

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5 (SHATTUC RD)	02-00079-00-BR	CLINTON	15	1

FEDERAL AID PROJECT
CONTRACT NO. 97267

BRIDGE REPLACEMENT & REHABILITATION PROGRAM DETAIL PLANS FOR

PROPOSED BRIDGE

F.A.S. 1784, C.H. 5 (SHATTUC ROAD) OVER LOST CREEK
SECTION 02-00079-00-BR
CLINTON COUNTY
PROJECT: BRS-1784(104)
JOB NO: C-98-341-04

INDEX OF SHEETS

1. COVER SHEET
2. SUMMARY OF QUANTITIES AND TYPICAL CROSS SECTIONS
3. PLAN AND PROFILE OF EXISTING AND PROPOSED ROADWAY
4. DETOUR MAP
5. RAILING DETAILS
6. GENERAL PLAN AND ELEVATION
7. ABUTMENT DETAILS
8. PIER DETAILS
9. P.P.C. DECK BEAM SUPERSTRUCTURE
10. P.P.C. DECK BEAM DETAILS
11. SOUTH SLOPEWALL REPAIR DETAIL
12. STEEL BRIDGE RAIL, TYPE SM
13. EXISTING PLANS: GENERAL PLAN & ELEVATION
14. EXISTING PLANS: SUPERSTRUCTURE
15. EXISTING PLANS: ABUTMENTS

HIGHWAY STANDARDS: 280001-02
630001-05
630301-03
631011-02
631026-02
635006-02
702001-05
BLR 21-6
BLR 23-1

DESIGN CLASSIFICATION

COLLECTOR
CURRENT A.D.T. = 2150
DESIGN SPEED = 50 M.P.H.
DESIGN A.D.T. = 2800 (2025)

UTILITIES:

CALL J.U.L.I.E. BEFORE YOU DIG
800-892-0123

ELECTRIC:

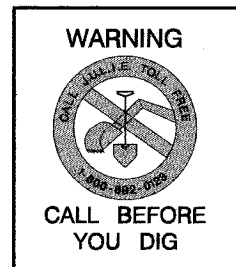
CLINTON COUNTY ELECTRIC COOPERATIVE
BREESE, ILLINOIS
(618) 526-7282

ILLINOIS POWER
BELLEVILLE, ILLINOIS
(618) 236-6288

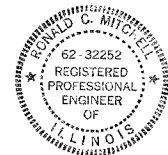
TELEPHONE:

FRONTIER
JERSEYVILLE, ILLINOIS
(618) 498-1700

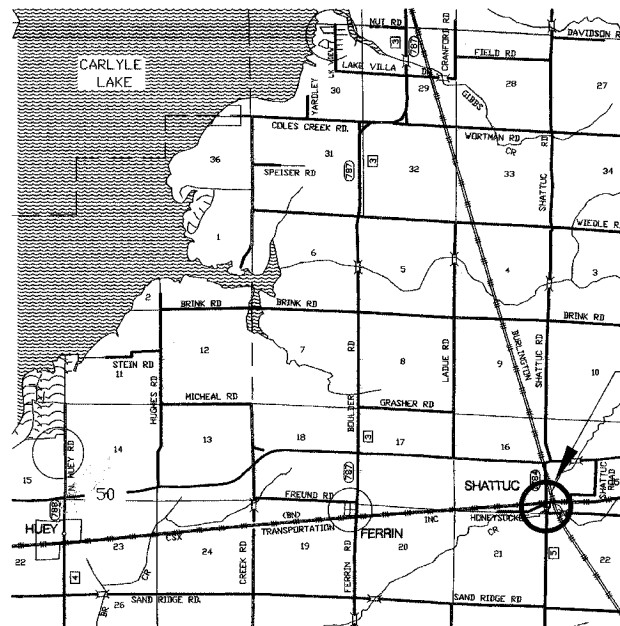
CONTRACT NO: 97267



THESE PLANS WERE PREPARED
BY ME OR BY A FULL TIME MEMBER
OF MY STAFF WORKING UNDER MY
PERSONAL SUPERVISION.

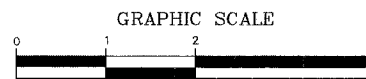


Ronald C. Mitchell DATE 12/20/05
COUNTY ENGINEER
ILLINOIS P.E. # 62-32252 EXPIRES 11/30/07



LOCATION MAP

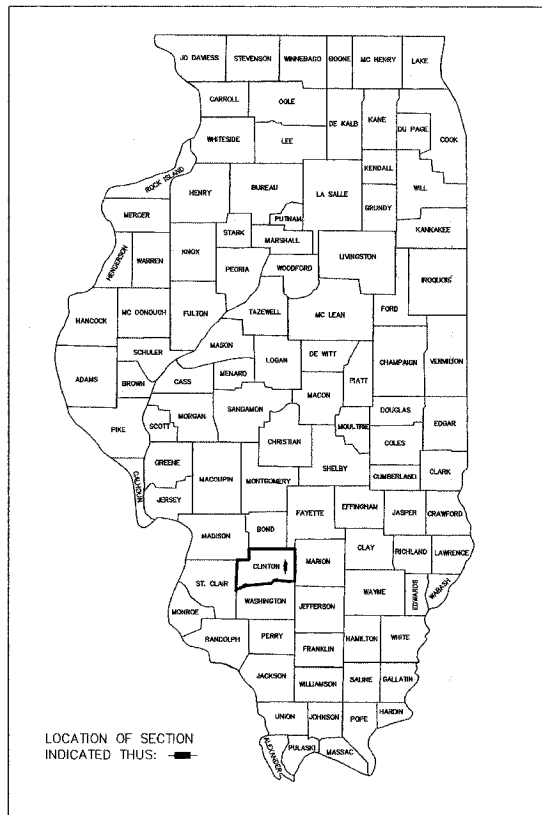
NET LENGTH OF PROJECT = 307 FEET OR 0.0581 MILES



1 INCH = 1 MILE

PROJECT LOCATION

PROPOSED STRUCTURE NO. 014-3014 STATION 23+55
THREE SPAN PRECAST, PRESTRESSED CONCRETE
DECK BEAMS, (17" DEPTH) ON SPILL THRU PILE BENT
ABUTMENTS, MEASURING 106'-10" BK./BK. OF THE
ABUTMENTS WITH A 28'-0" CLEAR ROADWAY WIDTH.



APPROVED 12-20 2005
Ronald C. Mitchell
COUNTY ENGINEER

PASSED 1-4 2006
Annex Oberlin
DISTRICT ENGINEER OF LOCAL ROADS & STREETS

APPROVED 1-4 2006
Mary C. Lame

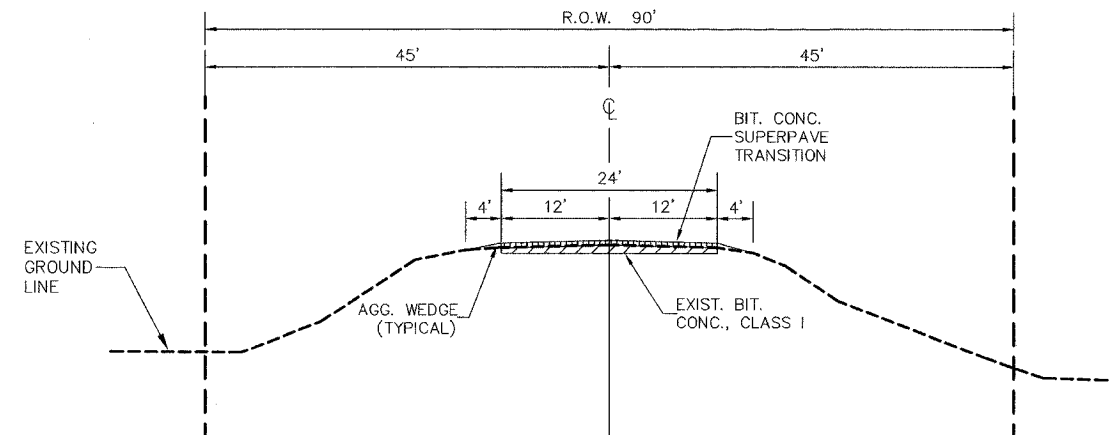
MARY C. LAMIE, P.E.
DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

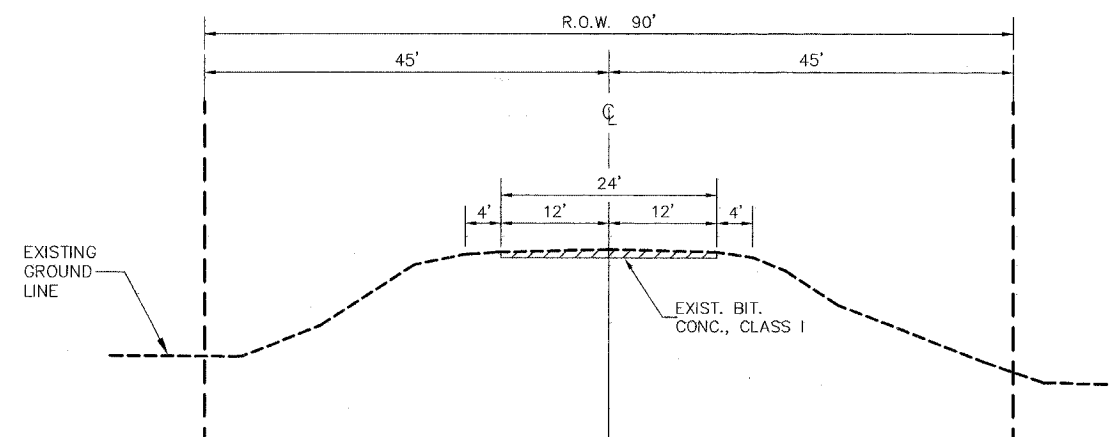
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5 (SHATTUC RD)	02-00079-00-BR	CLINTON	15	2

CONTRACT NO. 97267

LOCATION OF WORK				ROAD STA.	BRIDGE STA.
				22+51 TO 25+58	23+54.92
SUMMARY OF QUANTITIES					
CODE NO.	ITEM	UNIT	QUANTITY	1000	X080-2A
28100805	STONE DUMPED RIPRAP CLASS A3	TON	30.0		30.0
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	0.3	0.3	
48101200	AGGREGATE SHOULDERS, TYPE B	TON	20.0	20.0	
50101500	REMOVAL OF EXISTING SUPERSTRUCTURES	EACH	1.0		1.0
50102400	CONCRETE REMOVAL	CU. YD.	4.0		4.0
50300225	CONCRETE STRUCTURES	CU. YD.	24.0		24.0
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS, 17" DEPTH	SQ. FT.	2,947.0		2,947.0
50800205	REINFORCEMENT BARS EPOXY COATED	POUND	3,020.0	120.0	2,900.0
50901005	STEEL RAILING TYPE SM	FOOT	211.0		211.0
51500100	NAME PLATES	EACH	1.0		1.0
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ. YD.	332.1		332.1
63000000	STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	237.5	237.5	
63000130	STEEL PLATE BEAM GUARDRAIL, TYPE A (SPECIAL)	FOOT	25.75	25.75	
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	1.0	1.0	
63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	3.0	3.0	
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1, SPECIAL (TANGENT)	EACH	2.0	2.0	
67100100	MOBILIZATION	L. SUM	1.0	1.0	
78201000	TERMINAL MARKER DIRECT APPLIED	EACH	3.0	3.0	
LR631020	TRAFFIC BARRIER TERMINAL, TYPE 1 (BLR 23-1)	EACH	1.0	1.0	
X4066414	BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX "C" N50	TON	130.0	88.0	42.0
XX004093	CONCRETE SLOPEWALL REMOVAL	SQ. FT.	147.0		147.0
XX004094	CONCRETE SLOPEWALL	SQ. FT.	147.0		147.0
XX004949	INCIDENTAL BITUMINOUS SURFACING, SUPERPAVE	TON	10.0	10.0	
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	2.0		2.0
Z0013825	CONTROLLED LOW-STRENGTH MATERIAL	CU. YD.	17.0	17.0	
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L. SUM	1.0	1.0	



TYPICAL PROPOSED ROADWAY CROSS SECTION



TYPICAL EXISTING ROADWAY CROSS SECTION

EXTRA BARS FOR TEST SAMPLES

BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	1	#4	28'-0"	—
p(E)	1	#6	28'-0"	—
p ₂ (E)	1	#7	28'-0"	—

* THESE BARS SHALL BE IDENTICAL TO AND DELIVERED WITH THE BARS OF THE SAME MARK LISTED IN THE BRIDGE SHEETS. ONE BAR OF EACH OF THESE MARKS WILL BE SELECTED BY THE ENGINEER TO BE USED AS A TEST SAMPLE.

GENERAL NOTES

- ALL ELEVATION REFER TO U.S.G.S. MEAN SEA LEVEL
- IF SECTION OR SUB-SECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AND AUTHORIZED SURVEYOR OF AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION AND THEIR TRUE LOCATION IS NOT GUARANTEED TO BE AS SHOWN ON THE PLANS. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF ALL UTILITIES AND CARRY ON HIS OPERATIONS ACCORDINGLY.
- THE STANDARD WITH THE REVISED NUMBER LISTED IN THE INDEX OF SHEETS, INCLUDED IN THE PLANS SHALL HOLD PRECEDENCE OVER THE STANDARD NUMBERS LISTED IN THE SPECIAL PROVISIONS OR PLANS OF THE CONTRACT.
- FINAL SEEDING OF DISTURBED AREAS WILL BE DONE BY OTHERS.
- ALL PAVEMENT MARKING SHALL BE DONE BY OTHERS.

MIXTURE REQUIREMENTS - SUPERPAVE PROJECT

ROUTE	C.H. 5 (F.A.S. 1784)
SECTION	02-00079-00-BR
COUNTY	CLINTON
CONTRACT	

MIXTURE USE	SURFACE
AC/PG	PG 64-22
RAP % (MAX)	0%
DESIGN AIR VOIDS	4.0% @ Ndes=50
MIX COMPOSITION	
(GRADATION MIXTURE)	
FRICITION AGG.	MIXTURE C

DESCRIPTION: C.H. 5 OVER LOST CREEK NEAR THE S.W. CORNER OF SHATTUC.

20 YR. ESAL'S: 0.7

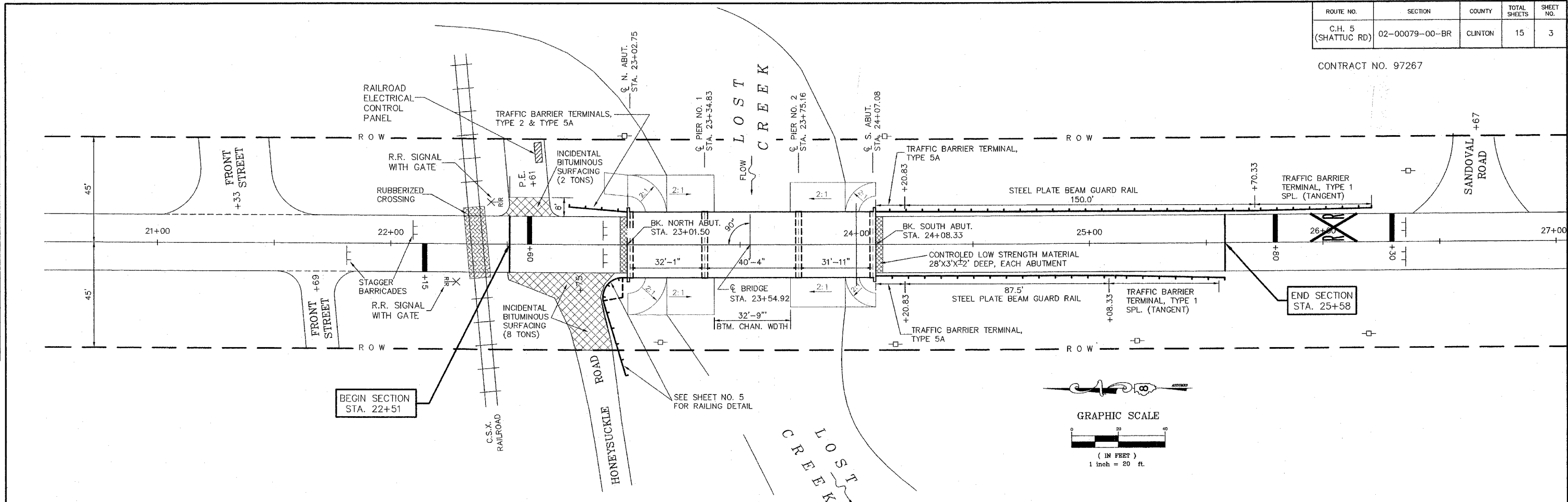
**SUMMARY OF QUANTITIES
TYPICAL ROADWAY CROSS SECTIONS**

**C.H. 5 (SHATTUC ROAD)
OVER LOST CREEK
SECTION 02-00079-00-BR
CLINTON COUNTY**

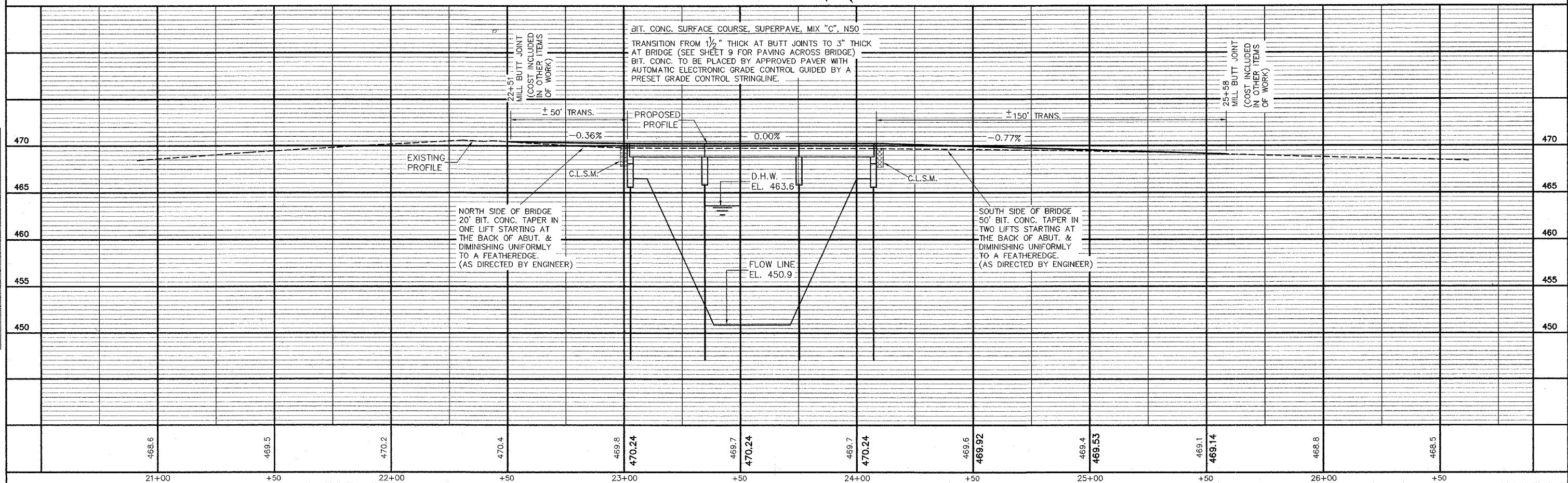
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5 (SHATTUC RD)	02-00079-00-BR	CLINTON	15	3

CONTRACT NO. 97267

PLAN	SURVEYED	DATE
	BY	
	NOTE BOOK	
	ALIGNMENT CHECKED	
	RT. OF WAY CHECKED	
	NO.	

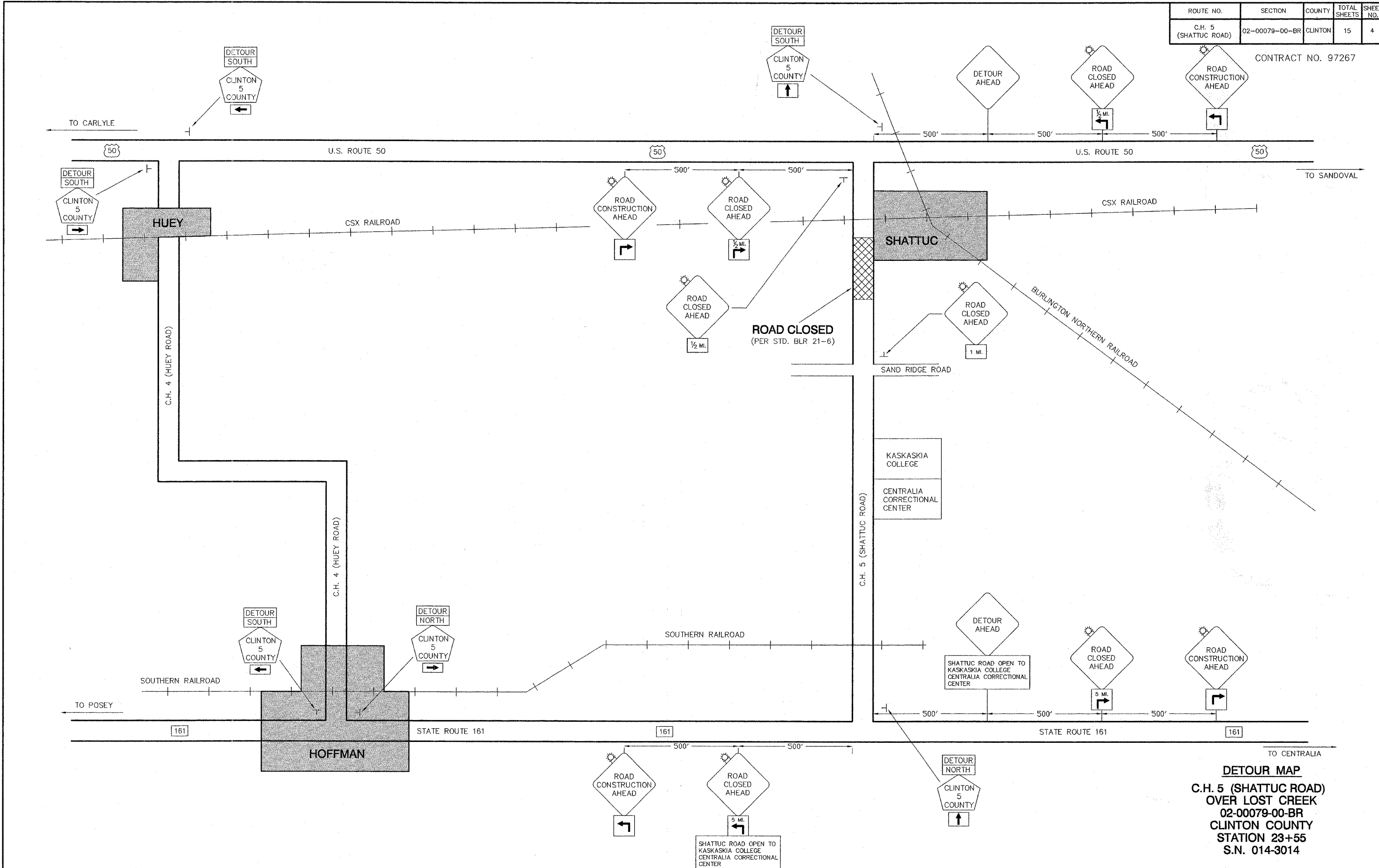


PROFILE	SURVEYED	DATE
	BY	
	NOTE BOOK	
	CROSS CHECKED	
	B.M.'S NOTED	
	STRUCTURE NOTATIONS CHECKED	
	NO.	



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5 (SHATTUC ROAD)	02-00079-00-BR	CLINTON	15	4

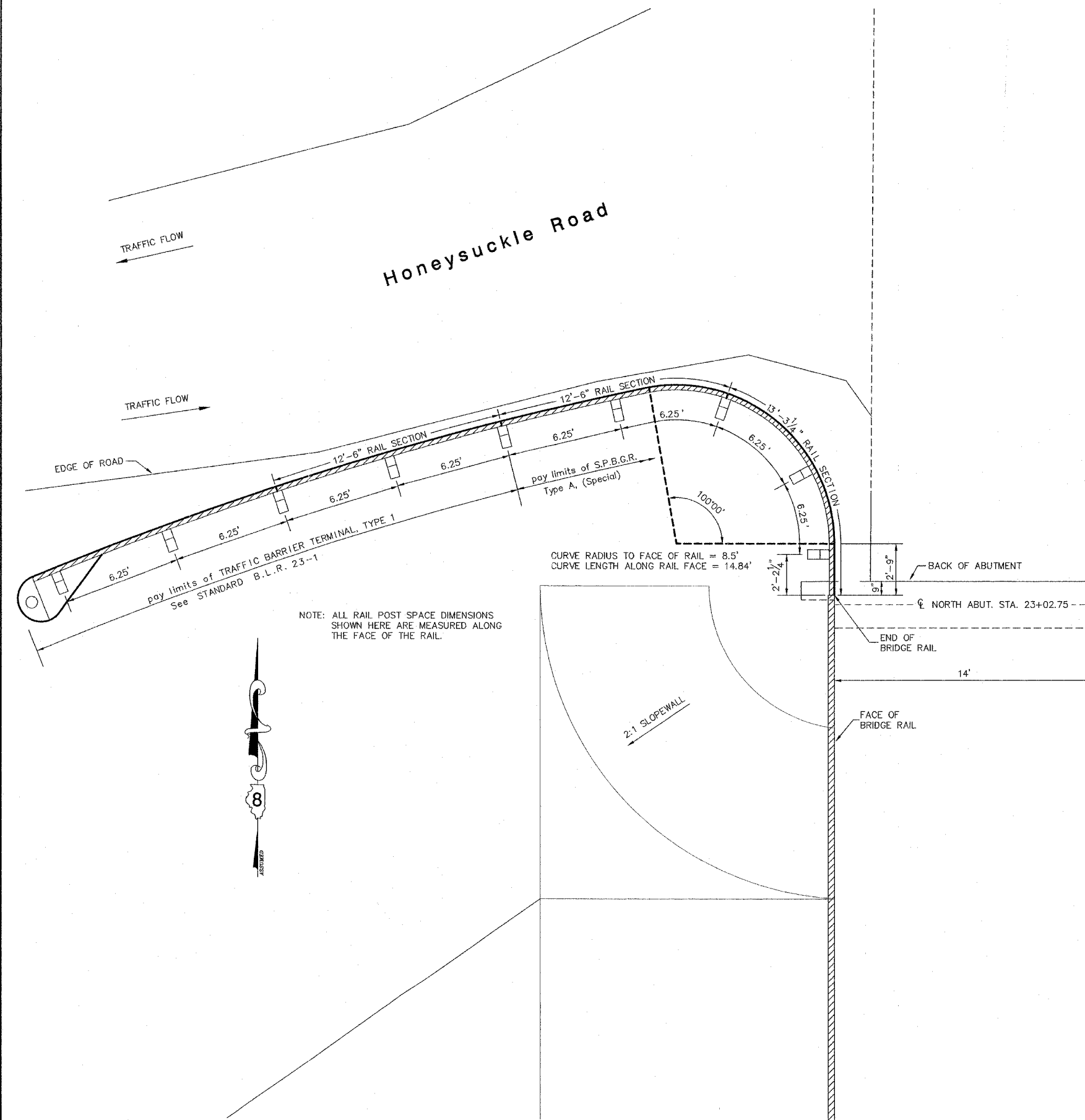
CONTRACT NO. 97267



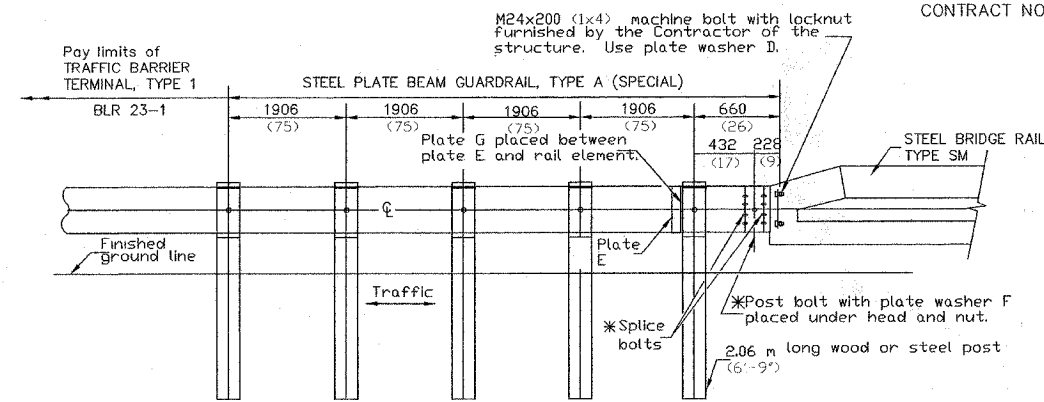
DETOUR MAP
C.H. 5 (SHATTUC ROAD)
OVER LOST CREEK
02-00079-00-BR
CLINTON COUNTY
STATION 23+55
S.N. 014-3014

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5 (SHATTUC RD)	02-00079-00-BR	CLINTON	15	5

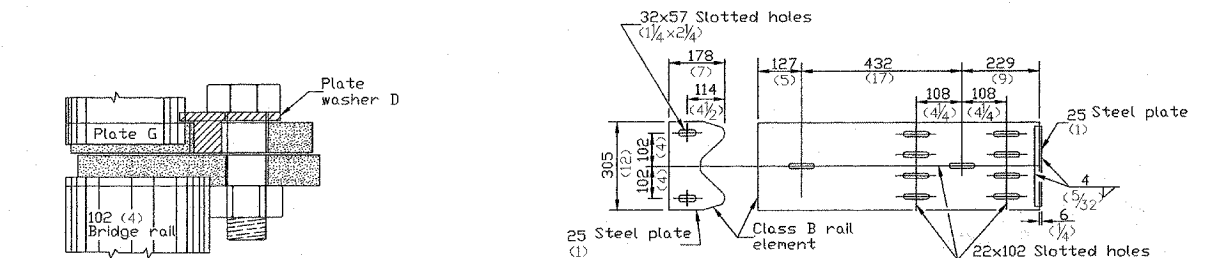
CONTRACT NO. 97267



NOTE: ALL RAIL POST SPACE DIMENSIONS SHOWN HERE ARE MEASURED ALONG THE FACE OF THE RAIL.



STEEL PLATE BEAM GUARDRAIL, TYPE A (SPECIAL)



PLACEMENT OF PL E WASHER D
(PLAN)

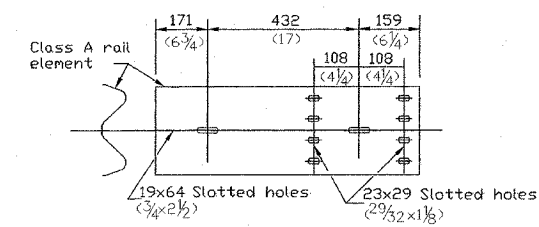


PLATE E

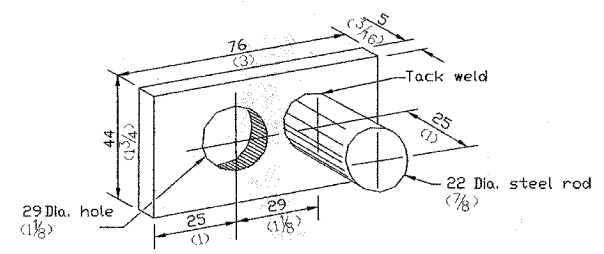


PLATE WASHER D

GENERAL NOTES

Install plate washer D so that the 25mm (1") projection fills the remainder of the slotted holes in the 25mm (1") end plate on plate G after the M24 (1") dia. bolts are in place.

* Bolts shall be provided with locknut or double nut and shall be tightened only to a point that will allow plate G to be free to move when an expansion joint exists below the connector.

See Standard 630001 for details of guardrail not shown.

All dimensions are in millimeters (inches) unless otherwise shown.

RAILING DETAILS
C.H. 5 (SHATTUC ROAD)
OVER LOST CREEK
SECTION 02-00079-00-BR
CLINTON COUNTY

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5 (SHATTUC RD)	02-00079-00-BR	CLINTON	15	6

CONTRACT NO. 97267

GENERAL NOTES

- See Special Provisions for boring logs.
- A Calcium Nitrite Corrosion inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.
- Keyway surfaces shall be cleaned to remove form oil or other bond breaking materials prior to shipment of beams. Cleaning shall be done by sandblasting the keyway areas between the top of the beam and the bottom edge of the key.
- Class SI concrete shall be used throughout except in the deck beams.
- The reference to Standard 2340 on Standard CR-TSM shall be revised to refer to Standard 631026-02.
- Span distances are from field measurements not from dimensions shown on existing plans.
- The existing pier caps are cast monolithically with the deck and shall be removed with the deck. The cost of this removal shall be included with cost per each Removal of Existing Superstructures.
- REMOVAL OF EXISTING SUPERSTRUCTURE:**
The Contractor is advised that the existing superstructure is a continuous structure and removal must be done in a proper sequence, possibly with falsework support, in order to avoid a potentially hazardous collapse of the span or spans adjacent to the removal area. The sequence of removal and the use of any required falsework is the responsibility of the Contractor and shall be taken into account in his/her contract bid price for REMOVAL OF EXISTING SUPERSTRUCTURE.
The Contractor shall repair, at his/her own expense, any damage to the existing slopewall resulting from the removal of the existing superstructure or any other operations of the Contractor.

TOTAL BILL OF MATERIALS

ITEM	UNIT	SUPER	SUB.		Total
			Piers	Abuts.	
Removal of Existing Superstructures	Each	1			1
Concrete Removal	Cu. Yd.			4.0	4.0
Concrete Structures	Cu. Yd.		16.4	7.6	24.0
Precast Conc. Deck Beams - 17" Depth	Sq. Ft.	2,947			2,947
Steel Bridge Rail, Type SM	Foot	211			211
Reinforcement Bars, Epoxy Coated	Pound		1,760	1,140	2,900
Asbestos Bearing Pad Removal	Each			2.0	2.0
Concrete Slopewall Removal	Sq. Ft.			147.0	147.0
Concrete Slopewall	Sq. Ft.			147.0	147.0
Name Plate	Each				1
Stone Dumped Rip-Rap	Ton			30.0	30.0
Bit. Conc. Surface Course, Superpave, Mix "C", N50	Ton	41.6			41.6
Waterproofing Membrane System	Sq. Yd.	332.1			332.1

INDEX OF BRIDGE SHEETS

- GENERAL PLAN AND ELEVATION
- ABUTMENT DETAILS
- PIER DETAILS
- P.P.C. DECK BEAM SUPERSTRUCTURE
- P.P.C. DECK BEAM DETAILS
- SOUTH SLOPEWALL REPAIR
- STEEL BRIDGE RAIL, TYPE SM
- EXISTING PLANS: GENERAL PLAN & ELEVATION
- EXISTING PLANS: SUPERSTRUCTURE
- EXISTING PLANS: ABUTMENTS

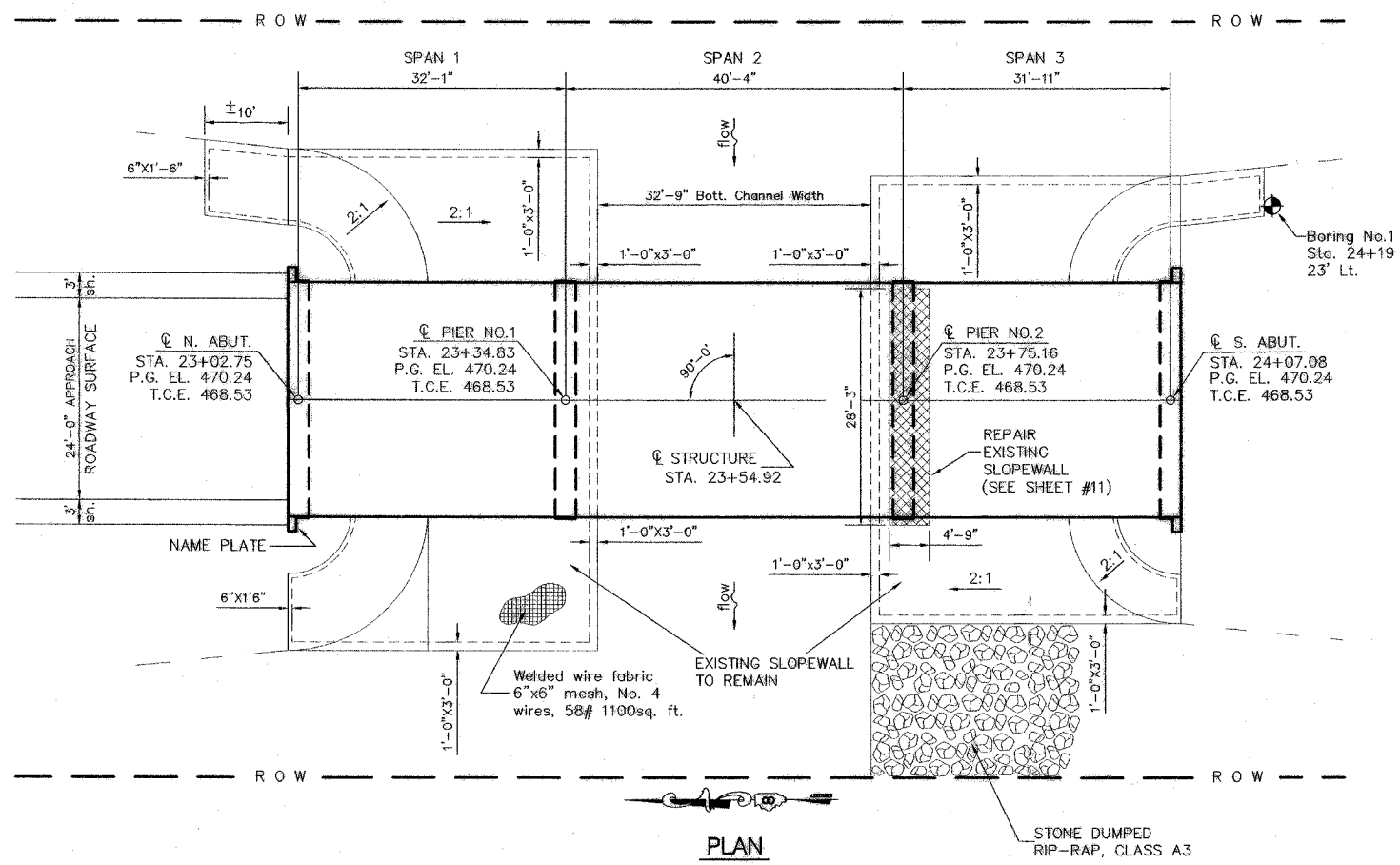
GENERAL PLAN & ELEVATION
C.H. 5 (SHATTUC ROAD)
OVER LOST CREEK
SECTION 02-00079-00-BR
CLINTON COUNTY
STATION 23+55
S.N. 014-3014

EXISTING STRUCTURE

THE EXISTING STRUCTURE IS A THREE SPAN CONTINUOUS CONCRETE SLAB WITH SPAN LENGTHS OF 32'-0", 40'-6" AND 32'-0". THE EXISTING CONCRETE SLAB IS 1'-4" THICK AND PROVIDES A 24'-0" CLEAR ROADWAY WIDTH. THE EXISTING SPILL THRU ABUTMENTS ARE CAST IN PLACE CONCRETE AND ARE SUPPORTED BY CREOSOTED TIMBER PILES. CONCRETE SLOPEWALLS ARE CONSTRUCTED ON BOTH ABUTMENTS. THE EXISTING PIER CAPS ARE CAST MONOLITHICALLY WITH THE CONCRETE DECK AND ARE SUPPORTED ON METAL SHELL PILES. THE CONTRACTOR SHALL REMOVE THE EXISTING CONTINUOUS CONCRETE SLAB DECK AND PIER CAPS IN ACCORDANCE WITH SECTION 501 OF THE STANDARD SPECIFICATIONS.

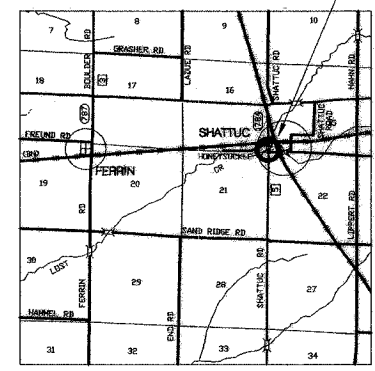
SALVAGE

THE EXISTING ABUTMENTS, PIER PILES AND SLOPEWALLS SHALL BE SAVED AND PROTECTED TO BE USED IN THE CONFIGURATION OF THE NEW STRUCTURE. SEE SPECIAL PROVISIONS.



PLAN

STRUCTURE LOCATION



LOCATION SKETCH

LOST CREEK
 REBUILT 200_ BY
 CLINTON COUNTY
 SECTION 02-00079-00-BR
 F.A.S. RT. 1784 STATION 23+54.92
 STR.NO.014-3014 LOADING HS-20-44

NAME PLATE

LOCATE NAME PLATE AS SHOWN IN PLAN VIEW. (SEE STD. CN)

DESIGN STRESSES

PRECAST PRESTRESSED UNITS

$f_c = 5,000$ p.s.i.
 $f_{ci} =$ SEE DECK BEAM DETAILS
 $f_s = 270,000$ p.s.i.
 $f_s = 189,000$ p.s.i.

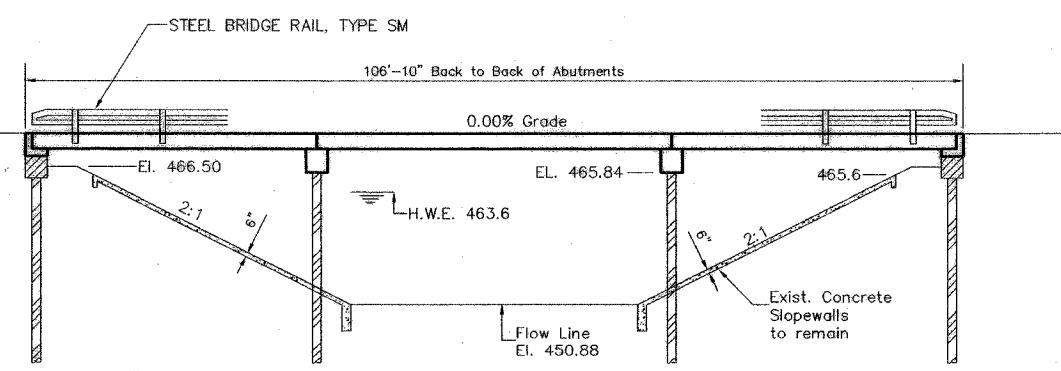
CAST IN PLACE CONCRETE

$f_c = 3,500$ p.s.i.
 $f_y = 60,000$ p.s.i. (REINF.)

LOADING HS 20-44 LOAD FACTOR DESIGN

ALLOW 25 P.S.F. FOR FUTURE WEARING SURFACE
 A.A.S.H.T.O. SEISMIC HORIZONTAL ACCELERATION COEFFICIENT: 9.5% OF GRAVITY
 DESIGN SPECIFICATION: 2002 A.A.S.H.T.O.
 S.P.C. = B, SOIL PROFILE COEFF. S = 1.0

Boring No.2
 Sta. 23+15
 70' Rt.



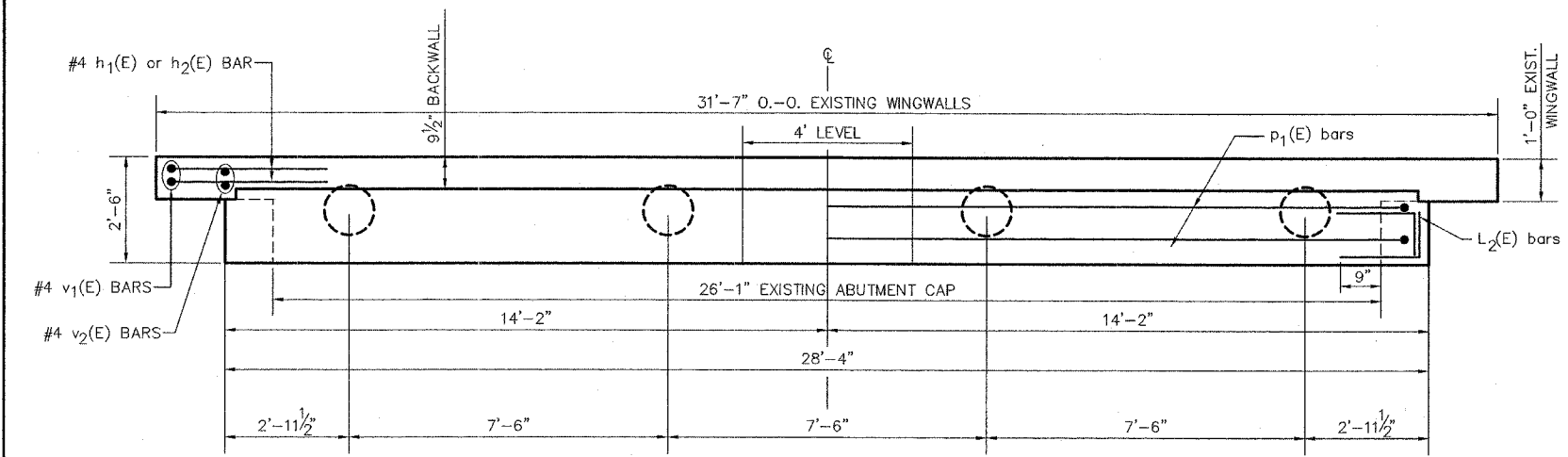
ELEVATION



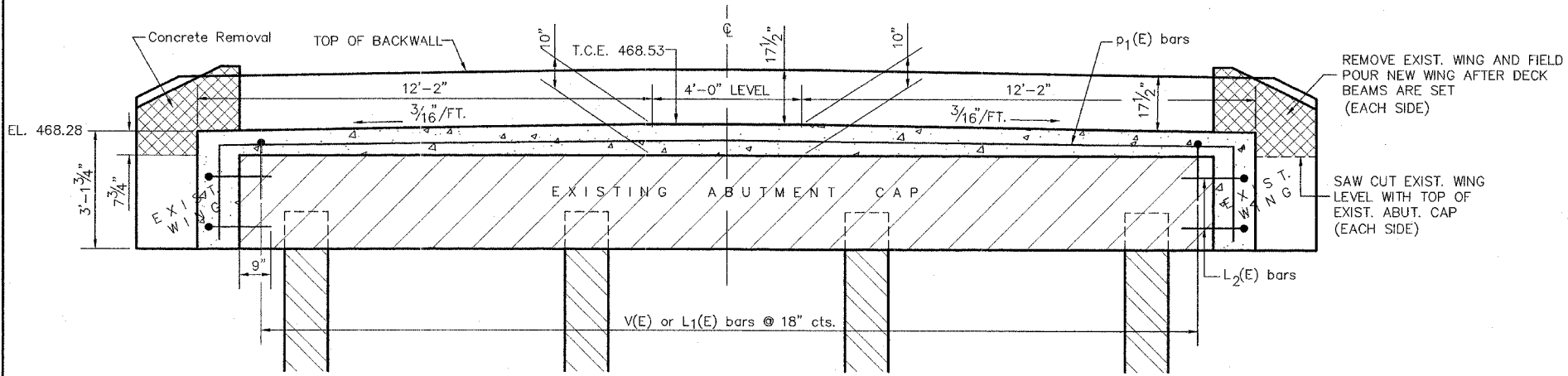
Ralph E. Anderson 8-29-05
 Expires 11-30-06

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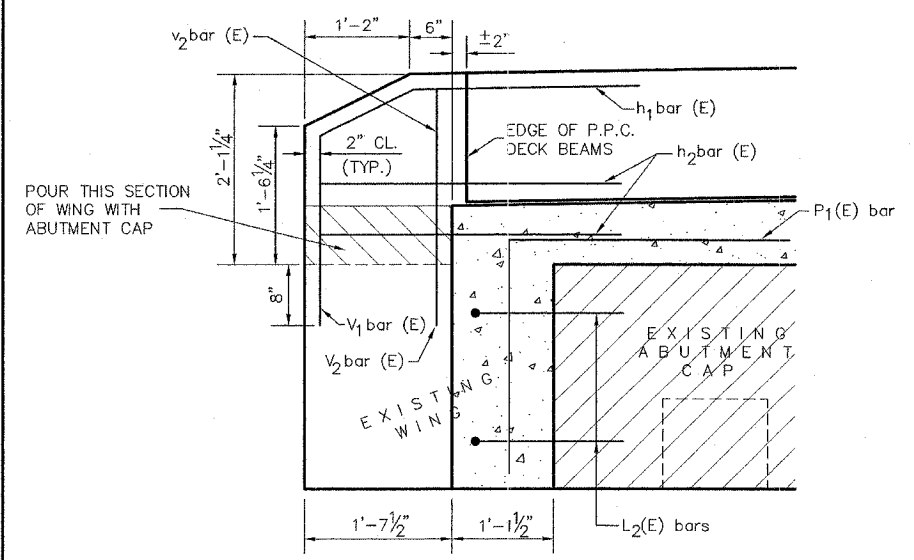
CONTRACT NO. 97267



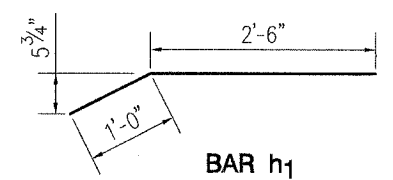
PLAN



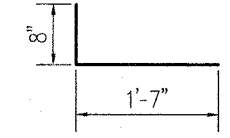
ELEVATION



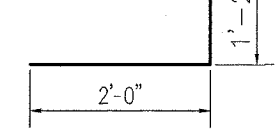
WING DETAIL



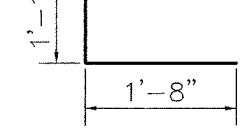
BAR h1



BAR L



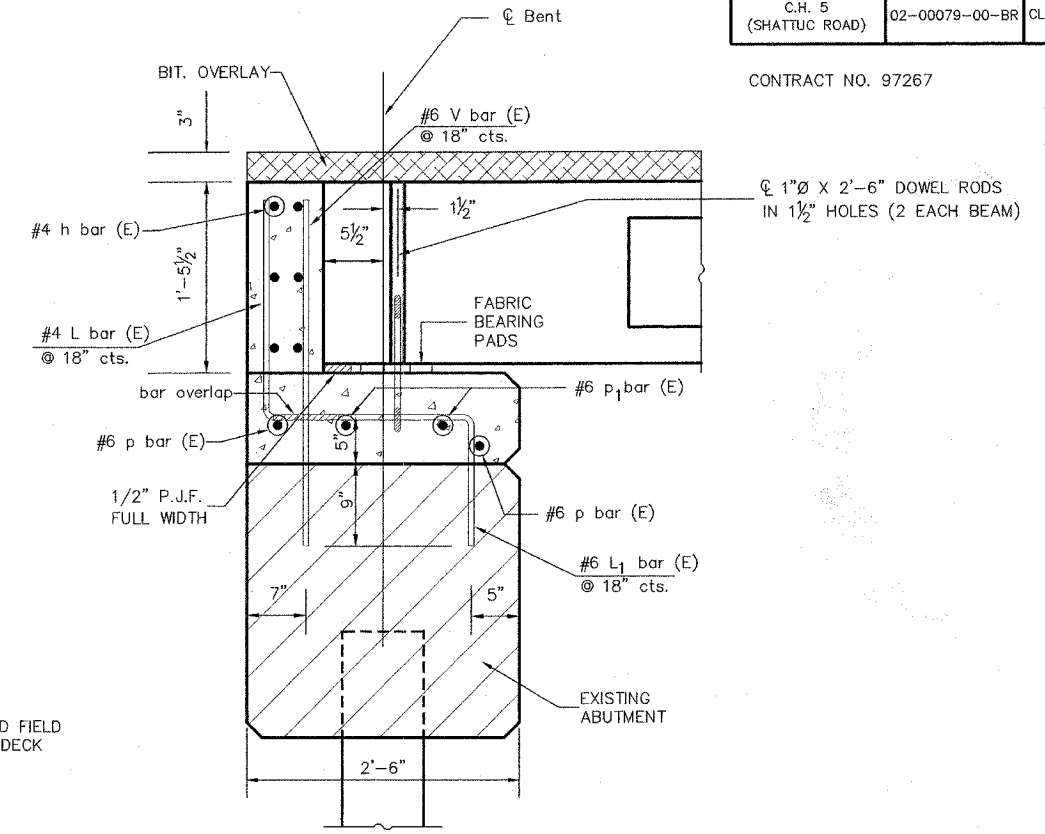
BAR L1



BAR L2

NOTE:

Reinforcement bars shall conform to A.A.S.H.T.O. M-31 or M-322, Grade 60. All reinforcement bars shall be epoxy coated.
L1(E), L2(E), V(E), V1(E), & V2(E) bars shall be drilled and epoxy grouted in accordance with section 584 of the standard specifications.



SECTION THRU ABUTMENT (AT RIGHT ANGLES)

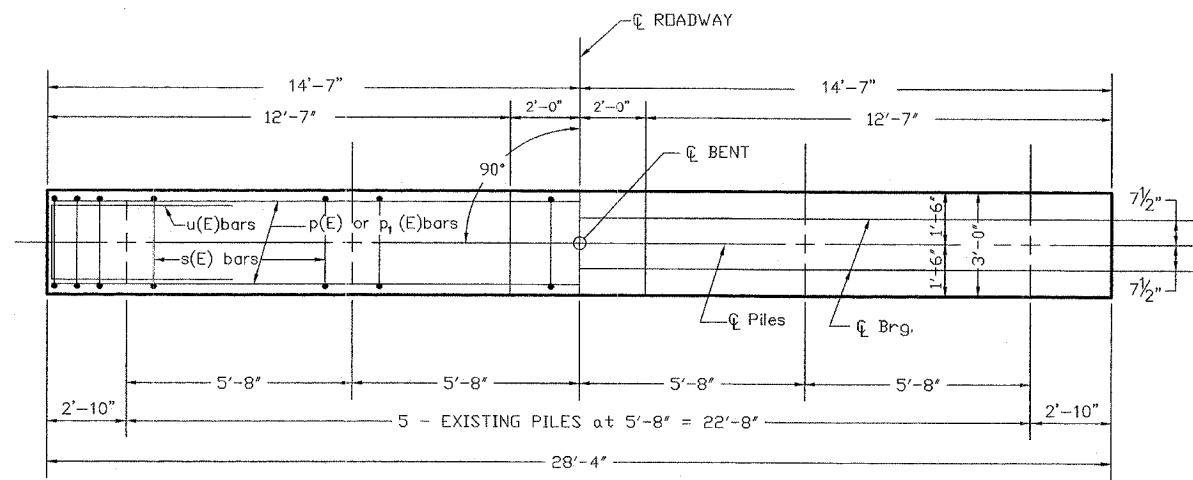
BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h(E)	6	#4	28'-0"	—
h1(E)	4	#4	3'-6"	—
h2(E)	8	#4	3'-4"	—
L(E)	19	#4	2'-3"	┌
L1(E)	19	#6	3'-2"	┌
L2(E)	8	#6	2'-9"	┌
p(E)	2	#6	28'-0"	—
p1(E)	2	#6	33'-3"	┌
v(E)	19	#6	2'-9"	—
v1(E)	4	#4	2'-0"	—
v2(E)	4	#4	2'-5"	—
Concrete Structures			3.8 Cu. Yds.	
Reinforcement Bars			570 Lbs.	
Concrete Removal			2.0 Cu. Yds.	

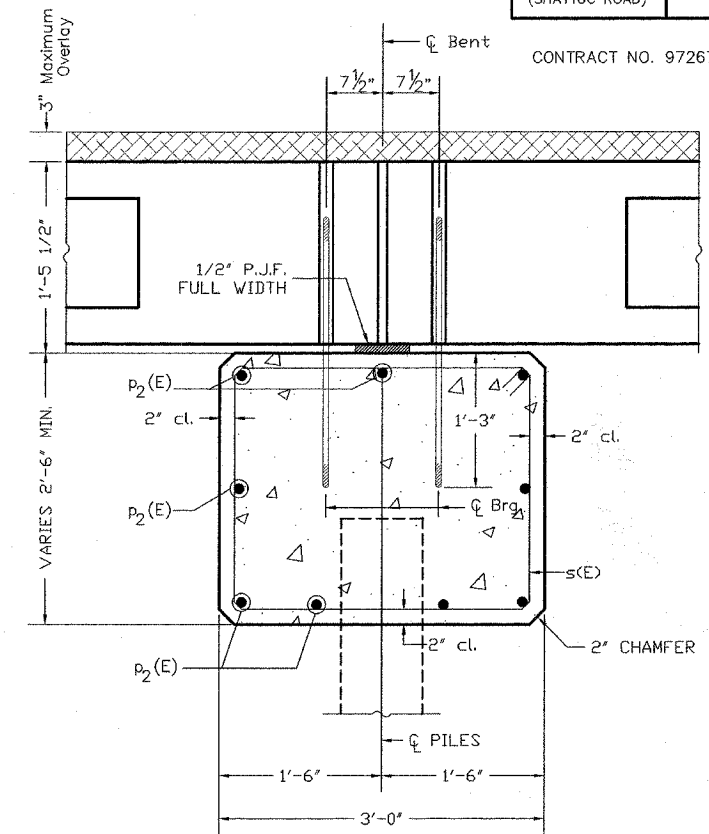
ABUTMENT DETAILS
C.H. 5 (SHATTUC ROAD)
OVER LOST CREEK
02-00079-00-BR
CLINTON COUNTY
STATION 23+55
S.N. 014-3014

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5 (SHATTUC ROAD)	02-00079-00-BR	CLINTON	15	8

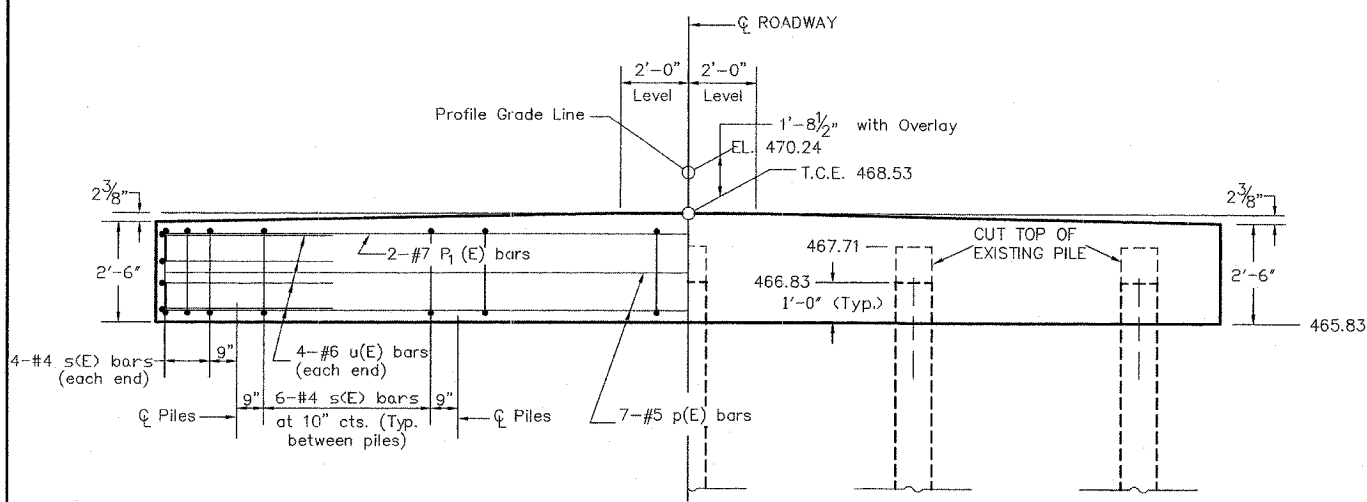
CONTRACT NO. 97267



PLAN



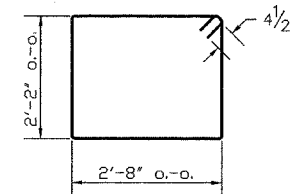
**SECTION THRU PIER
(AT RIGHT ANGLES)**



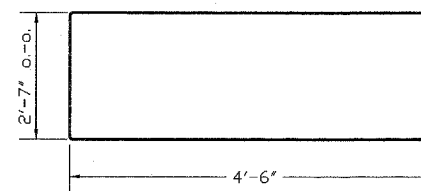
ELEVATION

DESIGN STRESSES

$f'_c = 3,500 \text{ PSI}$
 $f_y = 60,000 \text{ PSI}$



Bar s(E)



Bar u(E)

**BILL OF MATERIAL
FOR ONE PIER**

Bar	No.	Size	Length	Shape
p ₂ (E)	9	#7	28'-0"	—
s(E)	32	#4	10'-5"	□
u(E)	8	#6	11'-7"	—
Concrete Structures			8.2 Cu. Yds.	
Reinforcement Bars			880 Lbs.	

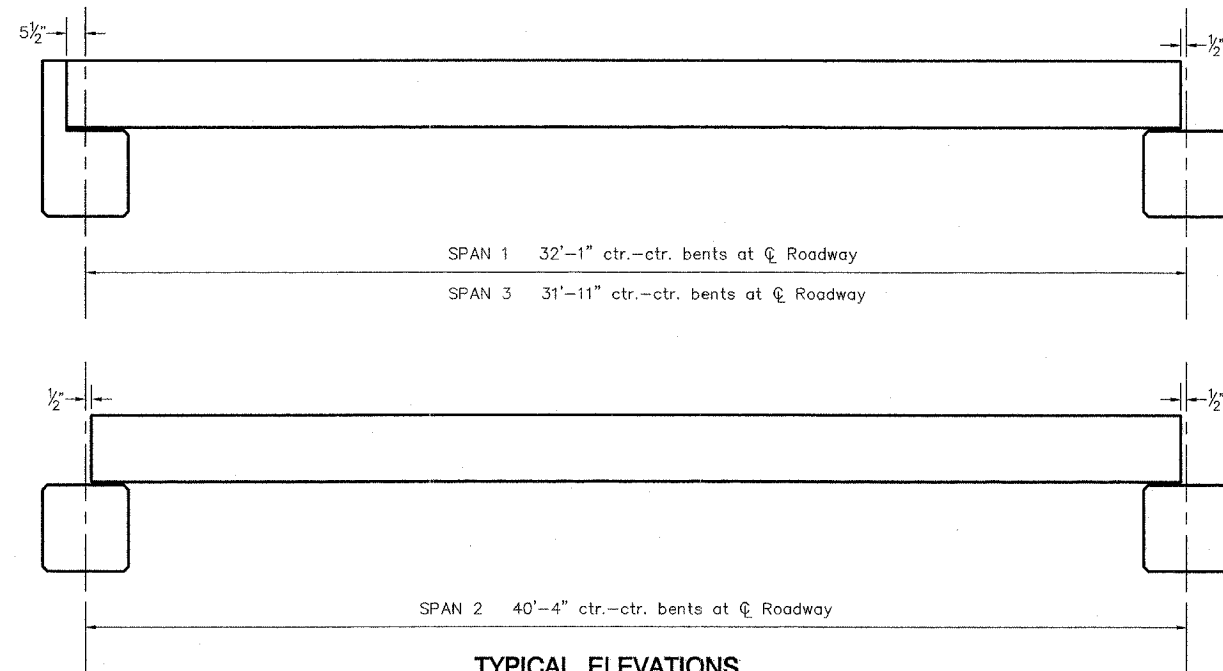
NOTE:

Reinforcement bars shall conform to A.A.S.H.T.O. M-31 or M-322, Grade 60. All reinforcement bars shall be epoxy coated.

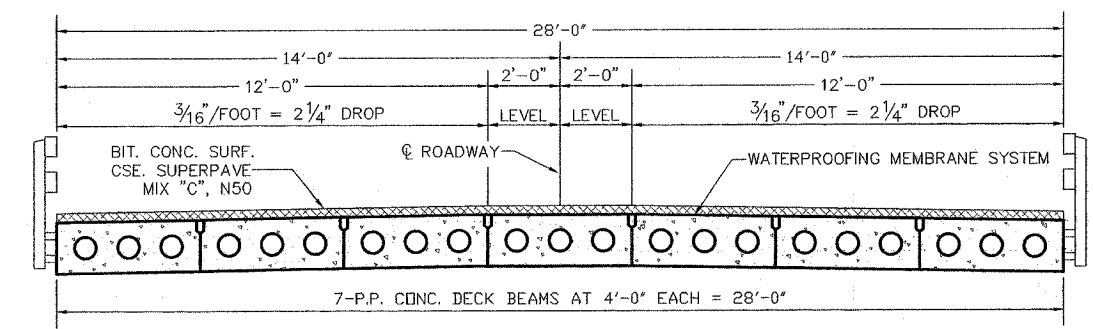
PIER DETAILS
C.H. 5 (SHATTUC ROAD)
OVER LOST CREEK
02-00079-00-BR
CLINTON COUNTY
STATION 23+55
S.N. 014-3014

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5 (SHATTUC ROAD)	02-00079-00-BR	CLINTON	15	9

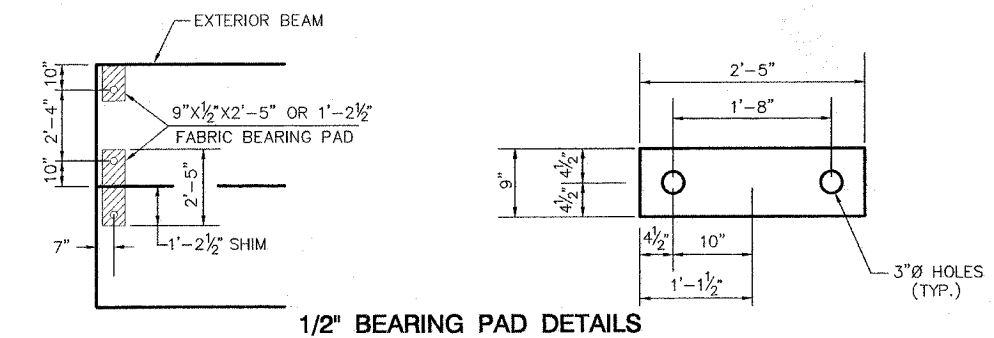
CONTRACT NO. 97267



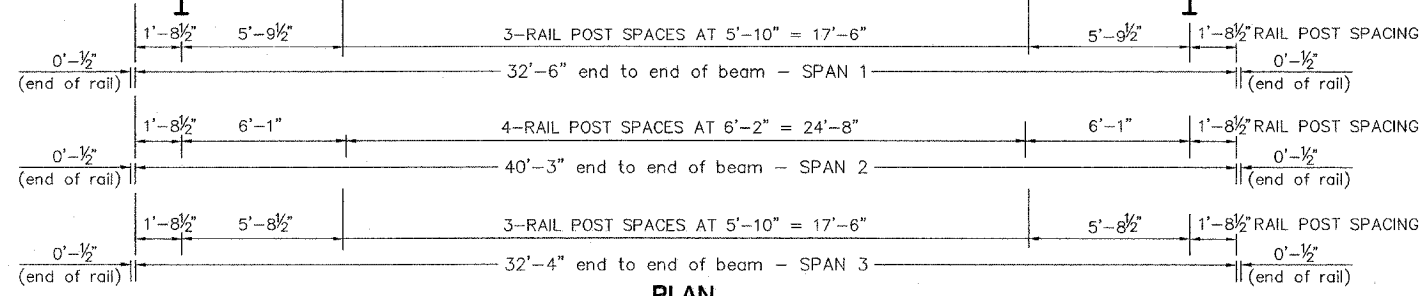
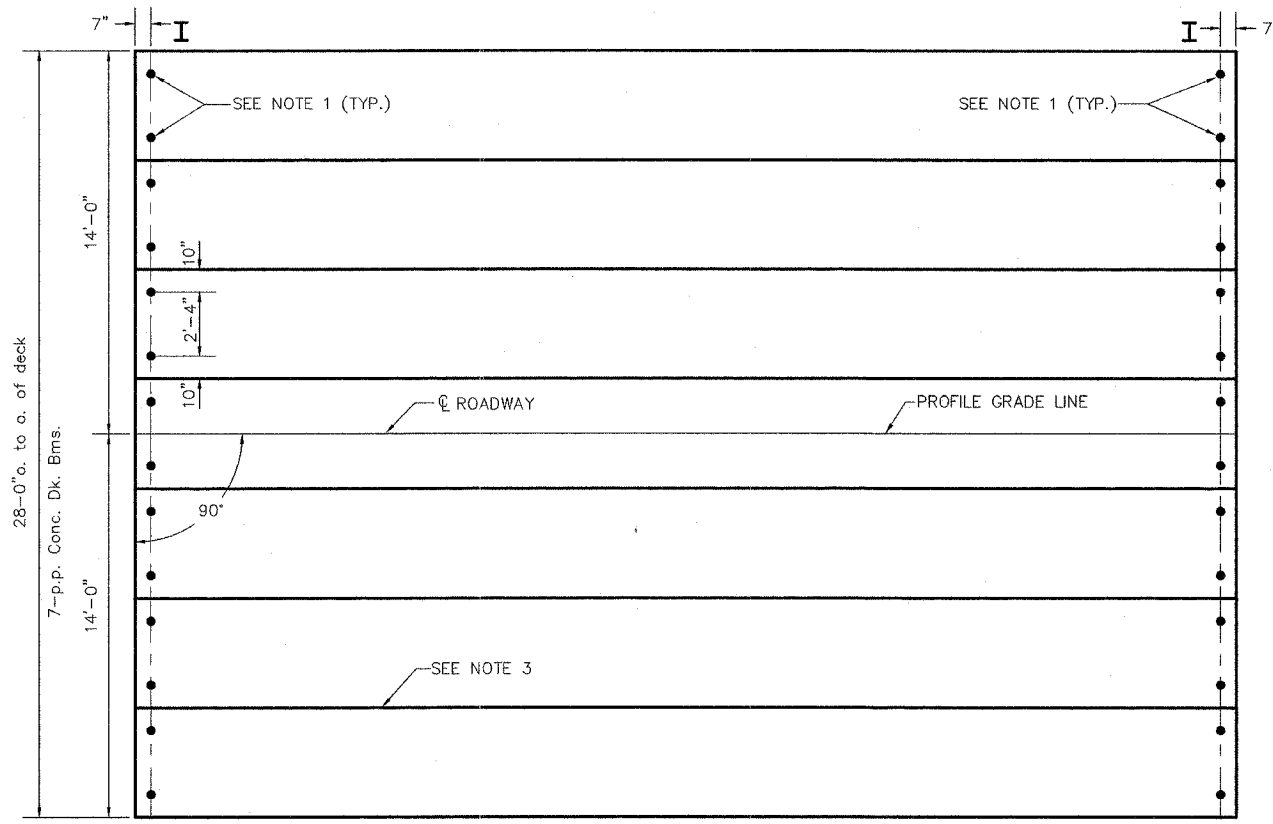
TYPICAL ELEVATIONS



CROSS SECTION



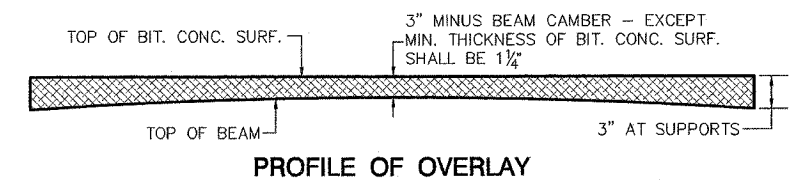
1/2" BEARING PAD DETAILS



PLAN

NOTES

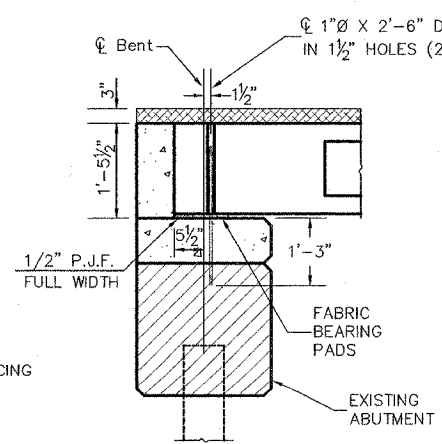
- After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
- Nominal 1" joint at $\text{\textcircled{C}}$ Pier shall be filled with non-shrink grout.
- Longitudinal keys shall be grouted.



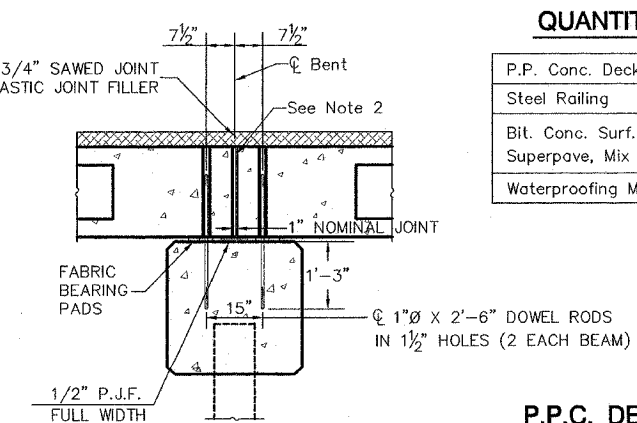
PROFILE OF OVERLAY

QUANTITIES FOR STRUCTURE

P.P. Conc. Deck Bm. 17" Dp.	2947 Sq. Ft.
Steel Railing	211 Ft.
Bit. Conc. Surf. Cse., Superpave, Mix "C", N50	41.6 Tons
Waterproofing Membrane System	332.1 Sq. Yds.



SECTION AT ABUTS.
(ALONG $\text{\textcircled{C}}$ BEAMS)



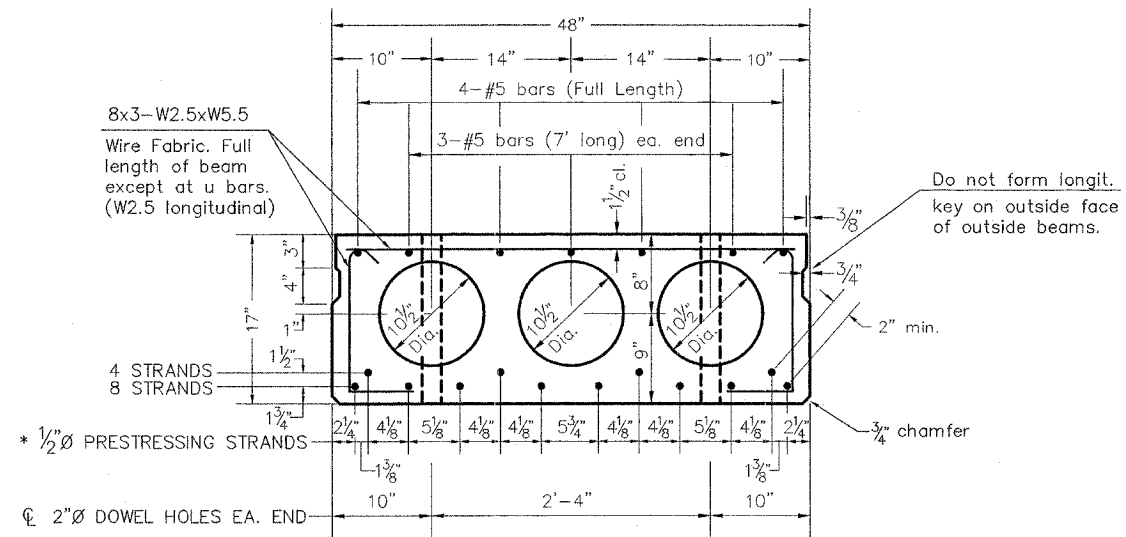
SECTION AT PIERS
(ALONG $\text{\textcircled{C}}$ BEAMS)

P.P.C. DECK BEAM SUPERSTRUCTURE

C.H. 5 (SHATTUC ROAD)
 OVER LOST CREEK
 02-00079-00-BR
 CLINTON COUNTY
 STATION 23+55
 S.N. 014-3014

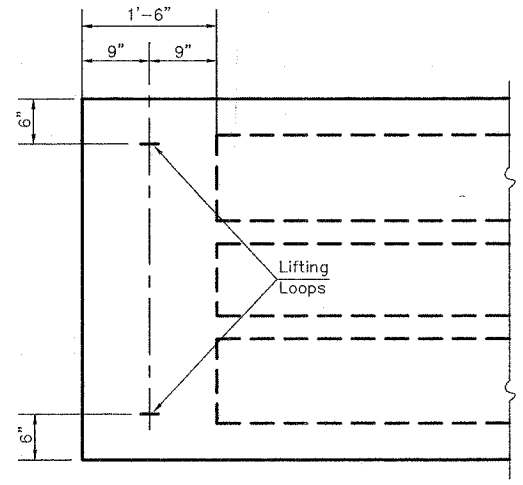
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5 (SHATTUC ROAD)	02-00079-00-BR	CLINTON	15	10

CONTRACT NO. 97267



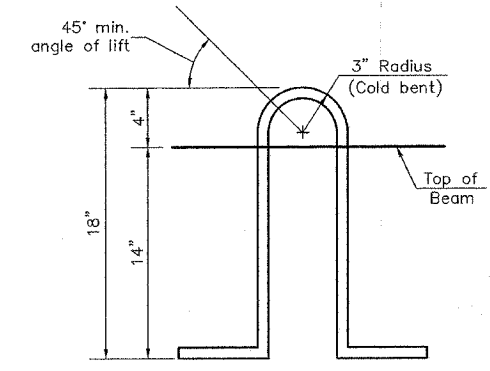
CROSS SECTION
(SPANS 1 & 3)

* STRESSED TO 28,900 LBS.



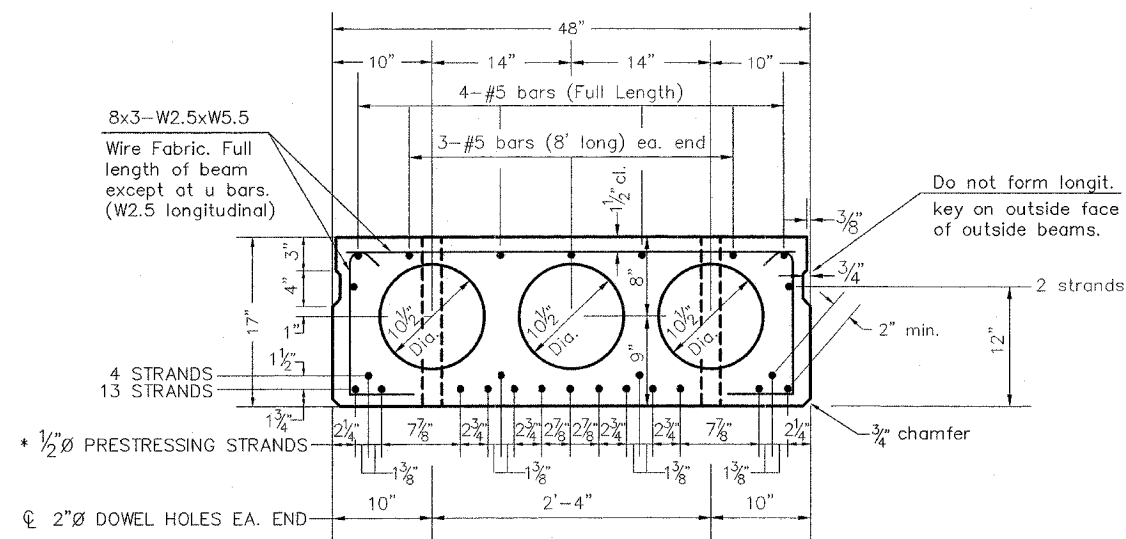
CROSS SECTION

Each beam shall have four Lifting Loops, two at each end of beam cast in locations shown above. Loops shall be burned off after beams have been erected.



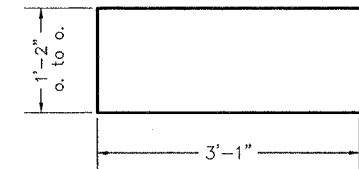
LIFTING LOOP DETAIL

Lifting loops shall be two 1/2 inch diameter -270 ksi strands, as shown. Alternate approved lifting devices are also acceptable.

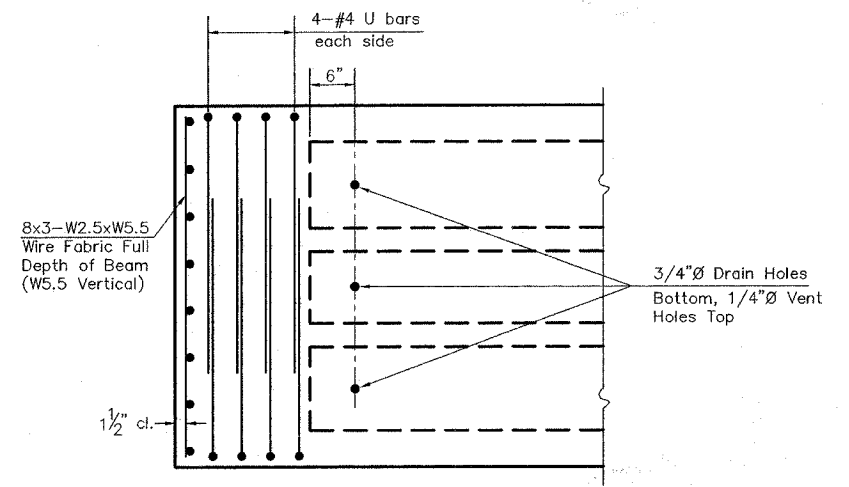


CROSS SECTION
(SPAN 2)

* STRESSED TO 28,900 LBS.



BAR U
MIN. BAR LAP
#5 BARS = 1'-8"



END REINFORCEMENT
(RIGHT ANGLE)

NOTES

- Prestressing steel shall be uncoated high strength, stress relieved 7-wire strand, Grade 270.
- The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 square inches.
- Reinforcement bars shall conform to AASHTO M-31 or M-322, Grade 60.
- Rail Post anchor devices shall be cast into outside beam as elsewhere specified.
- When Waterproofing Membrane System is specified, the top surfaces of the beams shall be finished in accordance with Article 504.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finish surface shall be free of depressions or high spots with sharp corners, and the top edge of keys shall be rounded or chamfered a minimum of 1/4".
- Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between the top of the beam and the bottom edge of the key.

TRANSVERSE STRAND PLACEMENT GUIDELINES

- Place strands symmetrically about centerline of beam.
 - The minimum distance from center to center of strands in all directions shall be 2".
 - The minimum clearance from strand to dowel hole shall be 1/2".
 - The minimum clearance from strand to void shall be 1 1/2".
- Vertical placement of strands shall not adjusted to satisfy the above guidelines.

DESIGN STRESSES

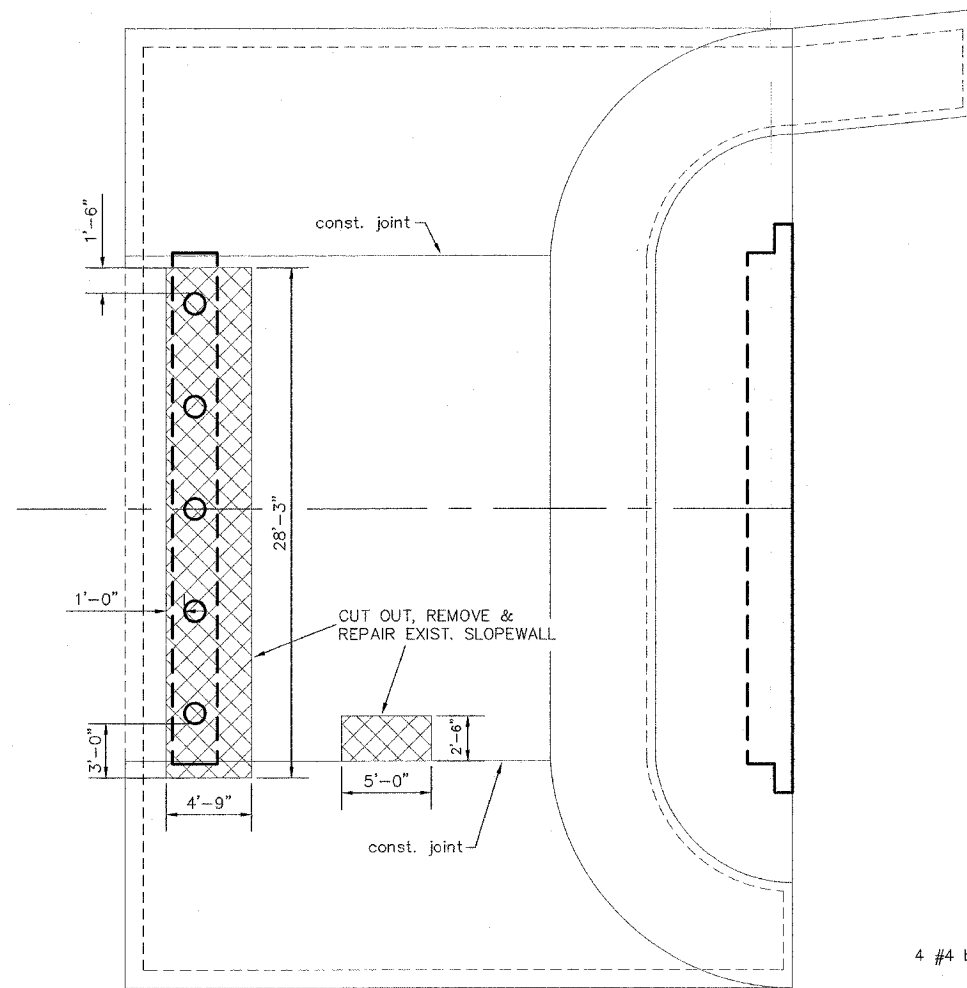
$f'_c = 5,000$ p.s.i.
 $f'_{ci} = 4,000$ p.s.i.
 $f'_s = 270,000$ p.s.i. (1/2" Strand)
 $f_{si} = 201,960$ p.s.i. (1/2" Strand)
 $f_y = 60,000$ p.s.i.

P.P.C. DECK BEAM DETAILS

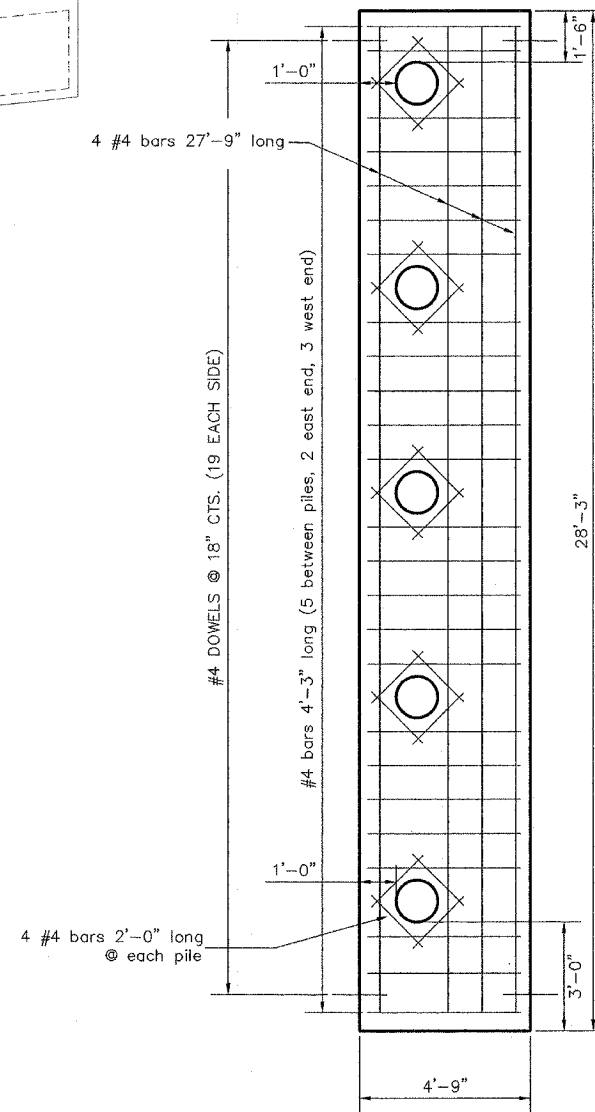
C.H. 5 (SHATTUC ROAD)
 OVER LOST CREEK
 02-00079-00-BR
 CLINTON COUNTY
 STATION 23+55
 S.N. 014-3014

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5 (SHATTUC RD)	02-00079-00-BR	CLINTON	15	11

CONTRACT NO. 97267



PLAN

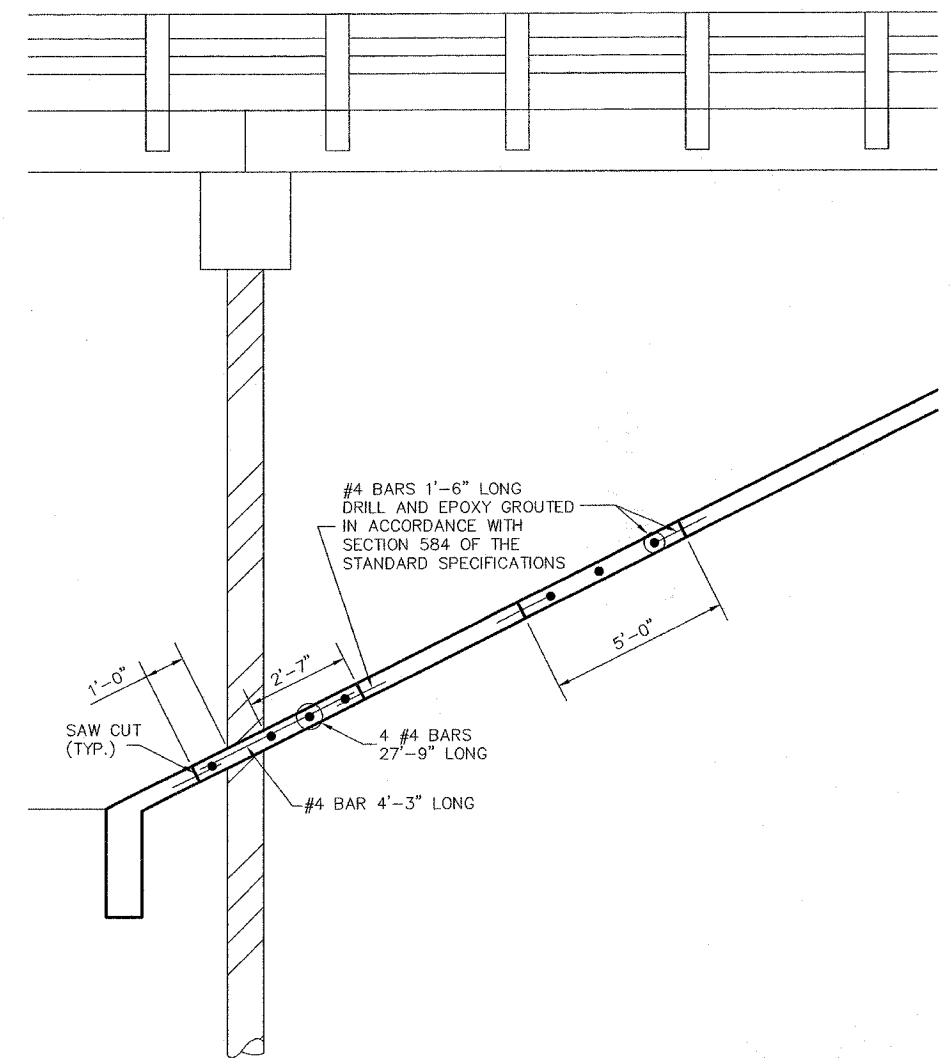
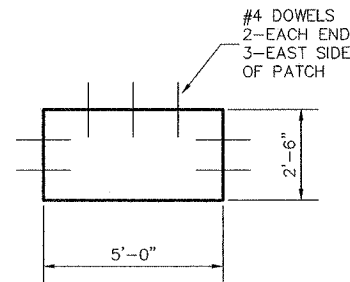


REINFORCEMENT BAR DETAIL

BAR LIST

SIZE	NO.	LENGTH
#4	4	27'-9"
#4	20	2'-0"
#4	25	4'-3"
#4	45	1'-6"

NOTE: All reinforcement bars shall be epoxy coated



ELEVATION

BILL OF MATERIAL

CONCRETE SLOPEWALL REMOVAL	147 SQ. FT.
CONCRETE SLOPEWALL	147 SQ. FT.

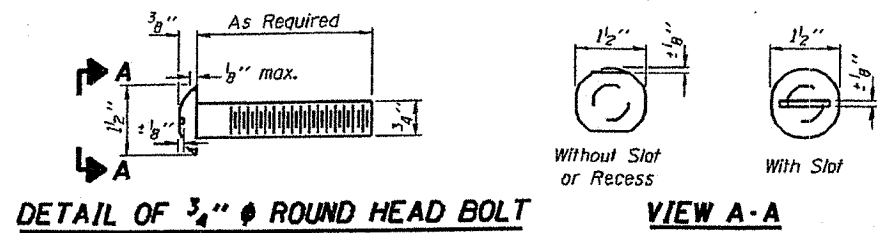
NOTE: ALL CONCRETE, REINFORCING, DRILLING, GROUTING OF BARS, ETC. SHALL BE INCLUDED IN THE UNIT COST PER SQ. FT. FOR CONCRETE SLOPEWALL.

SOUTH SLOPEWALL REPAIR DETAIL

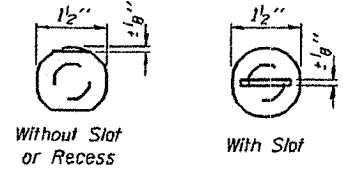
C.H. 5 (SHATTUC ROAD)
OVER LOST CREEK
SECTION 02-00079-00-BR
CLINTON COUNTY
STATION 23+55
S.N. 014-3014

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5 (SHATTUC RD)	02-00079-00-BR	CLINTON	15	12

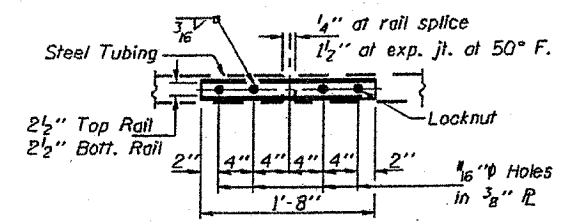
CONTRACT NO. 97267



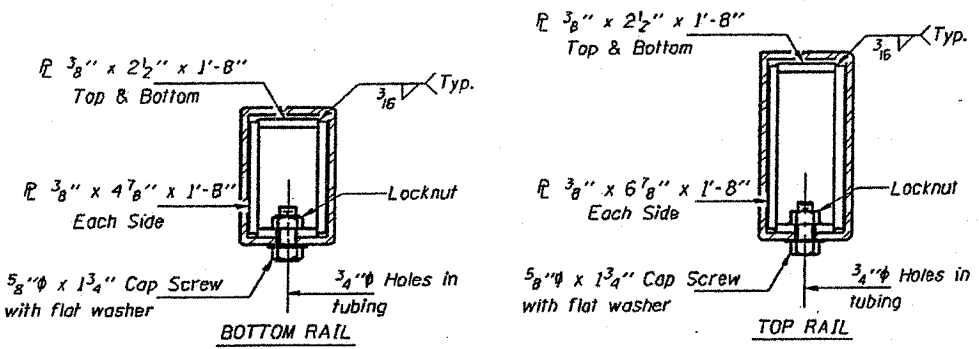
DETAIL OF 3/4" ϕ ROUND HEAD BOLT



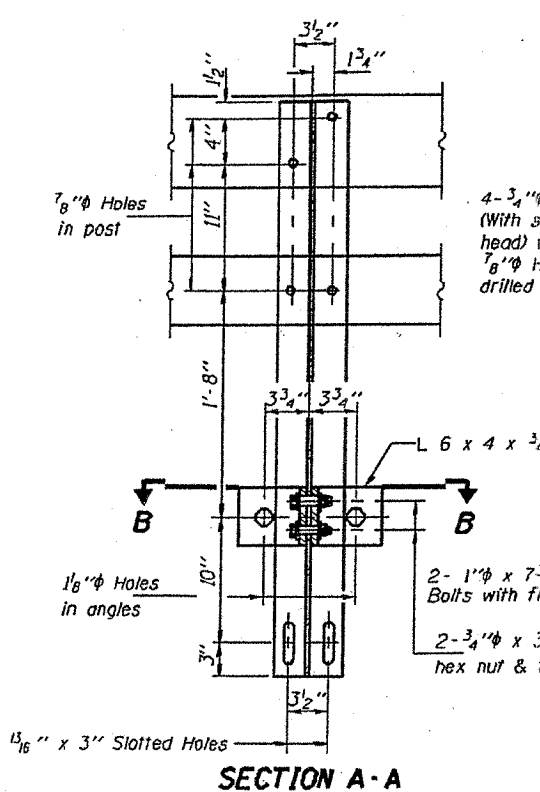
VIEW A-A



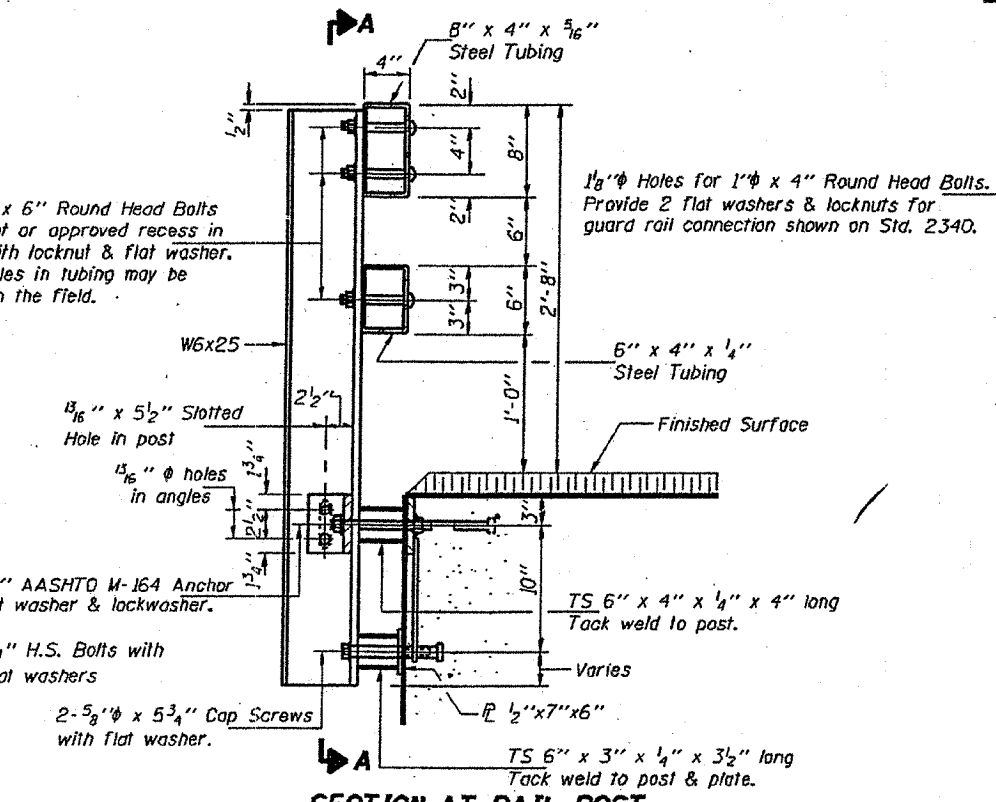
PLAN-BOTT. SPLICE R TYPICAL



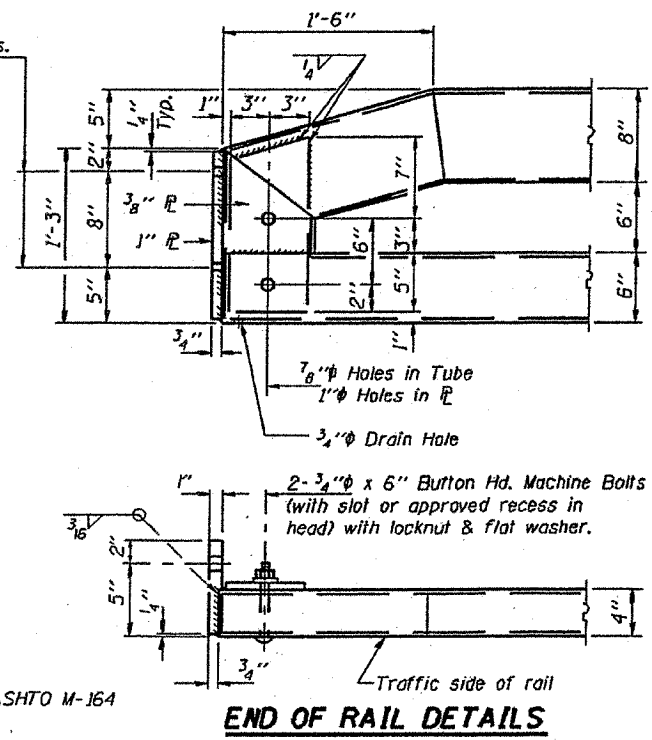
SECTIONS AT RAIL SPLICE



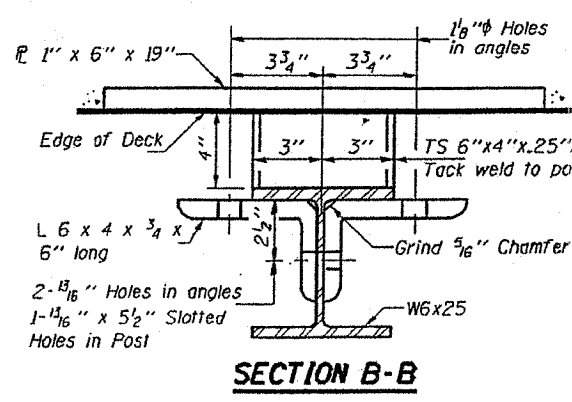
SECTION A-A



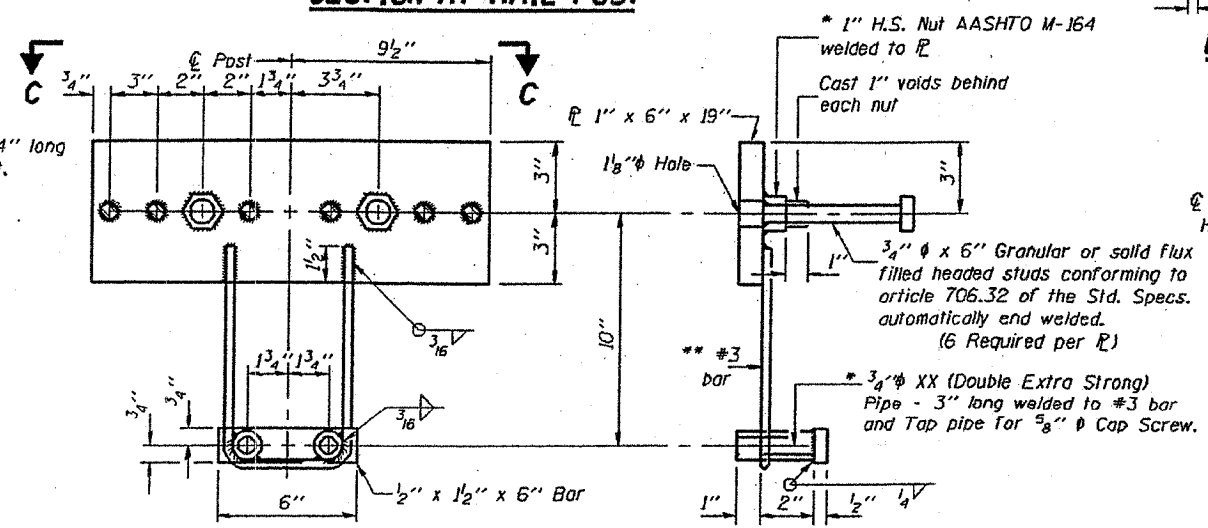
SECTION AT RAIL POST



END OF RAIL DETAILS



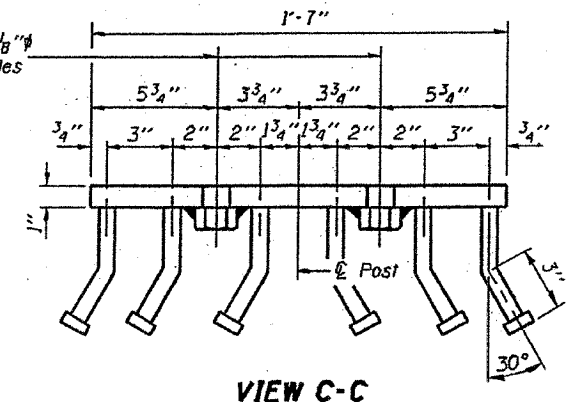
SECTION B-B



ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2\".



VIEW C-C

NOTES

Hollow structural steel tubing shall conform to the requirements of ASTM designation A-500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.

All other steel shapes and plates shall conform to the requirements of AASHTO M-270 Grade 36 except posts and angles shall conform to AASHTO M-270, Grade 50.

Bolts, cap screws, and nuts shall conform to the requirement of ASTM designation A-307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M-164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized in accordance with AASHTO M-232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.

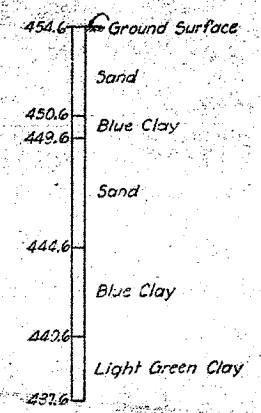
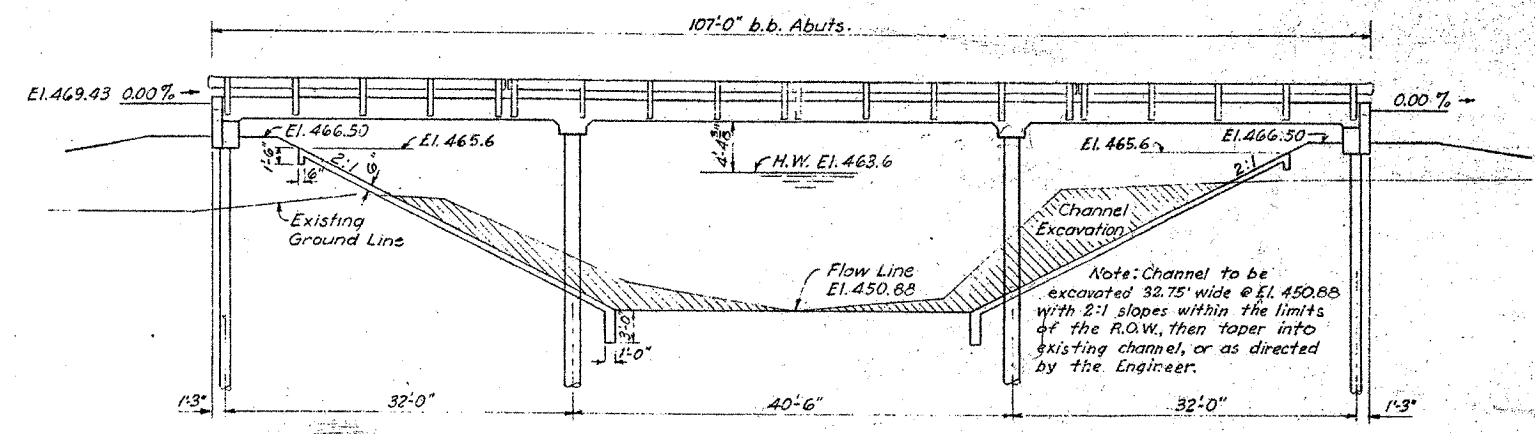
All field drilled holes shall be coated with an approved zinc rich paint before erection.

For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to STEEL BRIDGE RAIL, TYPE SM.

The 3/4" high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened in accordance with Article 505.04(FX3) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" cap screws in bottom of posts shall be tightened to a snug fit only.

The 1/2" x 7" x 6" plates that come in contact with concrete shall receive two coats of asphalt paint conforming to Section 760.07 Type II or place 1/8" fabric bearing pads between the plates and concrete. The maximum allowable rail post spacing shall be 6'-3\".

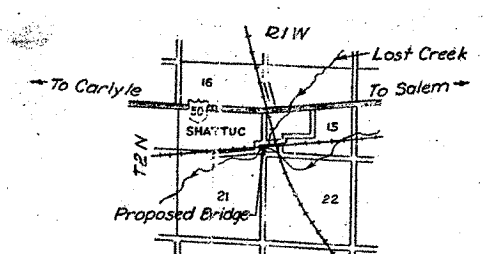
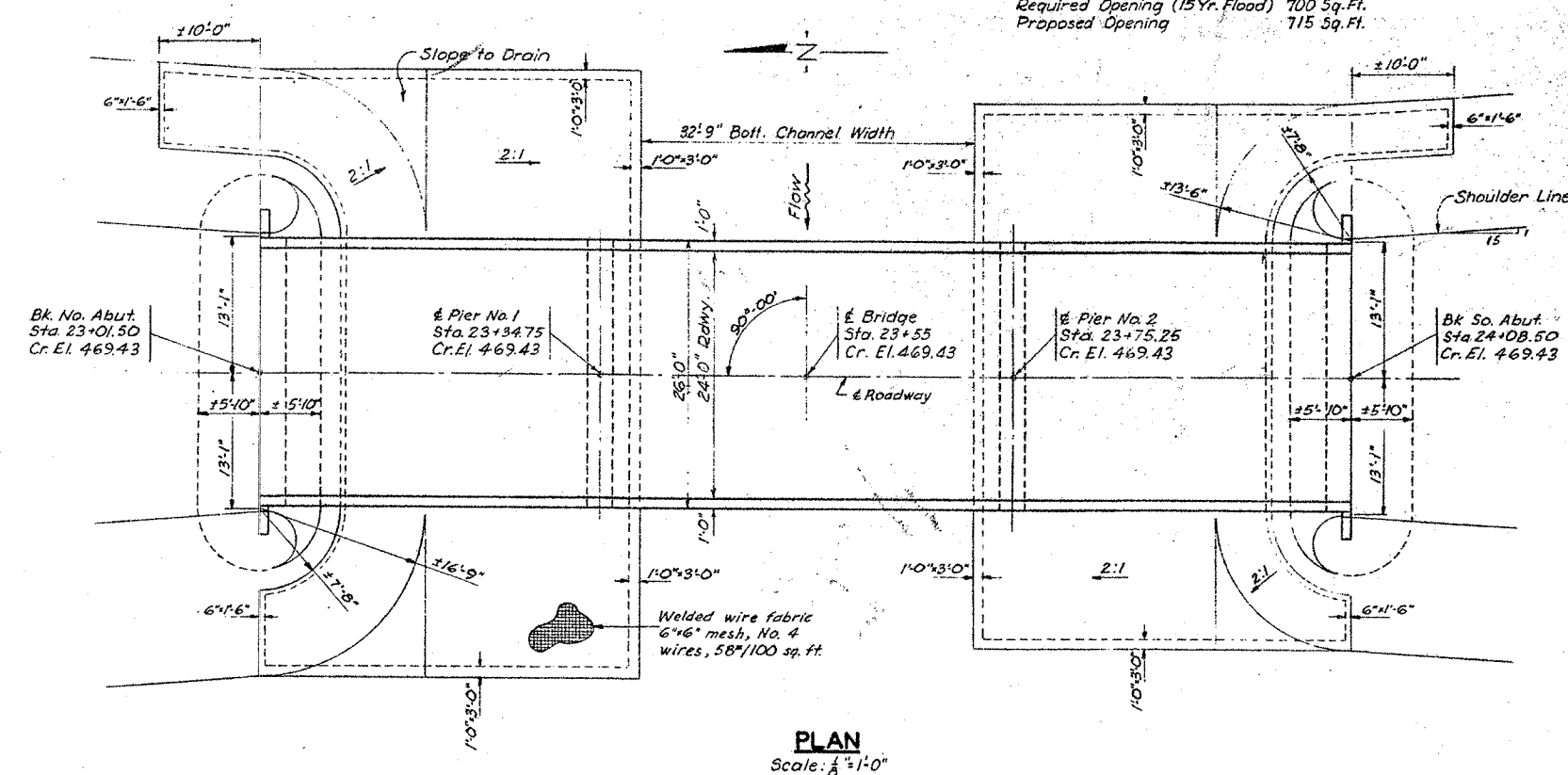
B.M. - End of existing 9' PCC Pav't,
Sta. 21+31.08, Elev. 463.60
No Existing Structure



WATERWAY INFORMATION
Drainage Area: 10,400 Ac.
Required Opening (15 Yr. Flood): 700 Sq. Ft.
Proposed Opening: 715 Sq. Ft.

GENERAL NOTES

Class X Concrete shall be used throughout. Concrete floor slab shall be finished in accordance with Article 51.19 of the Standard Specifications and shall be poured in one continuous operation. Curbs shall be poured monolithically with the slab. The Contractor shall drive two (2) test piles. One timber test pile shall be driven as directed by the Engineer before ordering the remainder of the timber piles. One concrete test pile shall be driven in a permanent location before casting or ordering the remainder of the piles. Boring data are shown only as a guide to bidders in estimating soil conditions which may be encountered in the work. Pier piles shall have a minimum penetration of 15' below stream bed. Channel Excavation that is suitable for fill material shall be used in constructing the embankments.



TOTAL BILL OF MATERIAL

ITEM	SUPER	SUB	TOTAL
Class X Concrete	Cu. Yds. 150.9	13.6	164.5
Reinforcement Bars	Lbs. 36,250	1,390	37,640
Metal Plate Bridge Rail	Lin. Ft. 207	-	207
Concrete Piles	Lin. Ft. -	315	315
Cresosoted Piles	Lin. Ft. -	200	200
Test Piles (Concrete)	Ea. -	1	1
Test Piles (Timber)	Ea. -	1	1
Name Plates	Ea. -	-	-
Channel Excavation	Cu. Yds. -	-	710
Slope Wall	Sq. Yds. -	-	600

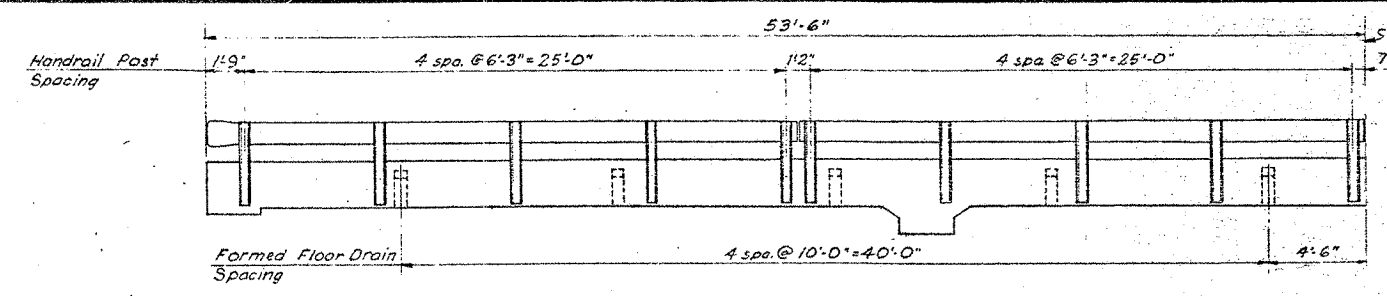
STATION 23+55
LOST CREEK
BUILT 1953
F.A.S. RT. 1784 SEC. 27-G
F.A. PROJ. S-880(1)
LOADING H15-S12

LETTERING FOR NAME PLATE
See Std 2113

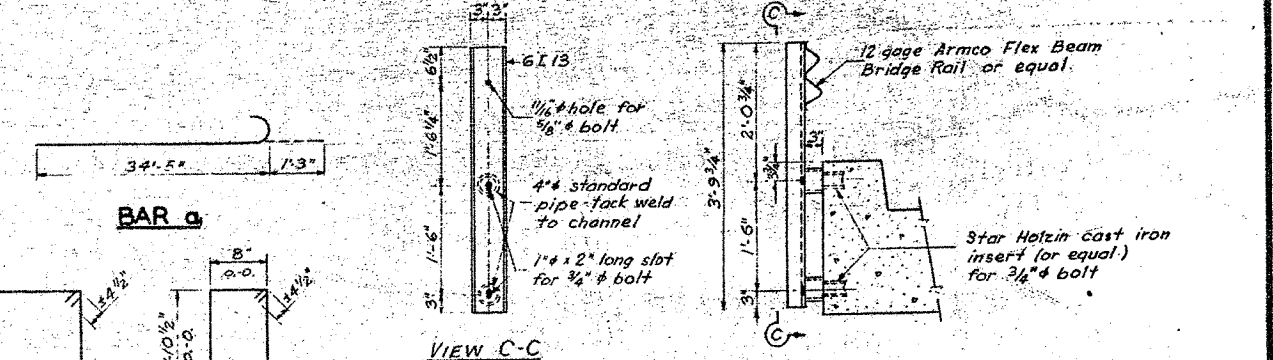
DESIGN STRESSES
f_s = 20,000 $\frac{1}{8}''$ Rein.
f_c = 1,400 $\frac{1}{8}''$ Super.
f_c = 800 $\frac{1}{8}''$ Sub.
n = 10

GENERAL PLAN & ELEVATION
PROJECT S-880 (I)
F.A.S. RT. 1784 (SA. RT. 3) SEC. 27 G
CLINTON CO.
STATION 23+55
HANSON, COLLINS & RICE
CONSULTING ENGINEERS
DESIGNED T.E.B. DRAWN D.J.M.
CHECKED T.E.B. DATE 9-12-57

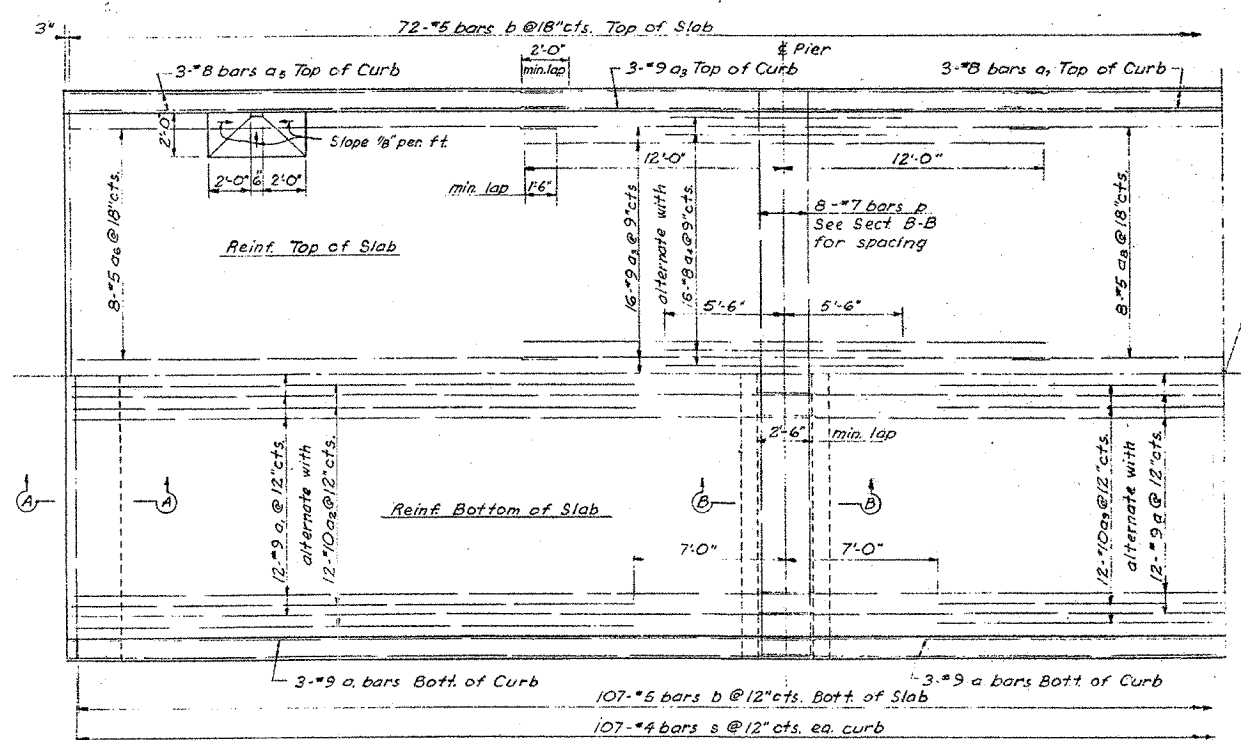
LOADING H15-S12



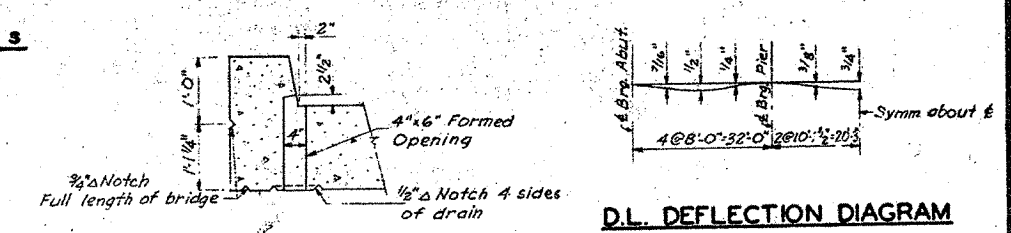
HALF ELEVATION



HANDRAIL DETAILS



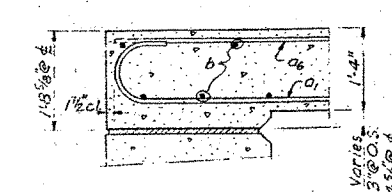
HALF PLAN



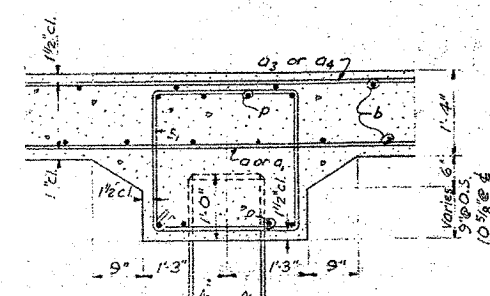
DRAIN DETAIL

D.L. DEFLECTION DIAGRAM

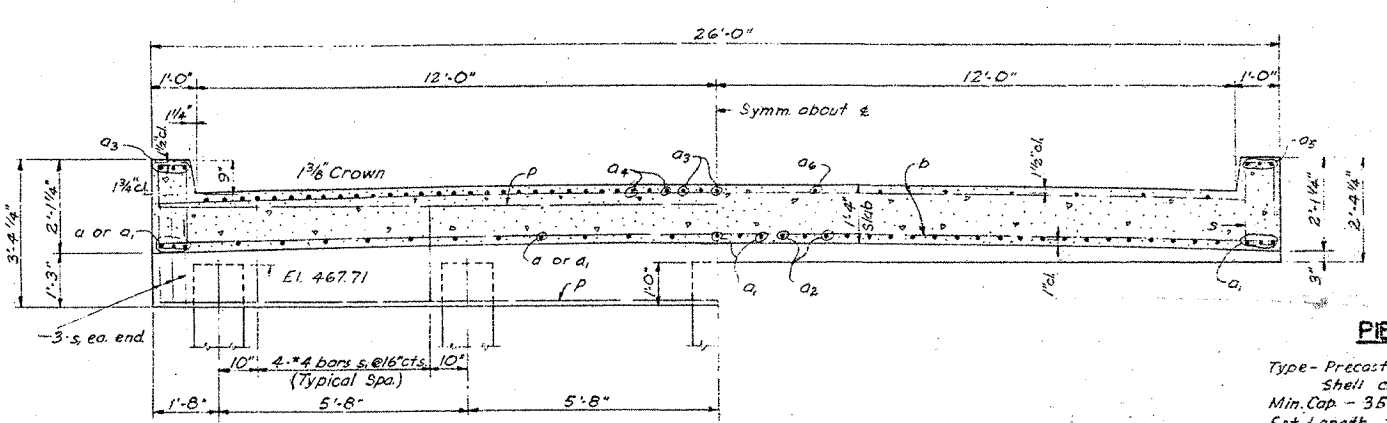
In addition to D.L. deflection the Contractor shall make allowance for shrinkage & settlement of falsework.



SECTION A-A



SECTION B-B



HALF SECTION NEAR PIERS

HALF SECTION NEAR ABUTS

PIER PILES

Type - Precast or Cast-in-Place Metal Shell concrete piles.
 Min. Cap - 35 Tons
 Est. Length - 35'
 No. Req'd - 10 (2 piers)

**BILL OF MATERIAL
SUPERSTRUCTURE & PIERS**

BAR	NO	SIZE	LENGTH	SHAPE
a	29	#9	43'-0"	—
a ₁	58	#9	35'-8"	—
a ₂	48	#10	26'-2"	—
a ₃	74	#9	24'-0"	—
a ₄	64	#8	11'-0"	—
a ₅	12	#8	23'-2"	—
a ₆	32	#5	22'-8"	—
a ₇	6	#8	20'-6"	—
a ₈	16	#5	19'-6"	—
a ₉	24	#10	26'-6"	—
s	214	#4	5'-10"	□
s ₁	44	#4	9'-7"	□
b	179	#5	25'-9"	—
p	16	#7	25'-9"	—

Class X Concrete	Cu. Yds.	150.9
Reinforcement Bars	Lbs.	36,250
Concrete Piles	Lin. Ft.	315
Test Piles (Concrete)	Ea.	1
Metal Plate Bridge Rail	Lin. Ft.	207

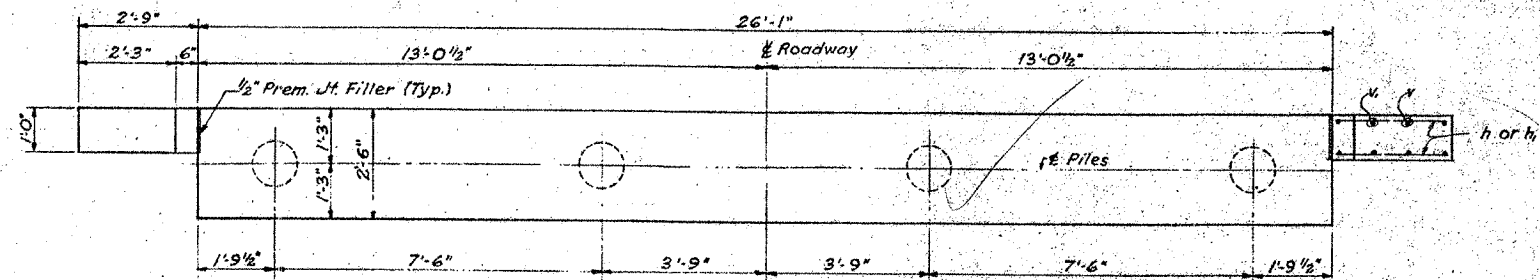
Note: See sheet No. 3 for detail of Concrete Piles.

**SUPERSTRUCTURE
PROJECT S-880 (I)
FAS. RT. 1784 (S.A. RT. 3) SEC. 27G
CLINTON CO.
STATION 23+55**

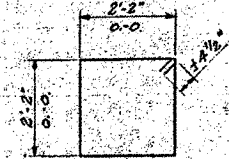
HANSON, COLLINS & RICE
CONSULTING ENGINEERS

T.E.B. D.J.M.
9-12-57 B-57-B

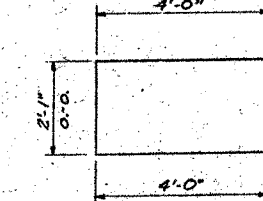
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
C.H. 5 (SHATTUC ROAD)	02-00079-00-BR	CLINTON	15	15
CONTRACT NO. 97267				
F.A.S. 1784	27G	Clinton	19	15
SHEET NO. 5-880-1				



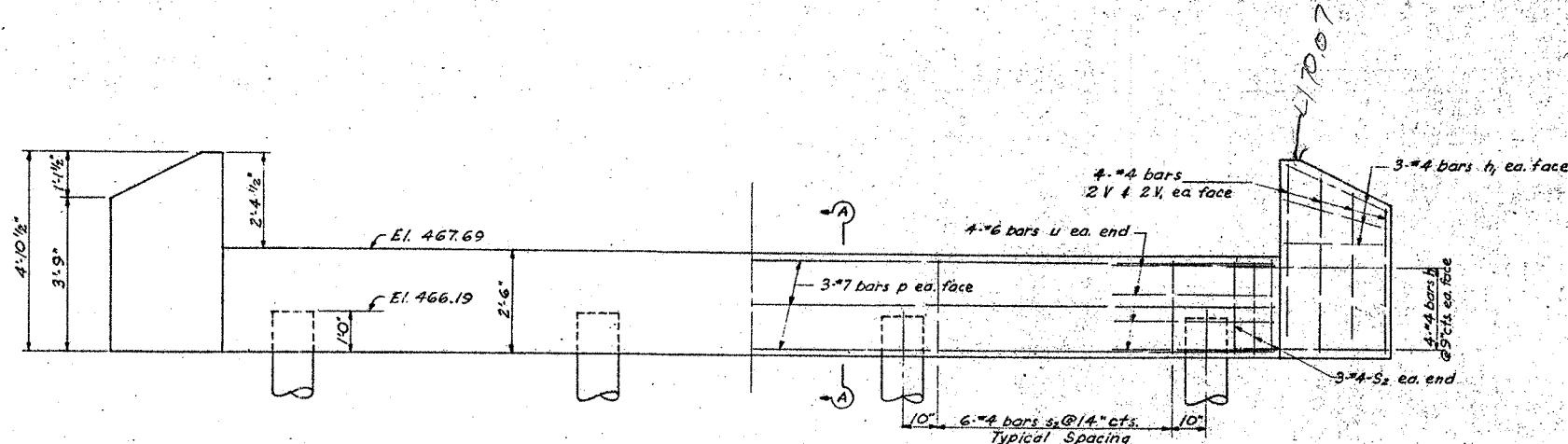
PLAN



BAR s₂



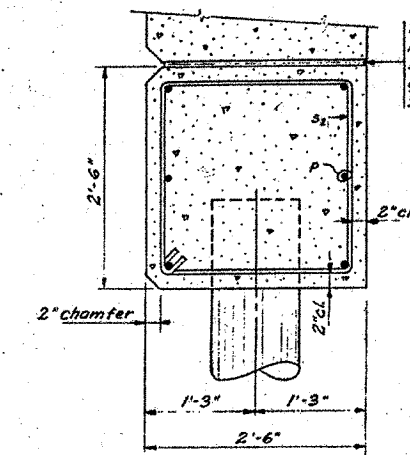
BAR u



ELEVATION

ABUT. PILES

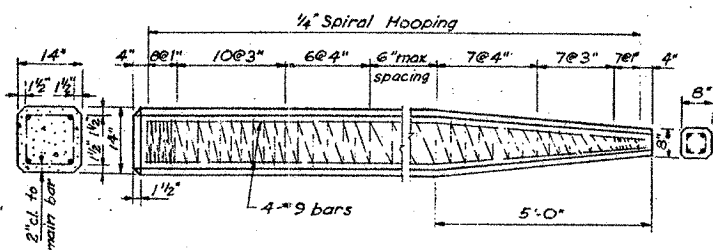
Type - Creosoted Piles
Min. Capacity - 20 Tons
Est. Length - 25'
No. Req'd. (2 Abuts) - 8



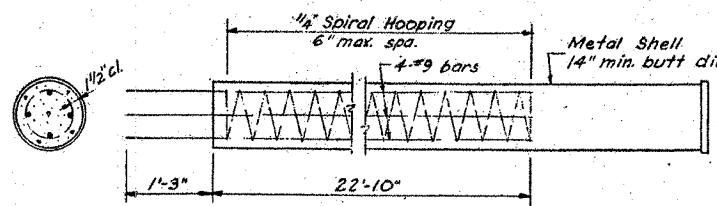
SECTION A-A

BILL OF MATERIAL - 2 ABUTS

BAR NO.	NO.	SIZE	LENGTH	SHAPE	
h	32	#4	4'-0"	—	
h ₁	24	#4	2'-6"	—	
p	12	#7	25'-9"	—	
s ₂	48	#4	9'-9"	□	
u	16	#6	10'-1"	□	
v	16	#4	3'-8"	—	
v ₁	16	#4	4'-5"	—	
Class X Concrete				Cu. Yds.	13.6
Reinforcement Bars				Lbs.	1390
Creosoted Piles				Lin. Ft.	200
Test Piles (Timber)				Ea.	1



DETAIL OF PRECAST CONCRETE PILES FOR PIERS



DETAIL OF CAST IN PLACE PILES FOR PIERS

Note to Contractor: For pile lengths up to 45 ft. use two slings placed at a distance of 0.21 L from each end. On piles longer than 45 ft. use three slings placed at 0.12 L from each end and at mid-point of pile.

ABUTMENTS
PROJECT S-880(11)
F.A.S. RT. 1784 (S.A. RT. 3) SEC. 27G
CLINTON CO.
STATION 23+55

HANSON, COLLINS & RICE
CONSULTING ENGINEERS

DESIGNED BY T.E.B. CHECKED BY D.J.M.
DATE 9-12-57 SHEET NO. 8-57-B