

HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-06	STANDARDS, SYMBOLS, AND ABBREVIATIONS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-05	TEMPORARY EROSION CONTROL SYSTEMS
420001-07	PAVEMENT JOINTS
420101-04	JOINTED PCC PAVEMENT
515001-03	NAME PLATE FOR BRIDGES
666001-01	RIGHT-OF-WAY MARKERS
701001-02	OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5m) AWAY
701006-03	OFF-RD OPERATIONS, 2L, 2W, 15' (4.5m) TO 24" (600mm) FROM PAVEMENT EDGE
701011-01	OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
701321-11	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-04	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS > 45 MPH
701901-01	TRAFFIC CONTROL DEVICES
704001-06	TEMPORARY CONCRETE BARRIER
720001-01	SIGN PANEL MOUNTING DETAILS
720006-06	SIGN PANEL ERECTION DETAILS
720011-01	METAL POSTS FOR SIGNS, MARKERS & DELINEATORS
729001-01	APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS AND MARKERS)
780001-02	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

INDEX OF SHEETS

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1	COVER SHEET
2	INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES, AND MIXTURE REQUIREMENTS
3	SUMMARY OF QUANTITIES
4	CULVERT ELEVATION
5	SCHEDULES
6	STAGED CONSTRUCTION
7	EROSION CONTROL AND DRAINAGE
8	TYPICAL SECTION
9	STAGING DETAILS
10	STRUCTURE PLANS
11	PLAN/PROFILE
12-13	DISTRICT STANDARDS

13A
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14-18

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
CROSS SECTIONS

COMMITMENTS

NONE

GENERAL NOTES

THE THICKNESS OF HOT-MIX ASPHALT MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE BITUMINOUS MIXTURE IS PLACED

FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES

ALL BITUMINOUS CONCRETE ----- 2.392 METRIC TONS/CU. METER (2.016 TONS/ CU. YD.)
ALL AGGREGATE ----- 2.43 METRIC TONS/ CU. METER (2.05 TONS/ CU. YD.)
BITUMINOUS MATERIALS:
ON PAVEMENT ----- 0.41 LITERS/SQ. METER (0.09 GAL./SQ. YD.)
INTERMEDIATE LIFTS ----- 0.41 LITERS/SQ. METER (0.09 GAL./SQ. YD.)
(FOG COAT)
ON AGGREGATE SURFACE ---- 1.45 LITERS/SQ. METER (0.32 GAL./SQ. YD.)
AGGREGATE (PRIME COAT) ----- 0.0016 METRIC TONS/SQ. METER (0.0015 TONS/SQ. YD.)
RIPRAP ----- 1.78 METRIC TONS/CU. METER (1.5 TONS/CU. YD.)

EMBANKMENT SHALL BE CONSTRUCTED USING STRUCTURE EXCAVATION

IF THE CONTRACTOR ELECTS TO USE PCC BASE COURSE WIDENING, SUCH WIDENING SHALL BE PRIMED ACCORDING TO ARTICLE 406.02, EXCEPT THIS WORK WILL NOT BE PAID FOR SEPERATELY BUT SHALL BE INCLUDED IN THE COST OF THE WIDENING

AT ALL LOCATIONS WHERE EXISTING HOT-MIX ASPHALT OR CONCRETE PAVEMENT JOINS AN EXISTING HOT-MIX ASPHALT OR CONCRETE PAVEMENT, A FULL DEPTH SAWED JOINT SHALL BE CONSTRUCTED. THE COST OF THIS JOINT WILL BE INCLUDED IN THE COST OF THE TYPE OF PAVEMENT BEING CONSTRUCTED.

PRIOR TO PLACEMENT OF THE FINAL PAVEMENT MARKINGS THE RESIDENT ENGINEER SHOULD CONTACT THE BUREAU OF OPERATIONS AND ARRANGE FOR INSPECTION AND APPROVAL OF THE PAVEMENT MARKING LAYOUT.

THE ADVANCE DETECTOR LOOPS ARE TYPICALLY LOCATED 275 FEET IN ADVANCE OF THE STOP BAR. THE BUREAU OF OPERATIONS SHOULD APPROVE THE LOOP LOCATIONS PRIOR TO INSTALLATION.

THE CENTERLINE PAVEMENT MARKING SHOULD BE REMOVED FROM THE STOP BAR TO THE SAND ATTENUATORS OR DRUMS. EDGE LINE PAVEMENT MARKINGS SHOULD BE REMOVED IF A 10 FOOT LANE WIDTH CANNOT BE MAINTAINED. TEMPORARY EDGE LINES SHOULD BE INSTALLED WHEN EDGE LINES ARE REMOVED.

ANY TIME THE CONCRETE BARRIER IS NOT IN THE PROPER POSITION, FLAGGERS SHALL BE IN PLACE TO CONTROL TRAFFIC. THE TEMPORARY TRAFFIC SIGNALS SHALL BE SET TO FLASH ALL RED.

MIX REQUIREMENTS

LOCATIONS:	HOT-MIX ASPHALT BASE COURSE WIDENING, 10"
MIXTURE USE:	HOT-MIX ASPHALT BINDER COURSE, N90, IL-19.0
AC/PG:	PG64-22
RAP%(MAX):	10
DESIGN AIR VOIDS:	4.0%, 90 GYRATION DESIGN
MIXTURE COMPOSITION: (GRADATION MIXTURE)	IL-19.0mm
FRICTION AGGREGATE:	NONE

Prepared By:	<i>Joe Zambonino</i> DISTRICT STUDIES & PLANS ENGINEER
Examined By:	<i>James Lewis Emery</i> DISTRICT LAND ACQUISITION ENGINEER
Examined By:	<i>Carrie Nelson</i> DISTRICT PROGRAM DEVELOPMENT ENGINEER
Examined By:	<i>Kelley</i> DISTRICT OPERATIONS ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT CONSTRUCTION ENGINEER
Examined By:	<i>Brian [Signature]</i> DISTRICT MATERIALS ENGINEER
Approved By:	<i>[Signature]</i> DEPUTY DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER
DATE:	March 17 2011

REVISED 6-6-11

FILE NAME =	USER NAME = porterw	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, HIGHWAY STANDARDS AND GENERAL NOTES	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ct:\pw_work\pxidot\porterw\dms49697\d978091.sht.MISC.dgn		DRAWN -	REVISED -			103	102B-1	PERRY	18	02
PLOT SCALE = 50.0000' / IN.		CHECKED -	REVISED -			CONTRACT NO. 78091				
PLOT DATE = 3/22/2011		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				
						SCALE:	SHEET NO.	OF	SHEETS	STA. TO STA.

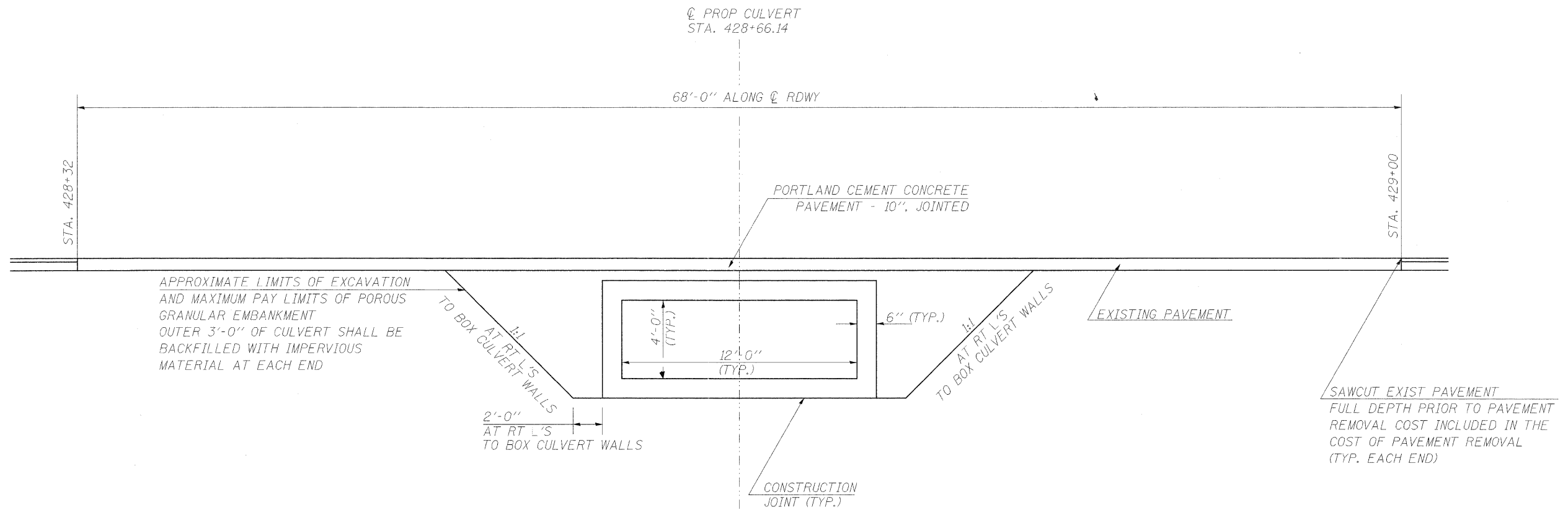
SUMMARY OF QUANTITIES

CODE NUMBER	ITEM DESCRIPTION	UNIT	STP FUNDING 80% FEDERAL 20% STATE	CONSTRUCTION TYPE CODE	CODE NUMBER	ITEM DESCRIPTION	UNIT	STP FUNDING 80% FEDERAL 20% STATE	CONSTRUCTION TYPE CODE
				0040 SN073-7073					0040 SN073-7073
20200100	EARTH EXCAVATION	CU YD		389	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO.		3
20700220	POROUS GRANULAR EMBANKMENT	CU YD		122	67100100	MOBILIZATION	L SUM		1
* 25000200	SEEDING, CLASS 2	ACRE		0.16	70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH		1
* 25000350	SEEDING, CLASS 7	ACRE		0.16	70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM		1
* 25000400	NITROGEN FERTILIZER NUTRIENT	POUND		15	70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM		1
* 25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND		15	70103815	TRAFFIC CONTROL AND SURVEILLANCE	CAL DA		2
* 25000600	POTASSIUM FERTILIZER NUTRIENT	POUND		15	70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH		1
* 25000700	AGRICULTURAL GROUND LIMESTONE	TON		0.32	70106800	CHANGEABLE MESSAGE SIGN	CAL MO		1
* 25100115	MULCH, METHOD 2	ACRE		0.16	70300100	SHORT TERM PAVEMENT MARKING	FOOT		45
* 25100630	EROSION CONTROL BLANKET	SQ YD		763	70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT		547
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND		16	70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT		198
28000305	TEMPORARY DITCH CHECKS	FOOT		16	70400100	TEMPORARY CONCRETE BARRIER	FOOT		312.5
28000400	PERIMETER EROSION BARRIER	FOOT		409	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT		212.5
28100105	STONE RIPRAP, CLASS A3	SQ YD		55	* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT		547
28200200	FILTER FABRIC	SQ YD		55	78300100	PAVEMENT MARKING REMOVAL	SQ FT		183
35600716	HOT-MIX ASPHALT BASE COURSE WIDENING, 10"	SQ YD		116	86200300	UNINTERRUPTIBLE POWER SUPPLY, EXTENDED	EACH		1
42000501	PORTLAND CEMENT CONCRETE PAVEMENT 10" (JOINTED)	SQ YD		235	XZ137300	TEMPORARY SHORING	L SUM		397
42001300	PROTECTIVE COAT	SQ YD		235	Z0026407	TEMPORARY SHEET PILING	SQ FT		
44000100	PAVEMENT REMOVAL	SQ YD		189	Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH		2
48101600	AGGREGATE SHOULDERS, TYPE B 8''	SQ YD		16	Z0030260	IMPACT ATTENUATORS TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH		1
50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH		1	Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH		2
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND		25,800					
50800515	BAR SPLICERS	EACH		80					
51500100	NAME PLATES	EACH		1					
54003000	CONCRETE BOX CULVERTS	CU YD		87.6					

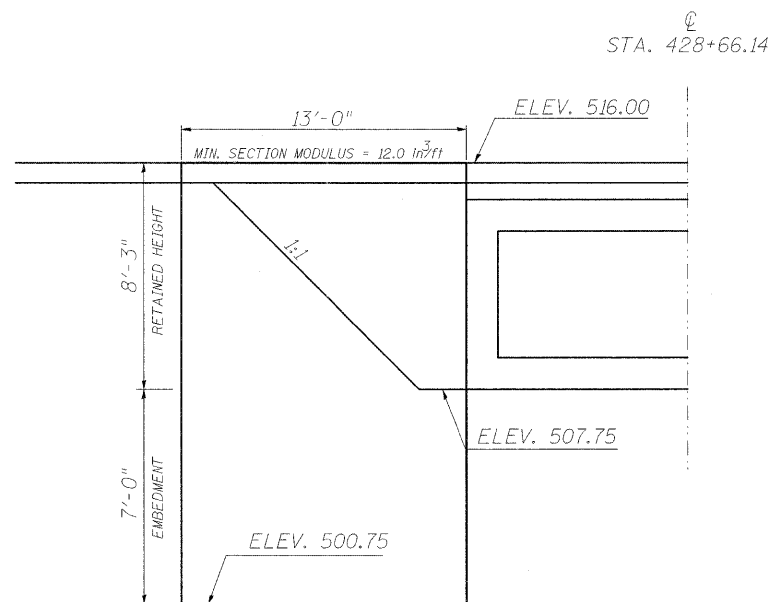
* SPECIALTY ITEM

REVISED 6-6-11

TYPICAL LIMITS OF POROUS GRANULAR EMBANKMENT AT 073-7073

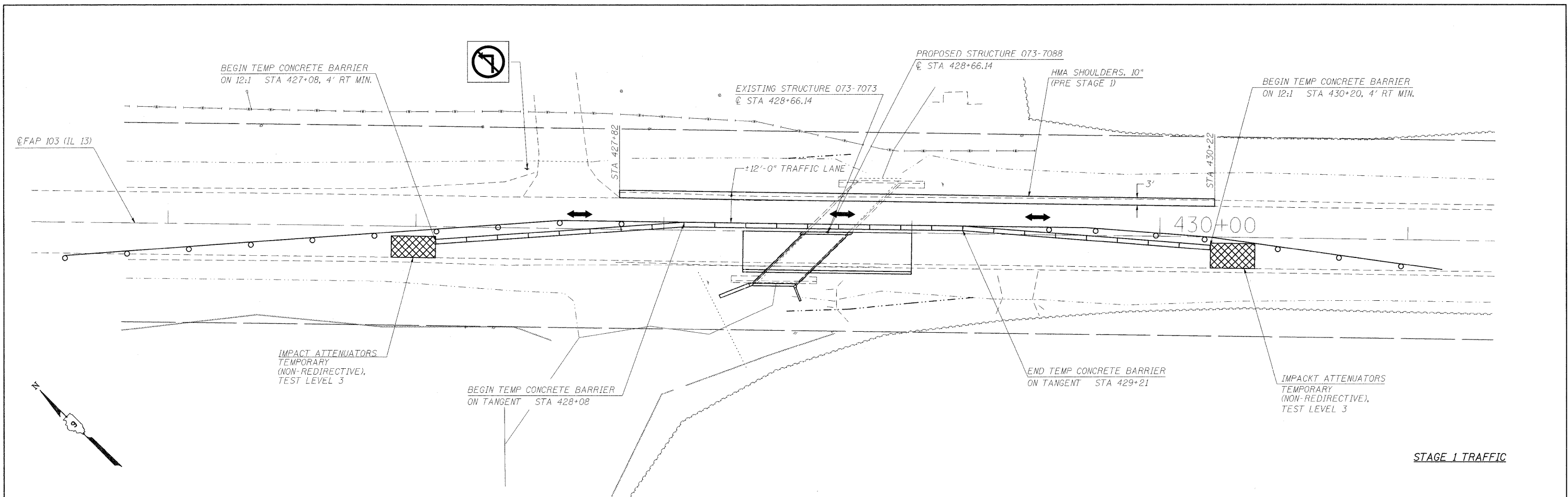


TEMPORARY SHEET PILING DETAIL

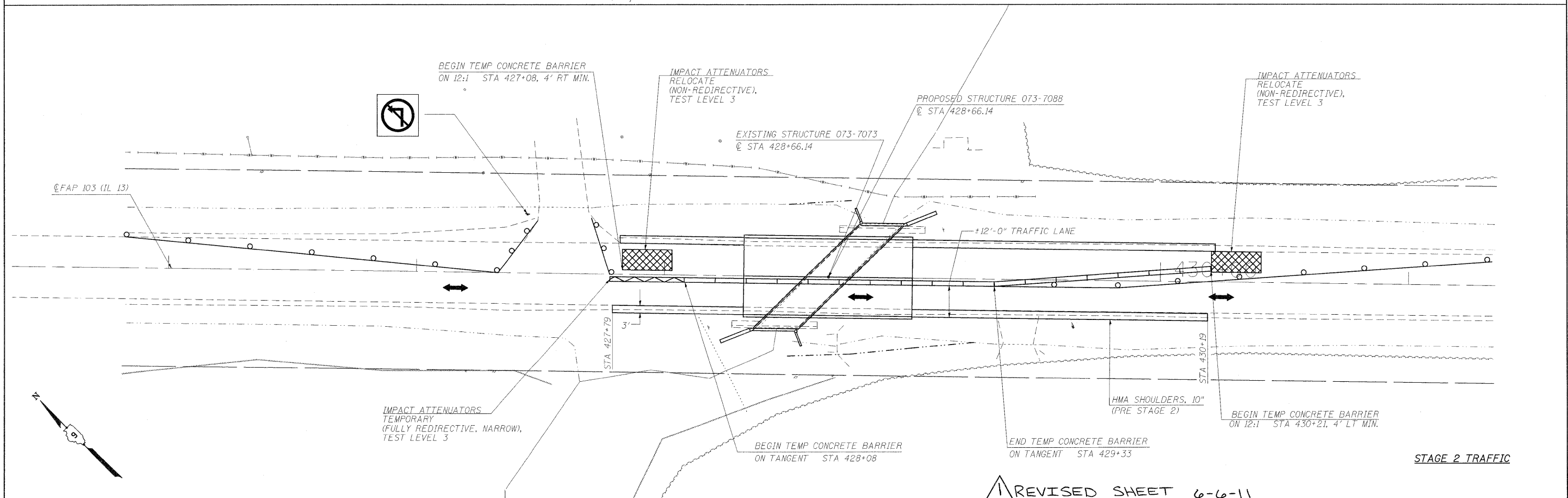


REVISI^oN SHEET 6-6-11

FILE NAME =	USER NAME = porterc	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CULVERT ELEVATION				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
c:\pw\work\p\dot\porter\c\dms49697\d978091_sht_MISC.dgn		DRAWN -	REVISED -		SCALE:	SHEET NO. OF	SHEETS	STA. 428+00	STA. 429+00	103	102B-1	PERRY	18	04
		CHECKED -	REVISED -		CONTRACT NO. 78091									
		DATE -	REVISED -		ILLINOIS FED. AID PROJECT									



STAGE 1 TRAFFIC

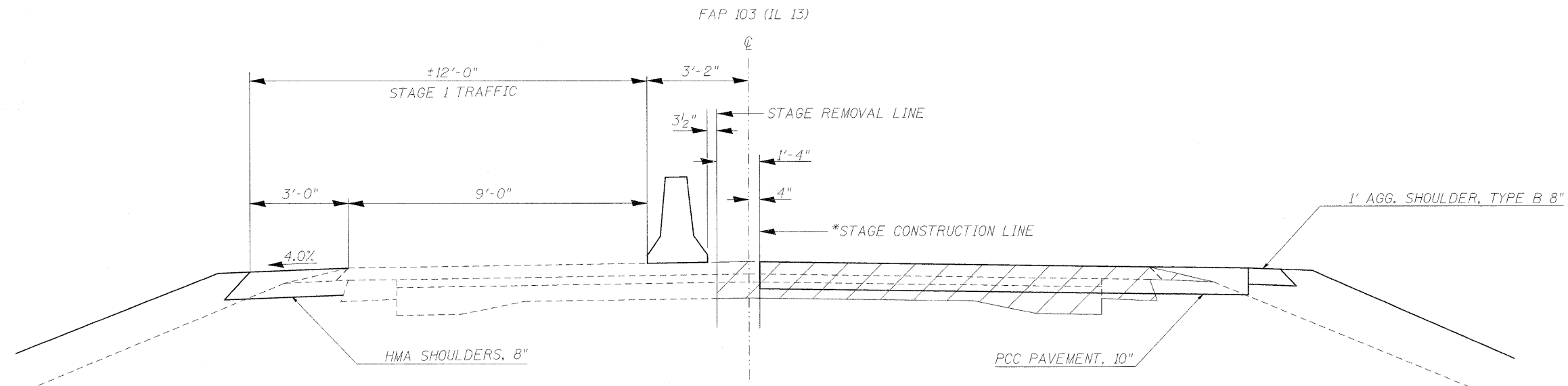


STAGE 2 TRAFFIC

REVISIED SHEET 6-6-11

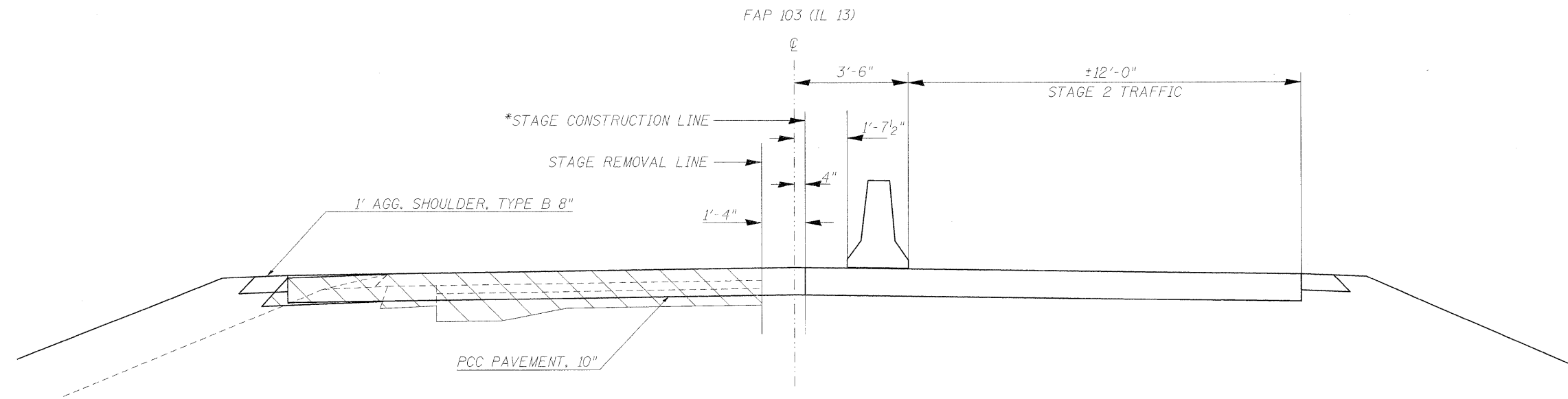
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ca:\pwwork\pwwork\portarwo\dms49697\d978091_sht_MISC.dgn	PLOT SCALE = 20,0000 / in.	DRAWN -	REVISED -					103	102B-1	PERRY	18	06
PLOT DATE = 5/27/2011	DATE -	CHECKED -	REVISED -					CONTRACT NO. 78091				
								ILLINOIS FED. AID PROJECT				

STAGE 1



*NOTE: THE STAGE CONSTRUCTION LINE SHOWN ON THIS SHEET IS FOR THE PAVEMENT ONLY. THE STAGE CONSTRUCTION LINE FOR THE CULVERT IS ON Q OF IL 13.

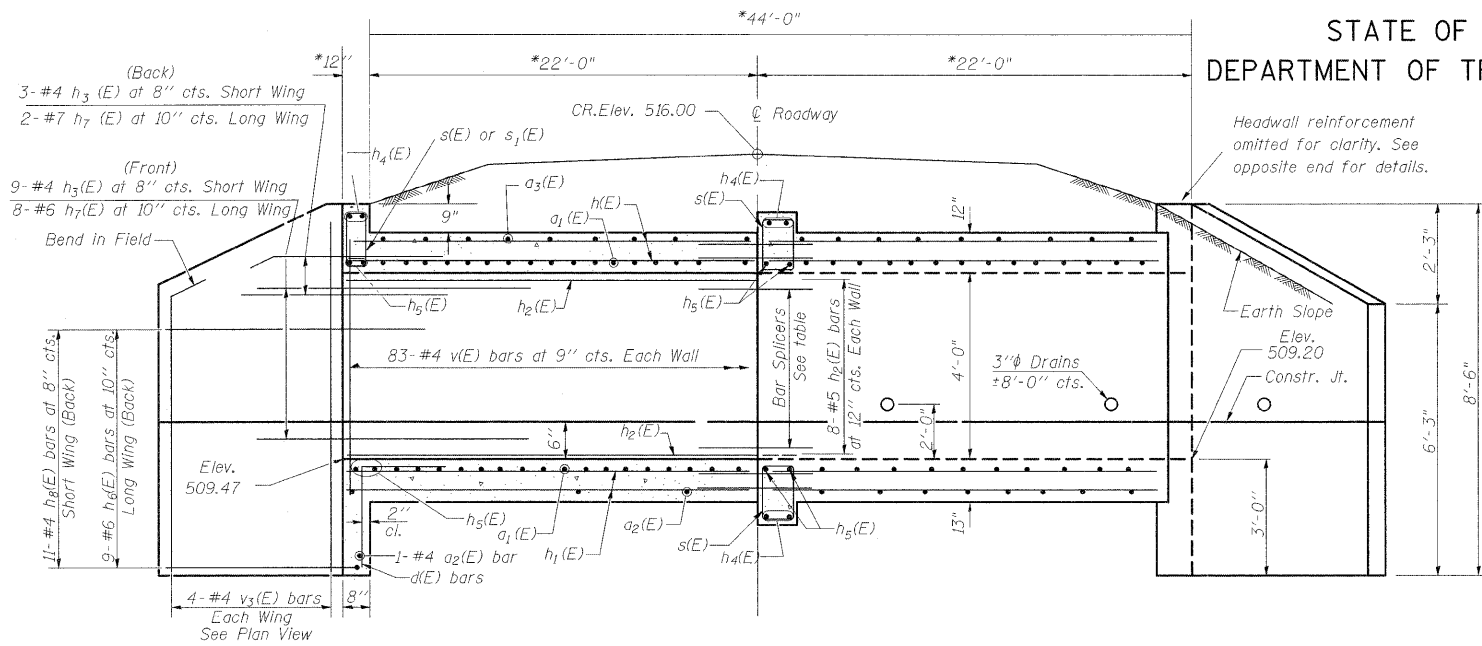
STAGE 2



REVISIED SHEET 6-6-11

FILE NAME =	USER NAME = portarwo	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE CONSTRUCTION DETAILS			F.A.P. RTE. 103	SECTION 102B-1	COUNTY PERRY	TOTAL SHEETS 18	SHEET NO. 09
c:\pwork\pwork\portarwo\dms49697\d978091_sht.MISC.dgn		DRAWN -	REVISED -		SCALE:	SHEET NO. 00F	01SHEETS	STA. 428+300	STA. 429+00	CONTRACT NO. 78091		
		CHECKED -	REVISED -		ILLINOIS FED. AID PROJECT							
		DATE -	REVISED -									

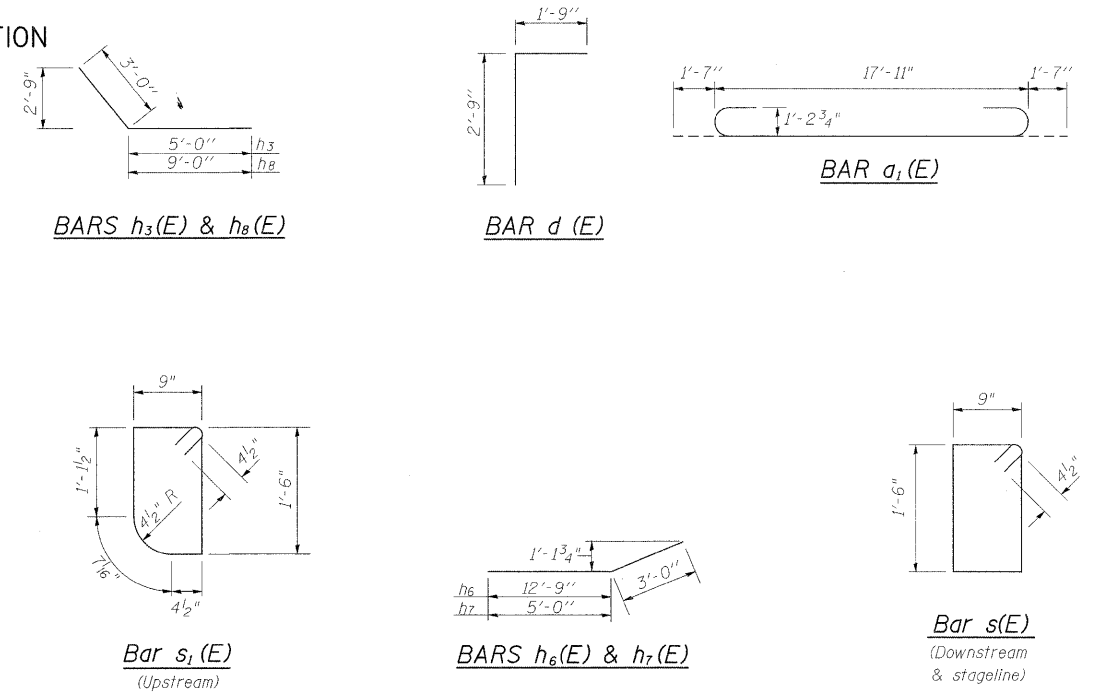
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



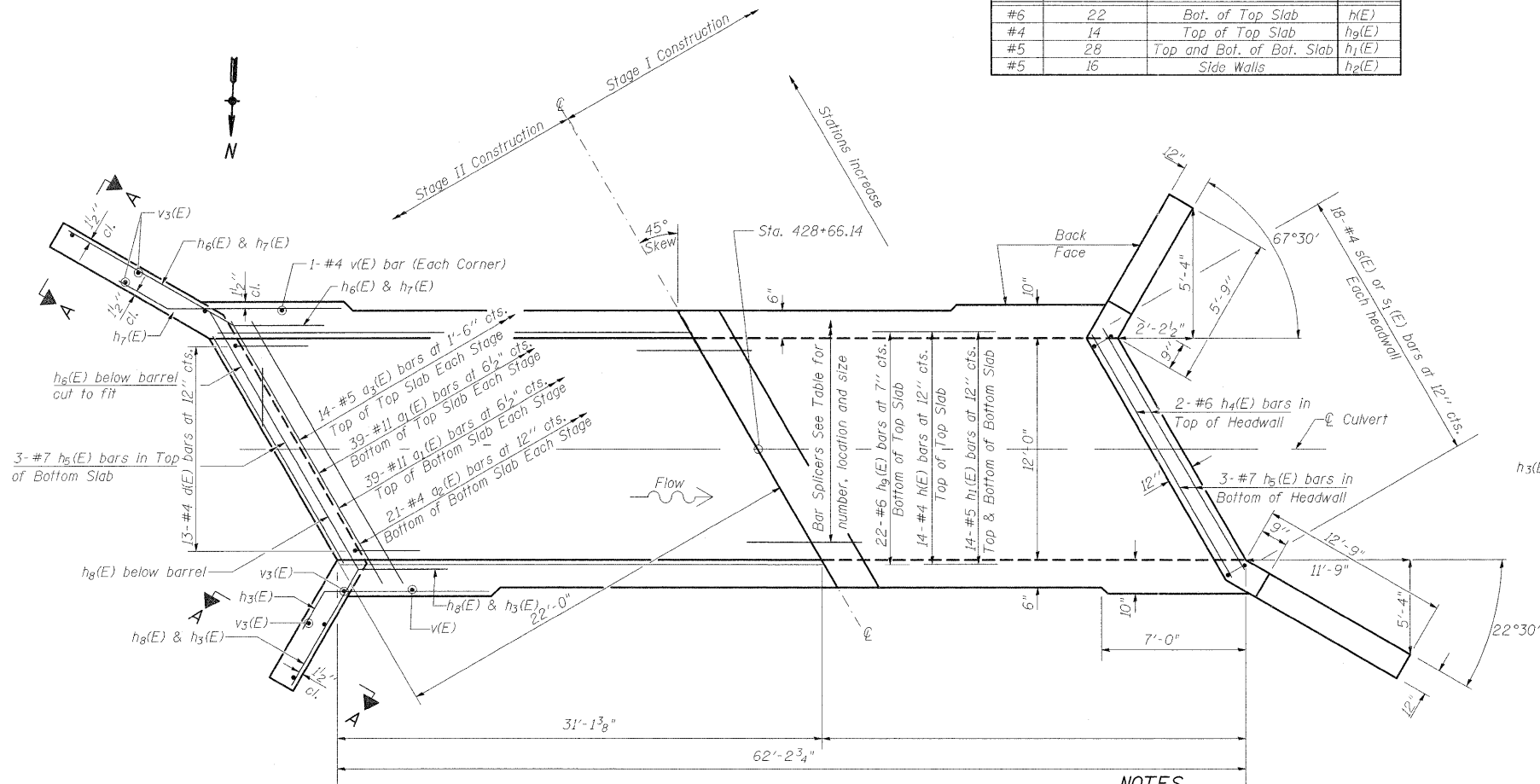
ELEVATION

BAR SPLICERS (E)

Bar Size	No. Assemblies Required	Location	Bar
#6	22	Bot. of Top Slab	h(E)
#4	14	Top of Top Slab	h9(E)
#5	28	Top and Bot. of Bot. Slab	h1(E)
#5	16	Side Walls	h2(E)



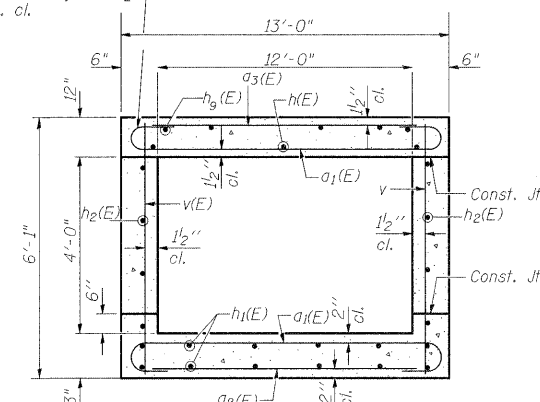
*Dimensions at Rt. L's to \odot Roadway



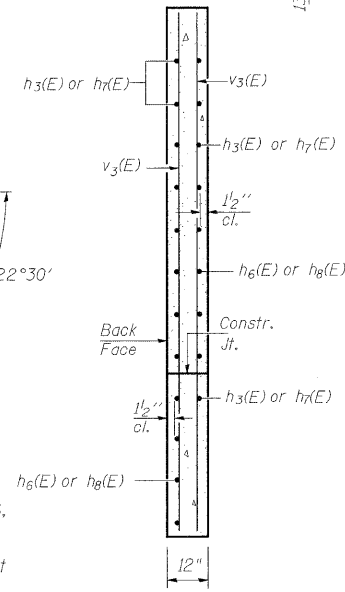
PLAN

NOTES

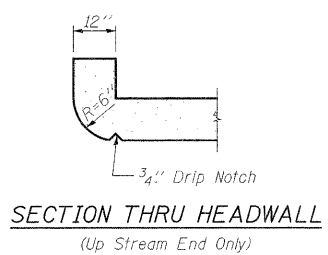
All construction joints shall be bonded.
Reinforcement Bars shall conform to the requirements of ASTM A 706.
Reinforcement Bars designated (E) shall be Epoxy Coated.
A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
See roadway plans for Temporary Sheet Piling.
See Special Provisions for Temporary Shoring



SECTION THRU BARREL



SECTION A-A



SECTION THRU HEADWALL
(Up Stream End Only)

DESIGN STRESSES

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

LOADING HS 20-44 & ALT.

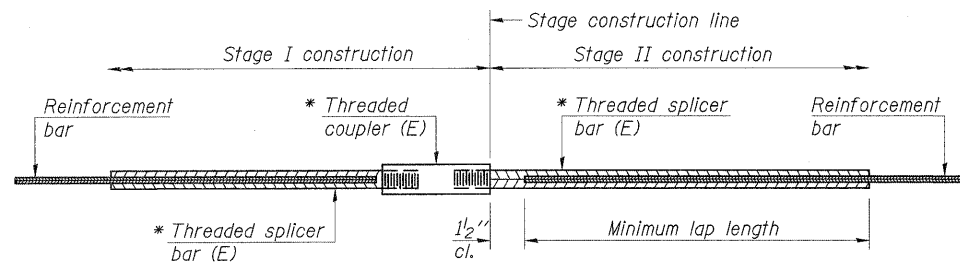
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1(E)	156	#11	21'-1"	U
a2(E)	44	#4	17'-8"	—
a3(E)	28	#5	17'-8"	—
d(E)	26	#4	4'-6"	L
h(E)	28	#4	29'-10"	—
h1(E)	56	#5	29'-10"	—
h2(E)	16	#5	29'-10"	—
h3(E)	24	#4	8'-0"	—
h4(E)	8	#6	17'-6"	—
h5(E)	8	#7	17'-6"	—
h6(E)	18	#6	15'-9"	—
h7(E)	20	#6	8'-0"	—
h8(E)	22	#4	12'-0"	—
h9(E)	44	#6	29'-10"	—
s(E)	54	#4	5'-3"	□
s1(E)	18	#4	5'-1"	□
v(E)	166	#4	5'-9"	—
v3(E)	16	#4	8'-2"	—
Concrete Box Culverts			Cu. Yd.	87.6
Reinforcement Bars, Epoxy Coated			Pound	25,800
Bar Splicers			Each	80
Removal of Existing Structures			Each	1
Temporary Shoring			Each	1
Temporary Sheet Piling			Sq. Ft.	397

REVISIONS

DRAWN	2-04
REVISED	5-09 SHT CELL
REVISED	
REVISED	

BASED ON: SSB-H-L 6-1-2000



STANDARD BAR SPLICER ASSEMBLY

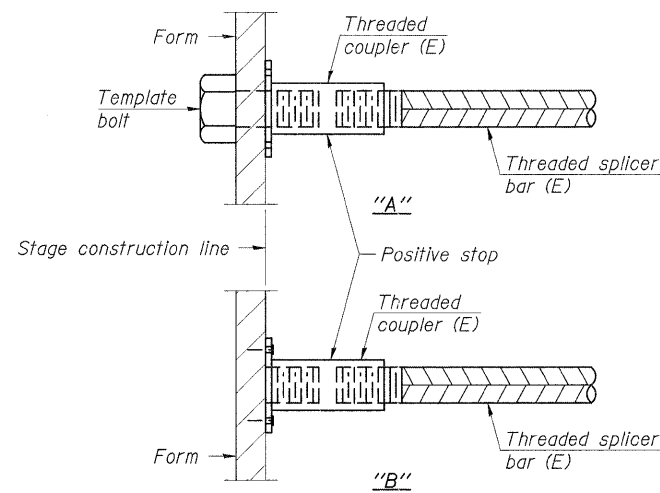
Bar size to be spliced	Minimum Lap Lengths				
	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

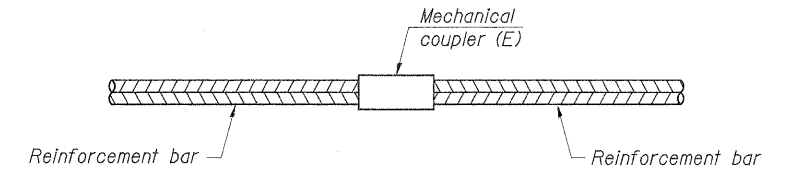
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
h(E) Culvert	#6	22	TABLE 3
h _g (E) Culvert	#4	14	TABLE 3
h _l (E) Culvert	#5	28	TABLE 3
h _z (E) Culvert	#5	16	TABLE 3



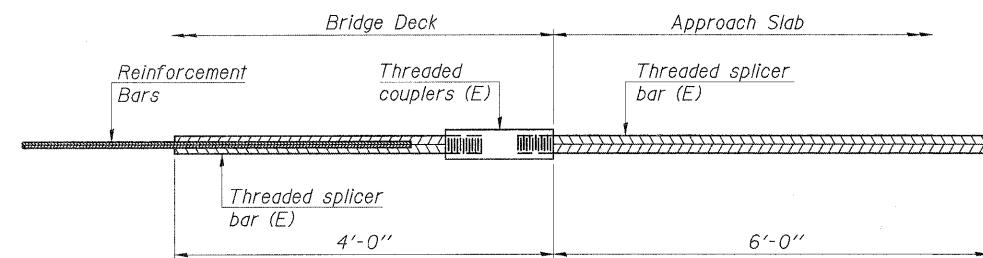
INSTALLATION AND SETTING METHODS

"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.



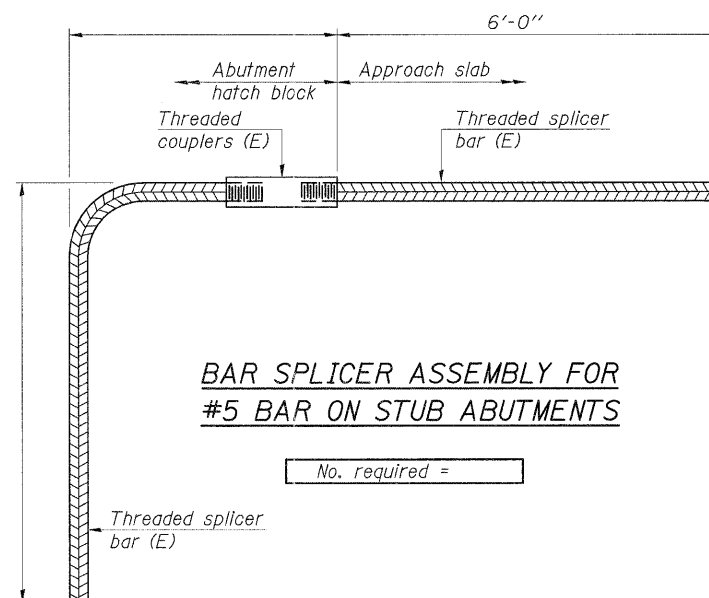
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES
 Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See special provision for Mechanical Splicers.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

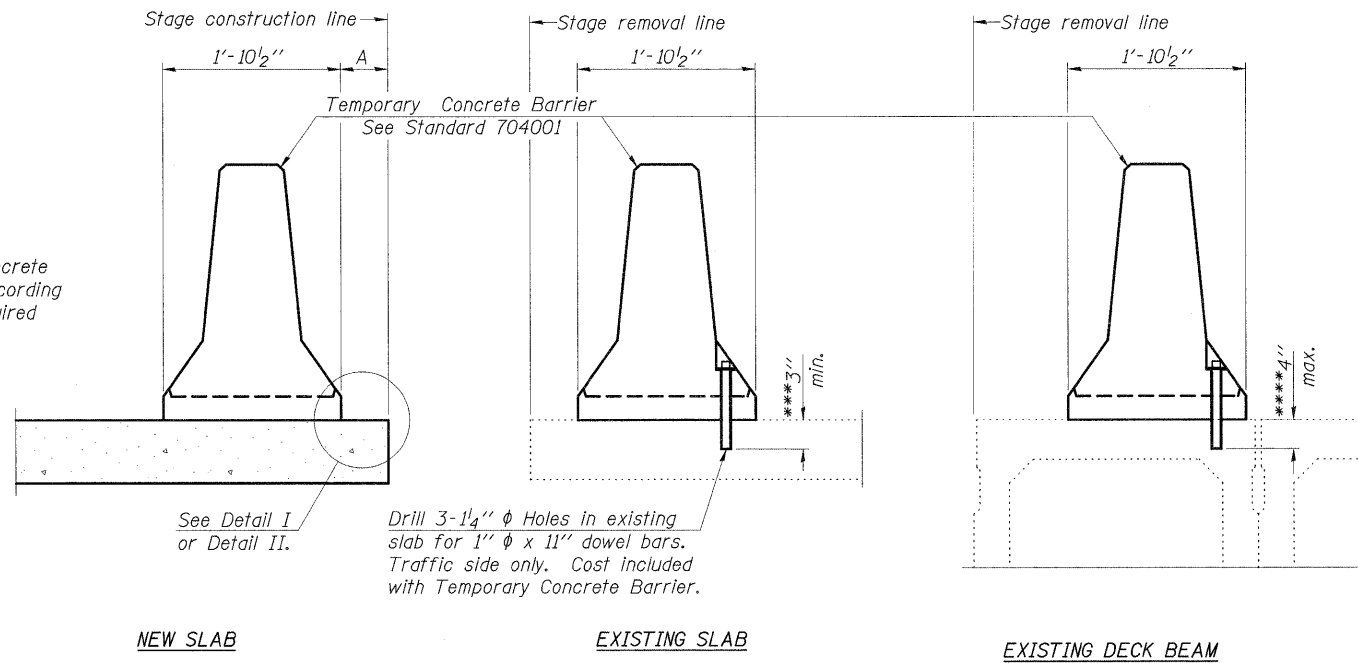
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS PERRY COUNTY

BSD-1 7-1-10

▲ SHEET ADDED 6-6-11

FILE NAME =	USER NAME =	DESIGNED - TWH	REVISOR -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS	F.A.P. RTE. =	SECTION =	COUNTY =	TOTAL SHEETS =	SHEET NO. =	
		CHECKED - MAS	REVISOR -			103	102B-1	PERRY	18	13A	
		DRAWN - TWH	REVISOR -			CONTRACT NO. 78091					
		CHECKED - MAS	REVISOR -			ILLINOIS FED. AID PROJECT					

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 OR DECK BEAM

NOTES

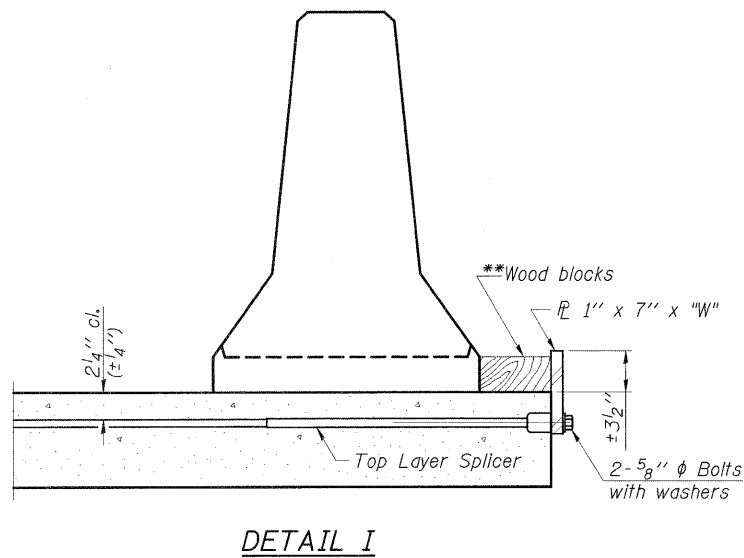
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel PL 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 C of each barrier panel.

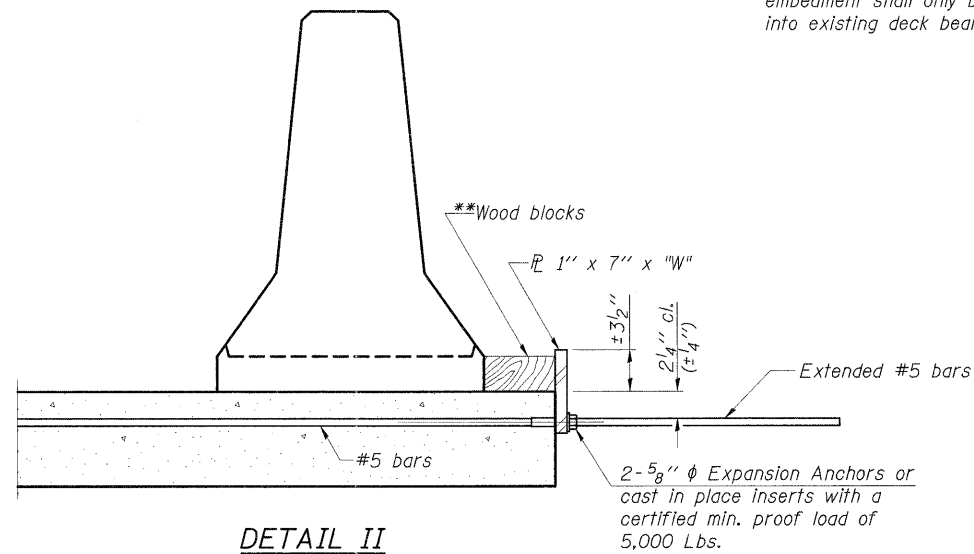
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** 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.



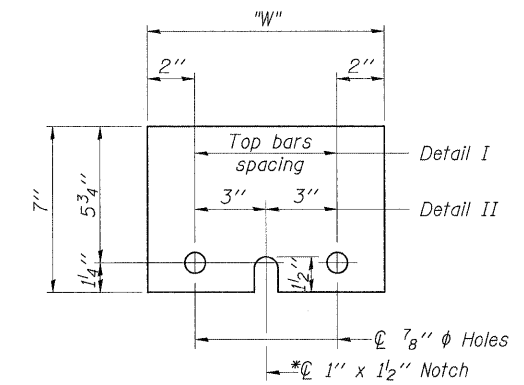
DETAIL I



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.

"W" = Top bars spacing + 4"



STEEL RETAINER PL 1" x 7" x "W"

* Required only with Detail II

R-27

7-1-10

⚠ SHEET ADDED 6-6-11

**TEMPORARY CONCRETE BARRIER
FOR STAGE CONSTRUCTION
PERRY COUNTY**

FILE NAME =	USER NAME =	DESIGNED - TWH	REVISIONS -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION	F.A.P. RTE. 103	SECTION 102B-1	COUNTY PERRY	TOTAL SHEETS 18	SHEET NO. 13B	
	PLOT SCALE =	CHECKED - MAS	REVISIONS -			CONTRACT NO. 78091					
	PLOT DATE =	DRAWN - TWH	REVISIONS -			ILLINOIS FED. AID PROJECT					
		CHECKED - MAS	REVISIONS -			SHEET NO. OF SHEETS					