

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAP ROUTE 805 (IL 161)  
SECTION 125BR-3  
BRIDGE REPAIR  
ST. CLAIR COUNTY

C-98-049-15

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
805	125BR-3	ST. CLAIR	19	1
		ILLINOIS	CONTRACT NO. 76H99	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

TRAFFIC DATA

ADT: 8150 (2015)  
8300 (2016) EST.  
10000 (2036) EST.  
SU: 6.7%  
MU: 2.5%

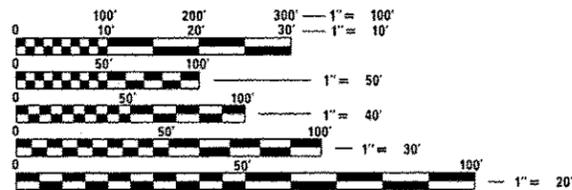
FUNCTIONAL CLASSIFICATION:  
OTHER ARTERIAL



LOCATION OF SECTION INDICATED THUS: [Black rectangle symbol]

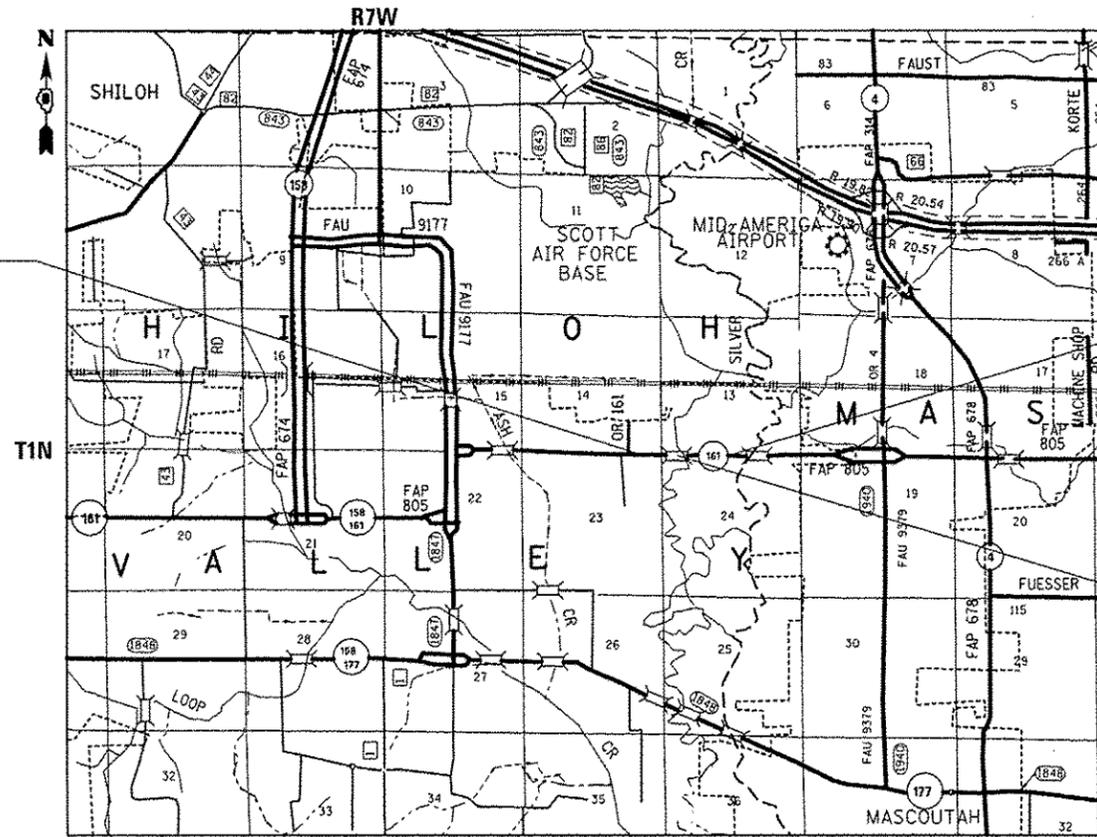
BEGIN PROJECT  
STA 483+94.46  
LAT: 38.52554491  
LAT: -89.83491605

END PROJECT  
STA 491+05.54  
LAT: 38.525471  
LONG: -89.8324922



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



TOWNSHIP: SHILOH VALLEY

GROSS LENGTH = 711.08 FT. = 0.135 MILE  
NET LENGTH = 711.08 FT. = 0.135 MILE

PROJECT ENGINEER: HERVE GELIN (618) 346-3179  
DESIGNER: ALVIN NIEVES-ROSARIO (618) 346-3187

CONTRACT NO. 76H99

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED *Feb 10 2016*

*Jeffrey Z. Kan*  
REGIONAL DIRECTOR OF HIGHWAYS, REGION 5 ENGINEER

*March 18 2016*  
*Maureen M. Addis PE*  
ENGINEER OF DESIGN AND ENVIRONMENT

*March 18 2016*  
*Omer Osman PE*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS



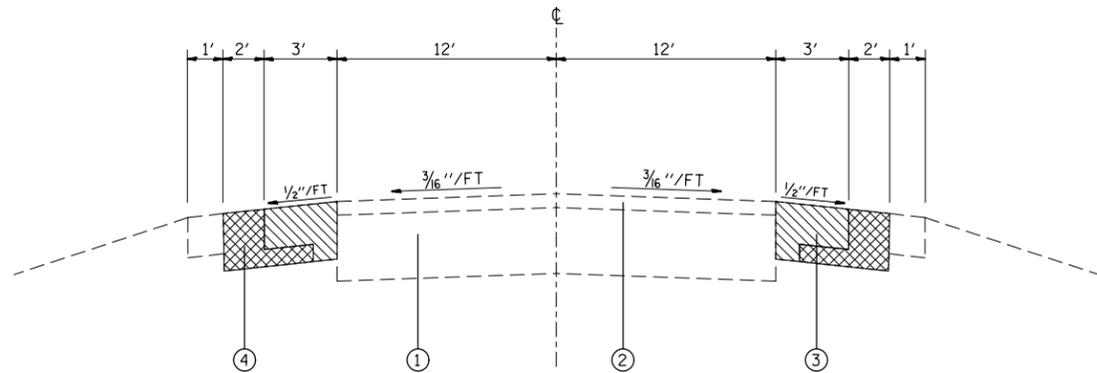
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				BRIDGE	
				0014	RURAL
20200100	EARTH EXCAVATION	CU YD	36	36	
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	120	120	
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	400	400	
40603340	HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70	TON	30	30	
44004250	PAVED SHOULDER REMOVAL	SQ YD	148	148	
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	8	8	
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	248	248	
48203100	HOT-MIX ASPHALT SHOULDERS	TON	16	16	
50102400	CONCRETE REMOVAL	CU YD	9.6	9.6	
50300100	FLOOR DRAINS	EACH	12	12	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	10.7	10.7	
50300260	BRIDGE DECK GROOVING	SQ YD	420	420	
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	1780	1780	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1200	1200	

CODE NO.	ITEM	UNIT	100% STATE TOTAL QUANTITY	CONSTR. CODE	
				BRIDGE	
				0014	RURAL
50800515	BAR SPLICERS	EACH	26	26	
52000110	PREFORMED JOINT STRIP SEAL	FOOT	68	68	
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	10	10	
52100520	ANCHOR BOLTS, 1"	EACH	20	20	
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	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1	
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1	1	
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1	
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	5	5	
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1	
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	6	
70300100	SHORT TERM PAVEMENT MARKING	FOOT	28	28	

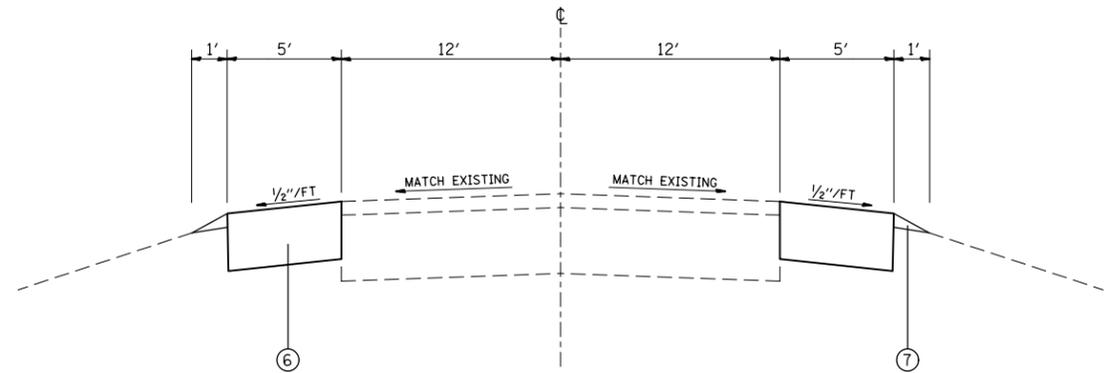
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				BRIDGE 0014 RURAL	
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SO FT	10	10	
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	884	884	
70300240	TEMPORARY PAVEMENT MARKING - LINE 6"	FOOT	1884	1884	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	375	375	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	375	375	
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2	
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2	
* 78009004	MODIFIED URETHANE PAVEMENT MARKING - LINE 4"	FOOT	884	884	
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	8	8	
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	2	2	
* 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	40	40	
* 78200011	BARRIER WALL REFLECTORS, TYPE C	EACH	56	56	
78300100	PAVEMENT MARKING REMOVAL	SO FT	1062	1062	

CODE NO.	ITEM	UNIT	100% STATE TOTAL QUANTITY	CONSTR. CODE	
				BRIDGE 0014 RURAL	
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	10	10	
X5870015	BRIDGE DECK CONCRETE SEALER	SO FT	5097	5097	
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	10	10	
Z0012130	BRIDGE DECK SCARIFICATION 3/4"	SO YD	434	434	
Z0012166	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 2 3/4"	SO YD	434	434	
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SO YD	6	6	

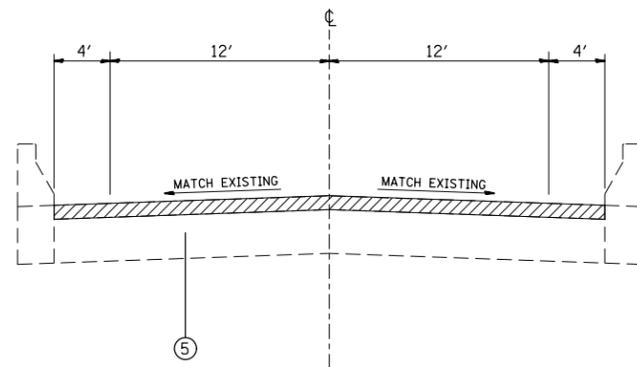
\* SPECIALTY ITEM



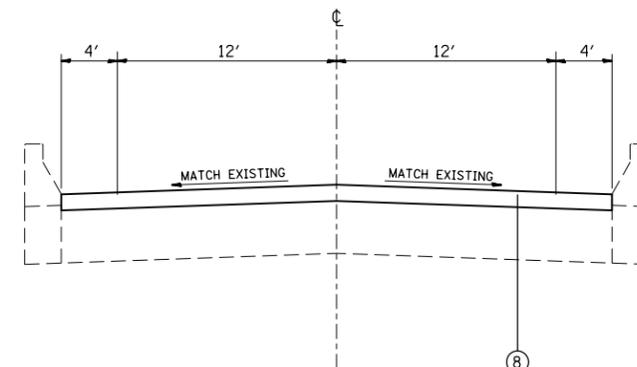
**EXISTING TANGENT SECTION**  
 STA. 485+74.46 TO STA. 486+85.46  
 STA. 488+14.54 TO STA. 489+25.54



**PROPOSED TANGENT SECTION**  
 STA. 485+74.46 TO STA. 486+85.46  
 STA. 488+14.54 TO STA. 489+25.54



**EXISTING TANGENT SECTION**  
 STA. 486+85.46 TO STA. 488+14.54



**PROPOSED TANGENT SECTION**  
 STA. 486+85.46 TO STA. 488+14.54

**LEGEND**

- ① EXISTING PCC PAVEMENT
- ② EXISTING HMA OVERLAY
- ③ EXISTING HMA SHOULDER
- ④ EXISTING AGGREGATE SHOULDER
- ⑤ EXISTING BRIDGE DECK
- ⑥ PROPOSED HMA SHOULDERS, 8"
- ⑦ PROPOSED AGGREGATE WEDGE SHOULDER, TYPE B
- ⑧ PROPOSED MICROSILICA CONCRETE OVERLAY, 2 3/4"

- PROPOSED PAVED SHOULDER REMOVAL, 6-8"
- PROPOSED EARTH EXCAVATION, 8"
- PROPOSED BRIDGE DECK SCARIFICATION, 3/4"

NOT TO SCALE

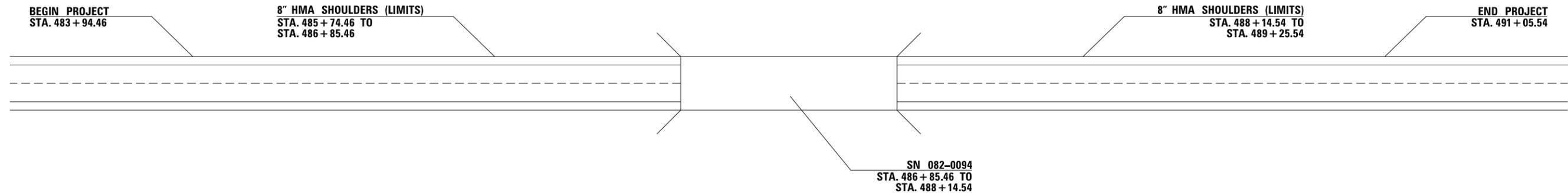
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	PLOT DATE = 2/8/2016	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**EXISTING & PROPOSED TYPICAL SECTIONS**

SCALE: NTS SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
805	125BR-3	ST. CLAIR	19	5
CONTRACT NO. 76H99				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



NOT TO SCALE

FILE NAME =	USER NAME = nievesa	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>LOCATION MAP</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
p:\11\084EBIDINTEG.illinois.gov\PIWIDOT\Documents\IDOT Offices\District 8\Projects\0876\DRAWING\DATA\EA\Sheets\d876h99-sht-plan.dwg		CHECKED -	REVISED -		805	125BR-3	ST. CLAIR	19	6			
		DATE -	REVISED -		SCALE: NTS	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	<b>CONTRACT NO. 76H99</b>			
					FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							

SHOULDER SCHEDULE						
LOCATION			HMA SHOULDERS, 8"	PAVED SHOULDER REMOVAL	AGGREGATE WEDGE SHOULDER, TYPE B	EARTH EXCAVATION
STATION	TO	STATION	SQ YD	SQ YD	TONS	CU YD
485+74.46	TO	486+85.46	124	74	4	18
486+85.46	TO	488+14.54				
488+14.54	TO	489+25.54	124	74	4	18
TOTAL			248	148	8	36

HMA SURFACE SCHEDULE						
LOCATION			BITUMINOUS MATERIALS (TACK COAT)	HMA SURFACE COURSE, MIX D, N70	HMA SHOULDERS	
STATION	TO	STATION	POUND	TON	TON	
486+35.46	TO	486+85.46	60	15	8	
486+85.46	TO	488+14.54				
488+14.54	TO	488+64.54	60	15	8	
TOTAL			120	30	16	

PAVEMENT MARKING SCHEDULE											
STA	TO	STA	MODIFIED URETHANE PAVEMENT MARKING LINE - 4"		RAISED REFLECTIVE PAVEMENT MARKERS (BRIDGE)	RAISED REFLECTIVE PAVEMENT MARKERS	RAISED REFLECTIVE PAVEMENT MARKERS REMOVAL	SHORT TERM PAVEMENT MARKING REMOVAL	SHORT TERM PAVEMENT MARKING	PAVEMENT MARKING REMOVAL	
			WHITE SOLID	YELLOW SKIP DASH	AMBER	AMBER					
			FOOT		EACH	EACH	EACH	SQ FT	FOOT	SQ FT	
483+94.46	TO	485+74.46		50		3	3			94	
485+74.46	TO	486+35.46	122	20		1	1			156	
486+35.46	TO	486+85.46	100	20		1	1	3	8	130	
486+85.46	TO	488+14.54	260	40	2		2	4	12	330	
488+14.54	TO	488+64.54	100	20		1	1	3	8	130	
488+64.54	TO	489+25.54	122	20		1	1			156	
489+25.54	TO	491+05.54		50		3	3			94	
SUB TOTAL:			704	220	2	10	12	10	28	1090	
TOTAL:			924		2	10	12	10	28	1090	

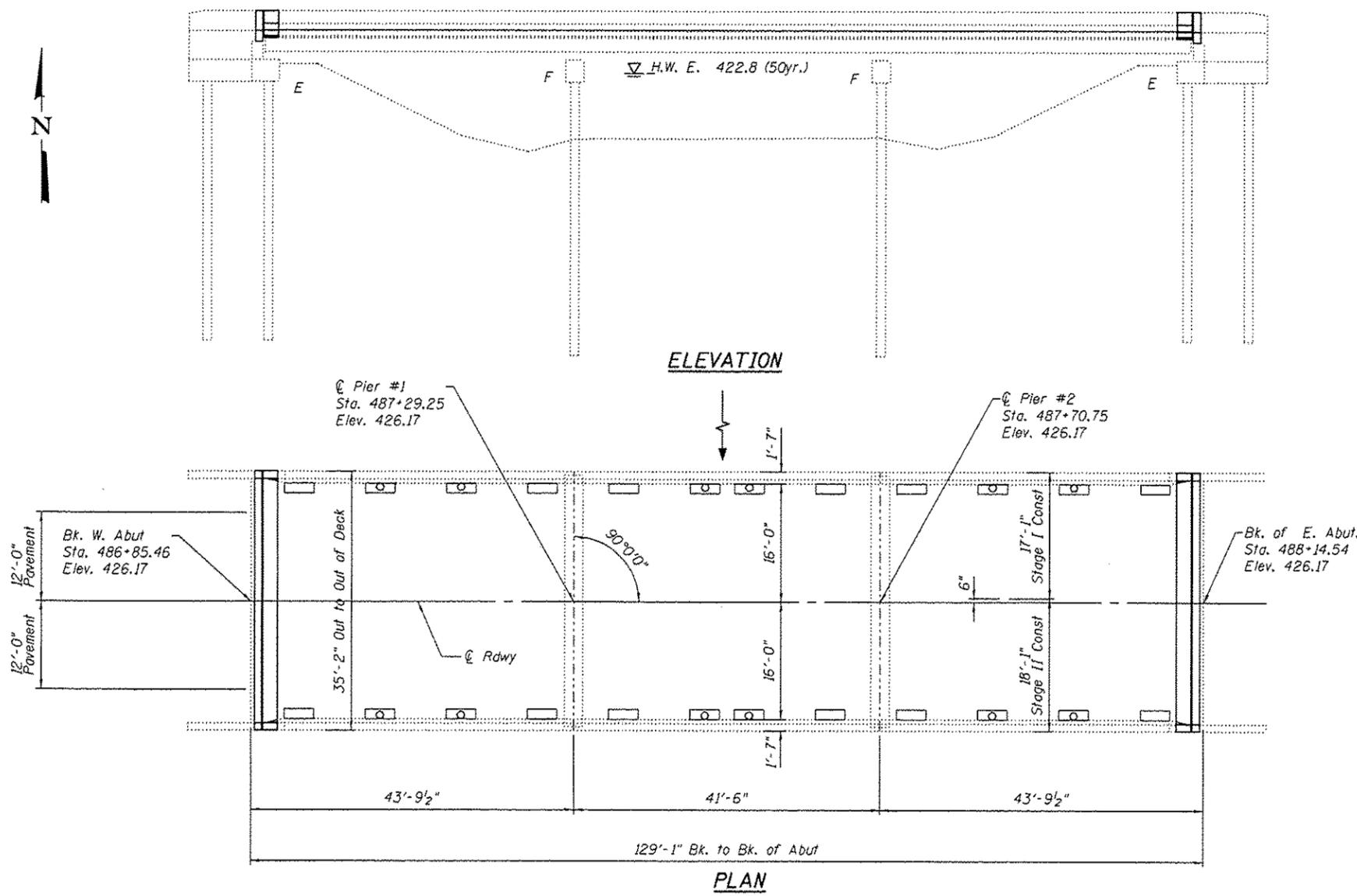
BUTT JOINT SCHEDULE	
LOCATION	HMA SURFACE REMOVAL - BUTT JOINT
STATION	SQ YD
486+45.46	200
488+14.54	200
TOTAL	400

TRAFFIC CONTROL SCHEDULE											
BRIDGE LOCATION	STRUCTURE NUMBER	CONSTRUCTION STAGE	TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER	TEMPORARY BRIDGE TRAFFIC SIGNALS	TEMPORARY RUMBLE STRIPS	GUARDRAIL REFLECTORS, TYPE A	BARRIER WALL REFLECTORS, TYPE C	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	TEMPORARY PAVEMENT MARKING LINE 6" WHITE*
			FOOT	FOOT	EACH	EACH	EACH	EACH	EACH	EACH	FOOT
IL 161 OVER SILVER CREEK	SN 082-0094	1	375.0		1	6	20	28	2		942
		2		375.0				20	28	2	942
TOTAL			375.0	375.0	1	6	40	56	2	2	1884

\* THE REMOVAL OF TEMPORARY PAVEMENT MARKING LINE 6" IS INCLUDED IN THE PAVEMENT MARKING REMOVAL PAY ITEM.

**GENERAL NOTES**

Reinforcement bars designated (E) shall be epoxy coated.  
 Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.  
 Plan dimensions and details relative to existing plans are subject to nominal construction 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 at the unit price bid for the work.  
 Joint opening shall be adjusted according to Article 520.04 of the Standard Specs. when the deck is poured at an ambient temperature other than 50° F.  
 Existing reinforcement bars extending into removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.  
 Bridge deck concrete sealer shall be placed on top/inside faces of parapet (full length) and wingwalls and on top of new concrete at joints. The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.  
 All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type I. Cost included with Furnishing and Erecting Structural Steel.  
 All structural steel shall conform to AASHTO Classification M 270 Grade 36, unless otherwise noted.  
 Fasteners shall be high strength bolts. Bolts 7/8"φ, open holes 15/16"φ, unless otherwise noted.  
 Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the GBSP "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".



**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	9.6
Concrete Superstructure	Cu. Yd.	10.7
Elastomeric Bearing Assembly, Type I	Each	10
Bridge Deck Concrete Sealer	Sq. Ft.	5097
Bar Splicers	Each	26
Reinforcement Bars, Epoxy Coated	Pound	1200
Preformed Joint Strip Seal	Foot	68
*Deck Slab Repair (Partial)	Sq. Yd.	300
*Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	6
Bridge Deck Microsilica Concrete Overlay, 2 3/4"	Sq. Yd.	434
Anchor Bolts, 1"	Each	20
Floor Drains	Each	12
Jack and Remove Existing Bearings	Each	10
Furnishing and Erecting Structural Steel	Pound	1780
Bridge Deck Scarification, 3/4"	Sq. Yd.	434
Bridge Deck Grooving	Sq. Yd.	420

**INDEX OF SHEETS**

1. General Plan & Elevation
2. Deck Cross Section
3. Joint Removal & Replacement
4. Joint Details
5. Strip Seal Details
6. Drain Details
7. Bearing Replacement
8. Beam End Repair
9. Temporary Concrete Barrier
10. Bar Splicers
11. For Information Only (F.I.O.) - Existing Structural Steel Details

**SCOPE OF WORK**

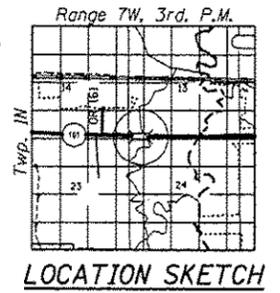
- Replace deck ends at abutments, hatchblocks and install strip seals
- Beam End Repair
- Scarify 3/4" of existing deck and place 2 3/4" of microsilica overlay.
- Perform deck patching
- Eliminate floor drains within 10' of substructures and replace remaining floor drains.
- Replace rocker bearing at abutments with elastomeric bedding with steel extensions.

**FLOOR DRAIN REPLACEMENT**

(12 Req'd) Existing drains & adjacent concrete to be removed and replaced with 6" circular drains and full depth patch. (See sheet 6 of 11 for details.)

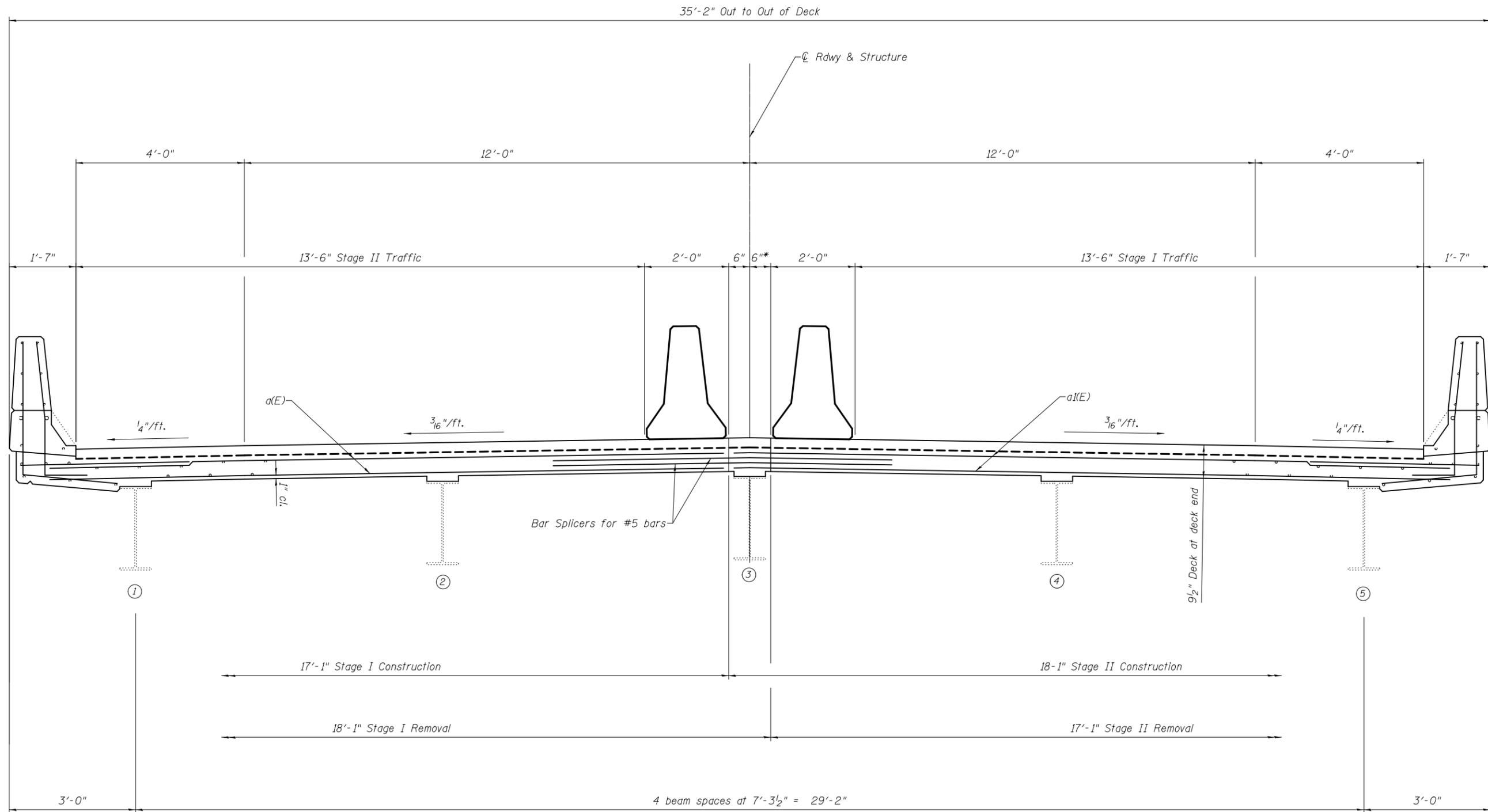
**FLOOR DRAIN ELIMINATION**

(12 Req'd) Existing drains & adjacent concrete to be removed and replaced with full depth patch. (See sheet 6 of 11 for details.)



Expires 11/30/16

DESIGNED - AYW	EXAMINED - <i>[Signature]</i>	DATE - 3/3/16	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN & ELEVATION (IL 161 over SILVER CREEK OVERFLOW) SN 082-0094	F.A.P. R.T.E. - 805	SECTION - 1258R-3	COUNTY - ST. CLAIR	TOTAL SHEETS - 19	SHEET NO. - 8
CHECKED - ATH	PASSED - <i>[Signature]</i>	REVISIONS			SHEET NO. 1 OF 11 SHEETS		CONTRACT NO. 76H99		



**CROSS SECTION**

Looking East @ Jt location

Note:

\* Contractor shall take precaution not to damage flange during Concrete Removal.

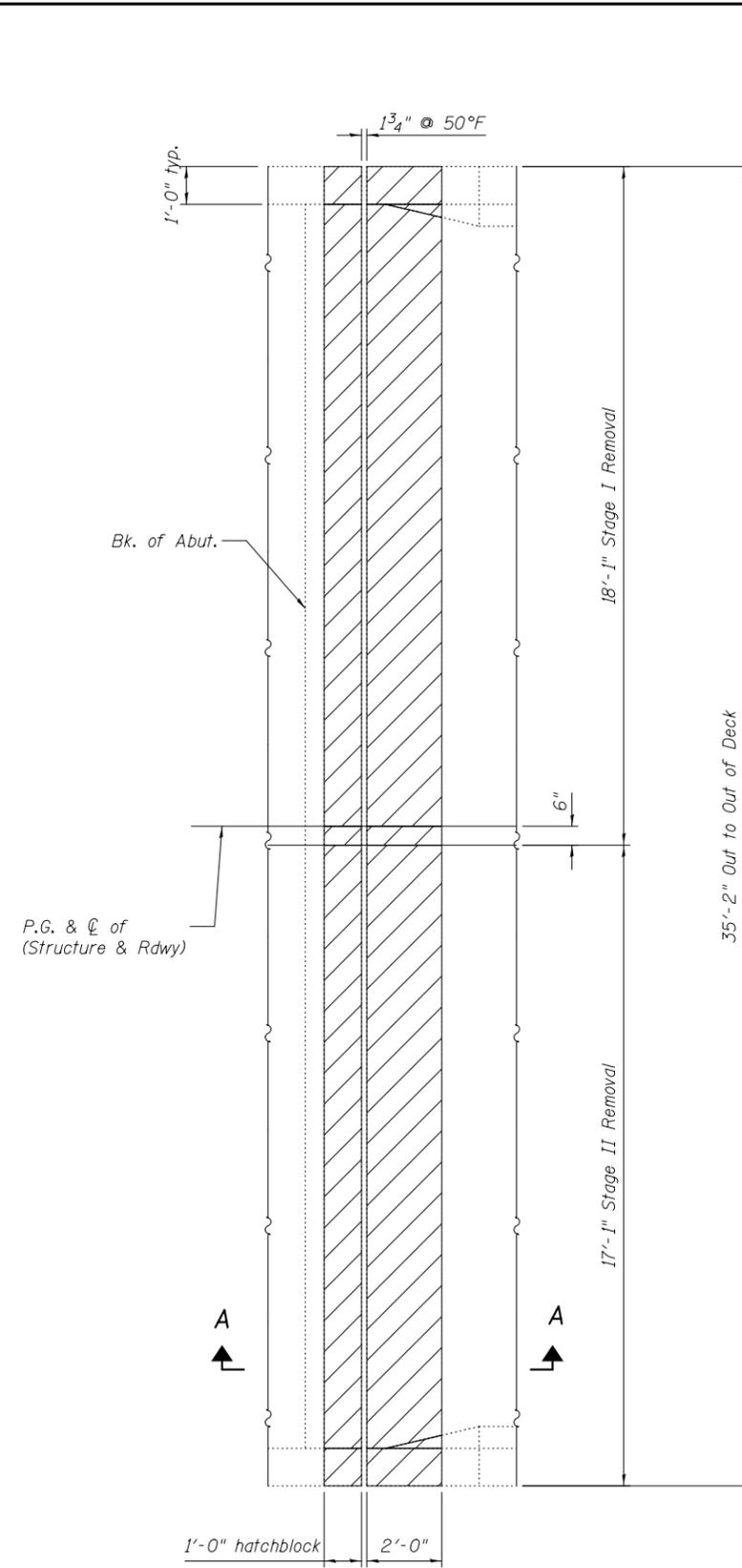
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CHECKED -	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - AYV	PASSED	REVISED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CROSS SECTION  
SN 082-0094**

SHEET NO. 2 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
805	125BR-3	ST. CLAIR	19	9
CONTRACT NO. 76H99				
ILLINOIS FED. AID PROJECT				

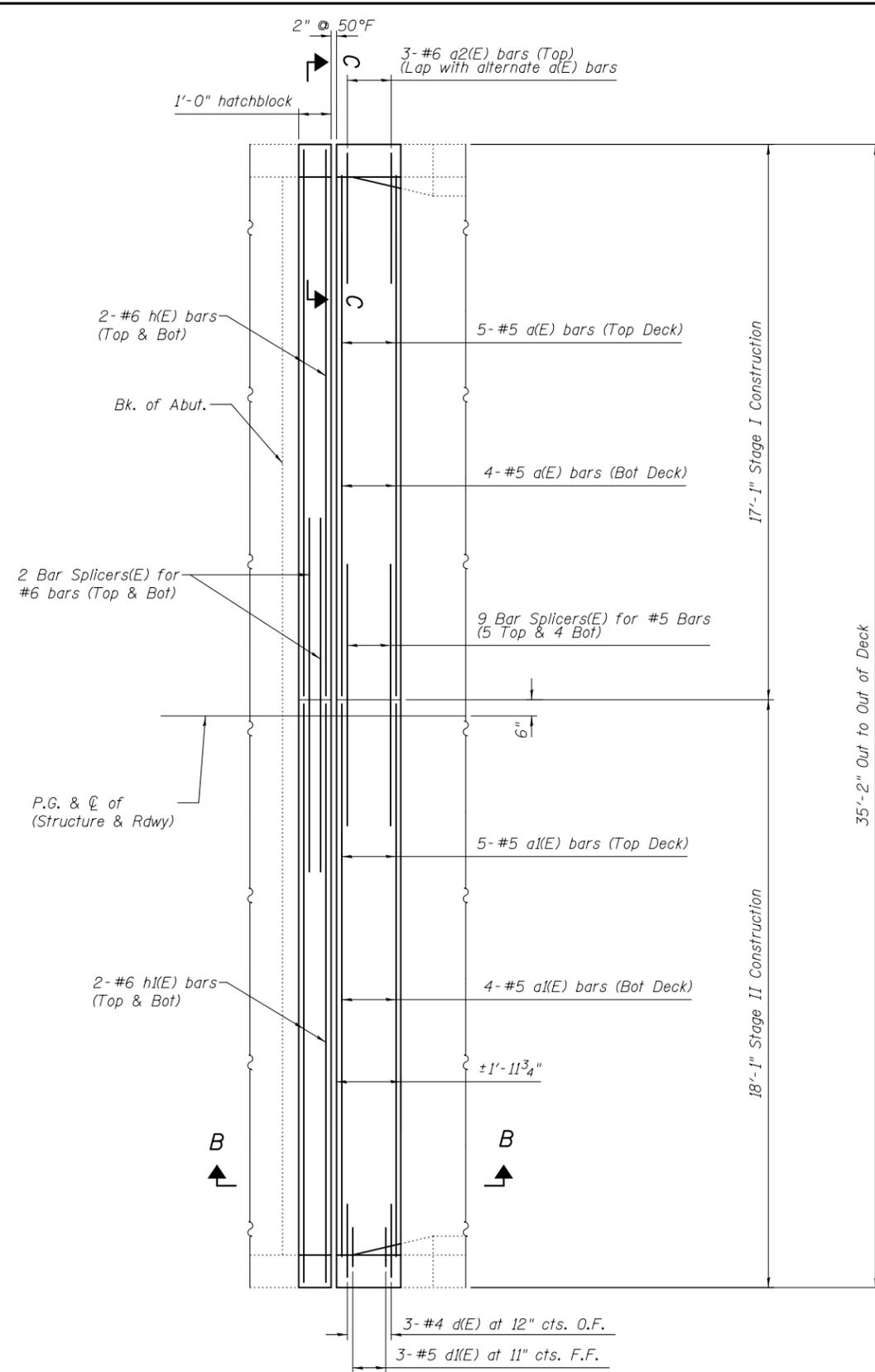


**CONCRETE REMOVAL**

W. Abut. shown, E. Abut. opposite



Concrete Removal



**CONCRETE REPLACEMENT**

W. Abut. shown, E. Abut. opposite

See Sheet 4 of 11 for Sections A-A, B-B & C-C

DESIGNED - AYV	EXAMINED _____	DATE - _____
CHECKED - _____	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - AYV	PASSED _____	REVISED _____
CHECKED - _____	ENGINEER OF BRIDGES AND STRUCTURES	REVISED _____

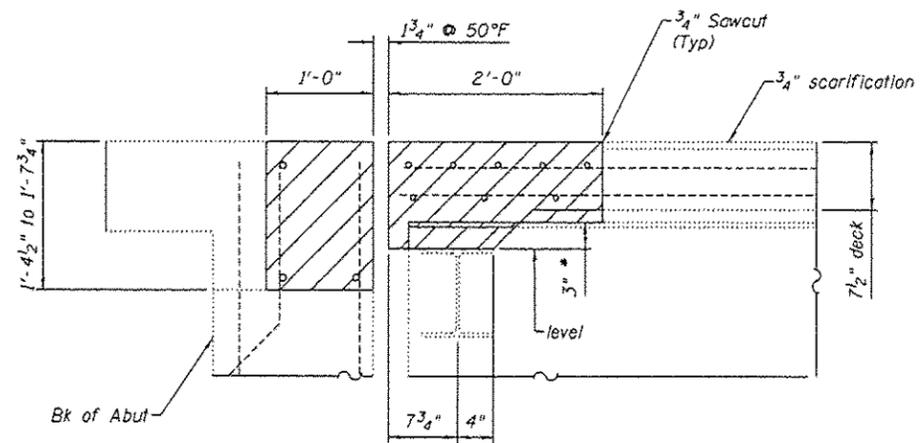
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**JOINT REMOVAL & REPLACEMENT  
SN 082-0094**

SHEET NO. 3 OF 11 SHEETS

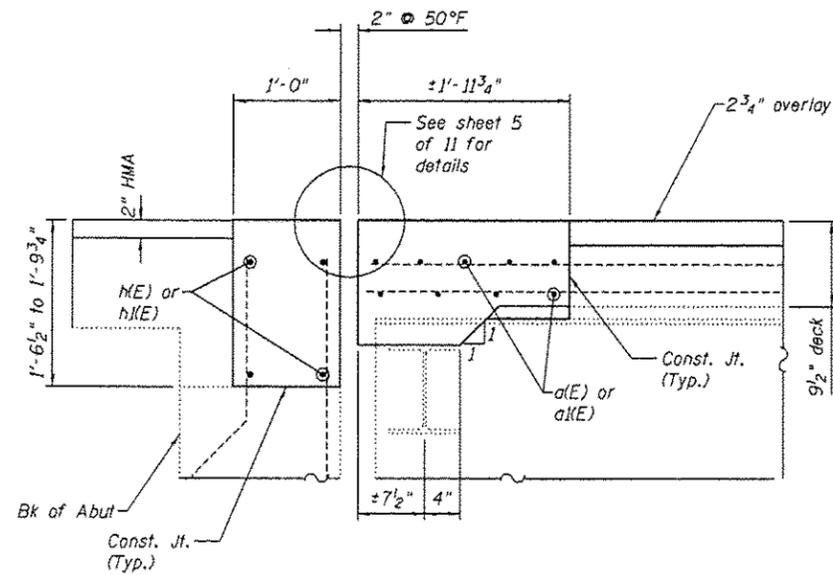
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
805	125BR-3	ST. CLAIR	19	10
CONTRACT NO. 76H99				

ILLINOIS FED. AID PROJECT

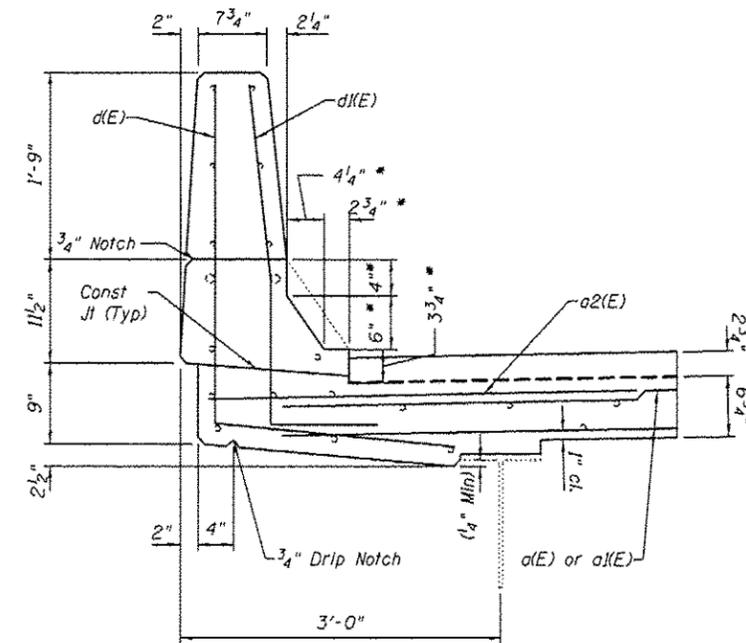


SECTION A-A

\* 3" from top of diaphragm to top of beam at low beam

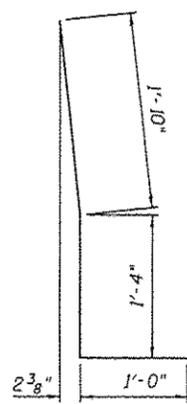


SECTION B-B

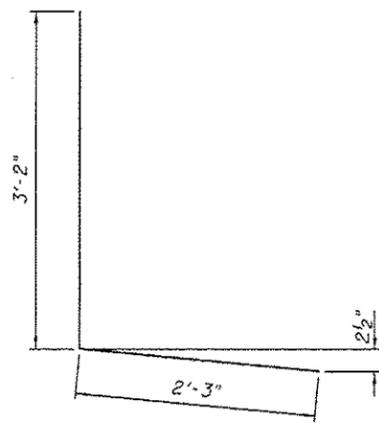


PARAPET SECTION

\* Dimensions at removal line

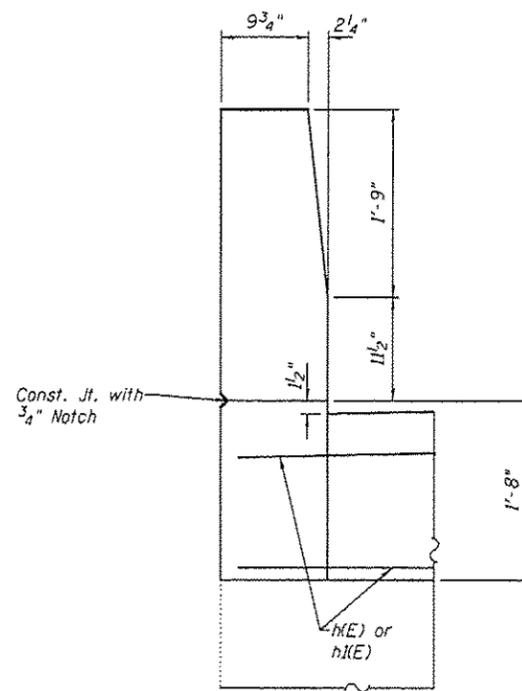


BAR d(E)



BAR d(E)

Concrete Removal



SECTION C-C

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	18	#5	16'-0"	—
a1(E)	18	#5	17'-0"	—
a2(E)	12	#6	4'-0"	—
d(E)	12	#4	5'-5"	L
d1(E)	12	#5	4'-2"	L
h(E)	8	#6	16'-9"	—
h1(E)	8	#6	17'-9"	—
Reinforcement Bars, Epoxy Coated			Pound	1200
Bridge Deck Microsilica Concrete Overlay, 2 3/4"			Sq. Yd.	434
Bridge Deck Concrete Sealer			Sq. Ft.	5097
Concrete Superstructure			Cu. Yd.	10.7
Concrete Removal			Cu. Yd.	9.6
Deck Slab Repair (Full Depth, Type II)			Sq. Yd.	6
Deck Slab Repair (Partial)			Sq. Yd.	300

\* FOR INFORMATION ONLY

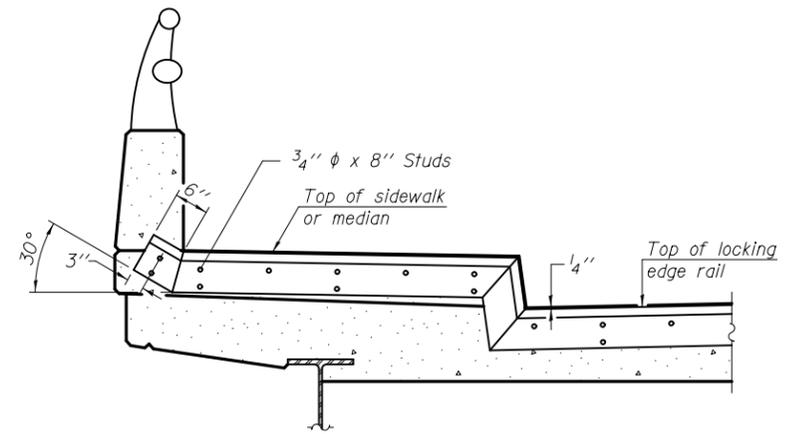
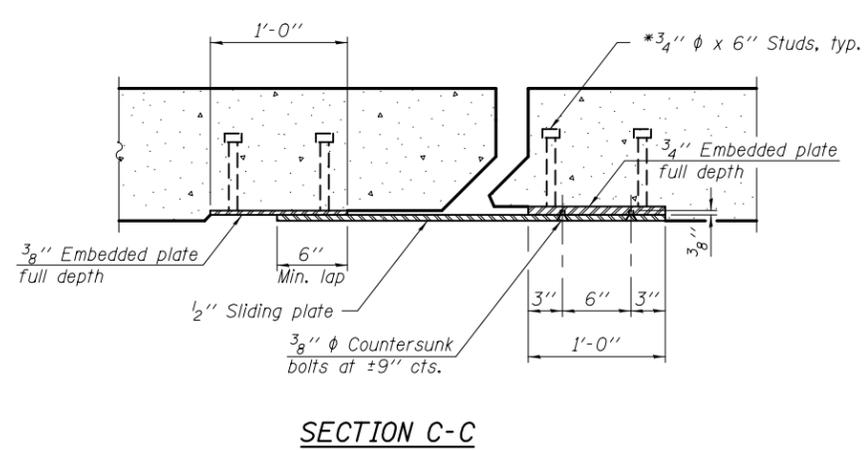
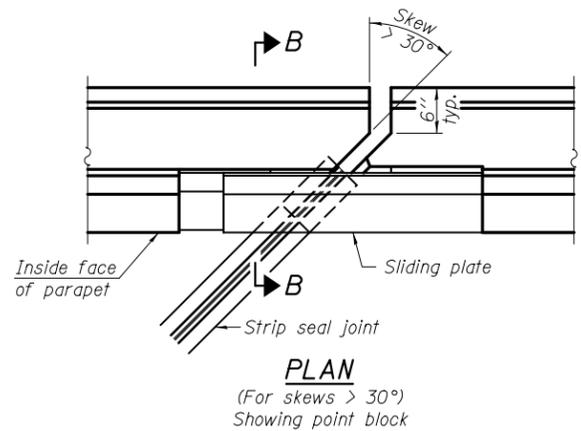
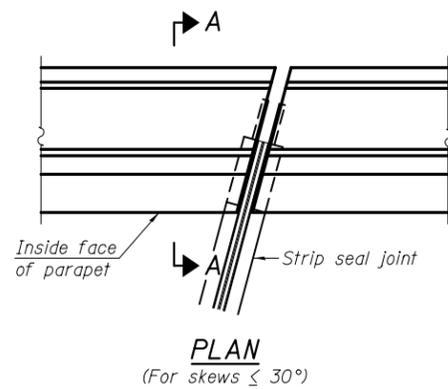
DESIGNED - AYV	EXAMINED	DATE -
CHECKED -	ENGINEER OF STRUCTURAL SERVICES	
DRAWN - AYV	PASSED	REVISED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

JOINT DETAILS  
SN 082-0094

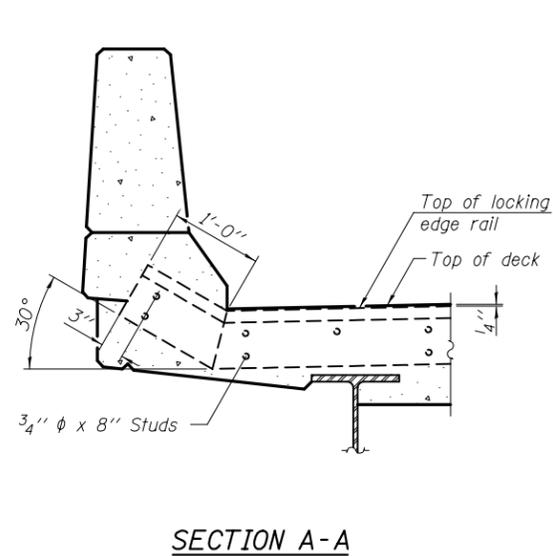
SHEET NO. 4 OF 11 SHEETS

F.A.P. R.T.E. 805	SECTION 125BR-3	COUNTY ST. CLAIR	TOTAL SHEETS 19	SHEET NO. 11
CONTRACT NO. 76H99			ILLINOIS FED. AID PROJECT	

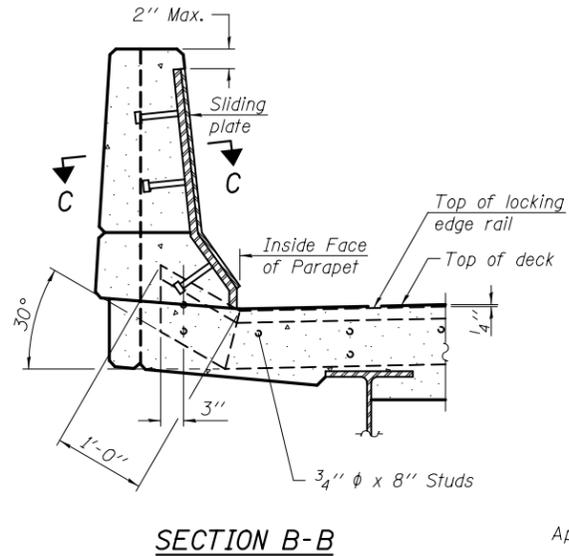


**TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN**

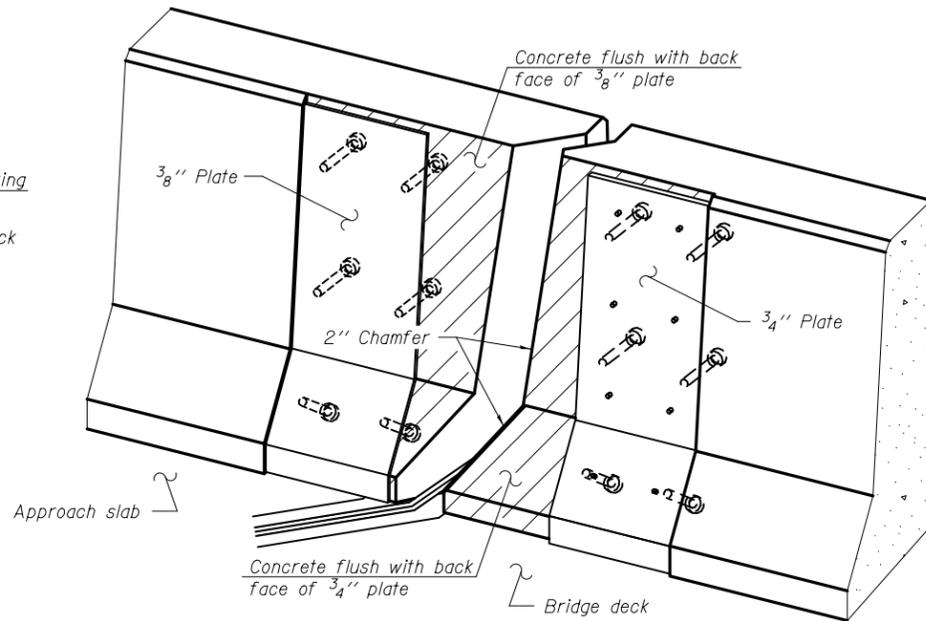
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



**SECTION A-A**



**SECTION B-B**



**TRIMETRIC VIEW (Showing back plates only)**

**Notes:**

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

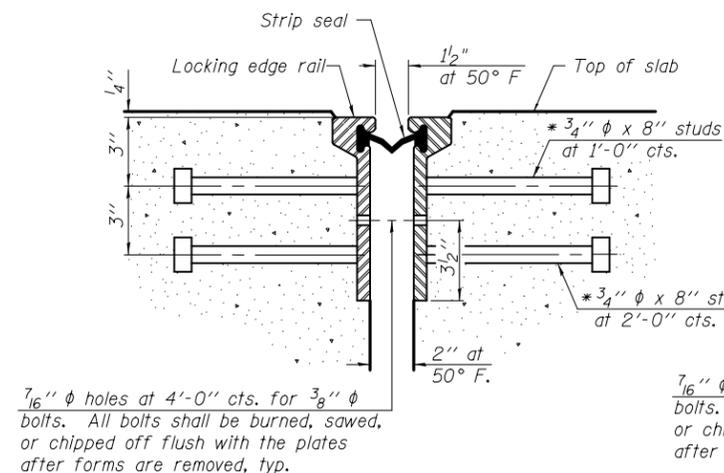
The manufacturer's recommended installation methods shall be followed.

The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

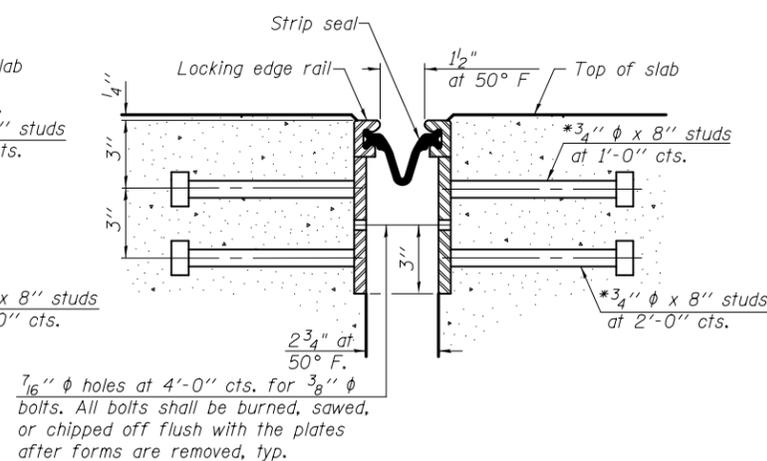
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.

Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.

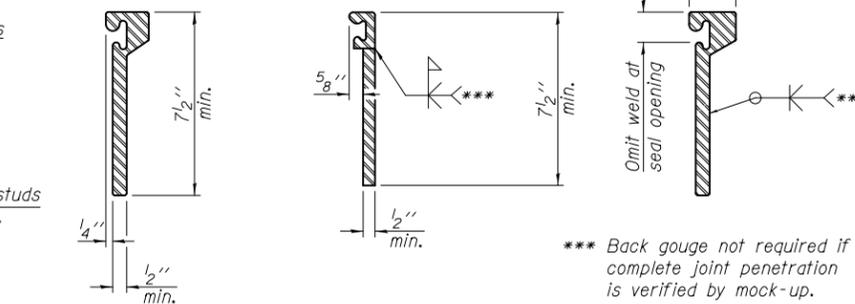


**SECTION THRU ROLLED RAIL JOINT**



**SECTION THRU WELDED RAIL JOINT**

\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



**ROLLED EXTRUDED RAIL WELDED RAIL**



**LOCKING EDGE RAIL SPLICE**

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

**LOCKING EDGE RAILS**

**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal	Foot	68

EJ-SSJ

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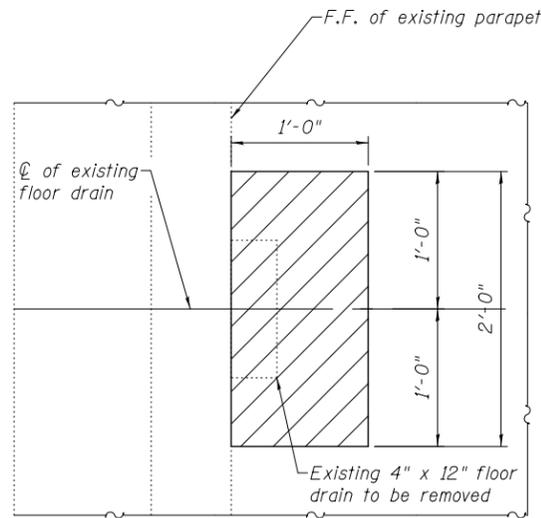
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DRAWN - AYV	PASSED	REVISED
CHECKED -	ENGINEER OF BRIDGES AND STRUCTURES	REVISED

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DEPARTMENT OF TRANSPORTATION

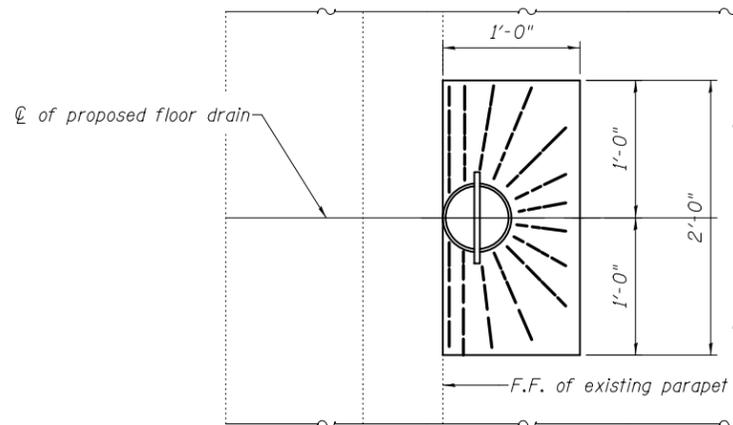
PREFORMED JOINT STRIP SEAL  
STRUCTURE NO. 082-0094

SHEET NO. 5 OF 11 SHEETS

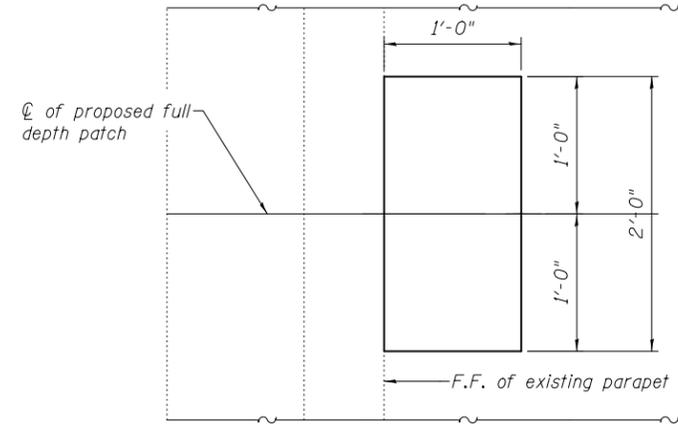
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
805	125BR-3	ST. CLAIR	19	12
CONTRACT NO. 76H99				
ILLINOIS FED. AID PROJECT				



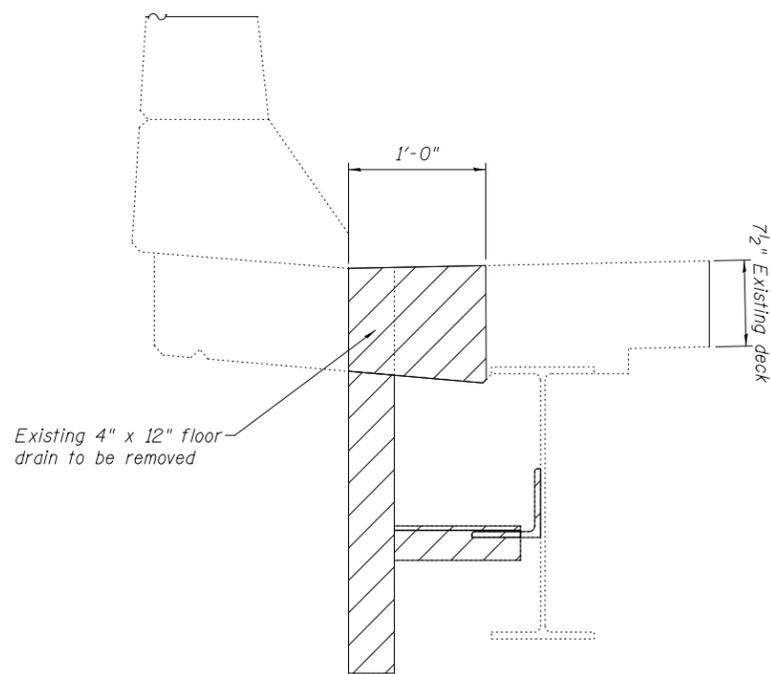
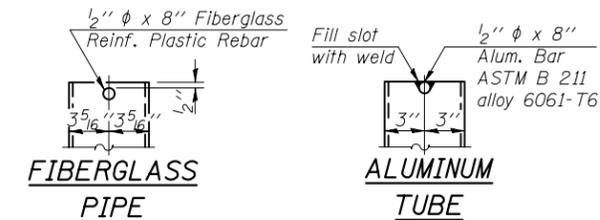
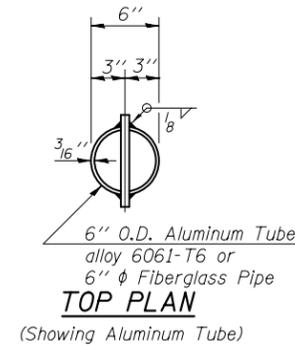
**PLAN-REMOVAL OF EXISTING FLOOR DRAIN AND ADJACENT CONCRETE**



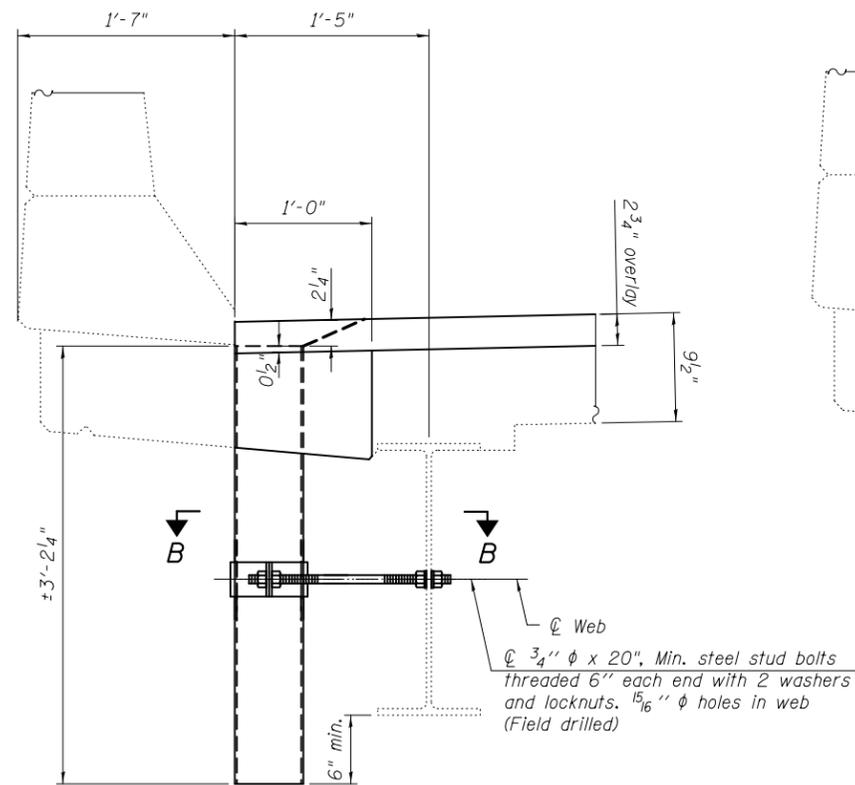
**PLAN-PROPOSED FLOOR DRAIN & FULL DEPTH PATCH**



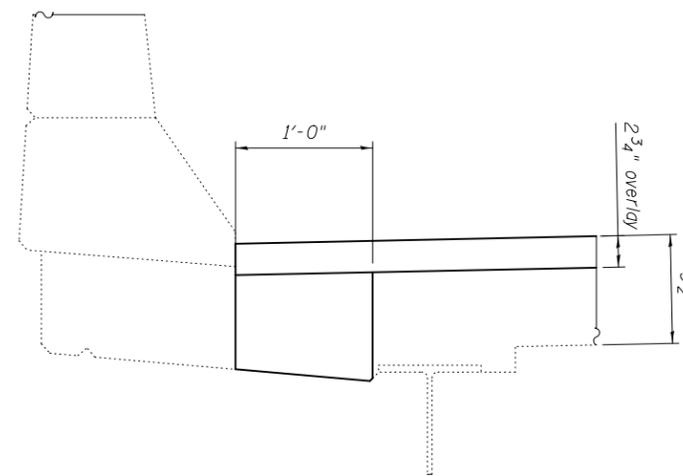
**PLAN-PROPOSED FULL DEPTH PATCH**



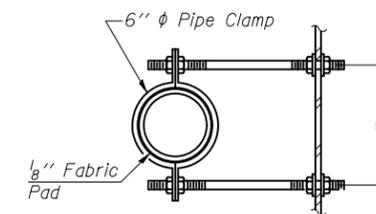
**SECTION-REMOVAL OF EXISTING FLOOR DRAIN AND ADJACENT CONCRETE**



**SECTION-PROPOSED FLOOR DRAIN & FULL DEPTH PATCH**



**SECTION-PROPOSED FULL DEPTH PATCH**



**SECTION B-B**  
\* Dimension as required by Pipe Clamp

**Notes:**  
 The floor drains shall be painted to match the outside of the fascia beams.  
 Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stresses of 30,000 p.s.i. minimum.  
 Galvanize clamping device according to AASHTO M232.  
 Cost of clamping device and inserts is included with Floor Drains.  
 Cost of Concrete Removal and replacement and removal of existing drains is included in cost of Deck Slab Repair (Full Depth, Type II)

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DRAWN	AYV	PASSED	REVISOR
CHECKED		ENGINEER OF BRIDGES AND STRUCTURES	REVISOR

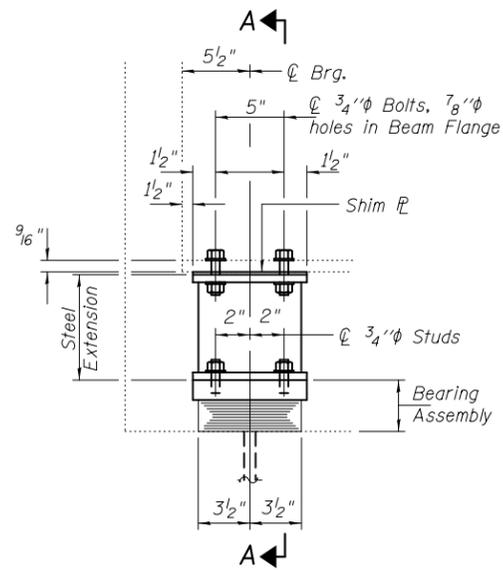
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DRAIN DETAILS  
SN 082-0094**

SHEET NO. 6 OF 11 SHEETS

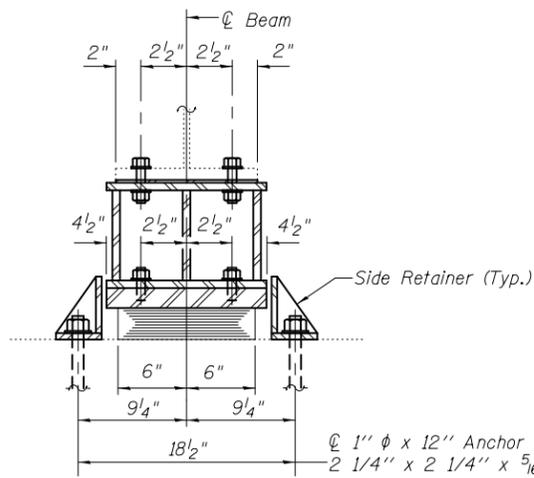
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
805	125BR-3	ST. CLAIR	19	13
CONTRACT NO. 76H99				

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**ELEVATION AT ABUTMENT**

**TYPE I ELASTOMERIC EXP. BRG.**



**SECTION A-A**

1"  $\phi$  x 12" Anchor Bolts with 2 1/4" x 2 1/4" x 5/16"  $\mathbb{R}$  washer under nut.

**BEAM REACTIONS**

R $\mathbb{R}$	(K)	18.5
R $\mathbb{L}$	(K)	35.9
Imp.	(K)	10.8
R (Total)	(K)	65.2

**Notes:**

Diaphragm removal and installation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

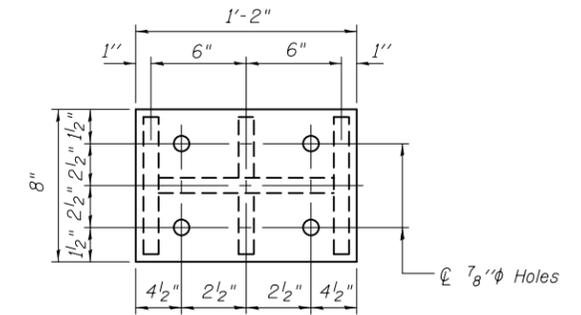
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Min. jack capacity = 32 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

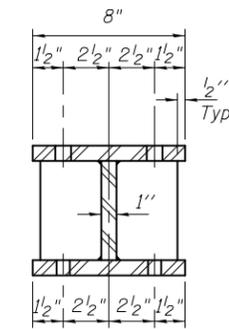
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

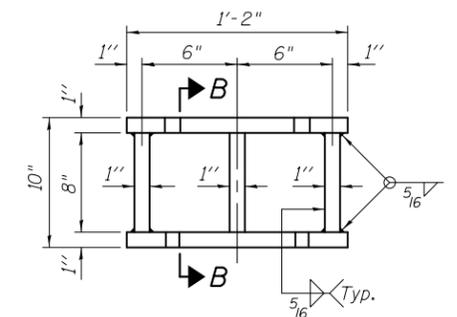
Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type I.



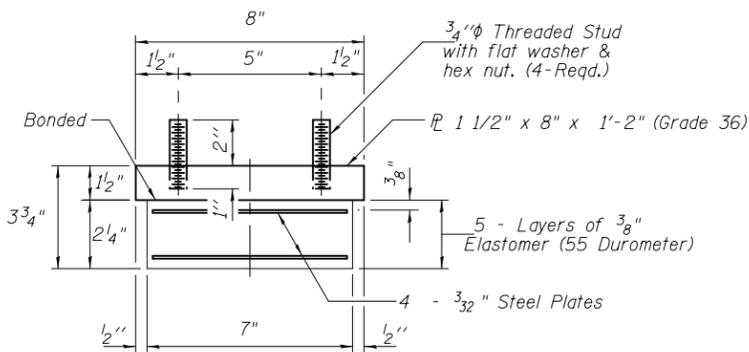
**PLAN TOP AND BOTTOM PLATE**



**SECTION B-B**

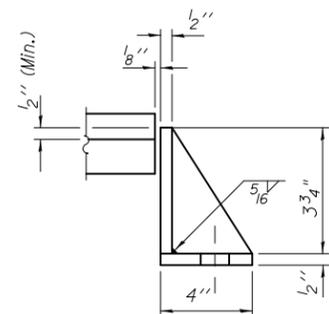


**STEEL EXTENSION DETAIL**



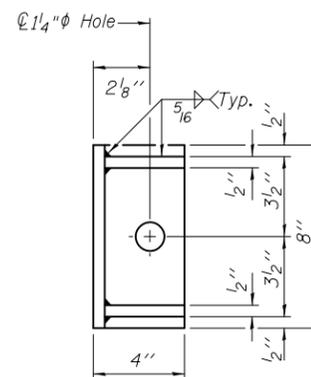
**BEARING ASSEMBLY**

Note: Shim plates shall not be placed under Bearing Assembly.



**SIDE RETAINER**

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



**EXISTING BEARING REMOVAL DETAIL**

Existing  $\mathbb{R}$  to be removed using the air-arc method and grind smooth all weld material remaining on the bottom flange. Cost included with "Jack and Remove Existing Bearings".

Remove 1/8" Lead  $\mathbb{R}$

Cut existing anchor bolts flush with existing concrete surface. Grind existing anchor bolts smooth and seal with epoxy. Cost is included with "Jack and Remove Existing Bearings".

**BILL OF MATERIAL**

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	10
Jack and Remove Existing Bearings	Each	10
Furnishing and Erecting Structural Steel	Pound	1640
Anchor Bolts 1" $\phi$	Each	20

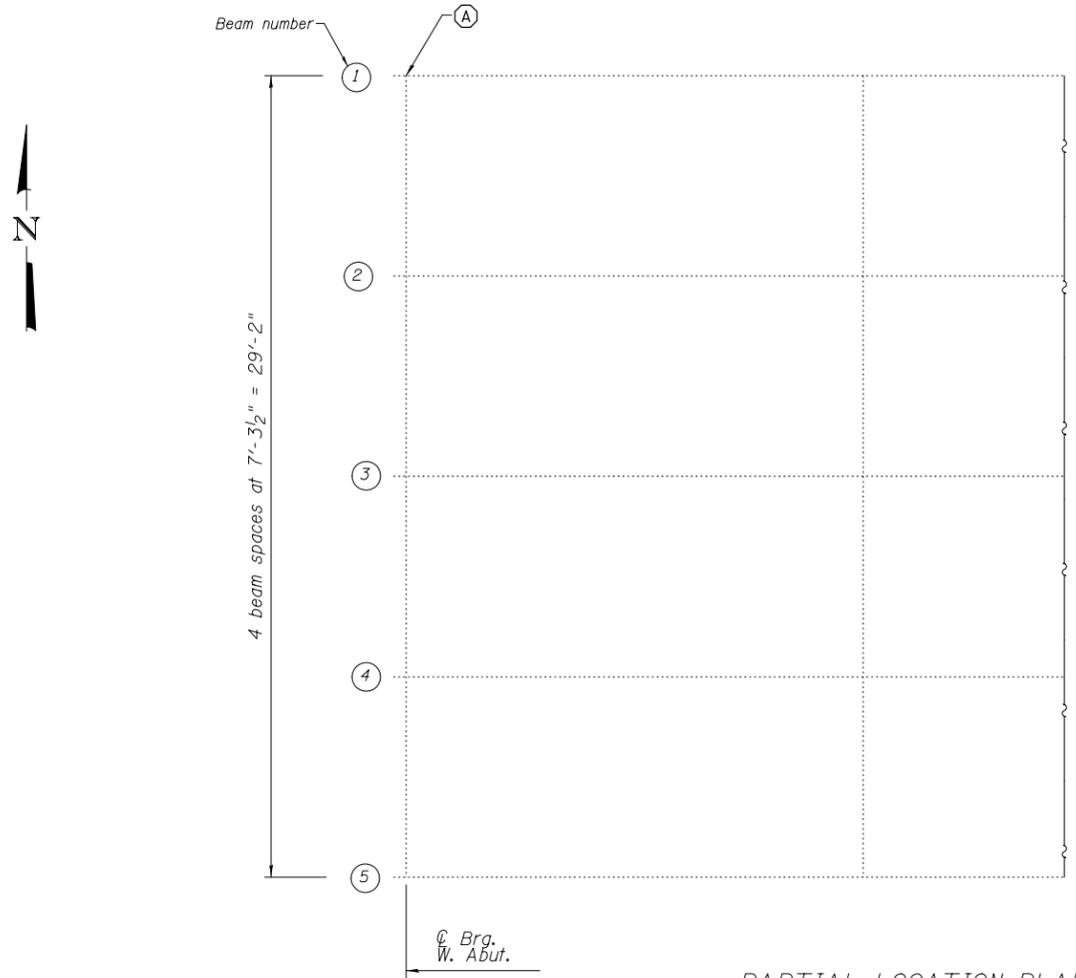
DESIGNED - AYV	EXAMINED	DATE -
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DEPARTMENT OF TRANSPORTATION**

**TYPE I BEARING REPLACEMENT (ABUTMENTS)  
SN 082-0094**

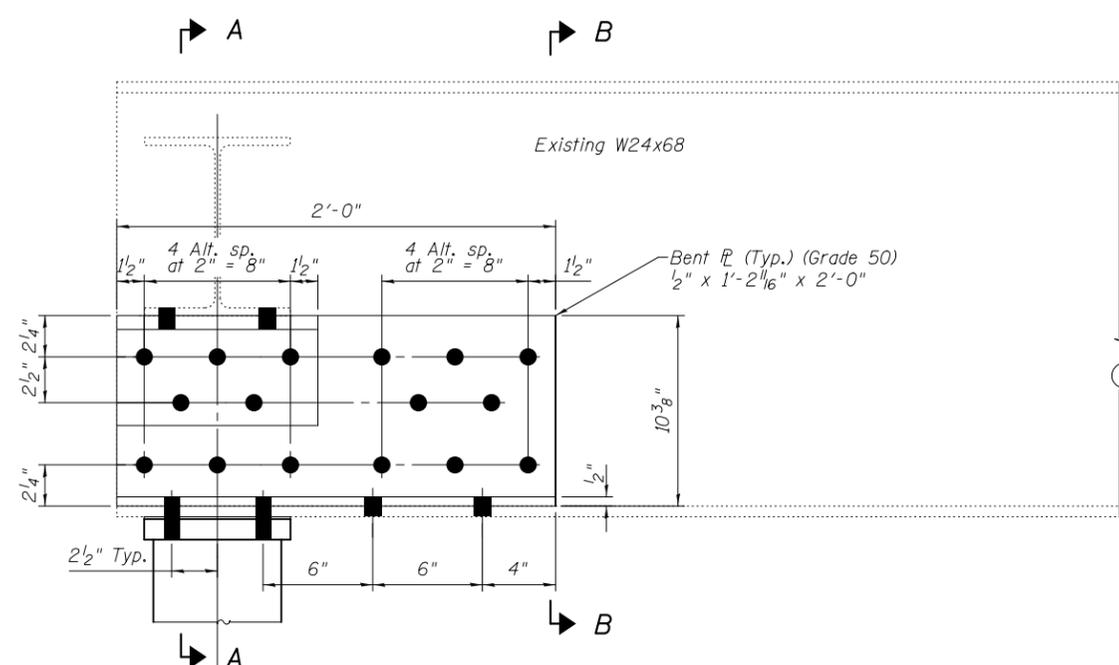
SHEET NO. 7 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
805	125BR-3	ST. CLAIR	19	14
CONTRACT NO. 76H99				
ILLINOIS FED. AID PROJECT				



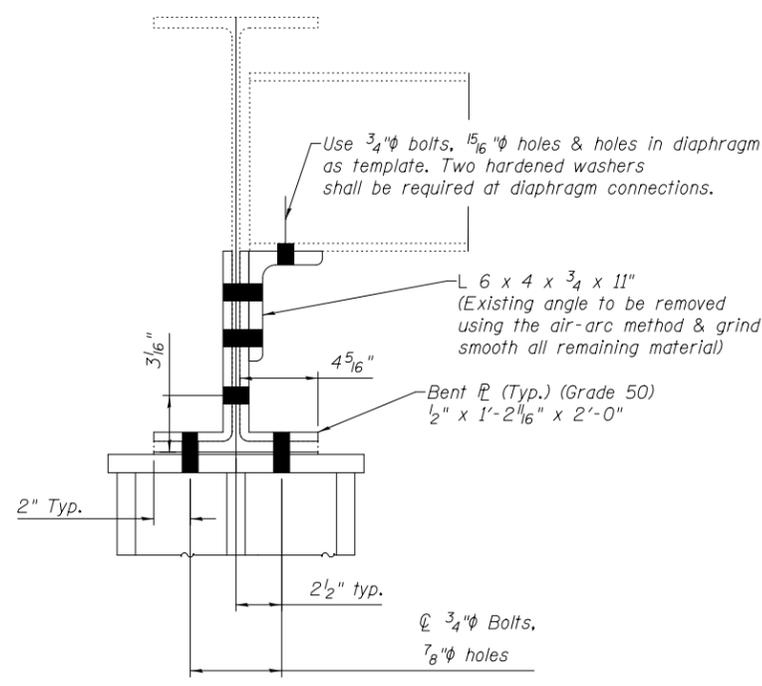
PARTIAL LOCATION PLAN

⊕ A - Beam End Repair. W. Abut. Beam 1

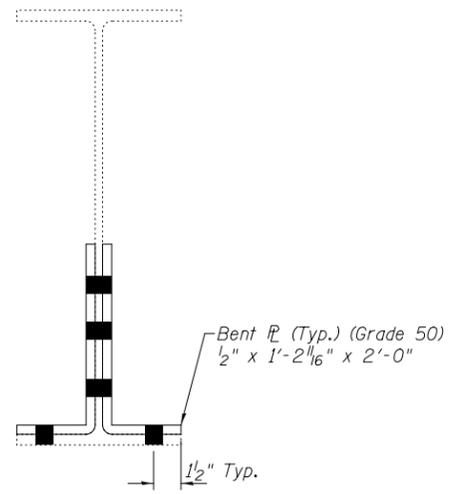


END ELEVATION REPAIR A

● - Field drill holes in existing beam using holes in new plates as a template.



SECTION A-A



SECTION B-B

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnishing and Erecting Structural Steel	Pound	140

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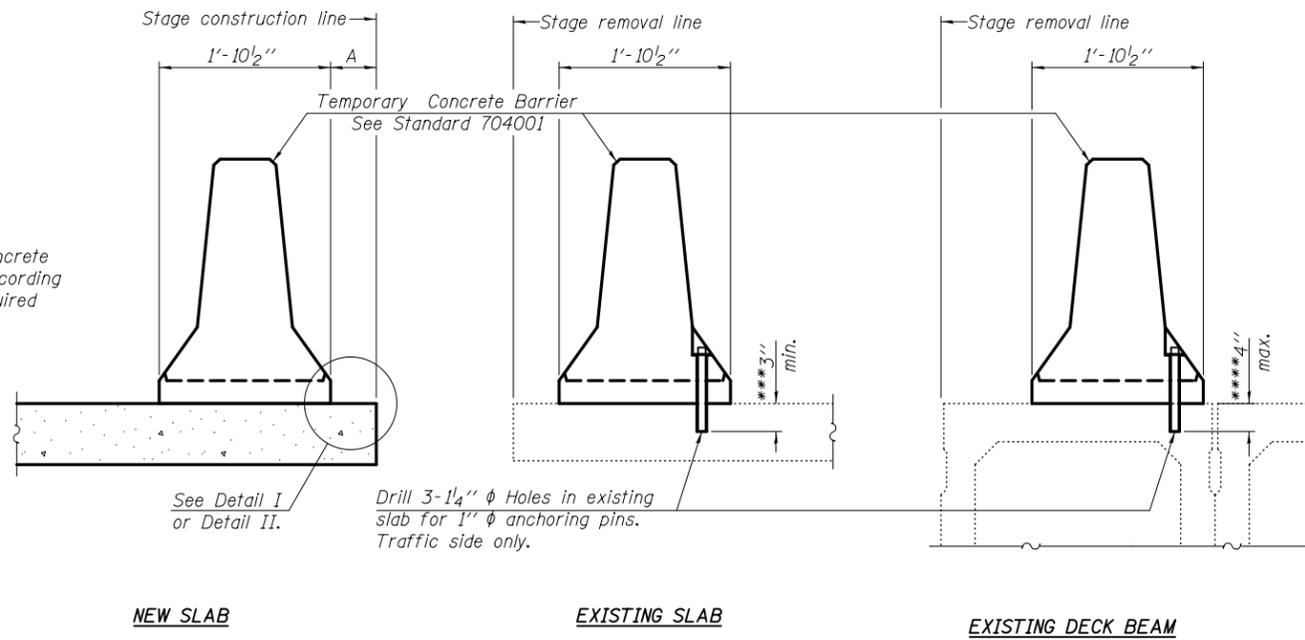
BEAM END REPAIR  
SN 082-0094

SHEET NO. 8 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
805	125BR-3	ST CLAIR	19	15
CONTRACT NO. 76H99				

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When "A" is 3'-1" 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'-1".



**SECTIONS THRU SLAB OR DECK BEAM**

**NOTES**

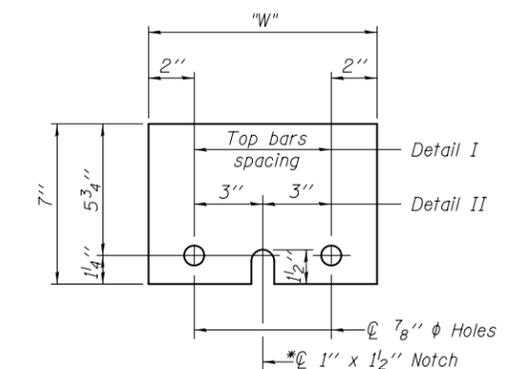
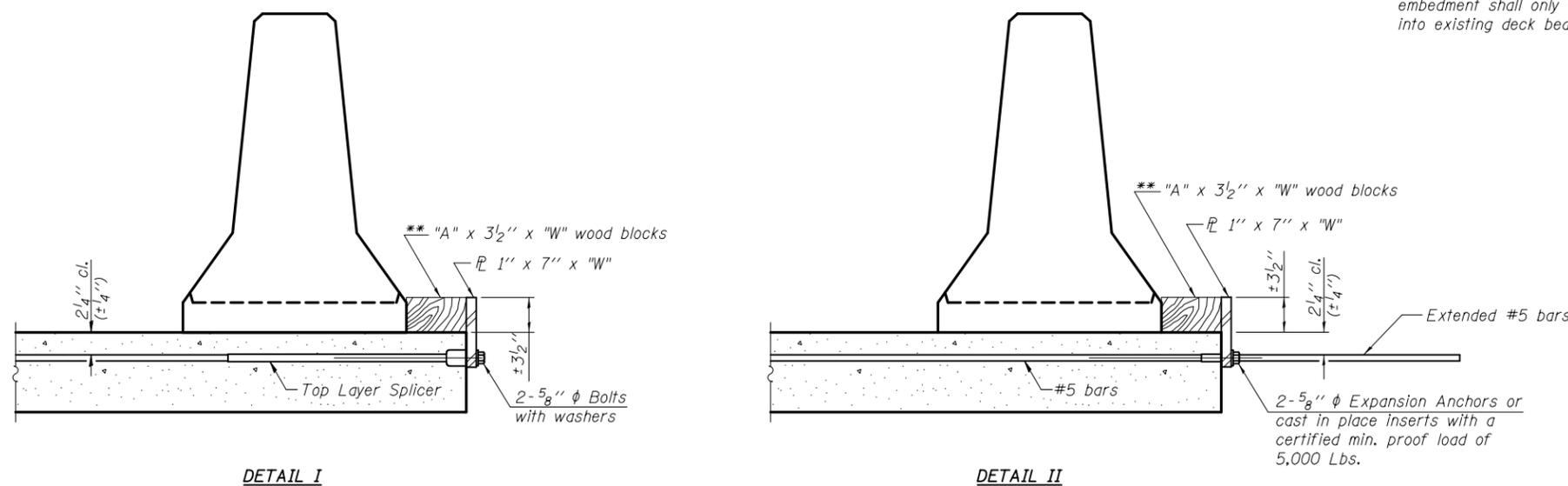
Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1" x 7" x "W" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

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 retainer assembly 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.



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

\* Required only with Detail II

**RETAINER ASSEMBLY**

\*\* 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.

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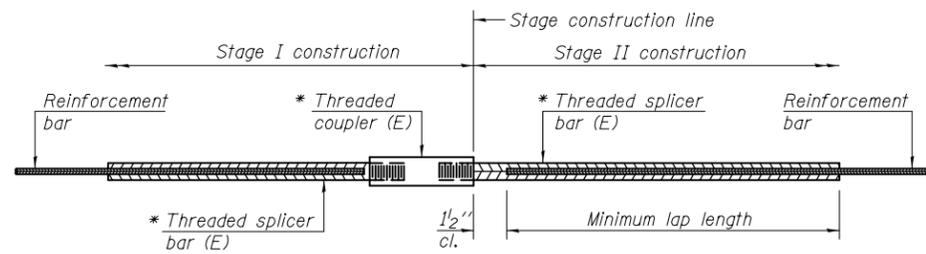
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**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION  
STRUCTURE NO. 082-0094**

SHEET NO. 9 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
805	125BR-3	ST. CLAIR	19	16
			CONTRACT NO. 76H99	
ILLINOIS FED. AID PROJECT				

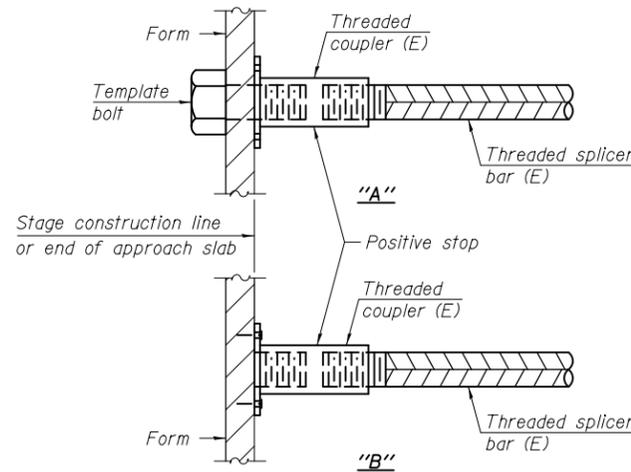


**STANDARD BAR SPLICER ASSEMBLY**

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

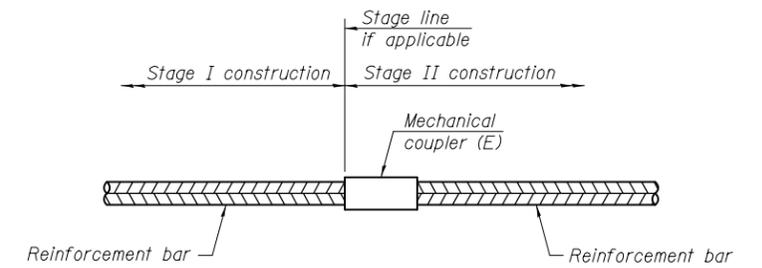
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
W. Abut-Hatchblock	#6	4	4'-0"
W. Abut-Deck	#5	9	3'-6"
E. Abut-Deck	#5	9	3'-6"
E. Abut-Hatchblock	#6	4	4'-0"



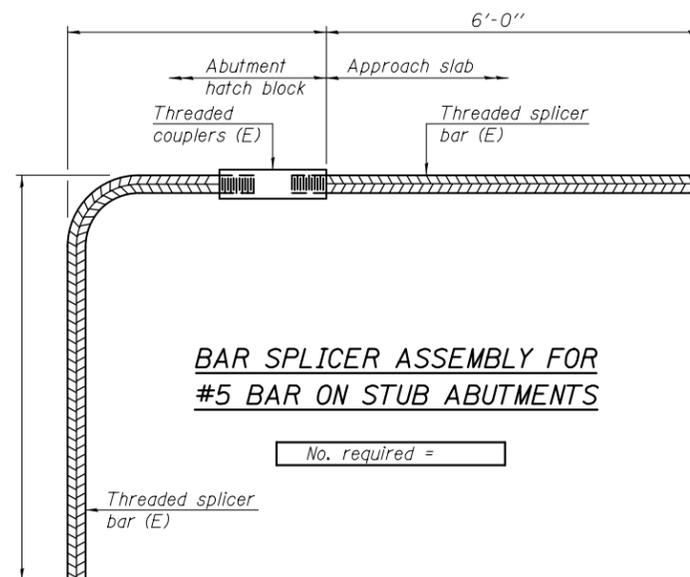
**INSTALLATION AND SETTING METHODS**

"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 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 approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1

6-8-15

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BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
STRUCTURE NO. 082-0094

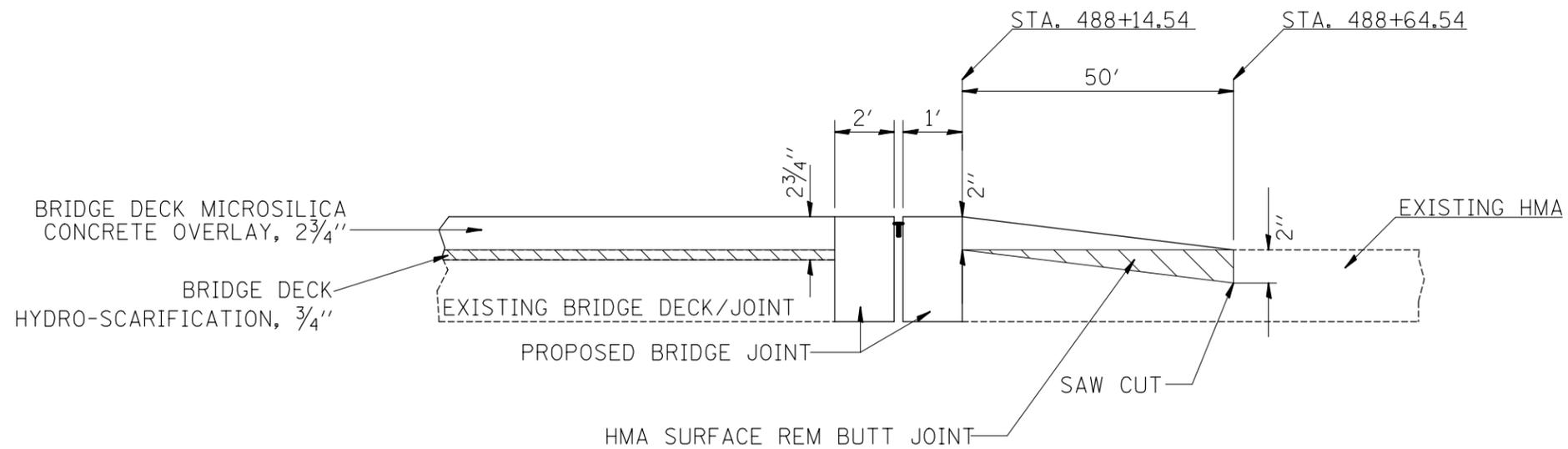
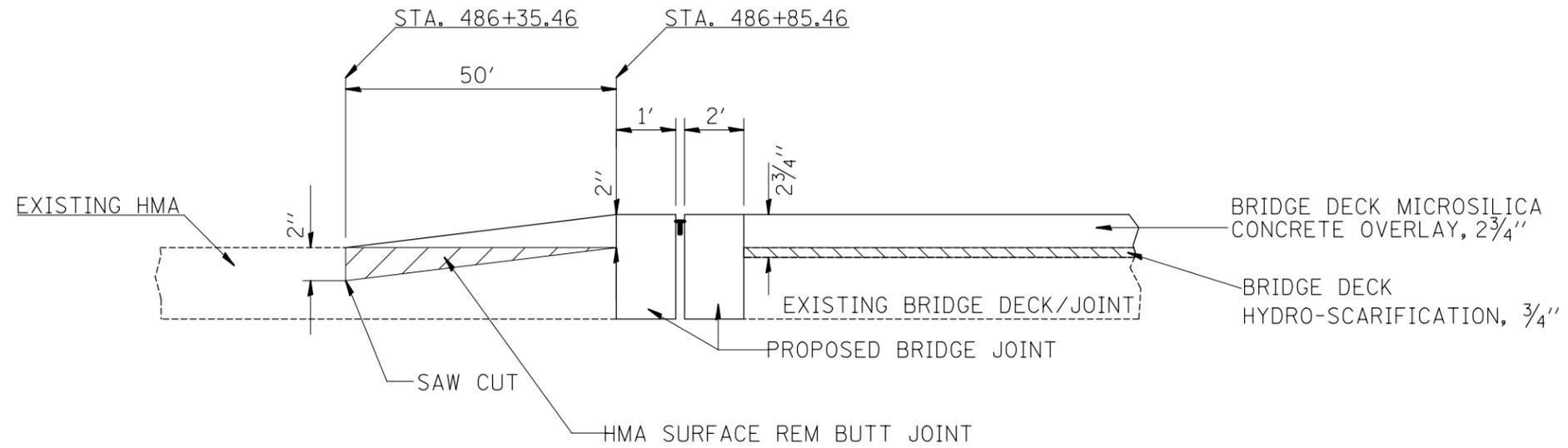
SHEET NO. 10 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
805	125BR-3	ST CLAIR	19	17
CONTRACT NO. 76H99				

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# BUTT JOINT DETAIL



NOT TO SCALE

FILE NAME =	USER NAME = nievesa	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BUTT JOINT DETAIL</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CHECKED -	REVISED -		SCALE: NTS			SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.		
		DATE -	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT							