

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1050	(108R)RS-5	RANDOLPH	14	1
		ILLINOIS	CONTRACT NO. 76R65	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

# PROPOSED HIGHWAY PLANS

FAS ROUTE 1858 (IL 155)  
SECTION (108R)RS-5  
BRIDGE DECK OVERLAY, BRIDGE REPAIRS  
RANDOLPH COUNTY

TRAFFIC DATA

2021 ADT = 1100 (ACTUAL)  
2026 ADT = 1100 (ESTIMATED)  
2046 ADT = 1111 (ESTIMATED)  
SU = 5.93% MU = 2.96%  
DIR. DIST = 50/50

C-98-140-22

R 9 W

PROJECT LOCATION

IL 155 OVER PRAIRIE DU ROCHER CREEK  
SN 079-0032  
LAT: 38° 5' 18.26" N  
LON: 90° 5' 48.19" W



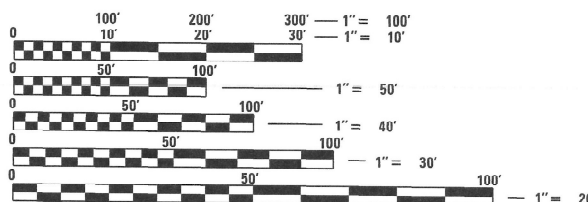
General Highway Map  
**PRAIRIE DU ROCHER  
AND VICINITY**  
RANDOLPH COUNTY,  
ILLINOIS  
Population: 604  
PREPARED BY THE  
DEPARTMENT OF TRANSPORTATION  
OFFICE OF PLANNING AND PROGRAMMING  
IN COOPERATION WITH THE  
US DEPARTMENT OF TRANSPORTATION  
THE FEDERAL HIGHWAY ADMINISTRATION

- Legend
- Towns
  - Water
  - State Boundary
  - County Boundary
  - Statewide
  - US Routes
  - Local
  - Municipal Roads
  - School
  - Railroad
  - Political Township



Date Source  
Bureau of Transportation  
Bureau of Highway Education  
Bureau of Highway Research  
Bureau of Highway Planning  
Bureau of Highway Safety  
Bureau of Highway Construction  
Bureau of Highway Maintenance  
Bureau of Highway Administration

Illinois Department of Transportation  
Mapping & Information Systems



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: MIKE BERG

CONTRACT NO. 76R65

GROSS LENGTH / NET LENGTH = 31 FT. = .006 MILE

D-98-108-22



LOCATION OF SECTION INDICATED THUS: - [black rectangle] -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED May 18 2023  
Keith L. Dawson  
REGIONAL ENGINEER

June 30, 2023 Scott A. Etkin  
ENGINEER OF DESIGN AND ENVIRONMENT

June 30, 2023 Stephen M. Davis  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

## INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES, & COMMITMENTS
- 3-4 SUMMARY OF QUANTITIES
- 5-7 TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL)
- 8 PAVING AND PAVEMENT MARKING DETAILS
- 9 GUARDRAIL DETAILS
- 10-14 STRUCTURAL PLANS

## HIGHWAY STANDARDS

- 000001-08 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 001001-02 AREAS OF REINFORCEMENT BARS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 420001-10 PAVEMENT JOINTS
- 606201-04 TYPE B GUTTER - INLETS, OUTLETS, & ENTRANCES
- 630001-12 STEEL PLATE BEAM GUARDRAIL
- 630101-10 STRONG POST GUARDRAIL ATTACHED TO CULVERT
- 630301-09 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 701001-02 OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
- 701006-05 OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
- 701011-04 OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
- 701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701311-03 LANE CLOSURE, 2L, 2W MOVING OPERATIONS - DAY ONLY
- 701321-18 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
- 701501-06 URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
- 701901-08 TRAFFIC CONTROL DEVICES
- 704001-08 TEMPORARY CONCRETE BARRIER
- 780001-05 TYPICAL PAVEMENT MARKINGS
- 781001-04 TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
- 782006-01 GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

## GENERAL NOTES

1. THE UTILITIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:  
AMEREN ILLINOIS  
HARRISONVILLE TELEPHONE COMPANY  
VILLAGE OF PRAIRIE DU ROCHER
2. NO SURVEY WAS PERFORMED FOR THIS PROJECT AND THE PLANS WERE CREATED USING MICROFILM AND FIELD MEASUREMENTS.
3. THE USE OF VIBRATORY ROLLERS WILL NOT BE PERMITTED FOR THIS PROJECT. THIS DOES NOT RELIEVE THE CONTRACTOR OF DENSITY REQUIREMENTS FOR THE CONSTRUCTION OF THE BITUMINOUS PAVEMENTS AS SPECIFIED IN SECTIONS 406 & 407 OF THE STANDARD SPECIFICATIONS.
4. THE RESIDENT ENGINEER 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.
5. TWO CHANGEABLE MESSAGE SIGNS SHALL BE REQUIRED FOR THIS PROJECT. THEY SHALL BE PLACED TWO WEEKS PRIOR TO ANY LANE CLOSURE AND SHALL REMAIN UP FOR THE DURATION OF THE PROJECT.
6. ALL REMOVED GUARDRAIL COMPONENTS ARE THE PROPERTY OF THE CONTRACTOR AND THE SALVAGE VALUE OF SAID COMPONENTS SHALL BE REFLECTED IN THE CONTRACTOR'S BID.
7. THE CONTRACTOR SHALL PROVIDE POSITIVE AND ADEQUATE DRAINAGE AT ALL TIMES.

## COMMITMENTS

NONE

MIXTURE USE	SURFACE	BINDER
AC/PG	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4.0% @ NDES=70	4.0% @ NDES=70
MIX COMPOSITION	IL 9.5	IL 9.5 FG
FRICTION AGG	MIXTURE "C"	MIXTURE "C"
QUALITY MGMT PROGRAM	QC/QA	QC/QA
MATTRANDEV REQUIRED?	NO	NO

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 PROJECT: I1087R5-5  
 DATE: 5/19/2023

REV. SK

USER NAME = Robert.Hughes	DESIGNED - _____	REVISED - _____	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES, &amp; COMMITMENTS</b>	F.A.S. RTE. SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
DRAWN - _____	REVISED - _____	1858 (1087)RS-5			RANDOLPH	14	2	
PLOT SCALE = 0.16666633' / in.	CHECKED - _____	REVISED - _____			CONTRACT NO. 76R65			
PLOT DATE = 5/19/2023	DATE - _____	REVISED - _____			ILLINOIS FED. AID PROJECT			
				SCALE: _____	SHEET 1	OF 1	SHEETS	STA. _____ TO STA. _____

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	100% STATE
				CONSTR. CODE
				BRIDGE
				0047
				079-0032
20200100	EARTH EXCAVATION	CU YD	21	21
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	197	197
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	76	76
40600985	PORTLAND CEMENT CONCRETE SURFACE REMOVAL - BUTT JOINT	SQ YD	147	147
40600990	TEMPORARY RAMP	SQ YD	70	70
40602970	HOT-MIX ASPHALT BINDER COURSE, IL-9.5FG, N70	TON	5.3	5.3
40604052	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N70	TON	60	60
44000400	GUTTER REMOVAL	FOOT	78	78
48101200	AGGREGATE SHOULDERS, TYPE B	TON	18	18
48203018	HOT-MIX ASPHALT SHOULDERS, 5 1/4"	SQ YD	144	144
50102400	CONCRETE REMOVAL	CU YD	9.2	9.2
50300100	FLOOR DRAINS	EACH	4	4
50300255	CONCRETE SUPERSTRUCTURE	CU YD	6.9	6.9
50300260	BRIDGE DECK GROOVING	SQ YD	94	94

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	100% STATE
				CONSTR. CODE
				BRIDGE
				0047
				079-0032
50300300	PROTECTIVE COAT	SQ YD	132	132
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3100	3100
50800515	BAR SPLICERS	EACH	23	23
60262700	INLETS TO BE RECONSTRUCTED	EACH	1	1
60405900	GRATES AND COVERS, TYPE 2B	EACH	1	1
60600095	CLASS SI CONCRETE (OUTLET)	CU YD	2.2	2.2
60602800	CONCRETE GUTTER, TYPE B	FOOT	57	57
* 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	410	410
* 63000030	STRONG POST GUARDRAIL ATTACHED TO CULVERT	FOOT	60	60
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4	4
63200310	GUARDRAIL REMOVAL	FOOT	610	610
67100100	MOBILIZATION	L SUM	1	1
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1	1
70107004	PAVEMENT MARKING BLACKOUT TAPE, 4"	FOOT	1800	1800

\* SPECIALTY ITEM

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 DATE: 5/19/2023

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DRAWN - _____	CHECKED - _____	REVISED - _____
PLOT SCALE = 0.16666633' / in.	DATE - _____	REVISED - _____
PLOT DATE = 5/19/2023		

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE: 1"=50'      SHEET 1    OF    2    SHEETS    STA. \_\_\_+\_\_\_    TO STA. \_\_\_+\_\_\_

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1858	(108)RS-5	RANDOLPH	12	3
CONTRACT NO. 76R65				
ILLINOIS   FED. AID PROJECT				

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				100% STATE
				BRIDGE
				0047
				079-0032
70306120	TEMPORARY PAVEMENT MARKING - LINE 4" - TYPE III TAPE	FOOT	1847	1847
70400100	TEMPORARY CONCRETE BARRIER	FOOT	244	244
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	127	127
70600251	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1800	1800
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	6	6
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	6	6
X5030309	CONCRETE WEARING SURFACE, 4 1/4"	SQ YD	118	118
* X6330725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	50	50
X7010202	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL)	EACH	1	1
Z0012136	BRIDGE DECK SCARIFICATION 1 1/2"	SQ YD	102	102
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	0.5	0.5
Z0073500	TEMPORARY SUPPORT SYSTEM	L SUM	1	1

\* SPECIALTY ITEM

REV. - MS

USER NAME = Robert.Hughes	DESIGNED - _____	REVISED - _____
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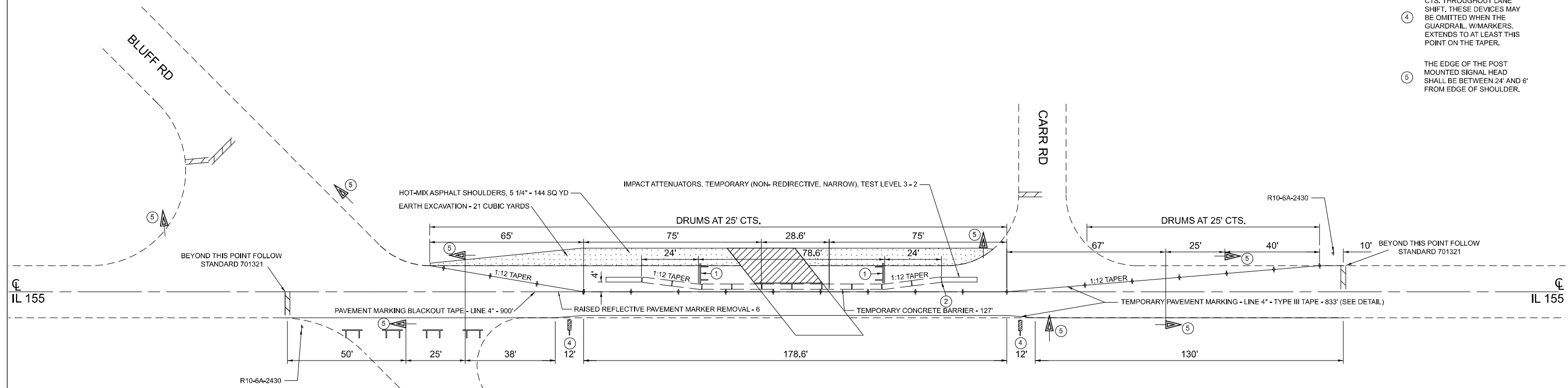
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: 1"=50' SHEET 2 OF 2 SHEETS STA. \_\_\_+\_\_\_ TO STA. \_\_\_+\_\_\_

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1858	(108R)RS-5	RANDOLPH	12	4
ILLINOIS FED. AID PROJECT			CONTRACT NO. 76R65	

- ① TYPE III BARRICADE TO BE PLACED WHEN NO WORK IS BEING PERFORMED
- ② GUARDRAIL/BARRIER WALL REFLECTORS AT 25' CTS. SEE STANDARDS 704001 & 782006.
- ③ WHEN TEMP. BRIDGE RAIL IS SPECIFIED, IT SHALL BE CONNECTED TO THE TEMP. CONC. BARRIER USING A TRAFFIC BARRIER TERMINAL TYPE 11.
- ④ VERTICAL PANELS AT 25' CTS. THROUGHOUT LANE SHIFT. THESE DEVICES MAY BE OMITTED WHEN THE GUARDRAIL W/MARKERS EXTENDS TO AT LEAST THIS POINT ON THE TAPER.
- ⑤ THE EDGE OF THE POST MOUNTED SIGNAL HEAD SHALL BE BETWEEN 24' AND 6" FROM EDGE OF SHOULDER.



**LEGEND**

- TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT
- TEMPORARY CONCRETE BARRIER
- STOP BAR
- DRUM WITH STEADY BURNING BI-DIRECTIONAL LIGHT
- TYPE III BARRICADE WITH FLASHING LIGHTS
- TRAFFIC SIGNAL
- DOUBLE VERTICAL PANEL
- DECK SLAB REPAIR (FULL DEPTH, TYPE I)
- HOT-MIX ASPHALT SHOULDERS, 5 1/4"

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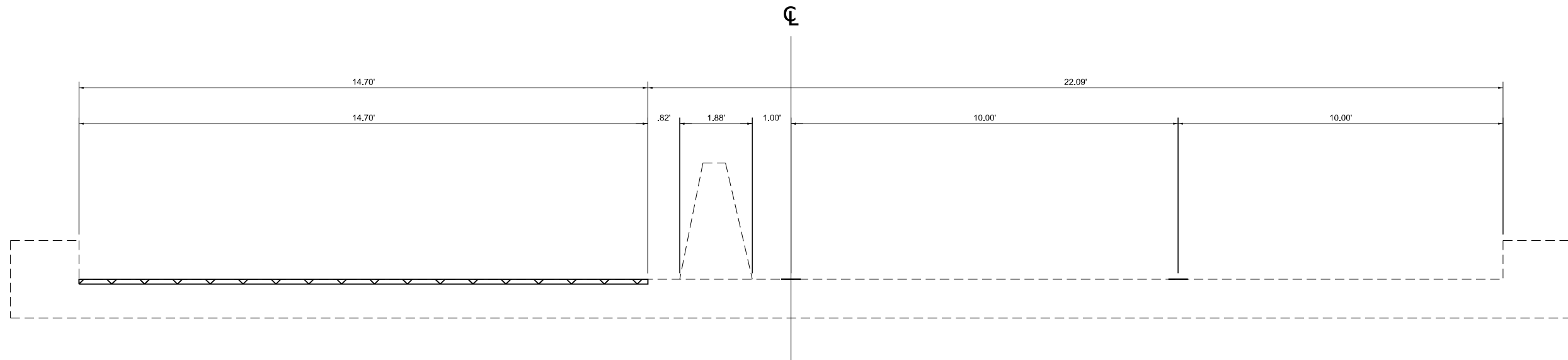
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION,  
STANDARD 701321 (SPECIAL)  
STAGE I DETAILS**

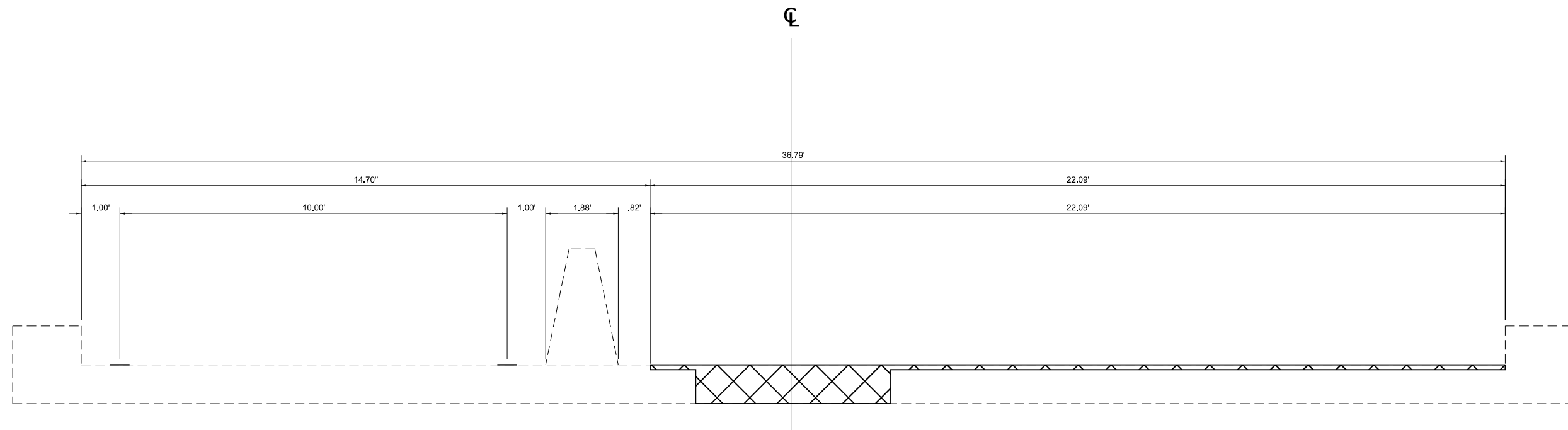
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1858	(108R)RS-5	RANDOLPH	14	5
CONTRACT NO. 76R65				
ILLINOIS FED. AID PROJECT				





STAGE I



STAGE II

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION,  
 STANDARD 701321 (SPECIAL)  
 STAGING TYPICALS**

SCALE: 1"=50' SHEET 3 OF 3 SHEETS STA. \_\_\_+\_\_\_ TO STA. \_\_\_+\_\_\_

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1858	(108R)RS-5	RANDOLPH	15	7
CONTRACT NO. 76R65				
ILLINOIS FED. AID PROJECT				

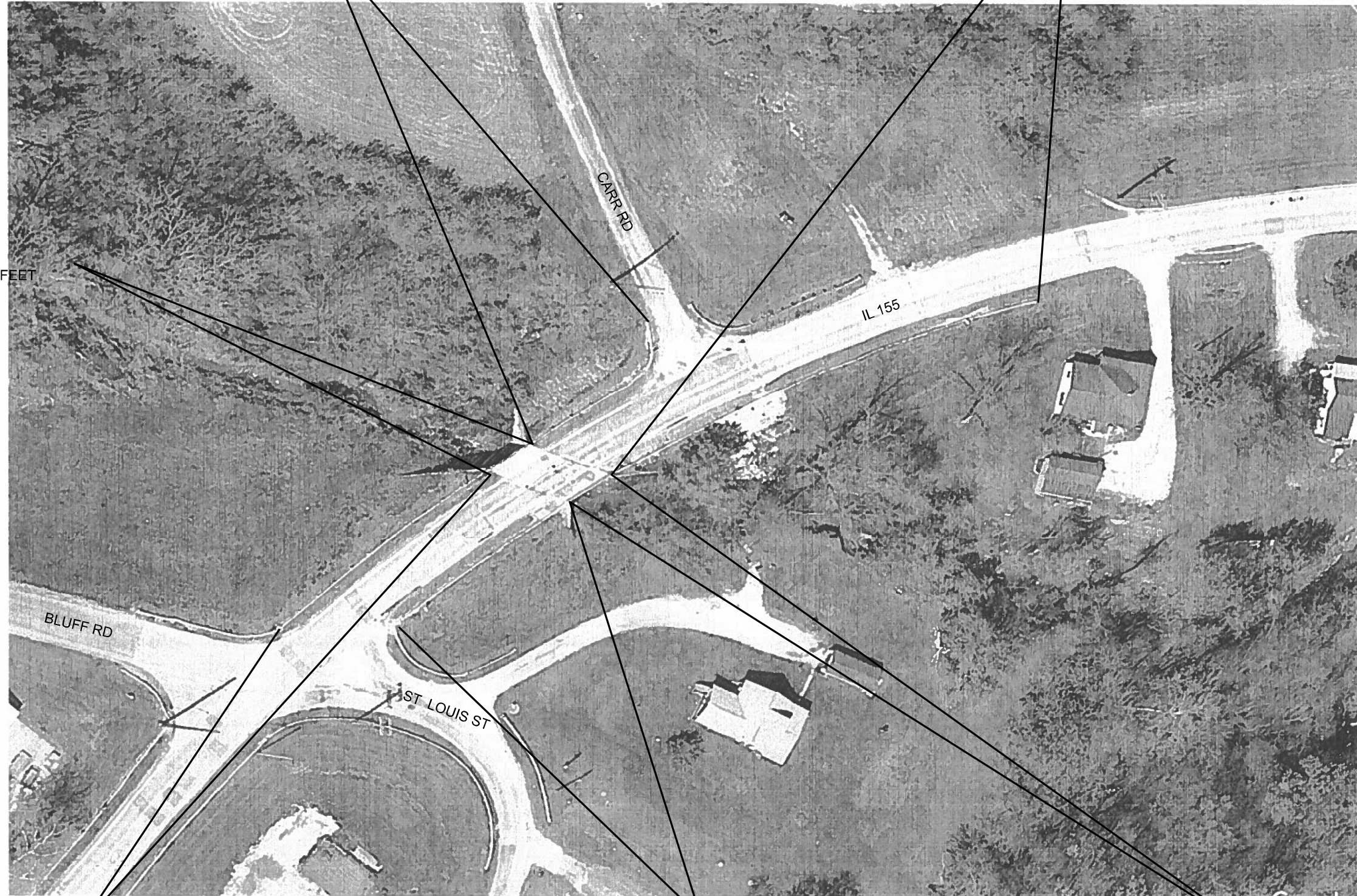




GUARDRAIL REMOVAL - 100' FEET  
 STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS - 50 FEET  
 STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS) - 50 FEET  
 TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT - 1 EA

GUARDRAIL REMOVAL - 250' FEET  
 STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS - 200 FEET  
 TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT - 1 EA

STRONG POST GUARDRAIL  
 ATTACHED TO CULVERT - 30 FEET



GUARDRAIL REMOVAL - 145' FEET  
 STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS - 95 FEET  
 TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT - 1 EA

GUARDRAIL REMOVAL - 115' FEET  
 STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS - 65 FEET  
 TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT - 1 EA

STRONG POST GUARDRAIL  
 ATTACHED TO CULVERT - 30 FEET

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PLOT DATE = 5/19/2023	DATE -	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

<b>GUARDRAIL DETAILS</b>			
SCALE:	SHEET 1	OF 1	SHEETS
	STA. +_	TO STA. +_	

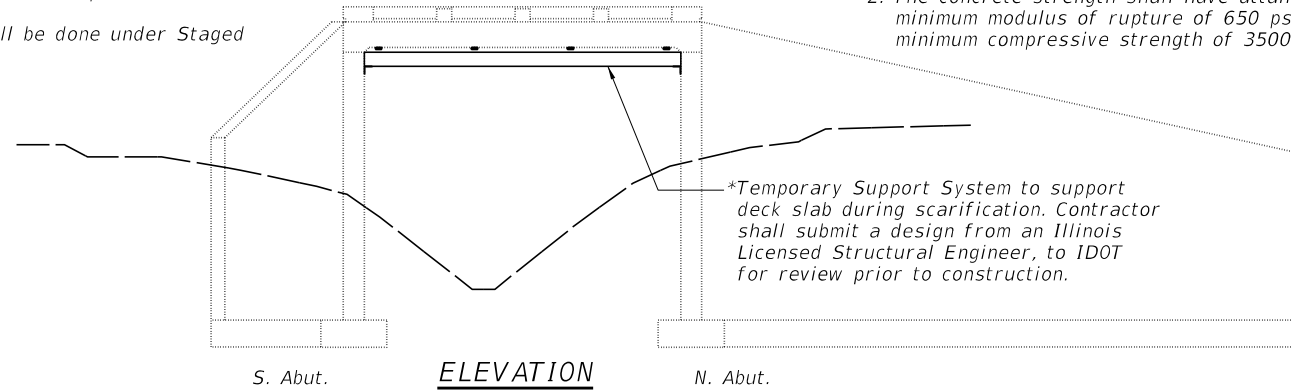
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1858	(108R)RS-5	RANDOLPH	14	9
CONTRACT NO. 76R65				
ILLINOIS FED. AID PROJECT				

Existing Structure:  
SN 079-0032 consists of a single span concrete slab superstructure on concrete closed abutments with spread footings on timber piles.

The bridge repairs shall be done under Staged Construction.

No salvage.

- \*The support system shall be maintained until:
1. At least 72 hours have elapsed from the end of the concrete wearing surface pour.
  2. The concrete strength shall have attained a minimum modulus of rupture of 650 psi or a minimum compressive strength of 3500 psi.



**GENERAL NOTES**

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.

Reinforcement bars designated (E) shall be epoxy coated.

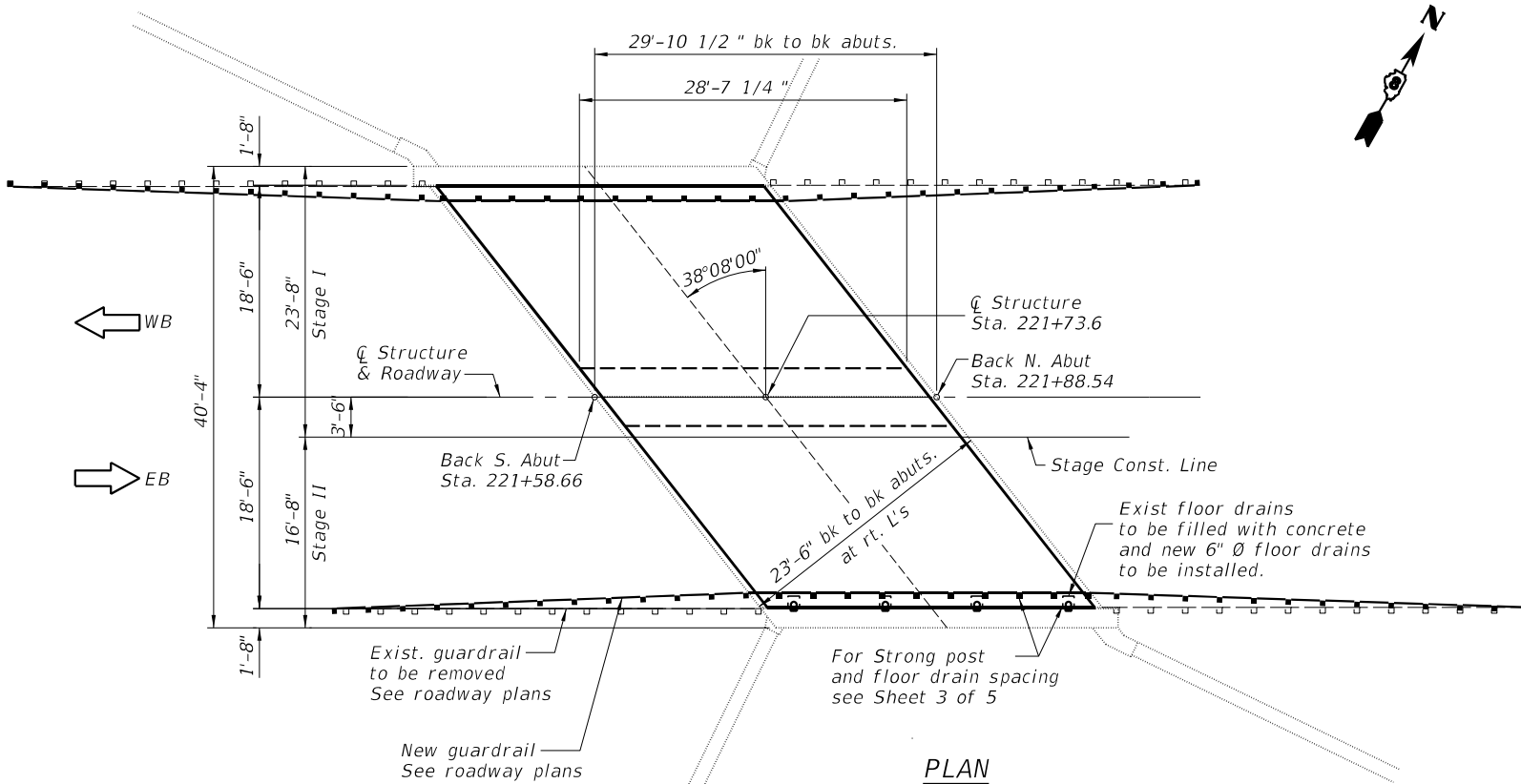
Existing reinforcement extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included with Concrete Removal.

**INDEX OF SHEETS**

- 1 General Plan and Elevation
- 2 Miscellaneous Details
- 3 Deck Plan and Details
- 4 Bar Splicer Assembly and Mechanical Splicer Details
- 5 Temporary Barrier for Stage Construction

**SCOPE OF WORK**

1. Install temporary support system.
2. Scarify the top 1 1/2" (Max.) of the bridge deck to top mat.
3. Remove the existing longitudinal joint on bridge.
4. Remove and replace the existing floor drains.
5. Add 4 1/4" reinforced concrete overlay to bridge.
6. HMA overlay approaches to match thicker bridge deck. See roadway plans.
7. Strong post guardrail added in front of existing curbs.

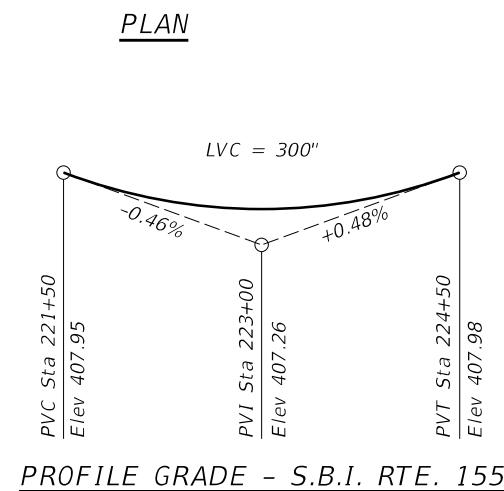


**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	9.2
Floor Drains	Each	4
Concrete Superstructure	Cu. Yd.	6.9
Bridge Deck Grooving	Sq. Yd.	94
Protective Coat	Sq. Yd.	132
Reinforcement Bars, Epoxy Coated	Pound	3100
Bar Splicers	Each	23
Strong Post Guardrail Attached to Culvert	Foot	60
Concrete Wearing Surface, 4 1/4"	Sq. Yd.	118
Bridge Deck Scarification 1 1/2"	Sq. Yd.	102
Deck Slab Repair (Full Depth, Type 1)	Sq. Yd.	0.5
Temporary Support System	L Sum	1



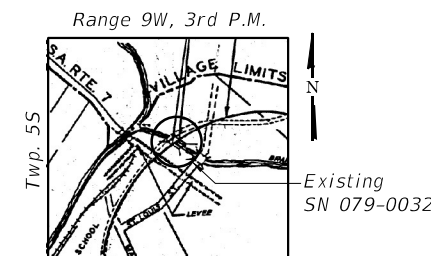
Keith E. Brandau, S.E. Date  
License Expires 11/30/24



**DESIGN SPECIFICATIONS**  
(New Construction) 2002 AASHTO  
Standard Specifications, 17th Edition

**DESIGN STRESSES**  
FIELD UNITS  
f'c = 4,000 psi (Repair concrete)  
fy = 60,000 psi (Reinforcement)

**LOADING H20-S16-44**  
Original Construction



**LOCATION SKETCH**

**GENERAL PLAN AND ELEVATION**  
**S.B.I. RTE. 155 OVER**  
**BRANCH OF PRAIRIE DU ROCHER CREEK**  
**SECTION**  
**RANDOLPH COUNTY**  
**STATION 221+73.6**  
**STRUCTURE NUMBER 079-0032**

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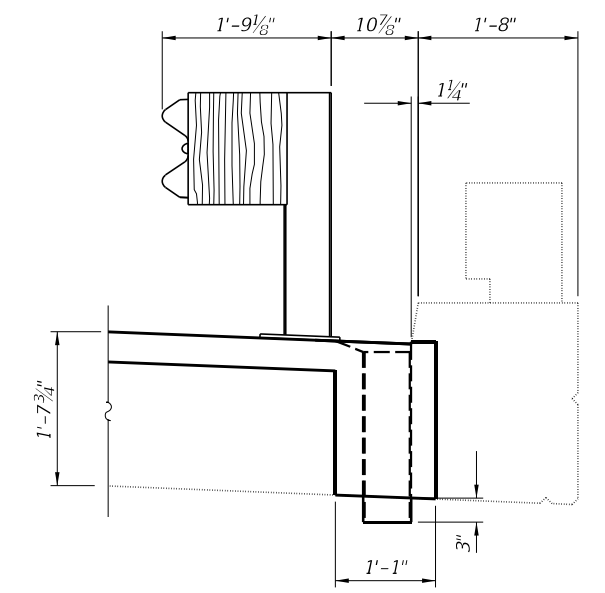
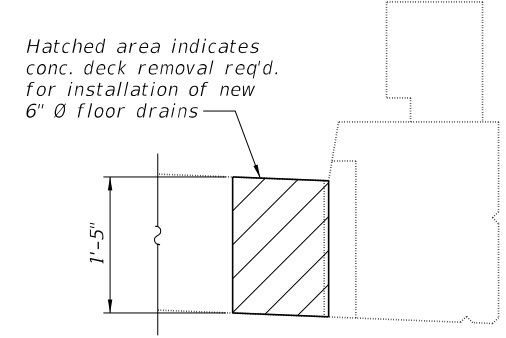
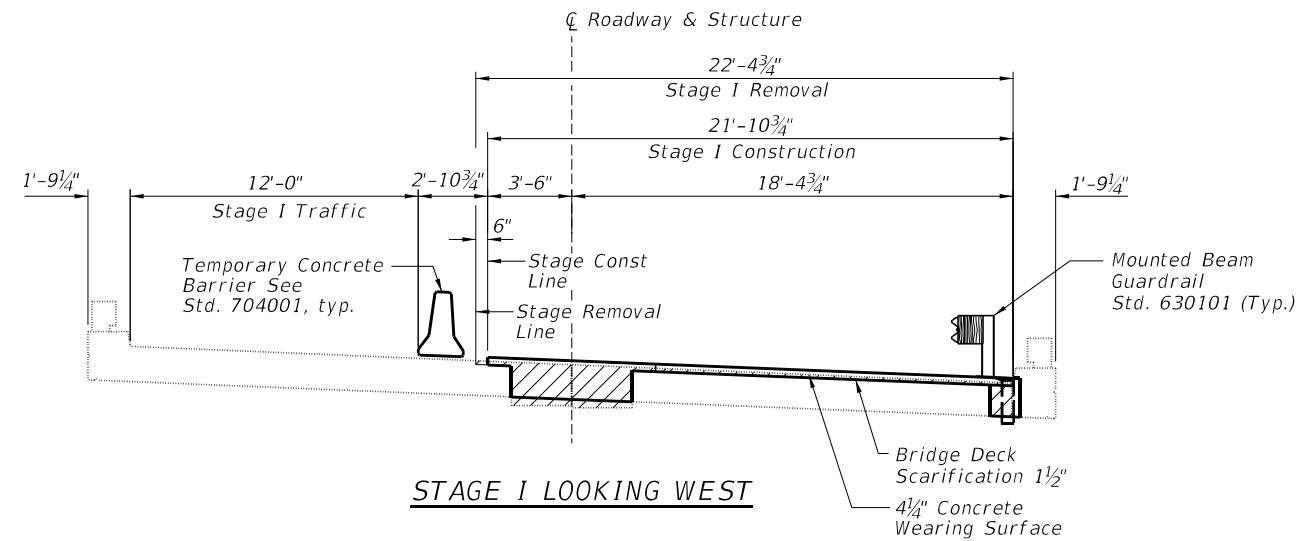
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PLOT DATE =	CHECKED - KEB	REVISED -
	DATE - 10/4/22	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION**  
**STRUCTURE NO. 079-0032**

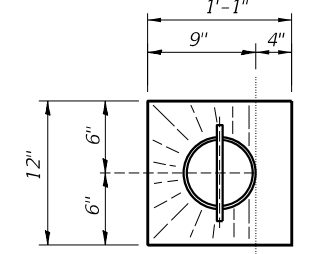
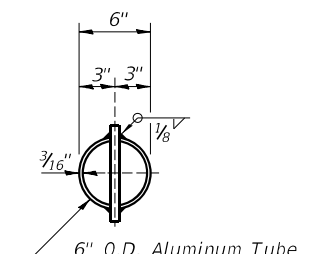
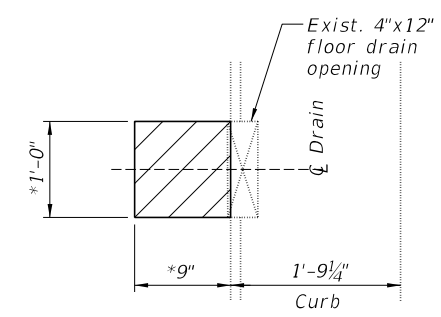
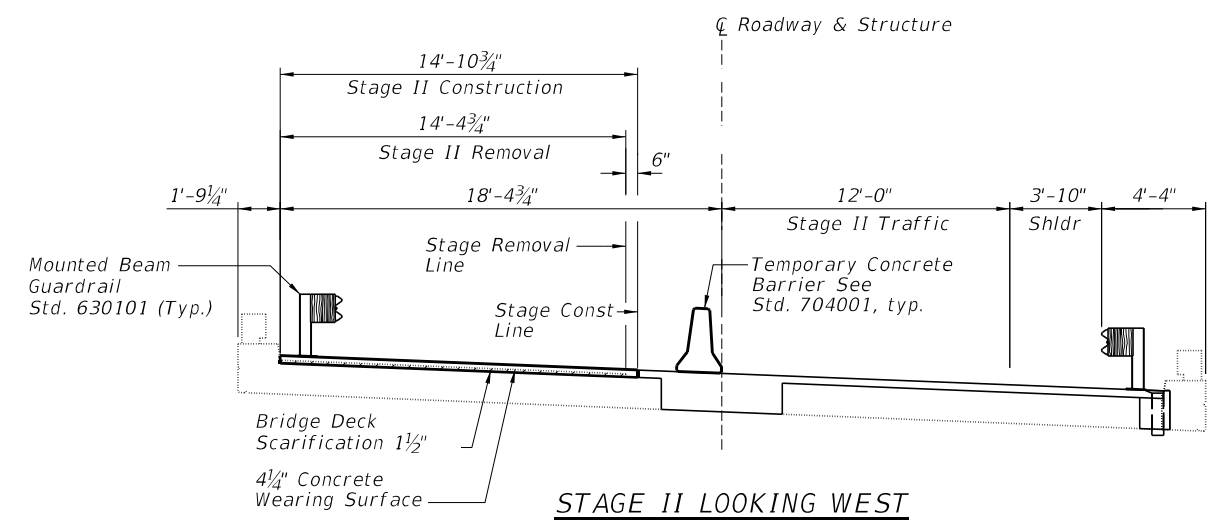
SHEET 1 OF 5 SHEETS

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(108)RS-5	RANDOLPH	14	10
CONTRACT NO. 76R65				
ILLINOIS FED. AID PROJECT				



SECTION THRU EXISTING FLOOR DRAIN OPENING

DRAIN REPLACEMENT DETAIL

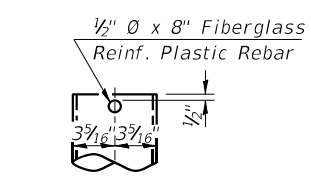


PLAN AT EXISTING FLOOR DRAIN OPENING

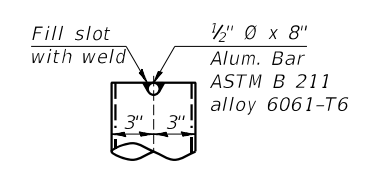
TOP PLAN (Showing Aluminum Tube)

TOP PLAN

\*Concrete removal and replacement dimensions shall be determined by the Engineer based on the extent of deck deterioration of each drain.



FIBERGLASS PIPE



ALUMINUM TUBE

Notes:  
 The exterior surfaces of the floor drains shall be cleaned and painted as specified in Section 506 of the Standard Specifications.  
 Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.  
 See Sheet 3 of 5 for floor drain replacement locations.

BILL OF MATERIAL

Item	Unit	Total
Floor Drains	Each	4
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	0.5

MODEL: Default  
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**CHASTAIN & ASSOCIATES LLC**  
 CONSULTING ENGINEERS  
 184-001397

USER NAME =	DESIGNED - KEB	REVISED -
PLOT SCALE =	DRAWN - RLK	REVISED -
PLOT DATE =	CHECKED - KEB	REVISED -
	DATE - 10/4/22	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

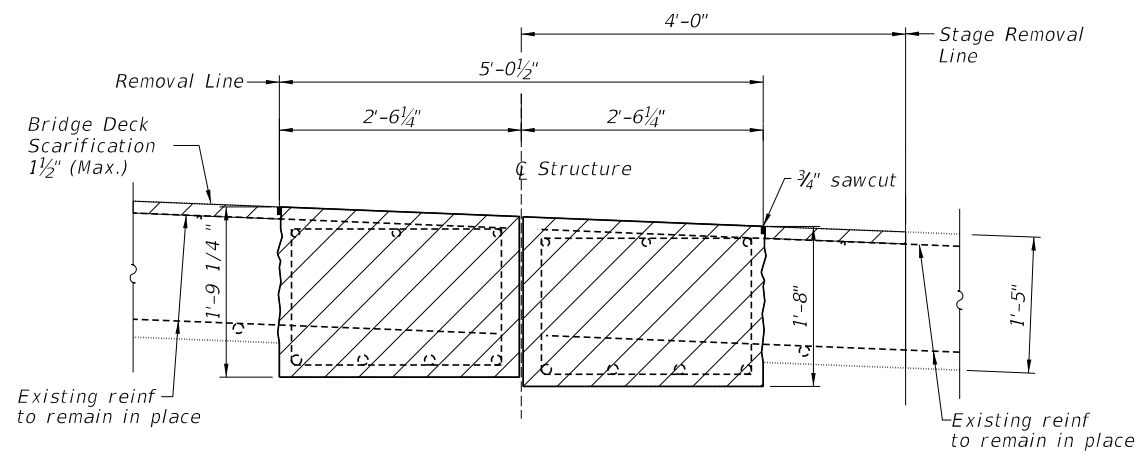
MISCELLANEOUS DETAILS  
 STRUCTURE NO. 079-0032

SHEET 2 OF 5 SHEETS

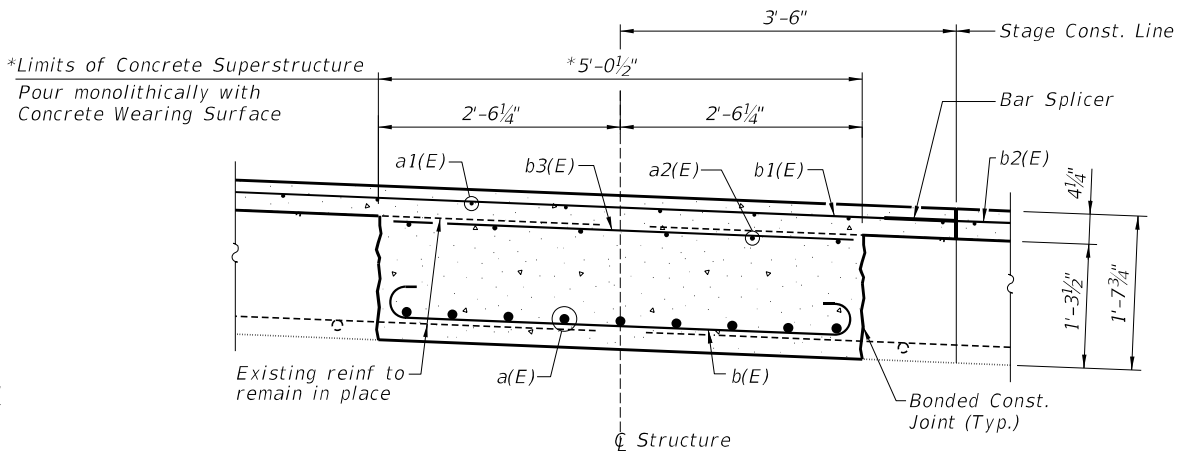
S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(108)RS-5	RANDOLPH	14	11
CONTRACT NO. 76R65				
ILLINOIS FED. AID PROJECT				

**BILL OF MATERIAL**

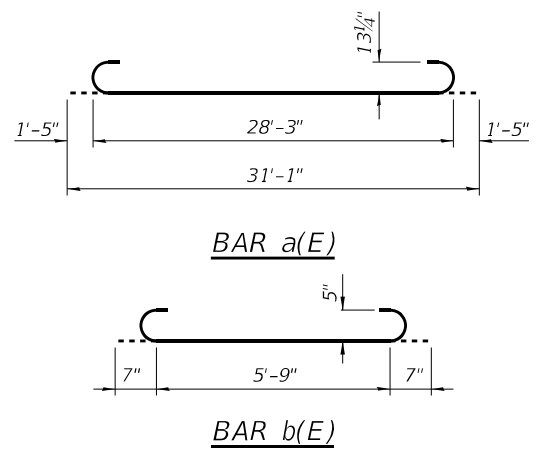
Bar	No.	Size	Length	Shape
a(E)	9	#10	31'-1"	↔
a1(E)	38	#4	28'-3"	↔
a2(E)	6	#4	28'-3"	↔
b(E)	29	#5	6'-11"	↔
b1(E)	23	#4	27'-8"	↔
b2(E)	23	#4	18'-8"	↔
b3(E)	23	#5	6'-0"	↔
Concrete Removal		Cu. Yd.	9.2	
Concrete Superstructure		Cu. Yd.	6.9	
Concrete Wearing Surface, 4 1/4"		Sq. Yd.	118	
Reinforcement Bars, Epoxy Coated		Pound	3100	
Bar Splicers		Each	23	
Bridge Deck Grooving		Sq. Yd.	94	
Bridge Deck Scarification 1 1/2"		Sq. Yd.	102	



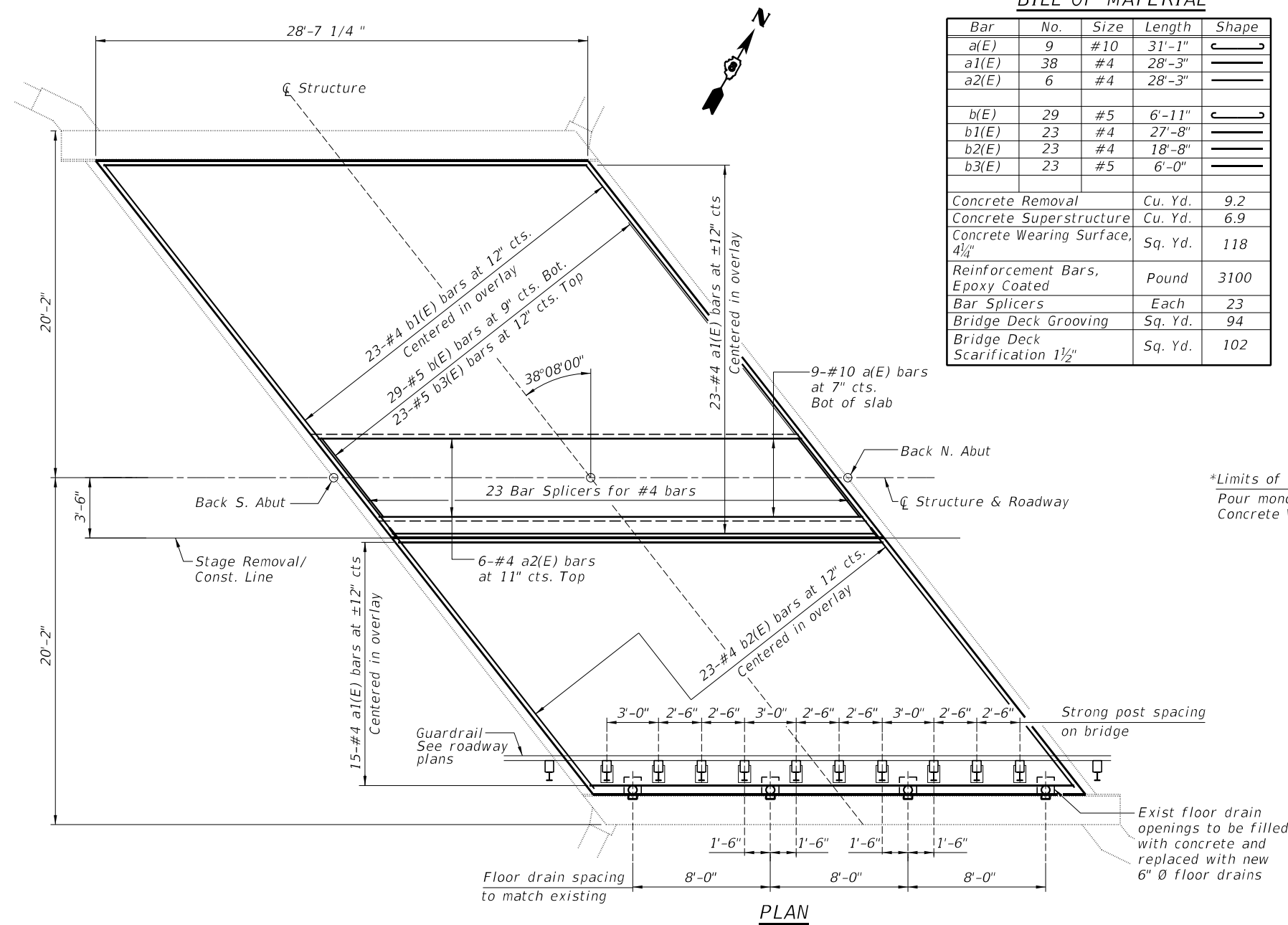
**EXISTING LONGITUDINAL JOINT CROSS SECTION**



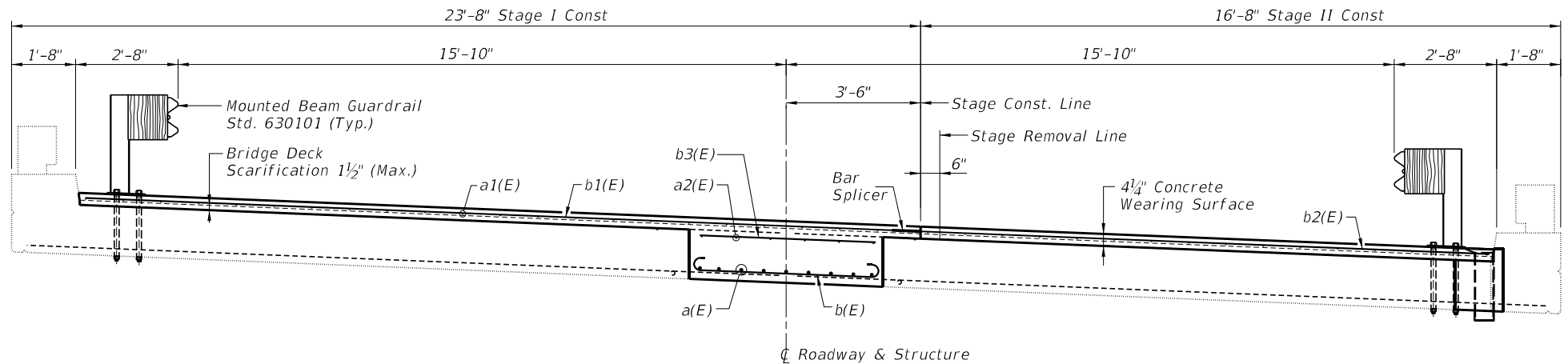
**RECONSTRUCTED CROSS SECTION**



Note:  
Hatched areas indicate concrete sections to be saw cut 3/4" prior to the removal of the concrete. Existing reinforcement shall be cleaned and incorporated into the new construction.

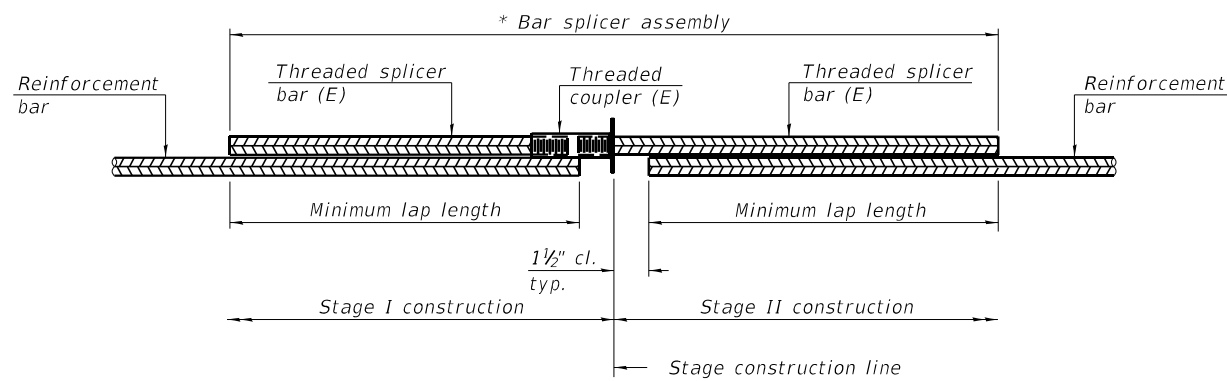


**PLAN**



**CROSS SECTION THRU BRIDGE DECK**

MODEL: Default  
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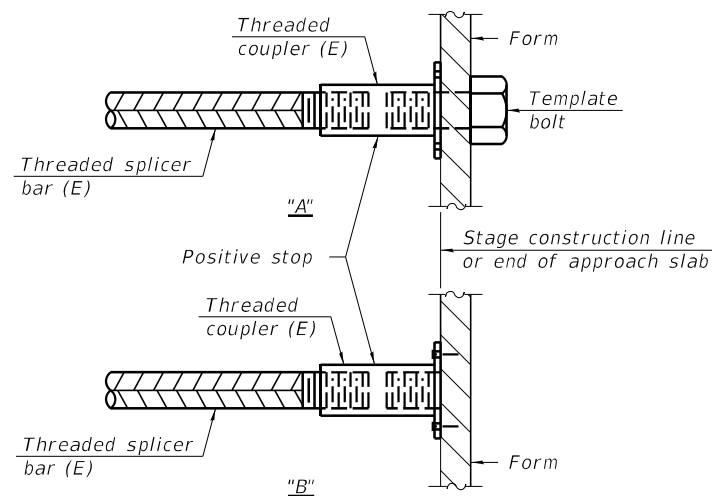


**STANDARD BAR SPLICER ASSEMBLY PLAN**  
 (All components shall be provided from one supplier)

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	Minimum lap length
Deck Overlay	#4	23	2'-7"

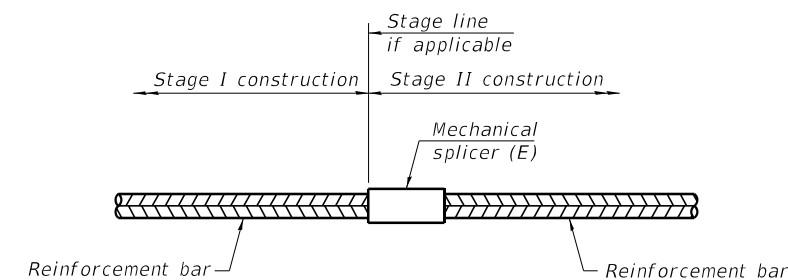


**INSTALLATION AND SETTING METHODS**

"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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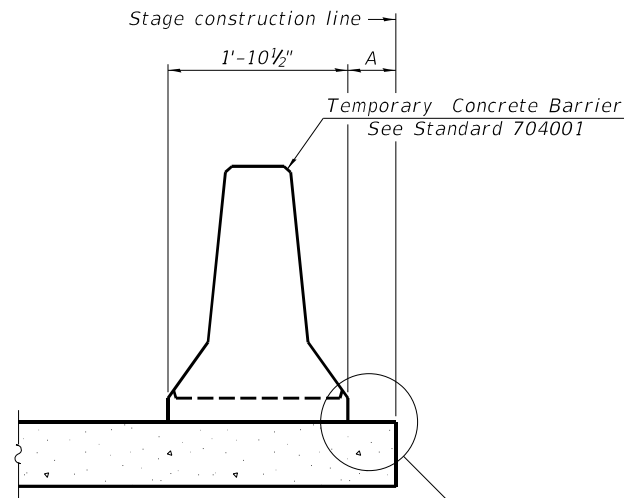
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	DRAWN - RLK	REVISED -
PLOT SCALE =	CHECKED - KEB	REVISED -
PLOT DATE =	DATE - 10/4/22	REVISED -

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BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
 STRUCTURE NO. 079-0032

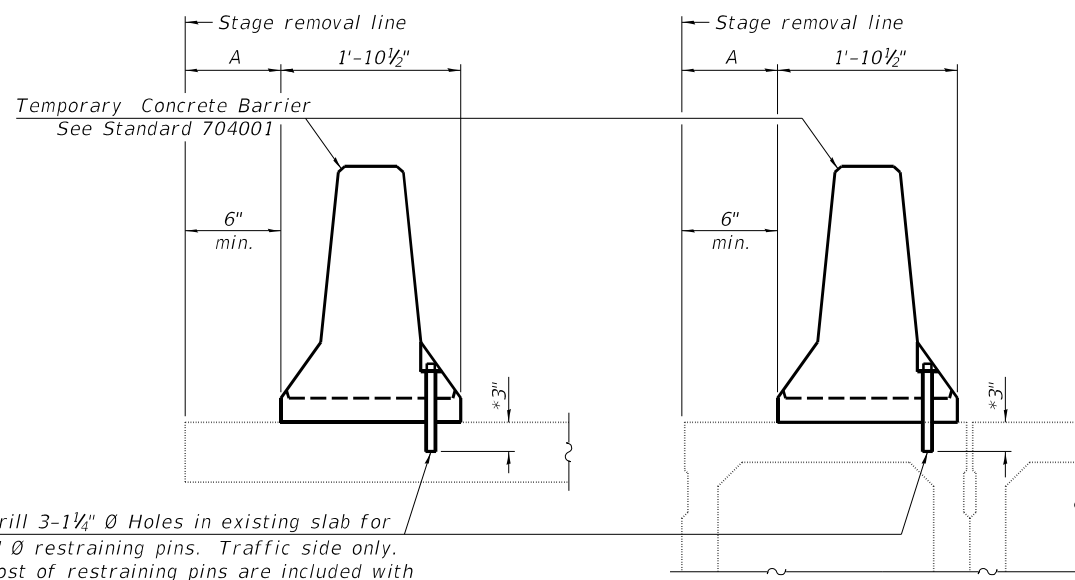
SHEET 4 OF 5 SHEETS

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(108R)RS-5	RANDOLPH	14	13
CONTRACT NO. 76R65				
ILLINOIS FED. AID PROJECT				



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".

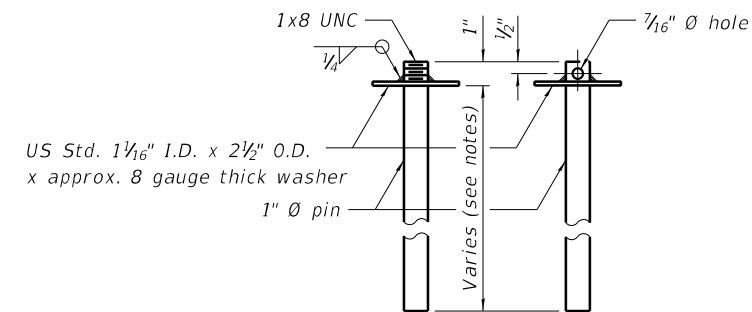
**NEW SLAB OR NEW DECK BEAM**



Drill 3-1 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**

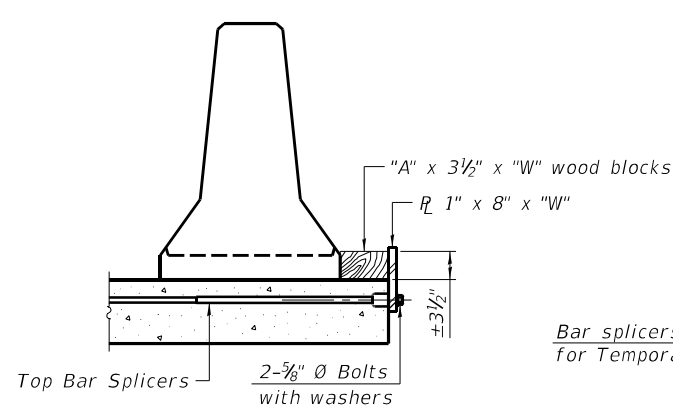
**EXISTING DECK BEAM**



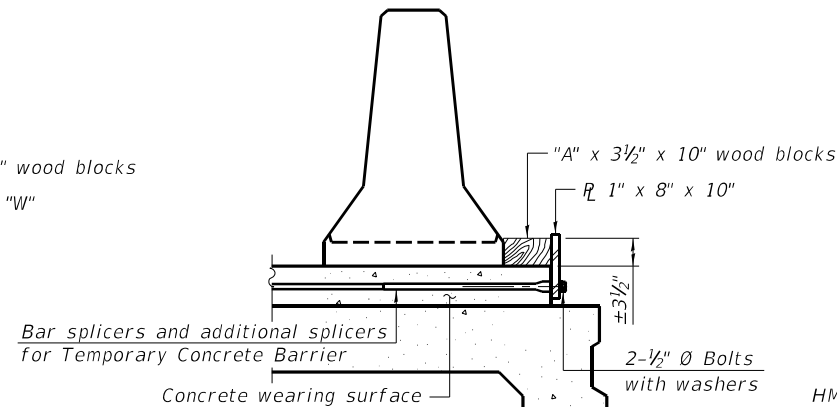
**RESTRAINING PIN**

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

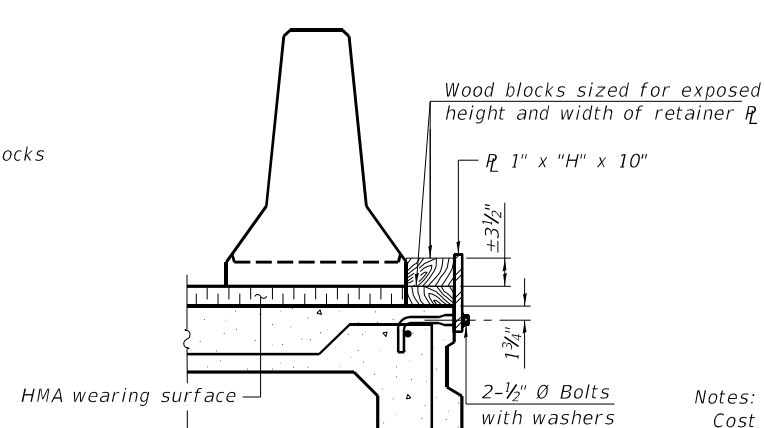
**SECTIONS THRU SLAB OR DECK BEAM**



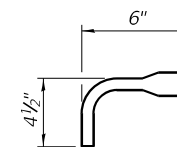
**DETAIL I**



**DETAIL II**



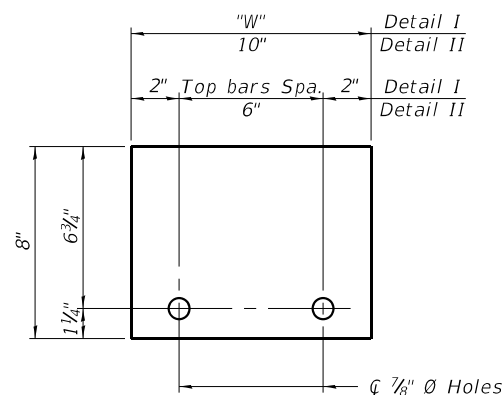
**DETAIL III**



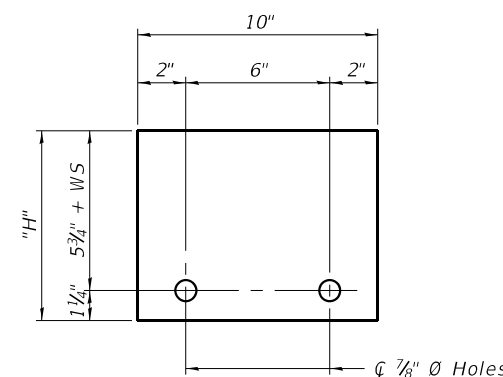
**BAR SPLICER FOR #4 BAR - DETAIL III**

**Notes:**  
 Cost of retainer assembly is included with Temporary Concrete Barrier.  
 A retainer assembly shall be located at the approximate center 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.



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



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

**RAILING CRITERIA**

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27 10-12-2021

MODEL: Default  
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**CHASTAIN & ASSOCIATES LLC**  
 CONSULTING ENGINEERS  
 184-001397

USER NAME =  
 PLOT SCALE =  
 PLOT DATE =

DESIGNED - KEB  
 DRAWN - RLK  
 CHECKED - KEB  
 DATE - 10/4/22

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION**  
**STRUCTURE NO. 079-0032**

SHEET 5 OF 5 SHEETS

S.B.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
155	(108)RS-5	RANDOLPH	14	14
CONTRACT NO. 76R65				
ILLINOIS FED. AID PROJECT				