

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**PLANS FOR PROPOSED
STP-BRIDGE**

**CH 21 BRIDGE OVER EVANS CREEK
SECTION 13-00125-00-BR
PROJECT NO. BROS-0191(068)
WAYNE COUNTY
JOB NO. C-97-050-14**

INDEX OF SHEETS

1. COVER SHEET
2. SUMMARY OF QUANTITIES, GENERAL NOTES, AND TYPICAL SECTIONS
3. PLAN AND PROFILE OF ROADWAY
4. GENERAL PLAN AND ELEVATION
- 5.-6. PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
7. STEEL RAILING, TYPE S1 DETAILS
8. ABUTMENT DETAILS
9. HP PILE DETAILS
10. CROSS SECTIONS OF ROADWAY

HIGHWAY STANDARDS

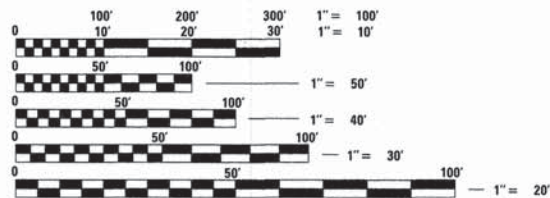
- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 515001-03 NAME PLATE FOR BRIDGES
- 630301-06 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 701901-03 TRAFFIC CONTROL DEVICES
- BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- BLR 27-1 TRAFFIC BARRIER TERMINAL TYPE 5A

SOIL BORINGS (SEE SPECIFICATIONS)

DESIGN CLASSIFICATION: RURAL LOCAL ROAD

ADT₂₀₁₄ : 350
ADT₂₀₃₄ : 400

DESIGN SPEED: 40 MPH

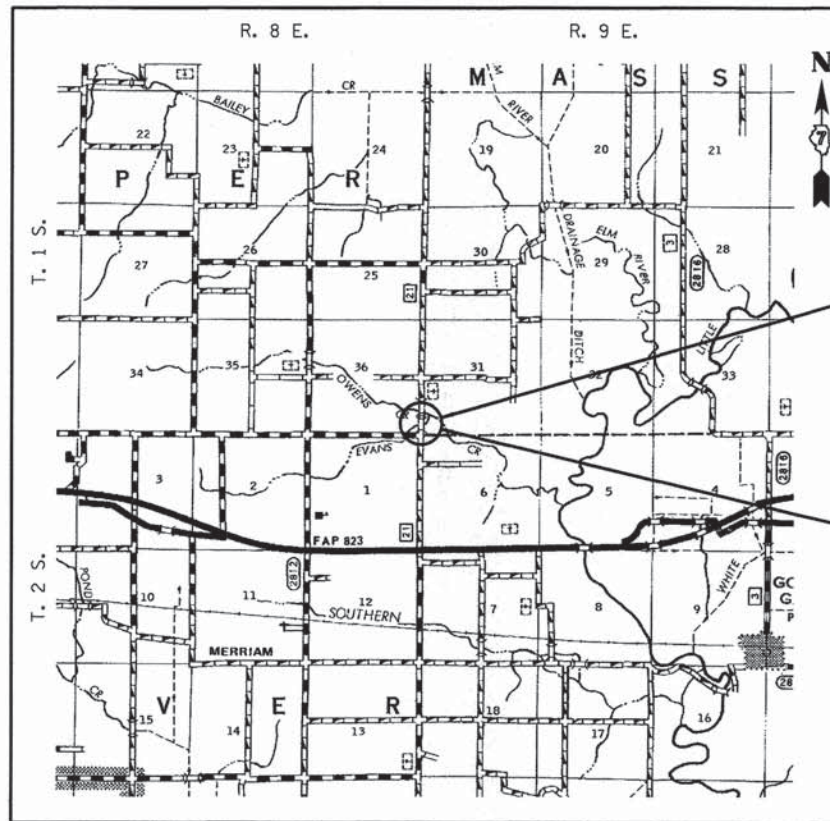


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES, REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES, IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS
1-800-892-0123 or 811 Website: <http://www.illinois1call.com>



Brent L. Taylor 8/15/2014
BRENT L. TAYLOR
CENTRALIA, ILLINOIS
ILLINOIS LICENSED PROFESSIONAL
ENGINEER NO. 062-066114
EXPIRES NOV. 30, 2015

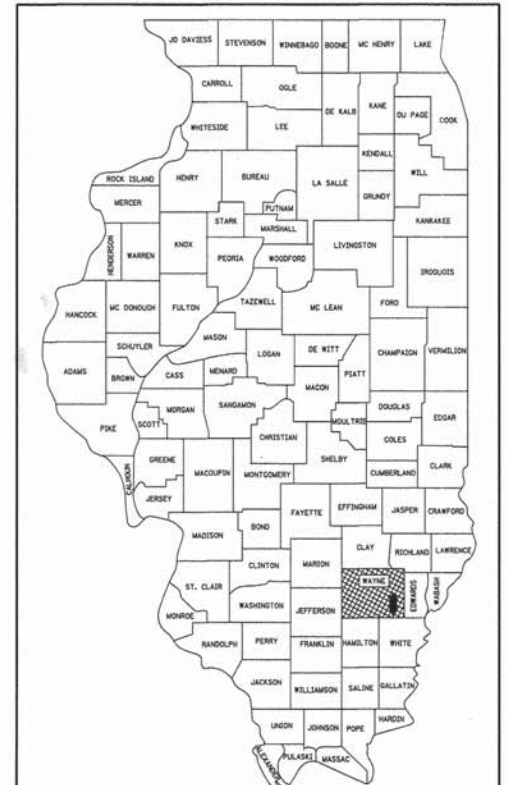


SECTION ENDS
STA. 58+20.73

SECTION 13-00125-00-BR INCLUDES THE CONSTRUCTION OF A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE CARRYING CH 21 OVER EVANS CREEK, 55'-5 7/8" BK. TO BK. ABUTMENTS X 28' WIDE, 25° AHEAD RIGHT SKEW. EXISTING STRUCTURE NO. 096-3042 PROPOSED STRUCTURE NO. 096-3460

SECTION BEGINS
STA. 53+55.29

LOCATION: NEAR THE SW CORNER OF SECTION 31, T1S, R9E, 3RD P.M.
NET LENGTH OF PROJECT: 465.44 FT. = 0.088 MI.



LOCATION OF SECTION INDICATED THIS: - [Symbol] -

WAYNE COUNTY
HIGHWAY DEPARTMENT

APPROVED August 15, 2014
John S. Savel
WAYNE COUNTY, COUNTY ENGINEER

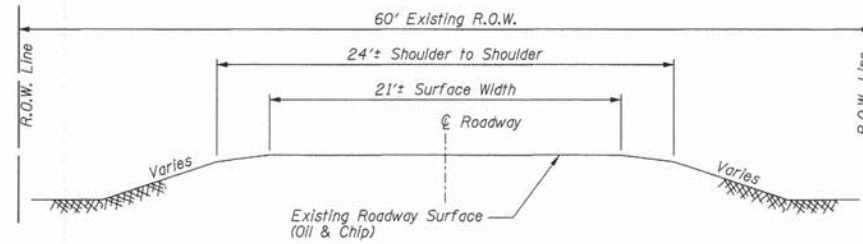
PASSED August 28, 2014
Maurice Faust
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID
BASED ON LIMITED
REVIEW August 28, 2014
Roger D. Dushell
DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER

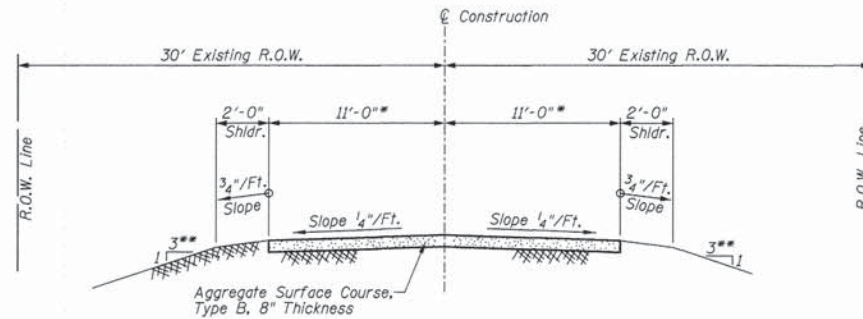
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OF THE STATE OF ILLINOIS**

CONTRACT NO. 95746

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 21	13-00125-00-BR	WAYNE	10	1
CONTRACT NO. 95746				
RAAI JOB NO. 52613		ILLINOIS FED. AID PROJECT		



**TYPICAL SECTION
EXISTING APPROACH ROADWAY**



**TYPICAL SECTION
PROPOSED APPROACH ROADWAY**

Sta. 53+55.29 to Sta. 55+05.26
Sta. 55+60.73 to Sta. 58+20.73
* Varies in Transitions
** See Cross Sections

GENERAL NOTES

- This section shall be constructed according to the plans, the Special Provisions, and the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2012.
- Any reference to a Standard in these plans shall be interpreted to mean the edition as indicated by the sub-number listed in the Index of Sheets or the copy of the Standard included in these plans.
- Roadway Centerline profiles refer to the finished surface.
- Existing utilities shown are located from surface observations or information provided by the respective utilities and must be considered approximate. There may be others, the exact location of which are unknown and not shown. The Contractor will be responsible for notifying the respective utilities before work is begun. Field marking of underground utilities may be obtained by providing a minimum of 48 hours advance notice through the J.U.L.I.E. system by calling 1-800-892-0123, 811, or by direct contact with non-members of J.U.L.I.E.
- The Aggregate Surface Course, Type B gradation shall be CA 6 or CA 10. Only crushed stone will be approved for use on this project.
- The nominal thickness for surface course is shown on the Typical Sections, Standards, Schedules, or Special Details. The constructed thickness of the above item shall not be less than 90 percent of the nominal thickness at any location.
- Factors used for quantity calculations are as follows:
Porous Granular Embankment 2.1 tons/cu. yd.
Stone Dumped Riprap 130 pounds/cu. ft.
Aggregate Surface Course 2.1 tons/cu. yd.
- Commitments: None as of June 30, 2014.

SUMMARY OF QUANTITIES

Code No.	Item	Unit	Quantity
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	32
20200100	EARTH EXCAVATION	CU YD	22
20300100	CHANNEL EXCAVATION	CU YD	290
20400800	FURNISHED EXCAVATION	CU YD	617
20700110	POROUS GRANULAR EMBANKMENT	TON	122
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	162
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	470
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	29.6
50300280	CONCRETE ENCASEMENT	CU YD	3.6
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1512
50800105	REINFORCEMENT BARS	POUND	4340
* 50900205	STEEL RAILING, TYPE S1	FOOT	112
51201600	FURNISHING STEEL PILES HP12X53	FOOT	387
51202305	DRIVING PILES	FOOT	387
51203600	TEST PILE STEEL HP12X53	EACH	1
51500100	NAME PLATES	EACH	1
* 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
67100100	MOBILIZATION	L SUM	1
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.3

* Specialty Item

UTILITIES

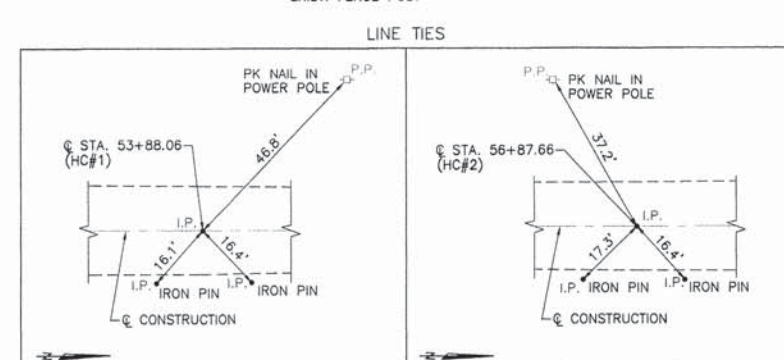
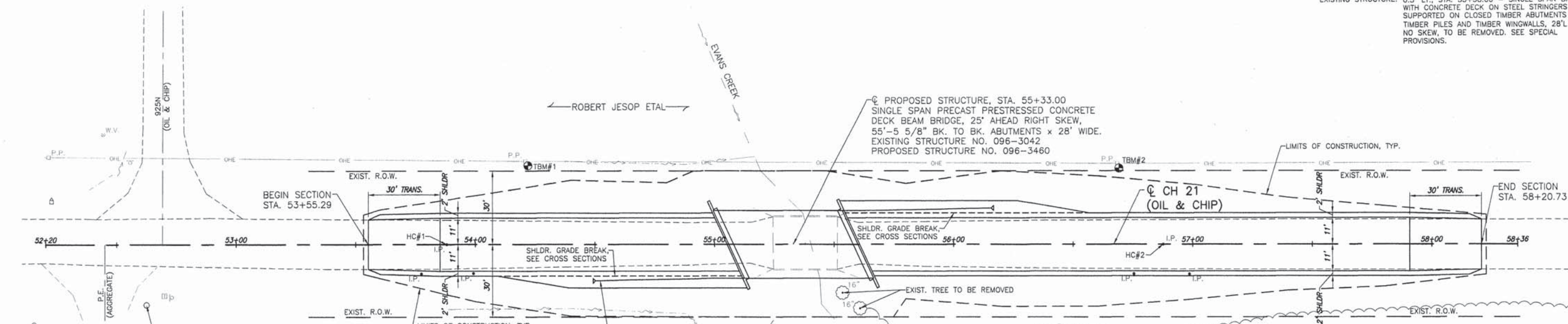
J.U.L.I.E.: Design Phase Locate
Dig No.: X1990649

Electric: Wayne White Electric Coop.
1501 West Main Street
Fairfield, IL 62837
Erin Halley, Engineer
Phone: 618-842-2196

Water: Jasper Water Works Corp.
115 NE 3rd Street
Fairfield, IL 62837
Phone: 618-842-2666
Bill Young, Operator
Phone: 618-842-2918

Telephone: Frontier Communications
200 West Cherry Street
Carmi, IL 62821
James Clark
Phone: 618-382-2887

EXISTING STRUCTURE: 0.5' LT., STA. 55+38.00 - SINGLE SPAN BRIDGE WITH CONCRETE DECK ON STEEL STRINGERS SUPPORTED ON CLOSED TIMBER ABUTMENTS WITH TIMBER PILES AND TIMBER WINGWALLS, 28'L x 23'W, NO SKEW, TO BE REMOVED. SEE SPECIAL PROVISIONS.



TRAFFIC BARRIER TERMINAL, TYPE 5A AND TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT (TYP. NW & SE APPROACH CORNERS)

EARTHWORK SCHEDULE				
LOCATION	EARTH EXCAVATION CU. YD.	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE* CU. YD.	EMBANKMENT CU. YD.	EARTHWORK BALANCE** WASTE (+) OR SHORTAGE (-) CU. YD.
STA. 53+55.29 TO STA. 55+05.26	9	7	187	-180
STA. 55+60.73 TO STA. 58+20.73	13	9	446	-437
TOTAL	22	16	633	-617

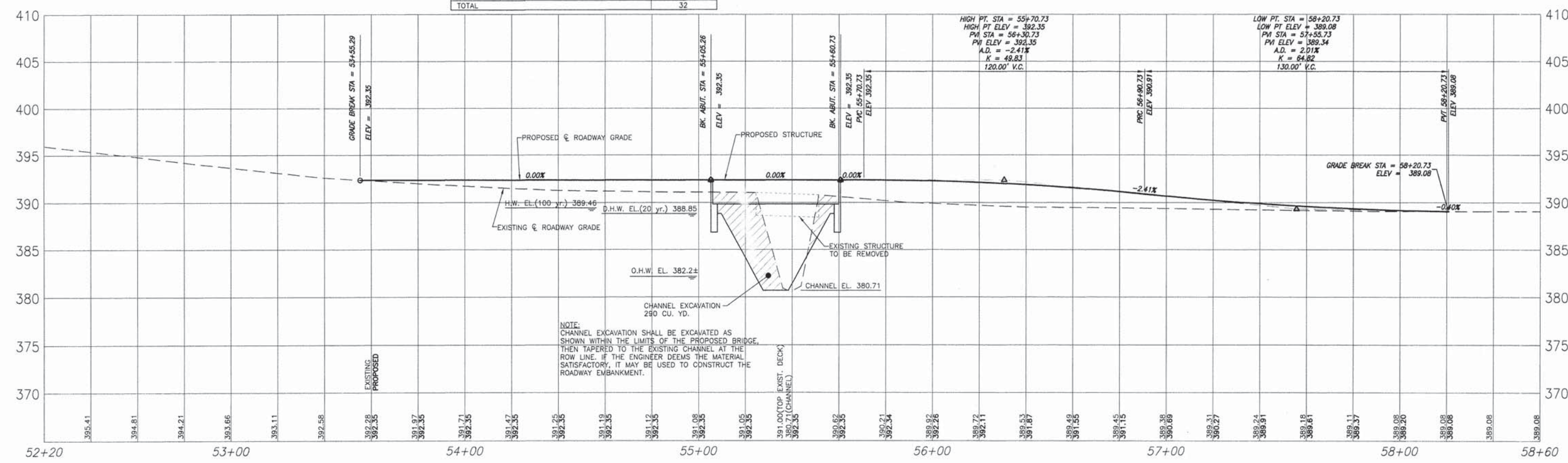
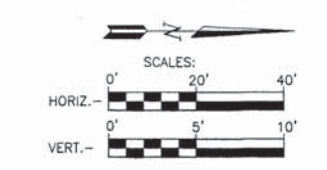
*25% SHRINKAGE **FURNISHED EXCAV. (SEE CHANNEL EXCAV. NOTE BELOW)

TREE REMOVAL (OVER 15 UNITS DIAMETER)	
LOCATION	UNIT
STA. 55+54, 20' RT.	16
STA. 55+61, 26' RT.	16
TOTAL	32

THE EXISTING RIGHT OF WAY SHOWN HEREON HAS BEEN PROTRACTED FROM EXISTING RECORDS AND IS TO BE USED FOR REFERENCE PURPOSES ONLY. FURTHERMORE, NO COMPLETE SURVEY OF SAID R.O.W. IS IMPLIED BY THIS DRAWING.

HORIZONTAL CONTROL COORDINATES			
POINT	LOCATION	N. COOR.	E. COOR.
HC#1(IRON PIN)	STA. 53+88.06	4929.66	5007.86
HC#2(IRON PIN)	STA. 56+87.66	5229.26	5008.40

BENCH MARK COORDINATES		
POINT	LOCATION	ELEV.
TBM#1(R.R. SPIKE IN POWER POLE)	32.3' LT., STA. 54+21.9	388.19
TBM#2(R.R. SPIKE IN POWER POLE)	31.1' LT., STA. 56+69.1	386.70



NOTE: CHANNEL EXCAVATION SHALL BE EXCAVATED AS SHOWN WITHIN THE LIMITS OF THE PROPOSED BRIDGE, THEN TAPERED TO THE EXISTING CHANNEL AT THE ROW LINE. IF THE ENGINEER DEEMS THE MATERIAL SATISFACTORY, IT MAY BE USED TO CONSTRUCT THE ROADWAY EMBANKMENT.

RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED - BLT	REVISED -
DRAWN - JSD/BLT	REVISED -
CHECKED - GLH	REVISED -
DATE - 08/15/2014	REVISED -

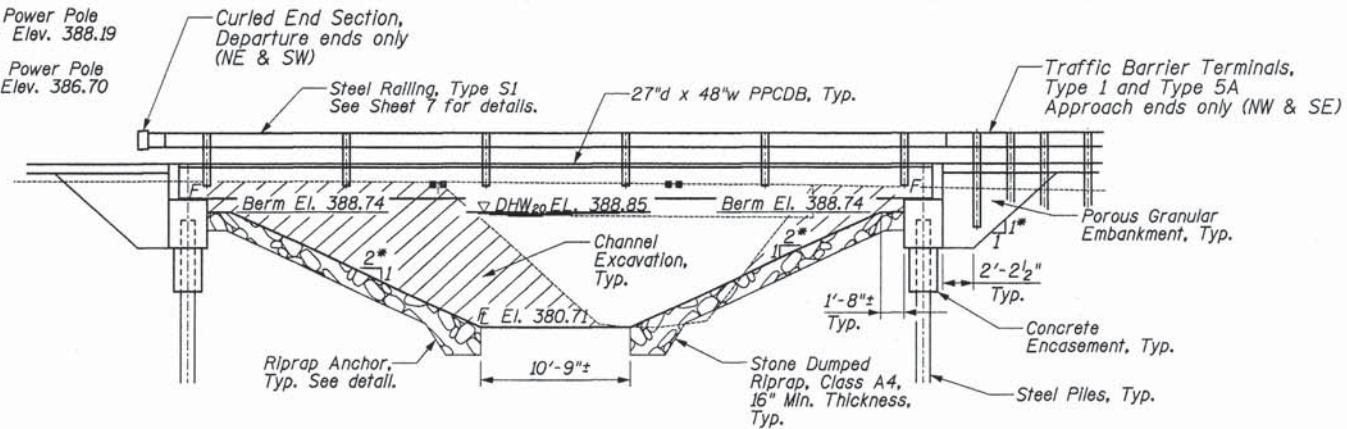
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF ROADWAY
STRUCTURE NO. 096-3460
STA. 52+20 TO STA. 58+60

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 21	13-00125-00-BR	WAYNE	10	3

CONTRACT NO. 95746
RAAT JOB NO. 52613 ILLINOIS FED. AID PROJECT

T.B.M. #1 - RR Spike In Power Pole
32.3' Lt., Sta. 54+21.9 - Elev. 388.19
T.B.M. #2 - RR Spike In Power Pole
31.1' Lt., Sta. 56+69.1 - Elev. 386.70



SOUTH ABUTMENT **ELEVATION** **NORTH ABUTMENT**
*Normal to Channel

Existing Structure: 0.5' Lt., Sta. 55+38.00 - Single span bridge with concrete deck on steel stringers supported on closed timber abutments with timber piles and timber wingwalls. 28' L x 23' W. No skew. To be removed. See Special Provisions.

LOADING HL-93

50#/sq. ft. included in dead load for future wearing surface.

DESIGN SPECIFICATIONS

2010 (5th Ed.) AASHTO LRFD Bridge Design Specifications

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_{cl} = 5,000$ psi

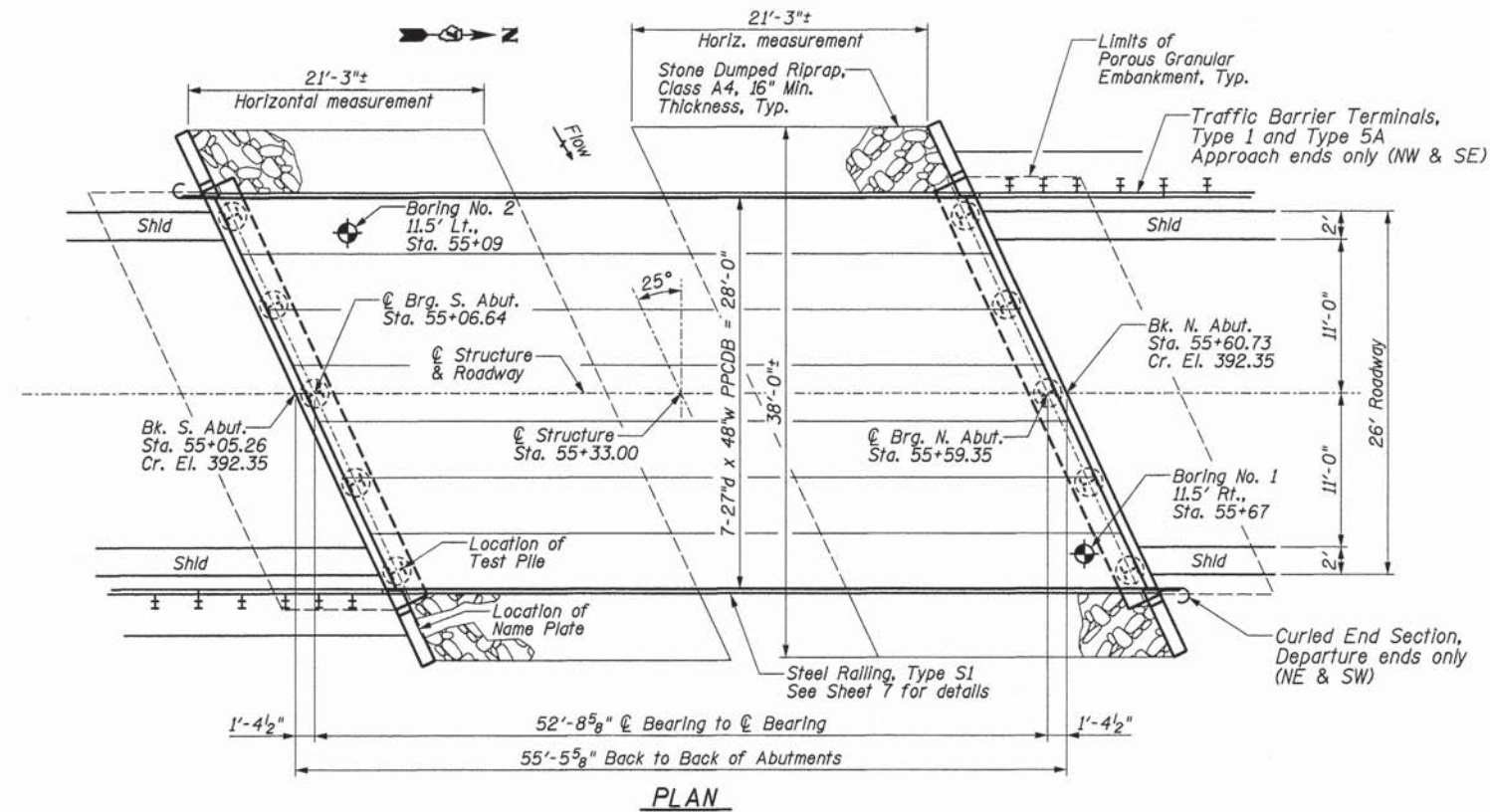
$f_{pu} = 270,000$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f_{pbt} = 201,960$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f_y = 60,000$ psi (reinforcement)

SEISMIC DATA

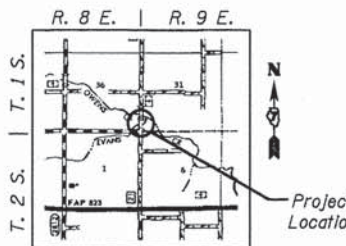
Seismic Performance Zone (SPZ) = 3
Soil Site Classification = E
 $S_{D1} = 0.412$ $S_{D5} = 0.844$

BILL OF MATERIALS (BRIDGE ONLY)

ITEM	UNIT	TOTAL
Channel Excavation	Cu Yd	290
Porous Granular Embankment	Ton	122
Stone Dumped Riprap, Class A4	Ton	162
Removal of Existing Structures	Each	1
Concrete Structures	Cu Yd	29.6
Concrete Encasement	Cu Yd	3.6
PPCDB (27" Depth)	Sq Ft	1512
Reinforcement Bars	Pound	4340
Steel Railing, Type S1	Foot	112
Furnishing Steel Piles HP12x53	Foot	387
Driving Piles	Foot	387
Test Pile Steel HP12x53	Each	1
Name Plates	Each	1



PLAN



LOCATION SKETCH

GENERAL NOTES

Channel Excavation shall be excavated as shown within the limits of the proposed bridge, then tapered to the existing channel at the R.O.W. line. If the Engineer deems the material satisfactory, it may be used to construct the roadway embankment.

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

See Section 502 of the Standard Specifications for Structural Excavation.

See Special Provisions for Soil Borings.

Do not scale these drawings.

The abutment bearing seat surfaces for the precast prestressed concrete deck beams shall be adjusted by shimming to assure firm and even bearing. As required, $\frac{1}{8}$ " fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

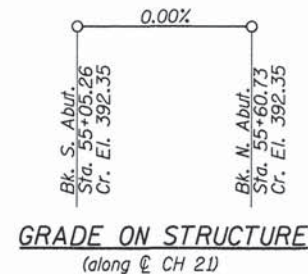


RIPRAP ANCHOR DETAIL

WATERWAY INFORMATION

Drainage Area = 1.89 sq. mi. Existing Low Grade Elev. 389.08 @ Sta. 58+20.00
Proposed Low Grade Elev. 389.08 @ Sta. 58+20.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.			Headwater El.	
			Exlst.	Prop.	H.W.E.	Exlst.	Prop.	Exlst.	Prop.
Design	20	1050	104	212	388.85	1.18	0.41	390.03	389.26
Base	100	1650	104	240	389.46	1.19	0.84	390.65	390.30
Max. Calc.	500	2290	104	240	389.99	0.99	1.32	390.98	391.31



GRADE ON STRUCTURE
(along ϕ CH 21)

I certify that to the best of 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 AASHTO Standard Specifications for Highway Bridges.



William D. Lueking
William D. Lueking
8/15/2014
Date of Signing
11/30/2014
Date of License Expiration

STATION 55+33.00
BUILT 201_ BY
WAYNE COUNTY
CH 21 SEC. 13-00125-00-BR
LOADING HL-93
STRUCTURE NO. 096-3460

NAME PLATE
See Std. 515001

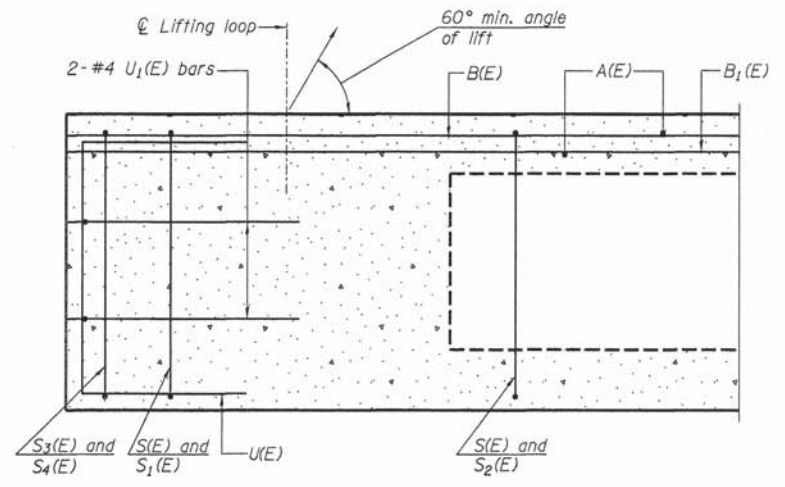
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CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS
ILLINOIS DESIGN FIRM LICENSE NO. 164-000287

DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - WDL/GLH	REVISED -
DATE - 08/15/2014	REVISED -

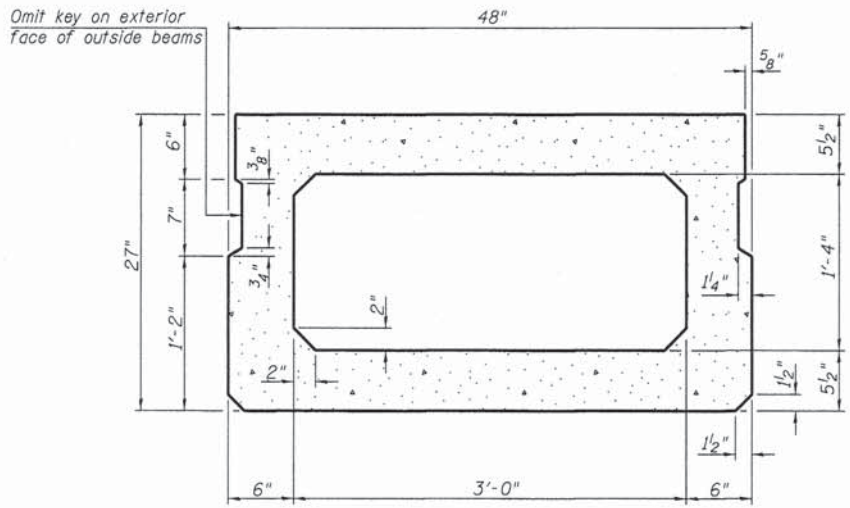
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 096-3460

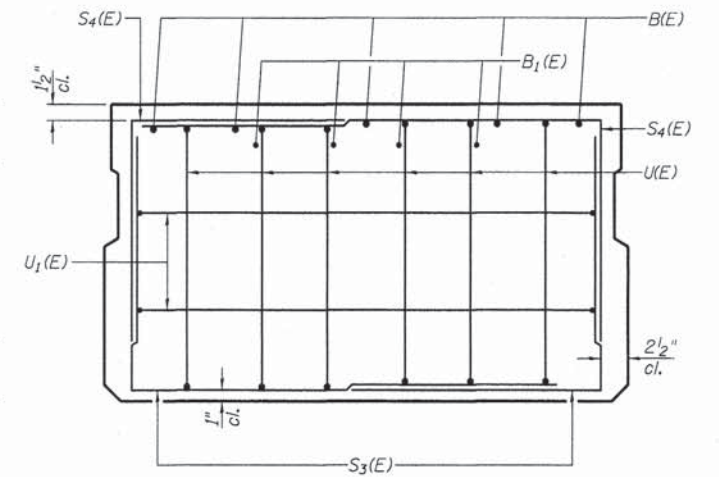
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 21	13-00125-00-BR	WAYNE	10	4
CONTRACT NO. 95746				
RAAI JOB NO. 52613 ILLINOIS FED. AID PROJECT				



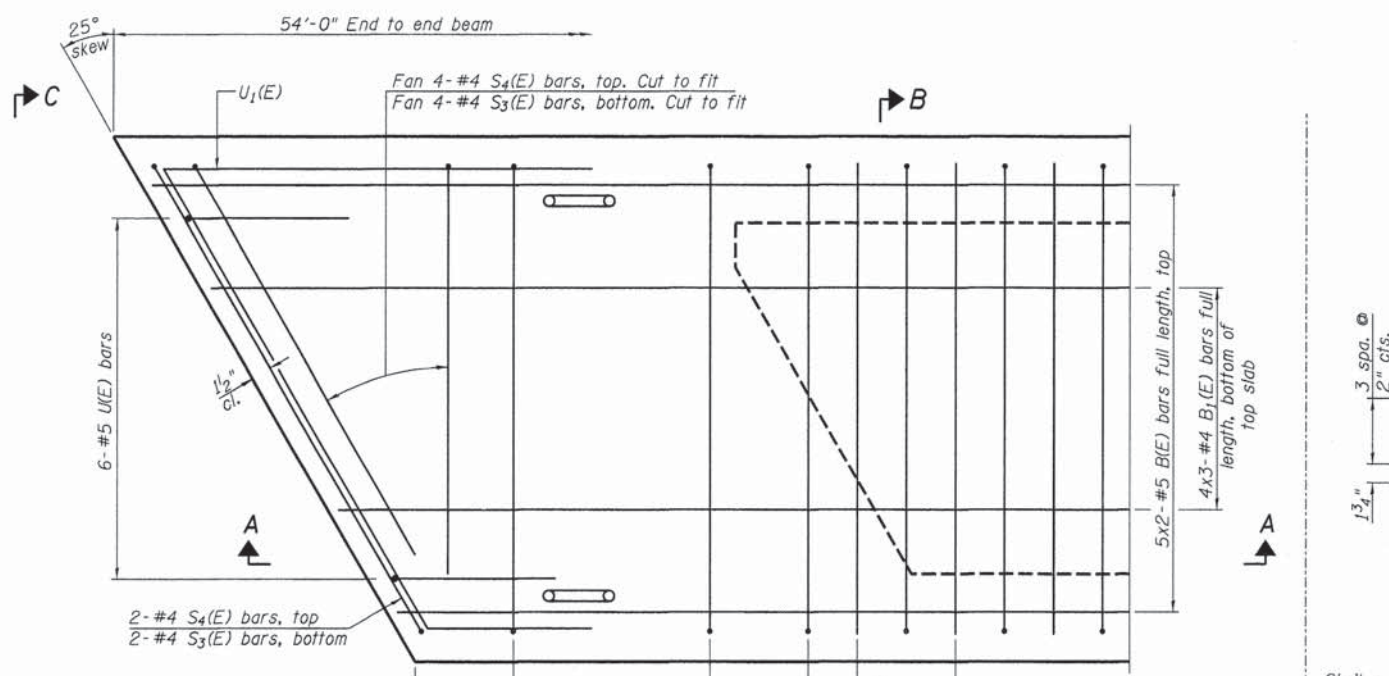
SECTION A-A



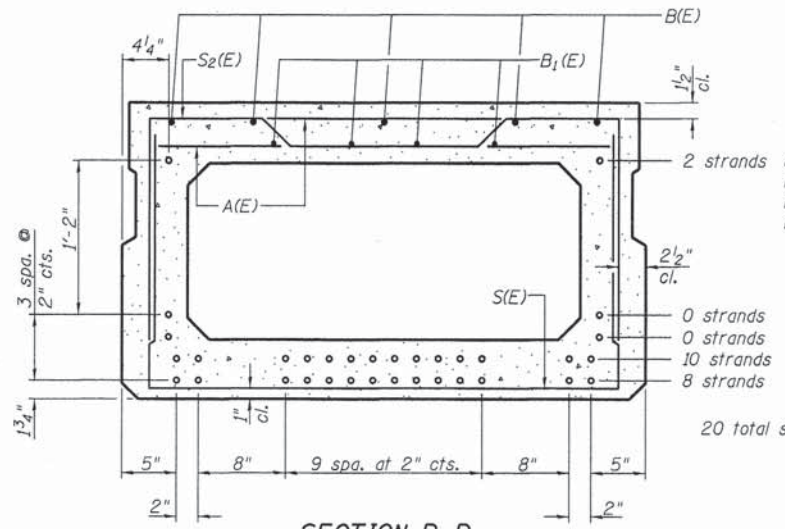
SECTION B-B
(Showing dimensions)



VIEW C-C

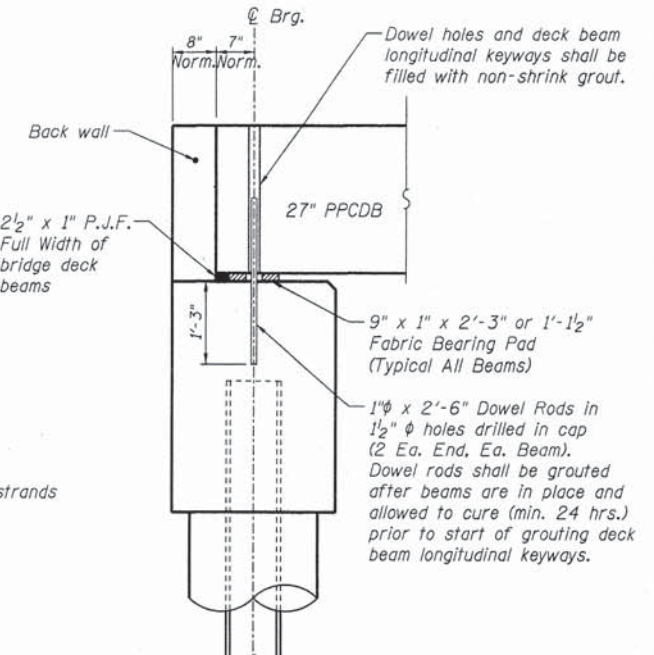


PLAN VIEW



SECTION B-B
(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.



FIXED BEARING ABUTMENT
(Normal to C-C)

BAR LIST
ONE BEAM ONLY
(For information only)

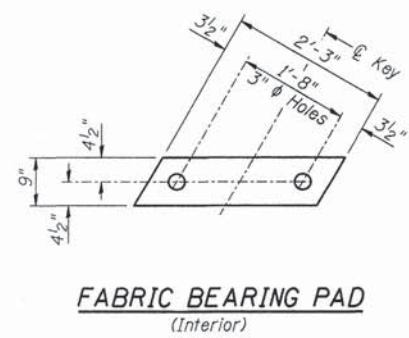
Bar	No.	Size	Length	Shape
A(E)	48	#4	3'-7"	—
B(E)	10	#5	28'-1"	—
B1(E)	12	#4	19'-3"	—
S(E)	71	#4	7'-5"	U
S1(E)	8	#4	6'-11"	U
S2(E)	63	#4	7'-2"	U
S3(E)	12	#4	5'-3"	U
S4(E)	12	#4	5'-0"	U
U(E)	12	#5	4'-6"	U
U1(E)	4	#4	8'-0"	U

Note: See Sheet 6 for additional details and Bill of Material.

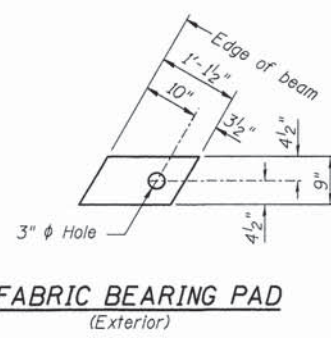
Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

MINIMUM BAR LAP
#4 bar = 2'-0"
#5 bar = 2'-6"

Bars indicated thus: 4x3-#5 etc. indicates 4 lines of bars with 3 lengths per line.



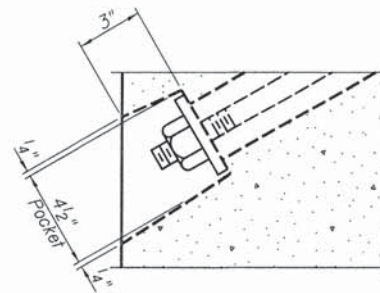
FABRIC BEARING PAD
(Interior)



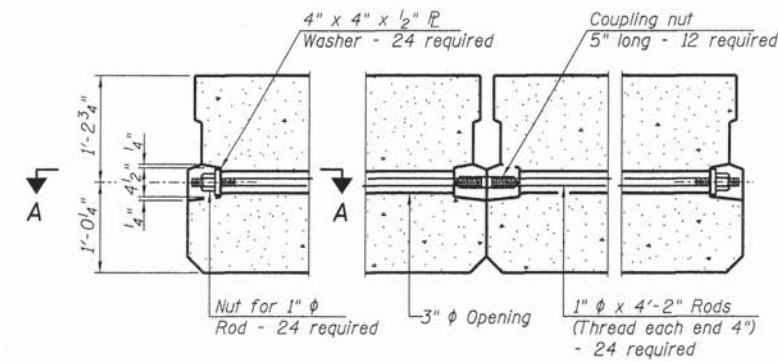
FABRIC BEARING PAD
(Exterior)

FIXED

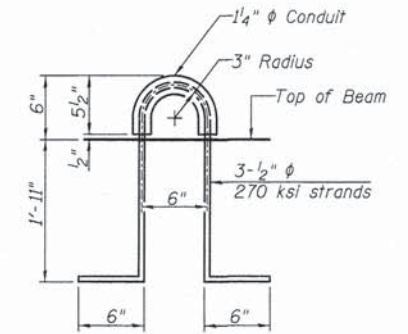
Notes: All bearing pads shall be 1" thick.



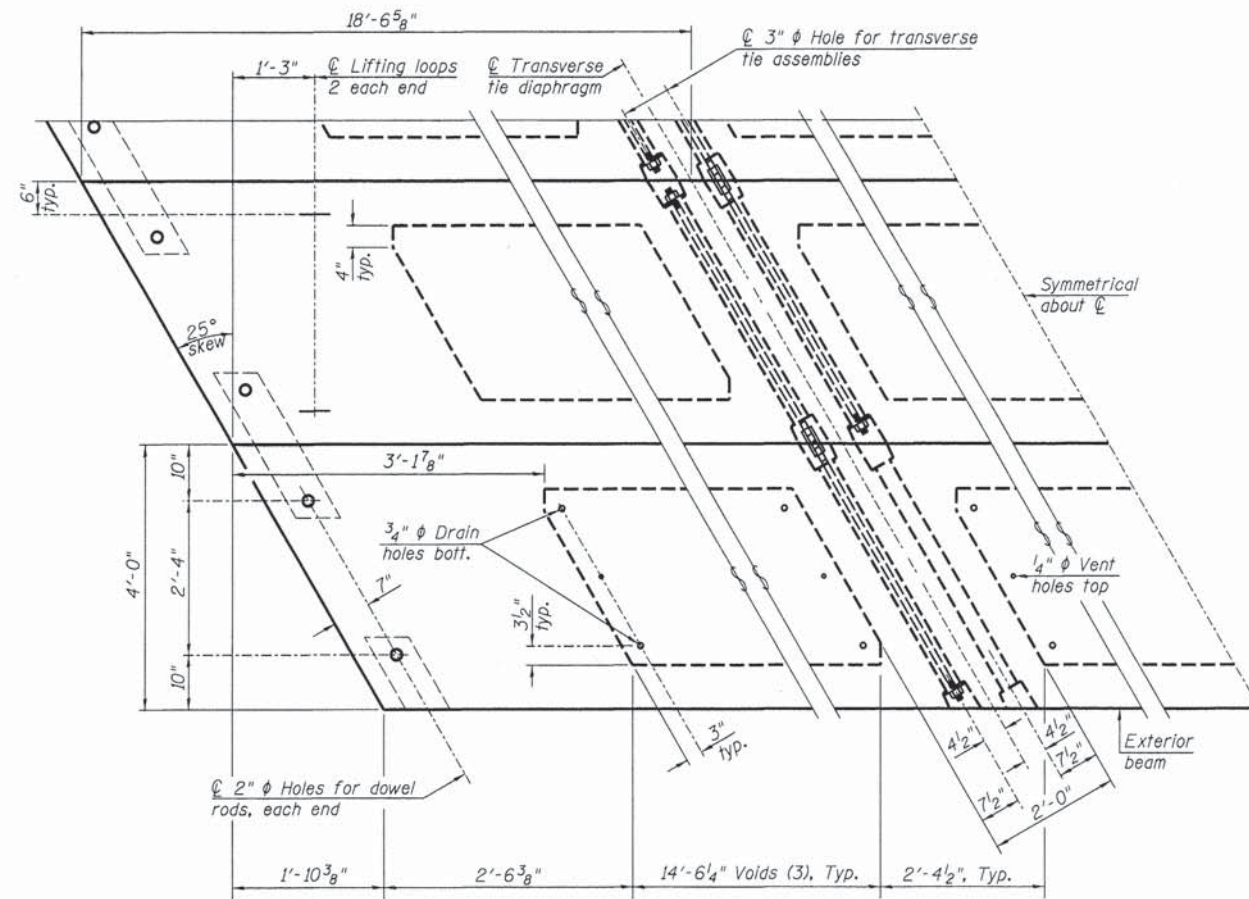
SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY

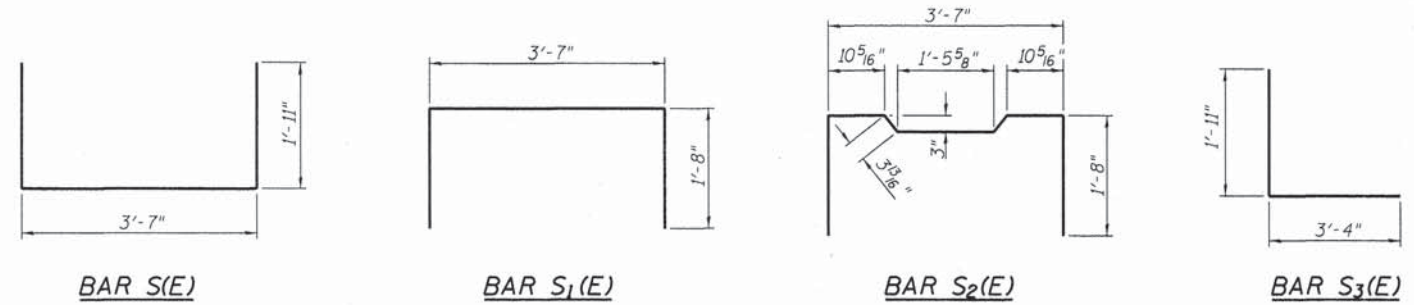


LIFTING LOOP DETAIL



PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.

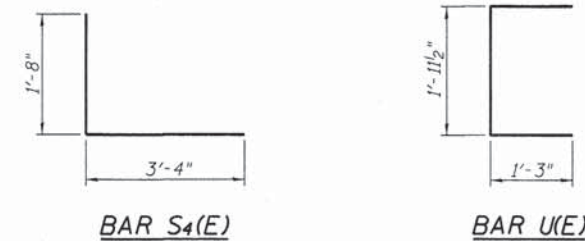


BAR S(E)

BAR S₁(E)

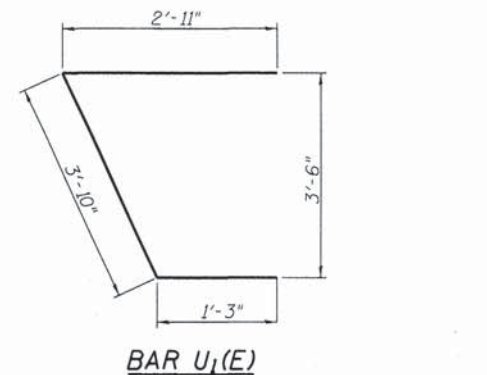
BAR S₂(E)

BAR S₃(E)



BAR S₄(E)

BAR U(E)



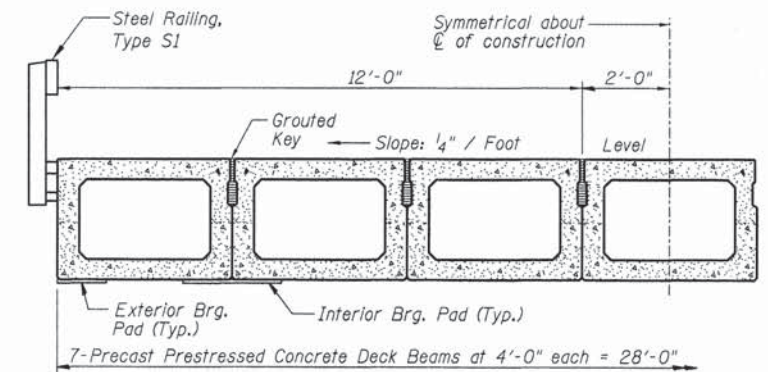
BAR U₁(E)

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1512
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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. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place. Reinforcement bars shall conform to ASTM A 706, Grade 60. (IL Modified). Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling. Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Compressive strength of prestressed concrete, f'c, shall be 6000 psi. Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

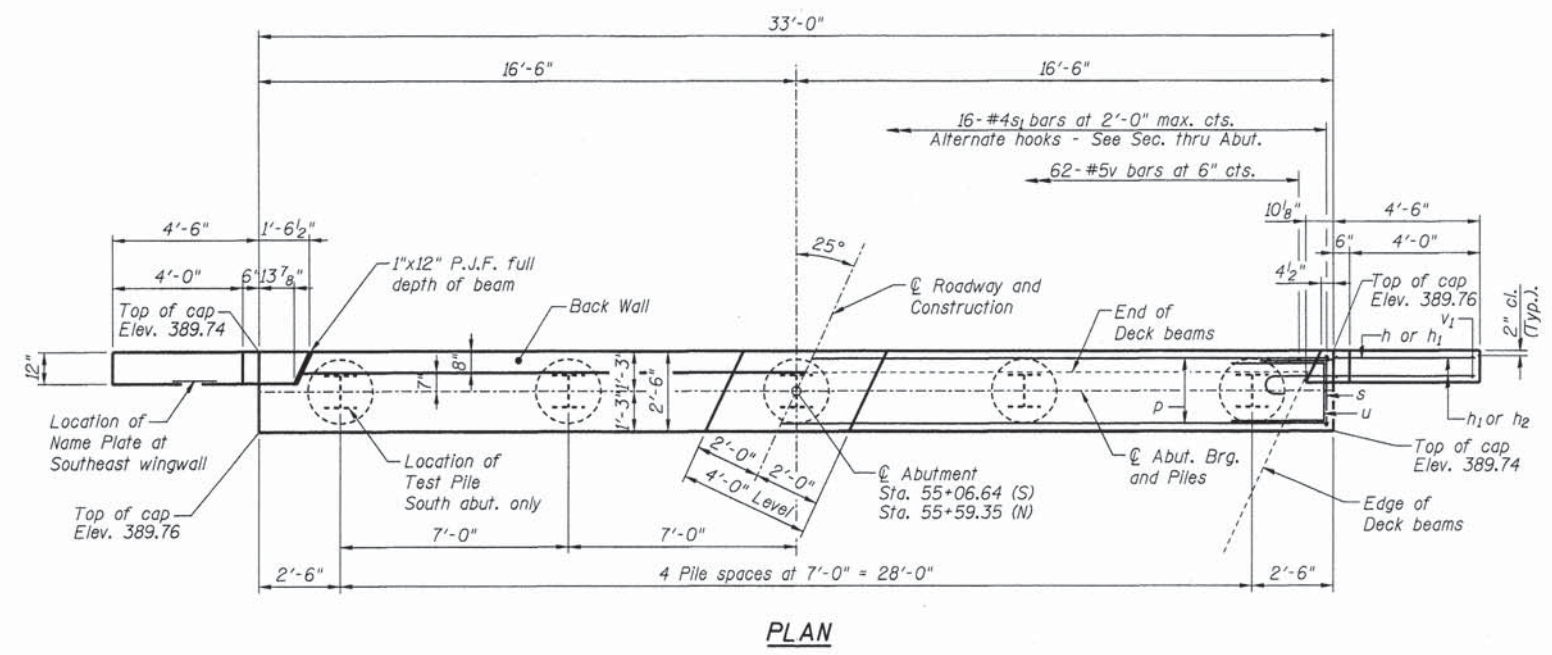
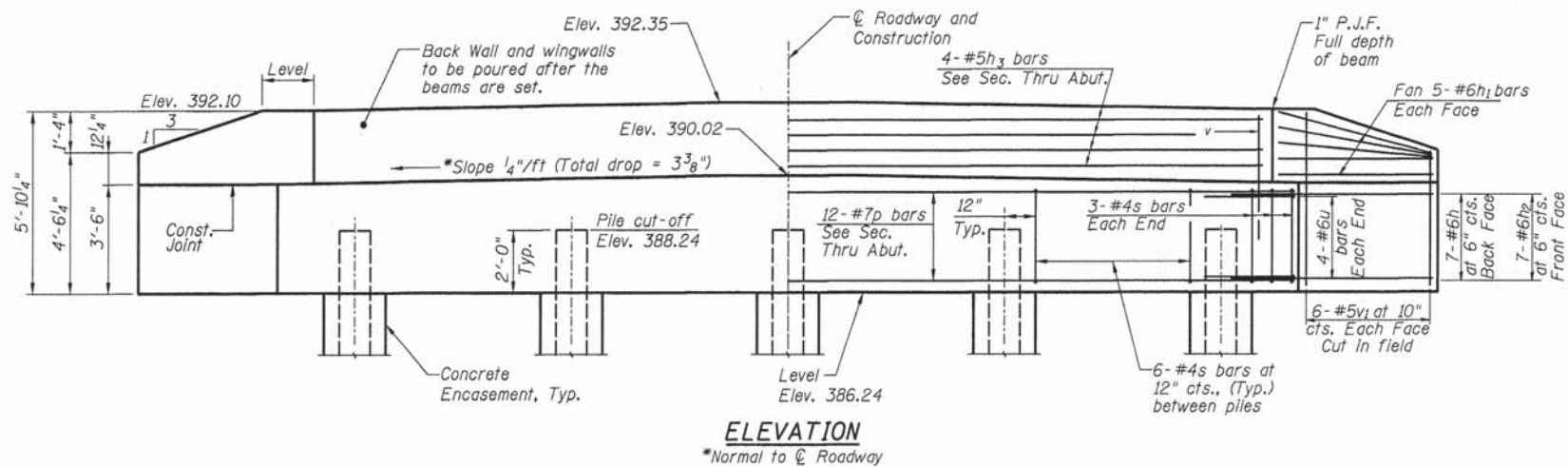


HALF CROSS SECTION

See Sheet 7 for the details showing the spacing and mounting of posts and rails to the PPCDB.

DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - WDL	REVISED -
DATE - 08/15/2014	REVISED -

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 21	13-00125-00-BR	WAYNE	10	6
CONTRACT NO. 95746				
RAAI JOB NO. 52613 ILLINOIS FED. AID PROJECT				



PILE DATA SOUTH ABUTMENT

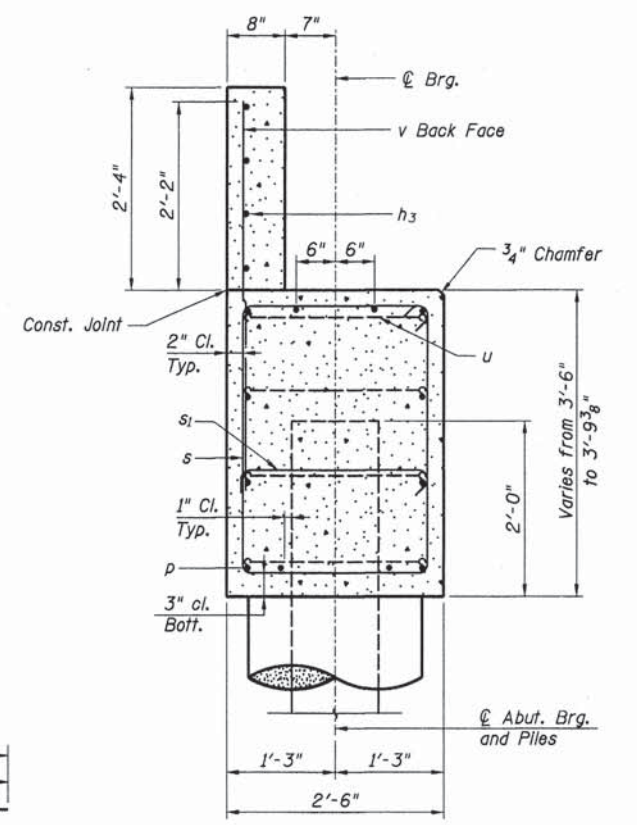
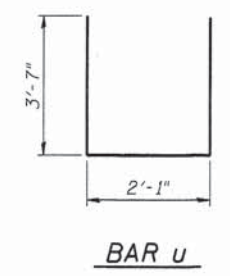
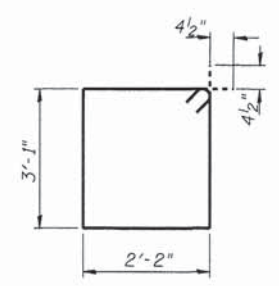
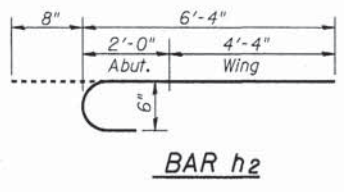
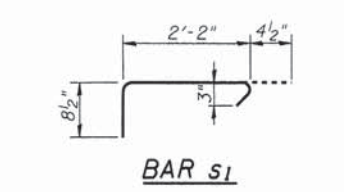
Type: Steel HP12x53
 Nominal Required Bearing: 260 kips
 Factored Resistance Available: 143 kips
 Estimated Length: 43'/pile
 No. Production Piles: 4
 No. Test Piles: 1

PILE DATA NORTH ABUTMENT

Type: Steel HP12x53
 Nominal Required Bearing: 260 kips
 Factored Resistance Available: 143 kips
 Estimated Length: 43'/pile
 No. Production Piles: 5
 No. Test Piles: 0

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60 (1L Modified).
 All exposed edges shall have standard $\frac{3}{4}$ " chamfer, unless otherwise noted or as directed by the Engineer.
 All clearances between rebar and form surface shall be 2", unless otherwise noted.
 Space reinforcement in cap to miss PPCDB dowel rods.
 The Steel H-piles shall be according to AASHTO M270 Grade 50.
 The Contractor shall drive one (1) Steel HP12x53 Test Pile in a production location as indicated on the plans and as directed by the Engineer before ordering the remainder of the piles.
 The Test Pile shall be driven to 110 percent of the Nominal Required Bearing Indicated in the pile data information.



BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h	14	#6	8'-0"	—
h1	20	#6	4'-8"	—
h2	14	#6	7'-0"	—
h3	4	#5	30'-6"	—
p	12	#7	32'-8"	—
s	30	#4	11'-3"	□
s1	16	#4	3'-3"	—
u	8	#6	9'-3"	—
v	62	#5	4'-3"	—
v1	24	#5	5'-6"	CUT IN FIELD
Concrete Structures		Cu Yd	14.8	
Concrete Encasement		Cu Yd	1.8	
Reinforcement Bars		Pound	2170	
Furnishing Steel				
Piles, HP12x53	Foot	S. Abut.	172	
		N. Abut.	215	
Driving Piles	Foot	S. Abut.	172	
		N. Abut.	215	
Test Pile, Steel HP12x53	Each	S. Abut.	1	
		N. Abut.	0	

For details of piles and Concrete Encasement, see HP Pile Details sheet.

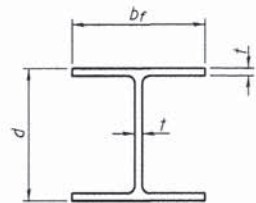
RHUTASEL and ASSOCIATES, INC.
 CONSULTING ENGINEERS • LAND SURVEYORS
 CENTRALIA, ILLINOIS FREEBURG, ILLINOIS
 ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - WDL/GLH	REVISED -
DATE - 08/15/2014	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

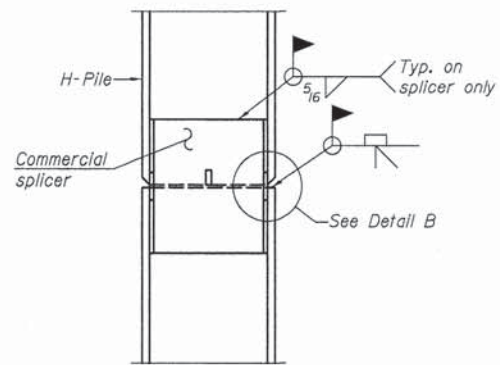
ABUTMENT DETAILS
STRUCTURE NO. 096-3460

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 21	13-00125-00-BR	WAYNE	10	8
CONTRACT NO. 95746				
RAAI JOB NO. 52613 ILLINOIS FED. AID PROJECT				

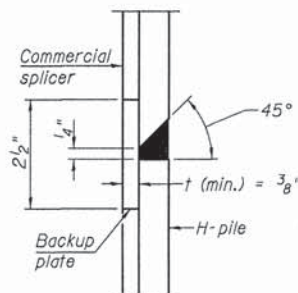


STEEL PILE TABLE

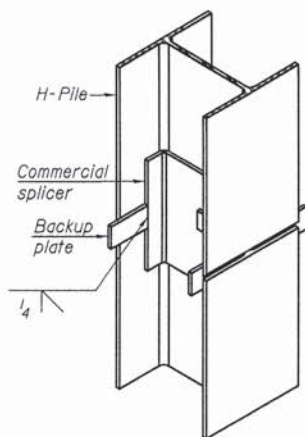
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION

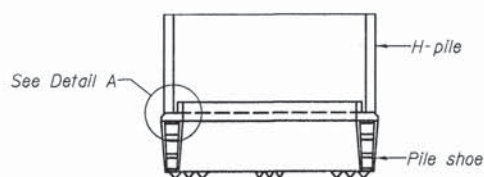


DETAIL "B"

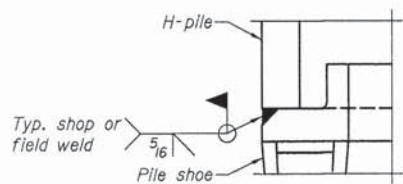


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

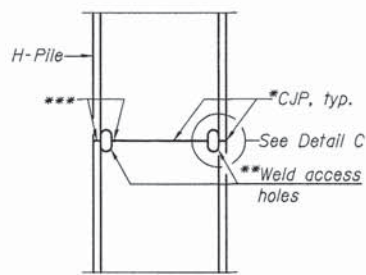


ELEVATION

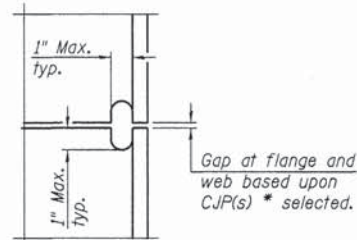


DETAIL A

H-PILE SHOE ATTACHMENT

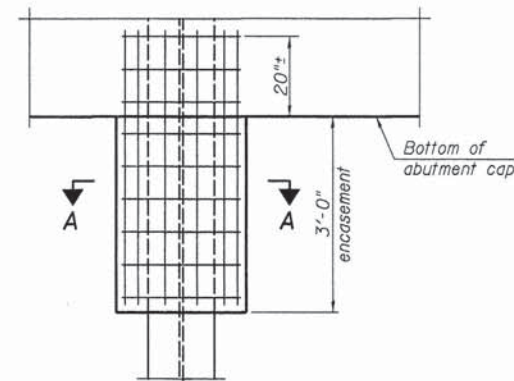


ELEVATION



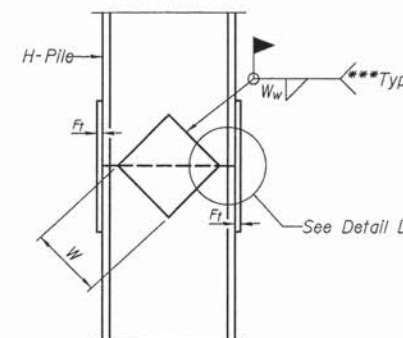
DETAIL C

COMPLETE PENETRATION WELD SPLICE

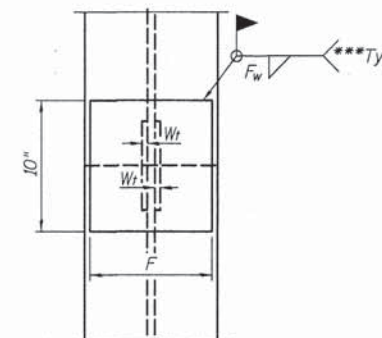


ELEVATION

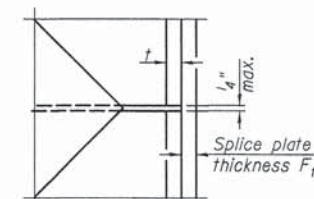
PILE ENCASEMENT



ELEVATION



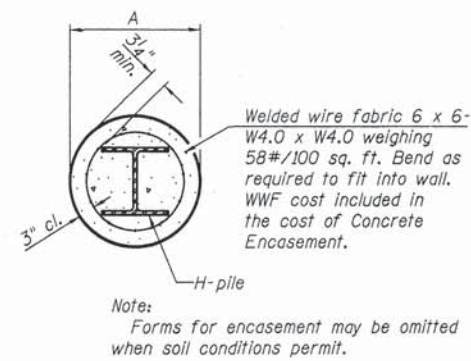
END VIEW



DETAIL D

WELDED PLATE FIELD SPLICE

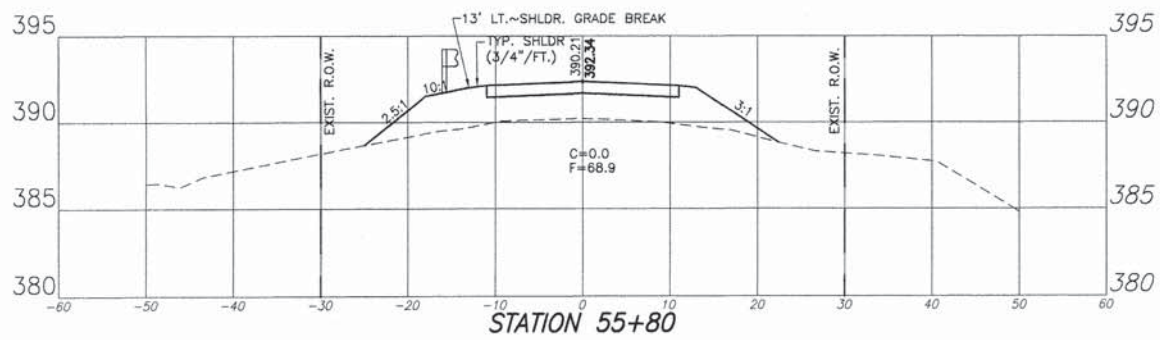
Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 1/2"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 1/2"	1/2"
x89	12 1/2"	3/4"	1/2"	7 3/4"	5 1/2"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 1/2"	1/2"
HP 12x84	10"	7/8"	1/2"	6 1/2"	5 1/2"	1/2"
x74	10"	7/8"	1/2"	6 1/2"	5 1/2"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"



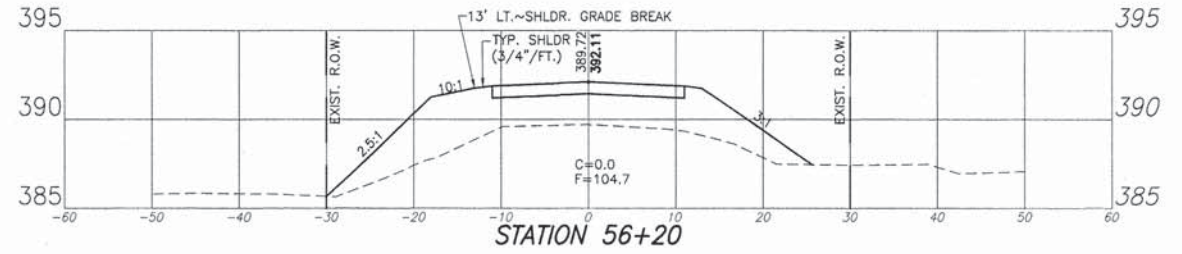
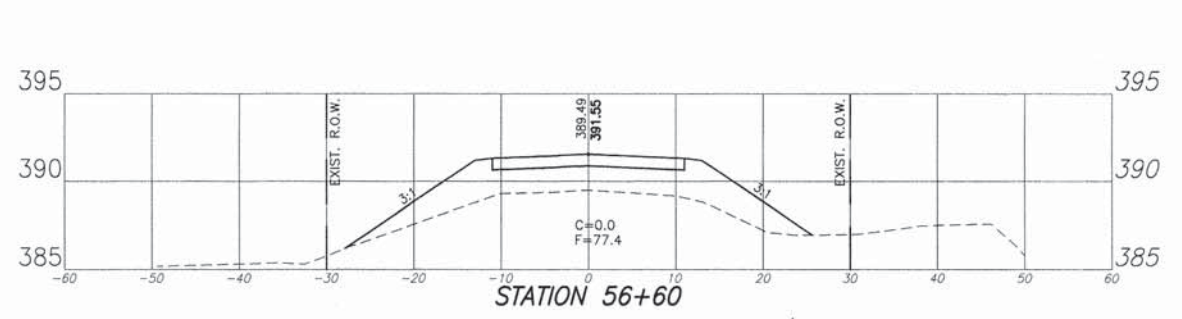
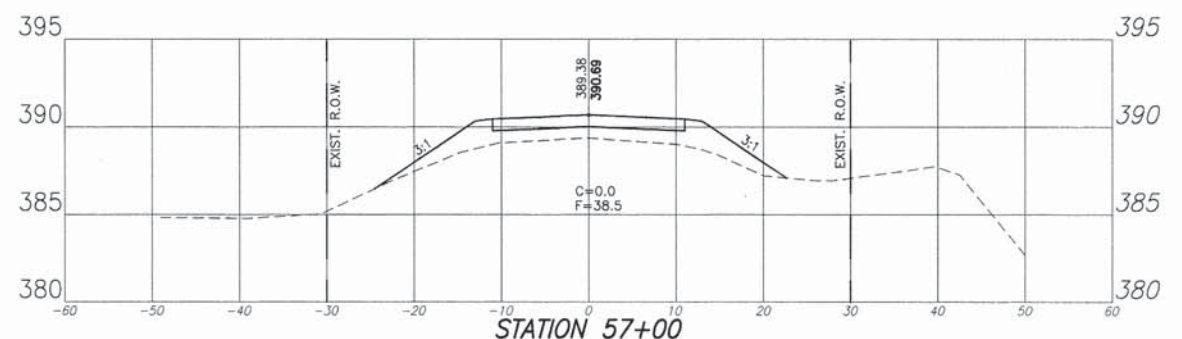
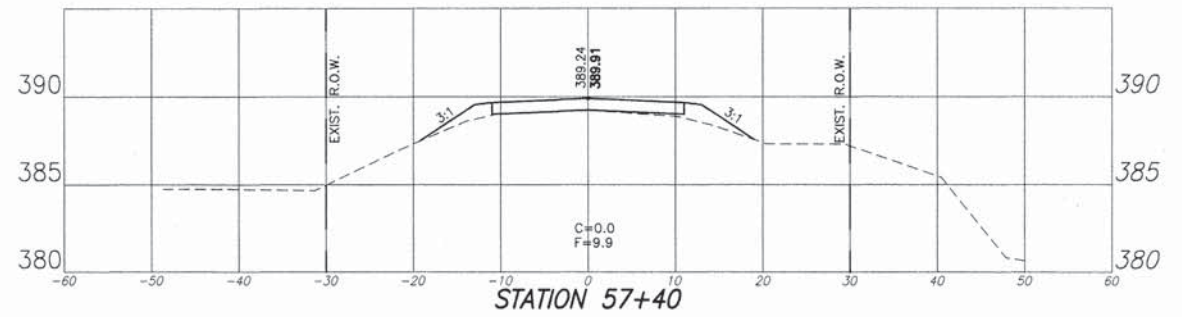
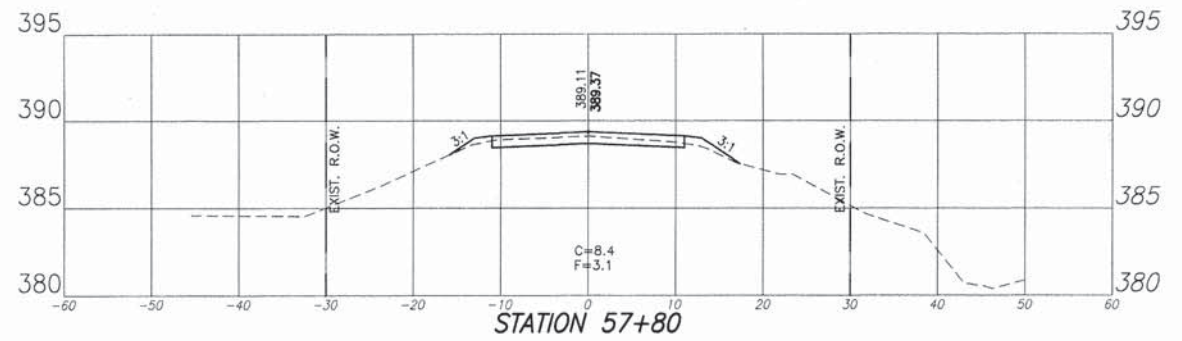
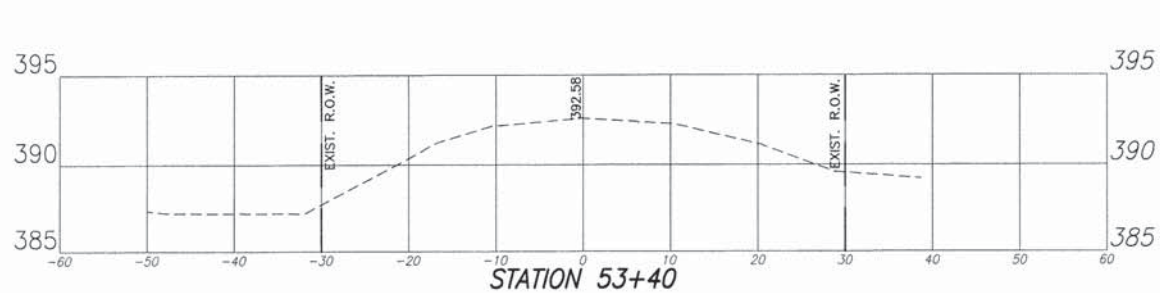
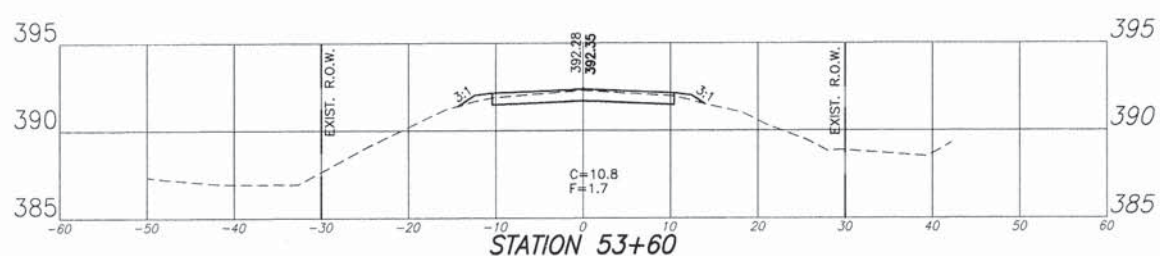
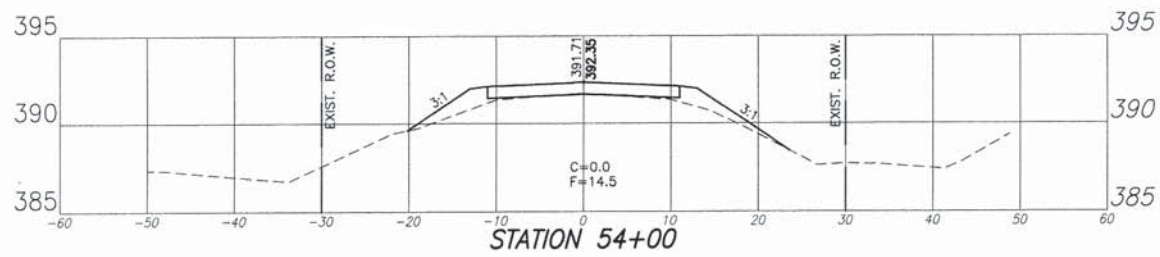
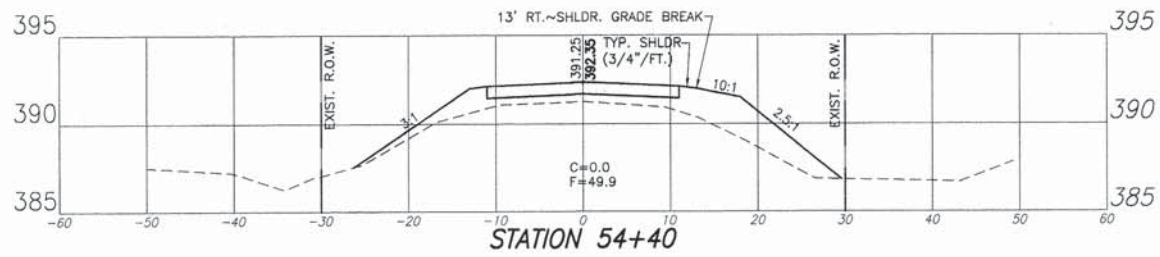
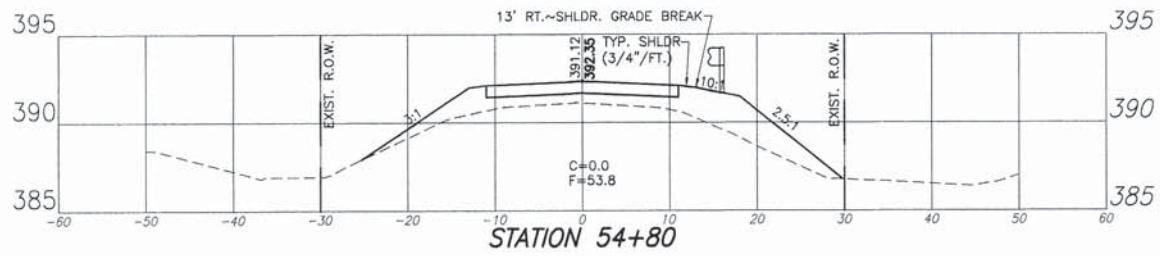
SECTION A-A

Note: Forms for encasement may be omitted when soil conditions permit.

- * Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.
 - ** Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.
 - *** Interrupt welds 1/4" from end of each pile.
- Note: The steel H-piles shall be according to AASHTO M270 Grade 50.



BRIDGE



EXISTING ELEV.
PROPOSED ELEV.