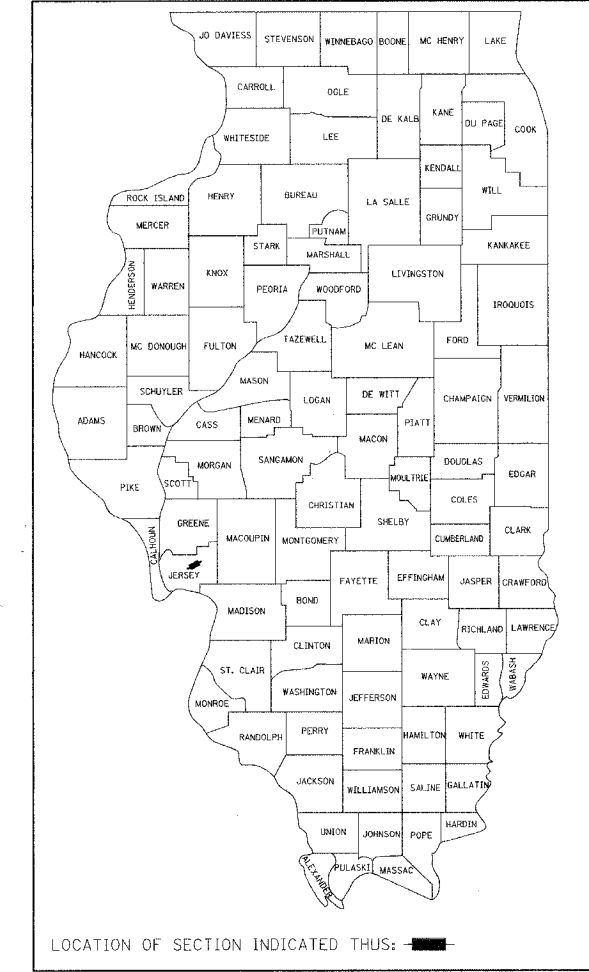


RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 137	*	JERSEY	9	1
FEDERAL AID PROJECT				
04-07118-00-BR				

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

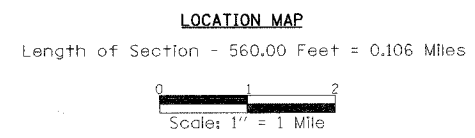
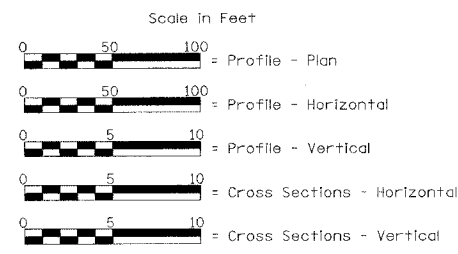
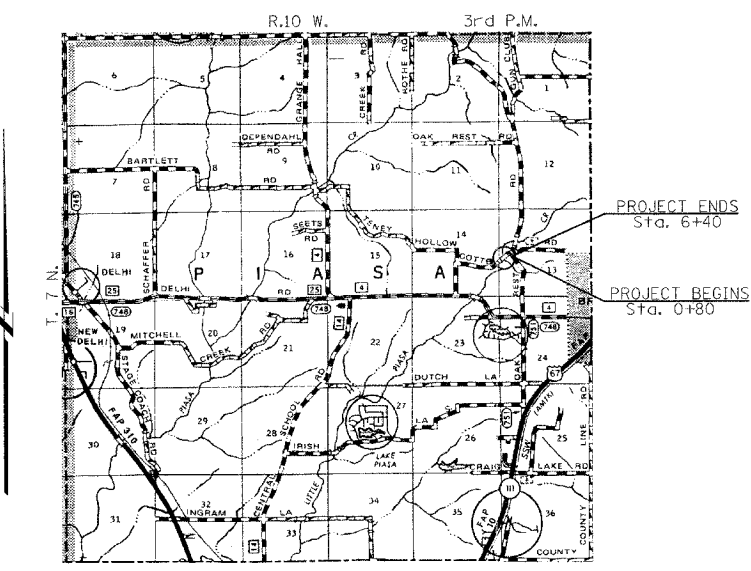
**PLANS FOR PROPOSED
HIGHWAY BRIDGE REPLACEMENT
AND REHABILITATION PROGRAM
PROJECT NO. BROS-083 (038)
T.R. 137 OVER PIASA CREEK
SECTION 04-07118-00-BR
JERSEY COUNTY
C-98-310-06**

CONTRACT NO. 97277



- INDEX OF SHEETS**
- 1 - TITLE SHEET
 - 2 - SUMMARY OF QUANTITIES, DETAILS, & TYPICAL SECTIONS
 - 3 - PLAN & PROFILE
 - 4 - GENERAL PLAN & ELEVATION
 - 5 - SUPERSTRUCTURE
 - 6 - RAILING
 - 7 - ABUTMENTS
 - 8 & 9 - CROSS SECTIONS

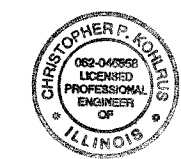
- STANDARDS**
- STANDARD 515001-02
 - STANDARD 701201-02
 - STANDARD 701301-02
 - STANDARD 702001-06
 - STANDARD BLR 21-6



Land Section - 13
Land Quarter Section - S.W.
Political Township - Piase
DESIGN DESIGNATION
Design Speed = 30 m.p.h.
Functional Classification: Local Road
ADT: 175 (2006)
214 (2026)

EXISTING STRUCTURE: SINGLE SPAN CAST IN PLACE CONCRETE DECK, WINGWALLS AND RAIL, ±31'-0" BK.-BK. ABUTMENTS, ±16'-9" CLEAR DECK WIDTH, 0° SKEW.
EXISTING STRUCTURE NO. 042-3074

PROPOSED STRUCTURE: SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAMS (27") ON OPEN CONCRETE ABUTMENTS, 24'-0" CLEAR DECK WIDTH, TYPE S1 RAILING, 10° SKEW LT. FORWARD.
PROPOSED STRUCTURE NO. 042-3139



Christopher P. Kohlman 3/16/06
Expiration: 11/30/07

APPROVED *3/6 2006*
Thomas E. Kames
COUNTY ENGINEER

APPROVED *3/6 2006*
Jack E. Dorn
ROAD COMMISSIONER

PASSED *April 6 2006*
Jeanette Oberthorn
DISTRICT EIGHT ENGINEER OF LOCAL ROADS & STREETS

April 6 2006
Mary C. Lewis
DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOLL FREE
"JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS"
(J.U.L.I.E.) TELEPHONE NUMBER
1-800-892-0123

CONTRACT NO. 97277

FILE NAME: JCLTTS (REV. 3/8/06)

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 137	*	JERSEY	9	2
FEDERAL AID PROJECT BROS-083(038)				

* 04-07118-00-BR
CONTRACT NO. 97277

SUMMARY OF QUANTITIES

X081-2A

CODE NO.	ITEM	UNIT	QUANTITY
20100500	Tree Removal, Acres	Acres	0.2
20200100	Earth Excavation	Cu. Yd.	258
20300100	Channel Excavation	Cu. Yd.	51
20400800	Furnished Excavation	Cu. Yd.	1125
25001000	Seeding, Class 2 (Special)	Acres	0.60
28100807	Stone Dumped Riprap, Class A4	Ton	314
28200200	Filter Fabric	Sq. Yd.	544
**** 40200800	Aggregate Surface Course, Type B	Ton	531
50100100	Removal of Existing Structures	Each	1
50200100	Structure Excavation	Cu. Yd.	67
50300225	Concrete Structures	Cu. Yd.	45.5
50400505	Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1312
50800105	Reinforcement Bars	Pound	3970
50900205	Steel Railing, Type S1	Foot	112
51201400	Furnishing Steel Piles HP10x42	Foot	222
51202700	Driving Steel Piles	Foot	222
51203400	Test Pile, Steel HP10x42	Each	1
51500100	Name Plates	Each	1
67100100	Mobilization	L. Sum	1
63100075	Traffic Barrier Terminal, Type 5A	Each	2
63100167	Traffic Barrier Terminal, Type 1 Special (Tangent)	Each	2
70101630	Traffic Control & Protection Standard BLR 21	L. Sum	1
78201000	Terminal Marker - Direct Applied	Each	2

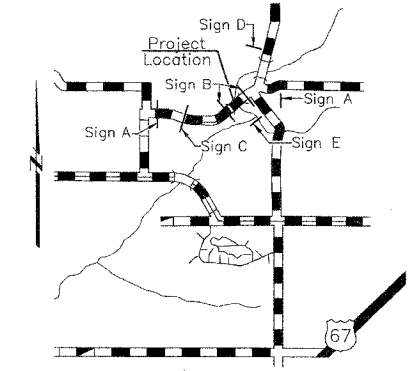
**** - Indicates work to be performed by County Forces

GENERAL NOTES

Where section or subsection markers are encountered, the Engineer shall be notified before such markers are removed. The contractor shall protect and preserve all property markers and monuments until the owner, authorized surveyor, or agent has witnessed or referenced their location.

Seeding: Fertilizer nutrients shall be applied at a ratio of 1:1:1 and at a rate of 270 pounds per acre. Mulch and Agricultural Ground Limestone shall be applied at the rate of 2 tons per acre. See Special Provisions.

Areas to be seeded shall consist of all disturbed earth surfaces within the right-of-way as directed by the Engineer.



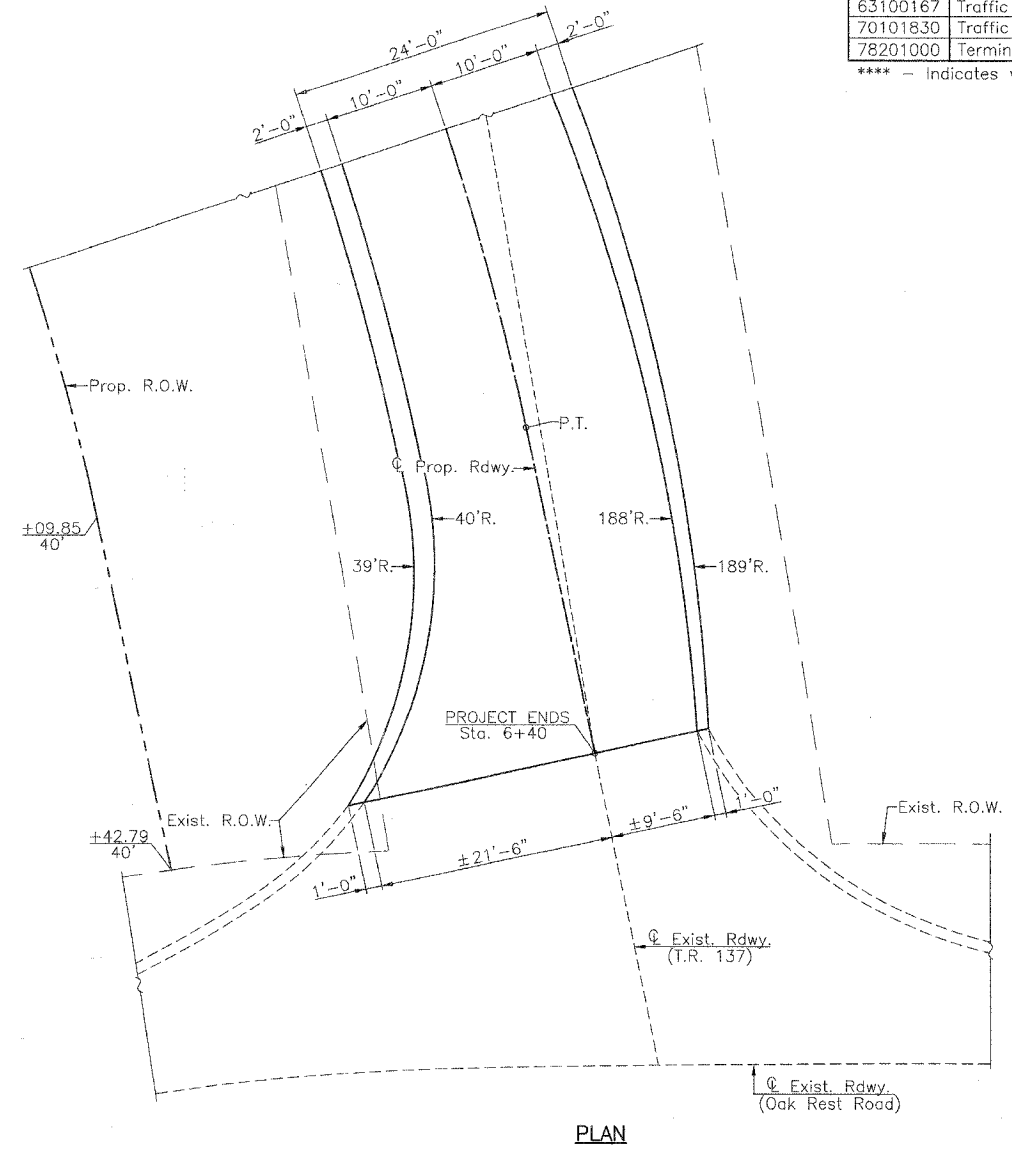
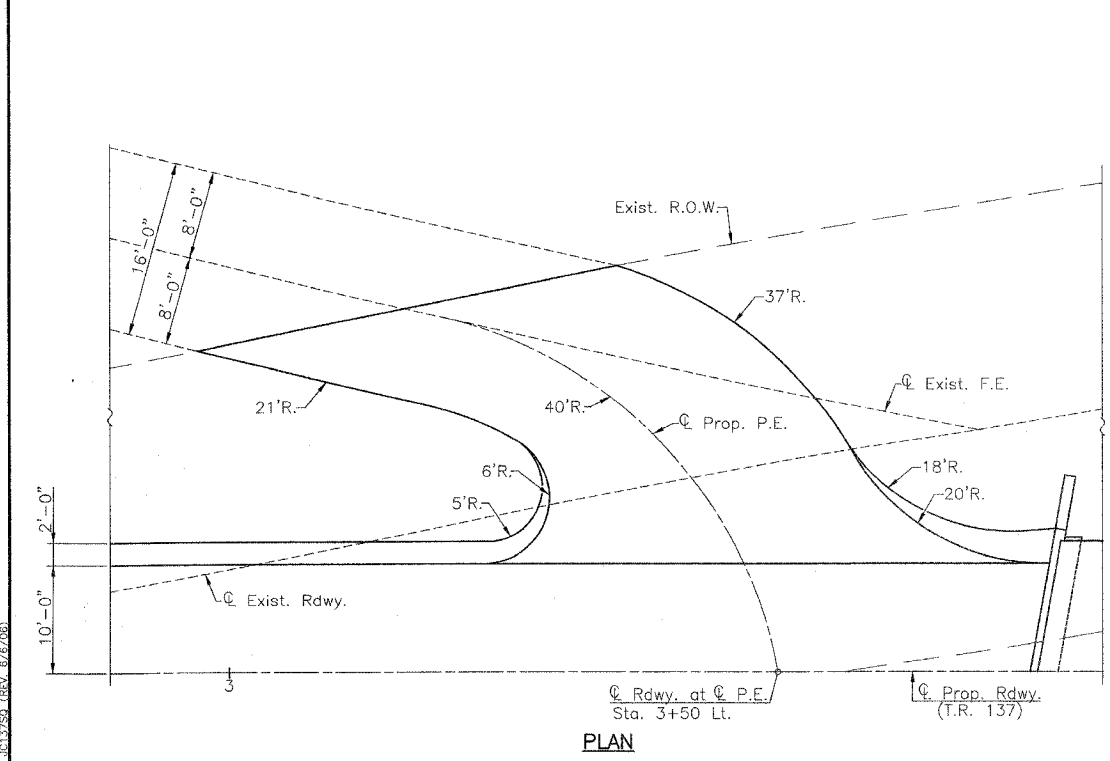
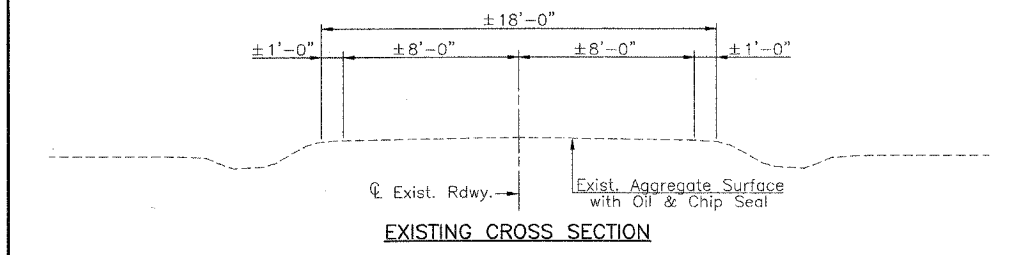
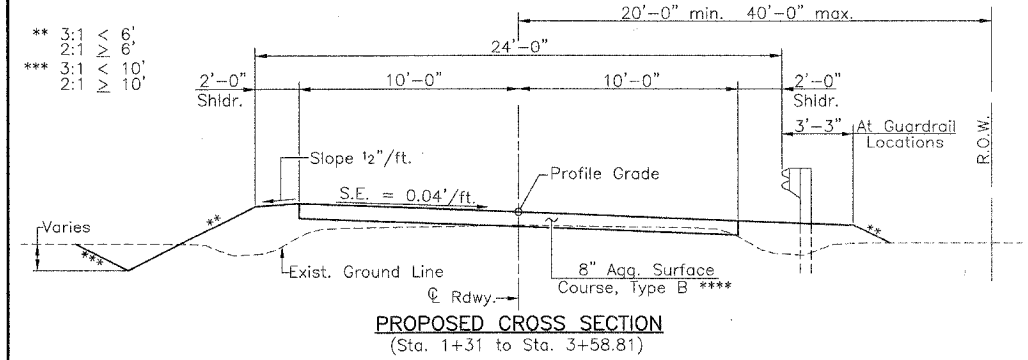
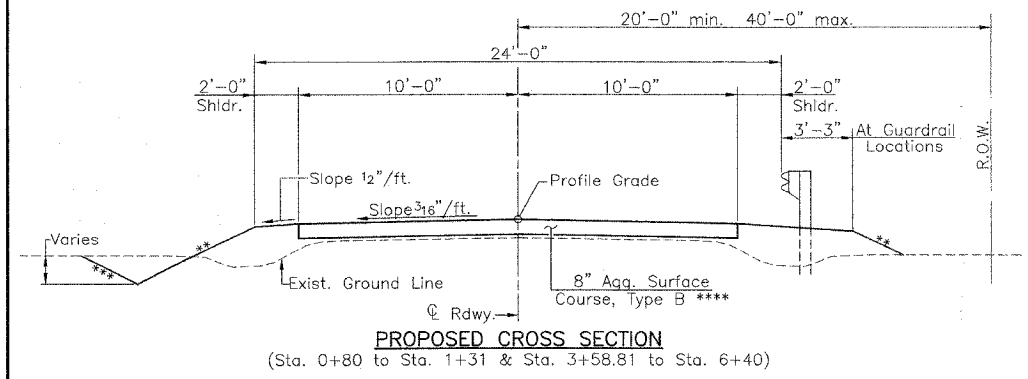
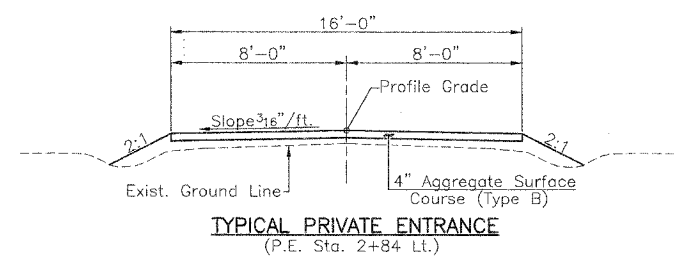
BARRICADE LOCATION PLAN
(Refer to Highway Standards 702001 & BLR 21)

- Legend**
- Sign A - "Road Closed Ahead" W20-3(0) 4848
 - Sign B - BLR Standard 21
 - Sign C - "Road Closed 500 Feet" W20-3(0) 4848
 - Sign D - "Road Closed Ahead" W20-3(0) 4848 with M4-9R 3024
 - Sign E - "Road Closed Ahead" W20-3(0) 4848 with M4-9L 3024

SUMMARY OF QUANTITIES, DETAILS & TYPICAL SECTIONS
T.R. 137 OVER PIASA CREEK
SECTION 04-07118-00-BR
JERSEY COUNTY

EARTHWORK SCHEDULE

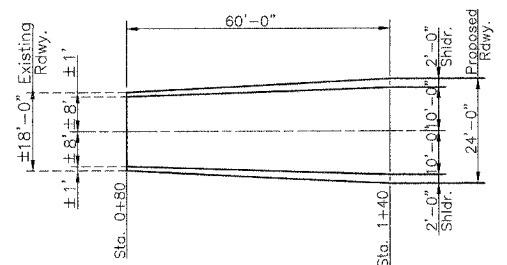
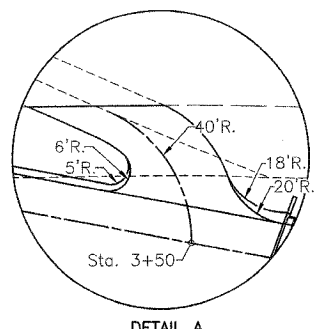
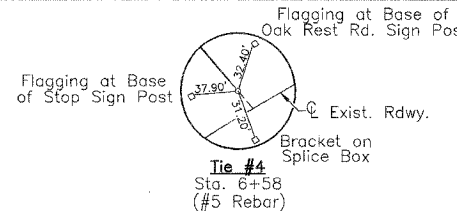
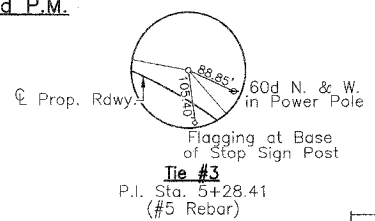
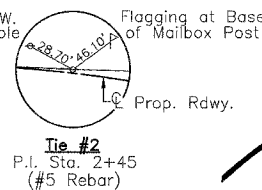
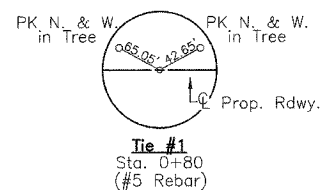
Location	Earth Excavation	Earth Excavation Adjusted For Shrinkage	Embankment	Earthwork Balance Waste (+) or Shortage (-)
	Cubic Yard	Cubic Yard	Cubic Yard	Cubic Yard
Sta. 0+80 to Sta. 1+00	4	3	0	+3
Sta. 1+00 to Sta. 1+90	23	17	35	-18
Sta. 1+90 to Sta. 3+00	31	23	179	-156
Sta. 3+00 to Sta. 3+50	25	19	147	-128
Sta. 3+50 to Sta. 3+73	13	10	78	-68
Bridge Omission - Sta. 3+73 to Sta. 4+29	-	-	-	-
Sta. 4+29 to Sta. 4+40	31	23	87	-64
Sta. 4+40 to Sta. 5+00	101	76	402	-326
Sta. 5+00 to Sta. 6+00	30	23	357	-335
Sta. 6+00 to Sta. 6+40	0	0	33	-33
Total	258	194	1328	-1125



SECTION 13 T. 7 N. R.10 W. 3rd P.M.

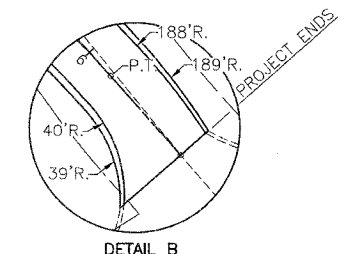
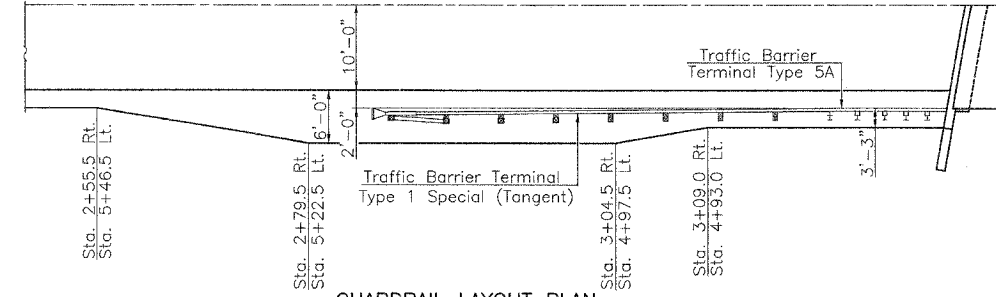
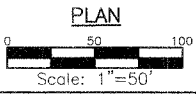
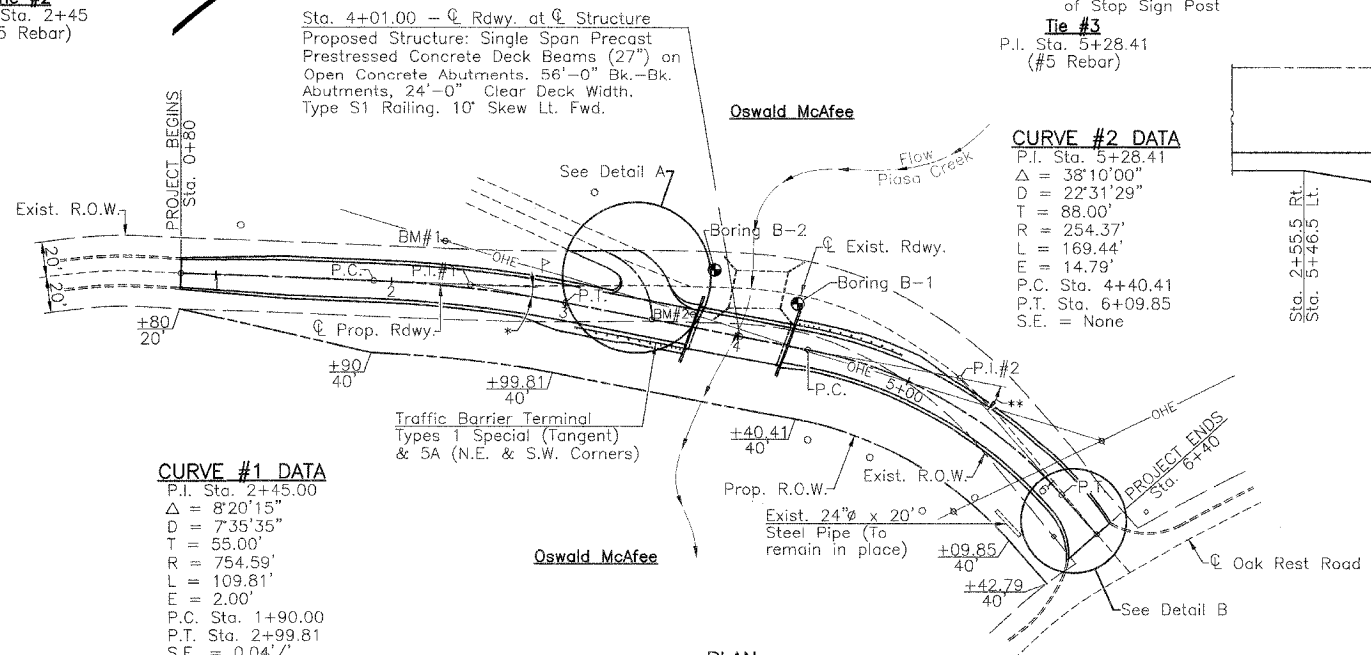
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R.137	*	JERSEY	9	3
FEDERAL AID PROJECT BROS-083(038)				
* 04-07118-00-BR				

CONTRACT NO. 97277



CURVE #1 DATA
 P.I. Sta. 2+45.00
 $\Delta = 8'20'15''$
 $D = 7'35'35''$
 $T = 55.00'$
 $R = 754.59'$
 $E = 109.81'$
 $F = 2.00'$
 P.C. Sta. 1+90.00
 P.T. Sta. 2+99.81
 $S.E. = 0.04\%$
 S.E. Attained: Sta. 1+31.00 to Sta. 2+15.00
 Sta. 2+74.81 to Sta. 3+58.81

CURVE #2 DATA
 P.I. Sta. 5+28.41
 $\Delta = 38'10'00''$
 $D = 22'31'29''$
 $T = 88.00'$
 $R = 254.37'$
 $L = 169.44'$
 $E = 14.79'$
 P.C. Sta. 4+40.41
 P.T. Sta. 6+09.85
 $S.E. = \text{None}$

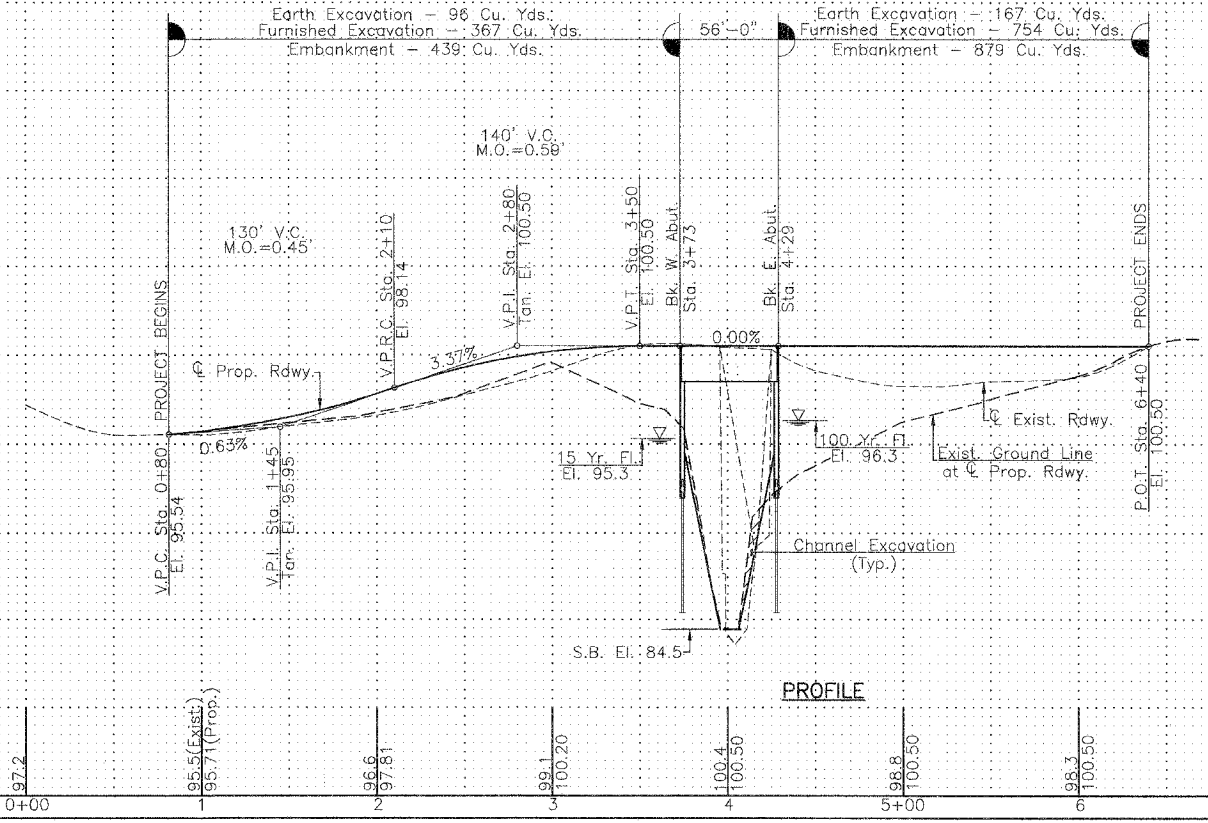


UTILITIES
 S.B.C.
 Collinsville, Illinois 62234
 1-800-244-4444
 M.J.M. Electric Cooperative, Inc.
 P.O. Box 80
 Carlinville, Illinois 62626
 1-217-854-3137
 Jersey County Rural Water
 1009 E. Shipman Road
 Jerseyville, Illinois 62052
 1-618-498-9534

Seeding: Sta. 0+80 to Sta. 6+40 R.O.W. to R.O.W. - 0.6 Acre
 Tree Removal - Sta. 3+70 to Sta. 6+10 Rt. - 0.20 Acre

Benchmarks: BM#1 - 60d Nail & Washer in Power Pole
 25' Lt. Sta. 2+28.5 El. 99.06
 BM#2 - 60d Nail & Washer in Power Pole
 7.5' Lt. Sta. 3+73 El. 100.00 (Assumed)

FILE NAME: JCI17PP (REV. 5/6/98)



PLAN & PROFILE
 T.R. 137 OVER PIASA CREEK
 SECTION 04-07118-00-BR
 JERSEY COUNTY

Existing Structure: Single Span Cast In Place Concrete Deck Bridge on Closed Concrete Abutments.
 ±30'-0" Bk.-Bk. Abutments, ±16'-9" Face to Face of Curb Width. Concrete Railing.
 ±0' Skew. Existing Structure No. 042-3074.

Benchmarks: BM#1 - 60d Nail & Washer in Power Pole
 25' Lt. Sta. 2+28.5 El. 99.06
 BM#2 - 60d Nail & Washer in Power Pole
 7.5' Lt. Sta. 3+73 El. 100.00(Assumed)

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 137	*	JERSEY	9	4
FEDERAL AID PROJECT BR05-083(038)				
* 04-07118-00-BR				
CONTRACT NO. 97277				

TOTAL BILL OF MATERIAL

Item	Super	Sub	Total
Channel Excavation			51
Stone Dumped Riprap, Class A4			314
Filter Fabric			544
Removal of Existing Structures			1
Structure Excavation			67
Concrete Structures		45.5	45.5
Precast Prestressed Concrete Deck Beams (27" Depth)	1312		1312
Reinforcement Bars		3970	3970
Steel Railing Type S1		112	112
Furnishing Steel Piles HP 10x42		222	222
Driving Steel Piles		222	222
Test Pile, Steel HP 10x42		1	1
Name Plates		1	1

WATERWAY INFORMATION

Drainage Area = 3.45 Sq. Miles		Low Grade Elev. = 95.54		@ Sta. 0+80		
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head-Ft.	Headwater El.
Design	15	1314	243	95.3	0.0	95.3
Base	100	2168	271	96.3	0.3	96.6
Exist. Overtop	Greater than 500 years					
Prop. Overtop	Greater than 500 years					
Max. Calc.	500	2887	288	96.9	0.9	97.4

DESIGN STRESSES

FIELD UNITS

f_c = 1400 psi
 v_c = 56.2 psi
 f_s = 24000 psi
 n = 9

PRECAST PRESTRESSED UNITS

f_c = 5000 psi
 f_{ci} = 4000 psi
 f_s = 270000 psi
 f_{si} = 189000 psi

GENERAL NOTES

See Proposal for Boring Data.
 Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31, M-42, or M-53, Grade 60.
 The layout of the riprap slopewall may be varied to suit conditions in the field as determined by the engineer.
 The contractor shall drive one test pile in a permanent location at the East Abutment as directed by the Engineer in the field prior to ordering the remainder of piles.

DESIGN SPECIFICATIONS

2002 A.A.S.H.T.O. Specifications with 2003 & 2004 Interim Specifications.

LOADING HS 20-44

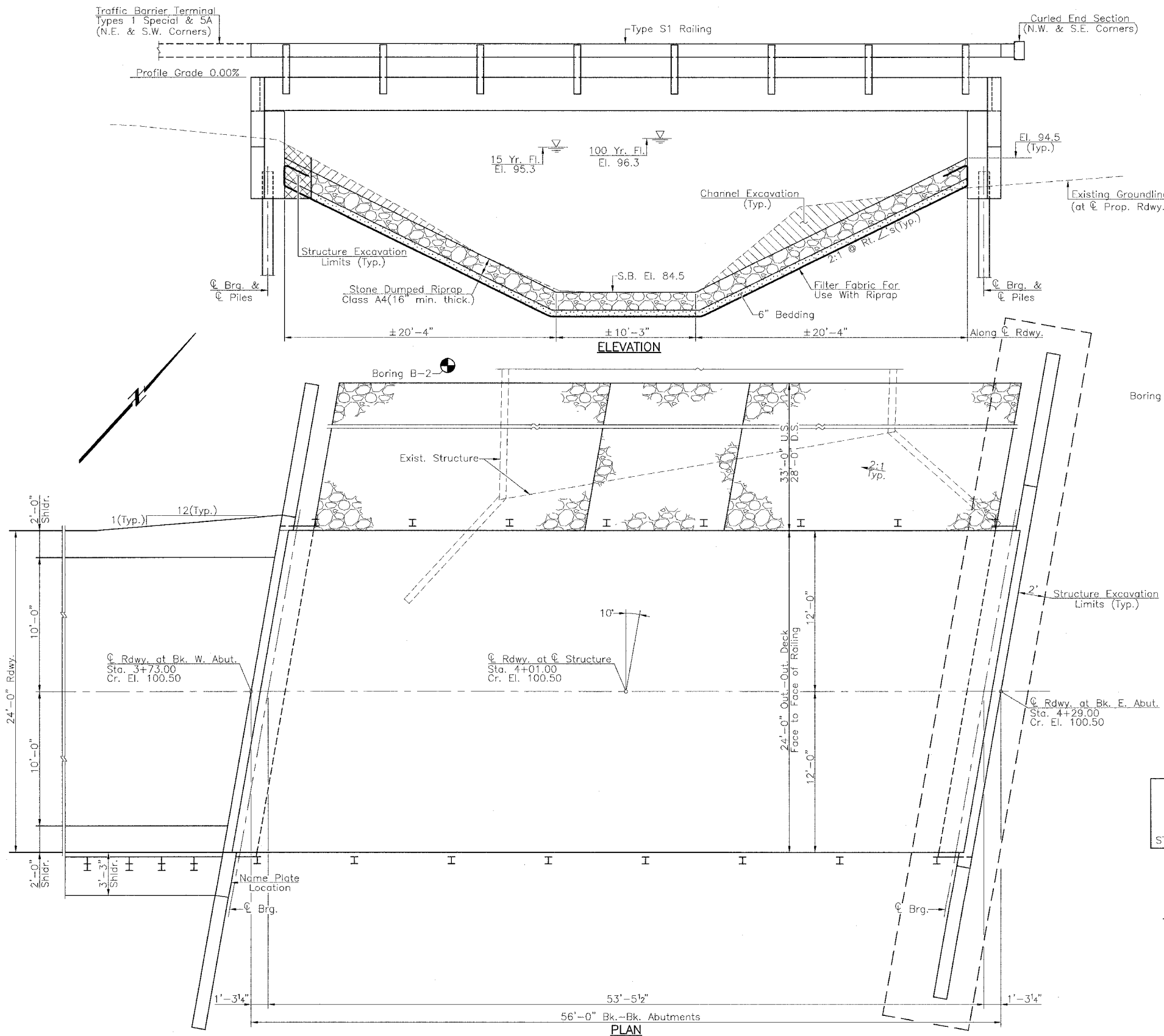
Allow 50#/sq. ft. for future wearing surface.



I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "A.A.S.H.T.O. Standard Specifications For Highway Bridges".

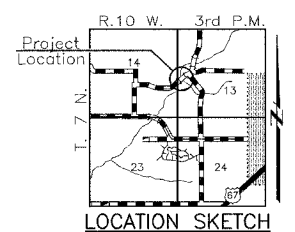
Mark A. Henderson 3/15/06
 Expiration Date 11/30/2006

GENERAL PLAN & ELEVATION
 I.R. 137 OVER PIASA CREEK
 SECTION 04-07118-00-BR
 JERSEY COUNTY

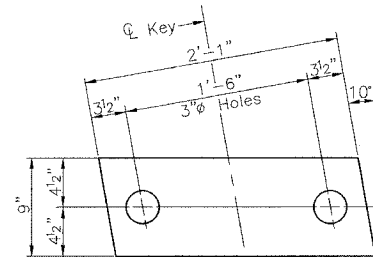


PIASA CREEK
 BUILT 200 BY
 JERSEY COUNTY
 SECTION 04-07118-00-BR
 STA. 4+01.00
 STR. NO. 042-3139 LOADING HS20

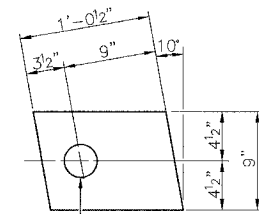
NAME PLATE
 (Standard 515001)



FILE NAME: JCI13706P (REV. 3/15/06)

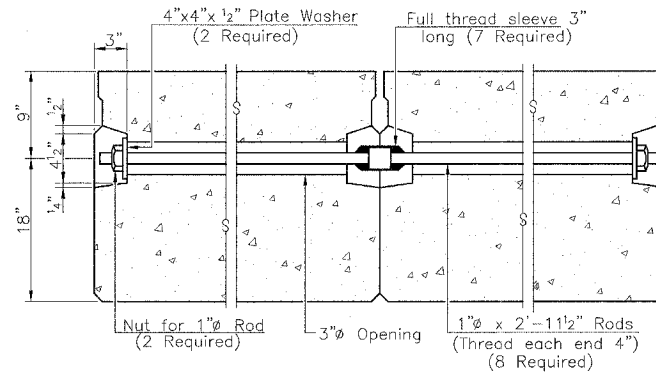


FABRIC BEARING PAD
Interior Wo
(12 Required)

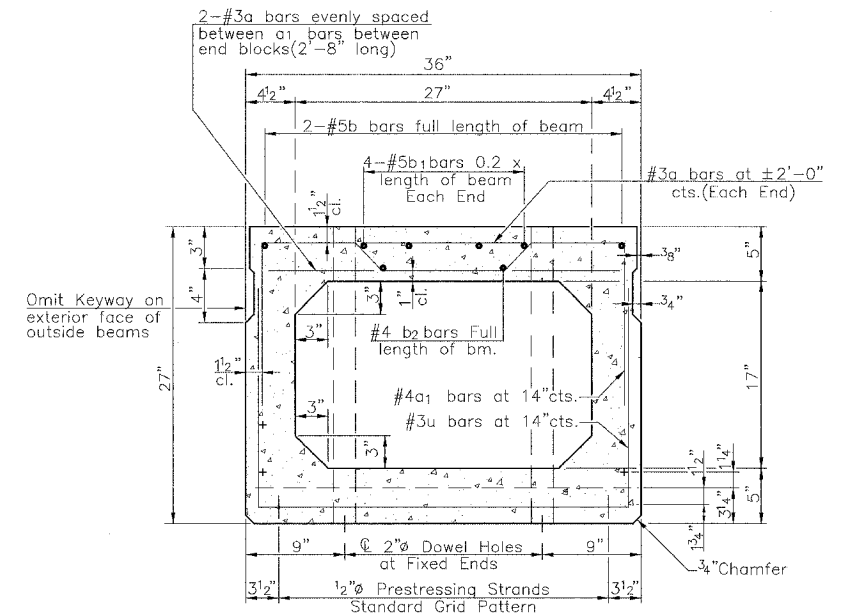


FABRIC BEARING PAD
Exterior W
(8 Required)

FIXED



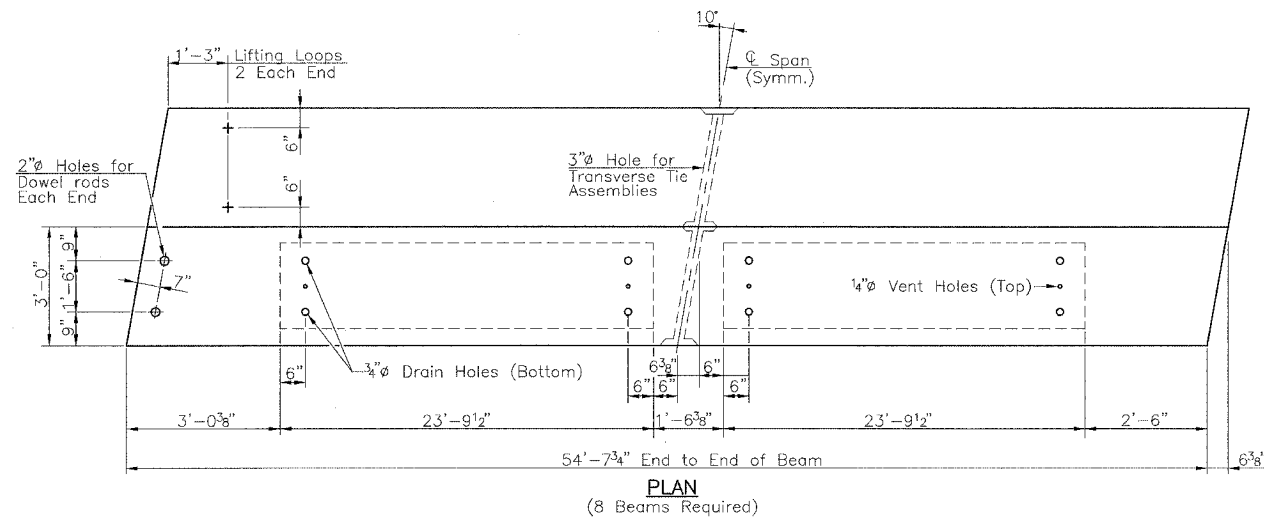
TYPICAL TRANSVERSE TIE ASSEMBLY



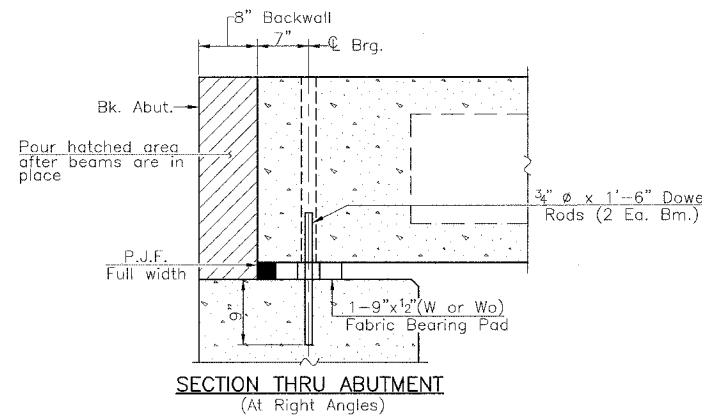
TYPICAL SECTION

13-1/2" Strands, Each Strand Stressed to 30,900 Lbs.
7-Strands 1 3/4" up, 4 Strands 3/4" up
2 Strands 4 1/2" up.

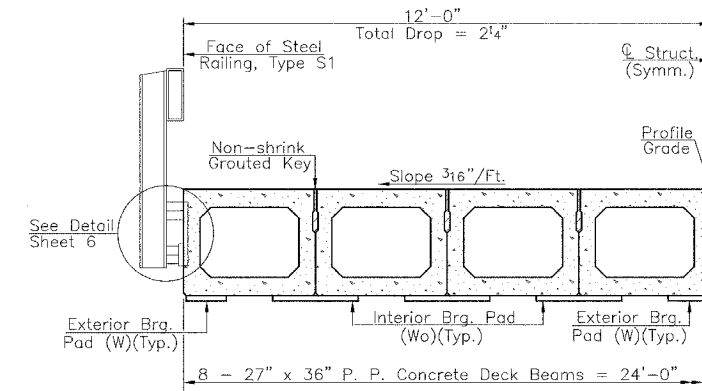
Note: Place strands symmetrically about center of beam



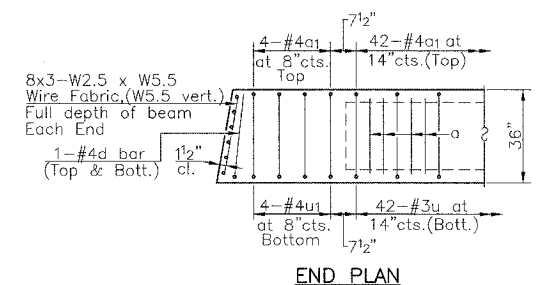
PLAN
(8 Beams Required)



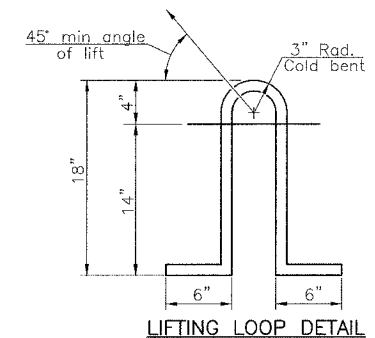
SECTION THRU ABUTMENT
(At Right Angles)



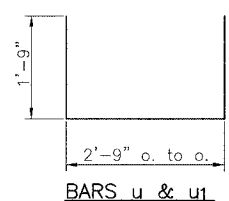
HALF CROSS SECTION



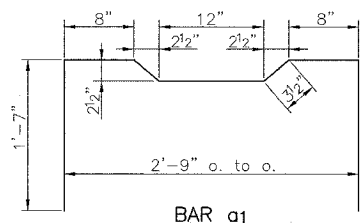
END PLAN



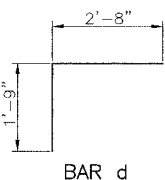
LIFTING LOOP DETAIL



BARS u & u1



BAR a1



BAR d

NOTES

Prestressing steel shall be uncoated high strength, low-relaxation 7-wire strand, Grade 270.
The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
Lifting loops shall be 2-1/2" diameter 270 ksi strands, as shown.
Non-prestressing steel shall conform to AASHTO M-31, M-42 or M-53, Grade 60.
The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.
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 top of the beams and the bottom edge of the key.
Required Release Strength, f'ci, shall be 4000 p.s.i.
The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.
Corrosion inhibitor, as covered in the Special Provisions, shall be used in the concrete for Precast Prestressed Concrete Deck beams.
Rail post anchor devices shall be cast into exterior face of outside beams as shown on Sheet No. 6.

BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
Precast Prestressed Concrete Deck Beams (27" Depth)			Sq. Ft.	1312

SUPERSTRUCTURE
T.R. 137 OVER PIASA CREEK
SECTION 04-07118-00-BR
JERSEY COUNTY

FILE NAME: JCI137BM (REV. 3/14/05)

NOTES

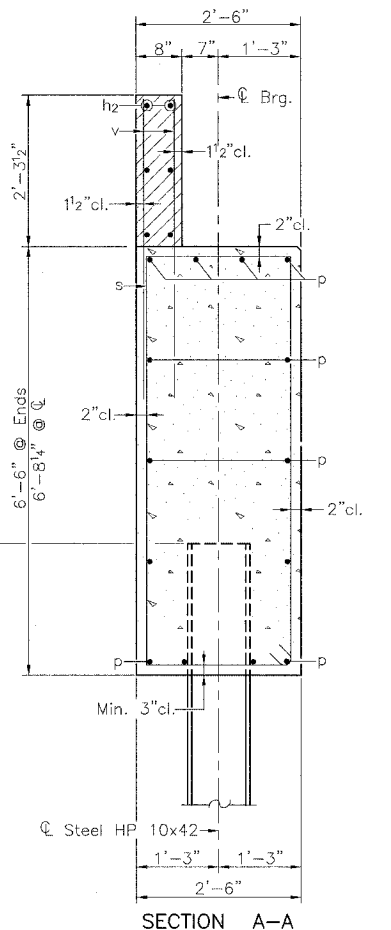
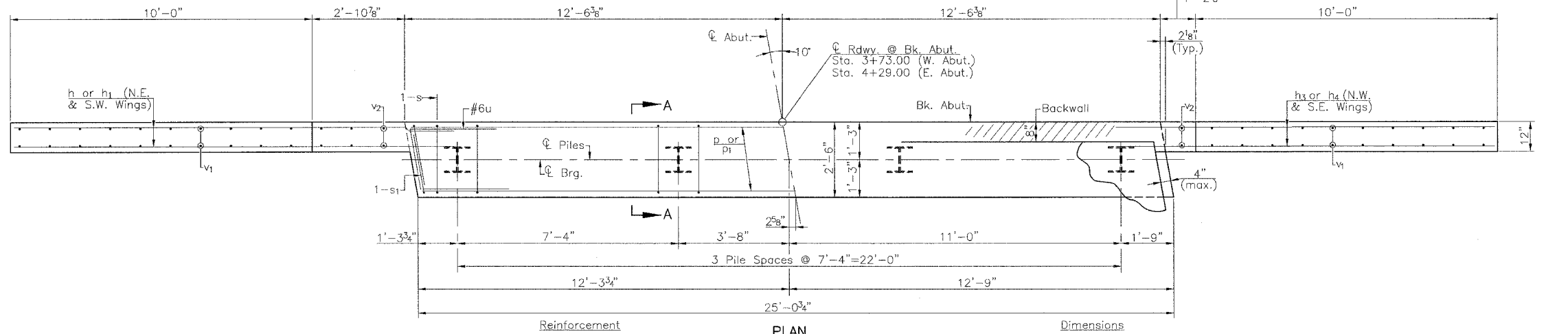
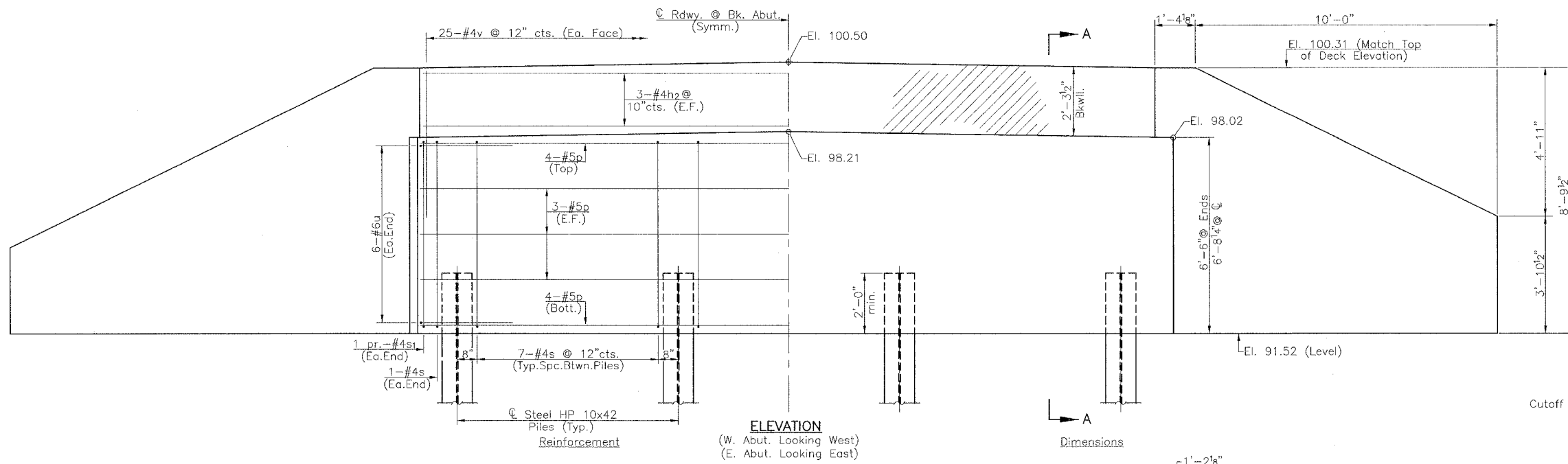
All exposed edges shall have standard 3/4" chamfer.
Space reinforcement in cap to miss beam anchor dowels.
Wingwalls and Backwalls may, at the contractor's option,
be cast monolithically.

PILE DATA

	W. Abut.	E. Abut.
Type:	Steel HP 10x42	Steel HP 10x42
Capacity:	Refusal	Refusal
Est. Length:	30'	34'
No. Req'd.:	4	3 + 1 Test Pile

Note: Hatched area and wingwalls shall
be poured after deck beams are
anchored in place. Quantity for Concrete
Structures is included in Bill of
Material, this sheet.

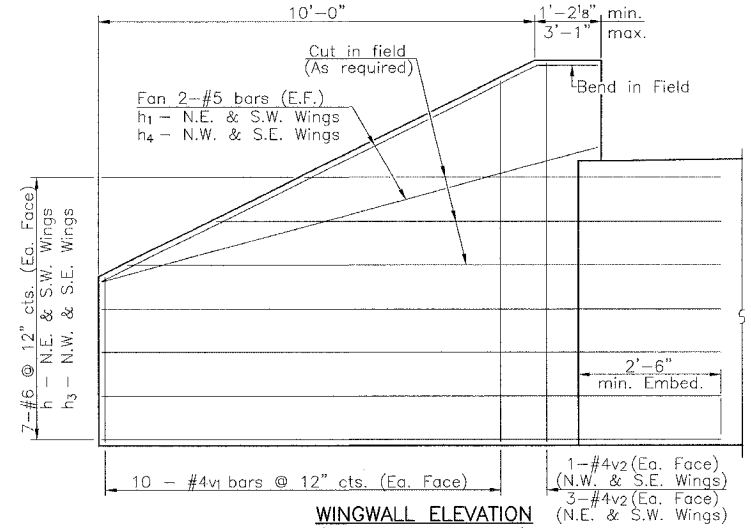
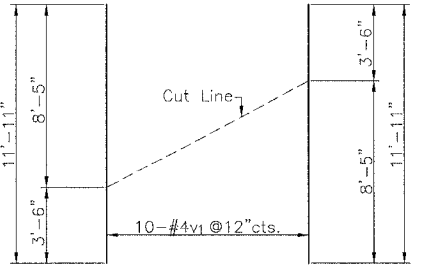
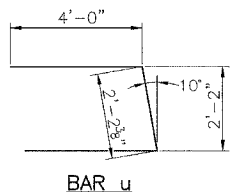
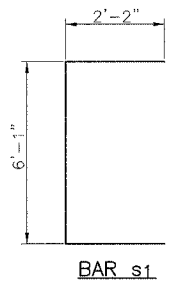
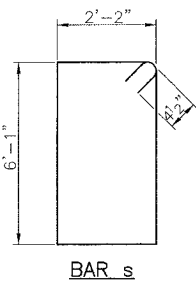
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 137	*	JERSEY	9	7
FEDERAL AID PROJECT BR05-083(038)				
* 04-07118-00-BR				
CONTRACT NO. 97277				



**TWO ABUTMENTS
BILL OF MATERIAL**

BAR	NO.	SIZE	LENGTH	SHAPE
h	28	#6	15'-6"	---
h1	8	#5	12'-7"	---
h2	12	#4	27'-0"	---
h3	28	#6	13'-8"	---
h4	8	#5	10'-10"	---
p	28	#5	24'-8"	---
s	46	#4	17'-3"	□
s1	8	#4	10'-5"	□
u	24	#6	10'-3"	□
v	100	#4	3'-9"	---
v1	40	#4	11'-11"	---
v2	16	#4	8'-5"	---
Concrete Structures		Cu. Yd.	45.5	
Reinforcement Bars		Pound	3970	
Furnishing Steel Piles HP10x42		Foot	222	
Driving Steel Piles		Foot	222	
Test Pile, Steel HP10x42		Each	1	
Structure Excavation		Cu. Yd.	67	

**ABUTMENTS
I.R. 137 OVER PIASA CREEK
SECTION 04-07118-00-BR
JERSEY COUNTY**



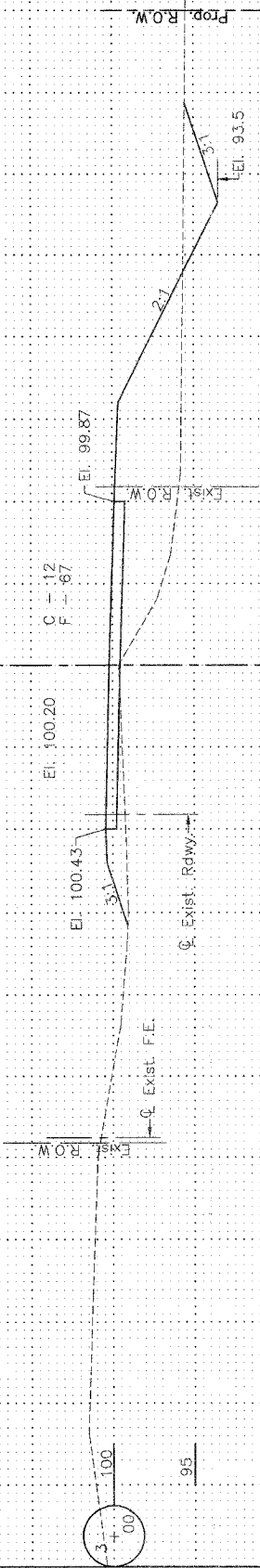
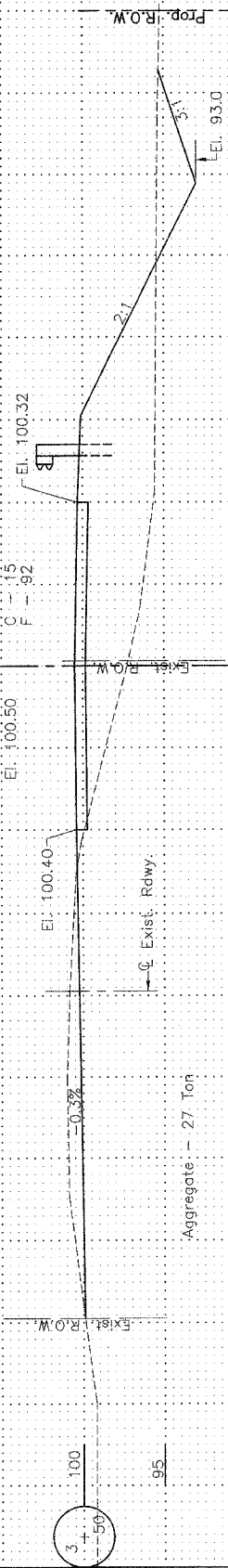
**WINGWALL ELEVATION
(Showing Reinforcement)
* See v1-bar cut diagram**

FILE NAME: JC137AB (REV. 3/7/5/06)

FILE NAME: 041018 BR 04-00

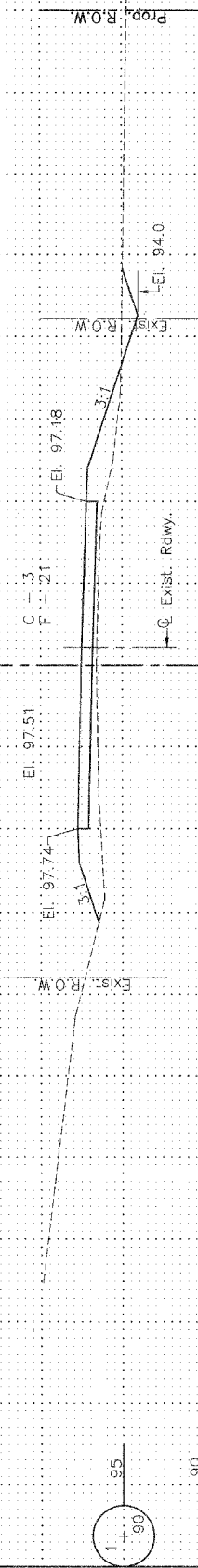
Bk. W. Abut. - Sta. 3+73
End Superlevation - Sta. 3+58.81

I.E. Lt. - Sta. 3+50

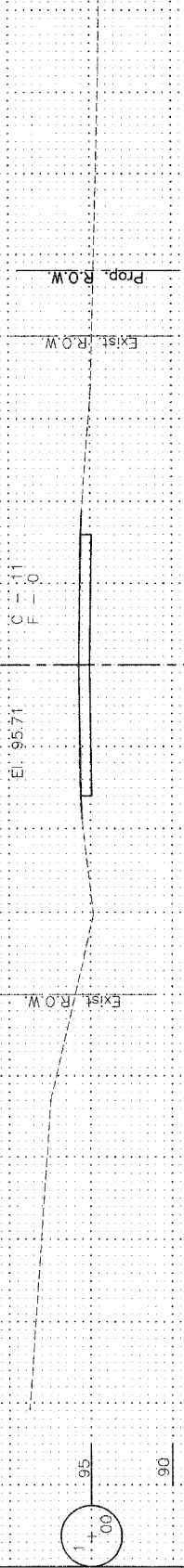


Begin Traffic Barrier Terminal Type 1
Special (Tangent) - Sta. 2+89.5 Rt.

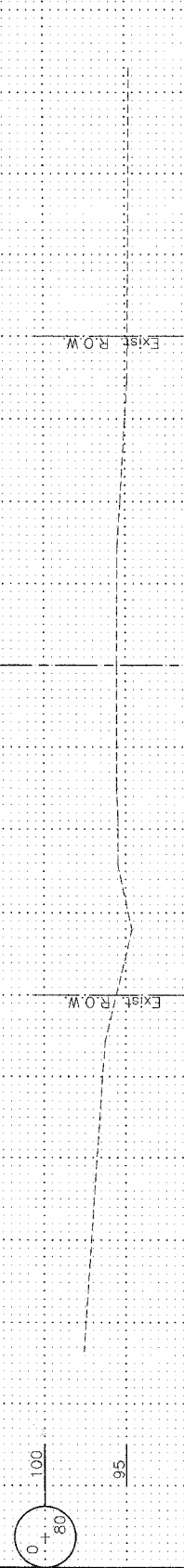
Begin Shoulder Widening - Sta. 2+55.5 Rt.



Begin Superlevation - Sta. 1+31.00



PROJECT BEGINS - Sta. 0+80



CROSS SECTIONS
I.R. 137 OVER PIASA CREEK
SECTION 04-07118-00-BR
JERSEY COUNTY

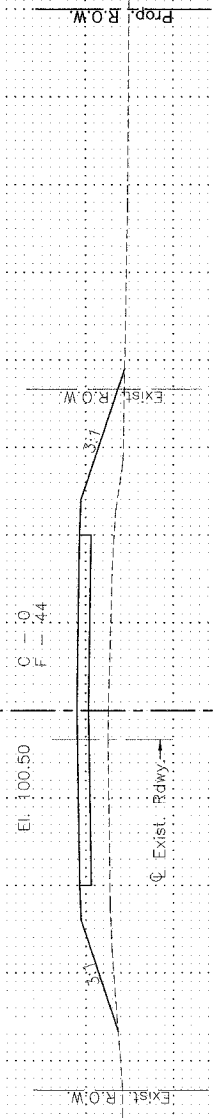
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 137	*	JERSEY	9	8
FEDERAL AID PROJECT BROS-083(038)				
* 04-07118-00-BR				
CONTRACT NO. 97277				

50 40 30 20 10 0 10 20 30 40 50

FILE NAME: C:\P137\137-00-BR\97277.dwg

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R.137	*	JERSEY	9	9
FEDERAL AID PROJECT BROS-083(038)				
* 04-07118-00-BR				
CONTRACT NO. 97277				

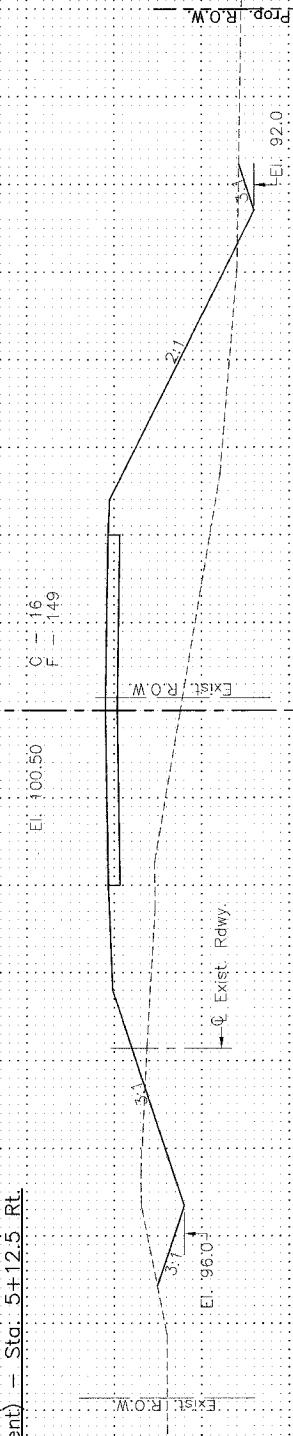
PROJECT ENDS - Sta. 6+40



6+00
+00
95
90

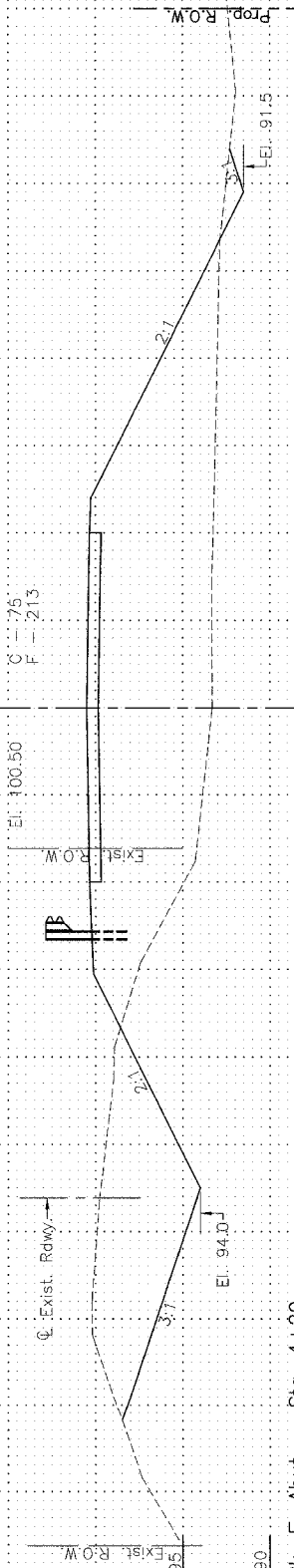
End Shoulder Widening - Sta. 5+46.5 Rt.

End Traffic Barrier Terminal Type 1
Special (Tangent) - Sta. 5+12.5 Rt.



5+00
+00
95
90

Blk. E. Abut. - Sta. 4+29



4+00
+00
95
90

CROSS SECTIONS
T.R. 137 OVER PIASA CREEK
SECTION 04-07118-00-BR
JERSEY COUNTY

50
40
30
20
10
0
10
20
30
40
50