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TED SHANKS CONSERVATION AREA

PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI RIVER ENVIRONMENTAL MANAGEMENT PROGRAM
PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM SETBACK/DEGRADE

Solicitation: W912P9-13-R-0711

Contract: W912P9-XX-X-XXXX

JANUARY 2013

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U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: DUSTIN C. HERR
DWN BY: DCH
CKD BY: JDM
SUBMITTED BY: GLENDA J. HILL, P.E.
PLOT SCALE: 1:1
PLOT DATE: N/A
SIZE: ANSI D
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DATE: 2013-01-29
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CONTRACT NO.:
FILE NUMBER:

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPPI
PIKE COUNTY, MISSOURI
STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
COVER SHEET

SHEET IDENTIFICATION
G-001

auto_time

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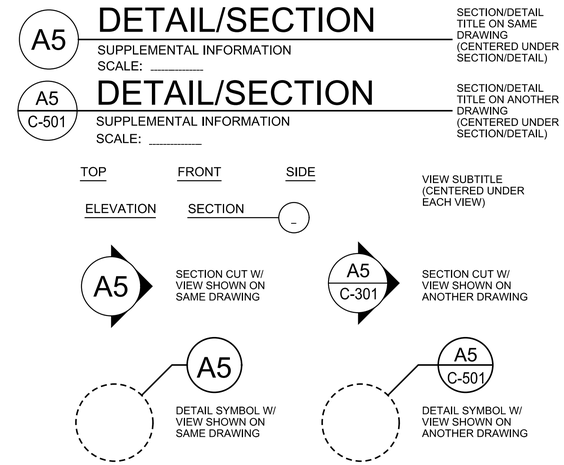
GENERAL CROSS-REFERENCING SYMBOLS

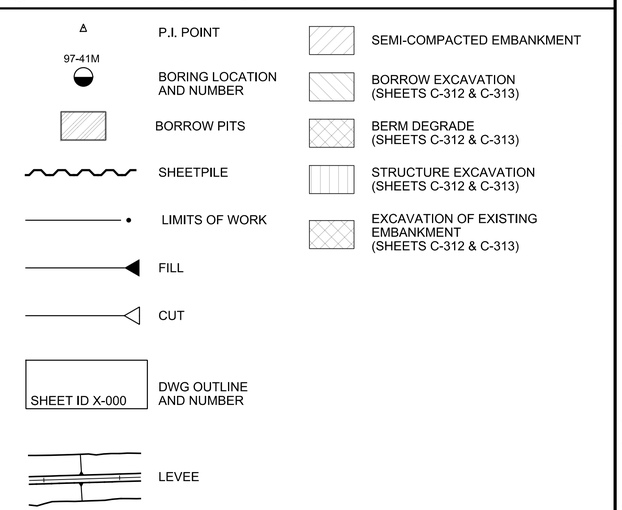


ABBREVIATIONS

* UNLESS OTHERWISE NOTED ON EACH SHEET

APPROX	APPROXIMATE	MISC	MISCELLANEOUS
ALT W/	ALTERNATE WITH	NF	NEAR FACE
BOT	BOTTOM	NO	NUMBER
C/L	CENTER LINE	OF	OUTSIDE FACE
CLR	CLEAR	OC	ON CENTER
CJ	CONSTRUCTION JOINT	PC	POINT OF CURVE
CONC	CONCRETE	PI	POINT OF INTERSECTION
DIA	DIAMETER	POB	POINT OF BEGINNING
DWG	DRAWING	PT	POINT OF TANGENT
EF	EACH FACE	R	RADIUS
EJ	EXPANSION JOINT	R/W	RIVERWARD
EL	ELEVATION	SAN	SANITARY
EW	EACH WAY	SPEC	SPECIFICATIONS
EXIST	EXISTING	SST	STAINLESS STEEL
FF	FAR FACE	STA	STATION
GALV	GALVANIZED	T&B	TOP AND BOTTOM
HT	HEIGHT	TYP	TYPICAL
IF	INSIDE FACE	UNO	UNLESS NOTED OTHERWISE
IN	INCH	UGND	UNDERGROUND
L	ANGLE	VPI	VERTICAL POINT OF INTERSECTION
LG	LONG		
L/W	LANDWARD	W	WIDTH
MAX	MAXIMUM	WM	WATER MAIN
MIN	MINIMUM		
MIRR	MIRRORED		

GENERAL LEGEND



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TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
INDEX OF DRAWINGS

SHEET IDENTIFICATION
G-002

cuto_time

PROJECT LOCATION MAP

N

0' 750' 1500' 3000'

SCALE: 1"= 1500'

VICINITY MAP

N

APPROX. SCALE IN MILES

35 0 35 70

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UPPER MISSISSIPPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM SETBACK/DEGRADE
PROJECT LOCATION & VICINITY MAPS

SHEET IDENTIFICATION
G-003

UNIFIED SOIL CLASSIFICATION

MAJOR DIVISION		TYPE	LETTER SYMBOL	SYMBOL	TYPICAL NAMES
COARSE - GRAINED SOILS More than half of material is larger than No. 200 sieve size	GRAVELS More than half of coarse fraction is larger than No.4 sieve size.	CLEAN GRAVEL (Little or No Fines)	GW		GRAVEL,Well Graded, gravel-sand mixtures, little or no fines
			GP		GRAVEL,Poorly Graded, gravel-sand mixtures, little or no fines
		GRAVEL WITH FINES (Appreciable Amount of Fines)	GM		SILTY GRAVEL,gravel-sand-silt mixtures
			GC		CLAYEY GRAVEL, gravel-sand-clay mixtures
	SANDS More than half of coarse fraction is smaller than No. 4 sieve size.	CLEAN SAND (Little or No Fines)	SW		SAND, Well-Graded, gravely sands
			SP		SAND, Poorly-Graded, gravely sands
		SANDS WITH FINES (Appreciable Amount of Fines)	SM		SILTY SAND, sand-silt mixtures
			SC		CLAYEY SAND, sand-clay mixtures
FINE - GRAINED SOILS More than half of the material is smaller than No.200 sieve size		SILTS AND CLAYS (Liquid Limit < 50)	ML		SILT & very fine sand, silty or clayey fine sand or clayey silt with slight plasticity
			CL		LEAN CLAY; Sandy Clay; Silty Clay; of low to medium plasticity
			OL		ORGANIC SILTS and organic silty clays of low plasticity
		SILTS AND CLAYS (Liquid Limit > 50)	MH		SILT, fine sandy or silty soil with high plasticity
			CH		FAT CLAY, Inorganic clay of high plasticity
			OH		ORGANIC CLAYS of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS			Pt		PEAT, and other highly organic soil
WOOD			Wd		WOOD
NO SAMPLE					

NOTE: Soils possessing characteristics of two groups are designated by combinations of group symbols

A comma will be used between modification symbols. Example. So,Gr,w/SIS,(CH)

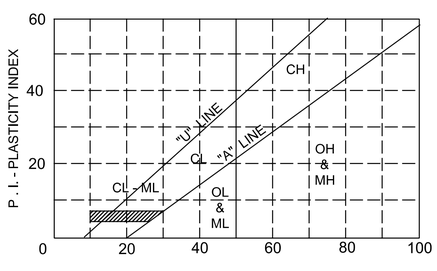
DESCRIPTIVE SYMBOLS

COLOR

COLOR	SYMBOL
TAN	T
YELLOW	Y
RED	R
BLACK	BK
GRAY	GR
LIGHT GRAY	lGr
DARK GRAY	dGr
BROWN	Br
LIGHT BROWN	lBr
DARK BROWN	dBr
BROWNISH - GRAY	br Gr
GRAYISH - BROWN	gy Br
GREENISH - GRAY	gn Gr
GRAYISH - GREEN	gy Gn
GREEN	Gn
BLUE	Bl
BLUE - GREEN	Bl Gn
WHITE	Wh
MOTTLED	Mot
REDDISH	rd

CONSISTENCY FOR COHESIVE SOILS

CONSISTENCY	COHESION IN LBS./SQ. FT. FROM UNCONFINED COMPRESSION TEST	SYMBOL
VERY SOFT	< 250	vSo
SOFT	250 - 500	So
MEDIUM	500 - 1000	M
STIFF	1000 - 2000	St
VERY STIFF	2000 - 4000	vSt
HARD	> 4000	H



L. L. - LIQUID LIMIT

PLASTICITY CHART

For classification of fine - grained soils

MODIFICATIONS

MODIFICATION	SYMBOL	MODIFICATION	SYMBOL
Traces	Tr-	Sandy Silt strata	SSIS
Fine	F	Silty Sand strata	SISS
Medium	M	With	w/
Coarse	C	Dense	D
Concretions	cc	Very Dense	vD
Rootlets	rt		
Lignite fragments	lg		
Shale fragments	sh		
Sandstone fragments	sds		
Shell fragments	slf		
Organic matter	O		
Clay strata or lenses	CS		
Silt strata or lenses	SIS		
Sand strata or lenses	SS		
Sandy	S		
Gravely	G		
Boulders	B		
Slickensides	SL		
Wood	Wd		
Oxidized	Ox		
Crumbly	Cr		
Loose	Lo		
Vegetation	Veg		

GENERAL BORING NOTES:

1. WHILE THE BORINGS ARE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT THEIR RESPECTIVE LOCATIONS AND FOR THEIER RESPECTIVE VERTICAL REACHES, LOCAL VARIATIONS CHARACTERISTIC OF THE SUBSURFACE MATERIALS OF THE REGION ARE ANTICIPATED AND, IF ENCOUNTERED, SUCH VARIATIONS WILL NOT BE CONSIDERED AS DIFFERING SITE CONDITIONS.
2. GROUND WATER ELEVATIONS ON THE BORING LOGS REPRESENT GROUND WATER SURFACES ENCOUNTERED IN SUCH BORINGS ON THE DATES SHOWN. ABSENCE OF WATER SURFACE DATA ON CERTAIN BORINGS INDICATES THAT NO GROUND WATER DATA ARE AVAILABLE FROM THE LOCATIONS OR WITHIN THE VERTICAL REACHES OF SUCH BORINGS.
3. CONSISTENCY OF COHESIVE SOILS SHOWN ON THE BORING LOGS IS BASED ON DRILLER'S LOG AND VISUAL EXAMINATION AND IS APPROXIMATE, EXCEPT WITHIN THOSE VERTICAL REACHES OF THE BORINGS WHERE SHEAR LENGTHS FROM UNCONFINED COMPRESSION TEST ARE SHOWN.
4. THE DETAILED EXPLANATION OF THE UNIFIED SOIL CLASSIFICATION SYSTEM IS PRESENTED IN ASTM D 2487 (2006) CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES.

NOTES:

FIGURES TO LEFT OF BORING UNDER COLUMN "W OR D_{10}"

Are natural water contents in percent dry weight

When underlined denotes D_{10} size in mm *

FIGURES TO LEFT OF BORING UNDER COLUMNS "LL" AND "PL"

Are liquid limits and plastic limits, respectfully

SYMBOLS TO LEFT OF BORING

▽	Ground - water surface and date observed
C	Denotes location of consolidation test **
S	Denotes location of consolidated - drained direct shear test **
R	Denotes location of consolidated - undrained triaxial compression test **
Q	Denotes location of unconsolidated - undrained triaxial compression test **
T	Denotes location of sample subjected to consolidation test and each of the above three types of shear test **
VS	Denotes locatlon of vane shear test **
FW	Denotes free water

FIGURES TO RIGHT OF BORING

Are values of cohesion in lbs./sq. ft from unconfined compression test

In parenthesis are driving resistances in blows per foot determined with a standard split spoon sampler ($1\frac{3}{8}$" I.D., 2" O. D.) and a 140 lb. driving hammer with a 30" drop

Where underlined with a solid line denotes laboratory permeability in centimeters per second of undisturbed sample

Where underlined with a dashed line denotes laboratory permeability in centimeters per second of sample remoulded to the estimated natural void ratio

* The D_{10} size of a soil is the grain diameter in millimeters of which 10% of the soil is finer, and 90% coarser than D_{10} .

** Results of these test are available for inspection in the U.S. Army Engineer District Office, if these symbols appear beside the boring logs on the drawings.

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CKD BY: JDM
SOLICITATION NO.: W912P8-13-R-0711
SUBMITTED BY: GLENDA J. HILL, P.E.
CONTRACT NO.:
PLOT SCALE:
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FILE NUMBER: MVS-RP-08
SIZE: ANSI D
FILE NAME: M-EMP-08_B-0011.EG.dgn

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

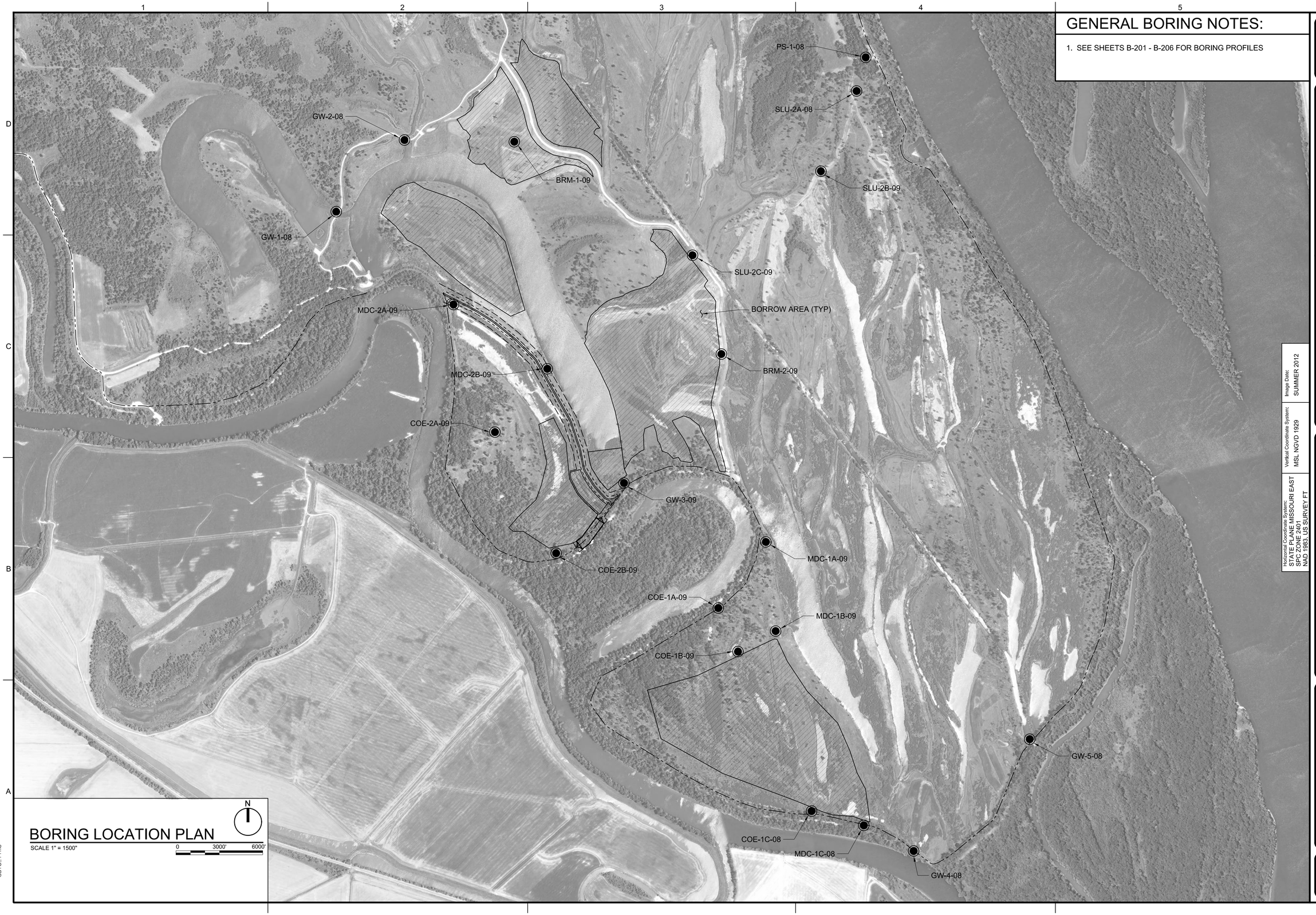
STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
BORING LEGEND

SHEET IDENTIFICATION
B-001

auto_time

GENERAL BORING NOTES:

1. SEE SHEETS B-201 - B-206 FOR BORING PROFILES



BORING LOCATION PLAN

SCALE 1" = 1500'

0 3000' 6000'

Image Date: SUMMER 2012

Vertical Coordinate System: MSL NGVD 1929

Horizontal Coordinate System: STATE PLANE MISSOURI EAST SPC ZONE 2401 NAD 1983, US SURVEY FT

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TED SHANKS CONSERVATION AREA PHASE II
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UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
BORING LOCATION PLAN

SHEET IDENTIFICATION
B-101

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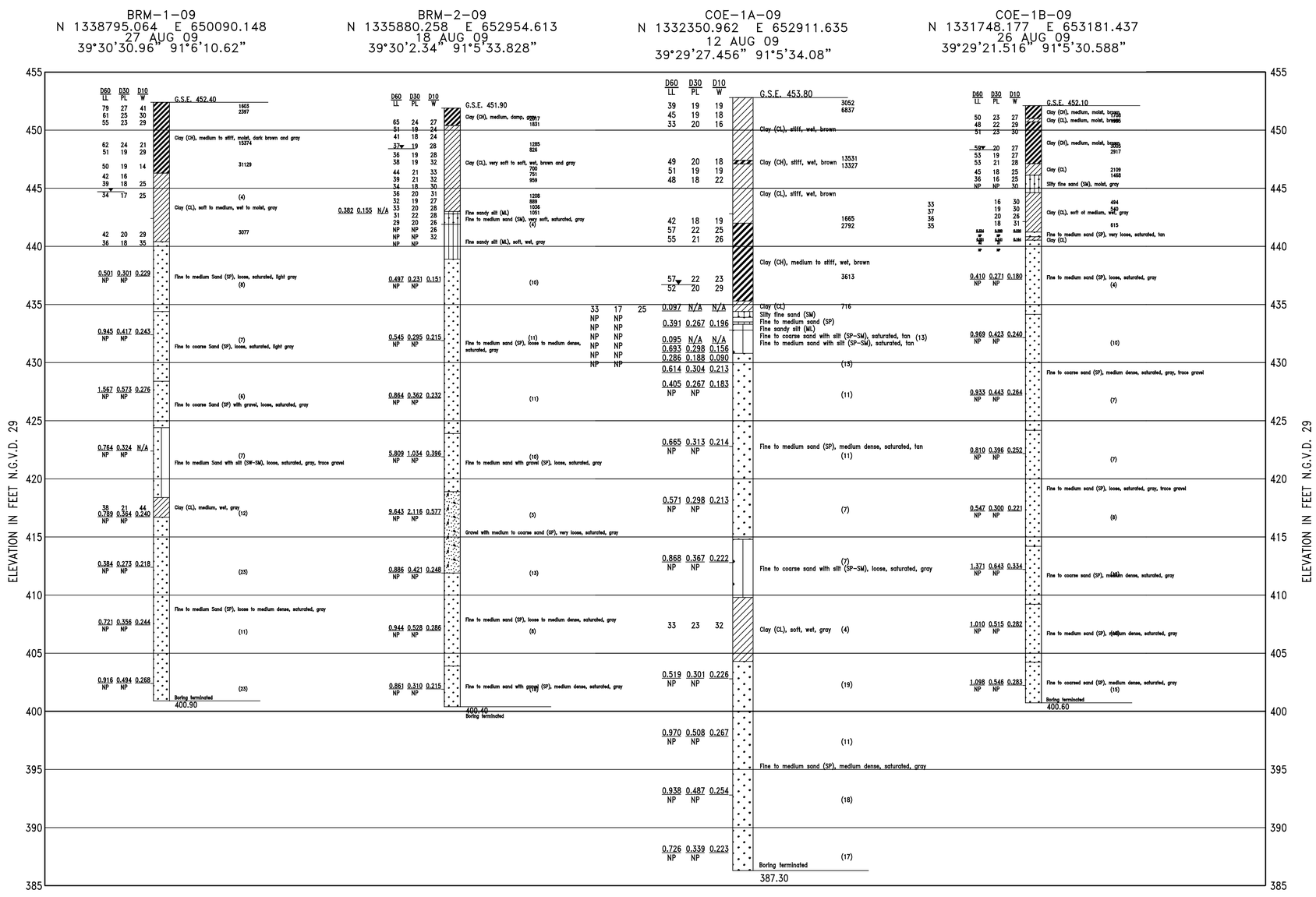

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UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
BORING PROFILES

SHEET IDENTIFICATION
B-201

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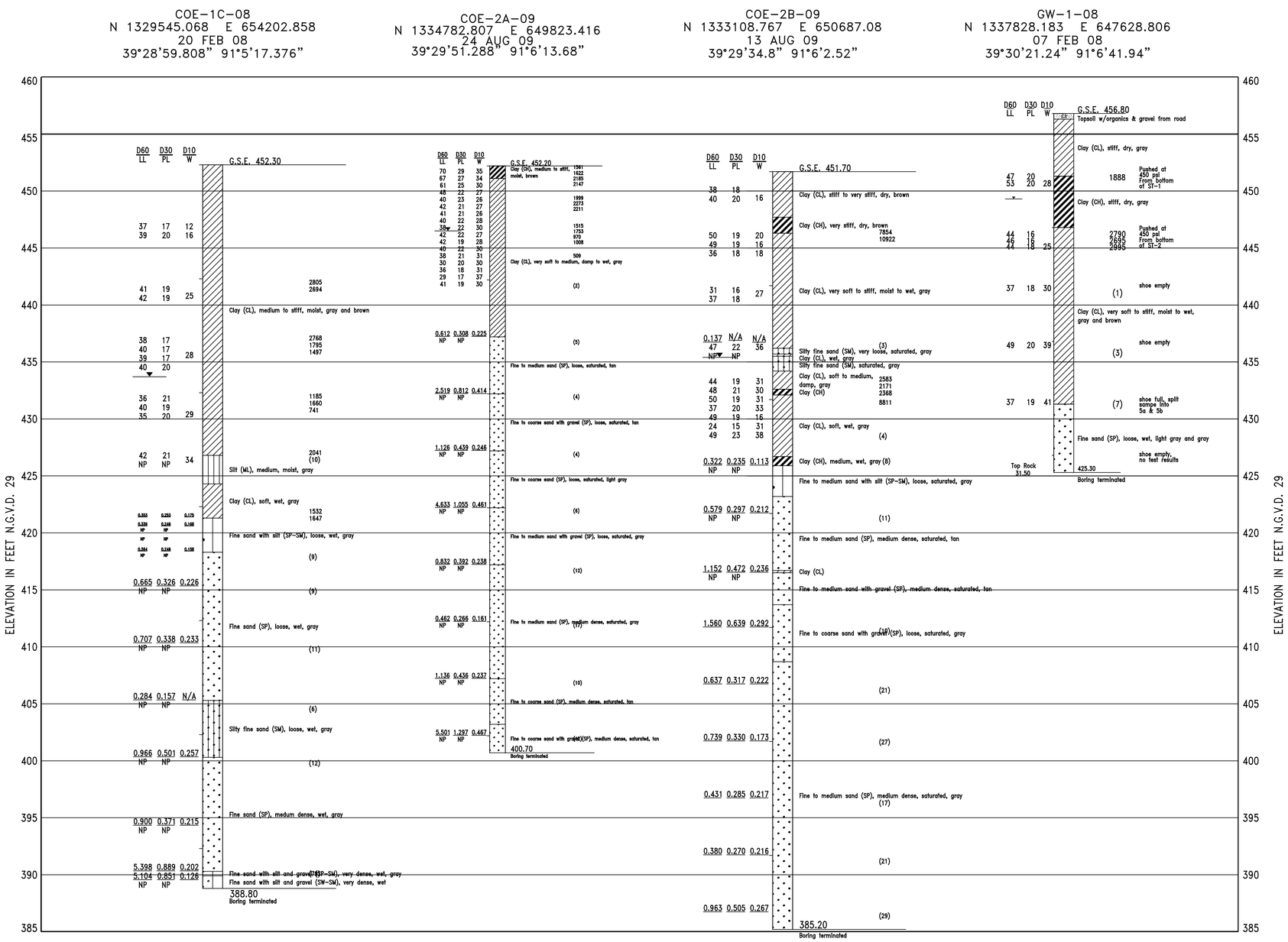

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BORING PROFILES

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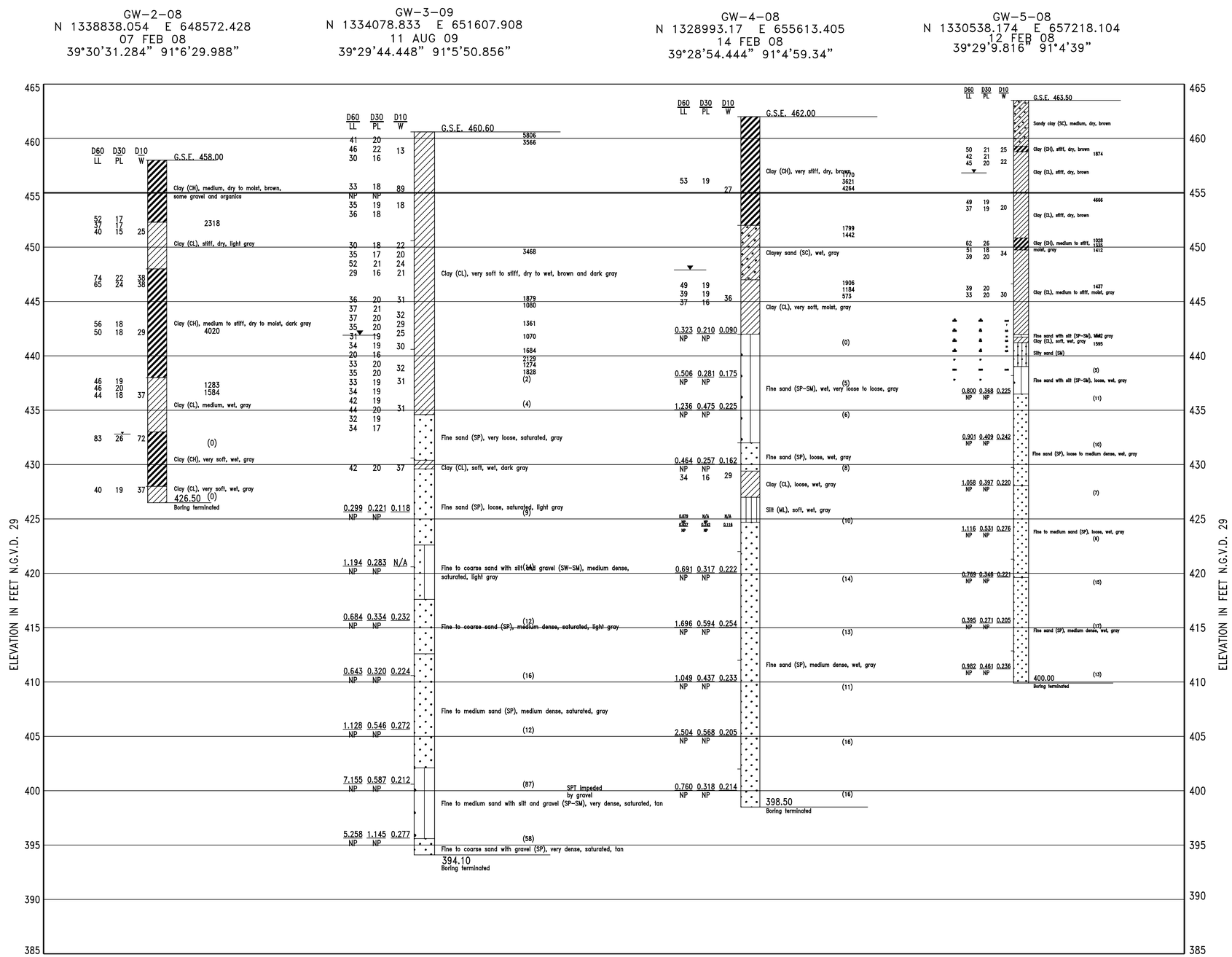

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PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
BORING PROFILES

SHEET IDENTIFICATION
B-203

auto_time

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MDC-1B-09
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25 AUG 09
39°29'24.36" 91°5'23.928"

MDC-1C-08
N 1329347.318 E 654924.156
19 FEB 08
39°28'57.9" 91°5'8.16"

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N 1336601.015 E 649192.229
20 AUG 09
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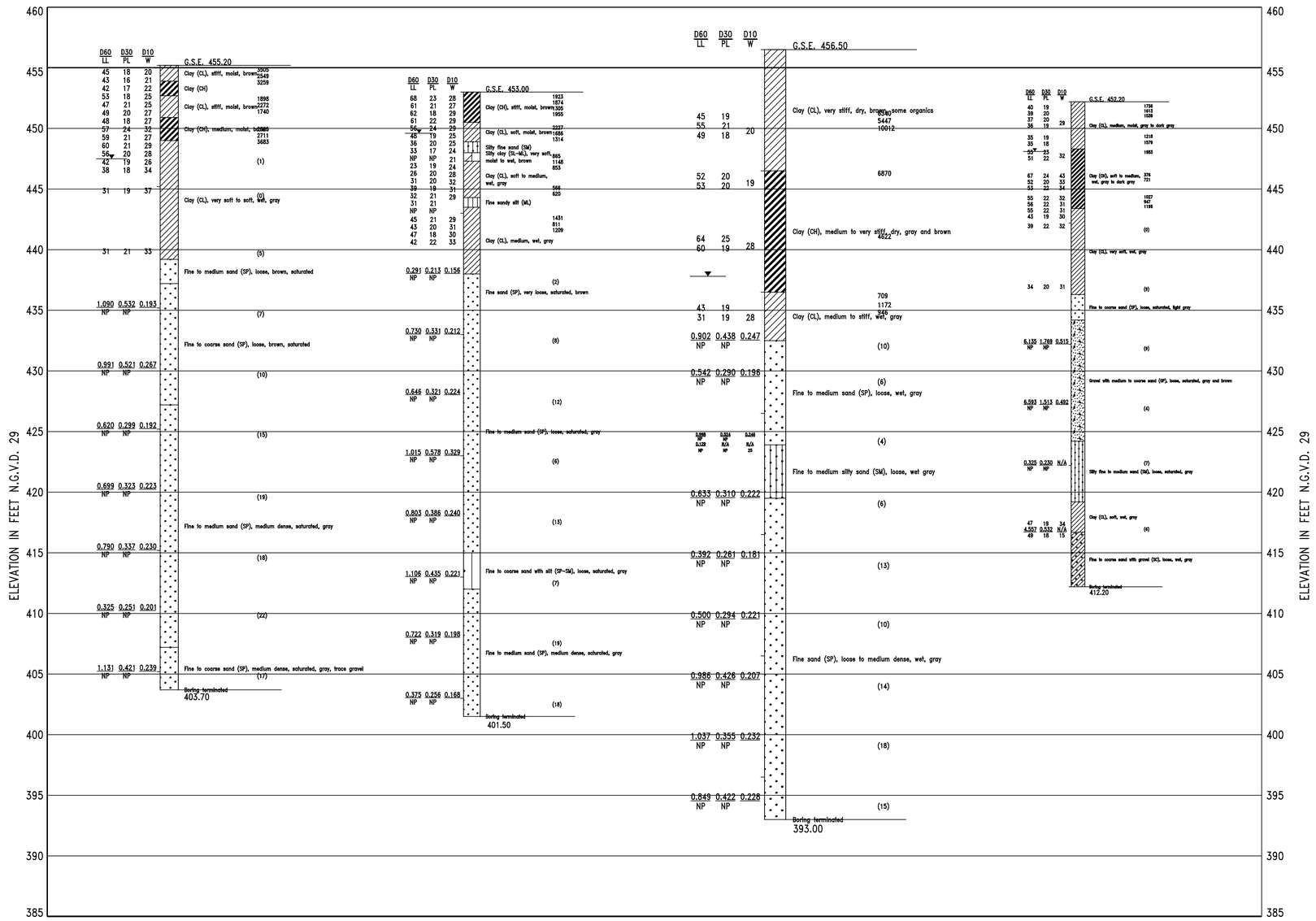

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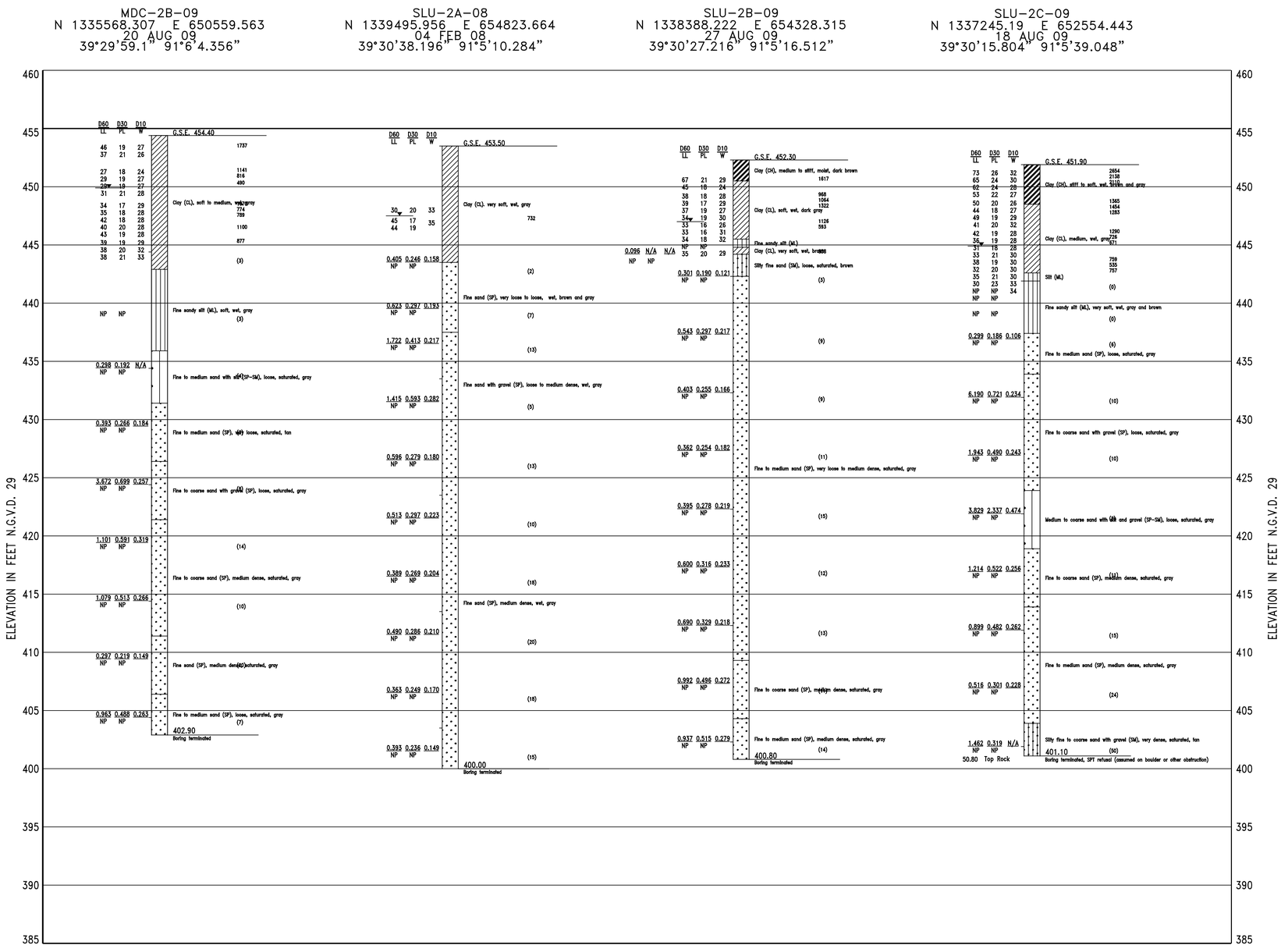
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
BORING PROFILES

SHEET IDENTIFICATION
B-204

auto_time



US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: DUSTIN C. HEER
DATE: 2013-01-22
DWN BY: DCH
CKD BY: JDM
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GLENDA J. HILL, P.E.
CONTRACT NO.:
PLOT SCALE: None
PLOT DATE:
FILE NUMBER: M-E06P-08
SIZE: ANSI D
FILE NAME: M-E06P-08_B-205PFL.dgn

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
BORING PROFILES

SHEET IDENTIFICATION
B-205

auto_time

PS-1-08
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29 JAN 08
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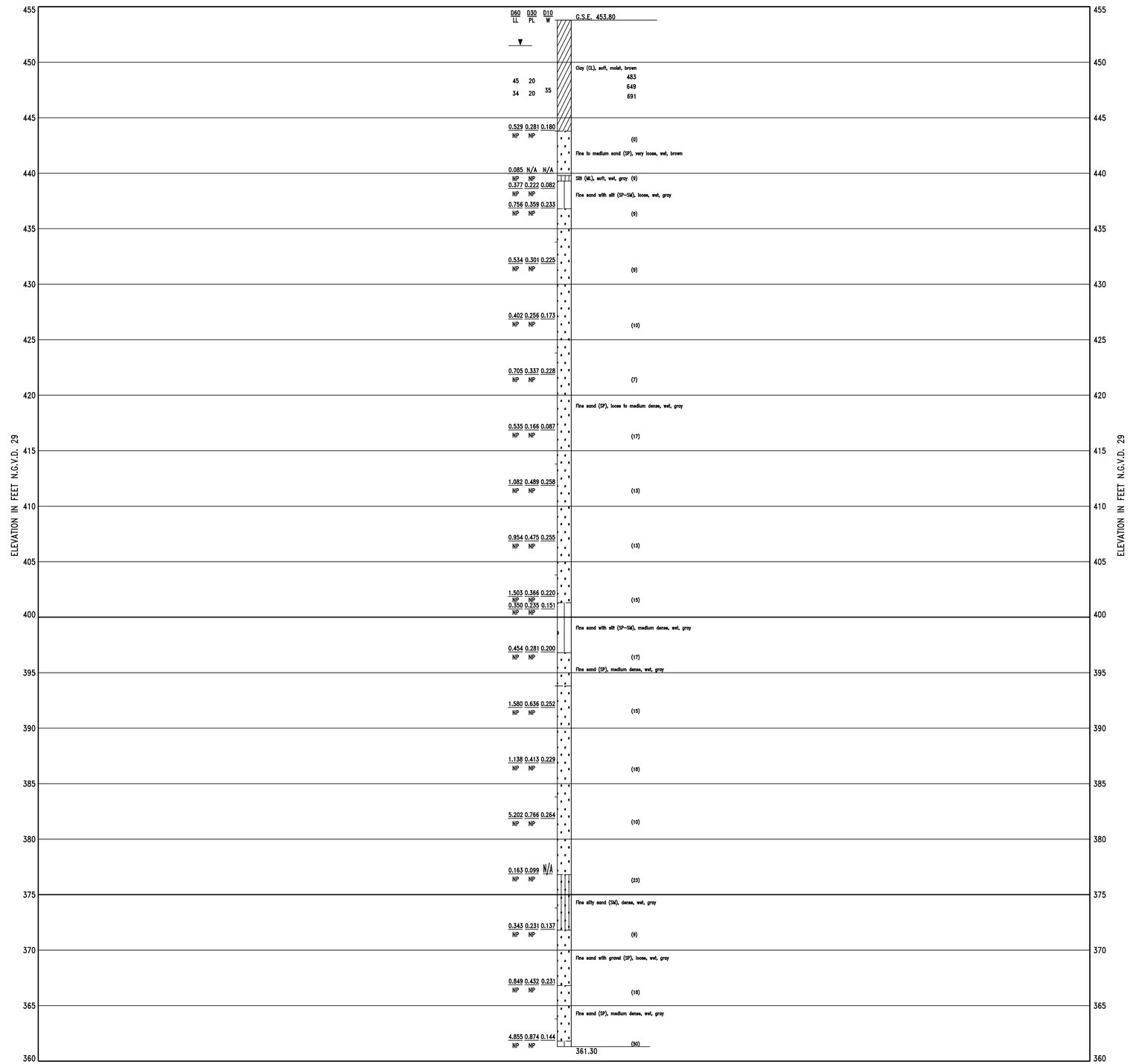

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DESIGNED BY: DUSTIN C. HEER
DATE: 2013-01-22
DWN BY: DCH
CKD BY: JDM
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GLENDA J. HILL, P.E.
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE: N/A
FILE NUMBER: 04.B206PI.dgn
SIZE: ANSI D
FILE NAME: M-EMP-08_B-206PFL.dgn

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
BORING PROFILES

SHEET IDENTIFICATION
B-206

auto_time

BORROW SITE PLAN

SCALE 1" = 200'

GENERAL SHEET NOTES:

1. BORROW AREAS MAY BE EXCAVATED UP TO A DEPTH OF 3 FT, PROVIDED MATERIAL IS SUITABLE.
2. BORROW AREA 1 SHALL BE EXCAVATED BY EXTENDING HORSEHOE LAKE TO THE SOUTH. HORSHOE LAKE WILL DRAIN TO REINIKING SLOUGH THROUGH A FUTURE STRUCTURE.
3. BORROW AREA 2 SHALL BE GRADED TO DRAIN TOWARD THE NORTH BERM DEGRADE.
4. THE RIDGE ALONG THE NORTHEAST EDGE OF BORROW AREA 3 SHALL NOT BE DISTURBED.
5. BORROW AREA 4 HAS BEEN CLEARED AND PARTIALLY EXCAVATED IN A PREVIOUS CONTRACT. SOME MATERIAL STILL REMAINS IN THE SOUTHERN END.
6. BORROW AREA 5 HAS BEEN CLEARED AND PARTIALLY EXCAVATED IN A PREVIOUS CONTRACT. SOME MATERIAL STILL REMAINS IN THE SOUTHERN END.
7. BORROW AREAS 6 AND 7 MAY BE USED IF CONDITIONS DO NOT PERMIT ACCESS TO OTHER BORROW AREAS.
8. COORDINATES FOR LIMITS OF BORROW AREAS ARE AVAILABLE UPON REQUEST.

Horizontal Coordinate System:
STATE PLANE MISSOURI EAST
SPC ZONE 2401
NAD 1983 US SURVEY FT

Vertical Coordinate System:
MSL NGVD 1929

Image Date:
SUMMER 2012

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U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

DESIGNED BY: J. OSTERHAGE
DWN BY: JLO
CKD BY: JAM
SUBMITTED BY: GARY J. LEE, P.E.
DATE: 2013-01-22
SOLICITATION NO.: W912P8-13-R-0711
CONTRACT NO.:
PLOT SCALE:
PLOT DATE:
FILE NUMBER: M-EMP-08
SIZE: ANSI D
FILE NAME: M-EMP-08_C-101PLN.dgn

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

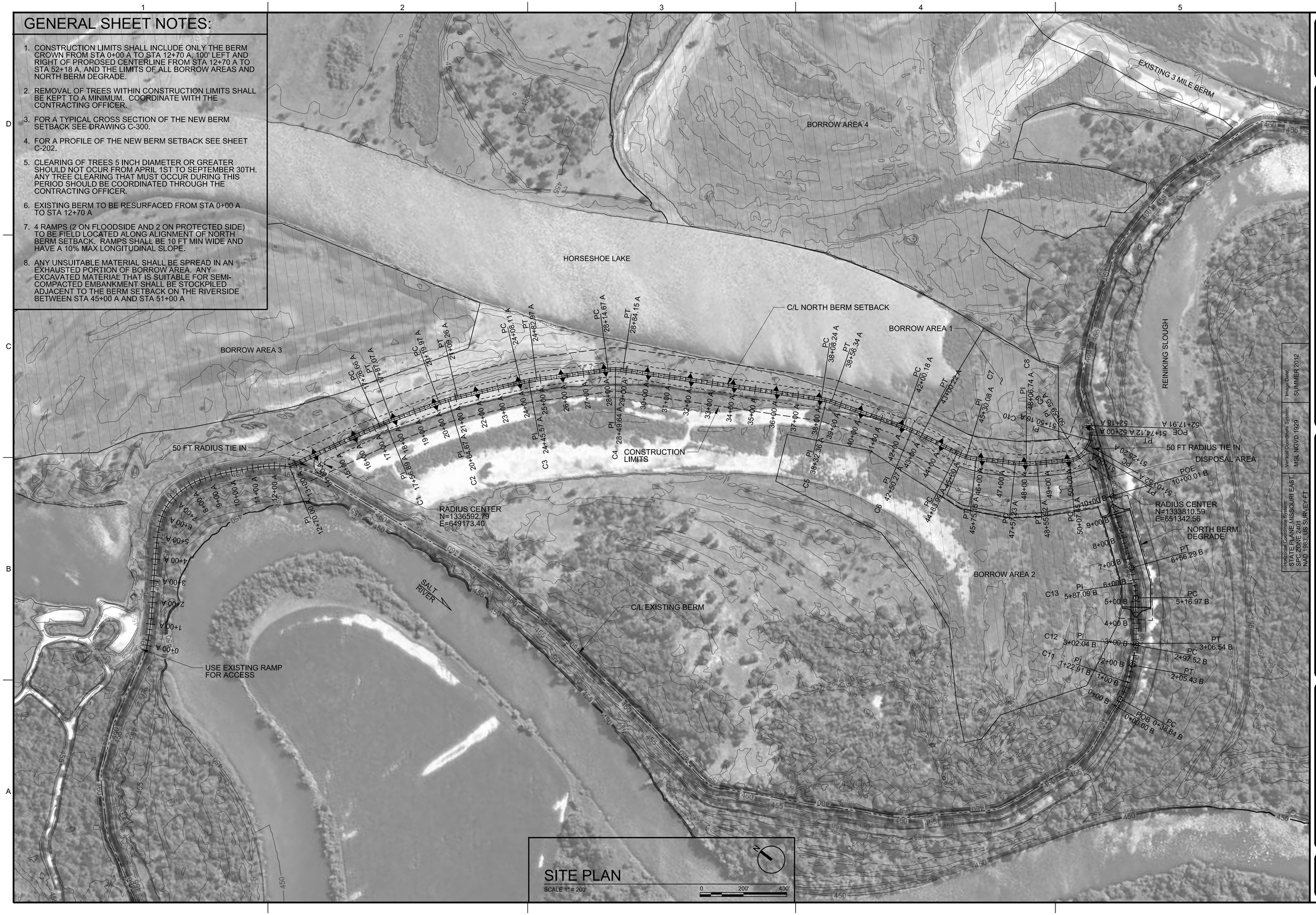
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI
NORTH BERM SETBACK/DEGRADE

BORROW SITE PLAN

SHEET IDENTIFICATION
C-101

GENERAL SHEET NOTES:

1. CONSTRUCTION LIMITS SHALL INCLUDE ONLY THE BERM CROWN FROM STA 0+00 A TO STA 12+70 A, 100' LEFT AND RIGHT OF PROPOSED CENTERLINE FROM STA 12+70 A TO STA 52+18 A, AND THE LIMITS OF ALL BORROW AREAS AND NORTH BERM DEGRADE.
2. REMOVAL OF TREES WITHIN CONSTRUCTION LIMITS SHALL BE KEPT TO A MINIMUM. COORDINATE WITH THE CONTRACTING OFFICER.
3. FOR A TYPICAL CROSS SECTION OF THE NEW BERM SETBACK SEE DRAWING C-300.
4. FOR A PROFILE OF THE NEW BERM SETBACK SEE SHEET C-202.
5. CLEARING OF TREES 5 INCH DIAMETER OR GREATER SHOULD NOT OCUR FROM APRIL 1ST TO SEPTEMBER 30TH. ANY TREE CLEARING THAT MUST OCCUR DURING THIS PERIOD SHOULD BE COORDINATED THROUGH THE CONTRACTING OFFICER.
6. EXISTING BERM TO BE RESURFACED FROM STA 0+00 A TO STA 12+70 A
7. 4 RAMPS (2 ON FLOODSIDE AND 2 ON PROTECTED SIDE) TO BE FIELD LOCATED ALONG ALIGNMENT OF NORTH BERM SETBACK. RAMPS SHALL BE 10 FT MIN WIDE AND HAVE A 10% MAX LONGITUDINAL SLOPE.
8. ANY UNSUITABLE MATERIAL SHALL BE SPREAD IN AN EXHAUSTED PORTION OF BORROW AREA. ANY EXCAVATED MATERIAL THAT IS SUITABLE FOR SEMI-COMPACTED EMBANKMENT SHALL BE STOCKPILED ADJACENT TO THE BERM SETBACK ON THE RIVERSIDE BETWEEN STA 45+00 A AND STA 51+00 A



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Horizontal Coordinate System: STATE PLANE MISSOURI EAST SPC ZONE 2401 NAD 1983, US SURVEY FT

Vertical Coordinate System: MSL NGVD 1929

Image Date: SUMMER 2012

DESIGNED BY: J. OSTERHAGE | DATE: 2013-01-22
DWN BY: JLO | CKD BY: JAM | SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GARY J. LEE, P.E. | CONTRACT NO.:
PLOT SCALE: As Shown | PLOT DATE: As Shown | FILE NUMBER: M-EMP-08
SIZE: ANSI D | FILE NAME: M-EMP-08_C-102PLN.dgn

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

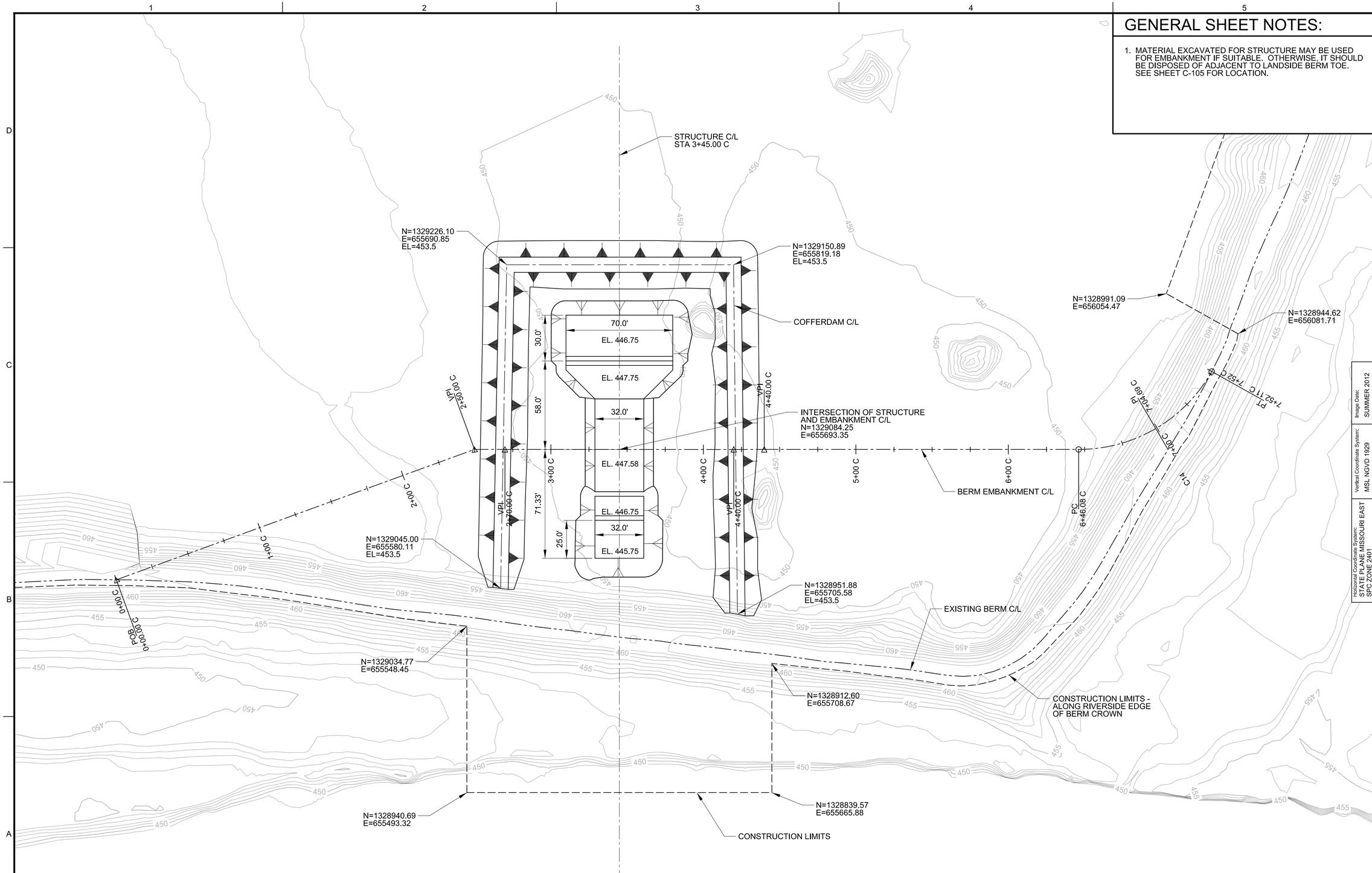
NORTH BERM SETBACK/DEGRADE

SITE PLAN

SHEET IDENTIFICATION
C-102

GENERAL SHEET NOTES:

1. MATERIAL EXCAVATED FOR STRUCTURE MAY BE USED FOR EMBANKMENT IF SUITABLE. OTHERWISE, IT SHOULD BE DISPOSED OF ADJACENT TO LANDSIDE BERM TOE. SEE SHEET C-105 FOR LOCATION.



SR-1 EXCAVATION / COFFERDAM SITE PLAN

SCALE 1" = 30'

0 30' 60'

Horizontal Coordinate System:
STATE PLANE MISSOURI EAST
SPC ZONE 2401
NAD 1983, US SURVEY FT

Vertical Coordinate System:
MSL NGVD 1929

Image Date:
SUMMER 2012

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U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

DESIGNED BY: J. OSTERHAGE
DATE: 2013-01-22
DWN BY: JLO
CKD BY: JAM
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GARY J. LEE, P.E.
CONTRACT NO.:

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

PLOT SCALE: N/A
PLOT DATE: N/A
FILE NUMBER: HE EMP-08
SITE: ANSI D
FILE NAME: M:\EMP-08\C-103PLN.dgn

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

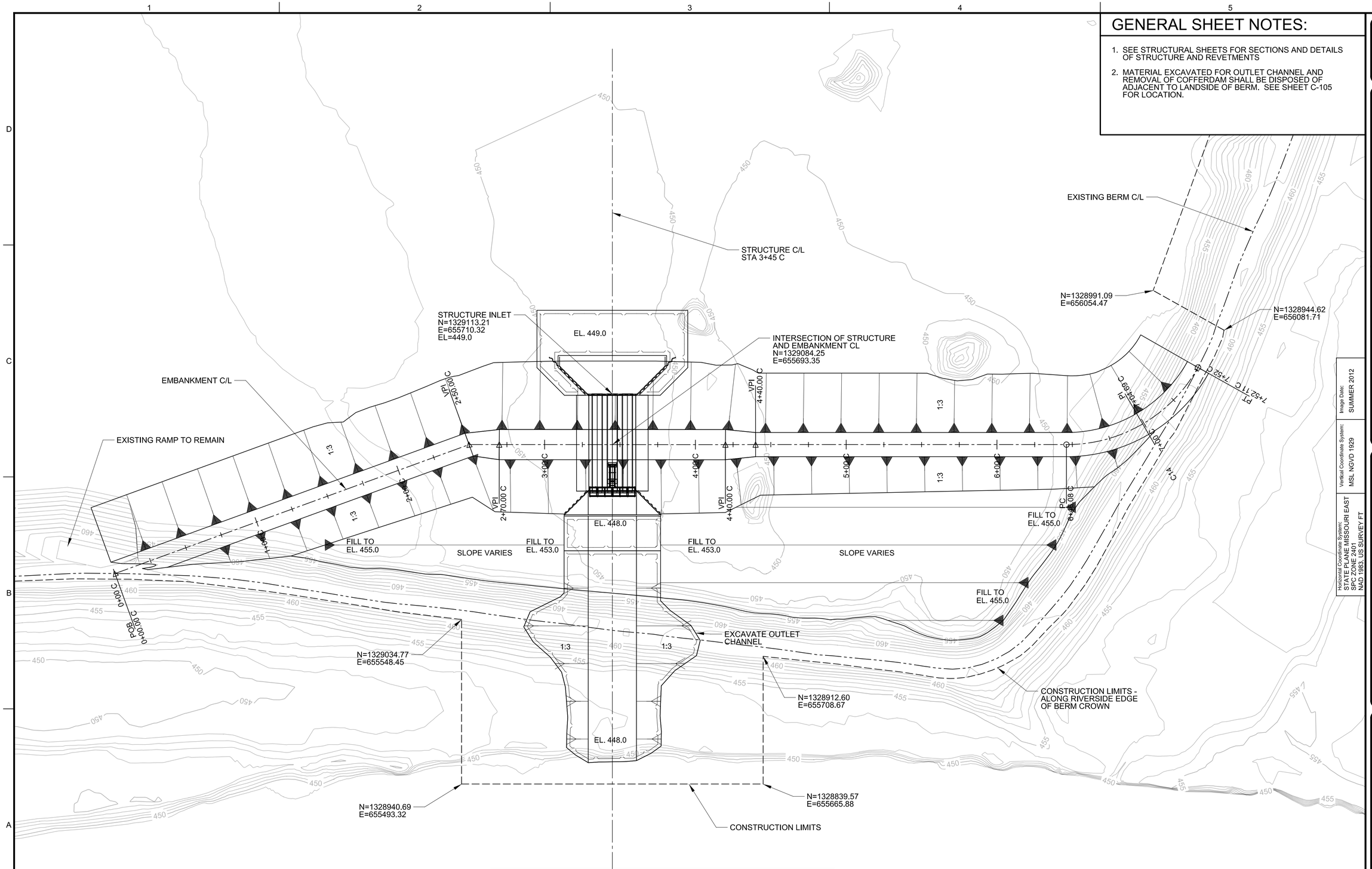
STRUCTURE SR-1

EXCAVATION AND COFFERDAM SITE PLAN

SHEET IDENTIFICATION
C-103

GENERAL SHEET NOTES:

1. SEE STRUCTURAL SHEETS FOR SECTIONS AND DETAILS OF STRUCTURE AND REVETMENTS
2. MATERIAL EXCAVATED FOR OUTLET CHANNEL AND REMOVAL OF COFFERDAM SHALL BE DISPOSED OF ADJACENT TO LANDSIDE OF BERM. SEE SHEET C-105 FOR LOCATION.



STRUCTURE SR-1 FINAL SITE PLAN

SCALE 1" = 30'

0 30' 60'

Horizontal Coordinate System:
STATE PLANE MISSOURI EAST
SPC ZONE 2401
NAD 1983, US SURVEY FT

Vertical Coordinate System:
MSL NGVD 1929

Image Date:
SUMMER 2012

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U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

DESIGNED BY: J. OSTERHAGE
DWN BY: JLO
CKD BY: JAM
SUBMITTED BY: GARY J. LEE, P.E.
DATE: 2013-01-22
SOLICITATION NO.: W912P9-13-R-0711
CONTRACT NO.:
PLOT SCALE: N/A
PLOT DATE: N/A
FILE NUMBER: IM EMP-128
SITE: ANSID
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U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1

FINAL SITE PLAN

SHEET IDENTIFICATION
C-104

GENERAL SHEET NOTES:

1. CLEAR AND GRUB VEGETATION WITHIN FOOTPRINT OF INTERIOR CHANNEL.
2. EXCAVATE INTERIOR CHANNELS TO EL. 449'.
3. PLACE EXCAVATED MATERIAL IN DISPOSAL AREA TO A MAXIMUM DEPTH OF 5 FT

INTERIOR CHANNEL EXCAVATION PLAN

SCALE 1" = 50'

0 50' 100'

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Horizontal Coordinate System: STATE PLANE MISSOURI EAST SPC ZONE 2401 NAD 1983, US SURVEY FT

Vertical Coordinate System: MSL NGVD 1929

Image Date: SUMMER 2012

DESIGNED BY: J. OSTERHAGE | DATE: 2013-01-22

DWN BY: JLO | CKD BY: JAM | SOLICITATION NO.: W912P9-13-R-0711

SUBMITTED BY: GARY J. LEE, P.E. | CONTRACT NO.:

PLOT SCALE: N/A | PLOT DATE: N/A | FILE NUMBER: M-EMP-08

SIZE: ANSI D | FILE NAME: M-EMP-08_C-105PLN.dgn

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U.S. ARMY CORPS OF ENGINEERS
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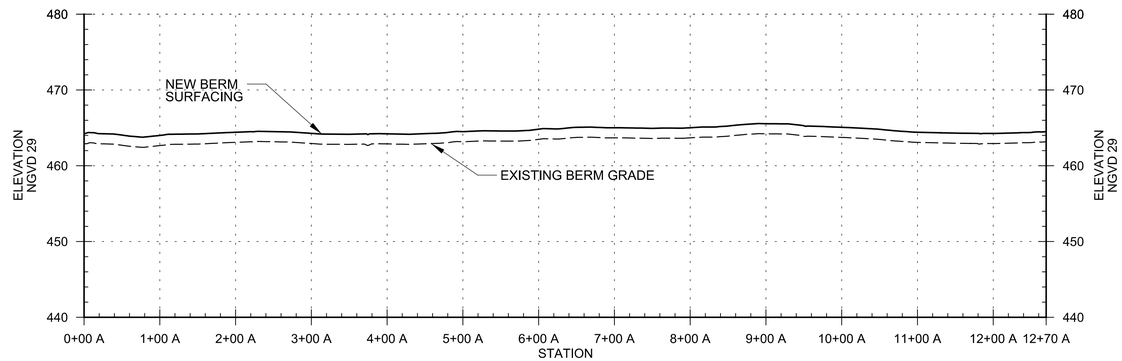
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1

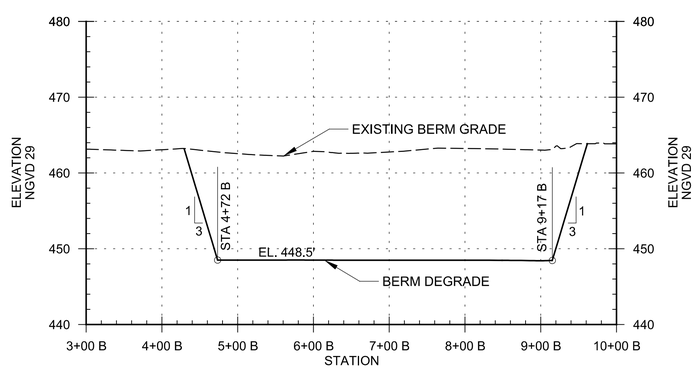
INTERIOR CHANNEL EXCAVATION PLAN

SHEET IDENTIFICATION
C-105



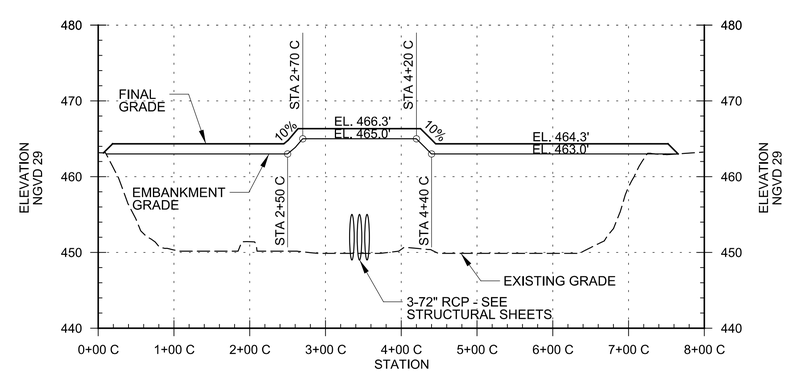
PROFILE - BERM RESURFACING

SCALE 1" = 100' H
1" = 10' V



PROFILE - NORTH BERM DEGRADE

SCALE 1" = 100' H
1" = 10' V



PROFILE - BERM SETBACK AT SR-1 STRUCTURE

SCALE 1" = 100' H
1" = 10' V

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U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

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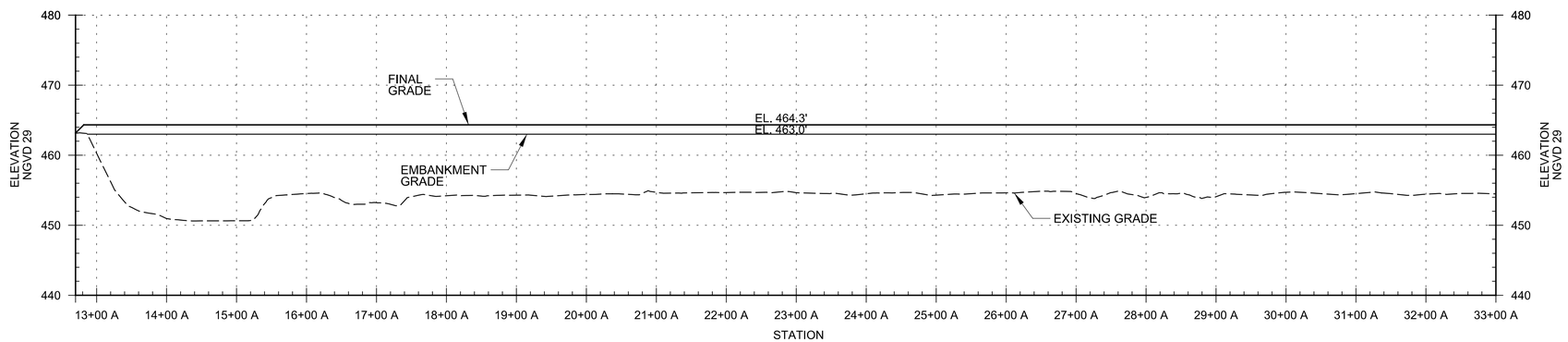
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GARY J. LEE, P.E.
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE: N/a
SIZE: ANSI D
FILE NUMBER: M-EMP-108
FILE NAME: M-EMP-08_C-201PFL.dgn

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

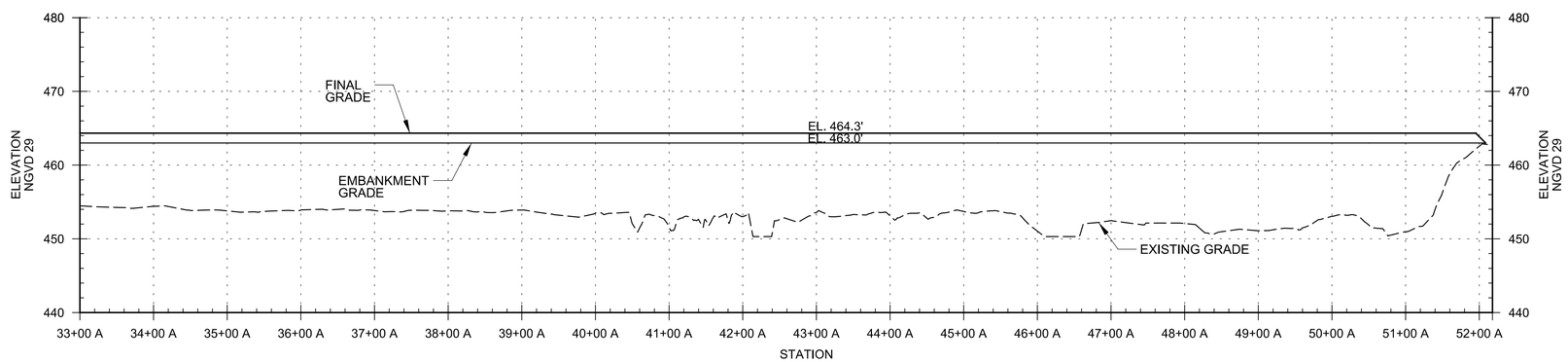
BERM RESURFACING, DEGRADE, AND STRUCTURE EMBANKMENT PROFILES

SHEET IDENTIFICATION
C-201



PROFILE - NORTH BERM SETBACK

SCALE 1" = 100' H
1" = 10' V



PROFILE - NORTH BERM SETBACK

SCALE 1" = 100' H
1" = 10' V

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U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE
DATE: 2013-01-22
DWN BY: JLO
CKD BY: JAM
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GARY J. LEE, P.E.
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE: N/A
FILE NUMBER: M-EMP-08
SIZE: ANSI D
FILE NAME: M-EMP-08_C-202PFL.dgn

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

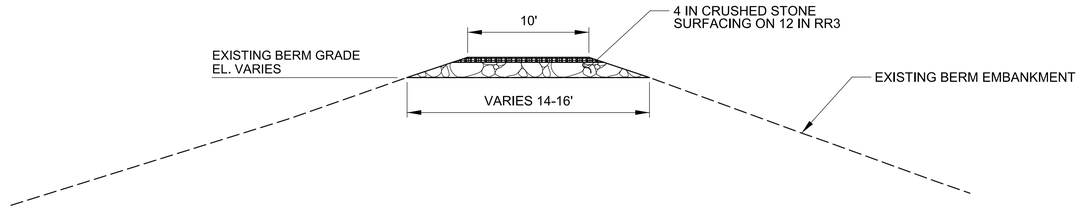
NORTH BERM SETBACK

PROFILES

SHEET IDENTIFICATION
C-202

GENERAL SHEET NOTES:

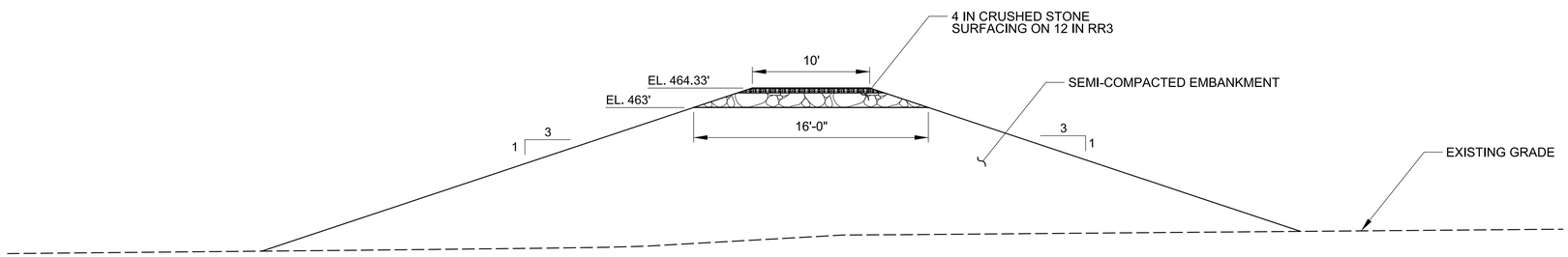
1. TRANSITION EMBANKMENT WIDTH FROM STA 2+50 C TO STA 2+70 C AND STA 4+20 C TO STA 4+40 C



TYPICAL SECTION - BERM RESURFACING

NO SCALE

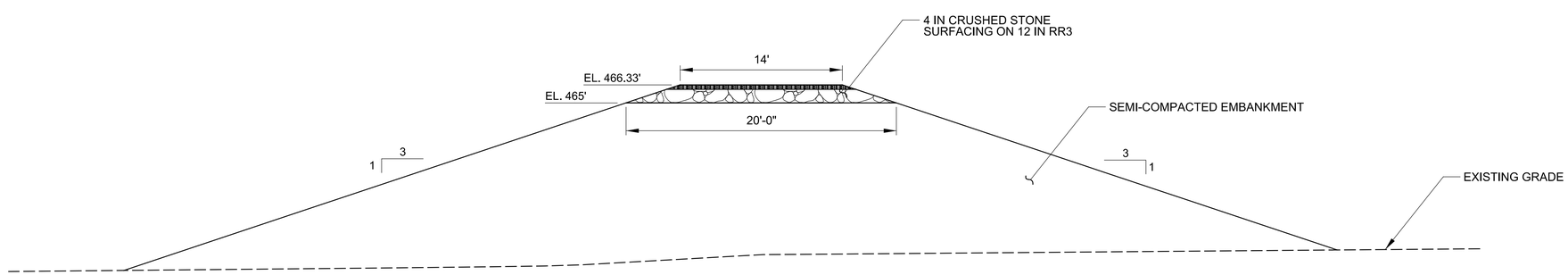
STA 0+00 A TO STA 12+70 A



TYPICAL SECTION - BERM SETBACK

NO SCALE

STA 12+70 A TO STA 52+18 A
STA 0+00 C TO STA 2+50 C
STA 4+40 C TO STA 7+25 C



TYPICAL SECTION - BERM SETBACK OVER STRUCTURE

NO SCALE

STA 2+70 C TO STA 4+20 C

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ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE	DATE: 2013-01-22
DWN BY: JLO	CKD BY: JAM
SOLICITATION NO.: W912P9-13-R-0711	
SUBMITTED BY: GARY J. LEE, P.E.	CONTRACT NO.:
PLOT SCALE: 1:1	PLOT DATE: N/A
FILE NUMBER: M-EMP-08	
SIZE: ANSI D	FILE NAME: M-EMP-08_C-300SEC.dgn

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

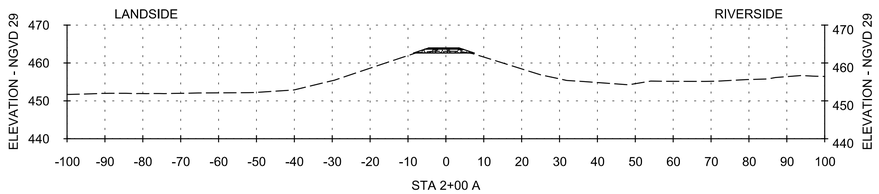
NORTH BERM SETBACK

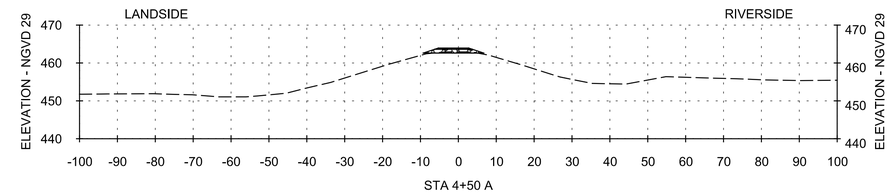
TYPICAL CROSS SECTIONS

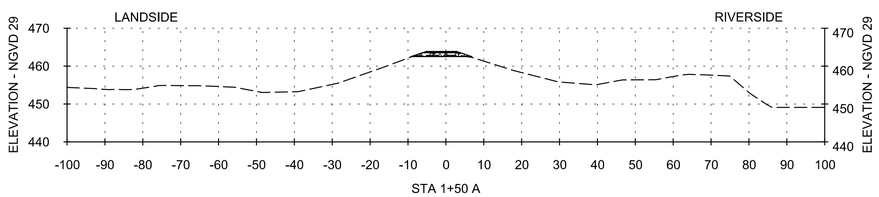
SHEET IDENTIFICATION
C-300

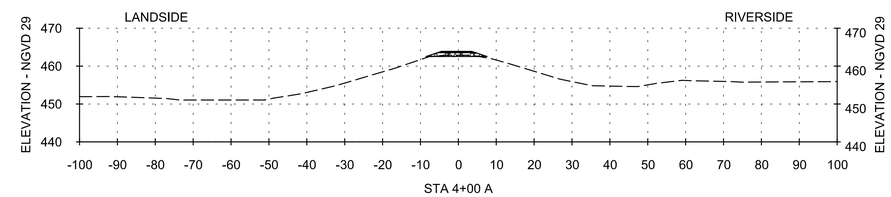
GENERAL SHEET NOTES:

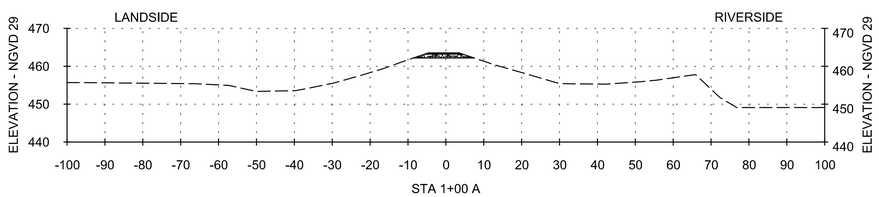
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.

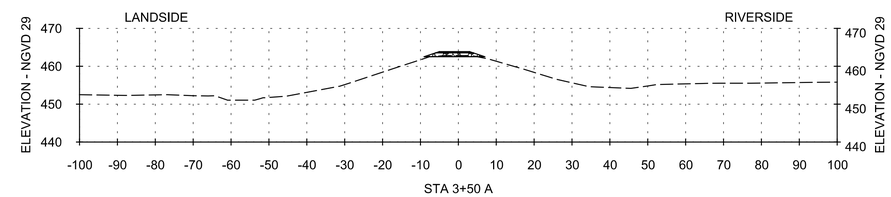


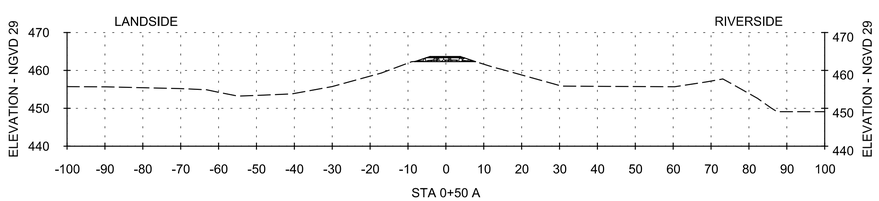


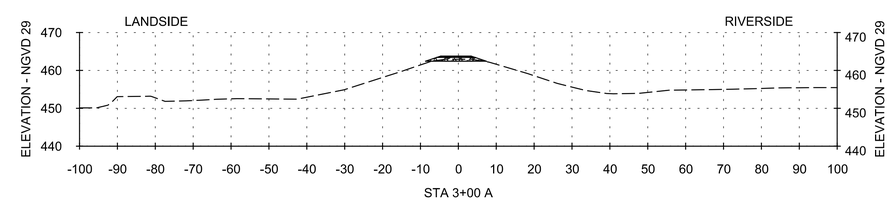


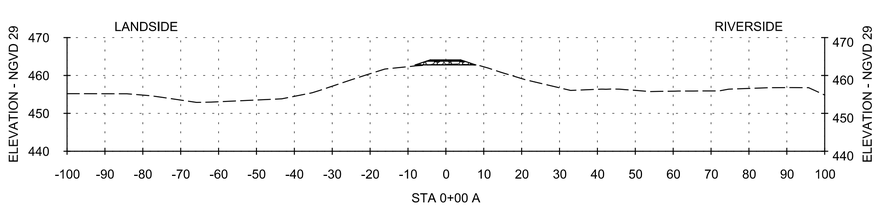


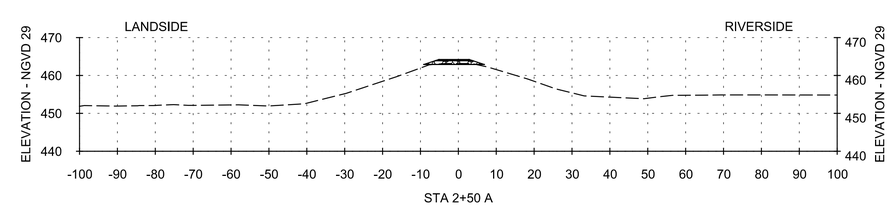












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MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE
DATE: 2013-01-22
DWN BY: JLO
CKD BY: JAM
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GARY J. LEE, P.E.
CONTRACT NO.:
PLOT SCALE: N/A
PLOT DATE: N/A
FILE NUMBER: M-EMP-08
SIZE: ANSI D
FILE NAME: M-EMP-08_C-301SEC.dgn

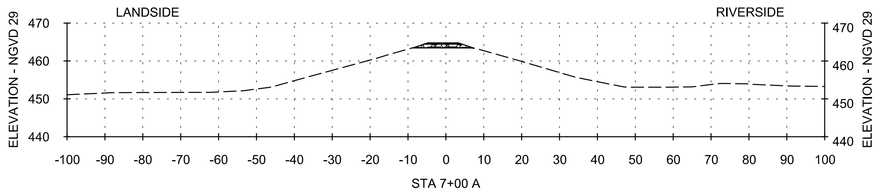
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

BERM RESURFACING
CROSS SECTIONS
STA 0+00 A TO STA 4+50 A

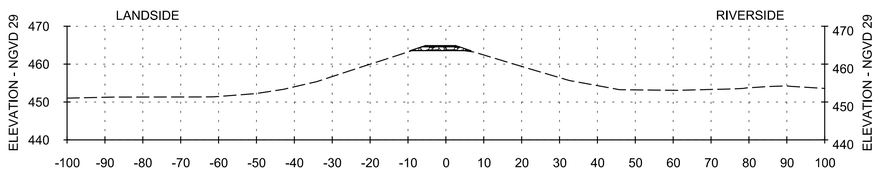
SHEET IDENTIFICATION
C-301

GENERAL SHEET NOTES:

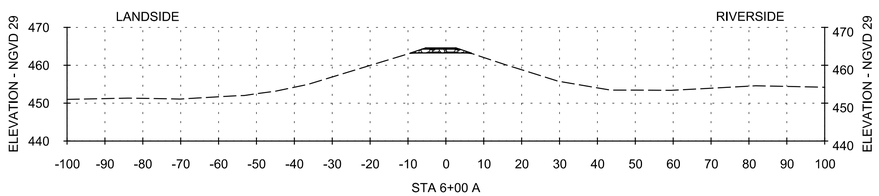
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.



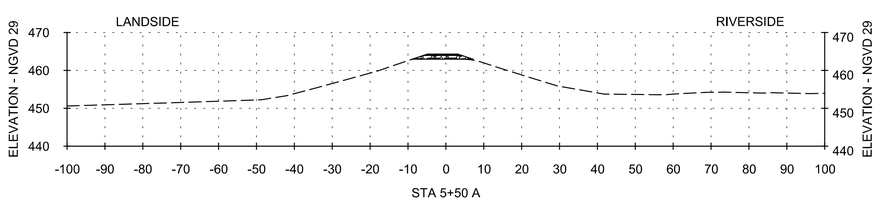
STA 7+00 A



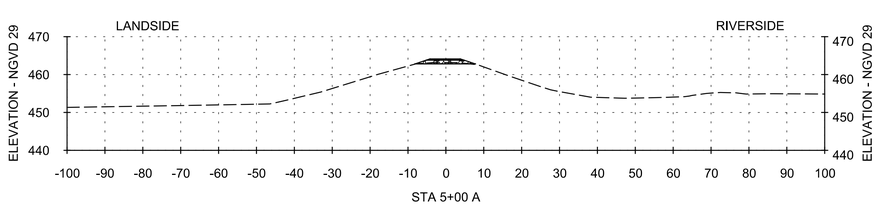
STA 6+50 A



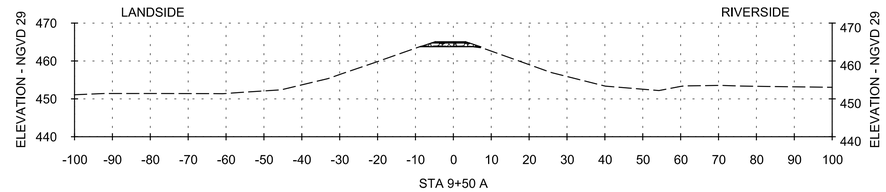
STA 6+00 A



STA 5+50 A



STA 5+00 A



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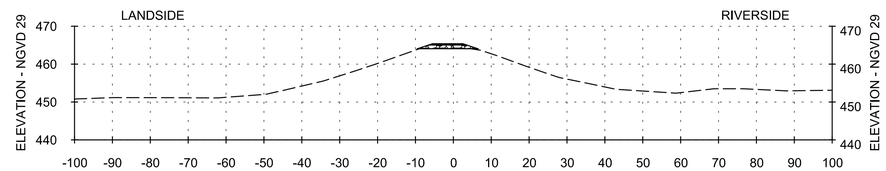

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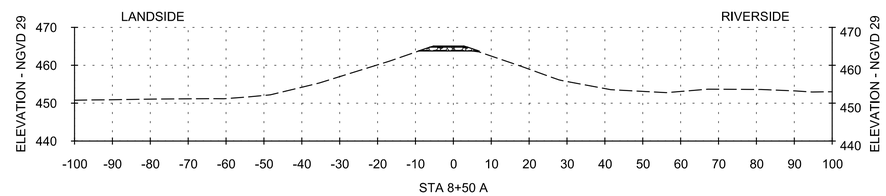
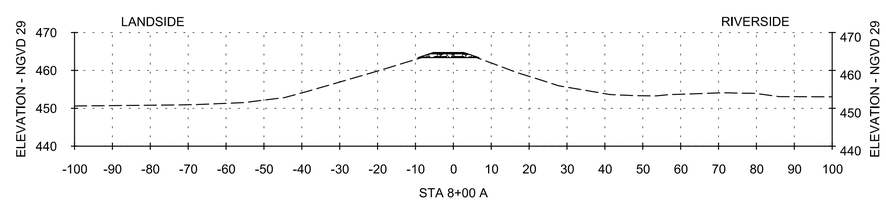


STA 8+50 A



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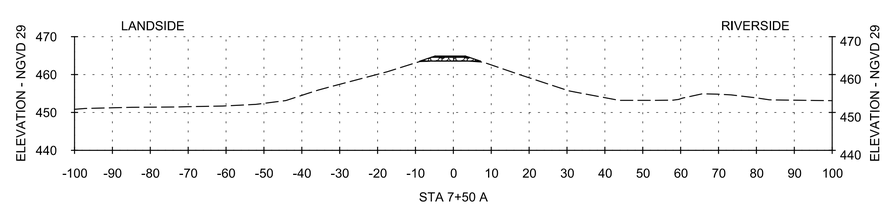


STA 7+50 A

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE
DATE: 2013-01-22
DWN BY: JLO
CKD BY: JAM
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GARY J. LEE, P.E.
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE: N/A
FILE NUMBER: M-EMP-08
SIZE: ANSI D
FILE NAME: M-EMP-08_C-3025EC.dgn

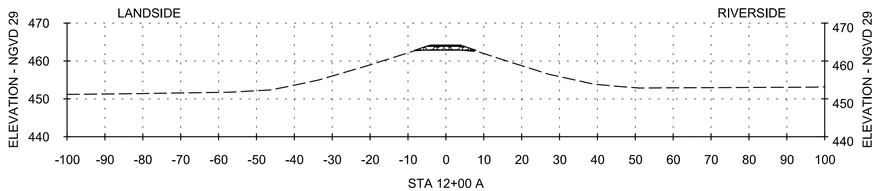
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

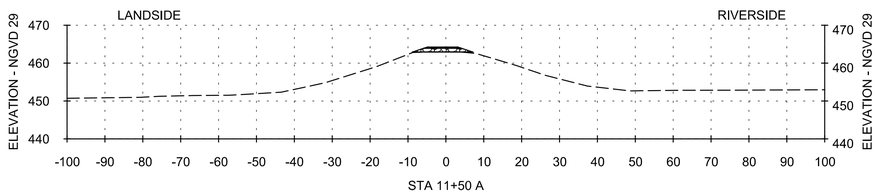
BERM RESURFACING
CROSS SECTIONS
STA 5+00 A TO STA 9+50 A

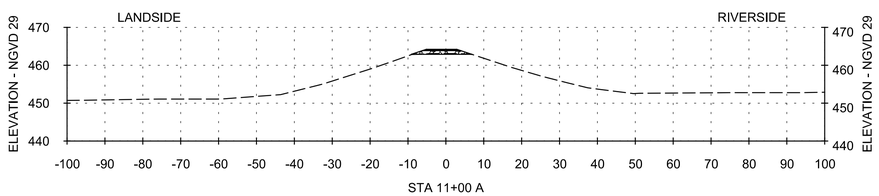
SHEET IDENTIFICATION
C-302

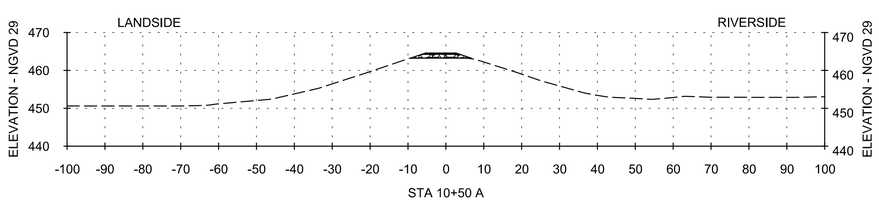
GENERAL SHEET NOTES:

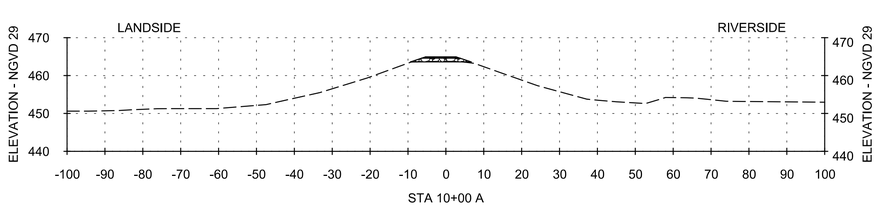
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.

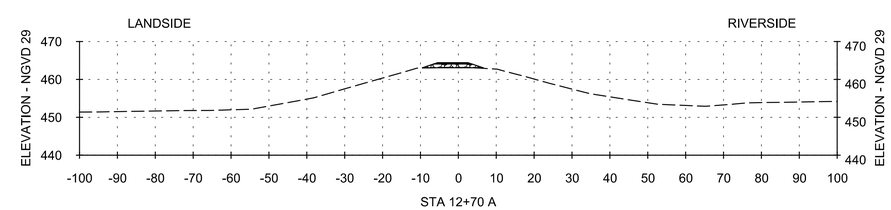


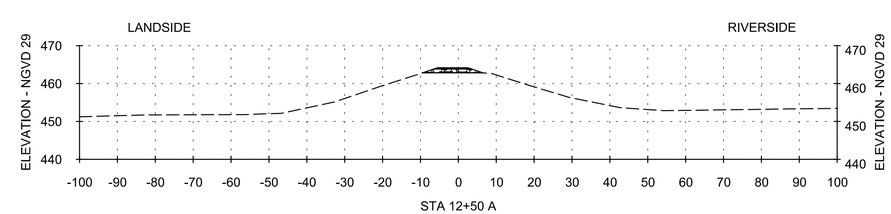












US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE
DATE: 2013-01-22
DWN BY: JLO
CKD BY: JAM
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GARY J. LEE, P.E.
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE: N/A
FILE NUMBER: M-EMP-08
SIZE: ANSI D
FILE NAME: M-EMP-08_C-303SEC.dgn

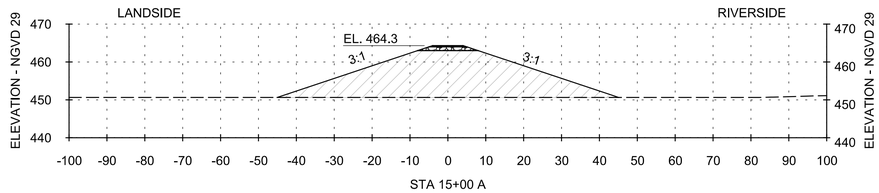
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

BERM RESURFACING
CROSS SECTIONS
STA 10+00 A TO STA 12+70 A

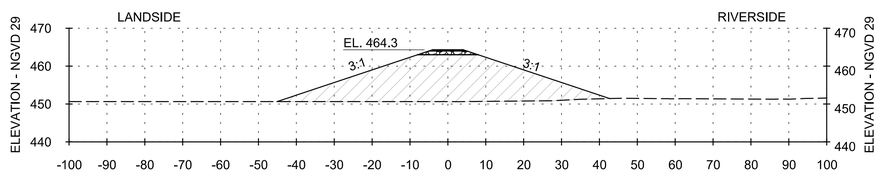
SHEET IDENTIFICATION
C-303

GENERAL SHEET NOTES:

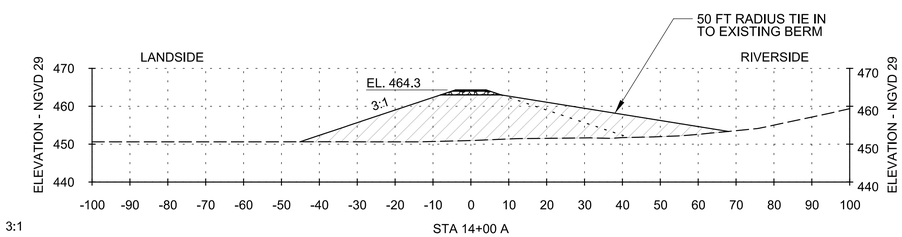
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.



STA 15+00 A



STA 14+50 A



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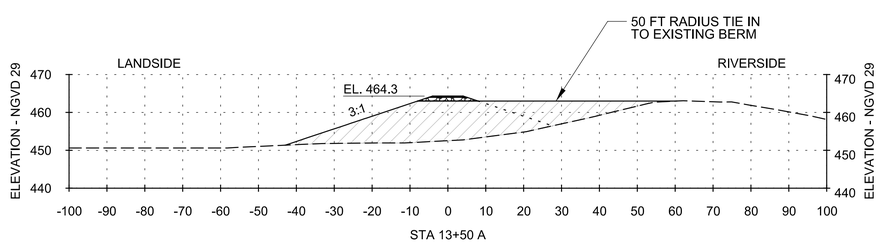
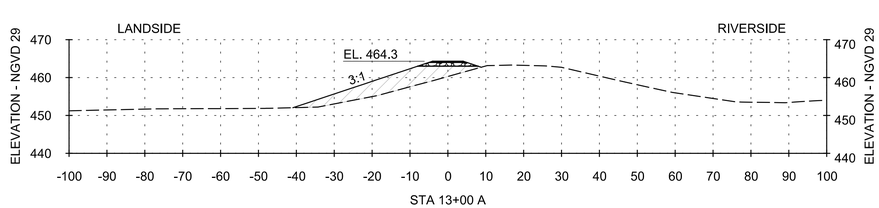
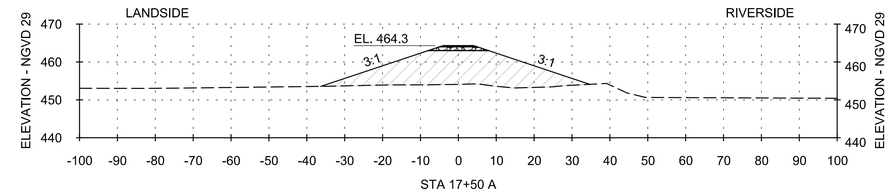


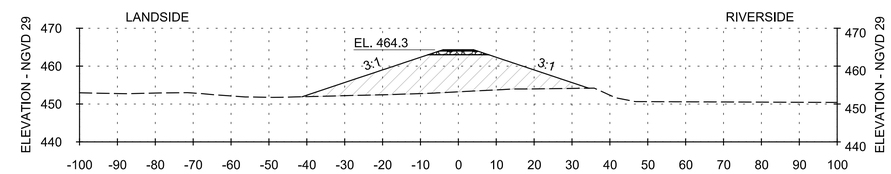
STA 13+50 A



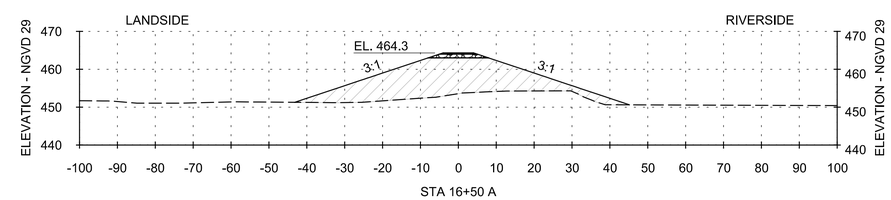
STA 13+00 A



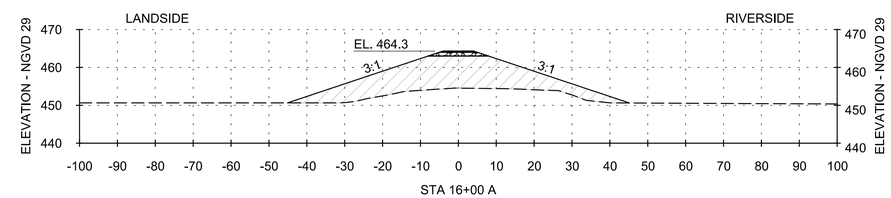
STA 17+50 A



STA 17+00 A



STA 16+50 A



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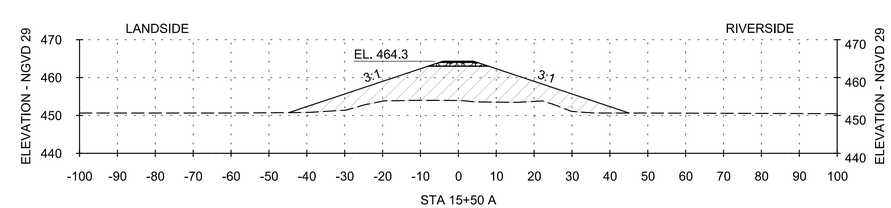


STA 15+50 A

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

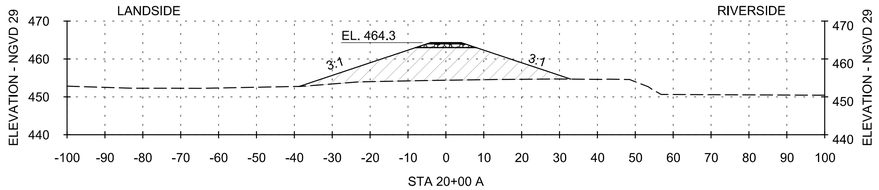
DESIGNED BY: J. OSTERHAGE
DWN BY: JLO
CKD BY: JAM
SUBMITTED BY: GARY J. LEE, P.E.
PLOT SCALE: 1:1
PLOT DATE: N/A
SIZE: ANSI D
FILE NAME: M-EMP-08_C-304SEC.dgn
FILE NUMBER: M-EMP-08
DATE: 2015-01-22
SOLICITATION NO.: W912P9-13-R-0711
CONTRACT NO.:

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI
NORTH BERM SETBACK
CROSS SECTIONS
STA 13+00 A TO STA 17+50 A

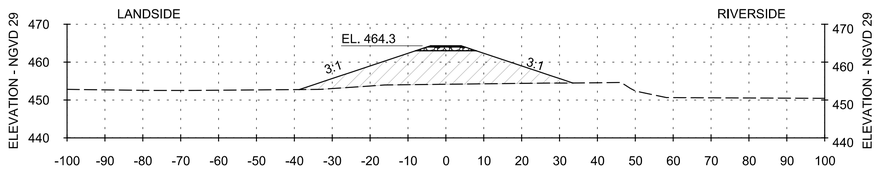
SHEET IDENTIFICATION
C-304

GENERAL SHEET NOTES:

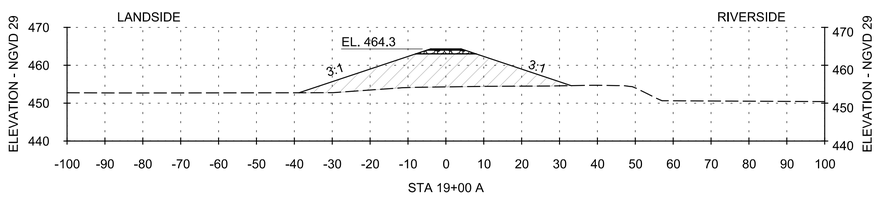
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.



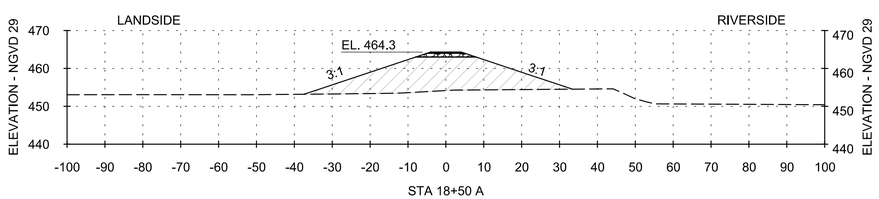
STA 20+00 A



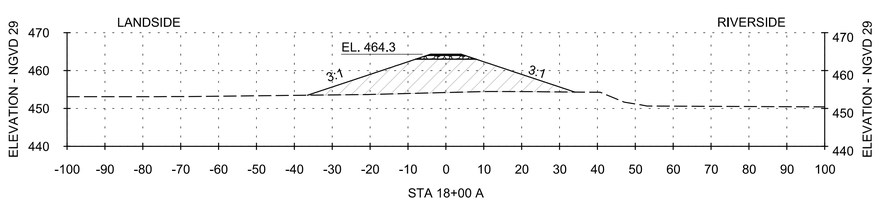
STA 19+50 A



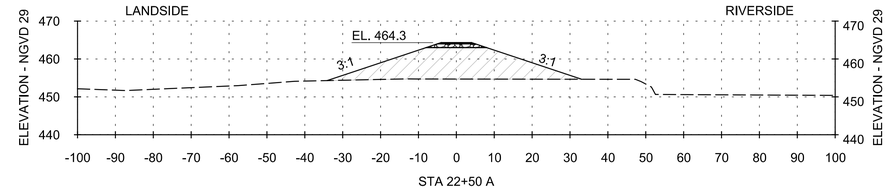
STA 19+00 A



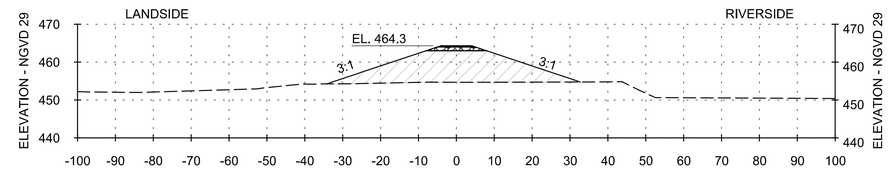
STA 18+50 A



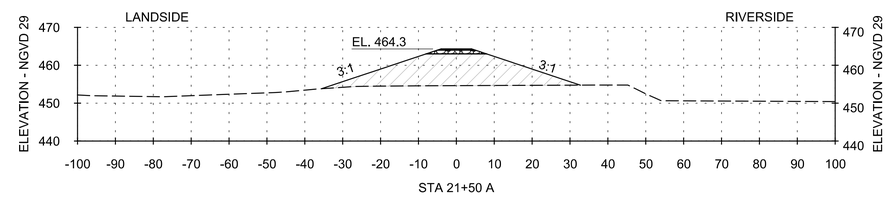
STA 18+00 A



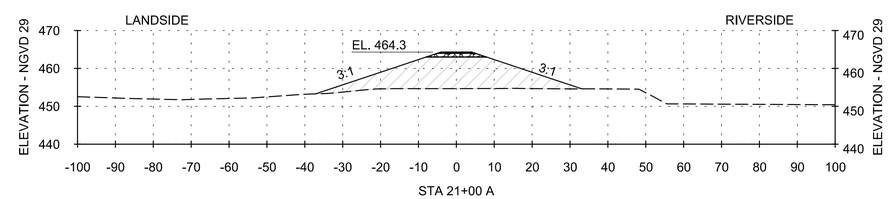
STA 22+50 A



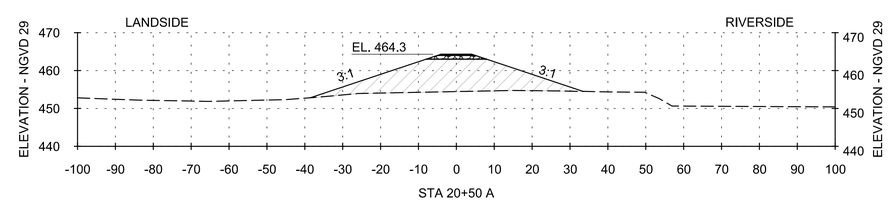
STA 22+00 A



STA 21+50 A



STA 21+00 A



STA 20+50 A

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE
DWN BY: JLO
CKD BY: JAM
SUBMITTED BY: GARY J. LEE, P.E.
PLOT SCALE: 1:1
PLOT DATE: N/A
SIZE: ANSI D
FILE NAME: M-EMP-08_C-303SEC.dgn
DATE: 2013-01-22
SOLICITATION NO.: W912P9-13-R-0711
CONTRACT NO.:
FILE NUMBER: M-EMP-08

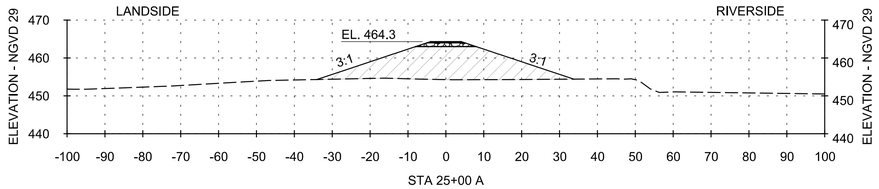
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

NORTH BERM SETBACK
CROSS SECTIONS
STA 18+00 A TO STA 22+50 A

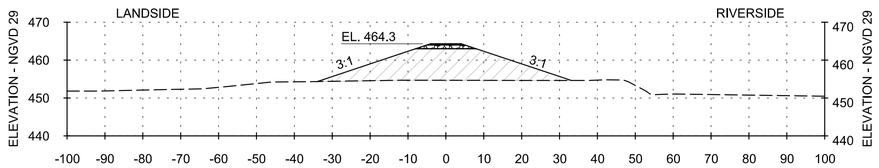
SHEET IDENTIFICATION
C-305

GENERAL SHEET NOTES:

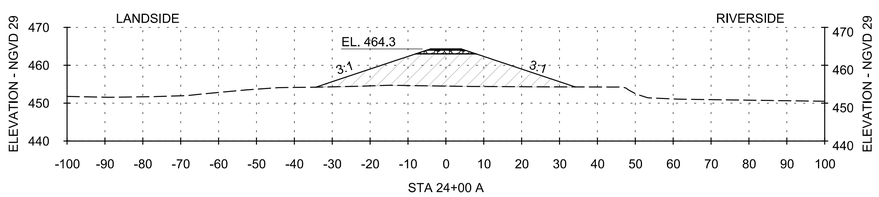
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.



STA 25+00 A



STA 24+50 A



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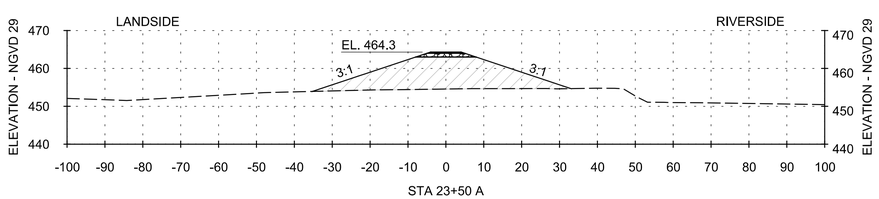
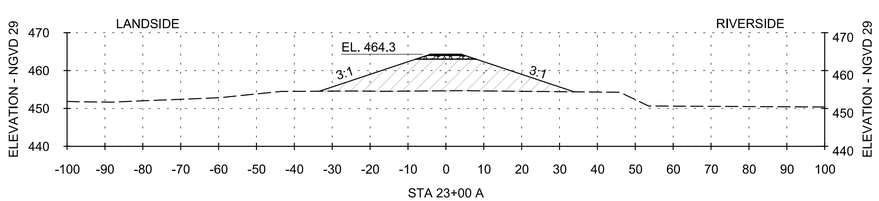
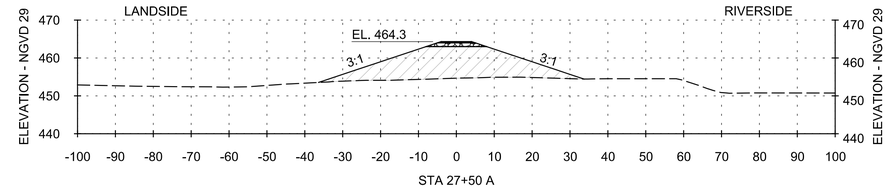


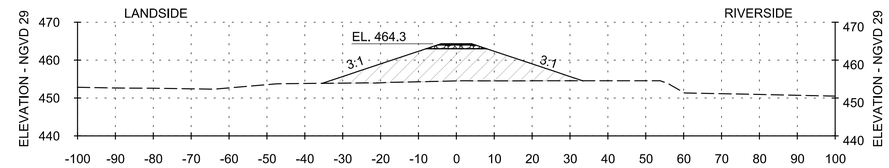
STA 23+50 A



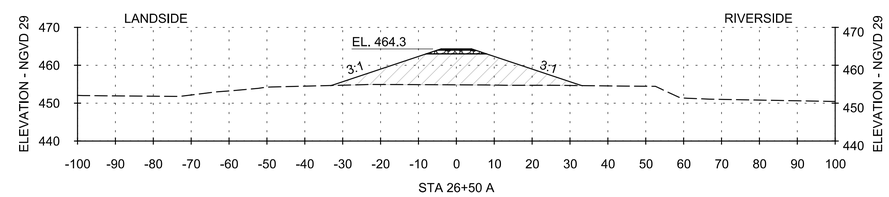
STA 23+00 A



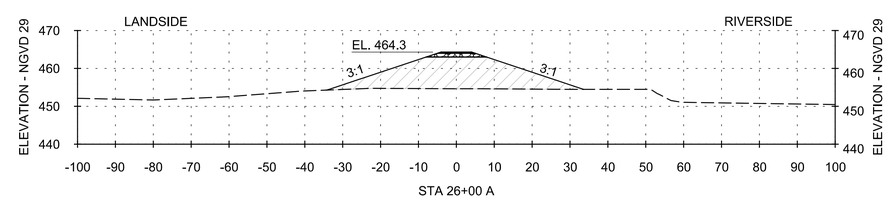
STA 27+50 A



STA 27+00 A



STA 26+50 A



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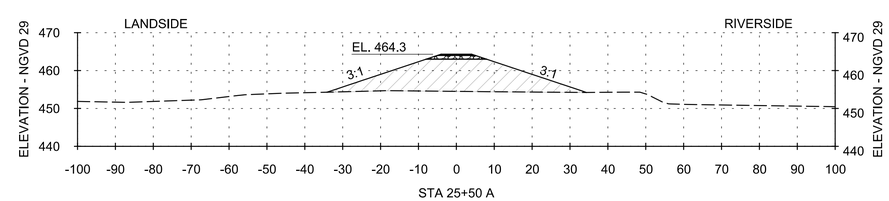


STA 25+50 A

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE
DATE: 2013-01-22
DWN BY: JLO
CKD BY: JAM
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GARY J. LEE, P.E.
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE:
SIZE: ANSI D
FILE NUMBER: M-EMP-08
FILE NAME: M-EMP-08_C-306SEC.dgn

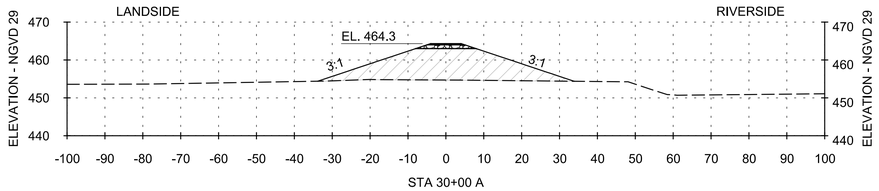
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

NORTH BERM SETBACK
CROSS SECTIONS
STA 23+00 A TO STA 27+50 A

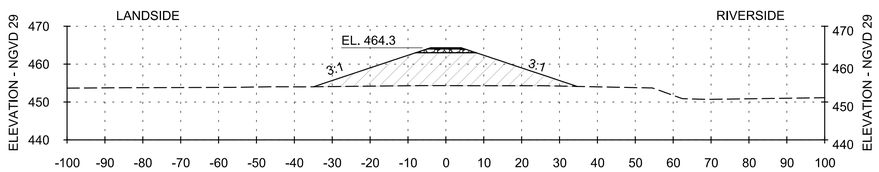
SHEET IDENTIFICATION
C-306

GENERAL SHEET NOTES:

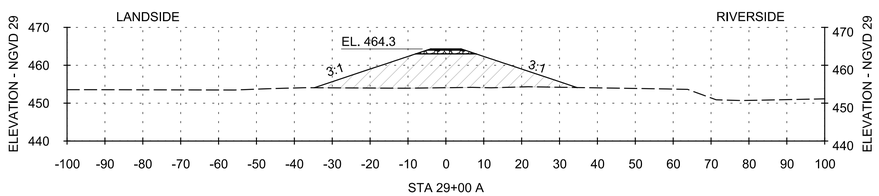
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.



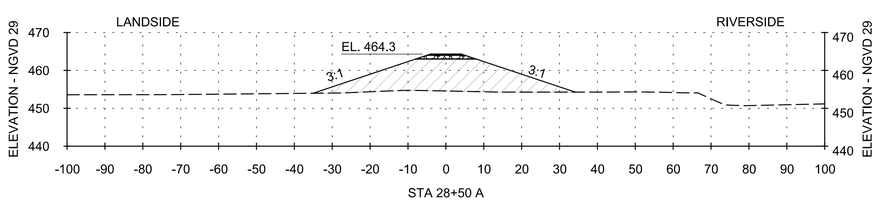
STA 30+00 A



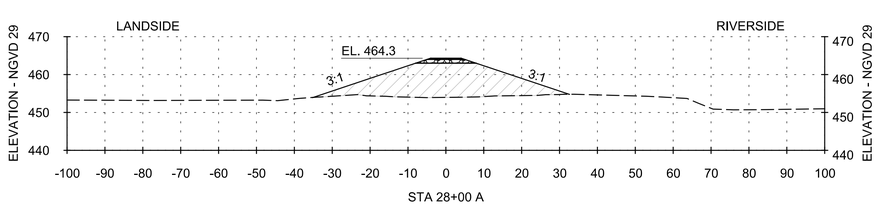
STA 29+50 A



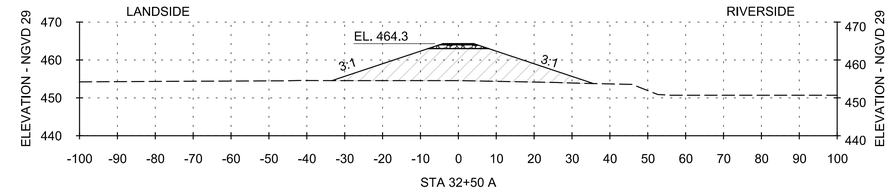
STA 29+00 A



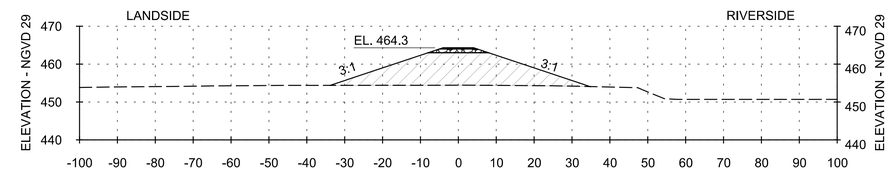
STA 28+50 A



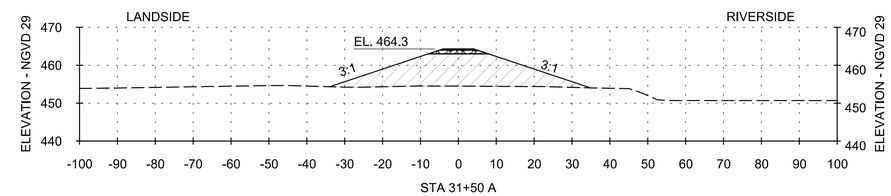
STA 28+00 A



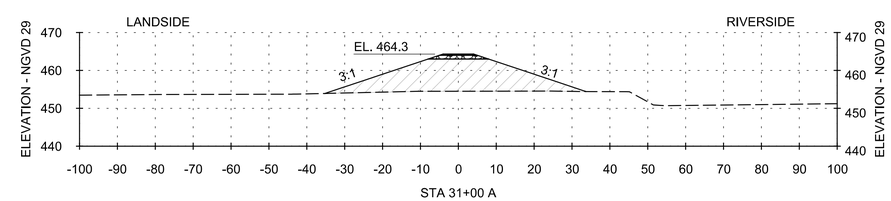
STA 32+50 A



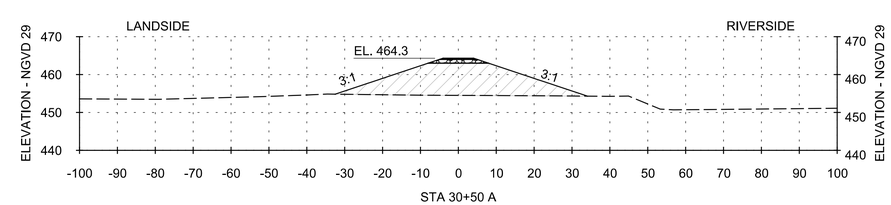
STA 32+00 A



STA 31+50 A



STA 31+00 A



STA 30+50 A

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE
DATE: 2013-01-22
DWN BY: JLO
CKD BY: JAM
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GARY J. LEE, P.E.
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE: N/A
FILE NUMBER: M-EMP-08
SIZE: ANSI D
FILE NAME: M-EMP-08_C-307SEC.dgn

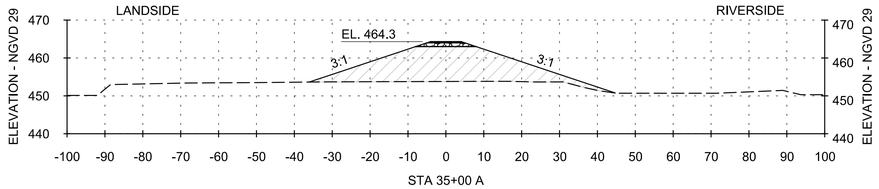
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

NORTH BERM SETBACK
CROSS SECTIONS
STA 28+00 A TO STA 32+50 A

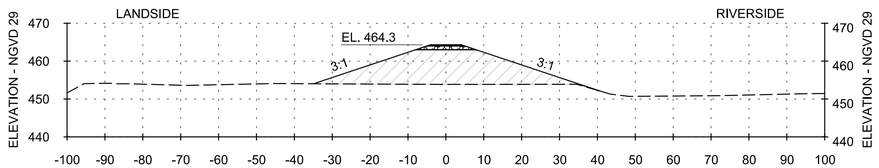
SHEET IDENTIFICATION
C-307

GENERAL SHEET NOTES:

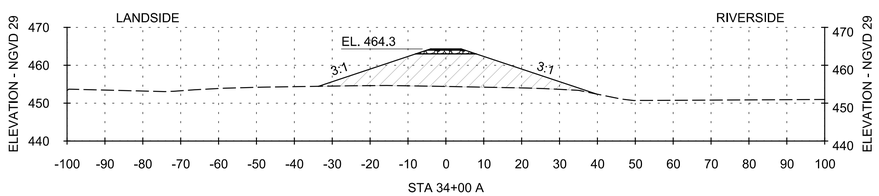
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.



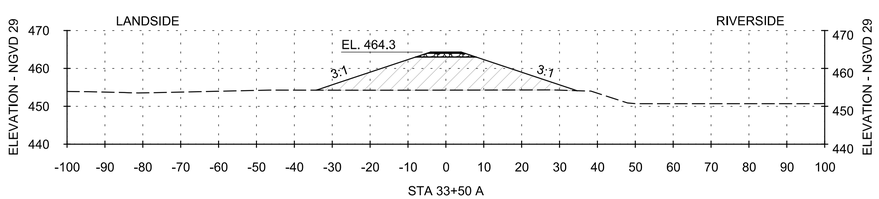
STA 35+00 A



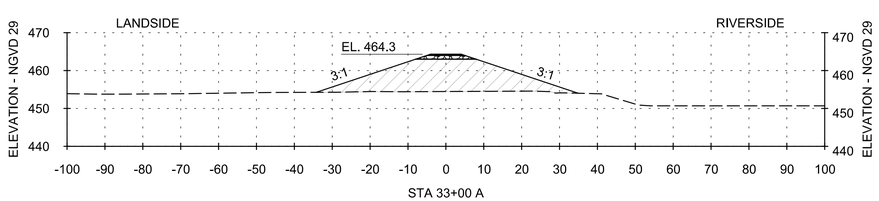
STA 34+50 A



STA 34+00 A



STA 33+50 A



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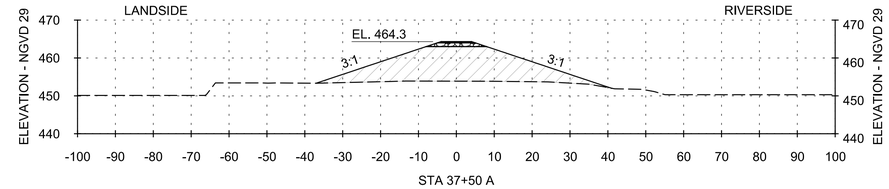
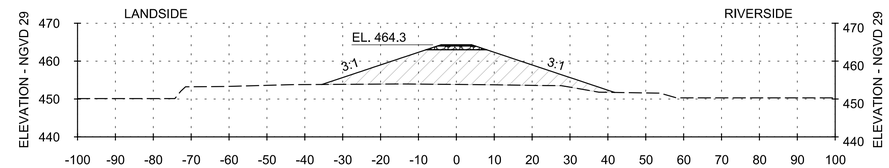
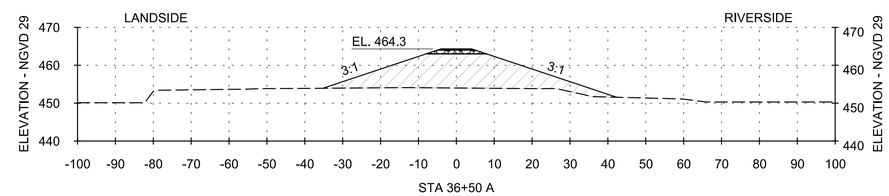


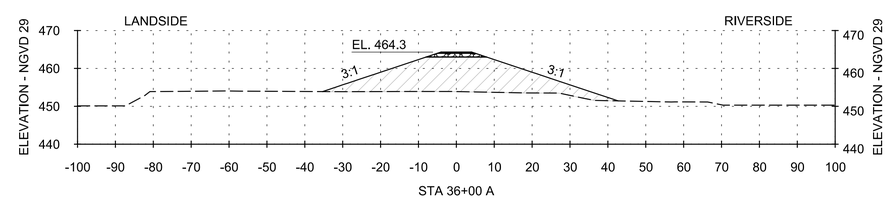
STA 37+50 A



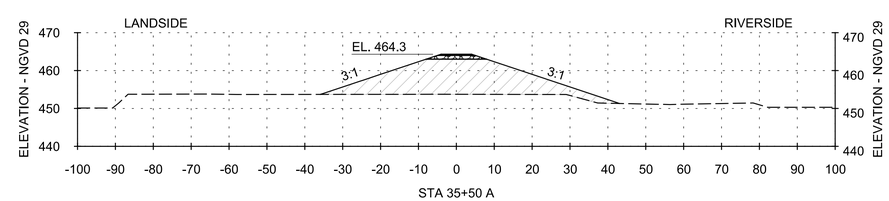
STA 37+00 A



STA 36+50 A



STA 36+00 A



STA 35+50 A

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE
DWN BY: JLO
CKD BY: JAM
SUBMITTED BY: GARY J. LEE, P.E.
PLOT SCALE: 1:1
PLOT DATE: N/A
SIZE: ANSI D
FILE NAME: M-EMP-08_C-308SEC.dgn
DATE: 2013-01-22
SOLICITATION NO.: W912P9-13-R-0711
CONTRACT NO.:
FILE NUMBER: M-EMP-08

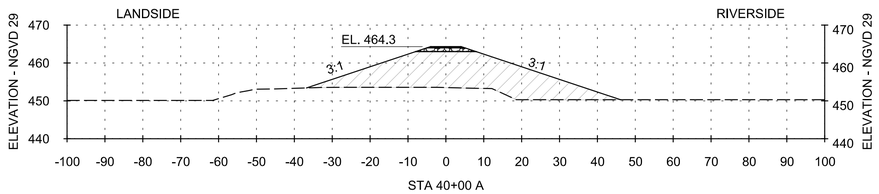
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

NORTH BERM SETBACK
CROSS SECTIONS
STA 33+00 A TO STA 37+50 A

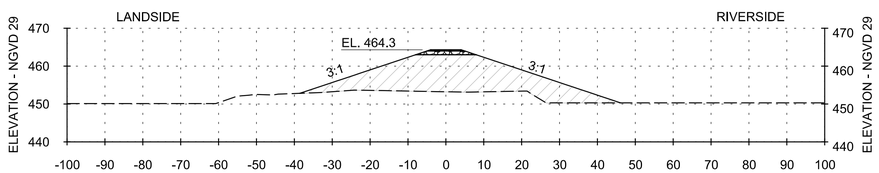
SHEET IDENTIFICATION
C-308

GENERAL SHEET NOTES:

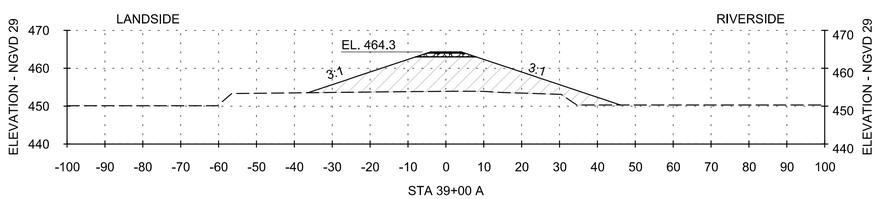
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.



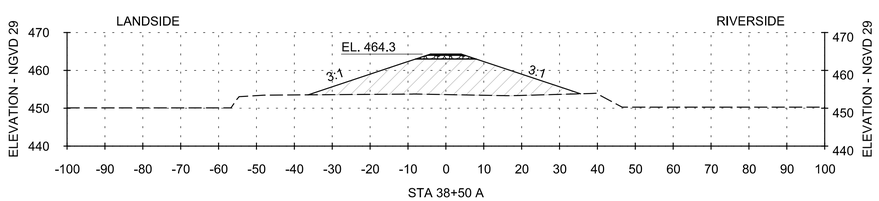
STA 40+00 A



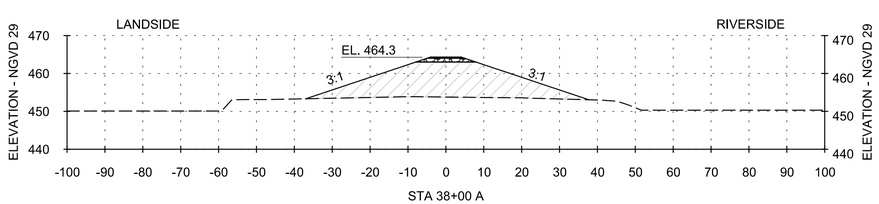
STA 39+50 A



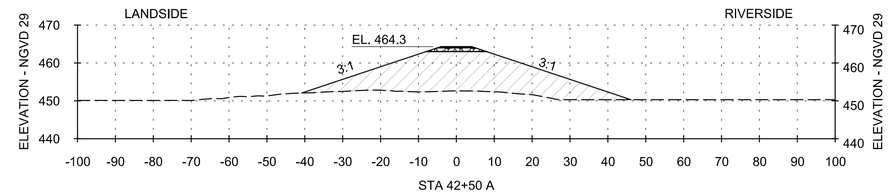
STA 39+00 A



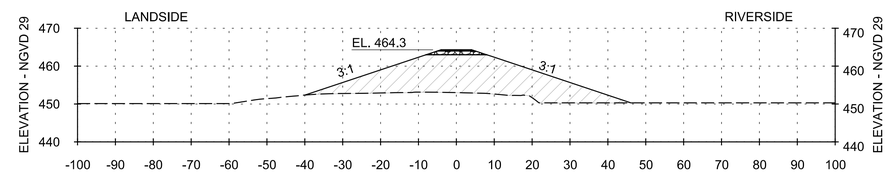
STA 38+50 A



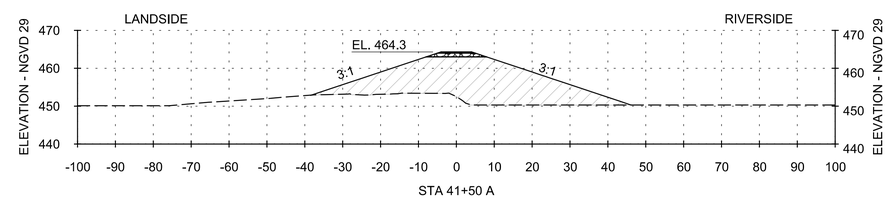
STA 38+00 A



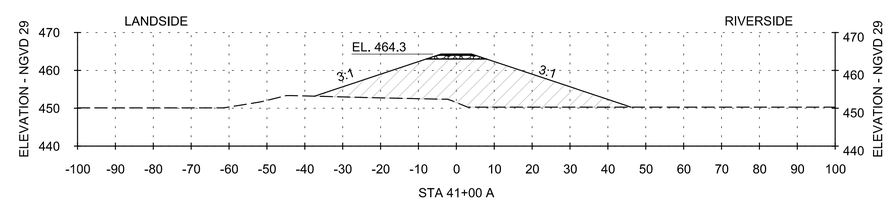
STA 42+50 A



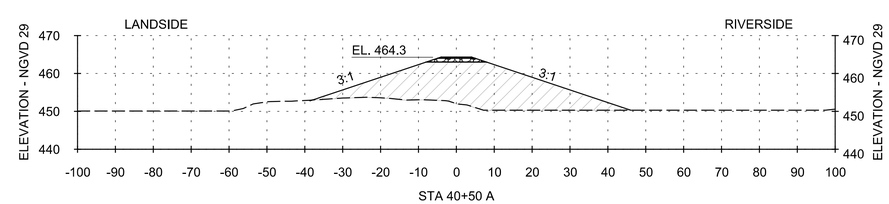
STA 42+00 A



STA 41+50 A



STA 41+00 A



STA 40+50 A

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE
DATE: 2013-01-22
DWN BY: JLO
CKD BY: JAM
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GARY J. LEE, P.E.
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE: N/A
FILE NUMBER: M-EMP-08
SIZE: ANSI D
FILE NAME: M-EMP-08_C-309SEC.dgn

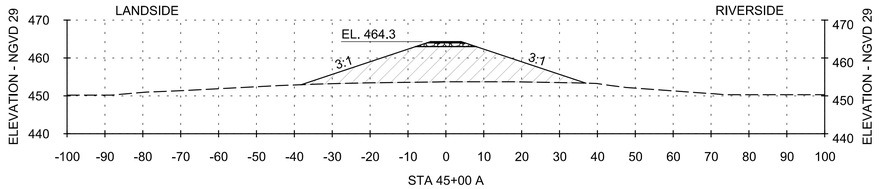
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

NORTH BERM SETBACK
CROSS SECTIONS
STA 38+00 A TO STA 42+50 A

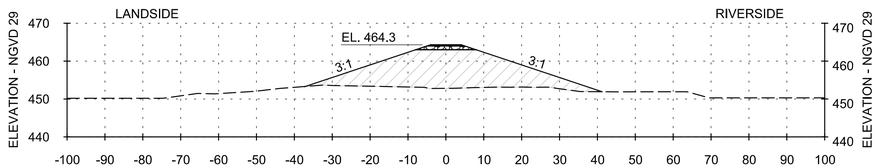
SHEET IDENTIFICATION
C-309

GENERAL SHEET NOTES:

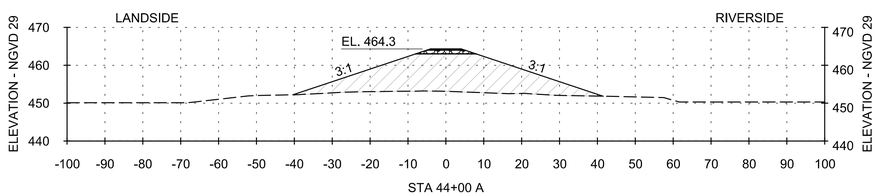
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.



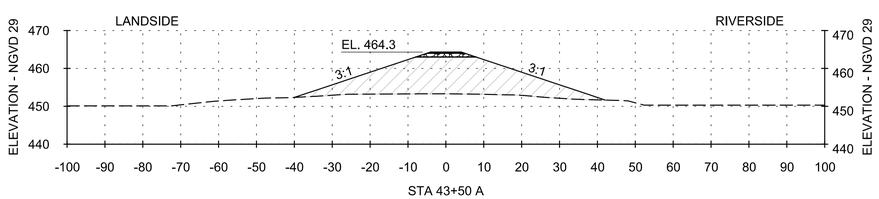
STA 45+00 A



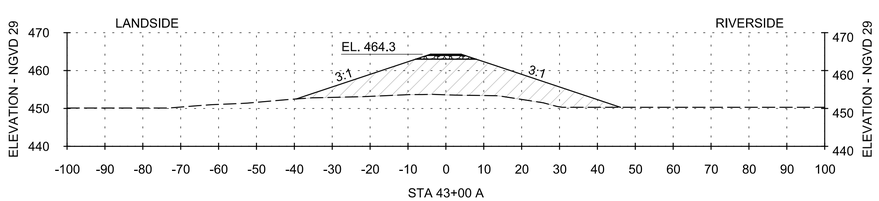
STA 44+50 A



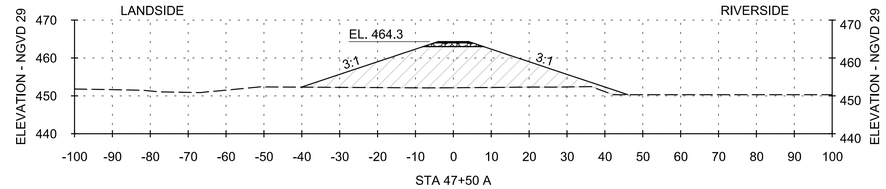
STA 44+00 A



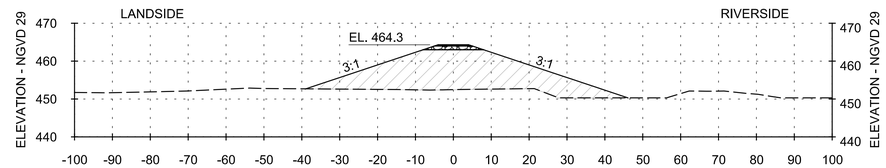
STA 43+50 A



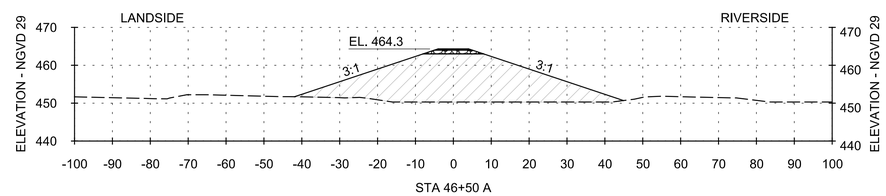
STA 43+00 A



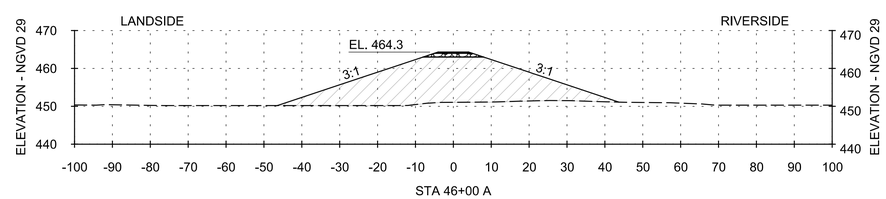
STA 47+50 A



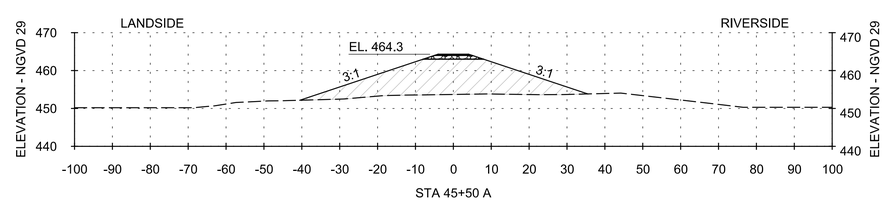
STA 47+00 A



STA 46+50 A



STA 46+00 A



STA 45+50 A

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE
DWN BY: JLO
CKD BY: JAM
SUBMITTED BY: GARY J. LEE, P.E.
PLOT SCALE: 1:1
PLOT DATE: N/A
SIZE: ANSI D
FILE NAME: M-EMP-08_C-310SEC.dgn
DATE: 2013-01-22
SOLICITATION NO.: W912P9-13-R-0711
CONTRACT NO.:
FILE NUMBER: M-EMP-08

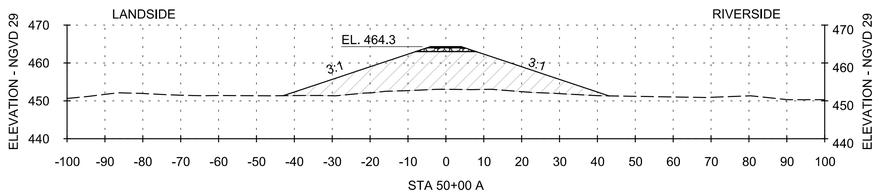
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

NORTH BERM SETBACK
CROSS SECTIONS
STA 43+00 A TO STA 47+50 A

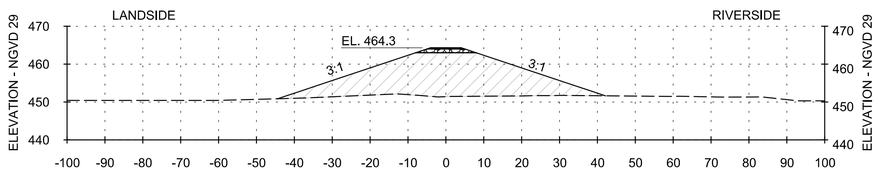
SHEET IDENTIFICATION
C-310

GENERAL SHEET NOTES:

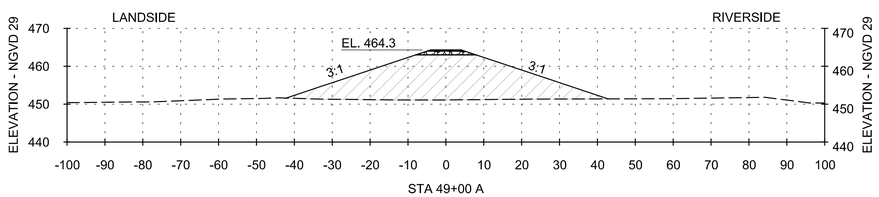
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.



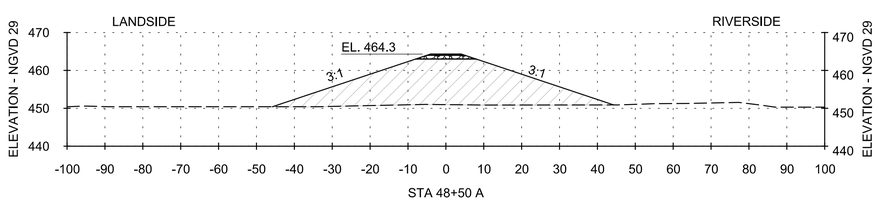
STA 50+00 A



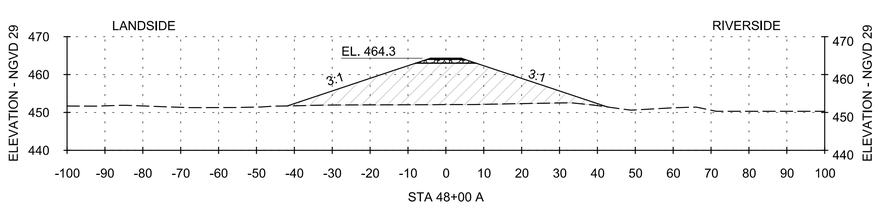
STA 49+50 A



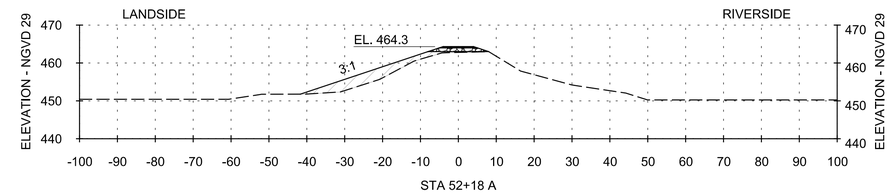
STA 49+00 A



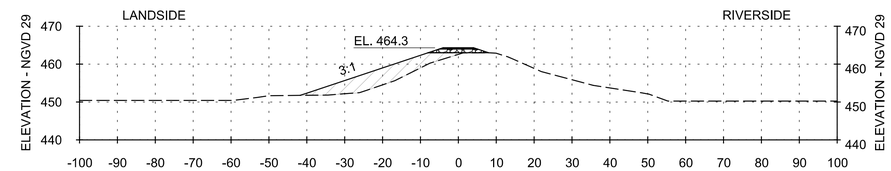
STA 48+50 A



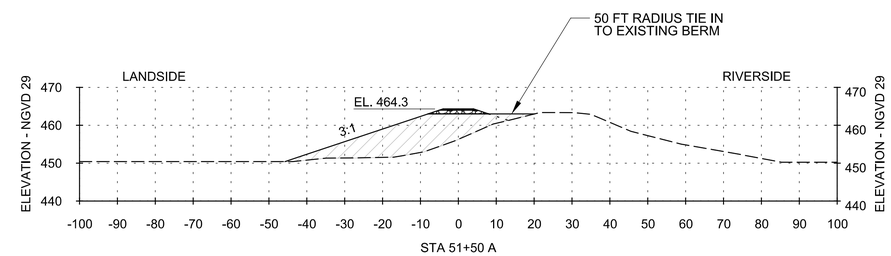
STA 48+00 A



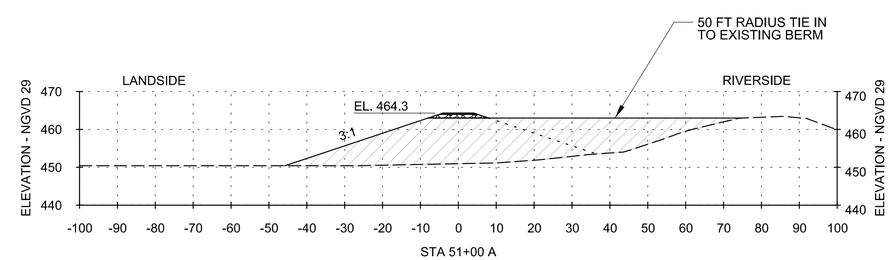
STA 52+18 A



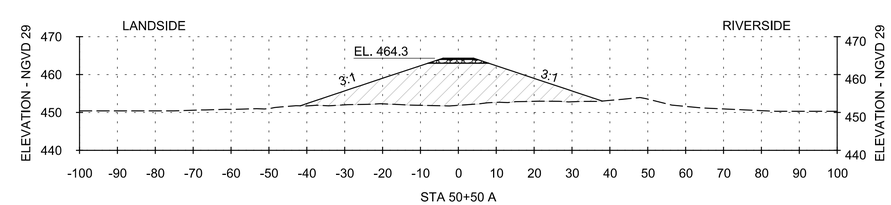
STA 52+00 A



STA 51+50 A



STA 51+00 A



STA 50+50 A

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: J. OSTERHAGE
DWN BY: JLO
CKD BY: JAM
SUBMITTED BY: GARY J. LEE, P.E.
PLOT SCALE: 1:1
PLOT DATE: N/A
SIZE: ANSI D
DATE: 2013-01-22
SOLICITATION NO.: W912P9-13-R-0711
CONTRACT NO.:
FILE NUMBER: M-EMP-08
FILE NAME: M-EMP-08_C-311SEC.dgn

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

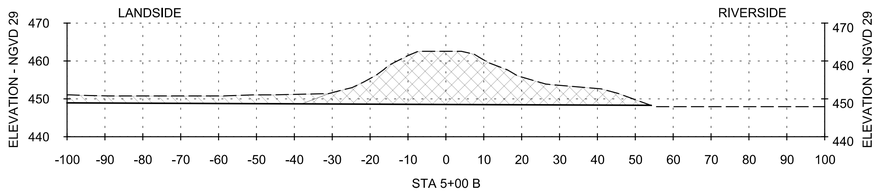
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

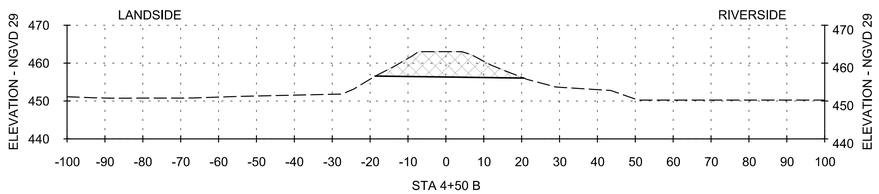
NORTH BERM SETBACK
CROSS SECTIONS
STA 48+00 A TO STA 52+18 A

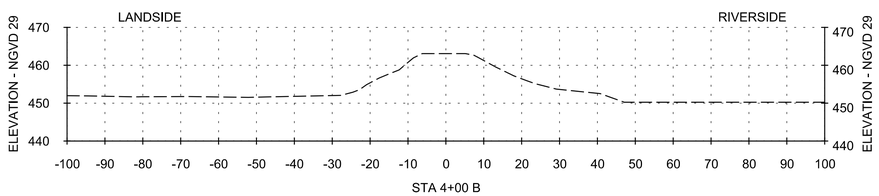
SHEET IDENTIFICATION
C-311

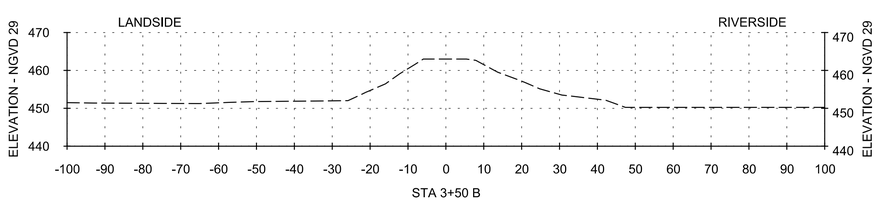
GENERAL SHEET NOTES:

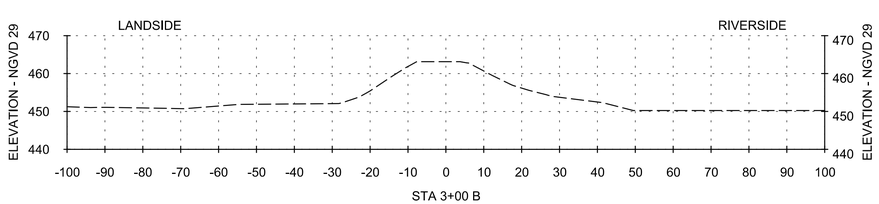
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.

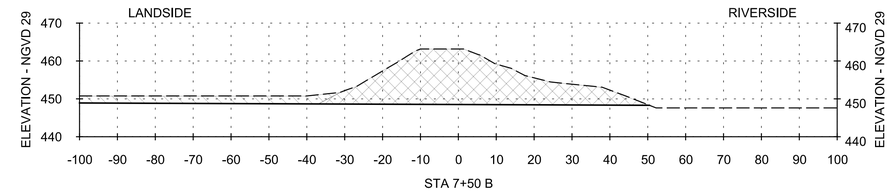


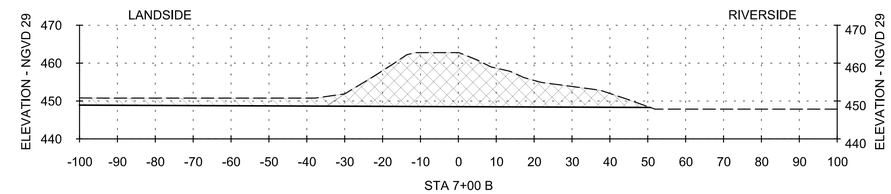


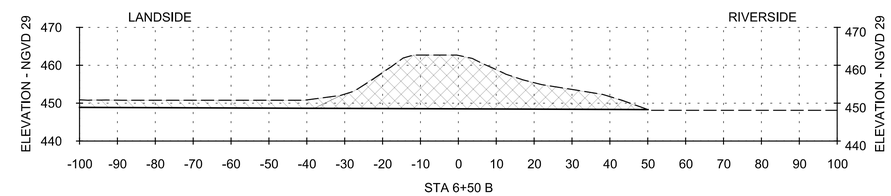


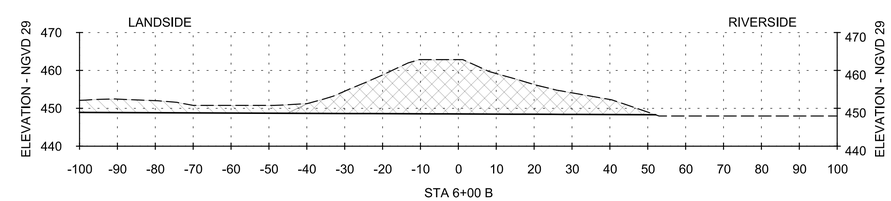


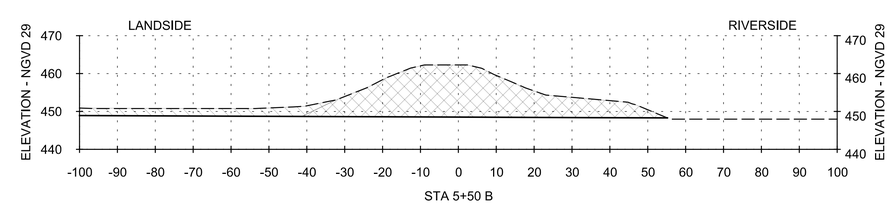












US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE
DATE: 2013-01-22
DWN BY: JLO
CKD BY: JAM
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GARY J. LEE, P.E.
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE: N/A
FILE NUMBER: M-EMP-08
SIZE: ANSI D
FILE NAME: M-EMP-08_C-312SEC.dgn

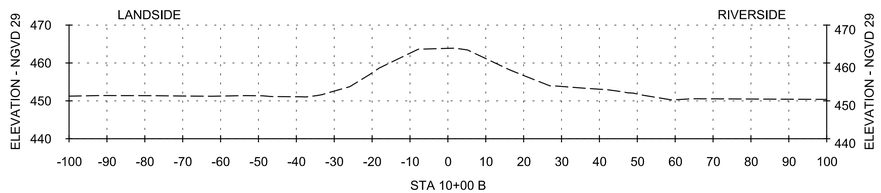
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

NORTH BERM DEGRADE
CROSS SECTIONS
STA 3+00 B TO STA 7+50 B

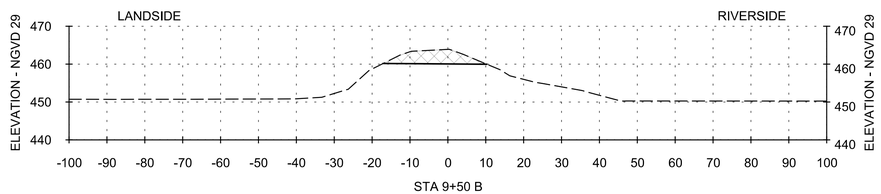
SHEET IDENTIFICATION
C-312

GENERAL SHEET NOTES:

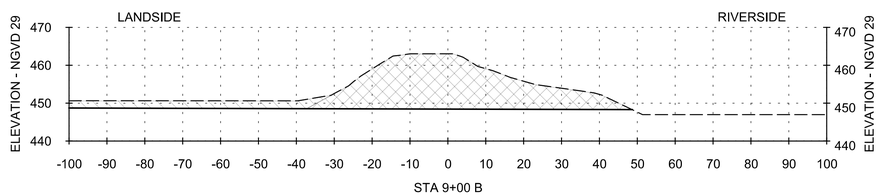
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.



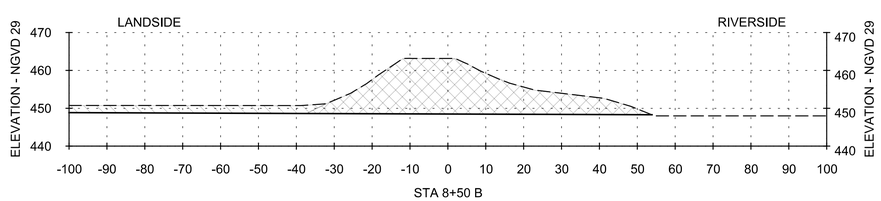
STA 10+00 B



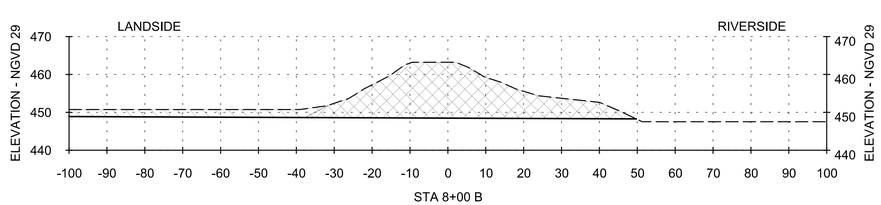
STA 9+50 B



STA 9+00 B



STA 8+50 B



STA 8+00 B

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE
DATE: 2013-01-22
DWN BY: JLO
CKD BY: JAM
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GARY J. LEE, P.E.
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE: N/A
FILE NUMBER: M-EMP-08
SIZE: ANSI D
FILE NAME: M-EMP-08_C-313SEC.dgn

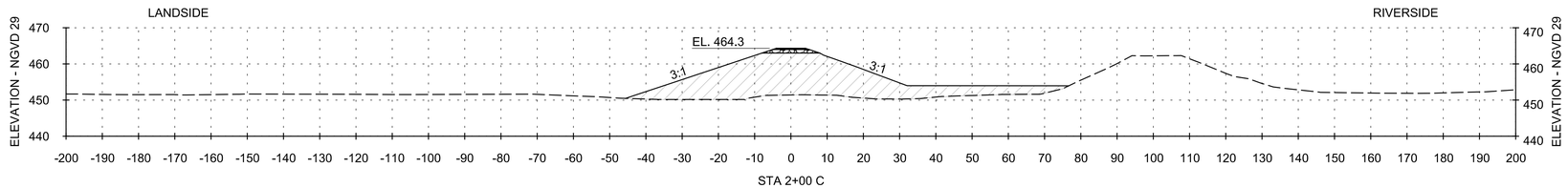
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

NORTH BERM DEGRADE
CROSS SECTIONS
STA 8+00 B TO STA 10+00 B

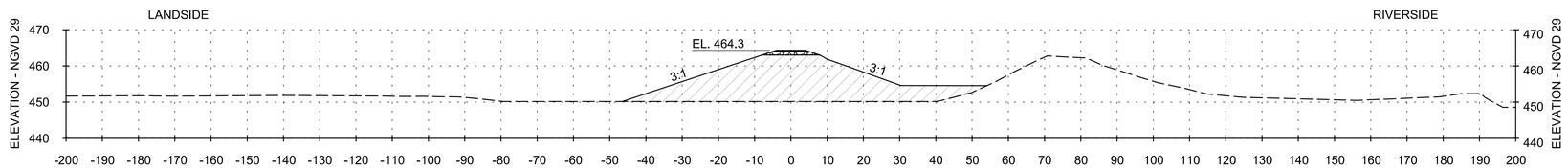
SHEET IDENTIFICATION
C-313

GENERAL SHEET NOTES:

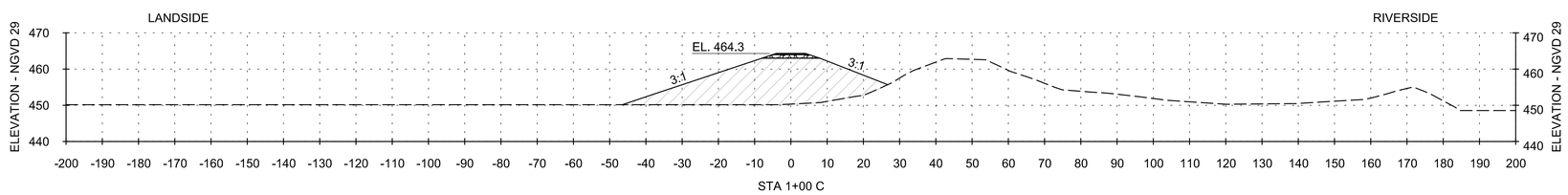
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.



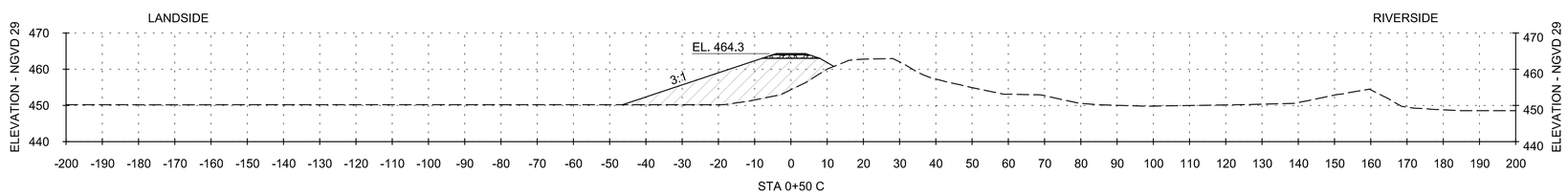
STA 2+00 C



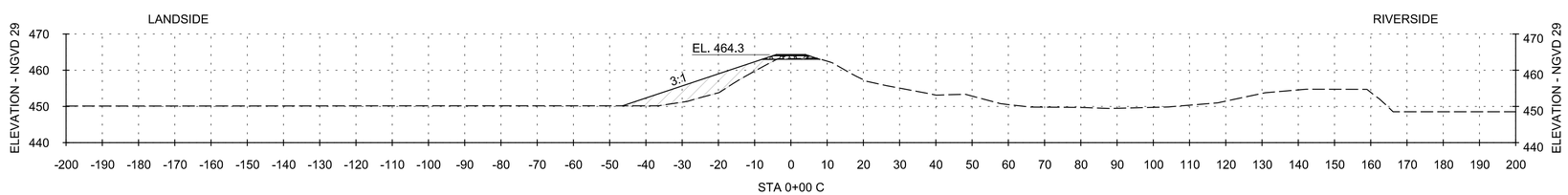
STA 1+50 C



STA 1+00 C



STA 0+50 C



STA 0+00 C

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE	DATE: 2013-01-22
DWN BY: JLO	CKD BY: JAM
SOLICITATION NO.: W912P9-13-R-0711	
SUBMITTED BY: GARY J. LEE, P.E.	CONTRACT NO.:
PLOT SCALE: 1:1	PLOT DATE: N/A
FILE NUMBER: M-EMP-08	
SIZE: ANSI D	FILE NAME: M-EMP-08_C-314SEC.dgn

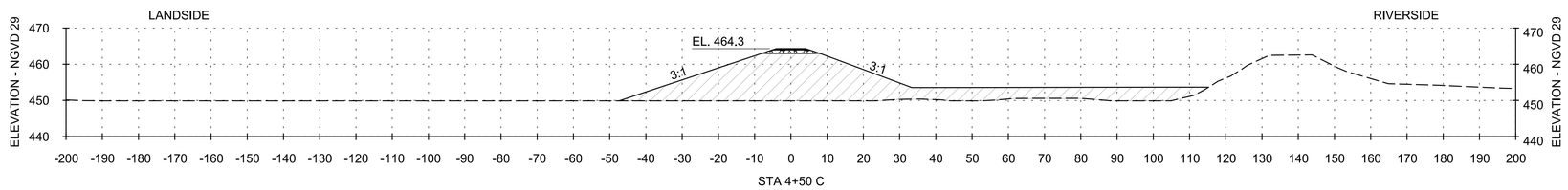
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

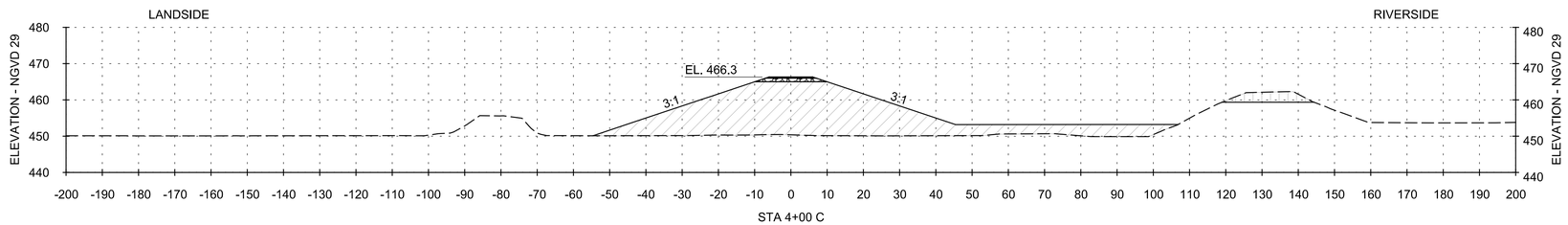
STRUCTURE EMBANKMENT
CROSS SECTIONS
STA 0+00 C TO STA 2+00 C

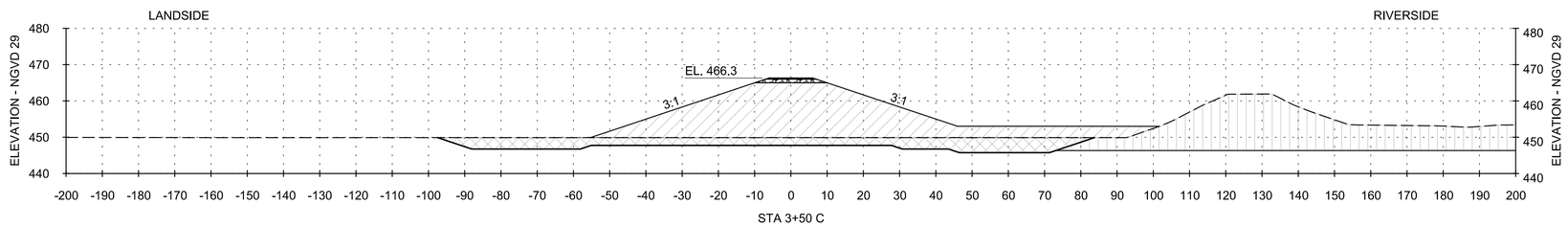
SHEET IDENTIFICATION
C-314

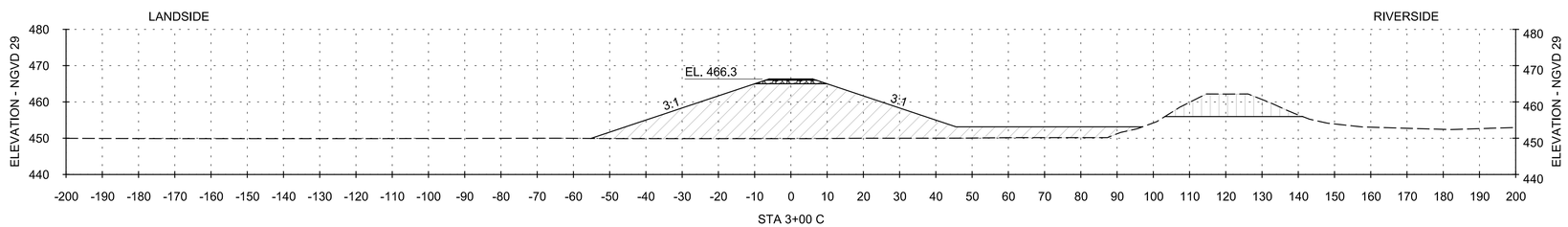
GENERAL SHEET NOTES:

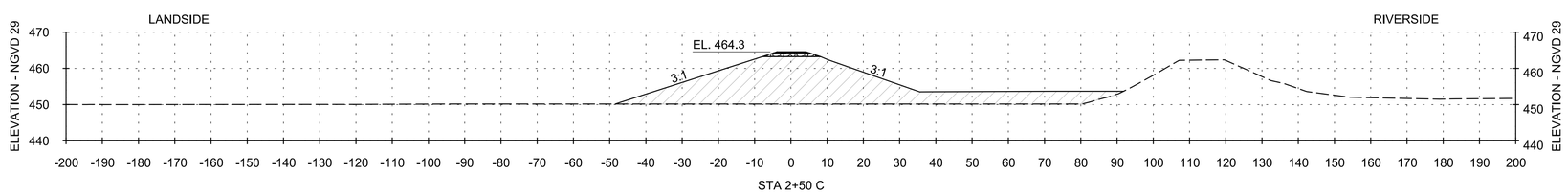
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.











US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE
DWN BY: JLO
CKD BY: JAM
SUBMITTED BY: GARY J. LEE, P.E.
PLOT SCALE:
PLOT DATE:
SIZE: ANSI D
FILE NAME: M:\EMP\08_C-315SEC.dgn
DATE: 2013-01-22
SOLICITATION NO.: W912P8-13-R-0711
CONTRACT NO.:
FILE NUMBER: M:\EMP\08

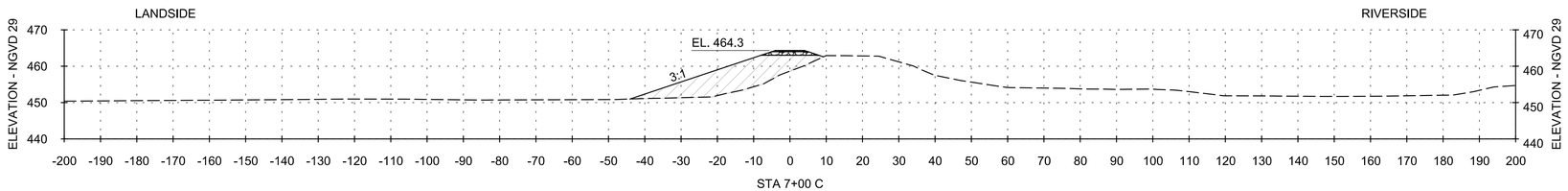
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE EMBANKMENT
CROSS SECTIONS
STA 2+50 C TO STA 4+50 C

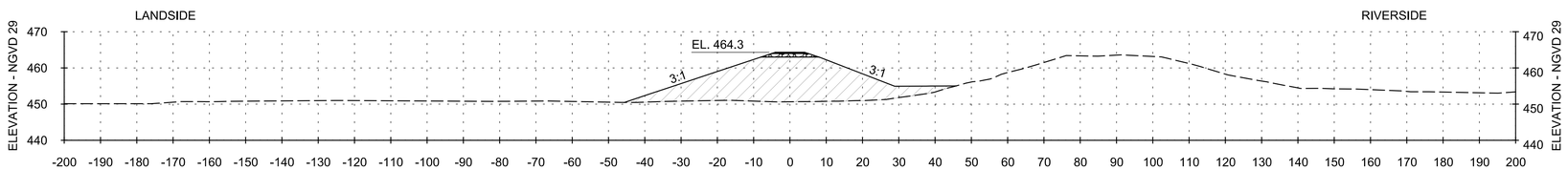
SHEET IDENTIFICATION
C-315

GENERAL SHEET NOTES:

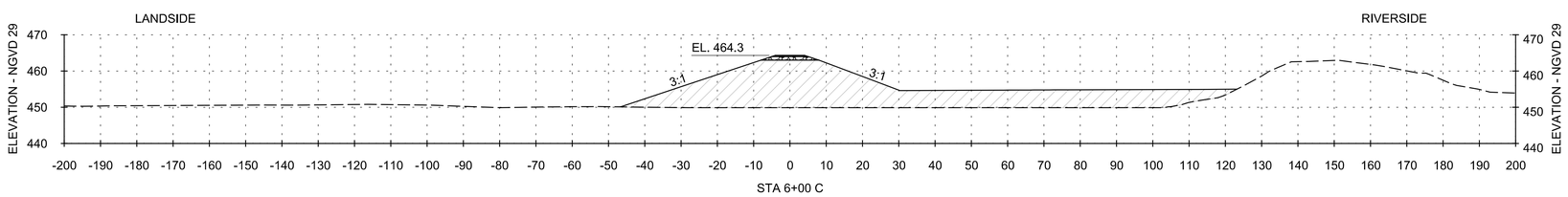
1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.



STA 7+00 C



STA 6+50 C



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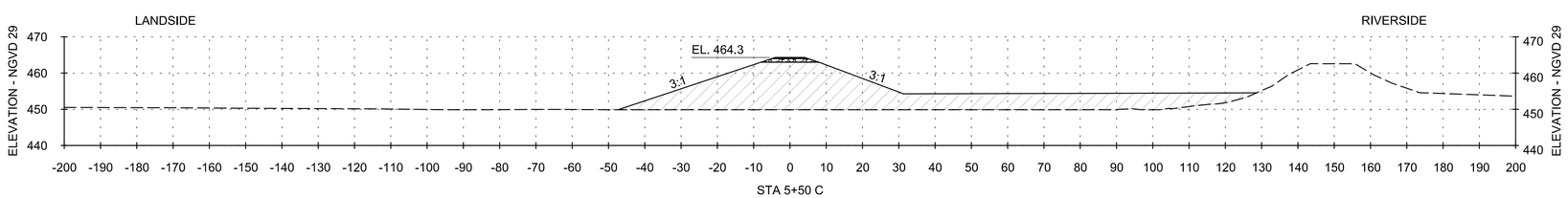
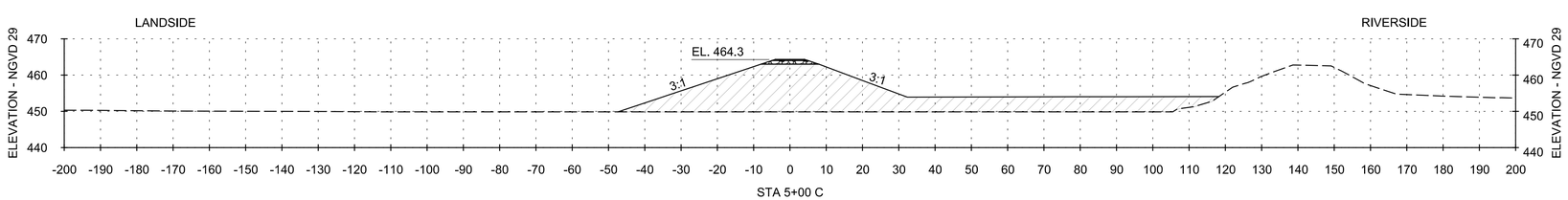


STA 5+50 C



STA 5+00 C

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE
DATE: 2013-01-22
DWN BY: JLO
CKD BY: JAM
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GARY J. LEE, P.E.
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE: N/A
FILE NUMBER: M-EMP-08
SIZE: ANSI D
FILE NAME: M-EMP-08_C-316SEC.dgn

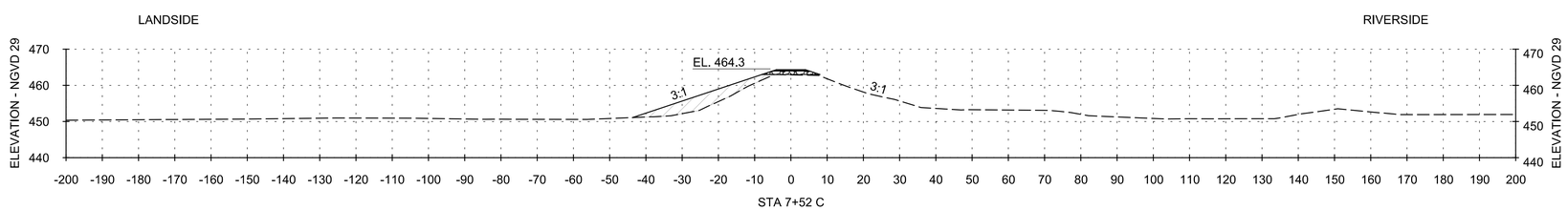
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

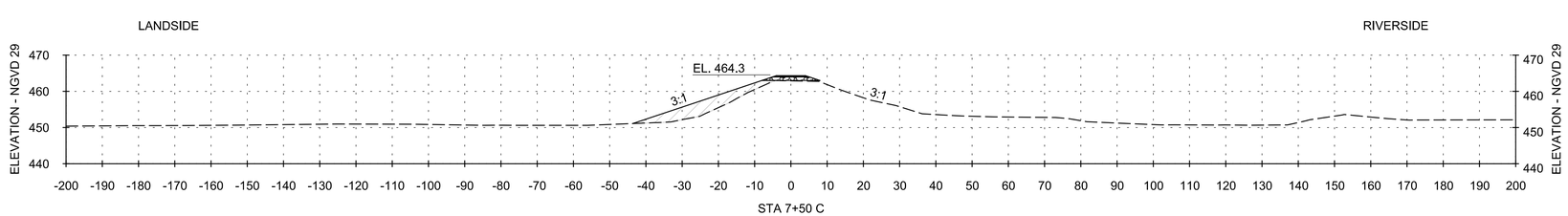
STRUCTURE EMBANKMENT
CROSS SECTIONS
STA 5+00 C TO STA 7+00 C

SHEET IDENTIFICATION
C-316

GENERAL SHEET NOTES:

1. SEE TYPICAL SECTIONS SHEET C-300 FOR BERM SURFACE MATERIALS AND THICKNESS.





US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

DESIGNED BY: J. OSTERHAGE
DATE: 2013-01-22
DWN BY: JLO
CKD BY: JAM
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GARY J. LEE, P.E.
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE: N/A
SIZE: ANSI D
FILE NAME: M-EMP-08_C-317SEC.dgn
FILE NUMBER: M-EMP-08

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE EMBANKMENT
CROSS SECTIONS
STA 7+50 C TO STA 7+52 C

SHEET IDENTIFICATION
C-317

CONTROL LINE DATA - NORTH BERM SETBACK - ALIGNMENT A											
POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
(EXISTING LEVEE ALIGNMENT)		1269.91 '	1336724.8	648011.48		0+00.00 A					
	S 62°40'19.8167" E	456.7555 '	1336714.11	649064.96		12+69.91 A					
C1	S 58°03'26.2942" E	263.1133 '	1336490.55	649497.59	17+26.66 A		17+87.07 A	4°36'53.5227"	750.0000 '	60.4085 '	30.2206 '
C2	S 51°14'08.2446" E	343.5538 '	1336327.69	649758.79	20+19.97 A		21+09.26 A	6°49'18.0495"	750.0000 '	89.2956 '	44.7006 '
C3	S 45°31'01.7835" E	369.1640 '	1336089.13	650055.88	24+08.11 A		24+82.97 A	5°43'06.4611"	750.0000 '	74.8545 '	37.4583 '
C4	S 29°35'38.7475" E	959.0487 '	1335805.96	650344.21	28+14.67 A		28+84.15 A	15°55'23.0360"	250.0000 '	69.4775 '	34.9641 '
C5	S 18°34'08.7056" E	367.9631 '	1334951.05	650829.75	38+08.24 A		38+56.34 A	11°01'30.0419"	250.0000 '	48.1057 '	24.1273 '
C6	S 10°55'35.3286" E	233.8610 '	1334554.75	650962.88	42+00.18 A		43+00.22 A	7°38'33.3770"	750.0000 '	100.0415 '	50.0950 '
C7	S 31°49'11.4284" E	228.1746 '	1334279.87	651015.95	44+83.99 A		45+75.15 A	20°53'36.0995"	-250.0000 '	91.1645 '	46.0942 '
C8	S 43°07'43.9187" E	201.0322 '	1334043.92	651162.35	47+57.23 A		48+55.92 A	11°18'32.4903"	-500.0000 '	98.6899 '	49.5058 '
C9	N 81°49'32.2080" E	73.7869 '	1333859.18	651335.41	50+07.45 A		51+03.52 A	55°02'43.8733"	-100.0000 '	96.0726 '	52.1072 '
C10	N 53°47'55.5505" E	68.7511 '	1333873.22	651433.15	51+25.20 A		51+74.12 A	28°01'36.6574"	-100.0000 '	48.9161 '	24.9577 '
			1333913.83	651488.63		52+17.91 A					

CONTROL LINE DATA - NORTH BERM DEGRADE - ALIGNMENT B											
POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
	N 81°17'27.7728" E	38.8443 '	1333030.58	650537.86		0+00.00 B					
C11	N 62°12'07.6962" E	176.1636 '	1333049.19	650659.36	0+38.84 B		2+05.43 B	19°05'20.0766"	-500.0000 '	166.5822 '	84.0702 '
C12	N 51°52'03.8305" E	214.9559 '	1333133.46	650819.19	2+97.52 B		3+06.54 B	10°20'03.8659"	-50.0000 '	9.0185 '	4.5215 '
C13	N 35°54'11.1194" E	413.8329 '	1333309.48	651043.43	5+16.97 B		6+56.29 B	15°57'52.7110"	-500.0000 '	139.3178 '	70.1131 '
			1333644.69	651286.1		10+00.01 B					

CONTROL LINE DATA - SR-1 STRUCTURE EMBANKMENT - ALIGNMENT C											
POINT ID	BEARING	DISTANCE (FEET)	NORTHING (Y)	EASTING (X)	PC	PI	PT	DELTA	R	L	T
	S 79°37'49.4777" E	249.9019 '	1329174.61	655364.25		0+00.00 C					
	S 59°37'49.4776" E	20.0011 '	1329129.63	655610.07		2+49.90 C					
	S 59°37'49.4776" E	150.0083 '	1329119.51	655627.33		2+69.90 C					
	S 59°37'49.4776" E	19.9997 '	1329043.67	655756.75		4+19.91 C					
	S 59°37'49.4776" E	206.1696 '	1329033.57	655774.01		4+39.91 C					
C14	N 59°37'10.5223" E		1328899.7	656002.46	6+46.08 C		7+52.11 C	60°45'00.0001"	-100.0000 '	106.0288 '	58.6110 '

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: J. OSTERHAGE
DWN BY: JLO
CKD BY: JAM
SUBMITTED BY: GARY J. LEE, P.E.
PLOT SCALE: 1:1
PLOT DATE: N/A
DATE: 2013-01-22
SOLICITATION NO.: W912P9-13-R-0711
CONTRACT NO.:
FILE NUMBER: HEC6IP-08
SIZE: ANSI D
FILE NAME: M:\EMP-08\C-601SCH.dgn

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
CONTROL LINE DATA

SHEET IDENTIFICATION
C-601

ABBREVIATIONS:

ACB	ARTICULATED CONCRETE BLOCK
B/L	BASELINE
BT	BENT
C/L OR ℄	CENTERLINE
C.C.	CENTER TO CENTER
CIRC.	CIRCUMFERENCE
CL.	CLEAR
CLSM.	CONTROLLED LOW STRENGTH MATERIAL
CONC.	CONCRETE
CONN.	CONNECTION
DET.	DETAIL
DIA.	DIAMETER
DIM.	DIMENSION
DWG.	DRAWING
EA	EACH
EF	EACH FACE
EL.	ELEVATION
EMB.	EMBEDMENT
X-STR.	EXTRA STRING
FAB.	FABRICATION
FLG.	FLANGE
GALV.	GALVANIZED
HORZ.	HORIZONTAL
INV.	INVERT
LBS.	POUNDS
MFR.	MANUFACTURER
MAX.	MAXIMUM
MIN.	MINIMUM
NTS	NOT TO SCALE
NO. OR #	NUMBER
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
ℙ	PLATE
PSI	POUNDS PER SQUARE INCH
RAD.	RADIUS
RCP	REINFORCED CONCRETE PIPE
REINF.	REINFORCEMENT
REQ'D.	REQUIRED
SCHED.	SCHEDULE
SECT.	SECTION
SHT.	SHEET
SPEC.	SPECIFICATION
STD.	STANDARD
SYM.	SYMMETRICAL
THD.	THREAD
T&B	TOP AND BOTTOM
TYP.	TYPICAL
UNO	UNLESS NOTED OTHERWISE
W/	WITH
WWR	WELDED WIRE REINFORCEMENT

SPLICE & EMBEDMENT TABLE

Fy = 60000 PSI f'c = 4000 PSI

TABLE 1

LAP SPLICES AND EMBEDMENT LENGTHS (inches)

BAR SIZE NO.	LAP SPLICE		EMBEDMENT	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
3	25	19	19	15
4	33	25	25	19
5	41	31	31	24
6	49	37	37	29
7	71	54	54	42
8	81	62	62	48
9	91	70	70	54
10	102	79	79	61
11	114	87	87	67

NOTES:

1. TOP BARS ARE HORIZONTAL BARS AND BARS INCLINED LESS THAN 45 DEGREES WITH RESPECT TO A HORIZONTAL PLANE SO PLACED THAT MORE THAN 12" OF CONCRETE IS CAST BELOW THE BAR.
2. WHEN f'c IS 3000 PSI, THE VALUES IN TABLE 1 SHALL BE MULTIPLIED BY THE FACTOR 1.15. FOR f'c GREATER THAN 4000 PSI, THE VALUES IN TABLE 1 SHALL BE USED.

GENERAL STRUCTURAL NOTES:

CONCRETE

REGULATIONS:

STRENGTH AND TYPE:

1. SEE SPECIFICATIONS FOR MINIMUM COMPRESSIVE STRENGTH.

CHAMFERS:

2. CHAMFER ALL EDGES OF BEAMS, WALLS AND SLABS EXPOSED TO VIEW 1" UNLESS OTHERWISE NOTED.

FINISHES:

3. SEE SPECIFICATIONS FOR REQUIRED FINISHES FOR ALL CONCRETE SURFACES.

REINFORCEMENT:

4. ALL DEFORMED BARS SHALL BE ASTM A615.
5. EMBEDMENT LENGTHS AND LAP SPLICE LENGTHS SHALL BE IN ACCORDANCE WITH TABLE 1. MAKE LAP SPLICES ONLY AT THE LOCATIONS SHOWN ON THE DRAWINGS OR INDICATED IN THESE NOTES UNLESS OTHERWISE APPROVED BY THE CONTRACTING OFFICER. MINIMUM CLEAR COVER DISTANCE BETWEEN THE EDGE OF THE REINFORCEMENT AND THE CONCRETE SURFACE SHALL BE ACCORDING TO ACI 318.
6. HOOKS AND BENDS IN BARS SHALL CONFORM TO THE REQUIREMENTS OF ACI 318, PARA.7.1 THROUGH PARA. 7.3 EXCEPT THE WORDS "CONTRACTING OFFICER" SHALL BE SUBSTITUTED FOR THE WORDS "LICENSED DESIGN PROFESSIONAL" OCCURRING IN PARA. 7.3.1 AND PARA. 7.3.2. WHERE HOOKS ARE INDICATED ON THE DRAWINGS, STANDARD HOOKS SHALL BE PROVIDED. STANDARD HOOKS SHALL ALSO BE PROVIDED IF MINIMUM EMBEDMENT CANNOT BE OBTAINED.
7. SUBJECT TO THE APPROVAL OF THE CONTRACTING OFFICER, BARS MAY BE SHIFTED SLIGHTLY OR BENT IN THE FIELD TO MISS SECOND PLACEMENTS, OPENINGS, EMBEDDED ITEMS, HORIZONTAL CONSTRUCTION JOINTS UNLESS SHOWN OTHERWISE.

MISCELLANEOUS

DIMENSION VERIFICATION:

8. DIMENSIONS, ELEVATIONS AND OTHER ITEMS ON DRAWINGS FOLLOWED BY A ± OR SO NOTED ARE REQUIRED TO BE VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION OR CONSTRUCTION.
9. VERIFY DIMENSIONS OF OPENINGS IN SLABS, WALLS, ASSOCIATED SURROUNDING CONSTRUCTION, ANCHORAGE DETAILS AND LOCATIONS ASSOCIATED WITH STANDARD ARTICLES AND EQUIPMENT WIH ACTUAL ITEMS FURNISHED FOR THE PROJECT.

ELEVATIONS:

10. ELEVATIONS SHOWN ARE REFERENCED FROM THE NATIONAL GEODETIC VERTICAL DATUM (N.G.V.D.) 1929.

US Army Corps of Engineers®

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MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

DESIGNED BY: JUSTIN L. CARTER
DWN BY: DCH
CKD BY: JJC
SUBMITTED BY: SERGIA J. HILL, P.E.
PLOT SCALE: 1:1
PLOT DATE: N/A
DATE: 2015-01-22
SOLICITATION NO.: W912P9-13-R-0711
CONTRACT NO.:
FILE NUMBER: N/A-SPA-08
SIZE: ANSI D
FILE NAME: M-EMP-08_S-001NTS.dgn

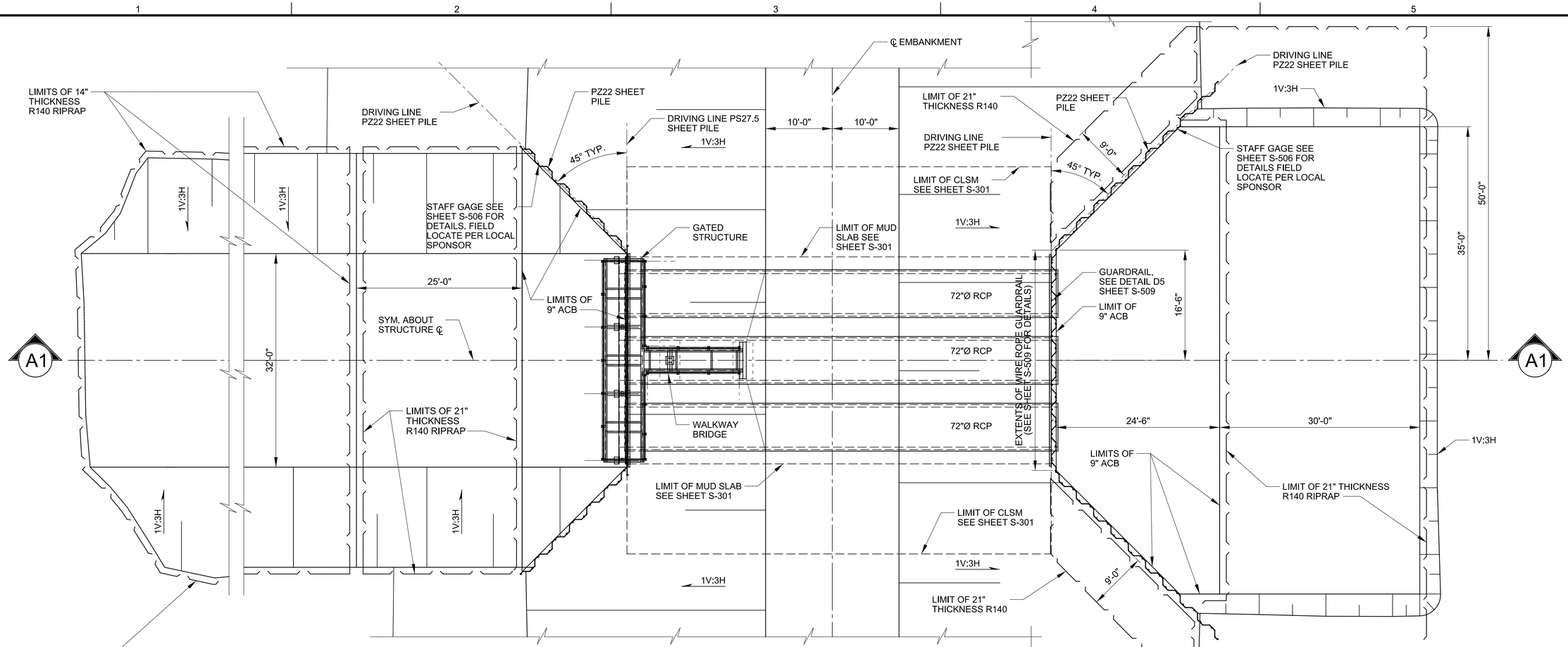
U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
STRUCTURAL NOTES

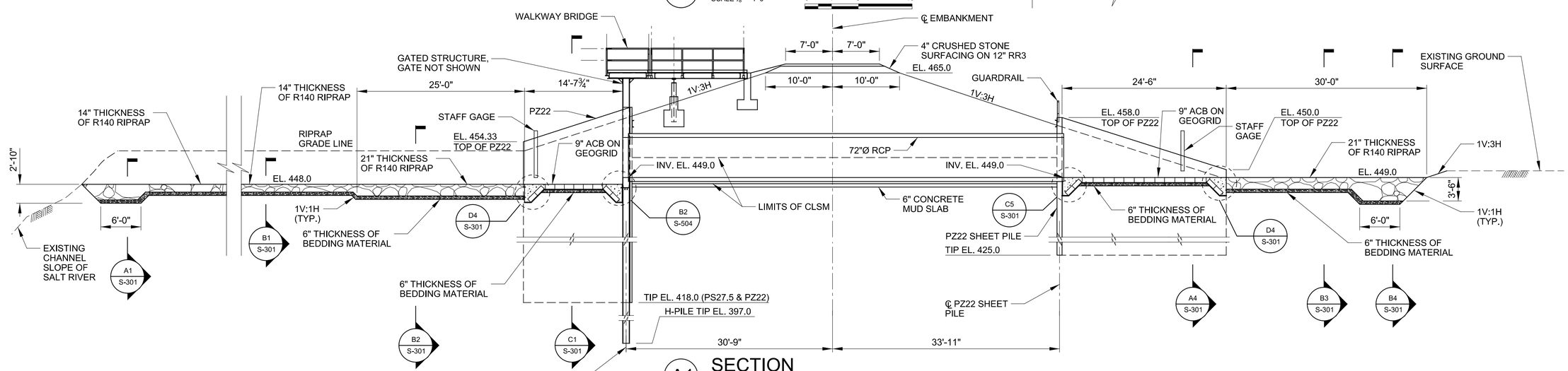
SHEET IDENTIFICATION
S-001

auto_time



C1 PLAN

SCALE 1/8" = 1'-0"



A1 SECTION

SCALE 1/8" = 1'-0"

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U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: JUSTIN L. CARTER
DWN BY: DCH
CKD BY: JLC
SUBMITTED BY: GLENDA J. HILL, P.E.
PLOT SCALE: 1:1
PLOT DATE: N/A
SIZE: ANSI D
FILE NAME: M-EMP-08_S-101PLN.dgn
FILE NUMBER: M-EMP-08
CONTRACT NO.:
SOLICITATION NO.: W912P9-13-R-0711
DATE: 2013-01-22

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

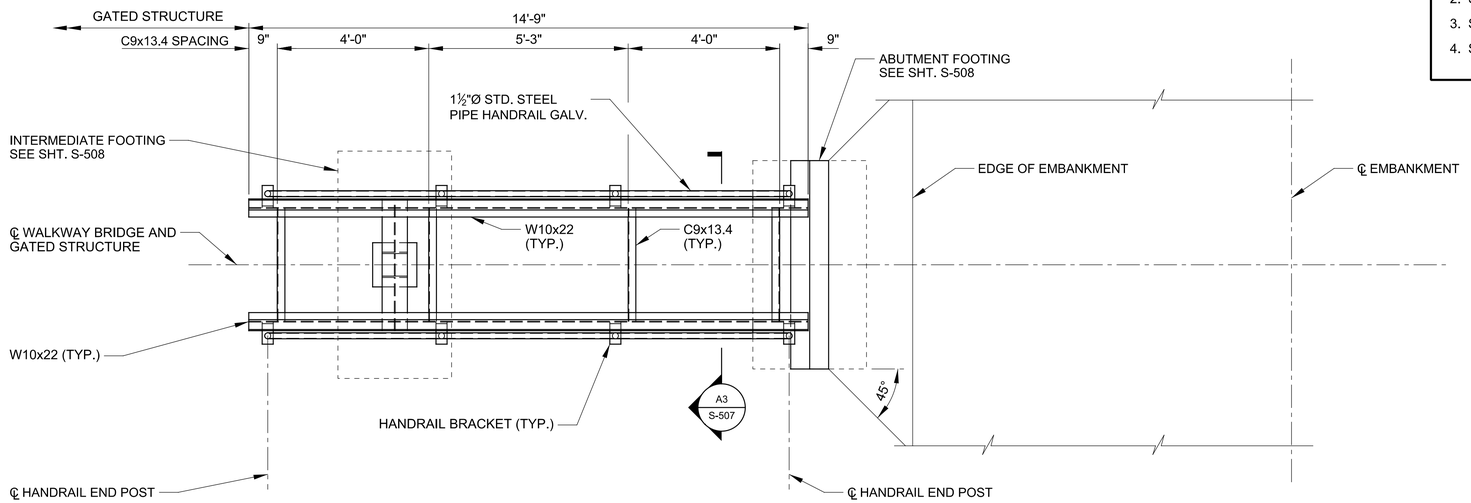
STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
PLAN AND SECTION

SHEET IDENTIFICATION
S-101

auto_time

GENERAL SHEET NOTES:

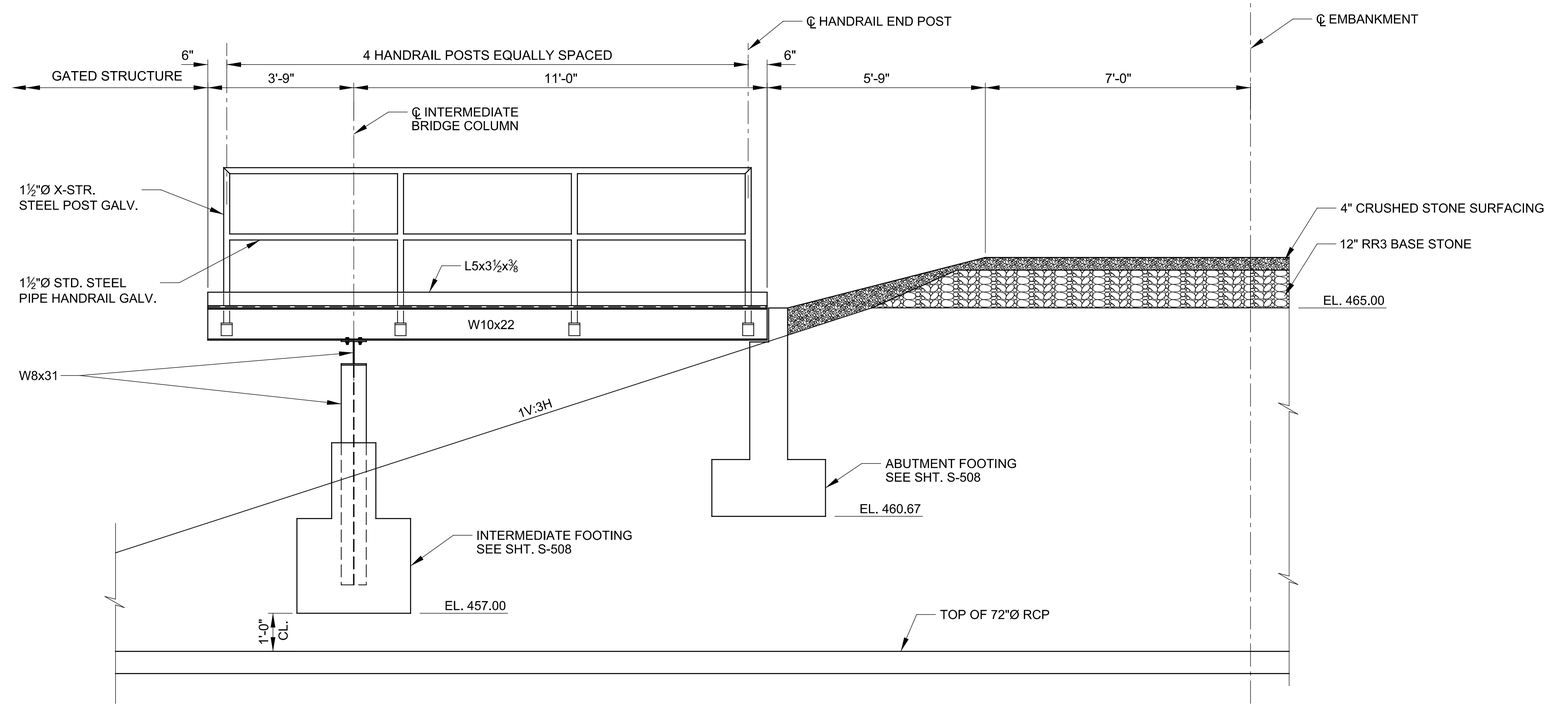
1. GATED STRUCTURE NOT SHOWN FOR CLARITY.
2. STEEL GRATING NOT SHOWN FOR CLARITY.
3. SEE SHT. S-507 FOR STRUCTURAL STEEL DETAILS.
4. SEE SHT. S-508 FOR FOOTING DETAILS.



C3 PLAN

SCALE ½" = 1'-0"

0 1' 2' 4'



A3 ELEVATION

SCALE ½" = 1'-0"

0 1' 2' 4'

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MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

DESIGNED BY: JUSTIN L. CARTER
DWN BY: DCH
CKD BY: JLC
SUBMITTED BY: GLENDA J. HILL, P.E.
PLOT SCALE: 1:1
PLOT DATE: N/A
SIZE: ANSI D
FILE NAME: M-EMP-08_S-102PLN.dgn
DATE: 2013-01-22
SOLICITATION NO.: W912P9-13-R-0711
CONTRACT NO.:
FILE NUMBER: 4LEM7.08

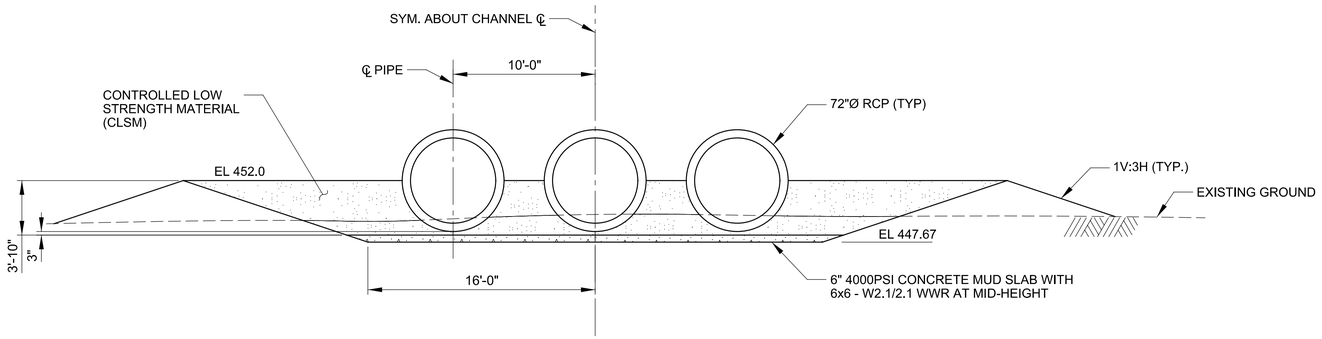
U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
WALKWAY BRIDGE PLAN & ELEVATION

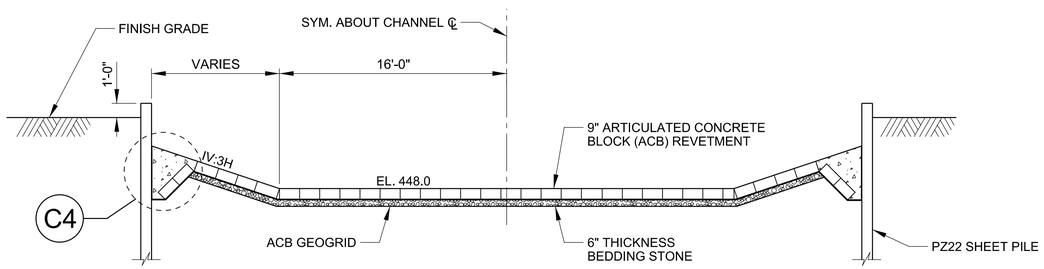
SHEET IDENTIFICATION
S-102

auto_time



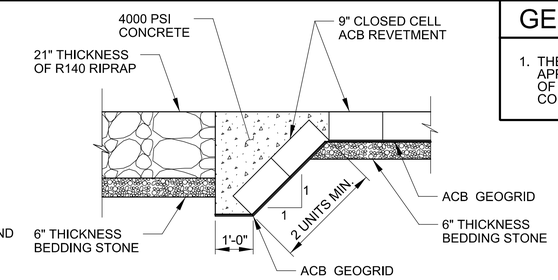
D1 TYPICAL CULVERT SECTION @ EMBANKMENT C/L

SCALE 3/16" = 1'-0"



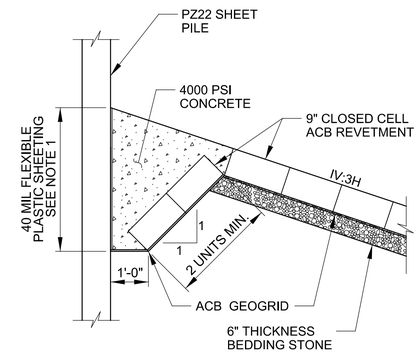
C1 S-101 SECTION

SCALE 3/16" = 1'-0"



D4 S-101 DETAIL

SCALE 1/2" = 1'-0"



C4 DETAIL

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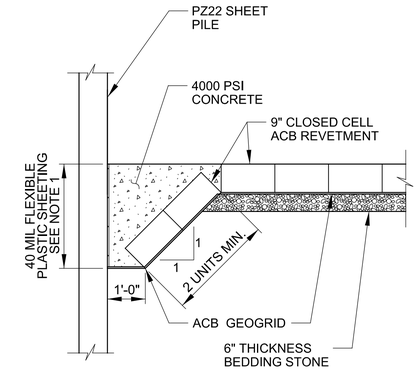
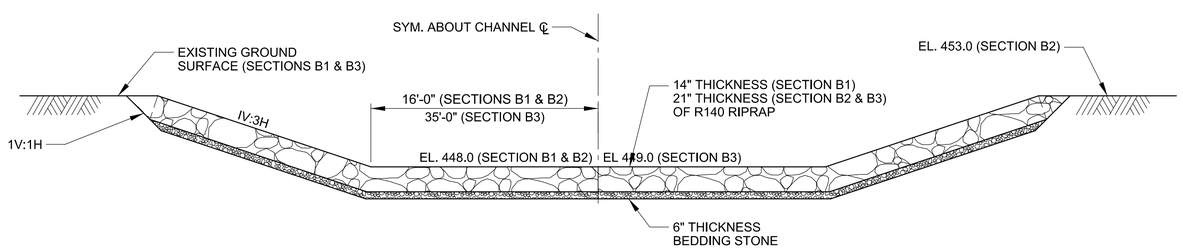


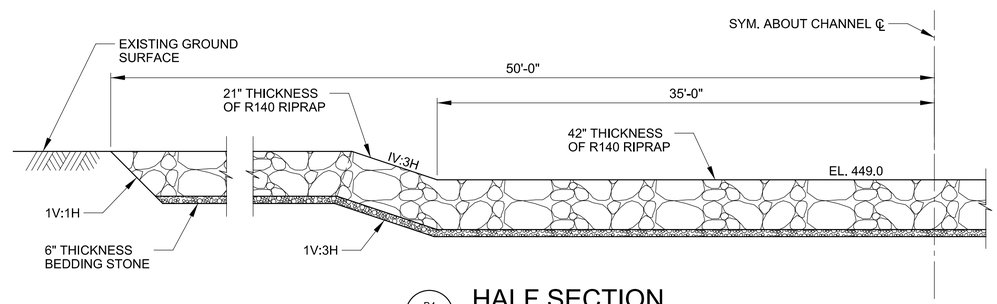
C5 DETAIL

SCALE 1/2" = 1'-0"



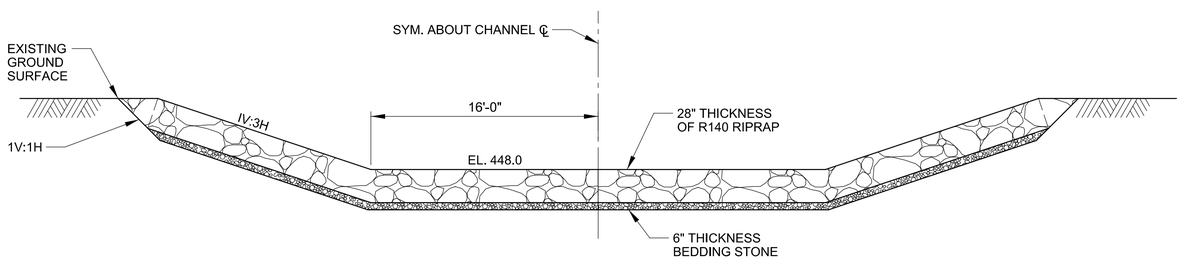
B1 S-101 B2 S-101 B3 S-101 SECTION

SCALE 3/16" = 1'-0"



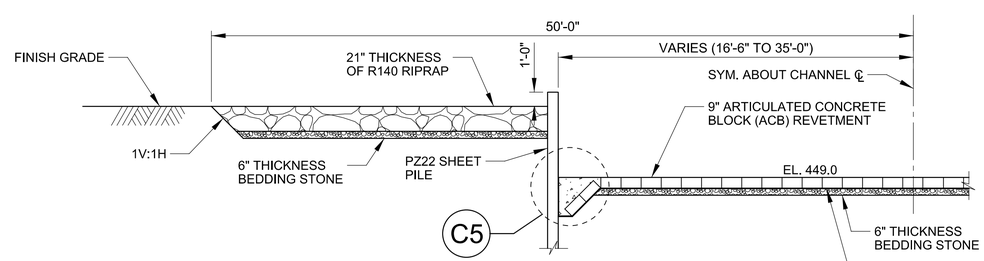
B4 S-101 HALF SECTION

SCALE 3/16" = 1'-0"



A1 S-101 SECTION

SCALE 3/16" = 1'-0"



A4 S-101 HALF SECTION

SCALE 3/16" = 1'-0"

GENERAL SHEET NOTES:

1. THE 40 MIL FLEXIBLE PLASTIC SHEETING SHALL BE APPROVED BY THE CONTRACTING OFFICER. THE LIMITS OF THE SHEETING SHALL NOT EXTEND ABOVE THE FINAL CONCRETE SURFACE.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

DESIGNED BY: JUSTIN L. CARTER
DWN BY: DCH
CKD BY: JLC
SUBMITTED BY: GLENDA J. HILL, P.E.
PLOT SCALE: N/A
PLOT DATE: N/A
DATE: 2013-01-22
SOLICITATION NO.: W912P9-13-R-0711
CONTRACT NO.:
FILE NUMBER: HJ-ESIP-06
SIZE: ANSI D
FILE NAME: M-ESIP-06_S-301SEC.dgn

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

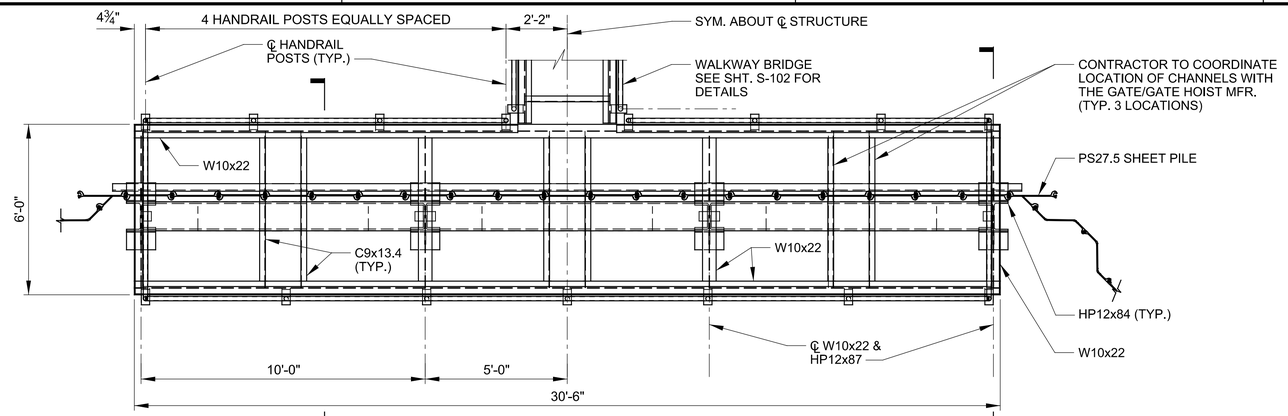
STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
TYPICAL EMBANKMENT SECTIONS

SHEET IDENTIFICATION
S-301

auto_tilme

GENERAL SHEET NOTES:

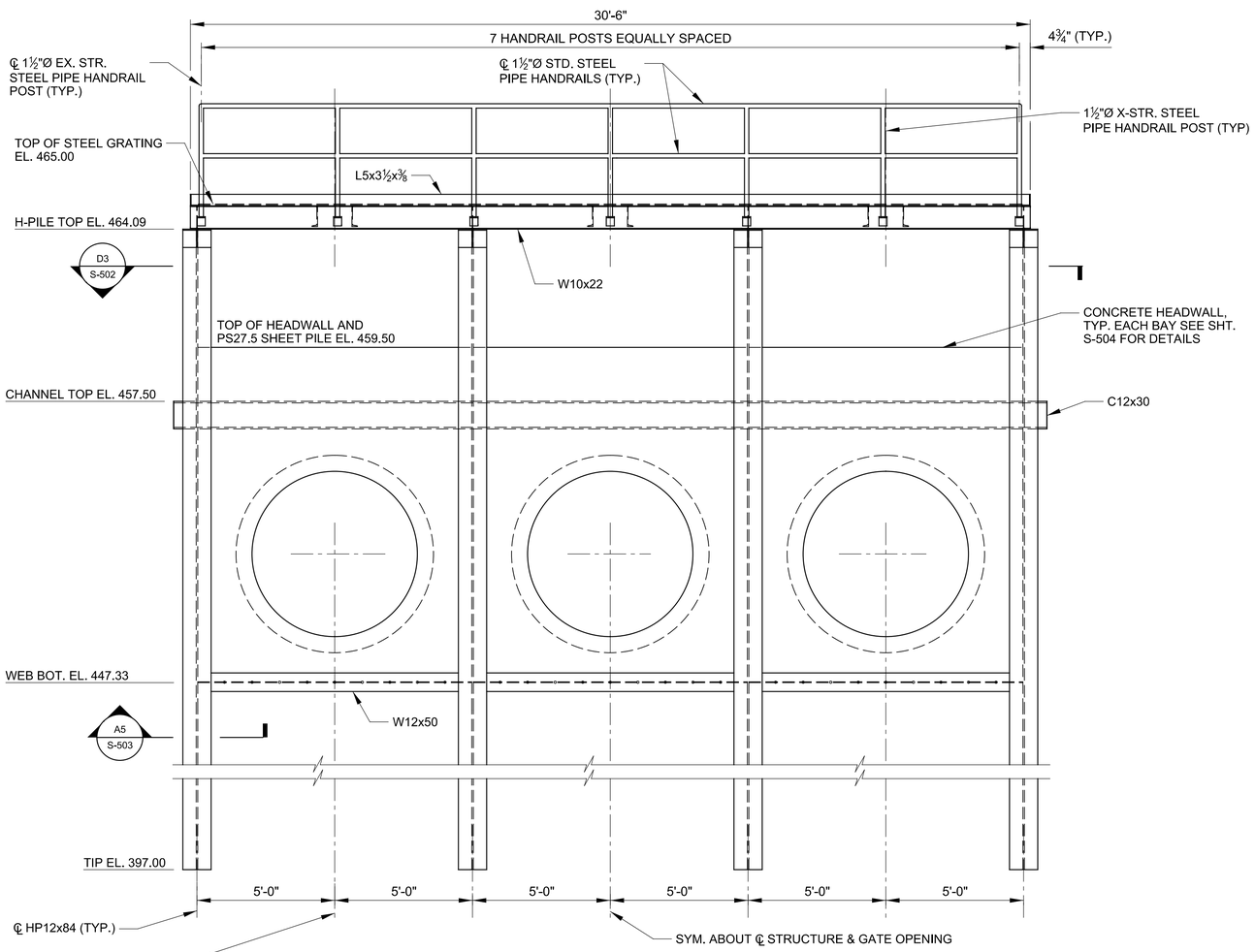
1. PZ22 SHEET PILE & STEEL GRATING NOT SHOWN FOR CLARITY.
2. FOR DETIALS OF THE RCP CONNECTION TO THE CONCRETE HEADWALLS, SEE SHT. S-506.
3. GATE NOT SHOWN FOR CLARITY.



C1 S-502 — A1 S-502

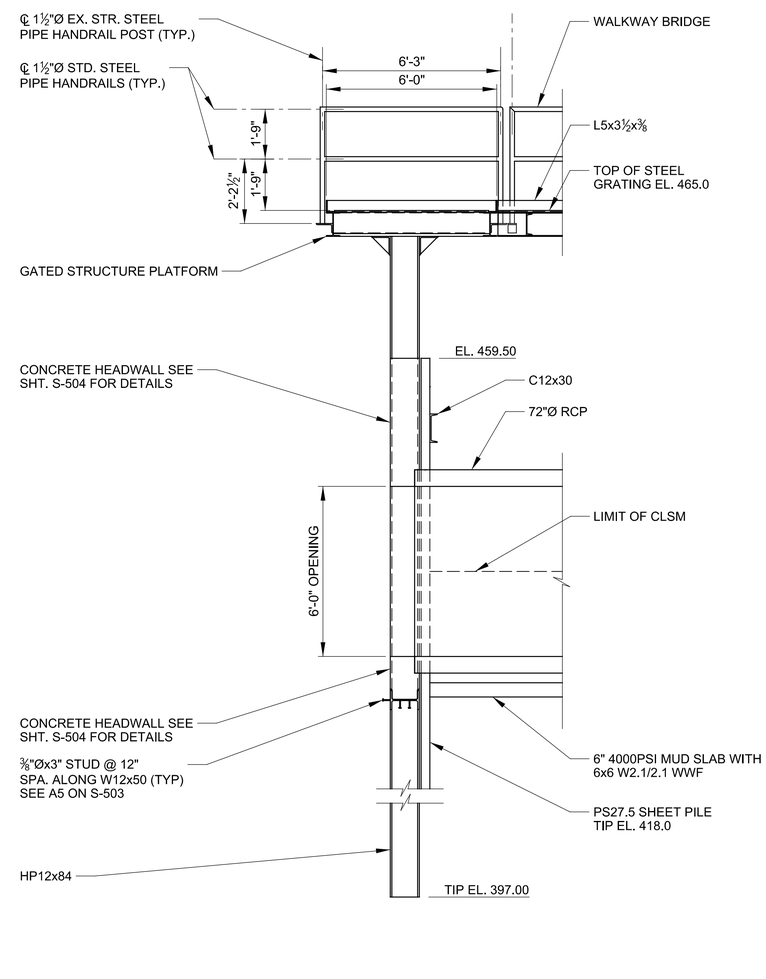
D2 PLAN

SCALE ⅜" = 1'-0"



A2 ELEVATION

SCALE ⅜" = 1'-0"



A4 SECTION

SCALE ⅜" = 1'-0"

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ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

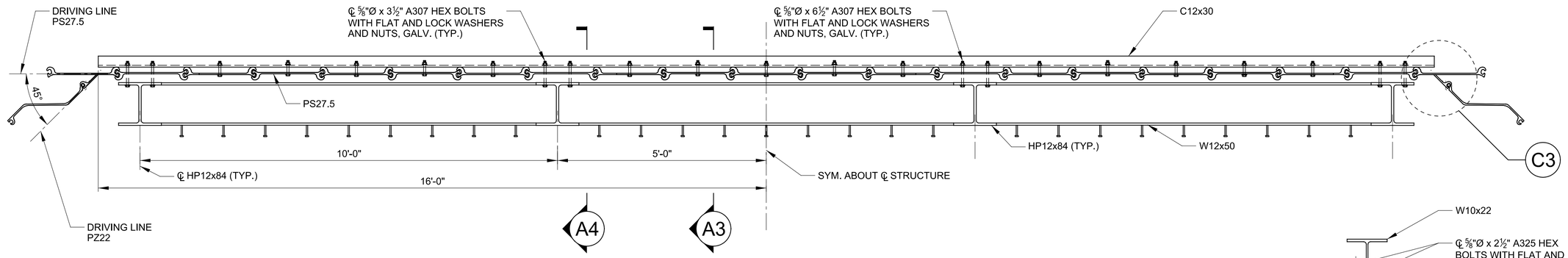
DESIGNED BY: JUSTIN L. CARTER
DWN BY: DCH
CKD BY: JLC
SUBMITTED BY: GLENDA J. HILL, P.E.
PLOT SCALE: 1:1
PLOT DATE:
SIZE: ANSI D
FILE NAME: M-EMP-08_S-501DET.dgn
DATE: 2013-01-22
SOLICITATION NO.: W912P9-13-R-0711
CONTRACT NO.:
FILE NUMBER: M-EMP-08

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

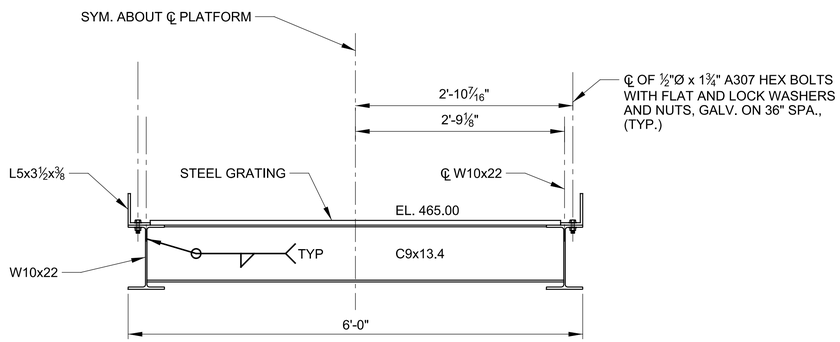
STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
GATED STRUCTURE DETAILS

SHEET IDENTIFICATION
S-501

auto_time



D3 SECTION
SCALE ¾" = 1'-0"



C1 / S-501 SECTION
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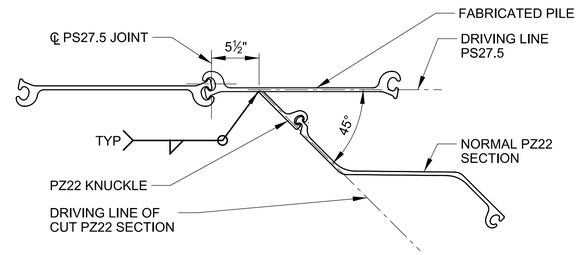
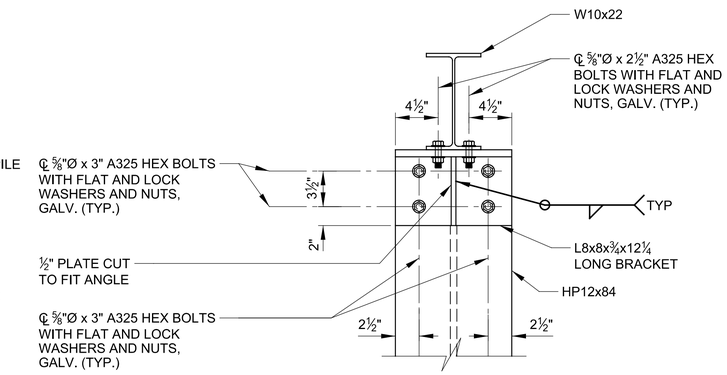
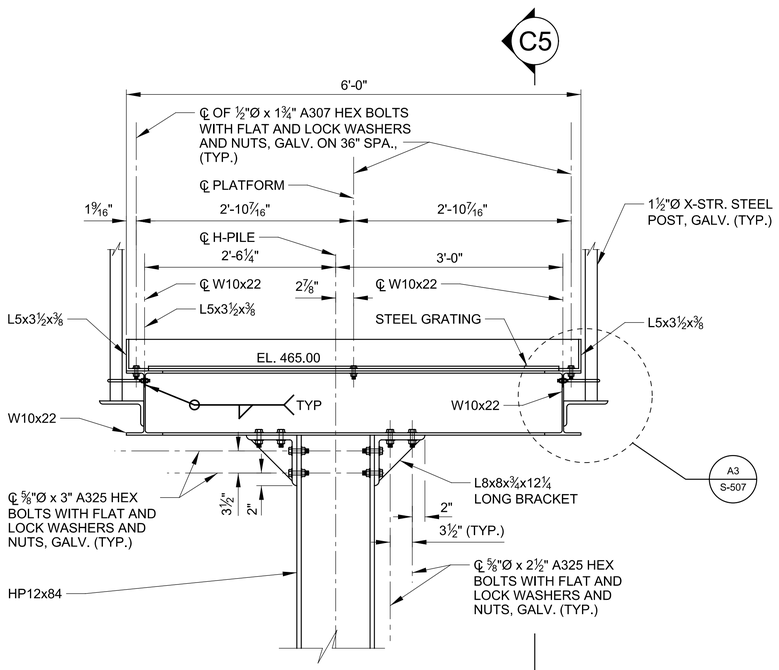


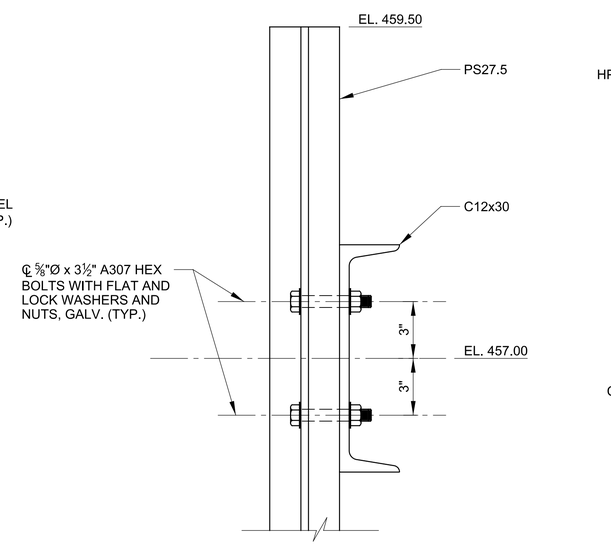
C3 SECTION
SCALE 1½" = 1'-0"



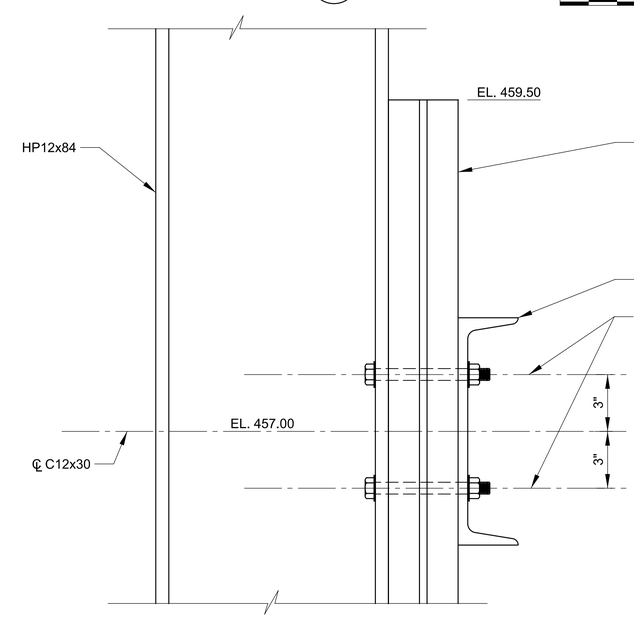
C5 SECTION
SCALE 1½" = 1'-0"



A1 / S-501 SECTION
SCALE 1" = 1'-0"



A3 SECTION
SCALE 3" = 1'-0"



A4 SECTION
SCALE 3" = 1'-0"

GENERAL SHEET NOTES:

1. CONCRETE HEADWALL NOT SHOWN FOR CLARITY.
2. ALL BOLTS TO BE PLACED AT C/L OF EACH SHEET PILE SECTION EXCEPT AT ATTACHMENT TO H-PILE LOCATIONS. HOLES SHALL BE DRILLED IN THE FIELD, NO BURNING ALLOWED. HOLES SHALL BE DRILLED IN THE FIELD.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: JUSTIN L. CARTER | DATE: 2013-01-22
DWN BY: DCH | CKD BY: JLC | SOLICITATION NO.: W912P8-13-R-0711
SUBMITTED BY: GLENDA J. HILL, P.E. | CONTRACT NO.:
PLOT SCALE: As Noted | PLOT DATE: | FILE NUMBER: H-EMP-06
SIZE: ANSI D | FILE NAME: H-EMP-06_S-502DET.dgn

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

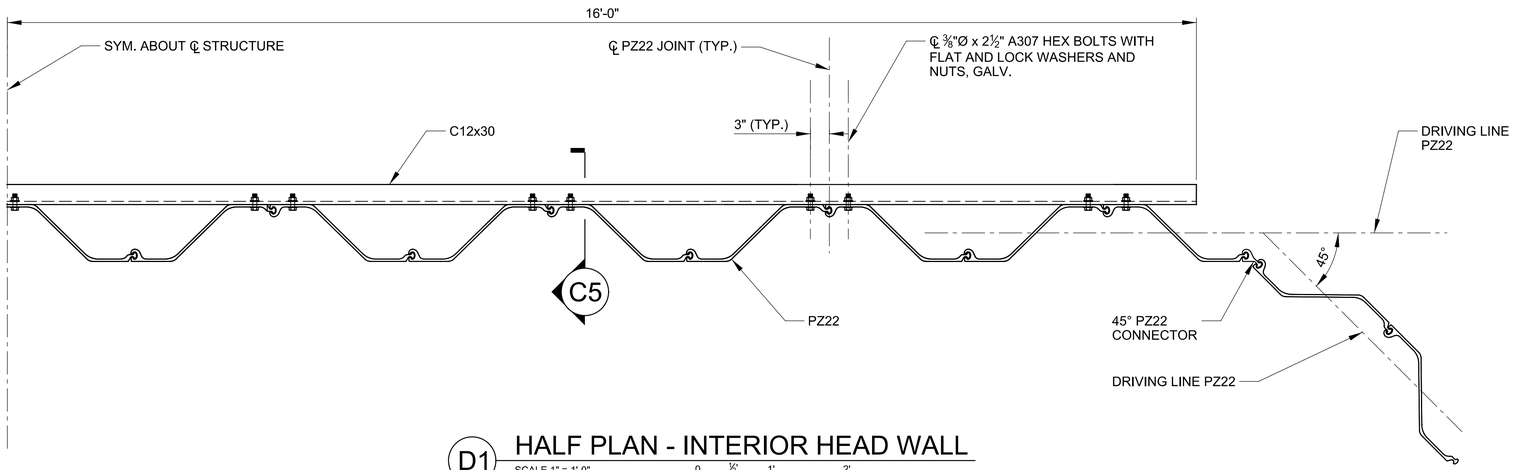
STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
CONNECTION DETAILS

SHEET IDENTIFICATION
S-502

auto_time

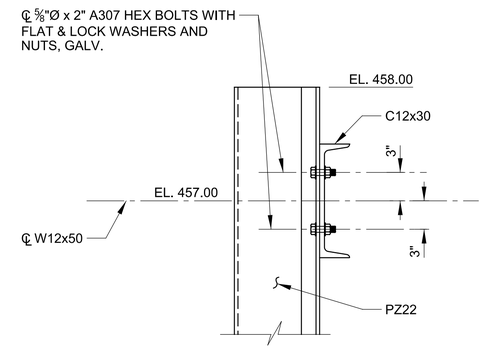
GENERAL SHEET NOTES:

1. CONCRETE HEADWALL NOT SHOWN FOR CLARITY.
2. VERTICAL STUDS AND VERTICAL WATERSTOP NOT SHOWN.
3. GUARDRAIL NOT SHOWN FOR CLARITY, SEE SHEET S-509 FOR DETAILS.
4. FABRICATE W12x50 BEAMS WITH EXTRA LENGTH, THEN FIELD TRIM TO FIT VERTICAL PILE SPACING. PROVIDE ACCESS HOLES AT WEB GROOVE WELD LOCATIONS. COVER WELD ACCESS HOLES PRIOR TO POURING CONCRETE HEADWALL.



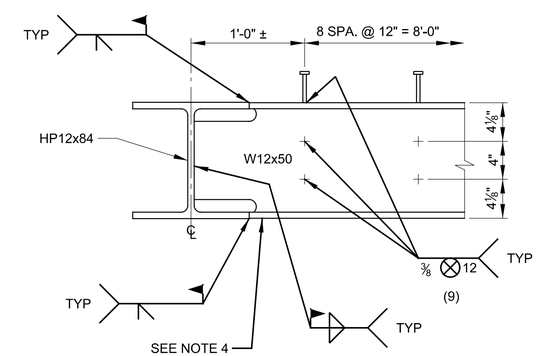
D1 HALF PLAN - INTERIOR HEAD WALL

SCALE 1" = 1'-0"



C5 DETAIL

SCALE 1½" = 1'-0"



A5 / S-501 SECTION - INTERIOR PILES

SCALE 1½" = 1'-0"

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: JUSTIN L. CARTER
DWN BY: DCH
CKD BY: JLC
SUBMITTED BY: GLENDA J. HILL, P.E.
PLOT SCALE: 1:1
PLOT DATE: N/A
SIZE: ANSI D
FILE NAME: M-EMP-08_S-503DET.dgn
FILE NUMBER: M-EMP-08
CONTRACT NO.:
SOLICITATION NO.: W912P9-13-R-0711
DATE: 2013-01-22

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

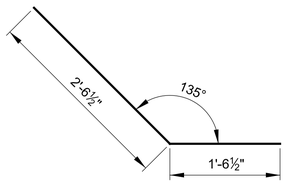
STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
CONNECTION DETAILS

SHEET IDENTIFICATION
S-503

auto_time

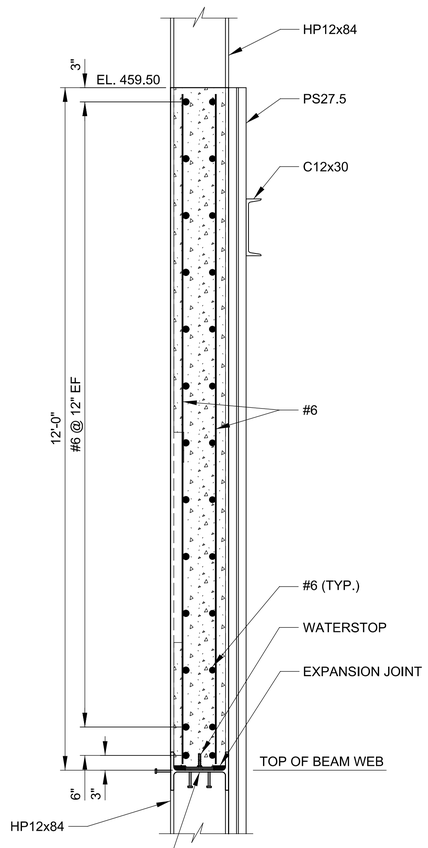
GENERAL SHEET NOTES:

1. THE CONCRETE HEADWALL THICKNESS IS DEPENDENT ON THE FINAL LOCATION OF THE PS27.5 SHEET PILE.
2. THE CLSM IS NOT SHOWN.
3. FOR DETAILS OF THE EXPANSION JOINT AND WATERSTOP, SEE SHT. S-505.
4. FOR DETAILS OF C12x30 CONNECTION TO PS27.5 SHEET PILES SEE SHT. S-502.
5. FOR DETAILS OF PIPE TO HEADWALL CONNECTION SEE DETAIL D3 ON SHT. S-506.
6. PS27.5 NOT SHOWN FOR CLARITY IN DETAIL B5.



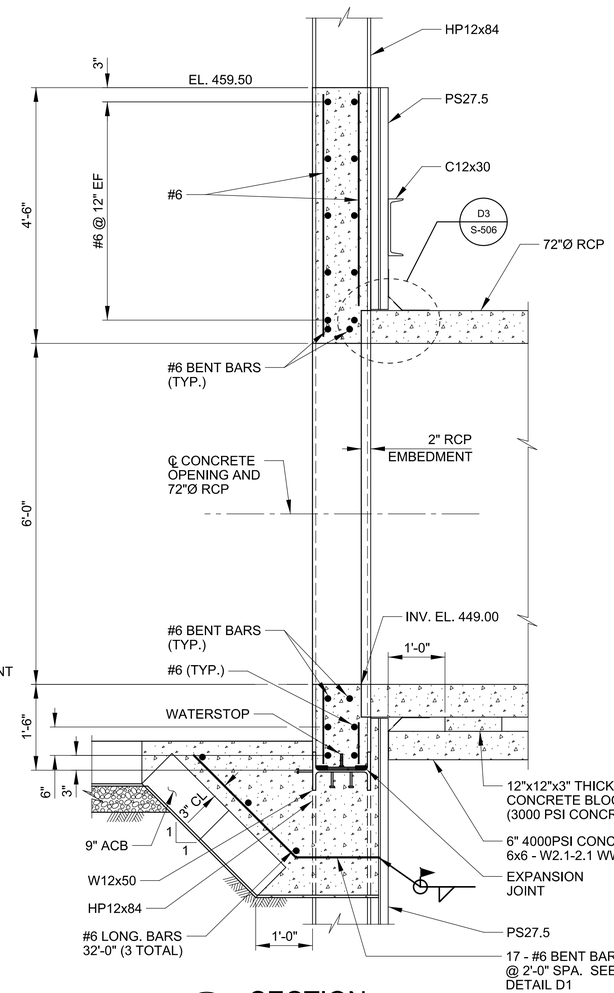
D1 DETAIL

SCALE 1" = 1'-0"



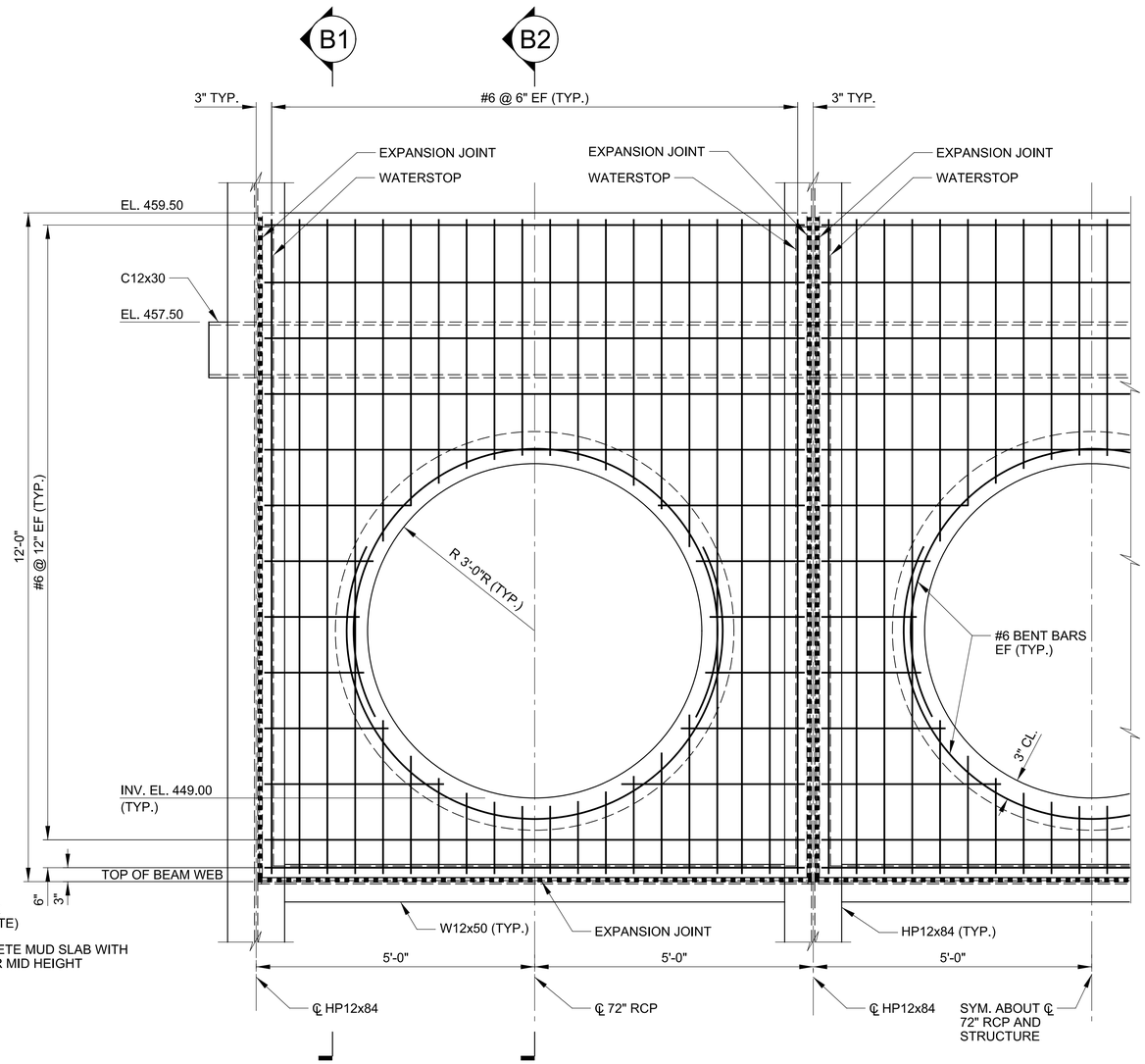
B1 SECTION

SCALE ¾" = 1'-0"



B2 SECTION

SCALE ¾" = 1'-0"



B5 HALF FRONT ELEVATION - CHANNEL SIDE

SCALE ¾" = 1'-0"

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: JUSTIN L. CARTER
DWN BY: DCH
CKD BY: JLC
SUBMITTED BY: GLENDA J. HILL, P.E.
PLOT SCALE:
PLOT DATE:
SIZE: ANSI D
FILE NAME: M-EMP-08_S-504DET.dgn
FILE NUMBER: M-EMP-08
SOLICITATION NO.: W912P8-13-R-0711
CONTRACT NO.:
DATE: 2013-01-22

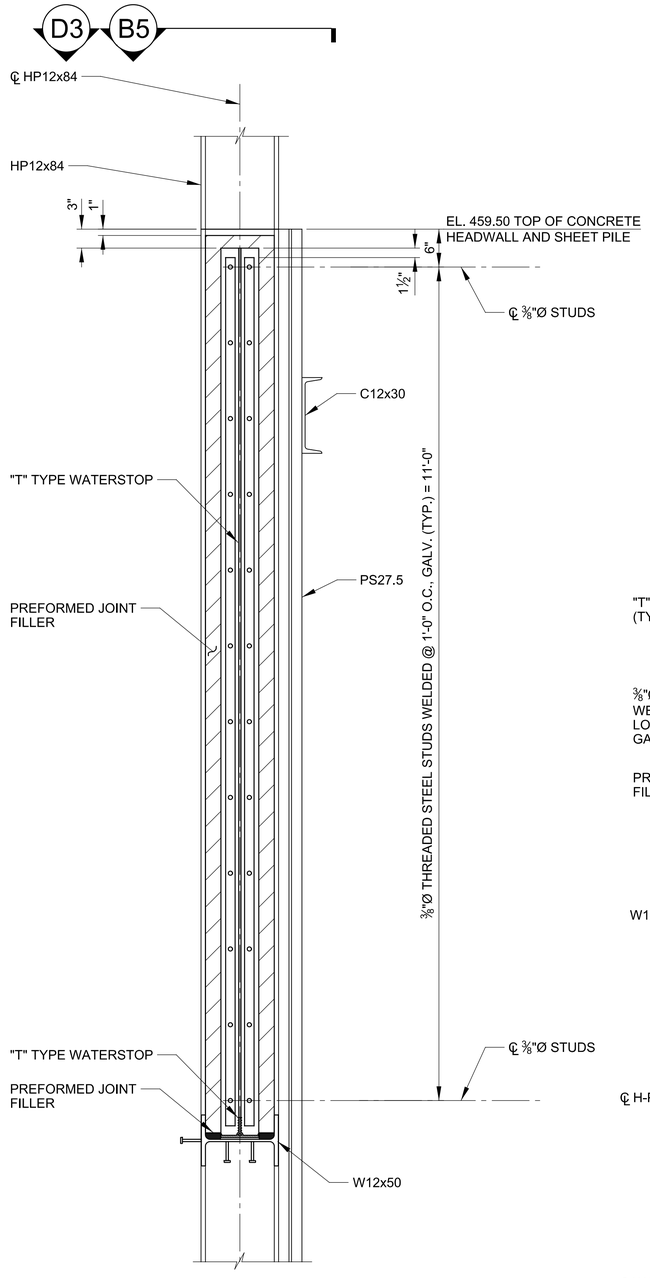
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
CONCRETE REINFORCEMENT DETAILS

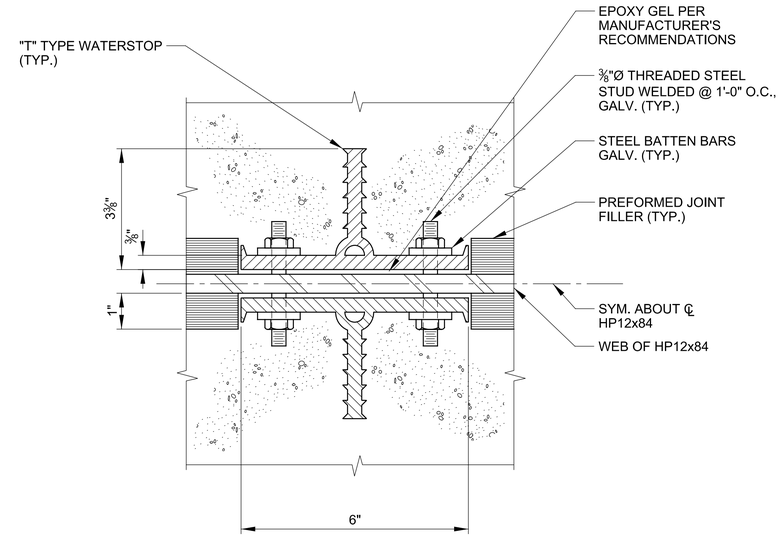
SHEET IDENTIFICATION
S-504

GENERAL SHEET NOTES:

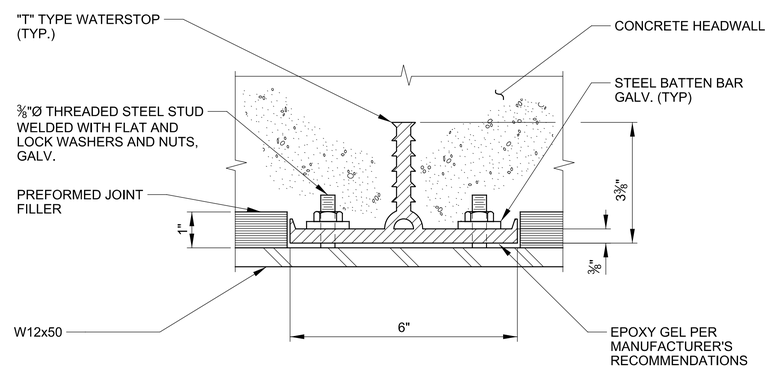
1. MITER T-TYPE WATERSTOP AT 90° CORNERS AND HEAT SEAL PVC PER MANUFACTURER'S RECOMMENDATIONS.



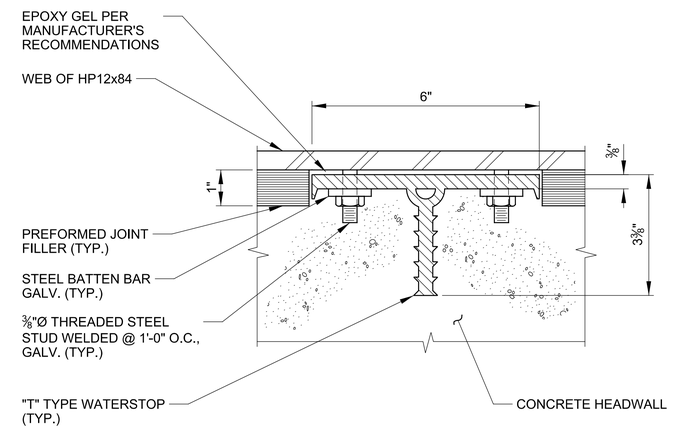
A1 H-PILE EXPANSION DETAIL
SCALE 1" = 1'-0"
0 ½' 1' 2'



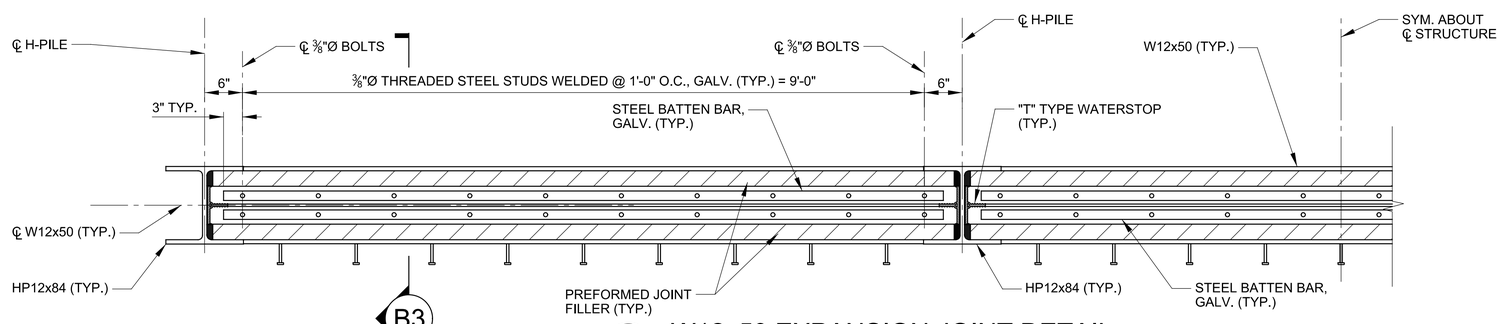
D3 PARTIAL SECTION - INTERIOR H-PILES
NTS



B3 PARTIAL SECTION
NTS



B5 PARTIAL SECTION - EXTERIOR H-PILES
NTS



A5 W12x50 EXPANSION JOINT DETAIL
SCALE 1" = 1'-0"
0 ½' 1' 2'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: JUSTIN L. CARTER
DATE: 2013-01-22
DWN BY: DCH
CKD BY: JLC
SOLICITATION NO.: W912P8-13-R-0711
SUBMITTED BY: GLENDA J. HILL, P.E.
CONTRACT NO.:
PLOT SCALE: 1:1 As Shown
PLOT DATE:
FILE NUMBER: M-EMP-04
SIZE: ANSI D
FILE NAME: M-EMP-08_S-505DET.dgn

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

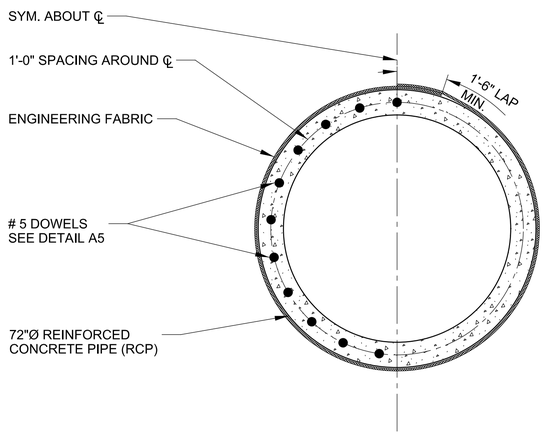
STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
WATERSTOP DETAILS

SHEET IDENTIFICATION
S-505

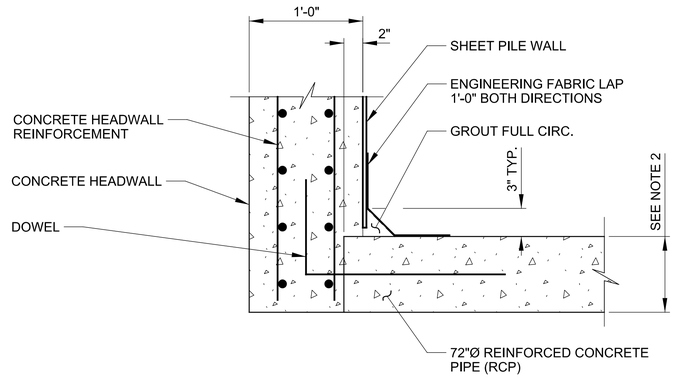
auto_time

GENERAL SHEET NOTES:

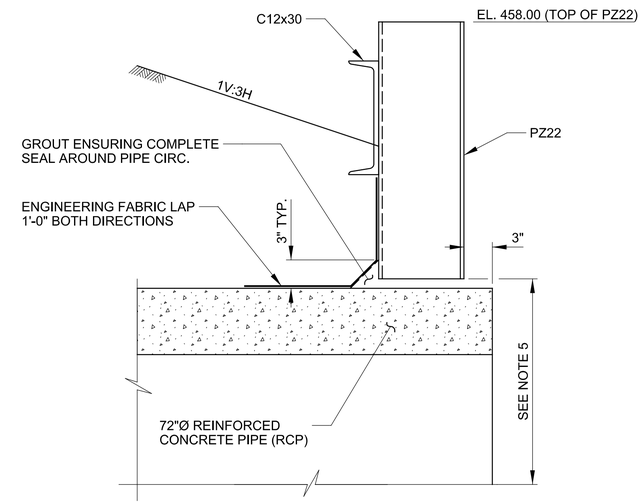
1. PORCELAIN ENAMLED GAGE SECTIONS FASTENED TO ANGLE WITH STAINLESS STEEL TYPE 304 ROUND HEAD MACHINE SCREWS AND WASHERS.
2. DIMENSION DEPENDENT UPON MANUFACTURER.
3. FOR LOCATION OF STAFF GAGE SEE SHT. S-101.
4. SHEET PILE AND ATTACHING ELEMENTS NOT SHOWN FOR CLARITY IN DETAIL A1.
5. MAX DIAMETER OF HOLE CUT IN SHEET PILING SHALL BE THE PIPE Ø + 2".

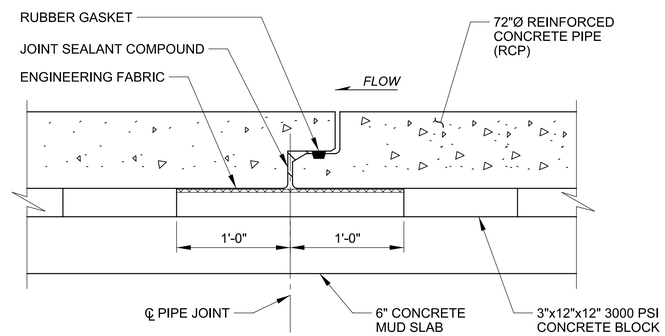


D1 DETAIL OF DOWEL LOCATION
NTS



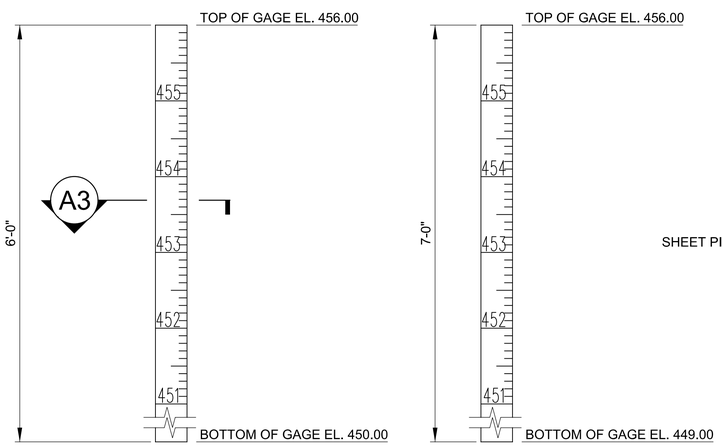
D3 DETAIL OF PIPE TO WALL CONNECTION
NTS





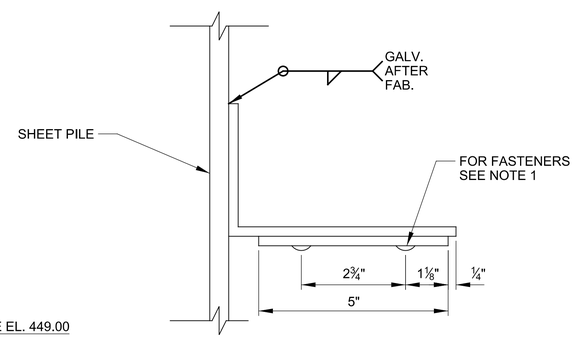
C3 DETAIL OF CONCRETE PIPE SUPPORTS
NTS

C5 DETAIL OF PIPE TO SHEET PILE CONNECTION
SCALE 1½" = 1'-0"

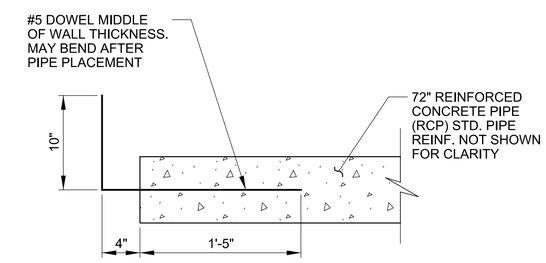


INTERIOR GATED STRUCTURE

A1 STAFF GAGE ELEVATIONS
NTS



A3 SECTION
NTS



A5 DETAIL OF DOWEL EMBEDMENT
SCALE 1½" = 1'-0"

0 ½' 1' 1½'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

DESIGNED BY: JUSTIN L. CARTER
DWN BY: DCH
CKD BY: JLC
SUBMITTED BY: GLENDA J. HILL, P.E.
DATE: 2013-01-22
SOLICITATION NO.: W912P9-13-R-0711
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE:
FILE NUMBER: MEMP-08
SIZE: ANSI D
FILE NAME: M-EMP-08_S-506DET.dgn

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

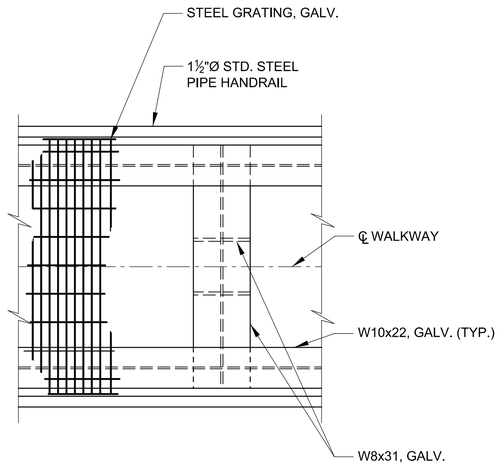
STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
MISCELLANEOUS DETAILS

SHEET IDENTIFICATION
S-506

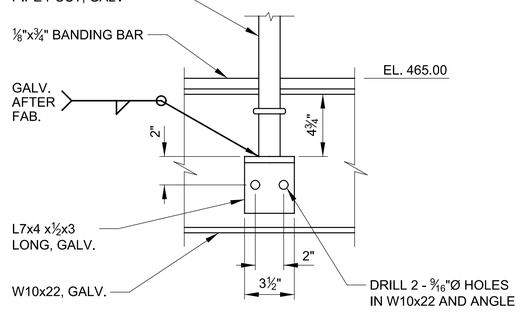
auto_time

GENERAL SHEET NOTES:

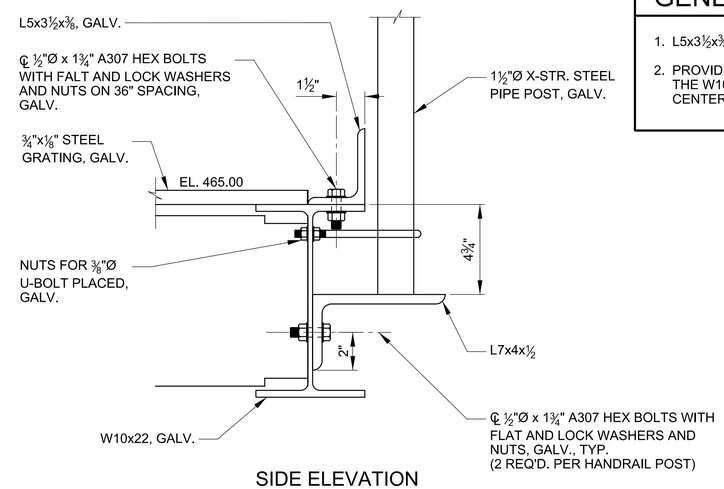
1. L5x3½x⅜ ALONG WALKWAY NOT SHOWN.
2. PROVIDE 1½" LONG SLOTS IN THE BOTTOM OF THE W10x22 FLOOR BEAMS. CENTER SLOTS ON CENTERLINE OF ½"Ø x 1¾" BOLTS.



D1 PLAN
NTS

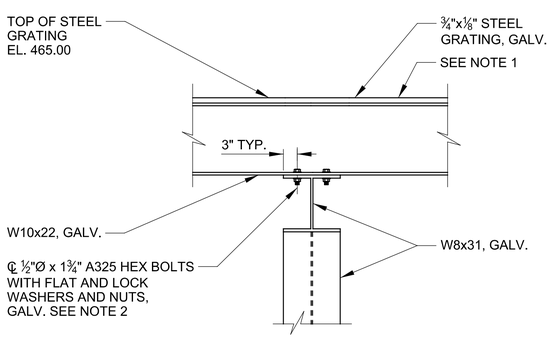


FRONT ELEVATION

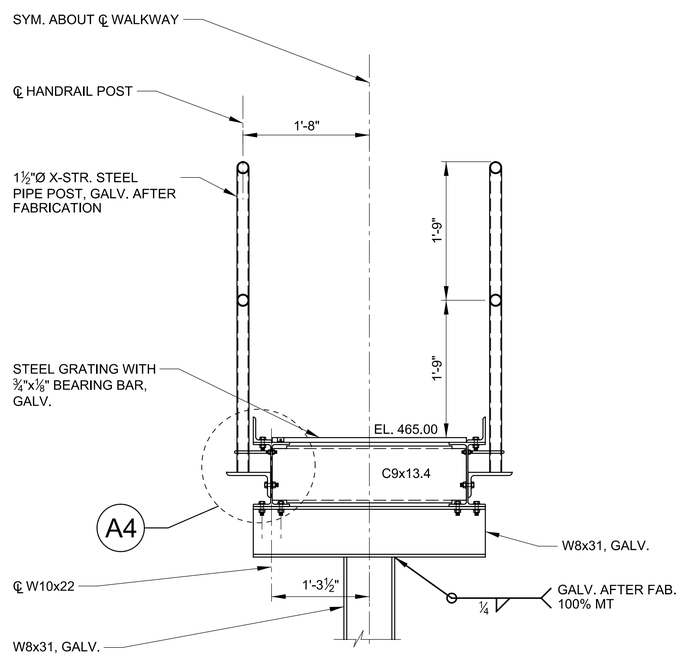


SIDE ELEVATION

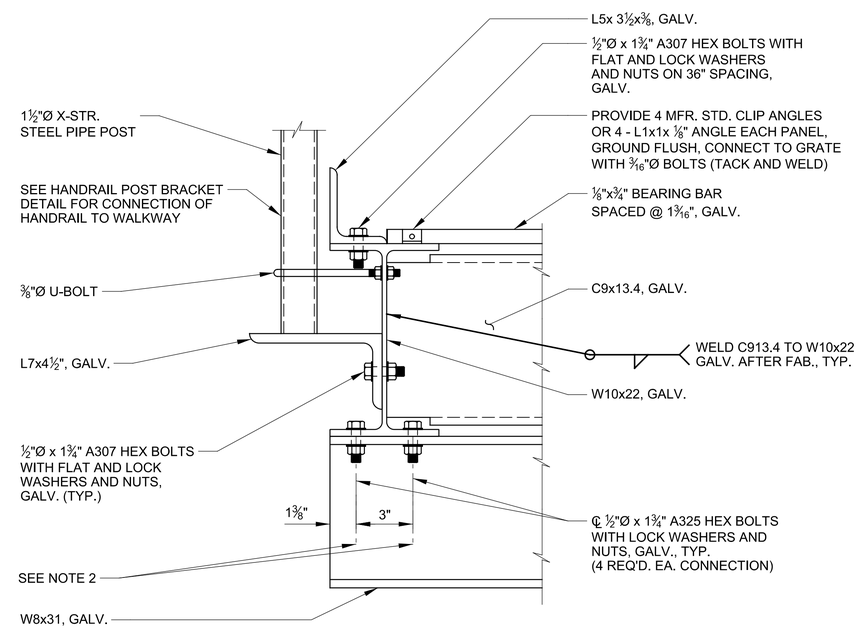
D3 HANDRAIL POST BRACKET DETAIL
SCALE 3" = 1'-0" 0 3" 6" 9"



A1 INTERMEDIATE PIER COLUMN & WALKWAY ELEVATION
NTS



A3 S-102 SECTION
SCALE 1" = 1'-0" 0 ½" 1' 2'



A4 DETAIL
NTS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

DESIGNED BY: JUSTIN L. CARTER
DWN BY: DCH
CKD BY: JLC
SUBMITTED BY: GLENDA J. HILL, P.E.
PLOT SCALE: 1:1
PLOT DATE: 1/9/2014
SIZE: ANSI D
FILE NAME: M-EMP-08_S-507DET.dgn
DATE: 2013-01-22
SOLICITATION NO.: W912P9-13-R-0711
CONTRACT NO.:
FILE NUMBER: M-EMP-08

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

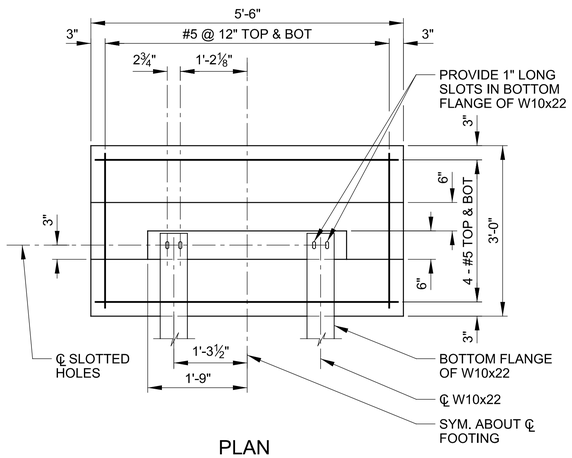
STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
WALKWAY BRIDGE DETAILS

SHEET IDENTIFICATION
S-507

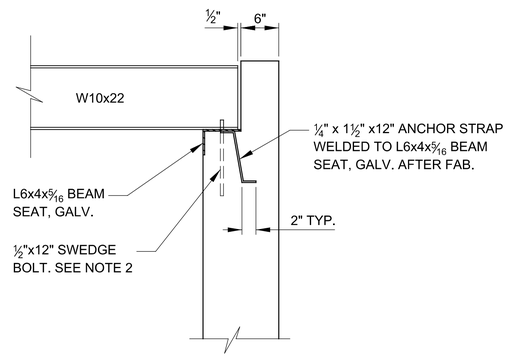
auto_time

GENERAL SHEET NOTES:

1. SWEDGE ANCHORS, STEEL GRATING, WALKWAY AND L5x3½x⅜ NOT SHOWN FOR CLARITY ON DETAIL C2.
2. DRILL ¾"Ø HOLES IN BEAM SEAT FOR ½"Ø SWEDGE BOLTS BEFORE GALVANIZING.

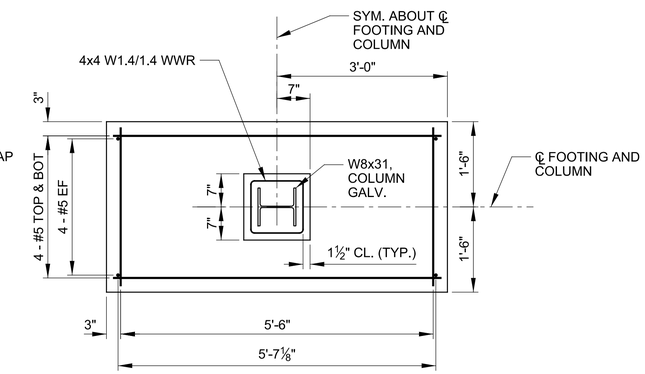


PLAN

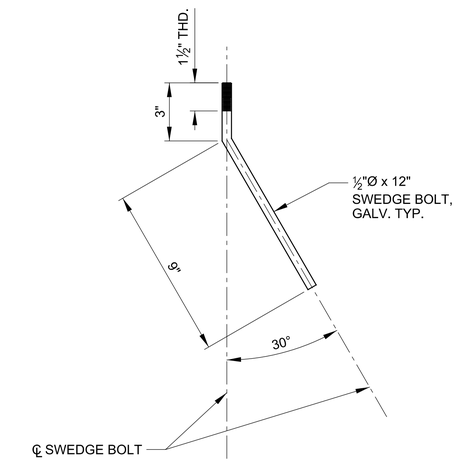


C2 BEAM SEAT DETAIL

SCALE 1" = 1'-0"

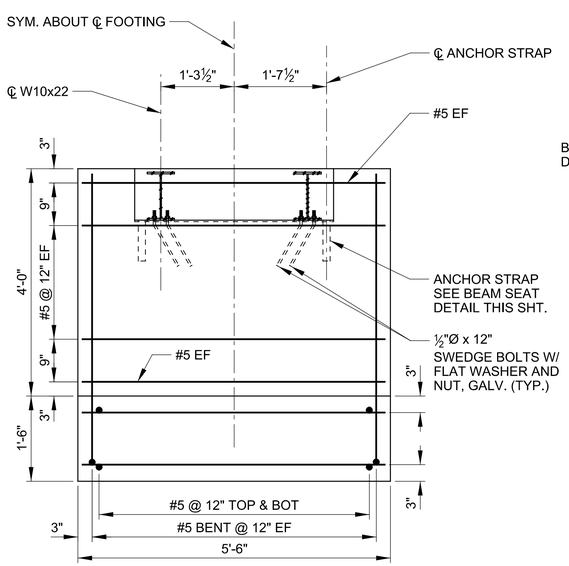


PLAN

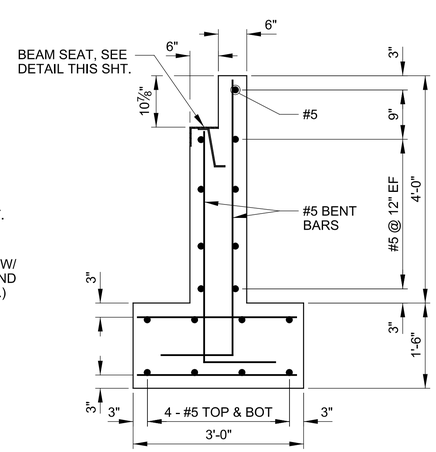


C5 SWEDGE BOLT DETAIL

SCALE 3" = 1'-0" (4 REQ'D)



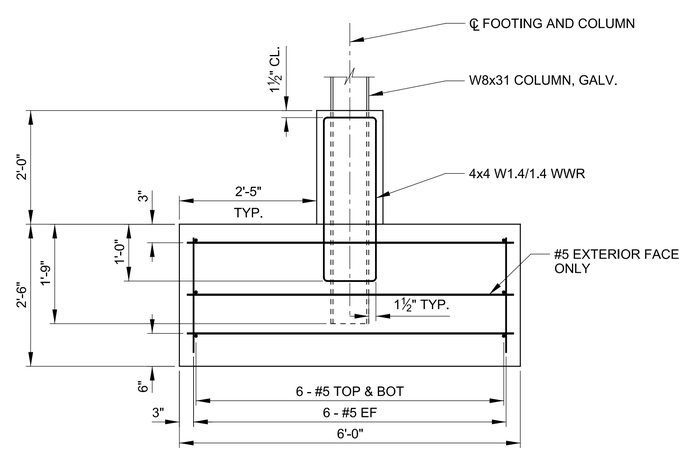
FRONT ELEVATION



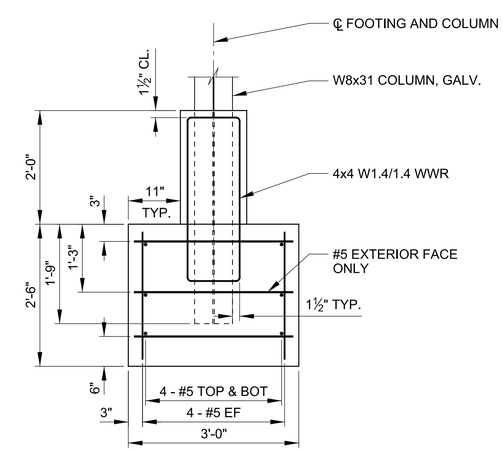
SIDE ELEVATION

A1 WALKWAY ABUTMENT FOOTING DETAILS

SCALE ¾" = 1'-0"



FRONT ELEVATION



SIDE ELEVATION

A4 INTERMEDIATE PIER FOOTING DETAIL

SCALE ¾" = 1'-0"

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: JUSTIN L. CARTER
DATE: 2013-01-22
DWN BY: DCH
CKD BY: JLC
SOLICITATION NO.: W912P8-13-R-0711
SUBMITTED BY: GLENDA J. HILL P.E.
CONTRACT NO.:
PLOT SCALE: NONE
PLOT DATE:
FILE NUMBER: H-E5IP-08
SIZE: ANSI D
FILE NAME: M-EMP-08_S-508DET.dgn

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

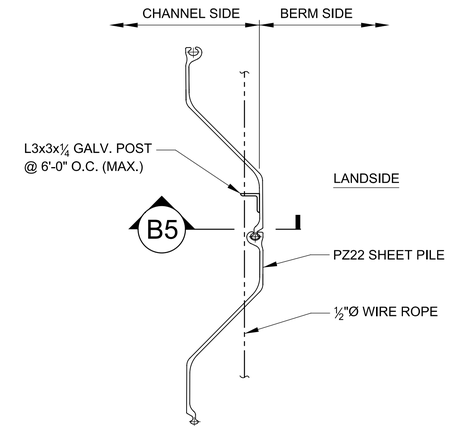
U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

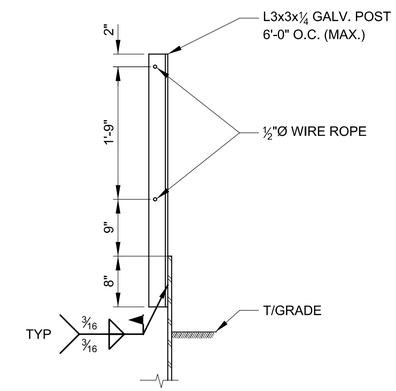
STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
WALKWAY BRIDGE FOOTING DETAILS

SHEET IDENTIFICATION
S-508

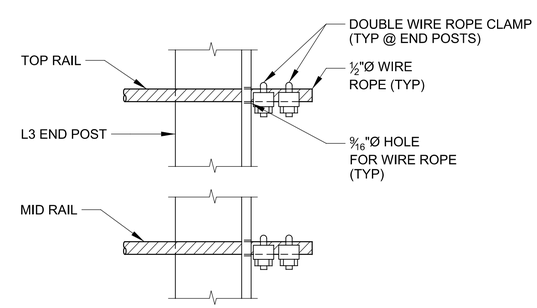
AUTO_time



D5 TYPE 3 GUARDRAIL DETAIL
SCALE 1" = 1'-0"



B5 SECTION
SCALE 1" = 1'-0"



NOTE: WORK ACTUAL POST SPACING WITH DIMENSIONS OF SHEETPILE SECTION

A5 DETAIL
SCALE 1" = 1'-0"

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.

MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

DESIGNED BY: CLINT DOUGHERTY, P.E.
DATE: 2015-01-22
DWN BY: BMM
CKD BY: CED
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: STEPHEN G. FARKAS, P.E.
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE: No Date
FILE NUMBER: M-E2P-A9
SIZE: ANSI D
FILE NAME: M-EMP-08_S-509DET.dgn

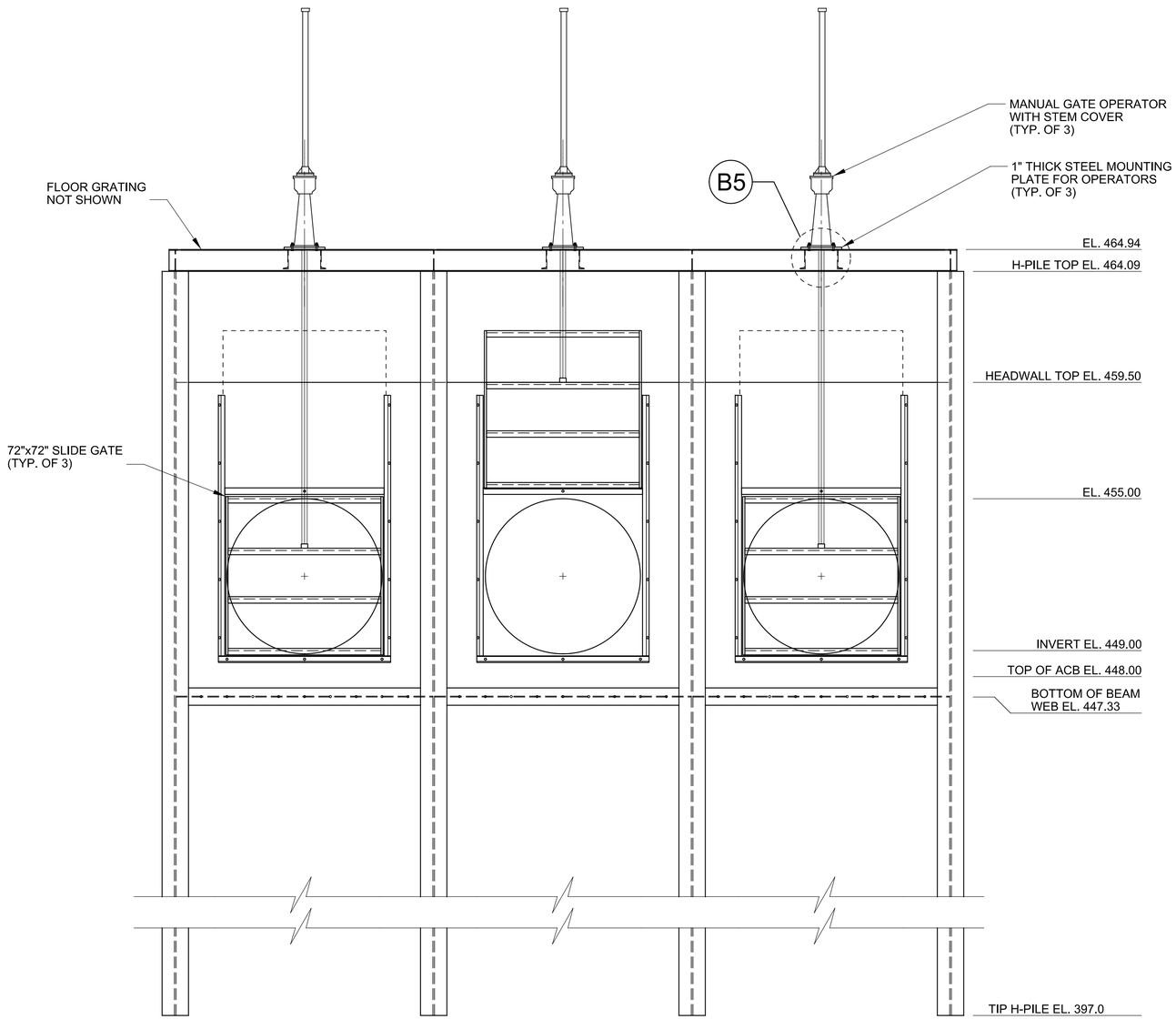
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
GUARDRAIL DETAILS

SHEET IDENTIFICATION
S-509

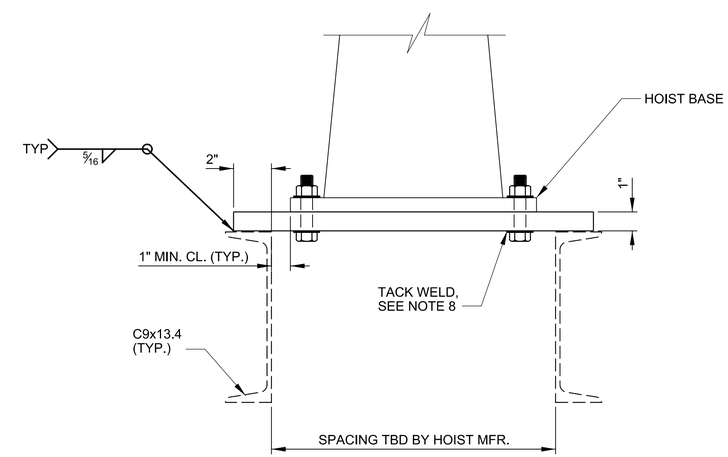
GENERAL SHEET NOTES:

1. PROVIDE THREE FABRICATED NON SELF-CONTAINED STAINLESS STEEL SLIDE GATES CAPABLE OF WITHSTANDING 15'-0" SEATING HEAD AND 5'-0" UNSEATING HEAD.
2. PROVIDE THREE MANUAL HOISTS WITH 2" SQUARE NUT ATTACHMENT FOR PORTABLE ELECTRIC DRILL (OPERATING HEAD = 10'-0").
3. MOUNT GATE FRAME WITH STAINLESS STEEL ADHESIVE ANCHORS (DRILL IN EPOXY SET ANCHORS) WITH SIZE AND SPACING AS SPECIFIED BY GATE MANUFACTURER - 1" GROUNT PAD MINIMUM (EMBEDMENT DEPTH SHALL NOT EXCEED 8 INCHES).
4. STEM DIAMETER TO BE DETERMINED BY GATE MANUFACTURER. SIZE STEM WITHOUT THE USE OF STEM GUIDES.
5. MOUNT HOIST ON 1" THICK STEEL PLATE WELDED TO CHANNEL (C9x13.4). PLATE DIMENSIONS AND MOUNTING BOLTS TO BE DETERMINED BY HOIST MANUFACTURER.
6. LOCATION (SPACING) OF CHANNELS TO BE DETERMINED BY GATE HOIST MANUFACTURER.
7. SHIM HOIST LEVEL AND INSTALL PERMANENT MACHINED SHIM.
8. TACK WELD THE HEAD OF THE HOIST BASE MOUNTING BOLTS TO THE UNDERSIDE OF THE HOIST BEARING PLATE.



B2 ELEVATION - FABRICATED SLIDE GATES AND OPERATORS

SCALE ¾" = 1'-0"



B5 DETAIL - GATE OPERATOR BASE

SCALE 3" = 1'-0"

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

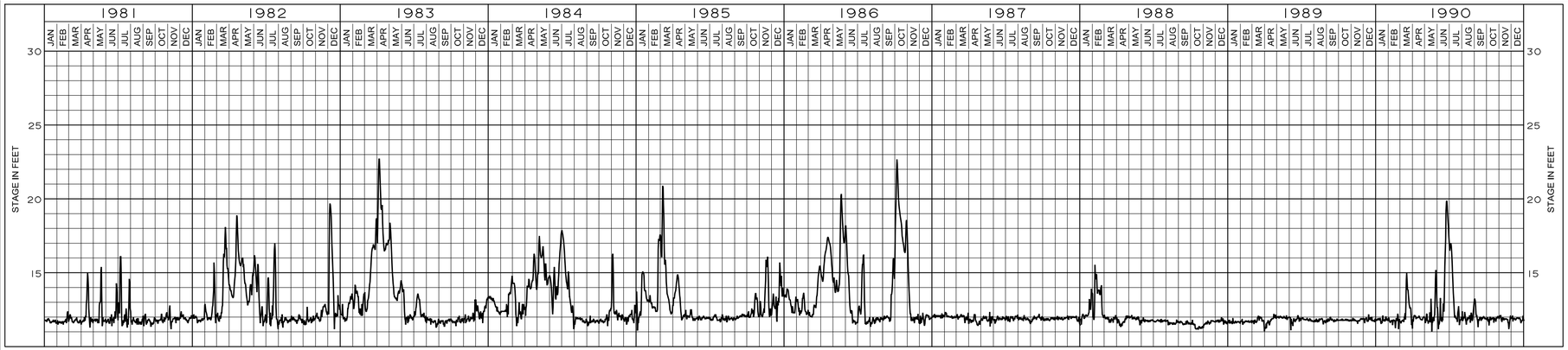
DESIGNED BY: JEREMY M. HERRING
DATE: 2013-01-22
DWN BY: JMH
CKD BY: RHM
SOLICITATION NO.: W912P9-13-R-0711
SUBMITTED BY: GLENDA J. HILL, P.E.
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE:
FILE NUMBER: M-201.dwg
SIZE: ANSI D
FILE NAME:

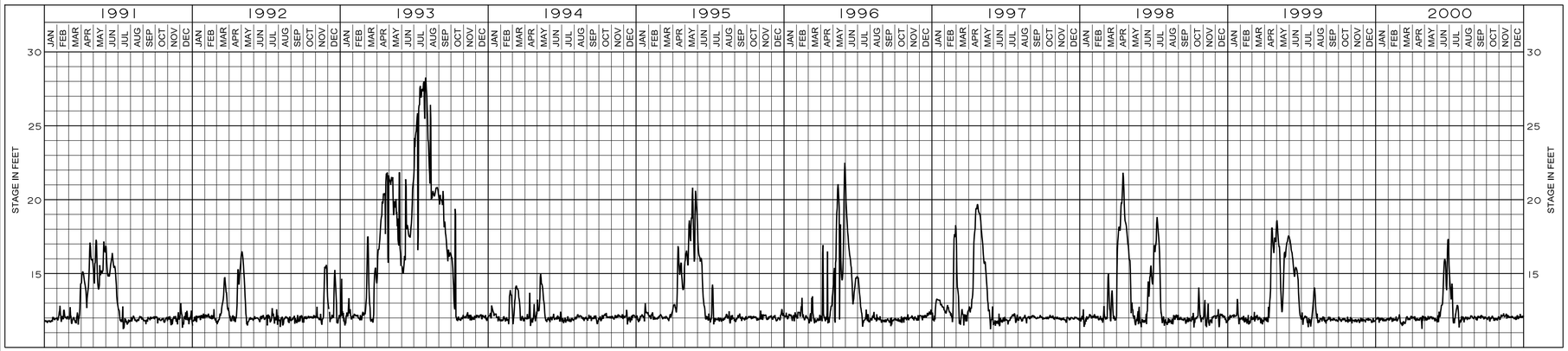
U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

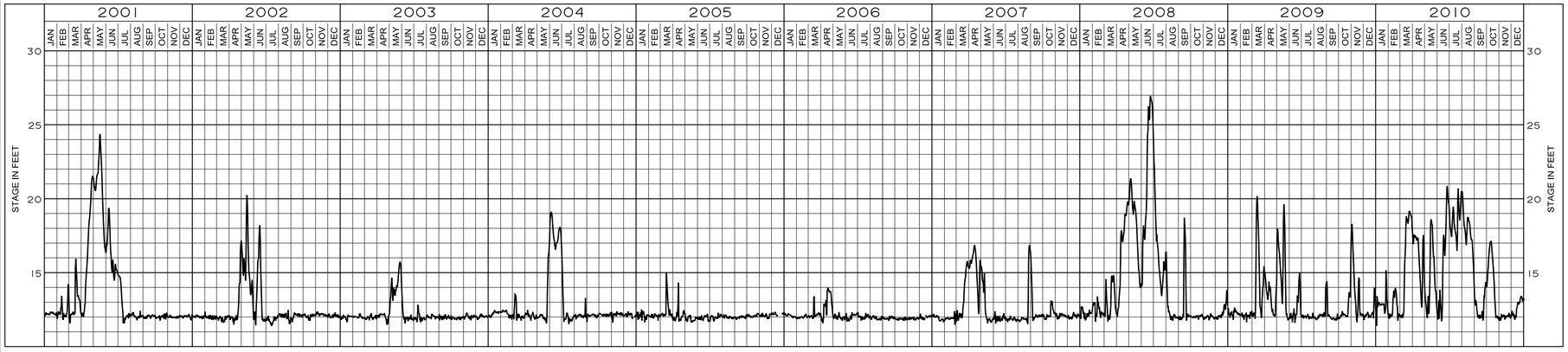
TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
SLIDE GATES AND OPERATORS ELEVATION

SHEET IDENTIFICATION
M-201







GENERAL SHEET NOTES:

1. THESE HYDROGRAPHS DEPICT HISTORICAL FACT ONLY AND NO PREDICTION IS INTENDED AS TO FUTURE WATER STAGES. THE SUCCESSFUL BIDDER IS EXPECTED TO UNDERSTAND THE FACT THAT FUTURE WATER STAGES, DESPITE ANY APPARENT HISTORICAL PATTERNS, ARE DEPENDENT UPON VAGARIES OF NATURE AND MAY DIFFER DRASTICALLY AT ANY TIME FROM ANY HISTORICAL PATTERNS THAT MIGHT BE INFERRED.
2. A MORE COMPLETE HISTORY OF RIVER STAGES IS AVAILABLE FROM THE U.S. ARMY ENGINEER DISTRICT, ST. LOUIS. GAPS IN THE STAGE HYDROGRAPH INDICATE NO READING AVAILABLE.
3. READING TAKEN AT THE LOUISIANA, MO GAGE RIVER MILE 282.9.
4. ZERO GAGE = 437.33

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.	MARK	DESCRIPTION	DATE	APPR.

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT
ST. LOUIS, MISSOURI

DESIGNED BY: DUSTIN C. HEER
DWN BY: DCH
CKD BY: JDM
SUBMITTED BY: GLENDA J. HILL, P.E.
PLOT SCALE: 1:1
PLOT DATE:
SIZE: ANSI D
FILE NAME: M-EMP-08_R-001HYD.dgn
DATE: 2013-01-22
SOLICITATION NO.: W912P9-13-R-0711
CONTRACT NO.:
FILE NUMBER: M-EMP-08

U.S. ARMY CORPS OF ENGINEERS
VICKSBURG DISTRICT
VICKSBURG, MISSISSIPPI

TED SHANKS CONSERVATION AREA PHASE II
HABITAT REHABILITATION & ENHANCEMENT PROJECT
UPPER MISSISSIPPI
PIKE COUNTY, MISSOURI

STRUCTURE SR-1 & NORTH BERM
SETBACK/DEGRADE
STAGE HYDROGRAPH

SHEET IDENTIFICATION
R-001