

72993

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN	68	1

(V,T)B-2

+1  
69

D-96-526-05

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAP ROUTE: 662 (IL 4)

SECTION: (V,T)B-2

PROJECT NO: ACF-0005 (470)

MACOUPIN COUNTY

BRIDGE REMOVAL & REPLACEMENT

C-96-515-06

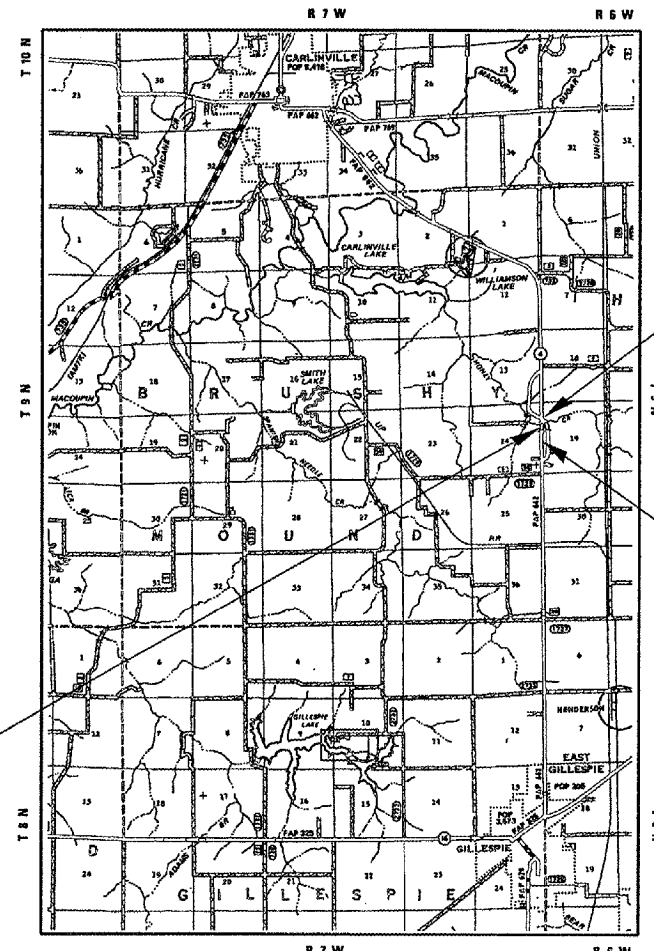
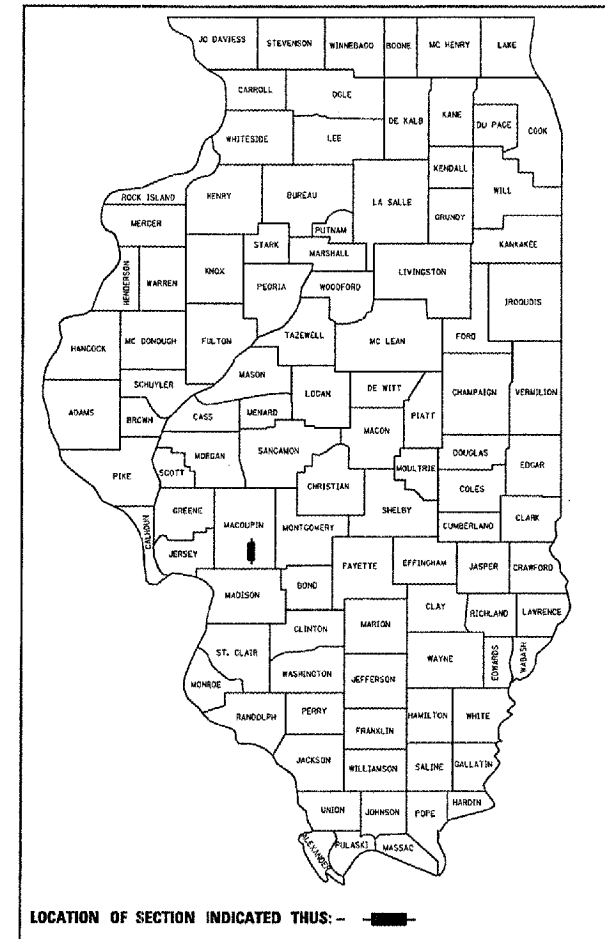
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**STANDARDS**

- 000001-04 701006-02
- 001001-01 701011-01
- 001006 701301-02
- 280001-03 701306-01
- 420401-05 701311-02
- 515001-02 701321-08
- 630001-07 702001-06
- 630301-04 704001-03
- 631032-03 780001-01
- 701001-01 781001-02

701201-02  
701326-02



BEGIN PROJECT  
STA 441+00

END PROJECT  
STA 452+00

STA 447+03.80  
PROJECT INCLUDES  
BRIDGE REMOVAL AND  
REPLACEMENT  
OF SN 059-0008  
EX 3 - SPAN BRIDGE;  
108'-0" BK TO BK ABUT.  
33'-8" OUT TO OUT  
WITH PROP  
SN 059-0504 SINGLE  
SPAN 89'-0" BK TO BK  
39'-2" OUT TO OUT

AVERAGE DAILY TRAFFIC: 3150 (2005)  
SU: 150  
MU: 225

LAYOUT MAP  
GROSS LENGTH OF PROJECT = 1100 FT. = 0.208 MI.  
NET LENGTH OF PROJECT = 1100 FT. = 0.208 MI.

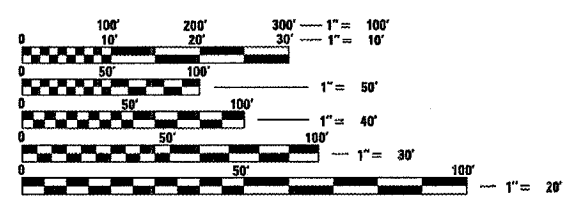
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED Mar 13 2007  
*[Signature]* DISTRICT ENGINEER

March 23 2007  
*[Signature]* ENGINEER OF DESIGN AND ENVIRONMENT

March 23 2007  
*[Signature]* DIRECTOR, DIVISION OF HIGHWAYS

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS



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

CONTRACT NO. 72993

PROJECT ENGINEER: JOHN NEGANGARD (217) 782-8990  
SR. SQUAD LEADER: MARK DUST (217) 785-0597

Rev. 4-16-07

Rev.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN	68	2
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

**GENERAL NOTES**

- 1 ALL ELEVATIONS SHOWN IN THE PLANS ARE U.S.G.S. MEAN SEA LEVEL DATUM.
- 2 ANY REFERENCE TO STANDARDS THROUGHOUT THE PLANS SHALL BE INTERRUPTED TO BE THE LATEST STANDARDS OF THE DEPARTMENT AS SHOWN IN THE PLANS.
- 3 THE THICKNESS OF BITUMINOUS MIXTURE SHOWN ON THE PLANS IS THE NORMAL THICKNESS. DEVIATIONS FROM THE NORMAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED.
- 4 SEEDING WILL NOT BE PERMITTED AT ANY TIME WHEN THE GROUND IS FROZEN, WET OR IN AN UNTILLABLE CONDITION. AREAS TO BE SEEDED SHALL BE DETERMINED BY THE ENGINEER.
- 5 EXISTING PAVEMENT DAMAGED DUE TO THE CONTRACTOR'S OPERATIONS, AND NOT OTHER WISE NECESSARY TO REPLACE, SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
- 6 THE LOCATIONS OF THOSE BURIED AND ABOVE GROUND UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINE IN ARTICLE 107.26 OF THE STANDARD SPECIFICATIONS. THE J.U.L.I.E. NUMBER IS 800-892-0123. A MINIMUM OF FORTY-EIGHT HOURS ADVANCED NOTICE IS REQUIRED.
- 7 THE EXISTING ROAD SIGNS THAT INTERFERE WITH CONSTRUCTION SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. AFTER THE CONSTRUCTION IS COMPLETED, THE CONTRACTOR WILL REPLACE THE SIGNS AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- 8 ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OUTSIDE THE LIMITS OF RIGHT-OF-WAY ACCORDING TO ARTICLE 202.03 OF THE STANDARDS SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCLUDED IN TH COST OF EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 9 WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER AND AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION IF THE ENGINEER DECIDES TO HAVE THE CONTRACTOR RESET THE MONUMENT, THIS WORK WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04.
- 10 NO PASSING ZONES SHALL BE FIELD VERIFIED BY DAVE BERTETTO, DIST. 6, (217)785-0288, 14 DAYS PRIOR TO FINAL PAVEMENT MARKINGS.
- 11 THE FOLLOWING APPLICATION RATES WERE USED FOR QUANTITY CALCULATIONS.

- BITUMINOUS SURFACE COURSE, \_\_\_\_\_ 0.056 TON / SQ YD • IN
- AGGREGATE SHOULDERS TYPE A \_\_\_\_\_ 2.05 TON / CU YD
- BITUMINOUS MATERIAL (PRIME COAT) \_\_\_\_\_ 0.00038 TON / SQ YD
- NITROGEN \_\_\_\_\_ 90 LBS / ACRE
- PHOSPHOROUS \_\_\_\_\_ 90 LBS / ACRE
- POTASSIUM \_\_\_\_\_ 90 LBS / ACRE
- LIMESTONE \_\_\_\_\_ 2 TON / ACRE
- MULCH \_\_\_\_\_ 2 TON / ACRE
- TEMPORARY EROSION CONTROL SEEDING \_\_\_\_\_ 100 LB / ACRE
- RIPRAP \_\_\_\_\_ 1.50 TON / CU YD
- AGGREGATE SHOULDERS TYPE B \_\_\_\_\_ 1.89 TON / CU YD

12 THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE FOR THIS PROJECT.

MIXTURE USE	Surface 40603310	Level Binder 40600625	Binder 40603080	Incidental Surface 40800050	Base Course Widening 10" 35600716	Shoulders 48203100
AC/PG	PG 64-22	PG 64-22	PG 64-22	PG 64-22	PG 64-22	PG 58-22
DESIGN AIR VOIDS	4.0 @ N Design = 50	4.0 @ N Design = 50	4.0 @ N design = 50	4.0 @ N design = 50	4.0 @ N design = 50	2.0 @ N design = 30
MIXTURE COMPOSITION (GRADATION MIXTURE)	IL 9.5 OR 12.5	IL 9.5	IL 19.0	IL 9.5 or 12.5	IL 19.0	BAM
FRICITION AGGREGATE	Mix "C"	N/A	N/A	Mix "C"	N/A	N/A

**COMMITMENTS**

- THE FIELD/RESIDENT ENGINEER SHALL CONTACT STUDIES & PLANS CONCERNING ANY MAJOR PLAN CHANGES TO MAKE SURE NO PREVIOUS COMMITMENTS (NOT LISTED) WERE MADE AFFECTING THE DESIGN AND ALLOW AN IMPROVED DESIGN FOR FUTURE PROJECTS.

*GEN. NOTES (cont.)*

13. INSTALLATION OF THE PIPE CULVERT AT STA. 450+63.40 SHALL BE COMPLETED BEFORE STANDARD 701321 CAN BE INSTALLED.

14. DRAINAGE AGGREGATE AND POROUS GRANULAR EMBANKMENT SHALL BE CA-07 MATERIAL.

15. TOPSOIL SHALL BE IN ACCORDANCE WITH ARTICLE 211 OF THE STANDARD SPECIFICATIONS WITH A MINIMUM DEPTH OF 4 INCHES. THE QUANTITY OF TOPSOIL HAS BEEN INCLUDED IN FURNISHED EXCAVATION AND WILL NOT BE PAID FOR SEPARATELY.

EXAMINED Dec 14 2006

*[Signature]*

PROGRAM IMPLEMENTATION ENGINEER

---

DISTRICT SIX

---

EXAMINED December 14 2006

*[Signature]*

OPERATIONS ENGINEER

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EXAMINED December 15 2006

*[Signature]*

PROGRAM DEVELOPMENT ENGINEER

Rev. 4-16-07

ILLINOIS DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES & COMMITMENTS**

REVISIONS	
NAME	DATE

SCALE: VERT. \_\_\_\_\_ HORIZ. \_\_\_\_\_ DATE \_\_\_\_\_

DRAWN BY \_\_\_\_\_ CHECKED BY \_\_\_\_\_

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662	*	MACOUPIN	68	3
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

(V,T) B-2

SUMMARY OF QUANTITIES		UNITS	TOTAL QUANTITY	CONSTR. CODE	CONSTR. CODE
PAY CODE NUMBER	PAY ITEM DESCRIPTION		80% FED. 20% STATE	RURAL ROADWAY 1000 80% FED 20% STATE	IL 4 BRIDGE X081-2A 80% FED 20% STATE
20100110	TREE REMOVAL ( 6 TO 15 UNITS DIAMETER)	UNIT	138	138	-
20100210	TREE REMOVAL ( OVER 15 UNITS DIAMETER)	UNIT	134	134	-
20200100	EARTH EXCAVATION	CU YD	348	348	-
20400800	FURNISHED EXCAVATION	CU YD	919	919	-
20700400	POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD	227	-	227
20800150	TRENCH BACKFILL	CU YD	10	10	-
25000200	SEEDING, CLASS 2	ACRE	0.8	0.8	-
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	72	72	-
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	72	72	-
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	72	72	-
25000700	AGRICULTURAL GROUND LIMESTONE	TON	1.6	1.6	-
25100115	MULCH, METHOD 2	ACRE	0.2	0.2	-
25100635	HEAVY DUTY EROSION CONTROL BLANKET	SQ YD	2900	2900	-
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	200	200	-
28000400	PERIMETER EROSION BARRIER	FOOT	500	500	-
28001000	AGGREGATE ( EROSION CONTROL)	TON	10	10	-
28100109	STONE RIPRAP, CLASS A5	SQ YD	2000	535	1465
28200200	FILTER FABRIC	SQ YD	2000	535	1465
35600716	HOT-MIX ASPHALT BASE COURSE WIDENING, 10"	SQ YD	346	346	-
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	25	25	-

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SUMMARY OF QUANTITIES  
 SCALE: VERT. DATE  
 HORIZ. DATE  
 DRAWN BY  
 CHECKED BY

Rev. 4-16-07

PL03: 04/16/07  
 P:\Projects\72993\Drawings\Sheet\Sched.dgn  
 User: jhughes

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN	68	4
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

(W,T) B-2

SUMMARY OF QUANTITIES		UNITS	TOTAL QUANTITY	CONSTR. CODE	CONSTR. CODE
PAY CODE NUMBER	PAY ITEM DESCRIPTION		80% FED. 20% STATE	RURAL ROADWAY 1000 80% FED 20% STATE	IL 4 BRIDGE X081-2A 80% FED 20% STATE
40600200	BITUMINOUS MATERIALS (PRIME COAT)	TON	2	2	-
40600300	AGGREGATE (PRIME COAT)	TON	12	12	-
40600625	LEVELING BINDER (MACHINE METHOD), N50	TON	135	135	-
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	375	375	-
40600990	TEMPORARY RAMP	SQ YD	99	99	-
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	970	970	-
40603310	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50	TON	215	215	-
40800050	INCIDENTAL HOT-MIX ASPHALT SURFACING	TON	25	25	-
42001400	BRIDGE APPROACH PAVEMENT (SPECIAL)	SQ YD	245	245	-
44000100	PAVEMENT REMOVAL	SQ YD	130	130	-
44004250	PAVED SHOULDER REMOVAL	SQ YD	20	20	-
44200108	PAVEMENT PATCHING, TYPE II, 9 INCH	SQ YD	18	18	-
48101200	AGGREGATE SHOULDERS, TYPE B	TON	350	350	-
48203100	HOT-MIX ASPHALT SHOULDERS	TON	155	155	-
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	-	1
50105200	REMOVE EXISTING CULVERTS	EACH	1	1	-
50200100	STRUCTURE EXCAVATION	CU YD	117	-	117
50300225	CONCRETE STRUCTURES	CU YD	52.3	-	52.3
50300255	CONCRETE SUPERSTRUCTURE	CU YD	144.5	-	144.5
50300260	BRIDGE DECK GROOVING	SQ YD	580	245	335

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: VERT.  
HORIZ.  
DATE

DRAWN BY  
CHECKED BY

Rev. 4-16-07

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662	*	MACOUPIN	68	5
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

(V,T) B-2

SUMMARY OF QUANTITIES

PAY CODE NUMBER	PAY ITEM DESCRIPTION	UNITS	TOTAL QUANTITY	CONSTR. CODE	CONSTR. CODE
			80% FED 20% STATE	RURAL ROADWAY 1000 80% FED 20% STATE	IL 4 BRIDGE X081-2A 80% FED 20% STATE
50300300	PROTECTIVE COAT	SQ YD	431	-	431
50401105	FURNISHING AND ERECTING PRECAST PRESTRESSED CONCRETE I-BEAMS, 54 IN.	FOOT	524.5	-	524.5
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	32,160	-	32,160
50800515	BAR SPLICERS	EACH	355	-	355
51201105	FURNISHING METAL SHELL PILES 14"	FOOT	931	-	931
51202305	DRIVING PILES	FOOT	931	-	931
51203200	TEST PILE METAL SHELLS	EACH	2	-	2
51500100	NAME PLATES	EACH	1	-	1
542A0229	PIPE CULVERT, CLASS A, TYPE 1 24"	FOOT	53	53	-
54213669	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 24"	EACH	2	2	-
54215547	METAL END SECTIONS 12"	EACH	2	2	-
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	113	-	113
60103500	PIPE DRAINS, CORRUGATED STEEL 12"	FOOT	20	20	-
60109580	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	248	-	248
60900140	TYPE B INLET BOX, STANDARD 609006	EACH	2	2	-
* 63000000	STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	950	950	-
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4	-
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	EACH	4	4	-
63200310	GUARDRAIL REMOVAL	FOOT	436	436	-
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	8	8	-

\* SPECIALTY ITEMS

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
SUMMARY OF QUANTITIES

SCALE: VERT. DATE: HORIZ. DRAWN BY: CHECKED BY:

PLOT DATE = 3/13/2007  
 PLOT SCALE = 1/8" = 1'-0"  
 USER NAME = laughtree1

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN	68	6
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

• (V,T) B-2

SUMMARY OF QUANTITIES

PAY CODE NUMBER	PAY ITEM DESCRIPTION	UNITS	TOTAL QUANTITY	CONSTR. CODE	CONSTR. CODE
		<i>80% FED. 20% STATE</i>			
		<i>RURAL ROADWAY 1000 80% FED 20% STATE</i>			<i>IL 4 BRIDGE X081-2A 80% FED 20% STATE</i>
67100100	MOBILIZATION	L SUM	1	0.5	0.5
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	-	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1	-
<del>70100460</del>	<del>TRAFFIC CONTROL AND PROTECTION, STANDARD 701306</del>	<del>L SUM</del>	<del>1</del>	<del>1</del>	<del>-</del>
<del>70100500</del>	<del>TRAFFIC CONTROL AND PROTECTION, STANDARD 701326</del>	<del>L SUM</del>	<del>1</del>	<del>1</del>	<del>-</del>
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	-	1
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	256	256	-
70300230	TEMPORARY PAVEMENT MARKING - LINE 5"	FOOT	2620	2620	-
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	<i>86</i>	<i>86</i>	-
70400100	TEMPORARY CONCRETE BARRIER	FOOT	550	-	550
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	530	-	530
* 78001120	PAINT PAVEMENT MARKING - LINE 5"	FOOT	2,900	2,900	-
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	13	13	-
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	17	17	-
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	-
78300100	PAVEMENT MARKING REMOVAL	SQ FT	720	720	-
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	14	14	-
X0321100	GEOTEXTILE RETAINING WALL	SQ FT	143	-	143
X7200201	WIDTH RESTRICTION SIGNING	L SUM	1	-	1
● Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	-	4
● Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	-	2
Z0073100	TEMPORARY SHORING	EACH	2	-	2



PLT DATE \*  
FILE NAME \*  
PLOT SCALE \*  
USER NAME \*

● SFTY-3N

\* SPECIALTY ITEMS

Rev. 4-16-07

Rev.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

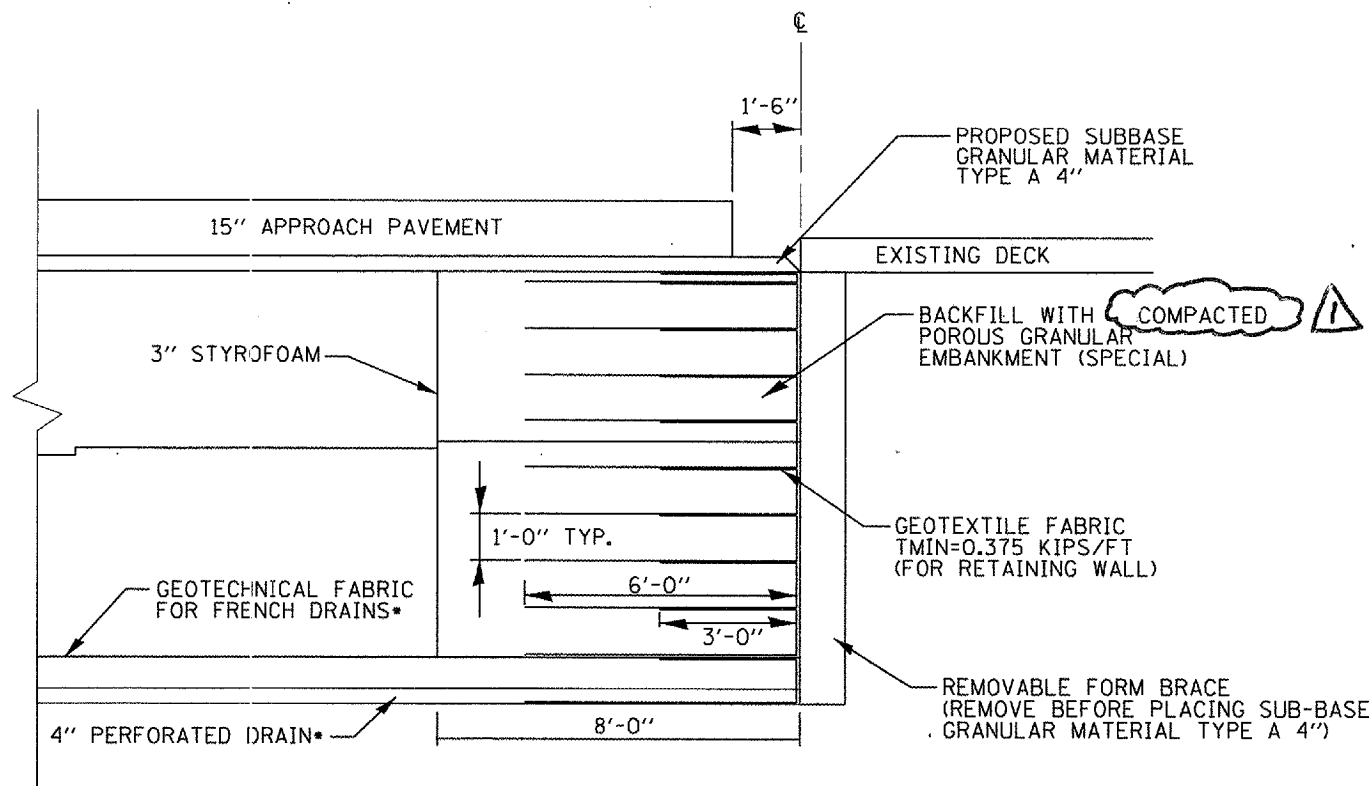
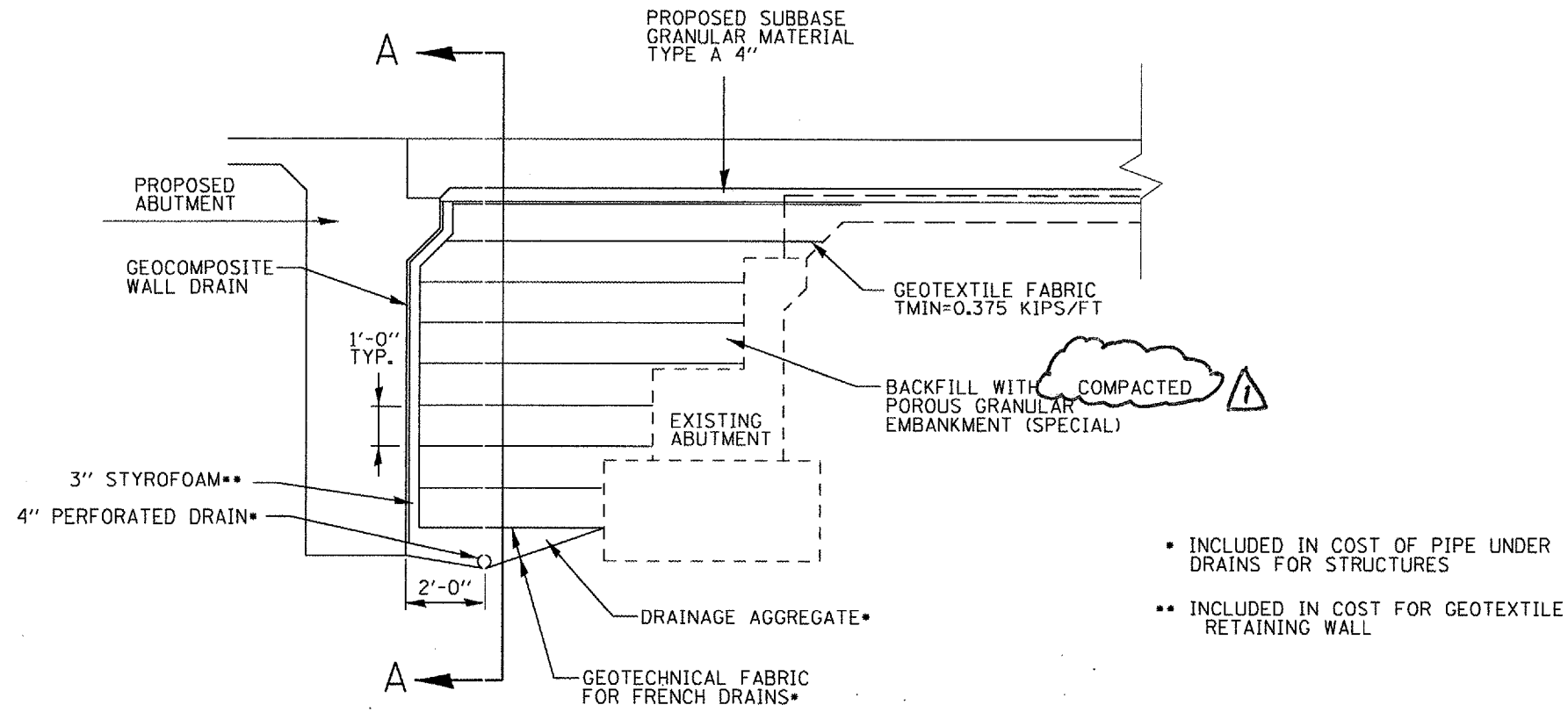
SUMMARY OF QUANTITIES

SCALE: VERT. HORIZ. DATE

DRAWN BY CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
662		MACOUPIN	68	27
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

• (V,T)B-2



SECTION A-A

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 GEOTEXTILE RETAINING WALL  
 DETAIL  
 HONEY CREEK  
 FAP 662 (IL 4)

SCALE: VERT.  
 HORIZ.  
 DATE 04-21-03

DRAWN BY MAW  
 CHECKED BY MAA

Rev. 4-16-07

Bench Mark: IDOT BM#20A Chsld. "□" on SW corner of hub guard. S.N. 059-0008 Sta. 447+50, offset = 15.2' RT. NGVD 29, Elev. 602.96

Existing Structure: S.N. 059-0008 built in 1961 as SBI Rte. 4, Section (V,T) B-1 at Sta. 447+03.8. The superstructure consists of a reinforced concrete deck on wide flange beams. The substructure consists of pile bent abutments and 2 single hammerhead piers supported on spread footings. The Bk. to Bk. Abut. dimension measures 108'-0" while the O.-O. deck width measures 33'-8". The structure is to be removed and replaced using stage construction.

No salvage

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS

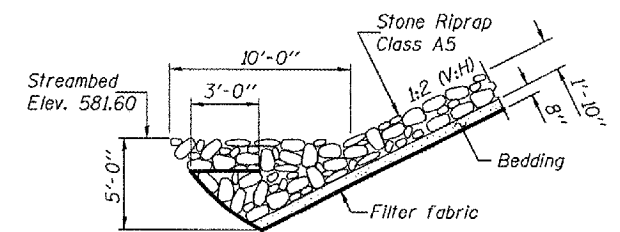
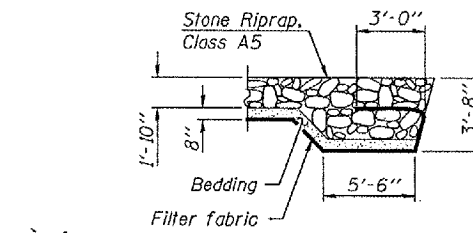
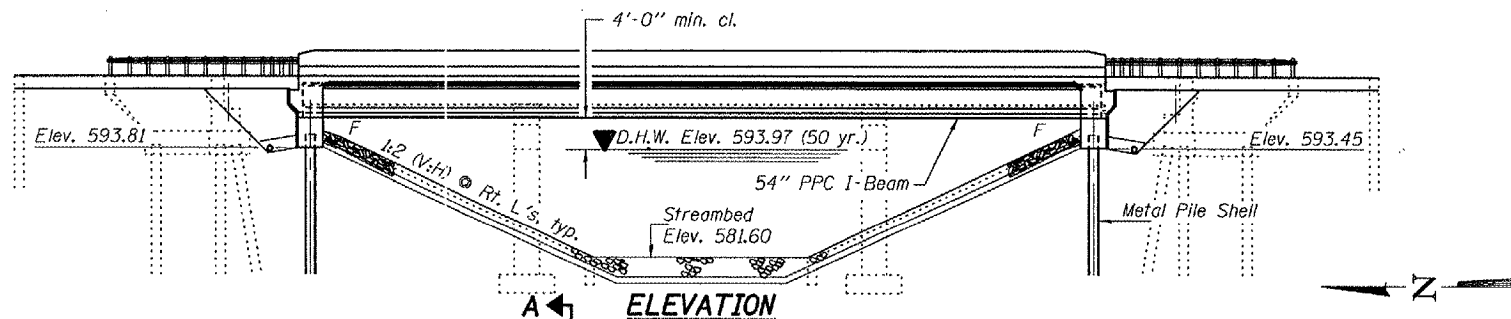
- 1 General Plan & Elevation
- 2 Stage Construction Details
- 3 Temporary Shoring Details at Existing Piers
- 4 Temporary Concrete Barrier Details
- 5-6 Top of Slab Elevations
- 7 Superstructure
- 8 Superstructure Details
- 9 Diaphragm Details
- 10 Framing Plan
- 11-12 Beam Details
- 13 North Abutment
- 14 South Abutment
- 15 This sheet is intentionally left blank
- 16 Metal Shell Pile Details
- 17 Bar Splicer Details
- 18-20 Boring Logs

ROUTE NO.	SECTION	COUNTY	TOWNSHIP	SHEET NO.	SHEET NO. 1
FAP 662	(V,T)B-2	MACOUPIN	603	32	20 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT	

Contract #72993

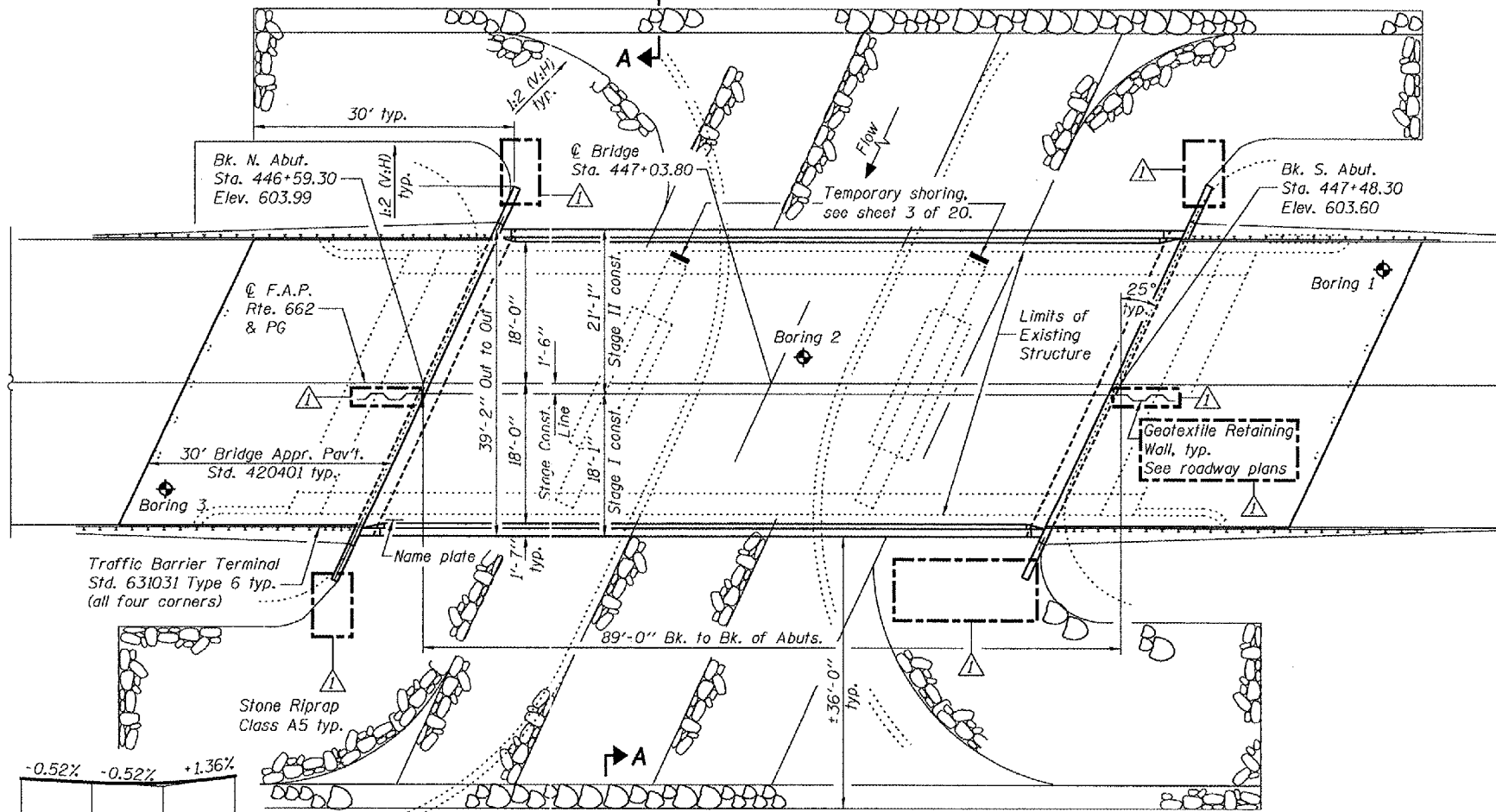
GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60 (IL Modified). See Special Provisions.  
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.  
The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project. Reinforcement bars designated (E) shall be epoxy coated.  
The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.  
The Contractor shall drive test piles to 110% of the nominal required bearing specified in the production locations at substructures specified or approved by the Engineer before ordering the remainder of piles.



SECTION A-A

STONE RIPRAP ANCHOR DETAIL



STATION 447+03.80  
BUILT 200 BY  
STATE OF ILLINOIS  
F.A.P. RT. 662 SEC. (V,T)B-2  
LOADING HL93  
STRUCTURE NO. 059-0504

NAME PLATE

See Std. 515001

LOADING HL-93

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

DESIGN SPECIFICATIONS

2004 AASHTO LRFD with 2005 & 2006 Interims

DESIGN STRESSES

FIELD UNITS

$f_c = 3,500$  psi  
 $f_y = 60,000$  psi (reinforcement)

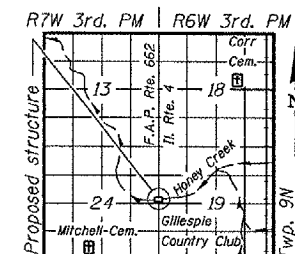
PRECAST PRESTRESSED UNITS

$f_c = 6,000$  psi  
 $f_{ci} = 5,000$  psi  
 $f_s = 270,000$  psi ( $\frac{1}{2}$ "  $\phi$  low lax. strands)  
 $f_{si} = 201,960$  psi ( $\frac{1}{2}$ "  $\phi$  low lax. strands)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1  
Bedrock Acceleration Coefficient (A) = 6.7%  
Site Coefficient (S) = 1.5

\* See roadway plans for details



LOCATION SKETCH

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		227	227
Stone Riprap, Class A5	Sq. Yd.		1465	1465
Filter Fabric	Sq. Yd.		1465	1465
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		117	117
Concrete Structures	Cu. Yd.		52.3	52.3
Concrete Superstructure	Cu. Yd.	144.5		144.5
Bridge Deck Grooving	Sq. Yd.	335		335
Protective Coat	Sq. Yd.	431		431
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 54"	Foot	524.5		524.5
Reinforcement Bars, Epoxy Coated	Pound	25920	6240	32160
Furnishing Metal Shell Piles 14"	Foot		931	931
Driving Piles	Foot		931	931
Test Pile Metal Shells	Each		2	2
* Geotextile Retaining Wall	Sq. Ft.		143	143
Name Plates	Each	1		1
Bar Splicers	Each	331	24	355
Pipe Underdrain for Structures, 4"	Foot		176	176
Geocomposite Wall Drain	Sq. Yd.		113	113
Temporary Shoring	Each		2	2

WATERWAY INFORMATION

Exist. Low Grade Elev. 602.40 @ Sta. 447+08.8

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	10	2599	460	570	592.83	0.21	0.00	593.04	592.83
Base	50	4020	534	652	593.97	0.69	0.20	593.52	593.03
Overtopping	100	4629	562	682	594.37	0.92	0.34	593.75	593.17
Max. Calc.	500	6099	622	748	595.22	1.56	0.76	594.39	593.59

Sta. 446+00.00	Elev. 604.30
PC Sta. 447+00.00	Elev. 603.78
PT Sta. 448+50.00	Elev. 603.00
PT Sta. 450+00.00	Elev. 605.04

PROFILE GRADE

DESIGNED	Phung P. Nareswala
CHECKED	h.t. duong
DRAWN	h.t. duong
CHECKED	DPN AJB FT

EXAMINED: *Thomas D. Dolecki*  
ENGINEER OF BRIDGE DESIGN  
PASSED: *Robert J. Dolecki*  
ENGINEER OF BRIDGES AND STRUCTURES



EXPIRES 11-30-2008

Note: Cost of removal of the existing sloped wall is included in the pay item Removal of Existing Structures.

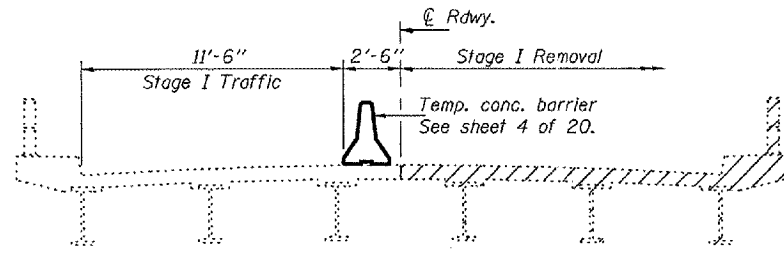
GENERAL PLAN & ELEVATION  
ILLINOIS ROUTE 4 OVER  
HONEY CREEK  
F.A.P. RT. 662 SECTION (V,T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504



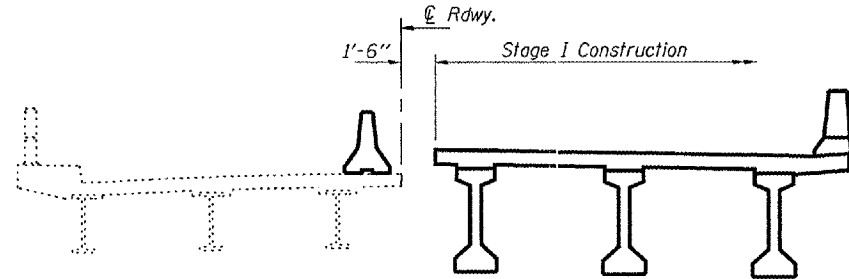
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAP 662	(V,T)B-2	MACOUPIN	60 33	20
FED. ROAD DIST. NO. 7		ILLINOIS	PROJECT	

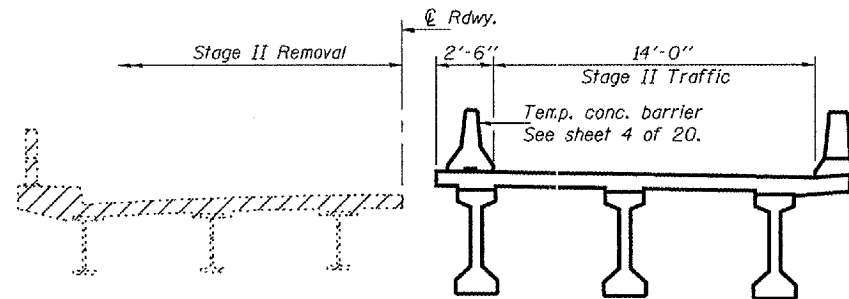
Contract #72993



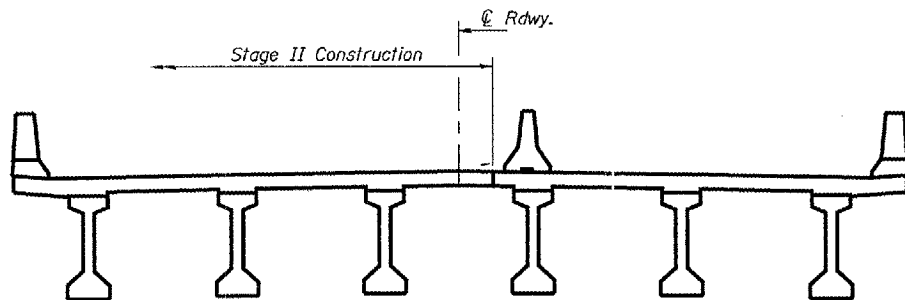
\*\*\*STAGE I REMOVAL



\*\*\*STAGE I CONSTRUCTION



\*\*\*STAGE II REMOVAL



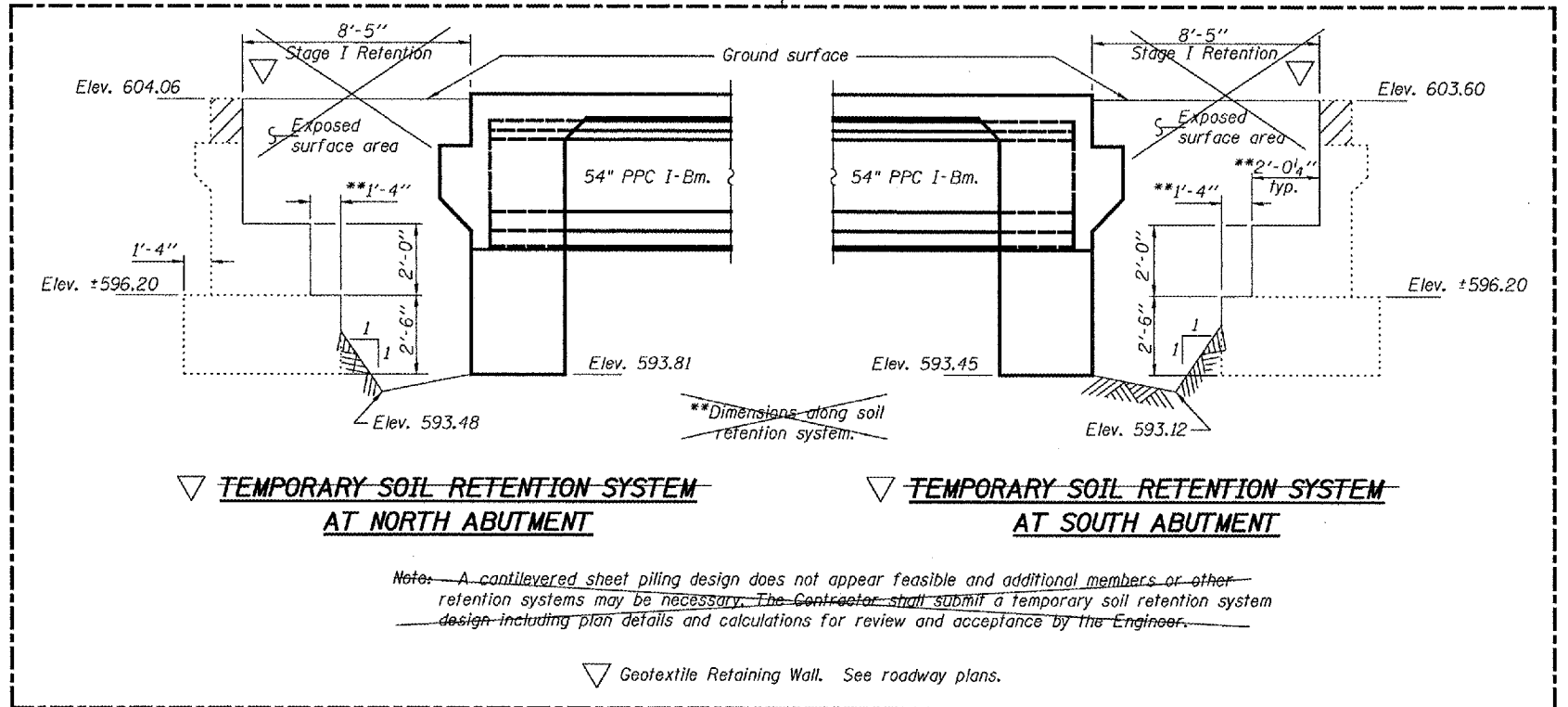
STAGE II CONSTRUCTION

\*\*\*Stage removal lines shown are for Superstructure and Abutments. Stage removal lines for existing piers are different. See sheet 3 of 20.  
\*\*\*Deck stage construction line is shown. Stage construction line for diaphragms and abutments is different. See sheet 9 of 20.

Notes: Hatched area indicates Removal of Existing Structures.  
For quantity of Temporary Concrete Barrier, see Roadway Plans.  
All staging cross sections are looking south.

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.f. duong
CHECKED	AJB/DPN

EXAMINED *Thomas J. Demagalli*  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

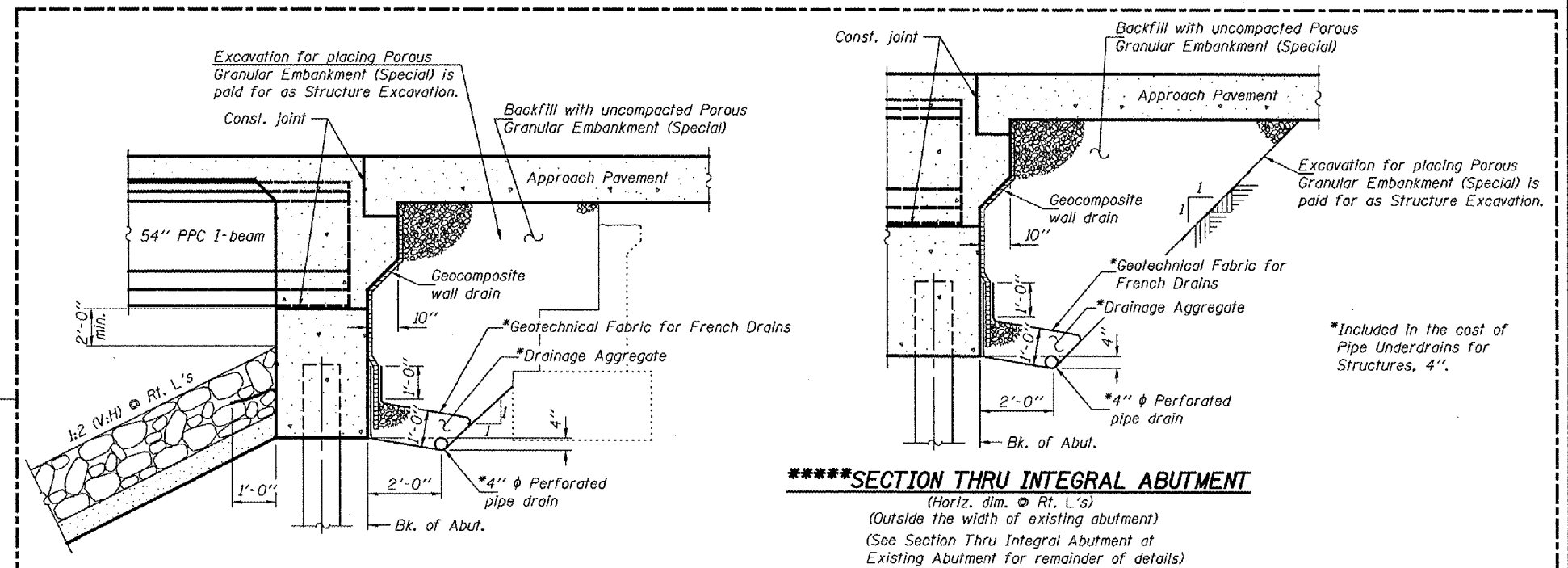


TEMPORARY SOIL RETENTION SYSTEM AT NORTH ABUTMENT

TEMPORARY SOIL RETENTION SYSTEM AT SOUTH ABUTMENT

Note: A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.

Geotextile Retaining Wall. See roadway plans.



SECTION THRU INTEGRAL ABUTMENT AT EXISTING ABUTMENT

SECTION THRU INTEGRAL ABUTMENT

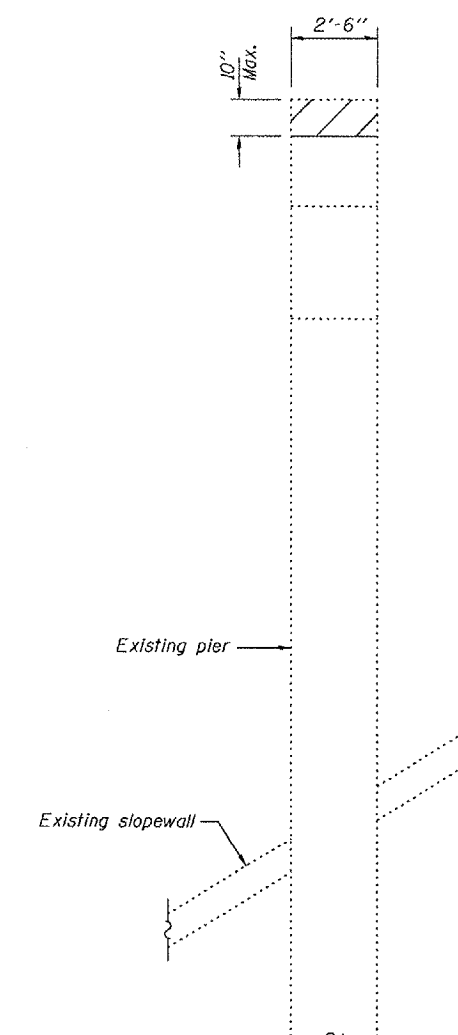
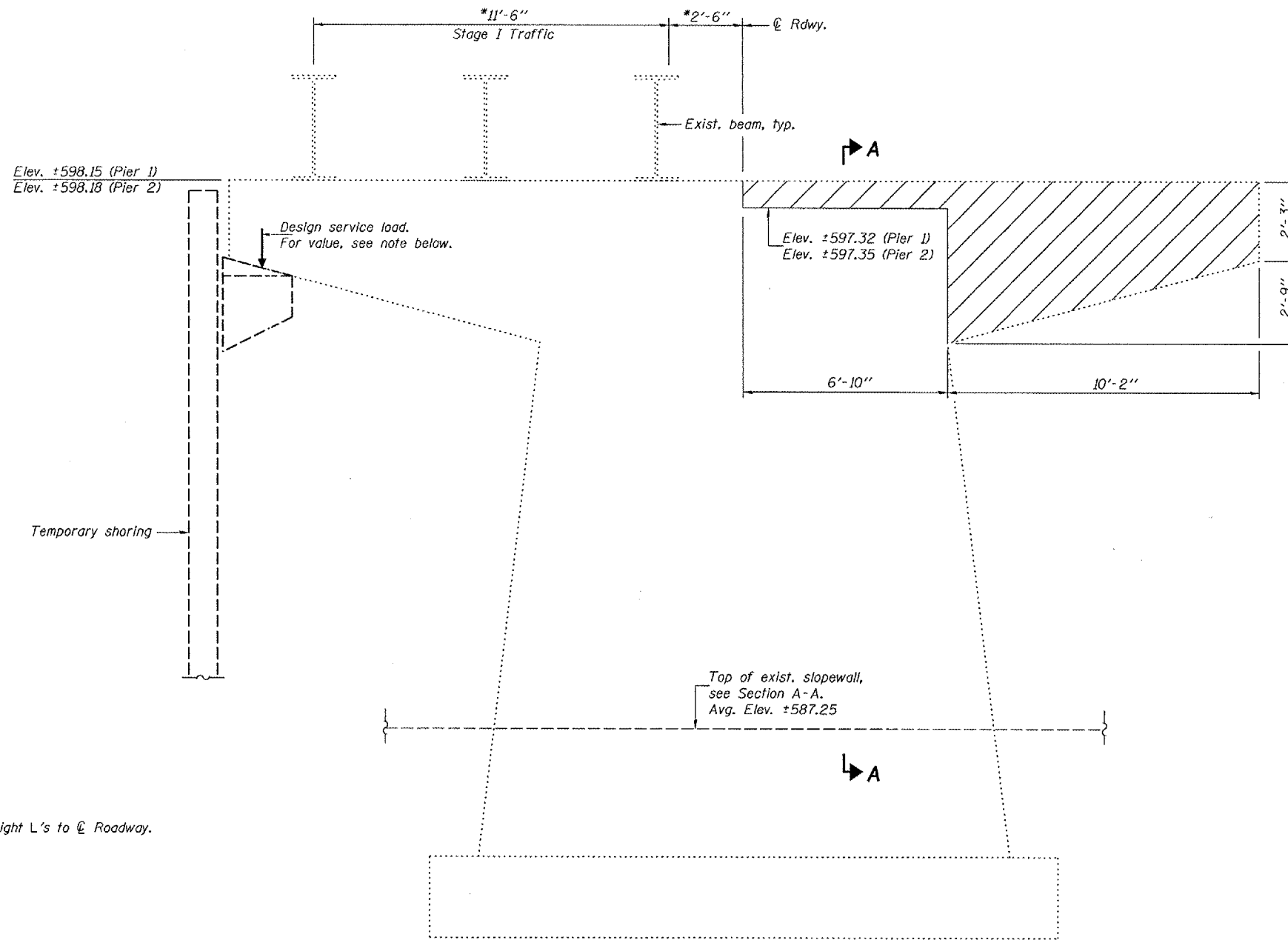
\*\*\*\*All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Std. Spec's. and Highway Standard 601101).

(Horiz. dim. @ Rt. L's)  
(Outside the width of existing abutment)  
(See Section Thru Integral Abutment at Existing Abutment for remainder of details)

STAGE CONSTRUCTION DETAILS  
F.A.P. RT. 662 SECTION (V,T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET	SHEET NO. 3 20 SHEETS
FAP 662	(V,T)B-2	MACOUPIN	68	34	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	Contract #72993		



\* Dimensions at right L's to  $\odot$  Roadway.

**ELEVATION - EXISTING PIERS 1 & 2**  
(Looking south - Pier 1 shown; Pier 2 similar)

 Hatched area indicates the maximum portion of the existing pier that may be removed during Stage I Removal to allow Stage I Construction. Remaining portions of the existing pier that are to be removed shall be removed during Stage II Removal. Cost included with Removal of Existing Structures.

Notes: The existing piers shall be shored as shown on this sheet prior to beginning Stage I Removal. The temporary shoring shall remain in place until Stage Traffic has been moved to the Stage I Construction location. See Special Provision. (See sheet 2 of 20 for Stage Construction Details.)  
Temporary shoring shall not be supported on any part of the pier, its footing or the existing slopewall.  
Design service load at support contact as shown is 125 kips.

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.f. duong
CHECKED	AJB/DPN

Jan 23, 2007  
EXAMINED *Thomas J. Donaghy*  
PASSED *Ronald C. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**BILL OF MATERIAL**

Item	Unit	Total
Temporary Shoring	Each	2

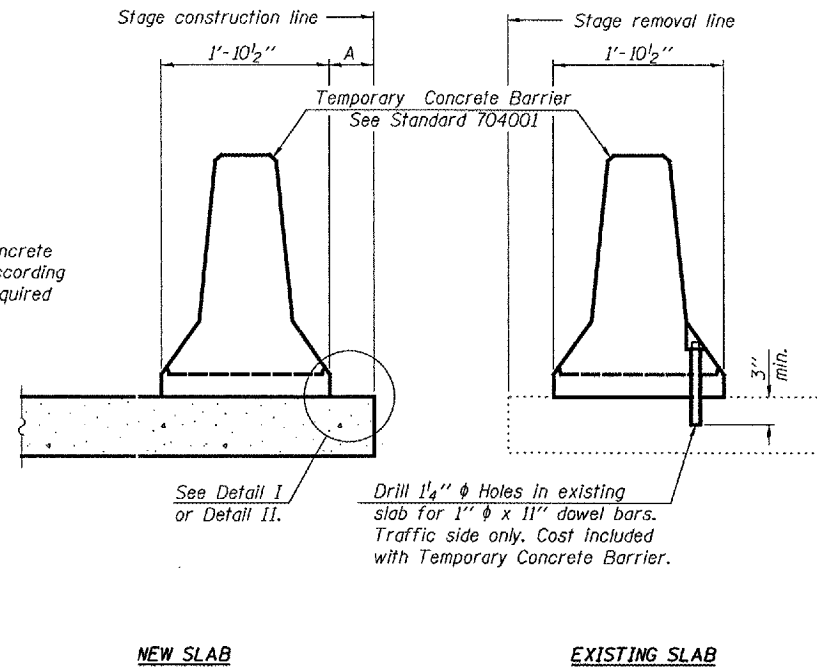
**TEMPORARY SHORING DETAILS  
AT EXISTING PIERS  
F.A.P. RT. 662 SECTION (V,T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

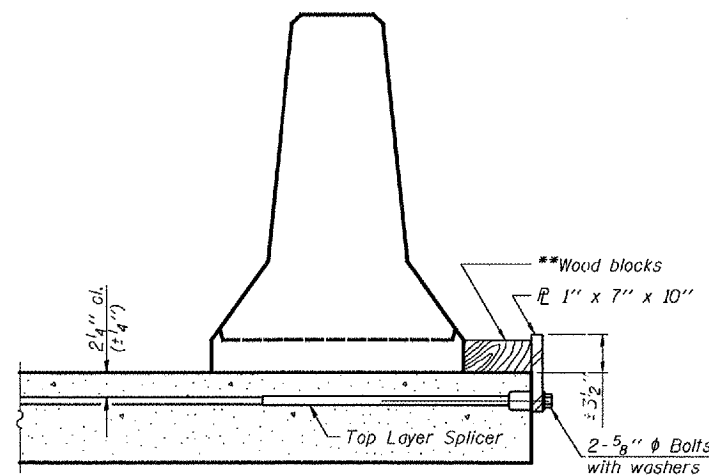
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET	SHEET NO.
FAP 662	(V,T)B-2	MACOUPIN	60	35	20 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #72993

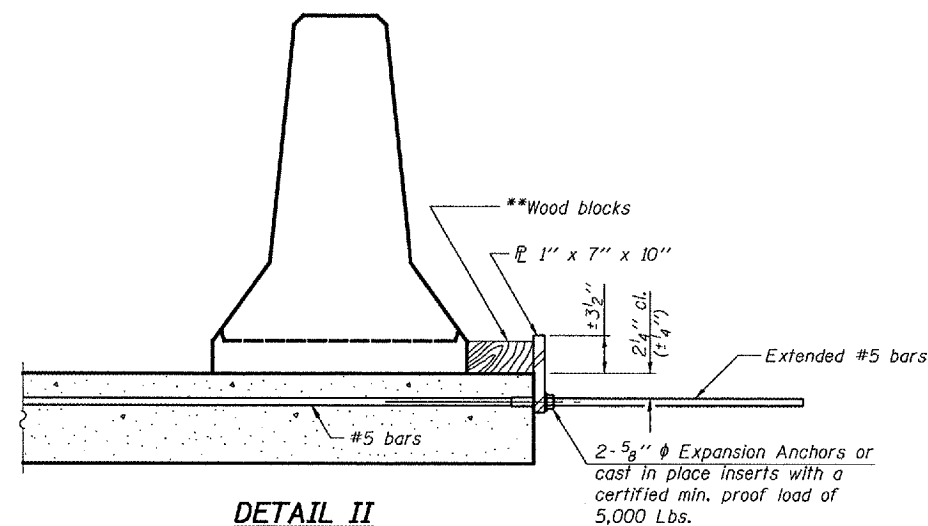
When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



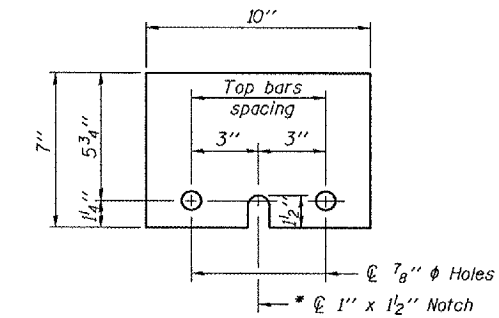
SECTIONS THRU SLAB



DETAIL I



DETAIL II



STEEL RETAINER PLATE 1" x 7" x 10"

\*Required only with Detail II

\*\* 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.

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.l. duong
CHECKED	FT/AJB/DPN

EXAMINED *Thomas J. Demagala*  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

R-27

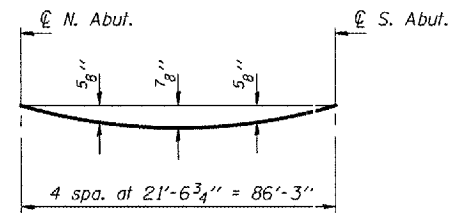
11-1-06

TEMPORARY CONCRETE BARRIER  
FOR STAGE CONSTRUCTION  
F.A.P. RT. 662 - SECTION (V,T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET	SHEET NO. 5 20 SHEETS
FAP 662	(V,T)B-2	MACOUPIN	68	36	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

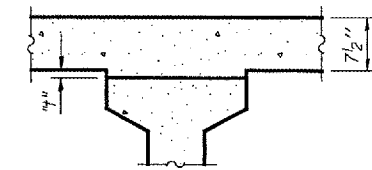
Contract #72993



**DEAD LOAD DEFLECTION DIAGRAM**

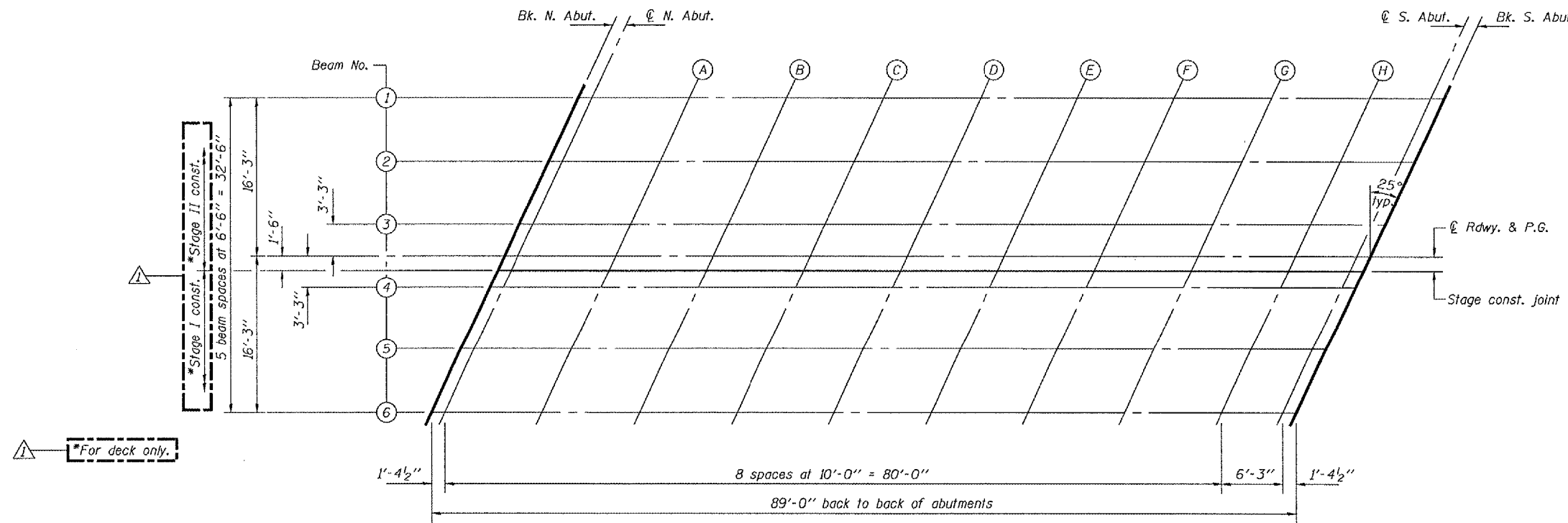
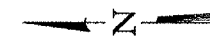
Includes weight of concrete, excluding beams

Notes: The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections as shown on sheet 6 of 20.



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" minus slab thickness, equals the fillet heights "t" above top flanges of beams.

**FILLET HEIGHTS**



**PLAN**

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.f. duong
CHECKED	FT/AJB/DPN

Jan 23, 2007  
EXAMINED *Thomas J. Demas*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**TOP OF SLAB ELEVATIONS**  
**F.A.P. RT. 662 SECTION (V,T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**

Revised 3/5/2007, DPN

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	POST	SHEET NO. 6 20 SHEETS
FAP 662	V,T)B-2	MACOUPIN	68	37	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #72993

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44666.88	-16.25	603.68	603.68
@ N. Abut.	44668.26	-16.25	603.67	603.67
A	44678.26	-16.25	603.62	603.64
B	44688.26	-16.25	603.57	603.61
C	44698.26	-16.25	603.51	603.57
D	44708.26	-16.25	603.46	603.53
E	44718.26	-16.25	603.42	603.48
F	44728.26	-16.25	603.38	603.44
G	44738.26	-16.25	603.35	603.39
H	44748.26	-16.25	603.33	603.34
@ S. Abut.	44754.5	-16.25	603.31	603.31
Bk. of S. Abut.	44755.88	-16.25	603.31	603.31

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44663.85	-9.75	603.82	603.82
@ N. Abut.	44665.23	-9.75	603.81	603.81
A	44675.23	-9.75	603.76	603.78
B	44685.23	-9.75	603.70	603.75
C	44695.23	-9.75	603.65	603.71
D	44705.23	-9.75	603.60	603.67
E	44715.23	-9.75	603.56	603.62
F	44725.23	-9.75	603.52	603.57
G	44735.23	-9.75	603.48	603.52
H	44745.23	-9.75	603.46	603.47
@ S. Abut.	44751.47	-9.75	603.44	603.44
Bk. of S. Abut.	44752.85	-9.75	603.44	603.44

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44660.82	-3.25	603.93	603.93
@ N. Abut.	44662.19	-3.25	603.93	603.93
A	44672.19	-3.25	603.87	603.90
B	44682.19	-3.25	603.82	603.87
C	44692.19	-3.25	603.77	603.83
D	44702.19	-3.25	603.72	603.79
E	44712.19	-3.25	603.67	603.74
F	44722.19	-3.25	603.63	603.69
G	44732.19	-3.25	603.59	603.63
H	44742.19	-3.25	603.57	603.58
@ S. Abut.	44748.44	-3.25	603.55	603.55
Bk. of S. Abut.	44749.82	-3.25	603.55	603.55

**@ ROADWAY & PROFILE GRADE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44659.30	0	603.99	603.99
@ N. Abut.	44660.68	0	603.98	603.98
A	44670.68	0	603.93	603.96
B	44680.68	0	603.88	603.93
C	44690.68	0	603.83	603.89
D	44700.68	0	603.78	603.85
E	44710.68	0	603.73	603.79
F	44720.68	0	603.69	603.74
G	44730.68	0	603.65	603.69
H	44740.68	0	603.62	603.64
@ S. Abut.	44746.92	0	603.60	603.60
Bk. of S. Abut.	44748.30	0	603.60	603.60

**STAGE CONSTRUCTION JOINT (FOR DECK)**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44658.60	1.50	603.97	603.97
@ N. Abut.	44659.98	1.50	603.96	603.96
A	44669.98	1.50	603.91	603.94
B	44679.98	1.50	603.86	603.91
C	44689.98	1.50	603.81	603.87
D	44699.98	1.50	603.76	603.83
E	44709.98	1.50	603.71	603.77
F	44719.98	1.50	603.67	603.72
G	44729.98	1.50	603.63	603.67
H	44739.98	1.50	603.60	603.61
@ S. Abut.	44746.22	1.50	603.58	603.58
Bk. of S. Abut.	44747.60	1.50	603.58	603.58

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44657.78	3.25	603.95	603.95
@ N. Abut.	44659.16	3.25	603.94	603.94
A	44669.16	3.25	603.89	603.91
B	44679.16	3.25	603.84	603.89
C	44689.16	3.25	603.79	603.85
D	44699.16	3.25	603.73	603.80
E	44709.16	3.25	603.68	603.75
F	44719.16	3.25	603.64	603.70
G	44729.16	3.25	603.60	603.64
H	44739.16	3.25	603.57	603.59
@ S. Abut.	44745.41	3.25	603.56	603.56
Bk. of S. Abut.	44746.78	3.25	603.55	603.55

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44654.75	9.75	603.86	603.86
@ N. Abut.	44656.13	9.75	603.86	603.86
A	44666.13	9.75	603.80	603.83
B	44676.13	9.75	603.75	603.80
C	44686.13	9.75	603.70	603.76
D	44696.13	9.75	603.65	603.72
E	44706.13	9.75	603.60	603.66
F	44716.13	9.75	603.55	603.61
G	44726.13	9.75	603.51	603.55
H	44736.13	9.75	603.48	603.50
@ S. Abut.	44742.37	9.75	603.46	603.46
Bk. of S. Abut.	44743.75	9.75	603.46	603.46

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of N. Abut.	44651.72	16.25	603.76	603.76
@ N. Abut.	44653.10	16.25	603.75	603.75
A	44663.10	16.25	603.70	603.72
B	44673.10	16.25	603.64	603.69
C	44683.10	16.25	603.59	603.65
D	44693.10	16.25	603.54	603.61
E	44703.10	16.25	603.49	603.55
F	44713.10	16.25	603.44	603.50
G	44723.10	16.25	603.40	603.44
H	44733.10	16.25	603.37	603.38
@ S. Abut.	44739.34	16.25	603.35	603.35
Bk. of S. Abut.	44740.72	16.25	603.34	603.34

\*The stations and elevations of these locations are at Deck Stage Construction Joint. Stage Construction Joint for Diaphragms and Abutments is different. See sheet 9 of 20.

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

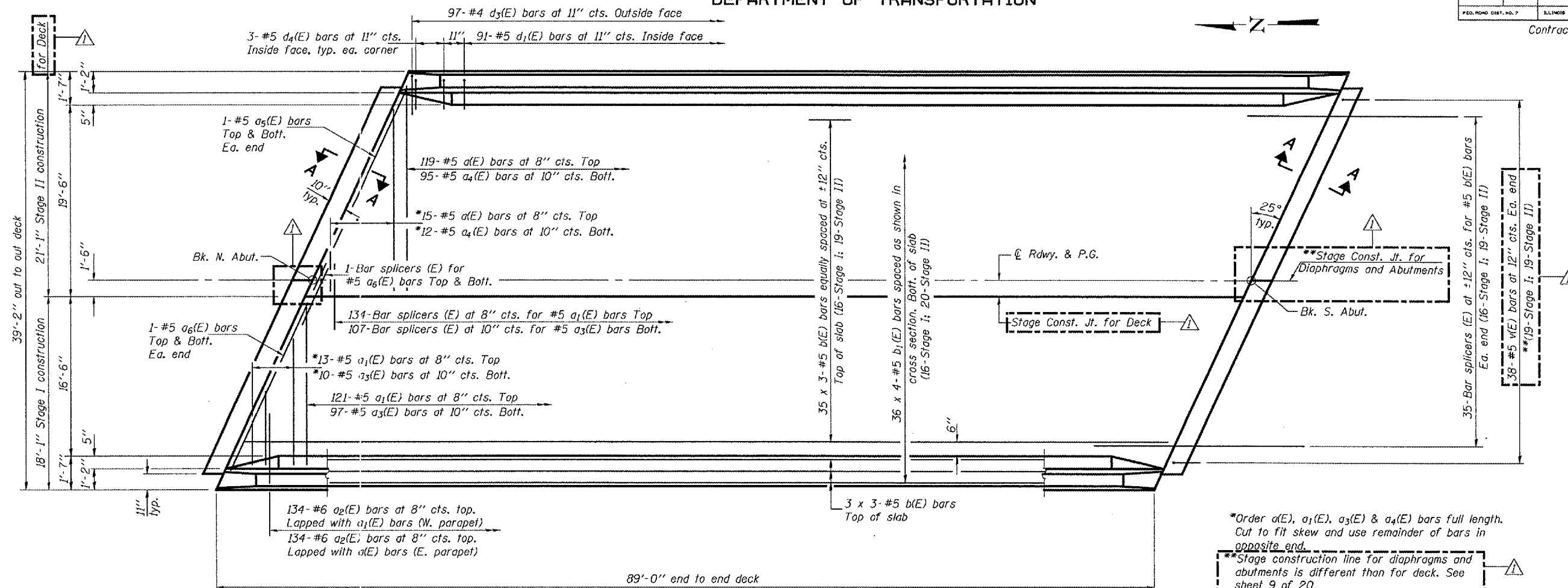
Jan 23, 2007  
EXAMINED *Thomas J. Damagala*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**TOP OF SLAB ELEVATIONS**  
**F.A.P. RT. 662 SECTION (V,T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

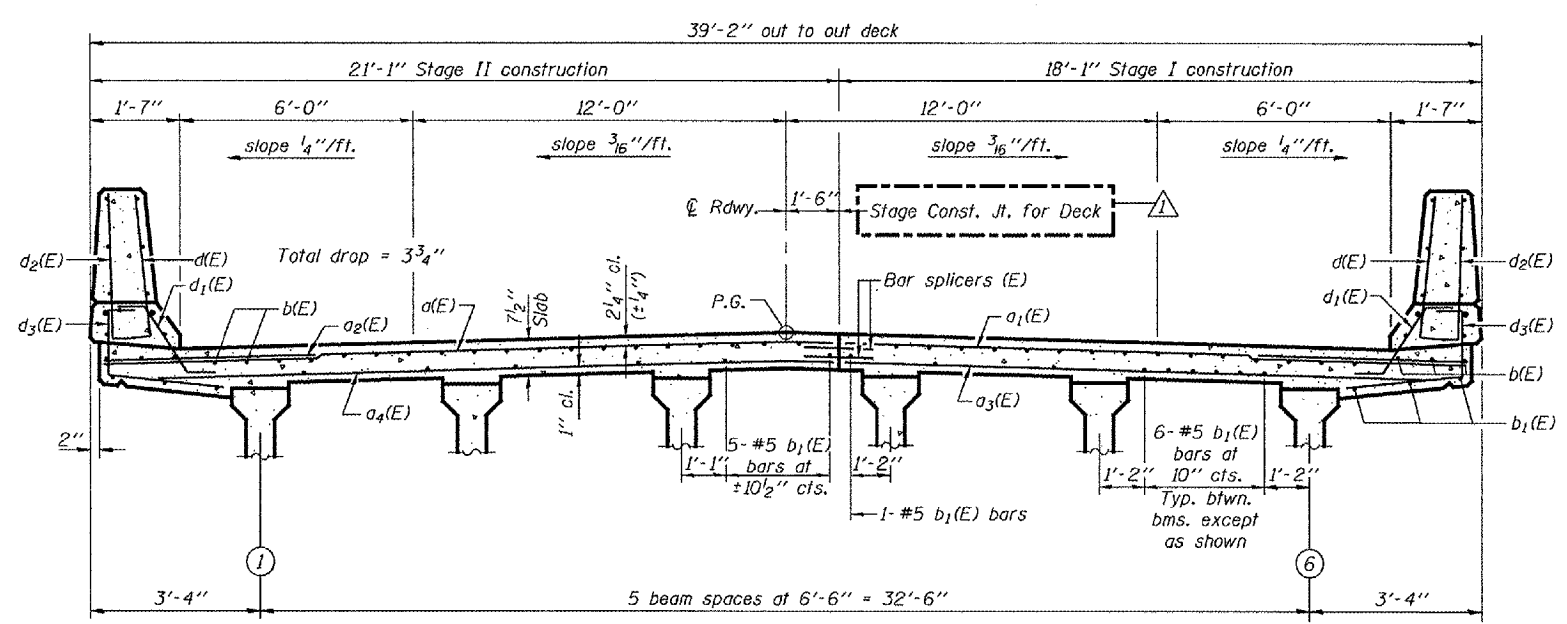
ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
FAP 662	(V,T)B-2	MACOUPIN	68	38
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

Contract #72993



PLAN

Notes: See sheet 8 of 20 for superstructure details and Bill of Material.  
Bars indicated thus 36 x 4-#5 etc. indicates 36 lines of bars with 4 lengths per line.  
See sheet 8 of 20 for parapet reinforcement.  
For Section A-A and diaphragm details, see sheet 9 of 20.



CROSS SECTION  
(Looking south)

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

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

Jan 23, 2007  
EXAMINED *Thomas J. Damagala*  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

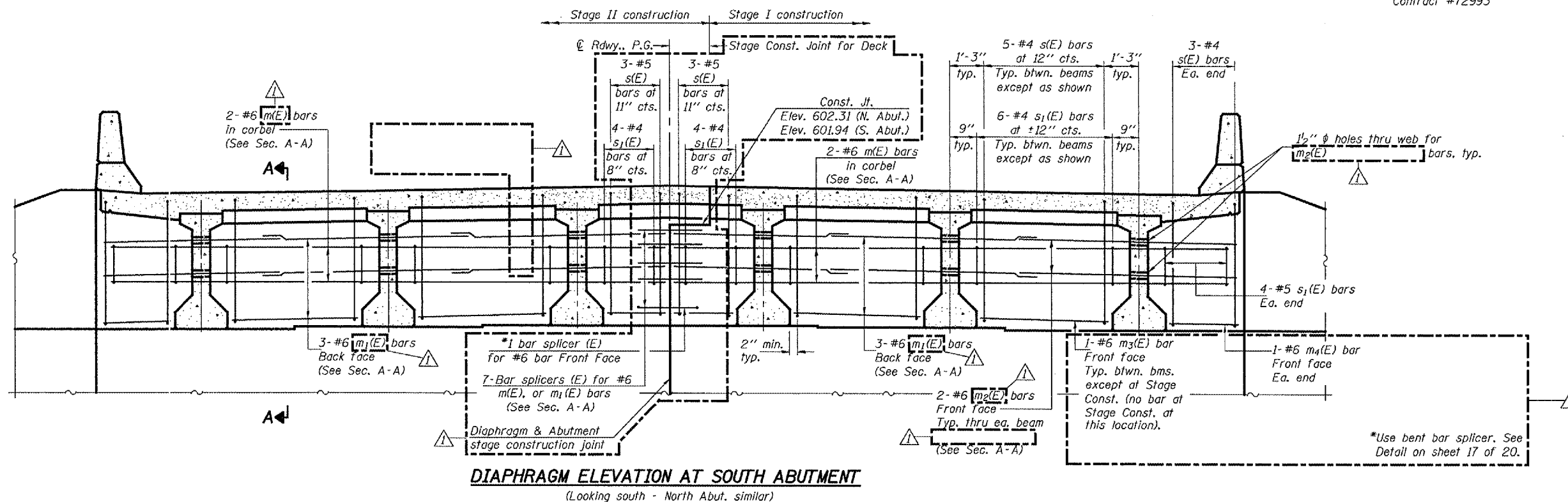
SUPERSTRUCTURE  
F.A.P. RT. 662 SECTION (V,T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

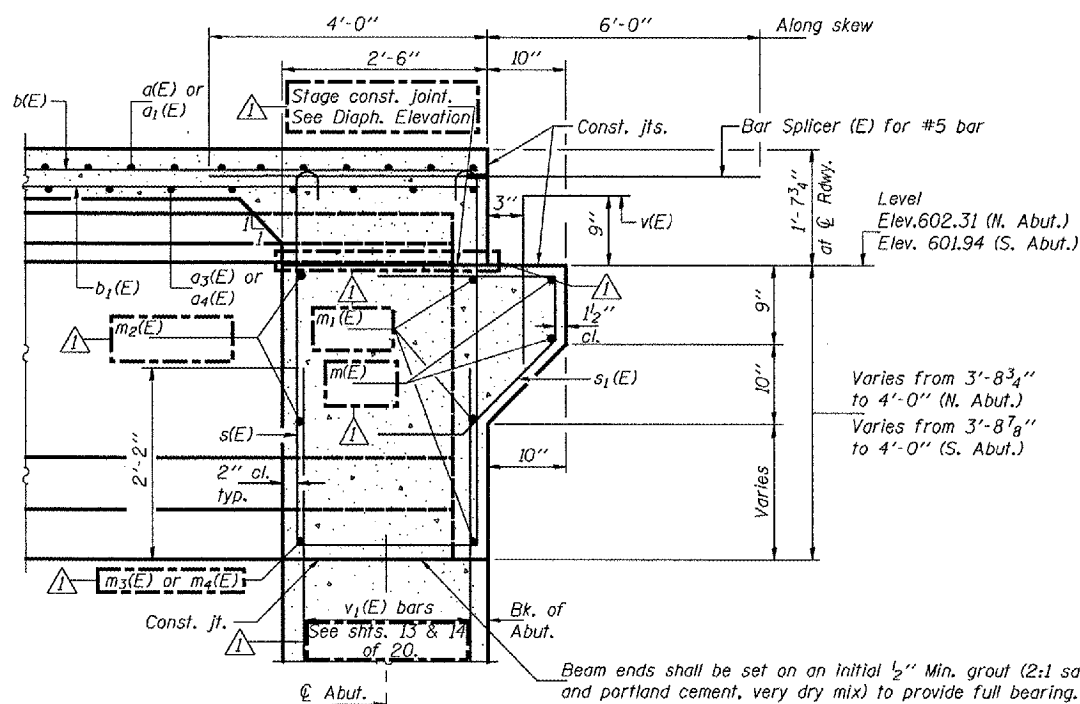
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAP 662	(V,T)B-2	MACOUPIN	68	40
FED. ROAD DIST. NO. 7		BLVD. NO.	FED. AID PROJECT	20 SHEETS

Contract #72993



**DIAPHRAGM ELEVATION AT SOUTH ABUTMENT**  
(Looking south - North Abut. similar)

Notes: Reinforcement bars in diaphragm are billed with superstructure on sheet 8 of 20.  
Concrete in diaphragm is included with concrete superstructure on sheet 8 of 20.  
For details of bar splicers, see sheet 17 of 20.  
For details of bars s(E) and s<sub>1</sub>(E) see sheet 8 of 20.  
The s(E) and s<sub>1</sub>(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.



**SECTION A-A**  
Dimensions are at right L's to abutments, except as shown.

**MIN. BAR LAPS**  
#6 bars = 2'-9"

Beam ends shall be set on an initial 1/2" Min. grout (2:1 sand and portland cement, very dry mix) to provide full bearing. Any excess grout squeezed out from under the beam shall be removed. Cost included with Concrete Structures.

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.f. duong
CHECKED	FT/AJB/DPN

Jan 23, 2007  
EXAMINED *Thomas J. Demagala*  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

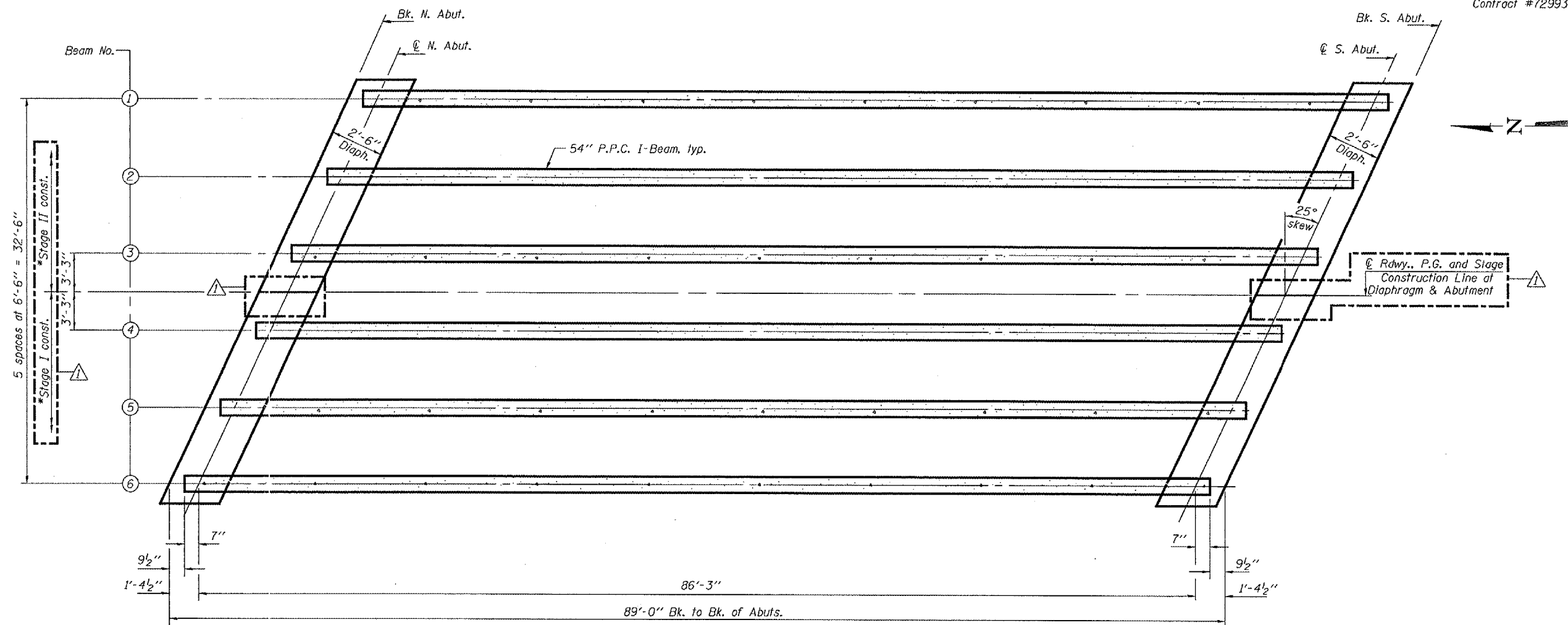
**DIAPHRAGM DETAILS**  
**F.A.P. RT. 662 SECTION (V,T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO. 10
FAP 662	(V,T)B-2	MACOUPIN	60	41	20 SHEETS
FED. ROAD DIST. NO. 7	ALIGNMENT	FED. AID PROJECT			

Contract #72993



**FRAMING PLAN**

\*For diaphragms and abutments only.

INTERIOR BEAM MOMENT TABLE		
0.5 Span		
I	(in <sup>4</sup> )	213715
I'	(in <sup>4</sup> )	507830
S <sub>b</sub>	(in <sup>3</sup> )	8559
S <sub>b</sub> '	(in <sup>3</sup> )	12888
S <sub>t</sub>	(in <sup>3</sup> )	7362
S <sub>t</sub> '	(in <sup>3</sup> )	34788
DC1	(k/')	1.254
M DC1	('k)	1166.0
DC2	(k/')	0.15
M DC2	('k)	139.5
DW	(k/')	.325
M DW	('k)	302.2
M <sub>Σ</sub> + Imp	('k)	1365.5

INTERIOR BEAM REACTION TABLE		
HL93 LOADING		
		Abut.
R DC1	(k)	54.1
R DC2	(k)	6.5
R DW	(k)	14.0
R <sub>Σ</sub>	(k)	65.6
R (Imp)	(k)	23.7
R (Total)	(k)	163.9

- I: Non-composite moment of inertia of beam section (in<sup>4</sup>).
- I': Composite moment of inertia of beam section (in<sup>4</sup>).
- S<sub>b</sub>: Non-composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).
- S<sub>b</sub>': Composite section modulus for the bottom fiber of the prestressed beam (in<sup>3</sup>).
- S<sub>t</sub>: Non-composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).
- S<sub>t</sub>': Composite section modulus for the top fiber of the prestressed beam (in<sup>3</sup>).
- DC1: Un-factored non-composite dead load (kips/ft.).
- M<sub>DC1</sub>: Un-factored moment due to non-composite dead load (kip-ft.).
- DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- M<sub>DC2</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- M<sub>Σ</sub> + Imp: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

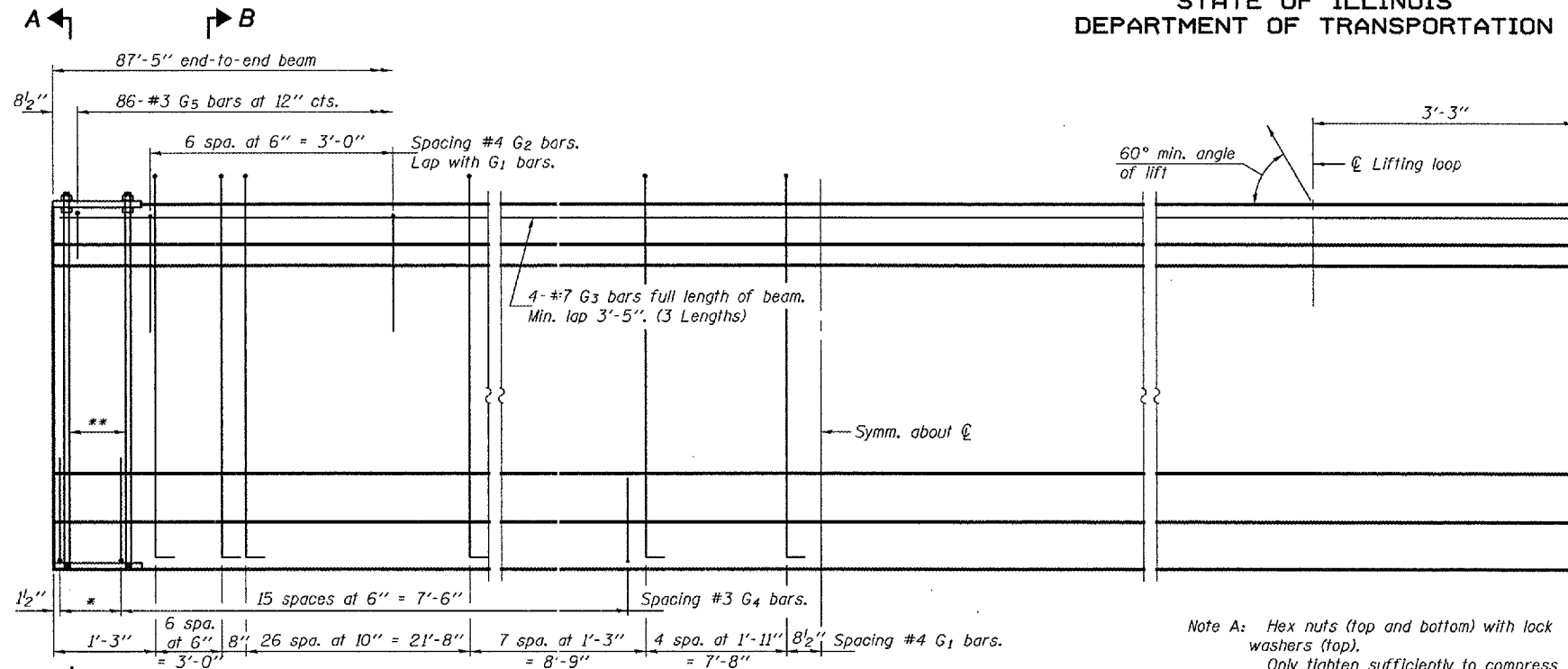
Jan 23, 2007  
 EXAMINED *Thomas J. Damagala*  
 ENGINEER OF BRIDGE DESIGN  
 PASSED *Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

**FRAMING PLAN**  
**F.A.P. RT. 662 - SECTION (V,T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET	SHEET NO. 11
FAP 662	(V,T)B-2	MACOUPIN	60	42	20 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

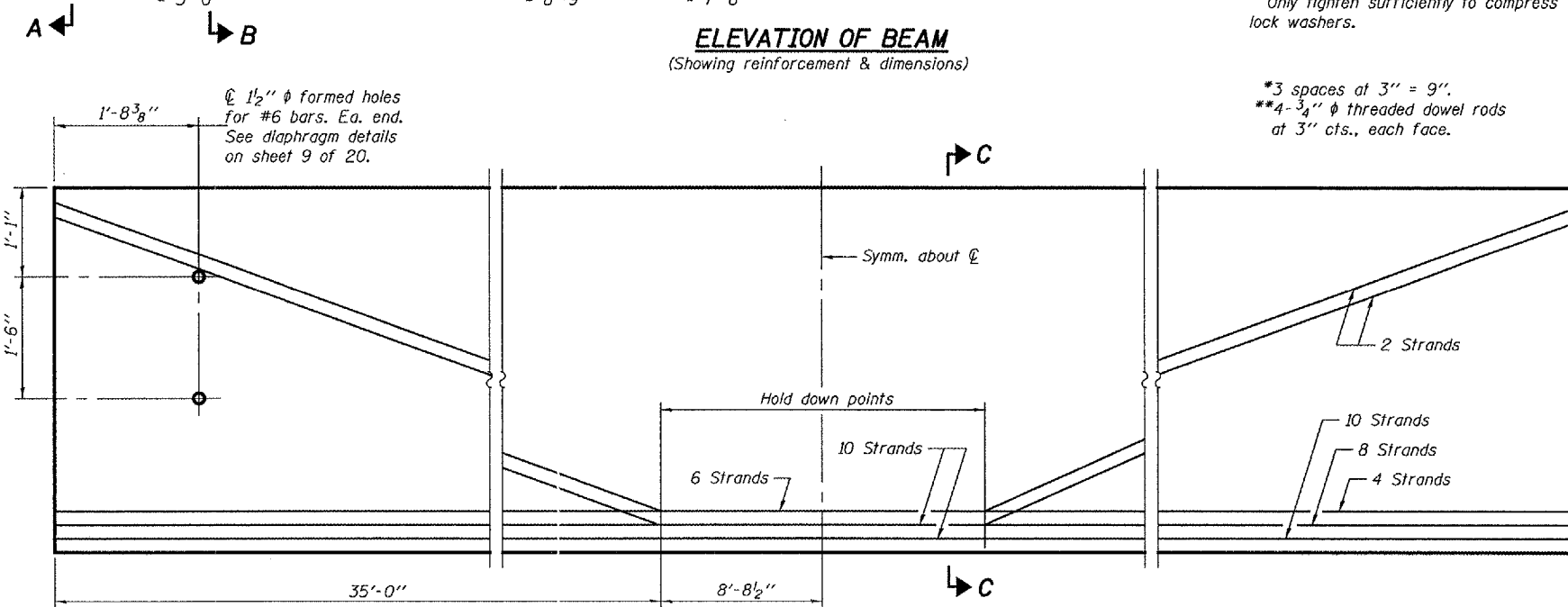
Contract #72993



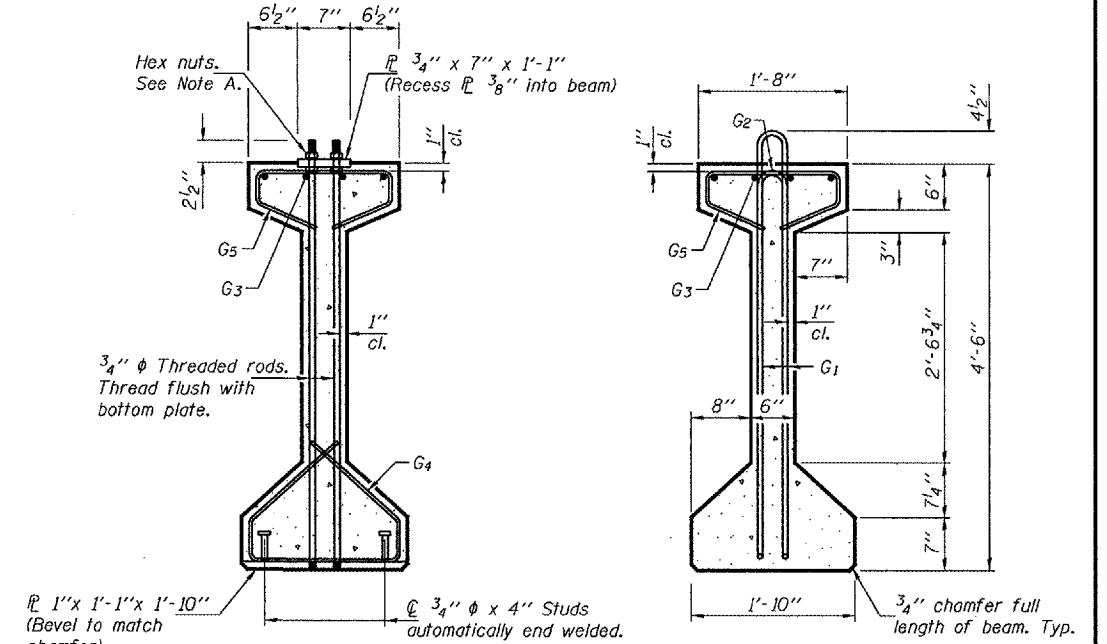
**ELEVATION OF BEAM**  
(Showing reinforcement & dimensions)

Note A: Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.

\*3 spaces at 3" = 9".  
\*\*4-3/4" φ threaded dowel rods at 3" cts., each face.

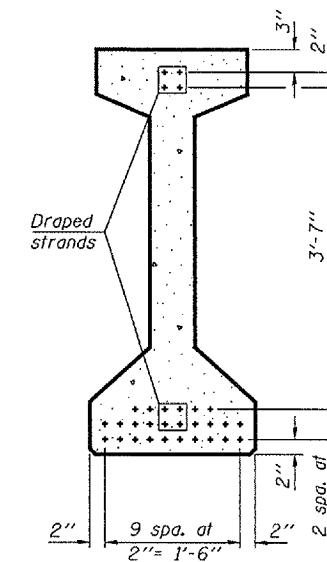


**ELEVATION OF BEAM**  
(Showing prestressing steel)



**SECTION A-A**

**SECTION B-B**



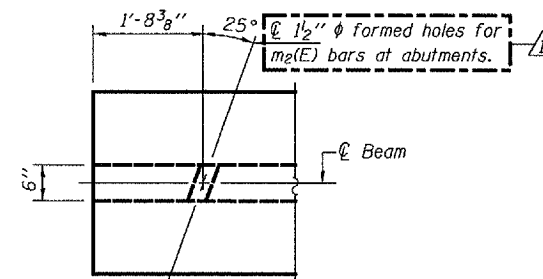
**SECTION C-C**

**\*\*\*BAR LIST  
ONE BEAM ONLY**

Bar	No.	Size	Length	Shape
G1	90	#4	10'-5"	U
G2	14	#4	5'-4"	U
G3	12	#7	31'-4"	—
G4	38	#3	4'-11"	U
G5	86	#3	3'-5"	U

\*\*\*For information only.

Notes: See sheet 12 of 20 for additional details and Bill of Material. Required release strength, f'ci, shall be 5000 psi.



**END OF BEAM-PLAN**

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.f. duong
CHECKED	FT/AJB/DPN

EXAMINED *Thomas J. Demagallo*  
CHIEF ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

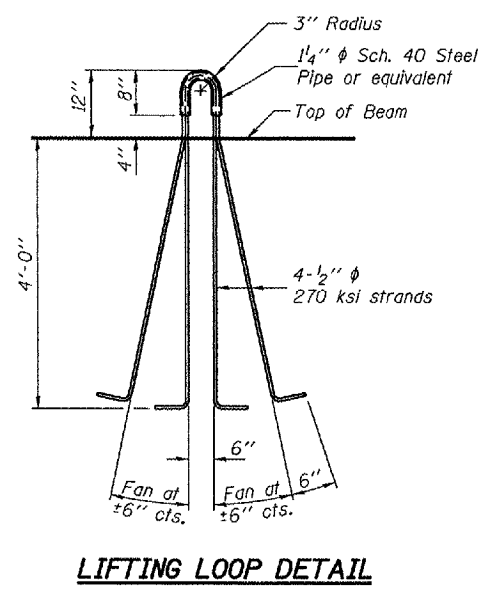
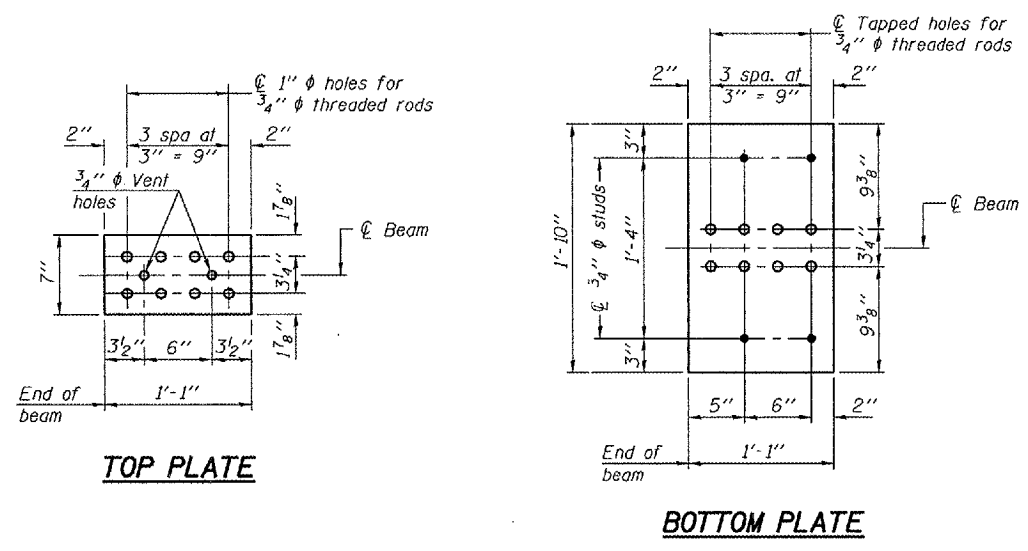
PI-4-54 11-1-06

**54" PPC I-BEAM**  
**F.A.P. RT. 662 SECTION (V,T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**

Revised 3/5/2007, DPN

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
FAP 662	(V,T)B-2	MACOUPIN	68 43	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	Contract #72993	



**NOTES**

Inserts for 3/4" diameter threaded dowel rods, when specified, are to be two strut, coil type for interior beams and single coil, flared loop type for exterior beams.

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.

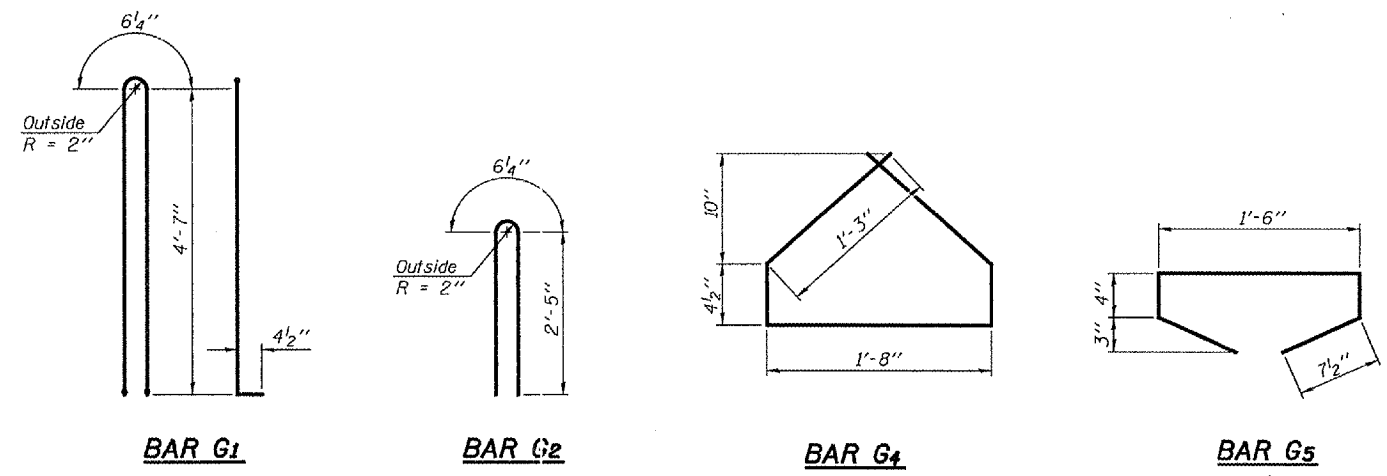
The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.

Non-prestressing steel shall conform to ASTM A 706 (IL MOD), Grade 60.

A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.

The bottom plates and studs shall be galvanized according to AASHTO M 111. Threaded rods shall be ASTM F 1554 Grade 55.

The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A 780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to the manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to all portions of the I-beam or Bulb-T beam, except the top surface of the top flange and the bottom surface of the bottom flange, starting at each beam end and extending out a distance of 54 inches. The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.



**BILL OF MATERIAL**

Item	Unit	Total
Furnishing and Erecting Precast Prestressed Concrete I-Beams, 54"	Ft.	524.5

DESIGNED	DPN	EXAMINED	Thomas J. Duggan
CHECKED	AJB	PASSED	Ralph E. Carlson
DRAWN	h.f. duong		
CHECKED	FT/AJB/DPN		

Jan 23, 2007  
 ENGINEER OF BRIDGE DESIGN  
 ENGINEER OF BRIDGES AND STRUCTURES

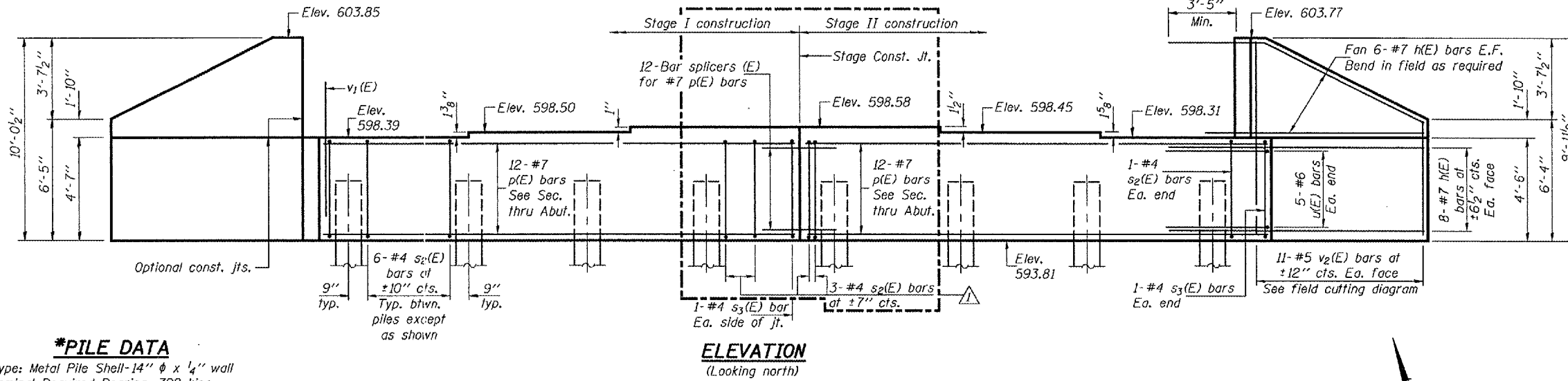
**54" PPC I-BEAM DETAILS**  
**F.A.P. RT. 662 SECTION (V,T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	PAGE	SHEET NO. 13
FAP 662	V,TJB-2	MACOUPIN	08	44	20 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

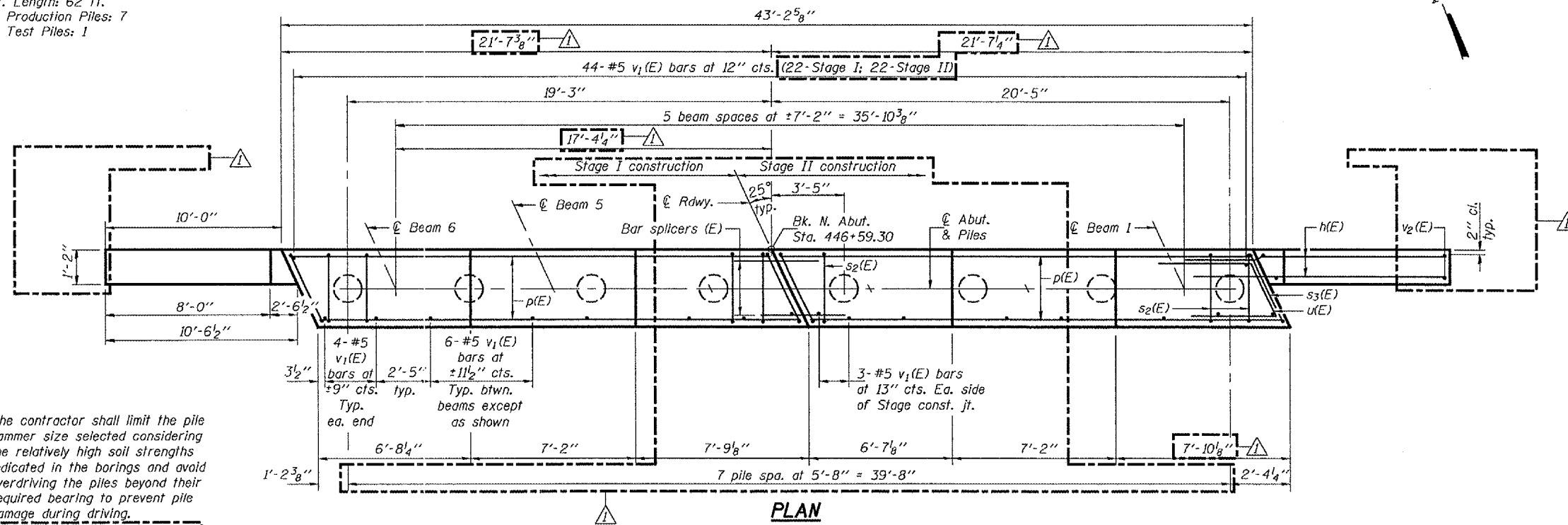
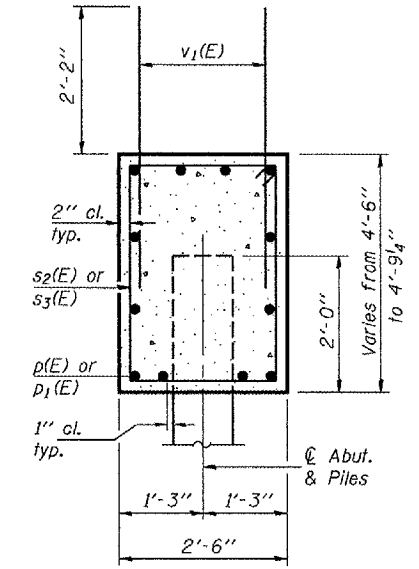
Contract #72993

Notes: Pour steps monolithically with cap.  
For details of bar splicers, see sheet 17 of 20.  
For details of piles, see sheet 16 of 20.



**\*PILE DATA**

Type: Metal Pile Shell-14" φ x 1/4" wall  
Nominal Required Bearing: 398 kips  
Factored Resistance Available: 199 kips  
Est. Length: 62 ft.  
No. Production Piles: 7  
No. Test Piles: 1



\*The contractor shall limit the pile hammer size selected considering the relatively high soil strengths indicated in the borings and avoid overdriving the piles beyond their required bearing to prevent pile damage during driving.

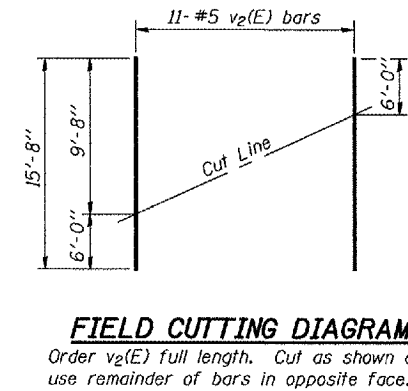
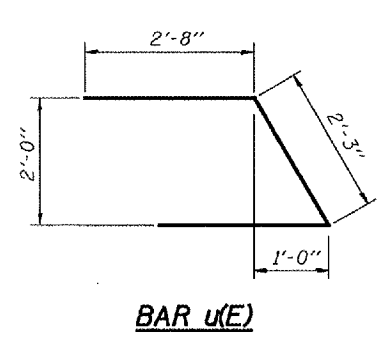
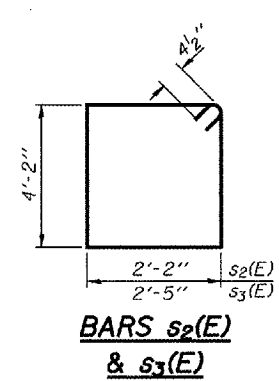
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	28	#7	14'-4"	—
p(E)	24	#7	21'-3"	—
s <sub>2</sub> (E)	42	#4	13'-5"	□
s <sub>3</sub> (E)	4	#4	13'-11"	□
u(E)	10	#6	7'-7"	△
v <sub>1</sub> (E)	82	#5	4'-4"	—
v <sub>2</sub> (E)	22	#5	15'-8"	—
Concrete Structures				Cu. Yd. 26.2
Reinforcement Bars, Epoxy Coated				Pound 3120
Structure Excavation				Cu. Yd. 58.5
Furnishing Metal Shell Piles 14"				Foot 434
Driving Piles				Foot 434
Test Pile Metal Shells				Each 1

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

EXAMINED *Thomas D. Donagallo*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ronald E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

Jan 23, 2007



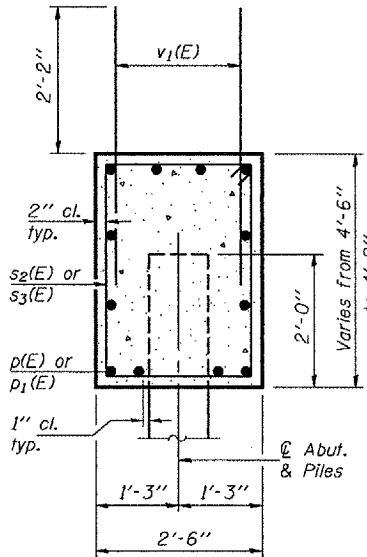
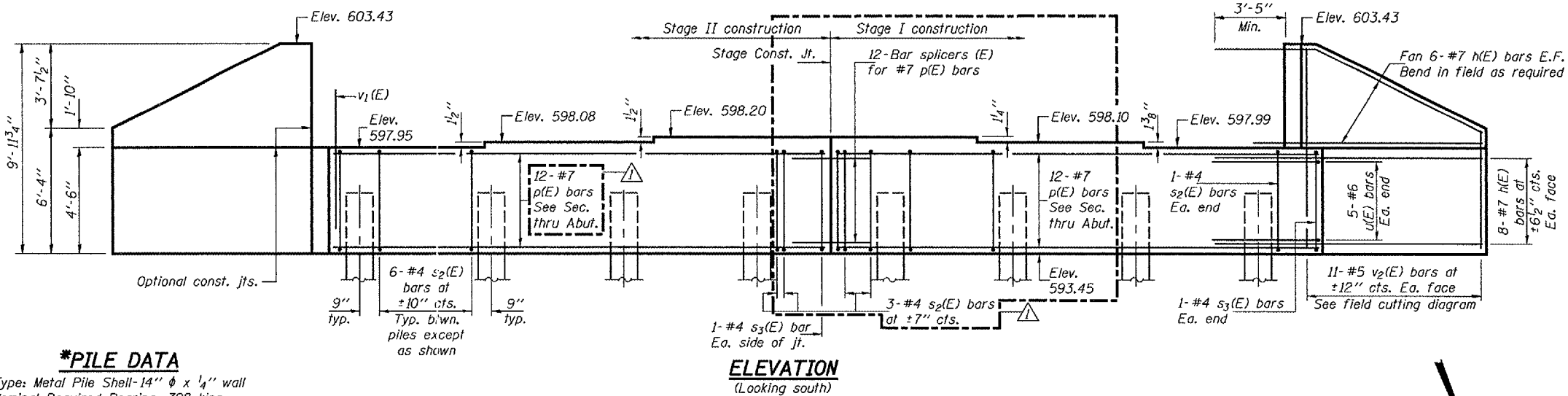
**NORTH ABUTMENT**  
F.A.P. RT. 662 - SECTION (V,T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

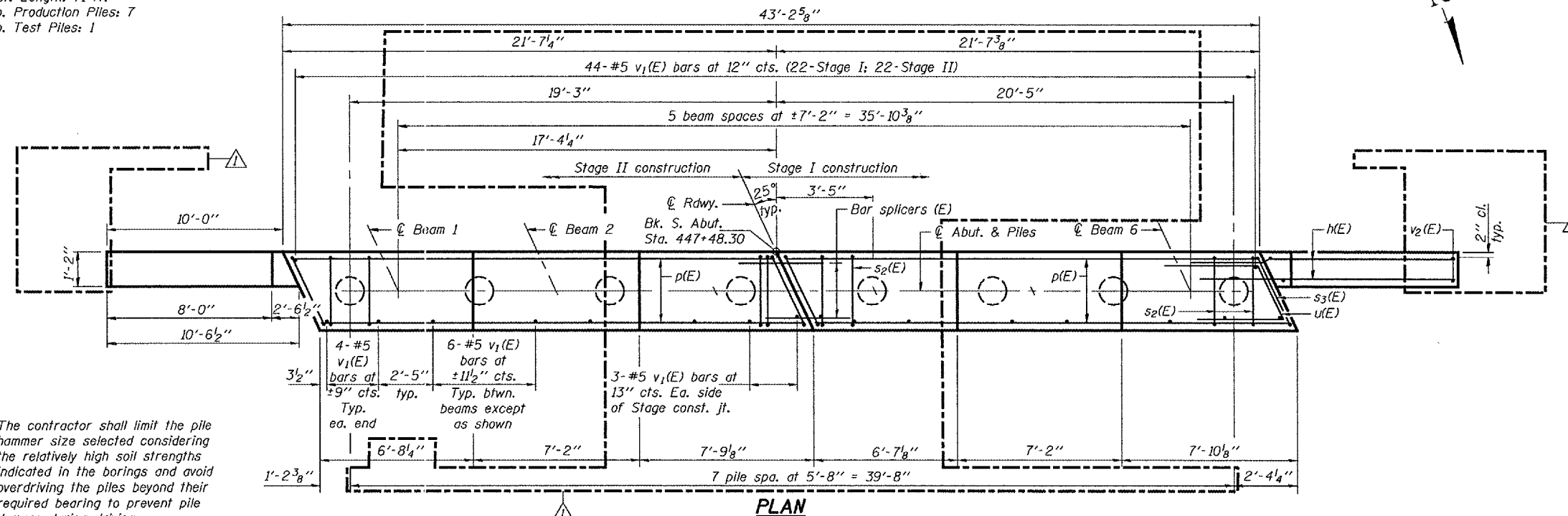
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET	SHEET NO.
FAP 662 (V,T)B-2	MACOUPIN	68	45	20	20 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #72993

Notes: Four steps monolithically with cap.  
For details of bar splicers, see sheet 17 of 20.  
For details of piles, see sheet 16 of 20.



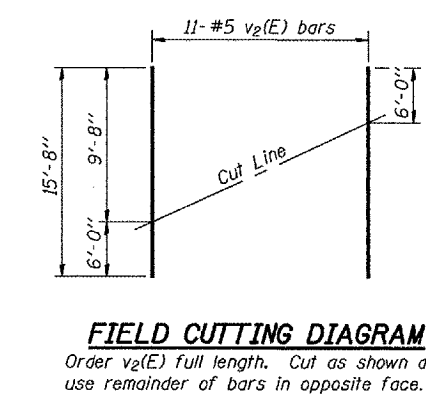
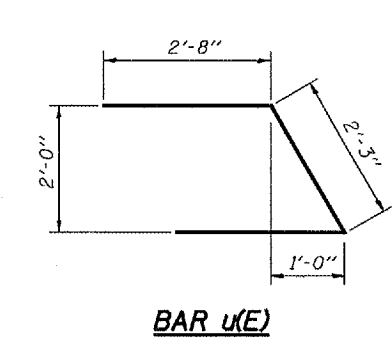
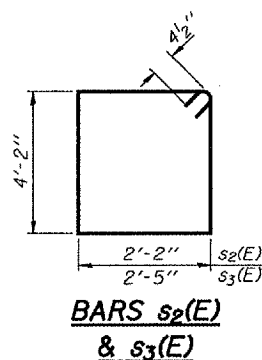
**\*PILE DATA**  
Type: Metal Pile Shell-14"  $\phi$  x 1/4" wall  
Nominal Required Bearing: 398 kips  
Factored Resistance Available: 199 kips  
Est. Length: 71 ft.  
No. Production Piles: 7  
No. Test Piles: 1



\*The contractor shall limit the pile hammer size selected considering the relatively high soil strengths indicated in the borings and avoid overdriving the piles beyond their required bearing to prevent pile damage during driving.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	28	#7	14'-4"	
p(E)	24	#7	21'-3"	
s <sub>2</sub> (E)	42	#4	13'-5"	
s <sub>3</sub> (E)	4	#4	13'-11"	
u(E)	10	#6	7'-7"	
v <sub>1</sub> (E)	82	#5	4'-4"	
v <sub>2</sub> (E)	22	#5	15'-8"	
Concrete Structures	Cu. Yd.	26.1		
Reinforcement Bars, Epoxy Coated	Pound	3120		
Structure Excavation	Cu. Yd.	58.5		
Furnishing Metal Shell Piles 14"	Foot	497		
Driving Piles	Foot	497		
Test Pile Metal Shells	Each	1		



DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

EXAMINED *Thomas J. Donaghy*  
PASSED *Ronald E. Carls*  
ENGINEER OF BRIDGES AND STRUCTURES

**SOUTH ABUTMENT**  
F.A.P. RT. 662 SECTION (V,T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
FAP 662	(V,T)B-2	MACOUPIN	63	46
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 15  
20 SHEETS

Contract #72993

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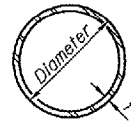
DESIGNED	NHB
CHECKED	DPN
DRAWN	h.t. duong
CHECKED	NHB/DPN

Jan 23, 2007  
EXAMINED *Thomas J. Demgallo*  
ENGINEER OF BRIDGE DESIGN  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**F.A.P. RT. 662 SECTION (V,T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**

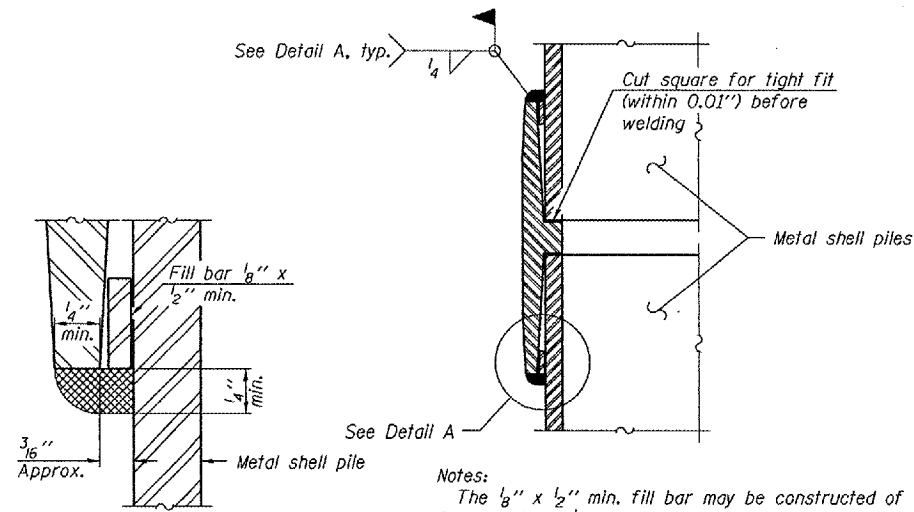
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	DATE	SHEET	SHEET NO. 16 20 SHEETS
FAP 662	V,T)B-2	MACOUPIN	68	47	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		Contract #72993



**METAL SHELL PILE TABLE**

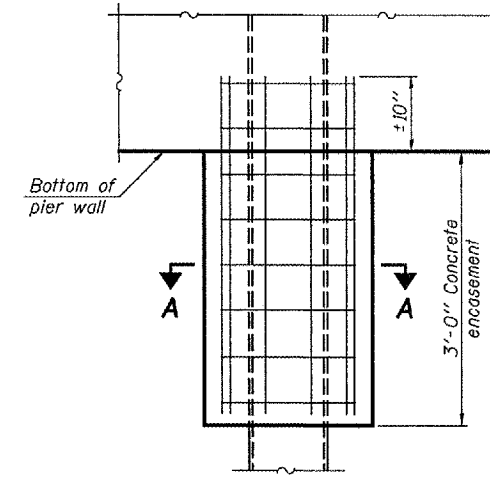
Designation	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. <sup>3</sup> /ft.)	Encasement diameter A
PP12	0.179"	22.60	0.0274	30"
PP12	0.250"	31.37	0.0267	30"
PP14	0.250"	36.71	0.0368	30"
PP14	0.312"	45.61	0.0361	30"



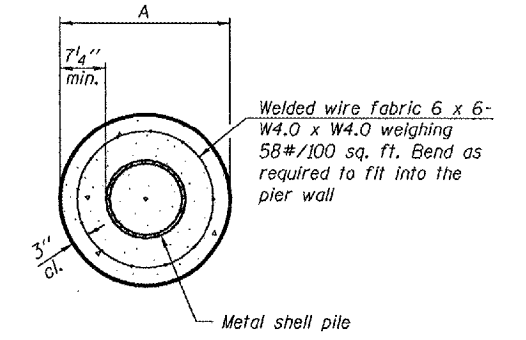
**DETAIL A**

Notes:  
The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.  
Pile segments shall be driven to solid contact with splicer before welding.

**WELDED COMMERCIAL SPLICE**



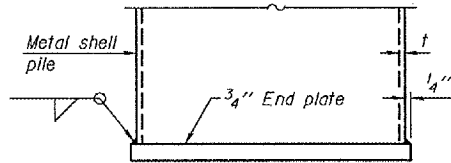
**ELEVATION**



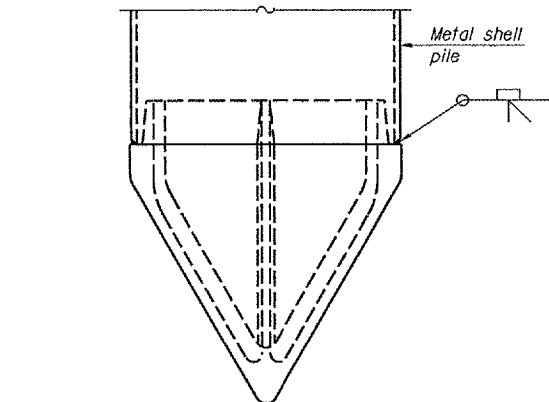
**SECTION A-A**

Notes:  
See Metal Shell Pile Table for dimension "A".  
Forms for encasement may be omitted when soil conditions permit.

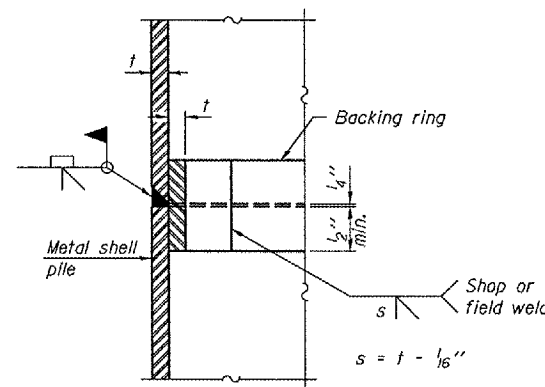
**CONCRETE ENCASEMENT AT PIERS**



**END PLATE ATTACHMENT**

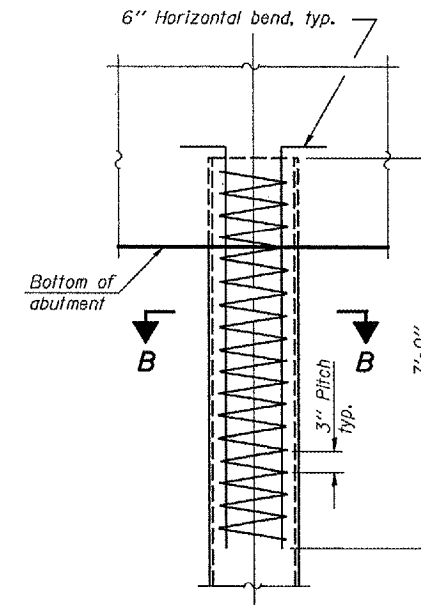


**METAL SHELL PILE SHOE ATTACHMENT**

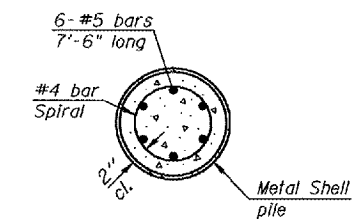


**COMPLETE PENETRATION WELD SPLICE**

Backing ring made from pile shell. Remove segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



**ELEVATION**



**SECTION B-B**

**METAL SHELL REINFORCEMENT AT ABUTMENTS**

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

Jan 23, 2007  
EXAMINED *Thomas J. Duggan*  
PASSED *Ronald E. Carlson*  
ENGINEER OF BRIDGES AND STRUCTURES

F-MS 11-1-06

Note:  
The metal shell piles shall be according to ASTM A 252 Grade 3.

**METAL SHELL PILE DETAILS**  
**F.A.P. RT. 662 SECTION (V,T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	POST	SHEET NO. 17 20 SHEETS
FAP 662	(V,T)B-2	MACOUPIN	68	48	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract #72993

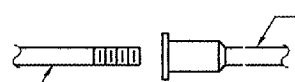
**NOTES**

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.  
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) =  $1.25 \times f_y \times A_l$
  - ② Minimum \*Pull-out Strength (Tension in kips) =  $0.66 \times f_y \times A_l$
- Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $A_l$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8

The diameter of this part is equal or larger than the diameter of bar spliced.

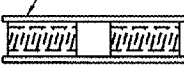


**ROLLED THREAD DOWEL BAR**



**\*\* ONE PIECE**

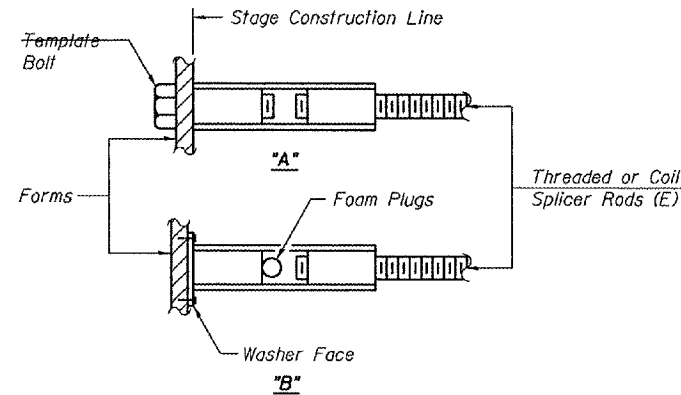
Wire Connector



**WELDED SECTIONS**

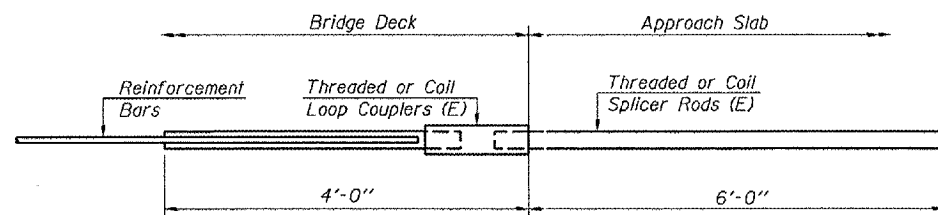
**BAR SPLICER ASSEMBLY ALTERNATIVES**

\*\*Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



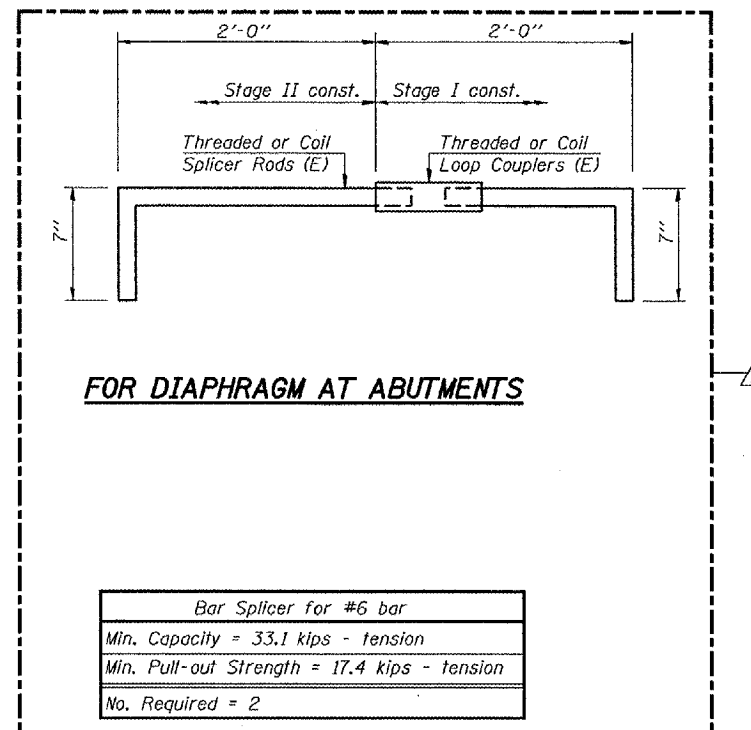
**INSTALLATION AND SETTING METHODS**

"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.



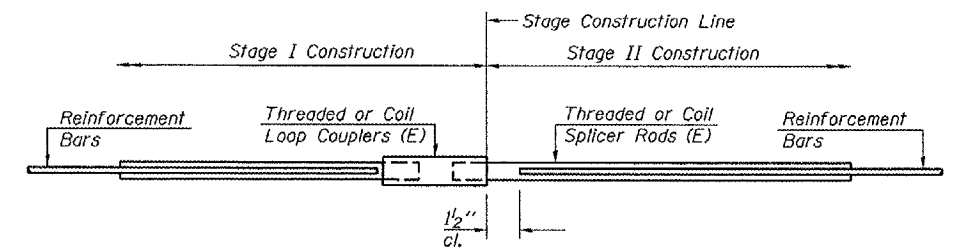
**FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

Bar Splicer for #5 bar	
Min. Capacity = 23.0 kips - tension	
Min. Pull-out Strength = 12.3 kips - tension	
No. Required = 70	



**FOR DIAPHRAGM AT ABUTMENTS**

Bar Splicer for #6 bar	
Min. Capacity = 33.1 kips - tension	
Min. Pull-out Strength = 17.4 kips - tension	
No. Required = 2	



**STANDARD**

Bar Size	No. Assemblies Required	Location
#5	245	Slab
#6	14	Diaphragm
#7	24	Abutment cap

**BAR SPLICER ASSEMBLY DETAILS**  
F.A.P. RT. 662 SECTION (V,T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504

DESIGNED	DPN
CHECKED	AJB
DRAWN	h.t. duong
CHECKED	FT/AJB/DPN

Jan 23, 2007  
EXAMINED *Thomas J. Damagalli*  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 18 20 SHEETS
FAP 662	V,T)B-2	MACOUPIN	68	49	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

Contract #72993

Illinois Department of Transportation SOIL BORING LOG Page 1 of 3  
Date 9/2/03

ROUTE FAP 662 (IL 4) DESCRIPTION over Honey Creek LOGGED BY M. Tappan

SECTION (V,T)B-1 LOCATION NE 1/4, SEC. 24, TWP. 9 N, RING. 7 W, 3 PM

COUNTY Macoupin DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 059-0008 Ex  
Station 447+04

BORING NO. 1 S. Abut  
Station 447+79  
Offset 12.0ft Lt  
Ground Surface Elev. 502.4 ft (R) / 5' (tsf) (%)

DEPTH (ft)	SOIL DESCRIPTION	WATER	TESTS	REMARKS
0	Brown and Grey Moist CLAY LOAM (Till)			
1	Grey Medium Grained SANDY GRAVEL			
2				
3				
4	Grey Moist CLAY LOAM (Till)			
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)  
Abbreviations W.O.H - Sampler Advanced by Weight of Hammer, W.O.P - Advanced by Weight of Pipe, B.S. - Before Seating  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T208) BBS, form 137 (Rev. 8-99)

Illinois Department of Transportation SOIL BORING LOG Page 2 of 3  
Date 9/2/03

ROUTE FAP 662 (IL 4) DESCRIPTION over Honey Creek LOGGED BY M. Tappan

SECTION (V,T)B-1 LOCATION NE 1/4, SEC. 24, TWP. 9 N, RING. 7 W, 3 PM

COUNTY Macoupin DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 059-0008 Ex  
Station 447+04

BORING NO. 1 S. Abut  
Station 447+79  
Offset 12.0ft Lt  
Ground Surface Elev. 502.4 ft (R) / 5' (tsf) (%)

DEPTH (ft)	SOIL DESCRIPTION	WATER	TESTS	REMARKS
31	Grey Moist CLAY LOAM (Till) (continued)			
32				
33				
34				
35				
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				
56				
57				
58				
59				
60				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)  
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Illinois Department of Transportation SOIL BORING LOG Page 3 of 3  
Date 9/2/03

ROUTE FAP 662 (IL 4) DESCRIPTION over Honey Creek LOGGED BY M. Tappan

SECTION (V,T)B-1 LOCATION NE 1/4, SEC. 24, TWP. 9 N, RING. 7 W, 3 PM

COUNTY Macoupin DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 059-0008 Ex  
Station 447+04

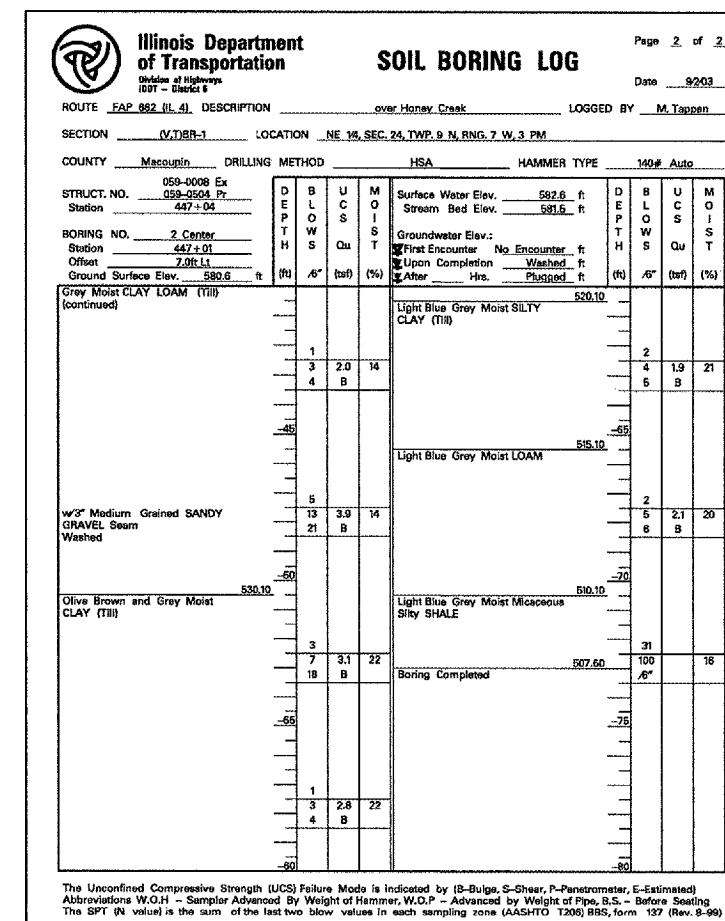
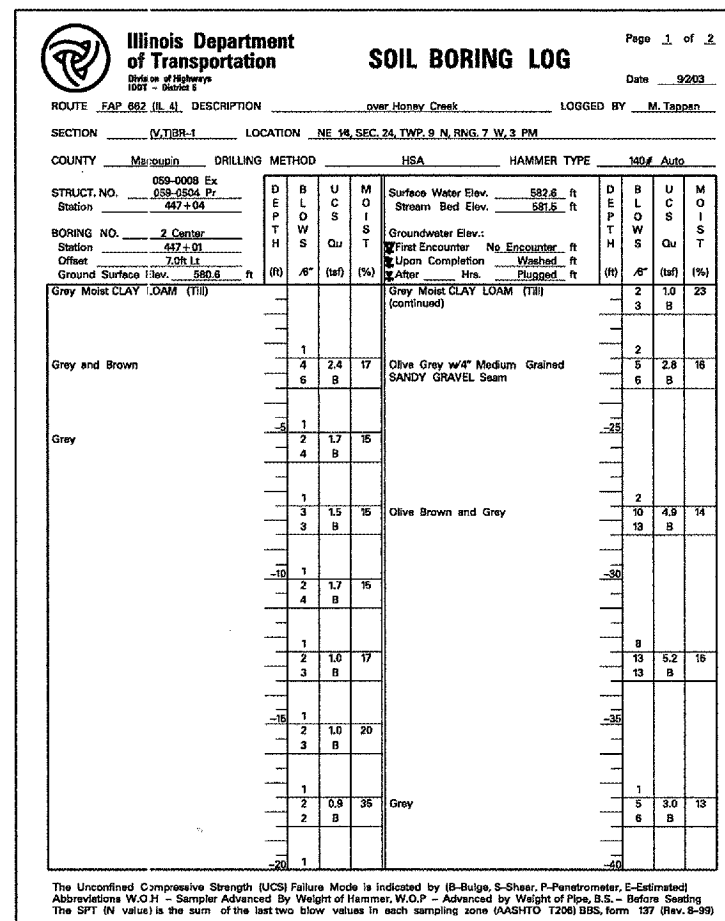
BORING NO. 1 S. Abut  
Station 447+79  
Offset 12.0ft Lt  
Ground Surface Elev. 502.4 ft (R) / 5' (tsf) (%)

DEPTH (ft)	SOIL DESCRIPTION	WATER	TESTS	REMARKS
61				
62				
63				
64				
65				
66				
67				
68				
69				
70				
71				
72				
73				
74				
75				
76				
77				
78				
79				
80				
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83				
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86				
87				
88				
89				
90				
91				
92				
93				
94				
95				
96				
97				
98				
99				
100				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)  
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BORING LOGS  
F.A.P. RT. 662 SECTION (V,T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
STRUCTURE NO. 059-0504

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**BORING LOGS**  
**F.A.P. RT. 662 SECTION (V,T)B-2**  
**MACOUPIN COUNTY**  
**STATION 447+03.80**  
**STRUCTURE NO. 059-0504**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**Illinois Department of Transportation SOIL BORING LOG** Page 1 of 3  
Date 9/30/03

ROUTE FAP 662 (IL 4) DESCRIPTION over Honey Creek LOGGED BY M. Tappan  
SECTION (V,T)B-1 LOCATION NE 14, SEC. 24, TWP. 9 N, RNG. 7 W, 3 PM  
COUNTY Macoupin DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 059-0008 Ex  
Station 059-0504 Pr  
BORING NO. 3 N. Abut  
Station 447+29  
Offset 13.0ft Rt  
Ground Surface Elev. 602.4 ft

DEPTH	DESCRIPTION	UCS	W.O.P.	W.O.H.	PLUGGED	DEPTH	UCS	W.O.P.	W.O.H.	PLUGGED
(ft)		(tsf)	(%)		(ft)	(tsf)	(%)			
0	Surface Water Elev. 597.6 ft				0					
0	Stream Bed Elev. 591.5 ft				0					
0	Groundwater Elev.: 580.9 ft				0					
0	First Encounter 580.9 ft				0					
0	Upon Completion 580.9 ft				0					
0	After 580.9 ft				0					
0	Grey V. Moist LOAM to SAND LOAM				0					
0	Free Water				0					
0	Sampler Advanced by Weight of Hammer				0					
1					1					
2					2					
3					3					
0	Grey Moist (LAY) LOAM (Fill)				0					
1					1					
2					2					
0					0					
1					1					
2					2					
0					0					
1					1					
2					2					
0					0					
1					1					
2					2					
0					0					
1					1					
2					2					
0					0					
1					1					
2					2					
0					0					
1					1					
2					2					
0					0					
1					1					
2					2					
0					0					
1					1					
2					2					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (I)-Bulge, S-Shear, P-Panrometer, E-Estimated  
Abbreviations W.O.H. - Sampler Advanced by Weight of Hammer, W.O.P. - Advanced by Weight of Pipe, B.S. - Before Sealing  
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**Illinois Department of Transportation SOIL BORING LOG** Page 2 of 3  
Date 9/30/03

ROUTE FAP 662 (IL 4) DESCRIPTION over Honey Creek LOGGED BY M. Tappan  
SECTION (V,T)B-1 LOCATION NE 14, SEC. 24, TWP. 9 N, RNG. 7 W, 3 PM  
COUNTY Macoupin DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 059-0008 Ex  
Station 059-0504 Pr  
BORING NO. 3 N. Abut  
Station 447+29  
Offset 13.0ft Rt  
Ground Surface Elev. 602.4 ft

DEPTH	DESCRIPTION	UCS	W.O.P.	W.O.H.	PLUGGED	DEPTH	UCS	W.O.P.	W.O.H.	PLUGGED
(ft)		(tsf)	(%)		(ft)	(tsf)	(%)			
0	Grey Moist CLAY LOAM (Fill)				0					
1					1					
2					2					
3					3					
0					0					
1					1					
2					2					
0					0					
1					1					
2					2					
0					0					
1					1					
2					2					
0					0					
1					1					
2					2					
0					0					
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0					0					
1					1					
2					2					
0					0					
1					1					
2					2					
0					0					
1					1					
2					2					
0					0					
1					1					
2					2					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (I)-Bulge, S-Shear, P-Panrometer, E-Estimated  
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**Illinois Department of Transportation SOIL BORING LOG** Page 3 of 3  
Date 9/30/03

ROUTE FAP 662 (IL 4) DESCRIPTION over Honey Creek LOGGED BY M. Tappan  
SECTION (V,T)B-1 LOCATION NE 14, SEC. 24, TWP. 9 N, RNG. 7 W, 3 PM  
COUNTY Macoupin DRILLING METHOD HSA HAMMER TYPE 140# Auto

STRUCT. NO. 059-0008 Ex  
Station 059-0504 Pr  
BORING NO. 3 N. Abut  
Station 447+29  
Offset 13.0ft Rt  
Ground Surface Elev. 602.4 ft

DEPTH	DESCRIPTION	UCS	W.O.P.	W.O.H.	PLUGGED	DEPTH	UCS	W.O.P.	W.O.H.	PLUGGED
(ft)		(tsf)	(%)		(ft)	(tsf)	(%)			
0	Grey Medium to Coarse Grained SANDY GRAVEL (continued)				0					
1					1					
2					2					
0					0					
1					1					
2					2					
0					0					
1					1					
2					2					
0					0					
1					1					
2					2					
0					0					
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2					2					
0					0					
1					1					
2					2					
0					0					
1					1					
2					2					

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (I)-Bulge, S-Shear, P-Panrometer, E-Estimated  
Abbreviations W.O.H. - Sampler Advanced by Weight of Hammer, W.O.P. - Advanced by Weight of Pipe, B.S. - Before Sealing  
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BORING LOGS  
F.A.P. RT. 662 SECTION (V,T)B-2  
MACOUPIN COUNTY  
STATION 447+03.80  
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