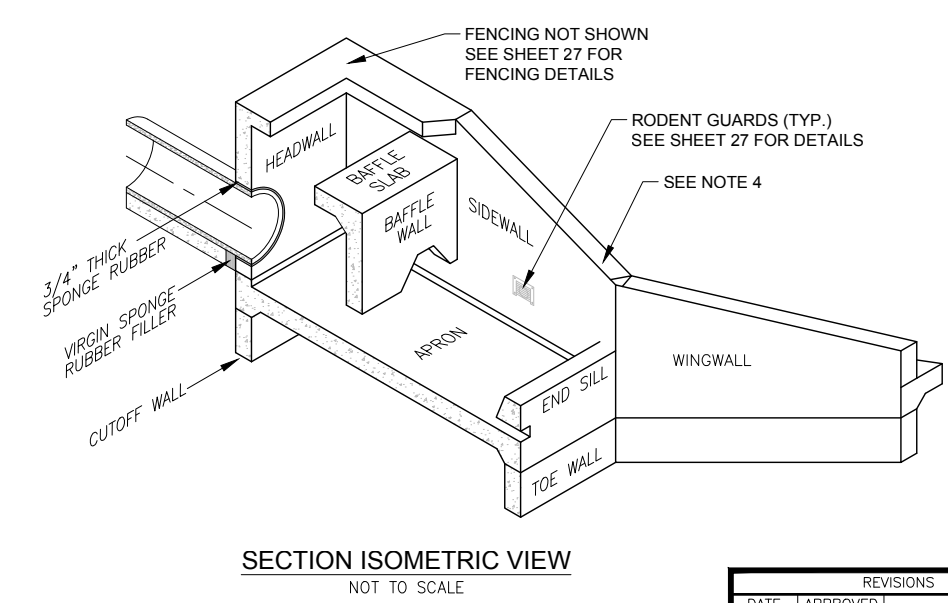
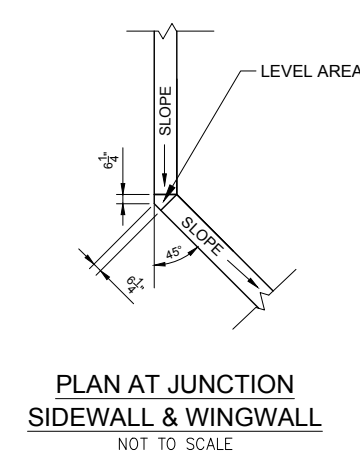
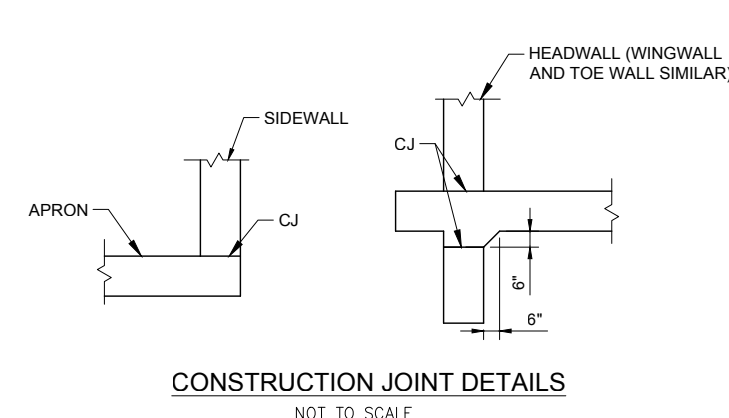
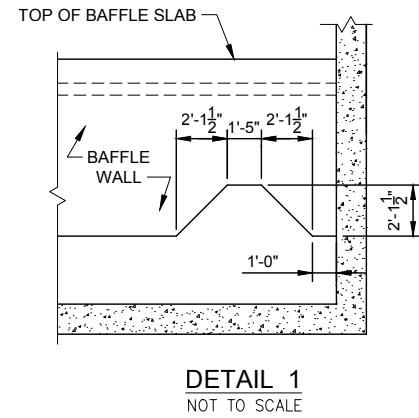
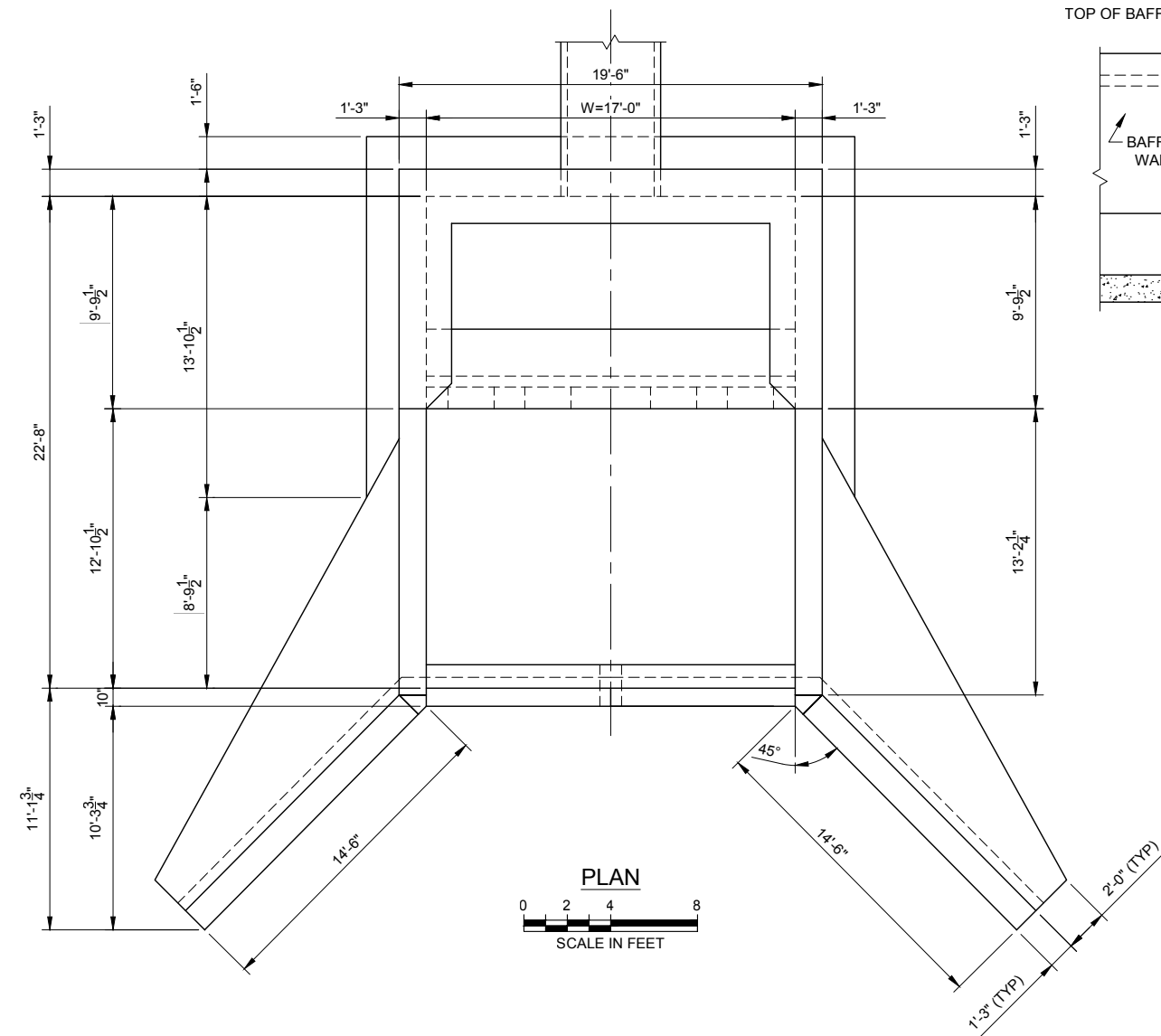
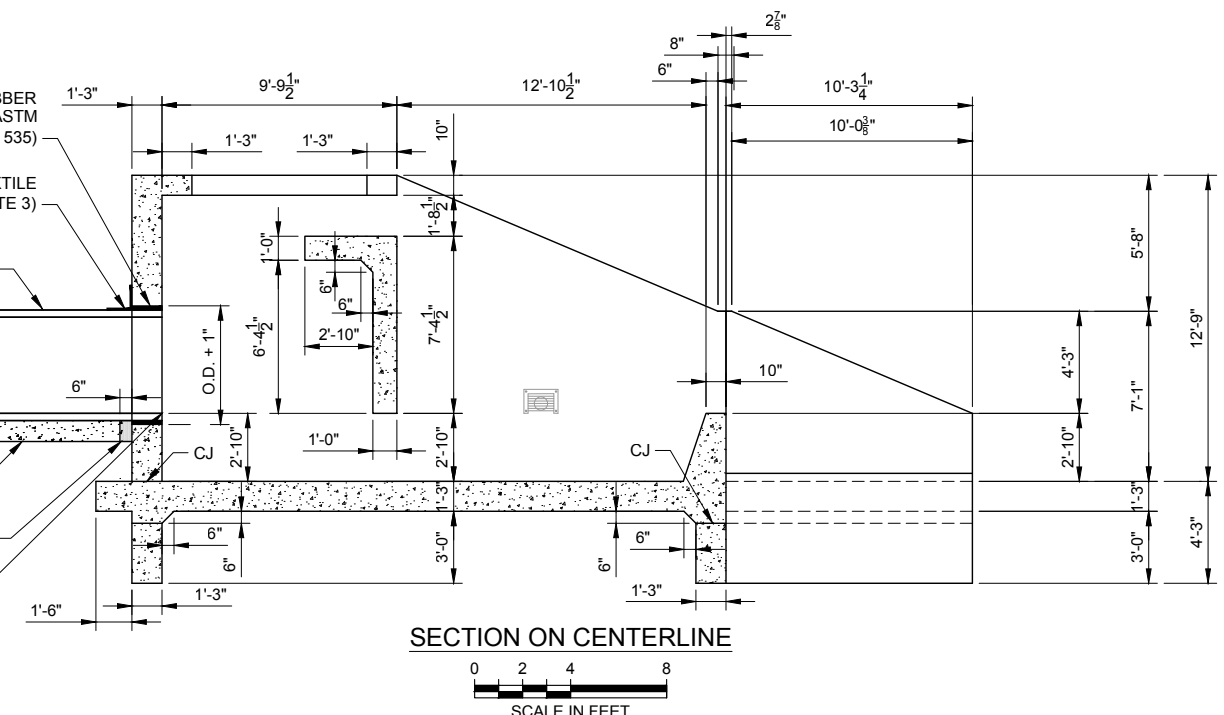
NON-WOVEN GEOTEXTILE (SEE NOTE 3)

LAST SECTION OF CONDUIT TO BE LAID HORIZONTAL

CONCRETE CRADLE UNREINFORCED

6" THICK VIRGIN SPONGE RUBBER FILLER (SEE NOTE 2)

P.S. STA. 3+90.6
INV. EL. 630.0



- NOTES:**
1. REINFORCEMENT NOT SHOWN (SEE SHEETS 23 THRU 26).
 2. 6" THICK VIRGIN SPONGE RUBBER FILLER TO BE INSTALLED BETWEEN THE UPSTREAM FACE OF THE HEADWALL AND DOWNSTREAM FACE OF THE CRADLE. VIRGIN SPONGE RUBBER FILLER AS PER ASTM D1752, TYPE 1. SEVERAL LAYERS LAMINATED TO MAKE A TIGHT 6" COMPRESSIBLE LAYER. (SEE CONSTRUCTION SPECIFICATION 31).
 3. WRAP PERIMETER OF CONDUIT WITH GEOTEXTILE FABRIC AS INDICATED. GEOTEXTILE SHALL EXTEND AROUND PERIMETER OF PIPE AND DOWN THE SIDES OF THE CRADLE, AND ALONG THE UPSTREAM FACE OF THE HEADWALL.
 4. ISOMETRIC VIEW IS SHOWN FOR INFORMATION PURPOSES ONLY AND SHOULD NOT BE USED FOR DIMENSIONING.



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FILE NAME: Plum 2 - Sht. 22.dwg
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IMPACT BASIN SECTIONS AND DETAILS
FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
PLUM CREEK WATERSHED
IN HAYS COUNTY, TEXAS

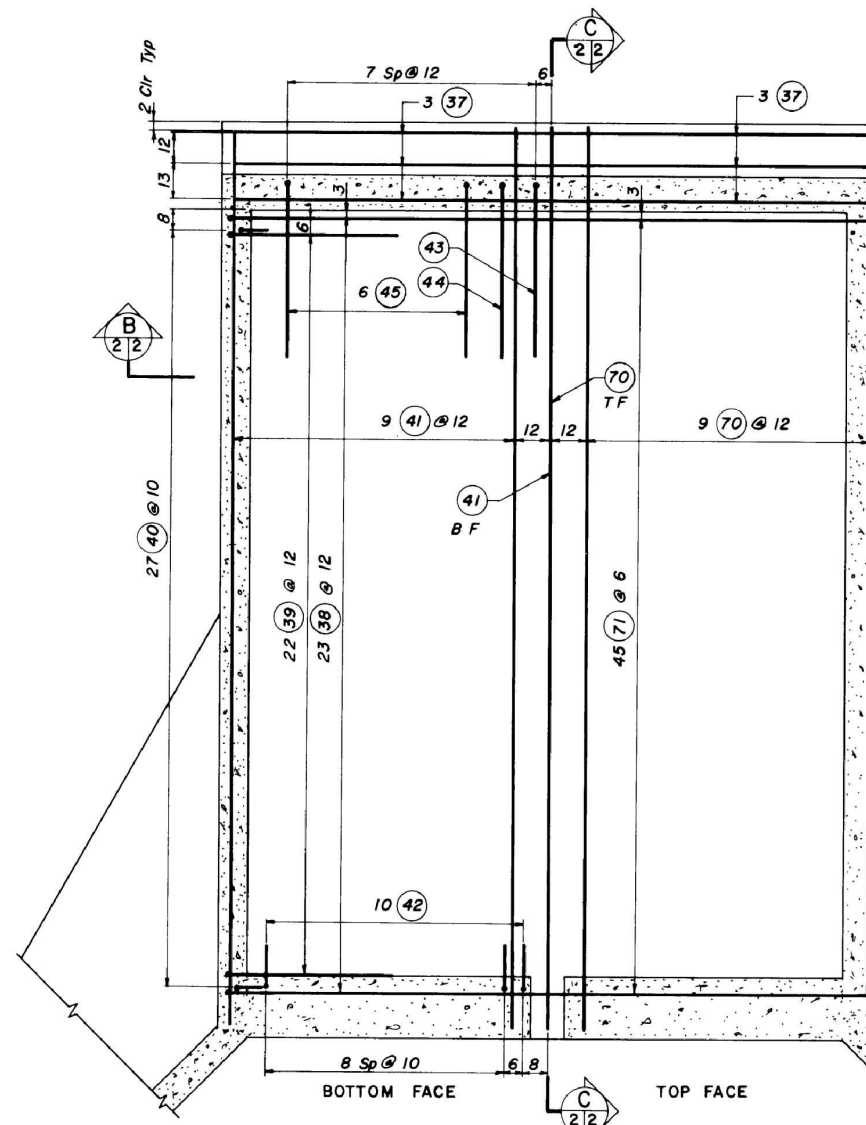
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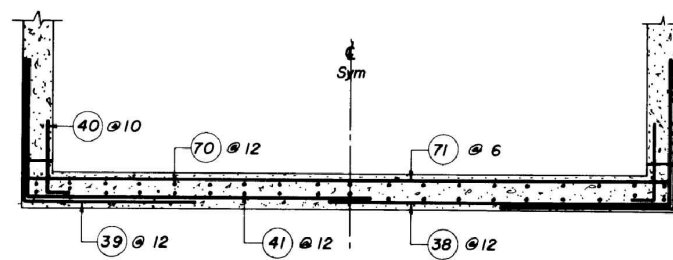
REVISIONS		
DATE	APPROVED	TITLE

SHEET NO. 22 OF 71

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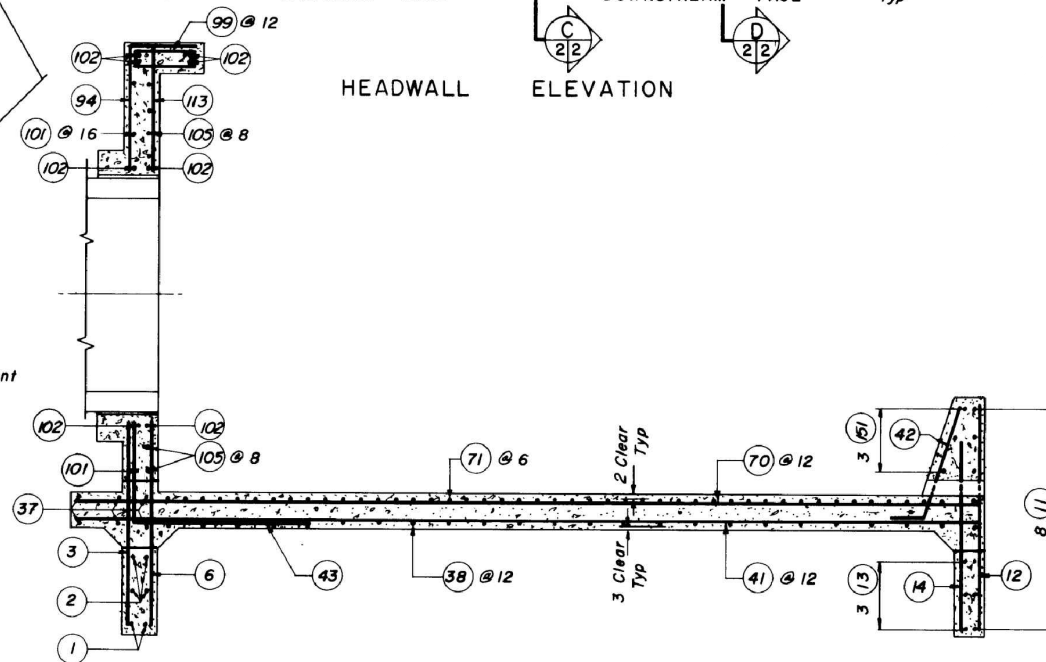


PLAN OF APRON

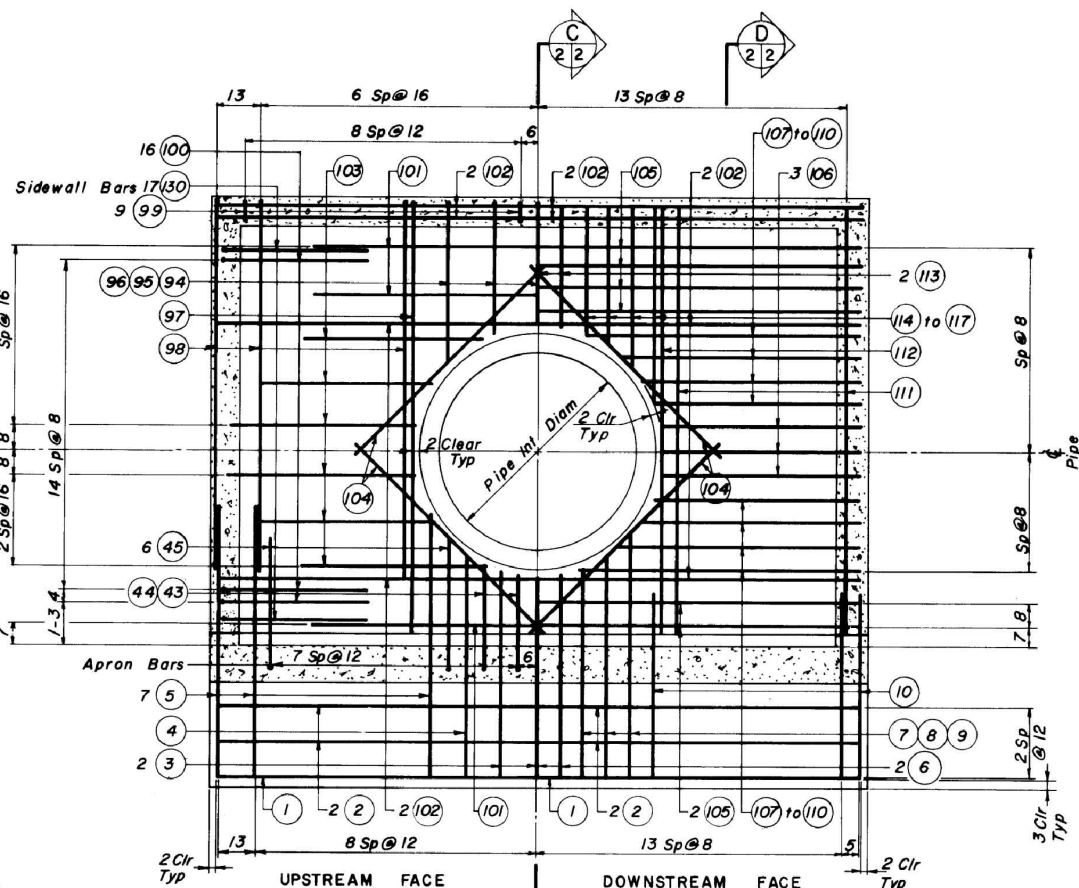


SECTION B-B

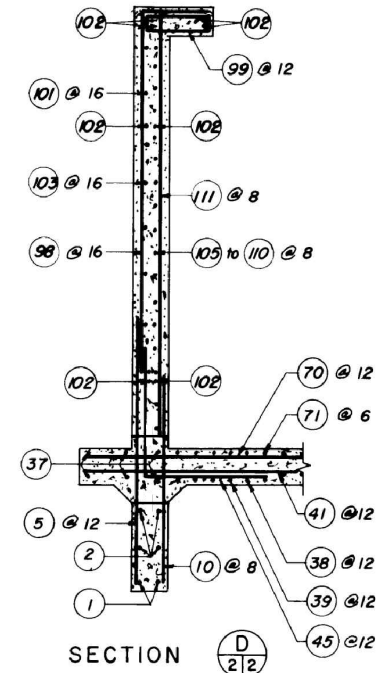
Sidewall Reinforcement See E-3



SECTION C-C



HEADWALL ELEVATION



SECTION D-D

NOTE:
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ADAPTED FROM	DATE: 12-18
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$n = 8$	$f_s = 20,000$
STANDARD DWG. NO. ES-4170	
DATE 1-70	SHEET 2 OF 5

REVISIONS		
DATE	APPROVED	TITLE



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FILE NAME: Plum_2 - Sht. 23.dwg
DATE CHECKED: 7/8/2021

IMPACT BASIN REINFORCEMENT (1 OF 3)

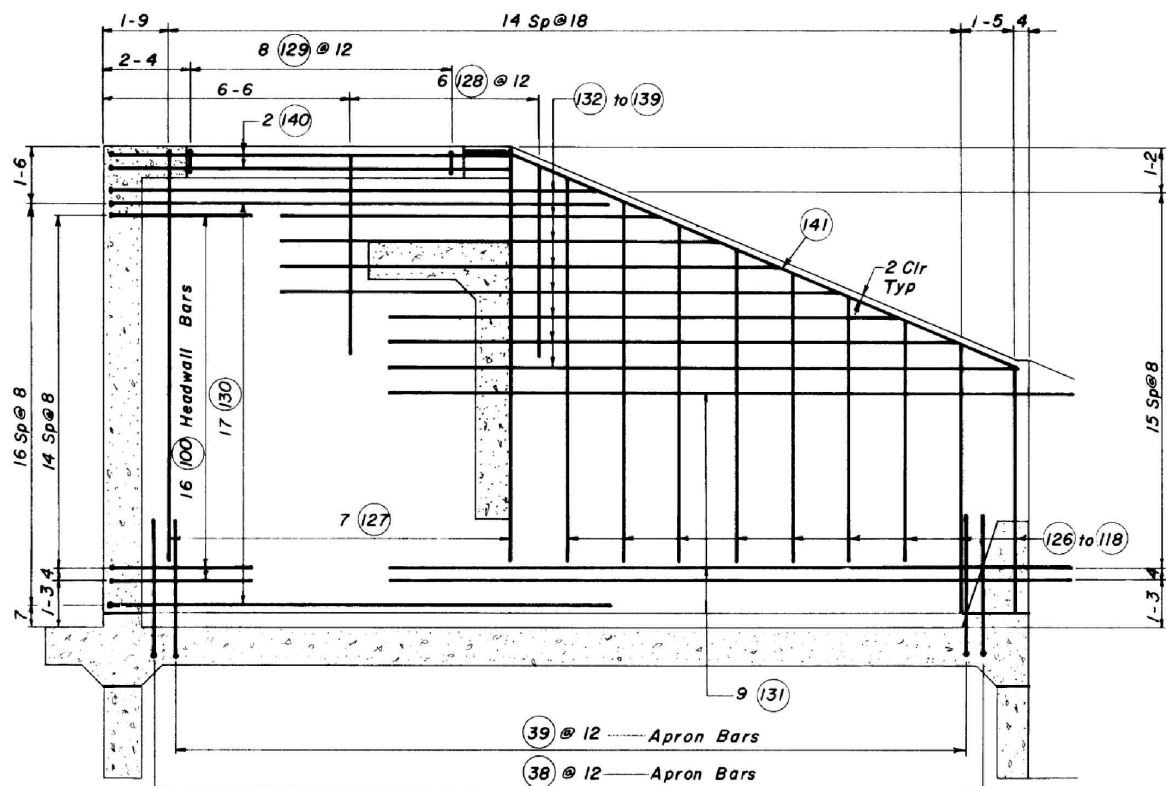
FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
PLUM CREEK WATERSHED
IN
HAYS COUNTY, TEXAS

Texas State
Soil & Water
Conservation Board

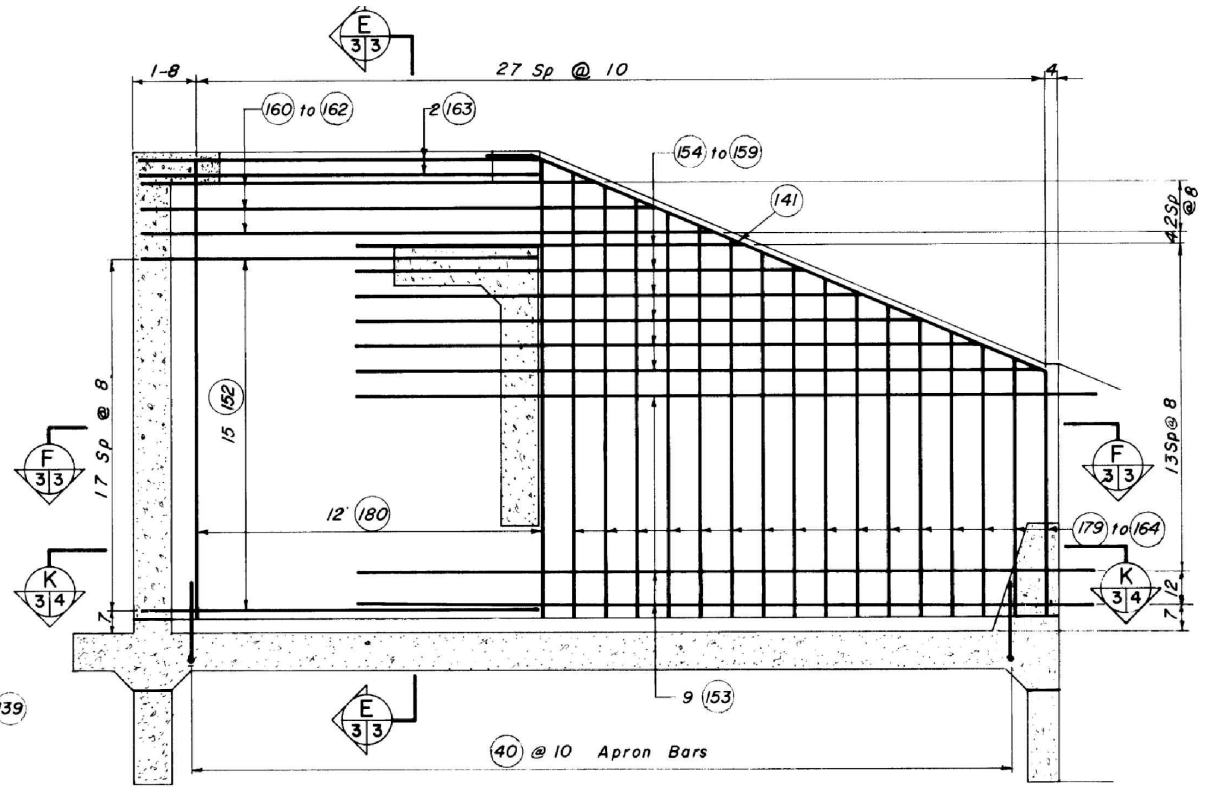
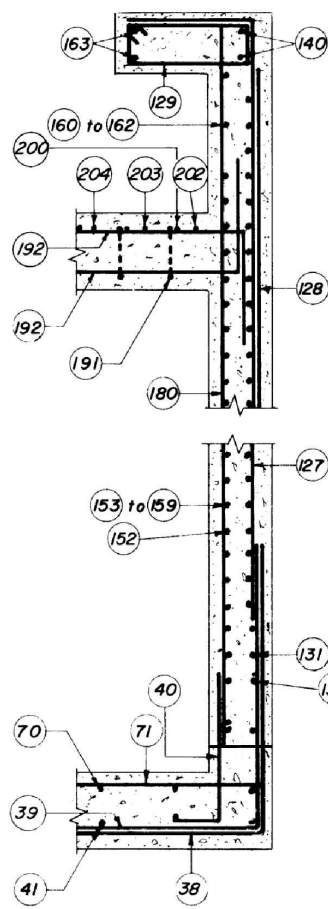
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SHEET NO. 23
OF 71

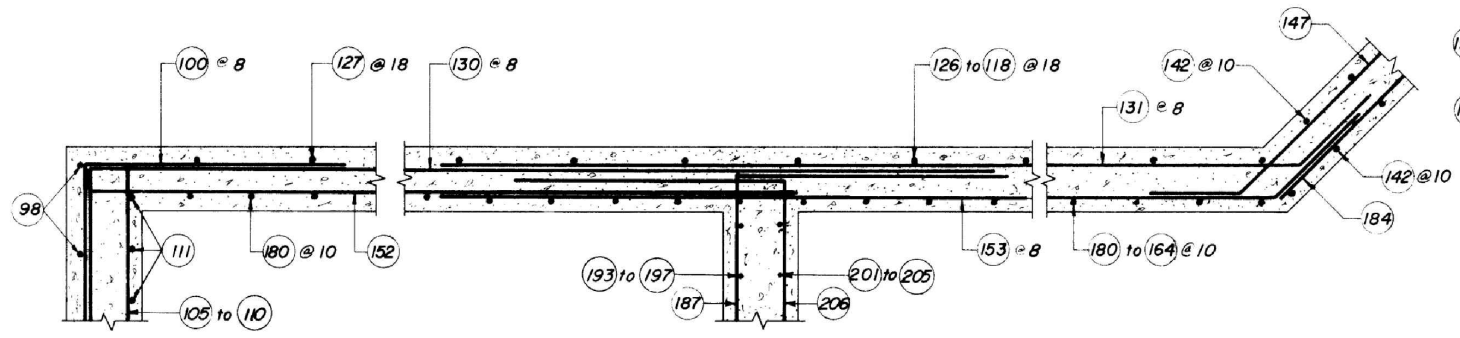
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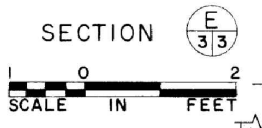
UNEXPOSED FACE
ELEVATION SIDEWALL



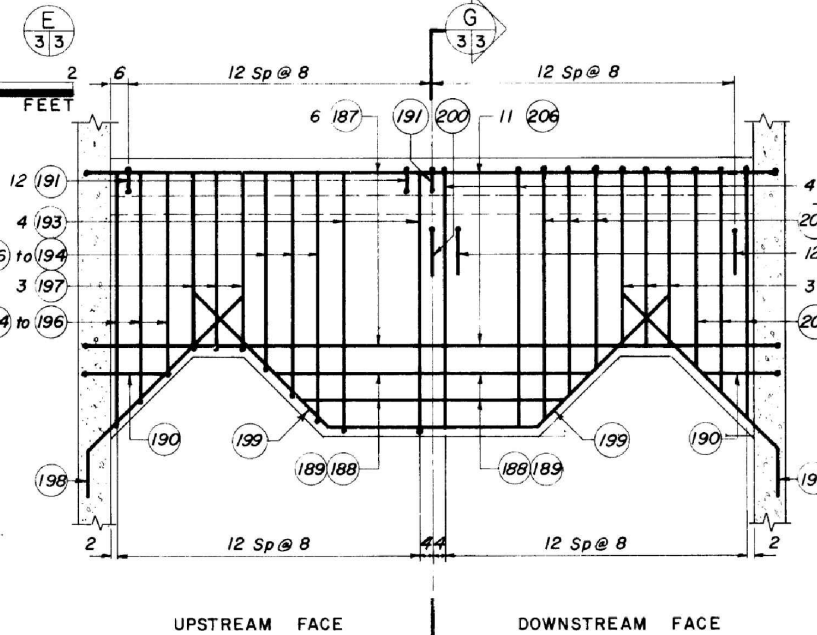
EXPOSED FACE
ELEVATION SIDEWALL



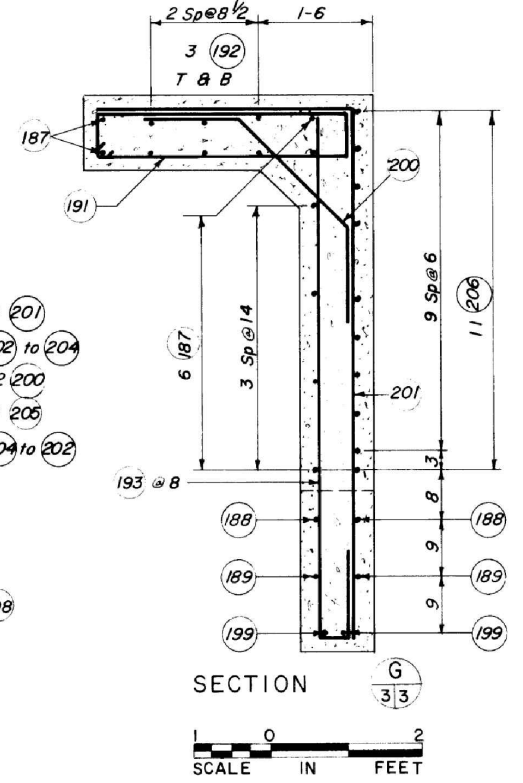
SECTION F 3/3 F 4/3
SCALE IN FEET



SECTION E 3/3
SCALE IN FEET



UPSTREAM FACE DOWNSTREAM FACE



SECTION G 3/3
SCALE IN FEET

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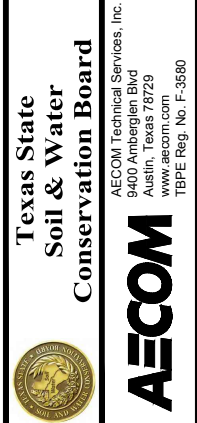
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REVISIONS		
DATE	APPROVED	TITLE



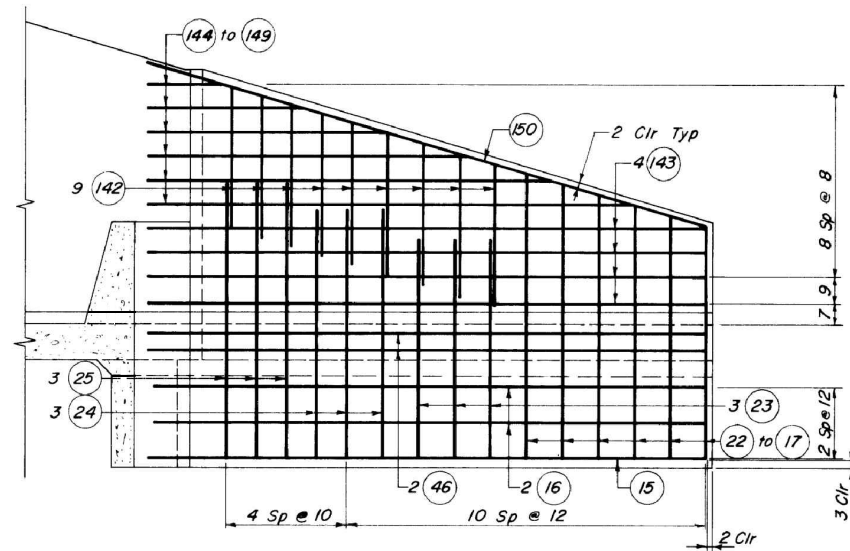
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IMPACT BASIN REINFORCEMENT (2 OF 3)
FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
PLUM CREEK WATERSHED
IN
HAYS COUNTY, TEXAS

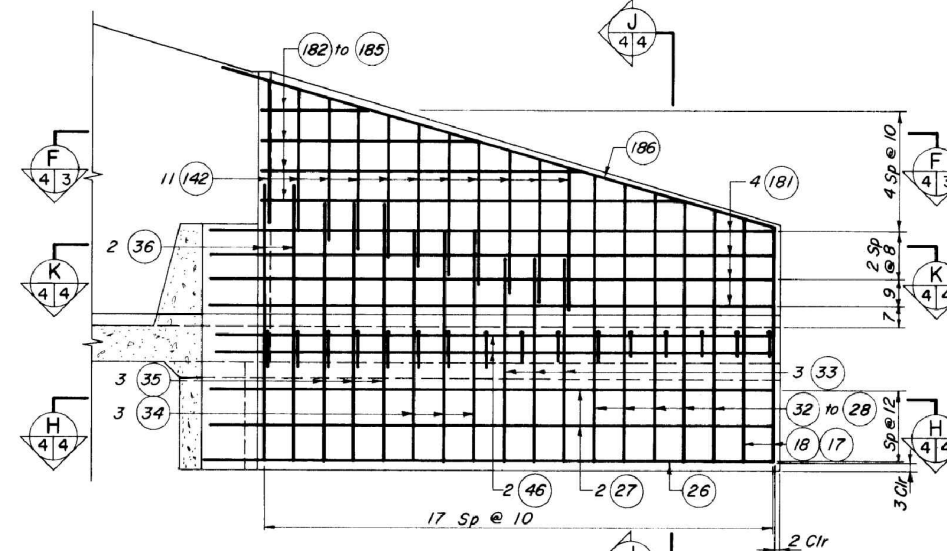


SHEET NO. 24
OF 71

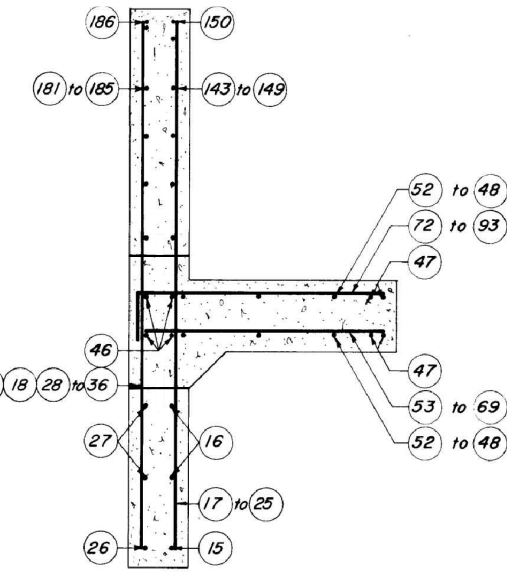
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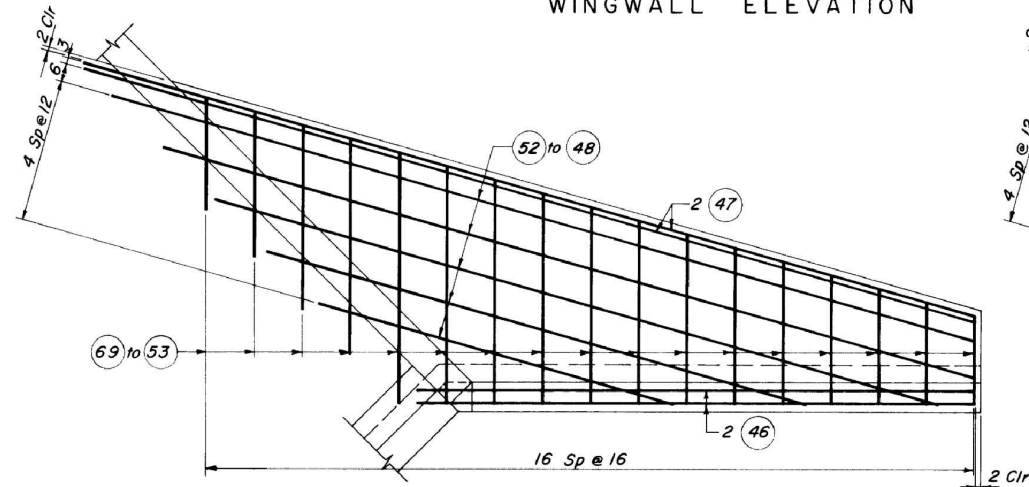
UNEXPOSED FACE
WINGWALL ELEVATION



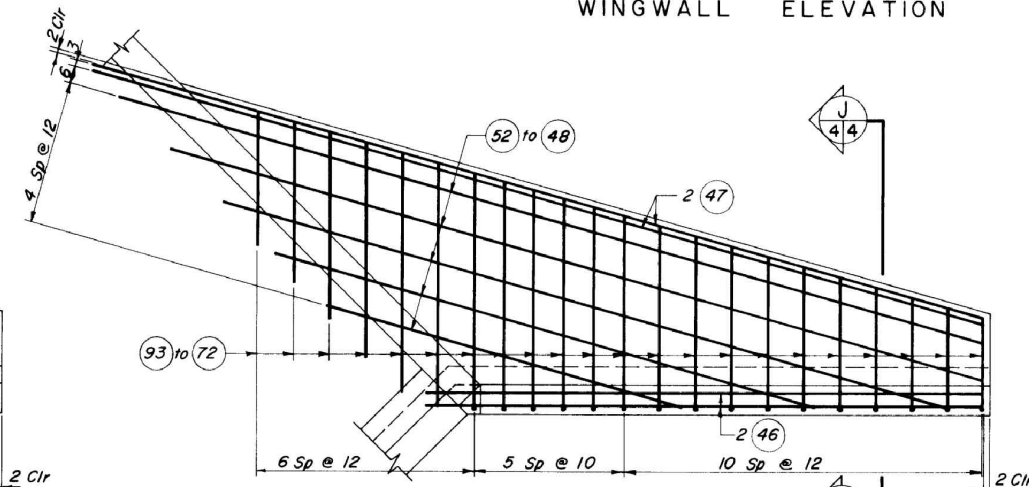
EXPOSED FACE
WINGWALL ELEVATION



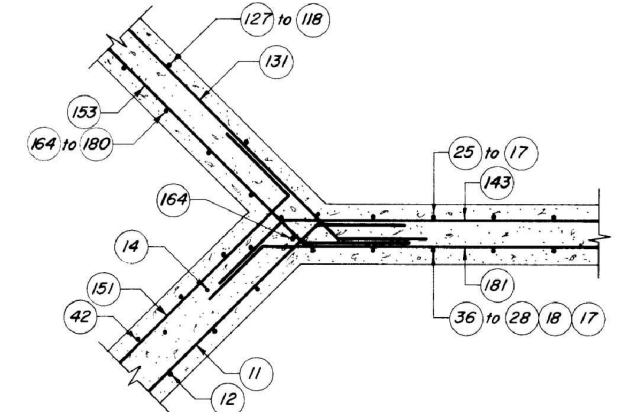
SECTION **J**
4/4
SCALE IN FEET



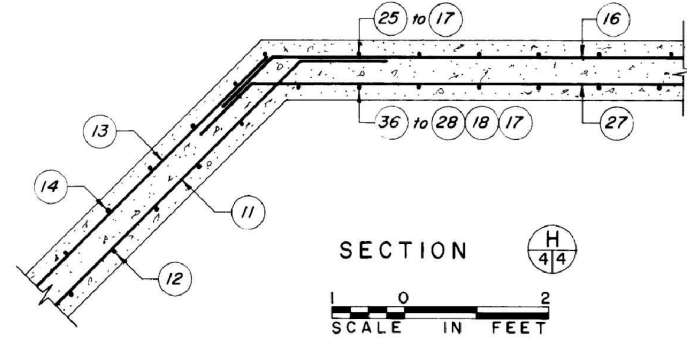
BOTTOM FACE
PLAN WINGWALL FOOTING



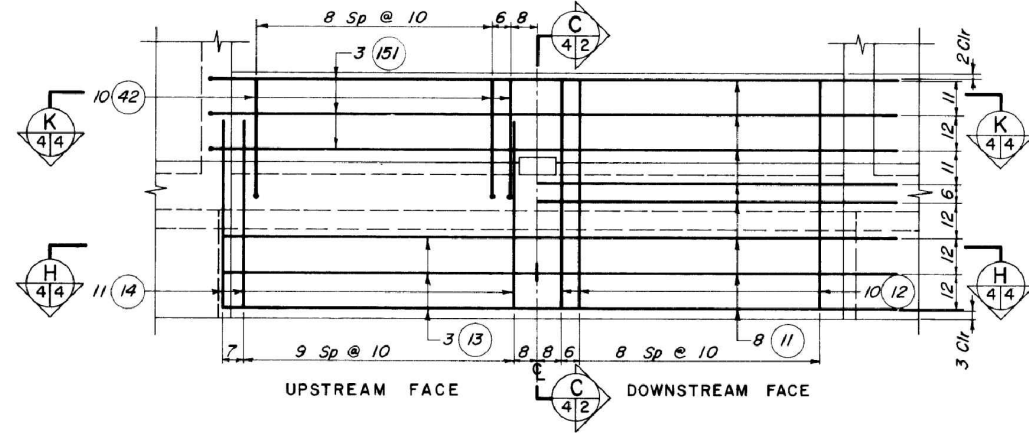
TOP FACE
PLAN WINGWALL FOOTING



SECTION **K**
4/4
SCALE IN FEET



SECTION **H**
4/4
SCALE IN FEET



ELEVATION OF END SILL & TOEWALL

SCALE IN FEET
EXCEPT AS NOTED

NOTE:
REBAR SCHEDULES AND LAYOUTS ARE FOR INFORMATION AND MAY BE USED AS A GUIDE. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING FULL REBAR LAYOUTS AND SCHEDULES FOR REVIEW AND APPROVAL.



DESIGNED BY: KNE
DRAWN BY: JAM
CHECKED BY: ALL
FILE NAME: Plum_2 - Sht. 25.dwg
DATE CHECKED: 7/8/2021

IMPACT BASIN REINFORCEMENT (3 OF 3)
FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
PLUM CREEK WATERSHED
IN
HAYS COUNTY, TEXAS

Texas State
Soil & Water
Conservation Board
AECOM Technical Services, Inc.
9400 Ambleridge Blvd
Austin, Texas 78729
www.aecom.com
TBPPE Reg. No. F-3580

SHEET NO. 25
OF 71

ADAPTED FROM	DATE: 12-18
STANDARD IMPACT BASIN	
DESIGN CONSTANTS	
$f_c = 4,000$ psi	$f_c = 1,600$ psi
$n = 8$	$f_s = 20,000$
STANDARD DWG. NO. ES-4170	
DATE 1-70	SHEET 4 OF 5

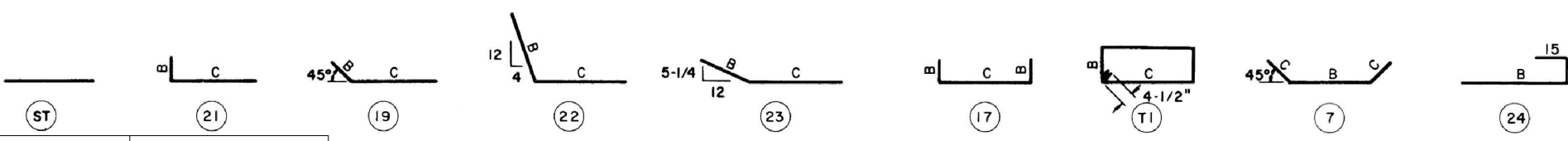
REVISIONS		
DATE	APPROVED	TITLE

STEEL SCHEDULE

LOCATION	MARK	SIZE	QUAN	LENGTH	TYPE	B	C	TOTAL LENGTH	LOCATION	MARK	SIZE	QUAN	LENGTH	TYPE	B	C	TOTAL LENGTH	LOCATION	MARK	SIZE	QUAN	LENGTH	TYPE	B	C	TOTAL LENGTH	LOCATION	MARK	SIZE	QUAN	LENGTH	TYPE	B	C	TOTAL LENGTH									
Headwall	1	5	2	18-4	St			36-8	Apron	43	6	2	8-0	21	3-1	4-11	16-0	Wingwall	85	6	2	6-11	21	1-0	5-11	13-10	Sidewall	127	4	14	12-7	21	10-10	1-9	176-2	Sidewall	169	4	2	8-4	St			16-8

SCHEDULE OF BARS VARYING WITH CONDUIT DIAMETER

45 I D CONDUIT								48 I D CONDUIT								54 I D CONDUIT								60 I D CONDUIT								66 I D CONDUIT												
LOCATION	MARK	SIZE	QUAN	LENGTH	TYPE	B	C	TOTAL LENGTH	LOCATION	MARK	SIZE	QUAN	LENGTH	TYPE	B	C	TOTAL LENGTH	LOCATION	MARK	SIZE	QUAN	LENGTH	TYPE	B	C	TOTAL LENGTH	LOCATION	MARK	SIZE	QUAN	LENGTH	TYPE	B	C	TOTAL LENGTH	LOCATION	MARK	SIZE	QUAN	LENGTH	TYPE	B	C	TOTAL LENGTH
Headwall	4	5	2	6-11	St			13-10	Headwall	4	6	2	6-10	St			13-8	Headwall	4	5	2	6-8	St			13-4	Headwall	4	5	2	6-7	St			13-2	Headwall	4	5	2	6-5	St			12-10



BAR TYPES

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ADAPTED FROM: DATE: 12-18

STANDARD IMPACT BASIN

DESIGN CONSTANTS
 $f_c = 4,000 \text{ psi}$ $f_c = 1,600 \text{ psi}$
 $n = 8$ $f_s = 20,000$

STANDARD DWG. NO. ES-4170

DATE 1-70 SHEET 5 OF 5

REVISIONS		
DATE	APPROVED	TITLE

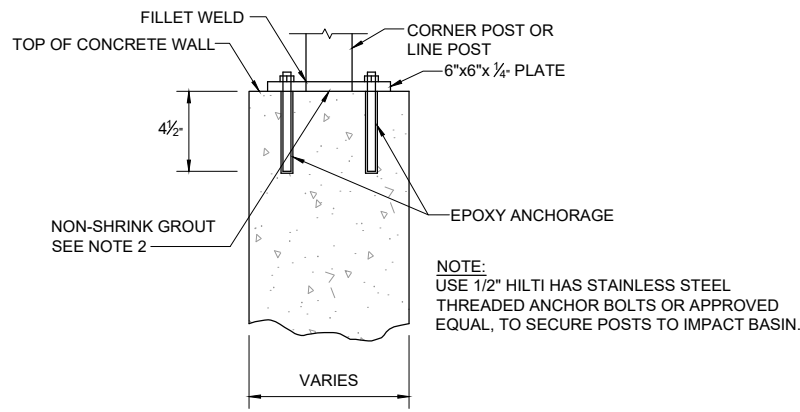


DESIGNED BY: KNE
 DRAWN BY: JAM
 CHECKED BY: ALL
 FILE NAME: Plum 2 - Sht 26.dwg
 DATE CHECKED: 7/8/2021

IMPACT BASIN REINFORCEMENT SCHEDULE
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
 PLUM CREEK WATERSHED
 HAYS COUNTY, TEXAS

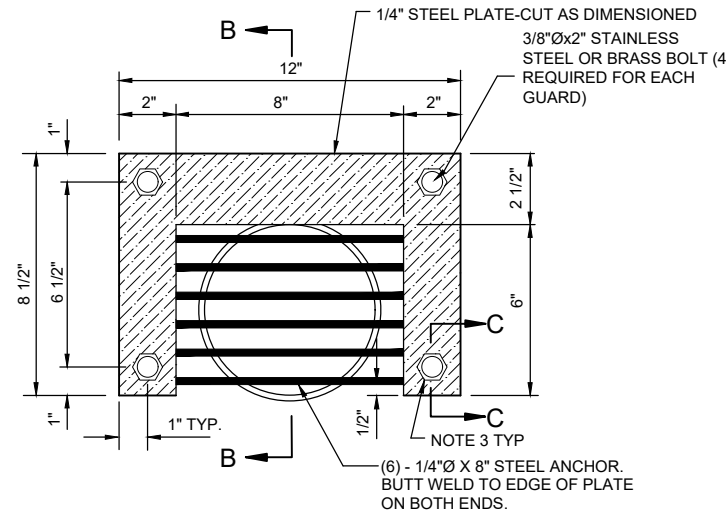
Texas State
 Soil & Water
 Conservation Board

AECOM Technical Services, Inc.
 9400 Amblegen Blvd
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 TBPCE Reg. No. F-3580



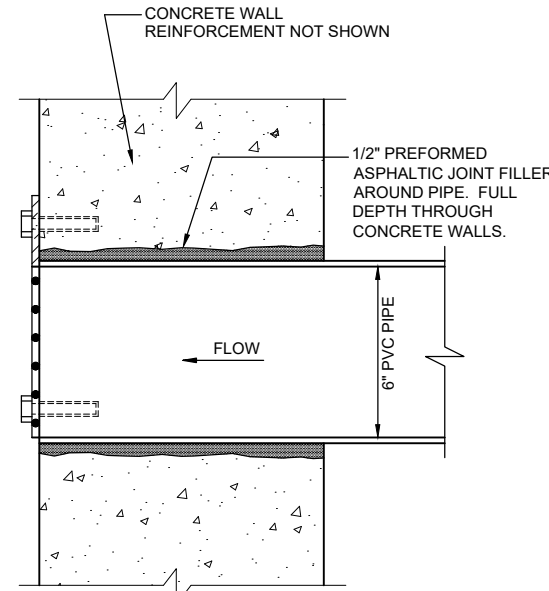
FENCE POST ANCHORAGE DETAIL
NOT TO SCALE

NOTE:
USE 1/2" HILTI HAS STAINLESS STEEL
THREADED ANCHOR BOLTS OR APPROVED
EQUAL, TO SECURE POSTS TO IMPACT BASIN.

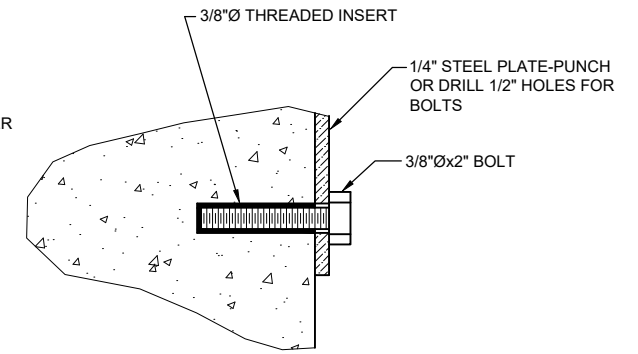


ELEVATION
NOT TO SCALE

(6) - 1/4"Ø X 8" STEEL ANCHOR.
BUTT WELD TO EDGE OF PLATE
ON BOTH ENDS.



SECTION B-B
NOT TO SCALE

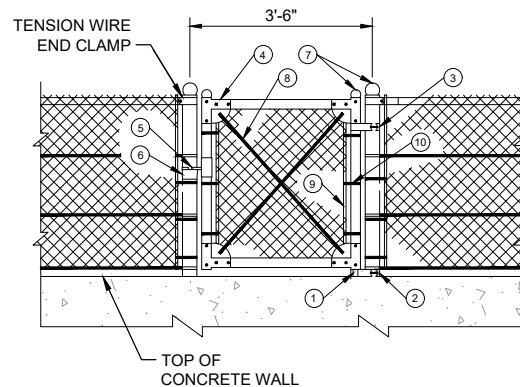


SECTION C-C
NOT TO SCALE

RODENT GUARD DETAILS (IMPACT BASIN)
NOT TO SCALE

NOTES:

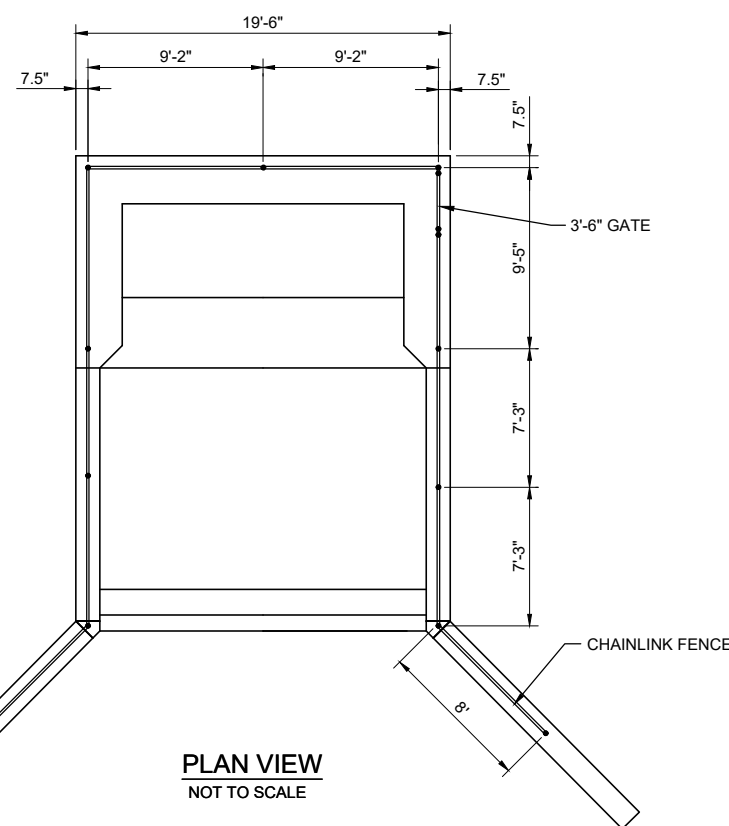
- RODENT GUARDS SHALL BE GALVANIZED AFTER FABRICATION. SEE MATERIAL SPECIFICATION 581 AND CONSTRUCTION SPECIFICATION 81. RODENT GUARDS TO BE PLACED OVER ALL DRAIN PIPE OUTFALLS.
- NON-SHRINK GROUT TO BE APPLIED IF AND AS DIRECTED BY THE ENGINEER, FOR FILLING IN IRREGULARITIES ON THE CONCRETE SURFACE AND ENSURING A FLUSH MOUNTED BASE PLATE.
- USE HILTI HY HIT 200 OR ENGINEER APPROVED EQUAL FOR POST INSTALLED ADHESIVE ANCHORS
- FOR TYPE AND SPECIFICATIONS OF FENCING MATERIALS, SEE CONSTRUCTION SPECIFICATION 91.



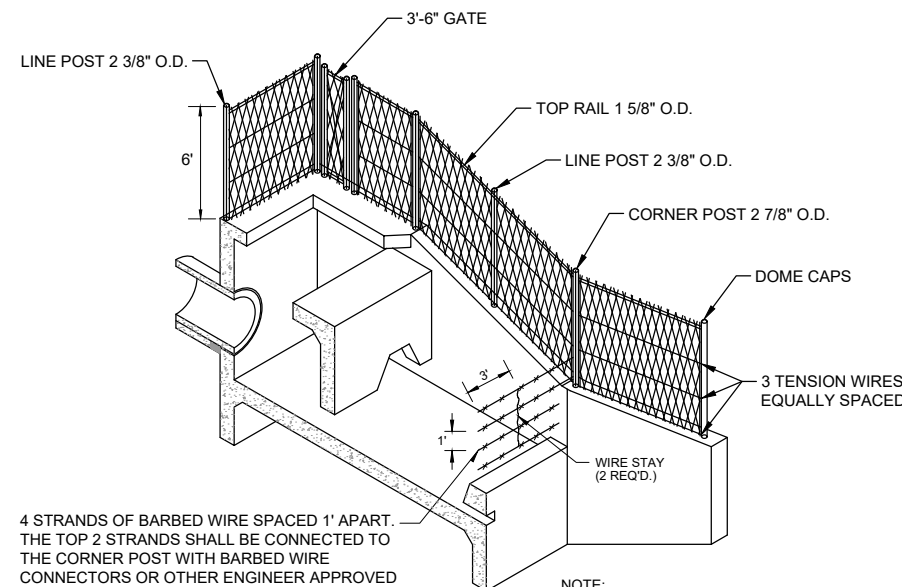
GATE DETAIL
NOT TO SCALE

- THE FENCING SHALL BE #9 GAGE FENCE FABRIC, STANDARD 2-INCH CHAIN LINK DIAMOND MESH.
- THE POST ANCHOR SYSTEM SHALL BE AS SHOWN ON THIS SHEET OR EQUAL.

PART NO.	DESCRIPTION	QUANTITY
1	STRAIGHT PLUG	1
2	BOTTOM HINGE	1
3	TOP HINGE	1
4	CORNER ELBOW	4
5	LATCH FORK	1
6	FORK CATCH	1
7	ORNAMENTAL TOPS	4
8	TRUSS RODS	2
9	STRETCHER BAR	2
10	HOOK BOLTS	6



PLAN VIEW
NOT TO SCALE



HALF ISOMETRIC
NOT TO SCALE

4 STRANDS OF BARBED WIRE SPACED 1' APART. THE TOP 2 STRANDS SHALL BE CONNECTED TO THE CORNER POST WITH BARBED WIRE CONNECTORS OR OTHER ENGINEER APPROVED METHOD. THE BOTTOM 2 STRANDS SHALL BE FASTENED TO THE SIDEWALL OF THE IMPACT BASIN WITH 3/8" EYEBOLTS OR OTHER ENGINEER APPROVED METHOD. A TURN BUCKLE SHALL BE INSTALLED AT ONE END TO MAINTAIN TENSION.

NOTE:
WIRE STAYS SHALL BE 9 1/2 GA.
(MIN SIZE) GALVANIZED TWO STRAND
SPIRAL, TWIST - ON TYPE. THE MINIMUM
LENGTH OF STAYS SHALL BE 52".

BILL OF MATERIALS	
QUANTITY	MATERIAL
24'-0"	2 7/8" O.D. TUBULAR STEEL PIPE FOR CORNER POST (CUT INTO 4 - 6' POSTS)
42'-0"	2 3/8" O.D. TUBULAR STEEL PIPE FOR ONE LINE POST (CUT INTO 7 - 6' POSTS)
82'-2"	1 5/8" O.D. TUBULAR STEEL PIPE FOR TOP RAIL (CUT AS REQUIRED)
82'-2"	6'-0" HIGH CHAIN LINK FABRIC (SELVAGE SHALL BE KNUCKLED AT BOTTOM AND TOP)
10	STRETCHER BARS
60	STRETCHER BANDS
10	OFFSET CUPS (FOR TOP RAIL)
11	DOMES TOPS
246'-6"	TENSION WIRE
68'-0"	BARBED WIRE
8	BARBED WIRE CONNECTORS
44	ANCHOR BOLTS
4	3/8" EYE BOLTS
4	TURN BUCKLES

NOTE: QUANTITY OF THE WIRE REQUIRED NOT INCLUDED IN TABLE ABOVE.



DESIGNED BY: KNF
DRAWN BY: JAM
CHECKED BY: ALL
FILE NAME: Plum_2 - Sht_27.dwg
DATE CHECKED: 8/20/2021

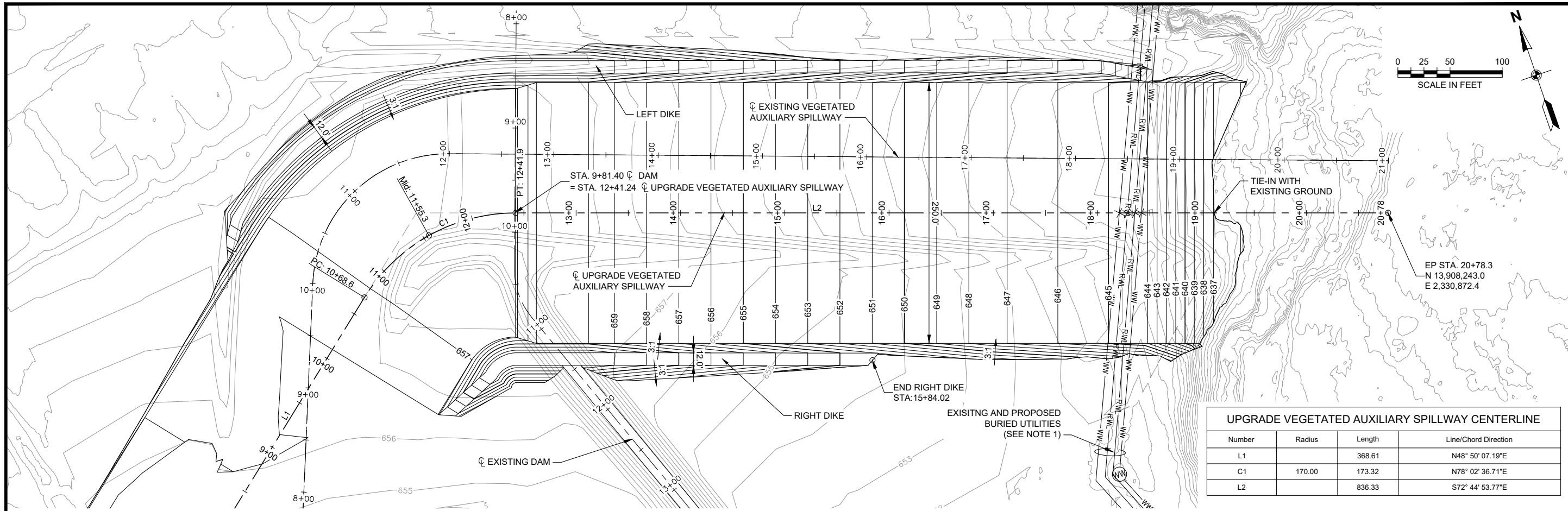
IMPACT BASIN DETAILS
FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
PLUM CREEK WATERSHED
IN
HAYS COUNTY, TEXAS

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SHEET NO. 27
OF 71

REVISIONS		
DATE	APPROVED	TITLE

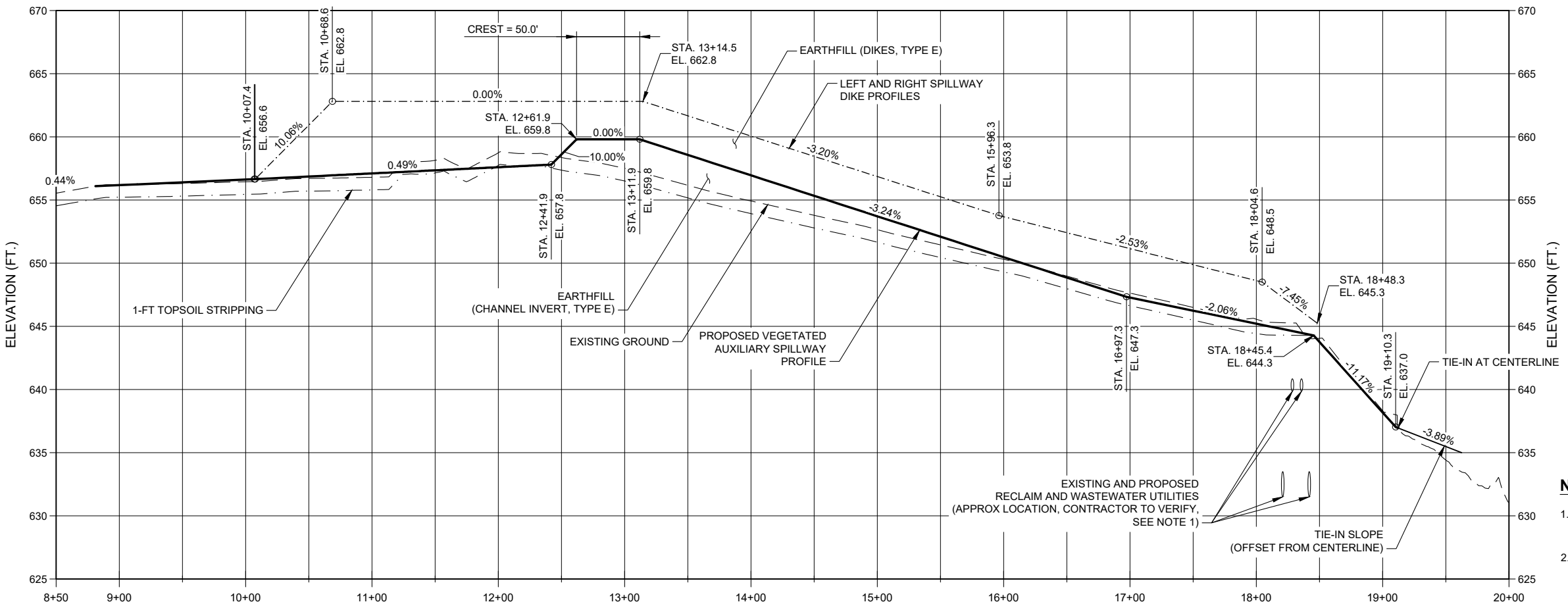
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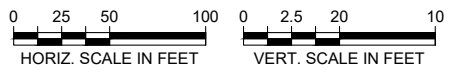
UPGRADE VEGETATED AUXILIARY SPILLWAY PLAN



UPGRADE VEGETATED AUXILIARY SPILLWAY CENTERLINE			
Number	Radius	Length	Line/Chord Direction
L1		368.61	N48° 50' 07.19"E
C1	170.00	173.32	N78° 02' 36.71"E
L2		836.33	S72° 44' 53.77"E



UPGRADE VEGETATED AUXILIARY SPILLWAY PROFILE



NOTES:

- COORDINATE ABANDONMENT OF AND CONSTRUCTION OF RECLAIM WATER LINES. UTILITY CONSTRUCTION BY OTHERS.
- ALIGNMENT START NOT SHOWN IN PLAN. LOCATION IS AT STA 7+00.0, N: 13,908,214.0 E: 2,329,633.9

REVISIONS		
DATE	APPROVED	TITLE



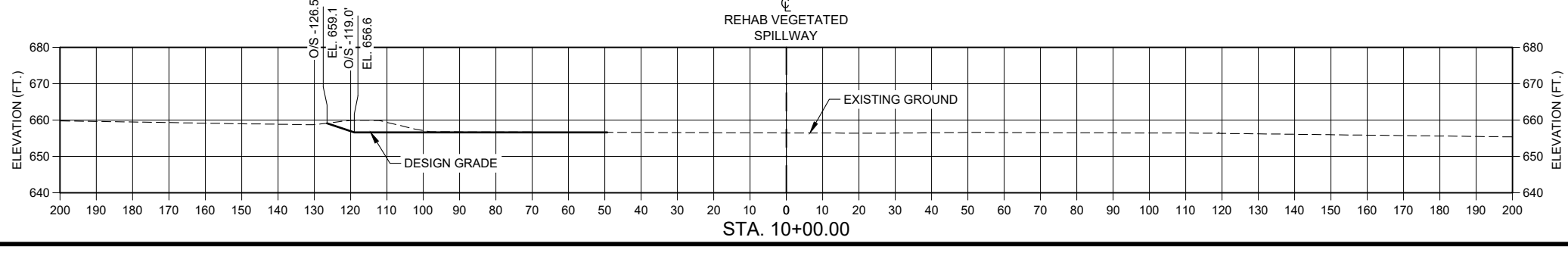
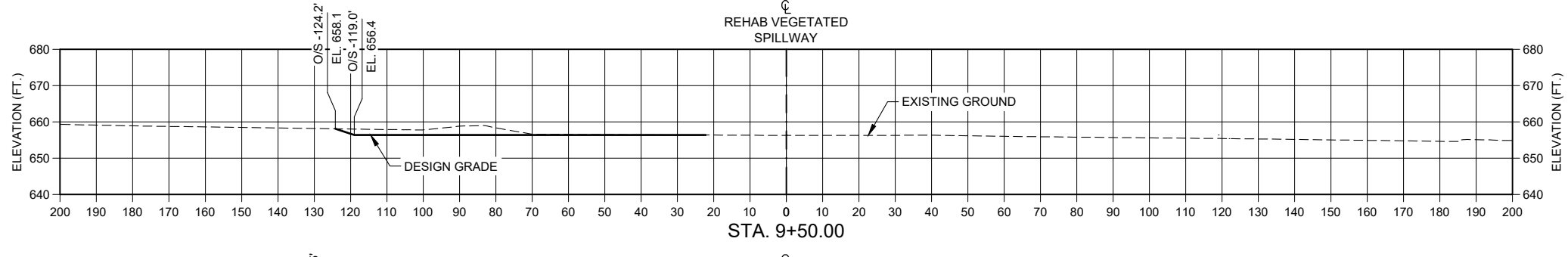
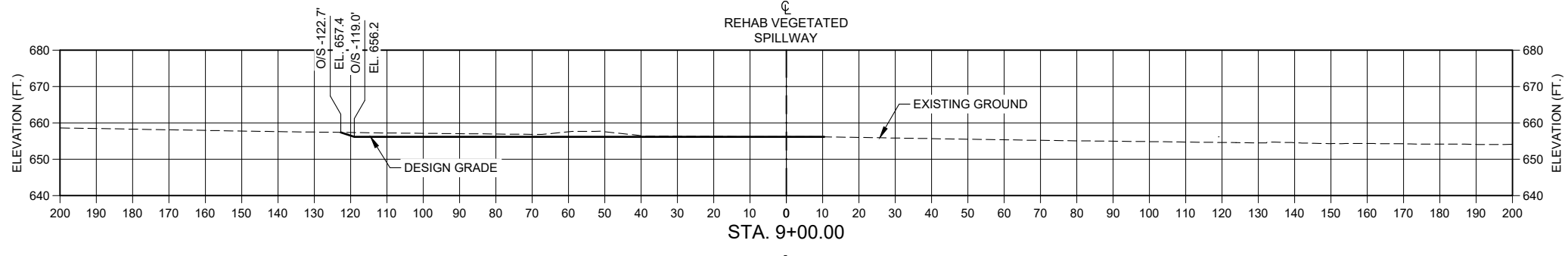
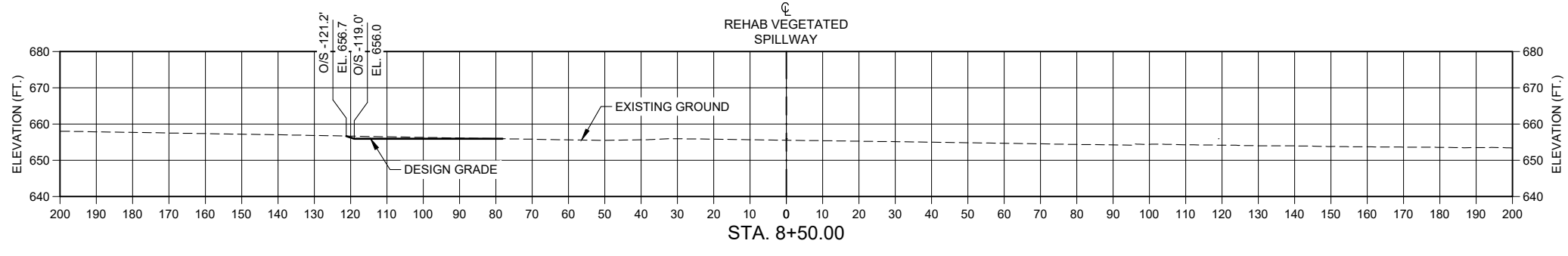
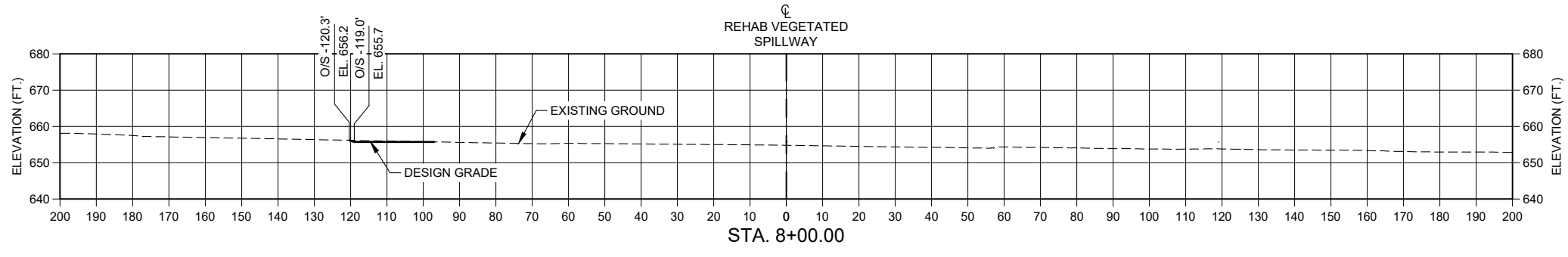
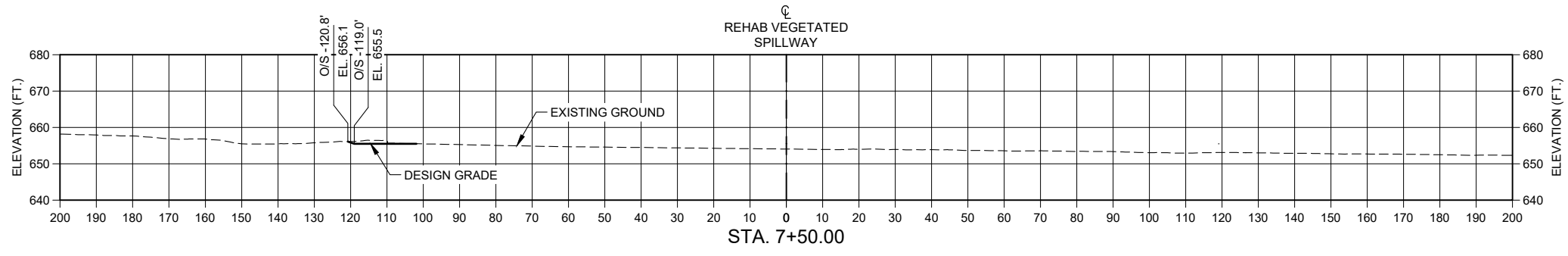
DESIGNED BY: MRD
 DRAWN BY: MDE
 CHECKED BY: LEA
 FILE NAME: Plum 2 - EarthSpillPP.dwg
 DATE CHECKED: 7/9/2021

VEGETATED AUXILIARY SPILLWAY PLAN & PROFILE
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

Texas State Soil & Water Conservation Board
 AECOM Technical Services, Inc.
 9400 Amberglenn Blvd
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 www.aecom.com
 TBP Reg. No. F-3580

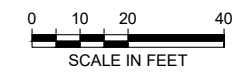
SHEET NO. 28 OF 71

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NOTES:

- DESIGN GRADE REFLECTS TOP OF TOPSOIL. TOPSOIL STRIPPING AND REPLACEMENT (6") NOT SHOWN.



REVISIONS		
DATE	APPROVED	TITLE



DESIGNED BY: MRD
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 CHECKED BY: LEA
 FILE NAME: Plum 2 - VegSpillSect.dwg
 DATE CHECKED: 7/9/2021

VEGETATED AUXILIARY SPILLWAY SECTIONS (1 OF 5)

FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

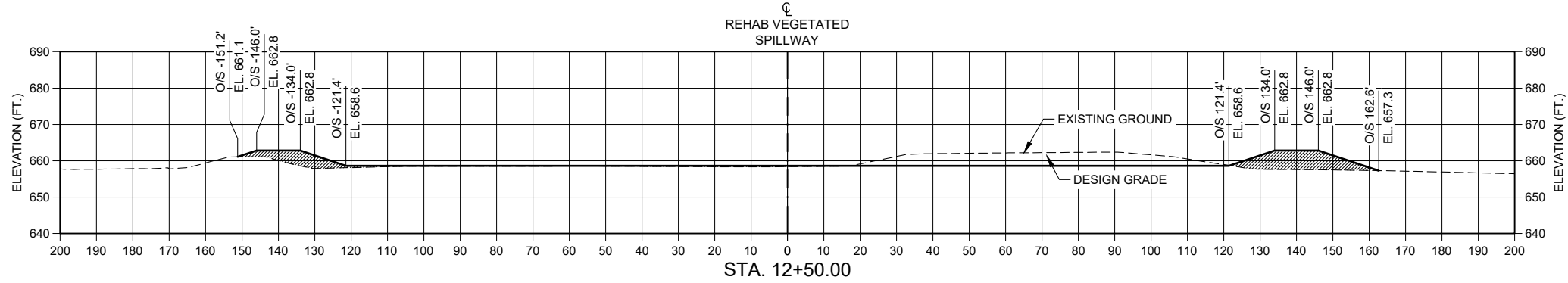
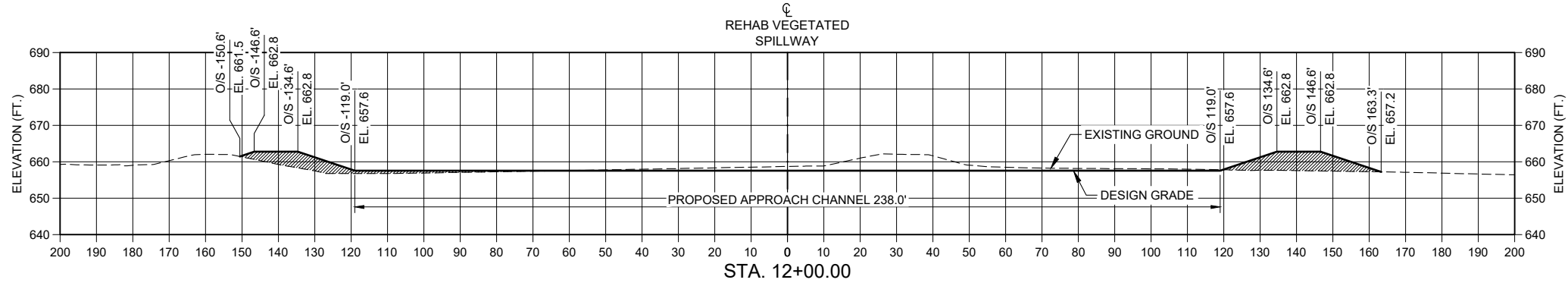
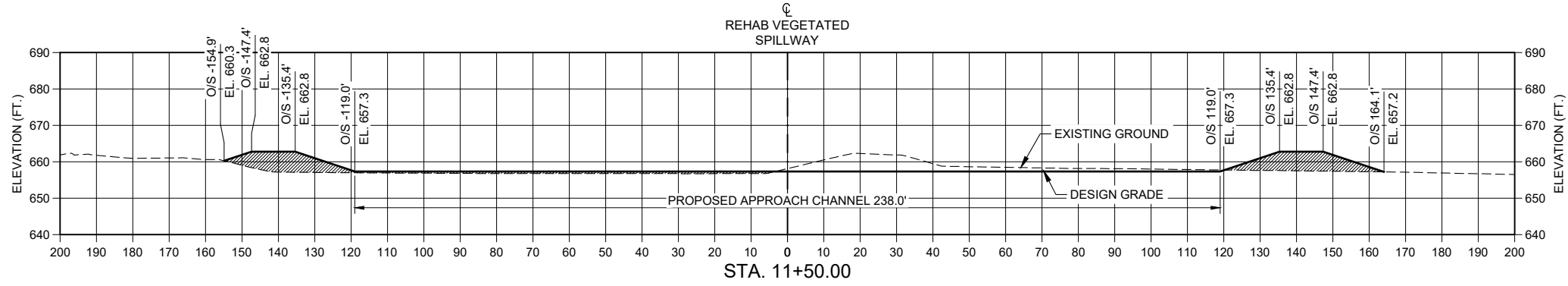
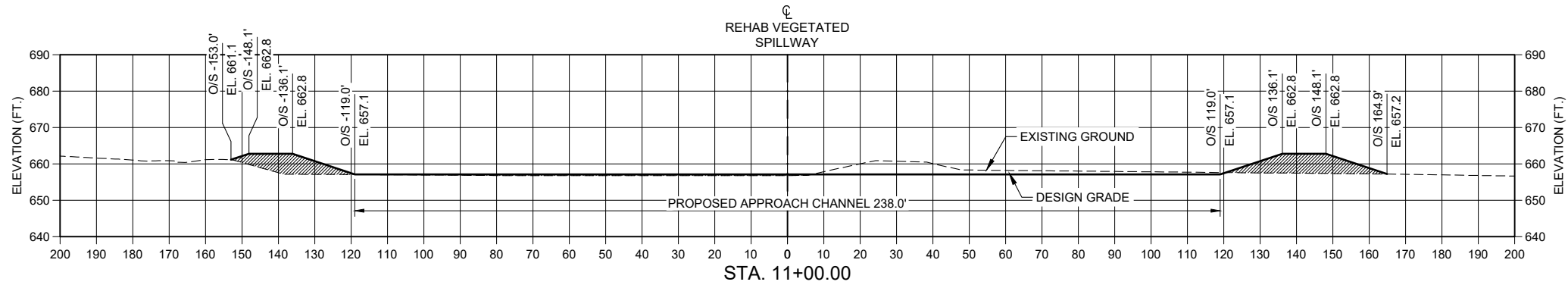
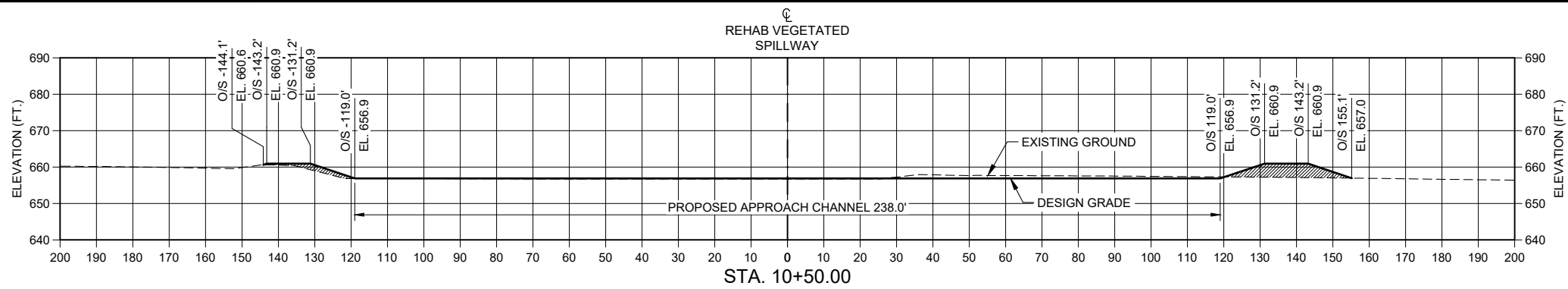
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AECOM

SHEET NO. 29
 OF 71

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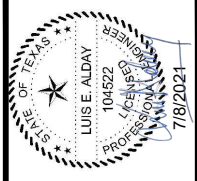


NOTES:

- DESIGN GRADE REFLECTS TOP OF TOPSOIL. TOPSOIL STRIPPING AND REPLACEMENT (6") NOT SHOWN.



REVISIONS		
DATE	APPROVED	TITLE



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 CHECKED BY: LEA
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 DATE CHECKED: 7/9/2021

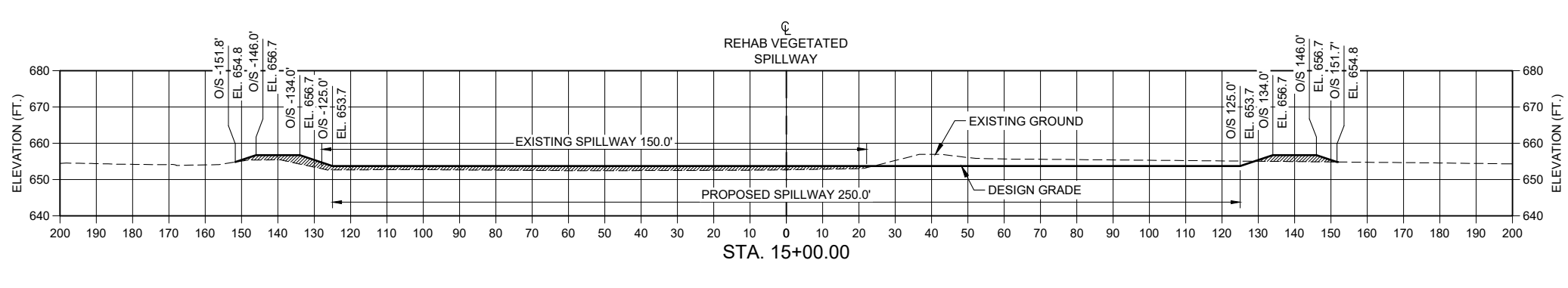
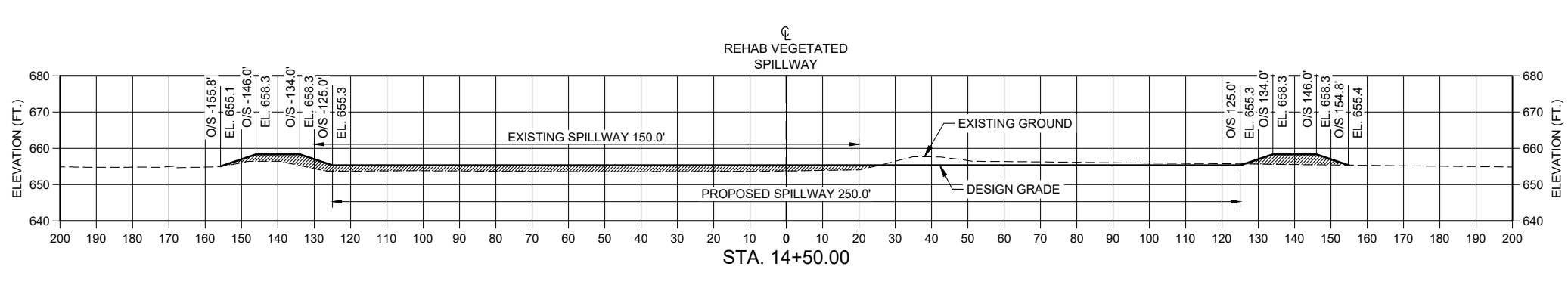
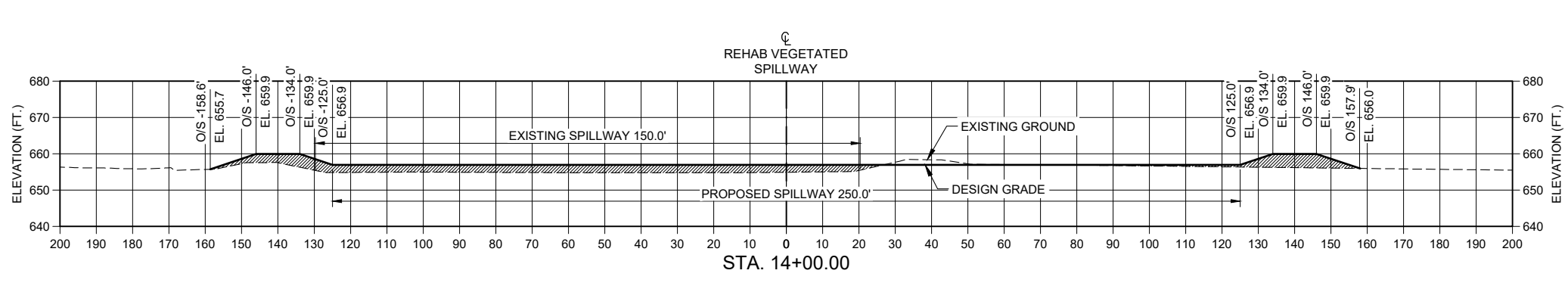
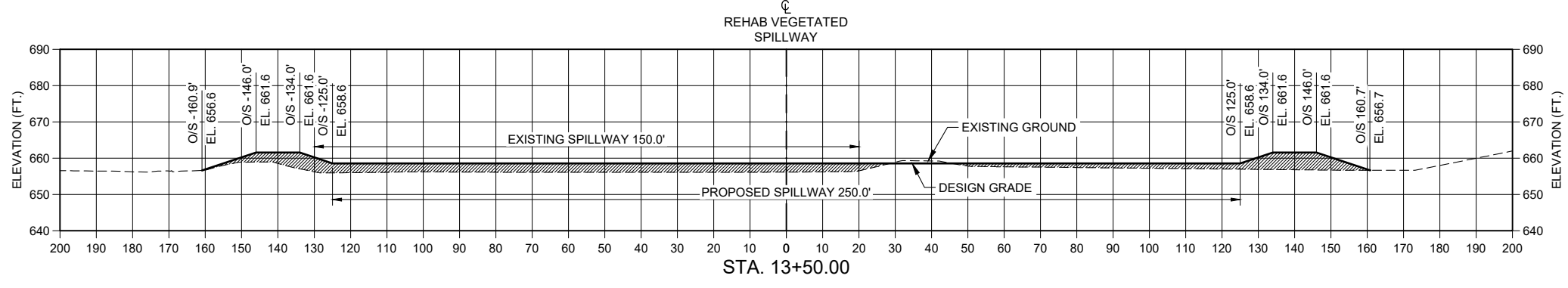
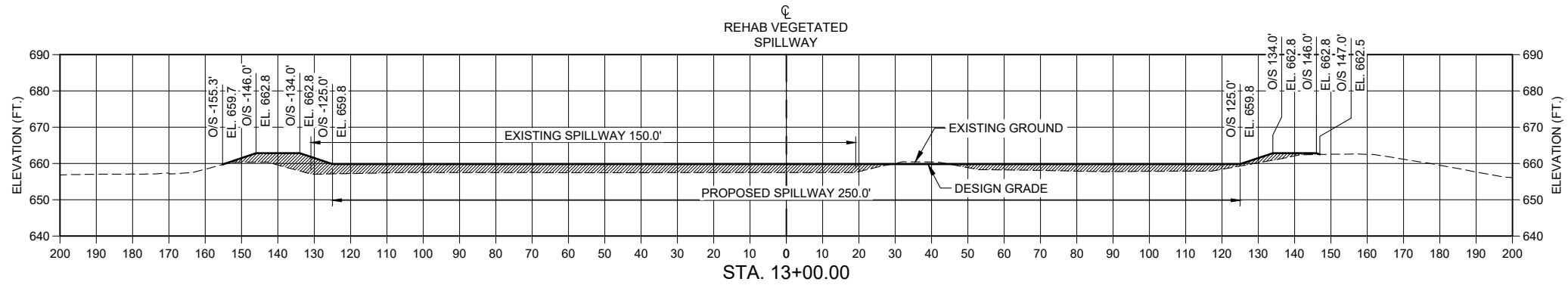
VEGETATED AUXILIARY SPILLWAY SECTIONS (2 OF 5)

FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

Texas State Soil & Water Conservation Board
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 9400 Armburgen Blvd
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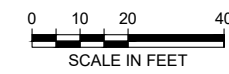
SHEET NO. 30 OF 71

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NOTES:

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REVISIONS		
DATE	APPROVED	TITLE



DESIGNED BY: MRD
 DRAWN BY: MDE
 CHECKED BY: LEA
 FILE NAME: Plum_2 - VegSpillSect.dwg
 DATE CHECKED: 7/9/2021

VEGETATED AUXILIARY SPILLWAY SECTIONS (3 OF 5)

FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 IN
 PLUM CREEK WATERSHED
 HAYS COUNTY, TEXAS

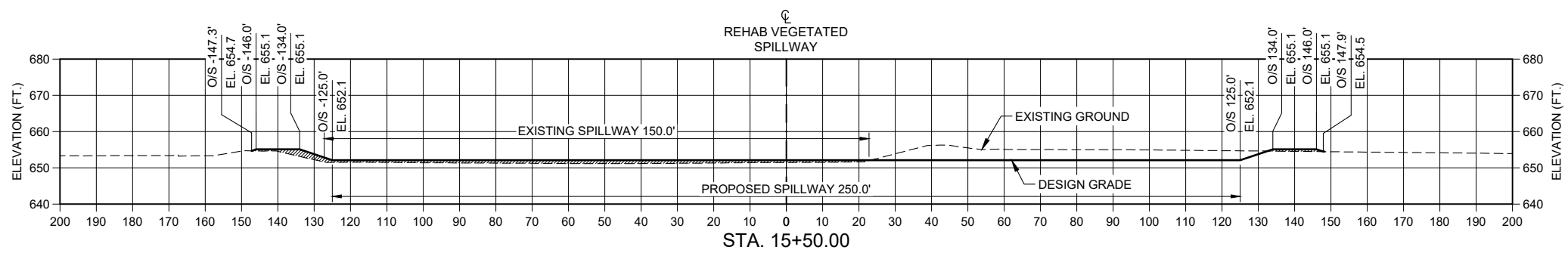
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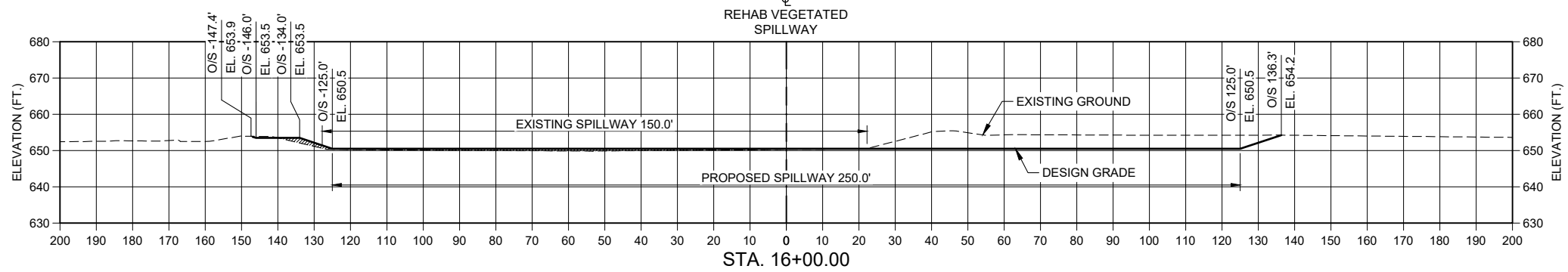
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SHEET NO. 31
 OF 71

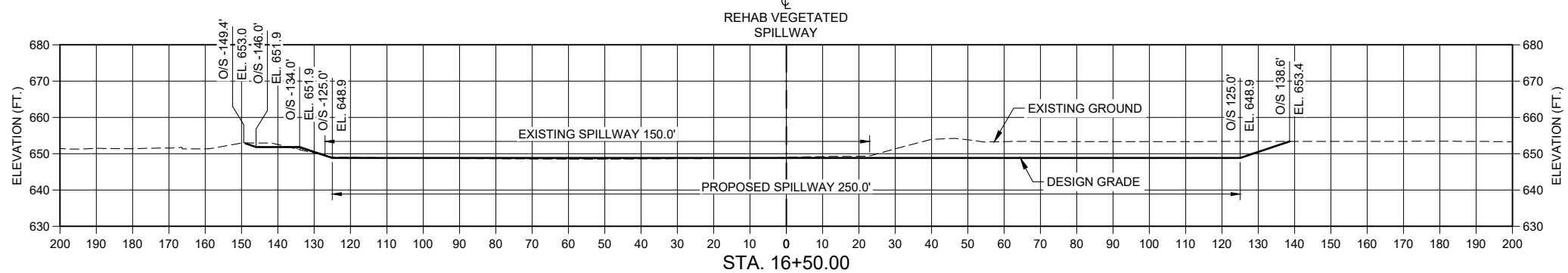
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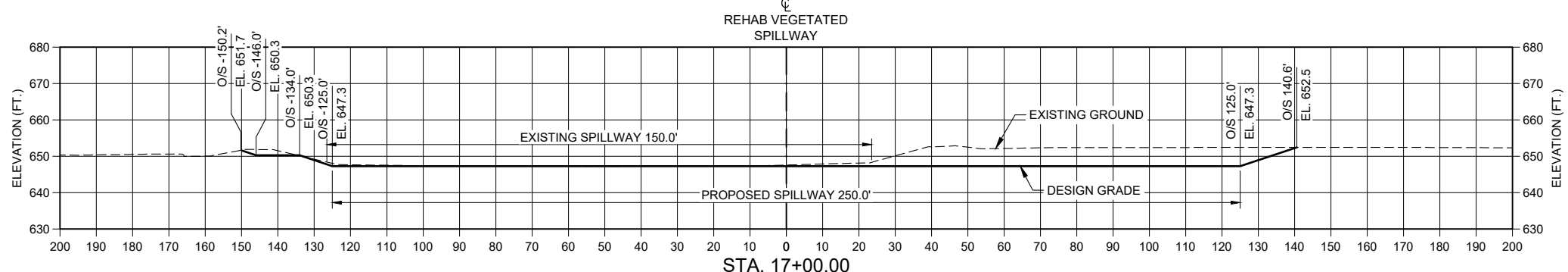
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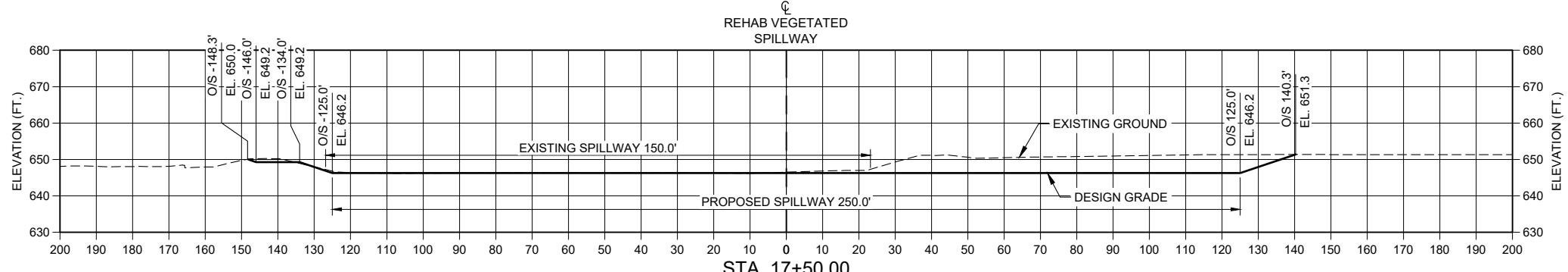
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STA. 16+50.00



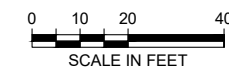
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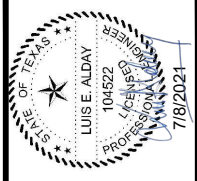
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NOTES:

- DESIGN GRADE REFLECTS TOP OF TOPSOIL. TOPSOIL STRIPPING AND REPLACEMENT (6") NOT SHOWN.



REVISIONS		
DATE	APPROVED	TITLE



DESIGNED BY: MRD
 DRAWN BY: MDE
 CHECKED BY: LEA
 FILE NAME: Plum_2 - VegSpillSect.dwg
 DATE CHECKED: 7/9/2021

VEGETATED AUXILIARY SPILLWAY SECTIONS (4 OF 5)

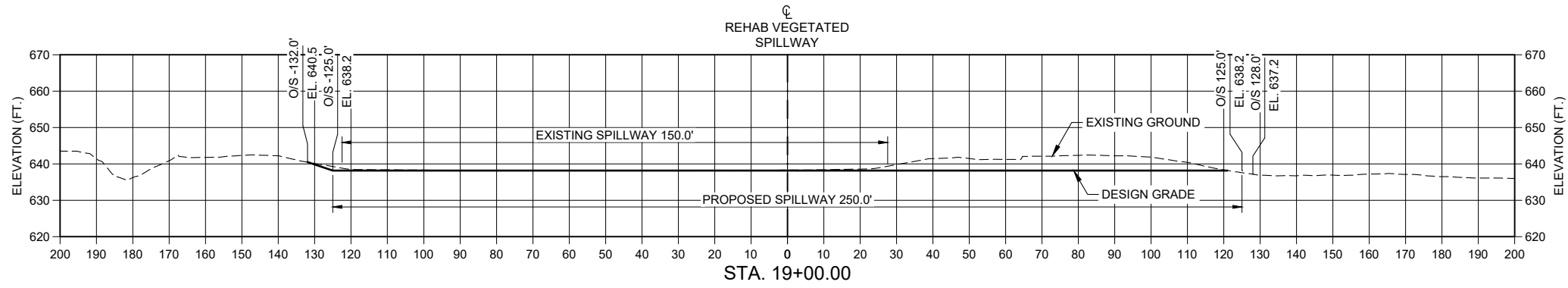
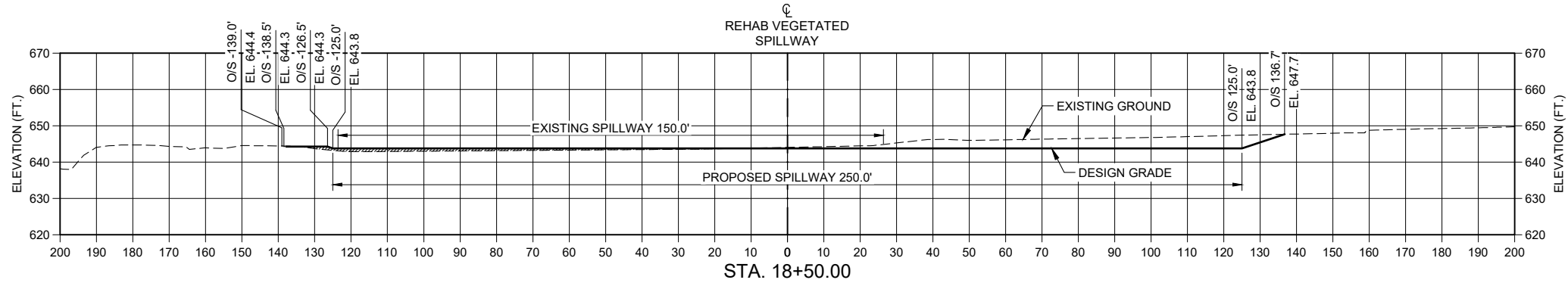
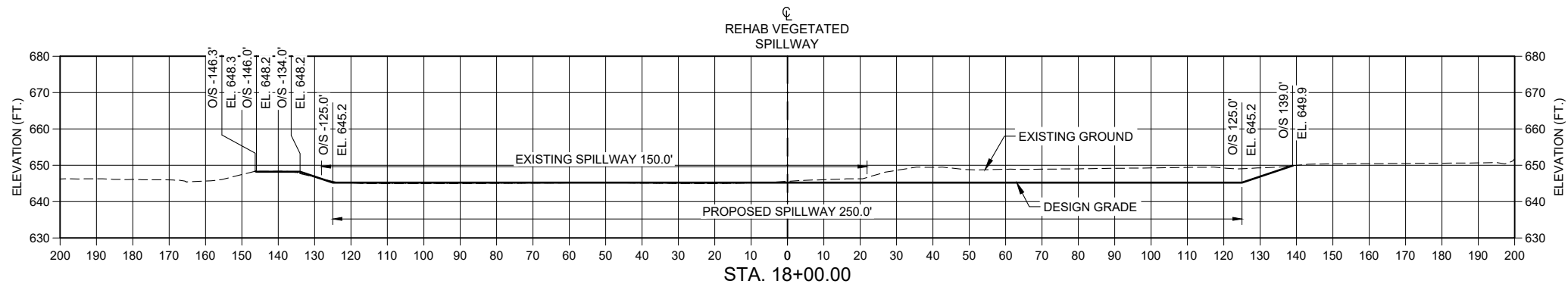
FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 IN
 PLUM CREEK WATERSHED
 HAYS COUNTY, TEXAS

Texas State
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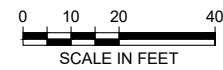
SHEET NO. 32 OF 71

C:\Users\matthew.engel\onedrive - Aecom Directory\011-plumcreek02\plan_sheets\Plum 2 - VegSpillSect.dwg



NOTES:

- DESIGN GRADE REFLECTS TOP OF TOPSOIL. TOPSOIL STRIPPING AND REPLACEMENT (6") NOT SHOWN.



DESIGNED BY: MRD
 DRAWN BY: MDE
 CHECKED BY: LEA
 FILE NAME: Plum_2 - VegSpillSect.dwg
 DATE CHECKED: 7/9/2021

VEGETATED AUXILIARY SPILLWAY SECTIONS (5 OF 5)

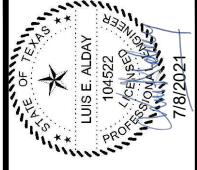
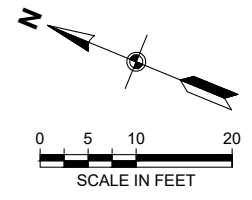
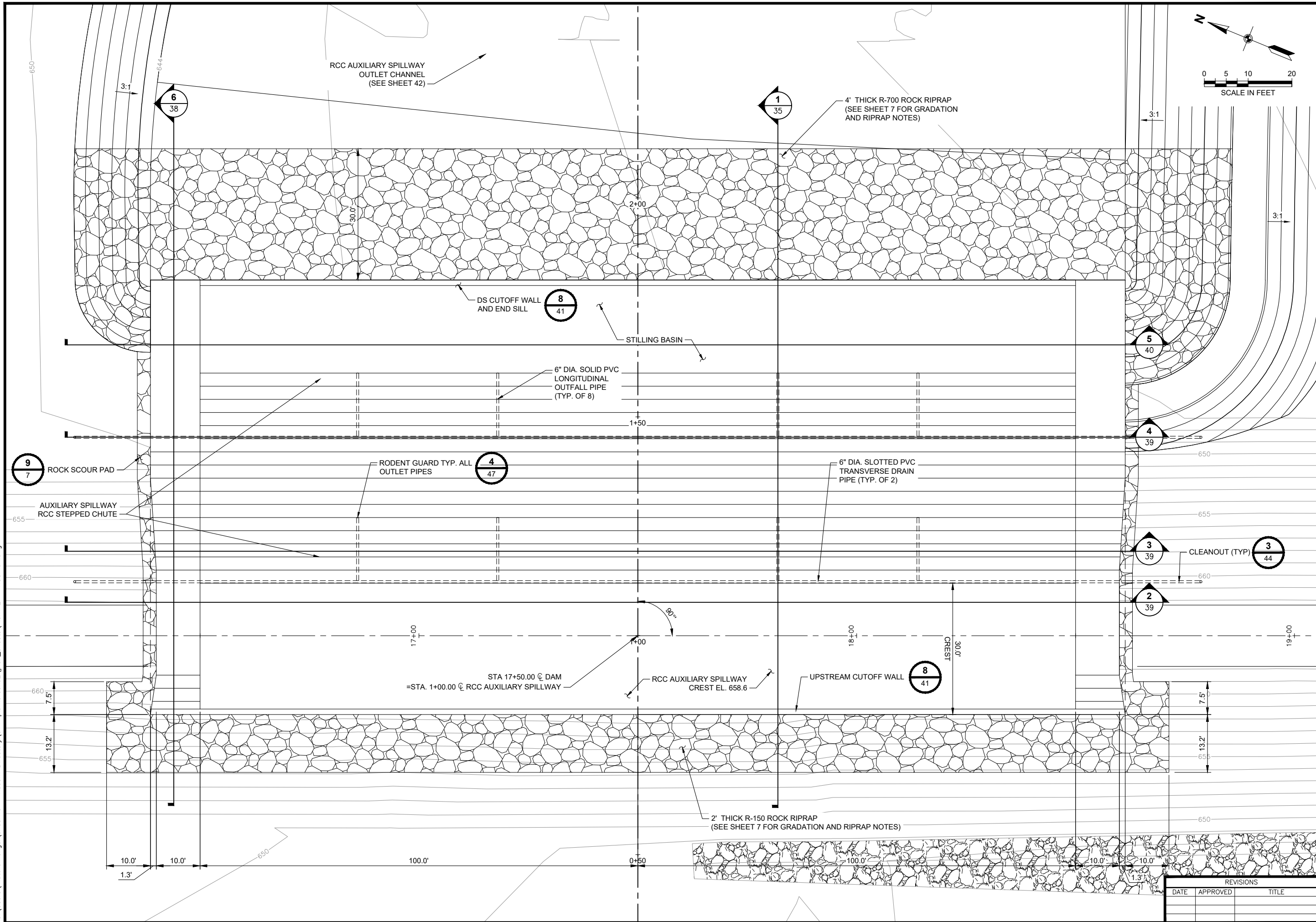
FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
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SHEET NO. 33
 OF 71

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 FILE NAME: Plum 2 - RCCPlan.dwg
 DATE CHECKED: 7/9/2021

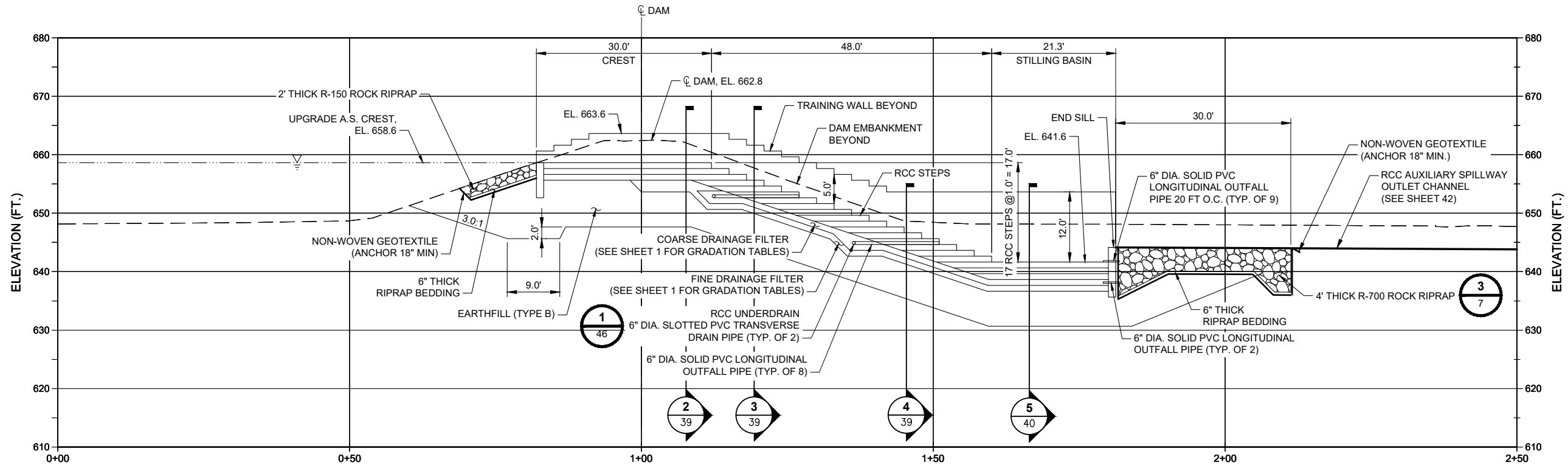
RCC AUXILIARY SPILLWAY PLAN
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
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 IN HAYS COUNTY, TEXAS

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SHEET NO. 34
 OF 71

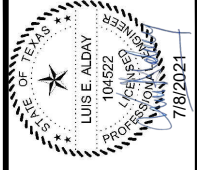
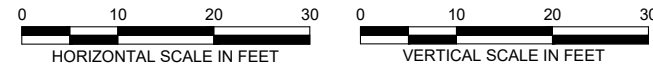
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DATE	APPROVED	TITLE

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1
34

TYPICAL AUXILIARY SPILLWAY SECTION AT OUTFALL PIPES



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 FILE NAME: Plum 2 - RCCProf.dwg
 DATE CHECKED: 7/9/2021

RCC AUXILIARY SPILLWAY PROFILE
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

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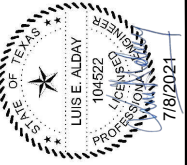
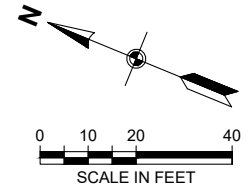
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DATE	APPROVED	TITLE

SHEET NO. 35
 OF 71

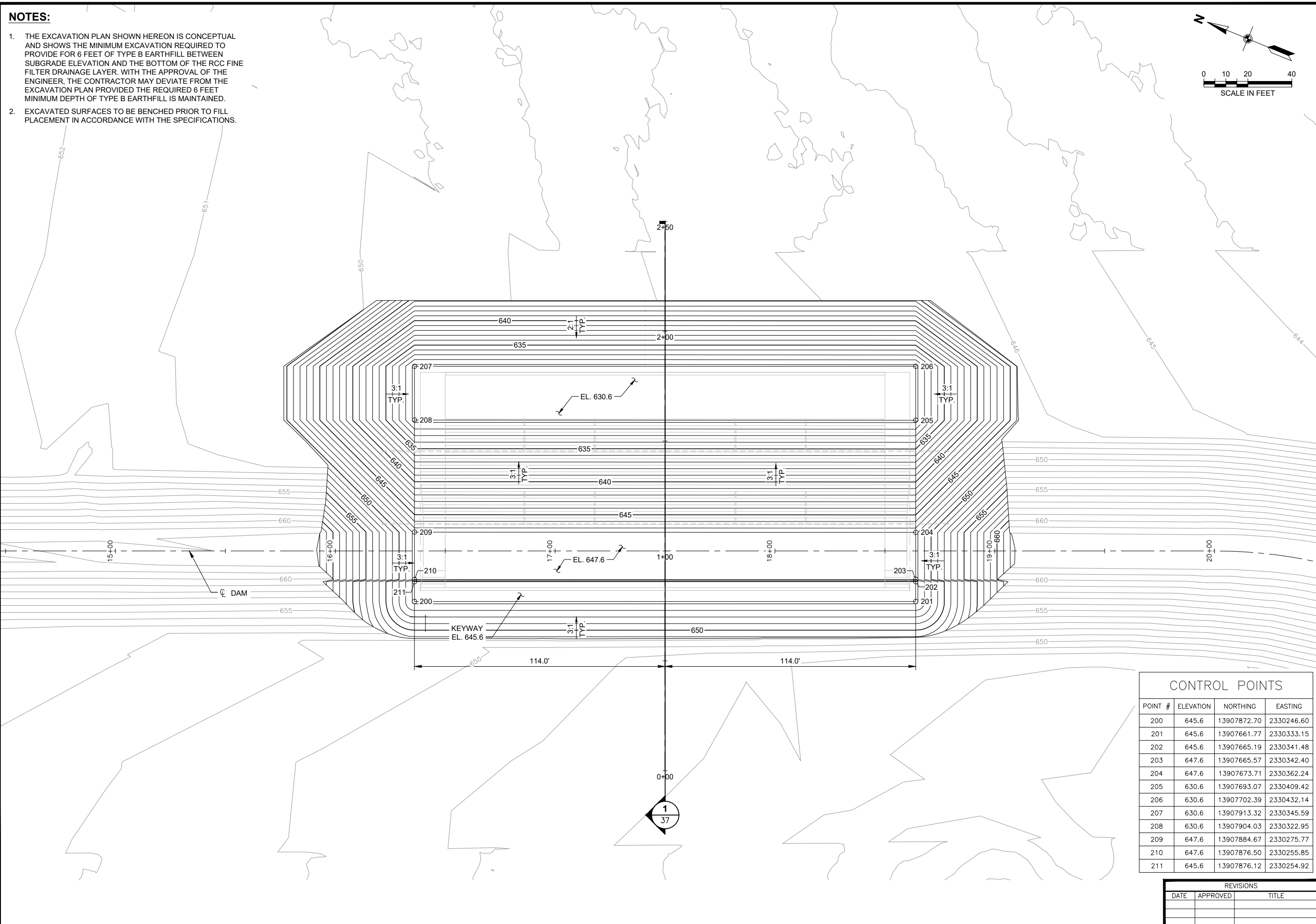
NOTES:

1. THE EXCAVATION PLAN SHOWN HEREON IS CONCEPTUAL AND SHOWS THE MINIMUM EXCAVATION REQUIRED TO PROVIDE FOR 6 FEET OF TYPE B EARTHFILL BETWEEN SUBGRADE ELEVATION AND THE BOTTOM OF THE RCC FINE FILTER DRAINAGE LAYER. WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY DEVIATE FROM THE EXCAVATION PLAN PROVIDED THE REQUIRED 6 FEET MINIMUM DEPTH OF TYPE B EARTHFILL IS MAINTAINED.
2. EXCAVATED SURFACES TO BE BENCHED PRIOR TO FILL PLACEMENT IN ACCORDANCE WITH THE SPECIFICATIONS.



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 CHECKED BY: LEA
 FILE NAME: Plum 2 - RCCExPlan.dwg
 DATE CHECKED: 7/9/2021

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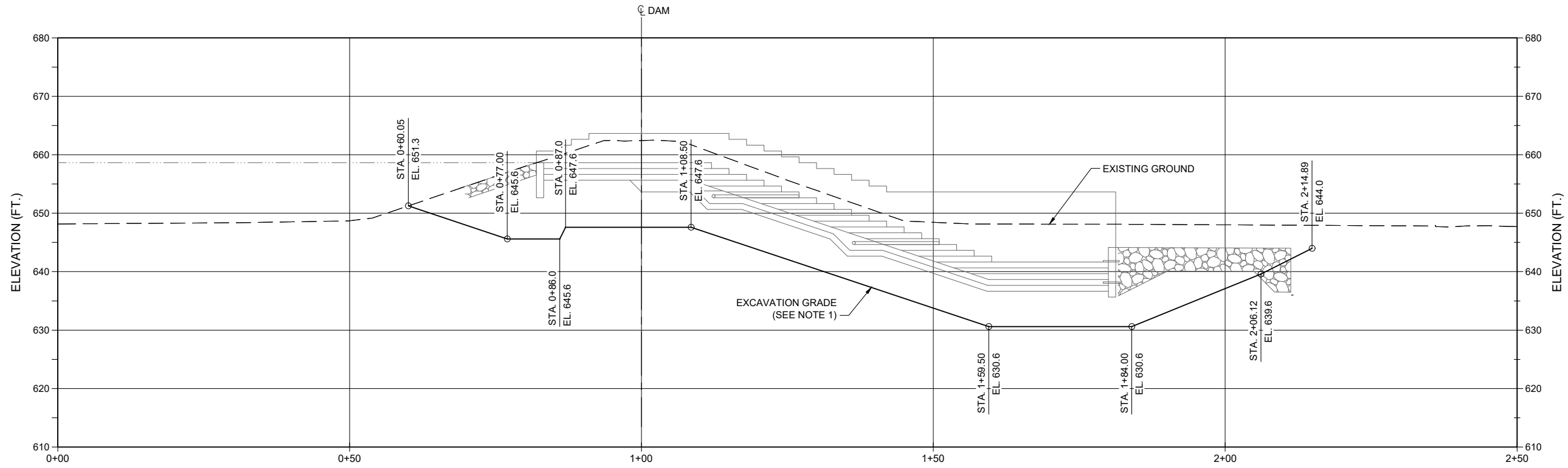
RCC AUXILIARY SPILLWAY EXCAVATION PLAN
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

CONTROL POINTS			
POINT #	ELEVATION	NORTHING	EASTING
200	645.6	13907872.70	2330246.60
201	645.6	13907661.77	2330333.15
202	645.6	13907665.19	2330341.48
203	647.6	13907665.57	2330342.40
204	647.6	13907673.71	2330362.24
205	630.6	13907693.07	2330409.42
206	630.6	13907702.39	2330432.14
207	630.6	13907913.32	2330345.59
208	630.6	13907904.03	2330322.95
209	647.6	13907884.67	2330275.77
210	647.6	13907876.50	2330255.85
211	645.6	13907876.12	2330254.92

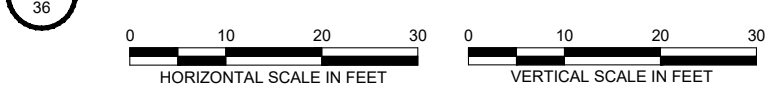
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REVISIONS		
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SHEET NO. **36**
 OF **71**



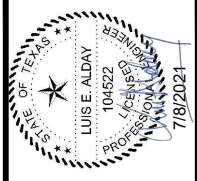
1 **RCC AUXILIARY SPILLWAY CENTERLINE EXCAVATION SECTION**



NOTES:

1. THE EXCAVATION PLAN SHOWN HEREON IS CONCEPTUAL AND SHOWS THE MINIMUM EXCAVATION REQUIRED TO PROVIDE FOR 6 FEET OF TYPE B EARTHFILL BETWEEN SUBGRADE ELEVATION AND THE BOTTOM OF THE RCC FINE FILTER DRAINAGE LAYER. WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY DEVIATE FROM THE EXCAVATION PLAN PROVIDED THE REQUIRED 6 FEET MINIMUM DEPTH OF TYPE B EARTHFILL IS MAINTAINED.

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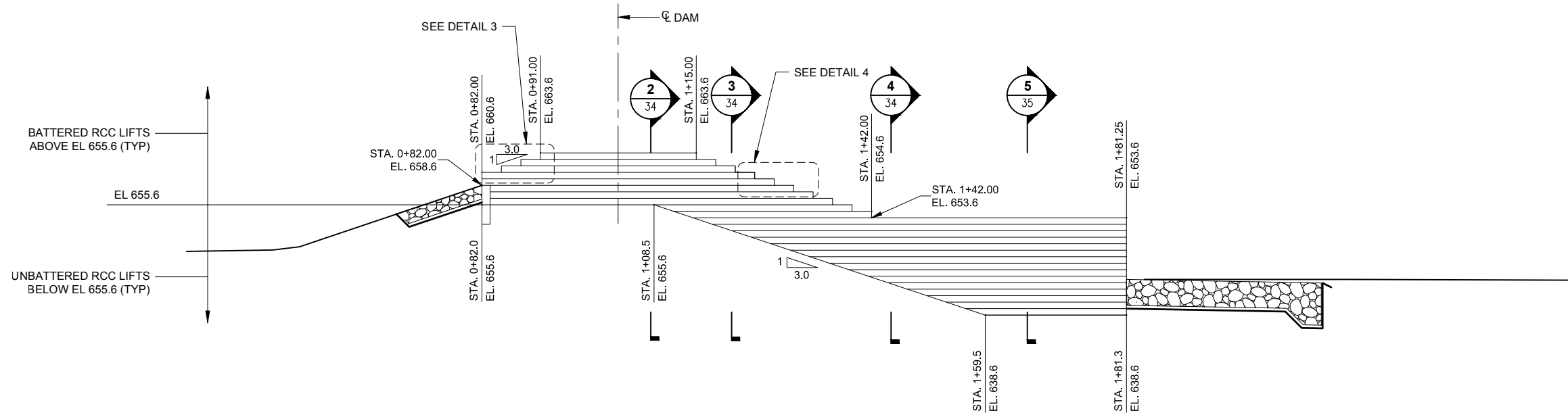


DESIGNED BY: MRD
 DRAWN BY: MDE
 CHECKED BY: LEA
 FILE NAME: Plum 2 - RCCExProf.dwg
 DATE CHECKED: 7/9/2021

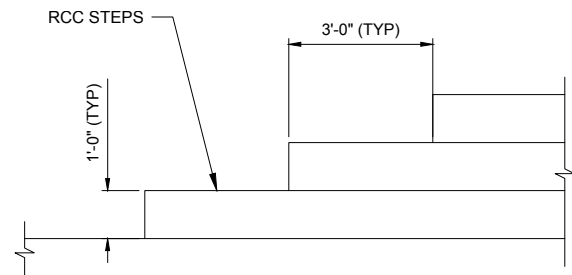
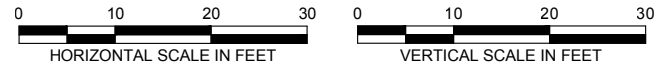
RCC AUXILIARY SPILLWAY EXCAVATION SECTION
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
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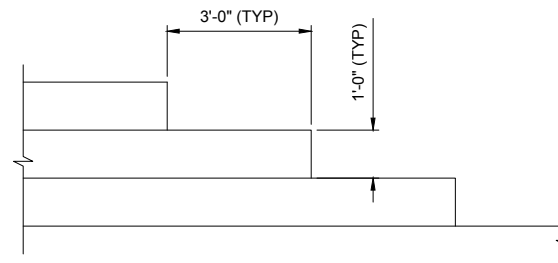
SHEET NO. **37**
 OF **71**



6 RCC SIDE WALL SECTION
29 SCALE: 1" = 10'



3 DETAIL
38 SCALE: 1/2"=1'-0"



4 DETAIL
38 SCALE: 1/2"=1'-0"



DESIGNED BY: KNE
DRAWN BY: JAM
CHECKED BY: ALL
FILE NAME: Plum_2 - Sht_38.dwg
DATE CHECKED: 7/8/2021

AUXILIARY SPILLWAY SECTIONS AND DETAILS (1 OF 4)
FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
PLUM CREEK WATERSHED
IN
HAYS COUNTY, TEXAS

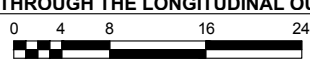
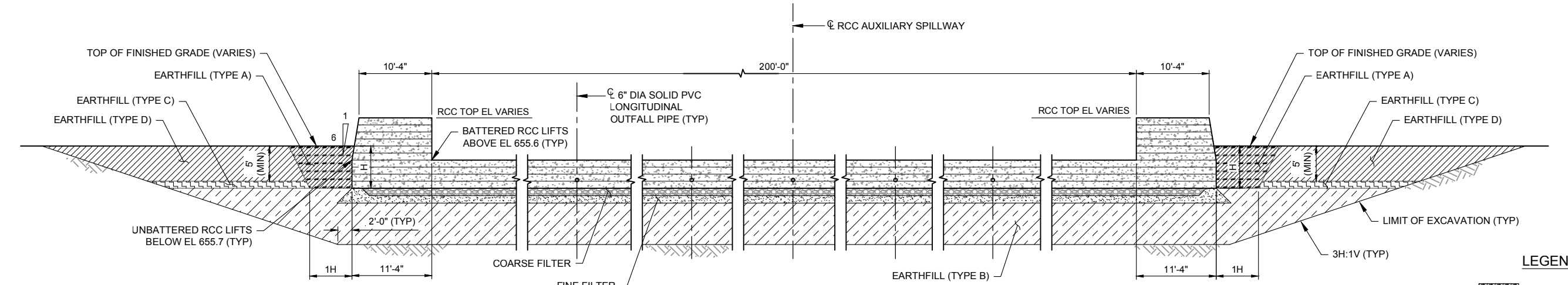
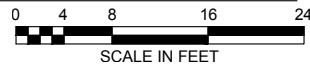
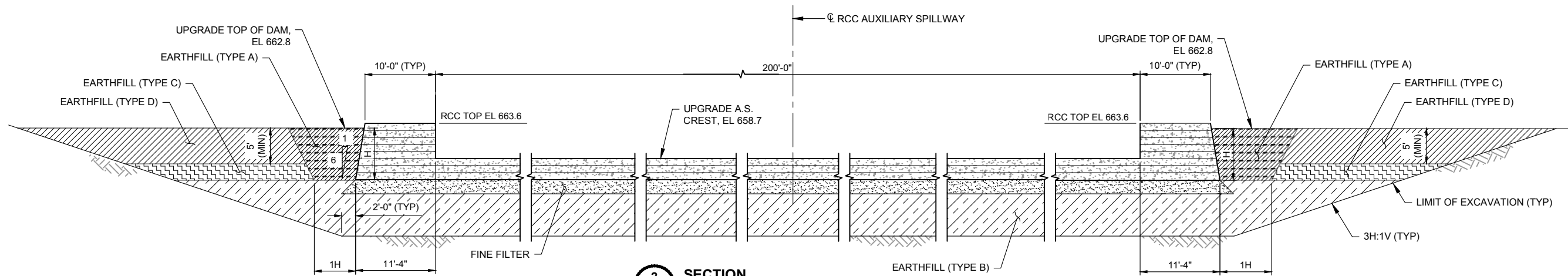
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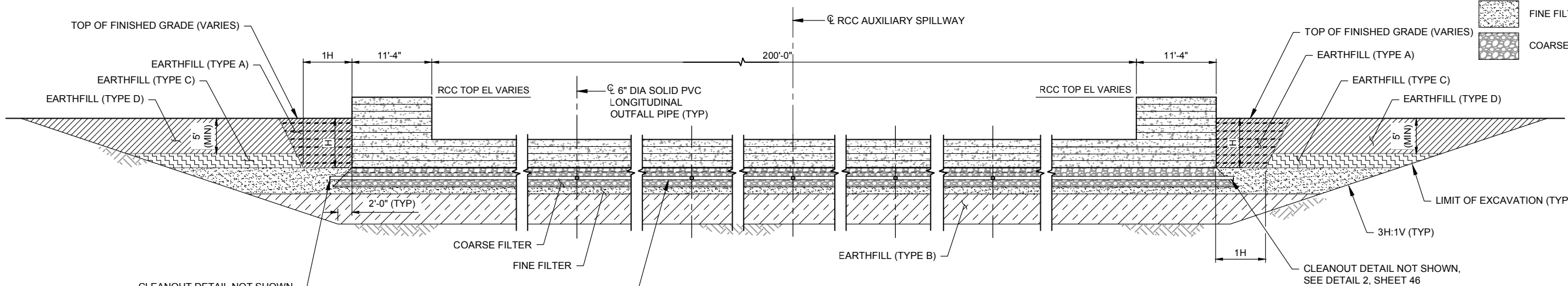
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DATE	APPROVED	TITLE

SHEET NO. 38
OF 71

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- LEGEND:**
- EARTHFILL (TYPE A)
 - EARTHFILL (TYPE B)
 - EARTHFILL (TYPE C)
 - EARTHFILL (TYPE D)
 - FINE FILTER
 - COARSE FILTER



DESIGNED BY: KNE
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FILE NAME: Plum_2 - Sht_39.dwg
DATE CHECKED: 7/8/2021

AUXILIARY SPILLWAY SECTIONS AND DETAILS (2 OF 4)
FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
PLUM CREEK WATERSHED
IN
HAYS COUNTY, TEXAS

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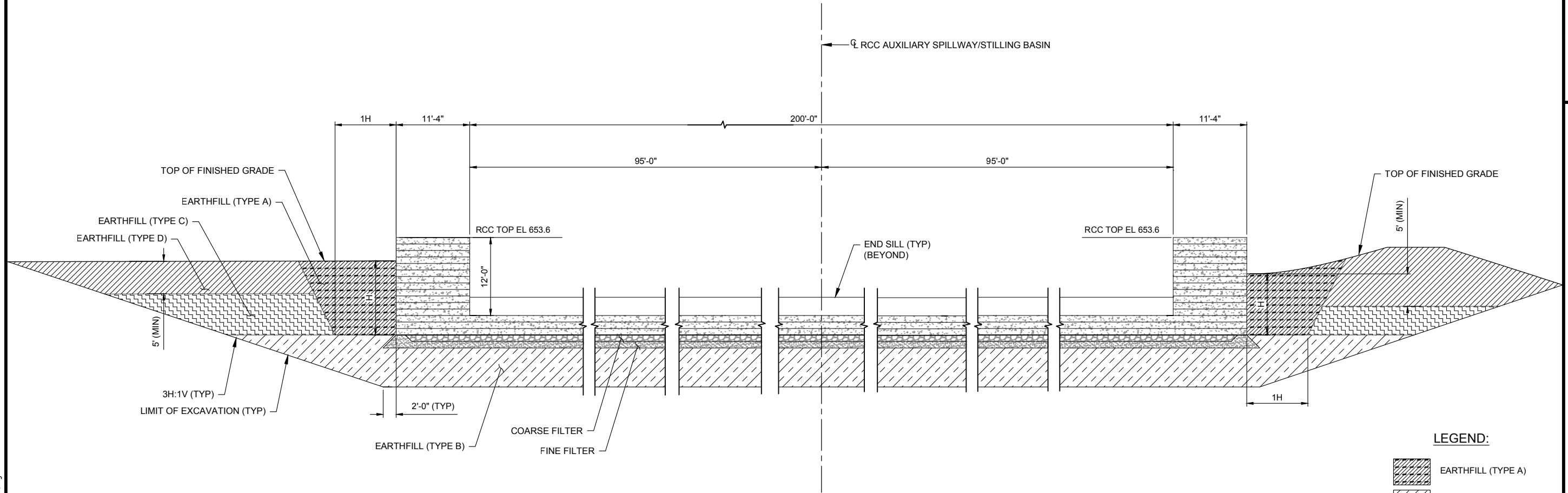
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5
SECTION
SCALE: 1/8" = 1'
STA 1+66 - STILLING BASIN

SCALE IN FEET

- LEGEND:**
- EARTHFILL (TYPE A)
 - EARTHFILL (TYPE B)
 - EARTHFILL (TYPE C)
 - EARTHFILL (TYPE D)
 - FINE FILTER
 - COARSE FILTER



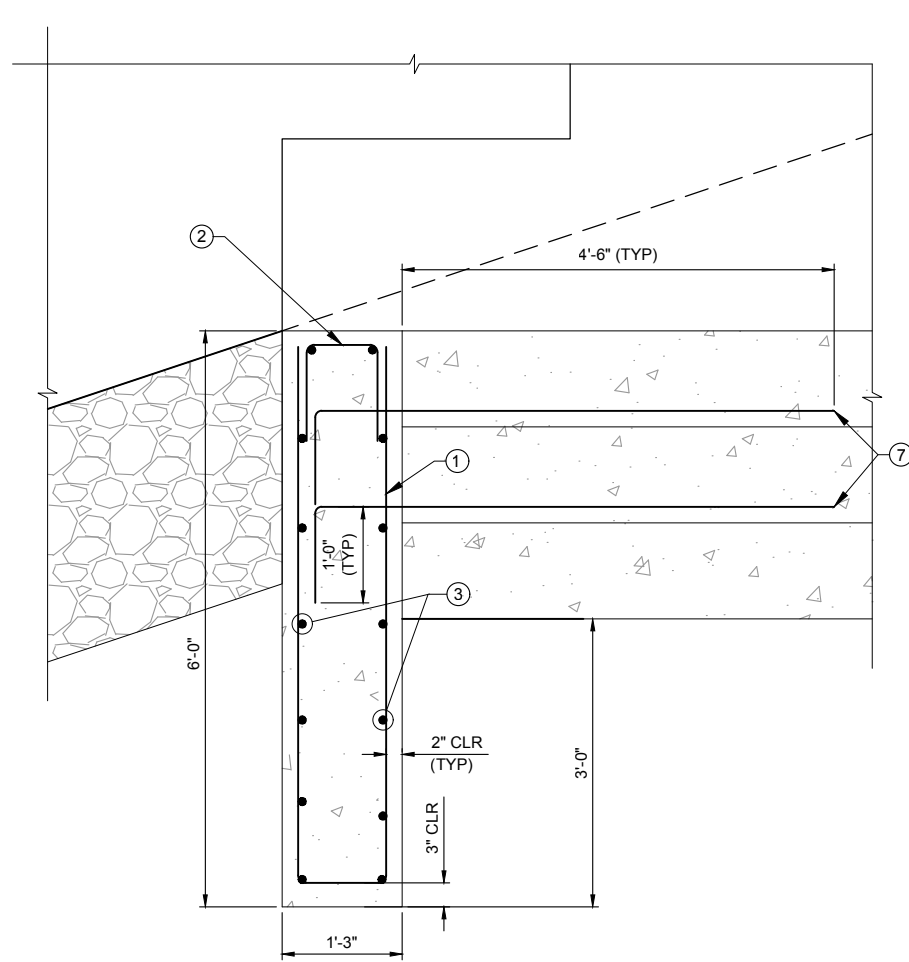
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 FILE NAME: Plum 2 - Sht 40.dwg
 DATE CHECKED: 7/8/2021

AUXILIARY SPILLWAY SECTIONS AND DETAILS (3 OF 4)
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

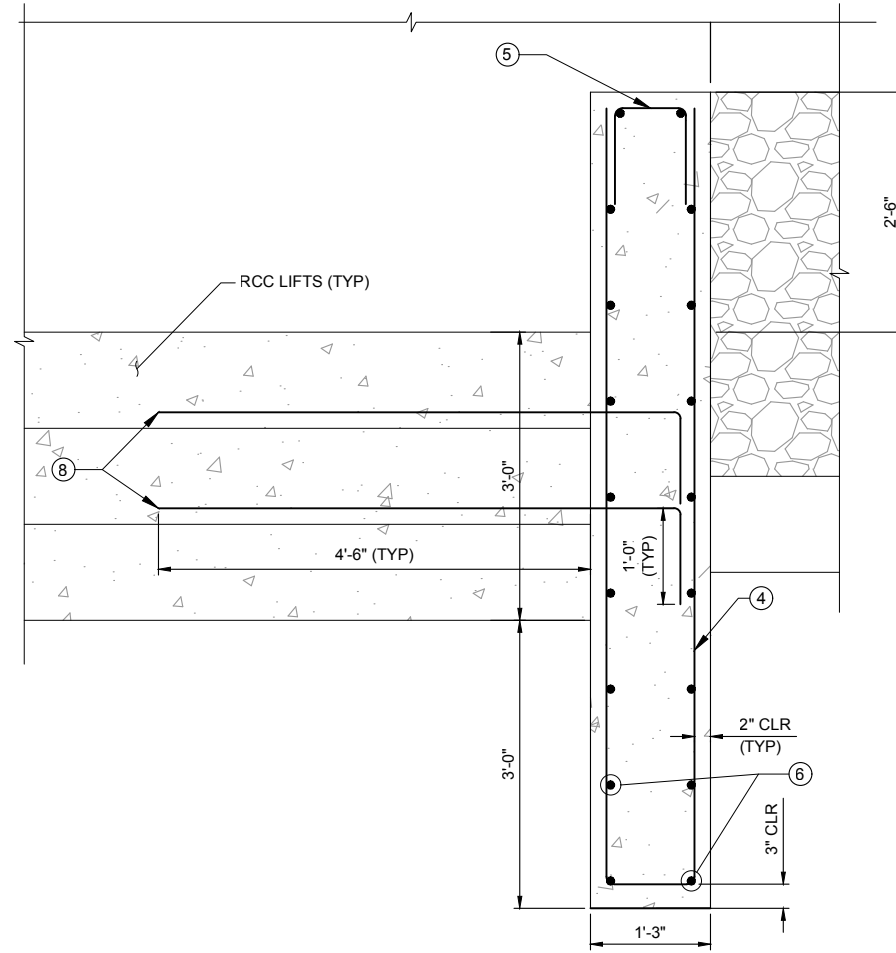
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REVISIONS		
DATE	APPROVED	TITLE

SHEET NO. 40
 OF 71

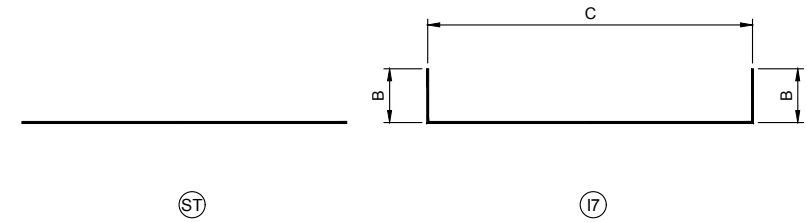


7
29 **DETAIL UPSTREAM CUTOFF WALL**
SCALE: 12" = 1'
SCALE IN FEET



8
29 **DETAIL DS CUTOFF WALL AND END SILL**
SCALE: 12" = 1'
SCALE IN FEET

Mark	Size (Bar #)	Quantity	Type	B		C		Length		Total Length	
				(ft)	(in)	(ft)	(in)	(ft)	(in)	(ft)	(in)
1	6	210	17	5	7	0	11	12	5	2607	6
2	6	210	17	1	6	0	11	3	1	857	6
3	6	12	ST	-	-	-	-	210	0	2520	0
4	6	210	17	8	1	0	11	17	5	3658	6
5	6	210	17	1	6	0	11	3	1	857	6
6	6	18	ST	-	-	-	-	210	0	3780	0
7	6	420	21	1	3	5	6	6	9	2835	0
8	6	420	21	1	3	5	6	6	9	2835	0



DESIGNED BY: KNE
 DRAWN BY: JAM
 CHECKED BY: ALL
 FILE NAME: Plum 2 - Sht. 41.dwg
 DATE CHECKED: 7/8/2021

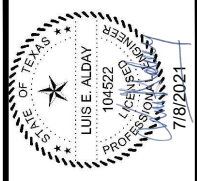
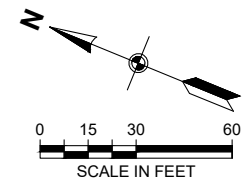
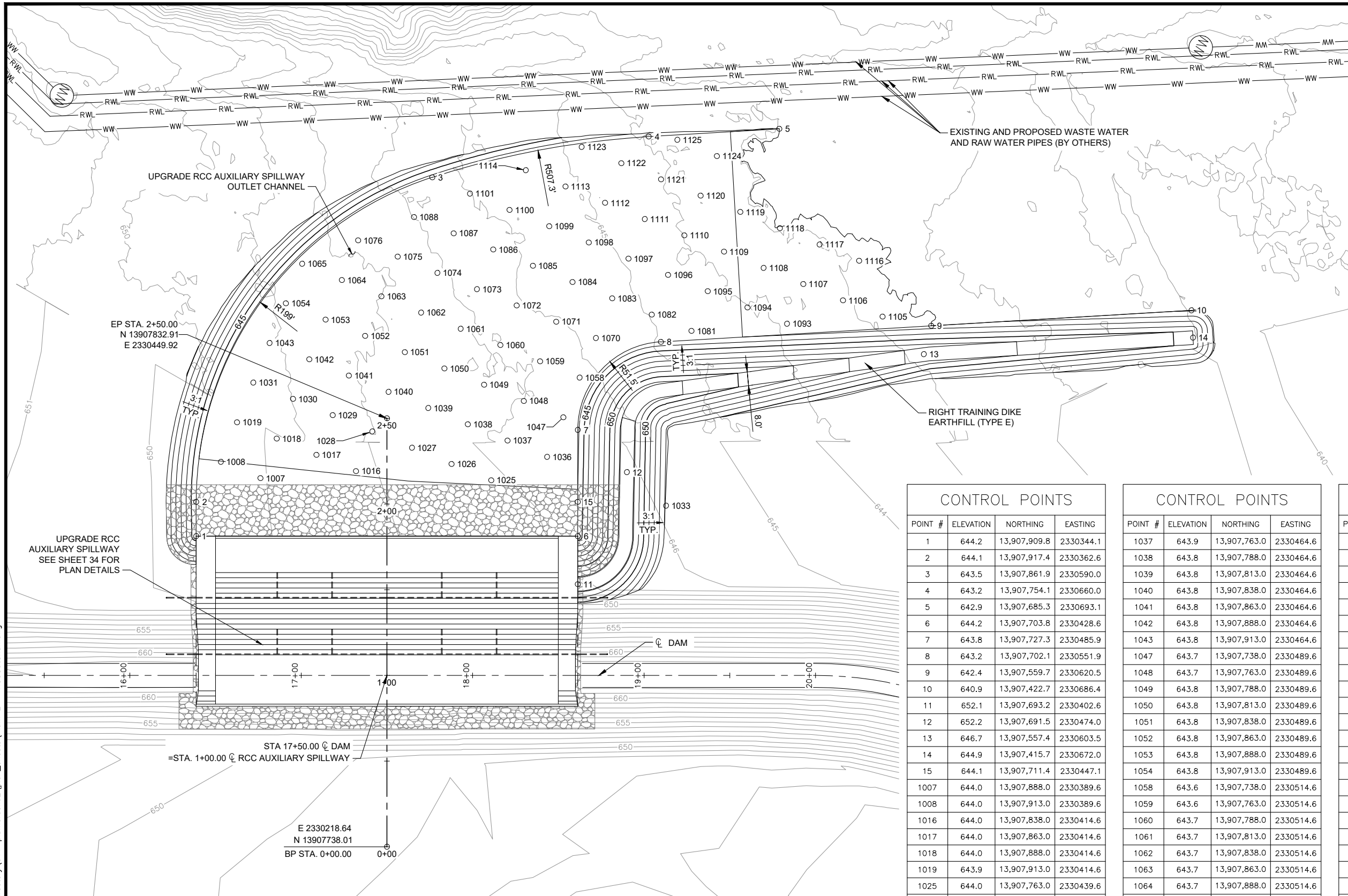
AUXILIARY SPILLWAY SECTIONS AND DETAILS (4 OF 4)
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
 PLUM CREEK WATERSHED
 IN
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DATE	APPROVED	TITLE

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 OF 71

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 DRAWN BY: MDE
 CHECKED BY: LEA
 FILE NAME: Plum 2 - RCCOutChan.dwg
 DATE CHECKED: 7/9/2021

RCC AUXILIARY SPILLWAY OUTLET CHANNEL
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN HAYS COUNTY, TEXAS

CONTROL POINTS			
POINT #	ELEVATION	NORTHING	EASTING
1	644.2	13,907,909.8	2330344.1
2	644.1	13,907,917.4	2330362.6
3	643.5	13,907,861.9	2330590.0
4	643.2	13,907,754.1	2330660.0
5	642.9	13,907,685.3	2330693.1
6	644.2	13,907,703.8	2330428.6
7	643.8	13,907,727.3	2330485.9
8	643.2	13,907,702.1	2330551.9
9	642.4	13,907,559.7	2330620.5
10	640.9	13,907,422.7	2330686.4
11	652.1	13,907,693.2	2330402.6
12	652.2	13,907,691.5	2330474.0
13	646.7	13,907,557.4	2330603.5
14	644.9	13,907,415.7	2330672.0
15	644.1	13,907,711.4	2330447.1
1007	644.0	13,907,888.0	2330389.6
1008	644.0	13,907,913.0	2330389.6
1016	644.0	13,907,838.0	2330414.6
1017	644.0	13,907,863.0	2330414.6
1018	644.0	13,907,888.0	2330414.6
1019	643.9	13,907,913.0	2330414.6
1025	644.0	13,907,763.0	2330439.6
1026	644.0	13,907,788.0	2330439.6
1027	643.9	13,907,813.0	2330439.6
1028	643.9	13,907,838.0	2330439.6
1029	643.9	13,907,863.0	2330439.6
1030	643.9	13,907,888.0	2330439.6
1031	643.9	13,907,913.0	2330439.6
1033	646.0	13,907,663.0	2330464.6
1036	643.9	13,907,738.0	2330464.6

CONTROL POINTS			
POINT #	ELEVATION	NORTHING	EASTING
1037	643.9	13,907,763.0	2330464.6
1038	643.8	13,907,788.0	2330464.6
1039	643.8	13,907,813.0	2330464.6
1040	643.8	13,907,838.0	2330464.6
1041	643.8	13,907,863.0	2330464.6
1042	643.8	13,907,888.0	2330464.6
1043	643.8	13,907,913.0	2330464.6
1047	643.7	13,907,738.0	2330489.6
1048	643.7	13,907,763.0	2330489.6
1049	643.8	13,907,788.0	2330489.6
1050	643.8	13,907,813.0	2330489.6
1051	643.8	13,907,838.0	2330489.6
1052	643.8	13,907,863.0	2330489.6
1053	643.8	13,907,888.0	2330489.6
1054	643.8	13,907,913.0	2330489.6
1058	643.6	13,907,738.0	2330514.6
1059	643.6	13,907,763.0	2330514.6
1060	643.7	13,907,788.0	2330514.6
1061	643.7	13,907,813.0	2330514.6
1062	643.7	13,907,838.0	2330514.6
1063	643.7	13,907,863.0	2330514.6
1064	643.7	13,907,888.0	2330514.6
1065	643.7	13,907,913.0	2330514.6
1070	643.5	13,907,738.0	2330539.6
1071	643.5	13,907,763.0	2330539.6
1072	643.6	13,907,788.0	2330539.6
1073	643.6	13,907,813.0	2330539.6
1074	643.6	13,907,838.0	2330539.6
1075	643.6	13,907,863.0	2330539.6
1076	643.7	13,907,888.0	2330539.6

CONTROL POINTS			
POINT #	ELEVATION	NORTHING	EASTING
1081	643.1	13,907,688.0	2330564.6
1082	643.3	13,907,713.0	2330564.6
1083	643.4	13,907,738.0	2330564.6
1084	643.4	13,907,763.0	2330564.6
1085	643.5	13,907,788.0	2330564.6
1086	643.5	13,907,813.0	2330564.6
1087	643.6	13,907,838.0	2330564.6
1088	643.6	13,907,863.0	2330564.6
1093	642.9	13,907,638.0	2330589.6
1094	643.0	13,907,663.0	2330589.6
1095	643.1	13,907,688.0	2330589.6
1096	643.2	13,907,713.0	2330589.6
1097	643.3	13,907,738.0	2330589.6
1098	643.4	13,907,763.0	2330589.6
1099	643.4	13,907,788.0	2330589.6
1100	643.5	13,907,813.0	2330589.6
1101	643.5	13,907,838.0	2330589.6
1105	642.6	13,907,588.0	2330614.6
1106	642.7	13,907,613.0	2330614.6
1107	642.8	13,907,638.0	2330614.6
1108	642.9	13,907,663.0	2330614.6
1109	643.0	13,907,688.0	2330614.6
1110	643.2	13,907,713.0	2330614.6
1111	643.3	13,907,738.0	2330614.6
1112	643.3	13,907,763.0	2330614.6
1113	643.4	13,907,788.0	2330614.6
1114	643.4	13,907,813.0	2330614.6
1116	642.6	13,907,613.0	2330639.6
1117	642.8	13,907,638.0	2330639.6
1118	642.9	13,907,663.0	2330639.6

STA 17+50.00 C DAM
 =STA. 1+00.00 C RCC AUXILIARY SPILLWAY

E 2330218.64
 N 13907738.01
 BP STA. 0+00.00

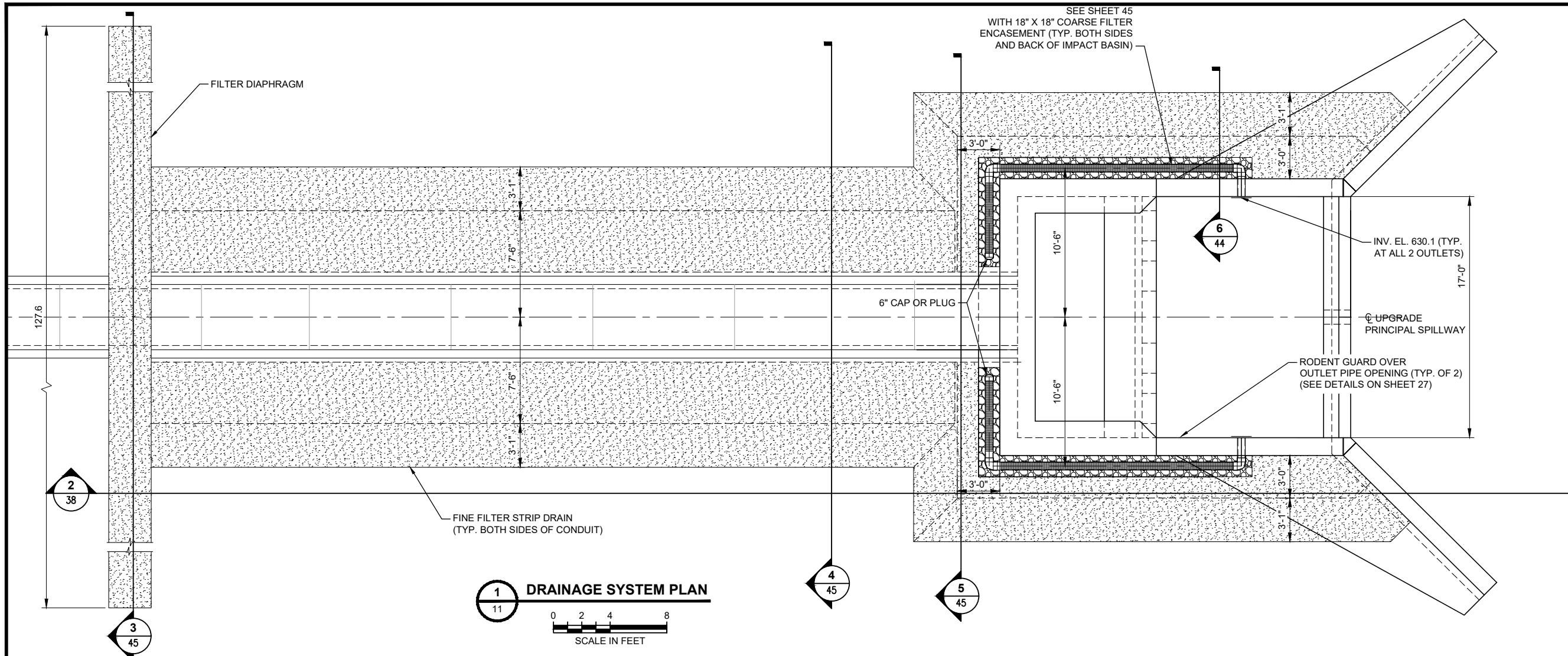
UPGRADE RCC AUXILIARY SPILLWAY OUTLET CHANNEL

REVISIONS		
DATE	APPROVED	TITLE

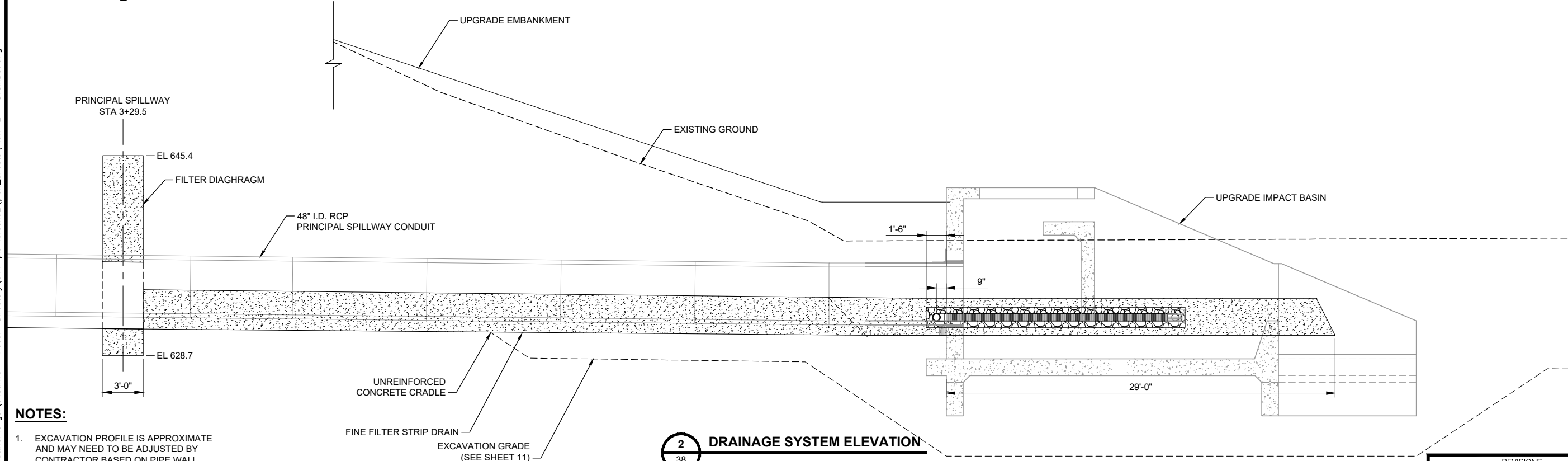
SHEET NO. 42
 OF 71

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1 DRAINAGE SYSTEM PLAN
SCALE IN FEET



2 DRAINAGE SYSTEM ELEVATION
SCALE IN FEET

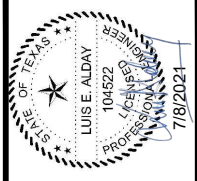
NOTES:
1. EXCAVATION PROFILE IS APPROXIMATE AND MAY NEED TO BE ADJUSTED BY CONTRACTOR BASED ON PIPE WALL THICKNESS TO MEET INVERT PROFILE AND CONCRETE CRADLE DIMENSIONS AS SHOWN ON SHEET 21.

SEE SHEET 45 WITH 18" X 18" COARSE FILTER ENCASMENT (TYP. BOTH SIDES AND BACK OF IMPACT BASIN)

INV. EL. 630.1 (TYP. AT ALL 2 OUTLETS)

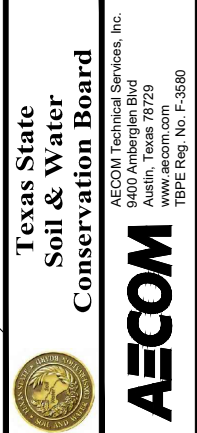
UPGRADE PRINCIPAL SPILLWAY

RODENT GUARD OVER OUTLET PIPE OPENING (TYP. OF 2) (SEE DETAILS ON SHEET 27)



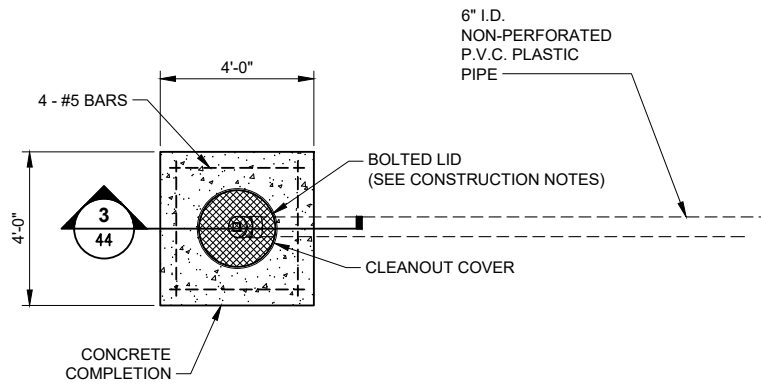
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FILE NAME: Plum 2 - DrainDet.dwg
DATE CHECKED: 7/9/2021

DRAINAGE SYSTEM DETAILS (1 OF 6)
FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
PLUM CREEK WATERSHED
IN HAYS COUNTY, TEXAS

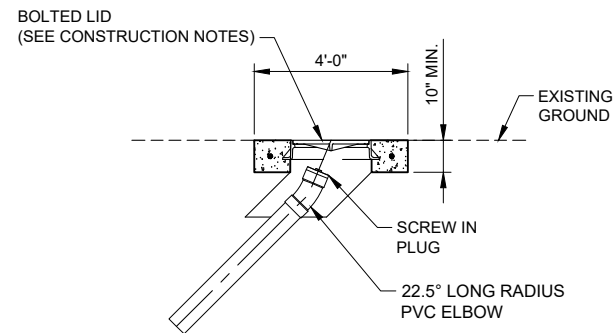


SHEET NO. 43 OF 71

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DATE	APPROVED	TITLE



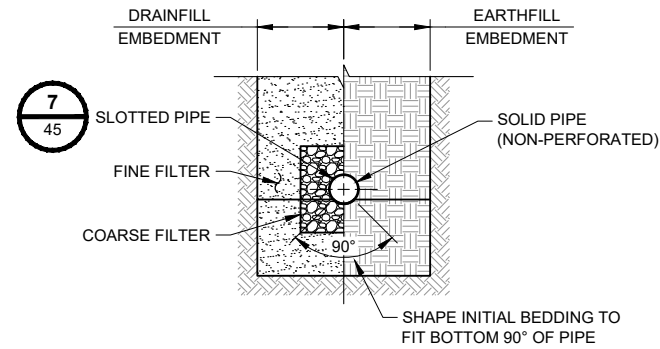
2 **2** **TYP TRENCH CLEANOUT DETAIL**
34 46 NTS



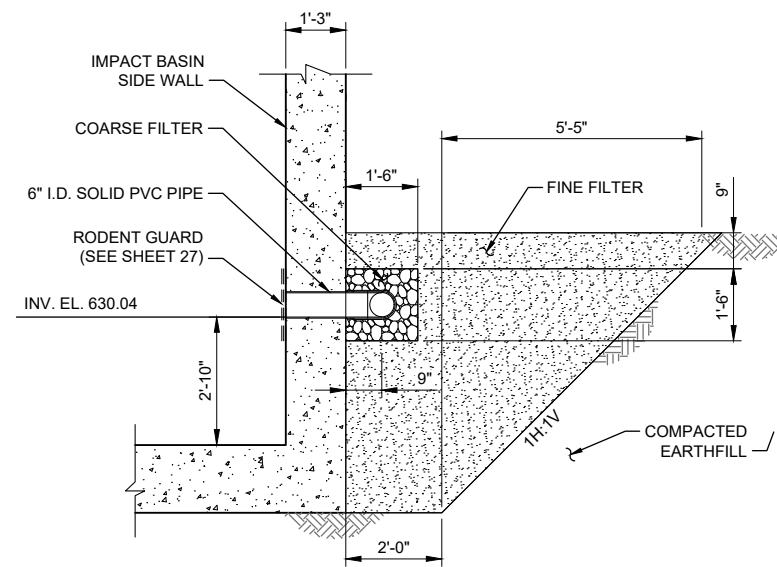
2 **3** **TYP TRENCH CLEANOUT SECTION**
34 44 NTS

CLEANOUT CONSTRUCTION NOTES:

- CLEANOUT COVERS SHALL BE NEENAH FOUNDRY COMPANY R-1478-EB WITH BOLTED AND GASKETED LID OR EQUIVALENT AS APPROVED BY THE ENGINEER.
- ALL BOLTING HARDWARE SHALL CONSIST OF STAINLESS STEEL WASHERS, LOCK WASHERS, AND HEX HEAD BOLTS.
- THE CONCRETE COMPLETION SHALL HAVE A MIX OF 5 1/2 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.
- FINISHED GRADE OF THE CONCRETE AND CLEANOUT COVER SHALL EXTEND NO MORE THAN 0.1' ABOVE THE SURROUNDING TOPOGRAPHY (TYP. ALL FOUR SIDES).
- CLEANOUT COVERS SHALL BE ORIENTED TO PREVENT PONDING OF WATER.
- CONCRETE THICKNESS SHALL BE A MINIMUM OF 10" THICK ENOUGH TO FULLY ENCASE THE CAST IRON CLEANOUT COVER.
- THE AREA SURROUNDING THE COVERS SHALL BE BLADED AND DRESSED TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE COVERS.



4 **DRAIN PIPE BEDDING DETAIL**
47 NTS



6 **DRAIN AND FILTER SECTION**
43 NTS



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FILE NAME: Plum 2 - DrainDet.dwg
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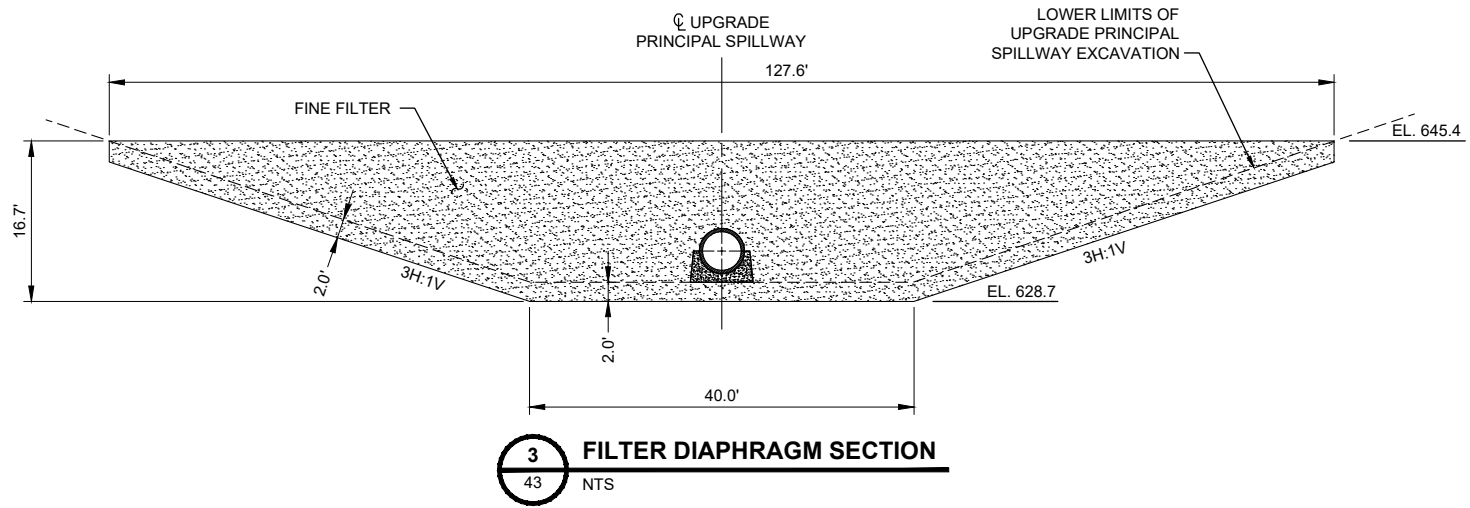
DRAINAGE SYSTEM DETAILS (2 OF 6)

FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
PLUM CREEK WATERSHED
IN
HAYS COUNTY, TEXAS

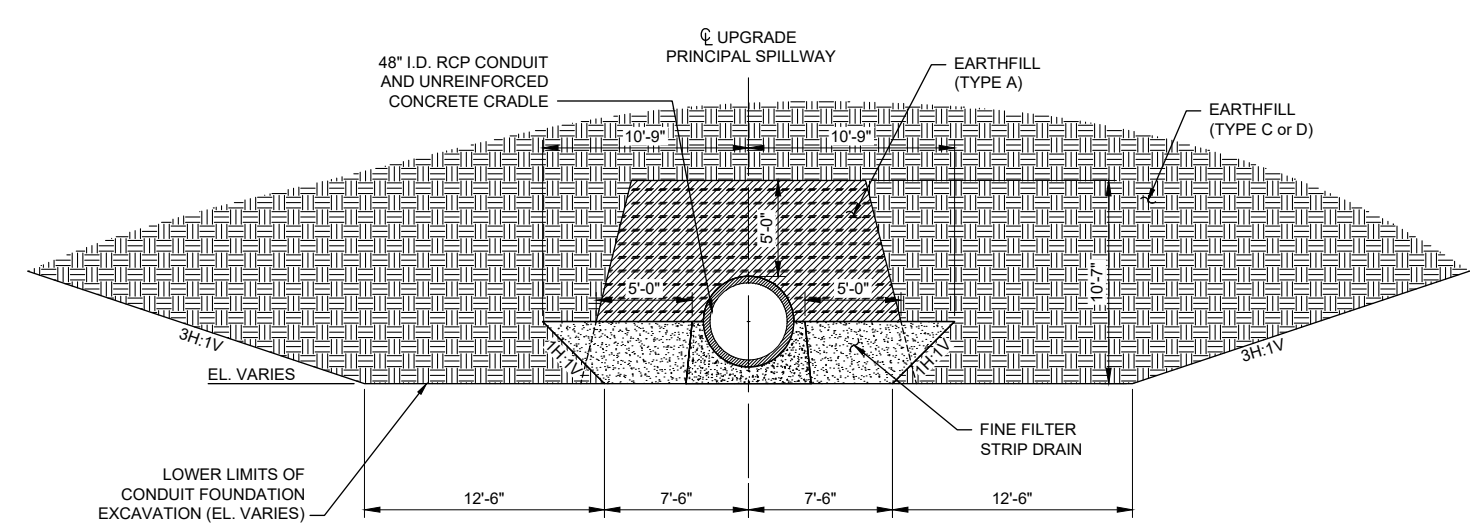
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SHEET NO. 44
OF 71

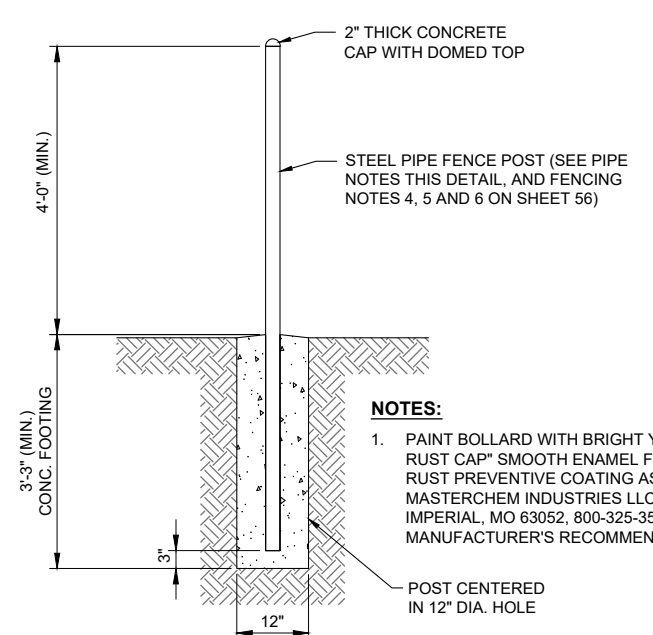
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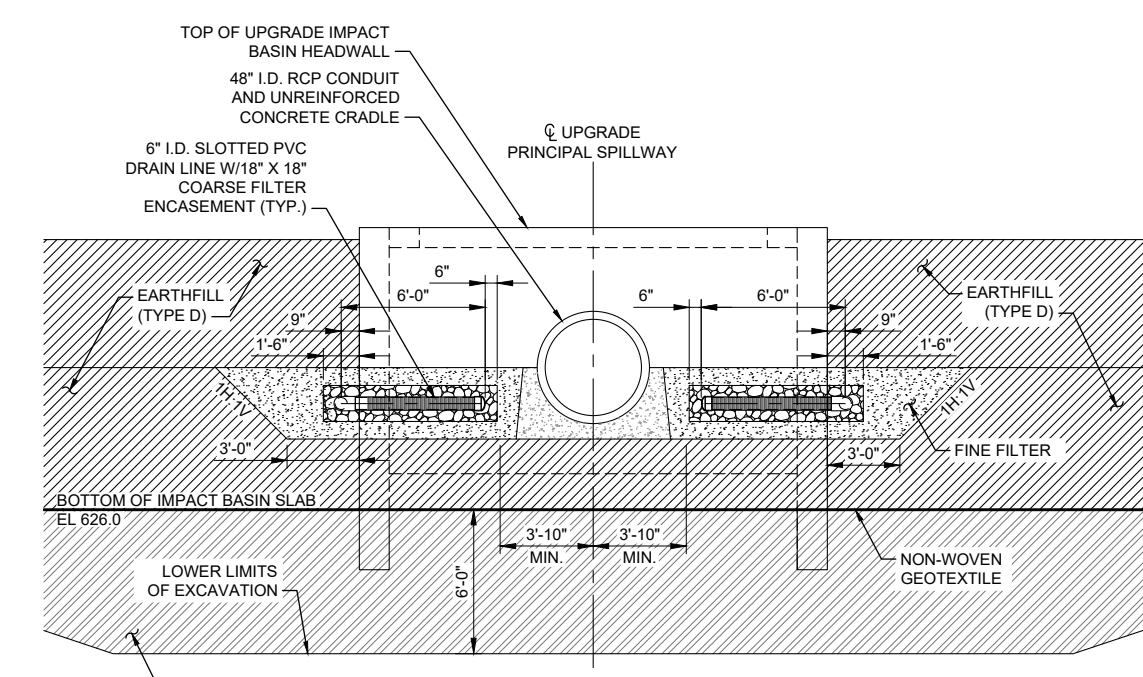
3 FILTER DIAPHRAGM SECTION
43 NTS



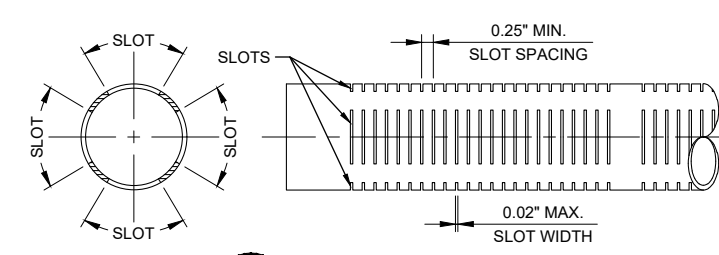
4 STRIP DRAIN DETAIL
43 NTS



6 BOLLARD DETAIL
48 NTS



5 DRAINAGE SYSTEM SECTION
43 NTS



7 SLOTTED PVC PIPE DETAIL
44 NTS

- SLOTTED PVC PIPE NOTES:**
- THE SLOTTED PVC PIPE SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. THE MINIMUM REQUIREMENTS ARE AS FOLLOWS:
1. ALL PVC PIPE AND FITTING SHALL MEET THE REQUIREMENTS OF CONSTRUCTION SPECIFICATION 45, AND MATERIAL SPECIFICATION 547.
 2. THE SLOT WIDTH SHALL NOT EXCEED 0.02".
 3. THE SLOT SPACING SHALL BE A MINIMUM OF 0.25"
 4. SLOTS SHALL BE PLACED IN NO MORE THAN FOUR (4) ROWS SYMMETRICALLY ABOUT THE PIPE CENTERLINE, UNLESS APPROVED OTHERWISE BY ENGINEER.
 5. SLOTTED PIPE SHALL PROVIDE A MINIMUM OF FOUR (4) SQUARE INCHES OF OPEN AREA PER LINEAR FOOT OF PIPE.



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 FILE NAME: Plum 2 - DrainDet.dwg
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DRAINAGE SYSTEM DETAILS (3 OF 6)
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN HAYS COUNTY, TEXAS

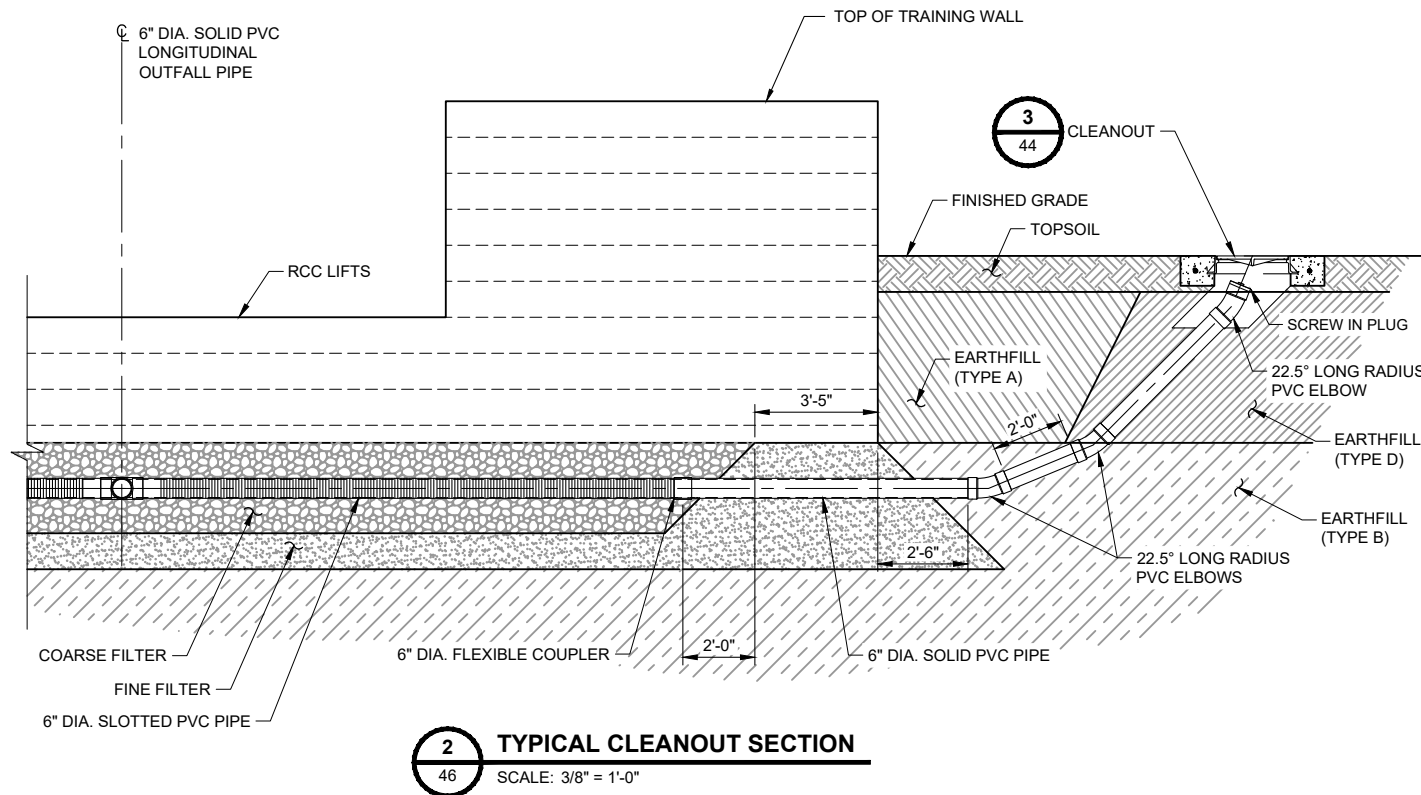
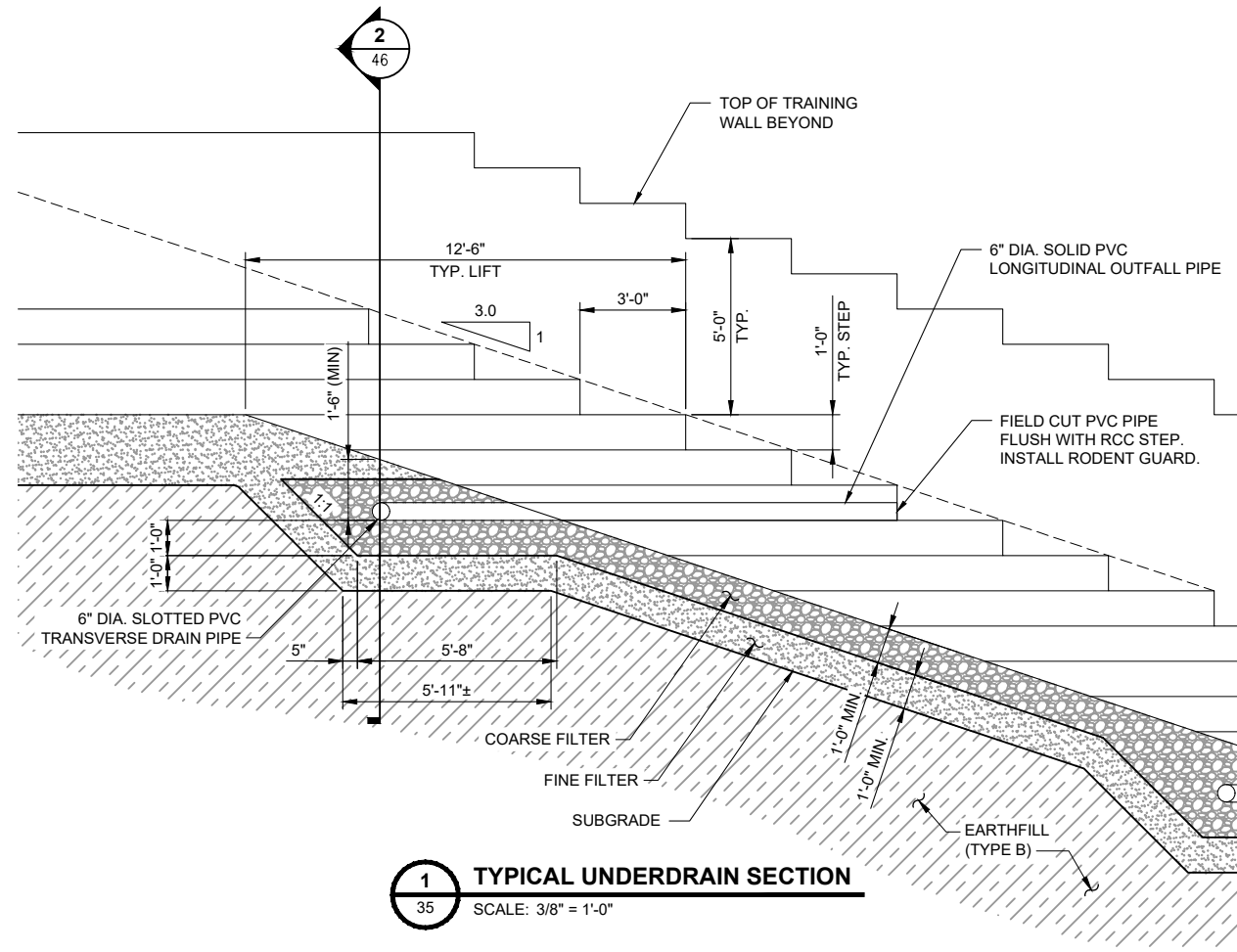
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SHEET NO. 45 OF 71

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DRAINAGE SYSTEM DETAILS (4 OF 6)

FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

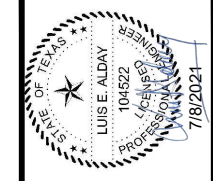
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SHEET NO. 46
 OF 71

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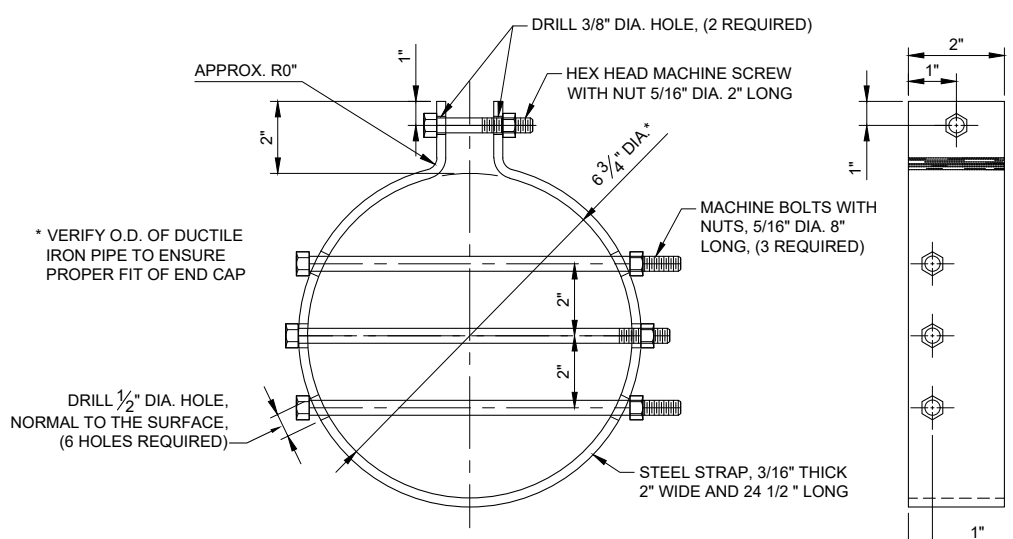
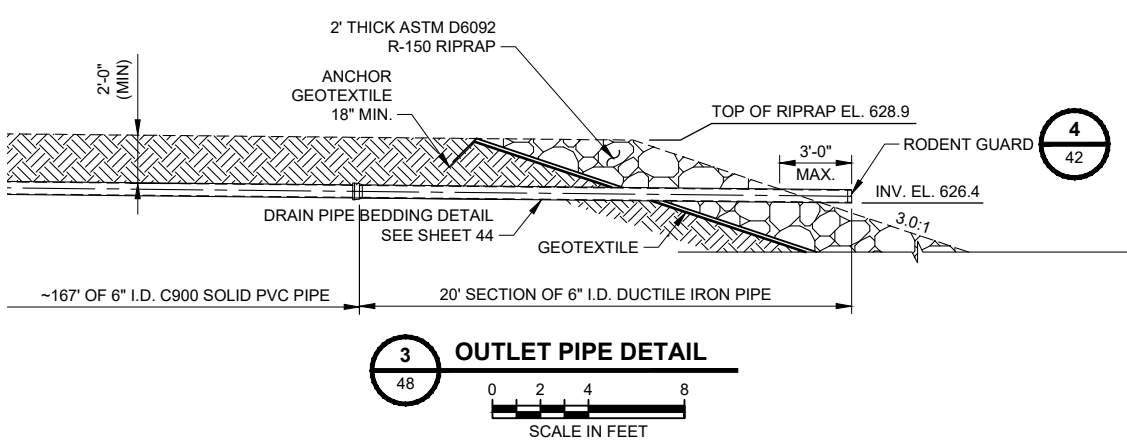
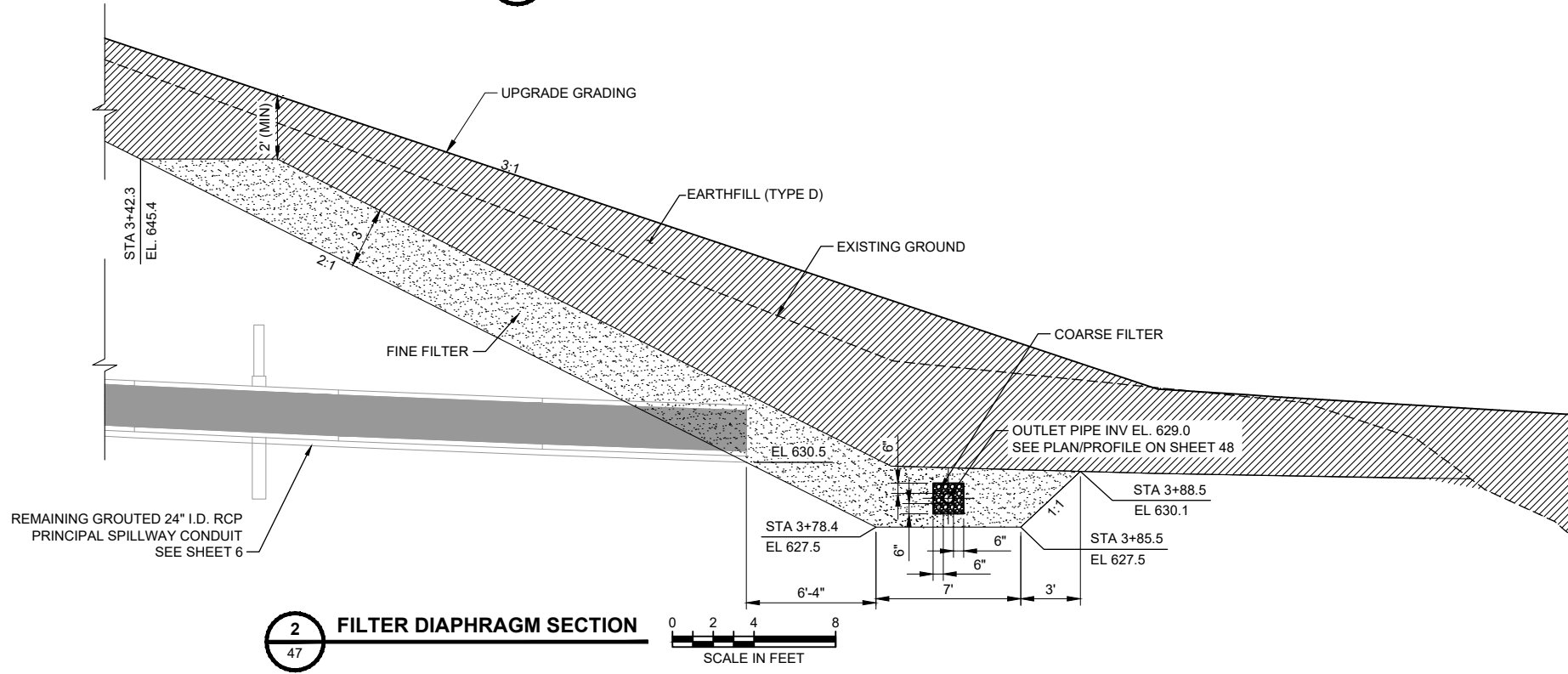
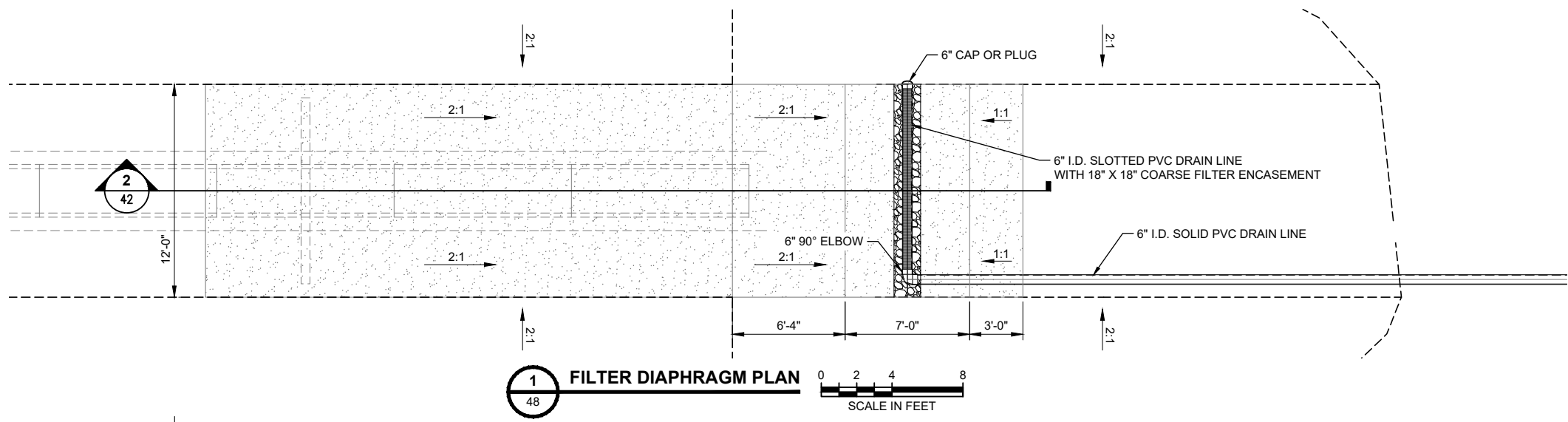
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DRAINAGE SYSTEM DETAILS (5 OF 6)
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN HAYS COUNTY, TEXAS

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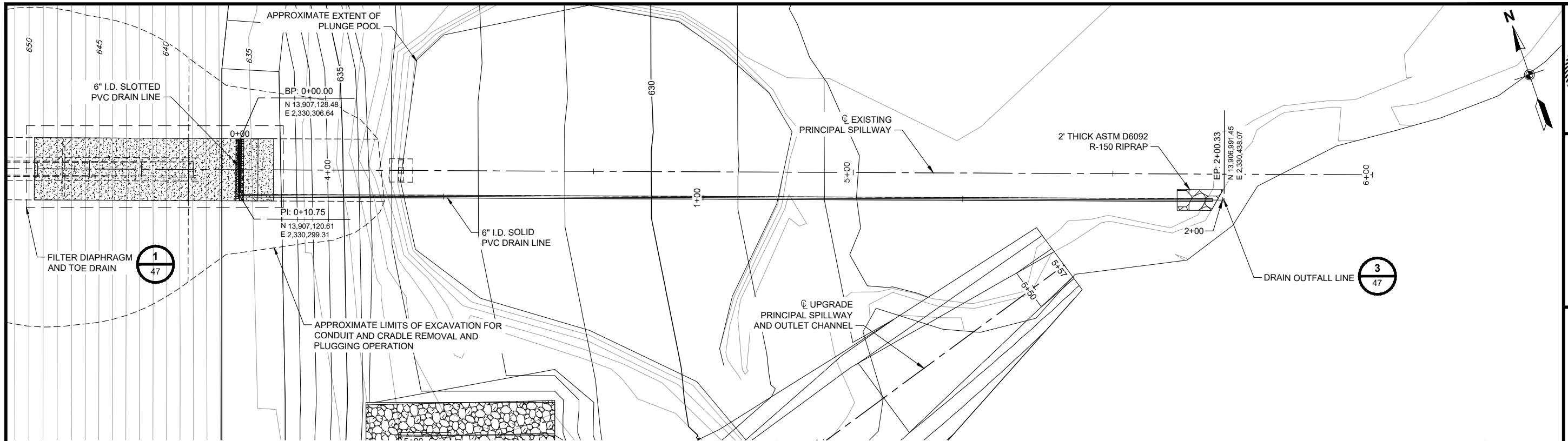
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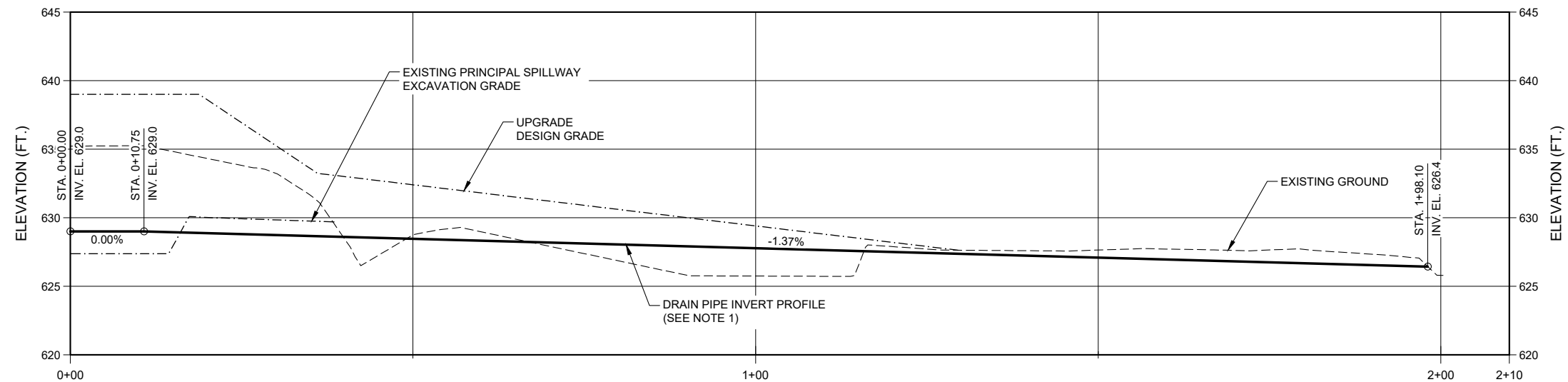
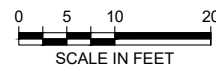
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PLAN - FILTER DIAPHRAGM DRAIN PIPE

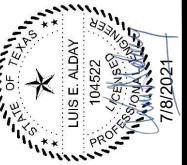


PROFILE - FILTER DIAPHRAGM DRAIN PIPE



NOTES:

1. DRAIN PIPE TO HAVE A MINIMUM COVER OF 2-FT THROUGHOUT. CONTRACTOR TO PROVIDE ABOVE GROUND MARKING/FLAGGING FOR THE AS-BUILT PIPE ALIGNMENT AT THE COMPLETION OF CONSTRUCTION.



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 FILE NAME: Plum 2 - DrainPipe.dwg
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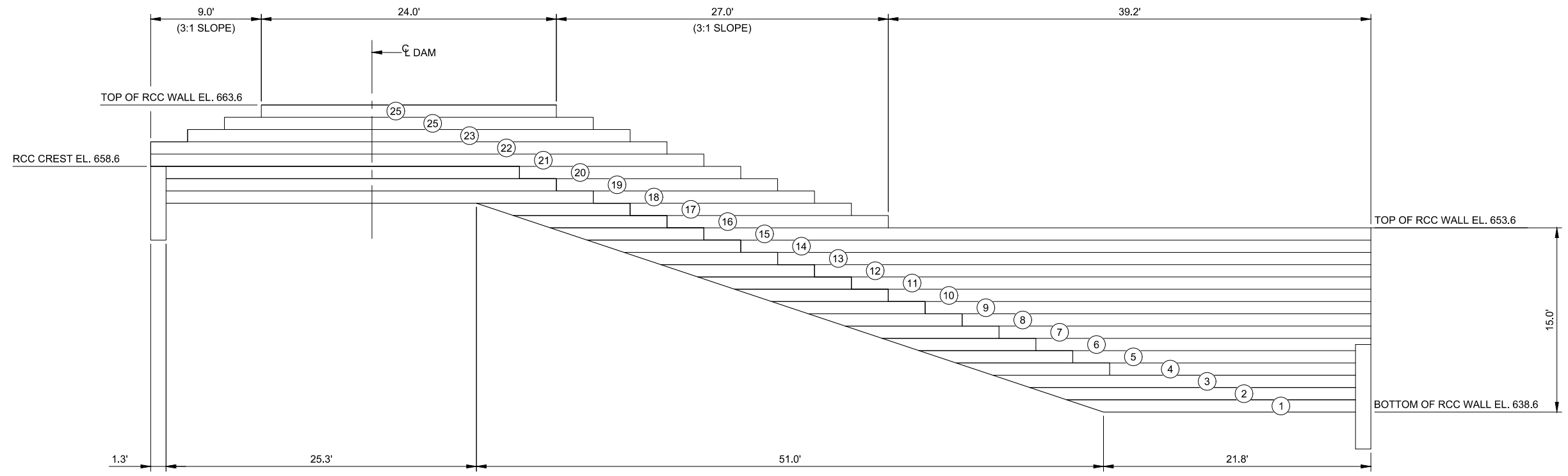
DRAINAGE SYSTEM DETAILS (6 OF 6)

FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

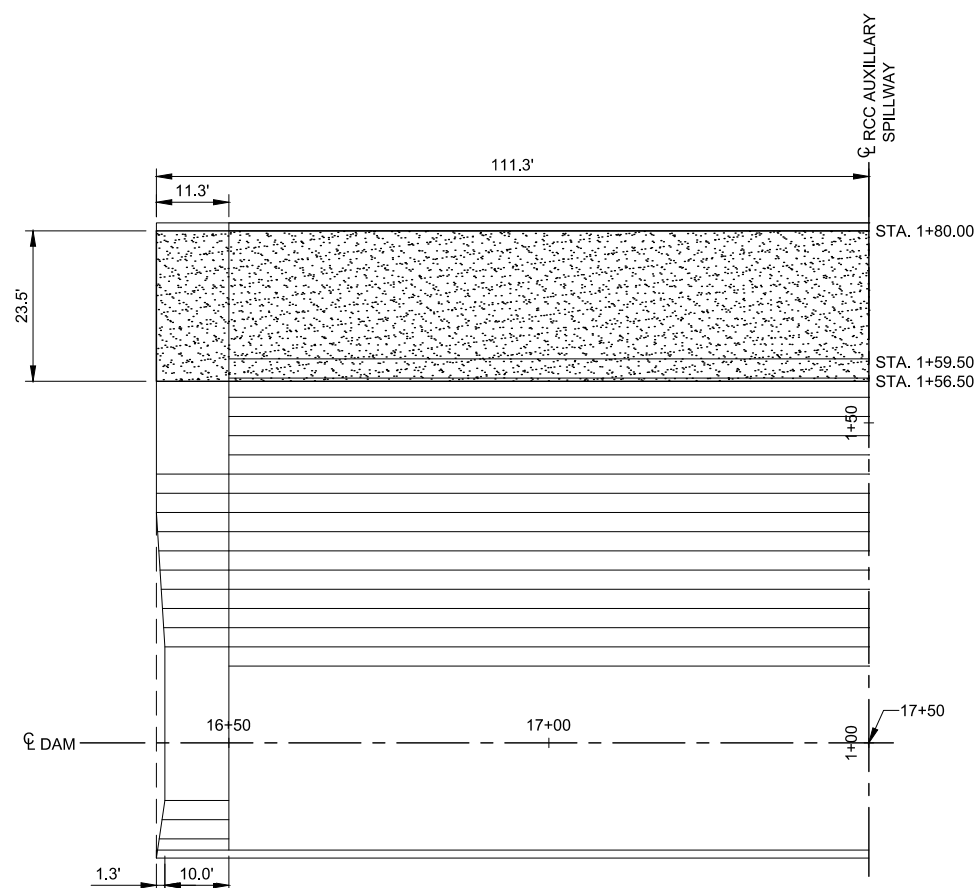
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SHEET NO. 48 OF 71

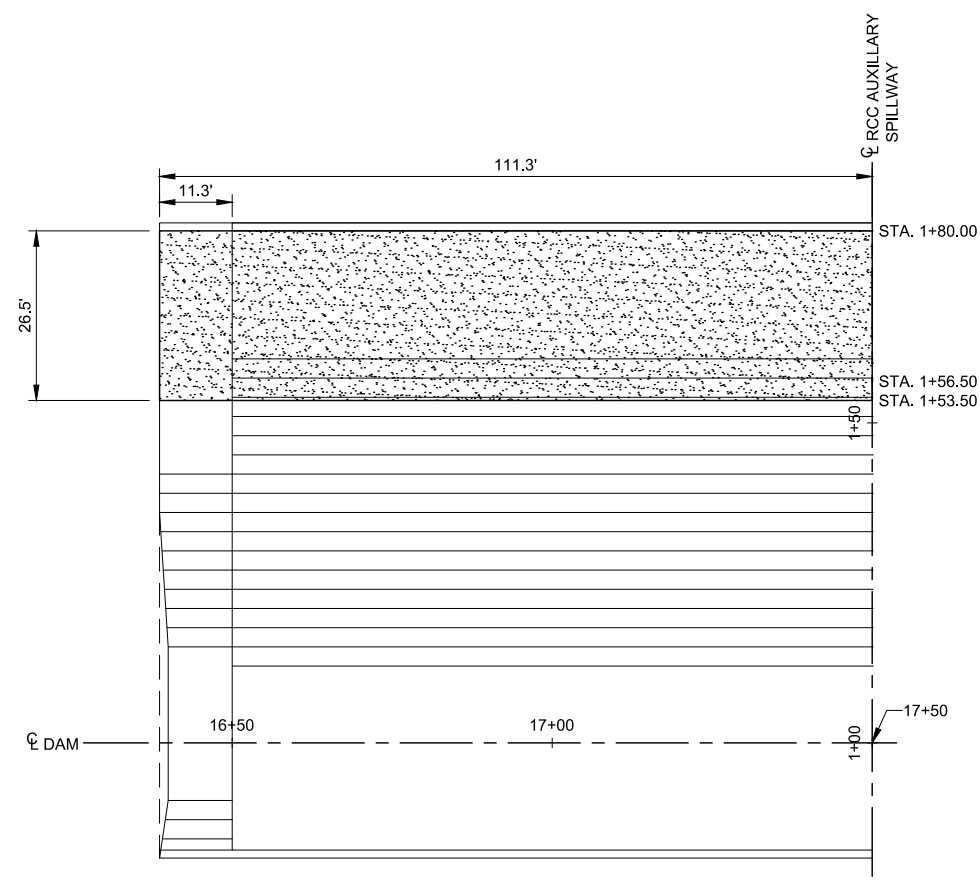
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1 **RCC SPILLWAY PROFILE**
 SCALE: 1" = 5'
 0 5 10 15
 HORIZONTAL SCALE IN FEET



PARTIAL PLAN - RCC LAYER 1 ① S.G. EL. 638.6
 F.G. EL. 639.6



PARTIAL PLAN - RCC LAYER 2 ② S.G. EL. 639.6
 F.G. EL. 640.6

NOTES:

1. ALL LAYERS SHOWN ARE SYMMETRIC ABOUT CENTERLINE UNLESS OTHERWISE NOTED.
2. ALL LAYERS SHALL BE CONSTRUCTED OF ONE (1) 12" LIFT AND BE 12" THICK AFTER COMPACTION UNLESS OTHERWISE NOTED (REFER TO CONSTRUCTION SPECIFICATION 36).
3. THE LAYER SEQUENCE SHOWN ON THIS SHEET IS A LOGICAL PROGRESSION FOR THE PLACEMENT OF THE ROLLER COMPACTED CONCRETE FOR THE CONSTRUCTION OF THE R.C.C. CHUTE SPILLWAY. ACTUAL ORDER AND LIMITS MAY VARY ONLY AS PERMITTED BY THE ENGINEER.
4. S.G. = SUBGRADE; F.G. = FINISHED GRADE

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 FILE NAME: Plum 2 - Sht 49-55.dwg
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RCC AUXILIARY SPILLWAY LIFT SCHEMATIC (1 OF 7)

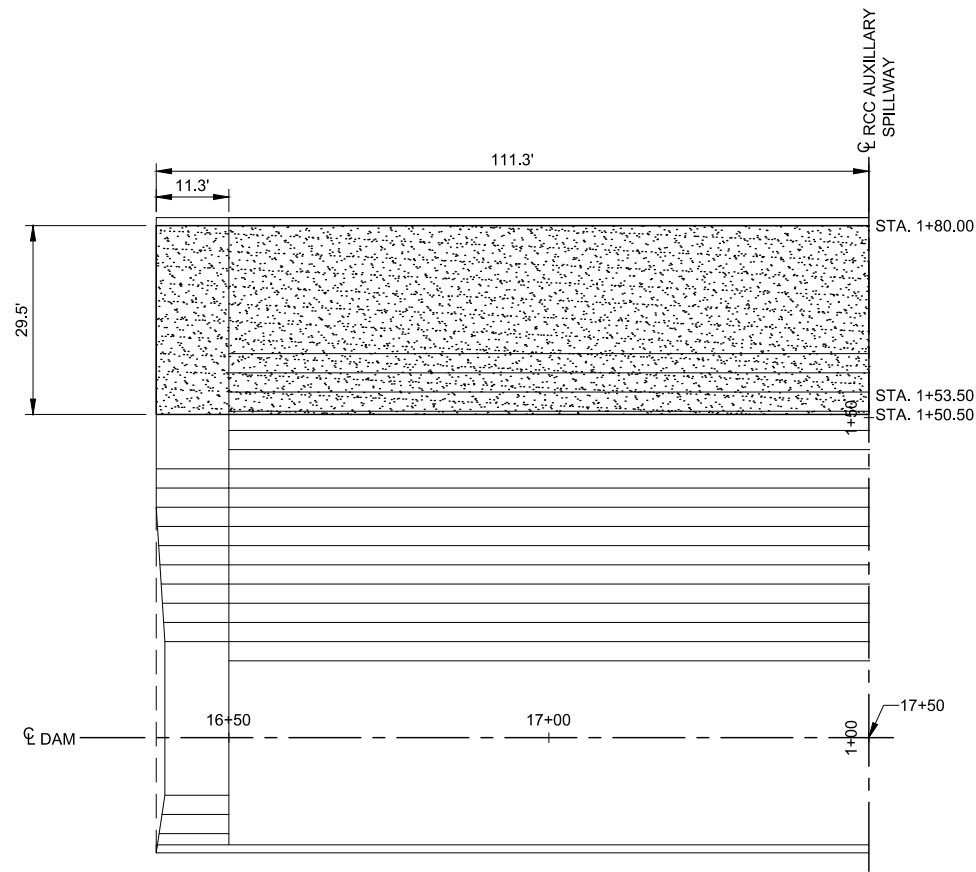
FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
 PLUM CREEK WATERSHED
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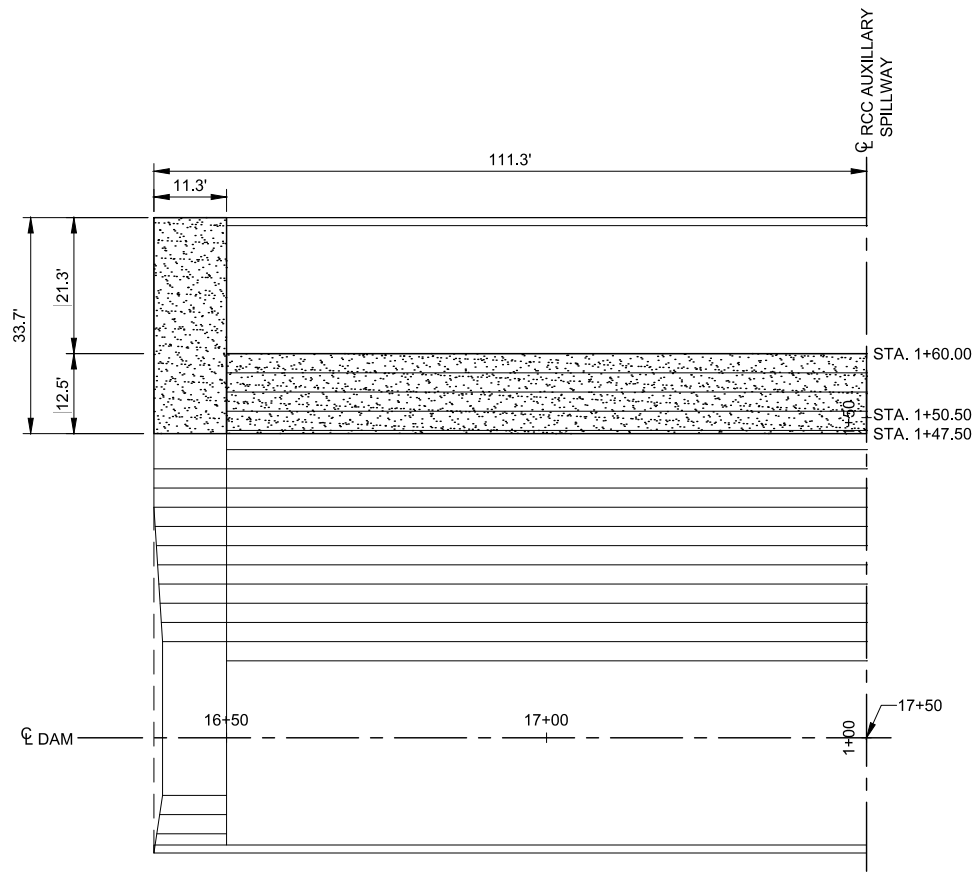
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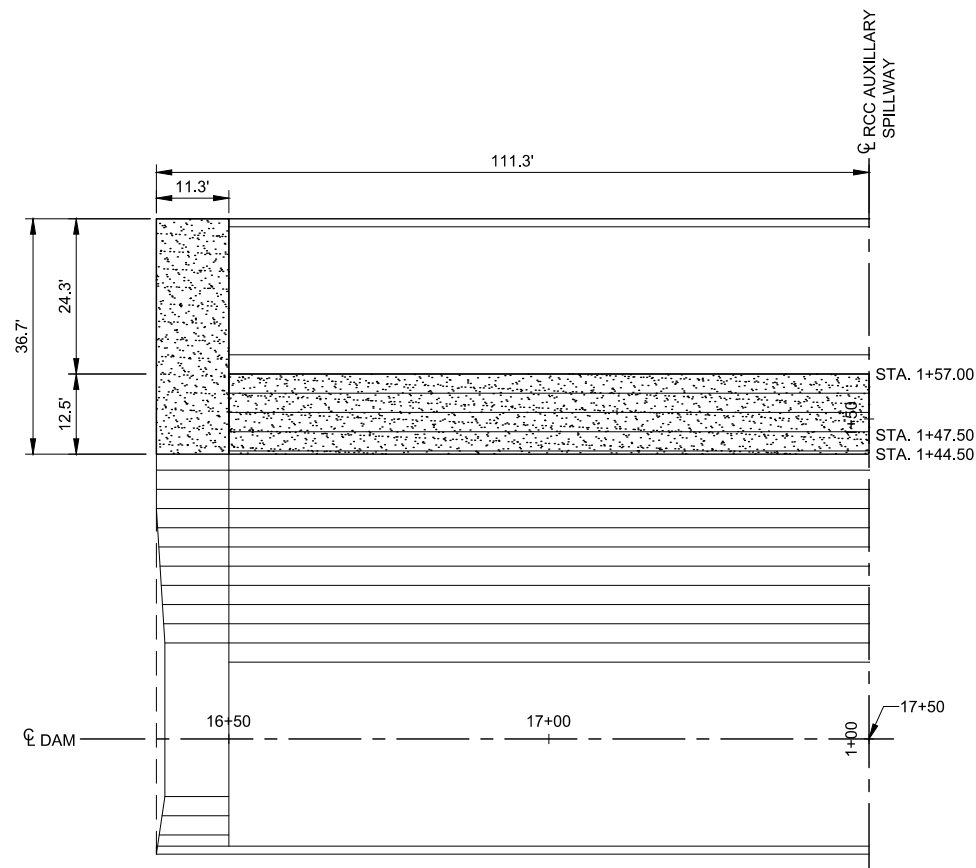
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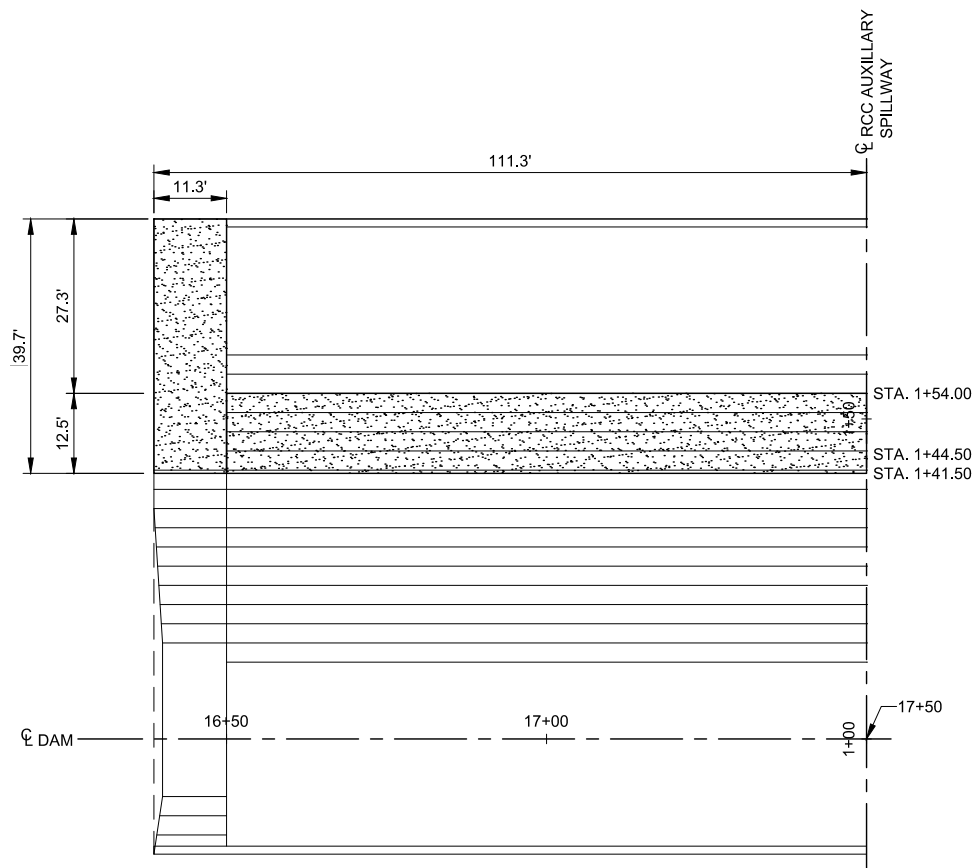
PARTIAL PLAN - RCC LAYER 3 (3) S.G. EL. 640.6
F.G. EL. 641.6



PARTIAL PLAN - RCC LAYER 4 (4) S.G. EL. 641.6
F.G. EL. 642.6



PARTIAL PLAN - RCC LAYER 5 (5) S.G. EL. 642.6
F.G. EL. 643.6



PARTIAL PLAN - RCC LAYER 6 (6) S.G. EL. 643.6
F.G. EL. 644.6

NOTES:

1. ALL LAYERS SHOWN ARE SYMMETRIC ABOUT CENTERLINE UNLESS OTHERWISE NOTED.
2. ALL LAYERS SHALL BE CONSTRUCTED OF ONE (1) 12" LIFT AND BE 12" THICK AFTER COMPACTION UNLESS OTHERWISE NOTED (REFER TO CONSTRUCTION SPECIFICATION 36).
3. THE LAYER SEQUENCE SHOWN ON THIS SHEET IS A LOGICAL PROGRESSION FOR THE PLACEMENT OF THE ROLLER COMPACTED CONCRETE FOR THE CONSTRUCTION OF THE R.C.C. CHUTE SPILLWAY. ACTUAL ORDER AND LIMITS MAY VARY ONLY AS PERMITTED BY THE ENGINEER.
4. S.G. = SUBGRADE; F.G. = FINISHED GRADE

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FILE NAME: Plum_2 - Sht. 49-55.dwg
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RCC AUXILIARY SPILLWAY LIFT SCHEMATIC (2 OF 7)

FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
PLUM CREEK WATERSHED
IN
HAYS COUNTY, TEXAS

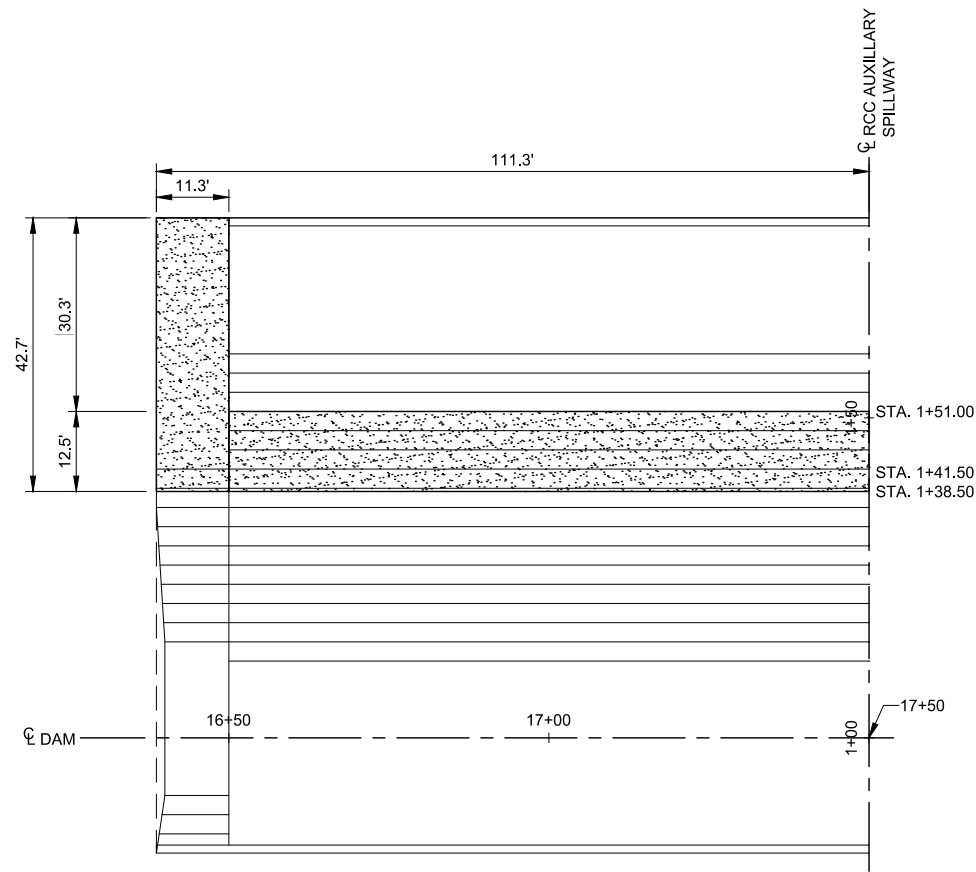
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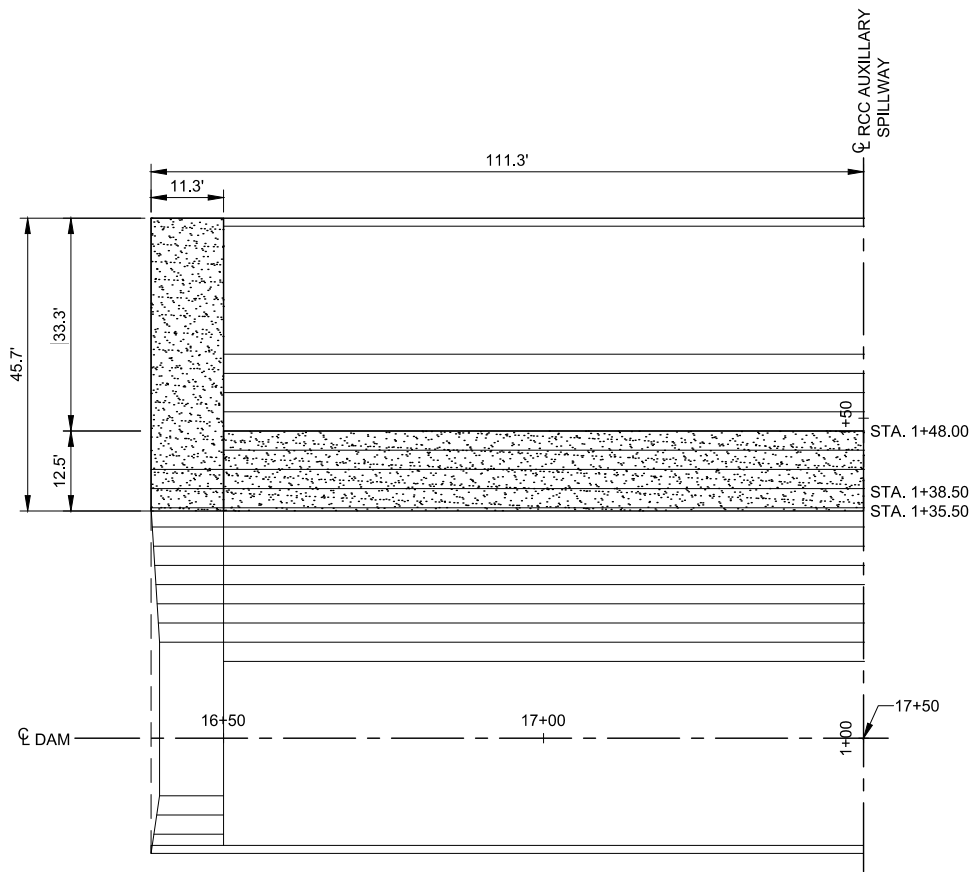
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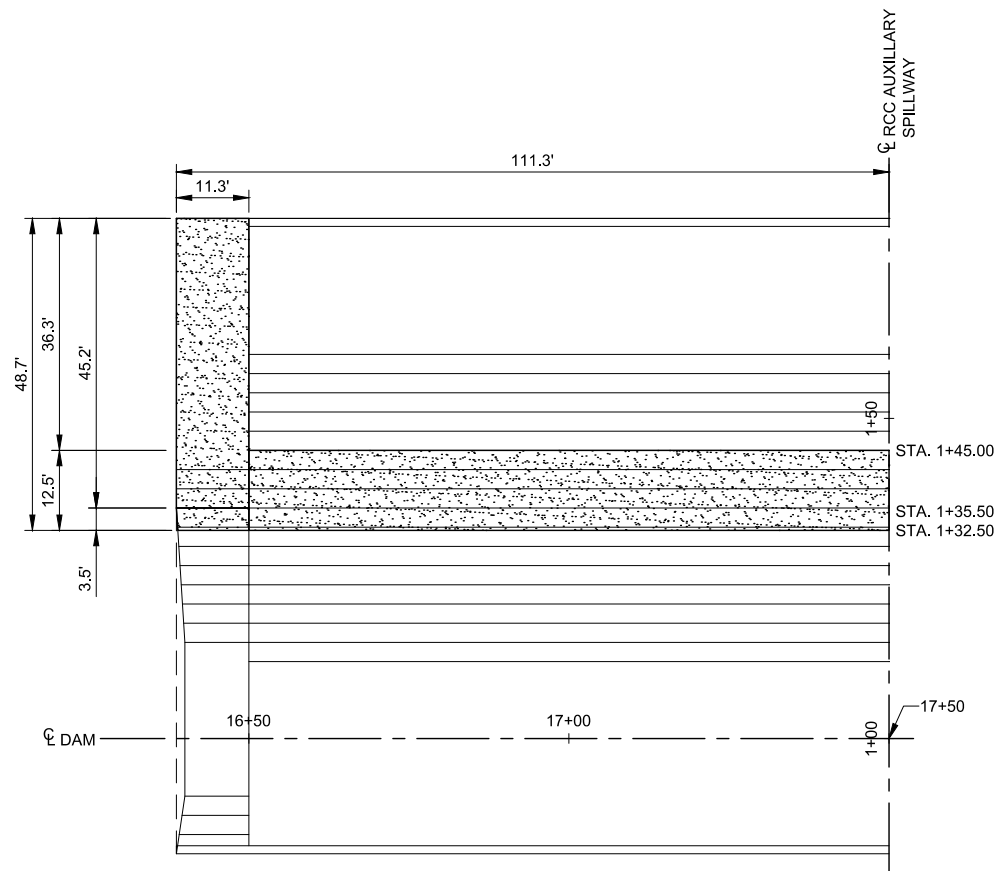
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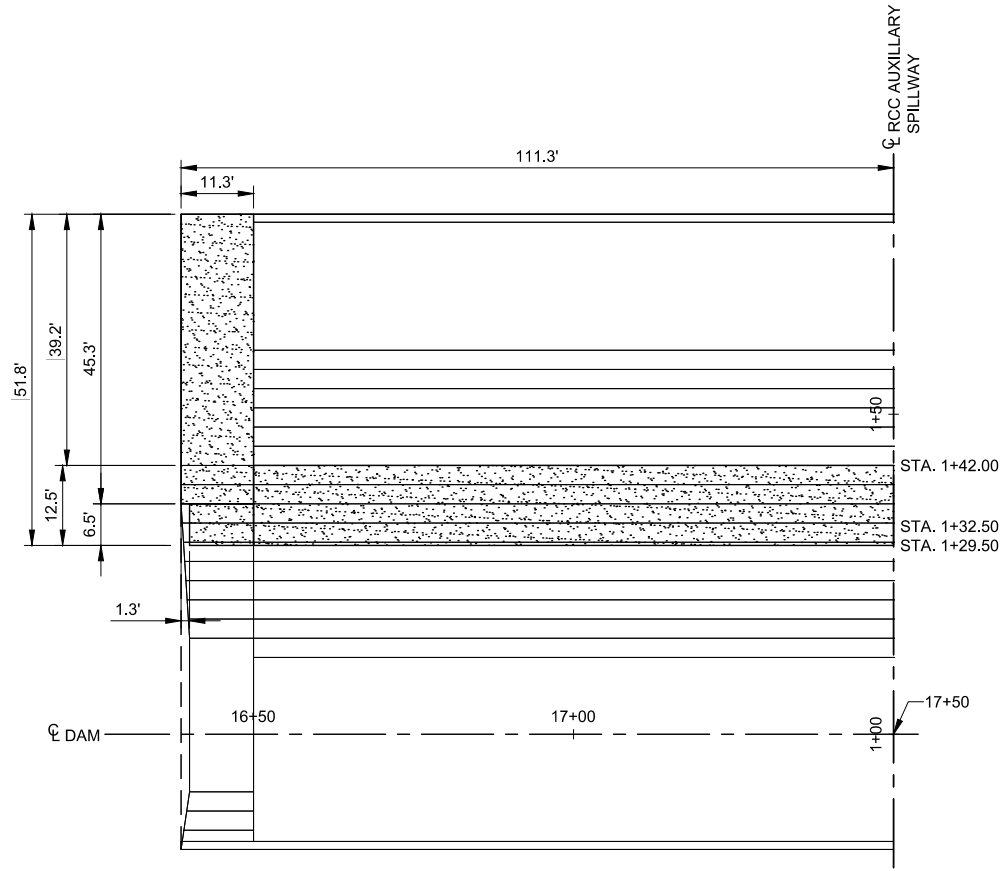
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F.G. EL. 645.6



PARTIAL PLAN - RCC LAYER 8 (8) S.G. EL. 645.6
F.G. EL. 646.6



PARTIAL PLAN - RCC LAYER 9 (9) S.G. EL. 646.6
F.G. EL. 647.6



PARTIAL PLAN - RCC LAYER 10 (10) S.G. EL. 647.6
F.G. EL. 648.6

NOTES:

1. ALL LAYERS SHOWN ARE SYMMETRIC ABOUT CENTERLINE UNLESS OTHERWISE NOTED.
2. ALL LAYERS SHALL BE CONSTRUCTED OF ONE (1) 12" LIFT AND BE 12" THICK AFTER COMPACTION UNLESS OTHERWISE NOTED (REFER TO CONSTRUCTION SPECIFICATION 36).
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4. S.G. = SUBGRADE; F.G. = FINISHED GRADE

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RCC AUXILIARY SPILLWAY LIFT SCHEMATIC (3 OF 7)

FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
PLUM CREEK WATERSHED
IN
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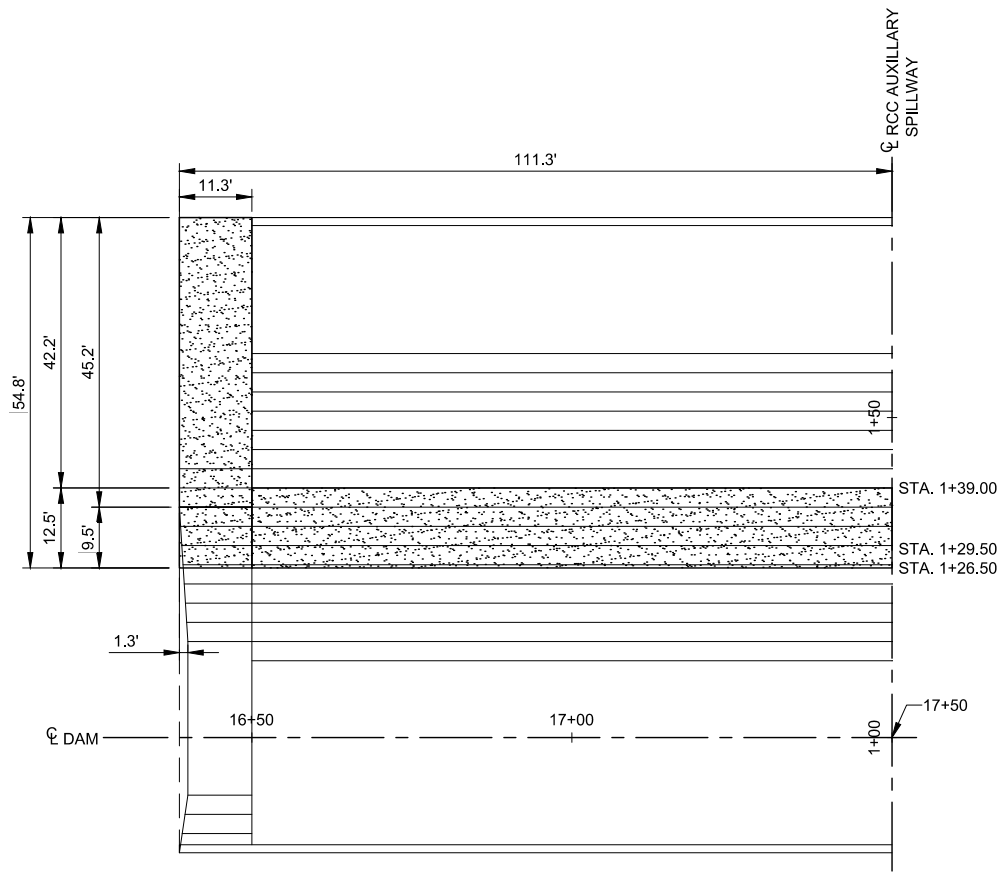


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OF 71

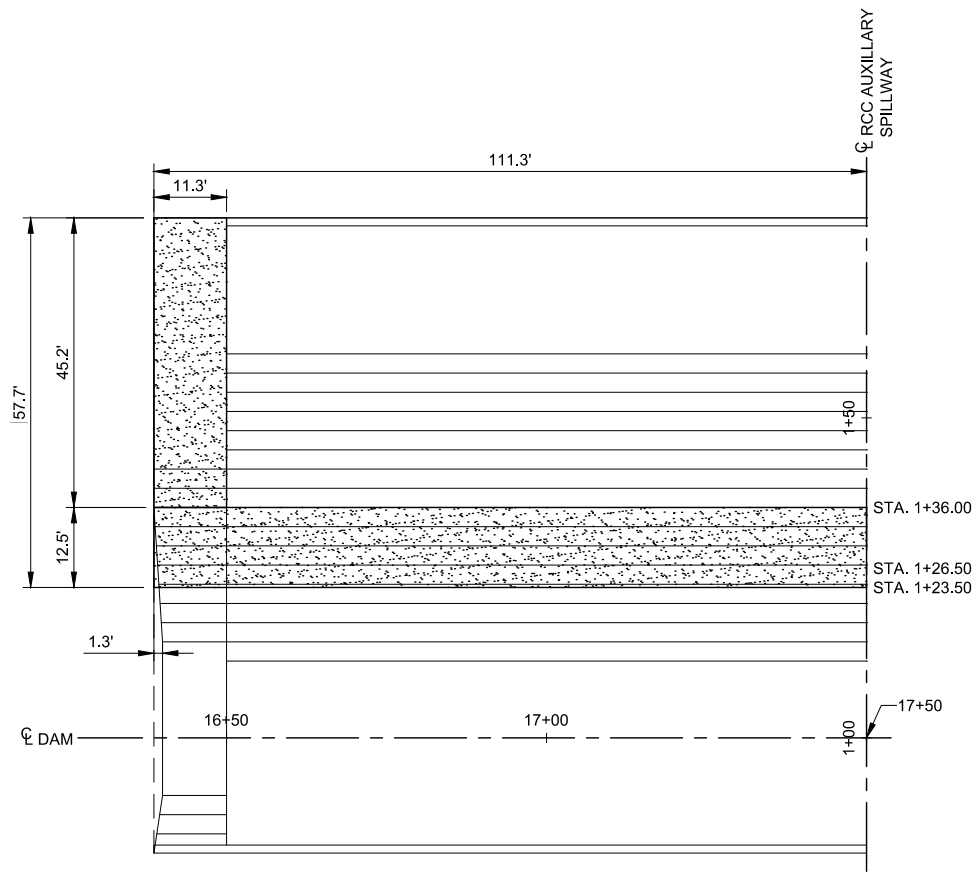
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FILE NAME: Plum 2 - Sht 49-55.dwg
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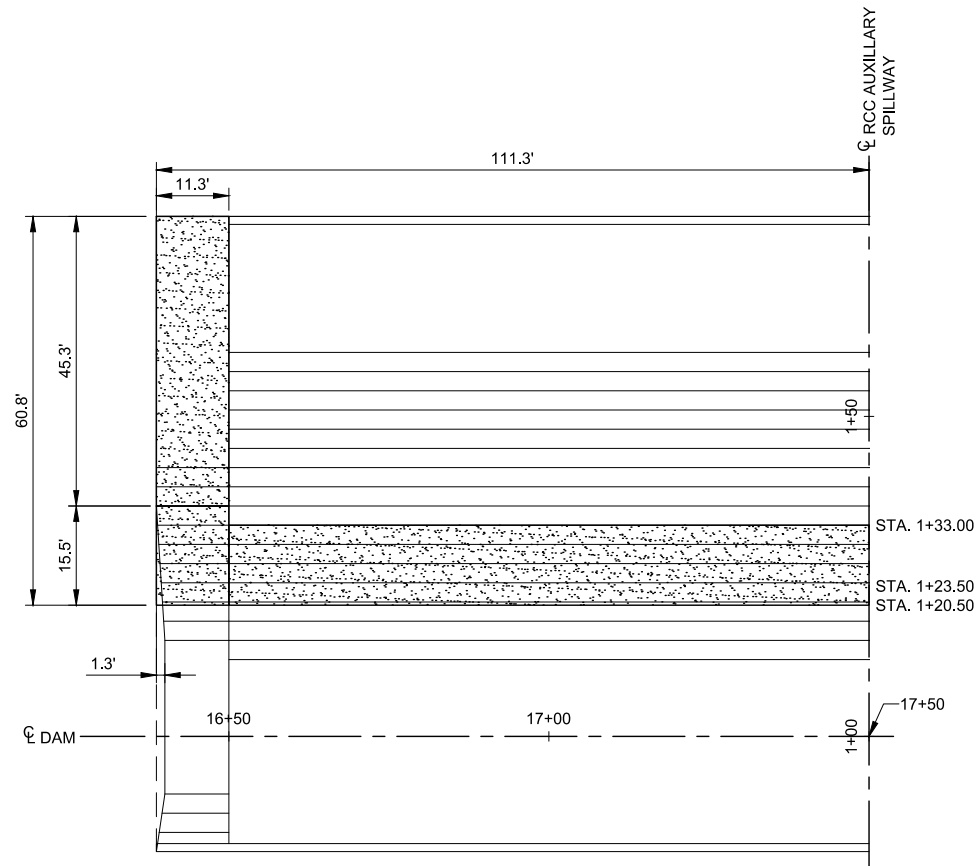
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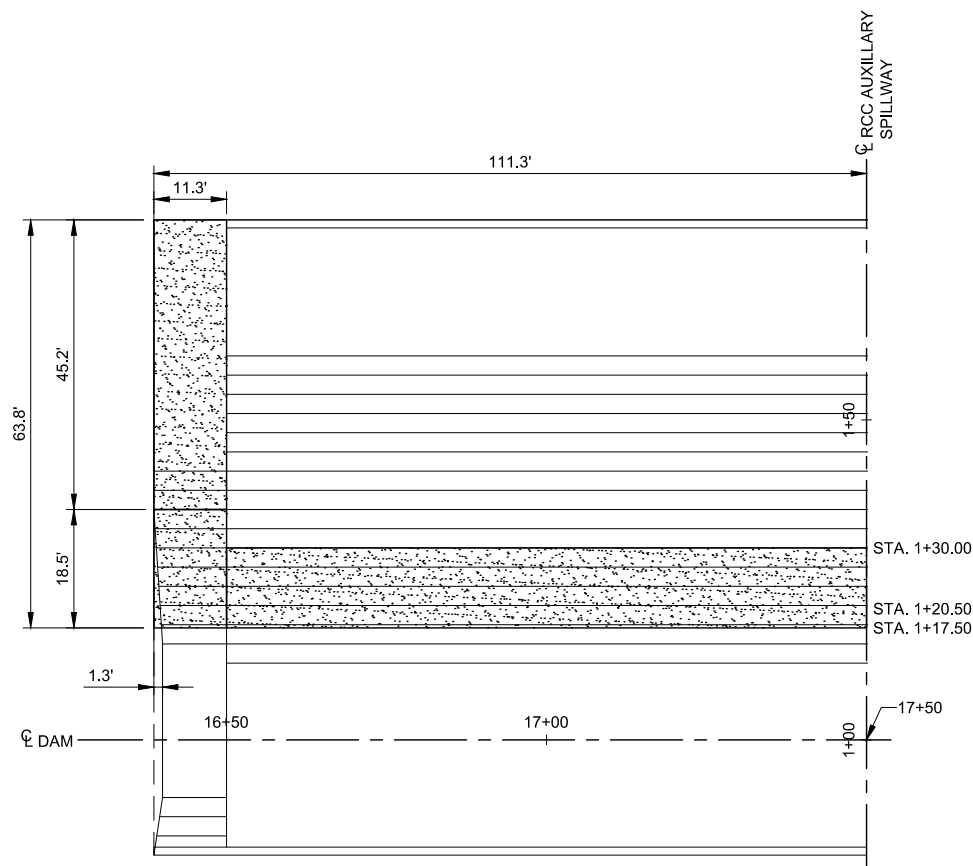
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F.G. EL. 649.6



PARTIAL PLAN - RCC LAYER 12 (12) S.G. EL. 649.6
F.G. EL. 650.6



PARTIAL PLAN - RCC LAYER 13 (13) S.G. EL. 650.6
F.G. EL. 651.6



PARTIAL PLAN - RCC LAYER 14 (14) S.G. EL. 651.6
F.G. EL. 652.6

NOTES:

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RCC AUXILIARY SPILLWAY LIFT SCHEMATIC (4 OF 7)

FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
PLUM CREEK WATERSHED
IN
HAYS COUNTY, TEXAS

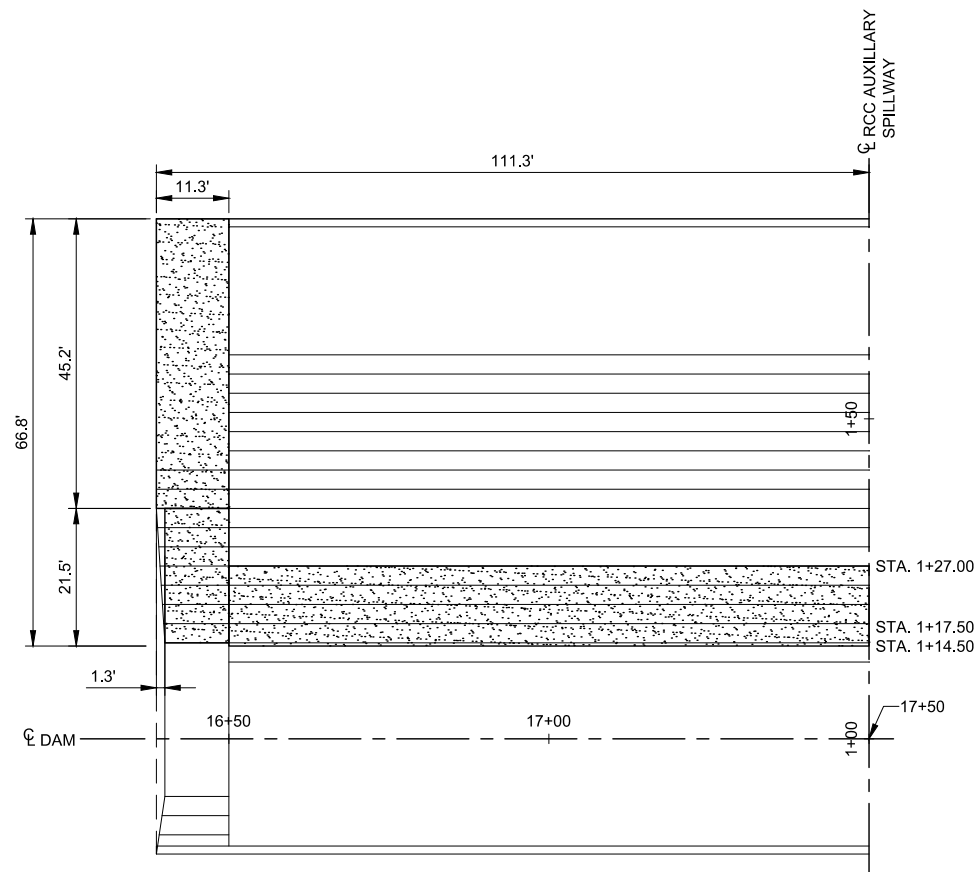
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SHEET NO. 52
OF 71

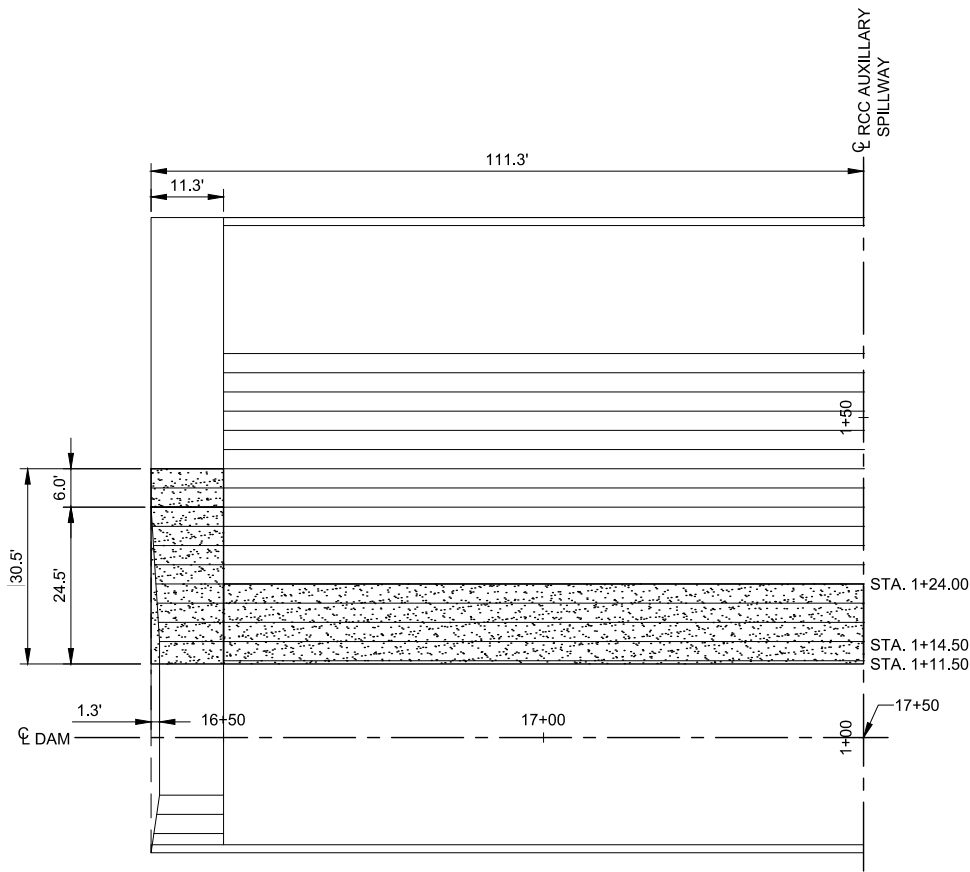


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DATE CHECKED: 7/8/2021

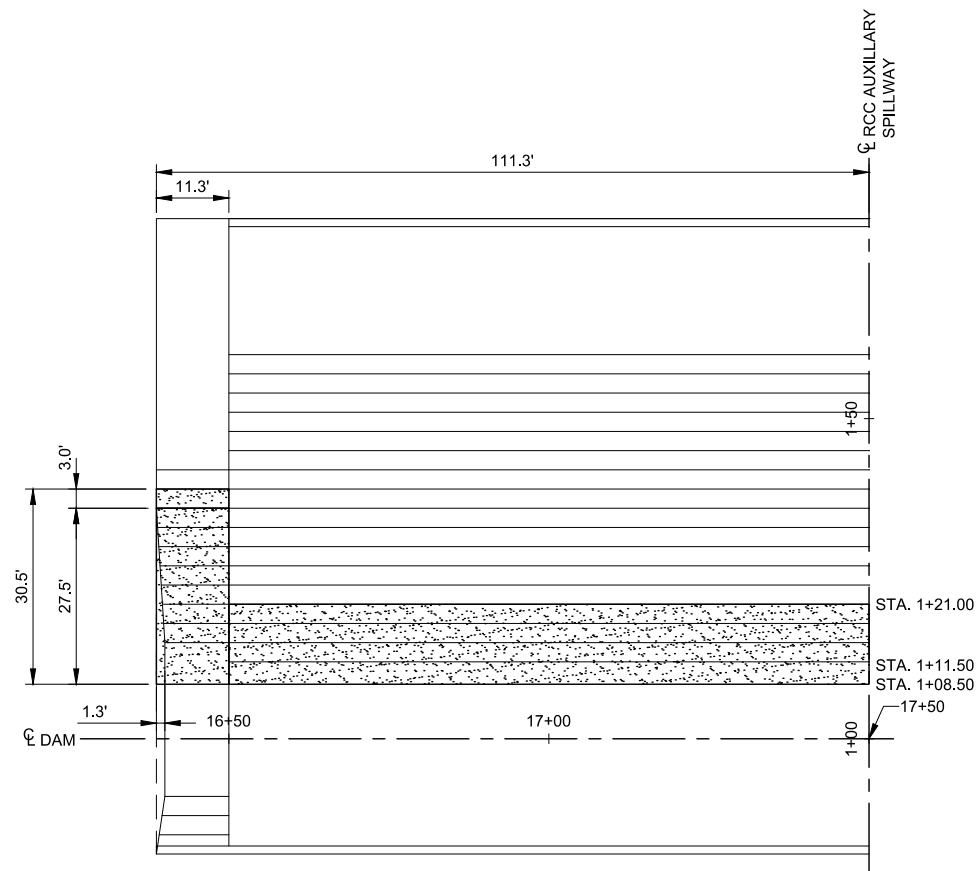
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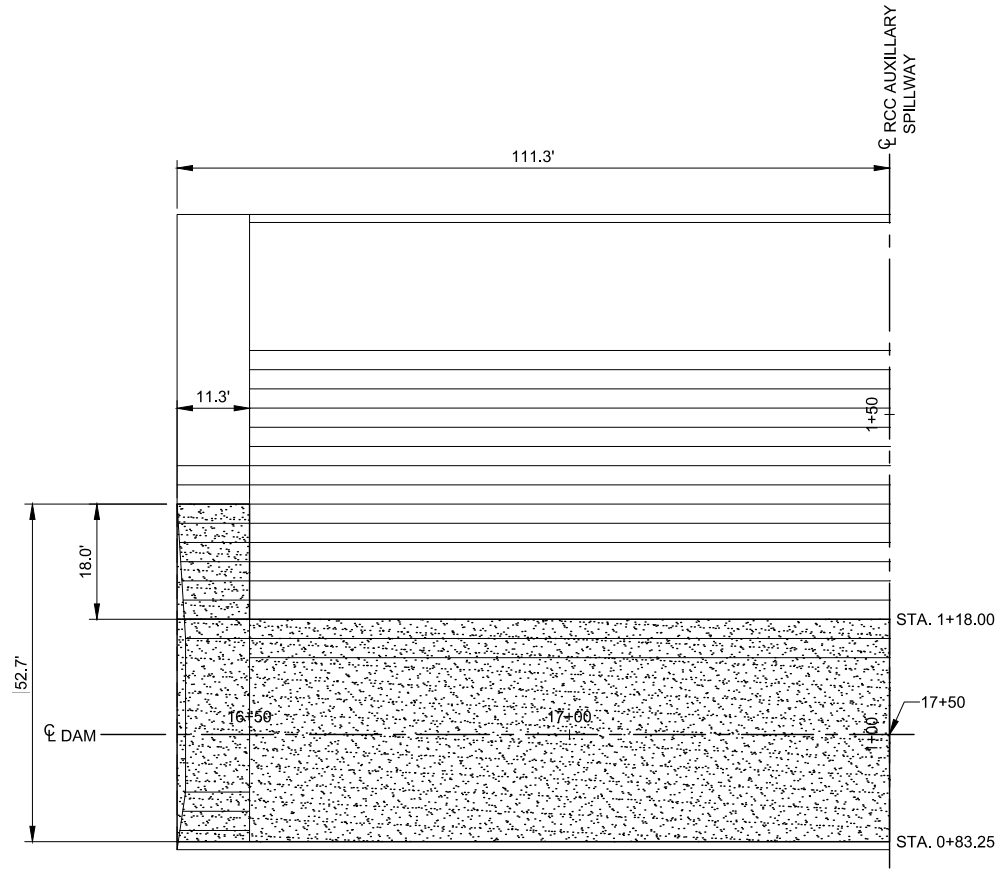
PARTIAL PLAN - RCC LAYER 15 (15) S.G. EL. 652.6
F.G. EL. 653.6



PARTIAL PLAN - RCC LAYER 16 (16) S.G. EL. 653.6
F.G. EL. 654.6



PARTIAL PLAN - RCC LAYER 17 (17) S.G. EL. 654.6
F.G. EL. 655.6



PARTIAL PLAN - RCC LAYER 18 (18) S.G. EL. 655.6
F.G. EL. 656.6

NOTES:

1. ALL LAYERS SHOWN ARE SYMMETRIC ABOUT CENTERLINE UNLESS OTHERWISE NOTED.
2. ALL LAYERS SHALL BE CONSTRUCTED OF ONE (1) 12" LIFT AND BE 12" THICK AFTER COMPACTION UNLESS OTHERWISE NOTED (REFER TO CONSTRUCTION SPECIFICATION 36).
3. THE LAYER SEQUENCE SHOWN ON THIS SHEET IS A LOGICAL PROGRESSION FOR THE PLACEMENT OF THE ROLLER COMPACTED CONCRETE FOR THE CONSTRUCTION OF THE R.C.C. CHUTE SPILLWAY. ACTUAL ORDER AND LIMITS MAY VARY ONLY AS PERMITTED BY THE ENGINEER.
4. S.G. = SUBGRADE; F.G. = FINISHED GRADE

REVISIONS		
DATE	APPROVED	TITLE

RCC AUXILIARY SPILLWAY LIFT SCHEMATIC (5 OF 7)

FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
PLUM CREEK WATERSHED
IN
HAYS COUNTY, TEXAS

**Texas State
Soil & Water
Conservation Board**
AECOM Technical Services, Inc.
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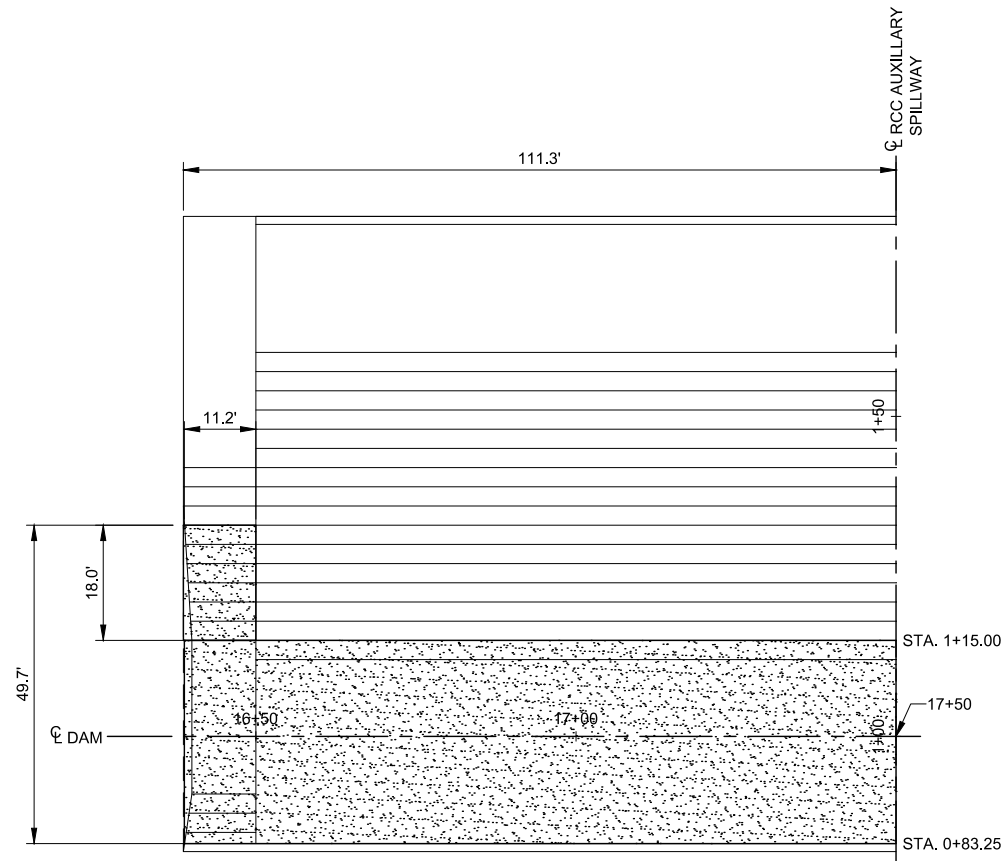


SHEET NO. 53
OF 71

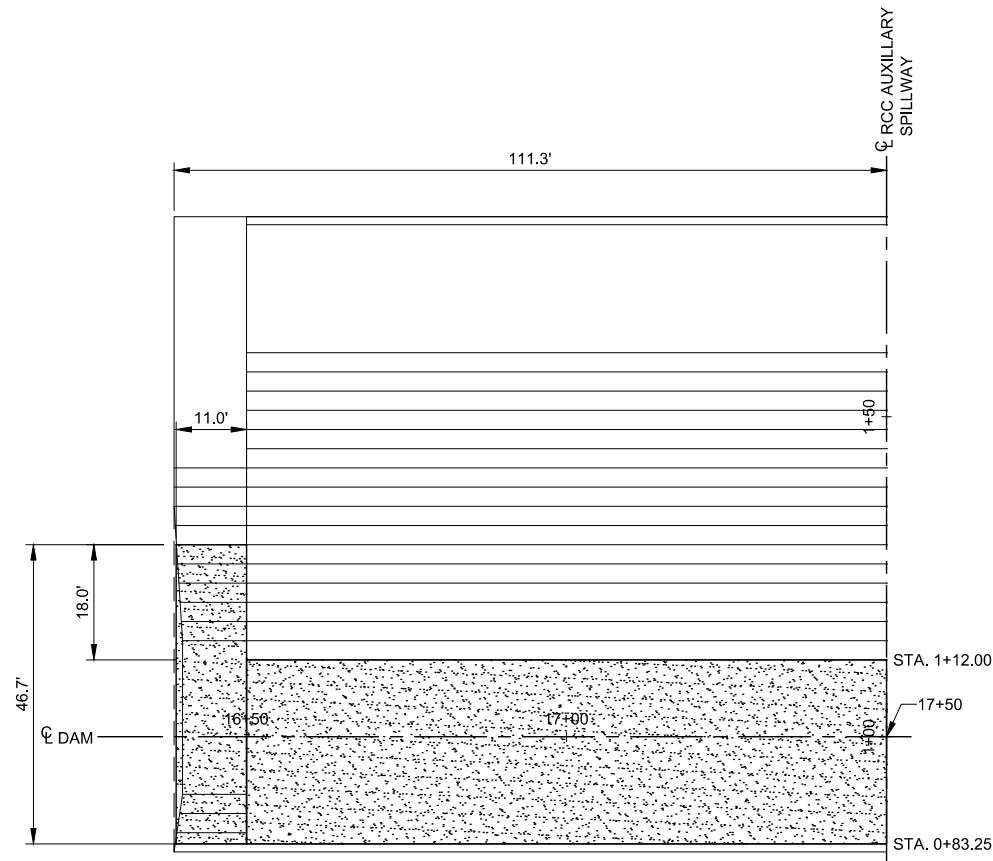
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DRAWN BY: JAM
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DATE CHECKED: 7/8/2021



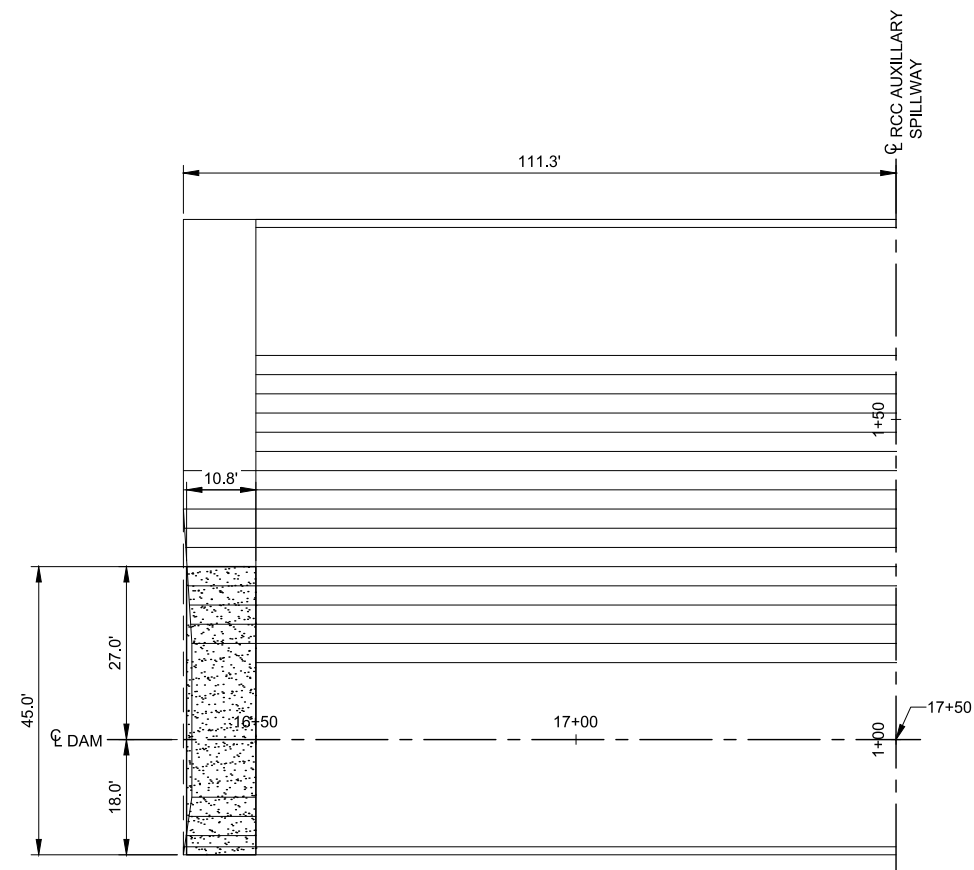
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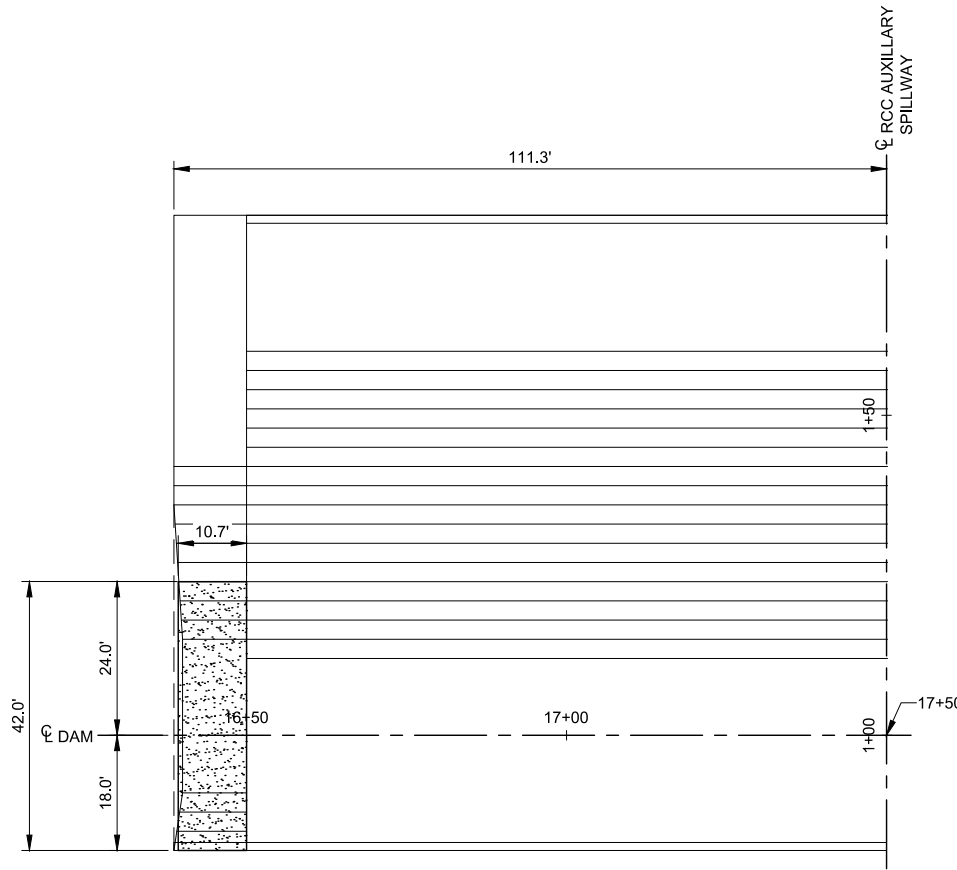
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F.G. EL. 657.6



PARTIAL PLAN - RCC LAYER 20 (20) S.G. EL. 657.6
F.G. EL. 658.6



PARTIAL PLAN - RCC LAYER 21 (21) S.G. EL. 658.6
F.G. EL. 659.6



PARTIAL PLAN - RCC LAYER 22 (22) S.G. EL. 659.6
F.G. EL. 660.6

NOTES:

1. ALL LAYERS SHOWN ARE SYMMETRIC ABOUT CENTERLINE UNLESS OTHERWISE NOTED.
2. ALL LAYERS SHALL BE CONSTRUCTED OF ONE (1) 12" LIFT AND BE 12" THICK AFTER COMPACTION UNLESS OTHERWISE NOTED (REFER TO CONSTRUCTION SPECIFICATION 36).
3. THE LAYER SEQUENCE SHOWN ON THIS SHEET IS A LOGICAL PROGRESSION FOR THE PLACEMENT OF THE ROLLER COMPACTED CONCRETE FOR THE CONSTRUCTION OF THE R.C.C. CHUTE SPILLWAY. ACTUAL ORDER AND LIMITS MAY VARY ONLY AS PERMITTED BY THE ENGINEER.
4. S.G. = SUBGRADE; F.G. = FINISHED GRADE

REVISIONS		
DATE	APPROVED	TITLE

RCC AUXILIARY SPILLWAY LIFT SCHEMATIC (6 OF 7)

FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
PLUM CREEK WATERSHED
IN
HAYS COUNTY, TEXAS

Texas State
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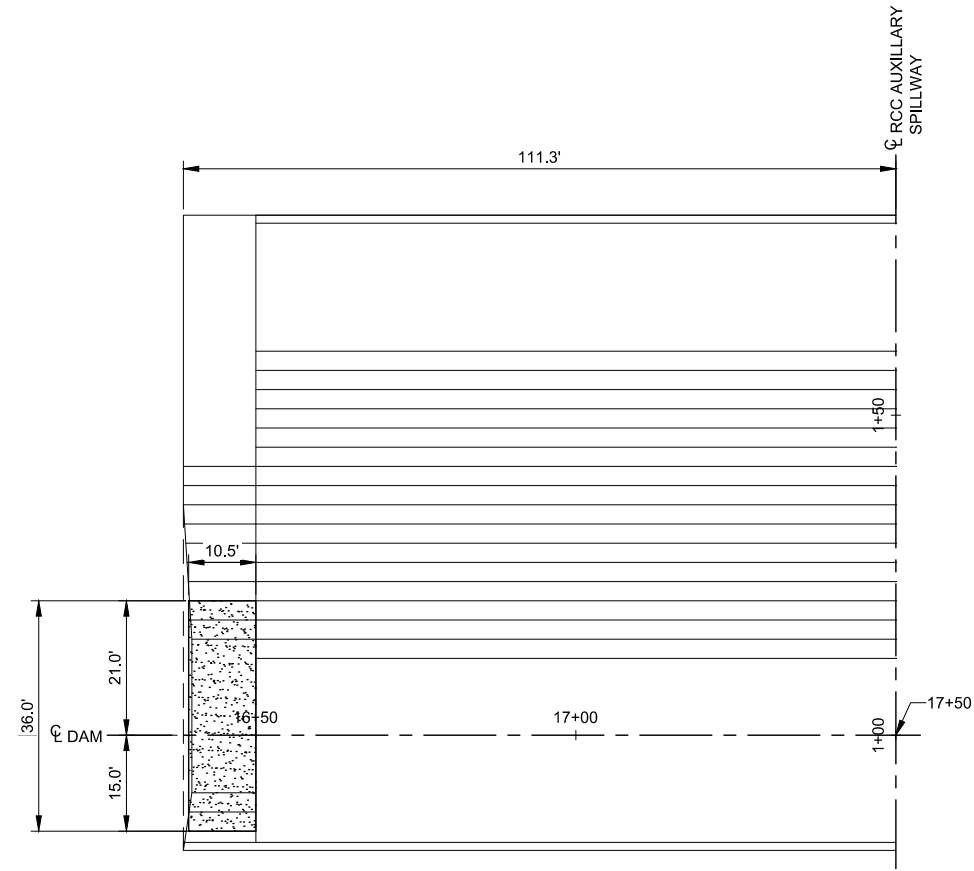
SHEET NO.
54
OF
71

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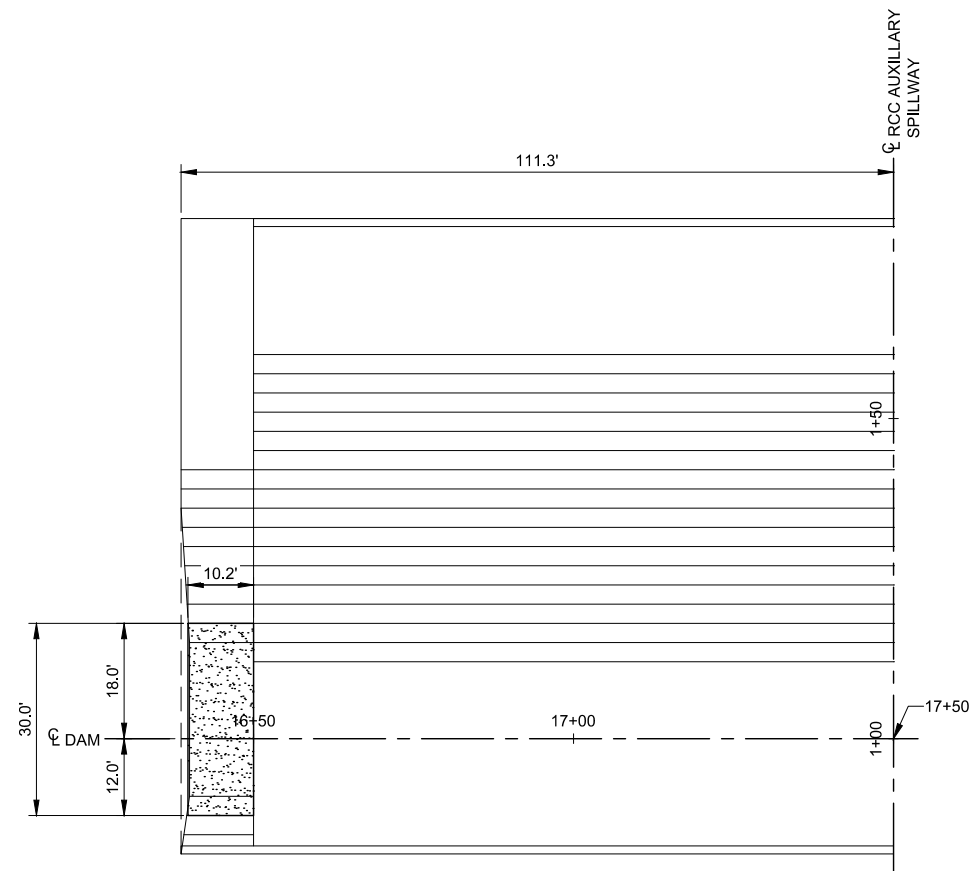


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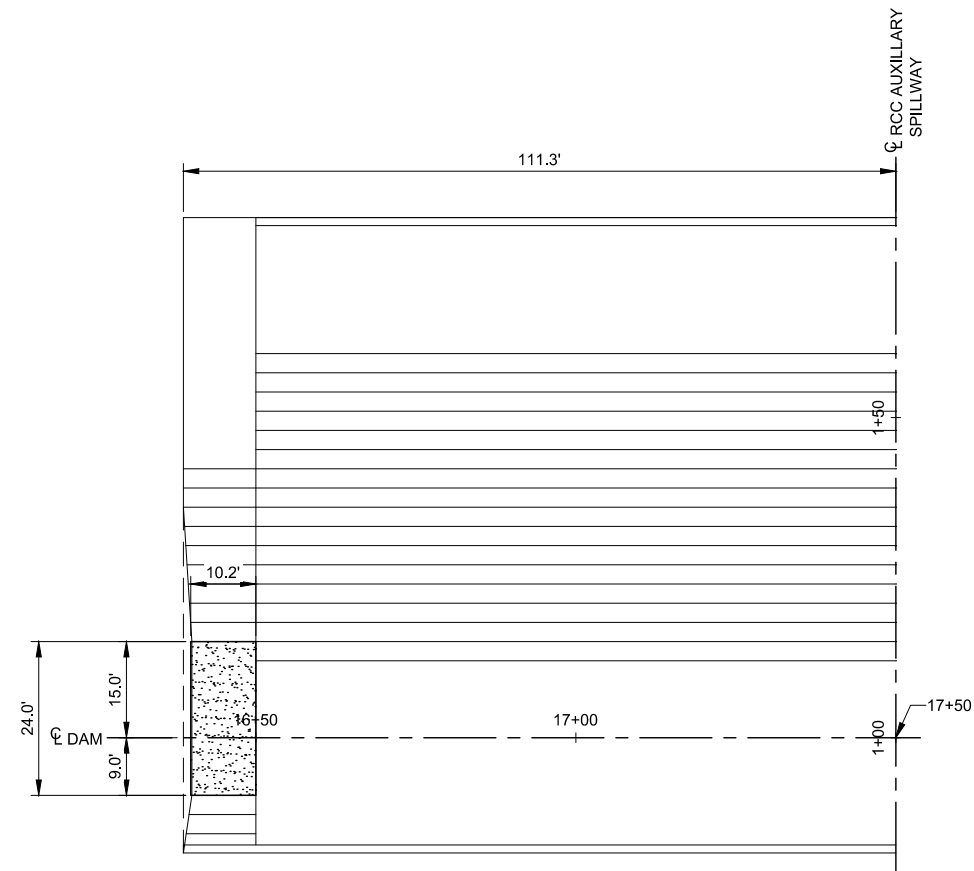
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PARTIAL PLAN - RCC LAYER 23 S.G. EL. 660.6
F.G. EL. 661.6



PARTIAL PLAN - RCC LAYER 24 S.G. EL. 661.6
F.G. EL. 662.6



PARTIAL PLAN - RCC LAYER 25 S.G. EL. 662.6
F.G. EL. 663.6

NOTES:

- ALL LAYERS SHOWN ARE SYMMETRIC ABOUT CENTERLINE UNLESS OTHERWISE NOTED.
- ALL LAYERS SHALL BE CONSTRUCTED OF ONE (1) 12" LIFT AND BE 12" THICK AFTER COMPACTION UNLESS OTHERWISE NOTED (REFER TO CONSTRUCTION SPECIFICATION 36).
- THE LAYER SEQUENCE SHOWN ON THIS SHEET IS A LOGICAL PROGRESSION FOR THE PLACEMENT OF THE ROLLER COMPACTED CONCRETE FOR THE CONSTRUCTION OF THE R.C.C. CHUTE SPILLWAY. ACTUAL ORDER AND LIMITS MAY VARY ONLY AS PERMITTED BY THE ENGINEER.
- S.G. = SUBGRADE; F.G. = FINISHED GRADE

REVISIONS		
DATE	APPROVED	TITLE



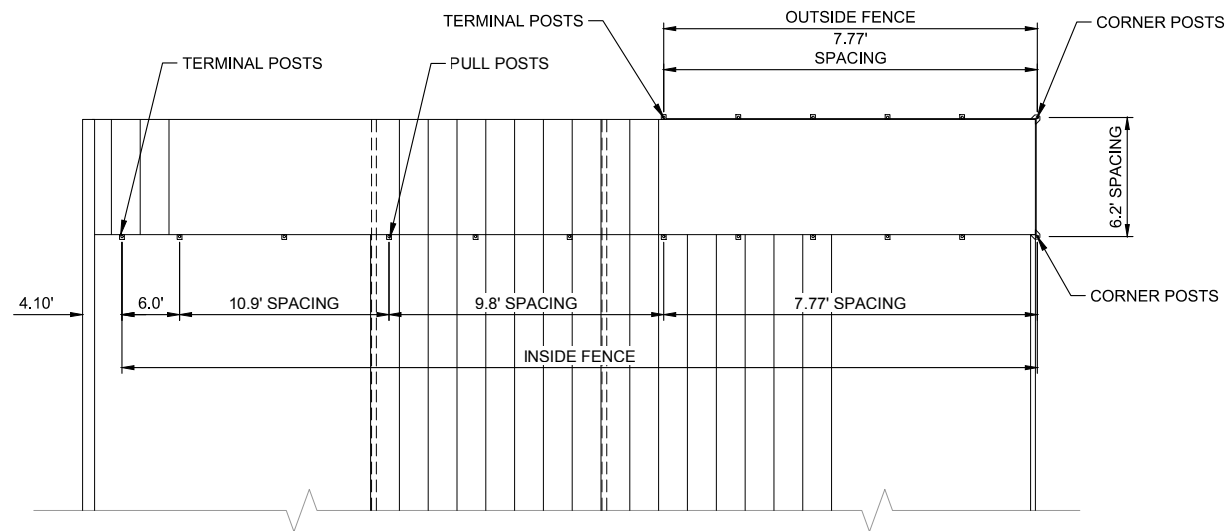
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 DATE CHECKED: 7/8/2021

RCC AUXILIARY SPILLWAY LIFT SCHEMATIC (7 OF 7)

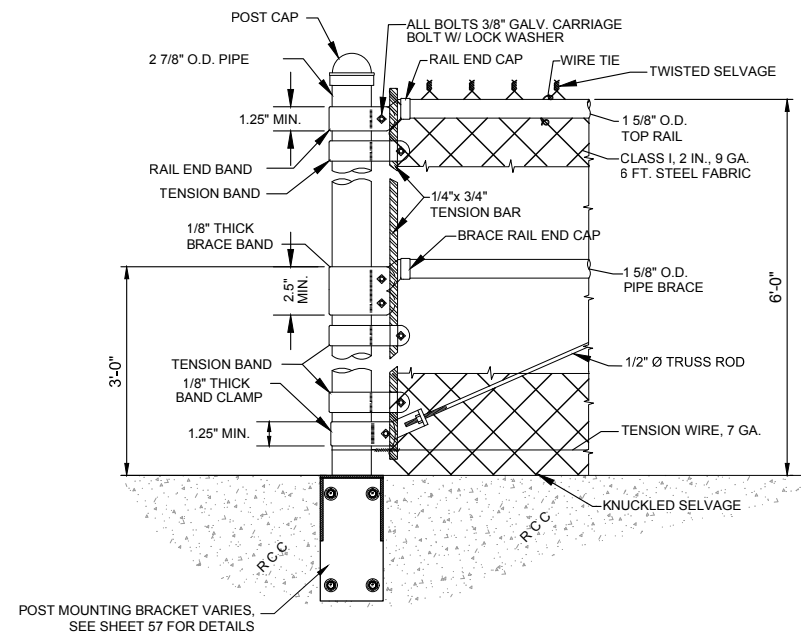
FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
 IN
 PLUM CREEK WATERSHED
 HAYS COUNTY, TEXAS

Texas State Soil & Water Conservation Board
 AECOM Technical Services, Inc.
 9400 Ambeglen Blvd
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SHEET NO. 55 OF 71



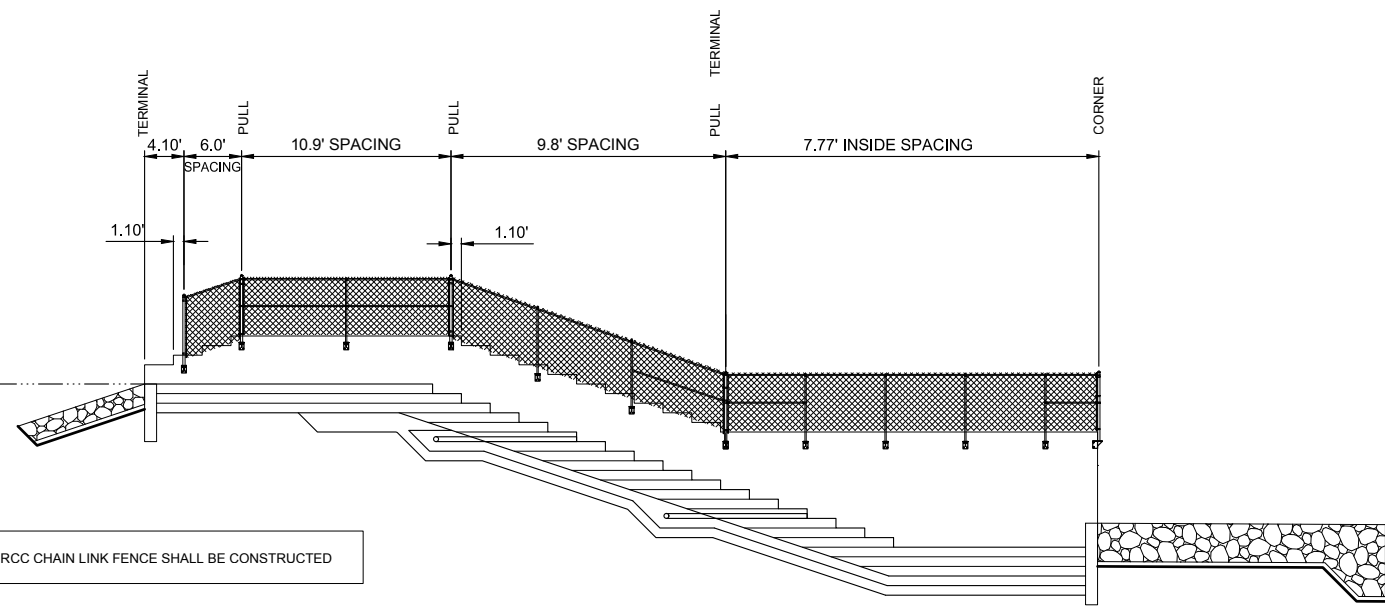
RCC SPILLWAY FENCE - PARTIAL PLAN (LEFT WALL SHOWN)
 RCC FENCING IS SYMMETRICAL ABOUT SPILLWAY CENTERLINE - RIGHT WALL FENCING IS OPPOSITE HAND OF LEFT WALL
 SCALE AS SHOWN



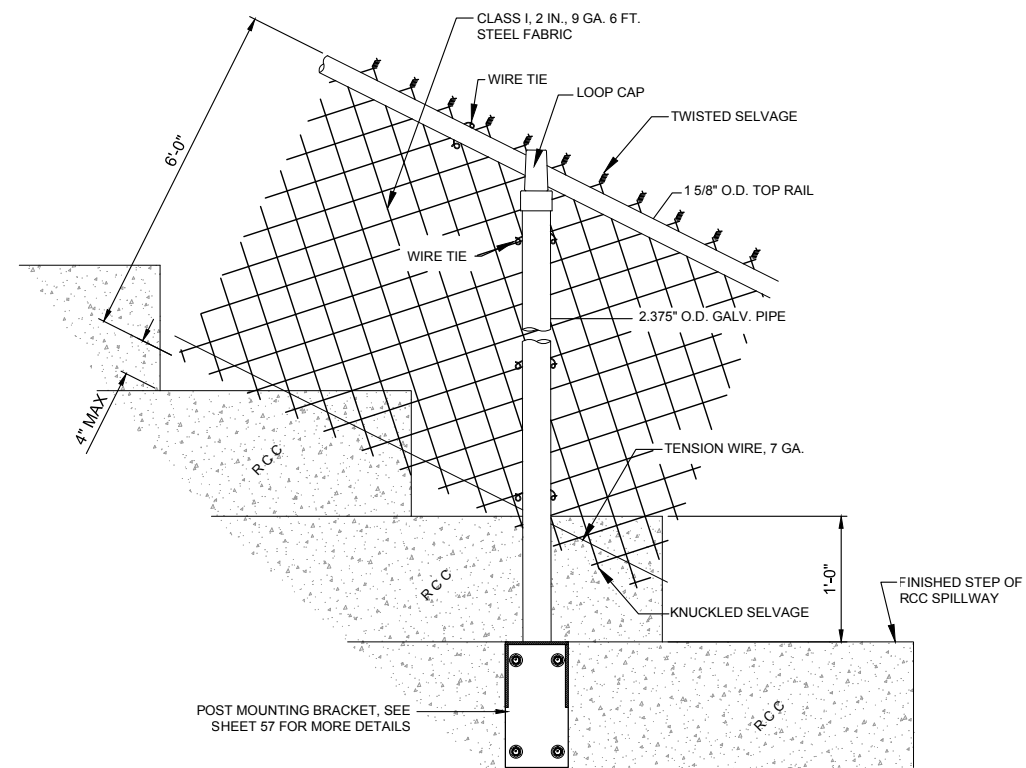
POST DETAIL
 (CORNER, PULL & TERMINAL POST)
 (NOT TO SCALE)

NOTES:

1. WIRE TIES SHALL HAVE MAX. SPACING OF 24 INCHES ON TOP RAIL AND 12 INCHES ON LINE POSTS.
2. TIE WIRE SHALL BE MIN. 9 GAUGE STEEL GALV. WIRE.
3. FOUR (4) 12 GA. TENSION BANDS SHALL BE USED PER TENSION BAR.
4. TENSION WIRE SHALL BE MARCELLED (SPIRAL OR CRIMP) #7 GAUGE AS PER ASTM A 824, TYPE II ZINC-COAT CLASS 2.
5. FENCE FABRIC SHALL BE PLACED BETWEEN THE INSTALLED POSTS AND THE RCC
6. FINAL FENCE LAYOUT SHALL BE APPROVED BY THE ENGINEER.



RCC SPILLWAY FENCE - INSIDE FENCE ELEVATION (LEFT WALL SHOWN)
 SCALE AS SHOWN
 (1:1 H:V)



LINE POST DETAIL
 (NOT TO SCALE)



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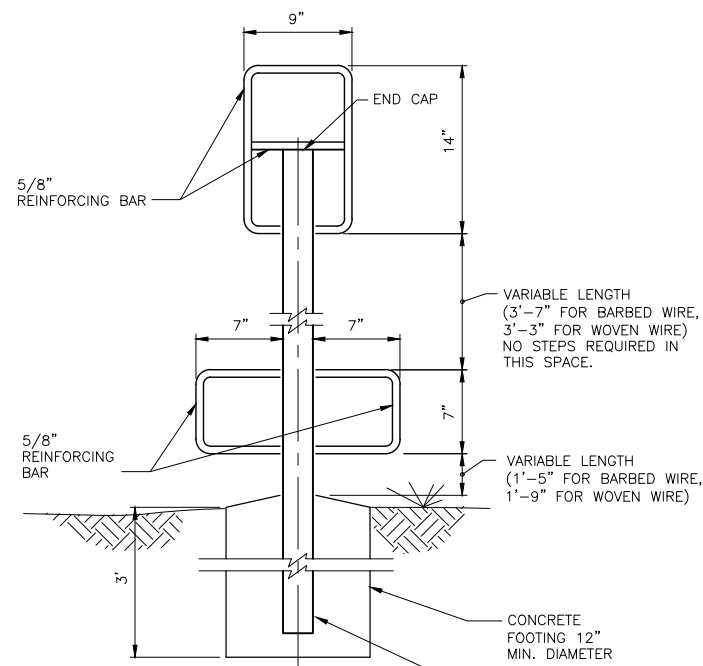
RCC SPILLWAY FENCE DETAILS
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
 IN PLUM CREEK WATERSHED
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SHEET NO. 56
 OF 71

REVISIONS		
DATE	APPROVED	TITLE

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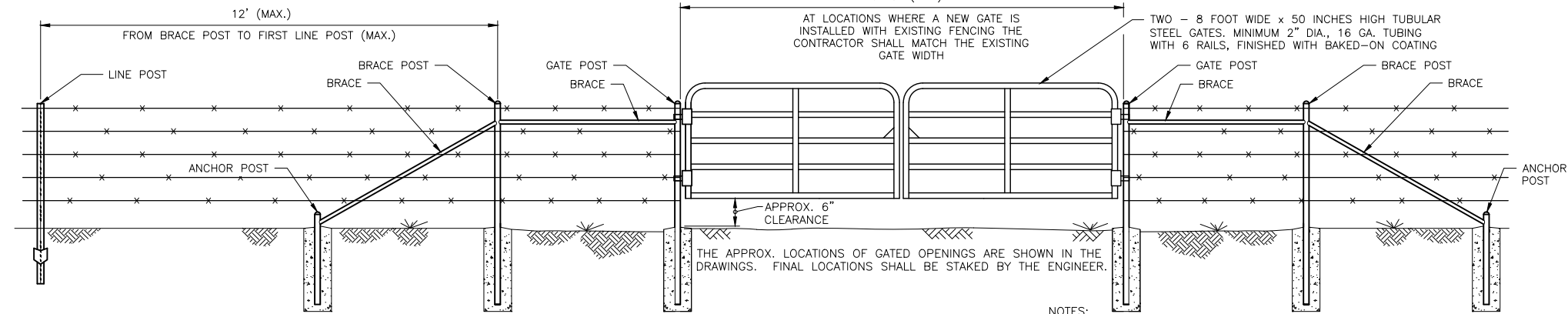


STILE DETAIL

NOT TO SCALE
(ONE (1) REQUIRED)

NOTE:

1. POSITION STILE SO THAT STEPS AND HANDLE ARE PERPENDICULAR TO ALIGNMENT OF FENCE.
2. ALL BAR BENDS SHOWN SHALL HAVE AN INSIDE RADIUS OF APPROX. 1/2"
3. PIPE FOR STILE SHALL BE 2.875" O.D. SCHEDULE 40 STEEL PIPE.
4. ALL BAR CONNECTIONS SHALL HAVE ALL AROUND FILLET WELD.
5. ATTACH END CAP TO PIPE WITH ALL AROUND WELD, AND BAR TO END CAP BY WELDING BOTH SIDES.
6. GALVANIZE STILE AFTER FABRICATION.
7. STILE LOCATION WILL BE DESIGNATED BY THE ENGINEER DURING FENCE LAYOUT.

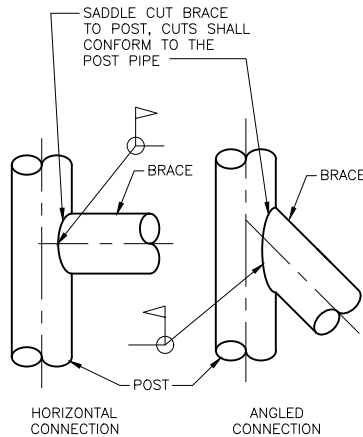


16' GATE OPENING

NOT TO SCALE
(NINE (9) OPENINGS REQUIRED)

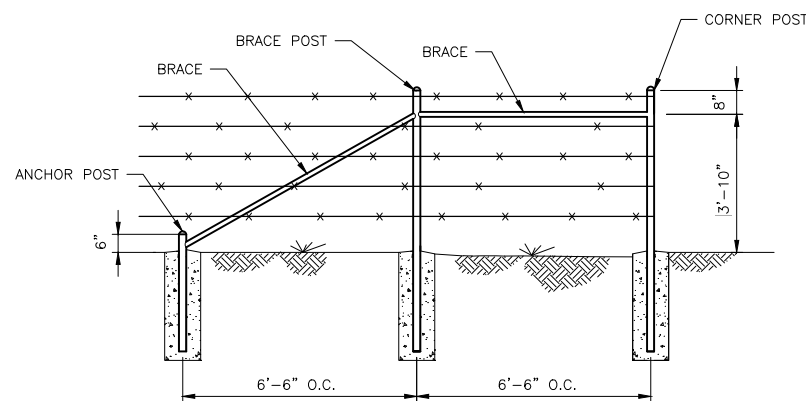
NOTES:

1. IN LIEU OF TWO 8-FOOT GATES ONE, 16-FOOT WIDE GATE MAY BE USED.
2. TEE POSTS SHALL MEET THE REQUIREMENTS OF ASTM A702 WITH TWO COATS OF PAINT. ALL LINE POST SHALL BE THE SAME COLOR.
3. PIPE POSTS AND BRACES SHALL MEET THE REQUIREMENTS OF ASTM A500 OR ASTM A53, EXCEPT SECTION B, HYDROSTATIC TEST SHALL NOT APPLY.
4. GALVANIZATION OF GATE/CORNER POSTS, BRACE POSTS, ANCHOR POSTS, BRACES, AND CAPS SHALL NOT BE REQUIRED.
5. GATE POSTS, CORNER POSTS, BRACE POSTS, ANCHOR POSTS, AND PULL POSTS SHALL BE 2.875" O.D.
6. BRACES AND LINE POSTS SHALL BE MIN. 2.375" O.D.. ALL POSTS AND BRACES SHALL BE SCHEDULE 40 PIPE.



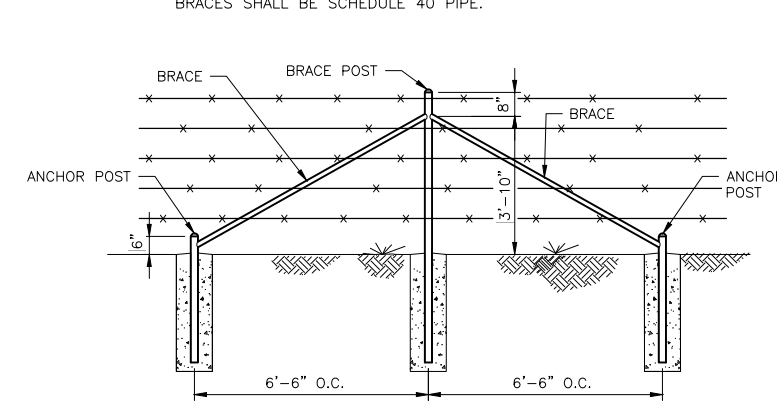
**ELEVATION VIEW
POST DETAILS**

NOT TO SCALE



CORNER PANEL

NOT TO SCALE

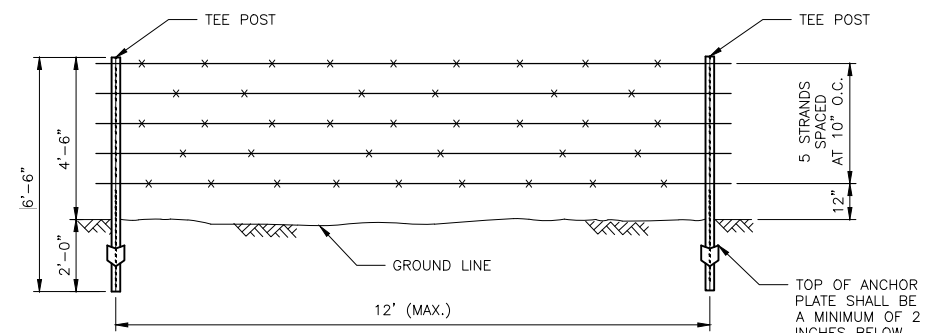


PULL PANEL

NOT TO SCALE

PULL PANEL NOTE:

1. AS AN OPTION, A CORNER PANEL ASSEMBLY MAY BE USED AS A PULL PANEL IF AN ADDITIONAL DIAGONAL BRACE AND ANCHOR POST ARE ADDED TO THE CORNER POST IN OPPOSITION TO THE DIAGONAL BRACE SHOWN. THE ORIENTATION OF THE NEW DIAGONAL BRACE AND ANCHOR POST SHALL BE WITHIN THE PLANE OF PULL OF THE CONSTRUCTED FENCELINE.



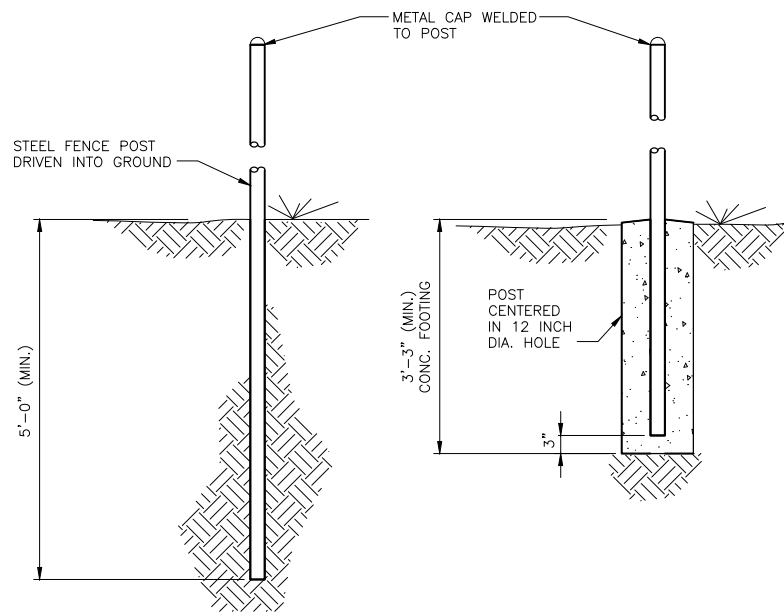
5-STRAND BARBED WIRE

NOT TO SCALE

THE APPROX. LOCATION OF FENCES TO BE CONSTRUCTED ARE SHOWN ON SHEET 5.
THE FINAL LOCATION OF THE FENCES SHALL BE STAKED BY THE ENGINEER.

DRIVE EMBEDMENT NOTES:

1. DRIVE STEEL CORNER, BRACE, AND GATE POSTS TO THE MINIMUM DEPTH SHOWN.
2. IN THE EVENT THAT DRIVING OPERATIONS DO NOT ACHIEVE THE MINIMUM DEPTH SHOWN, THE POST SHALL BE REMOVED AND REPLACED IN ACCORDANCE WITH THE CONCRETE EMBEDMENT OPTION DETAIL.
3. AT CHANGES IN VERTICAL ALIGNMENT, SUCH AS CROSSING OF STUB DIVERSIONS, LINE POSTS OR PULL PANEL POSTS THAT RESTRAIN UPWARD PULL OF THE FENCE STRANDS SHALL BE ANCHORED BY SETTING SUCH POST IN 18" OF CONCRETE. THE ENGINEER WILL DESIGNATE THE LOCATIONS WHERE THIS ANCHORAGE TREATMENT IS REQUIRED.



DRIVE EMBEDMENT OPTION

DETAIL

NOT TO SCALE

CONCRETE EMBEDMENT OPTION

DETAIL

NOT TO SCALE

CONCRETE EMBEDMENT NOTES:

1. SET STEEL CORNER, BRACE, AND GATE POSTS IN CONCRETE AS SHOWN.
2. IF SOUND ROCK IS ENCOUNTERED THE DRILL HOLE MAY BE A MINIMUM OF 6" IN DIAMETER.
3. UNLESS OTHERWISE STATED OR APPROVED BY THE ENGINEER THE CONCRETE FOR THE FOOTING SHALL HAVE A MINIMUM STRENGTH OF 3,000 PSI AT 28 DAYS.
4. CONCRETE SHALL BE MIXED PRIOR TO PLACEMENT.
5. AT CHANGES IN VERTICAL ALIGNMENT, SUCH AS CROSSING OF STUB DIVERSIONS, LINE POSTS OR PULL PANEL POSTS THAT RESTRAIN UPWARD PULL OF THE FENCE STRANDS SHALL BE ANCHORED BY SETTING SUCH POST IN 18" OF CONCRETE. THE ENGINEER WILL DESIGNATE THE LOCATIONS WHERE THIS ANCHORAGE TREATMENT IS REQUIRED.

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DRAWN BY: JAM
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FILE NAME: Plum 2 - Sht 58.dwg
DATE CHECKED: 7/8/2021

FENCE DETAILS
FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
PLUM CREEK WATERSHED
IN
HAYS COUNTY, TEXAS

**Texas State
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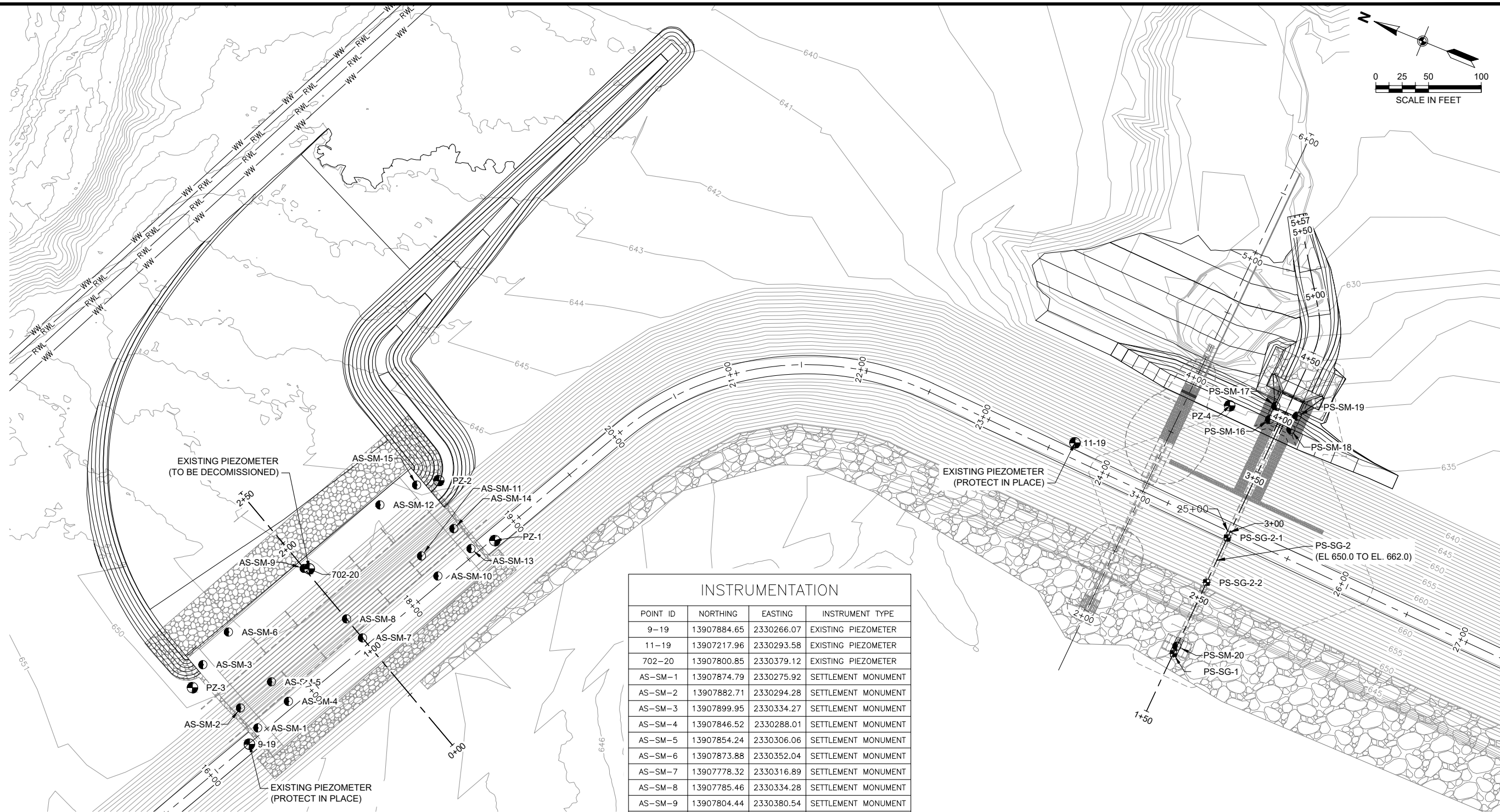
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SHEET NO. 58
OF 71

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INSTRUMENTATION			
POINT ID	NORTHING	EASTING	INSTRUMENT TYPE
9-19	13907884.65	2330266.07	EXISTING PIEZOMETER
11-19	13907217.96	2330293.58	EXISTING PIEZOMETER
702-20	13907800.85	2330379.12	EXISTING PIEZOMETER
AS-SM-1	13907874.79	2330275.92	SETTLEMENT MONUMENT
AS-SM-2	13907882.71	2330294.28	SETTLEMENT MONUMENT
AS-SM-3	13907899.95	2330334.27	SETTLEMENT MONUMENT
AS-SM-4	13907846.52	2330288.01	SETTLEMENT MONUMENT
AS-SM-5	13907854.24	2330306.06	SETTLEMENT MONUMENT
AS-SM-6	13907873.88	2330352.04	SETTLEMENT MONUMENT
AS-SM-7	13907778.32	2330316.89	SETTLEMENT MONUMENT
AS-SM-8	13907785.46	2330334.28	SETTLEMENT MONUMENT
AS-SM-9	13907804.44	2330380.54	SETTLEMENT MONUMENT
AS-SM-10	13907709.49	2330344.24	SETTLEMENT MONUMENT
AS-SM-11	13907716.68	2330362.50	SETTLEMENT MONUMENT
AS-SM-12	13907735.00	2330409.03	SETTLEMENT MONUMENT
AS-SM-13	13907679.20	2330356.40	SETTLEMENT MONUMENT
AS-SM-14	13907687.00	2330374.80	SETTLEMENT MONUMENT
AS-SM-15	13907703.86	2330414.92	SETTLEMENT MONUMENT
PS-SG-1	13907195.46	2330118.41	STAFF GAUGE
PS-SG-2-1	13907129.70	2330189.69	STAFF GAUGE
PS-SG-2-2	13907155.01	2330162.26	STAFF GAUGE
PS-SM-16	13907071.83	2330265.58	SETTLEMENT MONUMENT
PS-SM-17	13907064.32	2330273.73	SETTLEMENT MONUMENT
PS-SM-18	13907058.72	2330253.49	SETTLEMENT MONUMENT
PS-SM-19	13907051.21	2330261.64	SETTLEMENT MONUMENT
PS-SM-20	13907191.22	2330123.01	STAFF GAUGE
PZ-1	13907660.17	2330356.67	NEW PIEZOMETER
PZ-2	13907686.82	2330413.04	NEW PIEZOMETER
PZ-3	13907912.73	2330320.06	NEW PIEZOMETER
PZ-4	13907097.54	2330284.73	NEW PIEZOMETER

NOTES:

- SEE SHEETS 60 and 61 FOR INSTRUMENTATION DETAILS.
- 9-19 AND 11-19 ARE EXISTING PIEZOMETERS THAT WILL REMAIN. 702-20 IS AN EXISTING PIEZOMETER THAT WILL BE DECOMMISSIONED.
- INSTRUMENTATION IS IDENTIFIED AS FOLLOWS:
 -AS - AUXILIARY SPILLWAY
 -PS - PRINCIPAL SPILLWAY
 -SM - SETTLEMENT MONUMENT
 -SG - STAFF GAUGE
 -PZ - PIEZOMETER

LEGEND:

- STRUCTURE SURVEY/SETTLEMENT MONUMENT (15 REQ'D)
- ⊙ PIEZOMETER (4 REQ'D)
- ⊞ RESERVOIR STAFF GAUGE (2 REQ'D)

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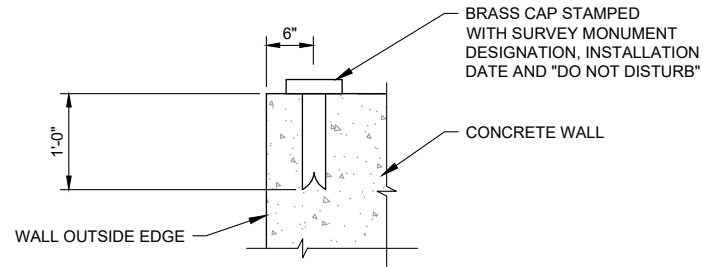
DESIGNED BY: MRD
 DRAWN BY: MDE
 CHECKED BY: LEA
 FILE NAME: Plum 2 - InstrPlan.dwg
 DATE CHECKED: 7/9/2021

PLAN OF INSTRUMENTATION
 FLOODWATER RETAINING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

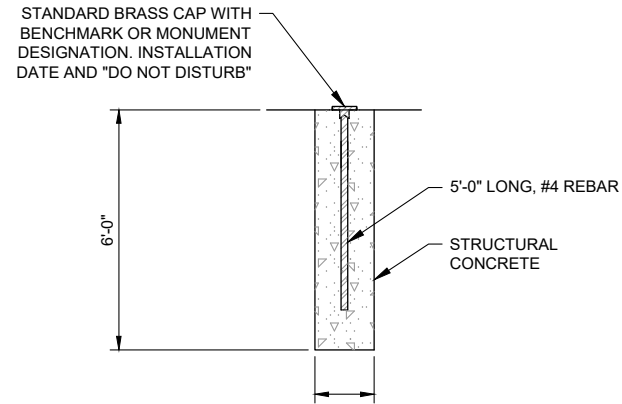
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SHEET NO. 59
 OF 71

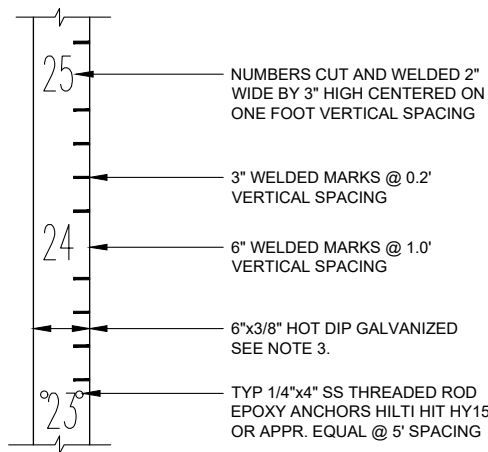
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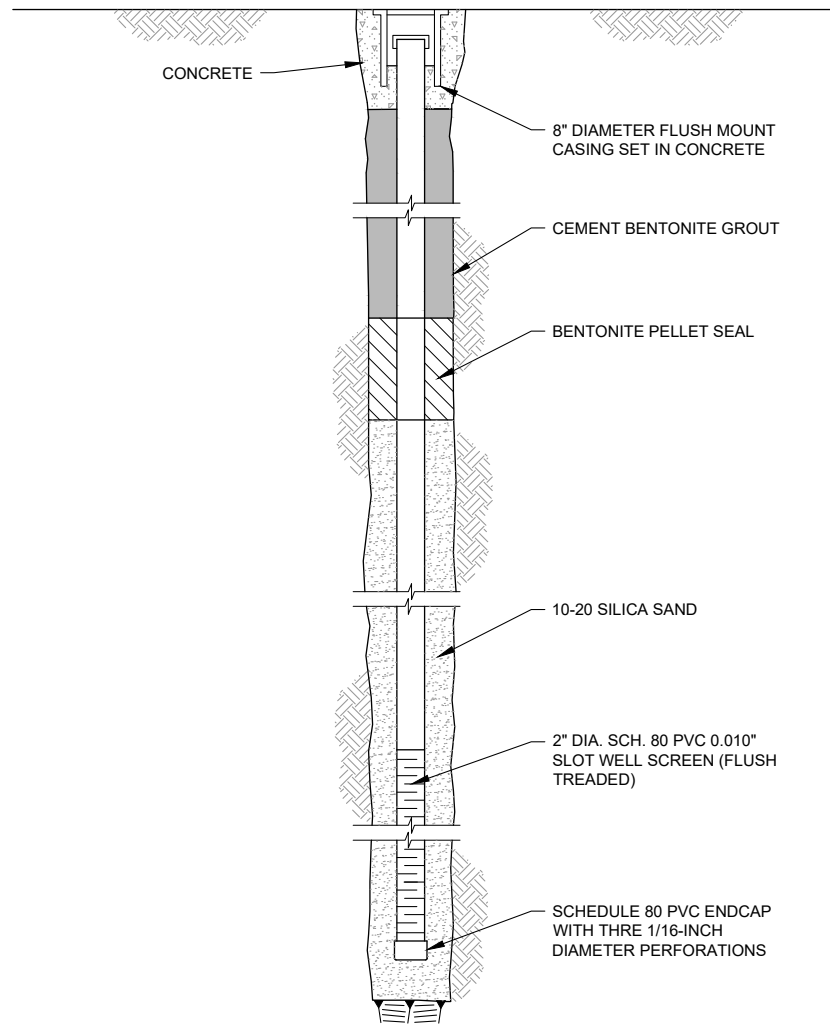
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NTS



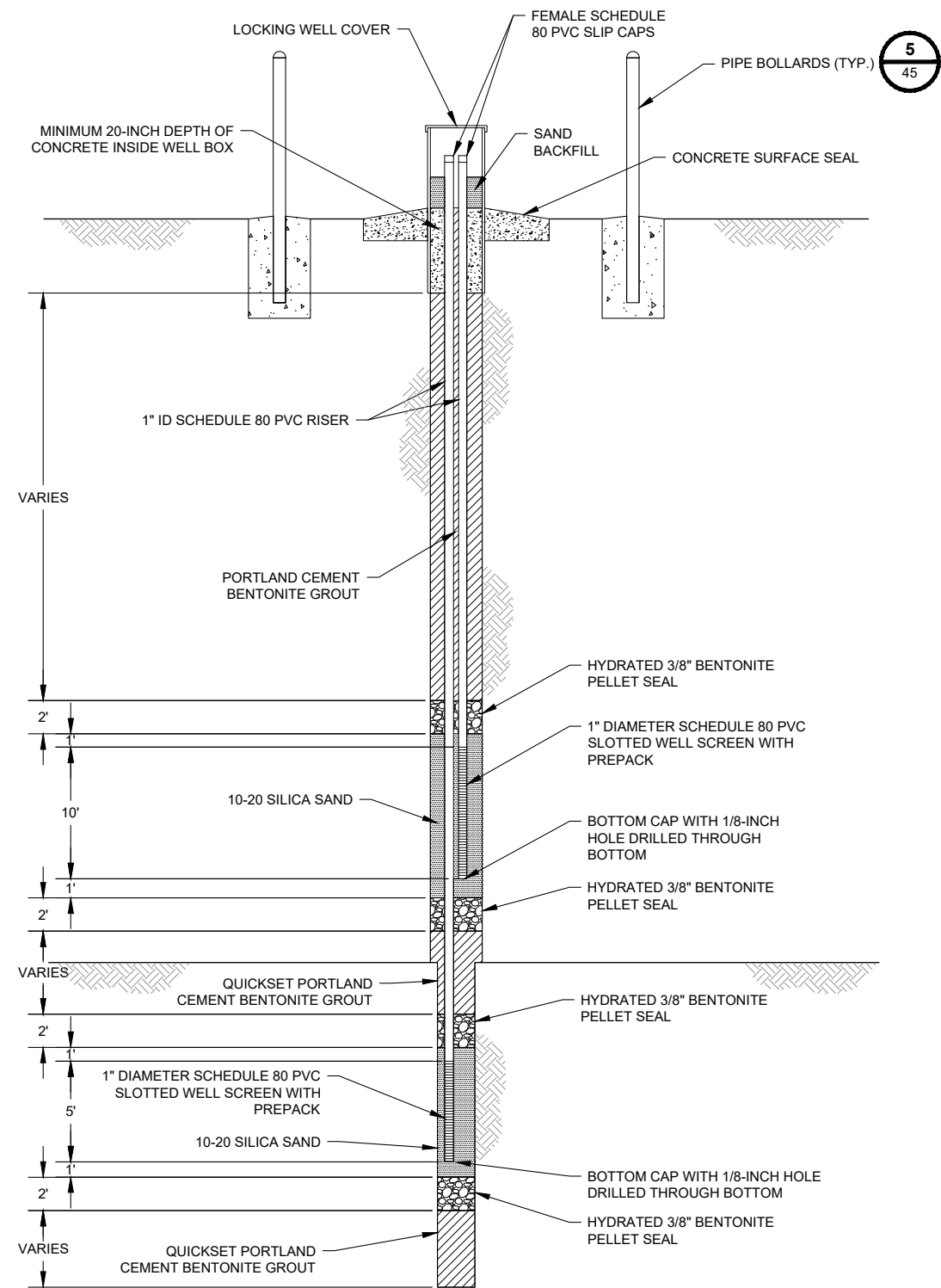
2 BENCHMARK AND MOVEMENT MONUMENTS DETAIL
NTS



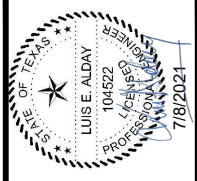
3 RESERVOIR STAFF GAUGE DETAIL (PS-SG-1)
NTS



4 TYPICAL DETAIL OF EXISTING PIEZOMETERS TO BE ABANDONED
NTS



5 TYPICAL PIEZOMETER DETAIL
NTS



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 CHECKED BY: LEA
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INSTRUMENTATION DETAILS (1 OF 2)
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN HAYS COUNTY, TEXAS

Texas State
 Soil & Water
 Conservation Board

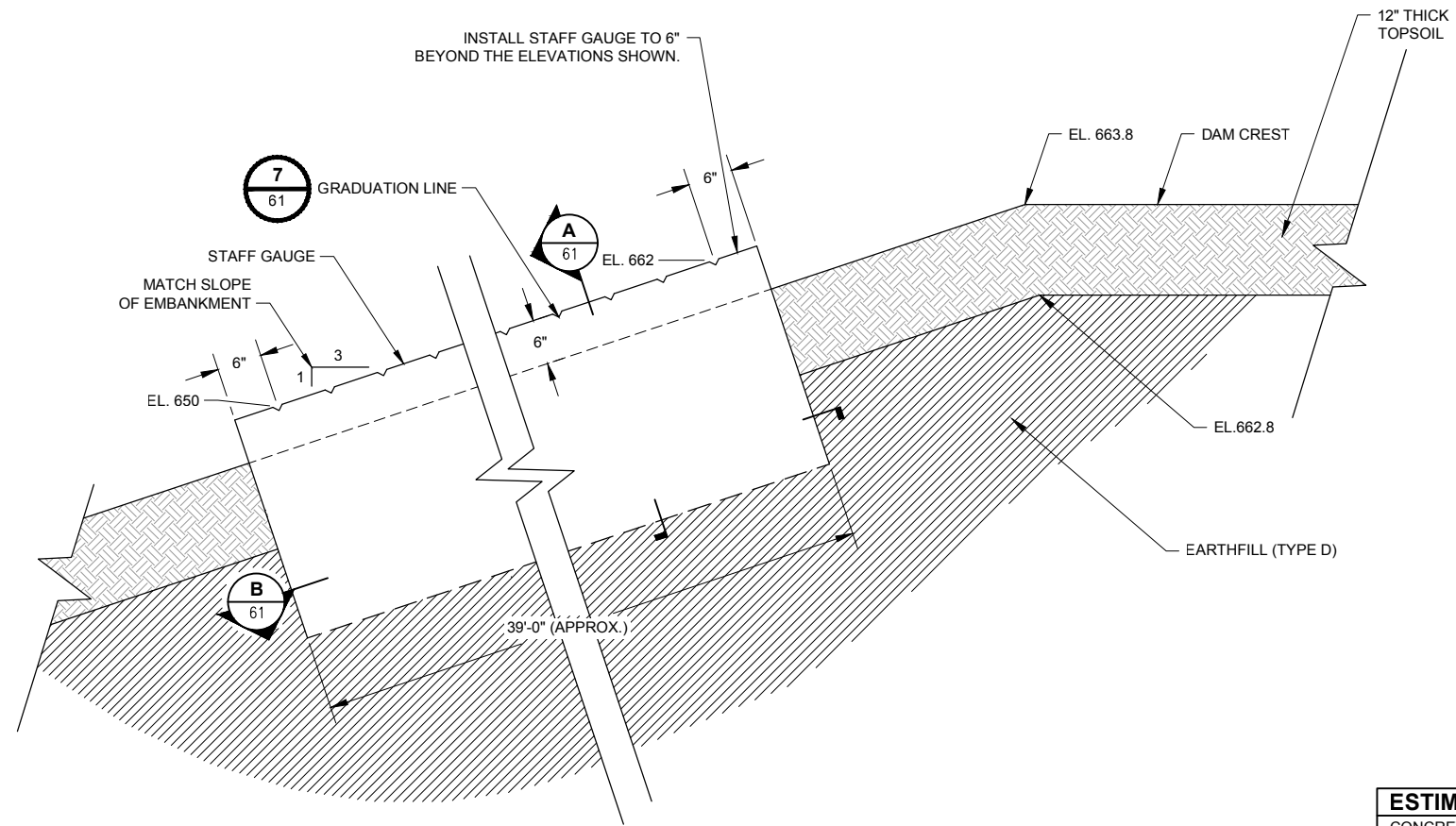
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DATE	APPROVED	TITLE

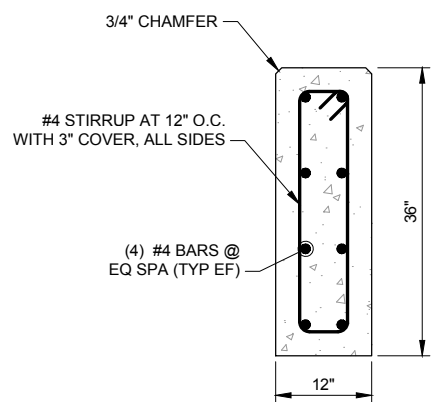
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 OF 71

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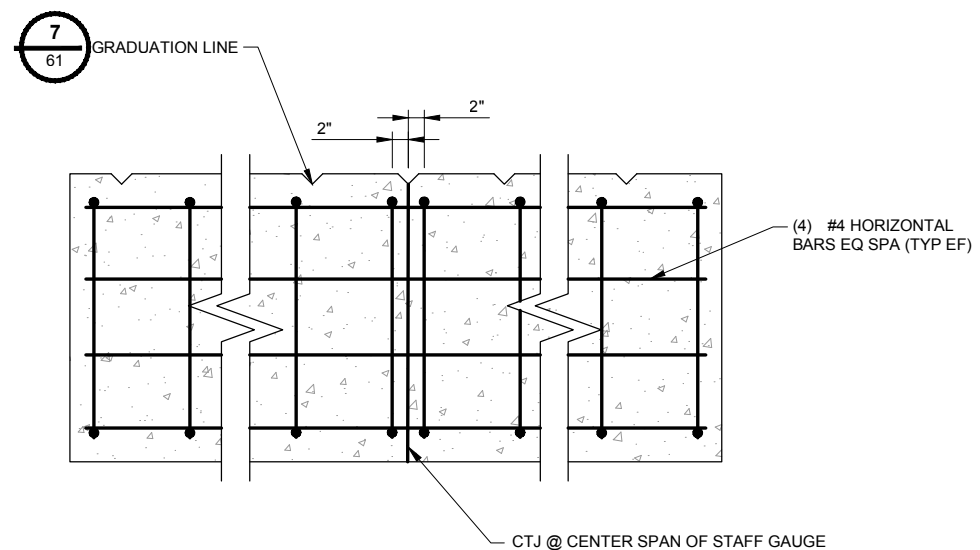


6 STAFF GAUGE DETAIL
NTS

ESTIMATED BILL OF MATERIAL - STAFF GAUGE		
CONCRETE	4.5	CY
REINFORCING STEEL	300	LB

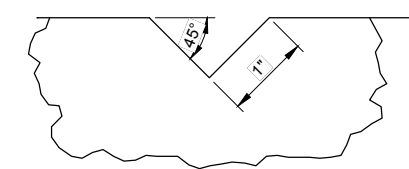


A STAFF GAUGE SECTION
61 NTS

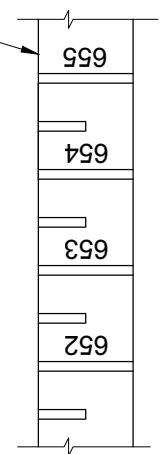


B STAFF GAUGE SECTION
61 NTS

ELEVATIONS TO BE IMPRINTED A MINIMUM OF 1/4" INTO CONCRETE. NUMBERS TO FACE UP SLOPE. NUMBERS SHALL BE A MINIMUM OF 2" HIGH. SEE NOTE 1



7 GRADUATION LINE DETAIL
61 NTS



- NOTES:**
- ELEVATION MARKERS INDENTED INTO CONCRETE AT ONE FOOT AND HALF FOOT VERTICAL INTERVALS. LOCATIONS TO BE SET BY A QUALIFIED SURVEYOR AT 10' VERTICAL INTERVALS PRIOR TO POURING CONCRETE, BUT AFTER FORMS ARE PLACED. INTERMEDIATE VALUES MAY BE SET BY CONTRACTOR WITH PRECISION LEVELING EQUIPMENT.
 - ELEVATIONS SHOWN SHALL BE ACTUAL ELEVATIONS.



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INSTRUMENTATION DETAILS (2 OF 2)
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 REHABILITATION
 PLUM CREEK WATERSHED
 IN HAYS COUNTY, TEXAS

Texas State
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 Conservation Board

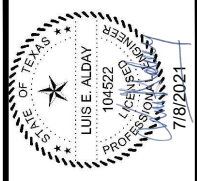
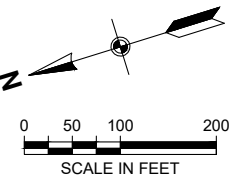
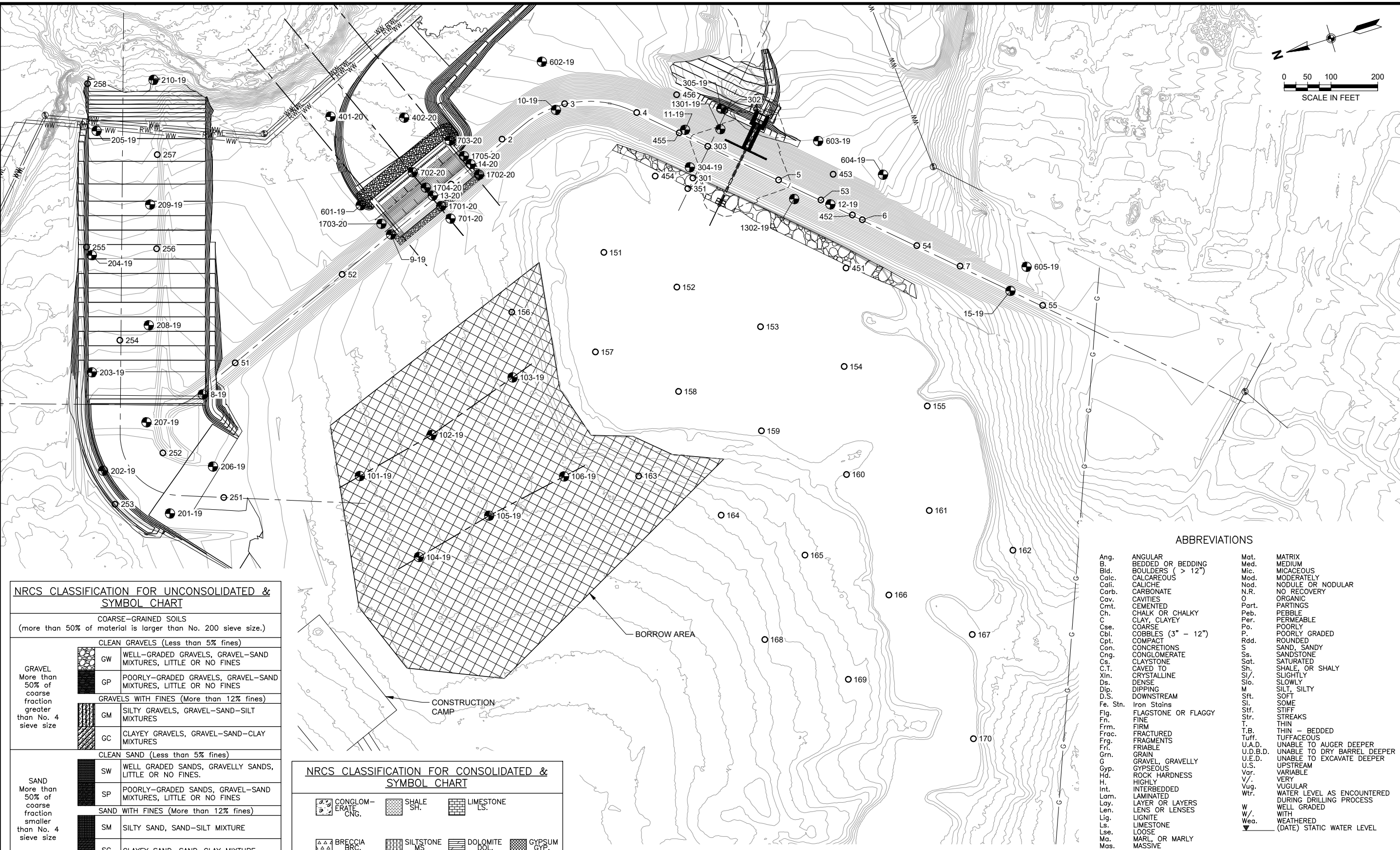
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PLAN OF GEOLOGIC INVESTIGATIONS
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
 HAYS COUNTY, TEXAS

NRCS CLASSIFICATION FOR UNCONSOLIDATED & SYMBOL CHART	
COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)	
CLEAN GRAVELS (Less than 5% fines)	
GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
GRAVELS WITH FINES (More than 12% fines)	
GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
CLEAN SAND (Less than 5% fines)	
SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES.
SP	POORLY-GRADED SANDS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
SAND WITH FINES (More than 12% fines)	
SM	SILTY SAND, SAND-SILT MIXTURE
SC	CLAYEY SAND, SAND-CLAY MIXTURE
FINE-GRAINED SOILS (more than 50% of material is smaller than No. 200 sieve size.)	
SILTS & CLAYS Liquid limit less than 50%	
ML	INORGANIC SILTS WITH SLIGHT PLASTICITY
CL	INORGANIC CLAY WITH LOW OR MEDIUM PLASTICITY, LEAN CLAY
SILTS & CLAYS Liquid limit Greater than 50%	
MH	INORGANIC SILTS WITH ELASTICITY
CH	INORGANIC CLAY WITH HIGH PLASTICITY, FAT CLAY.

NRCS CLASSIFICATION FOR CONSOLIDATED & SYMBOL CHART			
CONGLOMERATE CNG.	SHALE SH.	LIMESTONE LS.	
BRECCIA BRC.	SILTSTONE MS	DOLOMITE DOL.	GYPSUM GYP.
SANDSTONE SS.	CLAYSTONE CS.	CHALK CH.	CHERT CRT.
OTHER SYMBOLS			
● HOLE LOGGED ONLY	↖ STRIKE AND DIP		
⊙ HOLE SAMPLED	○ PIT OR TRENCH		

	TEST HOLE NUMBERING SYSTEM				
	COMBINATION RIG	POWER AUGER	HAND BORINGS	TRENCH OR PIT EXCAVATIONS	NATURAL OUTCROPS, STREAMBANKS, AND GULLIES
CENTERLINE OF DAM	1-49	51-99	1001-1099	2001-2099	3001-3099
BORROW AREA	101-149	151-199	1101-1199	2101-2199	3101-3199
AUXILIARY SPILLWAY	201-249	251-299	1201-1299	2201-2299	3201-3299
PRINCIPAL SPILLWAY	301-349	351-399	1301-1399	2301-2399	3301-3399
STREAM CHANNELS	401-449	451-499	1401-1499	2401-2499	3401-3499
EXPLORATORY BORINGS	501-549	551-599	1501-1599		
FOUNDATION DRAIN	601-649	651-699	1601-1699	2601-2699	3601-3699
MISCELLANEOUS	701-749	751-799	1701-1799	2701-2799	3701-3799

CLASSIFICATION	RANGE OF GRAIN SIZE U.S. standard sieve size
BOULDERS	ABOVE 12"
COBBLES	12" TO 3"
GRAVEL Course Fine	3" to No. 4 3" to 3/4" 3/4" to No. 4
SAND Coarse Medium Fine	No. 4 to No. 200 No. 4 to No. 10 No. 10 to No. 40 No. 40 to No. 200
SILT & CLAY	Below No. 200

ABBREVIATIONS	
Ang.	ANGULAR
B.	BEDDED OR BEDDING
Bld.	BOULDERS (> 12")
Calc.	CALCAREOUS
Cal.	CALICHE
Carb.	CARBONATE
Cav.	CAVITIES
Cmt.	CEMENTED
Ch.	CHALK OR CHALKY
C	CLAY, CLAYEY
Cse.	COARSE
Cbl.	COBBLES (3" - 12")
Cpt.	COMPACT
Con.	CONCRETIONS
Cng.	CONGLOMERATE
Cs.	CLAYSTONE
C.T.	CAVED TO
Xln.	CRYSTALLINE
De.	DEPOSE
Dip.	DIPPING
D.S.	DOWNSTREAM
Fe. Stn.	Iron Stains
Fig.	FLAGSTONE OR FLAGGY
Fn.	FINE
Frm.	FIRM
Froc.	FRAGMENTED
Frg.	FRAGILE
Fri.	FRAGMENTED
Grr.	GRAIN
G	GRAVEL, GRAVELLY
Gyp.	GYPSEOUS
Hd.	ROCK HARDNESS
H.	HIGHLY
Int.	INTERBEDDED
Lam.	LAMINATED
Lay.	LAYER OR LAYERS
Len.	LENS OR LENSES
Lig.	LIGNITE
Ls.	LIMESTONE
Lse.	LOOSE
Ma.	MARL, OR MARLY
Mas.	MASSIVE
Mat.	MATRIX
Med.	MEDIUM
Mic.	MICACEOUS
Mod.	MODERATELY
Nod.	NODULE OR NODULAR
N.R.	NO RECOVERY
O	ORGANIC
Part.	PARTINGS
Peb.	PEBBLE
Per.	PERMEABLE
Po.	POORLY GRADED
P	POORLY GRADED
Rdd.	ROUNDED
S	SAND, SANDY
Ss.	SANDSTONE
Sat.	SATURATED
Sh.	SHALE, OR SHALY
Sh.	SLIGHTLY
Slo.	SLOWLY
M	SILT, SILTY
Sft.	SOFT
Sl.	SOME
Stf.	STIFF
Str.	STREAKS
T	THIN
T.B.	THIN - BEDDED
Tuff.	TUFFACEOUS
U.A.D.	UNABLE TO AUGER DEEPER
U.D.B.D.	UNABLE TO DRY BARREL DEEPER
U.E.D.	UNABLE TO EXCAVATE DEEPER
U.S.	UPSTREAM
Var.	VARIABLE
V.	VERY
Vug.	VUGULAR
Wtr.	WATER LEVEL AS ENCOUNTERED DURING DRILLING PROCESS
W	WELL GRADED
W/W.	WITH
Wea.	WEATHERED
▼	(DATE) STATIC WATER LEVEL

LEGEND:

- 1967 NRCS TEST HOLE
- AUGER/CORE BORING
- HAND AUGER BORING

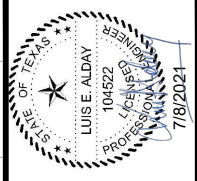
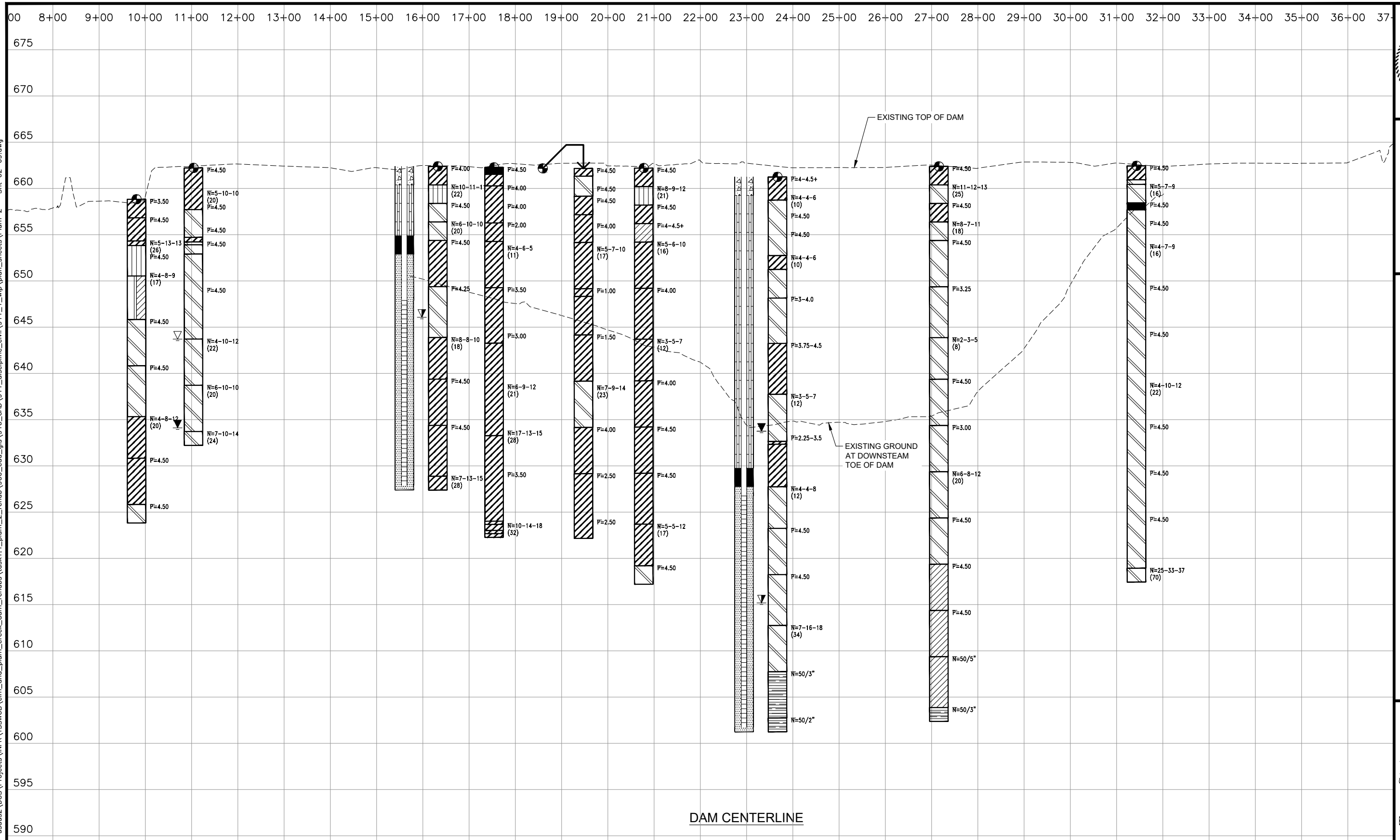
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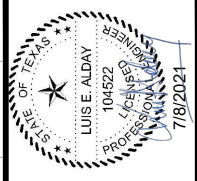
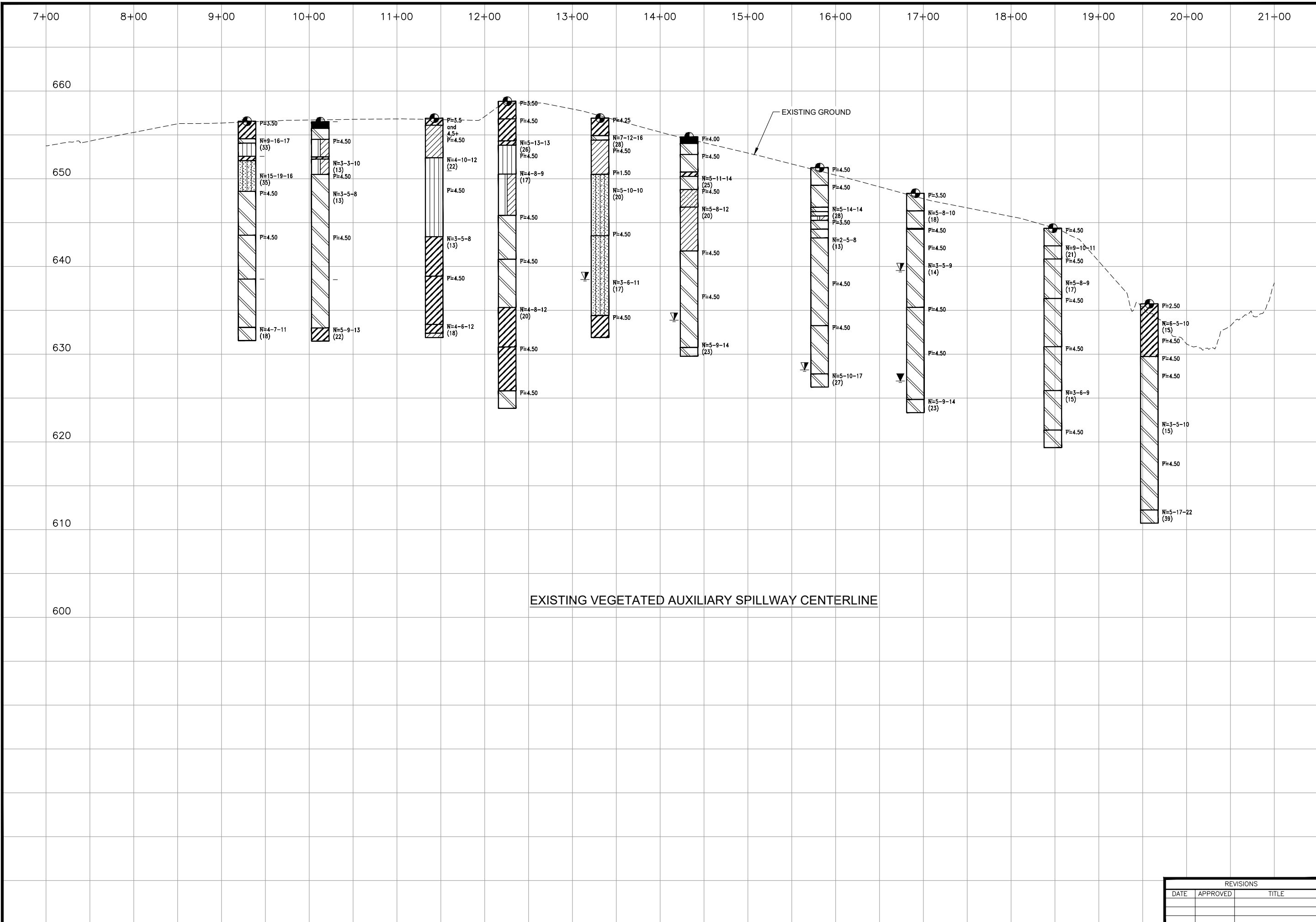
GEOLOGIC INVESTIGATIONS - PROFILES (1 OF 7)
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN HAYS COUNTY, TEXAS

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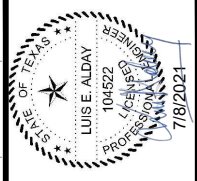
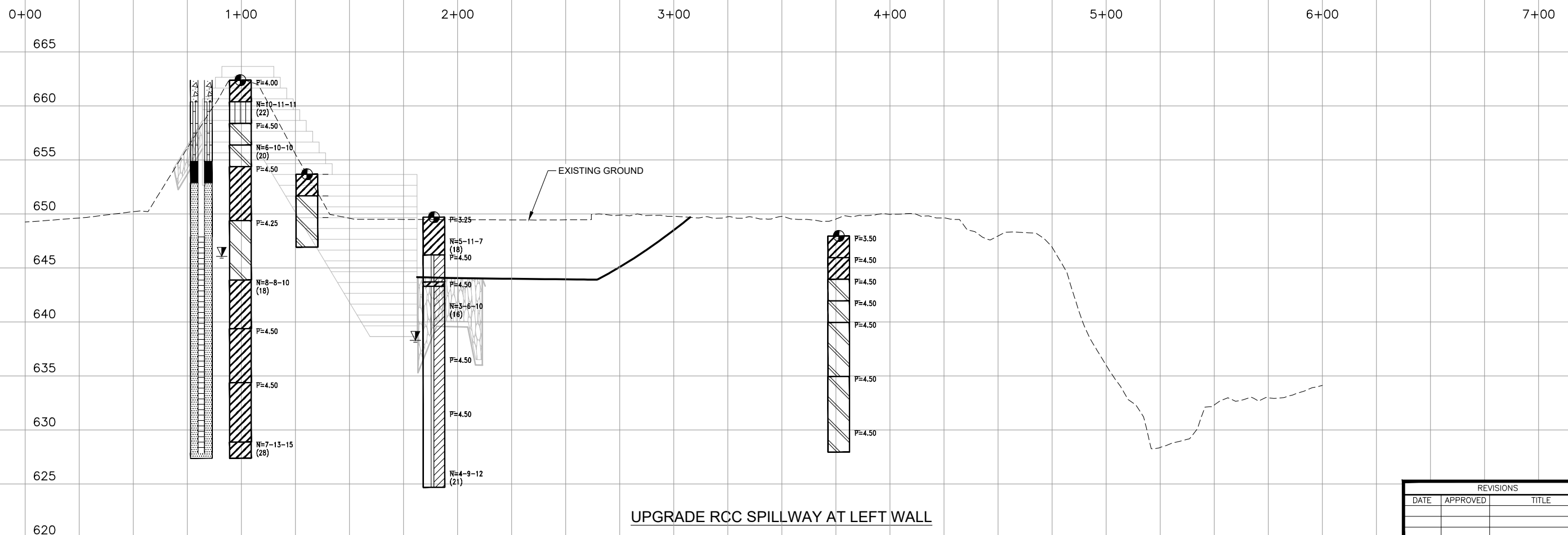
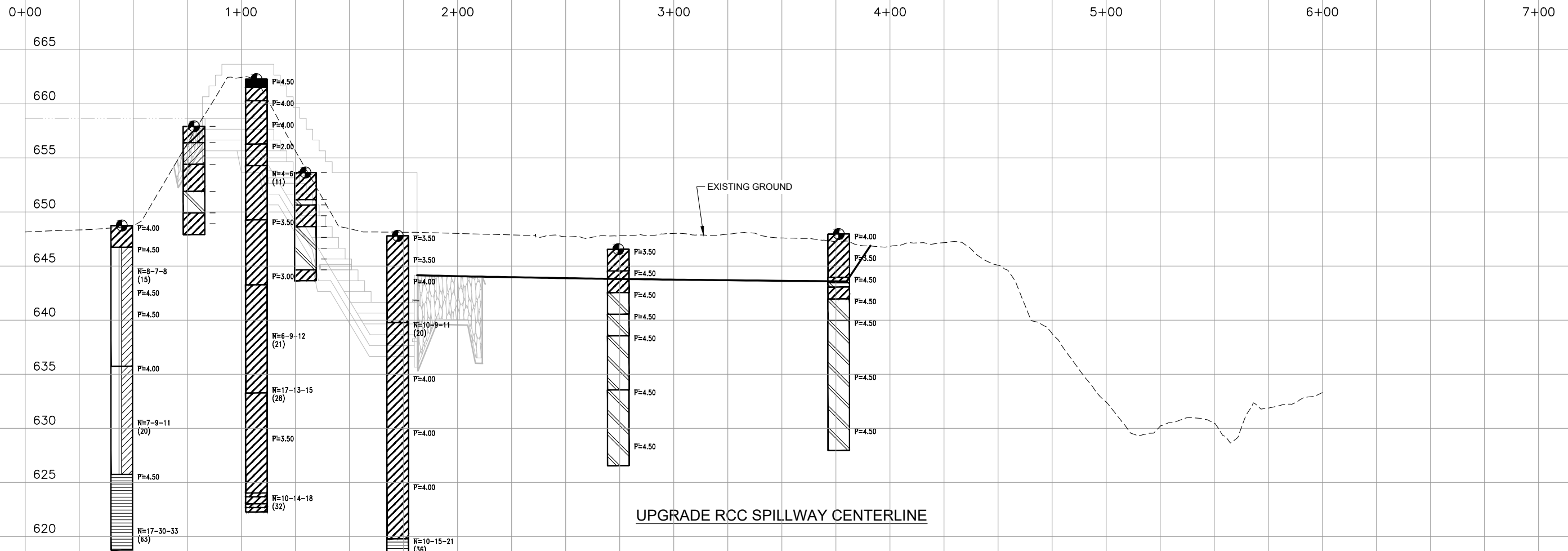
GEOLOGIC INVESTIGATIONS - PROFILES (2 OF 7)
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
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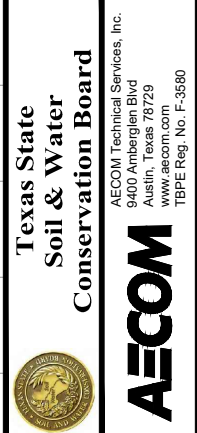
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 OF 71

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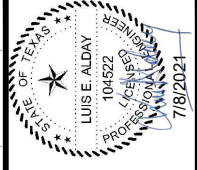
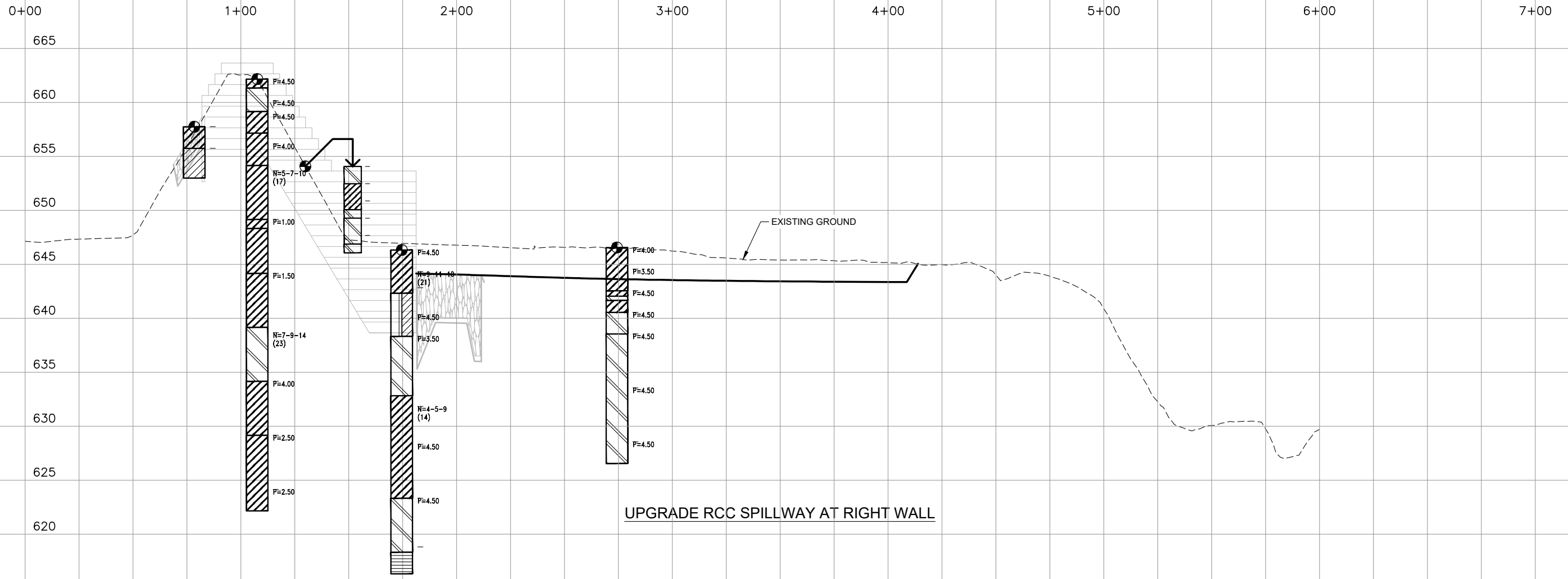
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 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
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 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
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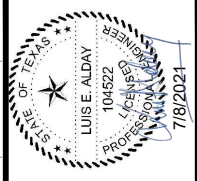
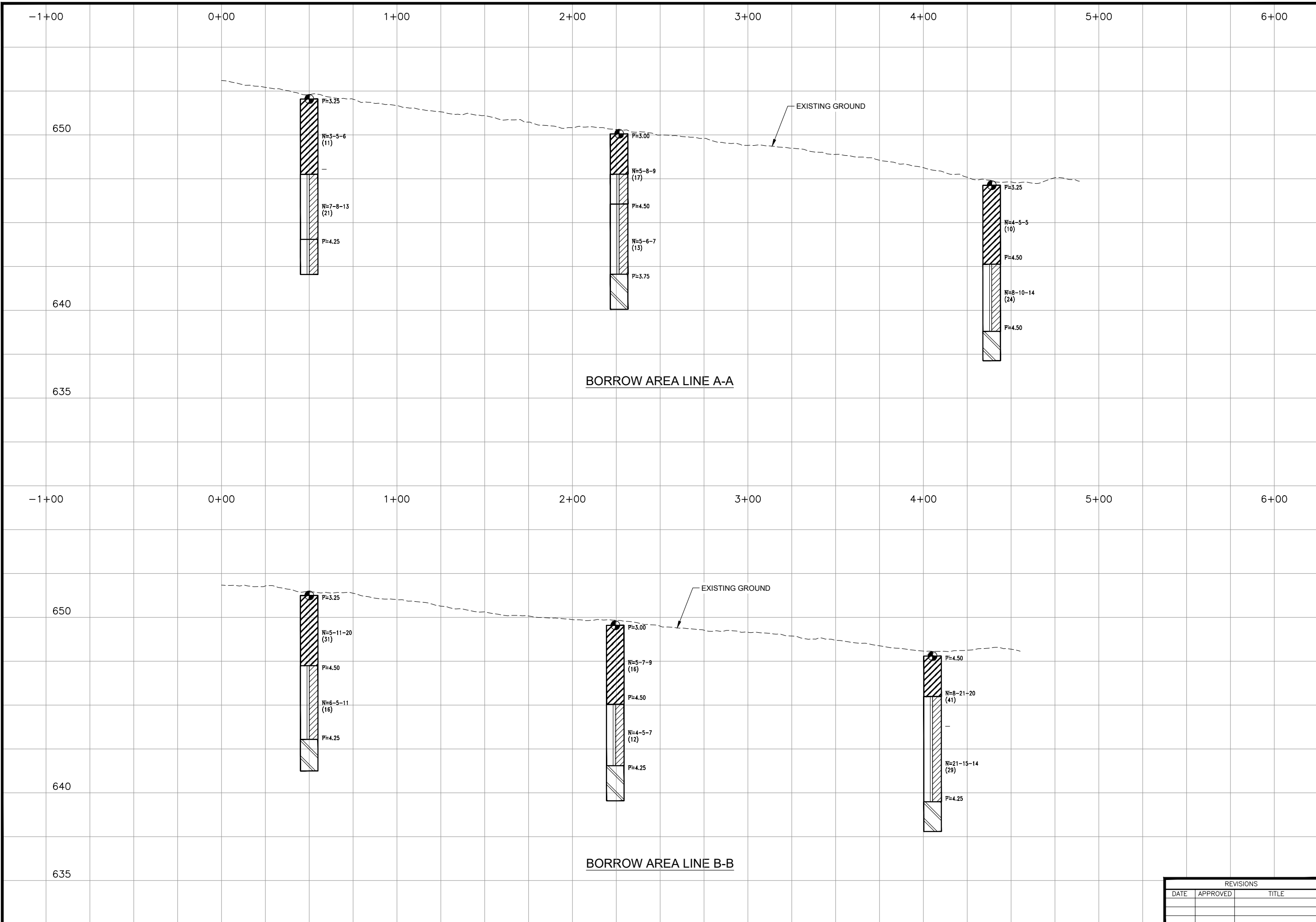
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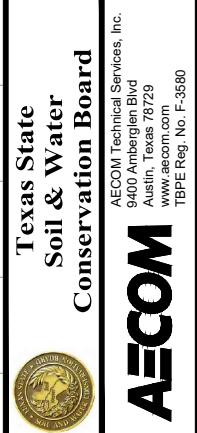
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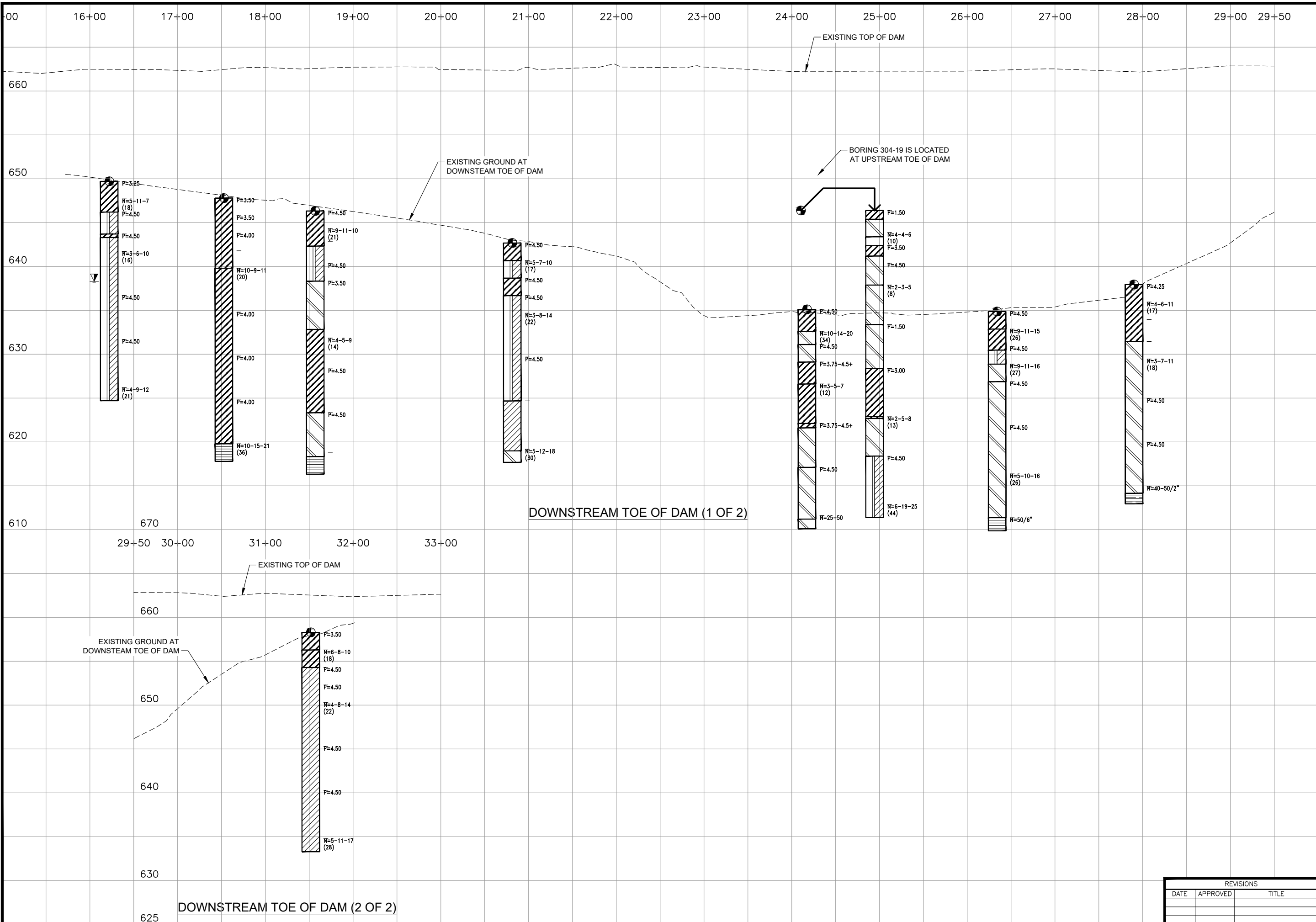
GEOLOGIC INVESTIGATIONS - PROFILES (6 OF 7)
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
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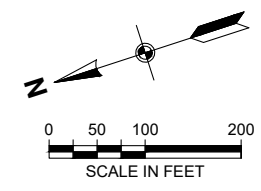
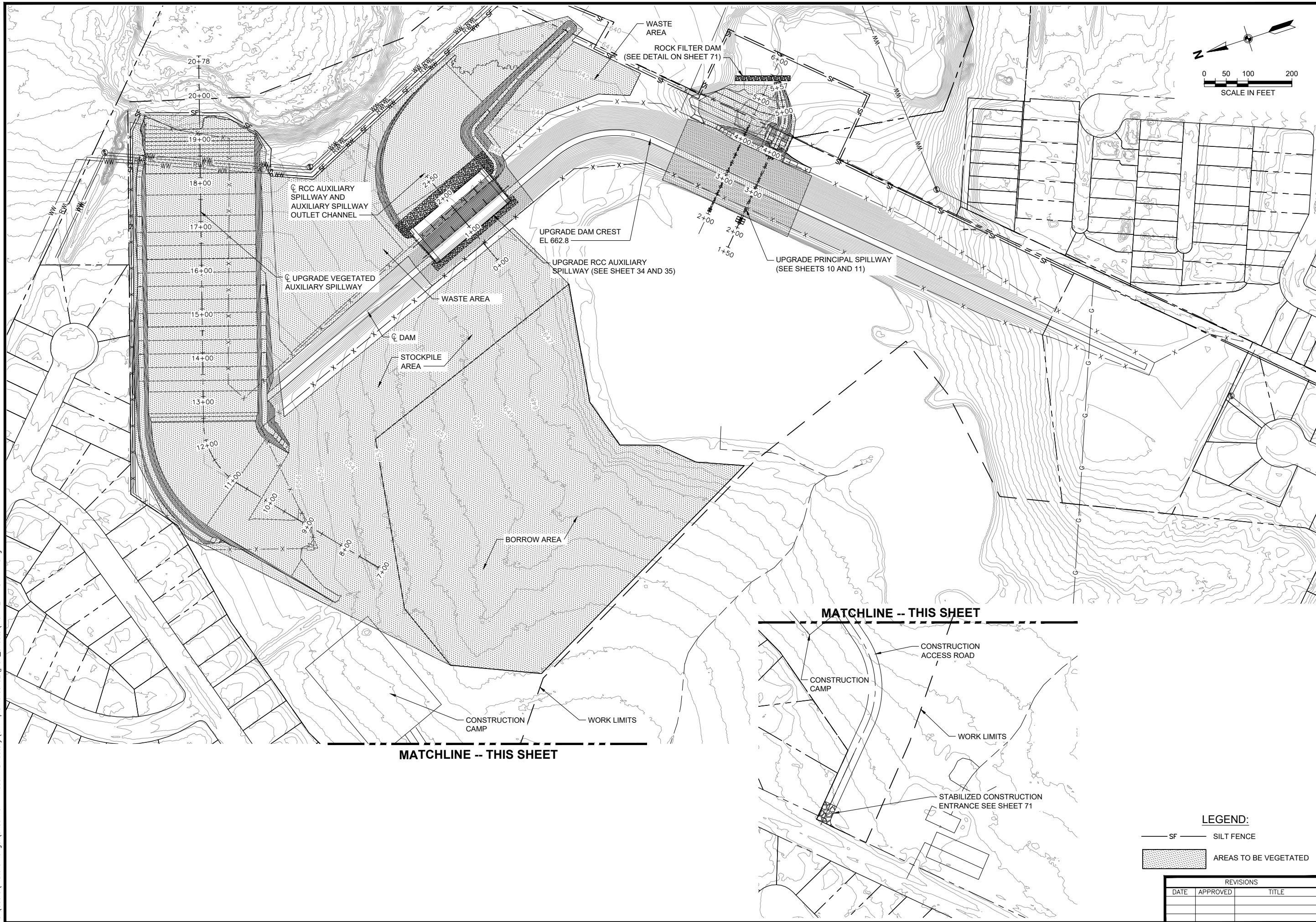
GEOLOGIC INVESTIGATIONS - PROFILES (7 OF 7)
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
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STORM WATER POLLUTION PREVENTION PLAN (1 OF 2)
 FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
 PLUM CREEK WATERSHED
 IN
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LEGEND:
 — SF — SILT FENCE
 [Hatched Box] AREAS TO BE VEGETATED

REVISIONS		
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SHEET NO.
 70
 OF
 71

GENERAL NOTES:

- CONTRACTOR SHALL ADD LOCATION(S) OF SEDIMENT FENCE TO PLAN AS REQUIRED. APPROXIMATELY 3,320 FEET OF SEDIMENT FENCE IS CURRENTLY SHOWN.
- CONTRACTOR SHALL INDICATE ON THE PLAN ALL PRODUCT SPECIFIC STORAGE AREAS AS DESCRIBED IN THE SWPPP. THESE AREAS SHALL INCLUDE, BUT ARE NOT LIMITED TO:
 - EQUIPMENT STORAGE
 - FUEL STORAGE
 - HAZARDOUS MATERIAL STORAGE
 - CONCRETE WASHOUT PITS
 - SOIL/ROCK STOCKPILE AREAS
- A DRAWING SHOWING THE LOCATIONS OF THE DRAINAGE WORKS AND ALL POLLUTION CONTROL MEASURES SHALL BE KEPT IN ACCORDANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN.
- IN ADDITION TO THE EMBANKMENT AND OUTLET CHANNEL EARTHWORK AREAS, DISTURBED AREAS WITHIN THE CAMPSITE, STOCKPILE, AND ACCESS ROAD AREAS SHALL HAVE PERMANENT VEGETATION ESTABLISHED.

STABILIZED CONSTRUCTION ENTRANCE:

- A STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROVIDED AND MAINTAINED IN ACCORDANCE WITH CONSTRUCTION SPECIFICATION 8 AND 9 AND DETAIL 3 BELOW.
- THE STABILIZED CONSTRUCTION ENTRANCE SHALL CONSIST OF A MINIMUM OF 8" THICKNESS OF CRUSHED ROCK PREDOMINANTLY 4" TO 8" IN SIZE. THE AGGREGATES SHALL BE CLEAN, HARD, DURABLE, AND FREE FROM ADHERENT COATINGS SUCH AS SALT, ALKALI, DIRT, CLAY, LOAM, SHALE, SOFT OR FLAKY MATERIALS, AND ORGANIC OR INJURIOUS MATTER.
- THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE LEFT IN PLACE AT THE END OF CONSTRUCTION WITH THE EXCEPTION OF REMOVING THE RIPRAP AND SMOOTHING AND LEVELING THE AREA DISTURBED.

SEDIMENT FILTER:

- SEDIMENT FILTER SHALL BE FABRIC (GEOTEXTILE) SILT FENCES AS DETAILED IN DETAIL 4 ON THIS SHEET.
- SEDIMENT FILTER SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS.

- ALONG THE DOWNSTREAM BOUNDARY OF ANY AREA WHICH IS STRIPPED OF EXISTING VEGETATION AND/OR SURFACE MATERIAL DURING ANY PHASE OF CONSTRUCTION ACTIVITY.
- ALONG THE DOWNSTREAM BOUNDARY OF ANY SOIL MATERIAL WHICH IS STOCKPILED DURING ANY PHASE OF CONSTRUCTION ACTIVITY FOR MORE THAN 14 DAYS.
- OTHER AREAS WHICH ARE DETERMINED BY THE CONTRACTING OFFICER TO BE POTENTIAL SILT SOURCES.

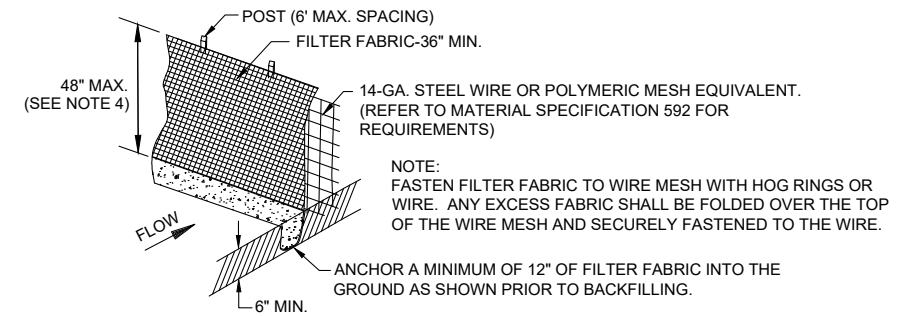
- SEDIMENT FILTER SHALL NOT BE USED WHERE CONCENTRATED FLOWS WHICH EXCESS ONE CFS ARE EXPECTED, OR WHERE DRAINAGE AREA EXCESS TWO ACRES.
- THE HEIGHT OF SILT FENCES SHALL NOT EXCEED 48 INCHES (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE).
- SPLICES IN THE FILTER FABRIC ARE NOT RECOMMENDED. WHEN JOINT ARE UNAVOIDABLE, FABRIC SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH LAP.
- POST SHALL BE SPACED A MAXIMUM OF 6 FEET APART AT THE FENCE LOCATION AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 12 INCHES).
- THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED BY USING EXTRA STRENGTH FILTER FABRIC AND POST SPACED AT 4 FEET. IN THIS CASE, THE FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POST.
- THE GUIDELINES SHOWN HEREON MAY BE MODIFIED BY THE ENGINEER.
- THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF AS APPROVED BY THE ENGINEER WHEN THE SITE IS COMPLETELY STABILIZED OR CONSTRUCTION IS COMPLETED, WHICHEVER OCCURS FIRST.

MAINTENANCE:

- SEDIMENT FILTER SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- SILT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE SEDIMENT FILTER.
- SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE, THE FABRIC SHALL BE REPLACED PROMPTLY UNLESS INSPECTION REPORTS INDICATE THAT THE REPLACEMENT IS UNNECESSARY.

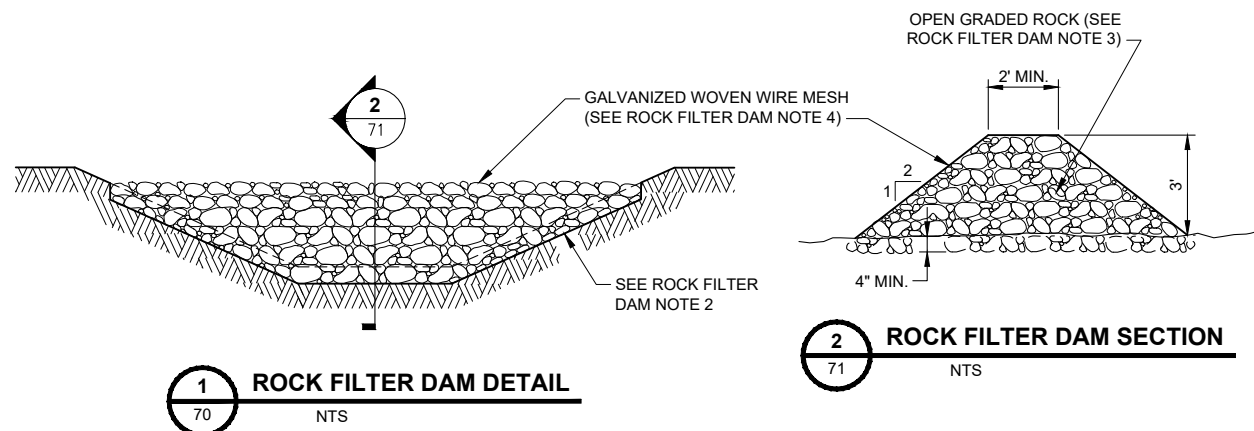
ROCK FILTER DAM:

- FINAL LOCATION OF THE FILTER DAM SHALL BE AS DIRECTED BY THE ENGINEER.
- FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4" INTO EXISTING GROUND.
- USE ONLY OPEN GRADED ROCK THE SAME SIZE AS THE ROCK USED FOR THE STABILIZED CONSTRUCTION ENTRANCE.
- ROCK FILTER DAM SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT & SLOPES SPECIFIED. THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. FOR IN STREAM USE, THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.



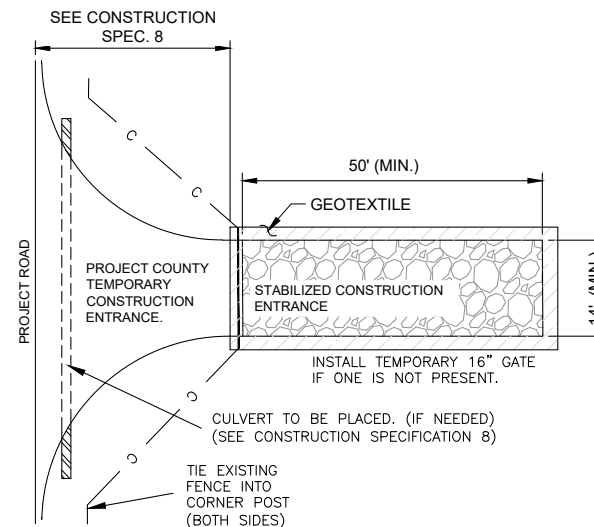
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FILTER FABRIC SILT FENCE DETAIL
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NOTE: STAKES FOR INSTALLING SEDIMENT FILTER FABRIC SILT FENCE SHALL BE 5" STEEL "T" POSTS. ALL STEEL POSTS AND FILTER FABRIC SILT FENCES SHALL BE REMOVED AT THE END OF THE CONTRACT.



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ROCK FILTER DAM DETAIL
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ROCK FILTER DAM SECTION
NTS



THE STABILIZED CONSTRUCTION ENTRANCE SHALL CONSIST OF A MINIMUM OF 8" THICKNESS OF CRUSHED ROCK PREDOMINANTLY 4" TO 8" IN SIZE. THE AGGREGATES SHALL BE CLEAN, HARD, DURABLE, AND FREE FROM ADHERENT COATINGS SUCH AS SALT, ALKALI, DIRT, CLAY, LOAM, SHALE, SOFT OR FLAKY MATERIALS, AND ORGANIC OR INJURIOUS MATTER. PROVIDE A LAYER OF GEOTEXTILE BENEATH THE CRUSHED ROCK.

ACTUAL SIZES, DIMENSIONS, QUANTITIES, ALIGNMENT AND EXTENTS SHALL BE AS DETERMINED IN THE FIELD BY THE ENGINEER.

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70
STABILIZED CONSTRUCTION ENTRANCE DETAIL
NTS



DESIGNED BY: MRD
DRAWN BY: MDE
CHECKED BY: LEA
FILE NAME: Plum_2 - SWPPP.dwg
DATE CHECKED: 7/9/2021

STORM WATER POLLUTION PREVENTION PLAN (2 OF 2)

FLOODWATER RETARDING STRUCTURE SITE NO. 2 UPGRADE
PLUM CREEK WATERSHED
IN
HAYS COUNTY, TEXAS

Texas State
**Soil & Water
Conservation Board**
AECOM Technical Services, Inc.
9400 Amberglenn Blvd
Austin, Texas 78729
www.aecom.com
TBPCE Reg. No. F-3580

SHEET NO.
71
OF
71

REVISIONS		
DATE	APPROVED	TITLE