

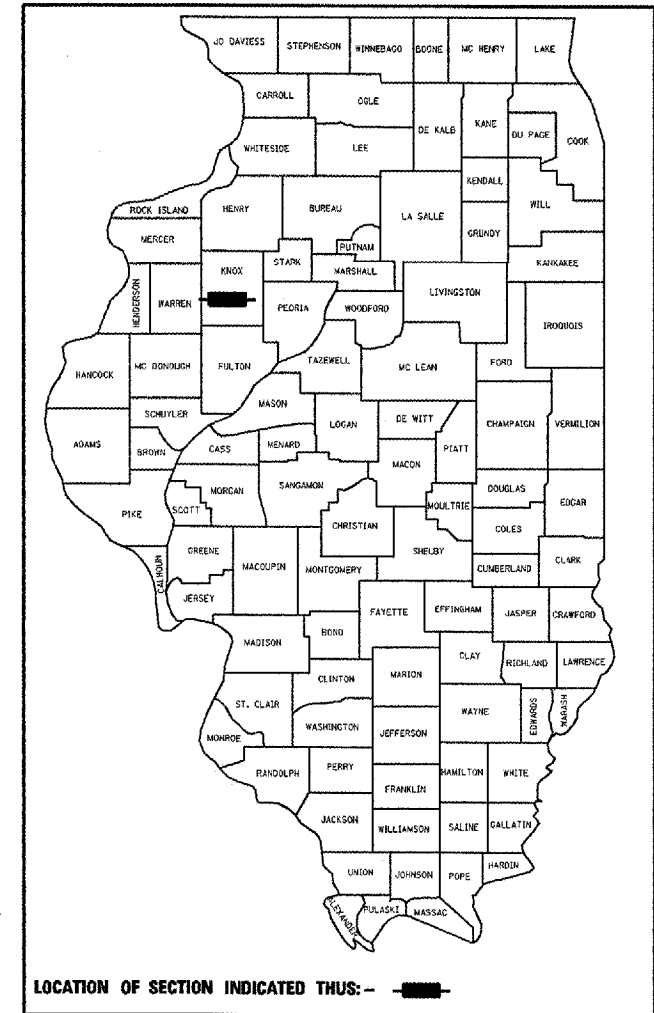
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

FAS ROUTE 2401 (US 150)
SECTION (40V)I-1
KNOX COUNTY
EMERGENCY BRIDGE BEAM REPAIRS
C-94-019-08

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2401	(40V)I-1	KNOX	13	1
FED. ROAD DIST. NO. 4	US 150	CONTRACT NO. 68780		

D-84-018-08



DESCRIPTION:
EMERGENCY BRIDGE BEAM REPAIRS - REPLACE
8 DECK BEAMS ON STRUCTURE CARRYING US 150
OVER BURLINGTON NORTHERN RAILROAD
(S.N. 048-0013), 0.2 MILES EAST OF GALESBURG
STA. 66 + 15

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED FEB 6 2008

[Signature]
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 21 2008
Eric S. Hain
ENGINEER OF DESIGN AND ENVIRONMENT

March 21 2008
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

INDEX OF SHEETS

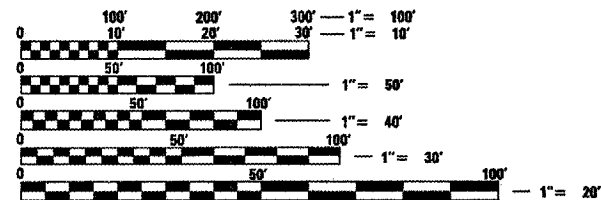
- 1 COVER SHEET
- 2 COMMITMENTS & GENERAL NOTES
- 3 SUMMARY OF QUANTITIES
- 4 TYPICAL SECTIONS
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- 7-8 STAGING PLANS
- 9 PLAN VIEW
- 10-13 BRIDGE PLANS

LIST OF STANDARDS

- 701011-01 701321-09
- 701006-02 704001-04
- 701301-02 701901
- 701316-03 780001-01
- 781001-02

DESIGN DESIGNATION

- ADT = 5,400 (2007)
- MU = 60
- SU = 200

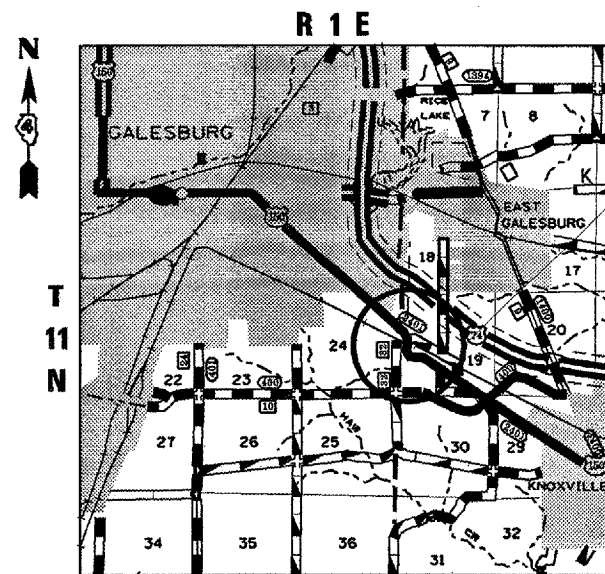


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT DESIGNER TERRISA WORSFOLD
PROJECT MANAGER RICHARD DOTSON

CONTRACT NO. 68780
CATALOG NO 033712-000



GROSS LENGTH OF PROJECT 680 FT (0.13 MILES)
NET LENGTH OF PROJECT 680 FT (0.13 MILES)

COMMITMENTS

NO COMMITMENTS HAVE BEEN MADE FOR THIS PROJECT.

BITUMINOUS CONCRETE MIXTURE REQUIREMENTS

The following mixture requirements are applicable for this Project. Contract 68780
US 150 over BNSF Railroad

	WATERPROOFING LEVELING BINDER	WIDENING SHOULDERS 2" LIFT	WIDENING SHOULDERS LOWER LIFT - 10" TOTAL
Mixture Use(s):	Sand Mix/Leveling Binder	Surface Course	Binder course
RAP % (Max)**:	SBS or SBR 70-22	64-22	PG 64-22
AC/PG:	0%	15%	25%
Design Air Voids:	2.5% @ N=50	4.0% @ N=50	4.0% @ N=50
Mixture Composition: (Gradation Mixture)	IL 4.75	IL 9.5 or 12.5	IL 19.0
Friction Aggregate	N/A	Mix D	N/A

** If the RAP option is selected, the asphalt cement grade may need to be adjusted; this will be determined by the Engineer.
Notes: Individual lift thickness of each mix type will be no less than 3 X nominal maximum aggregate size and no more than 6 X nominal maximum aggregate size.

The asphalt sand seal protection layer specified in Section 581 of the Standard Specifications shall be omitted and replaced with the Sand Mix/Leveling Binder.

The "Sand Mix/Leveling Binder" will be paid for separately by the ton as Leveling Binder (Hand Method), N50.

PROJECT SPECIFIC NOTES

No right of way has been purchased for this project. The Contractor shall make the necessary arrangements for access required for their operations.

The Contractor shall coordinate with BNSF RR regarding Railroad Flagmen for any work done near or above the Railroad and for any access to the Railroad right of way.

GENERAL NOTES

Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

ENVIRONMENTAL REVIEWS

Prior to the use of any proposed borrow areas, use areas (temporary access roads, detours, run-arounds, etc.) and/or waste areas, the Contractor shall file the required environmental resource request surveys according to Section 107.22 of the Standard Specifications. These surveys are required in order for the Department to conduct cultural and biological resource surveys for the proposed site.

Prior to any waste materials being removed from the construction site the required environmental resource surveys will need to be obtained and filed by the Contractor. Excess waste products removed from the construction site shall be disposed of as required in Section 202.03 of the Standard Specifications.

Any protruding metal bars shall be removed prior to the disposal of broken concrete at approved disposal sites.

The required environmental resource documentation shall include the following:

- * BDE Form 2289 (Environmental Survey Request)
- * A location map showing the size limits and location of the use area
- * Signed property owner agreement form-D4 P10100
- * Color photographs depicting the use area
- * Borrow Area Entry Agreement form-D4 P10101

Please note that a minimum of two weeks shall be allowed for the District to obtain the required environmental clearances.

ENGINEERS FIELD OFFICE

Add the following sentence to the end of paragraph 670.02 (i) and 670.04 (e):
All of the telephone lines provided shall have unpublished numbers.

FILE NAME =	USER NAME = mcfaddenjk	DESIGNED -	REVISED -
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	PLOT SCALE = 100.0000" / IN.	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2401	(40VII)-1	KNOX	13	2

CONTRACT NO. 68780

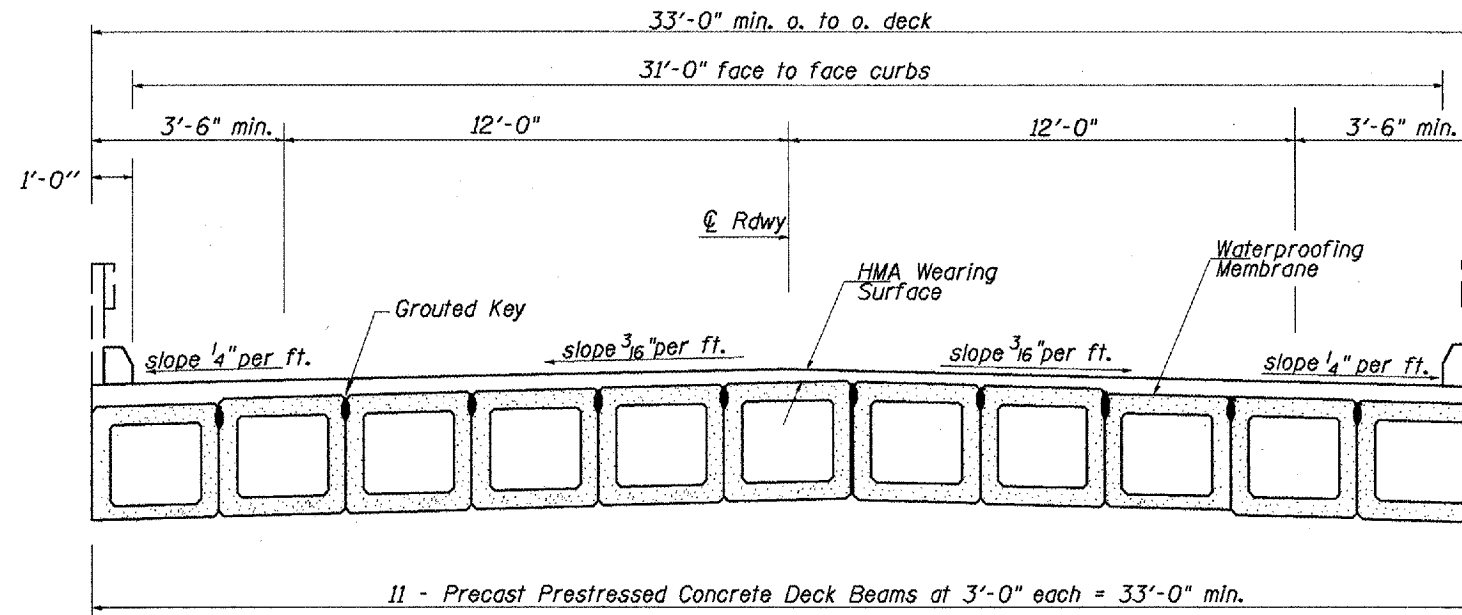
SUMMARY OF QUANTITIES

		100% STATE SAFETY-2A KNOX COUNTY		
CODE NO.	ITEM	UNIT	URBAN	TOTAL
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	13	13
40600525	LEVELING BINDER (HAND METHOD), N50	TON	10	10
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0 N50	TON	156.32	156.32
40603335	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	46.0	46.0
44000100	PAVEMENT REMOVAL	SQ YD	280	280
44001005	HOT-MIX ASPHALT SURFACE REMOVAL	SQ YD	23.7	23.7
50300255	CONCRETE SUPERSTRUCTURE	CU YD	1.7	1.7
50300300	PROTECTIVE COAT	SQ YD	12.4	12.4
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1,028	1,028
50900905	REMOVING ^{AND} RE-ERECTING ^{EXISTING} RAILING	FOOT	42	42
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	135	135
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	523	523
67000400	ENGINEER ^{'s} FIELD OFFICE, TYPE A	CAL MO	3	3
67100100	MOBILIZATION	L SUM	1	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH	1	1
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	12	12

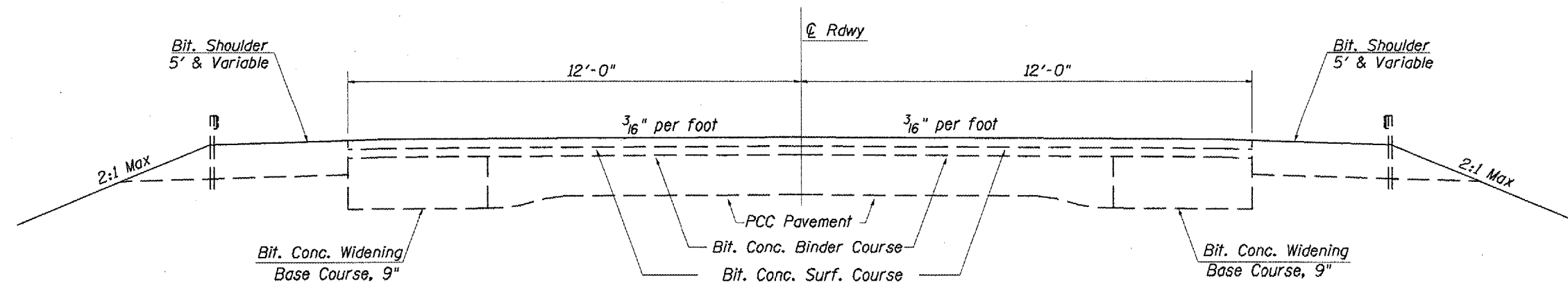
		100% STATE SAFETY-2A KNOX COUNTY		
CODE NO.	ITEM	UNIT	URBAN	TOTAL
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1
70106700	TEMPORARY RUMBLE STRIP	EACH	6	6
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	1360	1360
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	2462	2462
70400100	TEMPORARY CONCRETE BARRIER	FOOT	412.5	412.5
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	412.5	412.5
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	2720	2720
* 78100105	RAISED ^{REFLECTIVE} PAVEMENT MARKER (BRIDGE)	EACH	5	5
78300100	PAVEMENT MARKING REMOVAL	SQ FT	908	908
78300200	RAISED ^{REFLECTIVE} PAVEMENT MARKING REMOVAL	EACH	36	36
X0320047	REMOVAL OF EXISTING PRECAST PRESTRESSED CONCRETE DECK BEAMS	SQ FT	1,042	1,042
X7015005	CHANGEABLE MESSAGE SIGN	CAL DA	14	14
Z0001900	ASBETOS BEARING PAD REMOVAL	EACH	3	3
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1

* SPECIALTY ITEM

TYPICAL SECTIONS



EXISTING BRIDGE DECK



PAVEMENT TYPICAL SECTION

FILE NAME =
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USER NAME = mcfadden.jk
 PLOT SCALE = 100.0000' / IN.

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION

F.A.S RTE. 2401	SECTION (40V)-1	COUNTY KNOX	TOTAL SHEETS 13	SHEET NO. 4
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CONTRACT NO. 68780

SCHEDULE OF QUANTITIES

LOCATIONS STA. TO STA.	HMA SURF CSE	HMA BINDER COURSE = IL - 19.0	LEVELING BINDER (HAND METHOD), N50
	TON	TON	TON
RT STA 64+00 TO 65+49	7.24	36.18	
RT STA 66+83 TO 68+28	13.53	67.66	
LT STA 64+40 TO 65+63	5.36	26.78	
LT STA 66+97 TO 68+15	5.14	25.70	
BRIDGE DECK	14.7	0	10*
TOTAL	45.97	156.32	10

* Estimated quantity for waterproofing lift and leveling binder lift

LOCATIONS STA. TO STA.	WATERPROOFING MEMBRANE SYSTEM
	SQ YD
STA 65+56.27 TO 66+89.89	135
TOTAL	135

LOCATIONS STA. TO STA.	TEMPORARY CONCRETE BARRIER	RELOCATE TEMP CONC BARRIER
	FOOT	FOOT
TAPER STA 64+16.83 TO 65+29.33	112.5	112.5
TANGENT STA 65+29.33 TO 67+16.83	187.5	187.5
TAPER STA 67+16.83 TO 69+04.33	112.5	112.5
TOTAL	412.5	412.5

LOCATIONS STA. TO STA.	REMOVE & REPLACE EXISTING RAILING	CONCRETE SUPERSTRUCTURE	HMA SURF CSE REM
	FOOT	CU YD	SQ YD
STA 65+56.27 TO 66+89.89	42	1.7	23.7
TOTAL	42	1.7	23.7

LOCATIONS STA. TO STA.	SHORT - TERM PAVEMENT MARKING
	FOOT
STA. 62+83 TO 69+63	1360
TOTAL	1360

LOCATIONS STA. TO STA.	IMPACT ATT TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	IMPACT ATT RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3
	EACH	EACH
STA 64+16.83	1	1
STA 69+04.33	1	1
TOTAL	2	2

LOCATIONS STA. TO STA.	P P CONC DECK BEAM (27' DEPTH)	REM OF EXIST P P CONC DECK BEAMS	ASBESTOS BEARING PAD REMOVAL
	SQ FT	SQ FT	EACH
STA 65+56.27 TO 66+89.89	1,028	1,042	3
TOTAL	1,028	1,042	3

LOCATIONS STA. TO STA.	PROTECTIVE COAT
	SQ YD
STA 65+56.27 TO 66+89.89	12.4
TOTAL	12.4

LOCATIONS STA. TO STA.	BIT MAT (PRIME COAT)
	GALLON
ROADWAY	9
STRUCTURE	4
TOTAL	13

LOCATIONS STA. TO STA.	MOBILIZATION	T C & PROT STANDARD 701321	ENGINEER FIELD OFFICE TYPE A	TEMPORARY BRIDGE TRAFFIC SIGNAL	TEMPORARY RUMBLE STRIP	T C & PROT STANDARD 701316
	L SUM	EACH	CAL. MO.	EACH	EACH	EACH
JOBSITE	1	1	3	1	6	1
TOTAL	1	1	3	1	6	1

LOCATIONS STA. TO STA.	CHANGEABLE MESSAGE SIGN
	CAL DAY
* East of Job	7
* West of Job	7
TOTAL	14

* To be placed 7 days prior to placing Barrier Wall at locations designated by the Engineer.

SCHEDULE OF QUANTITIES

LOCATIONS STA. TO STA.	PAVEMENT REMOVAL *
	SQ YD
RT STA 64+00 TO 65+49	65
RT STA 66+83 TO 68+28	121
LT STA 64+40 TO 65+63	48
LT STA 66+97 TO 68+15	46
TOTAL	280

* REMOVE 12 INCHES

LOCATIONS STA. TO STA.	TR CONT SURVEILLANCE	RAILROAD PROTECTIVE LIABILITY INSURANCE
	CAL DAY	L SUM
JOBSITE	12	1
TOTAL	12	1

LOCATIONS STA. TO STA.	P C MORTAR FAIRING COURSE
	FOOT
STRUCTURE STA 65+56.27 TO 66+89.89	523
TOTAL	523

LOCATIONS STA. TO STA.	PAVT MARKING REMOVAL	PAINT PAVEMENT MARKING LINE 4"
	SQ FT	FOOT
⊘ STA 62+83 TO 69+63 - DOUBLE YELLOW	454	1360
LT STA 62+83 TO 69.63 - EDGELINE	227	680
RT STA 62+83 TO 69.63 - EDGELINE	227	680
TOTAL	908	2720

LOCATIONS STA. TO STA.	RAISED REF PAVT MK REM
	EACH
BRIDGE SPANS WITH BEAM 6 REPLACEMENT	5
BRIDGE - SOUTH SPAN	2*
NORTH SIDE OF BRIDGE	15*
SOUTH SIDE OF BRIDGE	14*
TOTAL	36

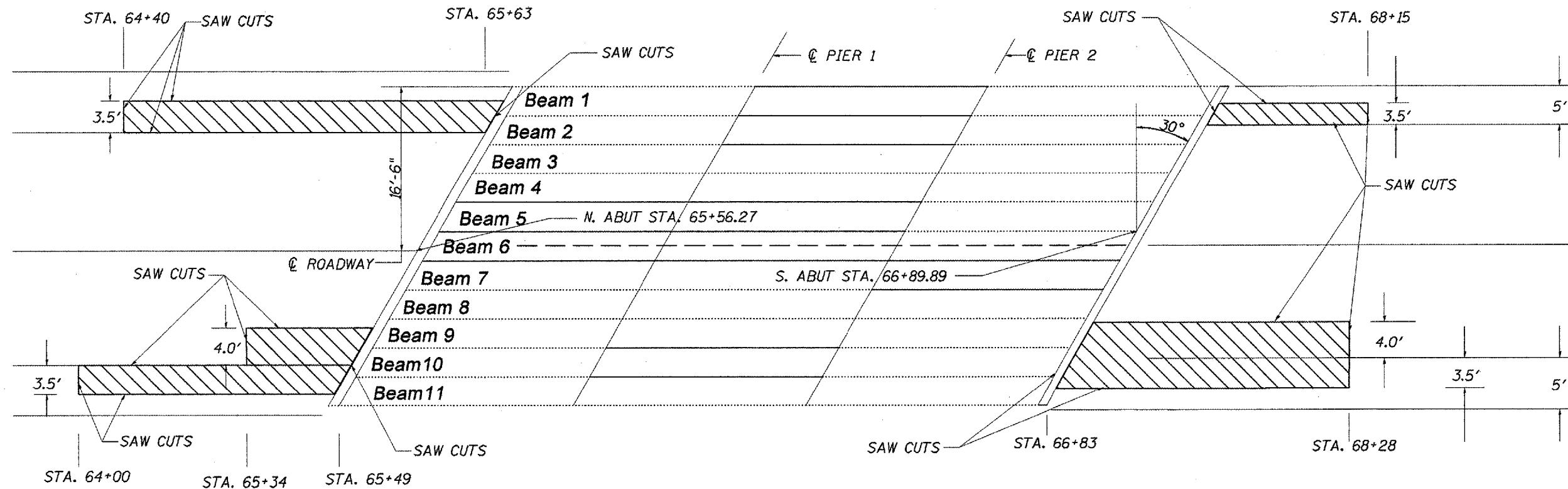
* REMOVE OR COVER LENSES

LOCATIONS STA. TO STA.	WORK ZONE PAVEMENT MARKING REMOVAL
	SQ FT
STD 701326 STAGE 1 CENTERLINE & EDGELINE STA 62+83 TO 69+63	454
STD 701326 STAGE 2 CENTERLINE & EDGELINE STA 62+83 TO 69+63	454
STD 701326 STOPBARS	96
STD 701321 STAGE 1 CENTERLINE & EDGELINE STA 62+83 TO 69+63	454
STD 701321 STAGE 2 CENTERLINE & EDGELINE STA 62+83 TO 69+63	454
STD 701321 STOPBARS	96
SHORT TERM PAVEMENT MARKINGS - DOUBLE YELLOW CENTERLINE	454
TOTAL	2462

LOCATIONS STA. TO STA.	RAISED REF PAVT MK BR
	EACH
BRIDGE SPANS WITH BEAM 6 REPLACEMENT	5
TOTAL	5



STAGING PRE-STAGE



- 12" Pavement Removal & Replacement with HMA Binder & Surface Courses.

Setup TCP STD 701316 and upgrade the failed widening and shoulders before beginning the bridge repairs. Utilize TCP STD 701321 for the bridge repairs.

NOT TO SCALE

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USER NAME = mofadden.jk

DESIGNED -

DRAWN -

CHECKED -

REVISED -

REVISED -

REVISED -

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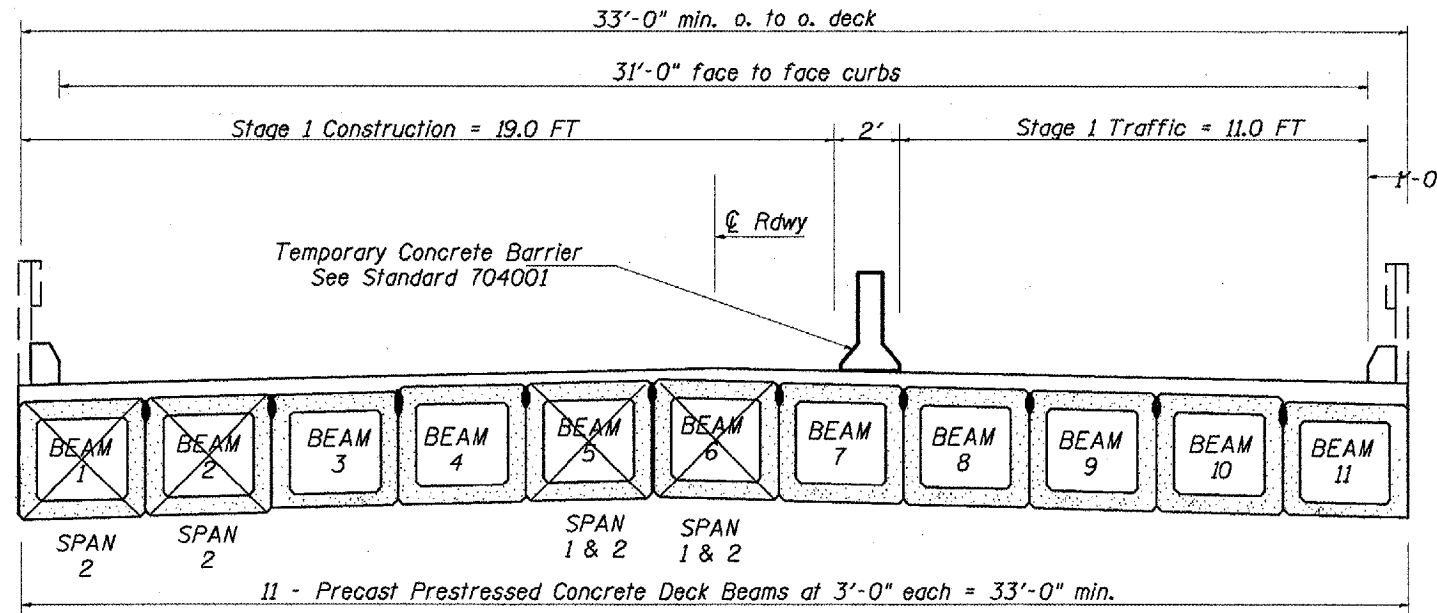
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

STAGING PRE-STAGE

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2401	(40VI)-1	KNOX	13	7
CONTRACT NO. 68780				

STAGING

STAGE 1



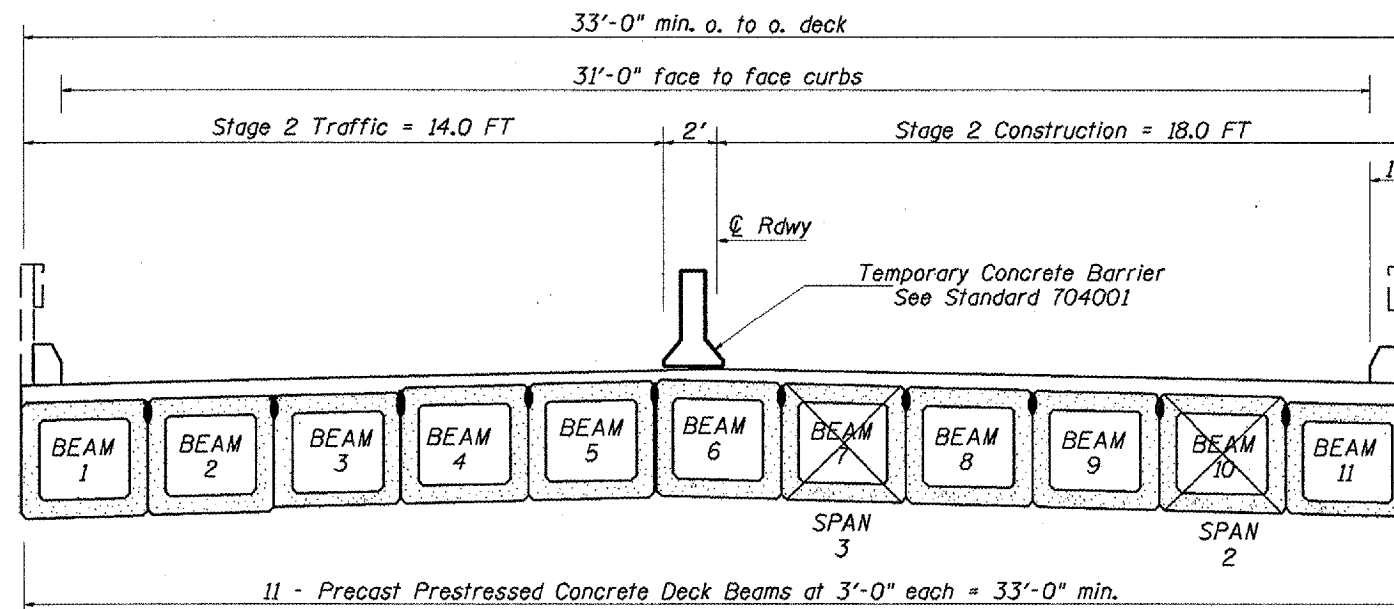
NOTE:

Five W12-I103 signs, as described in the Special Provisions, will be required. Two signs shall be placed at the intersection of Main Street and Grand Avenue in Galesburg. Three signs shall be placed at the intersection of County Highway 10 and US 150. These signs shall be located at the direction of the Engineer. The costs shall be included with the cost of the TRAFFIC CONTROL AND PROTECTION STANDARD 701321.

Refer to Highway Standard 701321

High intensity flashing lights shall be placed on the RCA signs as directed by the Engineer.

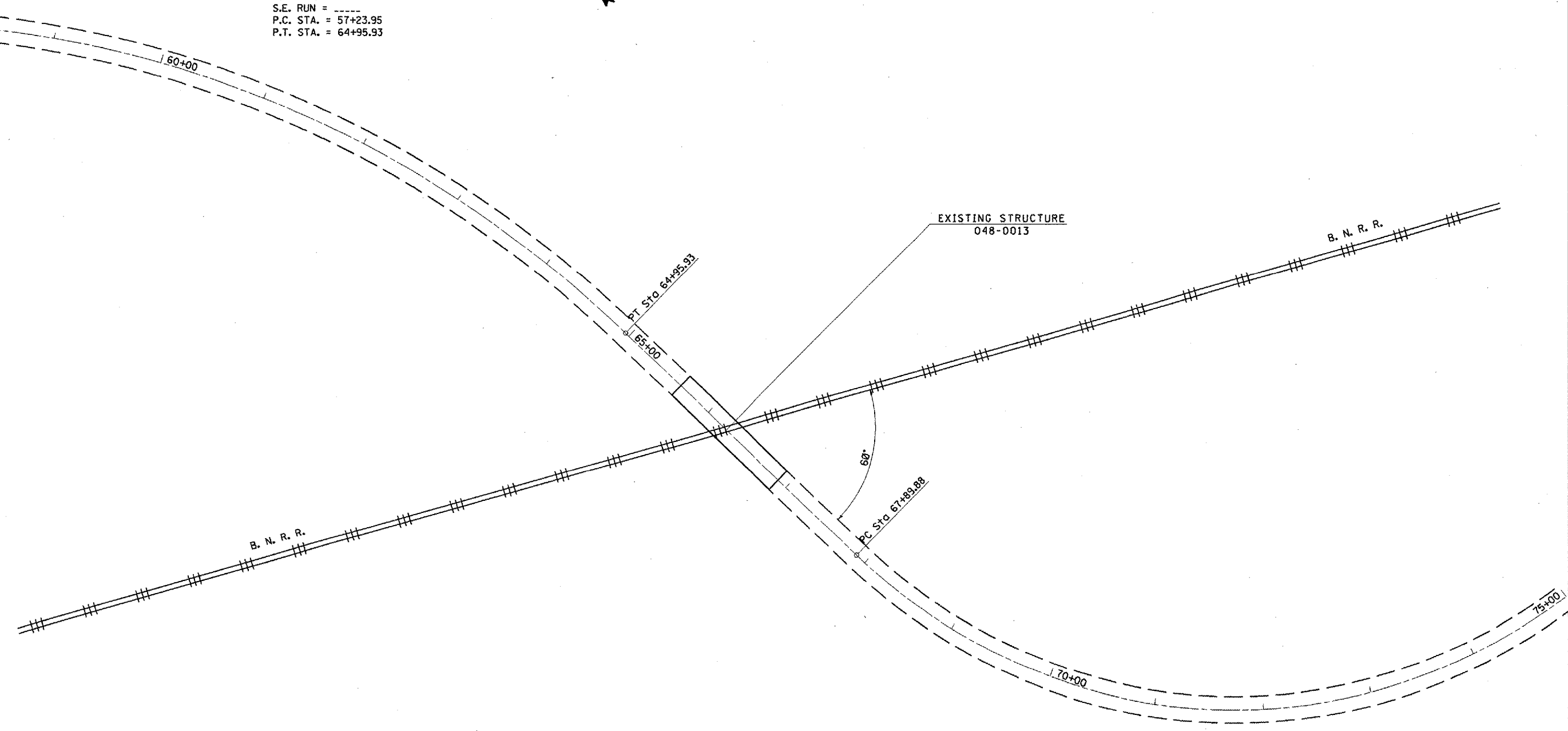
STAGE 2



EXIST. CURVE 1
 PI STA. = 61+30.10
 $\Delta = 44^\circ 00' 00''$ (RT)
 $D = 5^\circ 41' 59''$
 $R = 1,005.26'$
 $T = 406.15'$
 $L = 771.98'$
 $E = 78.95'$
 $e = \text{-----}$
 $T.R. = \text{-----}$
 $S.E. RUN = \text{-----}$
 P.C. STA. = 57+23.95
 P.T. STA. = 64+95.93



PC Sta 57+23.95



EXIST. CURVE 2
 PI STA. = 73+14.25
 $\Delta = 92^\circ 40' 00''$ (LT)
 $D = 11^\circ 26' 50''$
 $R = 500.52'$
 $T = 524.37'$
 $L = 809.50'$
 $E = 224.38'$
 $e = \text{-----}$
 $T.R. = \text{-----}$
 $S.E. RUN = \text{-----}$
 P.C. STA. = 67+89.88
 P.T. STA. = 75+99.38

FILE NAME =
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USER NAME = mofadden,jk	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 126.8888' / IN.	CHECKED -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PLAN VIEW

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2401	(40V)I-1	KNOX	13	9
CONTRACT NO. 68780				

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	PAGE	SHEET NO. 1
		Knox	13	10	4 SHEETS
FED. ROAD DIST. NO. 7	TULINGUE	FED. AID PROJECT			

Contract Number: 68780

GENERAL NOTES

The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the contractor's responsibility to account for the condition of the beams when developing construction procedures.

If the contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new or existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. If heavy equipment will be placed on new PPC deck beams, the following shall be done prior to placement of the timber mats: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys.

Any damage done to the bridge during beam removal shall be repaired by the Contractor. Cost to be included in the cost of Removal of Existing PPC Deck Beams.

The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

Temporary concrete barrier shall only be anchored into the overlay and not into the PPC Deck Beams.

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

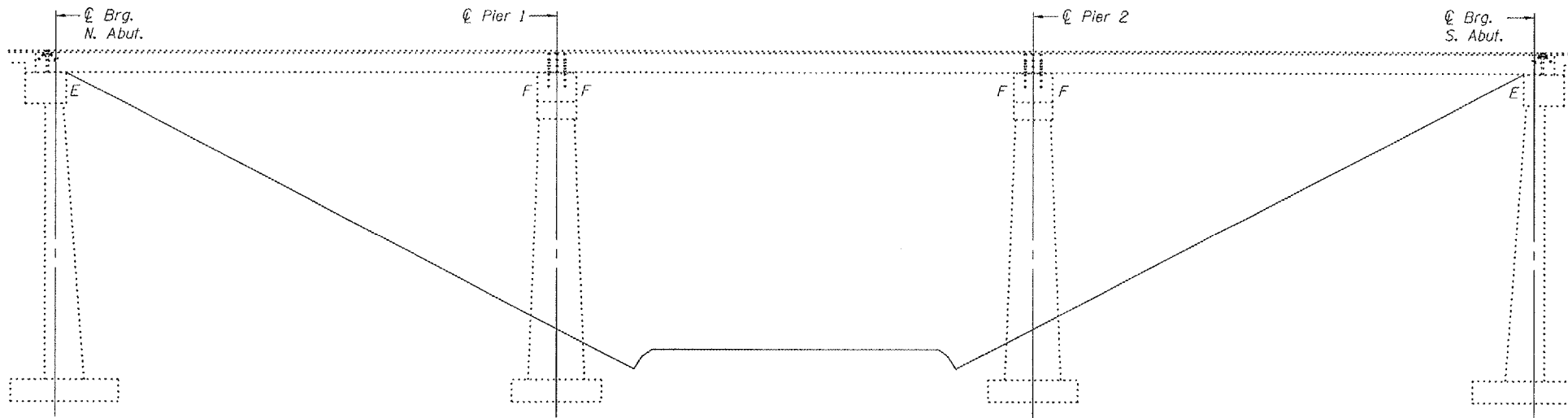
Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with PPC Deck Beams.

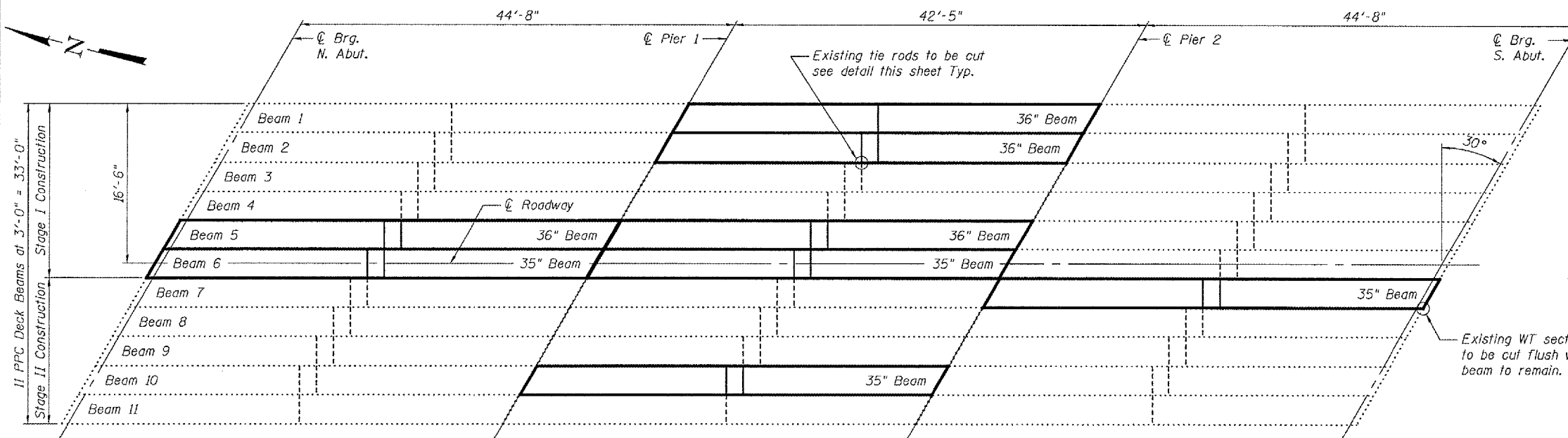
Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

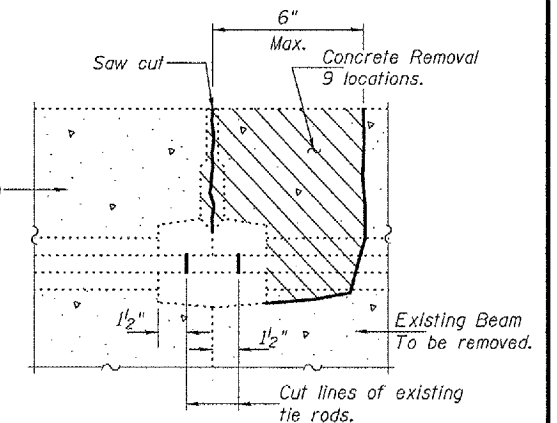
Reinforcement bars designated (E) shall be epoxy coated.



ELEVATION



PLAN



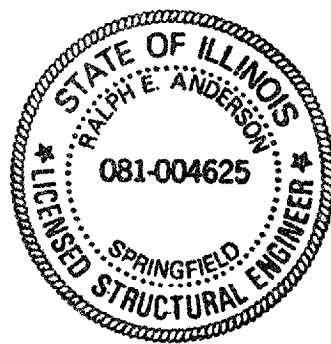
BEAM REMOVAL DETAIL AT TRANSVERSE TIES

DESIGN STRESSES

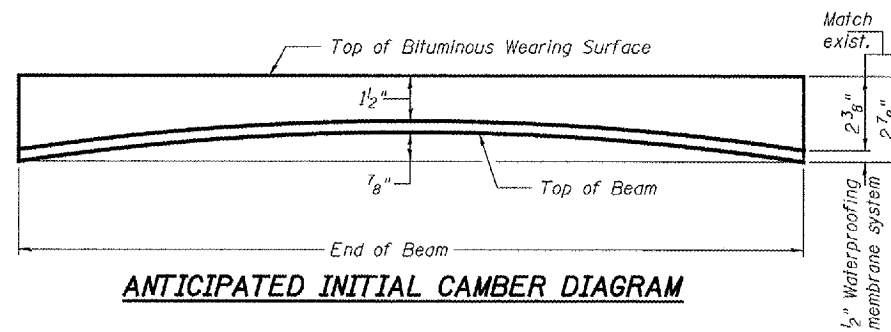
FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
PRECAST PRESTRESSED UNITS
 $f'_c = 5,000$ psi
 $f'_{ci} = 4,000$ psi
 $f'_s = 270,000$ psi ($\frac{1}{2}$ " ϕ low lax strands)
 $f'_{si} = 201,960$ psi ($\frac{1}{2}$ " ϕ low lax strands)

DESIGNED	Alan F. Holloway
CHECKED	[Signature]
DRAWN	[Signature]
CHECKED	AT/AJB

February 26, 2008
 EXAMINED [Signature]
 PASSED [Signature]
 ENGINEER OF BRIDGES AND STRUCTURES



Expires: November 30, 2008



ANTICIPATED INITIAL CAMBER DIAGRAM

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Removal of Existing PPC Deck Beams	Sq. Ft.	1042
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1028
Concrete Superstructure	Cu. Yd.	1.7
Removing and Re-erecting Existing Railing	Foot	42
Waterproofing Membrane System	Sq. Yd.	135
PC Mortar Fairing Course	Foot	523
Hot-Mix Asphalt Surface Removal	Sq. Yd.	23.7
HMA Surface Course Mix "D" N50	Tons	14.7
Asbestos Bearing Pad Removal	Each	3
Protective Coat	Sq. Yd.	12.4

PLAN AND ELEVATION
S.B.I. ROUTE 8
KNOX COUNTY
SN 048-0013

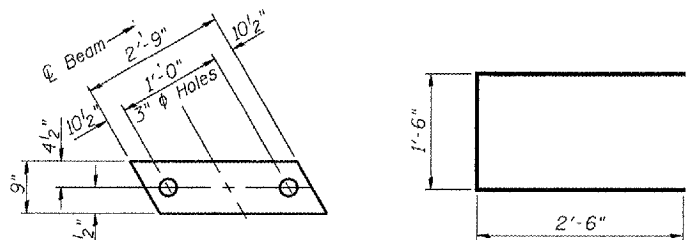
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

6" x 6" x 1 1/2" Blockout to be filled with Class B5 Concrete after Beams have been installed. Cost shall be included in the cost of "Concrete Superstructure". Omit an exterior of fascia beam.

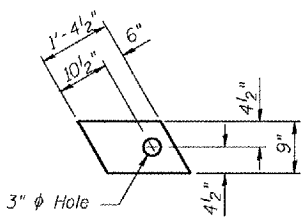
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		Knox	13	11
FED. RDW. DIST. NO. 7	PLAN NO.	FED. AID PROJECT		

SHEET NO. 2
4 SHEETS

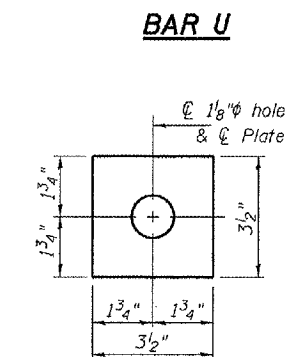
Contract Number: 68780



INTERIOR FIXED FABRIC BEARING PAD
(Expansion Similar without hole)



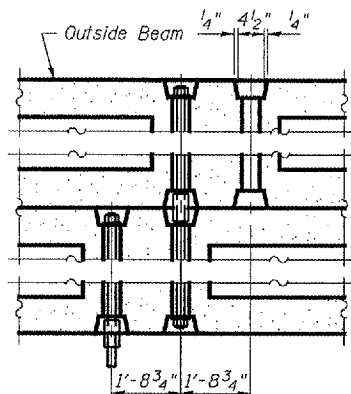
FABRIC ADJUSTING SHIMS
(Expansion Similar without hole)



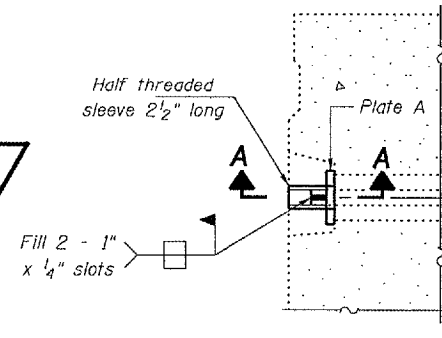
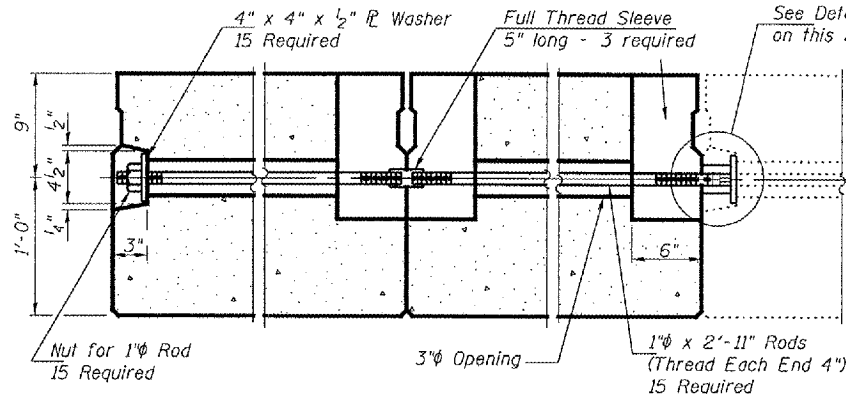
BAR U



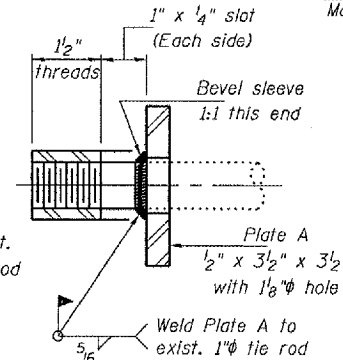
PLATE A
(9 Required)



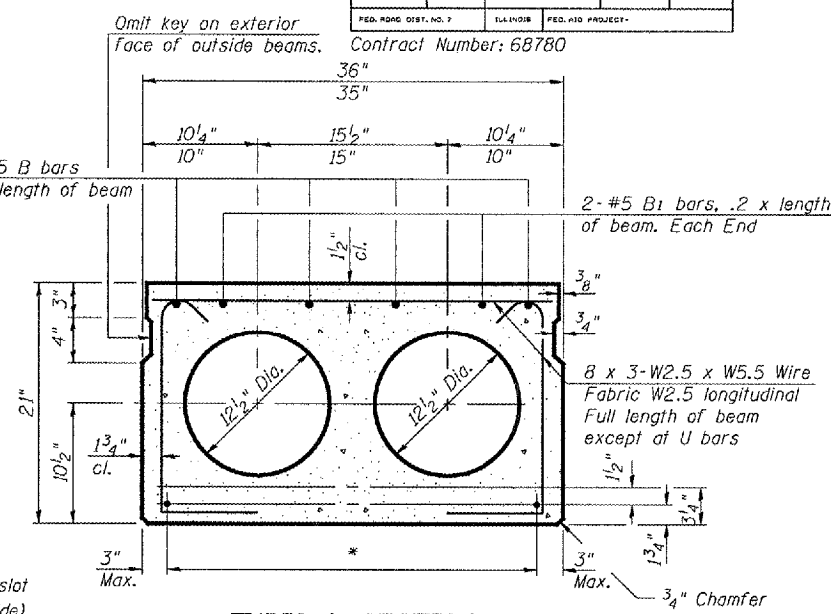
TYPICAL TRANSVERSE TIE ASSEMBLY



DETAIL A



SECTION A-A
(9 Required)



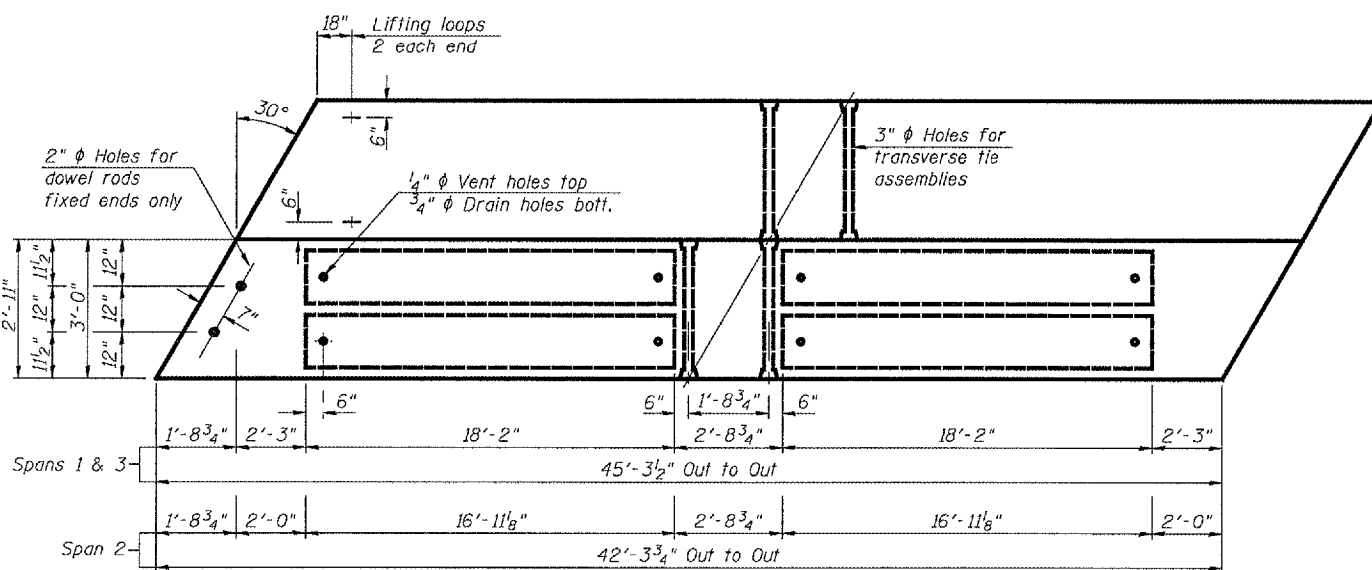
TYPICAL SECTION

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

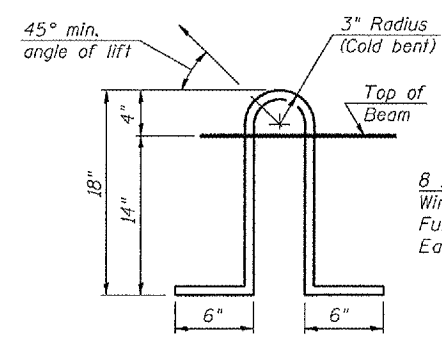
*** TRANSVERSE PLACEMENT GUIDELINES**

1. Place strands symmetrically about centerline of beam.
2. The minimum distance from center to center of strands in all directions shall be 2".
3. The minimum clearance from strand to dowel hole shall be 2".
4. The minimum clearance from strand to void shall be 1/2".

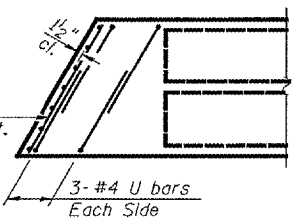
Vertical placement of strands shall not be adjusted to satisfy the above guidelines.



PLAN



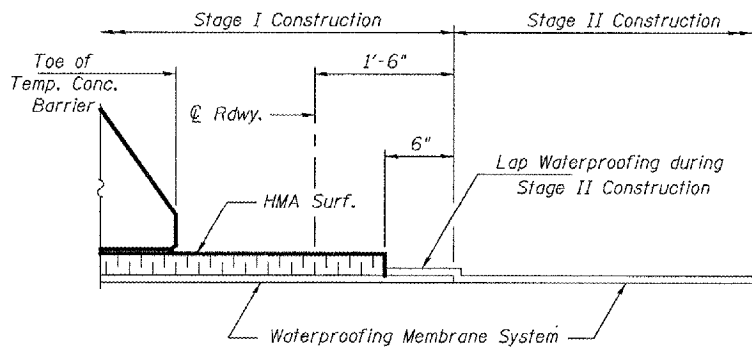
LIFTING LOOP DETAIL



END PLAN

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" ϕ - 270 ksi strands, as shown.
The 1" ϕ 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.
Non prestressing steel shall conform to ASTM A 706 (IL MOD), Grade 60.
The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions shown 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 beam and the bottom edge of the key.
Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
Required Release Strength, f'ci, shall be 4000p.s.i.



WATERPROOFING TREATMENT AT STAGE CONSTRUCTION

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms.	Sq. Ft.	1028
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BEAM DETAILS
S.B.I. ROUTE 8
KNOX COUNTY
SN 048-0013

DESIGNED	A.T.H.
CHECKED	A.J.B.
DRAWN	Drew Christopher
CHECKED	A.T.H. A.J.B.

February 26, 2008
EXAMINED
PASSED
ENGINEER OF STRUCTURAL SERVICES
ENGINEER OF BRIDGES AND STRUCTURES

PD-3-L 11-1-06

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

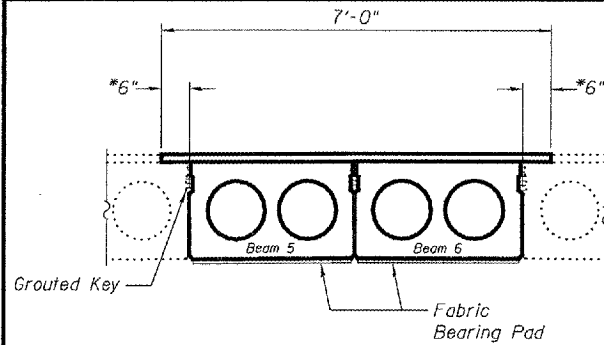
ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
		KNOX	13	12
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 3
4 SHEETS

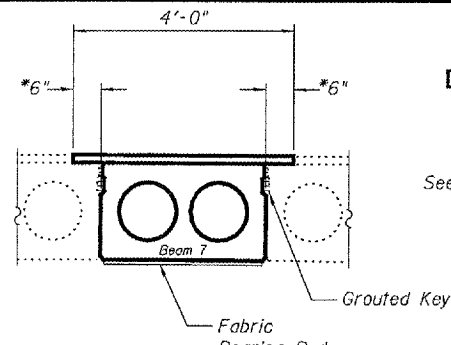
Contract Number: 68780

NOTES

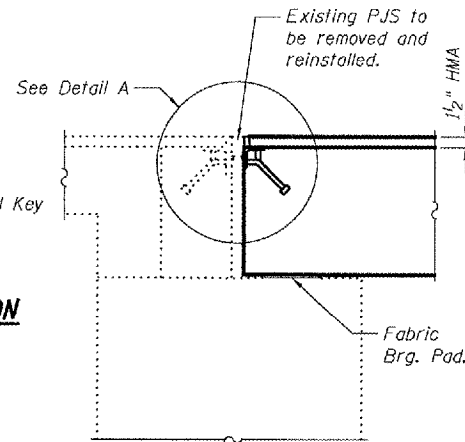
All steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270, Grade 50.
Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A 307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M 164.
All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232.
All anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Galvanized rail shall not be painted.
The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place $\frac{1}{8}$ " fabric bearing pad between the post and concrete.
The $\frac{3}{4}$ " high strength bolts used to connect the 6 x 4 x $\frac{3}{4}$ " angles to the post shall be tightened according to Article 505.04(f)(3) 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 $\frac{1}{8}$ turn. The $\frac{5}{8}$ " cap screws in bottom of posts shall be tightened to a snug fit only.
Cost of the anchorage devices is included with the cost of Precast Prestressed Concrete Deck Beams (21" Depth).



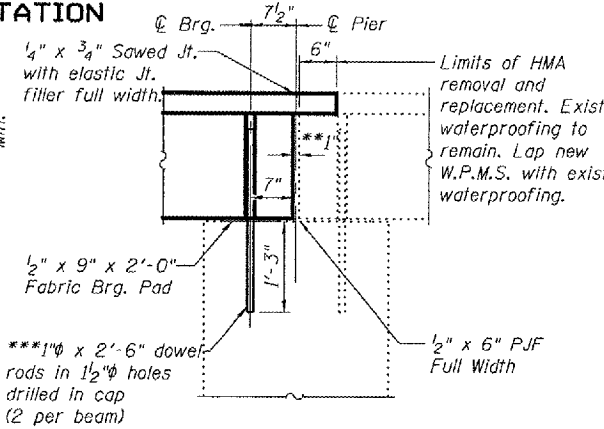
SPAN 1 PARTIAL CROSS SECTION
(Looking South)



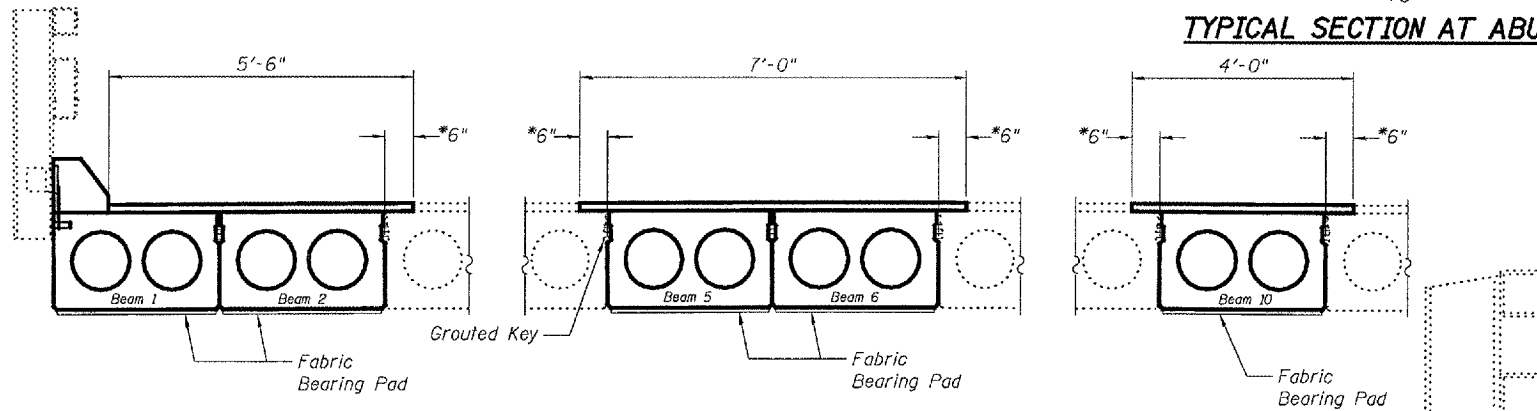
SPAN 3 PARTIAL CROSS SECTION
(Looking South)



TYPICAL SECTION AT ABUTMENT

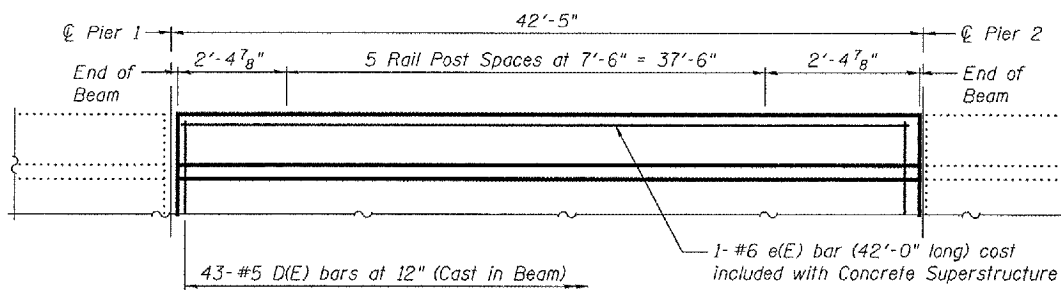


TYPICAL SECTION AT PIER
(Dims are at Rt L's)

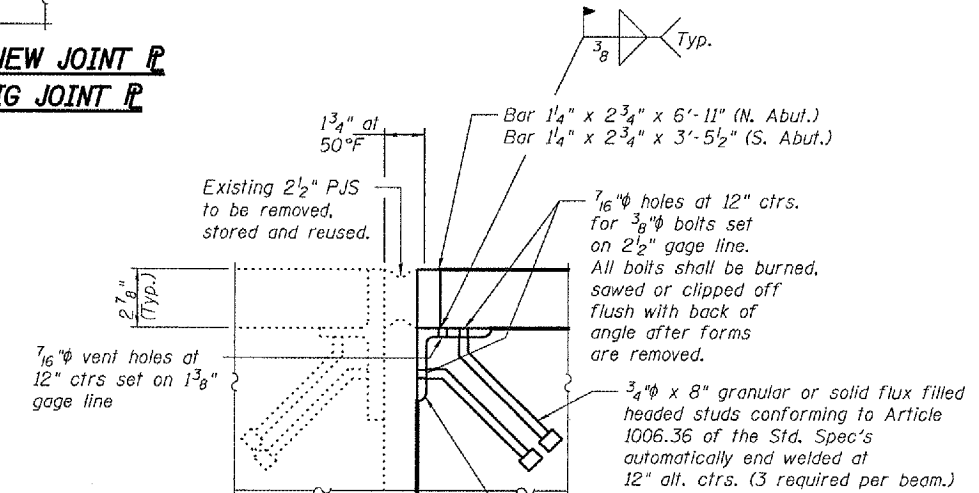


SPAN 2 PARTIAL CROSS SECTION
(Looking South)

ELEVATION NEW JOINT P TO EXISTING JOINT P



SECTION AT RAIL POST



DETAIL A

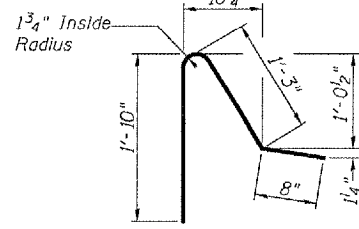
(Cost included with PPC Deck Beams)

*Limits of HMA removal.

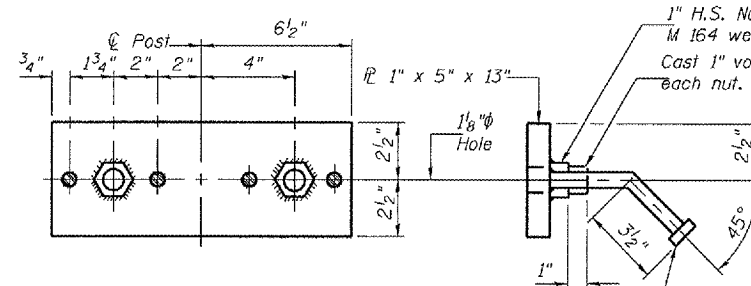
**1" joint shall be filled with non-shrink grout. This dimension may vary plus or minus to accommodate tolerance in beam lengths.

***Existing Dowel Rods shall be cut off and ground flush with the top of the existing concrete. Cost to be included in the cost of Removal of Existing P.P.C. Deck Beams. New Dowel Rods shall be grouted after beams are in place and allowed to cure a Minimum of 24 hours prior to grouting shear keys.

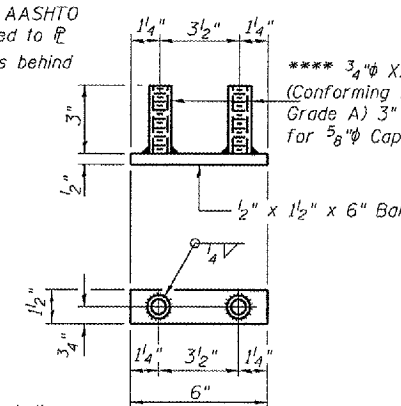
CURB ELEVATION AND RAIL SPACING



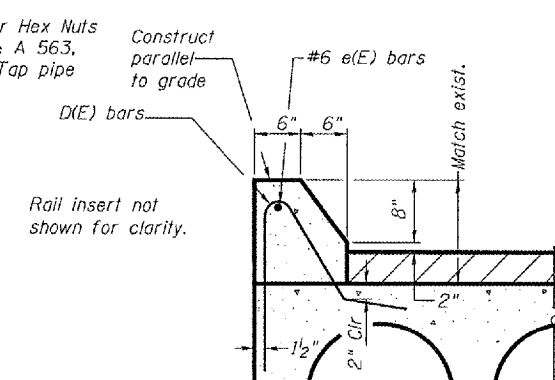
BAR D(E)



TOP ANCHOR DEVICE



BOTTOM ANCHOR DEVICE



TYPICAL SECTION THRU CURB

BEAM DETAILS
S.B.I. ROUTE 8
KNOX COUNTY
SN 048-0013

DESIGNED	A.T.H.
CHECKED	A.J.B.
DRAWN	Drew Christopher
CHECKED	A.T.H. A.J.B.

February 26, 2008	
EXAMINED	<i>Carl Perry</i>
PASSED	<i>Ralph E. Anderson</i>
	ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET	SHEET NO. 4 4 SHEETS
		Knox	13	13	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

Contract Number: 68780

***Dimension shown is minimum required embedment into concrete.
If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.
****If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.

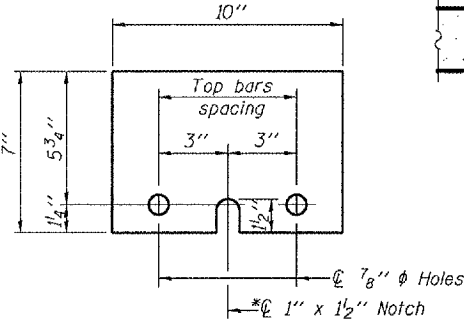
NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel \bar{r} to the top layer of couplers with 2-5/8" ϕ bolts screwed to coupler at approximate \bar{c} of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel \bar{r} to the concrete slab or concrete wearing surface with 2-5/8" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate \bar{c} of each barrier panel.

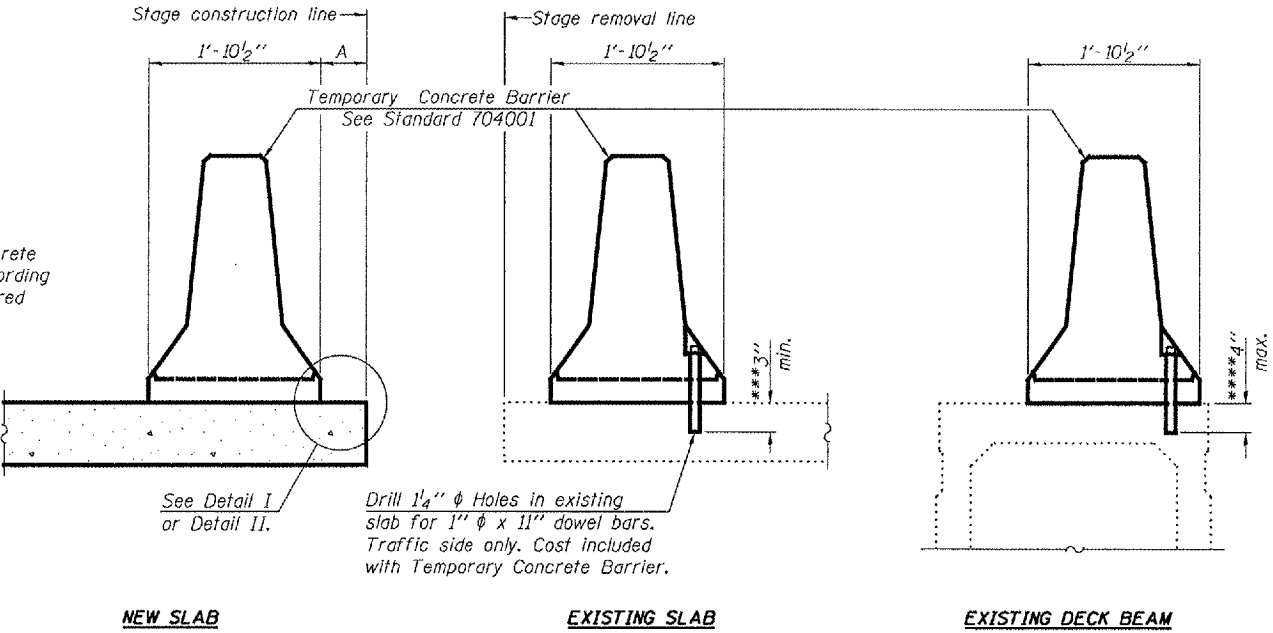
Cost of anchorage is included with Temporary Concrete Barrier.
The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".

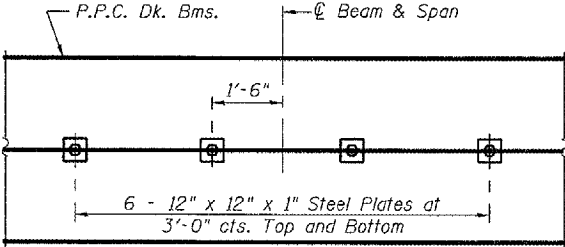


STEEL RETAINER \bar{r} 1" x 7" x 10"

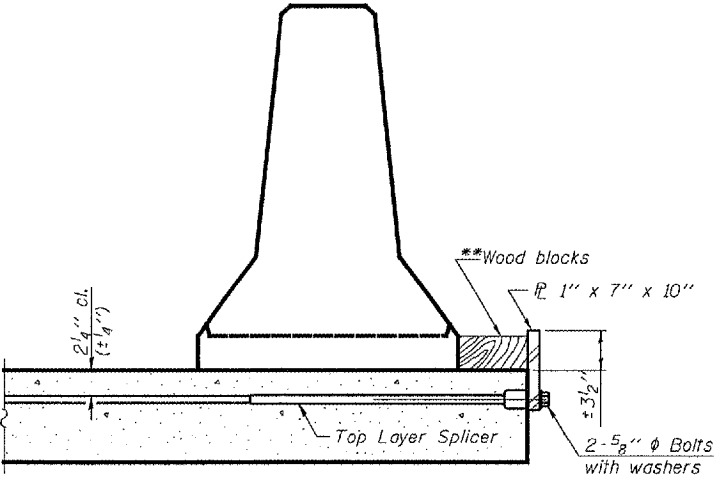
* Required only with Detail II



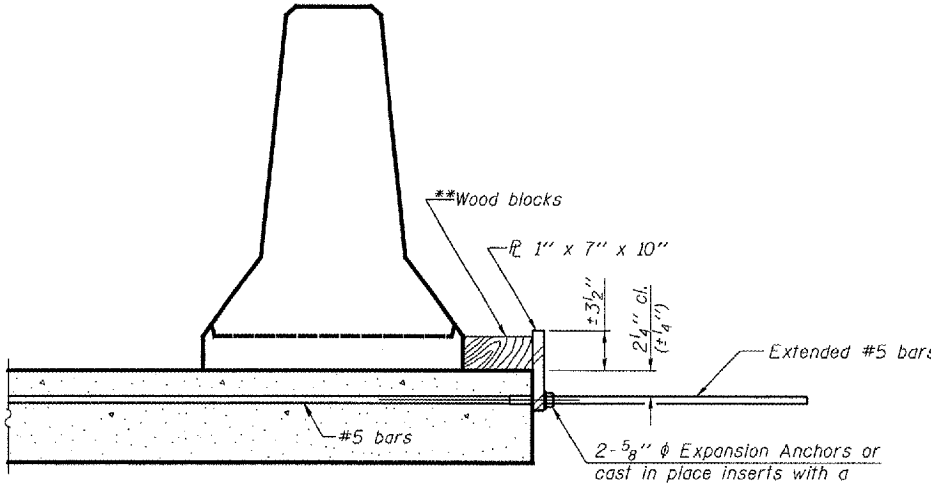
SECTIONS THRU SLAB OR DECK BEAM



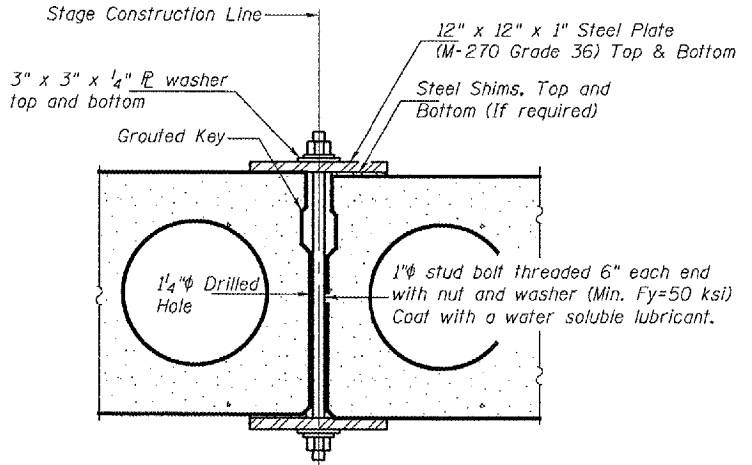
PLAN



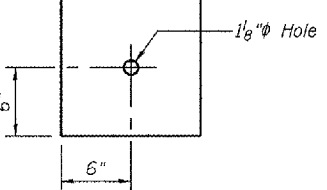
DETAIL I



DETAIL II



SECTION



CLAMPING PLATE

**Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

Notes:
See Special Provisions for Stage Construction Precast Prestressed Concrete Deck Beams.
See Stage Construction Detail for traffic lane.
Cost is included with Precast Prestressed Concrete Deck Beams.

DESIGNED	A.T.H.
CHECKED	A.J.B.
DRAWN	Drew Christopher
CHECKED	A.T.H. A.J.B.

February 26, 2008
EXAMINED *Carl...*
PASSED *Ralph E. Anderson*
ENGINEER OF STRUCTURAL SERVICES
ENGINEER OF BRIDGES AND STRUCTURES

STAGE DETAILS
S.B.I. ROUTE 8
KNOX COUNTY
SN 048-0013