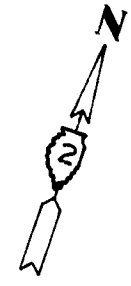
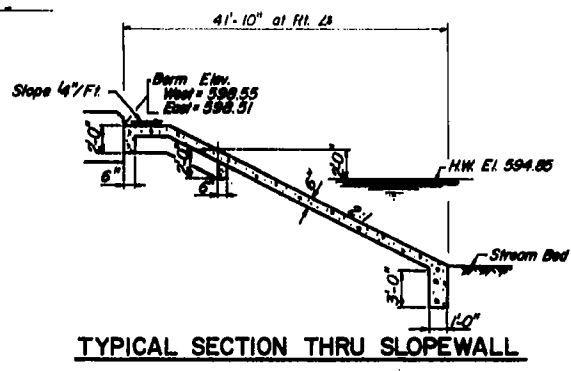
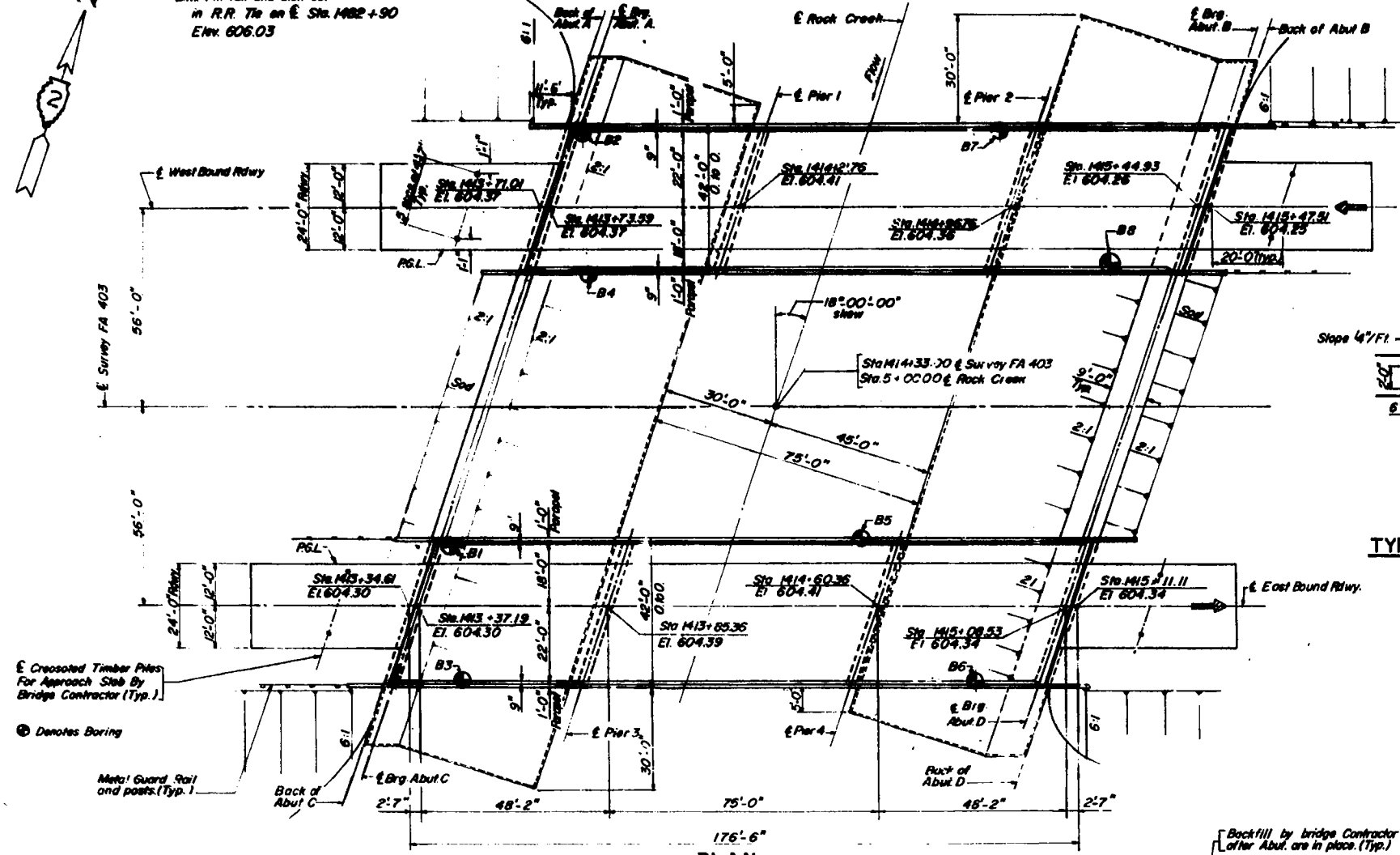


PROJECT NO.	195-1-2	COUNTY	WHITEIDE	TOTAL SHEETS	230	SHEET NO.	78
DATE	1-2	PLANNED	FOR	AS	PROJECT		



B.M. Pt. rail and disk set  
in R.R. Tie on E Sta. 1422+90  
Elev. 606.03



**GENERAL NOTES**

ALL REINFORCEMENT BARS SHALL BE LAPPED 24 DIAMETERS UNLESS OTHERWISE SHOWN.

FIELD CONNECTIONS SHALL BE BOLTED USING HIGH STRENGTH BOLTS. BOLTS 3/4" OPEN HOLES 13/16" Ø, UNLESS OTHERWISE NOTED.

THE BASIC LEAD SILICO CHROMATE PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM OF FLANGE OF BEAM OR GIRDERS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.

ANCHOR BOLTS SHALL BE SET BEFORE BOLTING DIAPHRAGMS OVER SUPPORTS.

SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC 6" x 6" MESH. WEIGHING 500 PER 100 SQ. FT.

THE EMBANKMENT CONFIGURATION SHOWN SHALL BE THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.

THE CONTRACTOR SHALL DRIVE FOUR TEST PILES IN A PROMINENT LOCATION, ONE EACH AT ABUTMENT A AND PIER 2 OF WEST BOUND AND ONE EACH AT PIER 3 AND ABUTMENT B OF EAST BOUND, AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE PILES.

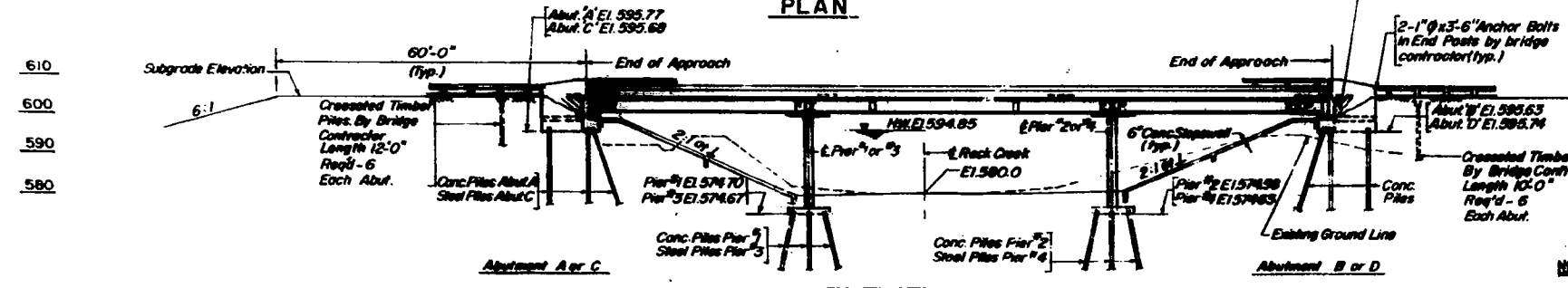
THE CONCRETE BAIL SECTION ABOVE THE MANDATORY CONJ. JOINT AT THE TOP OF THE SLAB SHALL BE CONSTRUCTED OF CLASS X CONCRETE, EXCEPT THE AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF HANDMAIL CONCRETE.

PROTECTIVE COAT SHALL NOT BE APPLIED TO SURFACES TO WHICH WATERPROOFING MEMBRANE SYSTEM IS APPLIED.

LAYOUT OF SLOPE WALLS MAY BE VARIED IN THE FIELD TO SUIT GROUND CONDITIONS AS DIRECTED BY THE ENGINEER.

Bearing seat surfaces shall be constructed or adjusted to the design final elevations within a tolerance of ± 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

Reinforcing steel carrying member components subject to the Supplemental Requirements for Mesh Reinforcement are the Ranges, caps, cover plates, and reinforcement bars or wide flange beams.

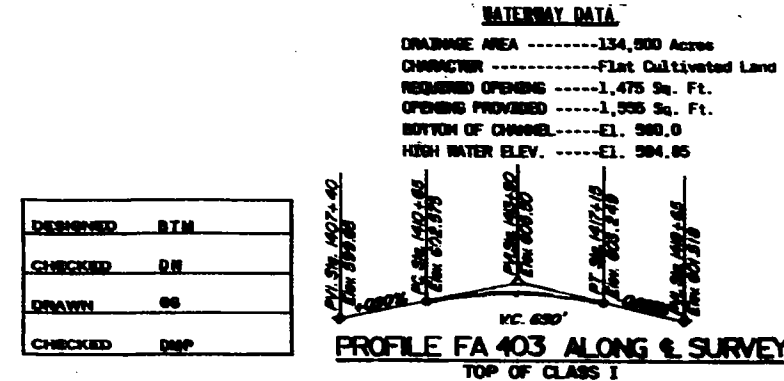


STATION 1414+33.00  
BUILT BY  
STATE OF ILLINOIS  
FA 403 SECTION 195-1B-1  
FA PROJECT 195-1-2 (403-14)  
LOADING HS 20

**NAME PLATE**  
SEE STD 2115

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
STRUCTURE EMBANKMENT	CU. YDS.	--	630	630
PROTECTIVE COAT	SQ. YDS.	312	--	312
CLASS "X" CONCRETE	CU. YDS.	910.5	720.0	1630.5
STRUCTURAL STEEL	L. WGT.	0.27	--	0.27
ALUMINUM BAILING	LIN. FT.	600	--	600
REINFORCEMENT BARS	LBS.	195,000	20,000	215,000
SPUD SAND CONNECTIONS	EACH	4,000	--	4,000
CONCRETE FORMS UP TO 20 FEET	LIN. FT.	--	200	200
STEEL FORMS	LIN. FT.	--	1,000	1,000
TEST PILES	EACH	--	1	1
CONCRETE PILES	LIN. FT.	--	1,000	1,000
CONCRETE TEST PILES	EACH	--	2	2
STEEL PILES	EACH	--	2	2
STEEL PILES	SQ. YDS.	--	2,000	2,000
STEEL PILES	SQ. YDS.	1.00	--	1.00
STEEL PILES	LIN. FT.	1,000	--	1,000
STEEL PILES	LIN. FT.	100	--	100
STEEL PILES	LIN. FT.	100	--	100
STEEL PILES	LIN. FT.	100	--	100



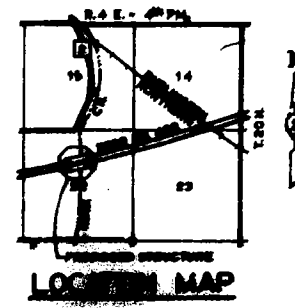
**NOTES:**

**DESIGN LOADINGS:**  
HS 20-44 And Allowance For 25 P.S.F.  
Future Wearing Surface

**DESIGN STRESSES:**

f<sub>c</sub> = 1480 P.S.I. Except As Follows:  
f<sub>c</sub> = 1300 P.S.I. For Deck Slab.  
f<sub>c</sub> = 1600 P.S.I. For Deck In Contact With Earth.  
f<sub>s</sub> = 20,000 P.S.I. Structural Steel.  
f<sub>s</sub> = 28,000 P.S.I. Reinforcement Steel.  
v = 75 P.S.I. Allowable Shear In Footings.  
n = 10

Allowable Live Load Deflection =  
L/1600 (Composite)  
DESIGN SPECIFICATIONS: AASHTO 2009 As Applicable



**GENERAL PLAN & ELEVATION**  
FA 403 SECTION 195-1B-1  
FA 403 OVER ROCK CREEK  
WHITEIDE COUNTY  
SECTION 1414+33.00

DESIGNED	BIM
CHECKED	DN
DRAWN	CS
CHECKED	DMP

NOTE:  
For Footing Layout Refer Sheet 8

*Surveyed by Polansky*

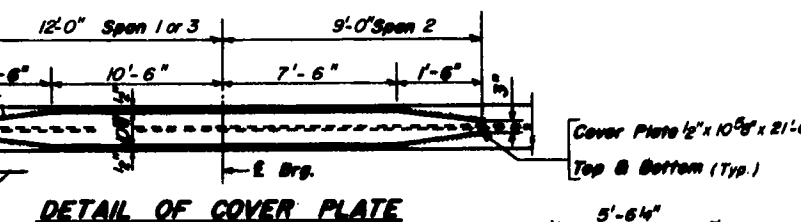
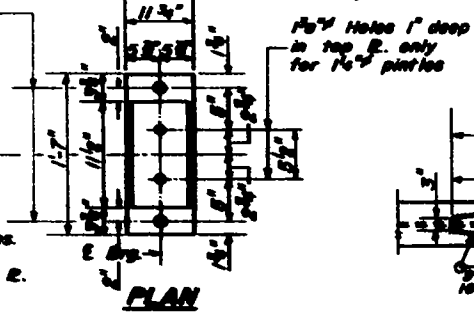
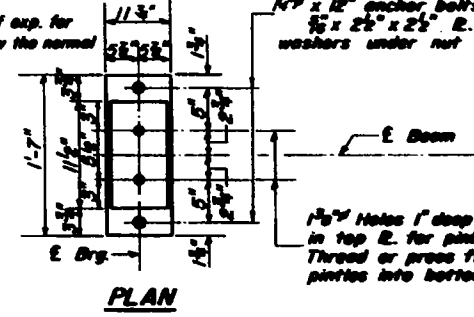
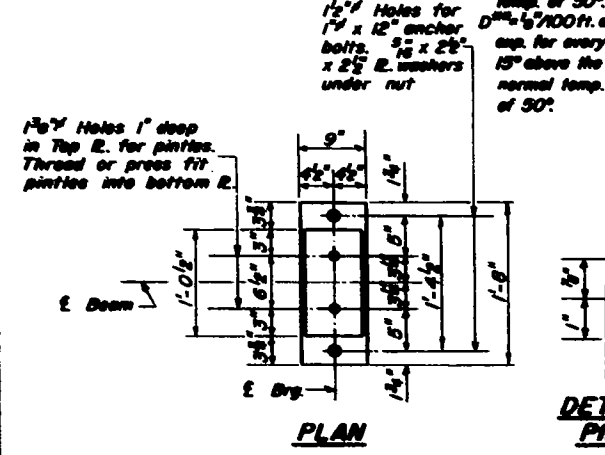
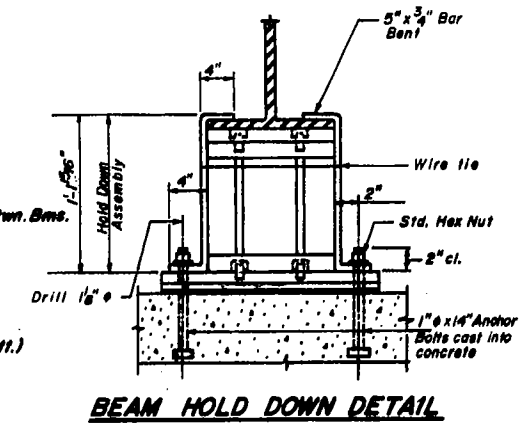
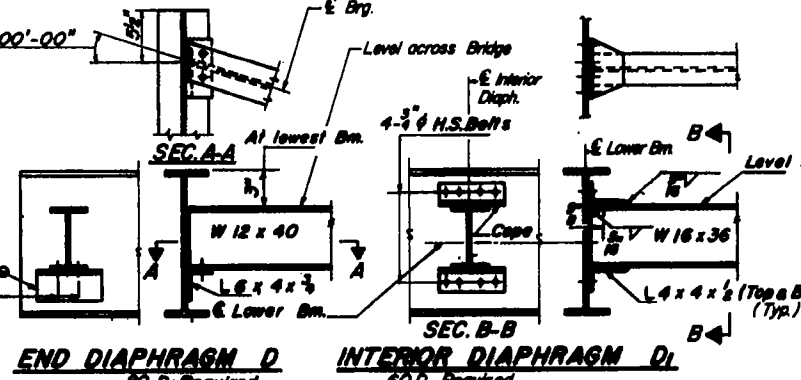
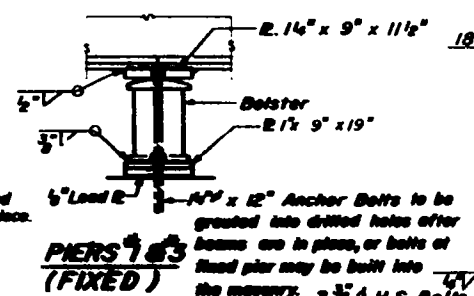
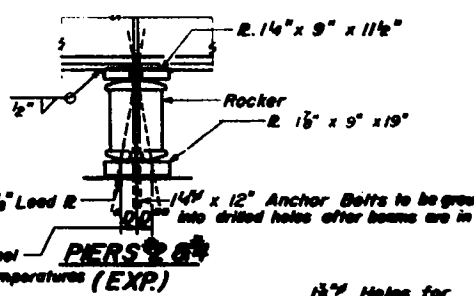
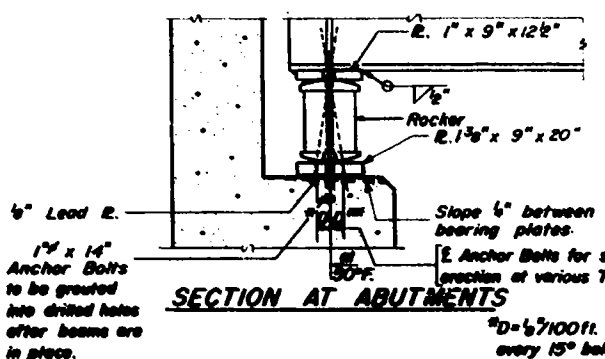
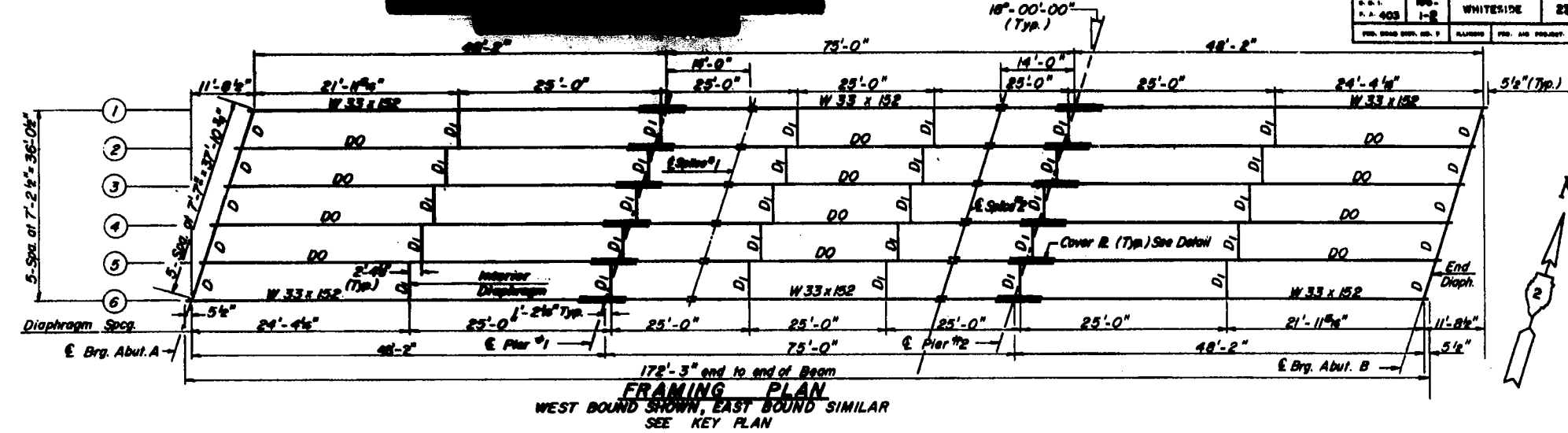
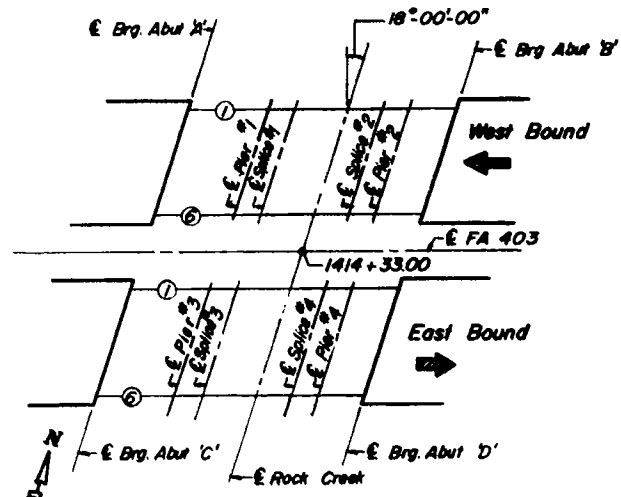
APPROVED



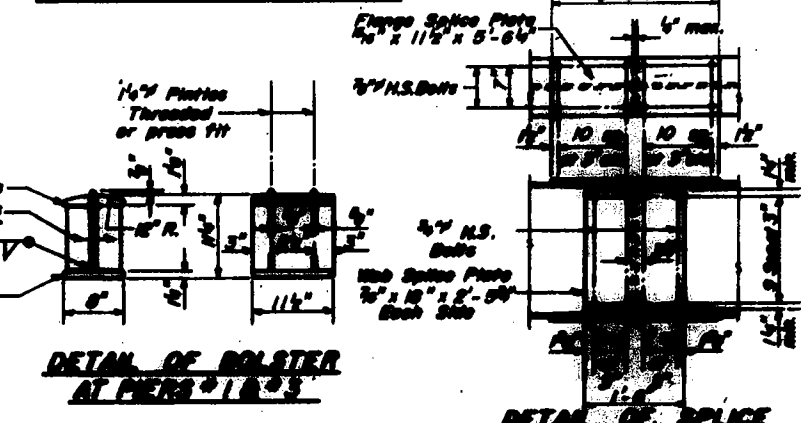
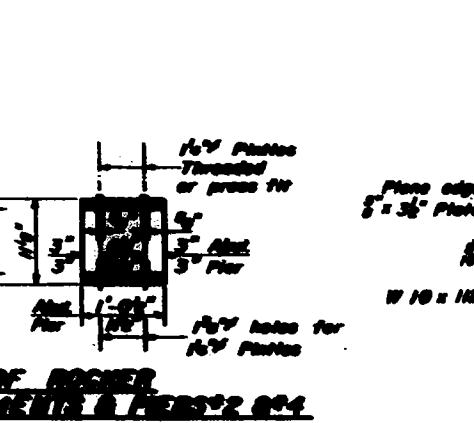
STATE OF ILLINOIS

PROJECT NO.	SECTION	NO.	TOTAL SHEETS	SHEET NO.
FA-403	1-B	WHITEHIDE	230	82
DESIGNED BY	CHECKED BY	DATE		

7 SHEETS



DESIGNED	AA
CHECKED	D.M.P.
DATE	A.S.
CHECKED	D.M.P.

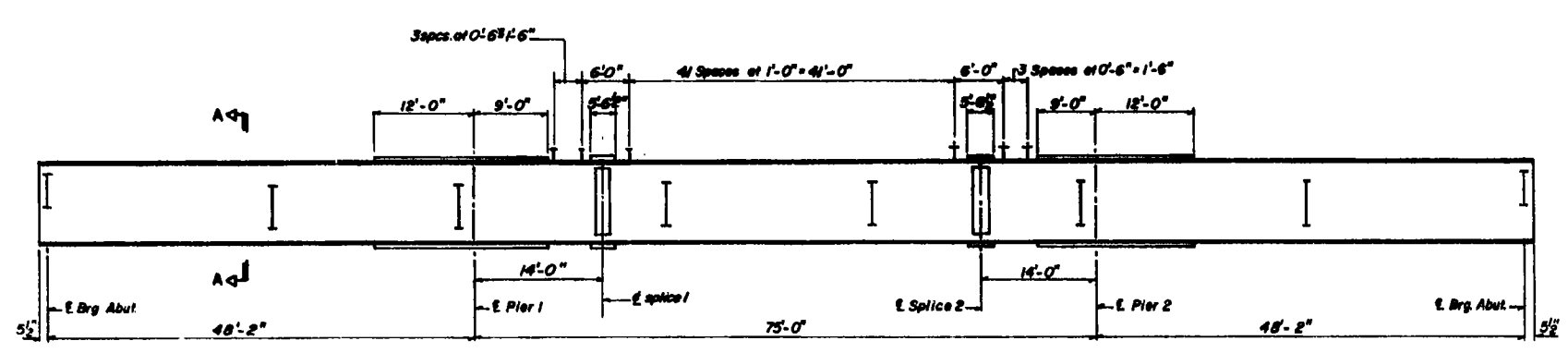


DETAIL OF ROCKER AT A, B, C & D ABUTMENTS & PIERS 2 & 3

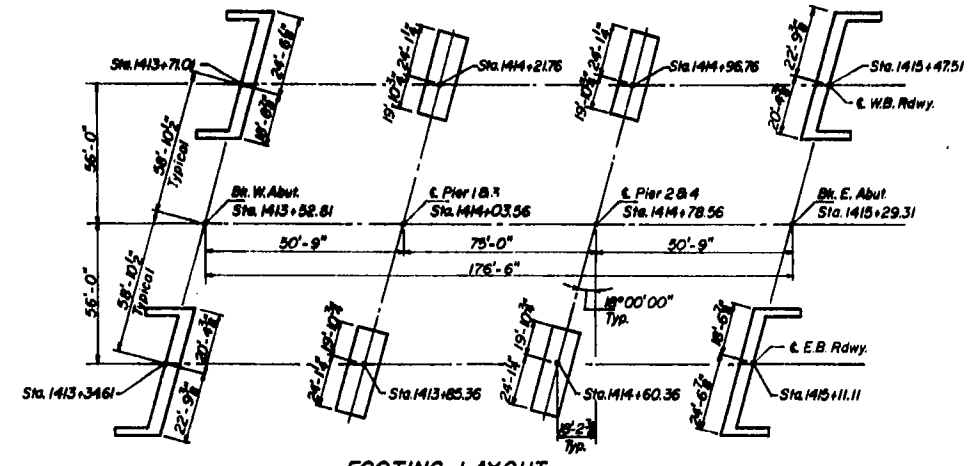
Note: Beams shall be held down at the Abutment on the opposite end of Bridge from which the deck pour is commenced. After pouring is completed the Hold Down Assembly shall be removed and Nuts placed on Anchor Bolts. Cost of Hold Down Assembly incidental, to Class X Concrete.

NOTE: Work this sheet with sheet # 8

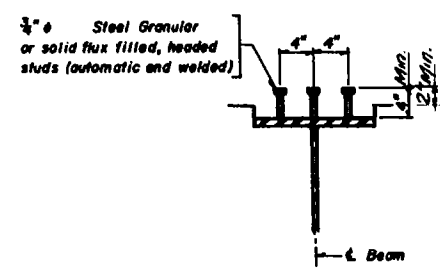
SUPERSTRUCTURE STEEL  
FA403 SECTION 1B-1-B-1  
FA403 OVER ROCK CREEK  
WHITESIDE COUNTY  
STATION 144+38.00



**BEAM ELEVATION**  
WEST BOUND SHOWN  
EAST BOUND SAME



**FOOTING LAYOUT**



**SECTION A-A**  
No. Req'd. 1800

**WEST BOUND BRIDGE**

**\* TOP OF BEAM ELEVATIONS**

LOCATION	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4	GIRDER 5	GIRDER 6
E. Brg. Abut. A	603.195	603.342	603.485	603.514	603.599	603.261
E. Pier 1	603.172	603.321	603.438	603.500	603.387	603.252
E. Splice 1	603.165	603.315	603.433	603.485	603.383	603.249
E. Splice 2	603.126	603.280	603.400	603.465	603.355	603.224
E. Pier 2	603.110	603.265	603.385	603.451	603.342	603.212
E. Brg. Abut. B	603.054	603.211	603.334	603.403	603.297	603.169

(Composite in positive moment areas only)

**INTERIOR GIRDER MOMENT TABLE**

	0.4 Span 1	Pier 1 or 2	0.5 Span 2
$I_s$ ( $in^4$ )	8160	11213	8160
$I_c$ ( $in^4$ )	—	—	20788
$S_s$ ( $in^3$ )	487	690	487
$S_c$ ( $in^3$ )	—	—	700
$Q$ ( $in^2$ )	0.897	1.309	0.897
$M_D$ ( $in-k$ )	101	372	259
$F_s D$ ( $in-k$ )	2.49	6.87	6.38
$S D$ ( $in^2$ )	0.406	406	0.406
$M_{sD}$ ( $in-k$ )	57	141	144
$M_{sD} + Imp$ ( $in-k$ )	405	342	632
Total ( $in-k$ )	460	485	776
$F_s L$ ( $in-k$ )	11.53	8.92	13.50
$F_s$ Total ( $in-k$ )	13.82	15.79	19.88
VR ( $k$ )	51.2	—	52.7

**INTERIOR GIRDER REACTION TABLE**

	Abutments	Piers
$R_B + SR$ ( $k$ )	20.7	92.8
$R_L + Imp$ ( $k$ )	52.7	65.0
$R$ Total ( $k$ )	73.4	155.8

**EAST BOUND BRIDGE**

**\* TOP OF BEAM ELEVATIONS**

LOCATION	GIRDER 1	GIRDER 2	GIRDER 3	GIRDER 4	GIRDER 5	GIRDER 6
E. Brg. Abut. C	603.212	603.341	603.448	603.580	603.257	603.102
E. Pier 3	603.234	603.365	603.476	603.410	603.290	603.137
E. Splice 3	603.240	603.372	603.483	603.498	603.299	603.147
E. Splice 4	603.249	603.379	603.493	603.491	603.315	603.165
E. Pier 4	603.242	603.377	603.482	603.491	603.315	603.166
E. Brg. Abut. D	603.230	603.368	603.486	603.487	603.314	603.168

\* For fabrication only.  
NOTE: Deflection not included

$I_s$  and  $S_s$  are the moment of inertia and section modulus of steel section.  
 $I_c$  and  $S_c$  are the moment of inertia and section modulus of the composite section used in computing  $I_s$ .  
 $W_p$  is the maximum  $L + Imp$  Shear range in span.

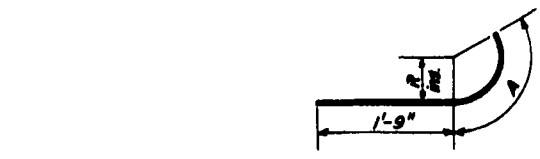
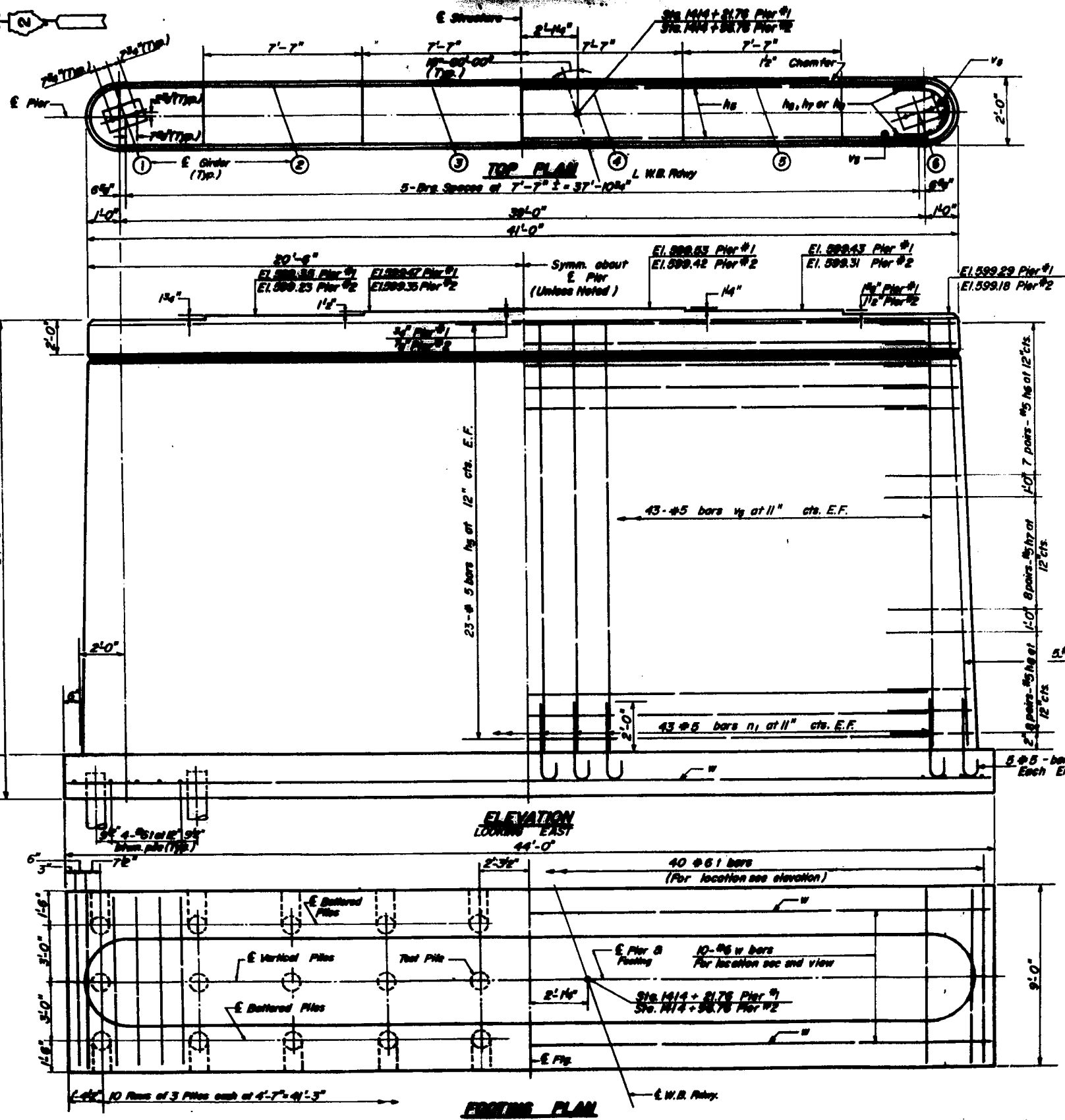
DESIGNED	A.A.
CHECKED	D.M.P.
DRAWN	S.S.
CHECKED	D.M.P.

**SUPERSTRUCTURE STEEL**  
FA 403 SECTION 195-1B-1  
FA 403 OVER ROCK CREEK  
WHITESIDE COUNTY  
STATION 1414 + 33.00

ROUTE NO	SECTION	STATION	TOTAL SHEETS	SHEET NO	CHEST NO. 8
405	1-2	WHITESIDE	230	84	17 SHEETS
FOR ROAD DIST. NO. 7					

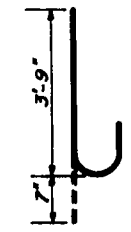
**PILE DATA**

Type: Concrete  
 Capacity: 35 Tons  
 Est. Length { 15'-0" Pier #1  
 9'-0" Pier #2  
 No. Rgd. Pier 1-30  
 Pier 2-30 including one test pile



Bar	R	A
h <sub>g</sub>	10"	2'-3"
h <sub>7</sub>	14"	2'-9"
h <sub>g</sub>	18"	3'-3"

DETAIL OF BARS  
h<sub>g</sub>, h<sub>7</sub> or h<sub>g</sub>



BAR n1

**ONE PIER  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h <sub>g</sub>	46	#8	39'-0"	—
h <sub>g</sub>	28	#8	4'-0"	—
h <sub>7</sub>	32	#8	4'-6"	—
h <sub>g</sub>	32	#8	5'-0"	—
n <sub>1</sub>	26	#8	4'-4"	C
r	40	#8	8'-6"	—
v <sub>g</sub>	26	#8	22'-0"	—
w	10	#8	45'-6"	—
Structure Encov.		Cu. Yds.	1.33	
Class X Concrete		Cu. Yds.	1.347	
Reinforcement Bars		Lbs.	6100	
Concrete Piles		Lin. Ft.	464	
Test Pile		Each	1	

\* Concrete Piles shown are for Pier #1  
 For Pier #2 = 251 Lin. Ft.

**PIERS #1 & #2**

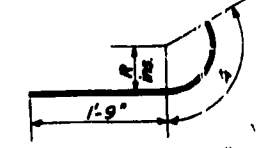
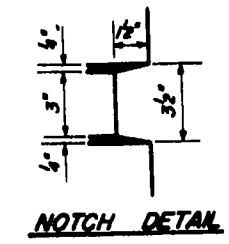
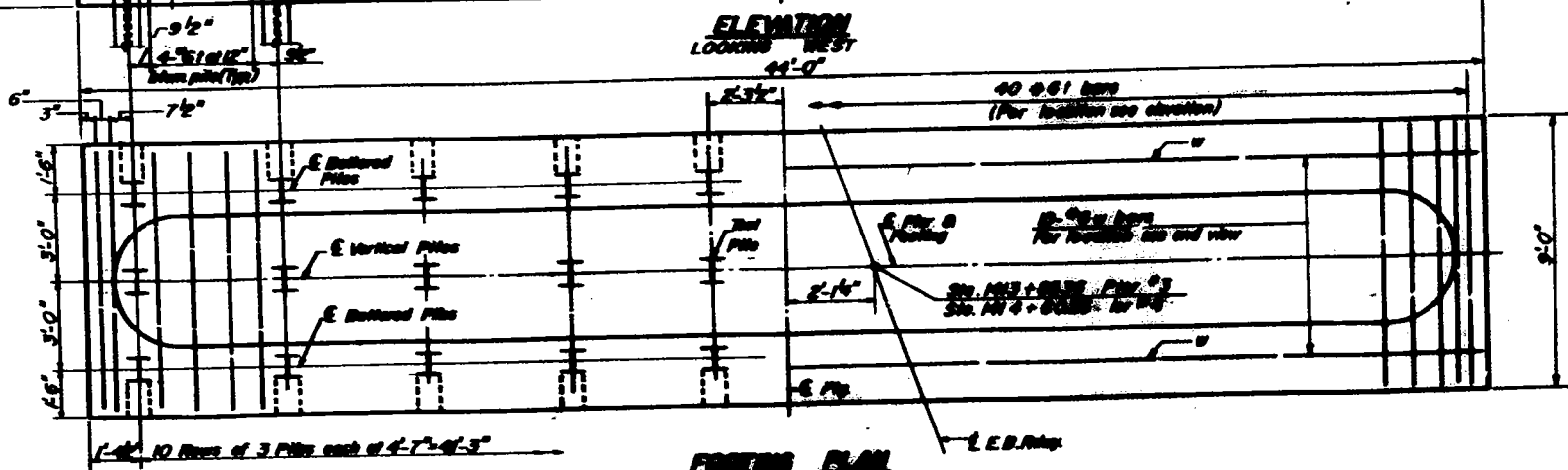
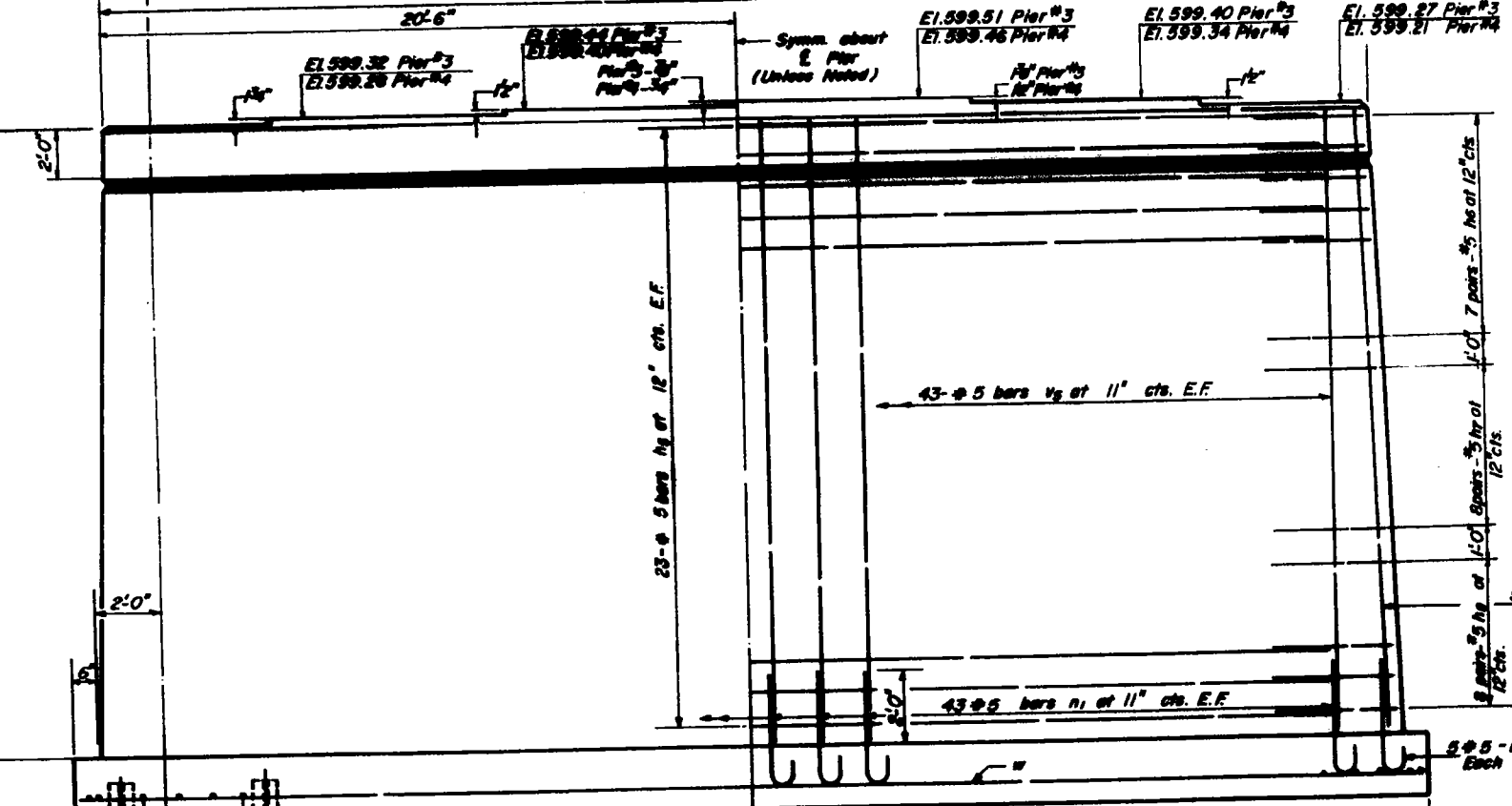
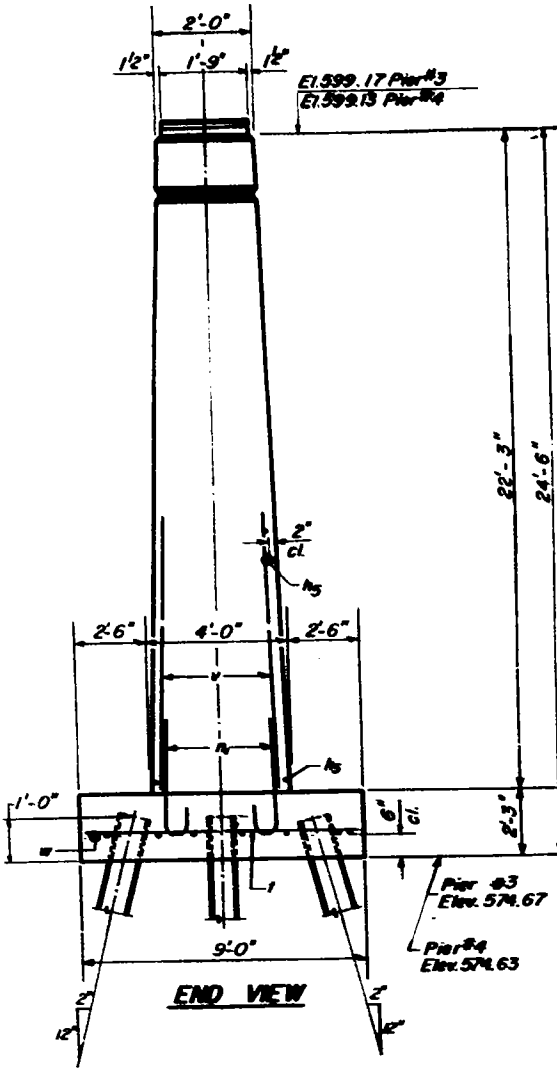
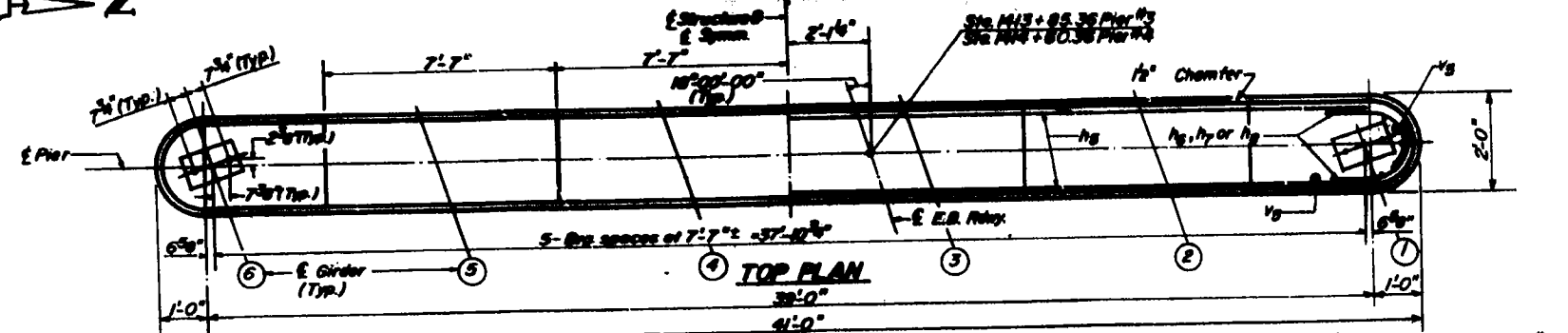
FA 405 SECTION 195-1B-1  
 FA 405 OVER ROCK CREEK  
 WHITESIDE COUNTY  
 STATION 1414+28.00

DESIGNED	A. A.
CHECKED	R. A.
DRAWN	A. M.
CHECKED	D. M. P.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 10
403	18-1	WHITEIDE	230	86	17 SHEETS
FED. ROAD DIST. NO. 1	DATE	FED. AID PROJECT			

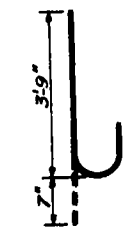
**PILE DATA**

Type: Steel Pile HPBx35  
 Capacity: Refusal  
 Est. Length: 18'-0" Pier #3  
 28'-0" Pier #4  
 No. Req'd: Pier 3 - 30 including one test pile  
 Pier 4 - 30



Bar	R	A
n1	10"	2'-3"
h1	14"	2'-9"
h2	18"	3'-3"

DETAIL OF BARS  
h1, h2 or h3



BAR n1

**ONE PIER BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h1	45	#5	3'-11"	—
h2	28	#5	4'-5"	—
h3	32	#5	4'-11"	—
h4	32	#5	5'-3"	—
n1	96	#5	4'-7"	C
v1	40	#5	6'-11"	—
v2	28	#5	22'-2"	—
u	10	#6	43'-9"	—
Structure Excavate	Cr. No.	136		
Class X Concrete	Cr. No.	134.7		
Reinforcement Bars	Lbs.	6100		
Steel (Concrete Pile)	Lbs.	522		
Test Pile	Exc.	1		

\* Steel Piles shown are for Pier #3  
 For Pier #4 - See L.S. P1.

**PIERS #3 & #4**  
 FA 403 SECTION 18-18-1  
 FA 408 OVER ROCK CREEK  
 WHITEIDE COUNTY  
 SECTION 1004-28-10

DESIGNED	A.A.
CHECKED	R.A.
DRAWN	A.M.
CHECKED	D.M.P.



