FOR INDEX OF SHEETS, SEE SHEET NO. 2

0

0

 $\bigcirc$ 

 $\bigcirc$ 

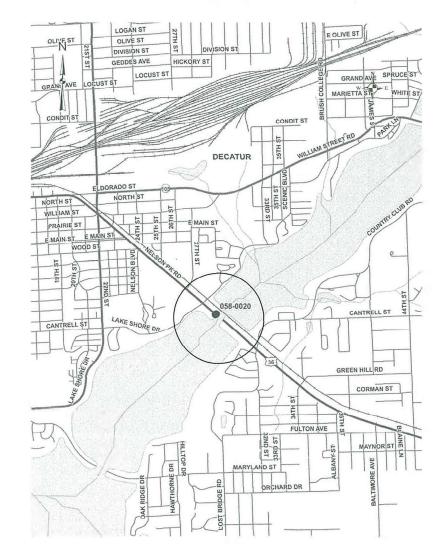
# STATE OF ILLINOIS

# **DEPARTMENT OF TRANSPORTATION**

# **PROPOSED HIGHWAY PLANS**

FAP ROUTE 320(US 36 /IL 121) **SECTION D7 BRIDGE REPAIRS 2021-7** PROJECT NHPP-QRSE(266) **BRIDGE REPAIR MACON COUNTY** 

C-97-079-20

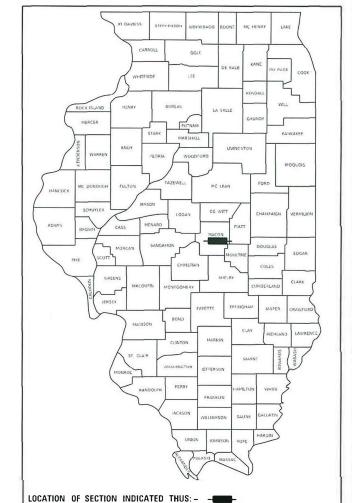


D-97-071-20

320 D7\_BRIDGE\_REPAIRS\_2021-7

MACON 33

ILLINOIS CONTRACT NO. 74994

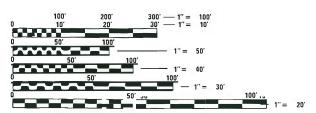


# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

REV. - MS

ADT = 22,200 (2019)



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.

JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION 1-800-892-0123

PROJECT ENGINEER: TOM RONAN PROJECT MANAGER: RYAN WEI

CONTRACT NO. 74994

# INDEX OF SHEETS

SHEET NO.	<u>ITEM</u>
1	COVER SHEET
2	INDEX OF SHEETS, GENERAL NOTES, & HIGHWAY STANDARDS
3 - 4	SUMMARY OF QUANTITIES
5	SCHEDULES OF QUANTITIES
6-15	TRAFFIC CONTROL PLAN SHEETS
16-32	STRUCTURE PLAN SHEETS AND DETAILS
33	CONCRETE MEDIAN DETAIL

# LIST OF ILLINOIS DOT HIGHWAY STANDARDS

STD. NO.	DESCRIPTION
000001-08 001006	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS Decimal of an inch and of a foot
606301-04	PC CONCRETE ISLANDS AND MEDIANS
701101-05	OFF-ROAD OPERATIONS, MULTI-LANE, 15'AWAY TO EDGE OF PAVEMENT
701106-02	OFF-ROAD OPERATIONS, MULTI-LANE, 15' MINIMUM AWAY FROM PAVEMENT EDGE
701423-10	TRAFFIC CONTROL DEVICES
701601-09	URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
701611-01	URBAN HALF ROAD CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TRAFFIC CONTROL DEVICES

# GENERAL NOTES

THIS PROJECT IS LOCATED ON US 36 OVER LAKE DECATUR IN MACON COUNTY. THIS WORK INCLUDES THE FOLLOWING REPAIRS TO STRUCTURE 058-0020 CARRYING US 36 OVER LAKE DECATUR: REPLACEMENT OF EXISTING EXPANSION JOINTS, BEARING REPLACEMENT, STEEL BEAM STRUCTURE REPAIR, CURB REPAIR, PAPAPET REPAIR, FULL DEPTH DECK PATCHING, SCARIFICATION AND CONCRETE OVERLAY, AND ALL OTHER WORK NECESSARY TO COMPLETE THIS PROJECT.

COMBINATION CONCRETE CURB AND GUTTER TYPE B - 6.12 IS TO BE USED TO INSTALL NOSE RAMPS ON THE EDGES OF CONCRETE MEDIAN REMOVAL.

PCC BASE COURSE, 9" IS TO BE USED DURING STAGE I & II FOR TRAFFIC WHERE THE CONCRETE MEDIAN HAS BEEN REMOVED.

THE TOTAL QUANTITY OF PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - LINE 4" CONSISTS OF 1128 FEET OF YELLOW.

THE TOTAL QUANTITY OF PREFORMED PLASTIC PAVEMENT MARKING, TYPE B - LINE  $4^{\prime\prime}$  CONSISTS OF 282 FEET OF WHITE.

USER NAME = steffenmk	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000 / in.	CHECKED -	REVISED -
PLOT DATE = 1/22/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

	INDEX,	STAND	ARDS		F.A.P. RTE	SECTION	I		COUNTY	TOTAL SHEETS	SHEET NO.
	& CEN	IERAL N	UTES		320	D7 BRIDGE REPAII	RS 2	021-7	MACON	33	2
	G GLI	ILIIAL II	UILU						CONTRACT	NO. 7	1994
SHEET 1	OF 1	SHEETS	STA.	TO STA.		ILLII	NOIS	FED. AI	D PROJECT		

80% FED 20% STATE URBAN 80% FED 20% STATE URBAN

	CUNALARY OF QUANTITIES		URBAN	CON	STRUCTION TYPE CODE	7	CUMMARY OF QUANTITIES		URBAN	CONS	TRUCTION TYPE CODE
	SUMMARY OF QUANTITIES	_	TOTAL	0047		Ī <b></b>	SUMMARY OF QUANTITIES	_	TOTAL	0047	
CODE NO	ITEM	UNIT	OUANTITIES			CODE NO	ITEM	UNIT	QUANTITIES		
35300400	PORTLAND CEMENT CONCRETE BASE COURSE 9"	SO YD	242	242		60603800	COMBINATION CONCRETE CURB AND GUTTER, TYPE	FOOT	45	45	
							B-6. 12				
50102400	CONCRETE REMOVAL	CU YD	33	33							
						67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5	5	
50157300	PROTECTIVE SHIELD	SO YD	2707	2707							
						67100100	MOBILIZATION	L SUM	1	1	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	33	33							
						70102630		L SUM	1	1	
50300260	BRIDGE DECK GROOVING	SO YD	2568	2568			701601				
50300300	PROTECTIVE COAT	SQ YD	2815	2815		70102634	TRAFFIC CONTROL AND PROTECTION, STANDARD	L SUM	1	1	
				2013		-	701611	2 30	•	•	
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	5220	5220							
						70107006	PAVEMENT MARKING BLACKOUT TAPE, 6"	FOOT	3565	3565	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	6250	6250							
						70107025	CHANGEABLE MESSAGE SIGN	CAL DA	28	28	
50800515	BAR SPLICERS	EACH	44	44							
						70300100	SHORT TERM PAVEMENT MARKING	FOOT	865	865	
52000110	PREFORMED JOINT STRIP SEAL	FOOT	1 36	136							
						70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	288	288	
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	10	10							
						70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	1410	1410	
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	10	10		70.000	TEMPORARY COMORETE STORYER	5007		750	
E2100E20	ANCHOD DOLTS 1"	FACU	40	40		/0400100	TEMPORARY CONCRETE BARRIER	FOOT	756	756	
52100520	ANCHOR BOLTS, 1"	EACH	40	40		70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	756	756	
						10400200	THE CONTROL CONCILIE DAINTEN	1 001	130	130	
				<u> </u>		J [					

MODEL: Default

USER NAME = steffenmk	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000 / in.	CHECKED -	REVISED -
BLOT DATE - 1/22/2021	DATE	DEVICED

SCALE:

SHEET

				F.A.P. RTE	SECT	ION		COUNTY	TOTAL SHEETS	SHEET NO.
SUMMARY OF QUANTITIES			320	D7 BRIDGE RE	2021-7	MACON	33	3		
								CONTRACT	NO. 74	4994
OF	SHEETS	STA.	TO STA.			ILLINOIS	FED. A	ID PROJECT		

80% FED 20% STATE URBAN

80% FED 20% STATE URBAN

	SUMMARY OF QUANTITIES			CON	TRUCTION TYPE CODE	41	SUMMARY OF QUANTITIES			CONS.	RUCTION TYPE CODE
		1	TOTAL	0047			T	<u> </u>	TOTAL	0047	
CODE NO	ITEM	UNIT	QUANTITIES			CODE NO	ITEM	UNIT	QUANTITIES		
8000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	4108	4108		Z0012110	BRIDGE DECK FLY ASH OR GGBF SLAG CONCRETE	SO YD	2733	2733	
							OVERLAY, 2 1/4"				
78003110	PREFORMED PLASTIC PAVEMENT MARKING, TYPE B -	FOOT	1410	1410							
	LINE 4"					Z0012142	BRIDGE DECK SCARIFICATION 2 1/4"	SQ YD	2733	2733	
78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	46	46		Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL	TO SO FT	425	425	
							OR LESS THAN 5 INCHES)				
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	46	46							
						Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	22	22	
78300202	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	470	470							
						Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	137	137	
X4403300	CONCRETE MEDIAN REMOVAL	SQ FT	2176	2176							
X6061702	CONCRETE MEDIAN, TYPE SM (DOWELLED)	SQ FT	2176	2176							
X7010035	TRAFFIC CONTROL AND PROTECTION, STANDARD	EACH	2	2							
	701423 (SPECIAL)										
X7040125	PINNING TEMPORARY CONCRETE BARRIER	EACH	363	363							
K7830070	GROOVING FOR RECESSED PAVEMENT MARKING 5"	FOOT	4108	4108							
0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	20	20							
0001905	STRUCTURAL STEEL REPAIR	POUND	1380	1380							

USER NAME = steffenmk	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 1/22/2021	DATE -	REVISED -

STATE 0	F ILLINOIS
DEPARTMENT OF	TRANSPORTATION

SCALE:

					F.A.P.   RTE.	SECTION		COUNTY	TOTAL SHEETS	SHEE
	SUMMAR	Y UF QUA	ANTITIES	Ì	320	D7 BRIDGE REPAIRS 20	021-7	MACON	33	4
								CONTRACT	NO. 74	4994
SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS	FED AI	D PROJECT		

: Default AME: pw:\\planroom.dot.illinois.gov:PWIDOT\Documents\\IDOT Offices\Distric		t 7\Projects\74994\v
: Default AME: pw:\\planroom.dot.illinois.gov:PWIDOT\Documents\IDO		Offices\Distric
ΣŒ	DDEL: Default	NAME: pw:\\planroom.dot.illinois.gov:PWIDOT\Documents\IDO

USER NAME = steffenmk	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 / in.	CHECKED -	REVISED -	
PLOT DATE = 1/22/2021	DATE -	REVISED -	

CONCRETE MEDIAN SCHEDULE

512

(SQ FT) (SQ FT)

512

(SQ YD) 57

50

135 242

45

LOCATION

TO 167+89

176+65 TO 177+78 452

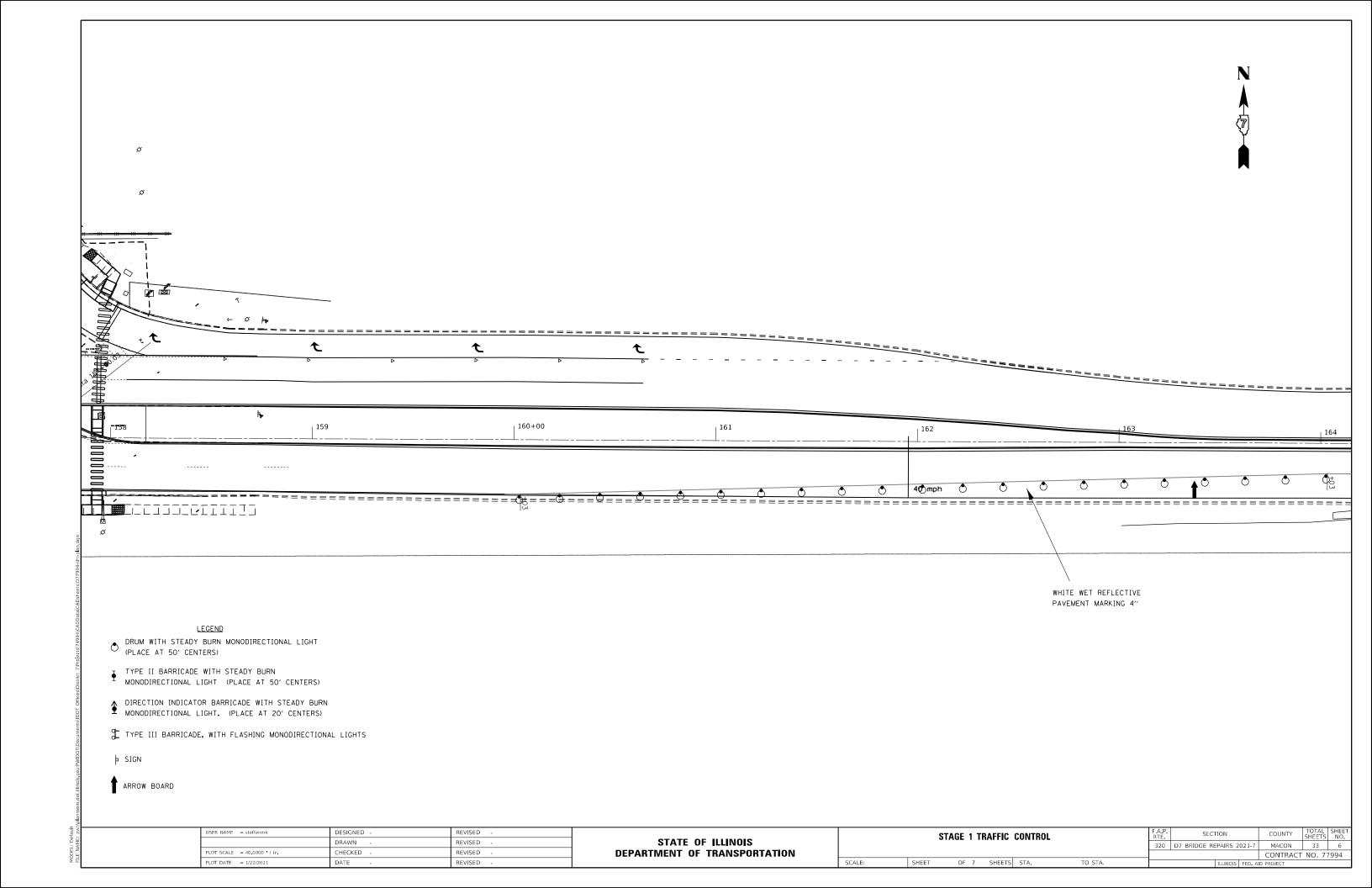
178+71 TO 181+74 1212 1212 TOTAL = 2176 2176

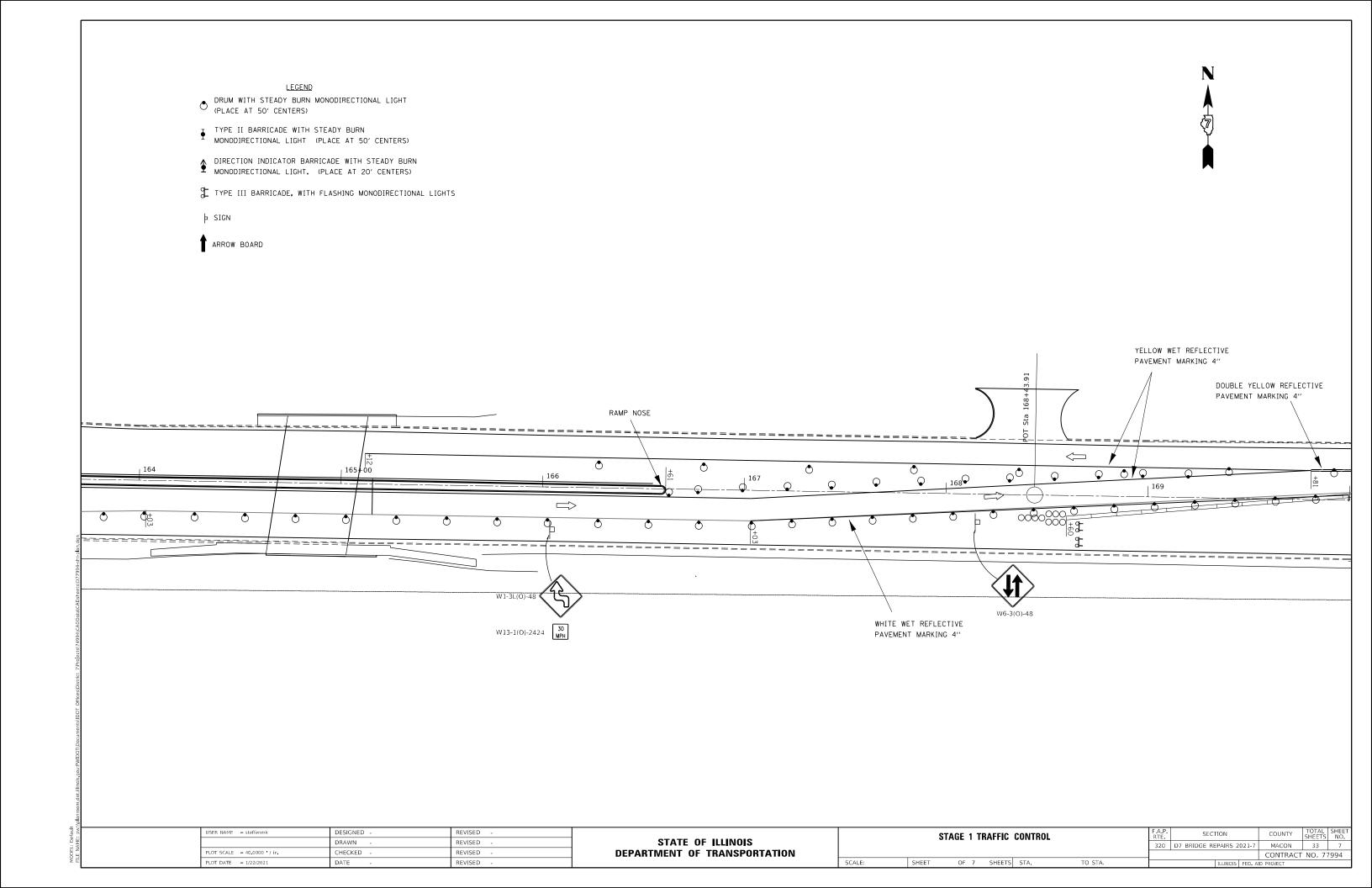
# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

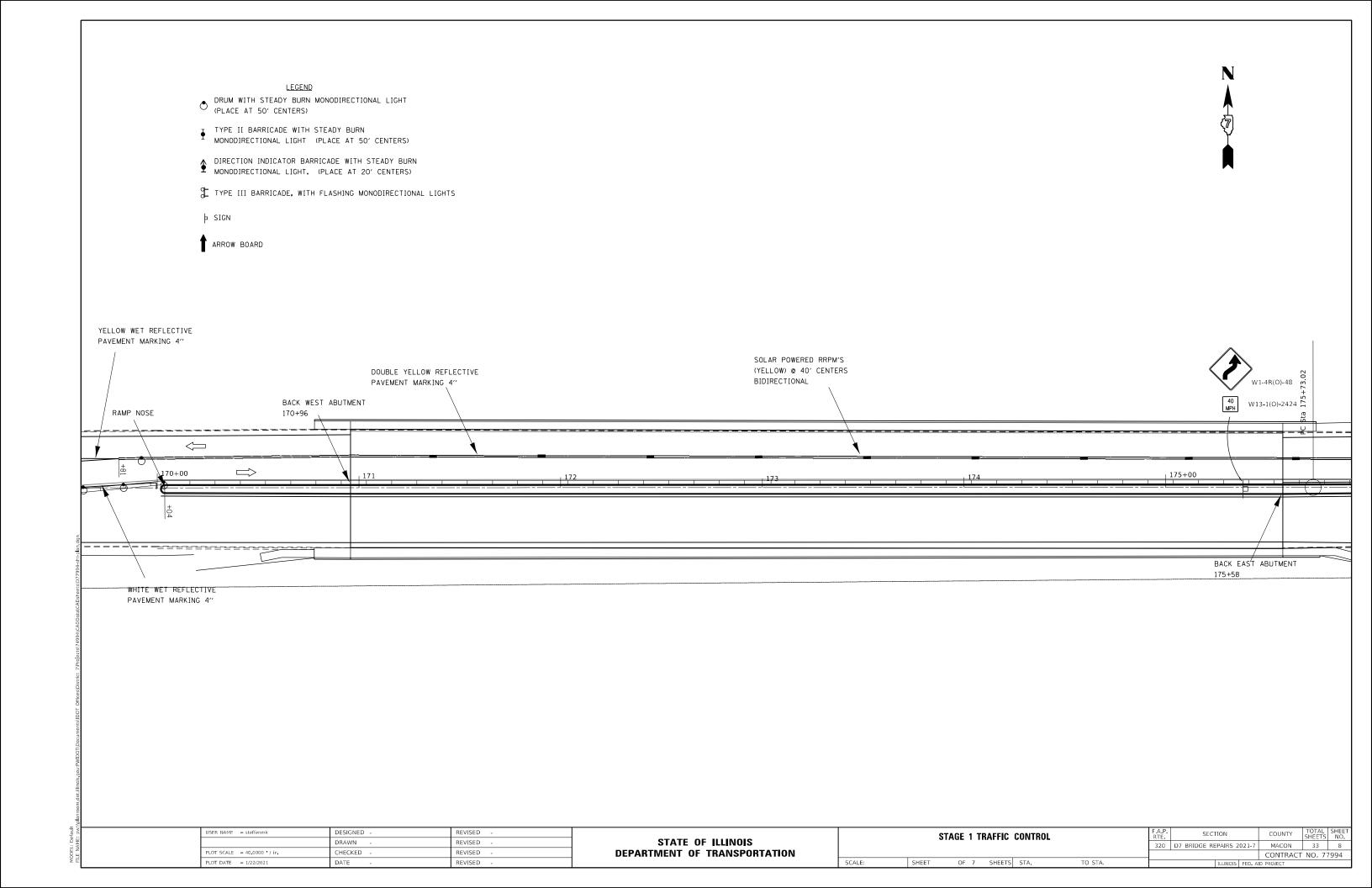
						F.A.P. RTE	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
		SCHEDULE	OF QUA	ANTITIES		320	D7 BRIDGE REPAIRS 2	021-7	MACON	33	5
									CONTRACT	NO. 74	1994
ALE:	SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS	FED. AI	D PROJECT		

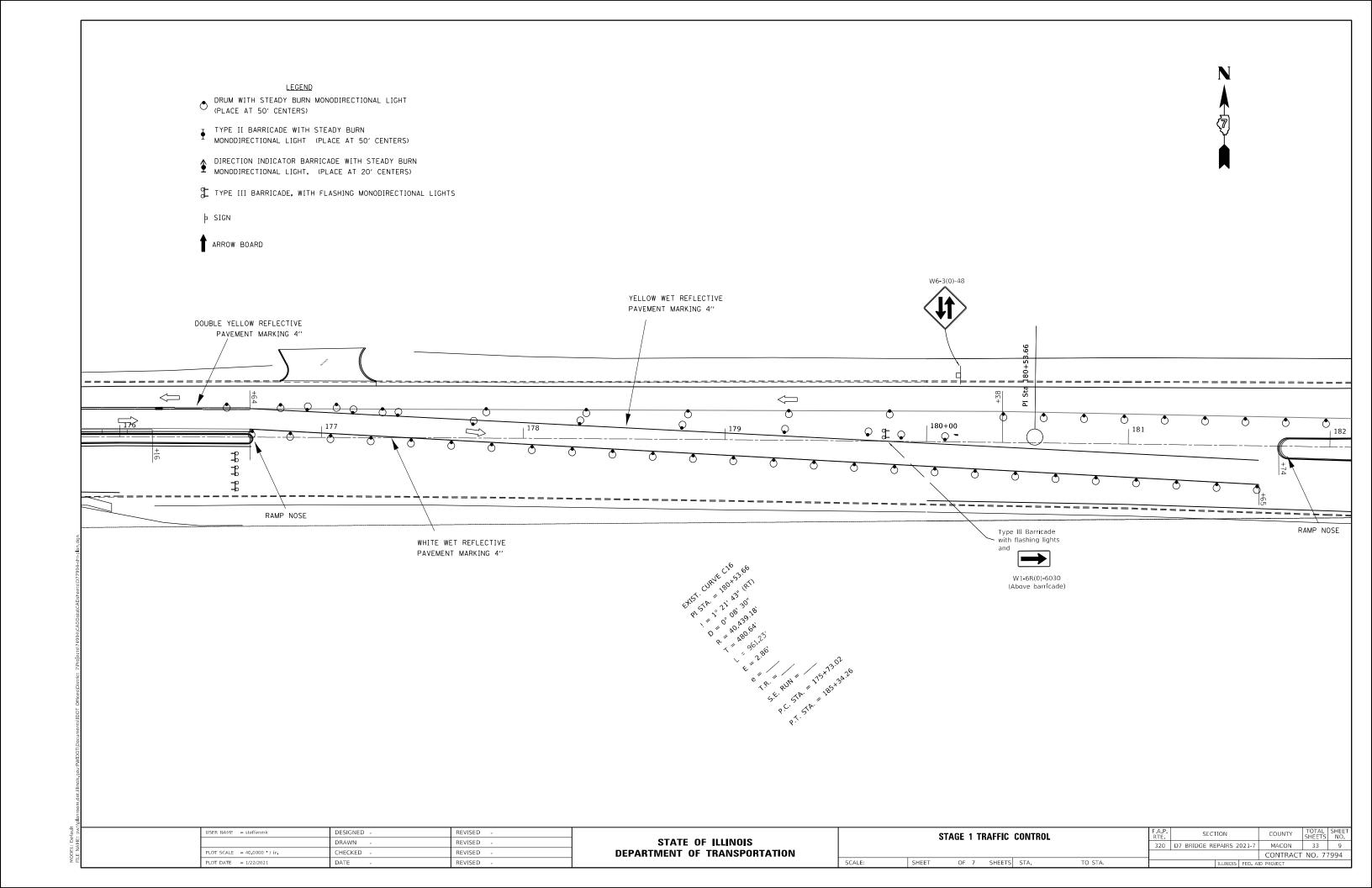
			PAVEMEN	T MARKING	SCHEDULE				
STATION TO STATION	PREFORMED PLASTIC PAVEMENT MARKING - LINE WHITE 4"	PREFORMED PLASTIC PAVEMENT MARKING - LINE YELLOW 4"	TEMPORARY PAVEMENT MARKING - WHITE LINE 4"	TEMPORARY PAVEMENT MARKING - YELLOW LINE 4"	SHORT TERM PAVEMENT MARKING	SHORT TERM PAVEMENT MARKING REMOVAL	PAVEMENT MARKING REMOVAL - WATER BLASTING	PAVEMENT MARKING BLACKOUT TAPE - LINE 6"	GROOVING FOR RECESSED PAVEMENT MARKING 5"
	FT	FT	FT	FT	FT	SQ FT	SQ FT	FT	FOOT
EASTBOUND	141	564	141	564	434	145	235	1847	
WESTBOUND	141	564	141	564	431	144	235	1718	
TOTALS	282	1128	282	1128	865	1477	470	3565	1410

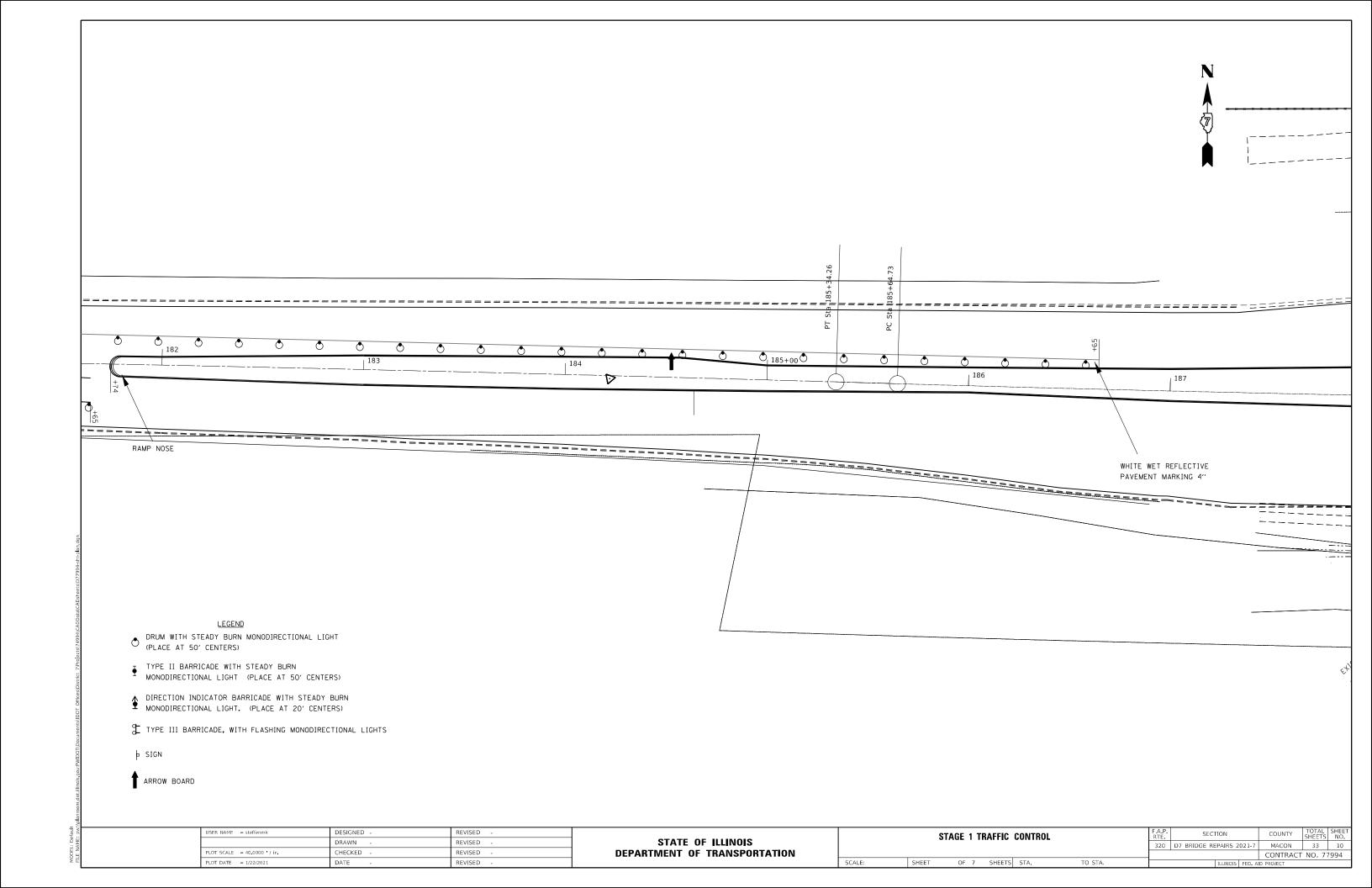
·					
	(	CONCRETE E	BARRIER SCI	HEDULE	
LO	CATI	ON	TEMPORARY CONCRETE BARRIER	RELOCATE TEMPORARY CONCRETE BARRIER	PINNING TEMPORARY CONCRETE BARRIER
			(FOOT)	(FOOT)	(EACH)
S <sup>-</sup>	TAGE	1			
168+60	ТО	170+04	144	0	35
170+04	ТО	176+16	612	0	147
5	TAGE	2			
170+52	ТО	176+64	0	612	147
176+64	ТО	178+08	0	144	35
	30	TOTAL =	756	756	363

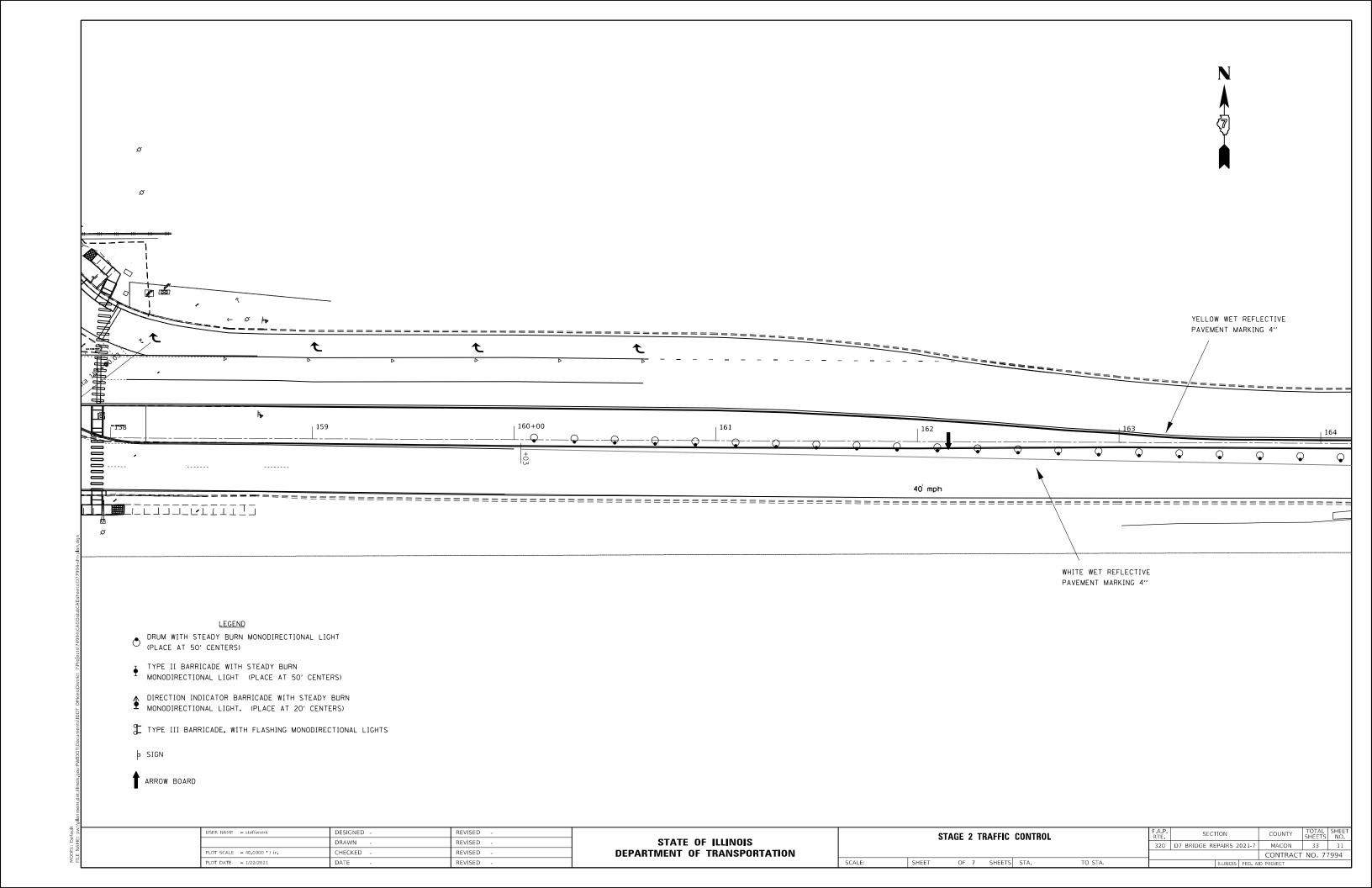


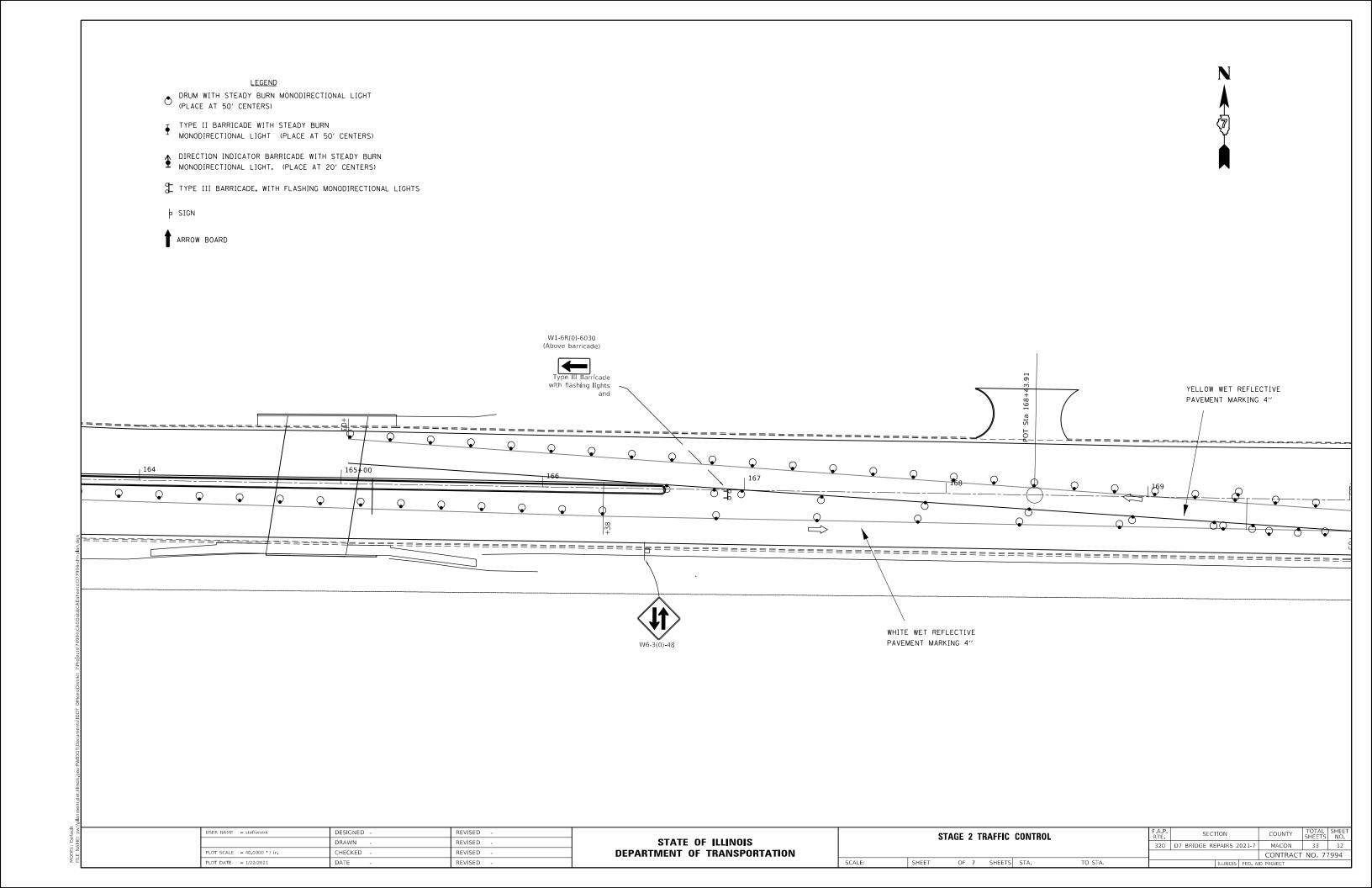


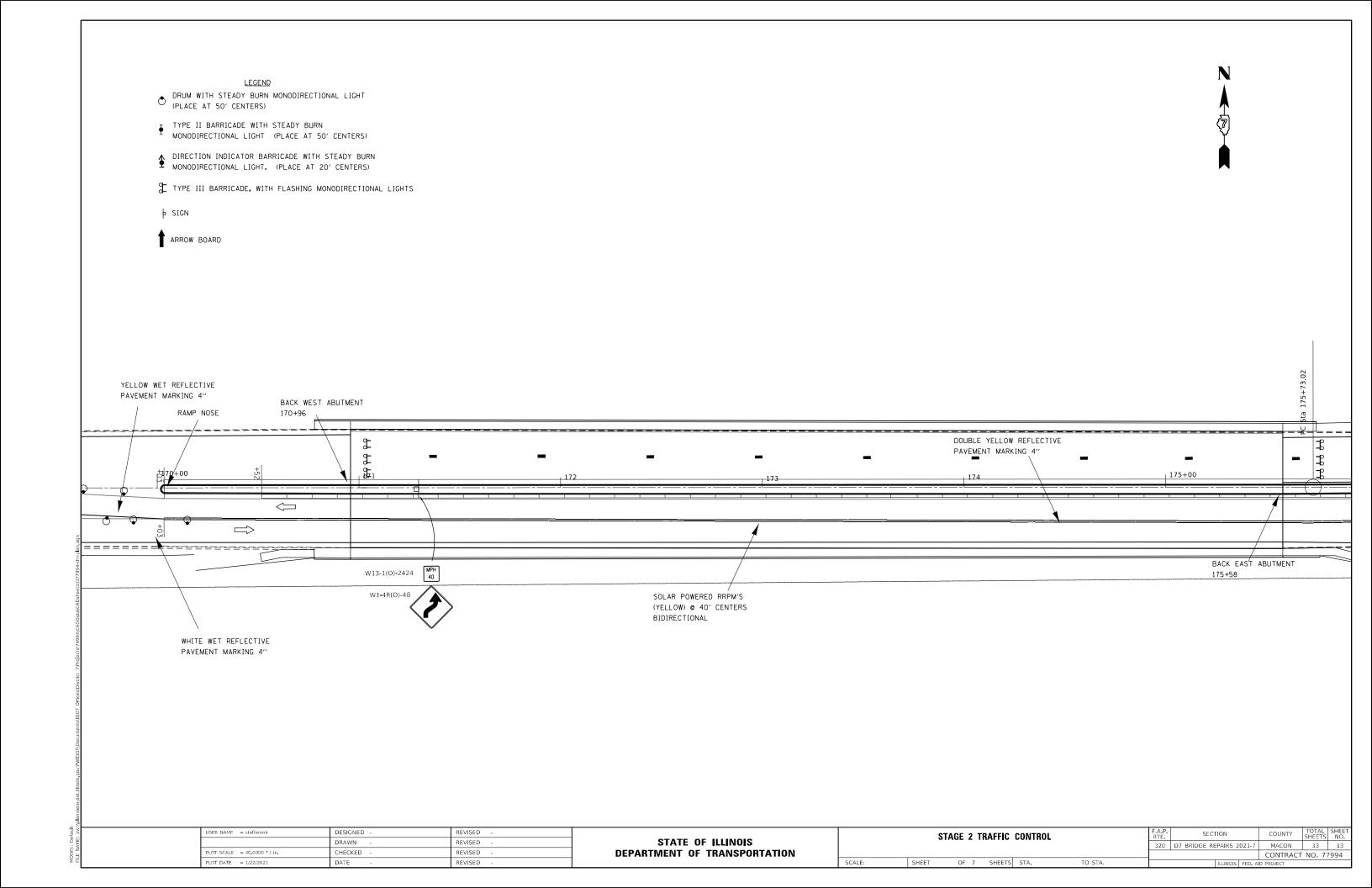


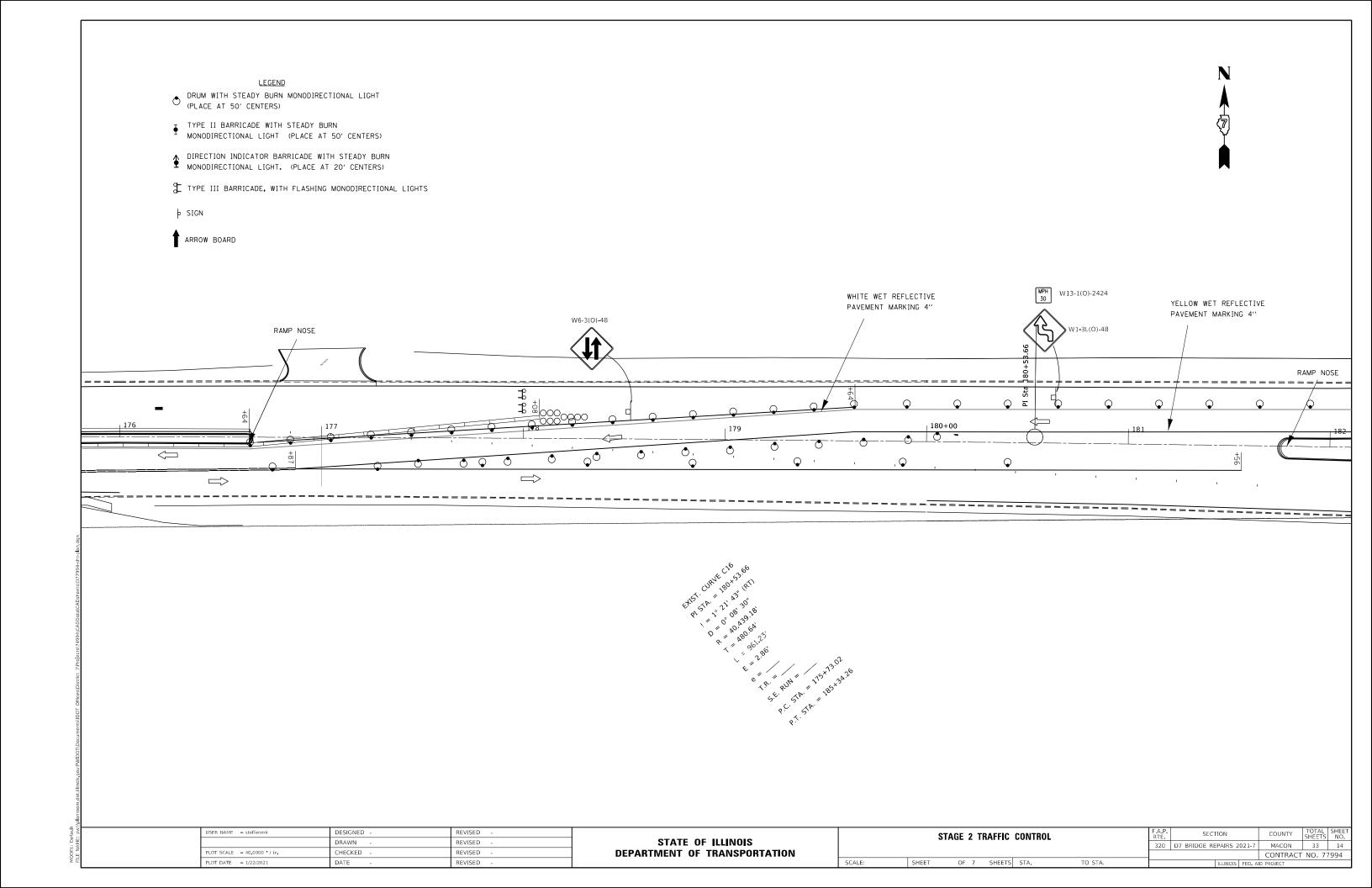


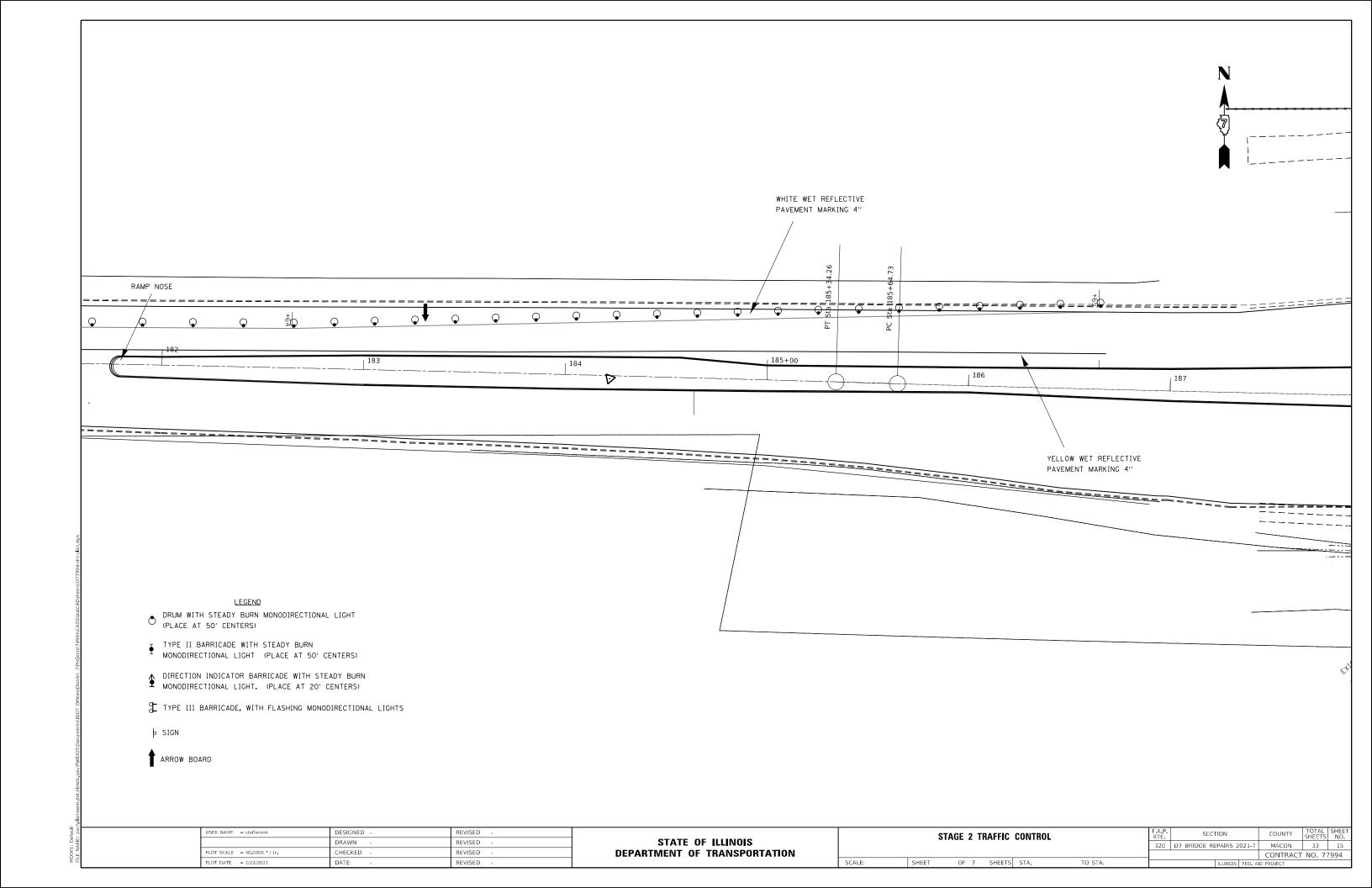




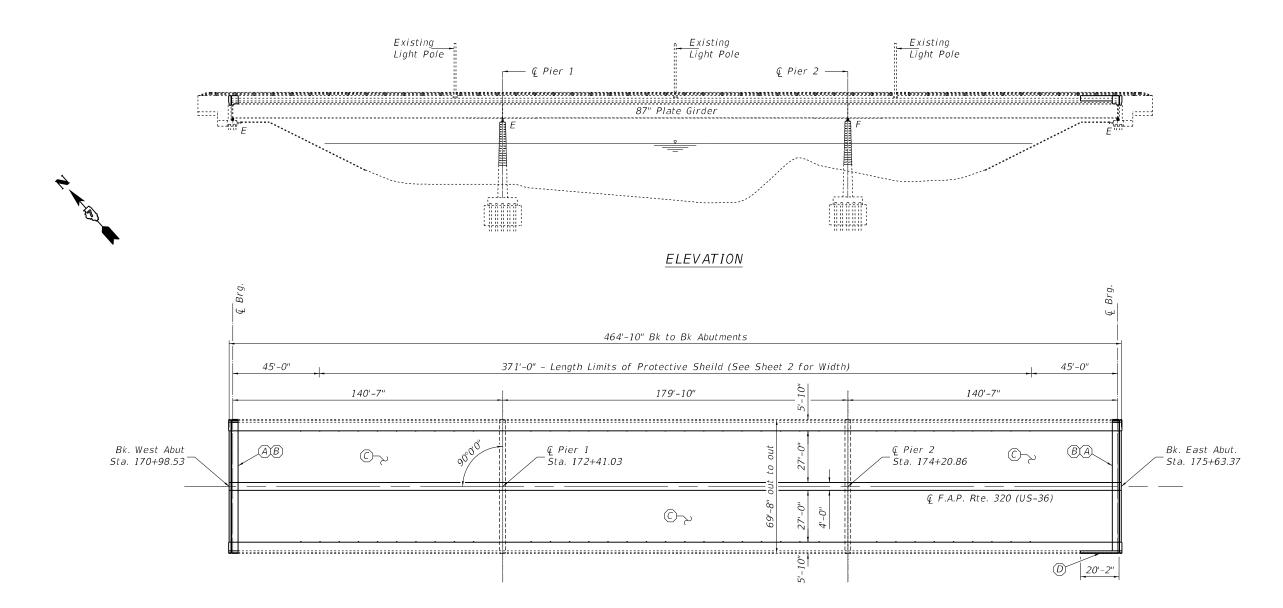








EXISTING STRUCTURE: SN 058-0020, built in 1956, is a 3 span bridge carrying U.S. 36 over lake Decatur. The proposed project consists of replacement of the expansion joints with new strip seals, bearing replacement at abutments with new elastomeric bearings, steel beam structure repair, curb repair, parapet repair, full depth deck patching, scarification & concrete overlay.





Expires 11-30-2022

03/08/2021

# PLAN

- (A) Remove and Replace Existing Strip Seal Expansion Joint
- (B) Remove Existing Abutment Bearings and Install new Elastomeric Bearings & Structural Steel Repair

SCALE:

- © Bridge Deck Scarification, 2-1/4", Deck Patching, & Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2-1/4"
- (D) Remove and Replace Parapet

USER NAME = steffenmk	DESIGNED	-	T. Walk	REVISED -
	DRAWN	-	T. Walk	REVISED -
PLOT SCALE = 100.0000 / in.	CHECKED	-	D. Macklin	REVISED -
PLOT DATE = 1/22/2021	DATE	-	May 2020	REVISED -

STATE O	F ILLINOIS
DEPARTMENT OF	TRANSPORTATION

	GEN	IERAL	PL	AN &	ELEVATION		F.A.P RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	S.N. 058-0020						320	D7 BRIDGE REPAIRS 2021-7	MACON	33	16
	3.14. 030-0020								CONTRACT	NO. 74	1994
EET 1 OF 13 SHEETS STA. TO STA.					ILLINOIS FED. A	ID PROJECT					

# STAGE CONSTRUCTION DETAIL Looking East

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

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50  $^{\circ}$ F.

Removal and reinstallation of the handrail sections and support posts at both abutments will be necessary for construction of the expansion joints and parapet repair. The existing handrail sections and support posts shall be reused. New bolts, shim plates and post support anchor assemblies, as detailed in the plans, are to be provided and installed for the replacement of the handrail sections. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

All aluminum rail sections, rail posts, and connectors should be reused. Any new fastners, shall be stainless steel. The contractor shall provide new, stainless steel anchors for connecting the rail post to the parapet. This work and the required materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

Removal and reinstallation of the guardrail will be necessary for construction of the expansion joints. The existing guardrail sections shall be reused. All embedded anchors that are within the concrete removal area shall be cleaned and incorporated in the new construction or new approved alternatives shall be supplied and installed. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

Protective Coat to be applied to areas of new concrete only, including bridge deck concrete overlay

Full depth deck slab repairs performed in the exterior bays of the bridge deck (between the parapet walls and the first interior beams) shall be limited to individual lengths no greater than 10'. In these portions of the deck, repair areas longer than 10' shall be divided into segments not greater than 10' in length, and the segments shall be poured in alternating sequence. Subsequent segments repaired in sequence shall not be removed until 72 hours shall have elapsed from the end of the previous, adjacent pour, and the adjacent pour shall have attained a minimum modulus of rupture of 650psi.

Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on as-built plans.

It shall be the responsibility of the utility company/agency to support and protect their facility during construction. The Contractor shall notify each of the following at least two weeks prior to beginning construction.

Ameren IP Kevin Verhofstad (217) 424-8278 (0) (217) 358-9228 (C) Email: Kverhofstad@ameren.com

Decatur Sanitary District Don Miller (217) 422-6931 Ext: 216 (0) City Highway Lighting Paul Caswell (City Engineer) (217) 424 2747 (0) (217) 424-2799 (C) Email: pcaswell@decaturil.gov

AT&T Mike Murphy (217) 398–7979 (0) Email: mm2926@att.com

### TOTAL BILL OF MATERIAL

	UNIT	QUANTITY
Concrete Removal	CU. YD.	33
Concrete Superstructure	CU. YD.	33
Reinforcement Bars, Epoxy Coated	Pound	6250
Bridge Deck Grooving	5Q. YD.	2568
Bridge Deck Scarification, 2–1/4"	SQ. YD	2,733
Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2–1/4"	SQ. YD	2,733
Preformed Joint Strip Seal	Foot	136
Protective Coat	SQ. YD	2,815
Bar Splicers	Each	44
Jack & Remove Existing Bearings	Each	20
Elastomeric Bearing Assembly, Type I	Each	10
Elastomeric Bearing Assembly, Type II	Each	10
Anchor Bolts, 1"Ø	Each	40
Furnishing and Erecting Structural Steel	Pound	5220
Structural Steel Repair	Pound	1380
Deck Slab Repair (Full Depth, Type I)	SQ. YD	22
Deck Slab Repair (Full Depth, Type II)	SQ. YD	137
Structural Repair of Concrete (Depth ≤ 5")	SQ. FT.	425
Protective Shield	SQ. YD	2,707

 USER NAME
 = steffenmk
 DESIGNED
 T. Walk
 REVISED

 PLOT SCALE
 = 100,0000 ' / in.
 CHECKED
 D. Macklin
 REVISED

 PLOT DATE
 = 1/22/2021
 DATE
 May 2020
 REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGING, GENERAL NOTES, & F.A.P. SECTION COUNTY TOTAL SHEETS NO.

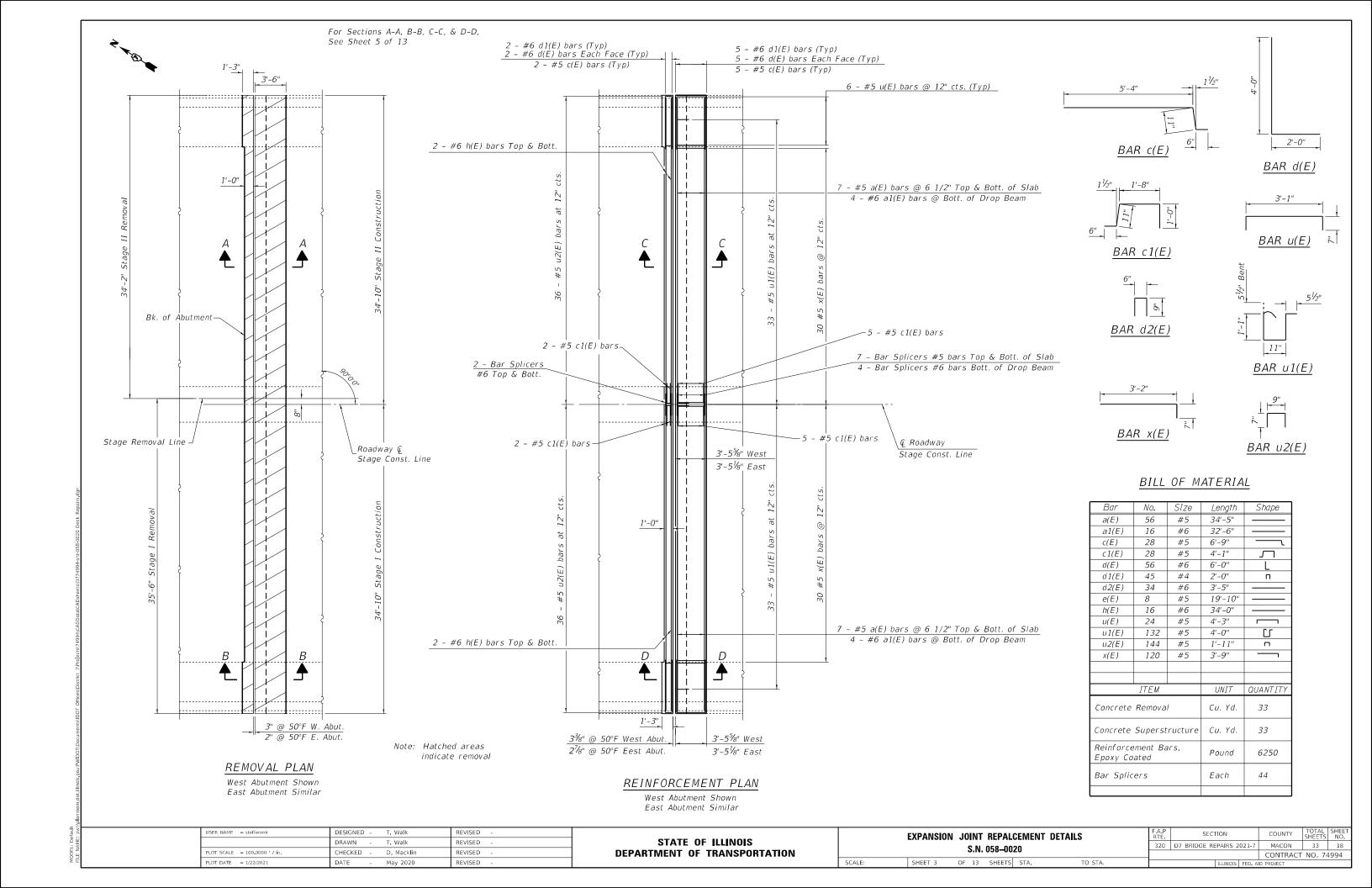
BILL OF MATERIAL

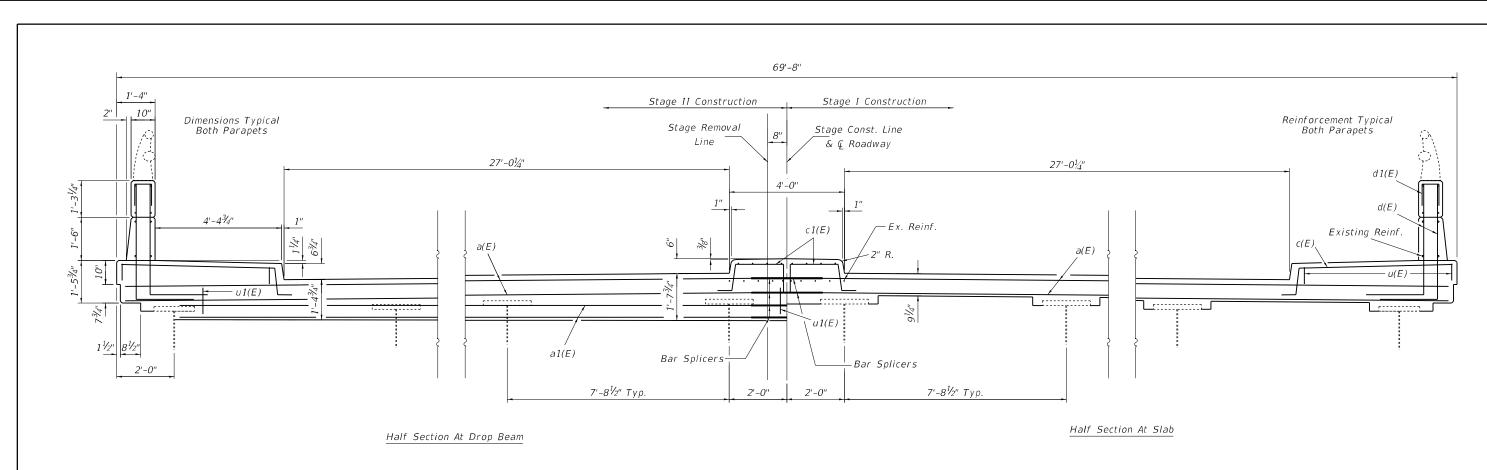
SHEET 2 OF 13 SHEETS STA. TO STA.

F.A.P. SECTION COUNTY TOTAL SHEETS NO.

320 D7 BRIDGE REPAIRS 2021-7 MACON 33 17

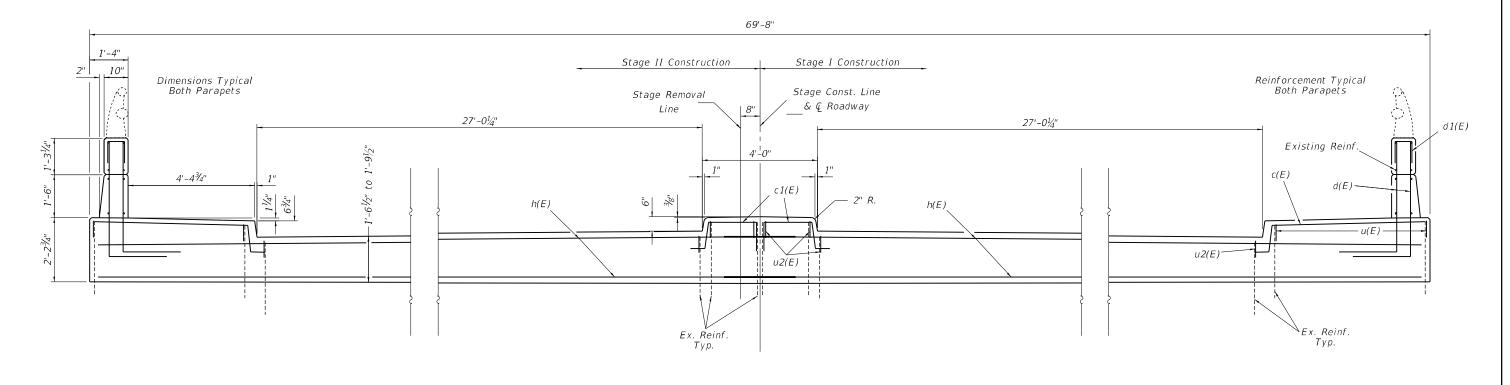
CONTRACT NO. 74994





# SECTION THRU END OF DECK

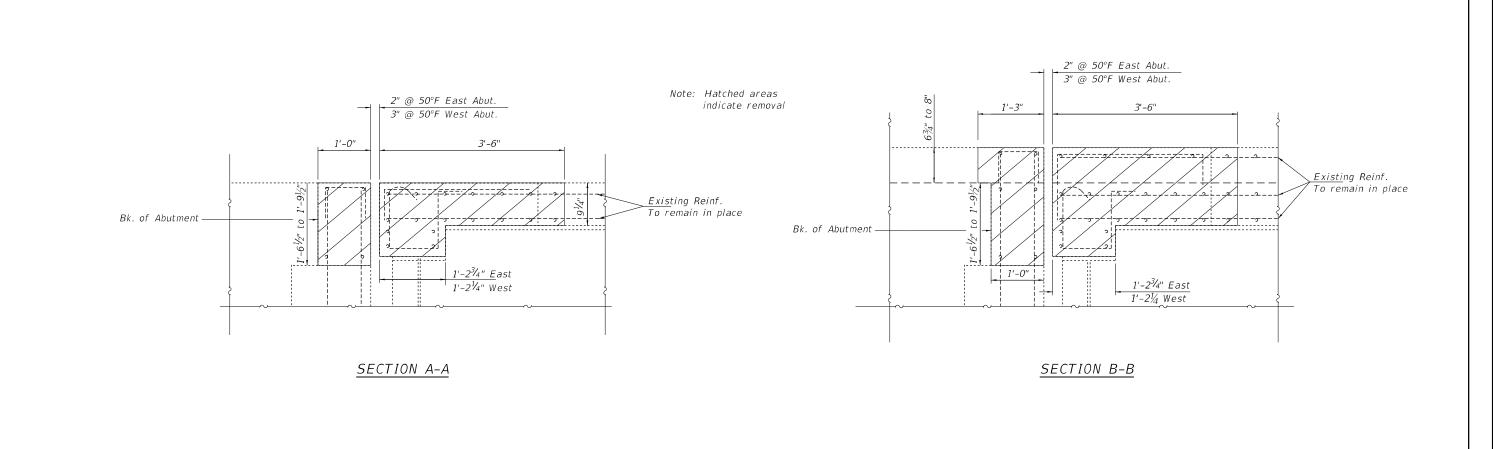
Looking East

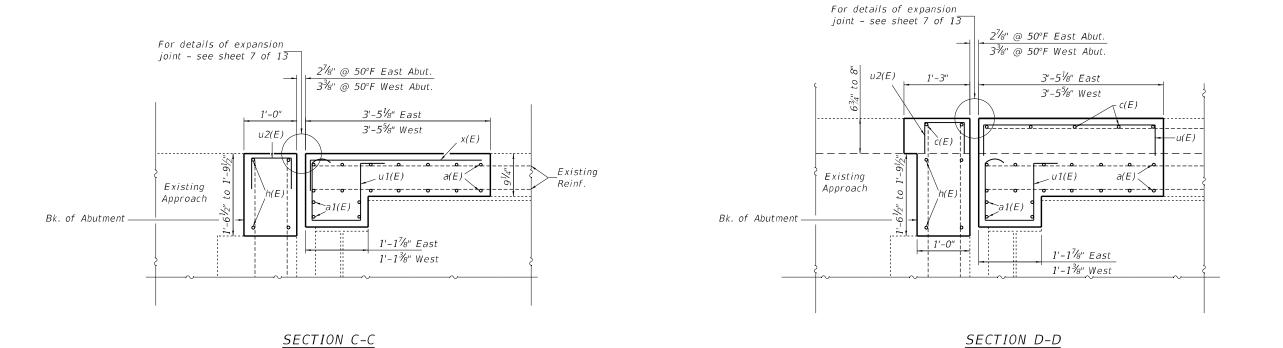


# SECTION THRU ABUTMENT AT JOINT

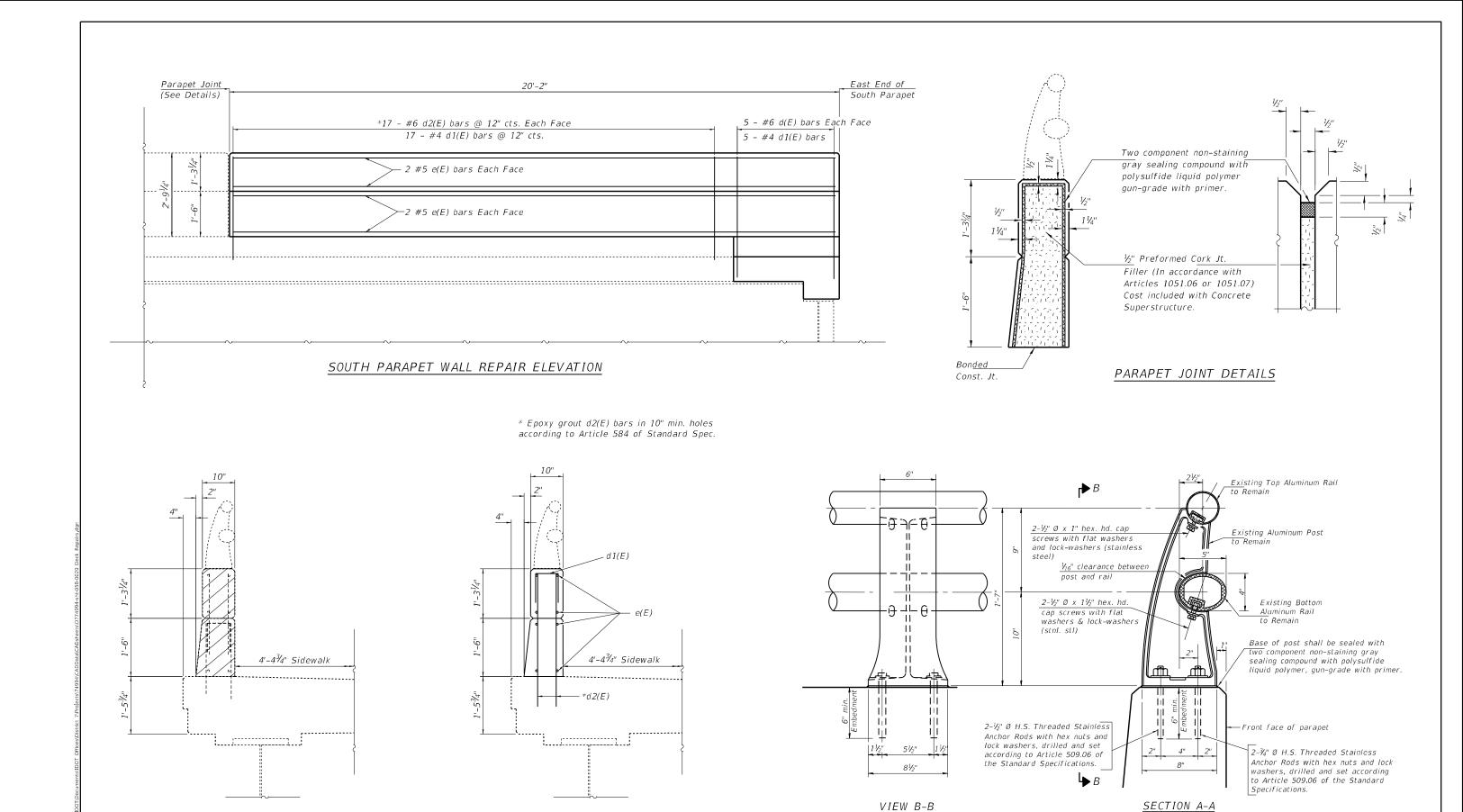
Looking East

USER NAME = steffenmk	DESIGNED - T. Walk	REVISED -		EXPAN	MUISI	ı ın	NINT REPI	ACEMI	ENT DETAI	15	F.A.P	SECTION	COUNTY	TOTAL S	SHEET
	DRAWN - T. Walk	REVISED -	STATE OF ILLINOIS	LAI AII	101011		S.N. 058-		LIVI DEIA		320	D7 BRIDGE REPAIRS 2021-7	MACON	33	19
PLOT SCALE = 100.0000 / in	CHECKED - D. Macklin	REVISED -	DEPARTMENT OF TRANSPORTATION			•	3.IV. U30-	UUZU					CONTRAC	T NO. 749	994
PLOT DATE = 1/22/2021	DATE - May 2020	REVISED -		SCALE: SHEET	4	OF	13 SHEE	TS STA.		TO STA.		ILLINOIS FED. AID	PROJECT		





USER NAME = steffenmk	DESIGNED - T. Walk	REVISED -			FXPANSION	AIOIL L	IT RFPI	LACME	NT DETAILS		F.A.P BTF	SI	ECTION	COUNTY	TOTAL	SHEET
	DRAWN - T. Walk	REVISED -	STATE OF ILLINOIS		LAI AITOIOI		l. 058–0		IVI DEIAILO		320	D7 BRIDGE	REPAIRS 2021-7	MACON	33	20
PLOT SCALE = 100.0000 / in	CHECKED - D. Macklin	REVISED -	DEPARTMENT OF TRANSPORTATION			2.1/	I. UD8–L	UUZU				1		CONTRAC	T NO. 7	/4994
PLOT DATE = 1/22/2021	DATE - May 2020	REVISED -		SCALE:	SHEET 5	OF 13	SHEET	TS STA.	TO ST	ΓA.			ILLINOIS FED. AID	PROJECT		



May 2020

DATE

REVISED

PARAPET REMOVAL SECTION

PLOT DATE = 1/22/2021

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED PARAPET SECTION

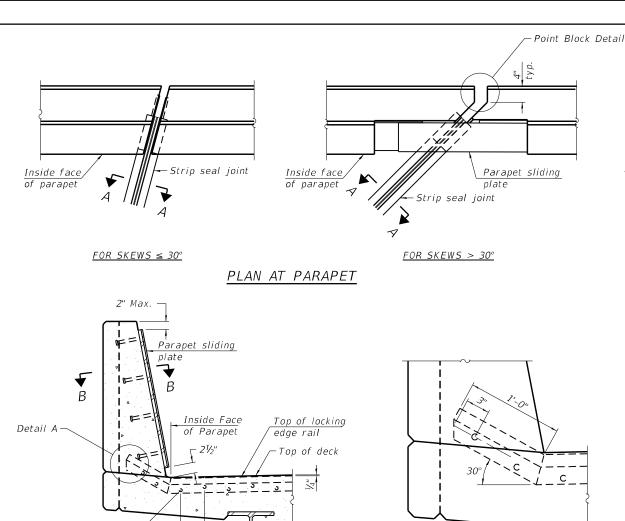
PARAPET REPAIR DETAILS & RAIL POST DETAILS
S.N. 058-0020

SHEET 6 OF 13 SHEETS STA. TO STA.

RAIL POST DETAILS

SCALE:

RTE. SECTION COUNTY TOTAL SHEET SHOULD SHEET SHEET SHOULD SHEET SHEET SHOULD SHEET S



# face of ¾" plate ¾" Plate · 0--0 ¾" Plate 2" Chamfer 0--0 Concrete flush with back face of ¾" plate

SCALE:

Notes:

\* ¾" Ø x 6" Studs

ီ 🎖 ¾" Embedded plate

li full depth

6"

1'-0"

Concrete flush with back

<u>Direction</u> of traffic

(8 per side 39" parapet)

(10 per side 44" parapet)

The strip seal shall be made continuous and shall have a minimum thickness of  $\frac{1}{4}$ ". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4½" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.

The manufacturer's recommended installation methods shall be followed.

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

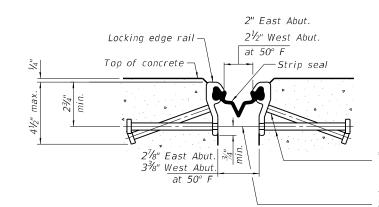
The Maximum space between locking edge rail segments shall be  $\frac{3}{16}$ " and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.

The top surface of sidewalk sliding plates shall have a raised pattern according to ASTM A786.

Cost of parapet sliding plates, sidewalk sliding plates, embedded plates, anchorage studs, and expansion anchors included with Preformed Joint Strip Seal.

39" constant slope barrier shown, 44" constant slope barrier similar as noted.

The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.



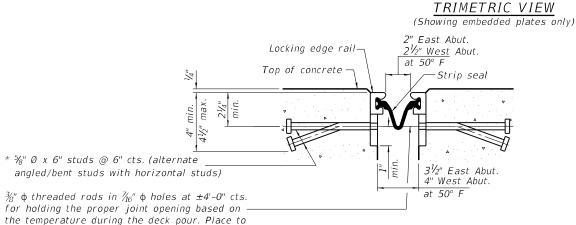
SHOWING ROLLED RAIL JOINT

DETAIL A

miss studs. All rods shall be burned, or sawed

off flush with the plates after concrete is set.

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



¾" Embedded plate,

1/2" Parapet sliding plate

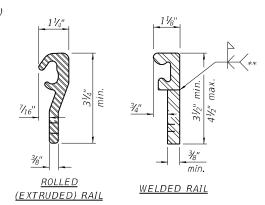
¾" Ø Countersunk bolts

(10 per side 39" parapet) (12 per side 44" parapet)

SECTION B-B

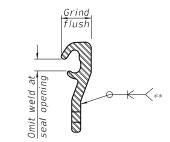
full depth

SHOWING WELDED RAIL JOINT



# LOCKING EDGE RAILS

\*\* Back gouge not required if complete joint penetration is verified by mock-up.



# LOCKING EDGE RAIL SPLICE

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

# BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	136

### EJ-SS-S 1-1-2020

USER NAME = steffenmk	DESIGNED	-	T. Walk	REVISED	-
	DRAWN	-	T. Walk	REVISED	-
PLOT SCALE = 100.0000 / in.	CHECKED	-	D. Macklin	REVISED	-
PLOT DATE = 1/22/2021	DATE	-	May 2020	REVISED	-

STATE OF ILLINOIS

	(Sheet 1 01 3)								
PR	PREFORMED JOINT STRIP SEAL - SIDEWALK STRUCTURE NO. 058-0020								
	SHEET	7	OF	13	SHEETS	STA.	TO STA.		

F.A.P RTE	SECTION	COUNTY	TOTAL SHEETS	SHEE NO.
320	D7 BRIDGE REPAIRS 2021-7	MACON	33	22
		CONTRACT	NO. 74	1994
	TILIBIOTE FED A	ID DDOIECT		

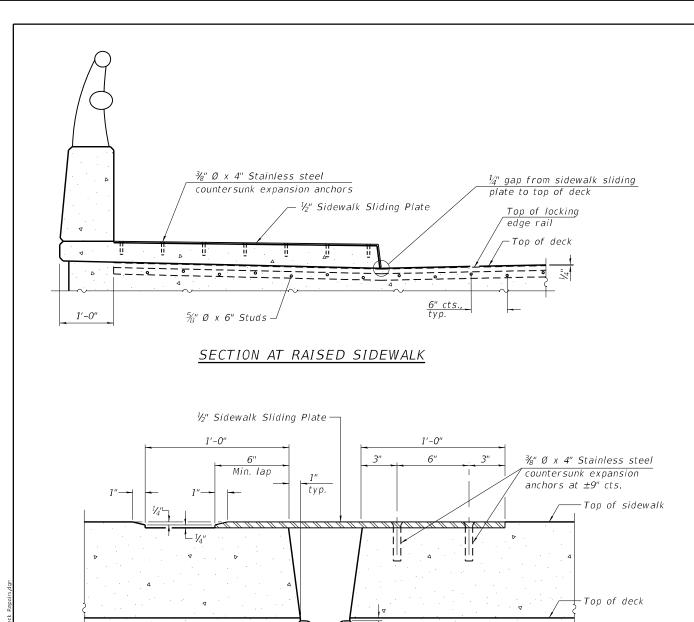
%" Ø x 6" Studs

6" cts.,

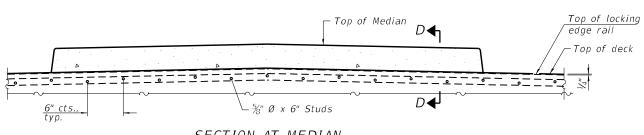
except as shown in plan view.)

SECTION AT PARAPET (Skews > 30° shown. Skews ≤ 30° similar

**DEPARTMENT OF TRANSPORTATION** 

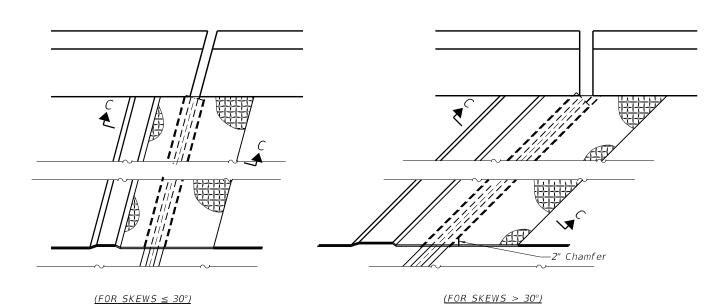


# SECTION C-C

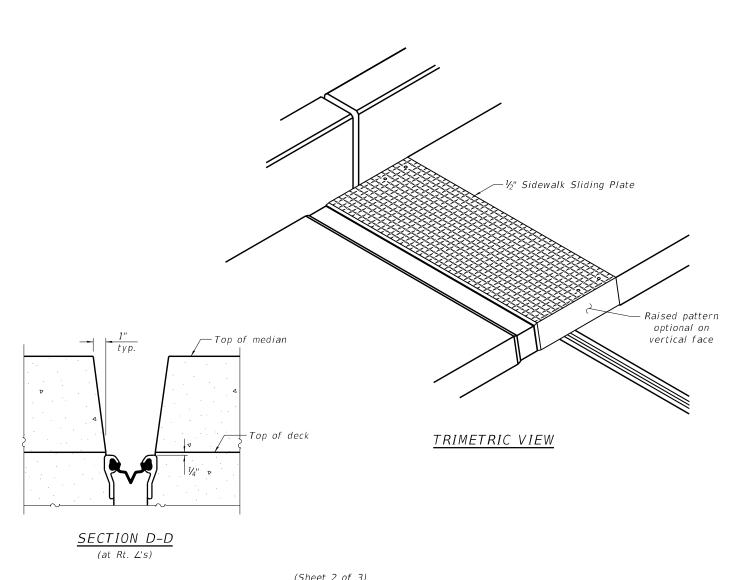


# SECTION AT MEDIAN

For skews > 30°, chamfer acute corners 2" similar to sidewalk.



# PLAN AT RAISED SIDEWALK



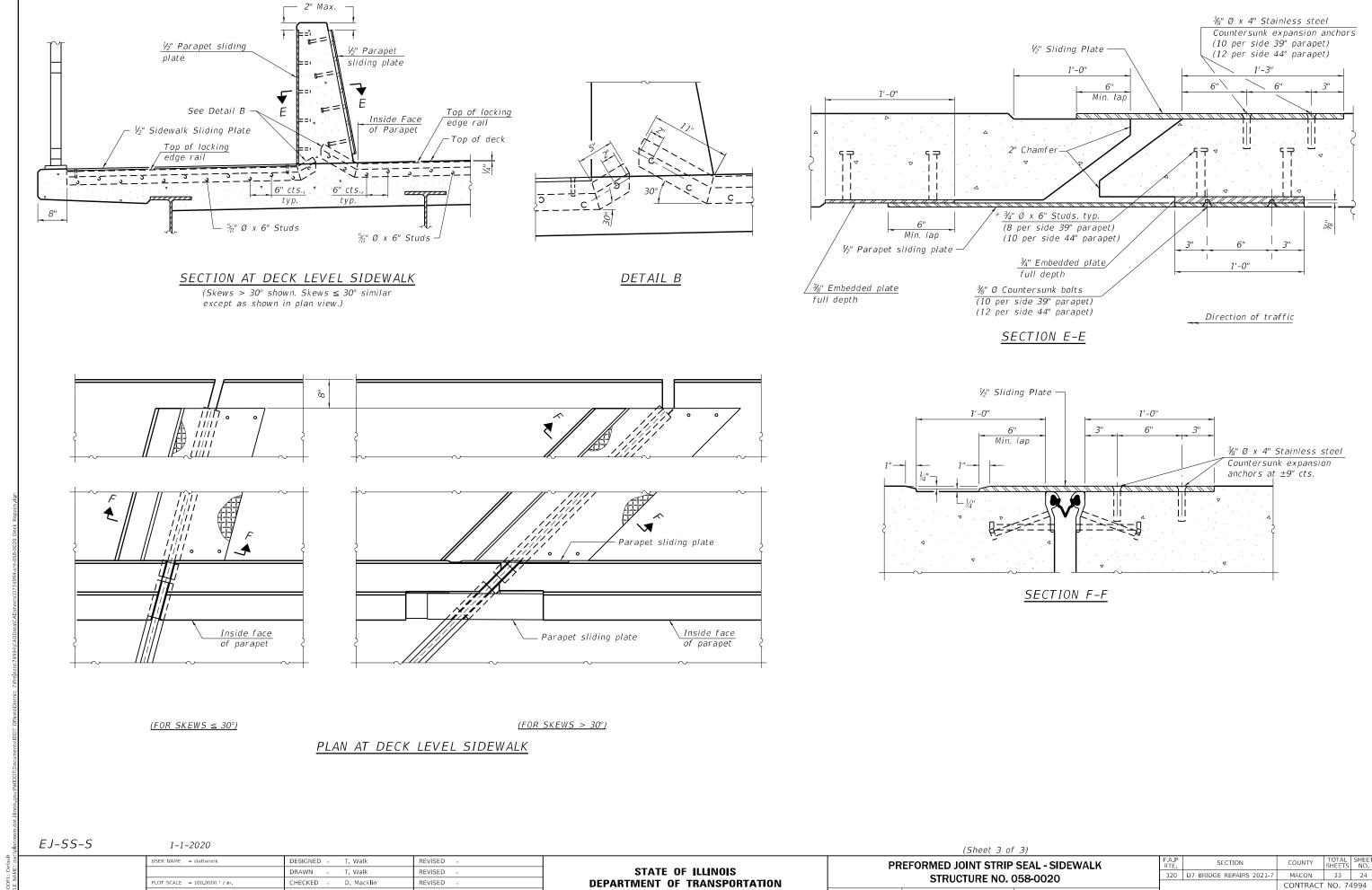
EJ-SS-S 1-1-2020

USER NAME = steffenmk	DESIGNED	-	T. Walk	REVISED -
	DRAWN	-	T. Walk	REVISED -
PLOT SCALE = 100.0000 / in.	CHECKED	-	D. Macklin	REVISED -
PLOT DATE = 1/22/2021	DATE	-	May 2020	REVISED -

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** 

			(311	eel 2 01	٥/			
					F.A.P RTE	SECTION		
STRUCTURE NO. 058-0020					320	D7 BRIDGE REPAIRS		
	31R0C10RE NO. 036-0020							
	SHEET	8	OF 13	SHEETS	STA	TO STA		TURNOTE

2021-7 MACON 33 23 CONTRACT NO. 74994 SCALE:



SHEET 9 OF 13 SHEETS STA.

TO STA.

PLOT DATE = 1/22/2021

DATE

May 2020

REVISED

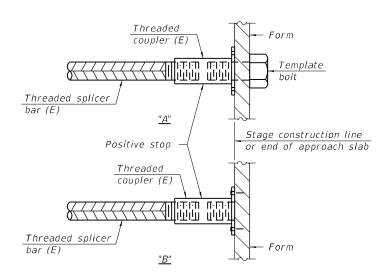
# STANDARD BAR SPLICER ASSEMBLY PLAN

(All components shall be provided from one supplier)

Threaded splicer bar length = min. lap length +  $1\frac{1}{2}$ " + thread length

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

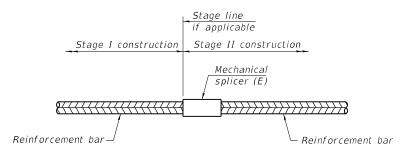
Location	Bar size	No. assemblies required	Minimum Iap length
Deck	#5	28	3'-6"
Drop Beam	#6	8	4'-0"
Approach	#6	8	4'-0"



# INSTALLATION AND SETTING METHODS

"A": Set bar splicer assembly by means of a template bolt "B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



# STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

Notes:

Splicer bars shall be deformed with threaded ends and have a minimum  $60\ ksi$  yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

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

BSD-1

1-1-2020

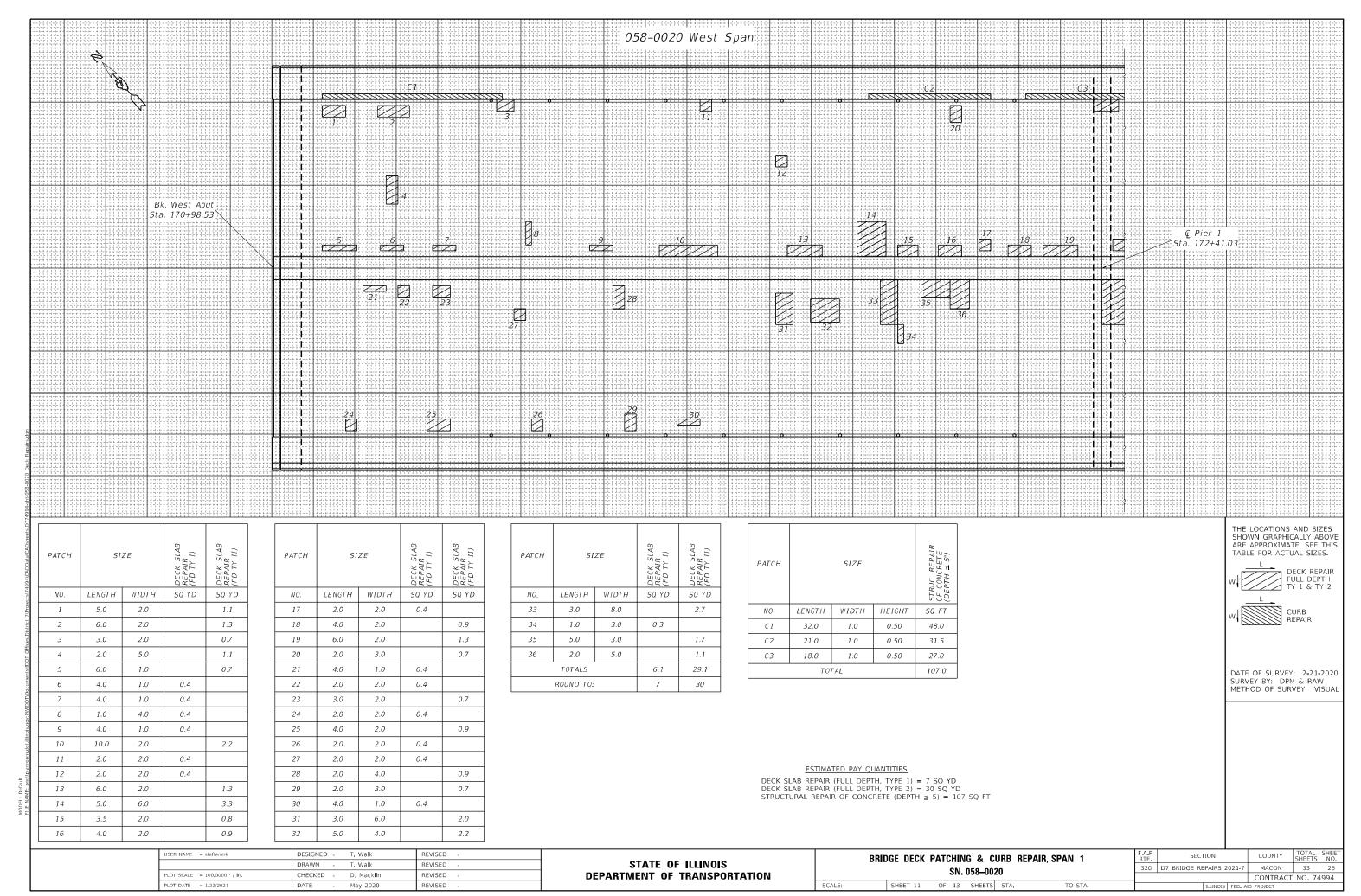
USER NAME = steffenmk	DESIGNED	-	T. Walk	REVISED -
	DRAWN	-	T. Walk	REVISED -
PLOT SCALE = 100.0000 / in.	CHECKED	-	D. Macklin	REVISED -
PLOT DATE = 1/22/2021	DATE	-	May 2020	REVISED -

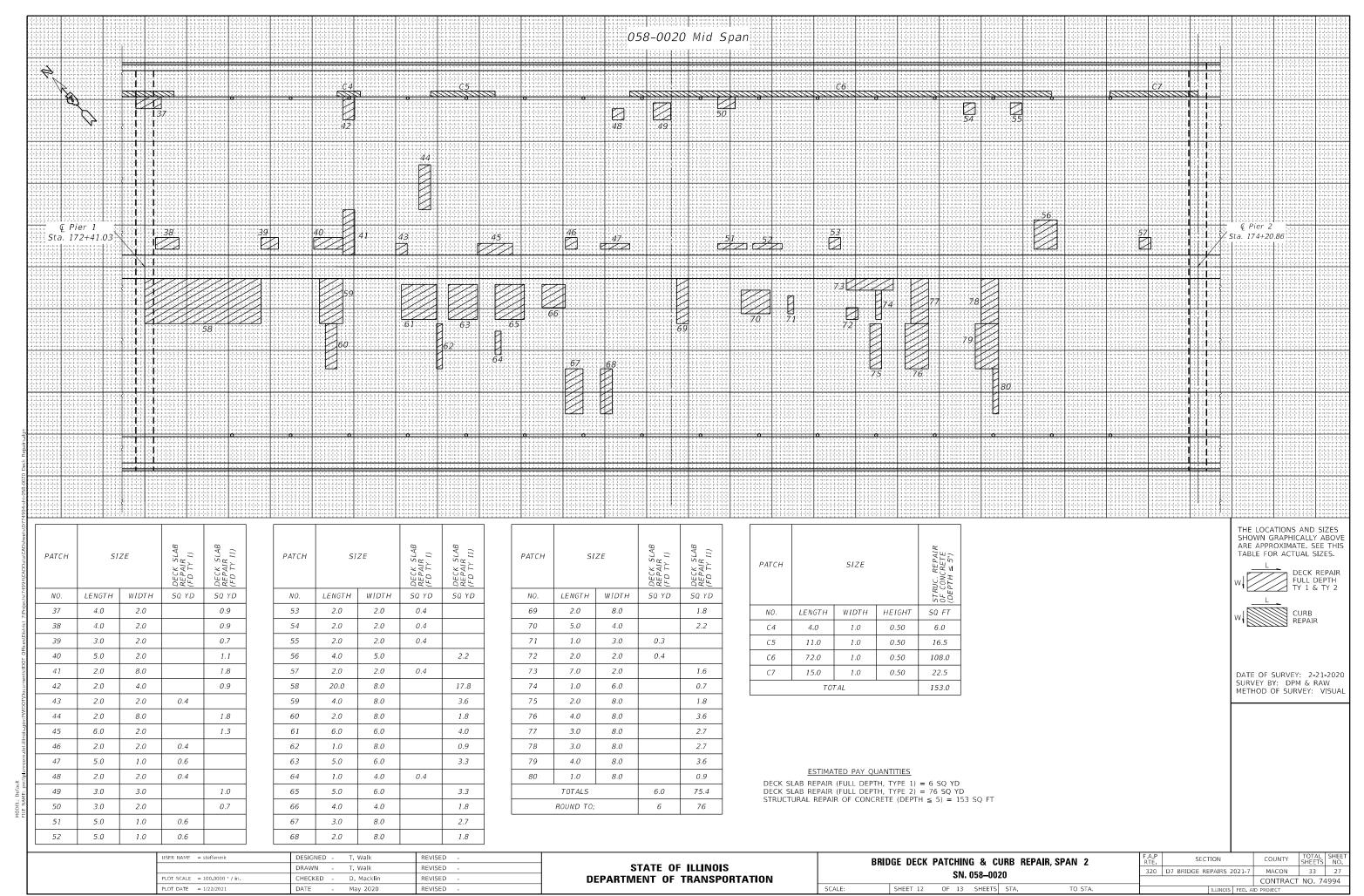
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

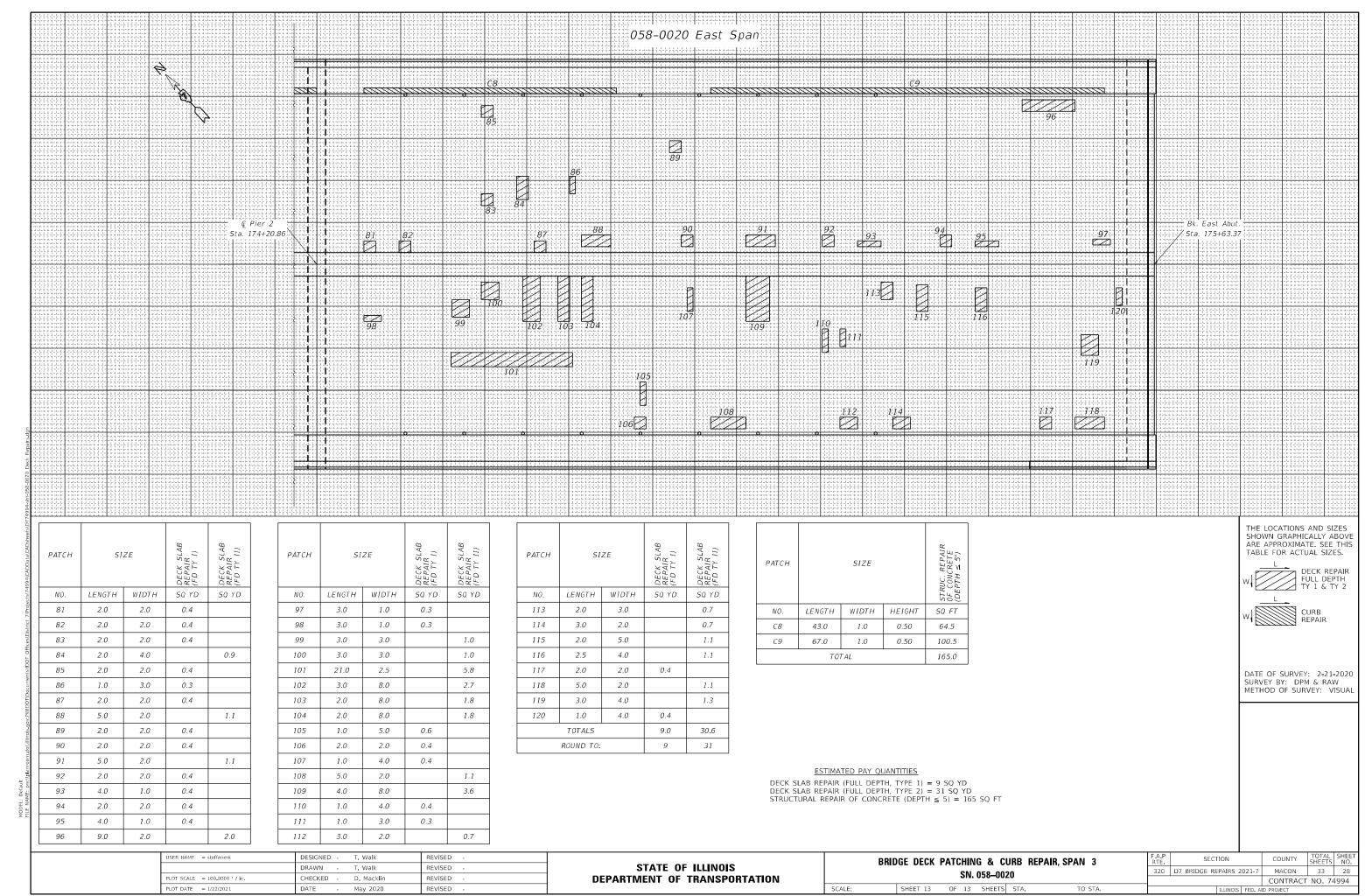
BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 058-0020

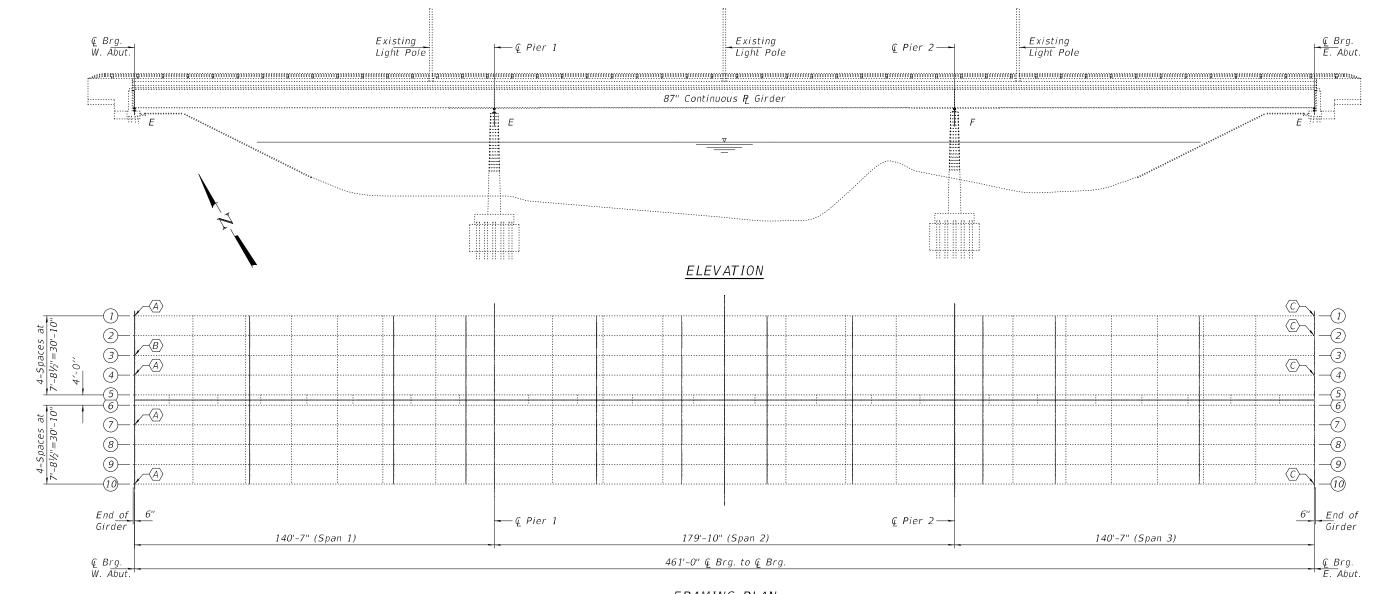
SHEET 10 OF 13 SHEETS STA. TO STA.

MODEL: Default FILE NAME: pwr/\nlangom









# FRAMING PLAN

- $\langle \overline{A} \rangle$  Girder end repair Repair A
- $\langle \overline{B} \rangle$  Girder end repair Repair B
- $\langle C \rangle$  Girder end repair Repair C

# NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

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.

Fasteners shall be high strength bolts. Bolts  $\frac{3}{4}$ "0, open holes  $\frac{13}{16}$ "0, unless otherwise noted.

Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included with Structural Steel Repair.

All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Structural Steel Repair.

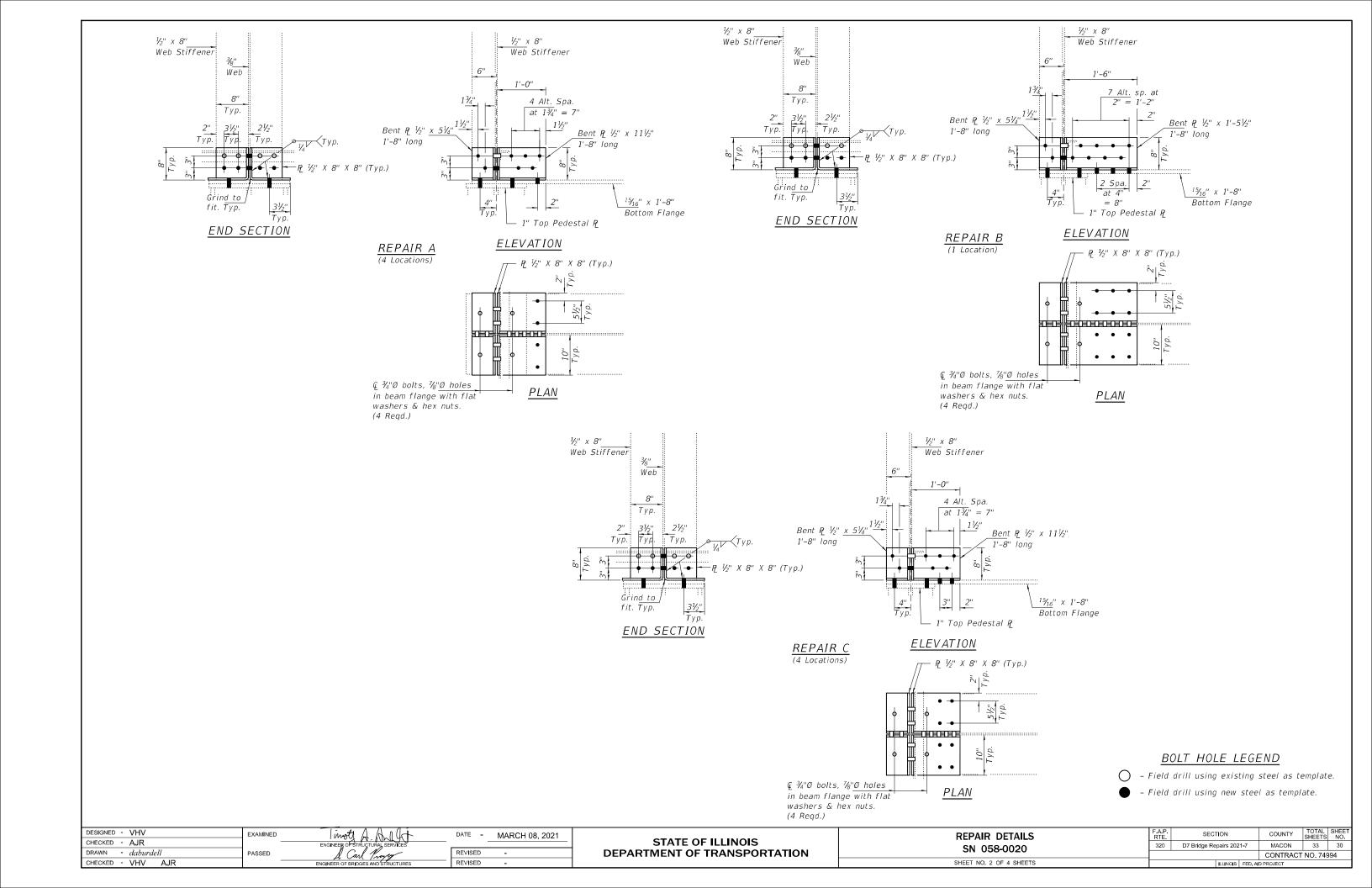
The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

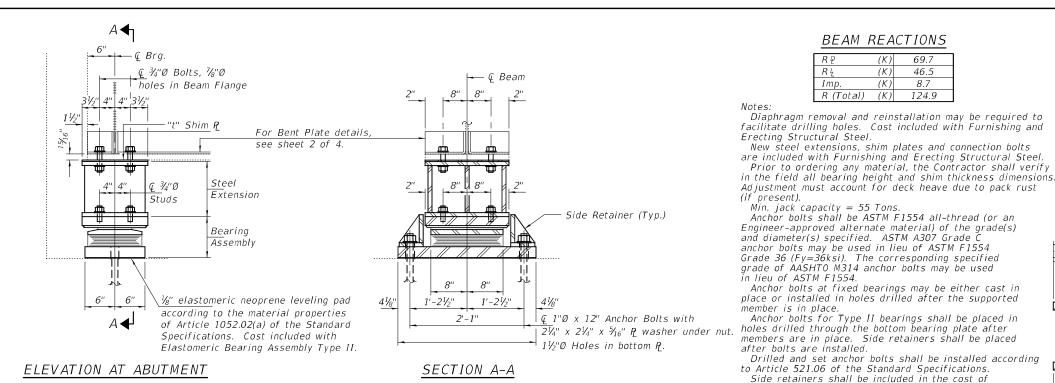
Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the GBSP "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

# BILL OF MATERIAL

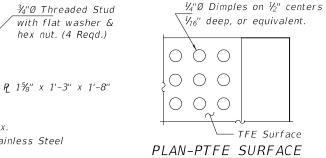
ITEM	UNIT	QUANTITY
Structural Steel Repairs	Pound	1380
Jack and Remove Existing Bearings	Each	20
Elastomeric Bearing Assembly, Type I	Each	10
Elastomeric Bearing Assembly, Type II	Each	10
Anchor Bolts 1"Ø	Each	40
Furnishing and Erecting Structural Steel	Pound	5220

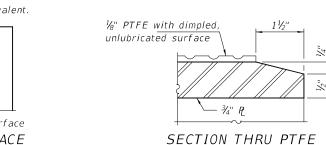
DESIGNED - Victor H. Veliz	EXAMINED	I mot A An at	DATE - MARCH 08, 2021		FRAMING PLAN & ELEVATION	F.A.P. SECTION	COUNTY TOTAL SHEET SHEETS NO.
CHECKED - Alex J33 Rush		ENGINEER OF STRUCTURAL SERVICES		STATE OF ILLINOIS	U.S. ROUTE 36 OVER LAKE DECATUR	320 D7 Bridge Repairs 2021-7	MACON 33 29
DRAWN - daburdell	PASSED	& Carl Prayey	REVISED -	DEPARTMENT OF TRANSPORTATION	SN 058-0020	·	CONTRACT NO. 74994
CHECKED - VHV AJR		ENGINEER OF BRIDGES AND STRUCTURES	REVISED -		SHEET NO. 1 OF 4 SHEETS	ILLINOIS FED. A	NID PROJECT

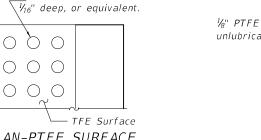


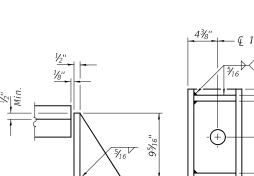


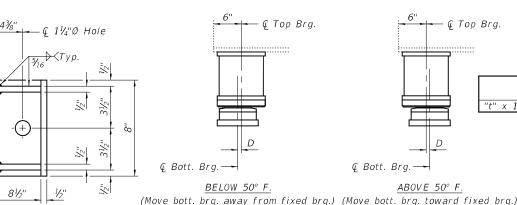
# TYPE II TFE ELASTOMERIC EXP. BRG

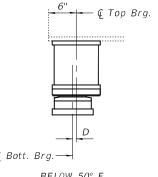












BEAM REACTIONS

(K)

(K)

R (Total) (K)

Elastomeric Bearing Assembly, Type II.

The 1/8" PTFE 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

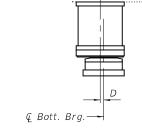
agent shall be applied on the full area of the contact Bonding of  $\frac{1}{8}$ " PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

69.7

46.5

8.7

124.9



### SHIM PLATE SIZES "t" Dimensions at Bems 2 3 4 5 6 7 8 9 1 t" x 1'-3" x 1'-8" 0 34 1/2 1/4 0 0 1/4 1/2 3/4 0

# BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	10
Jack and Remove Existing Bearings	Each	10
Furnishing and Erecting Structural Steel	Pound	2625
Anchor Bolts 1"Ø	Each	20

# BOTTOM BEARING ASSEMBLY

– ⊊ 1½"Ø Holes

1'-3"

TOP BEARING ASSEMBLY

Bonded

TYII/REPS 08-08-2018

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

# SETTING ANCHOR BOLTS AT EXP. BRG.

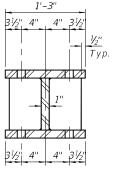
 $D = \frac{1}{8}$ " per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

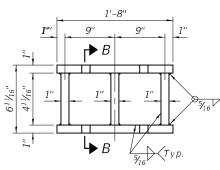
SHEET NO. 3 OF 4 SHEETS

# € 7/8"Ø Holes 5" 5"

# PLAN TOP AND BOTTOM PLATE

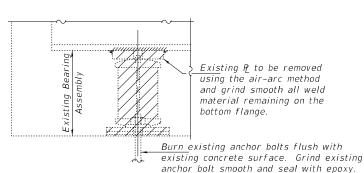
1'-8"





# SECTION B-B

# STEEL EXTENSION DETAIL



### EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.

# € Top Brg.

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	10
Jack and Remove Existing Bearings	Each	10
Furnishing and Erecting Structural Steel	Pound	2625
Anchor Bolts 1"Ø	Each	20

# SIDE RETAINER

# **BEARING DETAILS - WEST ABUTMENT** SN 058-0020

A.P. RTE	SECTION	COUNTY	TOTAL SHEETS	SHE	
320	D7 Bridge Repairs 2021-7	MACON	33	31	
CONTRACT NO. 74994					
ILLINOIS FED AID PROJECT					

CHECKED - AJR DRAWN - daburdeli PASSED REVISED CHECKED - VHV AJR

1/16" Stainless Steel

\* 1/8" PTFE dimpled, unlubricated

Elastomer (55 Durometer)

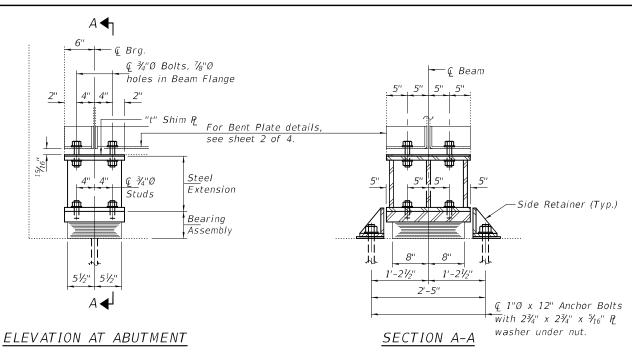
6-Layers of 1/3"

R 17/8" x 1'-0" x 3'-11/4"

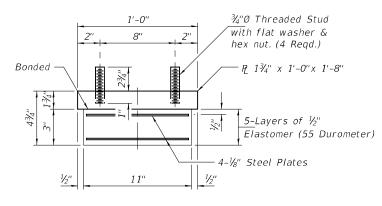
5-1/8" Steel Plates

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** 

### DESIGNED - VHV EXAMINED MARCH 08, 2021

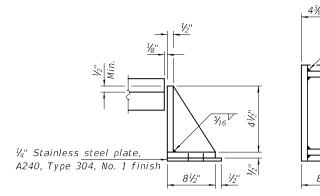


# TYPE I ELASTOMERIC EXP. BRG.



# BEARING ASSEMBLY

Shim plates shall not be placed under Bearing Assembly.



### SIDE RETAINER

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

# BEAM REACTIONS

R₽	(K)	69.7
R Ł	(K)	46.5
Imp.	(K)	8.7
R (Total)	(K)	1249

Notes:

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

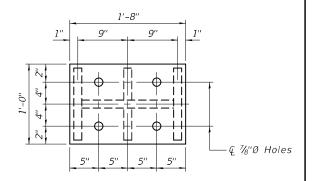
New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. Adjustment must account for deck heave due to pack rust (if present).

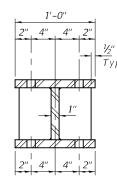
Min. jack capacity = 55 Tons. Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

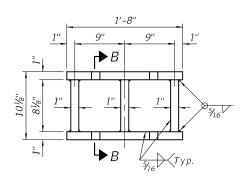
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Cost of Side retainers and Stainless Steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.



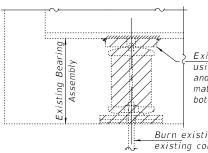
# PLAN TOP AND BOTTOM PLATE





SECETION B-B

# STEEL EXTENSION DETAIL



Existing P to be removed using the air-arc method and grind smooth all weld material remaining on the bottom flange.

Burn existing anchor bolts flush with existing concrete surface. Grind existing anchor bolt smooth and seal with epoxy.

# EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.

# SHIM PLATE SIZES

Sizo	"t" Dimensions at Bems									
3126	1	2	3	4	5	6	7	8	9	10
"t" x 1'-0" x 1'-8"	0	3/4	1/2	1/4	0	0	1/4	1/2	3/4	0

# BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	10
ack and Remove Existing Bearings	Each	10
Furnishing and Erecting Structural Steel	Pound	2595
Anchor Bolts, 1"Ø	Each	20

# TYI/REPS 5-17-2018

DESIGNED - VHV	EXAMINED	I mot A All 4	DATE -	MARCH 08, 2021
CHECKED - AJR		ENGINEER OF STRUCTURAL SERVICES		
DRAWN - daburdell	PASSED	S. Carl Prayer	REVISED	-
CHECKED - VHV AIR	1	ENGINEED OF BRIDGES AND STRUCTURES	REVISED	-

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** 

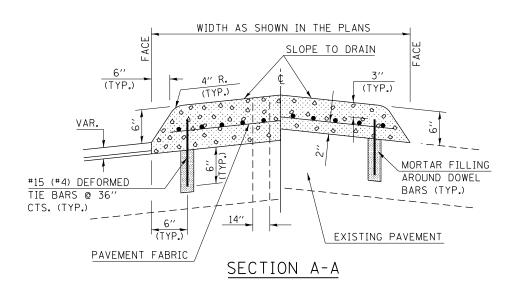
- Ç 1¾"Ø Hole

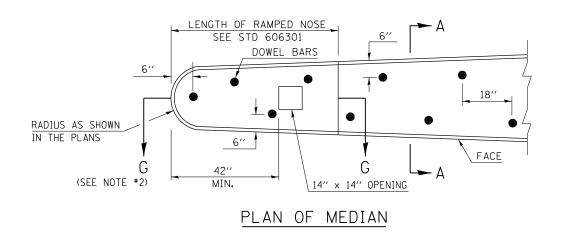
**BEARING DETAILS - EAST ABUTMENT** SN 058-0020 SHEET NO. 4 OF 4 SHEETS

COUNTY TOTAL SHEET NO.

MACON 33 32 SECTION 320 D7 Bridge Repairs 2021-7 CONTRACT NO. 74994

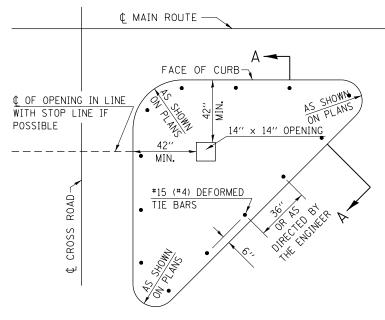
# **DETAIL OF CONCRETE MEDIAN, TYPE SM-6 (SM-15) (DOWELED)**





# GENERAL NOTES

- 1. THE GENERAL NOTES FOR STANDARD 606301 SHALL APPLY.
- 2. SECTION G-G SHALL BE THE SAME AS SHOWN ON STANDARD 606301.
- 3. DOWEL BARS @ 36" CTS. OR AS DIRECTED BY THE ENGINEER.
- 4. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQ FOOT FOR CONCRETE MEDIAN, TYPE SM-6 (SM-15) (DOWELED), INCLUDING THE COST OF FURNISHING AND INSTALLING THE DOWEL BARS, MORTAR FILLING, PAVEMENT FABRIC AND THE REMOVAL AND DISPOSAL OF THE EXISTING PAVEMENT FOR THE 14" × 14" OPENING, IF REQUIRED, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.



PLAN OF CORNER ISLAND

USER NAME = steffenmk	DESIGNED -	REVISED -	Г
	DRAWN -	REVISED -	
PLOT SCALE = 100.0000 / in.	CHECKED -	REVISED -	
PLOT DATE = 1/22/2021	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE MEDIAN, TYPE SM (DOWELLED)					F.A.P. RTE				COUNTY	TOTAL SHEETS	SHEE NO.			
DETAIL				320	D7 BRIDGE RE	PAIRS 2	2021-7	MACON	33	33				
DETAIL									CONTRACT	NO. 74	4994			
	SHEET 1	OF	1	SHEETS	HEETS STA. TO STA.					ILLINOIS	FED. AI	D PROJECT		

es\District 7\Projects\74994\CADData\CADsheet