

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROPOSED  
HIGHWAY PLANS

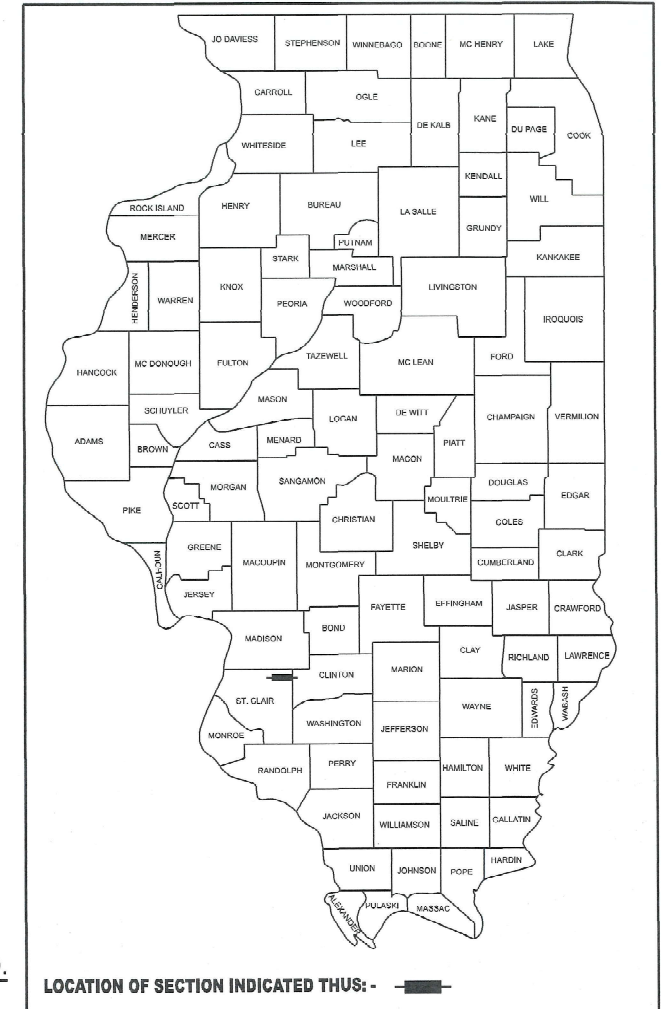
FAP ROUTE 327 (US 50)  
SECTION (82-11HB)BJR,BDR  
BRIDGE REPAIRS

ST. CLAIR COUNTY  
C-98-189-24

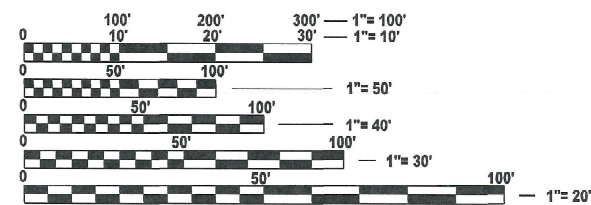
FOR INDEX OF SHEETS, SEE SHEET NO. 2

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(82-11HB)BJR,BDR	ST. CLAIR	25	1
		ILLINOIS	CONTRACT NO. 76U18	

D-98-102-24



ADT  
2023 ADT = 7600 (ACTUAL)  
2045 ADT = 9500 (ESTIMATED)  
SU=2.8% MU = 8.9%

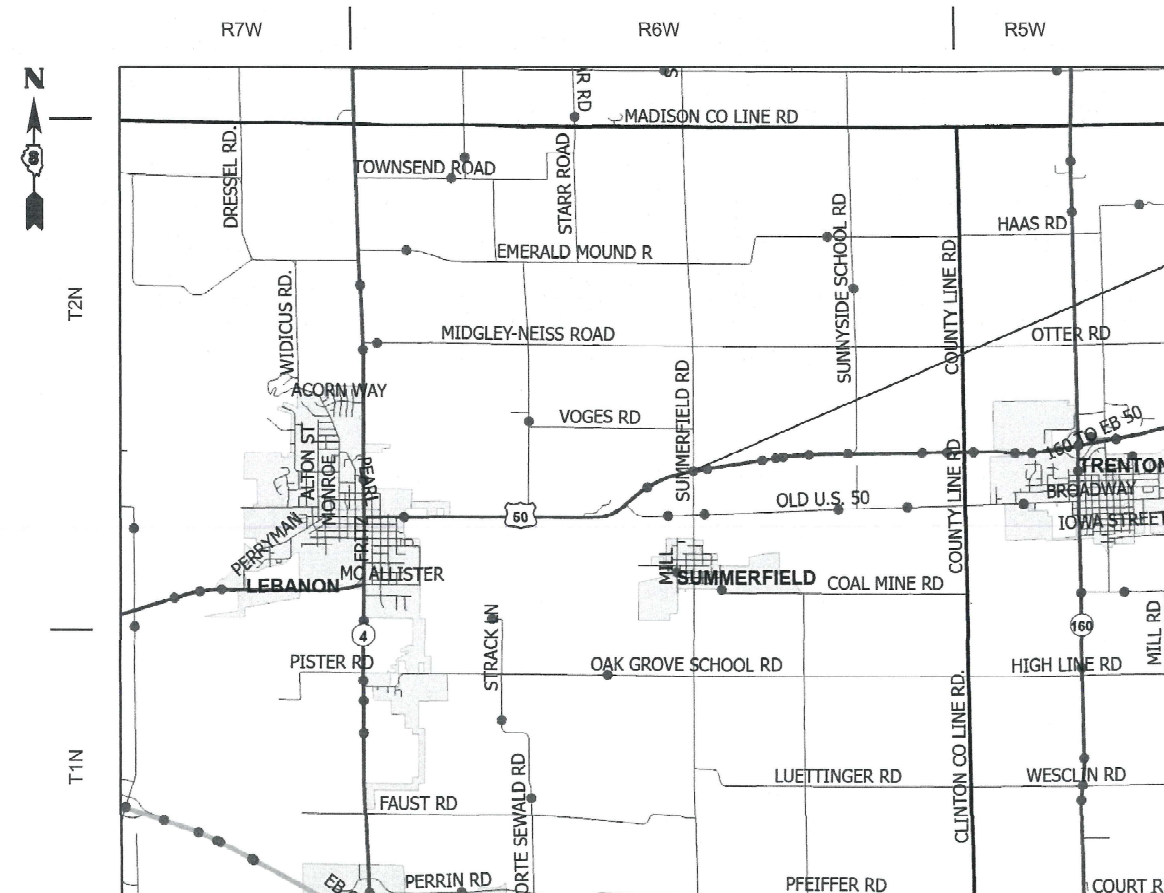


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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

PROJECT ENGINEER: BILLIE OWEN  
PROJECT MANAGER: MICHAEL BERG

CONTRACT NO. 76U18



MAP NOT TO SCALE

GROSS / NET LENGTH = 292.75 FT. = 0.055 MILE

PROJECT LOCATION:  
US 50 OVER SUMMERFIELD RD.  
SN 082-0271  
LAT:38.60969  
LONG: -89.75203

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED Feb. 4 2025  
Lora Remington REGIONAL ENGINEER

March 21 2025  
Scott A. [Signature] ENGINEER OF DESIGN AND ENVIRONMENT

March 21 2025  
[Signature] 5  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

- 1COVER SHEET
- 2INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES, COMMITMENTS AND MIX CHART
- 3-6SUMMARY OF QUANTITIES
- 7TYPICAL SECTIONS
- 8STAGE 1 CONCRETE BARRIER LAYOUT
- 9STAGE 2 CONCRETE BARRIER LAYOUT
- 10GUARDRAIL AND PAVING DETAILS
- 11WIDE LOAD SIGNING
- 12-25BRIDGE REPAIR PLANS

HIGHWAY STANDARDS

- 000001-08STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001001-02AREAS OF REINFORCEMENT BARS
- 001006DECIMAL OF AN INCH AND OF A FOOT
- 420401-13PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB
- 601101-02CONCRETE HEADWALL FOR PIPE UNDERDRAINS
- 630001-13STEEL PLATE BEAM GUARDRAIL
- 631031-18TRAFFIC BARRIER TERMINAL, TYPE 6
- 701006-05OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
- 701011-04OFF-ROAD MOVING OPERATIONS 2L, 2W, DAY ONLY
- 701301-04LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701321-19LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
- 701901-10TRAFFIC CONTROL DEVICES
- 704001-08TEMPORARY CONCRETE BARRIER
- 780001-05TYPICAL PAVEMENT MARKINGS
- 782006-01GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

GENERAL NOTES

- 1UTILITIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA:  
AMEREN ILLINOIS  
FRONTIER COMMUNICATIONS  
TRI-TOWNSHIP WATER DISTRICT
- 2NO SURVEY WAS PERFORMED FOR THIS PROJECT AND THE PLANS WERE CREATED USING MICROFILM AND FIELD MEASUREMENTS.
- 3THE RESIDENT SHALL VERIFY THE EXISTENCE OF HIGHWAY LIGHTING, INTELLIGENT TRANSPORTATION SYSTEMS (I.T.S.), UTILITIES, AND/OR ELECTRICAL CABLES ASSOCIATED WITH TRAFFIC SIGNALS WITHIN THE PROJECT LIMITS. IF ANY OF THESE EXIST WITHIN THE PROJECT LIMITS, AND IF THESE ITEMS REQUIRE LOCATING, THE CONTRACTOR SHALL BE DIRECTED TO DO SO ACCORDING TO SECTION 803 OF THE STANDARD SPECIFICATIONS. THIS WORK SHALL BE PAID FOR ACCORDING TO ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS.
- 45 CHANGEABLE MESSAGE SIGN SHALL BE REQUIRED FOR THIS PROJECT. THEY SHALL BE PLACED 2 WEEKS PRIOR TO ANY LANE CLOSURE AND SHALL REMAIN UP FOR THE DURATION OF THE PROJECT. THE CHANGEABLE MESSAGE SIGNS SHALL BE PLACED AT THE DIRECTION OF THE ENGINEER.  
THE INTENT IS TO HAVE:  
1 CHANGEABLE MESSAGE SIGN SOUTH OF THE JUNCTURE OF NORTHBOUND IL 4 AND US 50.  
1 CHANGEABLE MESSAGE SIGN NORTH OF THE JUNCTURE OF SOUTHBOUND IL 4 AND US 50.  
1 CHANGEABLE MESSAGE SIGN ON US 50 EAST OF INTERCHANGE AT IL 160.  
1 CHANGEABLE MESSAGE SIGN ON IL 160 SOUTHBOUND BEFORE INTERCHANGE AT US 50.  
1 CHANGEABLE MESSAGE SIGN ON IL 160 NORTHBOUND BEFORE INTERCHANGE AT US 50.
- 5THE DEPARTMENT STRONGLY ENCOURAGES THE PRIME CONTRACTOR AND THEIR APPROVED SUB-CONTRACTORS TO HIRE MINORITY, WOMEN AND DISADVANTAGED INDIVIDUALS FROM ITS FEDERALLY FUNDED HIGHWAY CONSTRUCTION CAREERS TRAINING PROGRAM (HCCTP) TO HELP MEET WORKFORCE AND TRAINEE GOALS. THIS PROGRAM IS TRAINING MINORITIES, WOMEN AND DISADVANTAGED INDIVIDUALS IN HIGHWAY CONSTRUCTION-RELATED SKILLS, E.G., MATH FOR THE TRADES, JOB READINESS, TECHNICAL SKILLS COURSEWORK (CARPENTRY, CONCRETE FLATWORK, BLUEPRINT READING, SITE PLANS, SITE WORK, TOOLS USE, ETC.) AND OSHA 10 HOUR CERTIFICATION, TO PREPARE THEM FOR A CAREER IN THE HIGHWAY CONSTRUCTION TRADES. GRADUATES ARE WELL-TRAINED AND READY TO BECOME PRODUCTIVE ENTRY-LEVEL CONSTRUCTION WORKERS. CONTACT THE DISTRICT 8 EEO OFFICE AT 618-346-3360 AND/OR THE HCCTP COORDINATOR AT 618-874-8528 TO LEARN MORE ABOUT THE PROGRAM AND FOR ASSISTANCE IN MEETING WORKFORCE AND TRAINEE GOALS.

COMMITMENTS

NONE

MIX CHART

MIXTURE USE	POLY BINDER	POLY SURFACE
AC/PG	SBS PG 70-28	SBS PG 70-28
DESIGN AIR VOIDS	4.0% @ Ndes=50	4.0% @ Ndes=80
MIX COMPOSITION (Gradation)	IL 4.75	SMA 9.5
FRICTION AGG		SMA 9.5
QUALITY MGMT PROGRAM	QC/QA	QC/QA
MatTranDev Required?	no	no

REV - MS

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	USER NAME = karen.ch dlandes	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, HIGHWAY STANDARDS GENERAL NOTES, COMMITMENTS, AND MIX CHART	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -			327	(82-11HB)BJR,BDR	ST. CLAIR	25	2
		CHECKED -	REVISED -			CONTRACT NO. 76U18				
	PLOT DATE = 1/30/2025	DATE -	REVISED -			SCALE:	SHEET OF SHEETS	STA. TO STA.	ILLINOIS   FED. AID PROJECT	

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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				100% STATE
				BRIDGE
				0047 S.N. 082-0271
40600295	POLYMERIZED BITUMINOUS MATERIALS (TACK COAT)	POUND	102	102
40600370	LONGITUDINAL JOINT SEALANT	FOOT	115	115
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	374	374
40605024	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, STONE MATRIX ASPHALT, 9.5, MIX "E", N80	TON	33	33
44004250	PAVED SHOULDER REMOVAL	SQ YD	118	118
50102400	CONCRETE REMOVAL	CU YD	28.5	28.5
50200100	STRUCTURE EXCAVATION	CU YD	31	31
50300225	CONCRETE STRUCTURES	CU YD	25.3	25.3
50300255	CONCRETE SUPERSTRUCTURE	CU YD	60.6	60.6
50300260	BRIDGE DECK GROOVING	SQ YD	284	284
50300300	PROTECTIVE COAT	SQ YD	318	318
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	111.6	111.6
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	49670	49670
50800515	BAR SPLICERS	EACH	348	348
52200020	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	39	39
58100210	FULL LANE SEALANT WATERPROOFING SYSTEM	SQ YD	454	454

REV-SK

	USER NAME = karen.challandes	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -					327	(82-11HB)BJR,BDR	ST. CLAIR	25	3
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CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				100% STATE
				BRIDGE
				0047 S.N. 082-0271
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	31	31
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	8	8
60100060	CONCRETE HEADWALLS FOR PIPE DRAINS	EACH	4	4
60146304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	61	61
* 63000003	STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	FOOT	650	650
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4	4
63200310	GUARDRAIL REMOVAL	FOOT	1440	1440
67100100	MOBILIZATION	L SUM	1	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	6
70107005	PAVEMENT MARKING BLACKOUT TAPE, 5"	FOOT	1100	1100
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	320	320

\* SPECIALTY ITEM

REV-SDK

USER NAME = karen.challandes	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 2/4/2025	DATE -	REVISED -				ILLINOIS FED. AID PROJECT				



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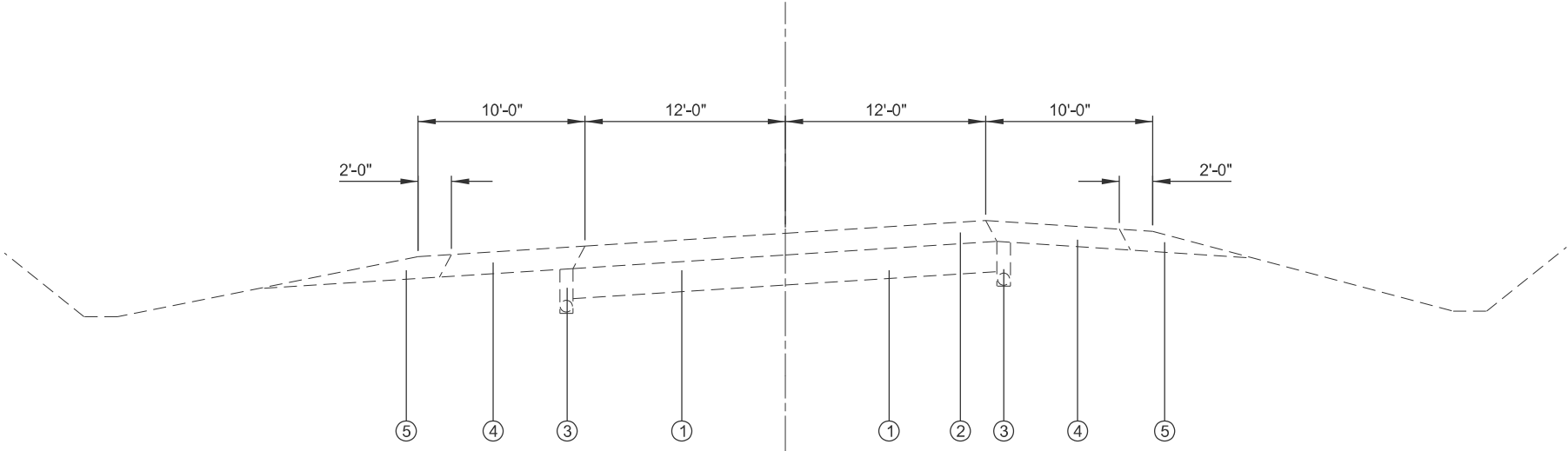
				CONSTR. CODE
				100% STATE
CODE NO.	ITEM	UNIT	TOTAL QUANTITY	BRIDGE 0047 S.N. 082-0271
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	458	458
70400100	TEMPORARY CONCRETE BARRIER	FOOT	375	375
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	375	375
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4
* 78008230	POLYUREA PAVEMENT MARKING TYPE I - LINE 6"	FOOT	690	690
* 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	16	16
* 78200011	BARRIER WALL REFLECTORS, TYPE C	EACH	4	4
X0325747	BRIDGE DECK CONCRETE CRACK SEALER	FOOT	395	395
X4201410	BRIDGE APPROACH PAVEMENT CONNECTOR (SPECIAL)	SQ YD	169	169
X5051203	STRUCTURAL STEEL REMOVAL	L SUM	1	1
X6030205	FRAMES AND GRATES TO BE ADJUSTED (SPECIAL)	EACH	2	2
X6050222	FILLING INLETS, TEMPORARY	EACH	2	2

\* SPECIALTY ITEM

REV-SK

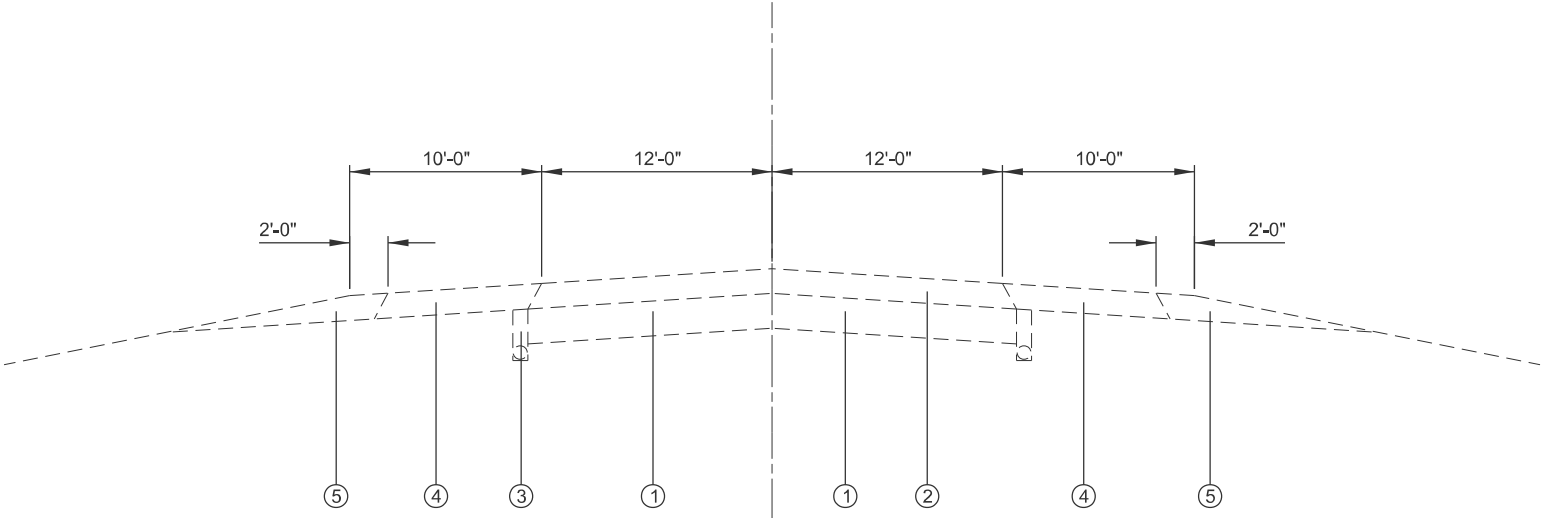
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		DATE -	REVISED -					ILLINOIS FED. AID PROJECT				





EXISTING TYPICAL SECTION

STA. 467+95.17 TO STA. 492+18.58



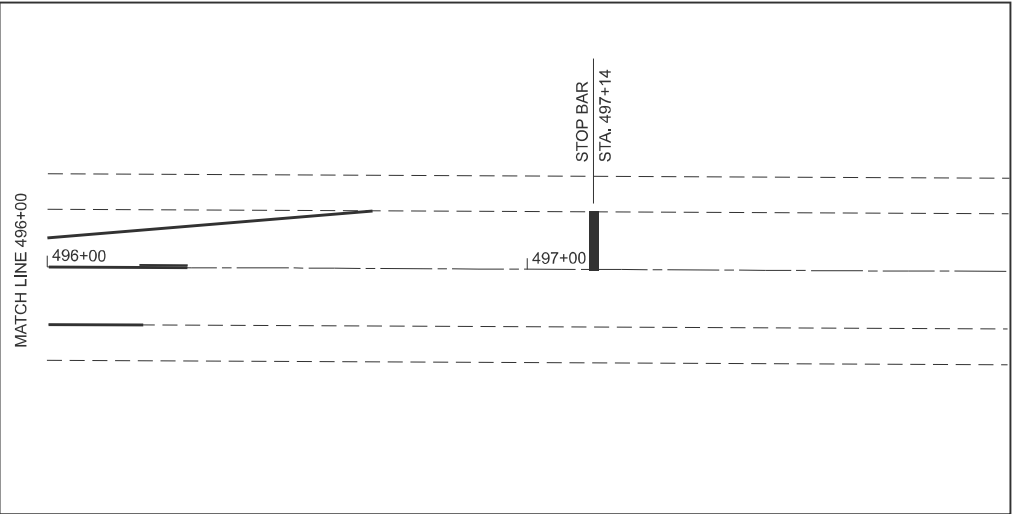
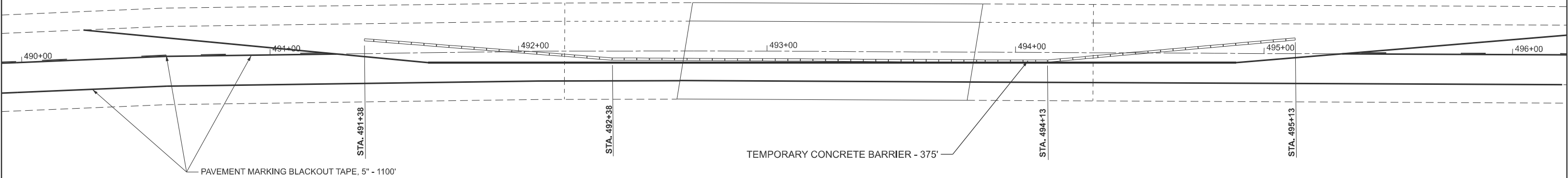
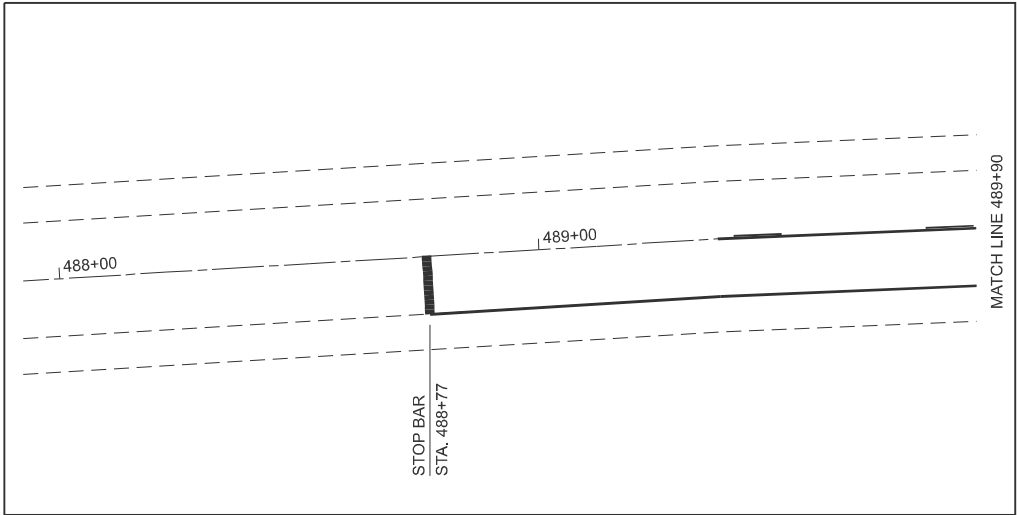
EXISTING TYPICAL SECTION

STA. 494+31.33 TO STA. 533+44.04

- LEGED
- 1. EXISTING HOT-MIX ASPHALT BASE COURSE - VARIES
  - 2. EXISTING HOT-MIX ASPHALT OVERLAY - VARIES
  - 3. EXISTING PIPE UNDERDRAINS - 4"
  - 4. EXISTING HOT-MIX ASPHALT SHOULDER - 8"
  - 5. EXISTING AGGREGATE SHOULDERS, TYPE B

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		CHECKED -	REVISED -					CONTRACT NO. 76U18				
	PLOT DATE = 1/28/2025	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT	



SEE STANDARD 701321 FOR DETAILS NOT SHOWN ON PLANS.

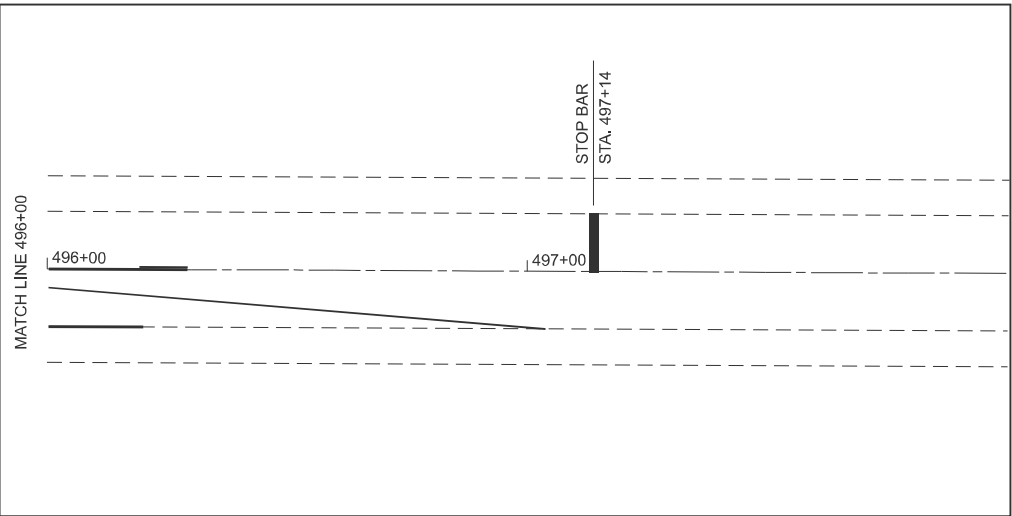
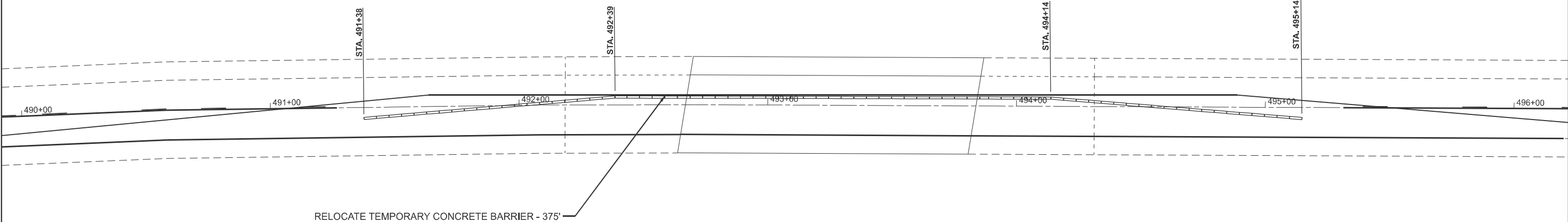
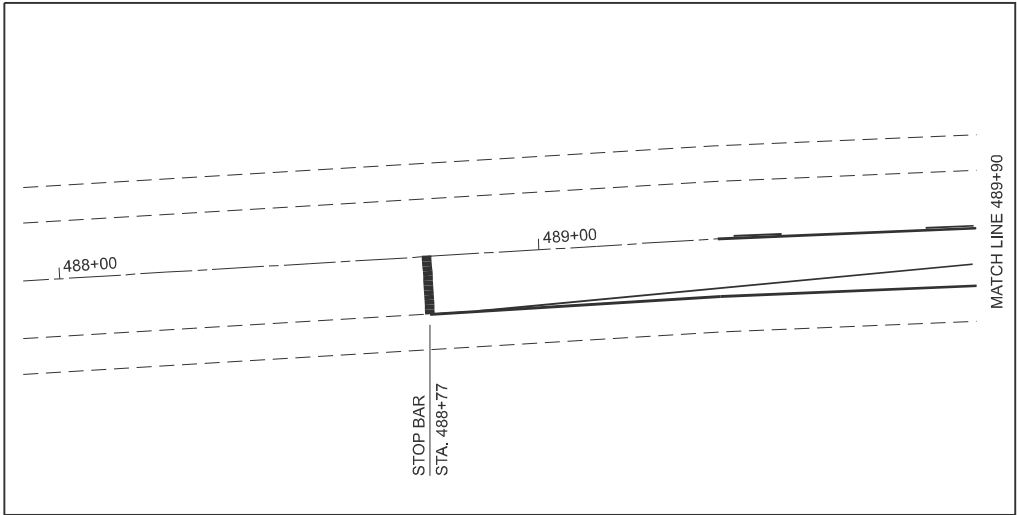
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		DRAWN -	REVISED -
		CHECKED -	REVISED -
	PLOT DATE = 2/4/2025	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STAGE 1 CONCRETE BARRIER LAYOUT			
SCALE:	SHEET	OF	SHEETS
STA.		TO STA.	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(82-11HB)BJR.BDR	ST. CLAIR	25	8
CONTRACT NO. 76U18				
ILLINOIS		FED. AID PROJECT		

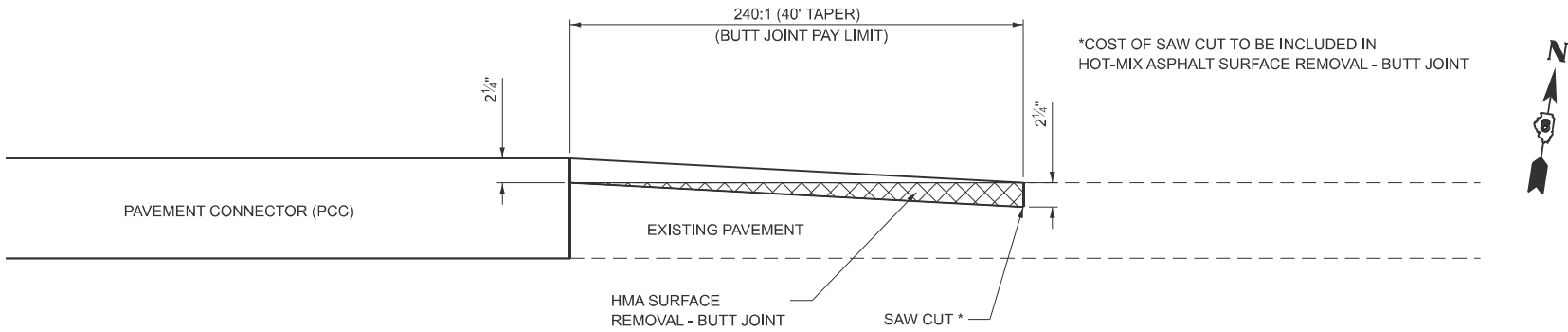
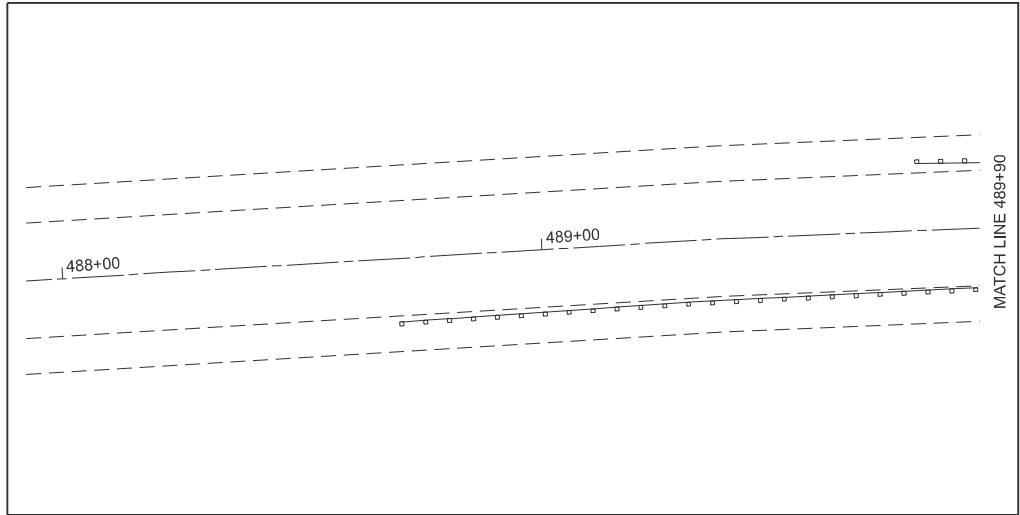


SEE STANDARD 701321 FOR DETAILS NOT SHOWN ON THE PLANS.

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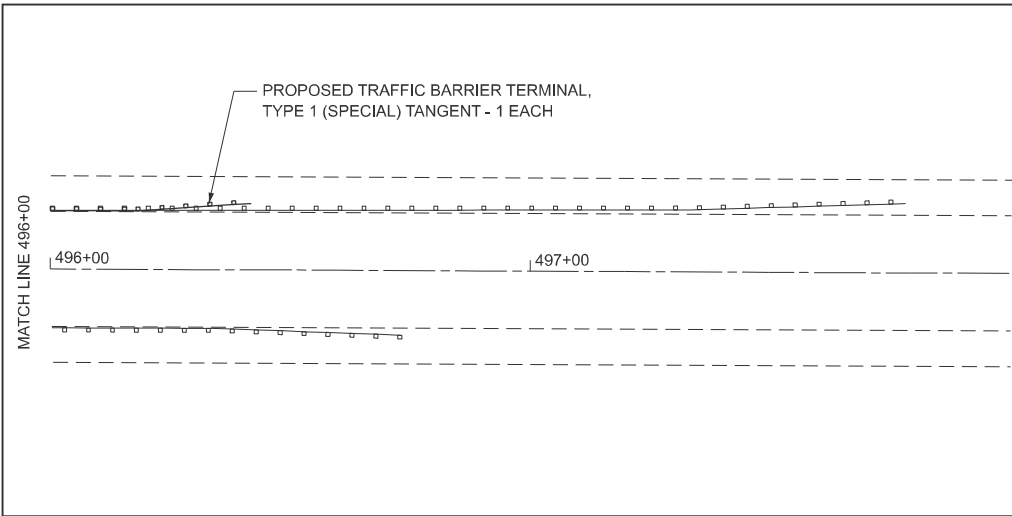
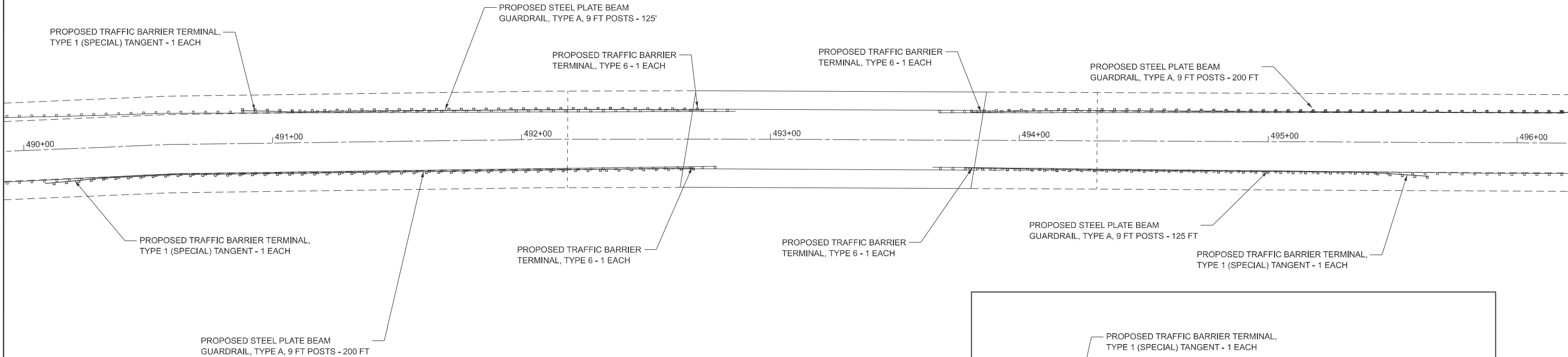
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		DRAWN -	REVISED -					327	(82-11HB)BJR.BDR	ST. CLAIR	25	9
		CHECKED -	REVISED -					CONTRACT NO. 76U18				
	PLOT DATE = 2/4/2025	DATE -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT	





SCHEDULE					
STATION	TO	STATION	HOT-MIX ASPHALT REMOVAL - BUTT JOINT	POLYMERIZED BITUMINOUS MATERIALS (TACK COAT)	POLYMERIZED HMA SURFACE SMA, 9.5, MIX "E", N80
			SQ YD	POUND	TON
491+78.58	TO	492+18.58	186.7	48	12
494+31.33	TO	494+71.33	186.7	48	12
TOTAL			374	96	24

BUTT JOINT DETAIL



GUARDRAIL SCHEDULE								
		GUARDRAIL	STEEL PLATE	TRAFFIC BARRIER	TERMINAL MARKER	TRAFFIC BARRIER	GUARDRAIL	BARRIER
		REMOVAL	BEAM GUARDRAIL, TYPE A, 9 FT POSTS	TERMINAL, TYPE 1 (SPECIAL) TANGENT	DIRECT APPLIED	TERMINAL, TYPE 6	REFLECTOR, TYPE A	REFLECTOR, TYPE C
LOCATION	FOOT	FOOT		EACH	EACH	EACH	EACH	EACH
NW QUADRANT	310	125		1	1	1	4	
SW QUADRANT	410	200		1	1	1	3	
STRUCTURE								4
NE QUADRANT	410	200		1	1	1	3	
SE QUADRANT	310	125		1	1	1	4	
TOTAL	1440	650		4	4	4	14	4

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	USER NAME = karen.challandes		DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GUARDRAIL AND PAVING DETAILS			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			DRAWN -	REVISED -					327	(82-11HB)BJR.BDR	ST. CLAIR	25	10
			CHECKED -	REVISED -					CONTRACT NO. 76U18				
	PLOT DATE = 3/24/2025		DATE -	REVISED -		SCALE: N/A	SHEET	OF	SHEETS	STA.	TO STA.	ILLINOIS	FED. AID PROJECT

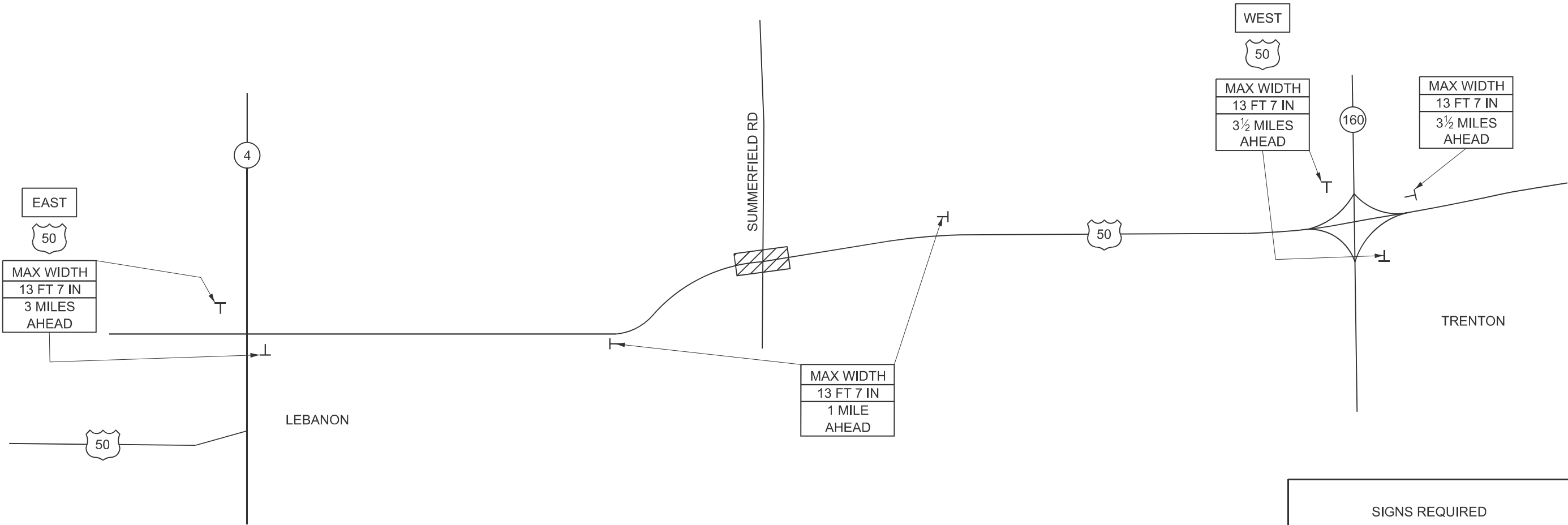
NOTES:

1. ALL SIGNS REQUIRED WILL BE SUPPLIED TO THE CONTRACTOR BY I.D.O.T.
2. THE CONTRACTOR SHALL FURNISH THE POSTS AND ERECT THE SIGNS AT THE LOCATIONS SHOWN ON THIS SHEET, AS DIRECTED BY THE RE/RT. THE POSTS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL GIVE ILLINOIS DEPARTMENT OF TRANSPORTATION, BUREAU OF OPERATIONS TWO-WEEKS NOTICE FOR SIGNS. THE CONTRACTOR SHALL PICK UP THE SIGNS AT THE T.M. BUILDING IN FAIRVIEW HEIGHTS, AND RETURN THEM UPON COMPLETION OF THE CONTRACT. CONTACT JEAN SLAPE AT 618-394-2189.
4. THE ABOVE NOTED WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE, LUMP SUM, FOR WIDE LOAD SIGNING.
5. SIGN SPACING WILL BE 400' OR TO FIT FIELD CONDITIONS.
6. THE HEIGHT TO THE BOTTOM OF THE LOWEST SIGN SHALL NOT BE LESS THAN 6'.

US 50 OVER SUMMERFIELD RD.

SN 082-0271

WIDTH RESTRICTION SIGNING



SIGNS REQUIRED

MAX WIDTH
13 FT 7 IN
1 MILE AHEAD

(2)

WEST

(2)

MAX WIDTH
13 FT 7 IN
3 MILES AHEAD

(2)

EAST

(2)



(4)

MAX WIDTH
13 FT 7 IN
3½ MILES AHEAD

(3)

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FILE NAME: c:\p\work\wlotchallandes\ed1020425\08276\18-sh-detaills.dgn

USER NAME = karen.challandes	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 2/4/2025	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

WIDE LOAD SIGNING

SCALE: N/A      SHEET      OF      SHEETS      STA.      TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	(82-11HB)BJR.BDR	ST. CLAIR	25	11
CONTRACT NO. 76U18				
ILLINOIS FED. AID PROJECT				

Existing Structure: 082-0271 was built in 1984 under contract 36722, F.A. 409, Sec 82-11HB.  
It is a 3 span continuous non-composite wide flange beams, with concrete pile supported  
stub abutments and concrete piers founded on concrete piles.

Traffic will be maintained using staged construction.

No salvage.

INDEX OF SHEETS

- 1. General Plan and Elevation
- 2. General Data
- 3. Deck Cross Section
- 4. Deck Slab Repairs
- 5. Joint Removal
- 6. Joint Replacement
- 7-8. Approach Slab Details
- 9. Approach Shoulder Inlet Details
- 10. Joint Details
- 11. Parapet Section and Waterproofing Staging
- 12. Diaphragm Details
- 13. Temporary Concrete Barrier
- 14. Bar Splicer Assembly and Mechanical Splicer Details

SCOPE OF WORK

- 1. Remove deck joint and convert abutments to be semi-integral.
- 2. Remove and replace bridge approach slabs and approach shoulder pavements
- 3. Partial deck patching.
- 4. HMA overlay with FLS.
- 5. Blasting and painting of beam ends.
- 6. Structural repair of concrete.
- 7. Adjust approach slab drains.

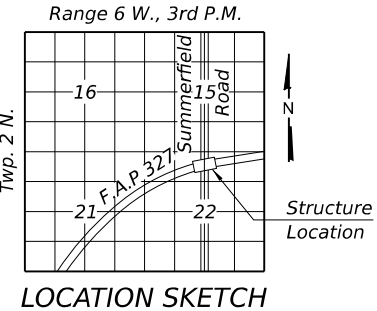
DESIGN STRESSES

FIELD UNITS (New Construction)

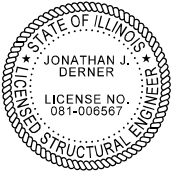
f'c = 4,000 psi  
fy = 60,000 psi (Reinforcement)

FIELD UNITS (Existing Construction)

f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)



GENERAL PLAN AND ELEVATION  
US 50 OVER SUMMERFIELD RD. (C.H. 50)  
F.A.P. ROUTE 327  
SECTION 82-11-HB  
ST. CLAIR COUNTY  
STATION 493+25.46  
STRUCTURE NO. 082-0271



*Jon Derner* 2025.03.25  
Expires: 11/30/2026 Date

ELEVATION

PLAN

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	82-11-HB	ST. CLAIR	25	12
CONTRACT NO. 76U18				
ILLINOIS FED. AID PROJECT				



USER NAME =	DESIGNED - J. Derner	REVISED -
	CHECKED - S. Rothwell	REVISED -
PLOT SCALE =	DRAWN - C. Buettner	REVISED -
PLOT DATE =	CHECKED - S. Rothwell	REVISED -

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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 (SSPC-SP3 standards). 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.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer.

Any cracks that cannot be removed by grinding  $\frac{1}{4}$  inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

Plan dimensions and details relative to the existing structure have been taken from existing plans and 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.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened, and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system at the contractor's expense.

**Cost included with Concrete Removal.**

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project. Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures."

After removal of deck ends and end diaphragms, but prior to encasement of the steel beams, all beams, bearings, and other structural steel within the length (measured along the beam) shown in the GIRDER PAINTING LIMITS TABLE, of either side of deck joints shall be cleaned per Near-White Blast Cleaning (SSPC-SP10). The exterior surfaces and bottom of the bottom flange of the fascia beams shall be cleaned per Commercial Grade Power Tool Cleaning – (SSPC- SP15).

The designated areas cleaned per Near White Blast Cleaning and per Commercial Grade Power Tool Cleaning shall be painted according to the requirements of Paint System 1 - OZ/E/U. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green, Munsell No. 7.5G 4/8.

A minimum of (2) air monitor(s) will be required to monitor abrasive blasting operations at this site. See special provision for "Containment and Disposal of Lead Paint Cleaning Residues."

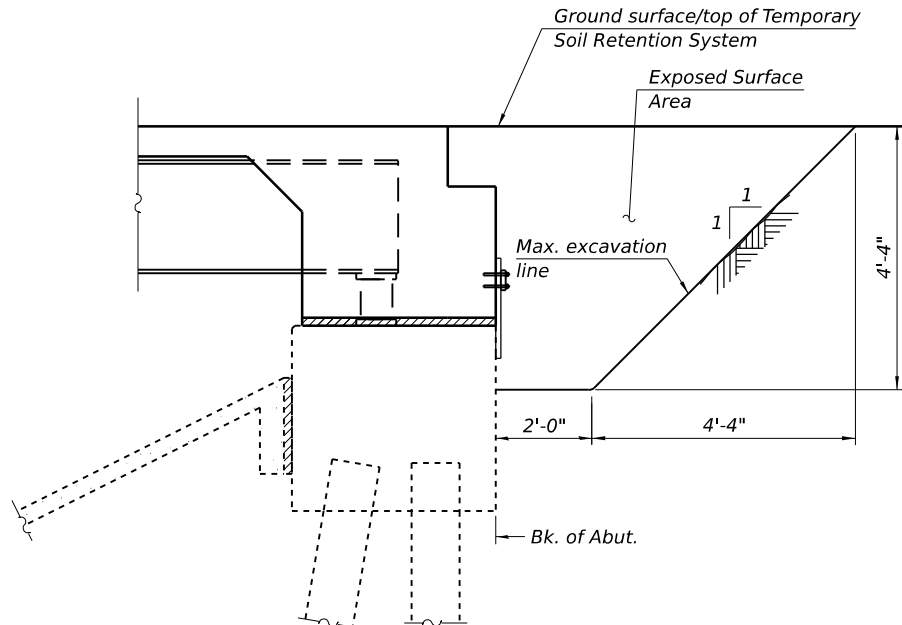
The painting Contractor shall be SSPC QP1 and SSPC QP2 certified and maintain certification throughout the duration of the project.

Protective coat shall be placed on top/inside faces of (parapets and curbs) (full length) and on top of new concrete at joints.

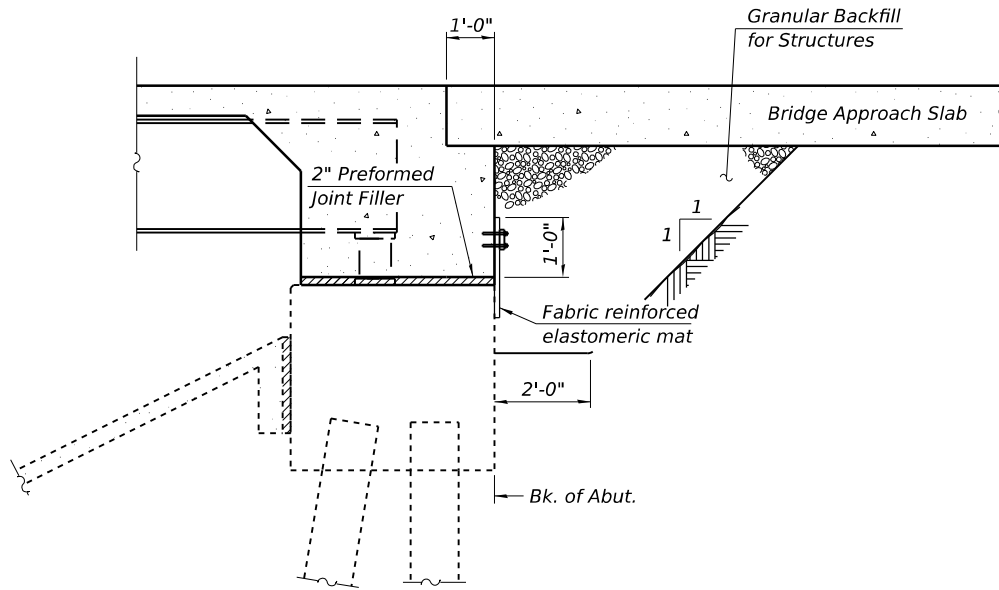
The bridge HMA overlay is calculated based on minimum  $1\frac{1}{2}$ " HMA and minimum 2  $\frac{1}{4}$ " for HMA overlay with FLS.

The deck surface shall have its final finish tined according to Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructure.

Girder No.	Span 1	Span 2	Span 3
1	10'-0"	---	10'-0"
2	10'-0"	---	10'-0"
3	10'-0"	---	10'-0"
4	10'-0"	---	10'-0"
5	10'-0"	---	10'-0"
6	10'-0"	---	10'-0"

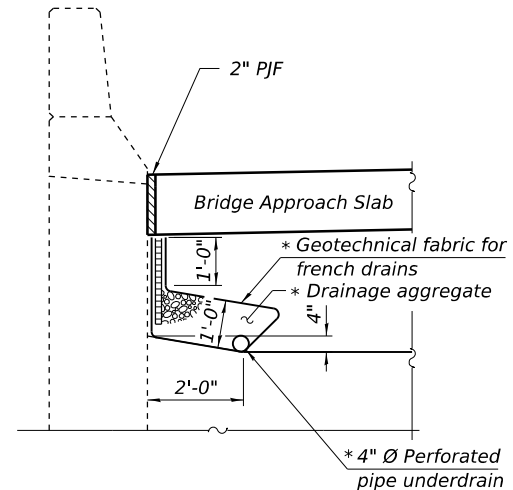


Note:  
The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.



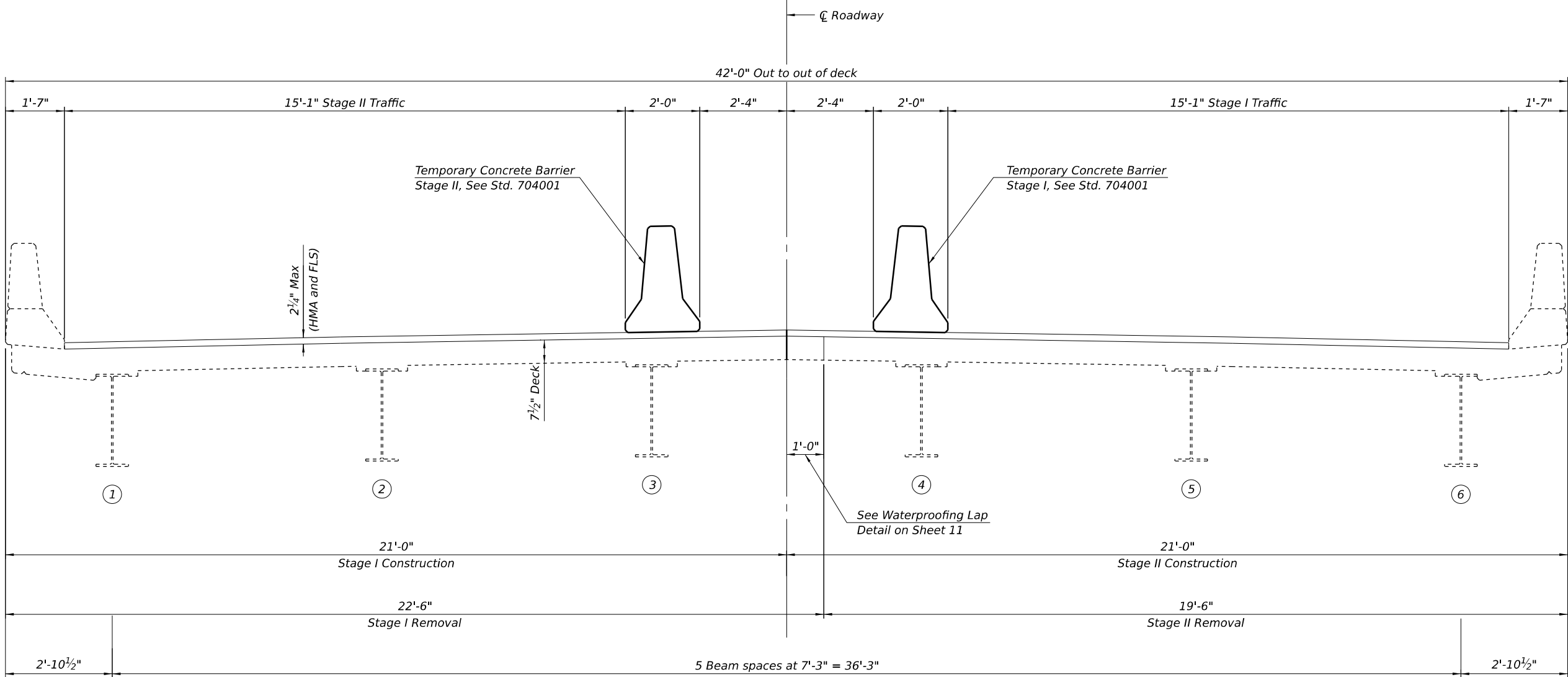
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ITEM	UNIT	TOTAL
Polymerized Bituminous Materials (Tack Coat)	Pound	102
Longitudinal Joint Sealant	Foot	115
Polymerized Hot-Mix Asphalt Surface Course, Stone Matrix Asphalt, 9.5 Mix "E" N80	Ton	33
Paved Shoulder Removal	Sq. Yd.	118
Concrete Removal	Cu. Yd.	28.5
Structure Excavation	Cu. Yd.	31
Concrete Structures	Cu. Yd.	25.3
Concrete Superstructure	Cu. Yd.	60.6
Bridge Deck Grooving	Sq. Yd.	284
Protective Coat	Sq. Yd.	318
Concrete Superstructure (Approach Slab)	Cu. Yd.	111.6
Reinforcement Bars, Epoxy Coated	Pound	49,670
Bar Splicers	Each	348
Temporary Soil Retention System	Sq. Ft.	39
Full Lane Sealant Waterproofing System	Sq. Yd.	454
Granular Backfill for Structures	Cu. Yd.	31
Geocomposite Wall Drain	Sq. Yd.	8
Concrete Headwalls for Pipe Drains	Each	4
Pipe Underdrains for Structures 4"	Foot	61
Bridge Deck Concrete Crack Sealer	Foot	395
Bridge Approach Pavement Connector (Special)	Sq. Yd.	169
Frames and Grates to be Adjusted (Special)	Each	2
Bridge Approach Shoulder Removal	Sq. Yd.	60
Structural Steel Removal	Pound	3,370
Approach Slab Removal	Sq. Yd.	259
Containment and Disposal of Lead Paint Cleaning Residues	L. Sum	1
Cleaning and Painting Steel Bridge, No. 1	L. Sum	1
Deck Slab Repair (Partial)	Sq. Yd.	13



\* Included in the cost of Pipe Underdrains for Structures.  
(See Special Provisions)

**Note:**  
All drainage system components shall extend 2'-0" from the end of each wingwall except an outlet pipe shall wrap around and extend until intersecting with the sideslope. The pipes shall drain into concrete headwalls. (See Articles 601.05 of the Standard Specifications and Highway Standard 601101).



DECK SECTION AWAY FROM ABUTMENT  
(Looking East)

Note:  
A tack coat, per Section 406 of the Std. Spec., with a residual asphalt rate of 0.025 lb/sq. ft. should be placed on top of the 1/2" thick Asphalt Sand Seal Protection layer of the Full Lane Sealant Waterproofing System, before the HMA surfacing is placed.

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PLOT SCALE =	DRAWN - C. Buettner	REVISED -
PLOT DATE =	CHECKED - S. Rothwell	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

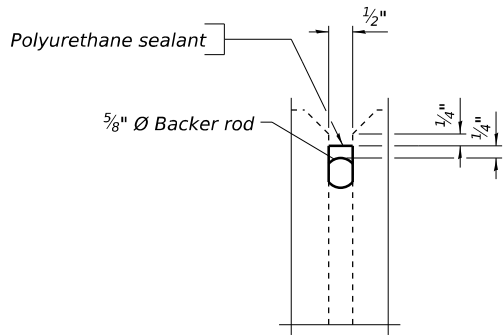
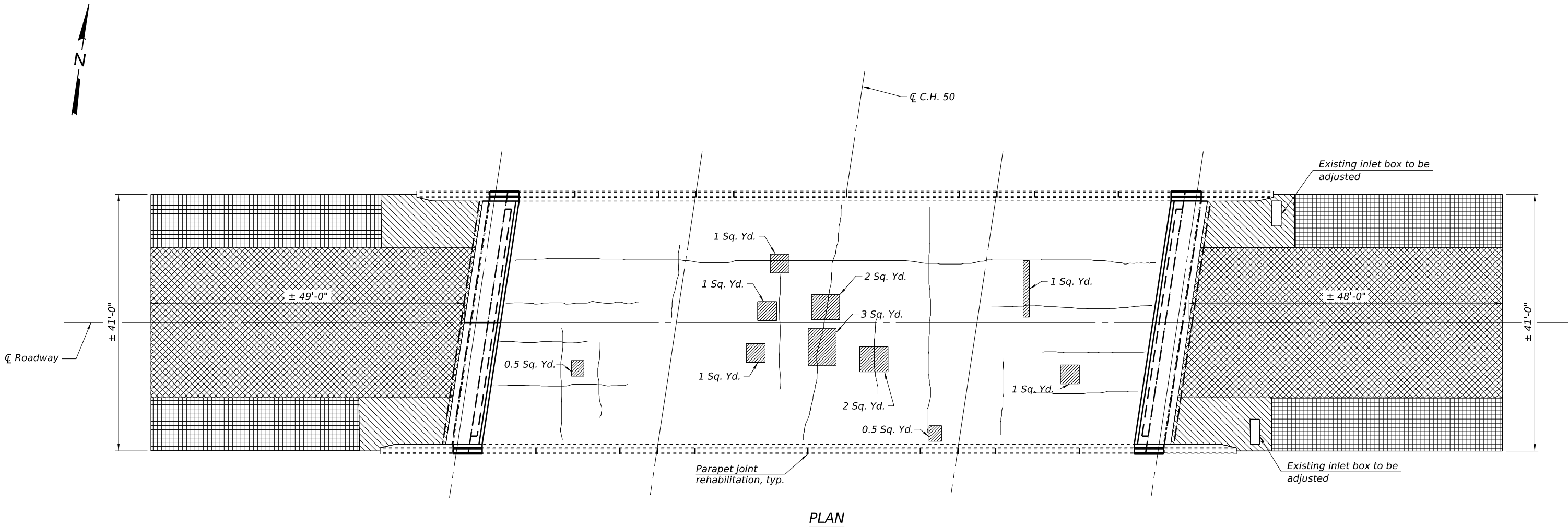
DECK CROSS SECTION  
STRUCTURE NO. 082-0271

SHEET 3 OF 14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	82-11-HB	ST. CLAIR	25	14
CONTRACT NO. 76U18				
ILLINOIS FED. AID PROJECT				



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**PARAPET JOINT REHABILITATION DETAILS**

Notes:  
The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.  
Remove old parapet joint sealant and provide new backer rod and sealant.  
Cost for rehabilitating parapet joints is included with Concrete Superstructure.

Notes:  
The areas of deck repairs shown are estimated. The actual size, depth, and location is to be determined by the Engineer.  
The cracks in the deck are estimated and approximately located.  
The Engineer will show actual patch locations and size of deck repairs on as-built plans.  
Deck survey date: September 10, 2024.

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Paved Shoulder Removal	Sq. Yd.	118
Concrete Removal	Cu. Yd.	28.5
Bridge Deck Concrete Crack Sealer	Foot	395
Deck Slab Repair (Partial)	Sq. Yd.	13.0
Bridge Approach Shoulder Removal	Sq. Yd.	60
Approach Slab Removal	Sq. Yd.	259



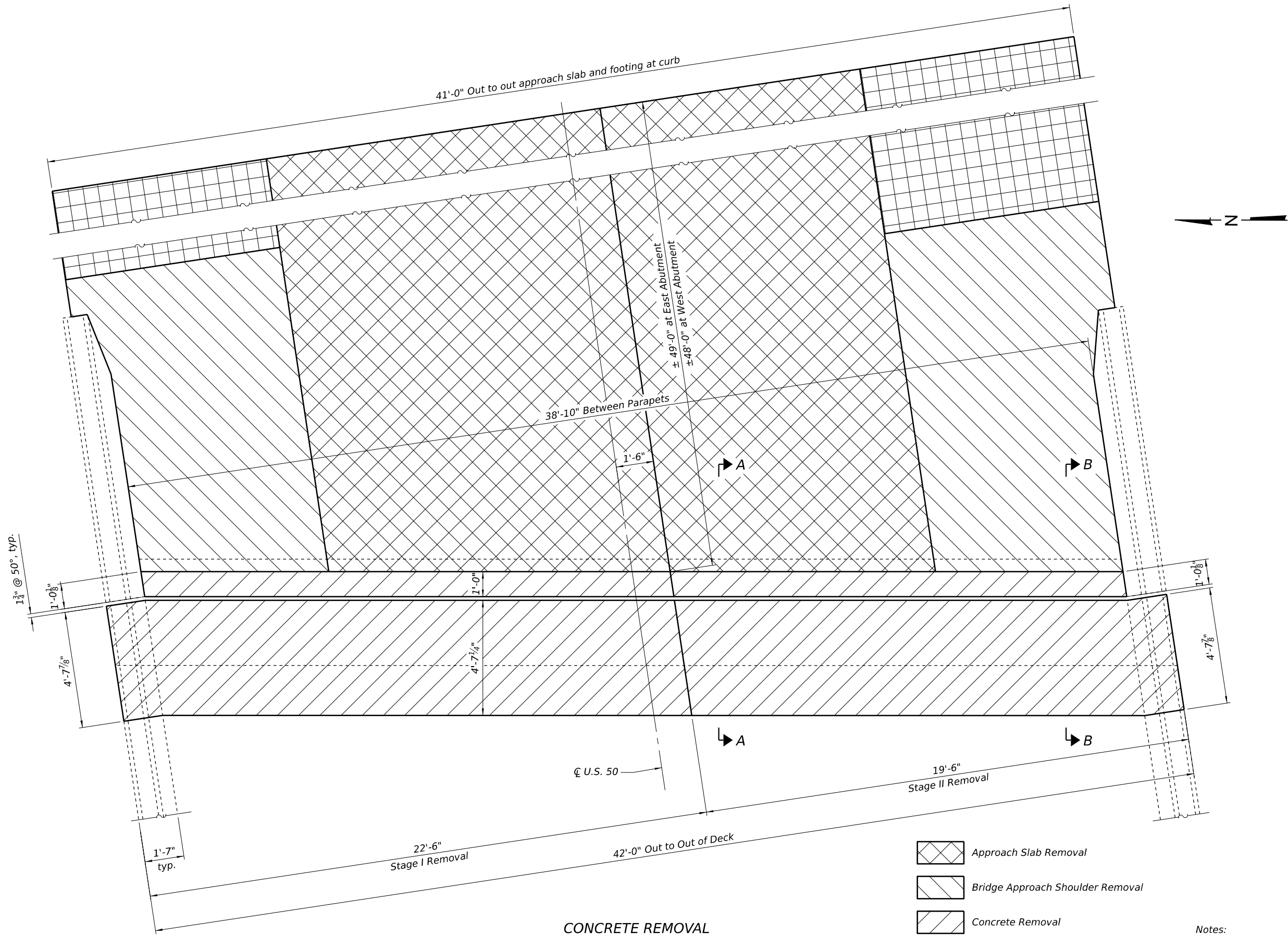
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	CHECKED - C. Wright	REVISED -
PLOT SCALE =	DRAWN - C. Buettner	REVISED -
PLOT DATE =	CHECKED - C. Wright	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DECK SLAB REPAIRS  
STRUCTURE NO. 082-0271

SHEET 4 OF 14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	82-11-HB	ST. CLAIR	25	15
CONTRACT NO. 76U18				
ILLINOIS FED. AID PROJECT				



**CONCRETE REMOVAL**

(E. Abut. shown, W. Abut. opposite)

Notes:  
See sheet 10 of 14 for Bill of Materials.  
See sheet 10 of 14 for Sections A-A and B-B.

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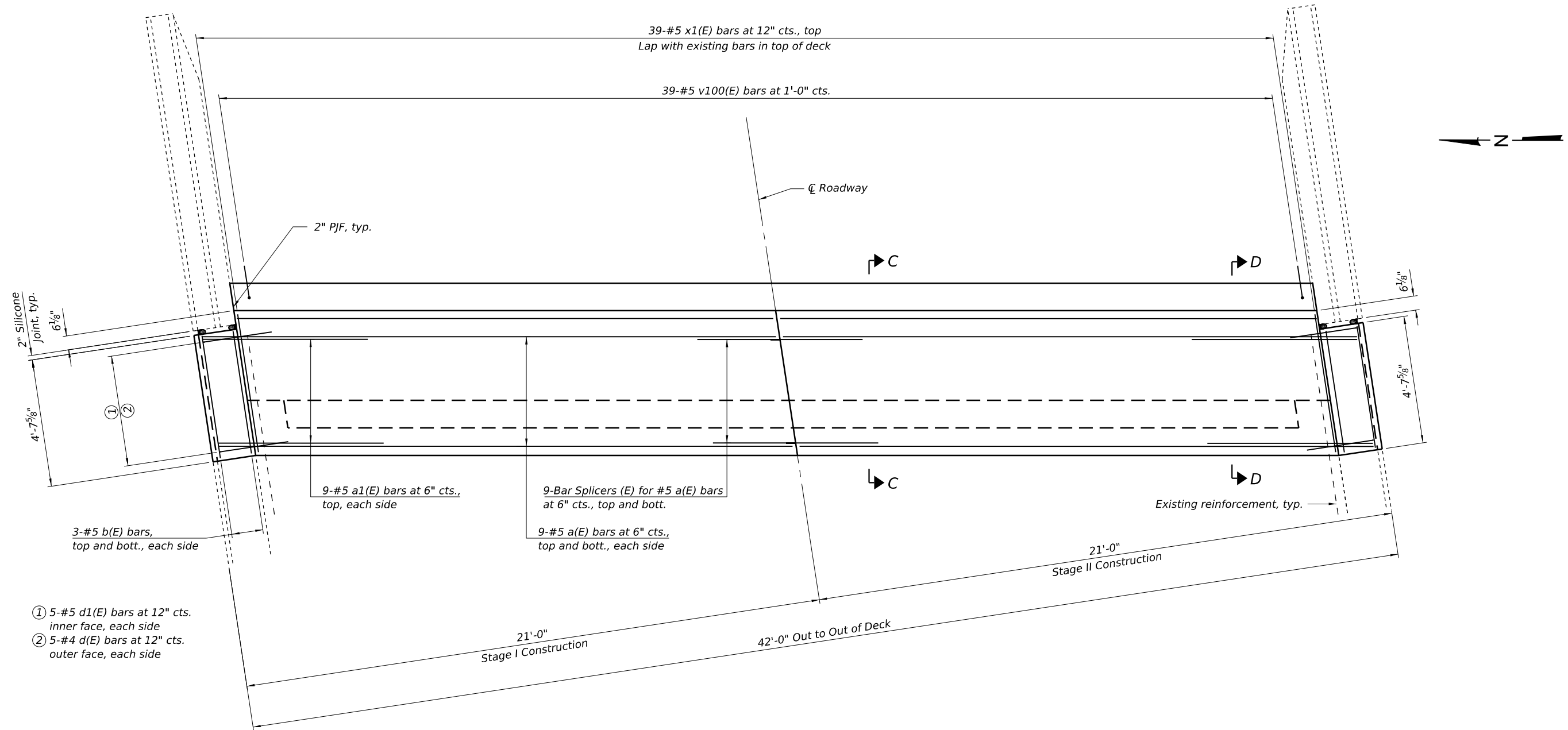
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PLOT SCALE =	DRAWN - C. Buettner	REVISED -
PLOT DATE =	CHECKED - S. Rothwell	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**JOINT REMOVAL  
STRUCTURE NO. 082-0271**

SHEET 5 OF 14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	82-11-HB	ST. CLAIR	25	16
CONTRACT NO. 76U18				
ILLINOIS FED. AID PROJECT				



**CONCRETE REPLACEMENT**  
(E. Abut. shown, W. Abut. opposite)

Notes:  
See sheet 10 of 14 for Bill of Materials.  
See sheet 10 of 14 for Sections C-C and D-D.

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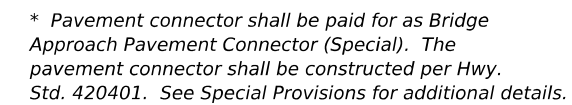
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

JOINT REPLACEMENT  
STRUCTURE NO. 082-0271

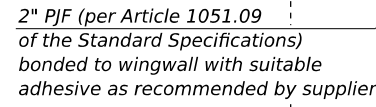
SHEET 6 OF 14 SHEETS

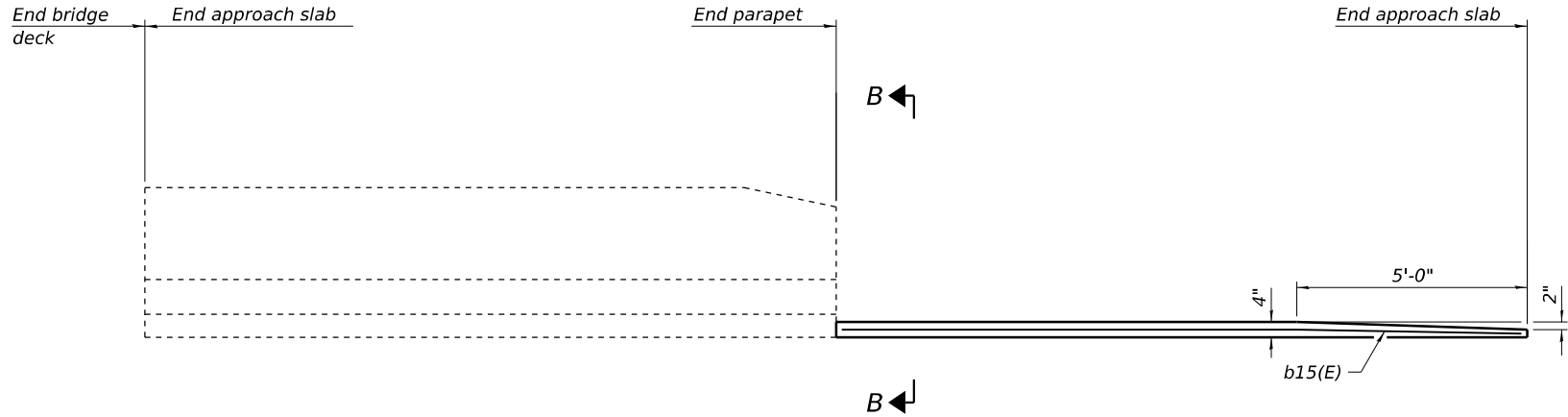
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	82-11-HB	ST. CLAIR	25	17
CONTRACT NO. 76U18				
		ILLINOIS	FED. AID PROJECT	



West Approach			East Approach		
Point/ Location	Top	Bottom	Point/ Location	Top	Bottom
A -			A -		
B -			B -		
C -			C -		
D -			D -		
E -			E -		
F -			F -		

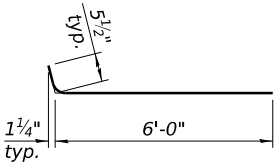
(E. approach slab shown; W. approach slab similar by 180° rotation)



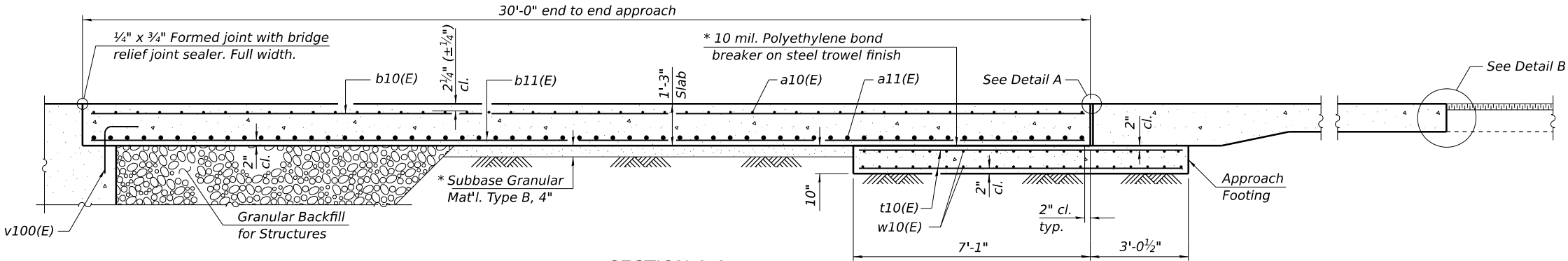


Notes:  
The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.  
Parapet concrete shall be paid for as Concrete Superstructure.  
Approach slab shall be paid for as Concrete Superstructure (Approach Slab).  
Approach footing concrete shall be paid for as Concrete Structures.  
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.  
Cost of excavation for approach footing included with Concrete Structures.  
For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 14.

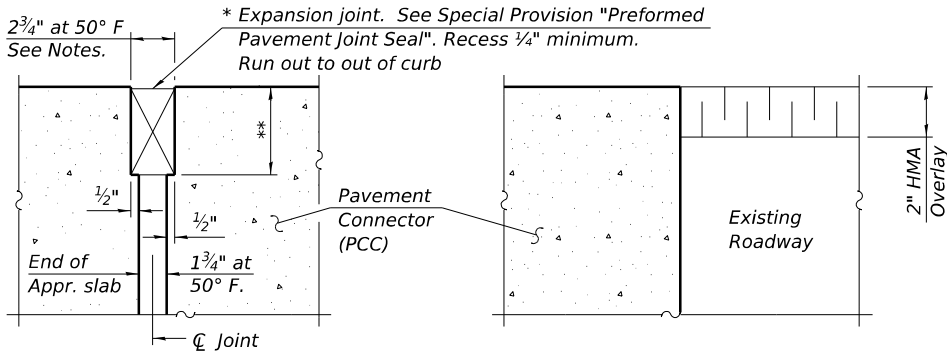
INSIDE ELEVATION OF PARAPET AND CURB



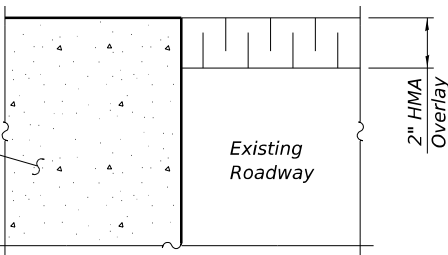
BAR a12(E)



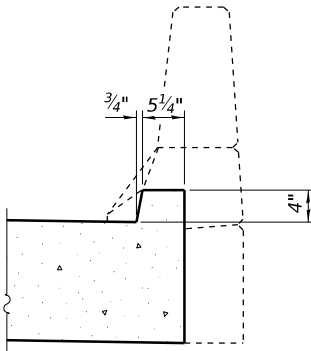
SECTION A-A



DETAIL A  
(at Rt. L's)



DETAIL B  
(at Rt. L's)



VIEW B-B

TWO APPROACHES  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	184	#5	19'-1"	
a11(E)	240	#8	19'-1"	
a12(E)	112	#5	6'-5"	
b10(E)	118	#5	29'-8"	
b11(E)	186	#9	29'-8"	
b14(E)	8	#4	18'-6"	
b15(E)	8	#4	18'-6"	
t10(E)	168	#4	9'-9"	
w10(E)	160	#5	20'-4"	
Concrete Superstructure (Approach Slab)			Cu. Yd.	111.6
Concrete Structures			Cu. Yd.	25.3
Reinforcement Bars, Epoxy Coated			Pound	43,740

\* Cost included with Concrete Superstructure (Approach Slab).  
\*\* Per manufacturer recommendations

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PLOT DATE =	CHECKED - C. Wright	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

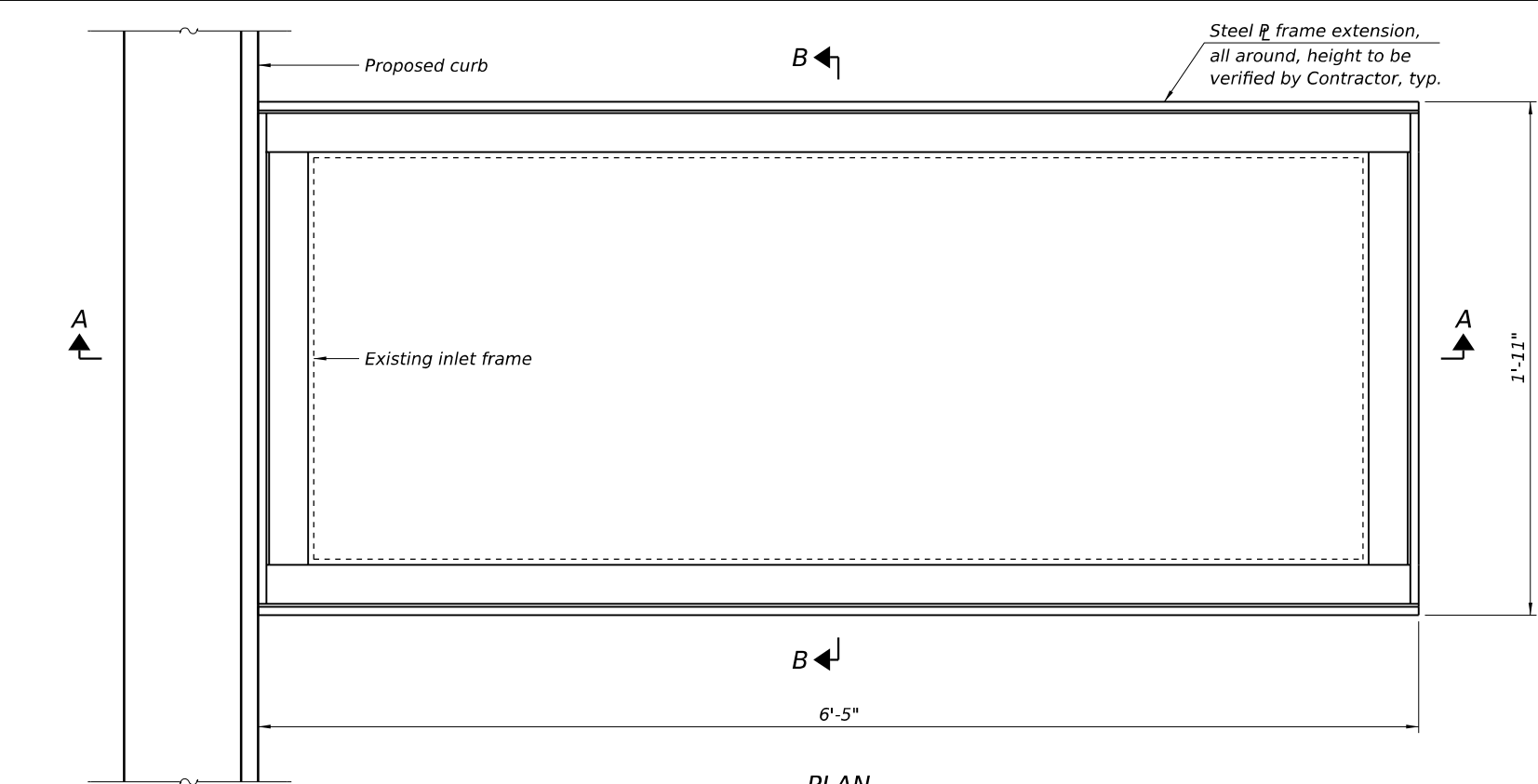
BRIDGE APPROACH SLAB DETAILS  
STRUCTURE NO. 082-0271

SHEET 8 OF 14 SHEETS

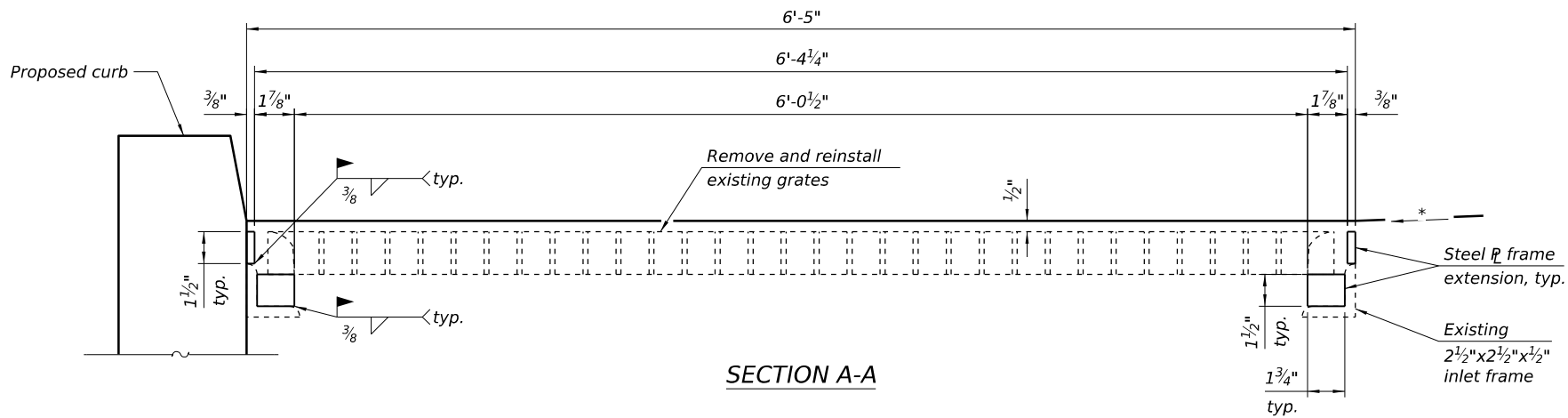
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
409	82-11-HB	ST. CLAIR	25	19
CONTRACT NO. 76U18				
ILLINOIS FED. AID PROJECT				



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PLAN  
(Existing grate not shown for clarity)

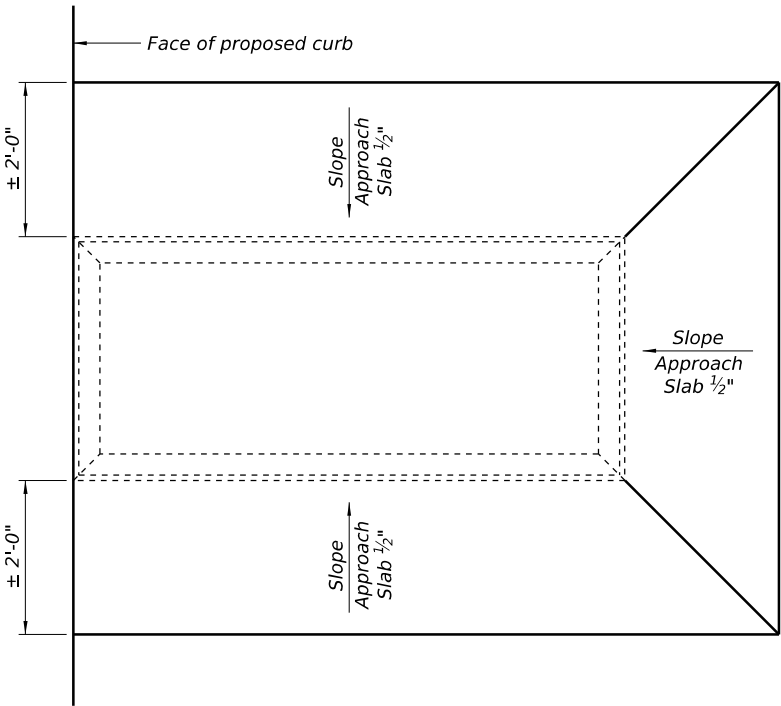


SECTION A-A

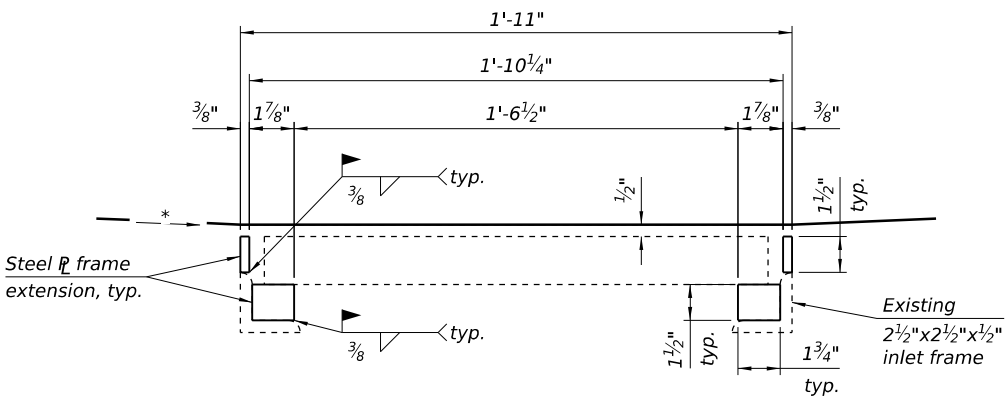
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Frames and Grates to be Adjusted (Special)	Each	2

\* See Sloping Plan

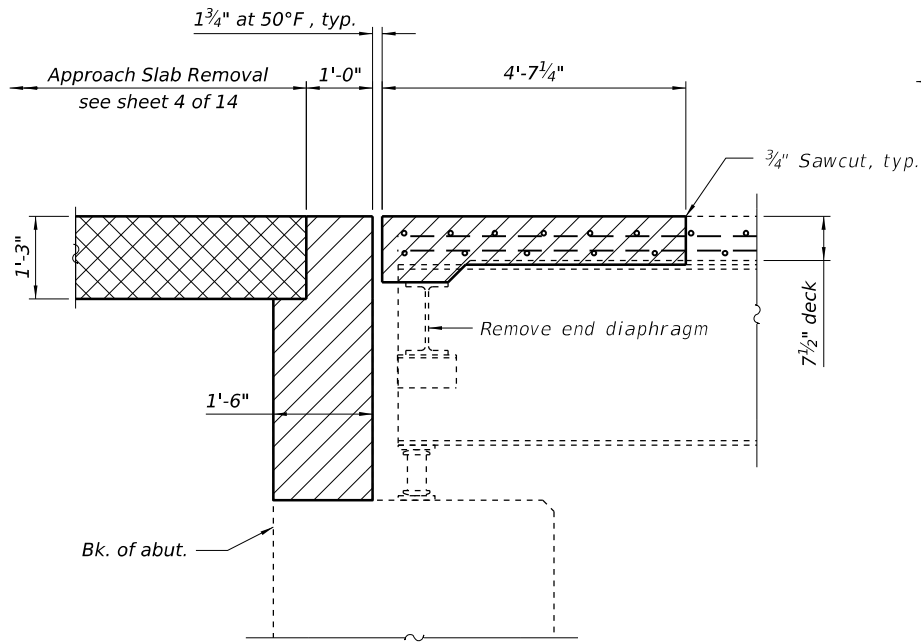


SLOPING PLAN



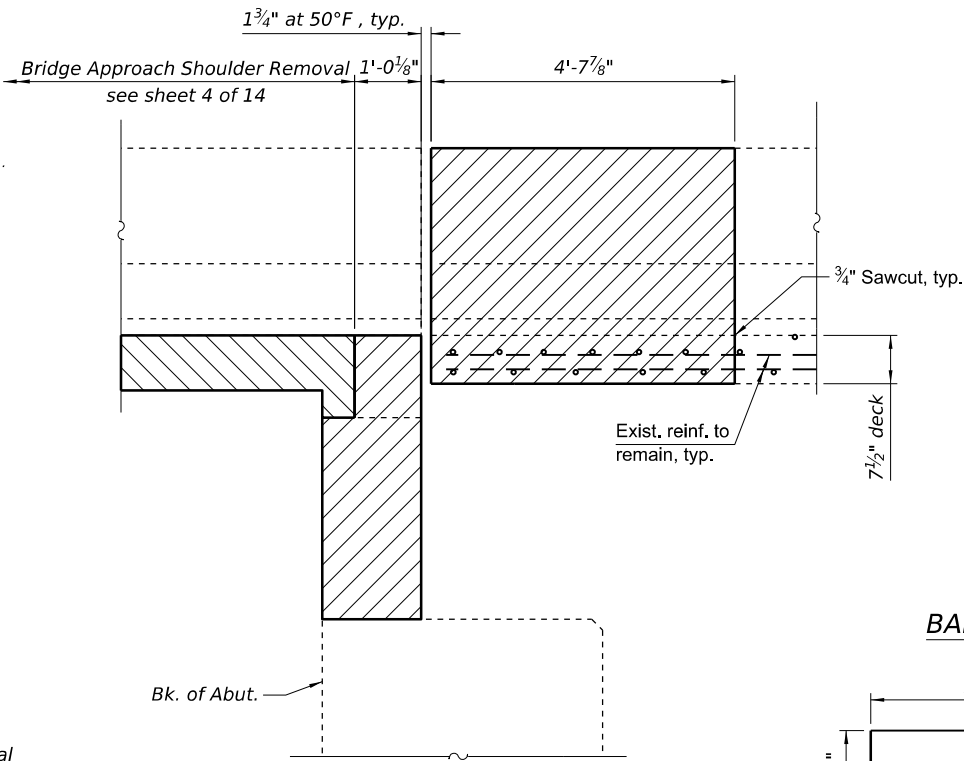
SECTION B-B

Notes:  
All structural steel shall be AASHTO M270 Grade 36. The adjusting inlet ring shall be galvanized.  
All dimensions shall be field measured, verified, and adjusted as appropriate prior to shop drawings preparation. Contractor shall mark red line as-built plans.  
Shop drawings for proposed Steel R Frame Extension shall be submitted for approval prior to fabrication.  
Contractor shall ensure that no damage is done to existing grates to be reused.  
Cost of all labor and materials necessary to remove existing grates, install Steel R Frame Extensions and reinstall grates is included in the cost per unit each for Frames and Grates to be Adjusted (Special).  
Refer to Bridge Approach Pavement Drain Standard 2324 for existing details.  
Contractor to provide new grates if existing are missing.  
Cost of new grates included with Frames and Grates to be Adjusted (Special).

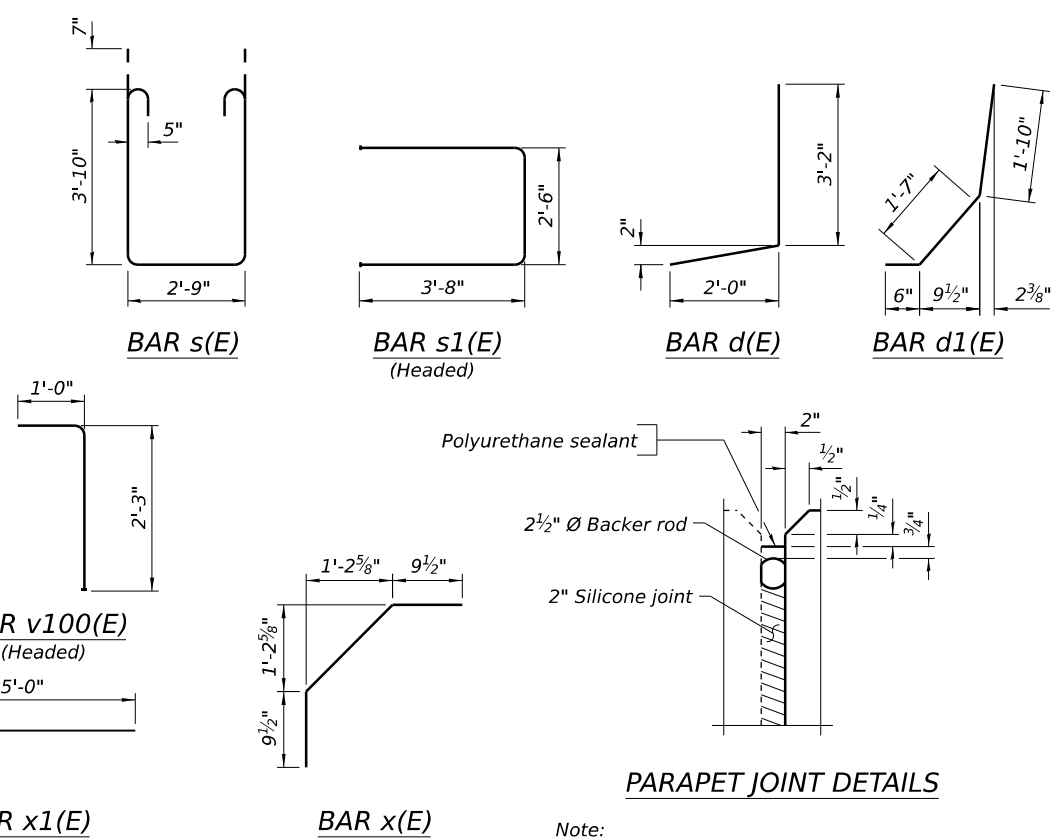


SECTION A-A  
(Horiz. dim at rt. L's)

- Concrete Removal
- Approach Slab Removal
- Approach Shoulder Pavement Removal

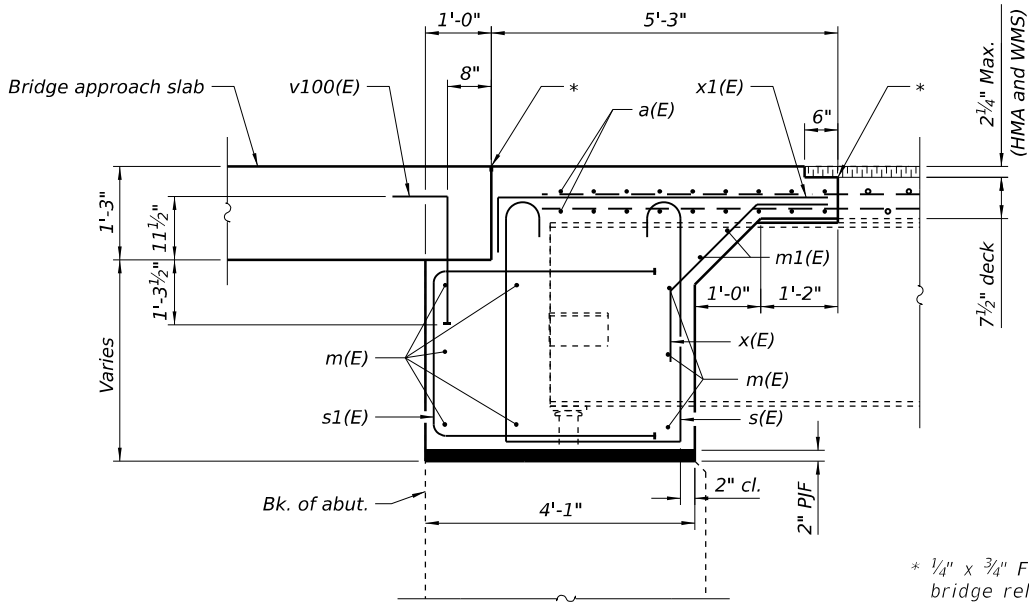


SECTION B-B



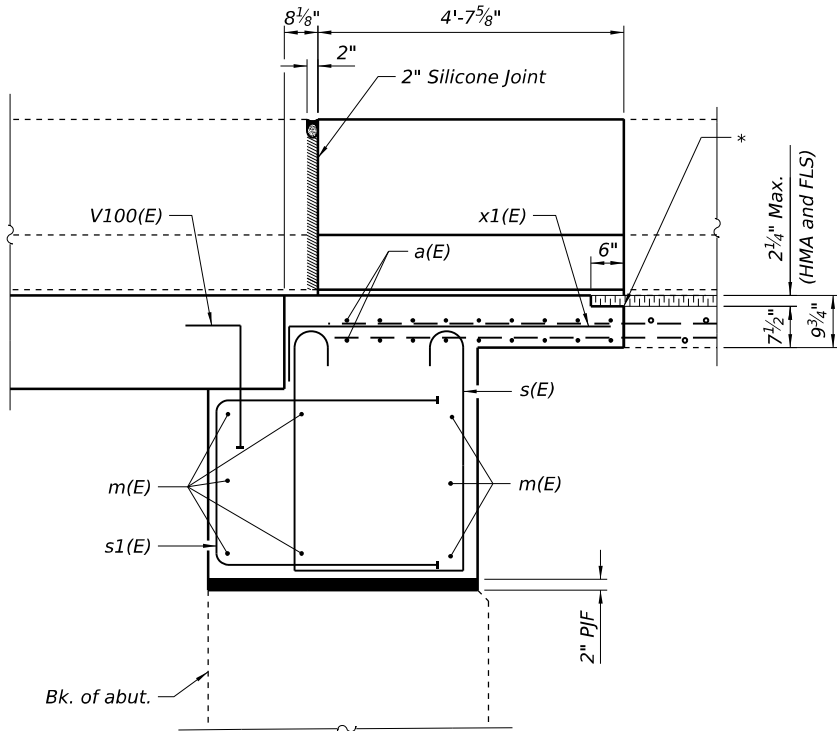
PARAPET JOINT DETAILS

Note:  
The polyurethane sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.



SECTION C-C  
(Horiz. dim at rt. L's)

\* 1/4" x 3/4" Formed Joint with bridge relief joint sealer.



SECTION D-D

SUPERSTRUCTURE  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	72	#5	20'-6"	
a1(E)	36	#5	4'-0"	
b(E)	24	#5	4'-3"	
d(E)	20	#4	5'-2"	J
d1(E)	20	#5	3'-11"	J
m(E)	32	#6	20'-9"	
m1(E)	16	#6	7'-0"	
s(E)	82	#5	11'-7"	U
s1(E)	82	#5	9'-10"	U
v100(E)	78	#5	3'-3"	l
x(E)	70	#5	3'-4"	7
x1(E)	78	#5	5'-10"	7
Concrete Removal			Cu. Yd.	28.5
Reinforcement Bars, Epoxy Coated			Pound	5,930
Concrete Superstructure			Cu. Yd.	60.6

Notes:  
P/JF and 2" Silicone Joint is included with Concrete Superstructure.  
The m(E) bars are to be placed thru holes drilled in the beam web where appropriate.

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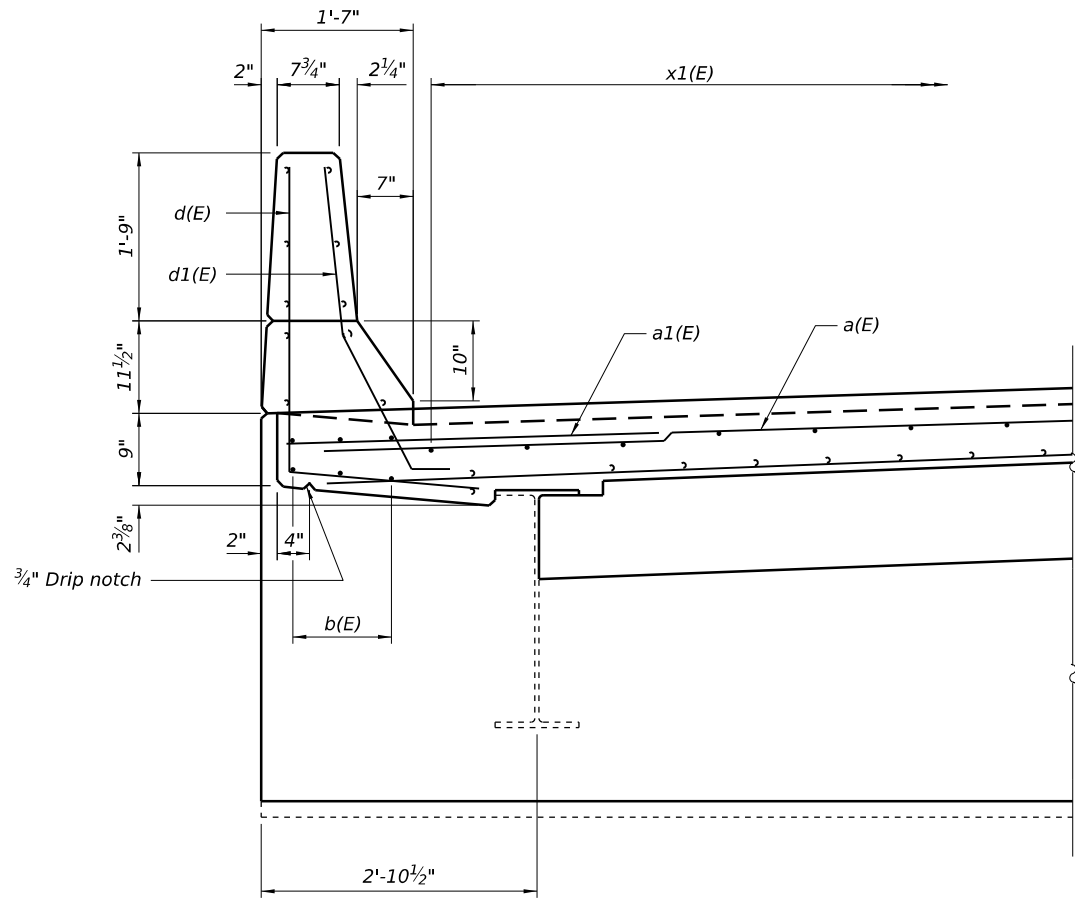
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

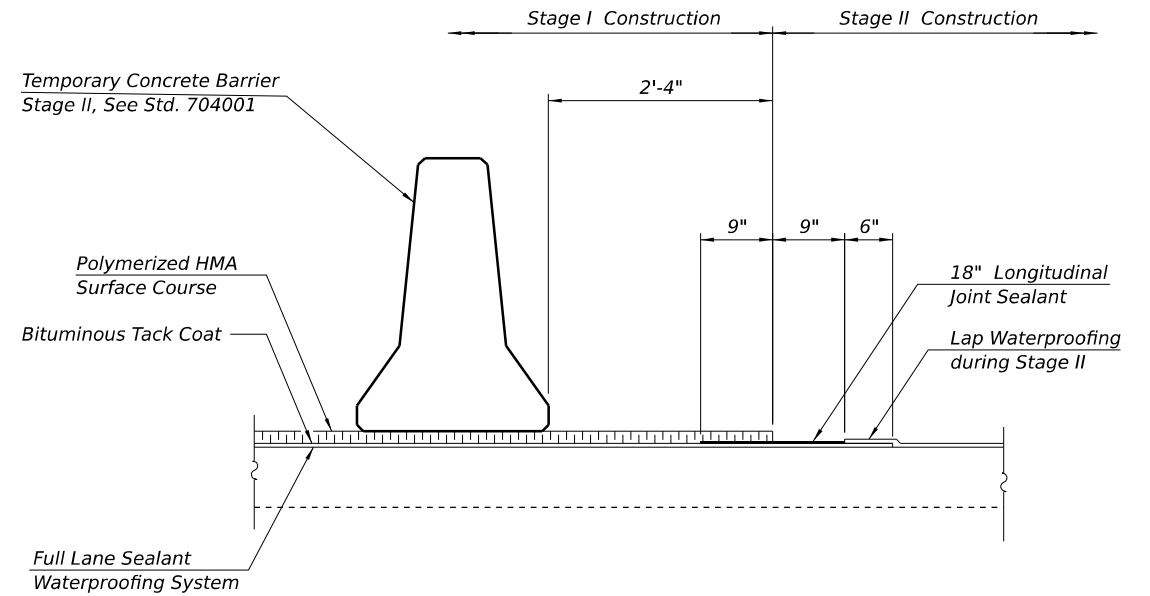
JOINT DETAILS  
STRUCTURE NO. 082-0271

SHEET 10 OF 14 SHEETS

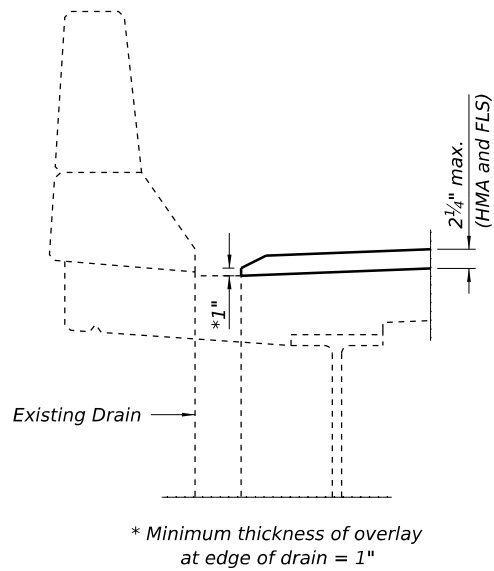
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	82-11-HB	ST. CLAIR	25	21
CONTRACT NO. 76U18				
ILLINOIS FED. AID PROJECT				



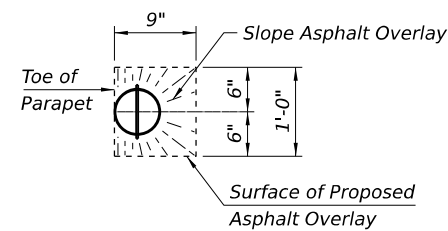
PARAPET SECTION



WATERPROOFING STAGING



FLOOR DRAIN PRESERVATION



TOP PLAN OF FLOOR DRAIN

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PARAPET SECTION AND WATERPROOF STAGING  
STRUCTURE NO. 082-0271

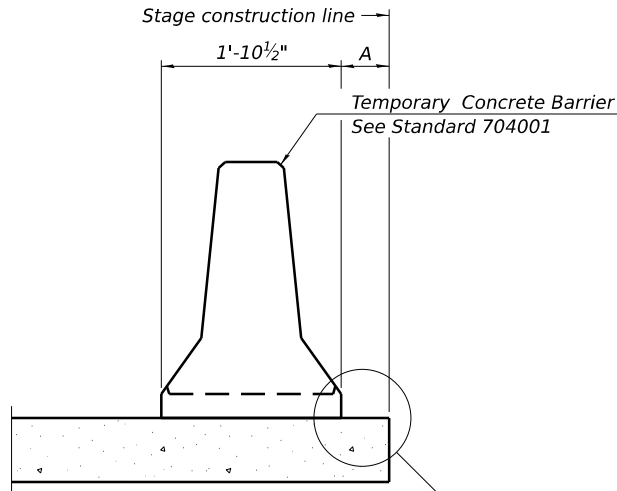
SHEET 11 OF 14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	82-11-HB	ST. CLAIR	25	22
CONTRACT NO. 76U18				
ILLINOIS FED. AID PROJECT				

USER NAME =	DESIGNED - J. Derner	REVISED -
	CHECKED - C. Wright	REVISED -
PLOT SCALE =	DRAWN - C. Buettner	REVISED -
PLOT DATE =	CHECKED - C. Wright	REVISED -

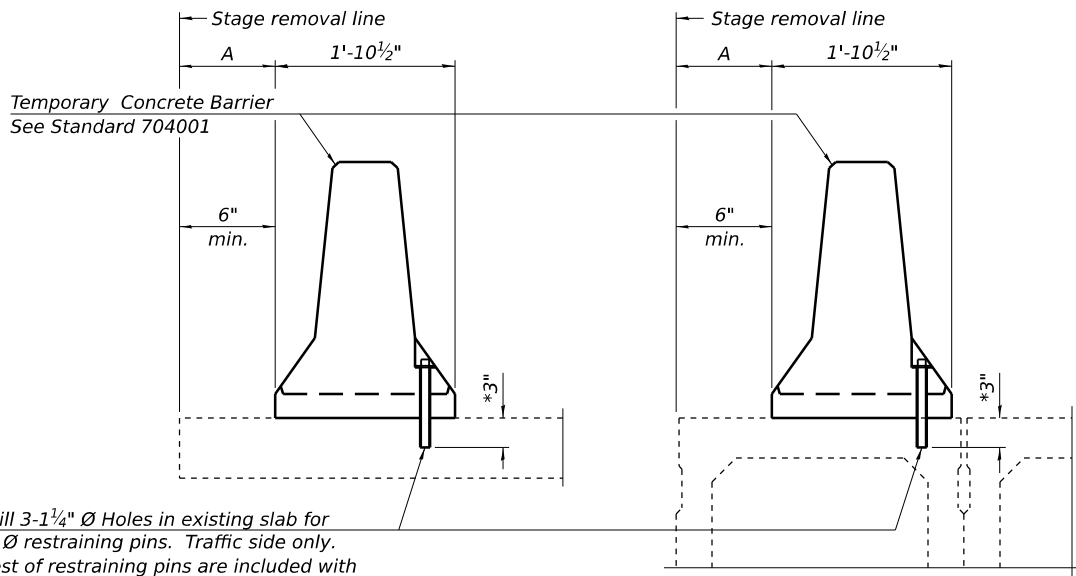


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When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM

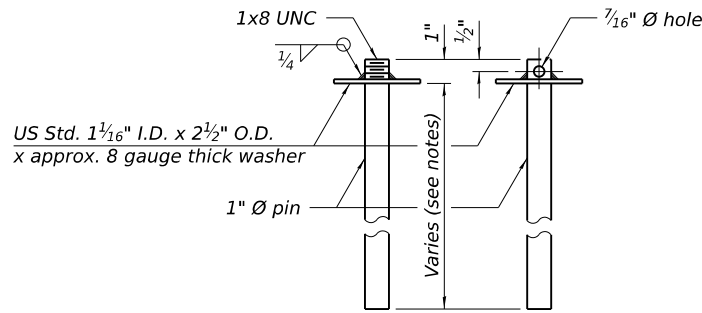


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

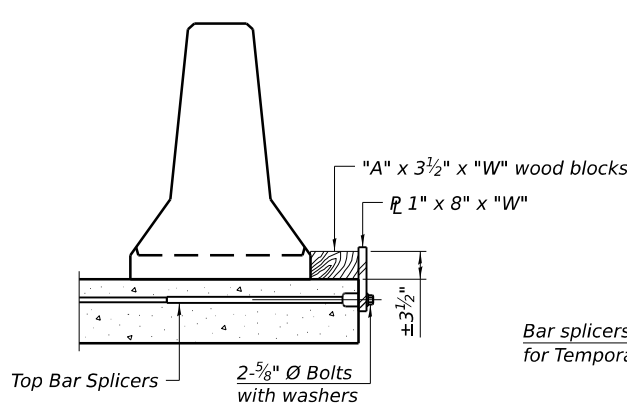
\* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

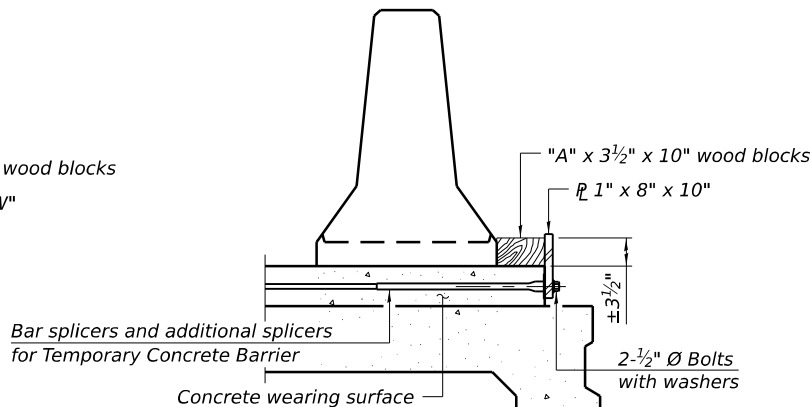


RESTRAINING PIN

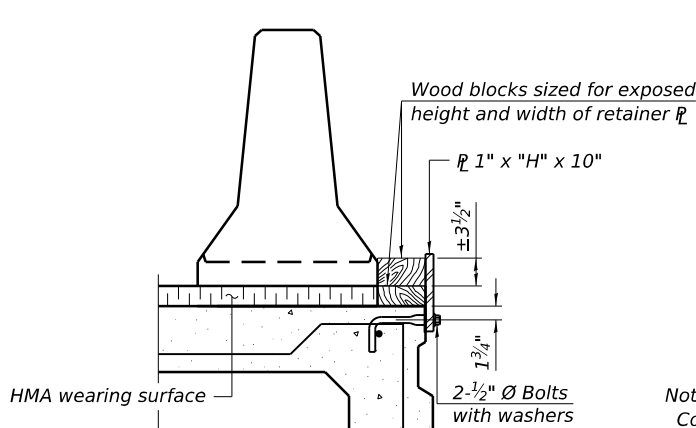
SECTIONS THRU SLAB OR DECK BEAM



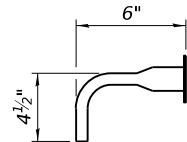
DETAIL I



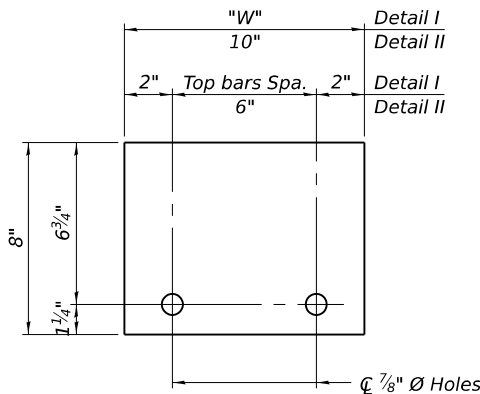
DETAIL II



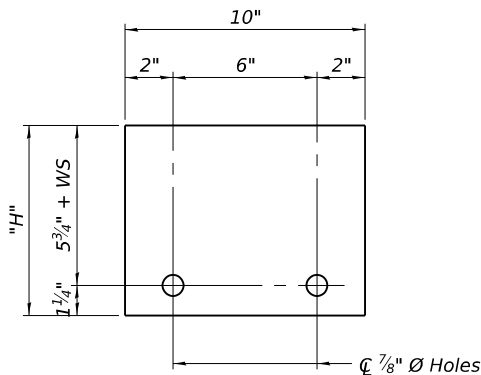
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER 1" x 8" x "W"  
(Detail I and II)



STEEL RETAINER 1" x "H" x 10"  
(Detail III)

Notes:  
Cost of retainer assembly is included with Temporary Concrete Barrier.  
A retainer assembly shall be located at the approximate C of each temporary concrete barrier.  
The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.  
When the 'A' dimension is less than 1 1/2", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.

Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.

Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27

5-15-2023



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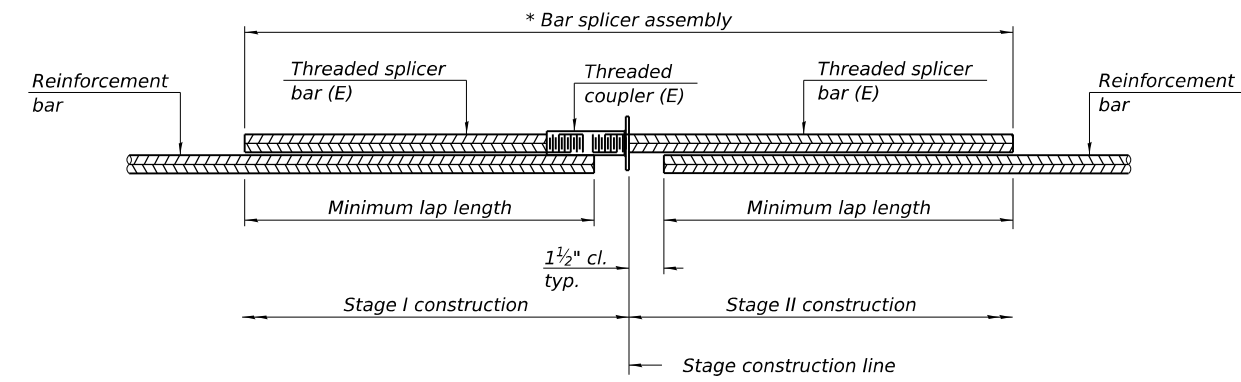
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER  
STRUCTURE NO. 082-0271

SHEET 13 OF 14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	82-11-HB	ST. CLAIR	25	24
CONTRACT NO. 76U18				
ILLINOIS FED. AID PROJECT				





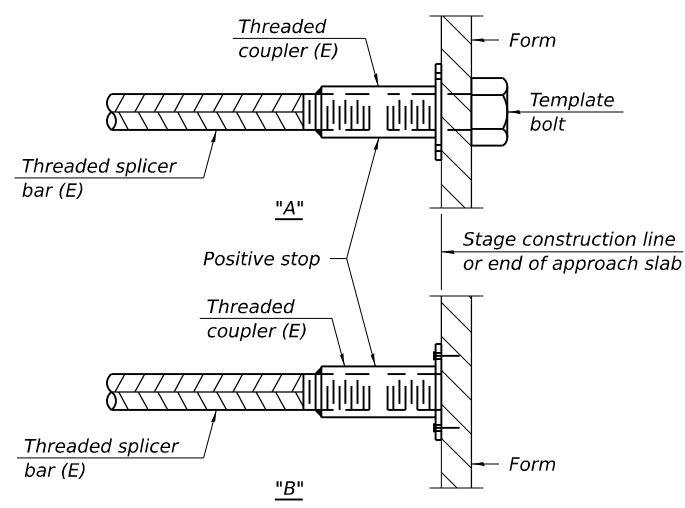
**STANDARD BAR SPLICER ASSEMBLY PLAN**

Only bar splicer assemblies as presented on the approved QPL list may be used.

Threaded splicer bar length = min. lap length + 1½" + 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
Abutment	#5	36	3'-4"
Abutment	#6	20	4'-0"
Approach Slab	#5	92	3'-4"
Approach Slab	#8	120	4'-9"
Approach Footing	#5	80	3'-0"

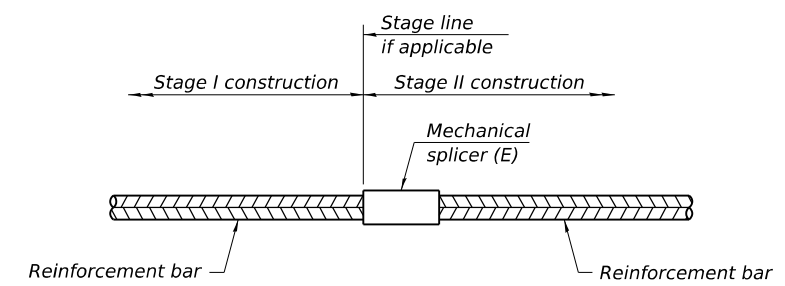


**INSTALLATION AND SETTING METHODS**

"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

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.

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5-15-2023



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PLOT DATE =	CHECKED - C. Wright	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
STRUCTURE NO. 082-0271

SHEET 14 OF 14 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	82-11-HB	ST. CLAIR	25	25
CONTRACT NO. 76U18				
		ILLINOIS	FED. AID PROJECT	