

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2021-117-BP	COOK	32	1
		ILLINOIS	CONTRACT NO. 62P46	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

THESE IMPROVEMENTS ARE LOCATED IN THE VILLAGES OF  
HIGHLAND PARK, NORTHBROOK, GLENCOE AND CITY OF DES PLAINES

TRAFFIC DATA

I-94 (EDENS EXPWY)  
2019 ADT = 129600  
POSTED SPEED LIMIT = 55 MPH

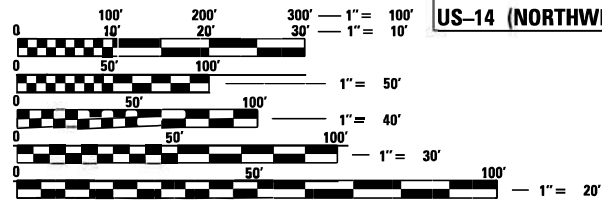
US-41 (SKOKIE HWY)  
2018 ADT = 62400  
POSTED SPEED LIMIT = 55 MPH

LAKE COOK RD  
2018 ADT = 31500  
POSTED SPEED LIMIT = 40 MPH

IL-68 (DUNDEE RD)  
2017 ADT = 34300  
POSTED SPEED LIMIT = 35 MPH

IL-58 (GOLF RD)  
2017 ADT = 28100  
POSTED SPEED LIMIT = 40 MPH

US-14 (NORTHWEST HWY)  
2019 ADT = 16100  
POSTED SPEED LIMIT = 40 MPH



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 EXCAVATORS  
1-800-892-0123  
OR 811

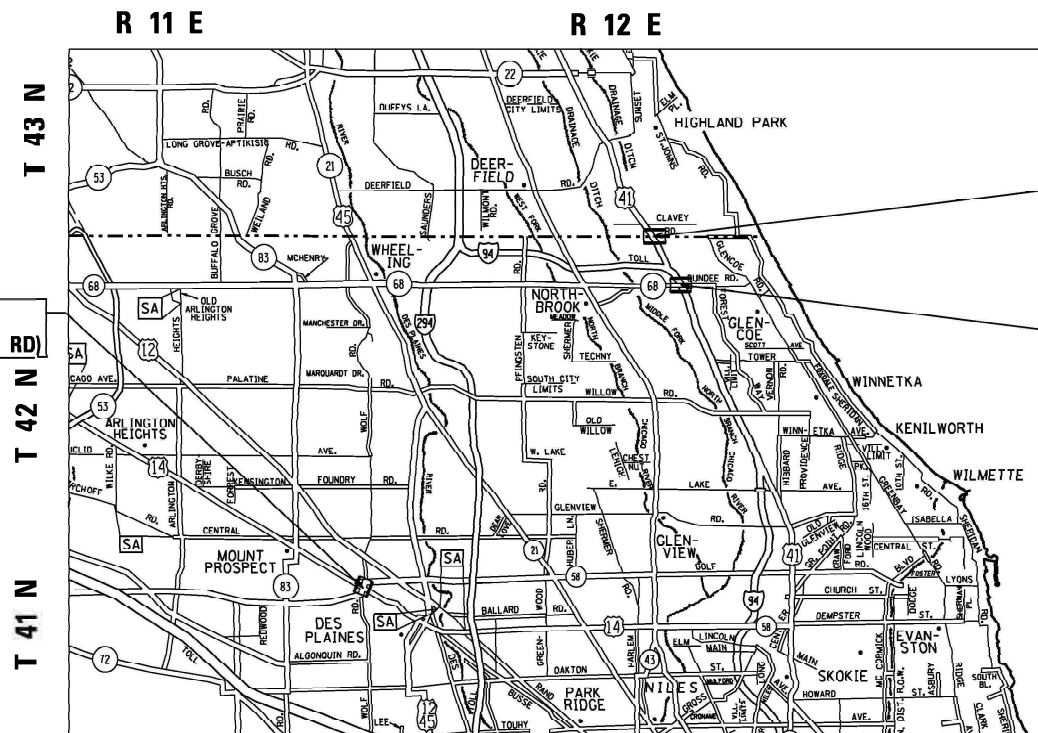
PROPOSED  
HIGHWAY PLANS

- 1) F.A.P. 379: LAKE COOK RD OVER US-41
- 2) F.A.P. 343: IL-68 (DUNDEE RD)  
OVER I-94 (EDENS EXPWY)
- 3) F.A.U. 3512: US-14 (NORTHWEST HWY)  
OVER IL-58 (GOLF RD)

VARIOUS  
ROUTES

SECTION 2021-117-BP  
PROJECT NHPP-9NX6(309)  
BRIDGE PAINTING  
COOK COUNTY

C-91-239-21



MORAINE, NORTHFIELD, NEW TRIER, MAINE TOWNSHIPS



LOCATION OF SECTION INDICATED THIS: - [black rectangle]

LOCATION 1: (SN-016-0811)  
LAKE COOK RD OVER US-41 (SKOKIE HWY)

LOCATION 2: (SN-016-0939)  
IL-68 (DUNDEE RD) OVER I-94 (EDENS EXPWY)

LOCATION 3: (SN-016-0236)  
US-14 (NORTHWEST HWY) OVER IL-58 (GOLF RD)

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 9, 2021  
*Rodrigo Ledezma*  
REGIONAL ENGINEER

October 1, 2021  
*Stephen M. Smith*  
ENGINEER OF DESIGN AND ENVIRONMENT

October 2, 2021  
*Stephen M. Smith*  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PROJECT MANAGER: ALAIN MIDY (847) 221-3056  
PROJECT ENGINEER: RODRIGO LEDEZMA (847) 705-4580

CONTRACT NO. 62P46

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

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GENERAL PAINT NOTES

CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISION FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES".

ALL ITEMS (SUCH AS, BUT NOT LIMITED TO: CONDUITS, BRACKETS AND DECK DRAINS) ATTACHED TO OUTSIDE OF THE FASCIA BEAMS SHOULD BE CLEANED AND PAINTED.

ALL BEAMS, BEARINGS AND OTHER STRUCTURAL STEEL SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING SSPC-SPIO.

THE AREAS 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 REDDISH BROWN, MUNSELL NO 2. 5YR 3/4.

A MINIMUM OF 2 AIR MONITORS FOR STRUCTURES (SN-016-0236) AND (SN-016-0811), WILL BE REQUIRED TO MONITOR ABRASIVE BLASTING OPERATIONS AT THESE SITES. SEE SPECIAL PROVISION FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES".

STATE STANDARDS

STANDARD NO.	DESCRIPTION
701106-02	OFF-RD OPERATIONS, MULTILANE, MORE THAN 15' (4.5m) AWAY
701400-10	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-12	LANE CLOSURE, FREEWAY/EXPRESSWAY
701411-09	LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEEDS > 45 MPH
701427-05	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS < 40 MPH
701428-01	TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY
701446-11	TWO LANE CLOSURE, FREEWAY/EXPRESSWAY
701606-10	URBAN SINGLE LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701611-01	URBAN HALF ROAD CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701801-06	SIDEWALK, CORNER OR CROSSWALK CLOSURE
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

GENERAL NOTES

- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, AND THE VILLAGES OF HIGHLAND PARK, NORTHBROOK, GLENCOE AND CITY OF DES PLAINES.
- THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
- PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO 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 BASED AT THE UNIT PRICE BID FOR THE WORK.
- THESE PLANS HAVE BEEN PREPARED FROM NOTES RECEIVED FROM THE BUREAU OF MAINTENANCE BRIDGE INSPECTORS.
- DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND MAINTAIN THE EXISTING BRIDGE LIGHTING AT ANY LOCATIONS THAT LIGHTING IS ENCOUNTERED ADJACENT TO AN AREA TO BE CLEANED AND PAINTED.
- THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.
- WHEN ARTIFICIAL LIGHTING IS UTILIZED IN NIGHTTIME OPERATIONS, THE CONTRACTOR SHALL EXERCISE THE OUTMOST PRECAUTIONS PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC AND ADJACENT RESIDENTIAL AREAS.
- THE CONTRACTOR SHALL REQUEST AND GAIN THE APPROVAL FROM THE ILLINOIS DEPARTMENT OF TRANSPORTATION'S EXPRESSWAY TRAFFIC OPERATIONS ENGINEER AT WWW.IDOTLCS.COM TWENTY FOUR (24) HOURS IN ADVANCE OF ALL DAILY LANE, RAMP AND SHOULDER CLOSURES. THIS ADVANCE NOTIFICATION IS CALCULATED BASED ON WORKWEEK OF MONDAY THROUGH FRIDAY AND SHALL NOT INCLUDE WEEKENDS OR HOLIDAYS.
- THE CONTRACTOR SHALL CLOSE LANES ON THE EXPRESSWAY IN ACCORDANCE WITH THE "KEEPING THE EXPRESSWAY OPEN TO TRAFFIC" CONTRACT SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL CONTACT DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT KALPANA.KANNAN-HOSADURGA@ILLINOIS.GOV FOR ARTERIALS AND (847)705-4151 FOR EXPRESSWAYS A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.
- THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS WHEN WORKING NEAR THE ABUTMENTS IF ELECTRICAL JUNCTION BOXES AND ATTACHED CONDUITS ARE PRESENT.
- THE "ARTERIAL ROAD INFORMATION SIGN (TC-22)" IS APPLICABLE ONLY TO ARTERIAL ROADS AND SHALL NOT BE APPLIED TO EXPRESSWAYS.
- CONTRACTOR SHALL MAINTAIN PEDESTRIAN ACCESS AT ALL TIMES DURING CONSTRUCTION.

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PLOT DATE = 8/13/2021	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, STATE HIGHWAY STANDARDS,  
GENERAL NOTES, GENERAL PAINT NOTES**

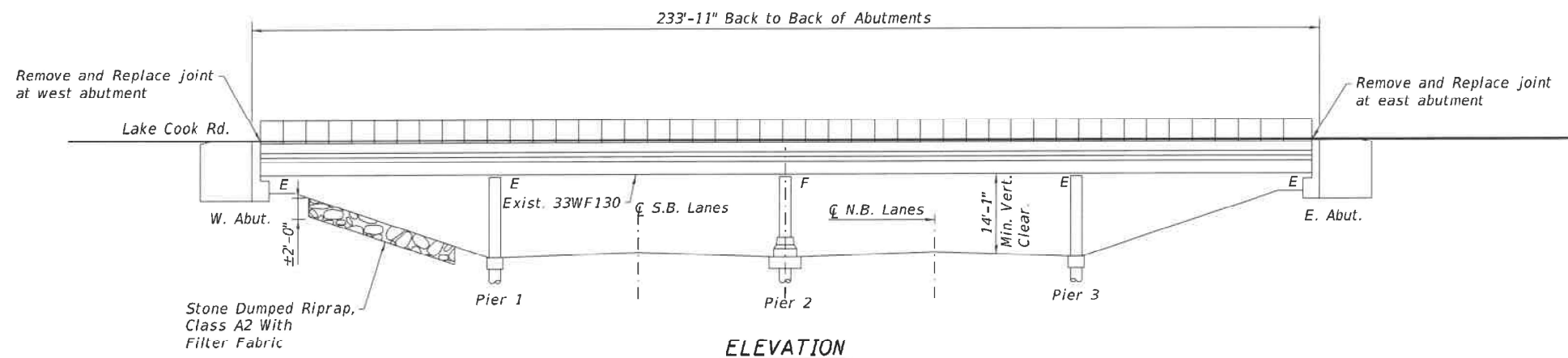
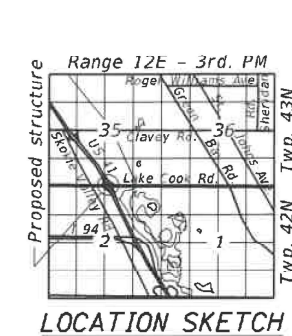
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RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 62P46	
		ILLINOIS	FED. AID PROJECT	

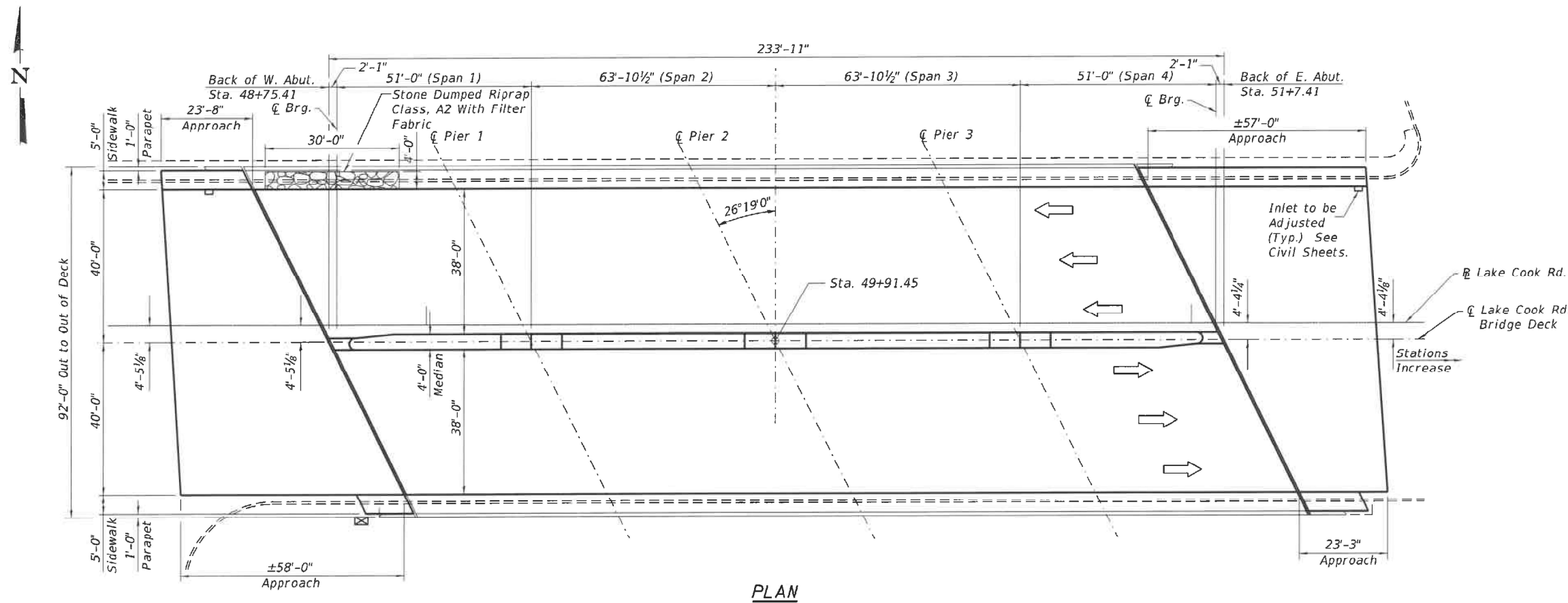
SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE						URBAN TOTAL QUANTITIES	CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT		0047 BRIDGE 1 SN 016-0811 80% FED 20% STATE	0047 BRIDGE 2 SN 016-0939 80% FED 20% STATE	0047 BRIDGE 3 SN 016-0236 80% FED 20% STATE						0047 BRIDGE 1 SN 016-0811 80% FED 20% STATE	0047 BRIDGE 2 SN 016-0939 80% FED 20% STATE	0047 BRIDGE 3 SN 016-0236 80% FED 20% STATE			
21101615	TOPSOIL FURNISH AND PLACE, 4"	SO YD	69	23	23	23											
										* 78009004	MODIFIED URETHANE PAVEMENT MARKING -	FOOT	900			900	
25000210	SEEDING, CLASS 2A	ACRE	0.3	0.01	0.01	0.01					LINE 4"						
25100630	EROSION CONTROL BLANKET	SO YD	69	23	23	23				* 78100300	REPLACEMENT REFLECTOR	EACH	200			200	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	12	5	5	2				* 78200011	BARRIER WALL REFLECTORS, TYPE C	EACH	16			16	
67100100	MOBILIZATION	L SUM	1	0.4	0.4	0.2				78300200	RAISED REFLECTIVE PAVEMENT MARKER	EACH	200			200	
											REMOVAL						
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	20			20				78300202	PAVEMENT MARKING REMOVAL - WATER	SO FT	2050			2050	
											BLASTING						
70200100	NIGHTTIME WORK ZONE LIGHTING	L SUM	1	0.5	0.5												
70300904	PAVEMENT MARKING TAPE, TYPE IV 4"	FOOT	5850			5850				* X2700003	GROOVING FOR RECESSED PAVEMENT MARKING	FOOT	250			250	
70300924	PAVEMENT MARKING TAPE, TYPE IV 24"	FOOT	20			20					8"						
70400100	TEMPORARY CONCRETE BARRIER	FOOT	200			200				* X2700004	PERFORMED PLASTIC PAVEMENT MARKING,	FOOT	250			250	
											TYPE B - LINE 7"						
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	200			200											
70600240	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 2	EACH	2			2				X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1			1	
70600340	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 2	EACH	2			2				X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1	0.5	0.5		
* 78000600	THERMOPLASTIC PAVEMENT MARKING - LINE 12"	FOOT	150			150				X7030005	TEMPORARY PAVEMENT MARKING REMOVAL	SO FT	2000			2000	
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	2500			2500				Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1			
* 78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	20			20											
* 78009000	MODIFIED URETHANE PAVEMENT MARKING - LETTERS AND SYMBOLS	SO FT	50			50				* SPECIALTY ITEM							

SUMMARY OF QUANTITIES			URBAN	CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT		TOTAL QUANTITIES	0047 BRIDGE 1 SN 016-0811 80% FED 20% STATE	0047 BRIDGE 2 SN 016-0939 80% FED 20% STATE	0047 BRIDGE 3 SN 016-0236 80% FED 20% STATE			
Z0007103	CONTAINMENT AND DISPOSAL OF LEAD PAINT	L SUM	1			1				
	CLEANING RESIDUES NO. 3									
X5060602	CONTAINMENT AND DISPOSAL OF NON-LEAD	L SUM	1		1					
	PAINT CLEANING RESIDUES NO. 2									
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO.	L SUM	1	1						
	1									
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO.	L SUM	1		1					
	2									
Z0010503	CLEANING AND PAINTING STEEL BRIDGE NO.	L SUM	1			1				
	3									
Z0030850	TEMPORARY INFORMATION SIGNING	SO FT	51.4			51.4				

SUMMARY OF QUANTITIES			URBAN	CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT		TOTAL QUANTITIES						



**ELEVATION**



**PLAN**

**FOR INFORMATION ONLY**

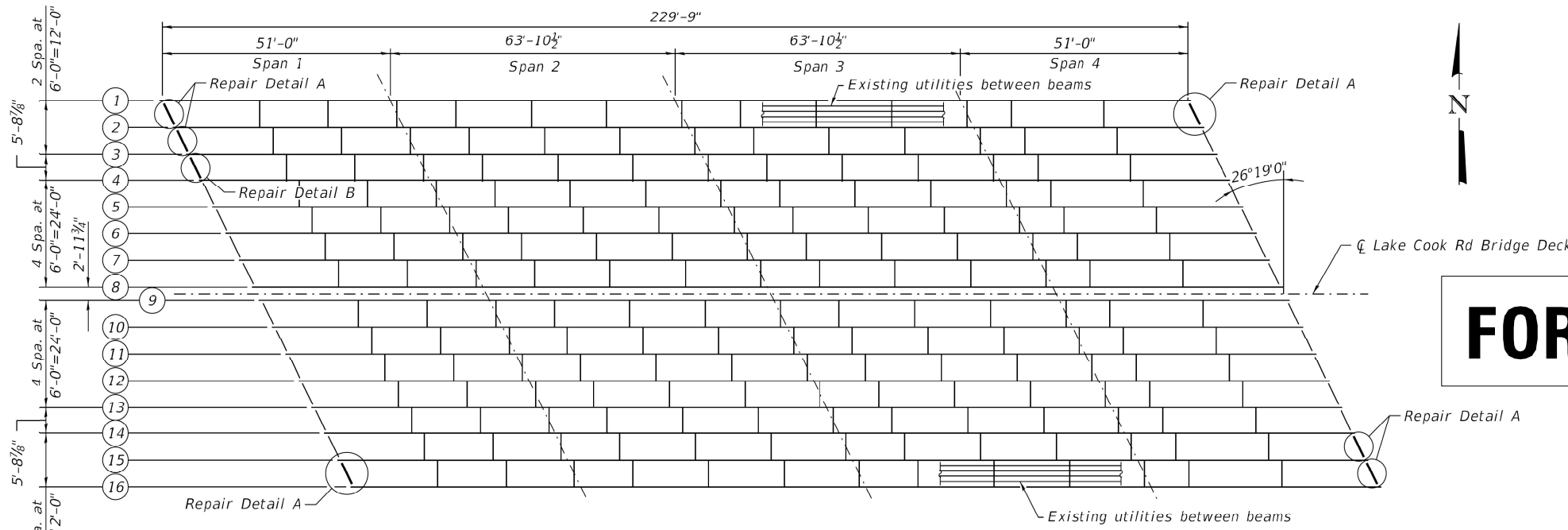
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

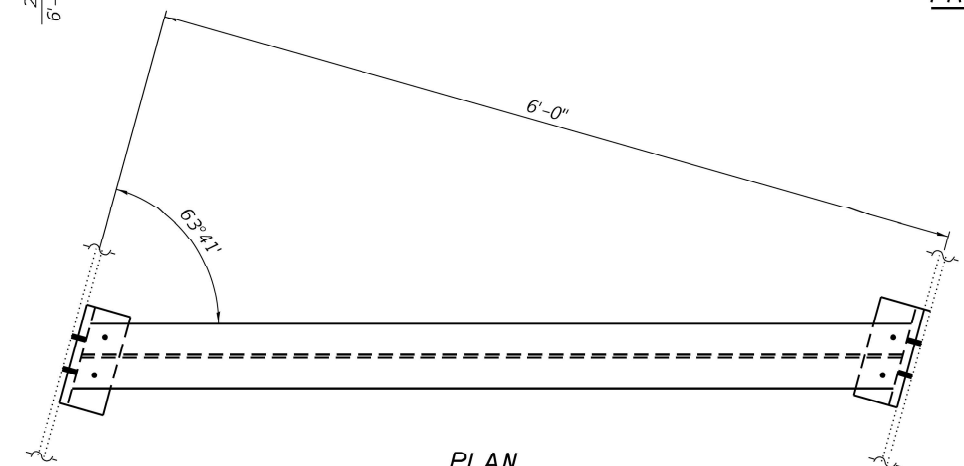
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<b>GENERAL PLAN AND ELEVATION</b>			
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2021-117-BP	COOK & LAKE	32	5
CONTRACT NO. 62P46				
ILLINOIS		FED. AID PROJECT		

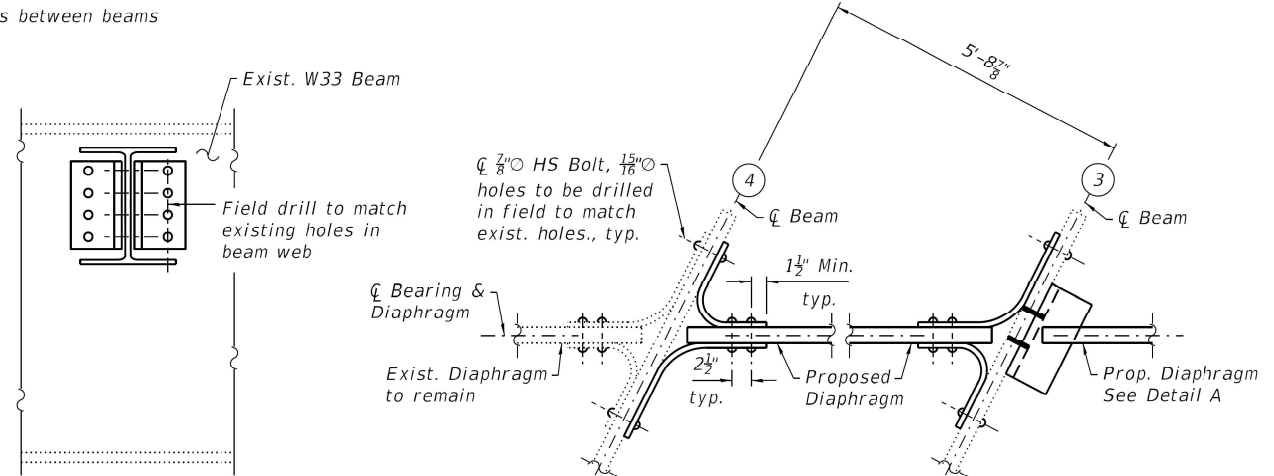


**FOR INFORMATION ONLY**

**FRAMING PLAN**



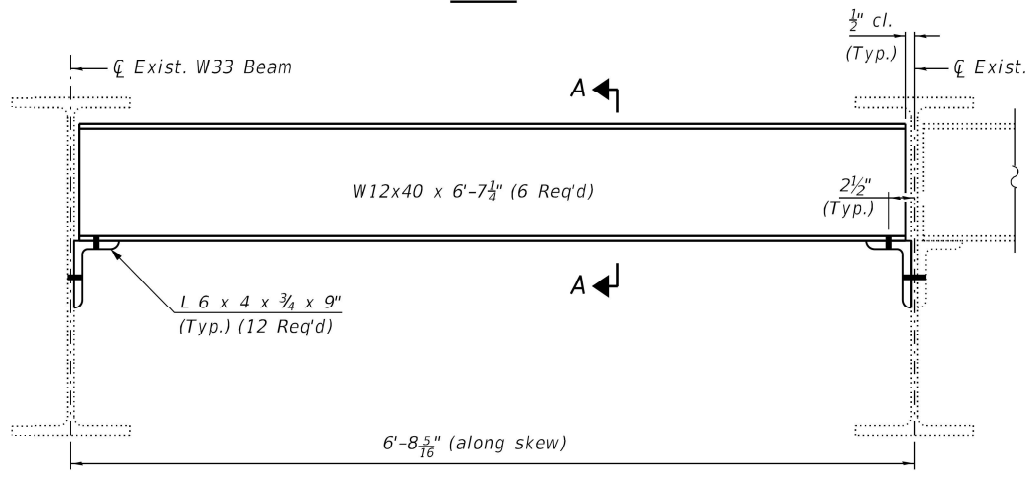
**PLAN**



**SECTION B-B**

**SECTION C-C**

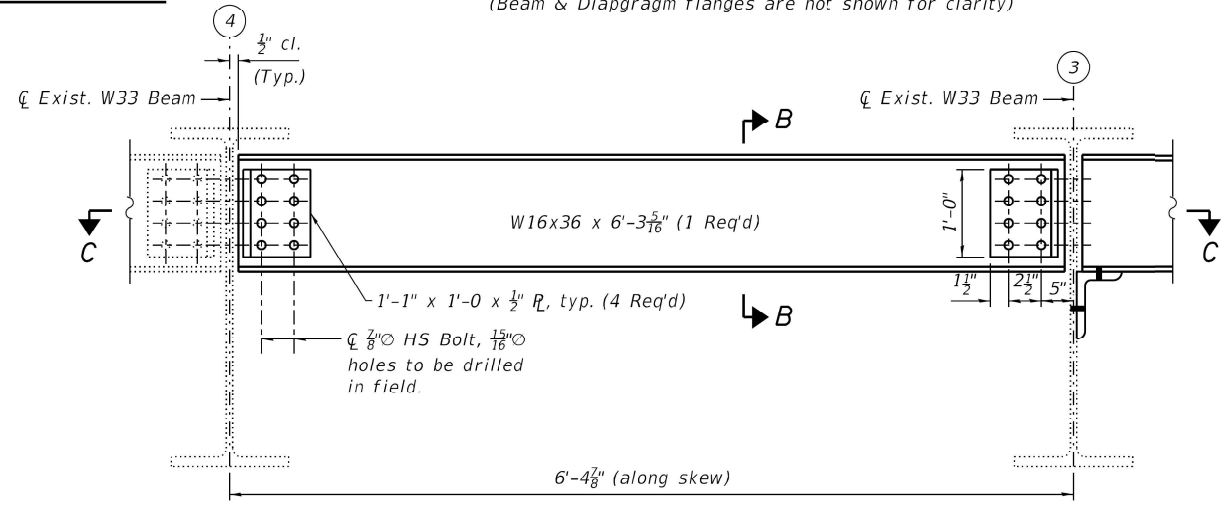
(Beam & Diaphragm flanges are not shown for clarity)



**ELEVATION**

**SECTION A-A**

**REPAIR DETAIL A**



**ELEVATION**

**REPAIR DETAIL B**

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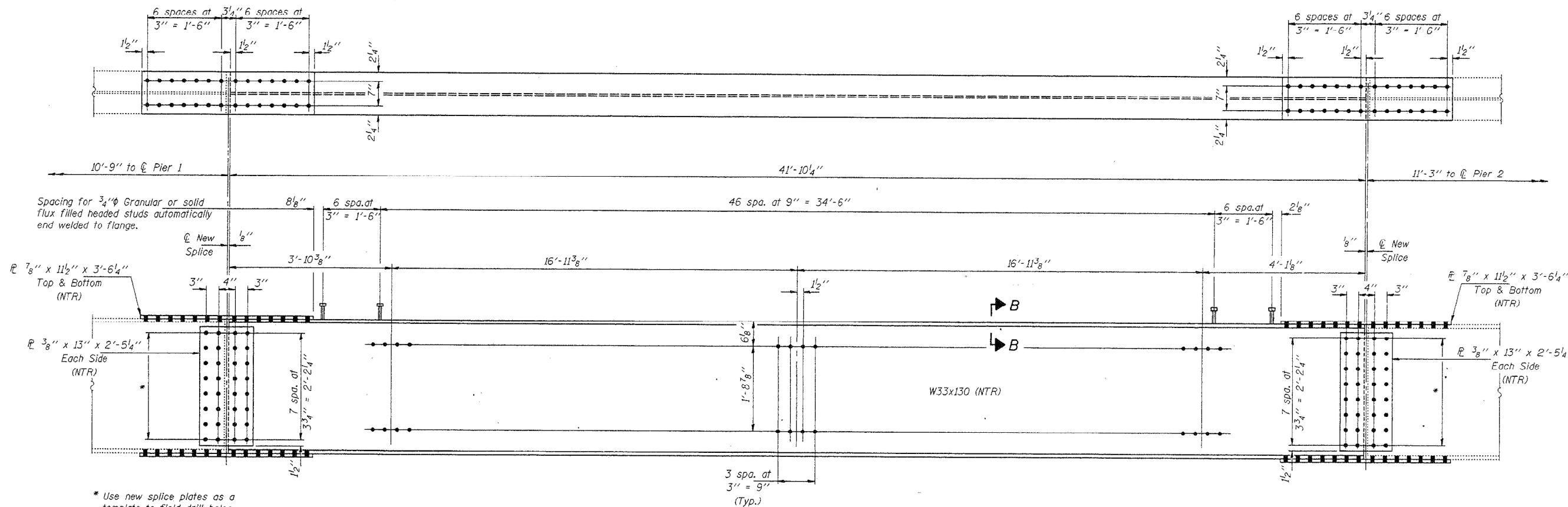
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	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**LOCATION 1: SN.016-0811  
FRAMING PLAN AND BEAM DETAILS**

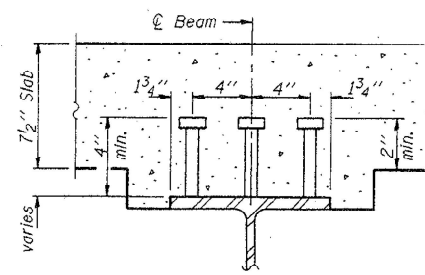
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2021-117-BP	COOK & LAKE	32	6
CONTRACT NO. 62P46				
ILLINOIS FED. AID PROJECT				

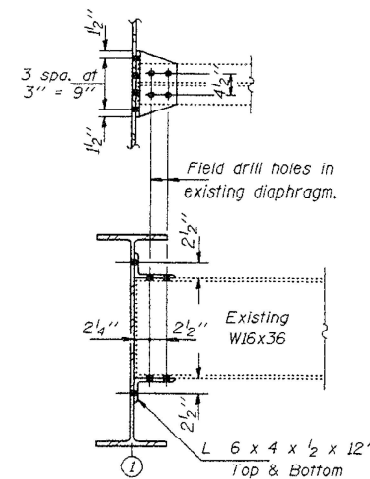


\* Use new splice plates as a template to field drill holes in existing beam at new splice connection.

ELEVATION BEAM 1



SECTION B-B



CLIP ANGLE REPLACEMENT DETAIL  
REPAIR B AT BEAM 1  
(Looking East)  
Total Number Required - 4

**FOR INFORMATION ONLY**

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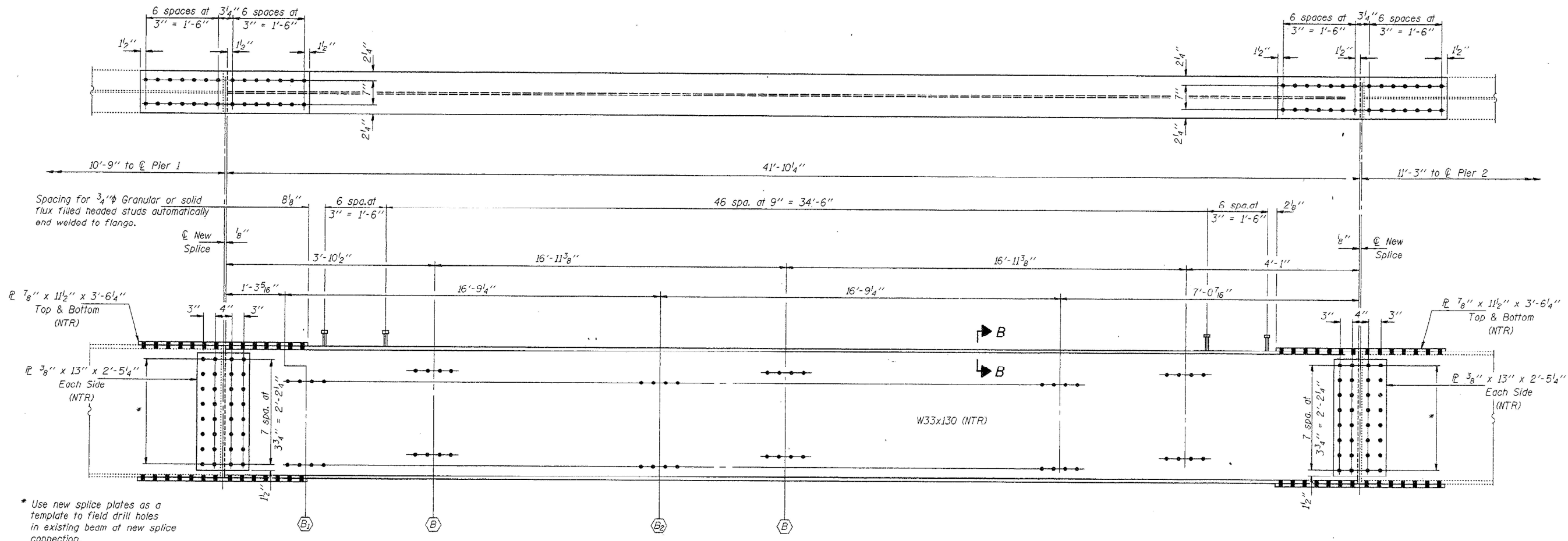
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

LOCATION 1: SN.016-0811  
STRUCTURAL STEEL (1)

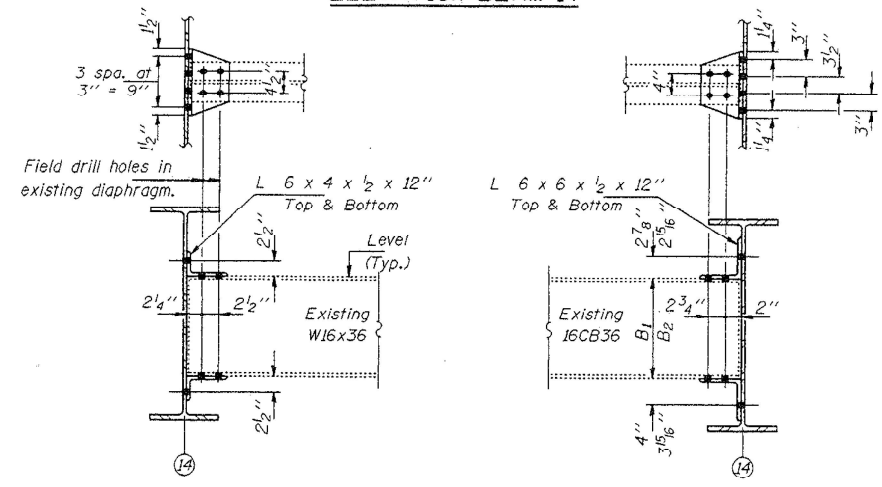
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	2021-117-BP	COOK & LAKE	32	7
			CONTRACT NO. 62P46	
		ILLINOIS	FED. AID PROJECT	



\* Use new splice plates as a template to field drill holes in existing beam at new splice connection.

**ELEVATION BEAM 14**



**REPAIR B**  
(Looking East)  
Total Number Required - 4

**REPAIR B1 & B2**  
(Looking East)  
Total Number Required - 4

**CLIP ANGLE REPLACEMENT DETAILS BEAM 14**

**FOR INFORMATION ONLY**

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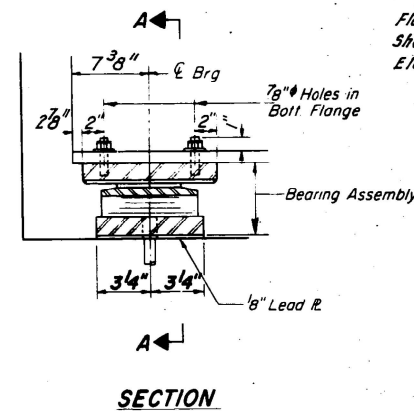
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>LOCATION 1: SN. 016-0811</b>	
<b>STRUCTURAL STEEL (2)</b>	
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 62P46	
ILLINOIS FED. AID PROJECT				

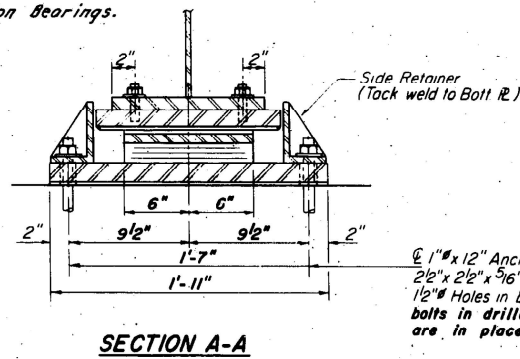


**NOTE:**  
 Drilling Holes For Expansion Bearings in Flanges of Existing Beams & in Existing Abutments Shall be incidental to the Cost of the Elastomeric Expansion Bearings.



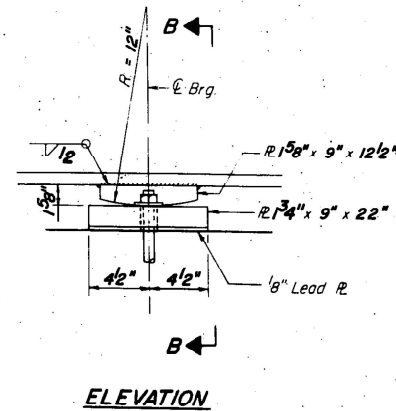
**SECTION**

**TYPE II TFE ELASTOMERIC EXP. BRG. AT ABUTS.**  
 (32 Required)



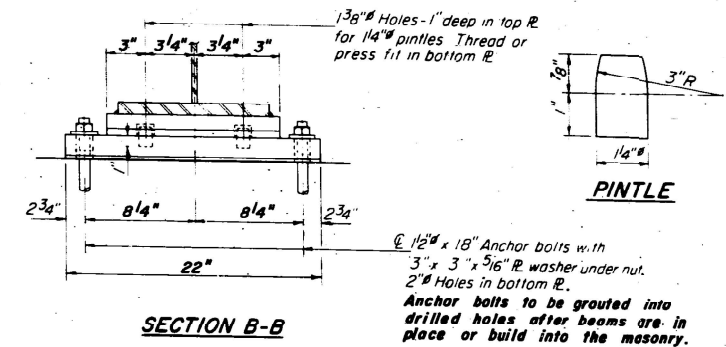
**SECTION A-A**

1" x 12" Anchor bolts with 2 1/2" x 2 1/2" x 5/16" R washer under nut  
 1/2" Holes in bottom R Grout Anchor bolts in drilled holes after beams are in place.



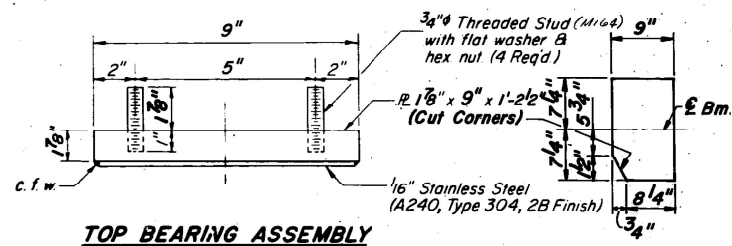
**ELEVATION**

**FIXED BEARING AT PIER 2**  
 (4 Required)

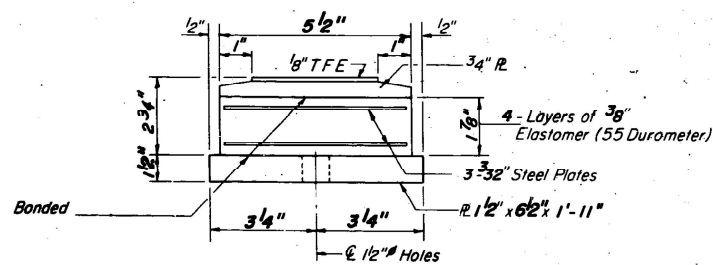


**SECTION B-B**

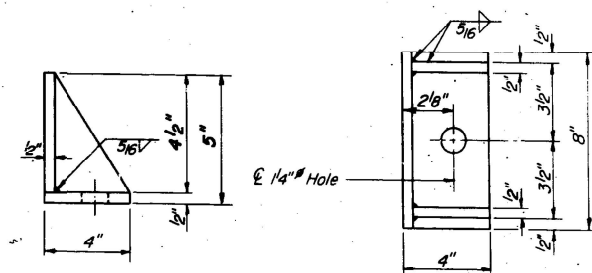
1 3/8" Holes - 1" deep in top R for 1 1/4" pintles Thread or press fit in bottom R  
 1/4" PINTLE  
 1/8" Lead R  
 1 1/2" x 18" Anchor bolts with 3" x 3" x 5/16" R washer under nut.  
 2" Holes in bottom R.  
 Anchor bolts to be grouted into drilled holes after beams are in place or build into the masonry.



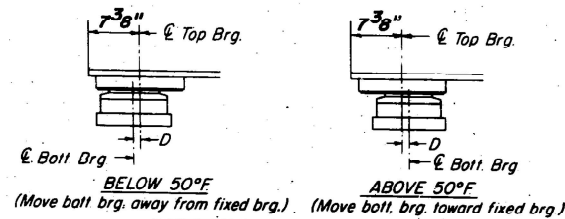
**TOP BEARING ASSEMBLY**



**BOTTOM BEARING ASSEMBLY**



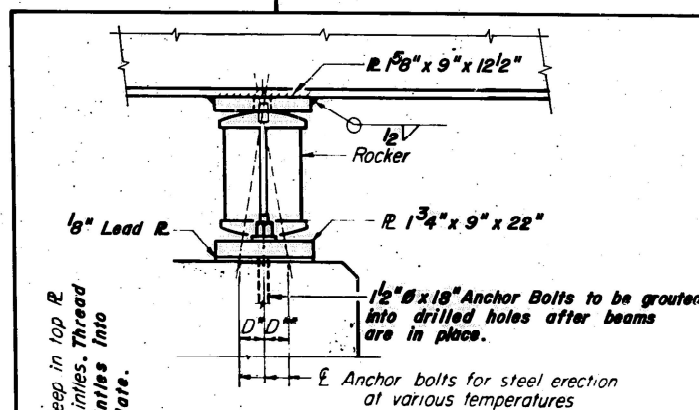
**SIDE RETAINER**



**SETTING ANCHOR BOLTS**

$D = 1/8"$  per each 100' of expansion for every 15° temp change from the normal temp. of 50°F

**BEARING ASSEMBLY DETAILS**

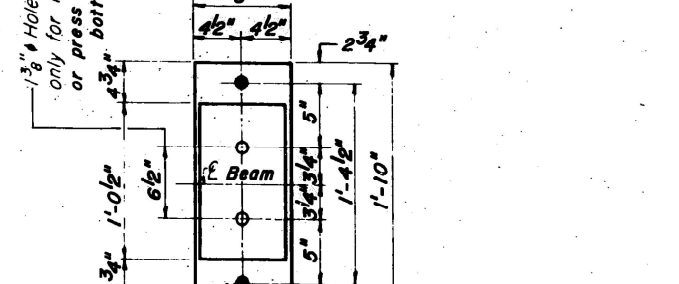


**SECTION**

1 1/2" x 18" Anchor Bolts to be grouted into drilled holes after beams are in place.

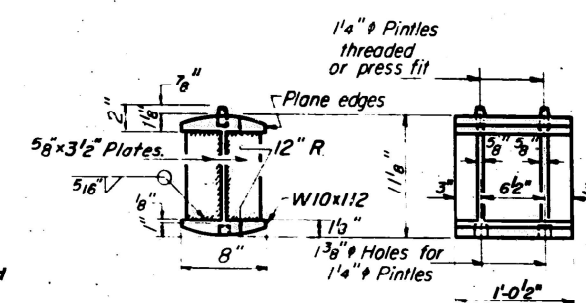
Anchor bolts for steel erection at various temperatures

1 3/8" Holes 1" deep in top R only for 1 1/4" pintles. Thread or press fit pintles into bottom plate.



**PLAN**

2" Holes for 1 1/2" Anchor Bolts With 3" x 3" x 5/16" R Washer Under Nut.



**ROCKER**

**FOR INFORMATION ONLY**

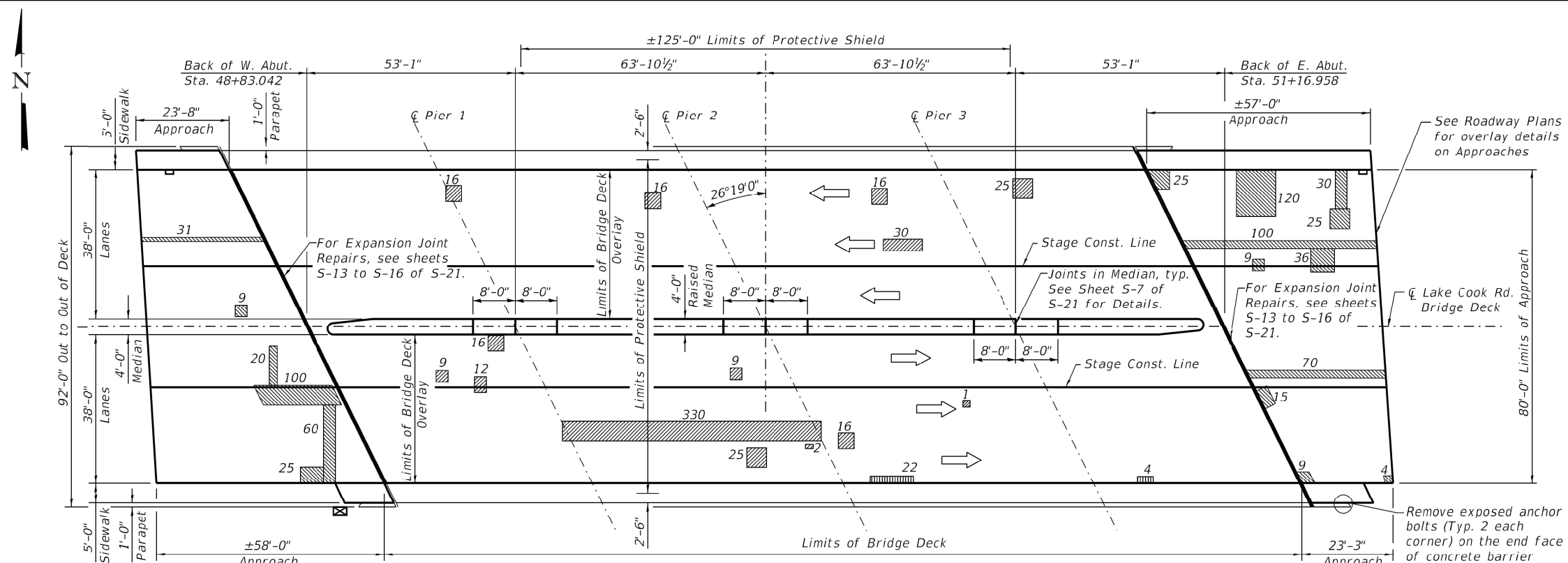
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PLOT DATE = 8/13/2021	CHECKED -	REVISED -
	DATE -	REVISED -

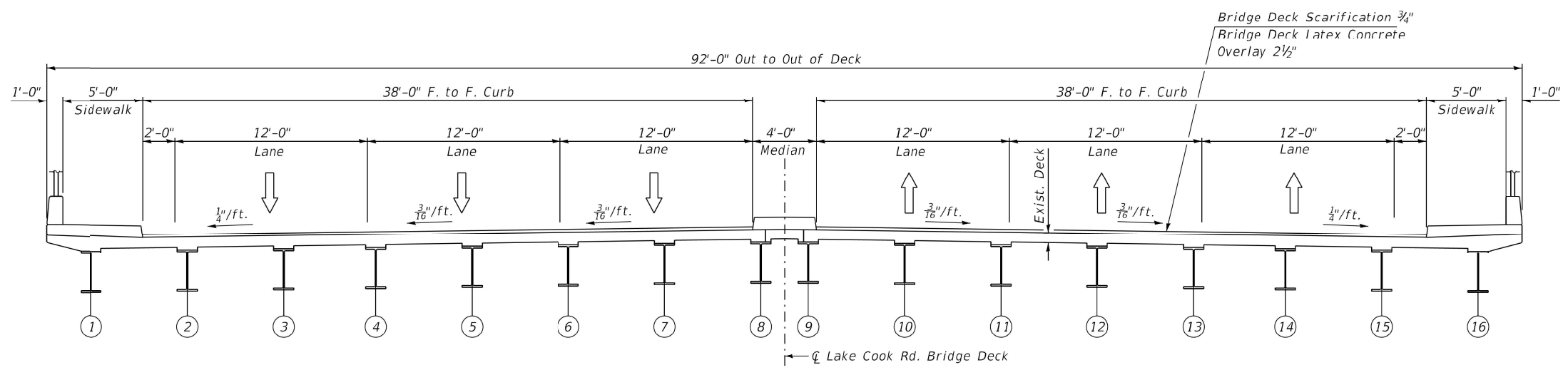
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

LOCATION 1: SN.016-0811	
BEARING DETAILS	
SCALE:	SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2021-117-BP	COOK & LAKE	32	9
CONTRACT NO. 62P46				
ILLINOIS FED. AID PROJECT				



**PLAN**  
See sheet S-6 for more Bridge Deck Repairs



**DECK CROSS SECTION**  
(Looking East)  
(All dimensions are perpendicular to Lake Cook Road Bridge Deck)

- LEGEND**
- Deck Slab Repair (Partial)
  - Approach Slab Repair (Full Depth)
  - Structural Repair of Concrete (Depth Equal to or Less Than 5")

**FOR INFORMATION ONLY**

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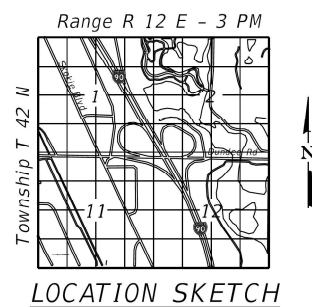
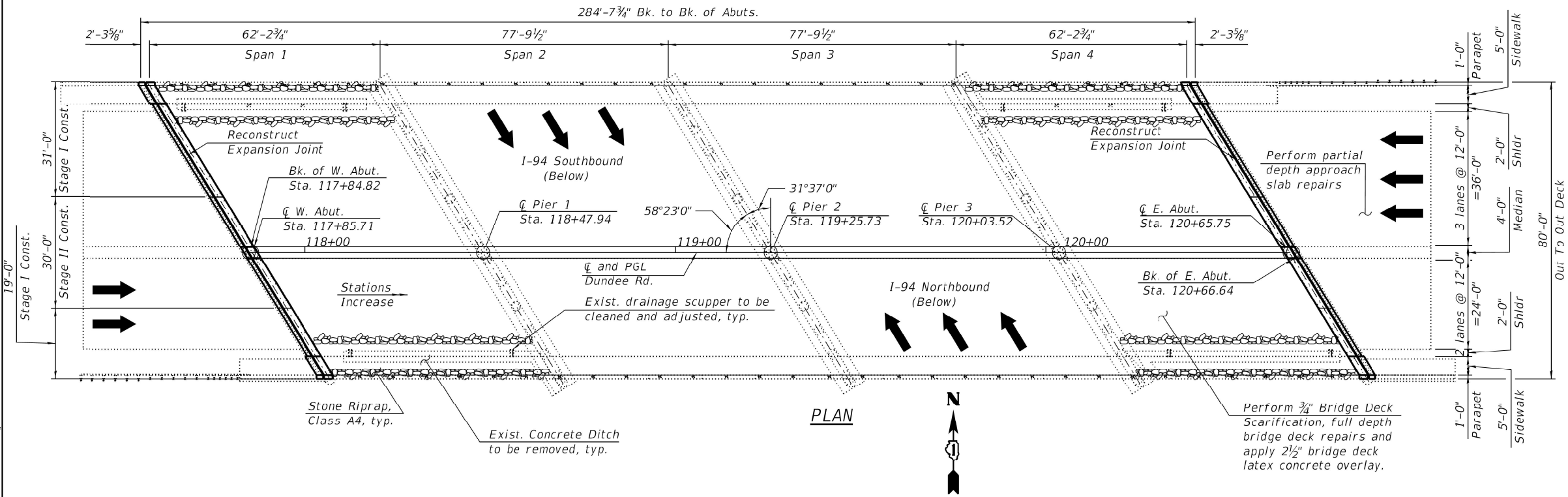
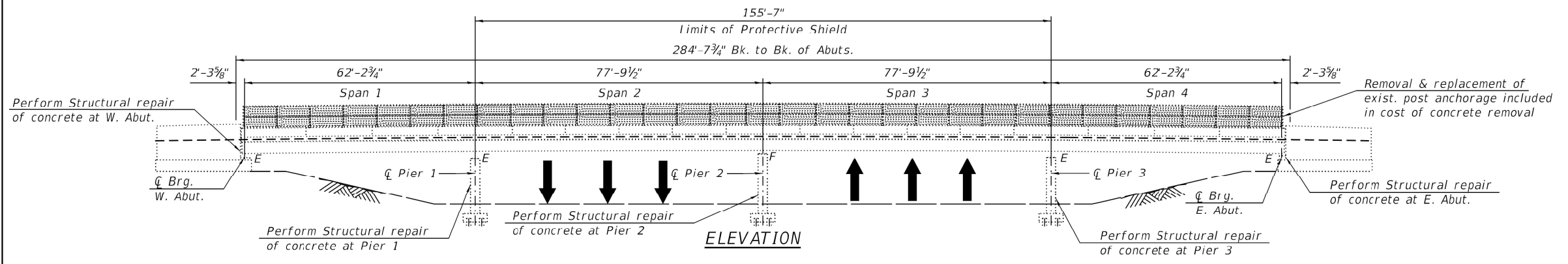
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**LOCATION 1: SN.016-0811  
PLAN AND CROSS SECTION**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2021-117-BP	COOK & LAKE	32	10
CONTRACT NO. 62P46				
ILLINOIS FED. AID PROJECT				



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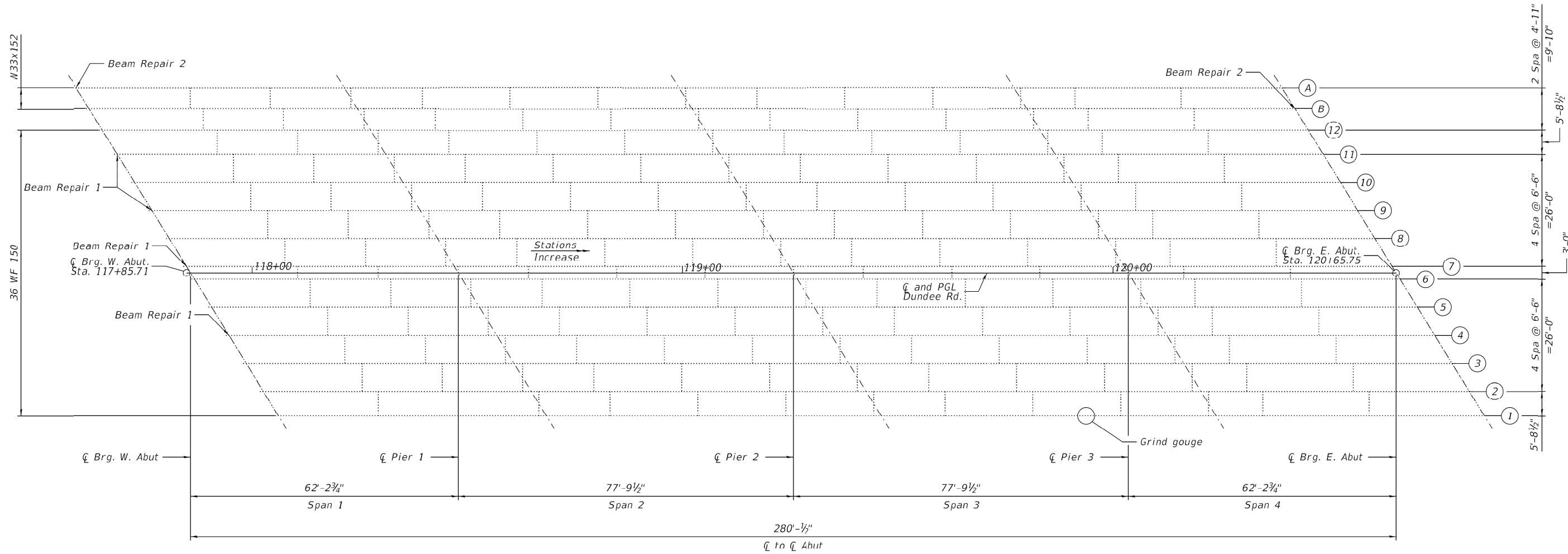
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	DRAWN -	REVISED -
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**LOCATION 2: SN. 016-0939**  
**GENERAL PLAN AND ELEVATION**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2021-117-BP	COOK & LAKE	32	11
			CONTRACT NO. 62P46	
		ILLINOIS	FED. AID PROJECT	

SCALE: SHEET OF SHEETS STA. TO STA.



**FOR INFORMATION ONLY**

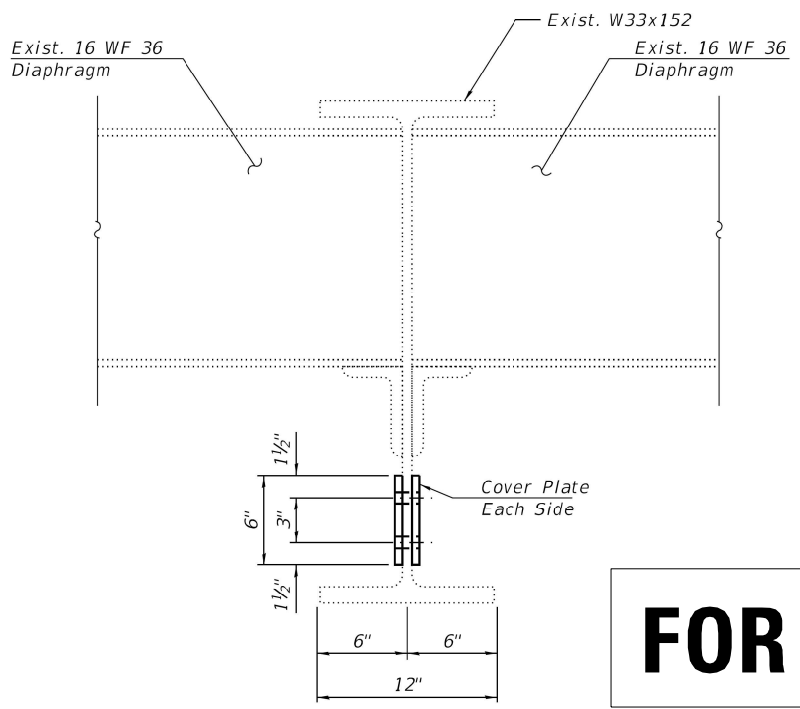
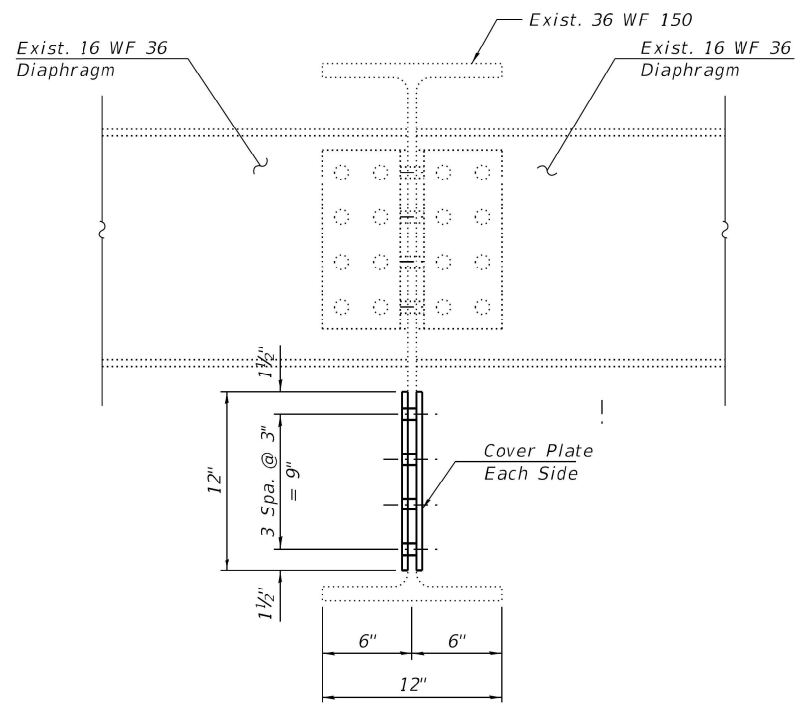
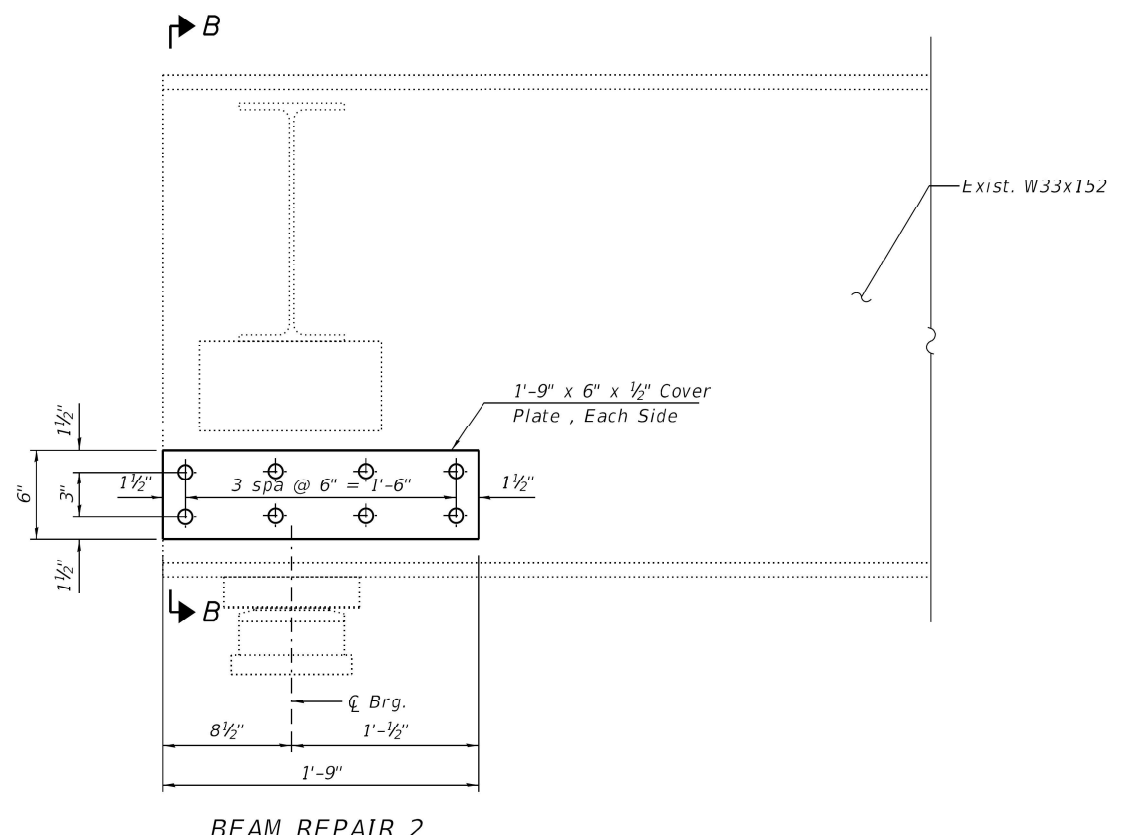
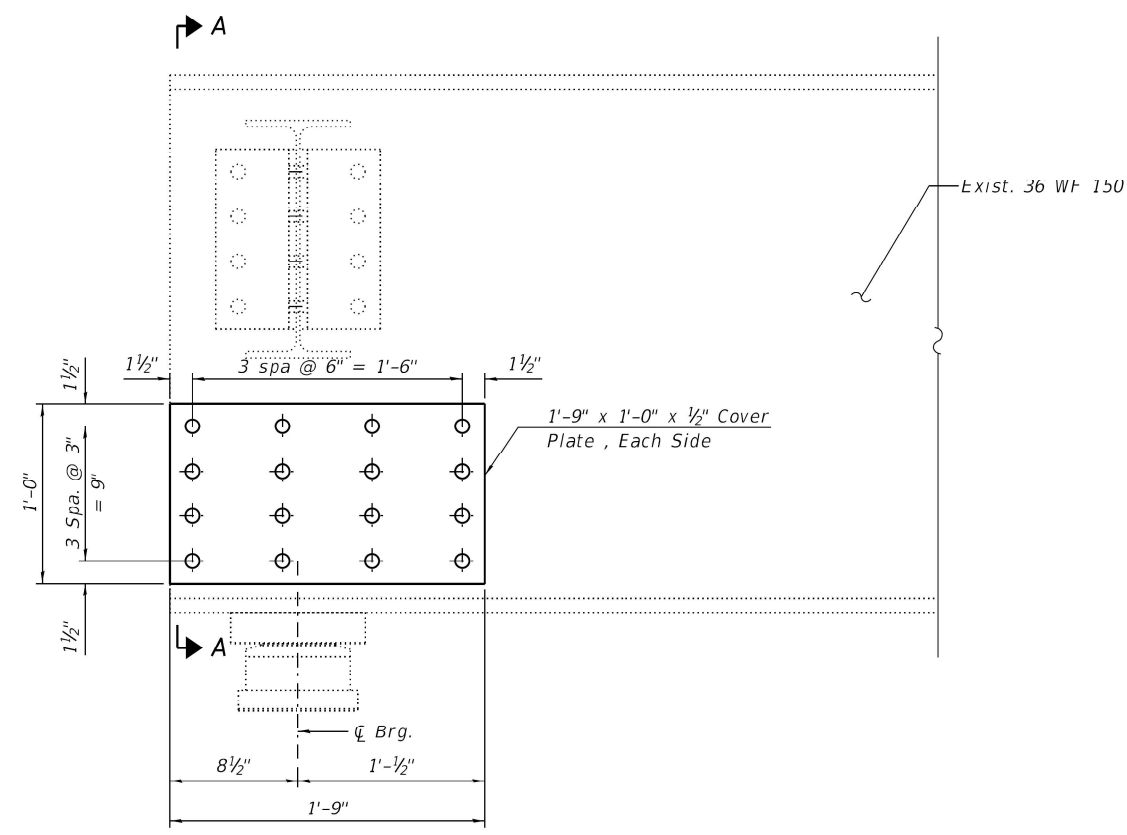
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PLOT DATE = 8/13/2021	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>LOCATION 2: SN. 016-0939</b>			
<b>FRAMING PLAN</b>			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2021-117-BP	COOK & LAKE	32	12
CONTRACT NO. 62P46				
ILLINOIS FED. AID PROJECT				



**FOR INFORMATION ONLY**

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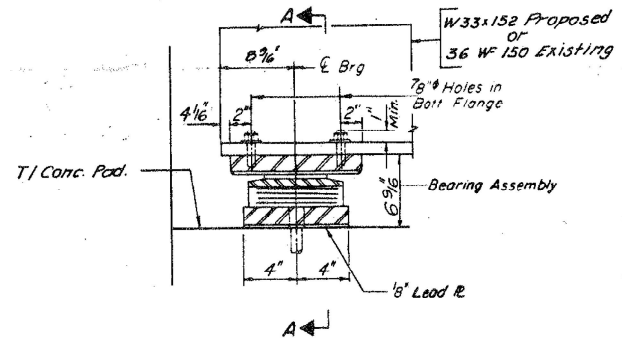
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

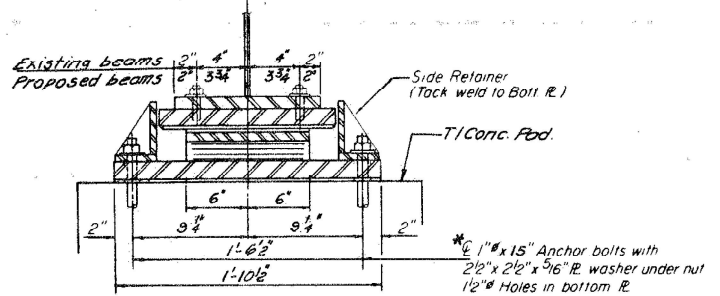
**LOCATION 2: SN. 016-0939  
STRUCTURAL STEEL**

SCALE: SHEET OF SHEETS STA. TO STA.

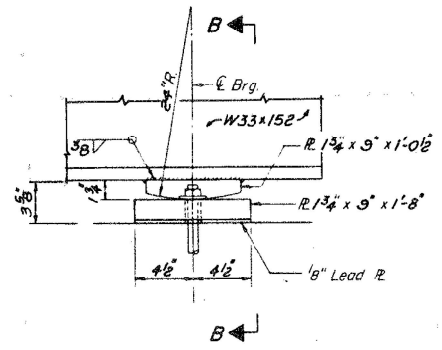
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VAR.	2021-117-BP	COOK & LAKE	32	13
CONTRACT NO. 62P46				
ILLINOIS FED. AID PROJECT				



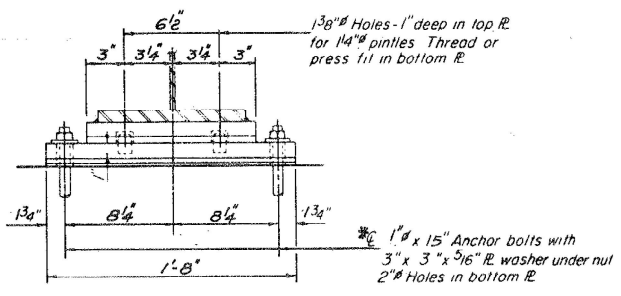
SECTION AT ABUT.



SECTION A-A

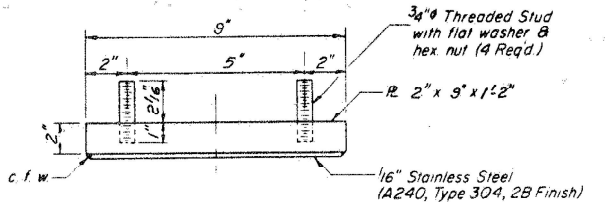


ELEVATION AT PIER

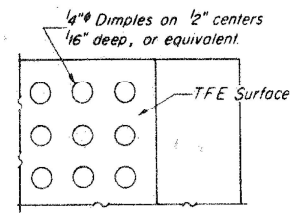


SECTION B-B

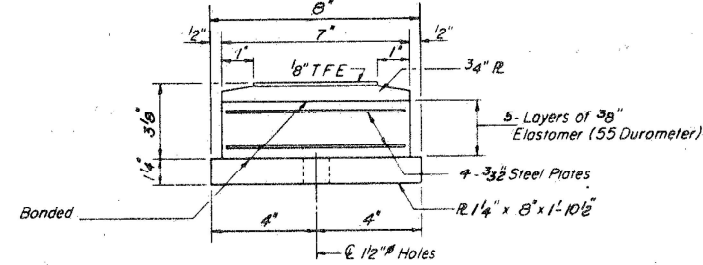
**TYPE II TFE ELASTOMERIC EXP BRG.**  
(W. & E. ABUTMENTS)



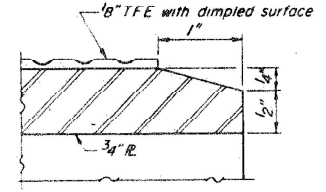
TOP BEARING ASSEMBLY



PLAN - TFE SURFACE



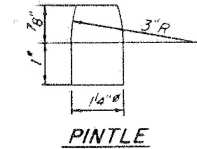
BOTTOM BEARING ASSEMBLY



SECTION THRU TFE

Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.  
Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

**FIXED BEARING**  
(AT PIER 2)  
(2-Required)



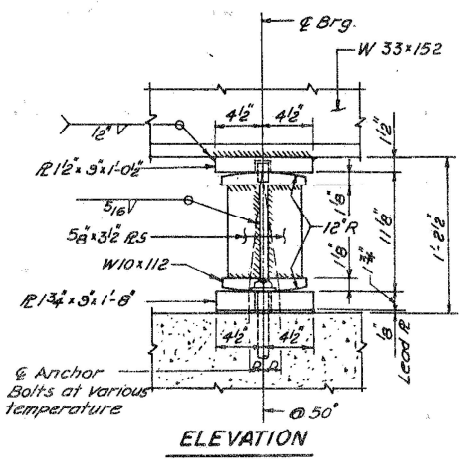
PINTLE

**MOMENT TABLE**

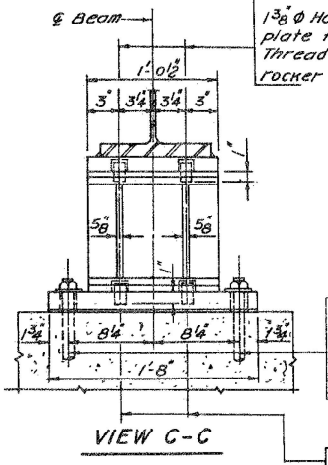
I	in <sup>4</sup>	EXISTING INTERIOR BEAM 10			
		0.4 SPAN 1 @ PIER 1	0.5 SPAN 2 @ PIER 2	0.6 SPAN 4 @ PIER 3	0.5 SPAN 3
D.L.	K/F	1.05	1.05	1.05	1.05
M.O.L.	K-F	259	562	196	501
M.L.L.	K-F	392	384	374	418
M.T.M.P.	K-F	105	98	92	103
M.TOTAL	K-F	756	1044	662	1092
F <sub>s</sub>	K/S1	18.0	16.1	15.8	16.6

**REACTION TABLE**

R.O.L.	K	EXIST. INTERIOR BM. 10		
		@ BRG. @ PIER 1	@ PIER 2	@ ABUTS. @ PIER 3
R.O.L.	K	23	83	82
R.L.L.	K	35	48	50
R.M.P.	K	9	12	12
R.TOTAL	K	67	143	144



ELEVATION

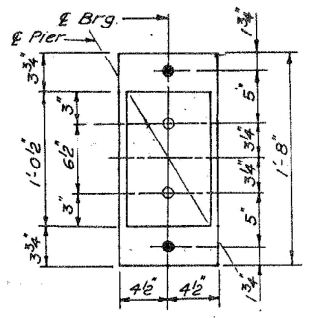


VIEW C-C

1" x 15" Anchor bolts with 2" x 2" x 5/16" R. washer under nut 1/2" Holes in bottom plate.

1 3/8" holes - 1" deep in rocker for 1 1/4" pintles. Thread or press fit in bottom fl.

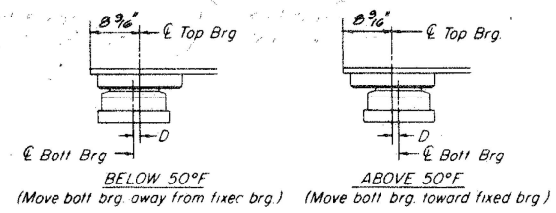
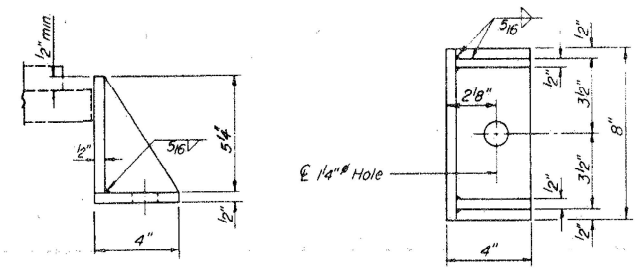
\*\* Remove existing bearing including top plate welded to the beam. Grind & continuous fillet weld smooth after removing top plate. Anchor bolts to be left in place & cut flush with surface. The contractor shall submit the jacking detail of existing stringers and the sequence of operation for approval by the Engineer.  
Maximum Jacking Force = 5T/Beam.



PLAN

**EXPANSION BEARING**  
(AT PIER 1 & 3)  
(4-Required)

**SIDE RETAINER**  
(Equivalent rolled angle with stiffeners, will be allowed in lieu of welded plate.)



**SETTING ANCHOR BOLTS AT EXP. BRG.**  
D = 1/8" per each 100' of expansion for every 15° temp change from the normal temp of 50°F

**FOR INFORMATION ONLY**

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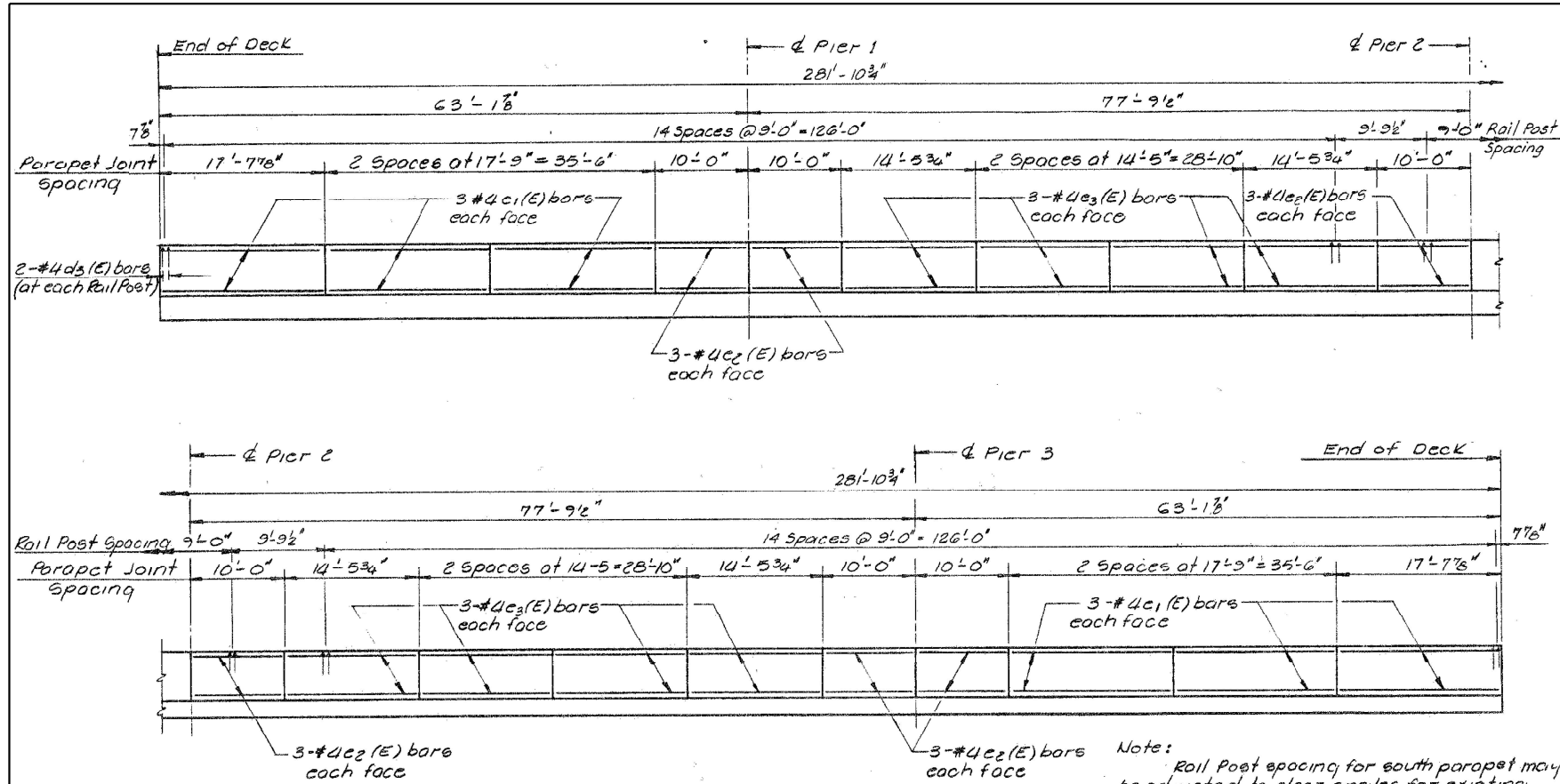
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	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

LOCATION 2: SN. 016-0939  
BEARING DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

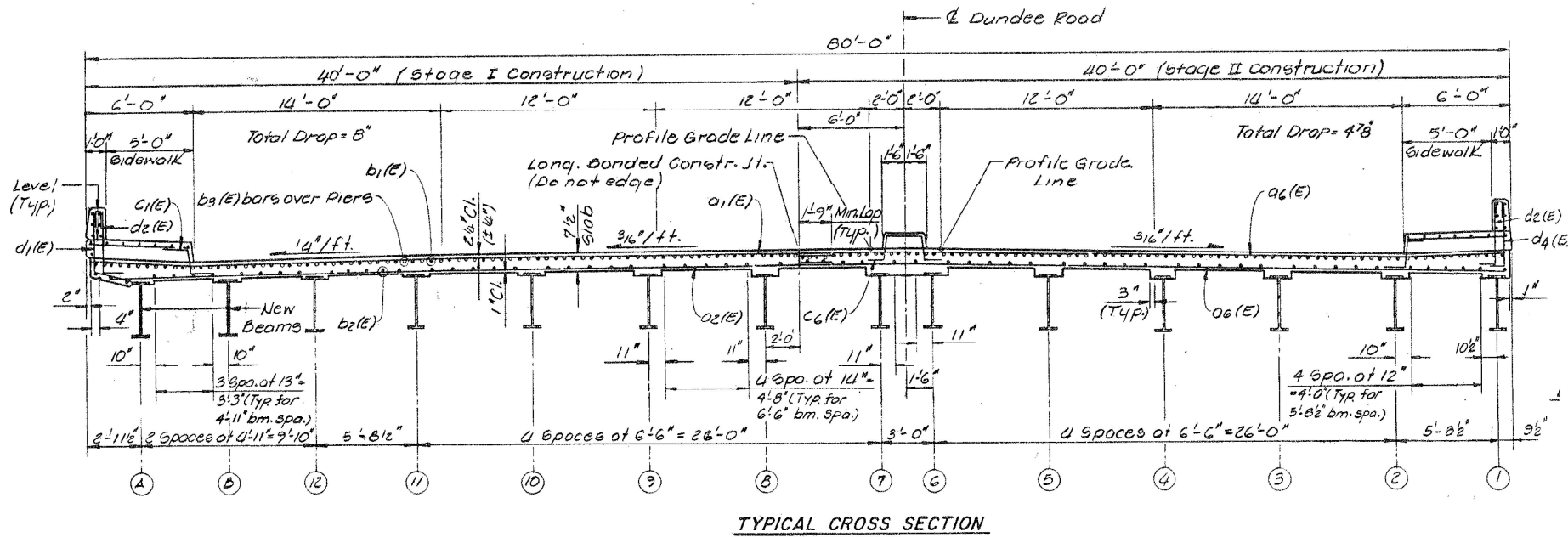
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2021-117-BP	COOK & LAKE	32	14
			CONTRACT NO. 62P46	
		ILLINOIS FED. AID PROJECT		



**INSIDE ELEVATION OF NORTH PARAPET**  
 (South Parapet Similar)  
 (For Pedestrian Railing see Sheet 19.)

Note: Rail Post spacing for south parapet may be adjusted to clear angles for existing Bridge Mounted Sign support brackets. (see Roadway Plans.)

**FOR INFORMATION ONLY**



**TYPICAL CROSS SECTION**

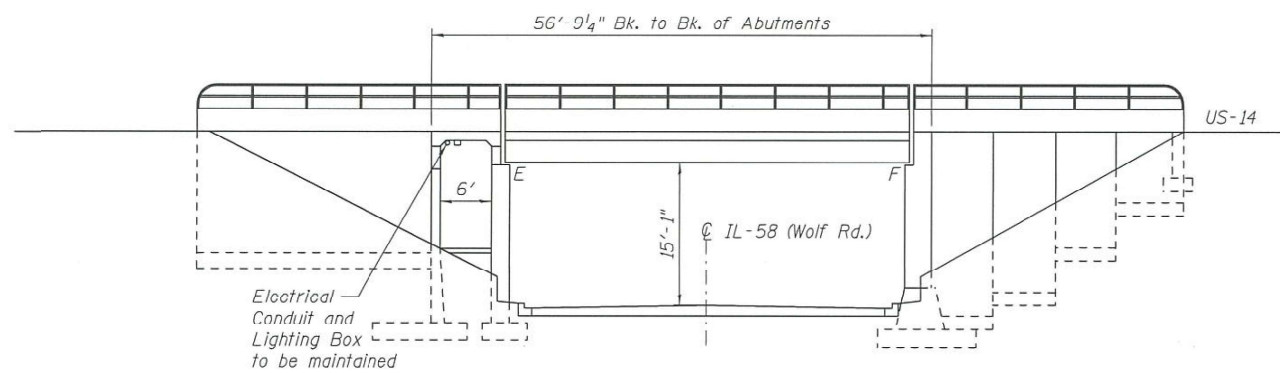
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PLOT DATE = 8/13/2021	DATE -	REVISED -

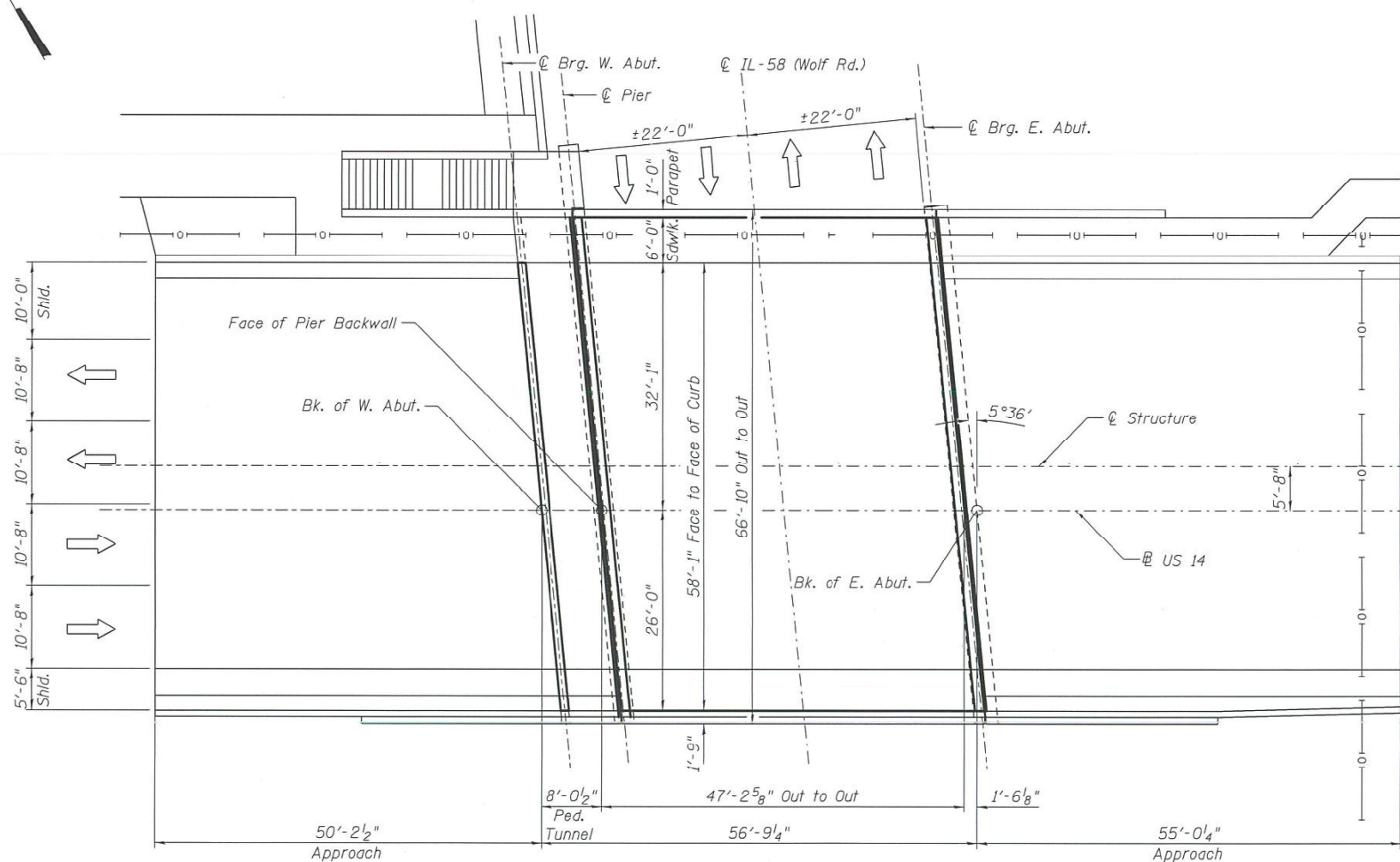
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>LOCATION 2: SN. 016-0939</b>	
<b>TYPICAL SECTIONS</b>	
SCALE:	SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2021-117-BP	COOK & LAKE	32	15
				CONTRACT NO. 62P46
ILLINOIS FED. AID PROJECT				



**ELEVATION**



**PLAN**

**FOR INFORMATION ONLY**

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	DRAWN -	REVISED -
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

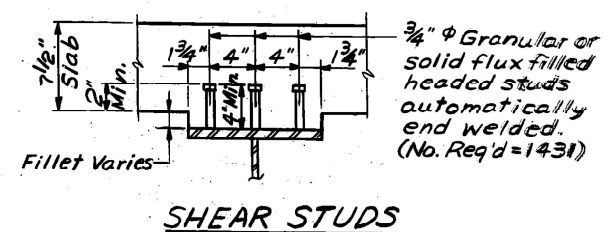
**LOCATION 3: SN. 016-0236  
GENERAL PLAN AND ELEVATION**

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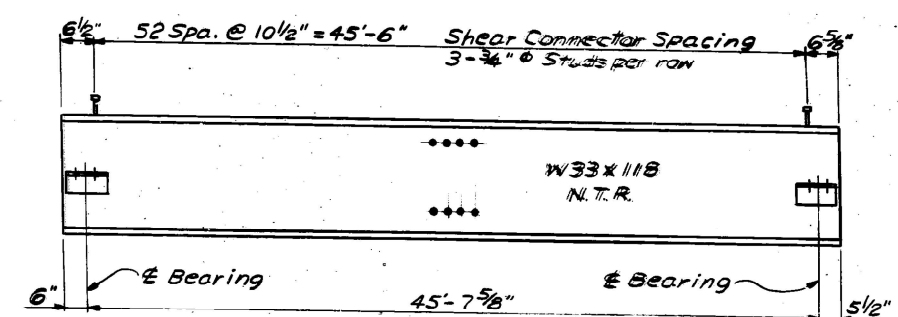
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VAR.	2021-117-BP	COOK & LAKE	32	16
			CONTRACT NO. 62P46	
		ILLINOIS	FED. AID PROJECT	



INTERIOR BEAM REACTION TABLE		
	Bms 2-5	Bms 6-8
R <sub>Q</sub> (K)	29.7	25.6
R <sub>4</sub> (K)	43.8	35.5
Imp (K)	12.7	10.3
R <sub>Total</sub> (K)	86.2	71.4

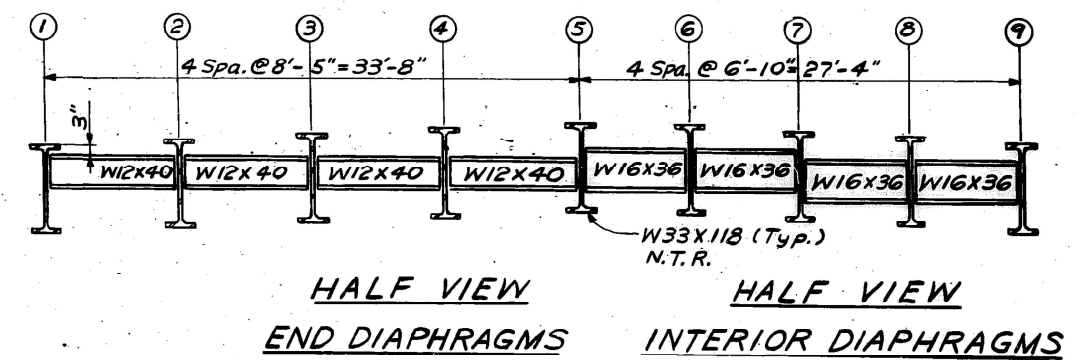


SHEAR STUDS

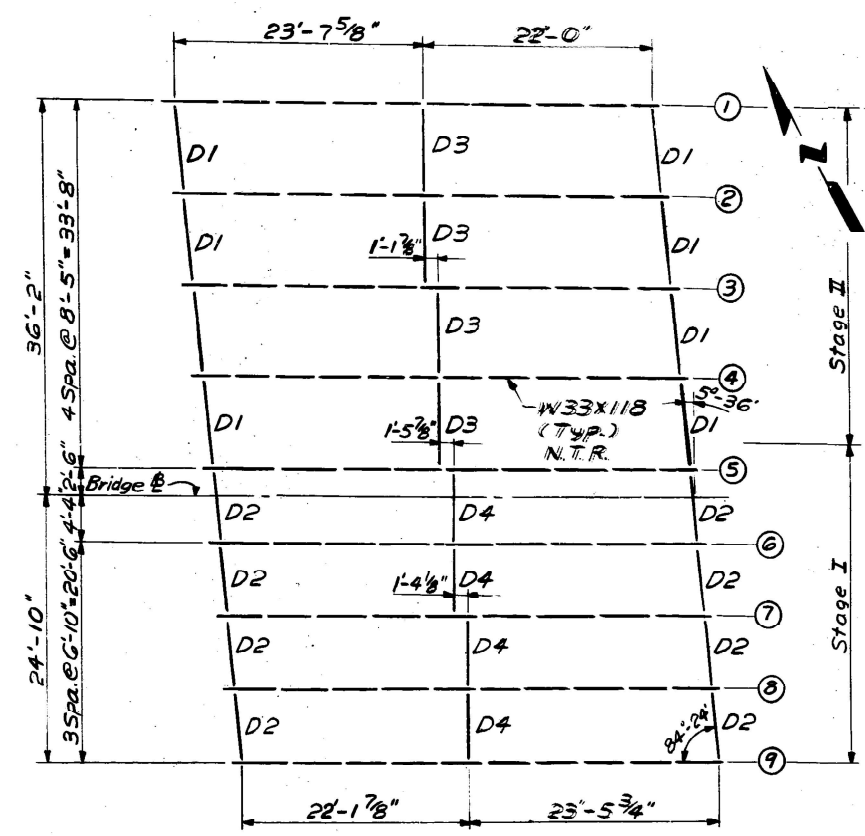


TYPICAL BEAM ELEVATION

N.T.R. indicates notch toughness requirement - See General Notes



	INTERIOR BEAM MOMENT TABLE	
	BEAMS 2-5 0.5 Span	BEAMS 6-8 0.5 Span
I <sub>s</sub> (in <sup>4</sup> )	5,900	5,900
I <sub>c</sub> (in <sup>4</sup> )	16,100	16,000
S <sub>s</sub> (in <sup>3</sup> )	359	359
Sc (n=27, n=9) (in <sup>3</sup> )	484/535	483/534
Z (in <sup>3</sup> )	415	415
DL (K/ft)	0.93	0.78
MDL (K)	243	204
SDL (K/ft)	0.37	0.34
MSDL (K)	97	89
MLL (K)	422	343
MIMP (K)	123	99
5/8 (MLL+I) (K)	908	737
1.3 (Mpl+MSDL+5/8 (MLL+I)) (K)	1,622	1,339
Fully Plastic Mom. Capacity (K)	2,091	2,079
f <sub>s</sub> DL non-comp. (ksi)	8.1	6.8
f <sub>s</sub> SDL comp. (ksi)	2.4	2.2
f <sub>s</sub> 5/8 (LL+I) (ksi)	20.4	16.6
f <sub>s</sub> (Overload) (ksi)	30.9	25.6
f <sub>s</sub> (total) (ksi)		33.3
VR (K)	56.5	45.8

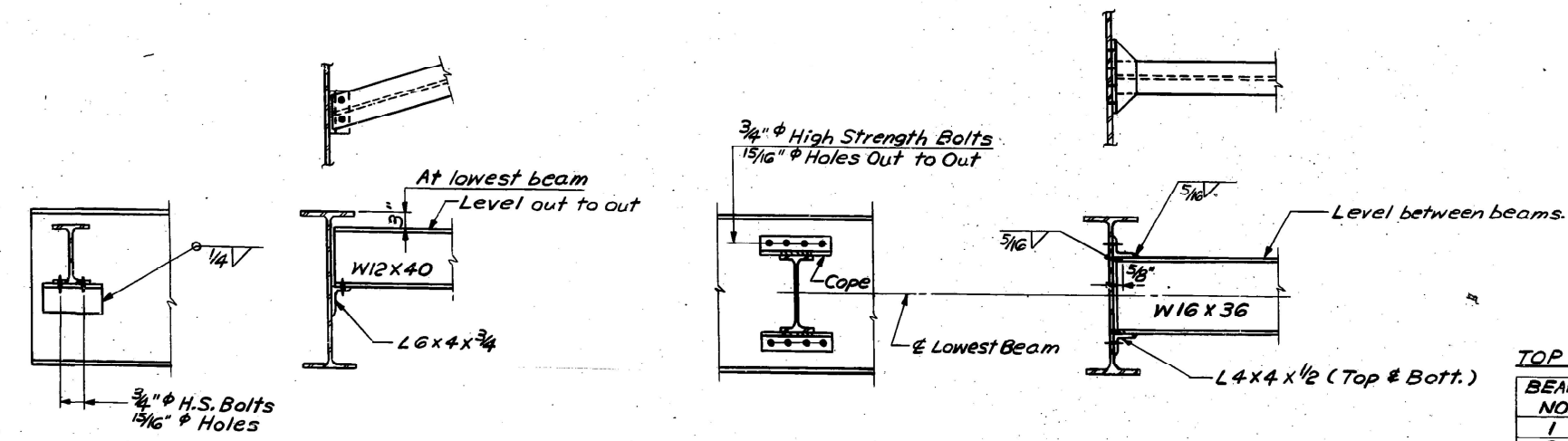


FRAMING PLAN

TOP OF BEAM ELEVATIONS\*

BEAM NO.	PIER $\epsilon$ BRG.	E. ABUT. $\epsilon$ BRG.
1	654.90	654.92
2	655.03	655.05
3	655.16	655.19
4	655.29	655.32
5	655.43	655.45
6	655.40	655.42
7	655.29	655.31
8	655.19	655.21
9	655.08	655.10

\* For fabrication only.

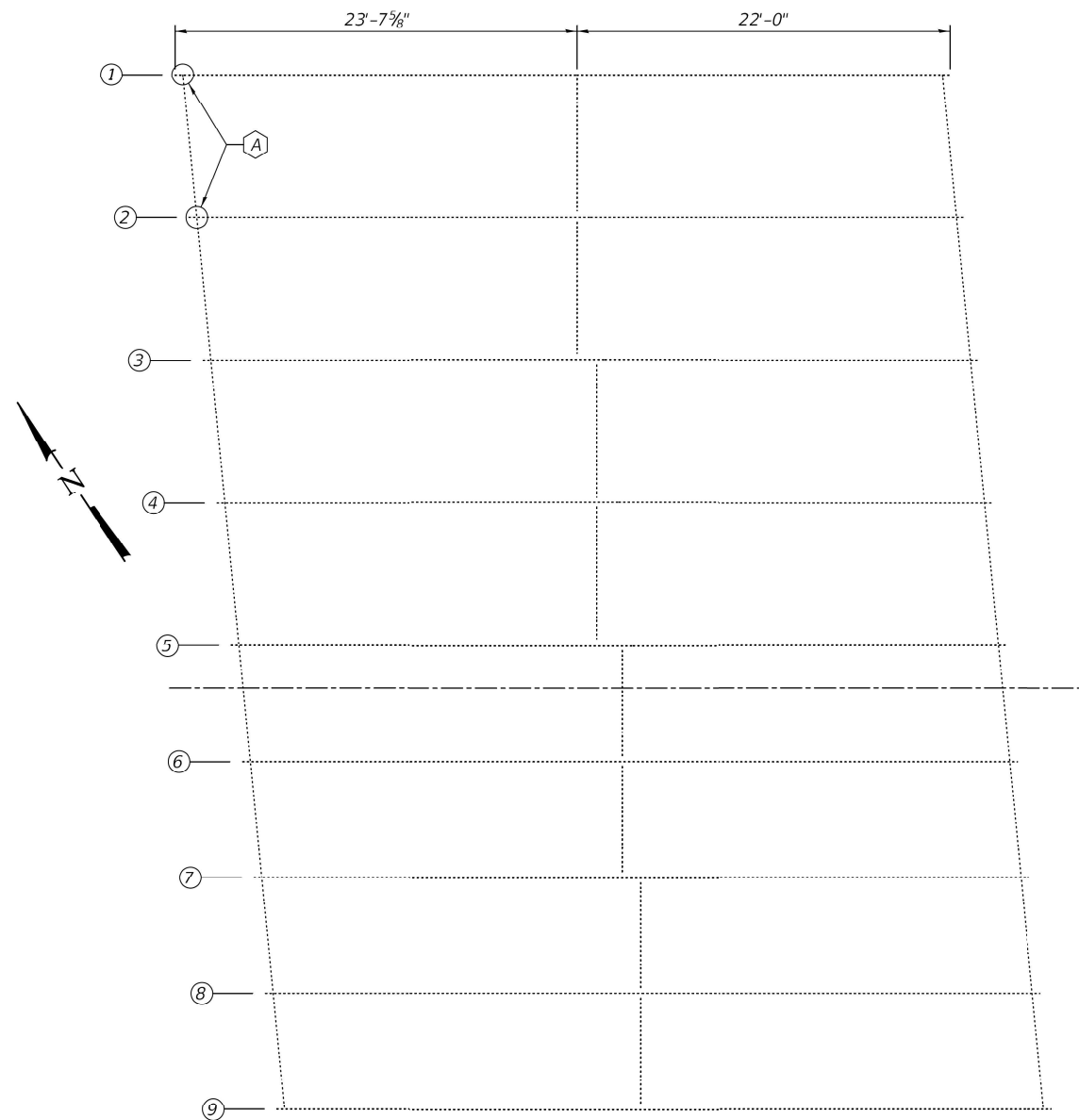


END DIAPHRAGMS D1 & D2  
(8 required for each, total of 16)

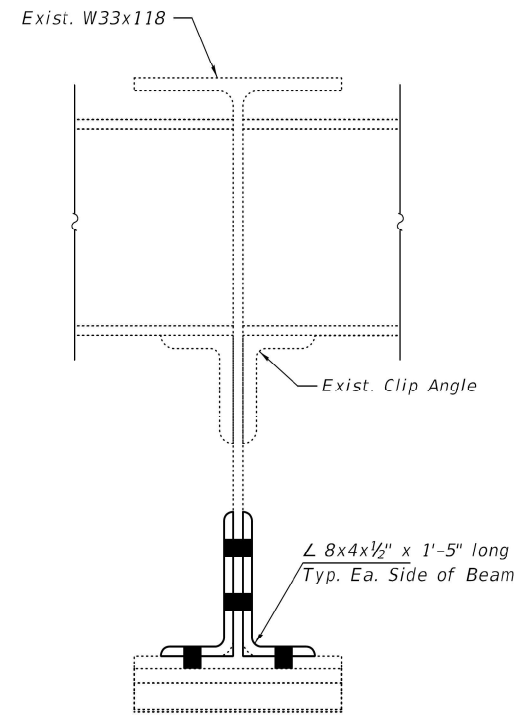
INTERIOR DIAPHRAGMS D3 & D4  
(4 required for each, total of 8)

**FOR INFORMATION ONLY**

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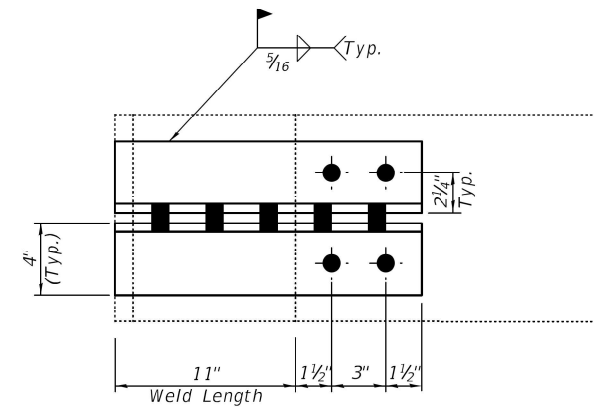


**PARTIAL PLAN**  
 A - Beam End Repair



**SECTION A-A**

\* Clip Angle not required on outside face of exterior beams.



**SECTION B-B**

**FOR INFORMATION ONLY**

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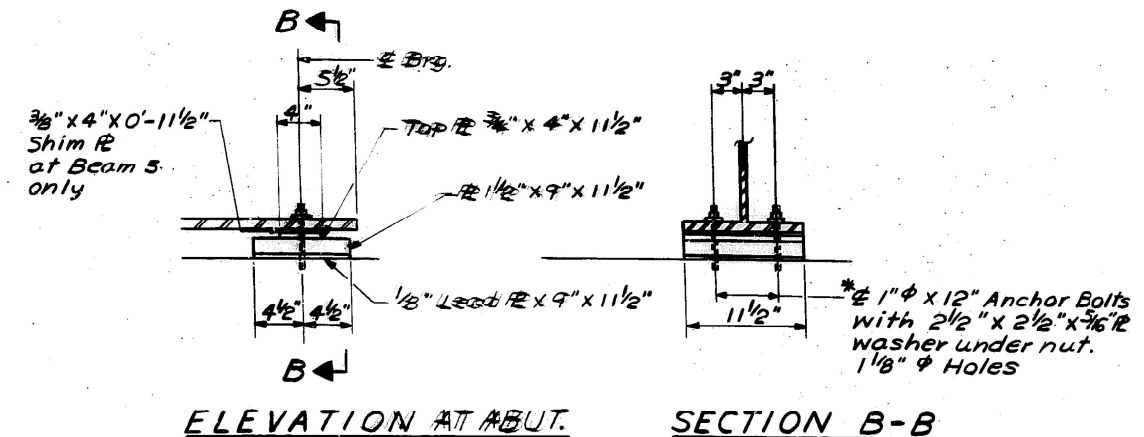
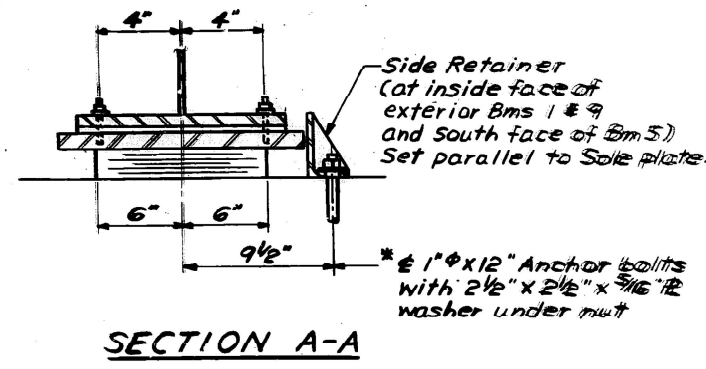
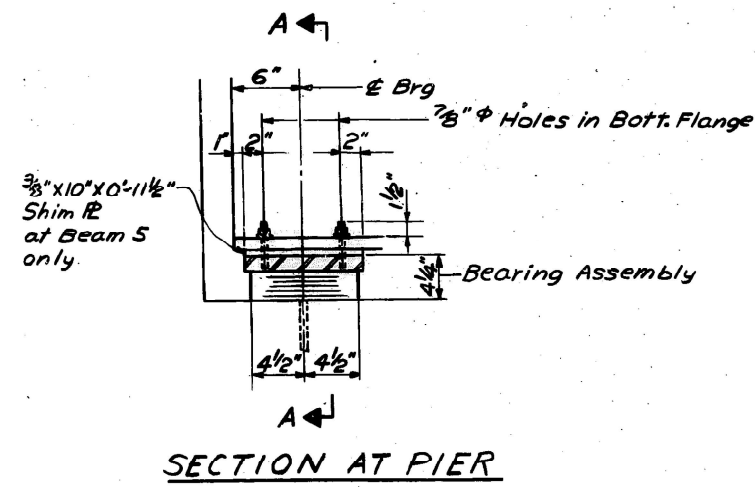
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PLOT DATE = 8/13/2021	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**LOCATION 3: SN.016-0236  
 STRUCTURAL STEEL PLAN**

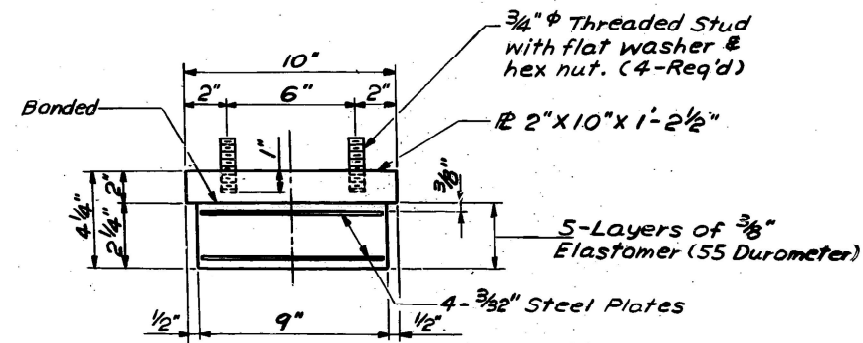
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2021-117-BP	COOK & LAKE	32	18
CONTRACT NO. 62P46			ILLINOIS FED. AID PROJECT	

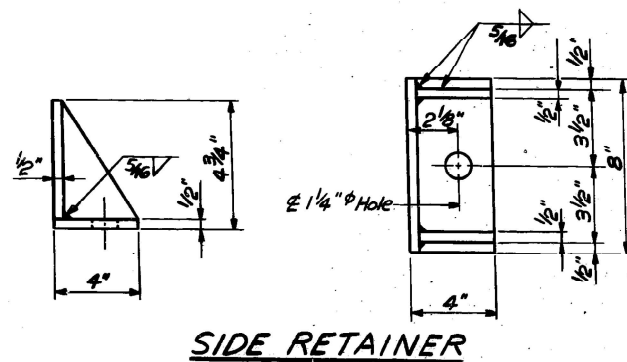


**TYPE I ELASTOMERIC EXP. BRG.**  
At Pier

**FIXED BEARING**



Note: Shim plate shall not be placed under bearing assembly.



**FOR INFORMATION ONLY**

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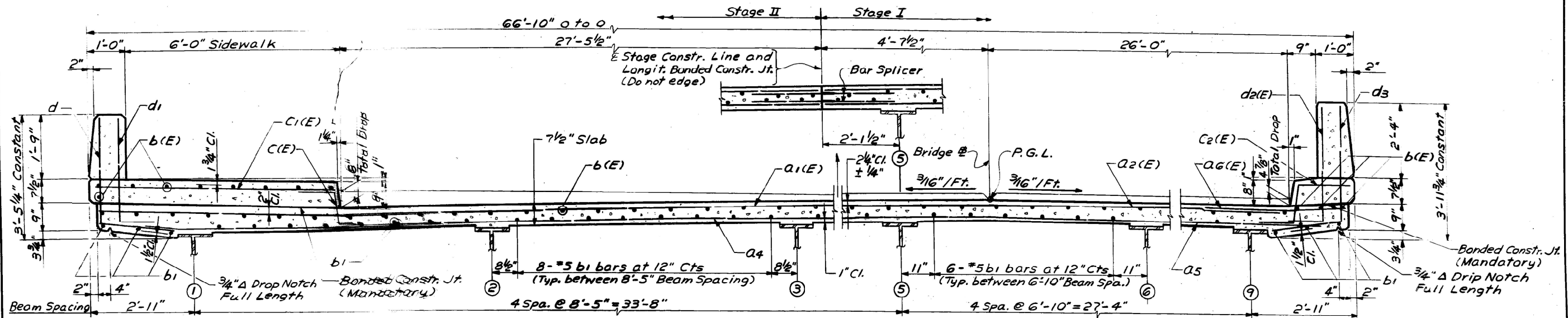
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PLOT DATE = 8/13/2021	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

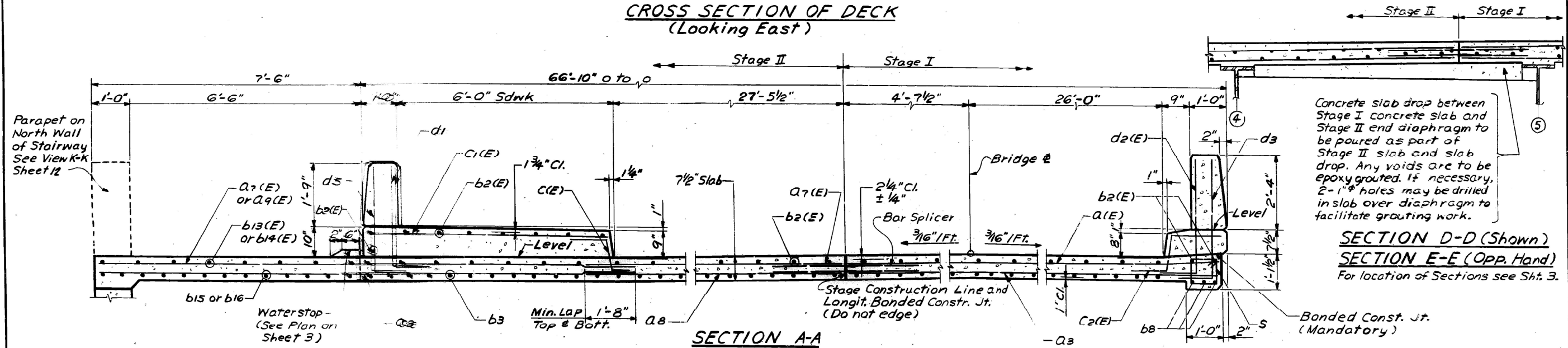
LOCATION 3: SN. 016-0236  
STRUCTURAL STEEL DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

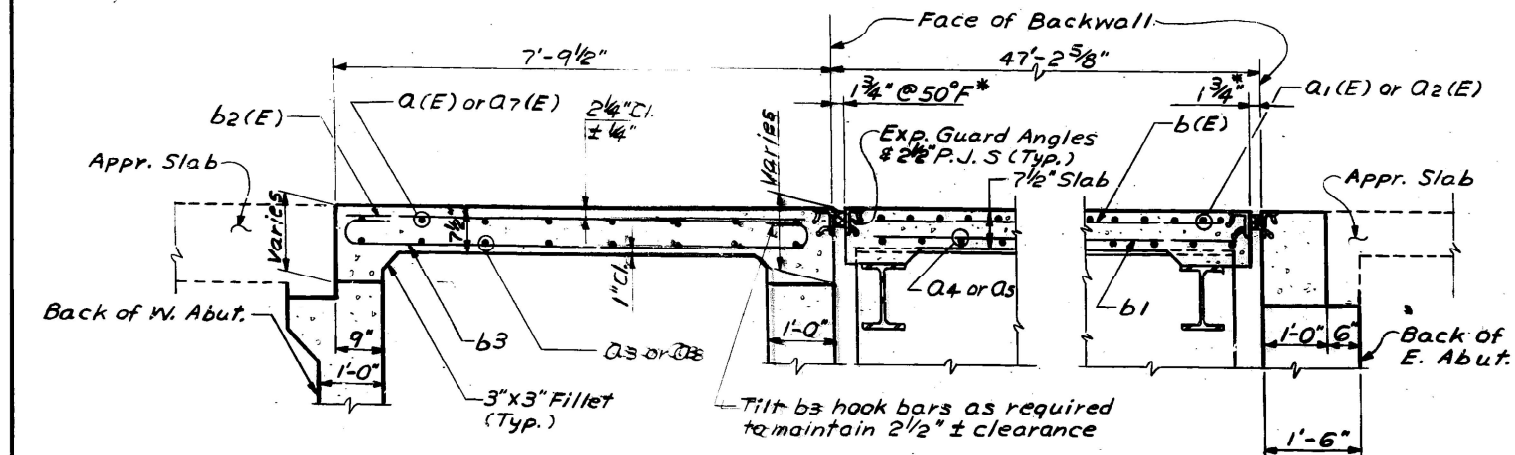
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	2021-117-BP	COOK & LAKE	32	19
CONTRACT NO. 62P46				
ILLINOIS FED. AID PROJECT				



**CROSS SECTION OF DECK  
(Looking East)**



**SECTION A-A**



**SECTION C-C**

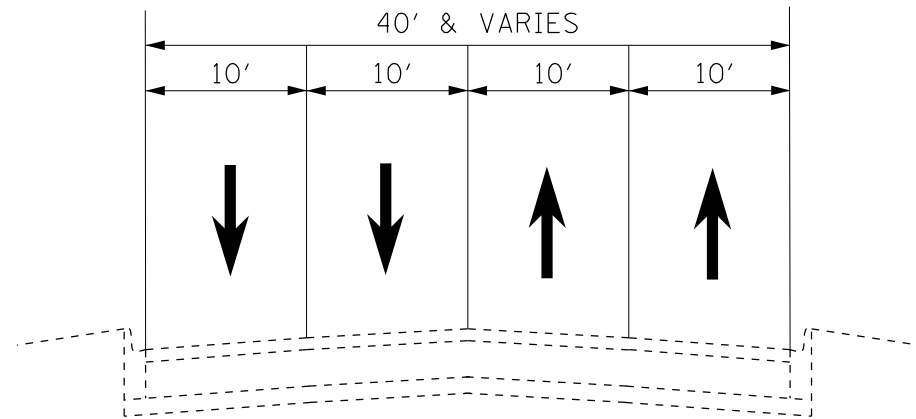
Concrete slab drop between Stage I concrete slab and Stage II end diaphragm to be poured as part of Stage II slab and slab drop. Any voids are to be epoxy grouted. If necessary, 2-1" holes may be drilled in slab over diaphragm to facilitate grouting work.

**SECTION D-D (Shown)  
SECTION E-E (Opp. Hand)  
For location of Sections see Sht. 3.**

**FOR INFORMATION ONLY**

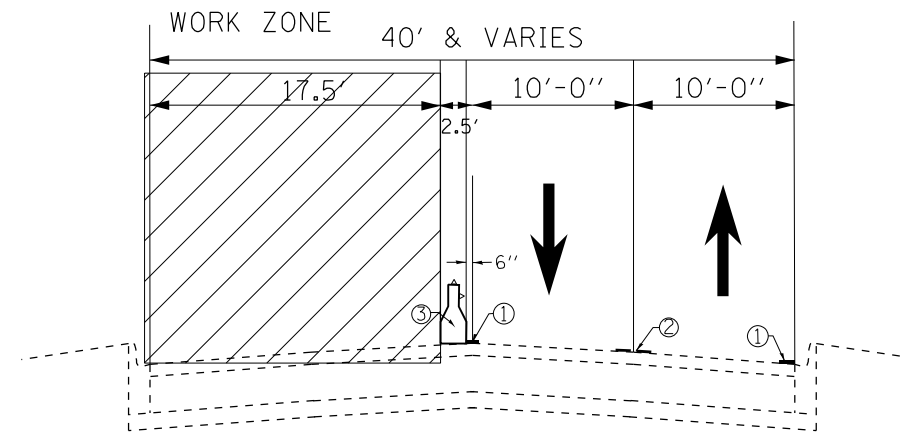
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PROJECT: 2021-117-BP

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					SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.
							CONTRACT NO. 62P46 ILLINOIS FED. AID PROJECT				



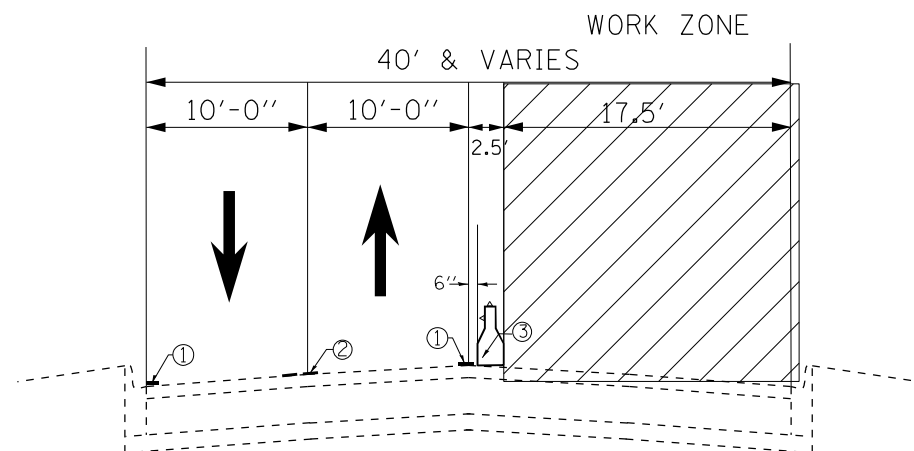
**IL-58 (GOLF ROAD) TYPICAL SECTION**

(STA. 21+25 TO STA. 23+50)



**IL-58 (GOLF ROAD) STAGE 1**

(STA. 21+25 TO STA. 23+50)



**IL-58 (GOLF ROAD) STAGE 2**

(STA. 21+25 TO STA. 23+50)

**LEGEND**

- ① PAVEMENT MARKING TAPE TYPE IV (YELLOW-LEFT, WHITE-RIGHT)
- ② PAVEMENT MARKING TAPE TYPE IV (DOUBLE YELLOW) @ 11" C-C
- ③ TEMPORARY CONCRETE BARRIER

**NOTES**

1. TEMPORARY CONCRETE WALL WITH CRYSTAL BI-DIRECTIONAL TYPE C REFLECTORS TOP AND SIDE AT 25 FOOT CENTERS.
2. BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD FOR FUTURE REFERENCE, ALL EXISTING PAVEMENT MARKING LINES (AND RAISED REFLECTIVE PAVEMENT MARKERS) IN ORDER THAT THESE LOCATIONS CAN RE-ESTABLISHED FOR STRIPPING. EXCAT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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USER NAME = shahda	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 9/10/2021	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**MAINTENANCE OF TRAFFIC TYPICAL CROSS SECTIONS  
IL 58 (GOLF ROAD) UNDER US 14 BRIDGE**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	2021-117-BP	COOK	32	21
CONTRACT NO. 62P46			ILLINOIS FED. AID PROJECT	

STAGE I

ESTABLISH TRAFFIC CONTROL AS SHOWN.  
 CLEAN AND PAINT THE BRIDGE SUPERSTRUCTURE EAST SECTION AS SHOWN.

STAGE II

ESTABLISH TRAFFIC CONTROL AS SHOWN.  
 CLEAN AND PAINT THE BRIDGE SUPERSTRUCTURE WEST SECTION AS SHOWN.

STAGE III

RE-ESTABLISH PERMANENT PAVEMENT MARKING AS SHOWN.

NOTES:

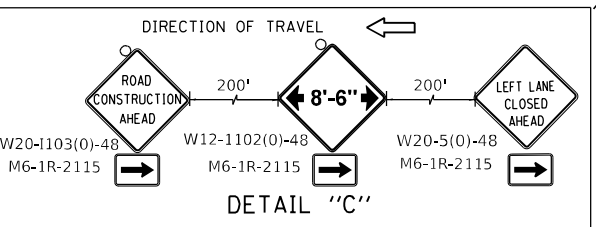
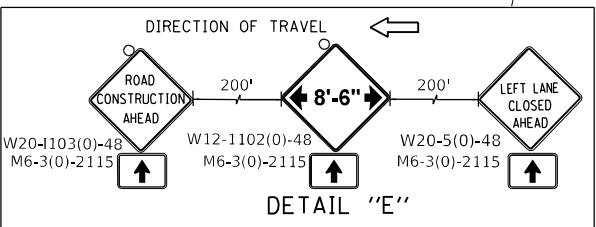
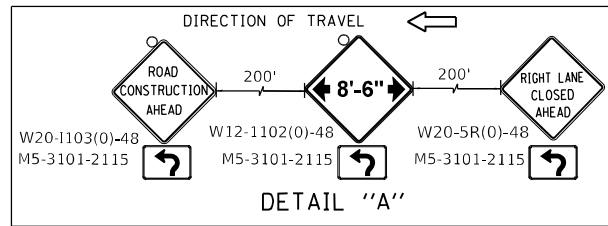
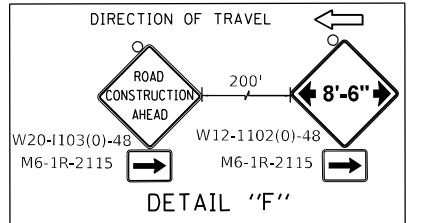
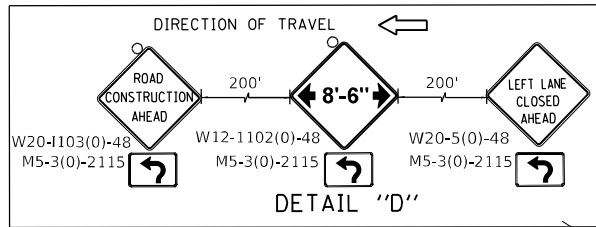
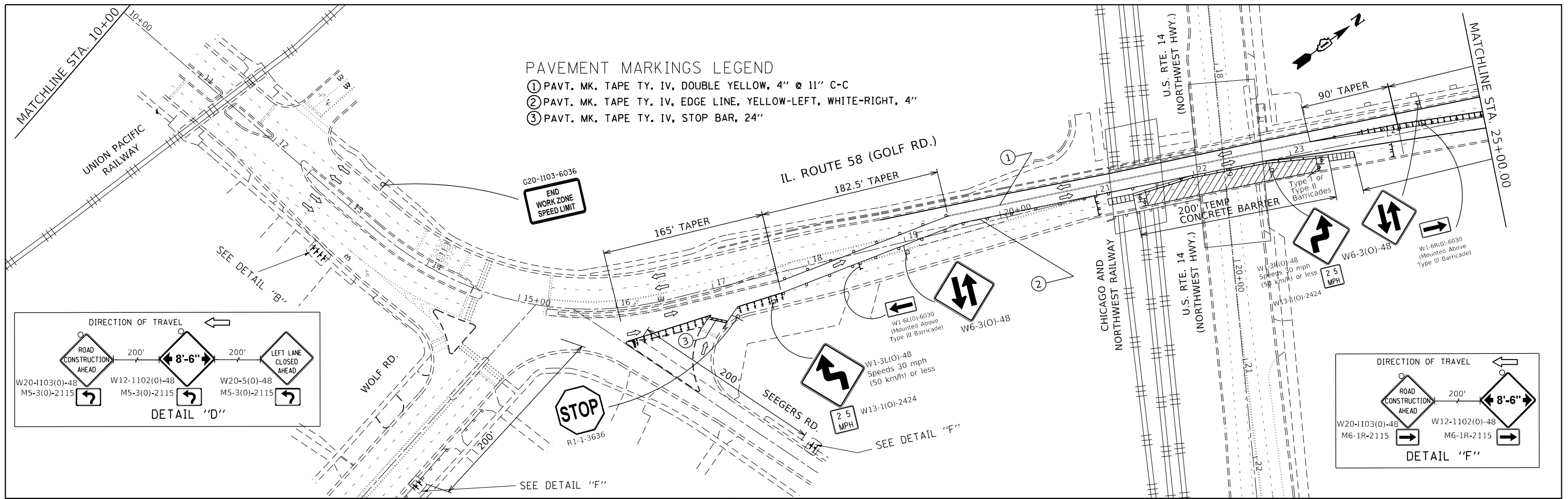
1. ESTABLISHING TRAFFIC CONTROL AS SHOWN ON SUGGESTED STAGING CONSTRUCTION PLANS SHALL BE PAID FOR AS TRAFFIC CONTROL & PROTECTION (SPECIAL).
2. EXISTING SPEED LIMIT SIGNS ON GOLF ROAD WITHIN THE PROJECT LIMITS SHALL BE COVERED.
3. DURING THE CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN WALKWAY AND PEDESTRIANS SHALL BE PROTECTED FROM ALL BRIDGE PAINTING OPERATIONS.
4. CONTRACTOR SHALL COVER EXISITING STOP SIGN AT SEEGERS ROAD & GOLF ROAD AT STA. 17+00 OFFSET 50 FEET (RIGHT) DURING STAGE I.

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PLOT SCALE = 100,0000 ' / in.	DRAWN -	REVISED -			VAR	2021-117-BP	COOK	32	22	
PLOT DATE = 9/14/2021	CHECKED -	REVISED -			CONTRACT NO. 62P46					
	DATE -	REVISED -			SCALE:	SHEET	OF	SHEETS	STA.	TO STA.

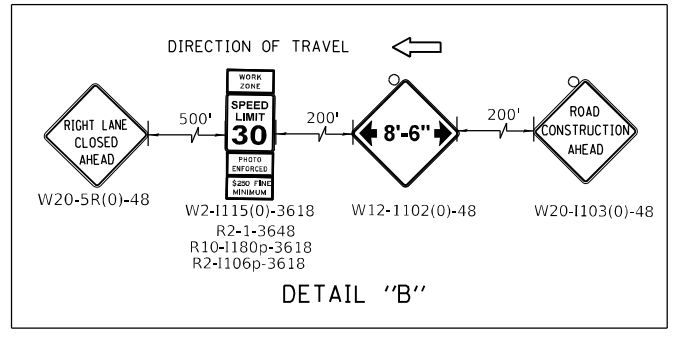
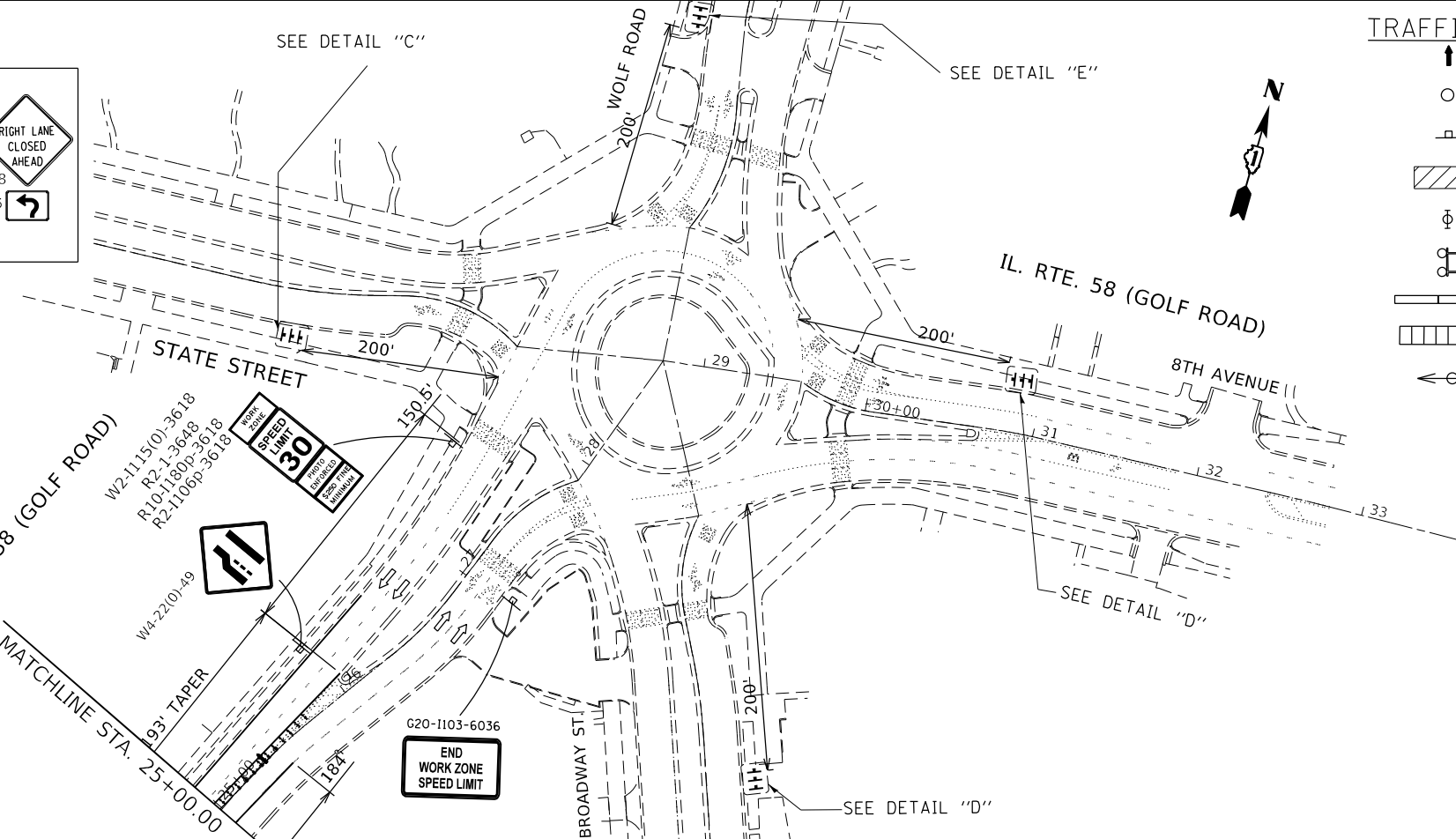
PAVEMENT MARKINGS LEGEND

- ① PAVT. MK. TAPE TY. IV, DOUBLE YELLOW, 4" @ 11" C-C
- ② PAVT. MK. TAPE TY. IV, EDGE LINE, YELLOW-LEFT, WHITE-RIGHT, 4"
- ③ PAVT. MK. TAPE TY. IV, STOP BAR, 24"



TRAFFIC CONTROL LEGEND

- ↑ ARROW BOARD
- DRUM OR BARRICADE
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- ▨ WORK AREA
- ⊕ BARRICADE OR DRUM WITH FLASHING LIGHT
- ⊙ TYPE III BARRICADE WITH FLASHING LIGHTS
- ▬ TEMPORARY CONCRETE BARRIER
- ▬▬ TEMPORARY IMPACT ATTENUATOR, NON-REDIRECTIVE, TEST LEVEL 2
- ←⊙ DIRECTION INDICATOR BARRICADE WITH STEADY BURN LIGHT @ 20' C-C



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DRAWN	-	REVISION	-	REVISED	-
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PLOT DATE	= 9/10/2021	DATE	-	REVISED	-

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

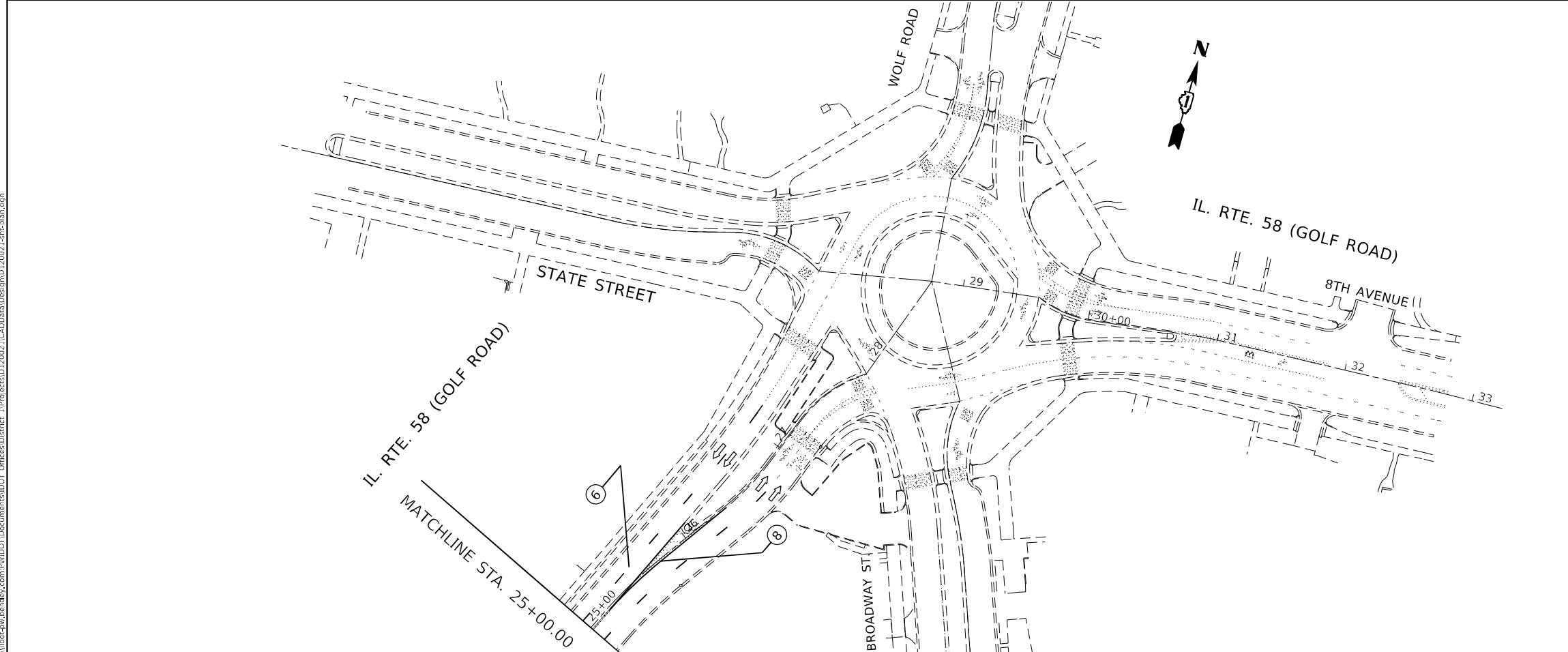
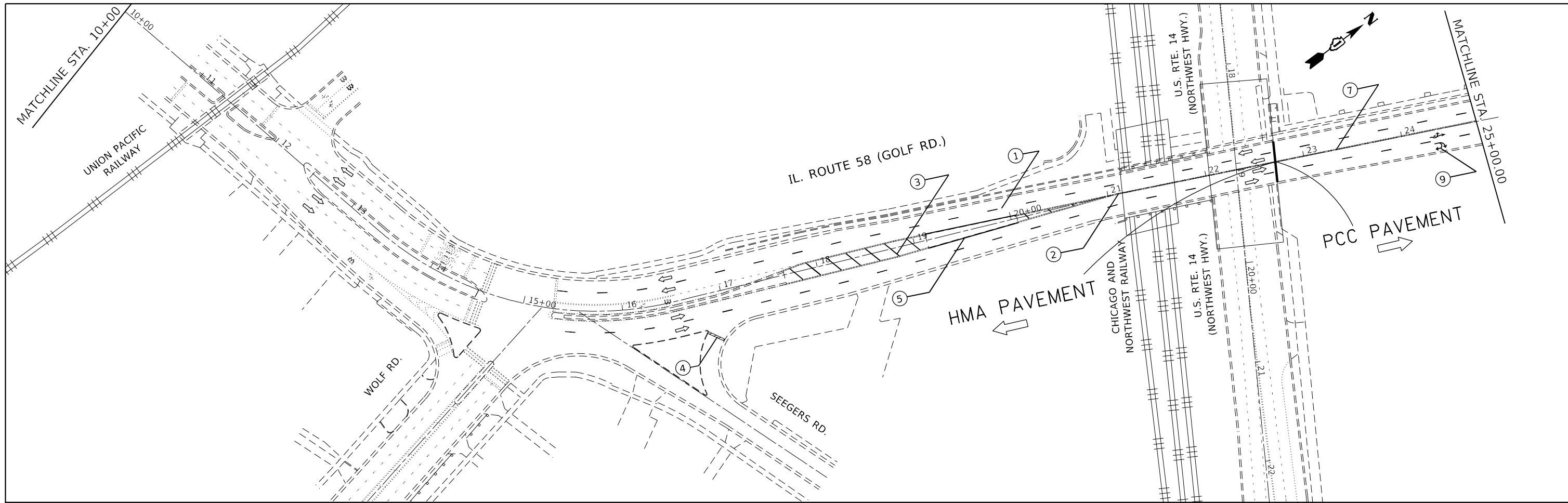
IL. ROUTE 58 (GOLF ROAD) UNDER U.S. ROUTE 14 BRIDGE  
CONSTRUCTION STAGE I

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2021-117-BP	COOK	32	23
CONTRACT NO. 62P46				
ILLINOIS FED. AID PROJECT				







**PAVEMENT MARKINGS LEGEND**

- ① PROP. THERMOPLASTIC PVMT MARKING 4", 10' DASH 30' SKIP, WHITE (TYP.)
- ② PROP. THERMOPLASTIC PVMT MARKING 4", DOUBLE YELLOW @11" C-C (TYP.)
- ③ PROP. THERMOPLASTIC PVMT MARKING 12", MEDIAN @ 45, 75' C-C, YELLOW (TYP.)
- ④ PROP. THERMOPLASTIC PVMT MARKING 24", STOPBAR, WHITE (TYP.)
- ⑤ PROP. THERMOPLASTIC PVMT MARKING 4", MEDIAN LANE, YELLOW (TYP.)
- ⑥ PREFORM. PL. PMK, TY B - LINE 7" 10' DASH 30' SKIP
- ⑦ PROP. MOD. URETHANE PMK 4", DOUBLE YELLOW @ 11" C-C
- ⑧ PROP. MOD. URETHANE PMK 4", MEDIAN EDGELINE, SOLID, YELLOW
- ⑨ PROP. MOD. URETHANE PMK, LETTERS AND SYMBOLS, WHITE

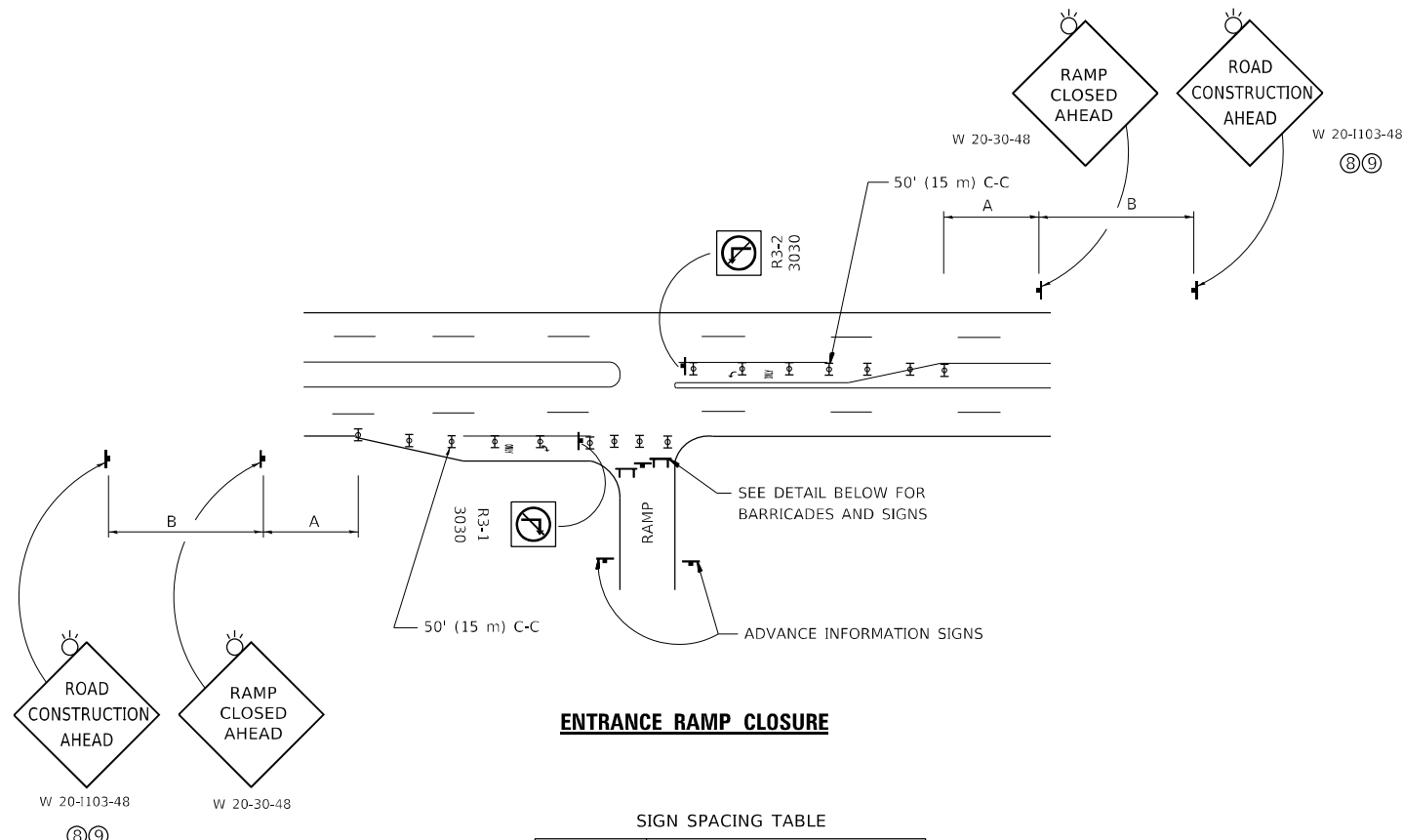
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 PLOT DATE = 9/13/2021

USER NAME = shahda	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>IL. ROUTE 58 (GOLF ROAD) UNDER U.S. ROUTE 14 BRIDGE          PAVEMENT MARKING PLAN</b>			
SCALE: 1"=50'	SHEET	OF	SHEETS
	STA.		TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2021-117-BP	COOK	32	25
CONTRACT NO. 62P46				
ILLINOIS FED. AID PROJECT				

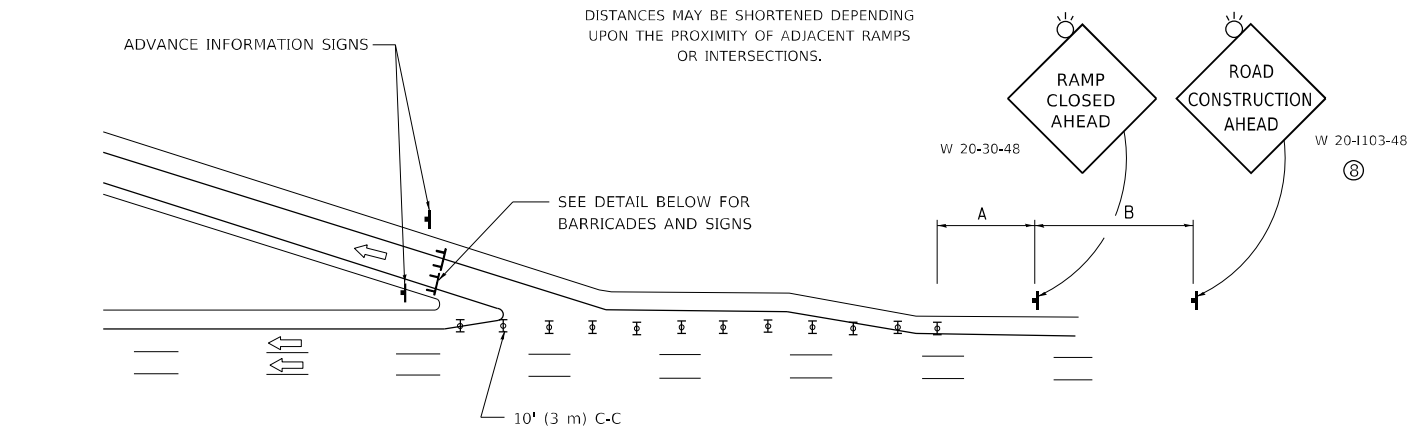


**ENTRANCE RAMP CLOSURE**

SIGN SPACING TABLE

FACILITY	DISTANCE BETWEEN SIGNS	
	A	B
EXPRESSWAY >24 HOURS	1000' (300 m)	1500' (450 m)
EXPRESSWAY ≤24 HOURS	500' (150 m)	500' (150 m)
ARTERIAL 55 MPH	500' (150 m)	500' (150 m)
ARTERIAL 50-45 MPH	350' (100 m)	350' (100 m)
ARTERIAL <45 MPH	200' (60 m)	200' (60 m)

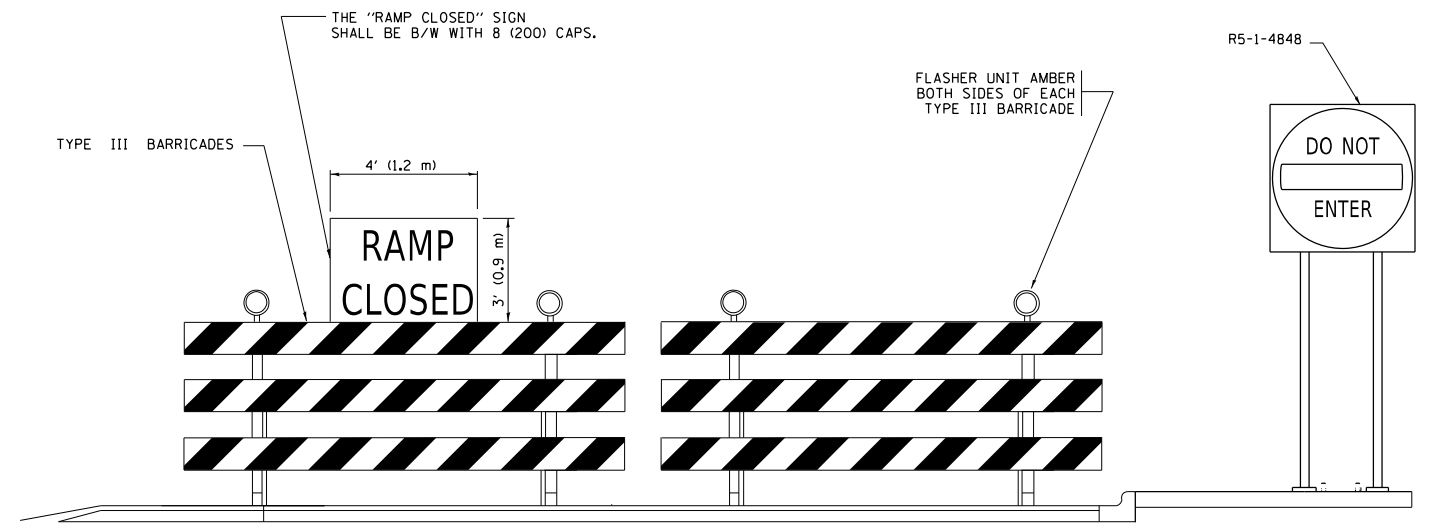
DISTANCES MAY BE SHORTENED DEPENDING UPON THE PROXIMITY OF ADJACENT RAMPS OR INTERSECTIONS.



**EXIT RAMP CLOSURE**

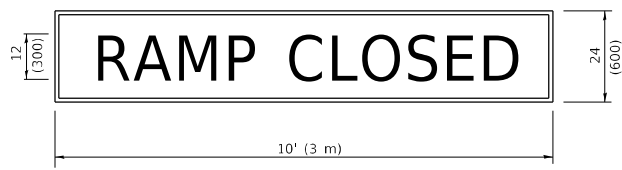
**SYMBOLS**

- ▬ TYPE II BARRICADE OR DRUM
- ⌈ TYPE III BARRICADE WITH 2 FLASHING LIGHTS



**DETAIL FOR REQUIRED BARRICADES & SIGNS**

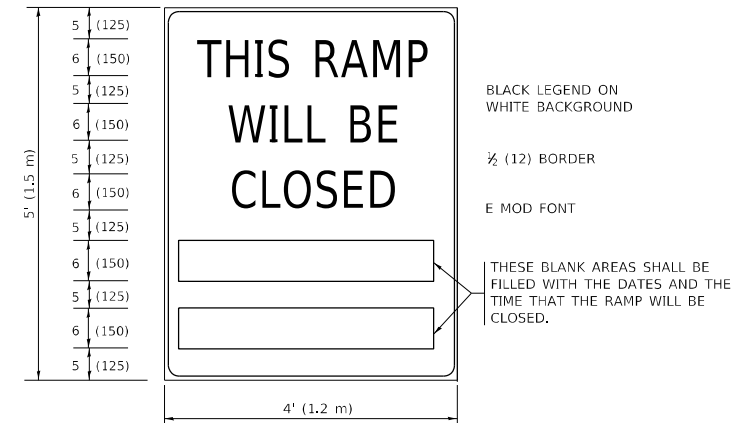
**RAMP CLOSURE ADVANCE WARNING SIGN**



BLACK LEGEND ON ORANGE BACKGROUND MOUNTED DIAGONALLY  
E MOD FONT  
1 (25) BORDER

THESE SIGNS ARE REQUIRED ON ALL THE EXIT GUIDE SIGNS FOR EXIT RAMPS THAT WILL BE CLOSED FOR MORE THAN FOUR (4) CONSECUTIVE DAYS.

**RAMP CLOSURE ADVANCE INFORMATION SIGN**



BLACK LEGEND ON WHITE BACKGROUND

1/2 (12) BORDER

E MOD FONT

THESE BLANK AREAS SHALL BE FILLED WITH THE DATES AND THE TIME THAT THE RAMP WILL BE CLOSED.

THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.

THESE SIGNS SHALL BE FABRICATED AND PAID FOR ACCORDING TO THE TEMPORARY INFORMATION SIGNING SPECIAL PROVISION

**GENERAL NOTES:**

- ① CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (700) HIGH.
- ② VERTICAL BARRICADES SHALL NOT BE USED FOR RAMP CLOSURES.
- ③ A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES, PRECEDED BY A W20-7 FLAGGER WARNING SIGN.
- ④ ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED WHEN THE RAMP IS CLOSED FOR MORE THAN FOUR (4) DAYS.
- ⑤ THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS).
- ⑥ AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.
- ⑦ THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY-FOUR (24) HOURS. ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED FOUR (4) DAYS IN LENGTH
- ⑧ ROAD CONSTRUCTION AHEAD SIGNS MAY BE OMITTED WHEN THIS DETAIL IS USED IN CONJUNCTION WITH OTHER TRAFFIC CONTROL THAT ALREADY INCLUDES A ROAD CONSTRUCTION AHEAD SIGN.
- ⑨ ARTERIAL ROAD CONSTRUCTION AHEAD SIGNS SHALL BE INSTALLED ON THE LEFT SIDE OF TRAFFIC IF THE MEDIAN IS MORE THAN 10 FT WIDE.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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PLOT DATE = 8/13/2021	CHECKED -	REVISED - M.D._06-13
	DATE - 02-83	REVISED - M.D._01-18

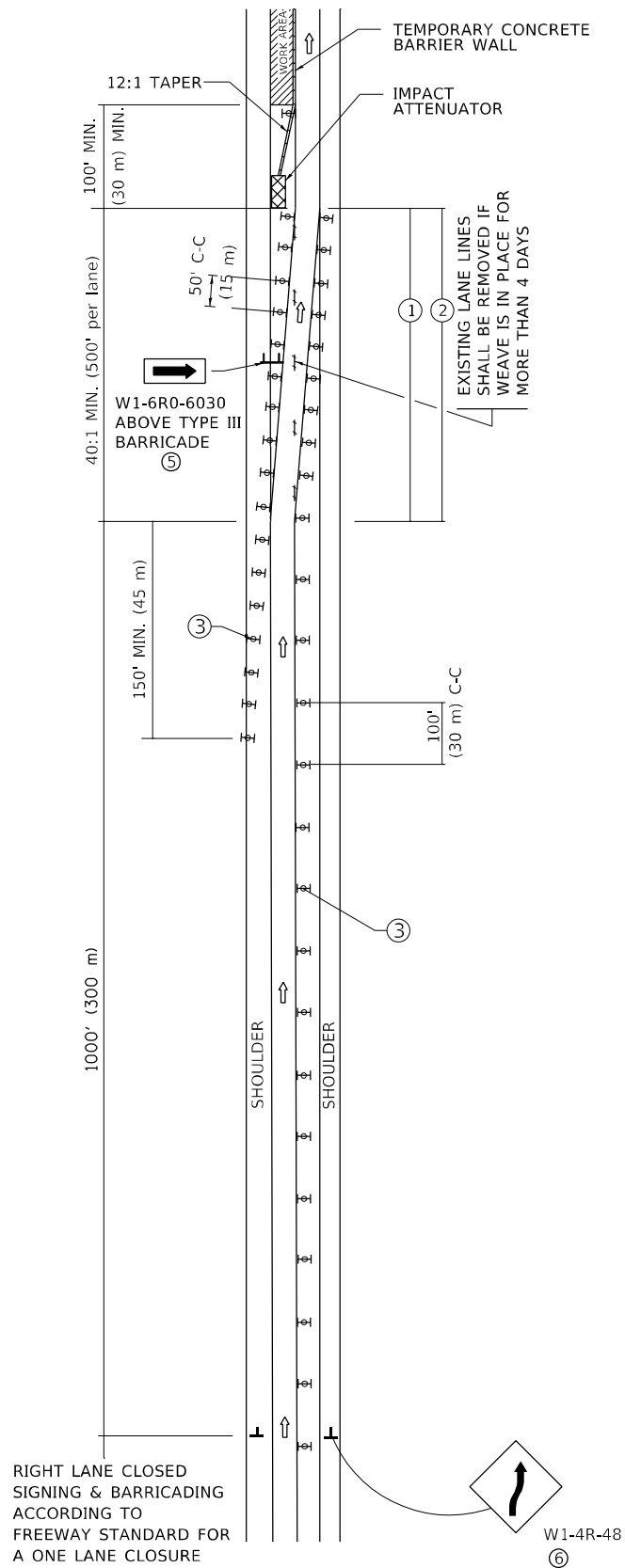
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**ENTRANCE\_AND\_EXIT\_RAMP  
CLOSURE\_DETAILS**

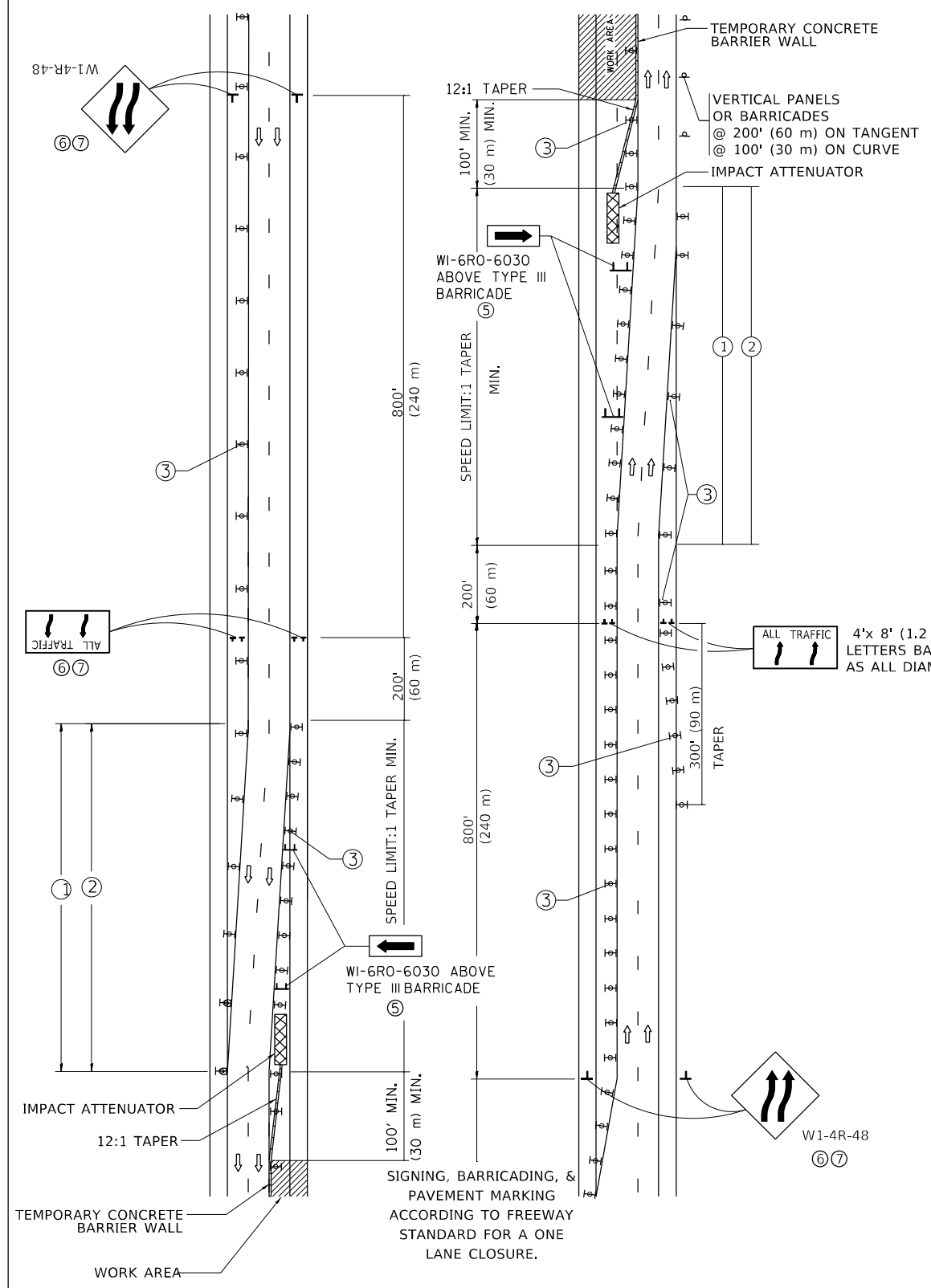
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2021-117-BP	COOK & LAKE	32	26
TC-08		CONTRACT NO.		62P46
ILLINOIS FED. AID PROJECT				

# SINGLE LANE WEAVE



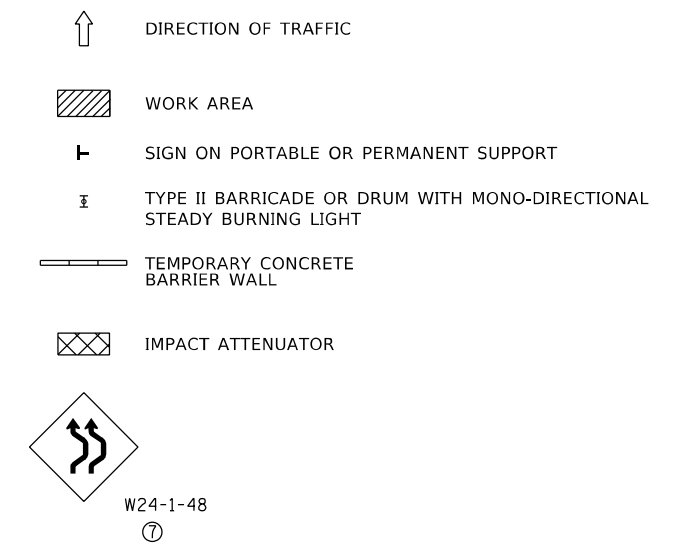
# MULTI-LANE WEAVE



GENERAL NOTES:

- ① EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED. PAVEMENT MARKING REMOVAL SHALL NOT BE REQUIRED FOR SINGLE LANE WEAVES UNDER 4 DAYS IN DURATION.
- ② CONTINUOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 300' (90 m) ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVES LANE LINES SHALL BE 5 INCH, 10'-30' (3 m-9 m) SKIP DASH, WHITE.
- ③ PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 50' (15 m) C-C SPACING IN TAPERS AND 100' (30 m) C-C SPACING IN TANGENTS.
- ④ ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- ⑤ TYPE III BARRICADES MAY BE OMITTED FOR SINGLE-LANE WEAVES UNDER 24-HOURS IN DURATION. W1-6 SIGNS WILL STILL BE REQUIRED. IF THE WIDTH OF OFFSET IS LESS THAN 6' THEN THE TYPE III BARRICADE WITH ATTACHED ARROW SIGN PANEL CAN BE ELIMINATED IN THE TAPER AREAS.
- ⑥ WHEN THE LENGTH OF THE SHIFTED SEGMENT (DISTANCE BETWEEN WEAVE POINTS) IS LESS THAN 1500', DOUBLE REVERSE CURVE SIGNS (W24-1) SHOULD BE USED INSTEAD OF THE REVERSE CURVE (W1-4) SIGNS. ARROWS ON THE 4'X8' "ALL TRAFFIC" SIGNS SHALL BE THE SAME SHAPE.
- ⑦ THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC.

## SYMBOLS



ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

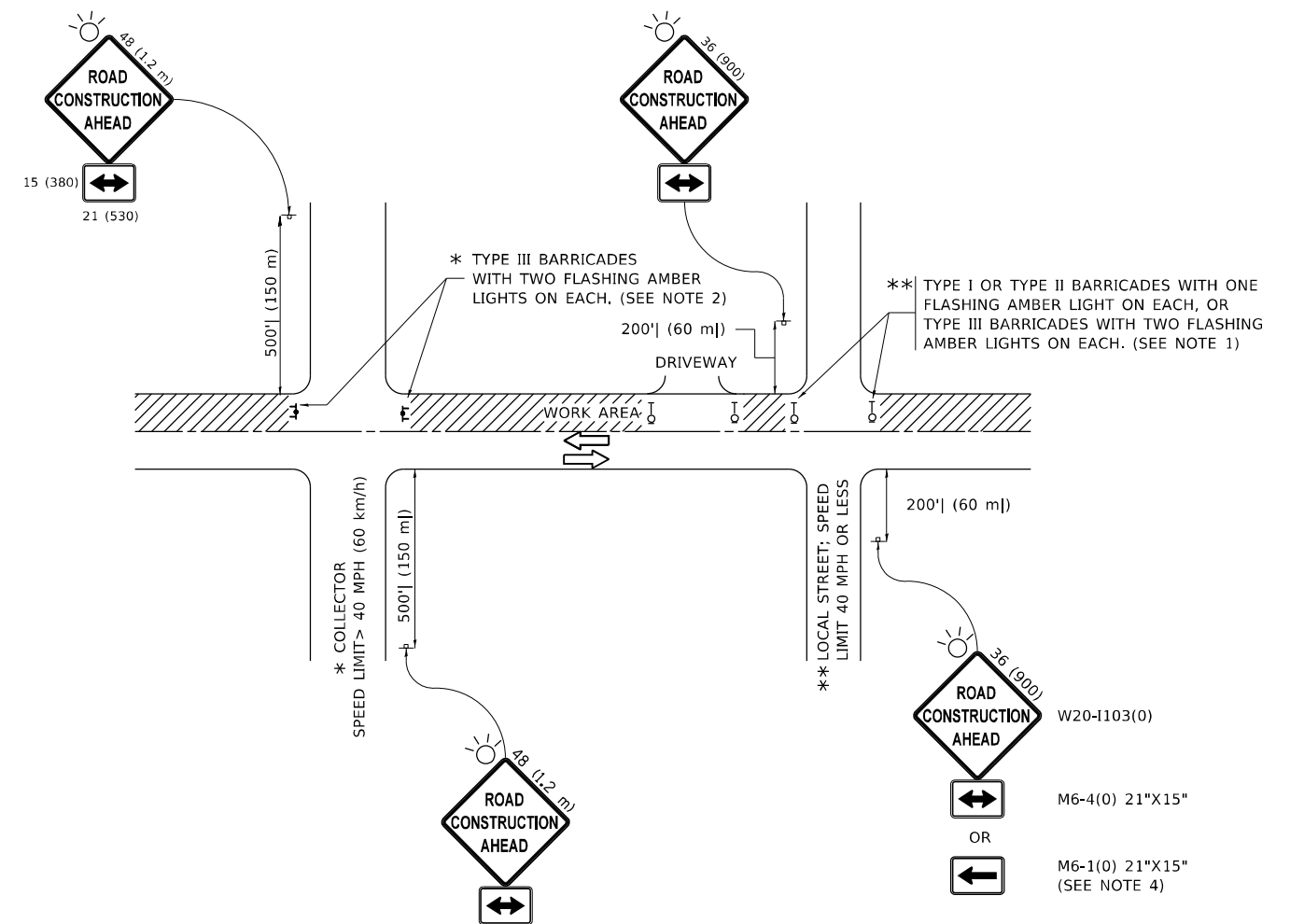
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PROJECT: 1170021

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	DRAWN -	REVISED - S.P.B. 01-07
PLOT SCALE = 100,000' / in.	CHECKED -	REVISED - S.P.B. 12-09
PLOT DATE = 8/13/2021	DATE - 02-27	REVISED - M.D. 06-13

## STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR FREEWAY SINGLE & MULTI-LANE WEAVE		
SCALE: NONE	SHEET 1 OF 1 SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2021-117-BP	COOK & LAKE	32	27
TC-09		CONTRACT NO.		62P46
ILLINOIS FED. AID PROJECT				



**NOTES:**

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 36 x 36 (900x900) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
3. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT.
4. SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
5. WHEN WORK IS BEING PERFORMED ON A SIDE ROAD OR DRIVEWAY, FOLLOW THE APPLICABLE STANDARD(S). THE DIRECTIONAL ARROW (M6-1 OR M6-4) SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE TRAFFIC CONTROL SET-UP.
6. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAYS UNLESS OTHERWISE SPECIFIED IN THE PLANS OR BY THE ENGINEER.
7. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in inches (millimeters) unless otherwise shown.

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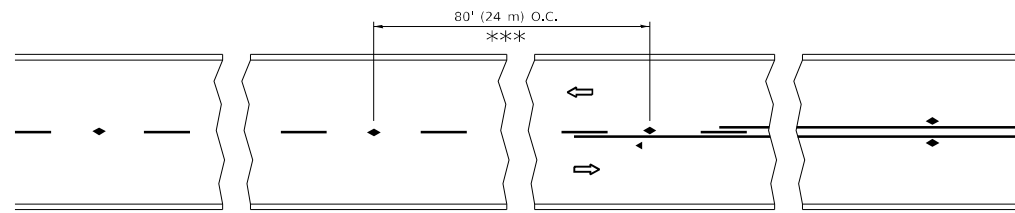
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PLOT DATE = 8/13/2021	DATE - 06-89	REVISED - A. SCHUETZE 07-01-13
		REVISED - A. SCHUETZE 09-15-16

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION FOR  
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS**

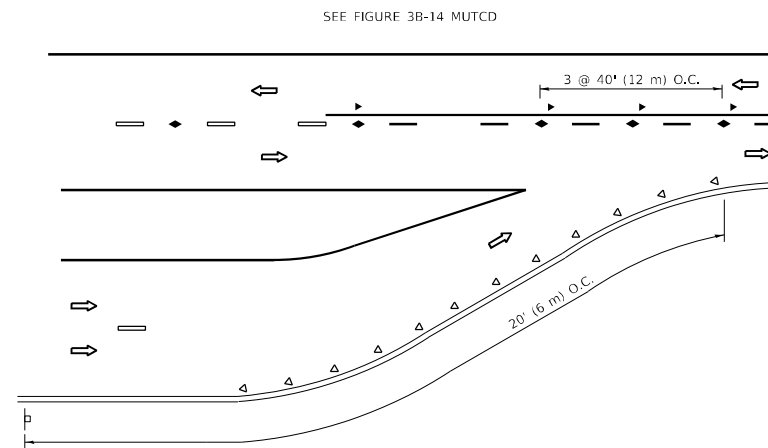
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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<b>TC-10</b>		CONTRACT NO.		62P46
ILLINOIS FED. AID PROJECT				

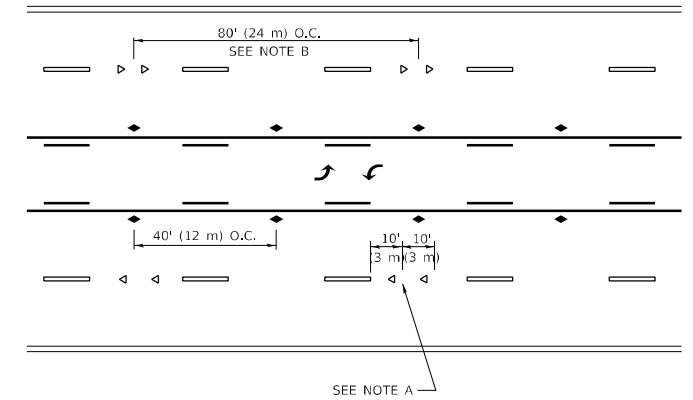


\*\*\* REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

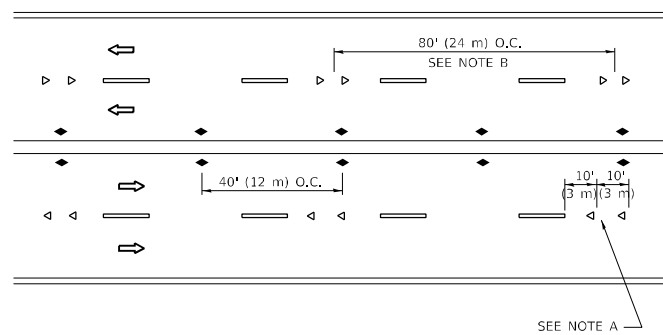
**TWO-LANE/TWO-WAY**



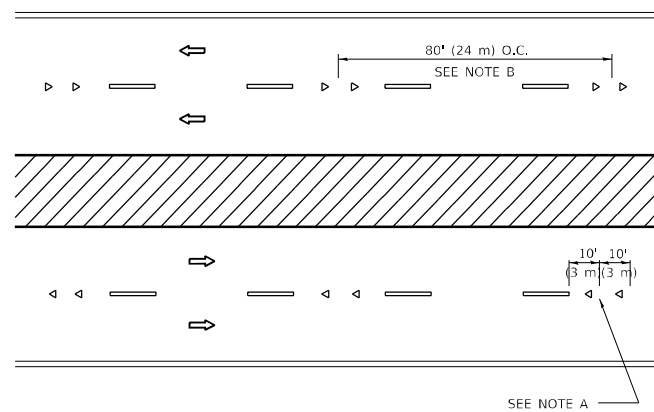
**LANE REDUCTION TRANSITION**



**TWO-WAY LEFT TURN**



**MULTI-LANE/UNDIVIDED**



**MULTI-LANE/DIVIDED**

**GENERAL NOTES**

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.
4. MARKERS ARE TO BE USED ADJACENT TO BOTH SOLID WHITE LINES IN DUAL LEFT TURN LANES

**SYMBOLS**

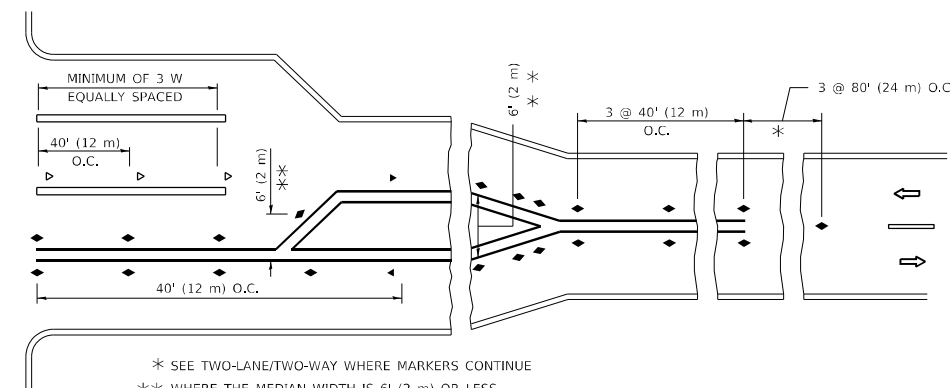
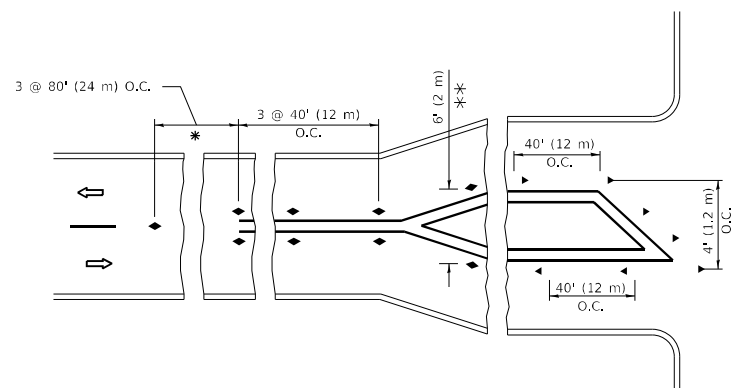
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◀ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

**LANE MARKER NOTES**

- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

**DESIGN NOTES**

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



**TURN LANES**

\* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE  
 \*\* WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

All dimensions are in inches (millimeters) unless otherwise shown.

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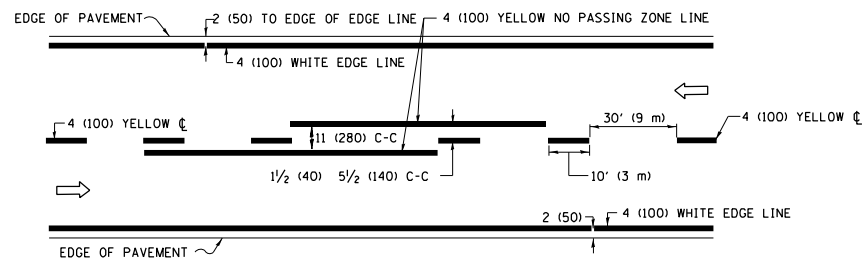
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PLOT DATE = 8/13/2021	CHECKED -	REVISED - C. JUCIUS 09-09-09
	DATE -	REVISED - C. JUCIUS 07-01-13

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

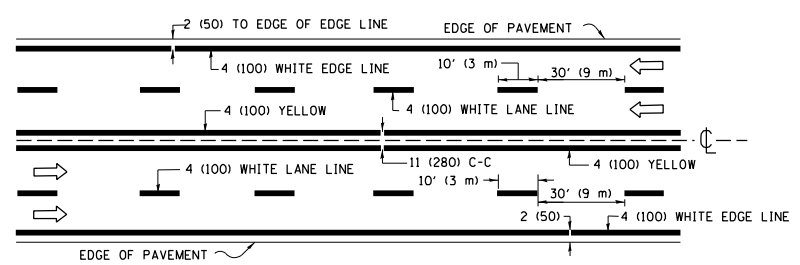
**TYPICAL APPLICATIONS  
 RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

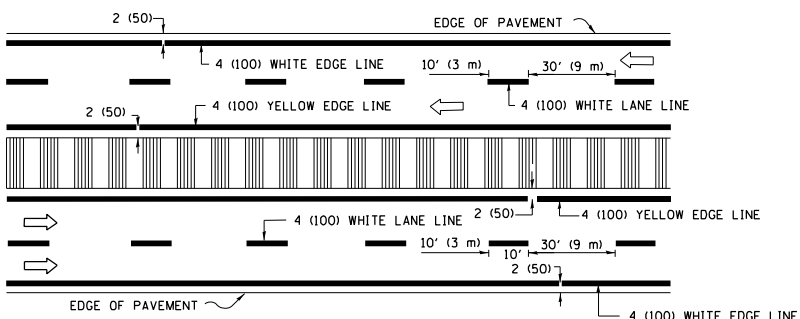
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2021-117-BP	COOK & LAKE	32	29
TC-11		CONTRACT NO.	62P46	
ILLINOIS FED. AID PROJECT				



**2-LANE ROADWAY**

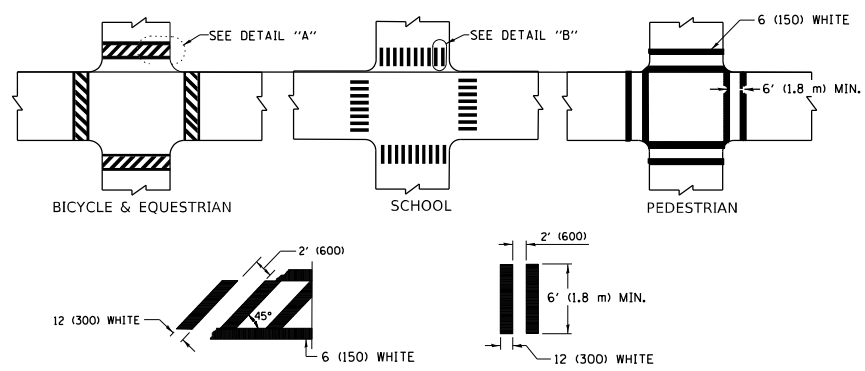


**MULTI-LANE UNDIVIDED**



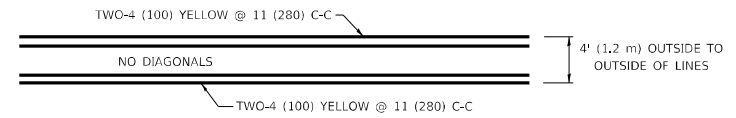
**MULTI-LANE DIVIDED WITH MEDIAN**

**TYPICAL LANE AND EDGE LINE MARKING**

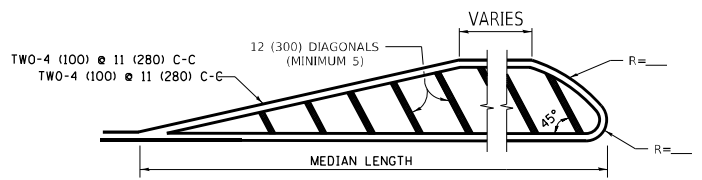


**TYPICAL CROSSWALK MARKING**

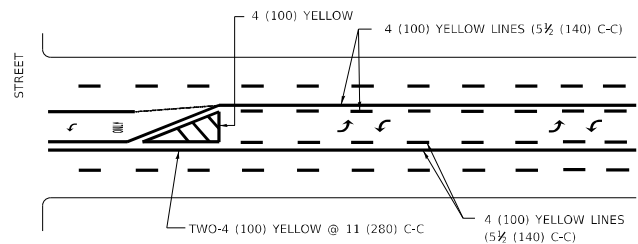
\* MARKINGS SHALL BE INSTALLED PARALLEL TO THE CENTERLINE OF THE ROAD WHICH IT CROSSES



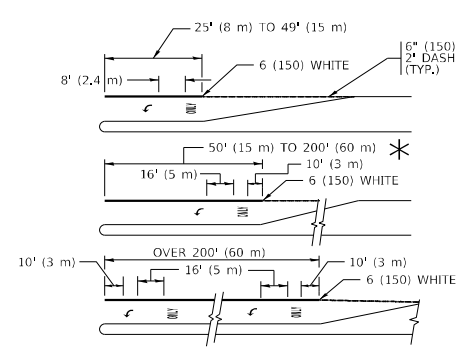
**4' (1.2 m) WIDE MEDIANS ONLY**



**MEDIANS OVER 4' (1.2 m) WIDE**



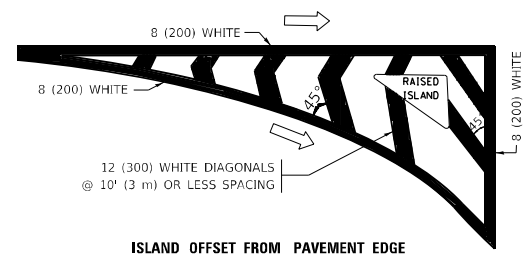
**MEDIAN WITH TWO-WAY LEFT TURN LANE TYPICAL PAINTED MEDIAN MARKING**



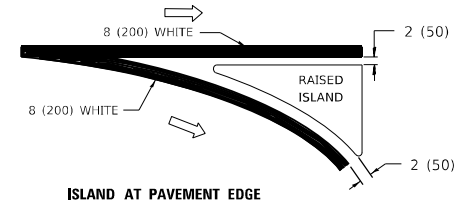
**TYPICAL LEFT (OR RIGHT) TURN LANE**

**TYPICAL TURN LANE MARKING**

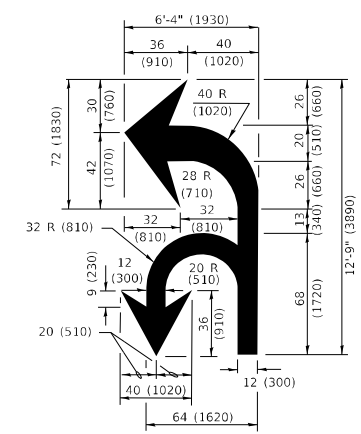
FULL SIZE LETTERS 8" (2.4 m) AND ARROWS SHALL BE USED.  
 \* TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".



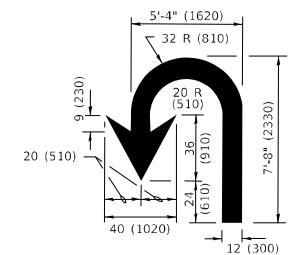
**ISLAND OFFSET FROM PAVEMENT EDGE**



**ISLAND AT PAVEMENT EDGE TYPICAL ISLAND MARKING**



**COMBINATION LEFT AND U-TURN**



**U-TURN**

**LANE REDUCTION TRANSITION**  
 \* LANE REDUCTION ARROWS REQUIRED AT SPEEDS OF 45 MPH OR GREATER OR WHEN SPECIFIED IN PLANS.

D(FT)	SPEED LIMIT
345	30
425	35
500	40
580	45
665	50
750	55

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5 1/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MEDIANS IN YELLOW
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8" (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8" (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5 1/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT, PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES: "RR" IS 8' (1.8 m) LETTERS: 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m <sup>2</sup> EACH) "X"=54.0 SQ. FT. (5.0 m <sup>2</sup> )
SHOULDER DIAGONALS (REQUIRED FOR SHOULDERS ≥ 8')	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))
U TURN ARROW	SEE DETAIL	SOLID	WHITE	16.3 SF
2 ARROW COMBINATION LEFT AND U TURN	SEE DETAIL	SOLID	WHITE	30.4 SF

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.

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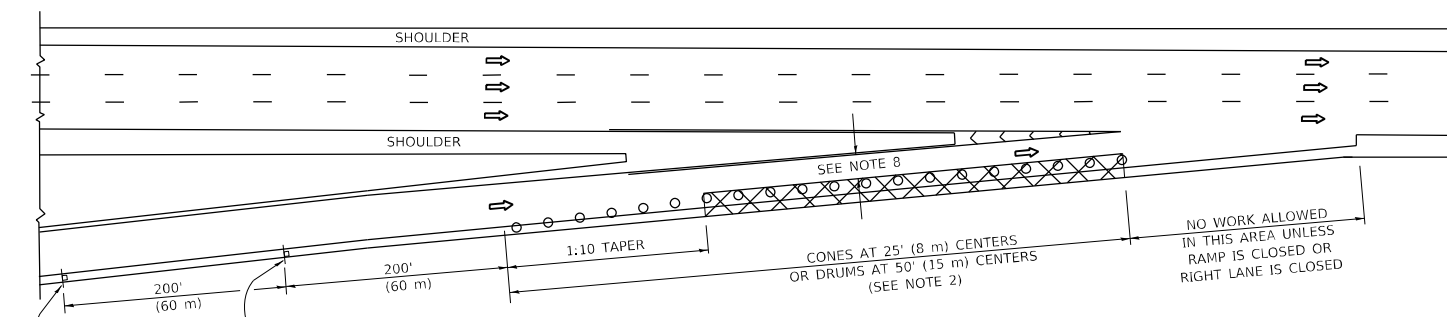
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE  
TYPICAL PAVEMENT MARKINGS**

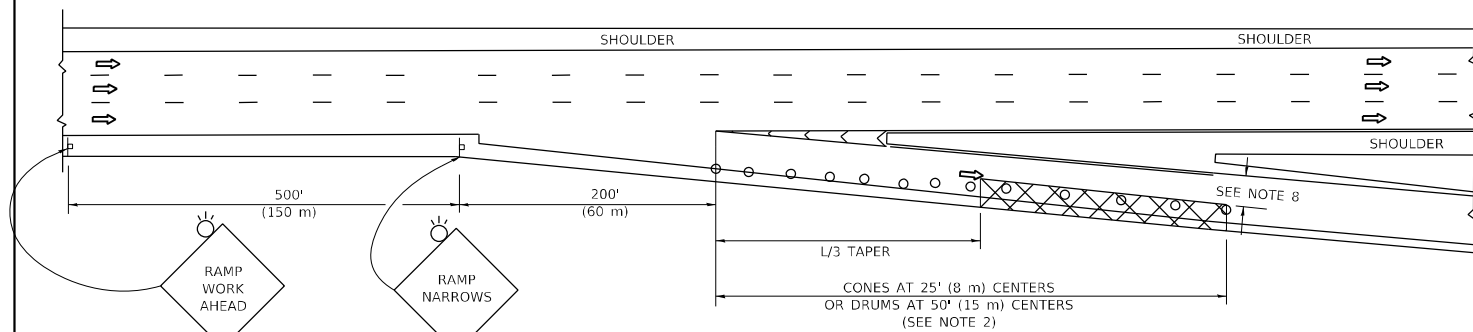
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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<b>TC-13</b>		CONTRACT NO.	62P46	
ILLINOIS FED. AID PROJECT				

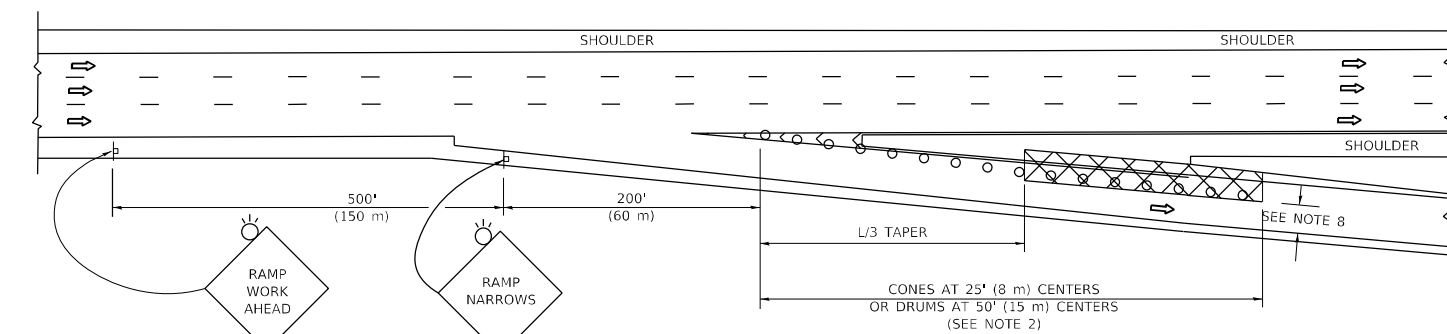
**PARTIAL RAMP CLOSURE DETAILS**



**TYPICAL ENTRANCE RAMP**



**TYPICAL EXIT RAMP**



**TYPICAL EXIT RAMP**

**SYMBOLS**

- ACTIVE WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE OR DRUM
- CONE, DRUM OR BARRICADE
- IMPACT ATTENUATOR OF TYPE AND TEST LEVEL SPECIFIED

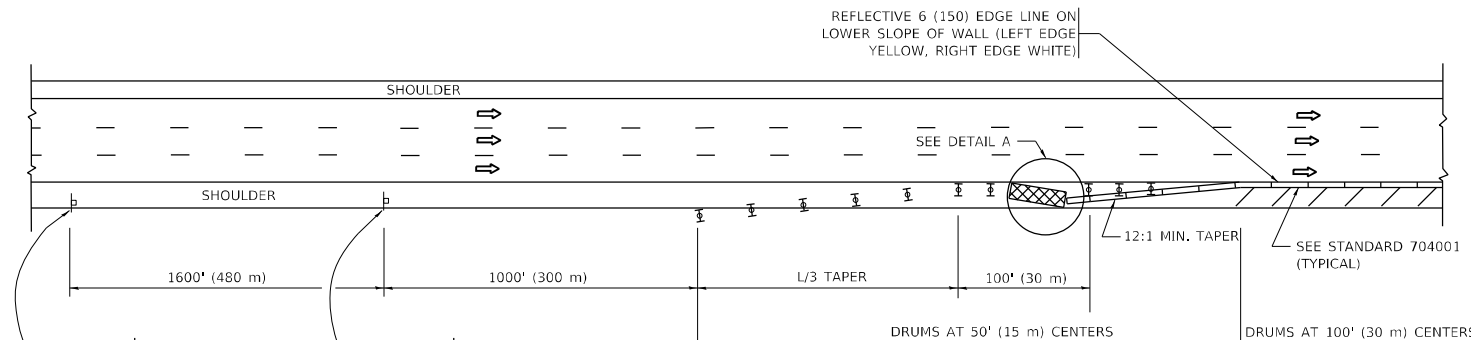
**GENERAL NOTES:**

- THE "L" DISTANCE EQUALS:  

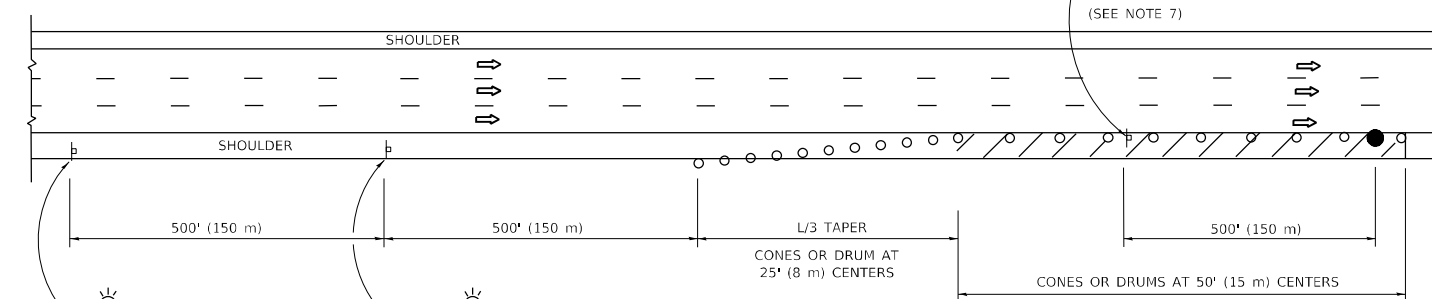
$L = \frac{W \cdot S}{S - V}$	$L = \frac{W \cdot S}{S - V}$	$L = \frac{W \cdot S}{S - V}$
45 mph (80 km/h)	METRIC	ENGLISH
OR GREATER:	$L = 0.65(W/S)$	$L = (W/S)$

W = WIDTH OF OFFSET IN FEET (METERS)  
 S = NORMAL POSTED SPEED MPH (KM/H)
- TYPE II BARRICADES OR DRUMS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES. TYPE II BARRICADES OR DRUMS WITH MONODIRECTIONAL STEADY BURN LIGHTS ARE REQUIRED FOR DELINEATING OBSTACLES, EXCAVATIONS, OR HAZARDS EXCEEDING 100 FT (30m) IN LENGTH AT NIGHT.
- ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
- FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.

**SHOULDER CLOSURE DETAILS**



**PERMANENT SHOULDER CLOSURE**



**TEMPORARY SHOULDER CLOSURE**



**DETAIL "A"  
IMPACT ATTENUATOR, TEMPORARY  
(SEE NOTE 5)**

- THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS PROTECTED BY OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE NARROW USE TYPE DEVICE TO MEET NCHRP350/MASH.
- AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
- THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
  - FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
  - THE WORK AVTIVITY REQUIRES FREQUENT ENCR OACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 100' (30 m) TO 200' (60 m) IN ADVANCE OF THE WORKERS.
- 12' MIN. WIDTH TANGENT SECTION  
16' MIN. WIDTH CURVE SECTION.
- TEMPORARY SHOULDER AND NON-SYSTEM INTERCHANGE PARTIAL RAMP CLOSURES ARE ALLOWED WEEKDAYS BETWEEN 9:00 A.M. AND 3:00 P.M. AND BETWEEN 7:00 P.M. AND 5:00 A.M. OR AS APPROVED BY THE EXPRESSWAY TRAFFIC OPERATIONS ENGINEER. PERMANENT SHOULDER AND PARTIAL RAMP CLOSURES WILL ONLY BE PERMITTED IF CALLED FOR IN THE PLANS OR AS APPROVED BY THE EXPRESSWAY OPERATIONS ENGINEER.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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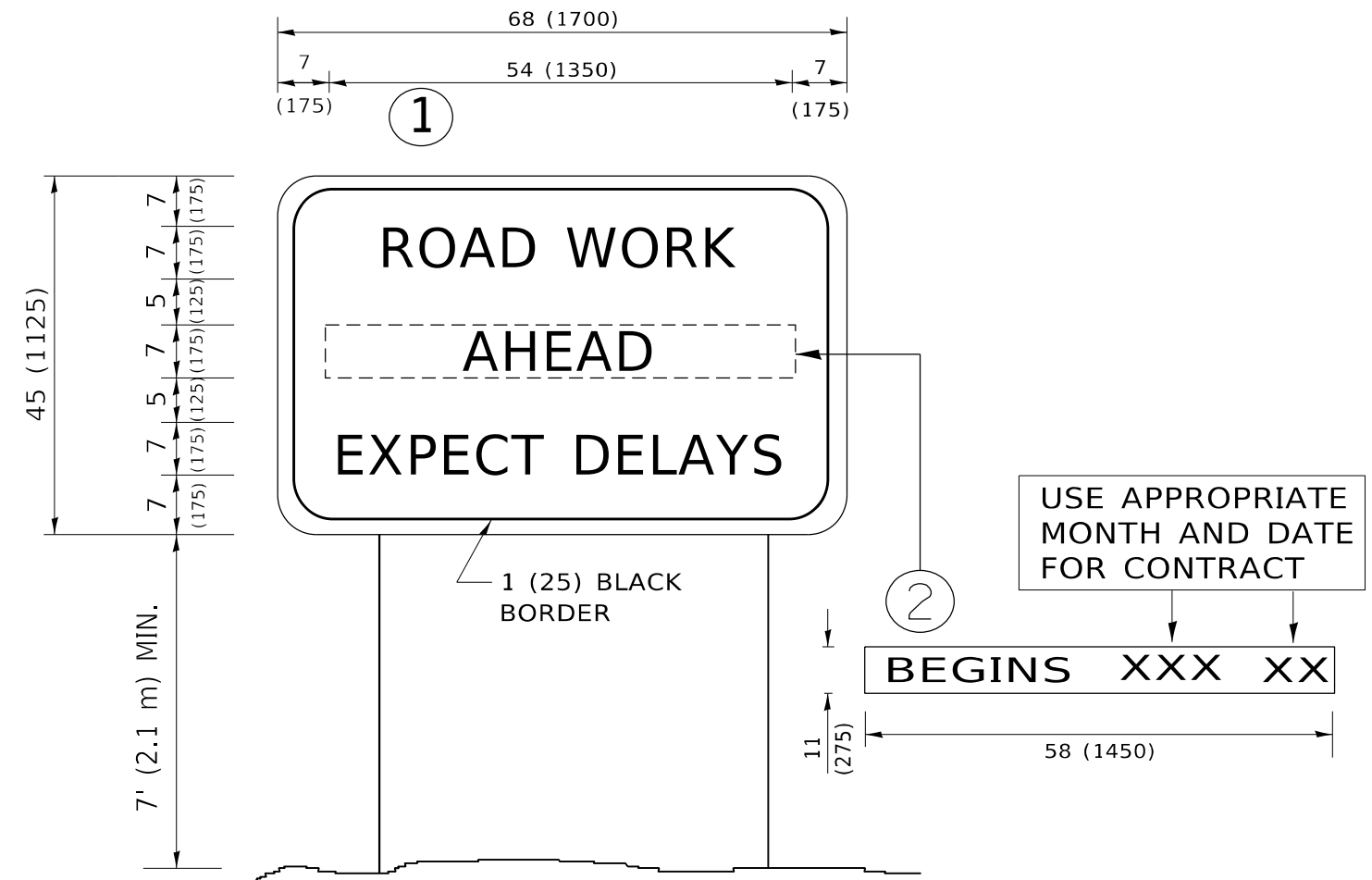
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL DETAILS FOR FREEWAY  
SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2021-117-BP	COOK & LAKE	32	31
TC-17		CONTRACT NO.	62P46	
ILLINOIS FED. AID PROJECT				



**NOTES:**

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

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PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED - T. RAMMACHER 02-02-99
PLOT DATE = 8/13/2021	DATE -	REVISED - C. JUCIUS 01-31-07

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**ARTERIAL ROAD  
INFORMATION SIGN**

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2021-117-BP	COOK & LAKE	32	32
TC-22		CONTRACT NO.		62P46
ILLINOIS FED. AID PROJECT				