F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	5	1
FED. ROAD DIST. NO. 8	ILLINOIS	CONTRACT NO. 76883		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

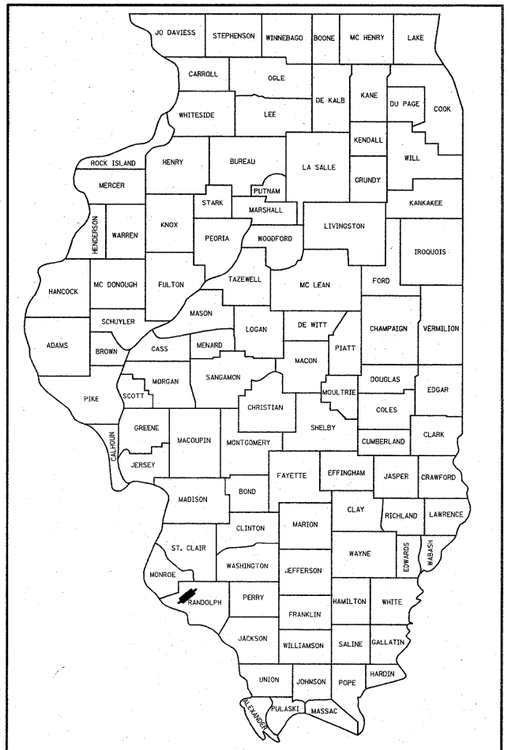
FAP ROUTE 312 (IL 3)
SECTION 73BR–1I
PROJECT: F-0312 (035)
RANDOLPH COUNTY

MICROSILICA OVERLAY AND DECK REPAIRS W/ SEISMIC RETROFITTING AND NAVIGATIONAL LIGHTING SYSTEM REPLACEMENT

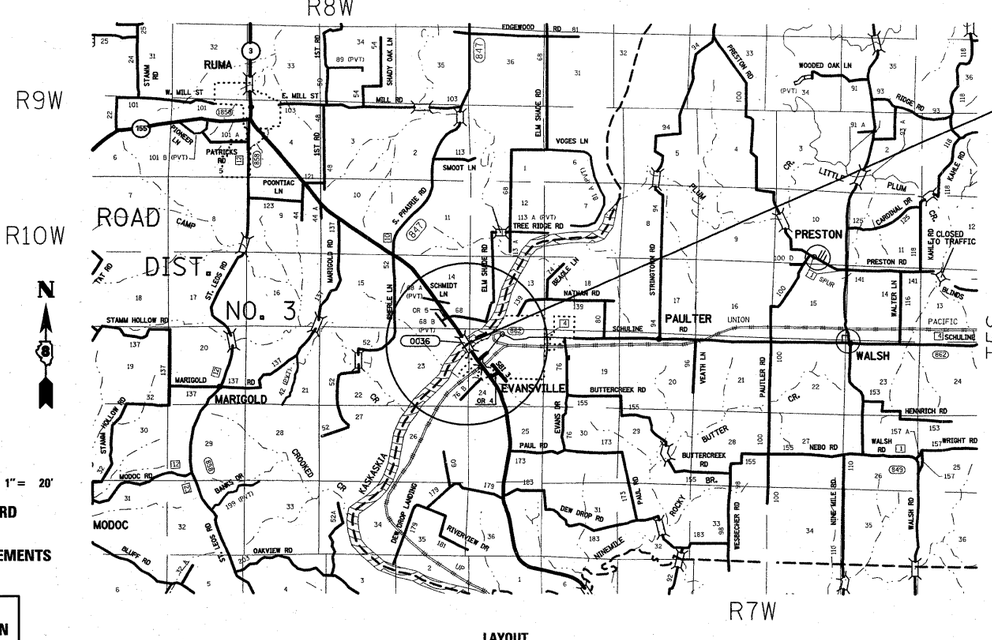
C–98–039–05

FOR INDEX OF SHEETS, SEE SHEET NO. 2

D–98–020–05



LOCATION OF SECTION INDICATED THUS: –



PROJECT LOCATION –
STA. 789+11.83 TO STA. 798+81.75
7 SPAN COMPOSITE STEEL PLATE BEAMS CONSISTING OF STEEL PLATE GIRDERS W/SHOP SPLICED FLANGE THICKNESS TRANSITIONS. CARRIES IL ROUTE 3 OVER KASKASKIA RIVER ON WALL PIERS W/PILE FOOTING AND NON–INTEGRAL PILE BENT ABUTMENTS. SPANS – 1 @ 83'–11 1/2", 1 @ 85'–1 1/2", 2 @ 181'–2", 1 @ 231'–0", 1@ 101'–11", AND 1 @ 100'–9"
℄ SPAN 4 – STA. 793+80

LAYOUT
0 MI 1 MI 2 MI 3 MI
1" = 1 MILE

LATITUDE = 38.089908
LONGITUDE = 89.944828

0 100' 200' 300' — 1"= 100'
0 10' 20' 30' — 1"= 10'
0 50' 100' — 1"= 50'
0 50' 100' — 1"= 40'
0 50' 100' — 1"= 30'
0 50' 100' — 1"= 20'

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

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

ADT –
2009 = 4000 (ESTIMATED)
2029 = 5100 (ESTIMATED)
SU = 5.3% MU = 5.9%

GROSS LENGTH = 969.92 FT. = .18 MILE
NET LENGTH = 969.92 FT. = .18 MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED January 28 20 10
Mary C Jamie
DEPUTY DIRECTOR OF HIGHWAYS, REGION5ENGINEER
March 19, 20 10
Scott E Stitt, P.E. /BD
Acting ENGINEER OF DESIGN AND ENVIRONMENT
March 19, 20 10
Christine M. Reed /BD
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PROJECT ENGINEER: PATTI LEBEAU (618) 346–3179
SQUAD CONTACT: ART MUEHLFELD (618) 346–3209

CONTRACT NO. 76883

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

INDEX OF SHEETS

1 COVER PAGE
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46-51 EXISTING BRIDGE PLANS

HIGHWAY STANDARDS

000001-05	701006-03	701321-10	780001-02	631031-08	642001-01	483001-04
001001-02	701011-02	701326-03	720006-02	635001-01	720001-01	420401-08
001006	701201-03	701901-01	542401-01	635006-03	610001-04	
515001-03	701311-03	704001-06	630001-08	635011-02	420001-07	

EROSION CONTROL PLAN

ALL EROSION CONTROL PRODUCTS FURNISHED SHALL BE SPECIFICALLY RECOMMENDED BY THE MANUFACTURER FOR THE USE SPECIFIED IN THE EROSION CONTROL PLAN. PRIOR TO THE APPROVAL AND USE OF THE PRODUCT THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A NOTARIZED CERTIFICATION BY THE PRODUCERS STATING THE INTENDED USE OF THE PRODUCT AND THAT THE PHYSICAL PROPERTIES REQUIRED FOR THIS APPLICATION ARE MET OR EXCEEDED. THE CONTRACTOR SHALL PROVIDE MANUFACTURER RECOMMENDED INSTALLATION PROCEDURES TO FACILITATE THE ENGINEER IN CONSTRUCTION INSPECTION.

TEMPORARY SEEDING AND MULCH SHALL BE COMPLETED ON A WEEKLY BASIS ON EXPOSED GROUND AND SHALL BE IN ACCORDANCE WITH SECTION 280 OF THE STANDARD SPECIFICATIONS. TEMPORARY EROSION CONTROL SEEDING SHALL BE APPLIED AT A RATE OF 100 LBS/ACRE. TEMPORARY SEEDING AND MULCH SHALL BE CONSIDERED AS INCLUDED IN THE COST OF THE CONTRACT.

EARTH STOCKPILES SHALL BE TEMPORARILY SEEDED IF THEY ARE TO REMAIN UNUSED FOR MORE THAN FOURTEEN DAYS.

FINAL SEEDING SHALL BE PERFORMED AS SOON AS POSSIBLE WITH CLASS 2 SEEDING. THIS WILL NOT BE MEASURED SEPARATELY BUT WILL BE CONSIDERED AS INCLUDED IN THE COST OF THE CONTRACT.

ALL AREAS DISTURBED FOR ANY REASON SHALL BE PERMANENTLY SEEDED AS DIRECTED BY THE ENGINEER. ALL AREAS DISTURBED BY THE CONTRACTOR OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE SEEDED AT THE CONTRACTOR'S EXPENSE.

GENERAL NOTES

1. THE STANDARDS AND REVISION NUMBERS STATED IN THE PLANS SHALL APPLY TO THIS CONTRACT.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO CONSTRUCTION AND THE ORDERING OF MATERIALS.
3. ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE BE GIVEN TO ALL UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. OR FOR NONMEMBERS, THE UTILITY COMPANY DIRECTLY. AGENCIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA ARE AS FOLLOWS:

   VILLAGE OF EVANSVILLE• HARRISONVILLE TELEPHONE COMPANY• NEW WAVE COMMUNICATIONS•
   VERIZON NORTH, INC.• AMERENIP•

   MEMBERS OF J.U.L.I.E. (800) 892-0123 ARE INDICATED BY AN •. NON- J.U.L.I.E. MEMBERS MUST BE NOTIFIED INDIVIDUALLY.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEDING, FERTILIZING, AND MULCHING ANY AREAS DISTURBED OUTSIDE THE LIMITS OF CONSTRUCTION. THIS WORK WILL NOT BE MEASURED FOR PAYMENT. THE SEEDING SHALL BE CLASS 1. THE APPLICATION OF THE SEEDING, FERTILIZER AND MULCH SHALL BE TO THE SATISFACTION OF THE ENGINEER, FINAL SEEDING SHALL BE PERFORMED AS SOON AS POSSIBLE.
5. "ROAD CONSTRUCTION AHEAD" SIGNS SHALL BE PLACED AT EACH END OF THE PROJECT. THIS WILL BE INCLUDED IN THE TRAFFIC CONTROL PAY ITEMS. ALL CONSTRUCTION SIGNS SHALL BE FLUORESCENT ORANGE.
6. NO TRENCHES OR OPEN PITS WILL BE PERMITTED ADJACENT TO A TRAFFIC LANE DURING NONE WORKING HOURS. ALL WIDENING TRENCHES SHALL BE BACK FILLED DURING THE SAME WORKING DAY IT WAS EXCAVATED.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT ADJACENT PAVEMENT IS NOT DAMAGED DURING ANY OPERATION.
8. ALL TEMPORARY PAVEMENT MARKING SHALL BE PLACED IN SUCH A MANNER AS NOT TO INTERFERE WITH THE PLACEMENT OF PERMANENT PAVEMENT MARKING.
9. EXCAVATIONS ADJACENT TO THE EDGE OF PAVEMENT SHALL BE PROTECTED WITH EXTENDED LEG BARRICADES AND APPROPRIATE FLASHING OR STEADY BURNING LIGHTS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
10. THE THICKNESS OF THE HMA MIXTURE SHOWN ON THE PLANS IS A NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO THE IRREGULARITY IN THE BASE ON WHICH THE MIXTURE IS PLACED.
11. THE BOTTOM 6" OF THE TEMPORARY CONCRETE BARRIER SHALL BE PAINTED WITH TEMPORARY PAVEMENT MARKING. THIS WILL NOT BE MEASURED FOR PAYMENT BUT SHALL BE CONSIDERED AS INCLUDED IN THE COST OF TEMPORARY CONCRETE BARRIER AND NO OTHER COMPENSATION SHALL BE ALLOWED.
12. THE RECLAIMED ASPHALT PAVEMENT FROM THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
13. SHORT-TERM PAVEMENT MARKING SHALL BE APPLIED TO THE FINAL SURFACE ONLY. AN AMOUNT OF TEMPORARY PAVEMENT MARKING WHICH EQUALS TO THE AMOUNT OF PERMANENT PAVEMENT MARKINGS HAS BEEN INCLUDED IN THE PLANS.
14. ALL EXISTING AND PROPOSED RIGHT-OF-WAY LINES AND PROPERTY LINES SHOWN ON THE PLAN SHEETS ARE GRAPHICAL REPRESENTATIONS AND SHALL NOT BE USED AS A MEANS TO ESTABLISH OWNERSHIP. IN AL MATTERS RELATING TO RIGHT-OF-WAY, THE PLAT OF HIGHWAYS SHALL BE THE CONTROLLING DOCUMENT.
15. THE REMOVAL OF THE EXISTING BRIDGE APPROACH PAVEMENT IS INCLUDED IN THE COST OF PAVEMENT REMOVAL.
16. THE FOLLOWING HMA REQUIREMENTS APPLY TO THIS PROJECT:+

MIXTURE REQUIREMENT CHART

MIXTURE USE	BASE COURSE
AC/PG	PG 64-22
RAP % (MAX)	15%
DESIGN AIR VOIDS	4.0% @ Ndes=70
MIX COMPOSITION	
(GRADATION MIXTURE)	IL 19.0
FRICTION AGG	MIXTURE "B"

COMMITMENTS

NONE

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		DATE - Checked Date	REVISED - Revised By4		SCALE: Scale | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA. Station To

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	2
		CONTRACT NO. 76883		
	ILLINOIS FED. AID PROJECT			

Long Section Number
Multiple County Names

SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		80% FEDERAL 20% STATE X071-2A		
20200100	EARTH EXCAVATION	CU YD	75	75		
28100105	STONE RIPRAP, CLASS A3	SQ YD	29	29		
28100203	STONE RIPRAP, CLASS A2	TON	27	27		
28100811	STONE DUMPED RIPRAP, CLASS A6	TON	570	570		
35501324	HOT-MIX ASPHALT BASE COURSE, 10"	SQ YD	1012	1012		
~~42001165~~	~~BRIDGE APPROACH PAVEMENT~~	~~SQ YD~~	~~294~~	~~294~~		
42001420	BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)	SQ YD	59	59		
44000100	PAVEMENT REMOVAL	SQ YD	250	250		
44003000	MEDIAN REMOVAL	FOOT	1227	1227		
44004250	PAVED SHOULDER REMOVAL	SQ YD	1073	1073		
45200300	JOINT OR CRACK FILLING	POUND	1629	1629		
50102400	CONCRETE REMOVAL	CU YD	13.4	13.4		
50300225	CONCRETE STRUCTURES	CU YD	64.7	64.7		
50300255	CONCRETE SUPERSTRUCTURE	CU YD	143.5	143.5		
50300260	BRIDGE DECK GROOVING	SQ YD	4621	4621		
50300300	PROTECTIVE COAT	SQ YD	5555	5555		
50300530	FLOOR DRAIN EXTENSION	EACH	12	12		
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	31770	31770		
50500715	JACK AND REMOVE EXISTING BEARINGS	EACH	35	35		
50501130	STRUCTURAL STEEL REPAIR	POUND	400	400		
50606400	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES	L SUM	1	1		
50606701	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 1	L SUM	1	1		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	43600	43600		
50800515	BAR SPLICERS	EACH	340	340		
52000110	PREFORMED JOINT STRIP SEAL	FOOT	90	90		
52000600	FABRIC REINFORCED ELASTOMERIC TROUGH	FOOT	96	96		
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	30	30		
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	10	10		
52100520	ANCHOR BOLTS, 1"	EACH	140	140		
52100540	ANCHOR BOLTS, 1 1/2"	EACH	20	20		
54215547	METAL END SECTIONS 12"	EACH	2	2		
58700300	CONCRETE SEALER	SQ FT	886	886		
60100945	PIPE DRAINS 12"	FOOT	69	69		

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		80% FEDERAL 20% STATE X071-2A		
60500060	REMOVING INLETS	EACH	2	2		
60600605	CONCRETE CURB, TYPE B	FOOT	740	740		
60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	271	271		
61000225	TYPE F INLET BOX, STANDARD 610001	EACH	2	2		
60900515	CONCRETE THRUST BLOCKS	EACH	2	2		
63000001	STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POSTS	FOOT	925	925		
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4		
63200310	GUARDRAIL REMOVAL	FOOT	1100	1100		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	14	14		
67100100	MOBILIZATION	L SUM	1	1		
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	2	2		
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1		
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1		
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1		
70106700	TEMPORARY RUMBLE STRIP	EACH	12	12		
70300100	SHORT-TERM PAVEMENT MARKING	FOOT	178	178		
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	3992	3992		
70300280	TEMPORARY PAVEMENT MARKING - LINE 24"	FOOT	24	24		
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	18	18		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1275	1275		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1275	1275		
78008210	POLYUREA PAVEMENT MARKING TYPE I - LINE 4"	FOOT	3992	3992		
78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	4	4		
78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	12	12		
78200410	GUARDRAIL MARKERS, TYPE A	EACH	14	14		
78200510	BARRIER WALL MARKERS, TYPE A	EACH	32	32		
78300100	PAVEMENT MARKING REMOVAL	SQ FT	1331	1331		
X0321468	PLUG EXISTING DECK DRAINS	EACH	302	302		
X0322556	STIFFENER INTERSECTION MODIFICATION	EACH	104	104		
X0325305	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	400	400		
X8260110	NAVIGATION LIGHTING SYSTEM	L SUM	1	1		

Rev.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: | SHEET NO. 1 OF 2 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-11	RANDOLPH	5	3
		CONTRACT NO. 76883		

FED. ROAD DIST. NO. 8 | ILLINOIS | FED. AID PROJECT

SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		80% FEDERAL 20% STATE X071-2A		
XZ193500	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 2 1/4"	SQ YD	4526	4526		
Z0006204	BRIDGE DECK HYDRO-SCARIFICATION 1/2"	SQ YD	4526	4526		
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	95	95		
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
XZ193505	VERTICAL CLEARANCE GAUGE	EACH	2	2		

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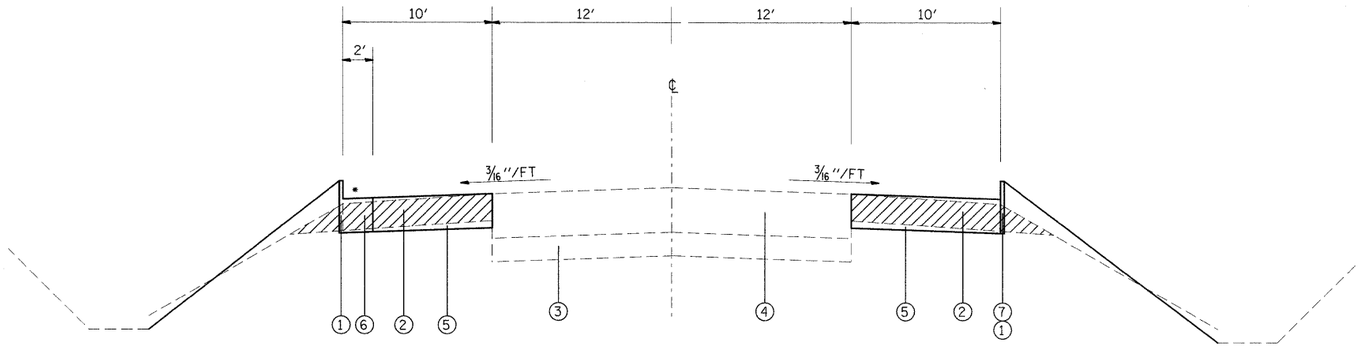
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: | SHEET NO. 2 OF 2 SHEETS | STA. | TO STA.

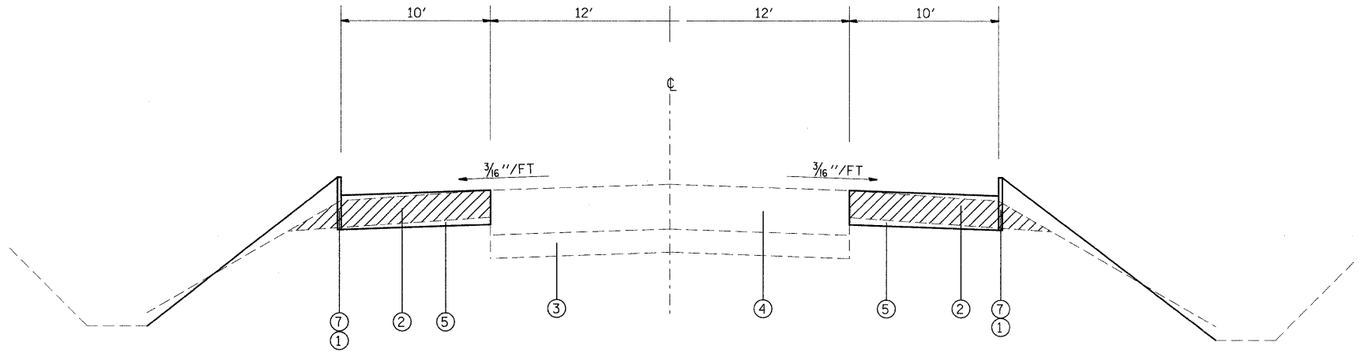
Rev.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-11	RANDOLPH	5	4
		CONTRACT NO. 76883		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



TYPICAL SECTION

STA.786+90.00 TO 788+65.00



TYPICAL SECTION

STA. 799+27.30 TO STA. 801+34.00

LEGEND

1. EXISTING CONCRETE CURB
2. EXISTING HMA SHOULDER - 8"
3. EXISTING SUBBASE - 4"
4. EXISTING PCC PAVEMENT - 8"
5. PROPOSED HMA BASE COURSE - 10"
6. PROPOSED COMBINATION CONCRETE CURB AND GUTTER, TY B6.24*
7. PROPOSED CONCRETE CURB, TY B (DOWELLED)

*PROPOSED COMBINATION CONCRETE CURB & GUTTER TYPE B6.24 BEGINS AT STA. 785+89.20

PROPOSED REMOVAL - HMA SHOULDER REMOVAL
CONCRETE CURB REMOVAL

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL SECTIONS

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

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	5
		CONTRACT NO. 76883		
FED. ROAD DIST. NO. 8	ILLINOIS	FED. AID PROJECT		

PAVEMENT MARKING SCHEDULE

STATION			POLYUREA PAVEMENT MARKING LINE - 4" (FOOT)		TEMPORARY PAVEMENT MARKING LINE - 4" (FOOT)		PAVEMENT MARKING REMOVAL (SQ FT)	SHORT TERM PAVEMENT MARKING (FOOT)	WORK ZONE PAVEMENT MRK. REM. (SQ FT)	RAISED REFLECTIVE PAVEMENT MRKR. (BRIDGE) (EACH)
			SOLID WHITE	SKIP-DASH YELLOW	SOLID WHITE	SKIP-DASH YELLOW				
784+72.00	TO	788+00.00	656	82	656	82	246.0	32.8	3.3	
788+00.00	TO	788+82.00	164	21	164	21	61.5	8.2	0.8	
788+82.00	TO	794+00.00	1036	130	1036	130	388.5	51.8	5.2	6
794+00.00	TO	799+10.50	1021	128	1021	128	382.9	51.1	5.1	6
799+10.50	TO	800+00.00	179	22	179	22	67.1	9.0	0.9	
800+00.00	TO	802+46.00	492	62	492	62	184.5	24.6	2.5	
SUBTOTAL			3548	444	3548	444	1330.5	177.4	17.7	12
TOTAL			3992		3992		1331	178	18	12

BRIDGE APPROACH PAVMENT

STATION			BRIDGE APPROACH PAVEMENT (SQ YDS)	BRIDGE APPROACH PAVEMENT CONN. (PCC) (SQ YDS)
788+75.83	TO	788+81.83		29.5
788+81.83	TO	789+11.83	147	
798+81.75	TO	799+11.75	147	
799+11.75	TO	799+17.75		29.5
TOTAL			294	59

SHOULDER INLET WITH CURB SCHEDULE

STATION	LEFT/ RIGHT	TYPE F INLET BOX STD. 610001 (EACH)	PIPE DRAIN (FOOT)	STONE RIPRAP CL A3 (SQ YDS)	CONCRETE THRUST BLOCKS (EACH)	METAL END SECTIONS 12" (EACH)	REMOVING INLETS (EACH)
788+66.75	LEFT	1	38.0	14.5 @ 61.5' OFFSET (SEE DETAIL)	1	1 @ 61.5' OFFSET	1 @ 24' OFFSET
799+70.75	RIGHT	1	31.0	14.5 @ 57.7' OFFSET (SEE DETAIL)	1	1 @ 57.7' OFFSET	1 @ 24' OFFSET
TOTAL		2	69	29	2	2	2

GUARDRAIL SCHEDULE

STATIONING			LT/RT	SPBGR TY A FEET	TBT TY-6 EACH	GUARDRAIL MRKRS-TA EACH	GUARDRAIL REMOVAL FEET	TEMPORARY SPBGR-TY A FEET	TEMPORARY TBT-TY 6 EACH
786+62.10	TO	788+00.00	RT	191.85		2	191.85	191.85	
788+00.00	TO	789+01.90	RT	58.15		1	58.15	58.15	
789+01.90	TO	788+58.15	RT		1	1	43.75		1
798+95.60	TO	799+39.35	RT		1	1	43.75		1
799+35.55	TO	800+00.00	RT	60.65		1	60.65	60.65	
800+00.00	TO	801+39.35	RT	139.35		1	139.35	139.35	
785+79.25	TO	788+00.00	LT	220.75		2	220.75		
788+00.00	TO	788+54.25	LT	54.25		1	54.25		
788+54.25	TO	788+98.00	LT		1	1	43.75		
798+91.80	TO	799+35.55	LT		1	1	43.75		
799+35.55	TO	800+00.00	LT	64.45		1	64.45		
800+00.00	TO	801+35.55	LT	135.55		1	135.55		
TOTAL				925	4	14	1100	450	2

EARTHWORK SCHEDULE

STATIONING	UNADJUSTED EXCAVATION (CU YD)	EXCAVATION ADJUSED FOR 25% SHINKAGE (CU YD)	EMBANKMENT (CU YD)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) (CU YD)
786+90.00 TO 788+00.00	13.6	10.2	0.0	10.2
788+00.00 TO 789+11.83	28.0	21.0	0.0	21.0
798+81.75 TO 800+00.00	14.6	10.9	0.0	10.9
800+00.00 TO 801+34.00	16.5	12.4	0.0	12.4
STA. 788+00.00 TO STA. 789+11.83 INCLUDES A QUANTITY OF 7.1 CU YDS OF RIPRAP REMOVAL				
TOTAL =	72.7	54.5	0.0	55.6
ROUNDED TOTAL =	75	55	0	55

PAVING SCHEDULE

STATIONING			HMA BASE COURSE 10 (SQ YDS)	PAVED SHOULDER REMOVAL (SQ YDS)	PAVEMENT REMOVAL (SQ YDS)	CCC&G TY B, 6.24 LEFT (FOOT)	CONCRETE CURB TYPE B (FOOT)		CONCRETE CURB REMOVAL (FOOT)	
							LEFT	RIGHT	LEFT	RIGHT
785+89.20	TO	786+90.00		22.5		101.0		101.0	101.0	101.0
786+90.00	TO	788+00.00	220.0	244.5		110.0		110.0	110.0	110.0
788+00.00	TO	788+76.25	130.5	144.5		60.0	15.0	80.0	75.0	80.0
788+76.25	TO	789+11.83	104.0	104.0	125.0				36.0	36.0
798+81.75	TO	799+27.30	101.0	101.0	125.0				36.0	36.0
799+27.30	TO	800+00.00	161.5	161.5			85.0	81.0	121.0	117.0
800+00.00	TO	801+34.00	295.0	295.0			134.0	134.0	134.0	134.0
TOTAL			1012	1073	250.0	271.0	740.0		1227.0	

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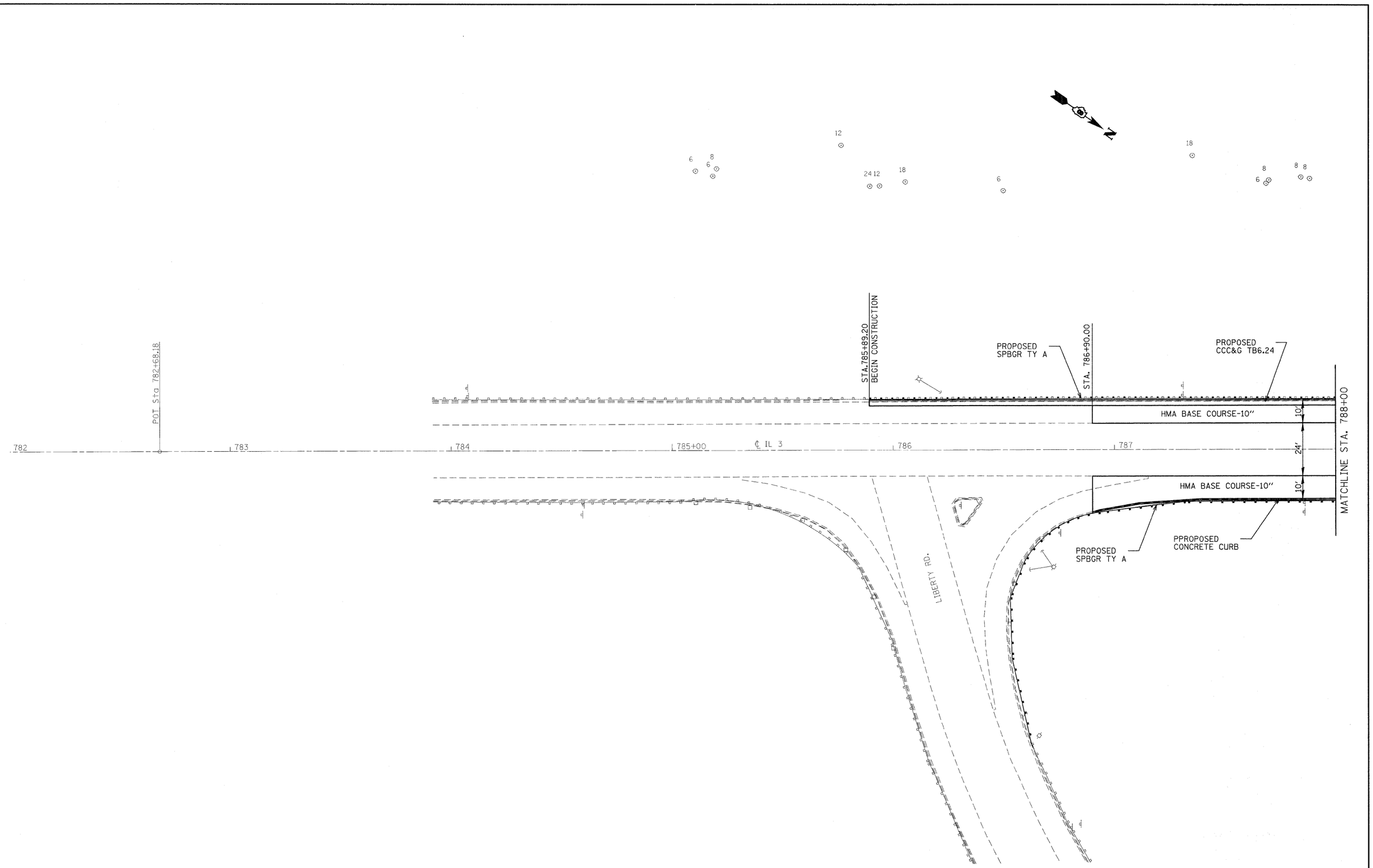
	PLOT DATE = 2/17/2012	CHECKED -	REVISED -	
		DATE -	REVISED -	

SCHEDULES AND DETAILS

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	6
		CONTRACT NO. 76883		
	ILLINOIS FED. AID PROJECT			



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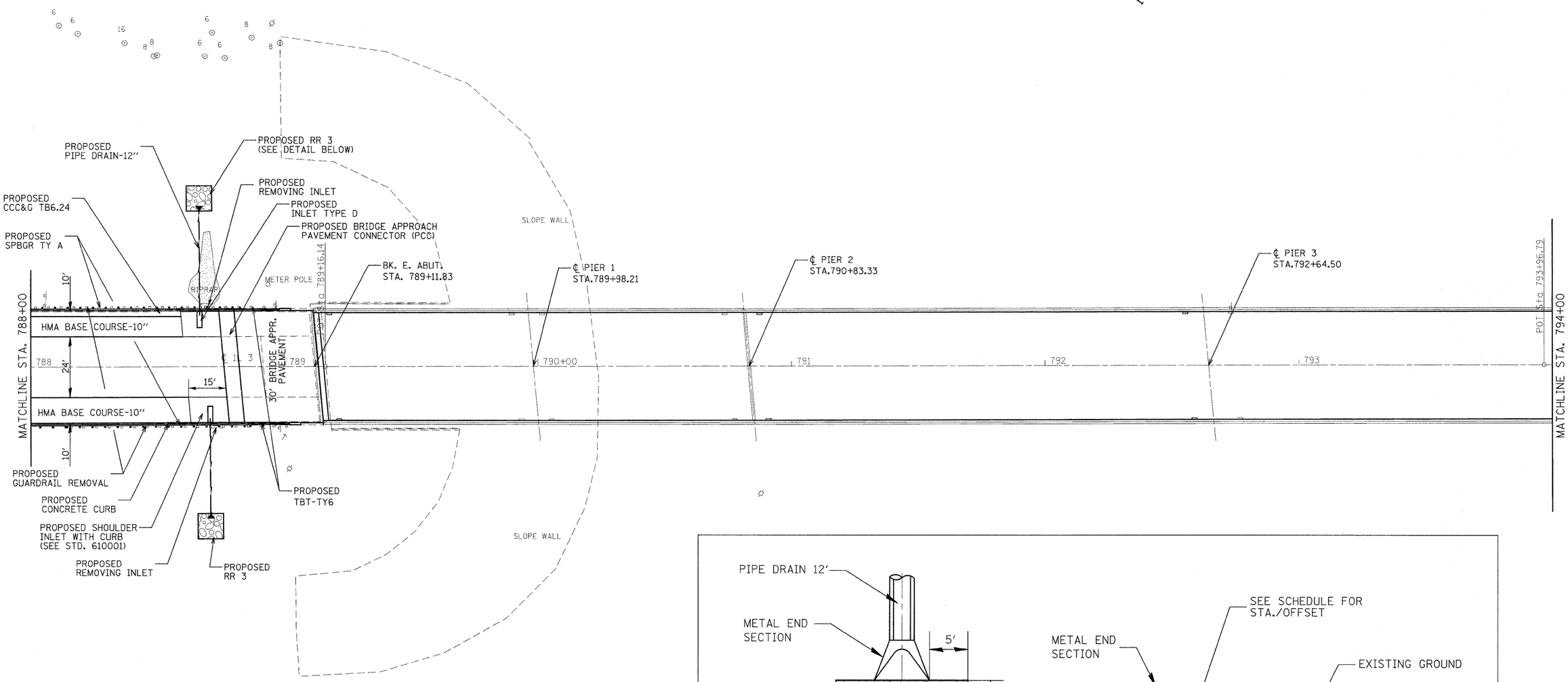
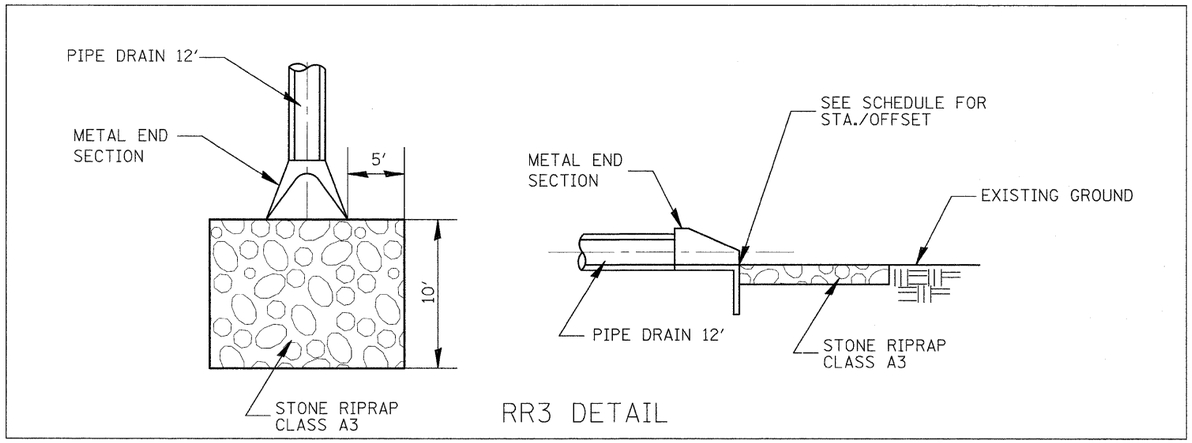
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN SHEETS

SCALE: | SHEET NO. 1 OF 4 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	7
		CONTRACT NO. 76883		
	ILLINOIS FED. AID PROJECT			





RR3 DETAIL

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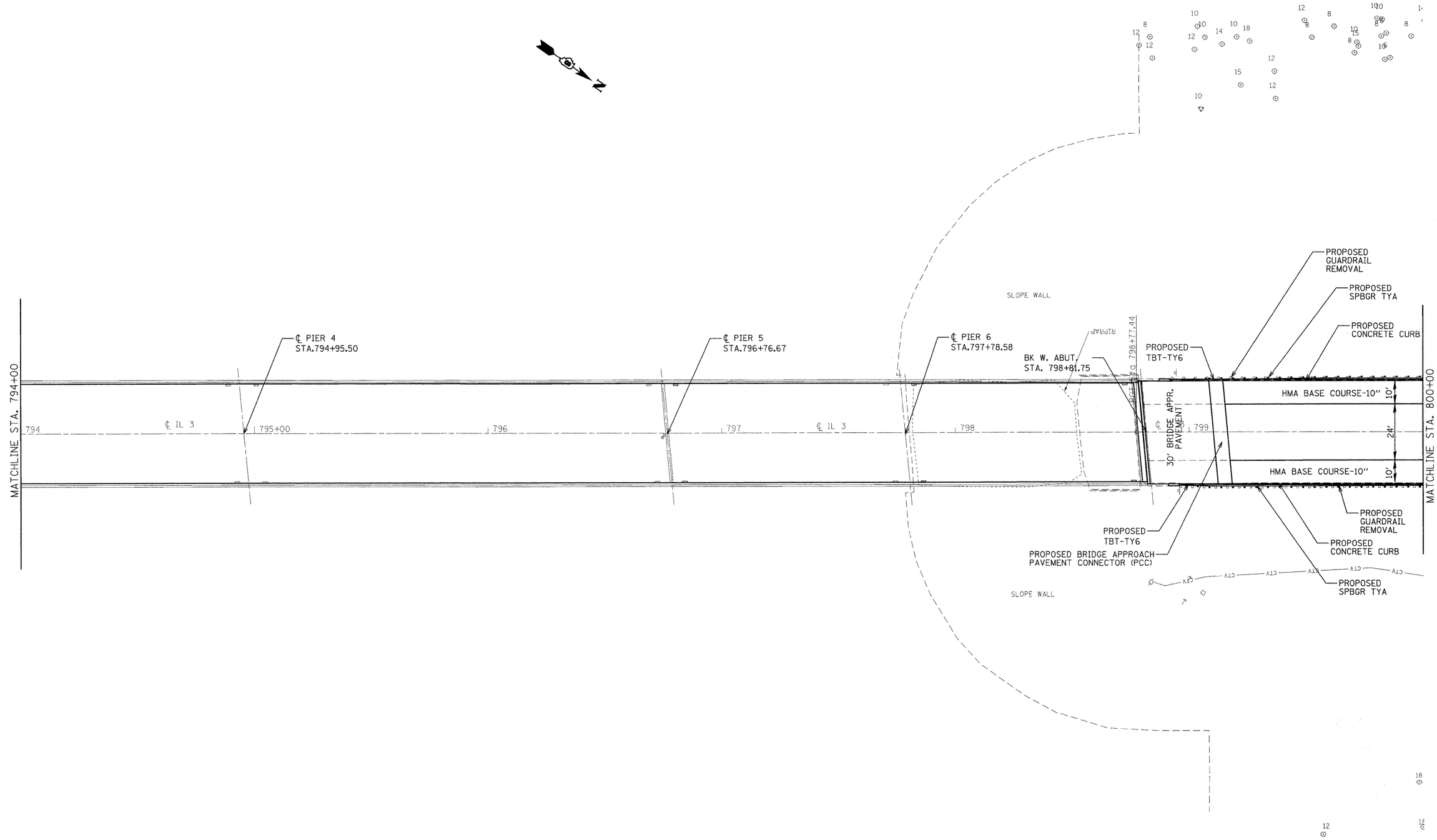
	PLOT DATE = 2/17/2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN SHEETS

SCALE: | SHEET NO. 2 OF 4 SHEETS | STA. | TO STA.

F.A.B. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	8
		CONTRACT NO. 76883		
	ILLINOIS FED. AID PROJECT			



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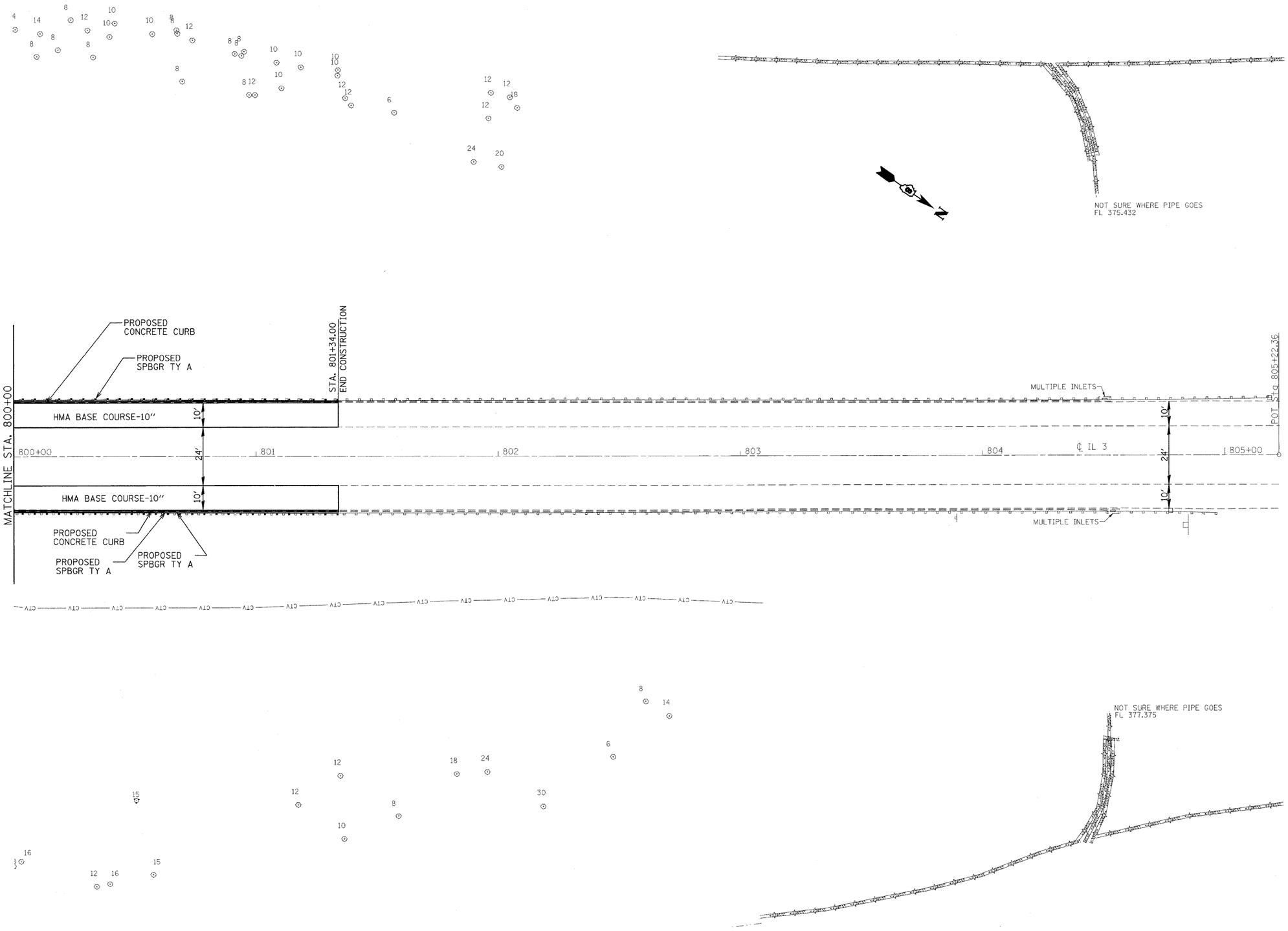
	PLOT DATE = 2/17/2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN SHEETS

SCALE: | SHEET NO. 3 OF 4 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
73BR		RANDOLPH	51	9
		CONTRACT NO. 76883		
	ILLINOIS FED. AID PROJECT			



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	PLOT SCALE = 20.0000 ' / IN.	DRAWN -	REVISED -			312	73BR-1I	RANDOLPH	51	10
	PLOT DATE = 2/17/2010	CHECKED -	REVISED -					CONTRACT NO. 76883		
		DATE -	REVISED -		SCALE: SHEET NO. 4 OF 4 SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT		

PRESTAGE CONSTRUCTION

1. PRESTAGE CONSTRUCTION SHALL CONSIST OF CONSTRUCTING THE 6" CONCRETE CURB AND THE 10' WIDENING ON THE NORTH SIDE OF THE PAVEMENT FOR STAGE 1 TRAFFIC. TRAFFIC CONTROL FOR THIS WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF THE TRAFFIC CONTROL AND PROTECTION, STANDARDS 701201 AND 701326.
2. ONE LANE OF TRAFFIC IN BOTH DIRECTIONS SHALL BE OPEN TO TRAFFIC AT ALL TIMES DURING THE PRESTAGE CONSTRUCTION
3. THE PROPOSED WIDENING SHALL INCLUDE PLACING EARTH EXCAVATION AGAINST WIDENING TO DRAIN. THE WIDENING SHALL CONSIST OF HOT-MIX ASPHALT BASE COURSE-10".

STAGE I CONSTRUCTION

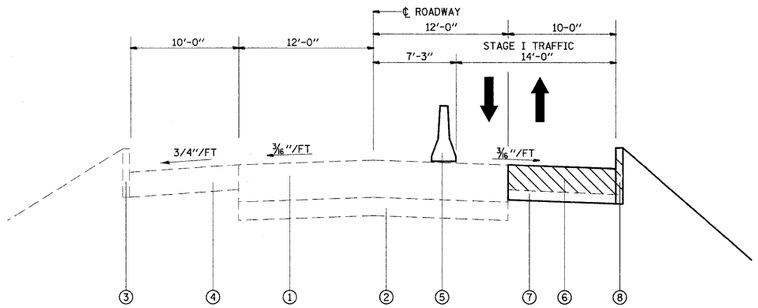
1. STAGE I CONSTRUCTION SHALL CONSIST OF REMOVAL OF THE EXISTING HMA SHOULDER AND CONCRETE CURB; CONSTRUCTING THE CCC&G TYPE B6.24 AND THE 10' WIDENING FOR STAGE II TRAFFIC; REMOVAL OF THE PAVEMENT TO THE LIMITS SHOWN ON THE PLANS AND THE EXISTING INLET AND IT'S ATTENDING APPURTENANCES; CONSTRUCTING THE PROPOSED BRIDGE APPROACH PAVEMENT, BRIDGE APPROACH PAVEMENT CONNECTOR, AND THE SHOULDER INLET WITH CURB ACCORDING TO STD. 610001; PLACING RIPRAP; AND STAGE I CONSTRUCTION OF THE BRIDGE.
2. THE PROPOSED WIDENING SHALL INCLUDE PLACING EARTH EXCAVATION AGAINST WIDENING TO DRAIN. THE WIDENING SHALL CONSISTS OF HOT-MIX ASPHALT BASE COURSE -10".
3. TRAFFIC CONTROL FOR STAGE 1 SHALL BE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF STANDARD 701321. ANY ADDITIONAL SIGNING OR TRAFFIC CONTROL DEVICES SHOWN IN THE STAGE CONSTRUCTION PLANS SHALL BE CONSIDERED AS INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION, STANDARD 701321.

STAGE II CONSTRUCTION

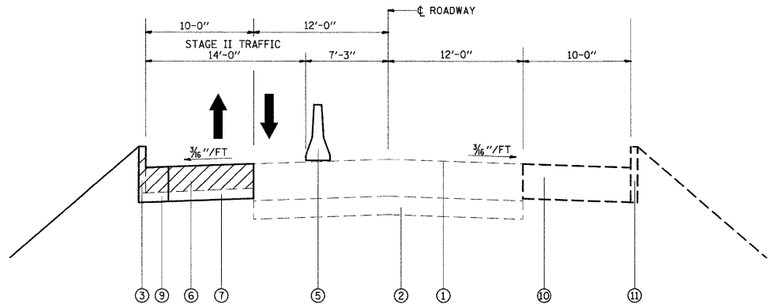
1. STAGE II CONSTRUCTION SHALL CONSIST REMOVAL OF THE PAVEMENT TO THE LIMITS SHOWN ON THE PLANS; CONSTRUCTING THE PROPOSED BRIDGE APPROACH PAVEMENT, BRIDGE APPROACH PAVEMENT CONNECTOR, AND THE SHOULDER INLET WITH CURB ACCORDING TO STD. 610001; PLACING THE RIPRAP; AND STAGE II CONSTRUCTION OF THE BRIDGE.
2. TRAFFIC CONTROL FOR STAGE II SHALL BE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF STANDARD 701321. ANY ADDITIONAL SIGNING OR TRAFFIC CONTROL DEVICES SHOWN IN THE STAGE CONSTRUCTION PLANS SHALL BE CONSIDERED AS INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION, STANDARD 701321.

NOTES:

1. THE BOTTOM 6" OF THE TEMPORARY CONCRETE BARRIER SHALL BE PAINTED WITH TEMPORARY PAVEMENT MARKING "YELLOW". THE COST FOR THIS SHALL BE CONSIDERED AS INCLUDED IN THE COST OF TEMPORARY CONCRETE BARRIER.
2. ALL CONFLICTING PAVEMENT MARKING SHALL BE REMOVED PRIOR TO PLACING PAVEMENT MARKING NECESSARY FOR STAGE CONSTRUCTION.
3. IF THE CONTRACTOR CHOOSES THE OPTION OF SAND MODULE IMPACT ATTENUATORS THEN THE LAYOUT SHOWN BELOW SHOULD BE USED.
4. THIS PROJECT WILL REQUIRE TEMPORARY RUMBLE STRIP.

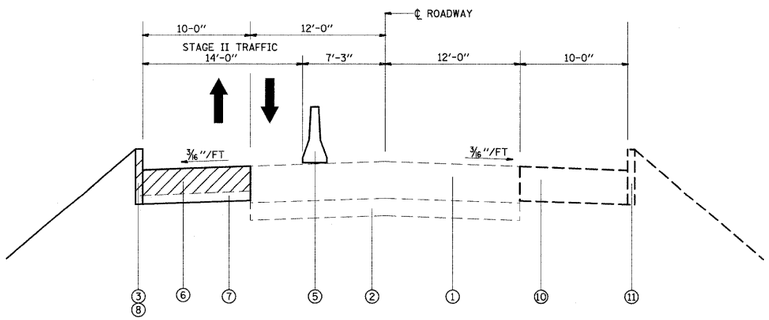


STAGE I TRAFFIC
STA. 786+90.00 TO STA. 788+65.00
STA. 799+27.30 TO STA. 801+34.00



STAGE II TRAFFIC
STA. 785+89.20 TO STA. 788+65.00

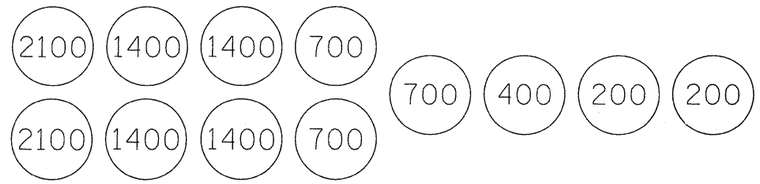
NOTE: SEE BRIDGE APPROACH STANDARD FOR DETAILS REGARDING PAVEMENT BETWEEN STATION 788+65.00 TO STATION 789+11.83 AND BETWEEN STATION 798+81.75 TO STATION 799+27.30.



STAGE II TRAFFIC
STA. 799+27.30 TO STA. 801+34.00

LEGEND

1. EXISTING PORTLAND CEMENT CONCRETE PAVEMENT - 9"
2. EXISTING AGGREGATE BASE COURSE - 6"
3. EXISTING CONCRETE CURB - 6"
4. EXISTING HMA SHOULDER - 8"
5. TEMPORARY CONCRETE BARRIER
6. PROPOSED HMA SHOULDER REMOVAL
7. PROPOSED HMA BASE COURSE - 10"
8. PROPOSED CONCRETE CURB, TY B (DOWELLED)
9. PROPOSED CCC&G, TY B6.24
10. HMA BASE COURSE PLACED IN PREVIOUS STAGE
11. CONCRETE CURB PLACED IN PREVIOUS STAGE



SAND MODULE IMPACT ATTENUATOR

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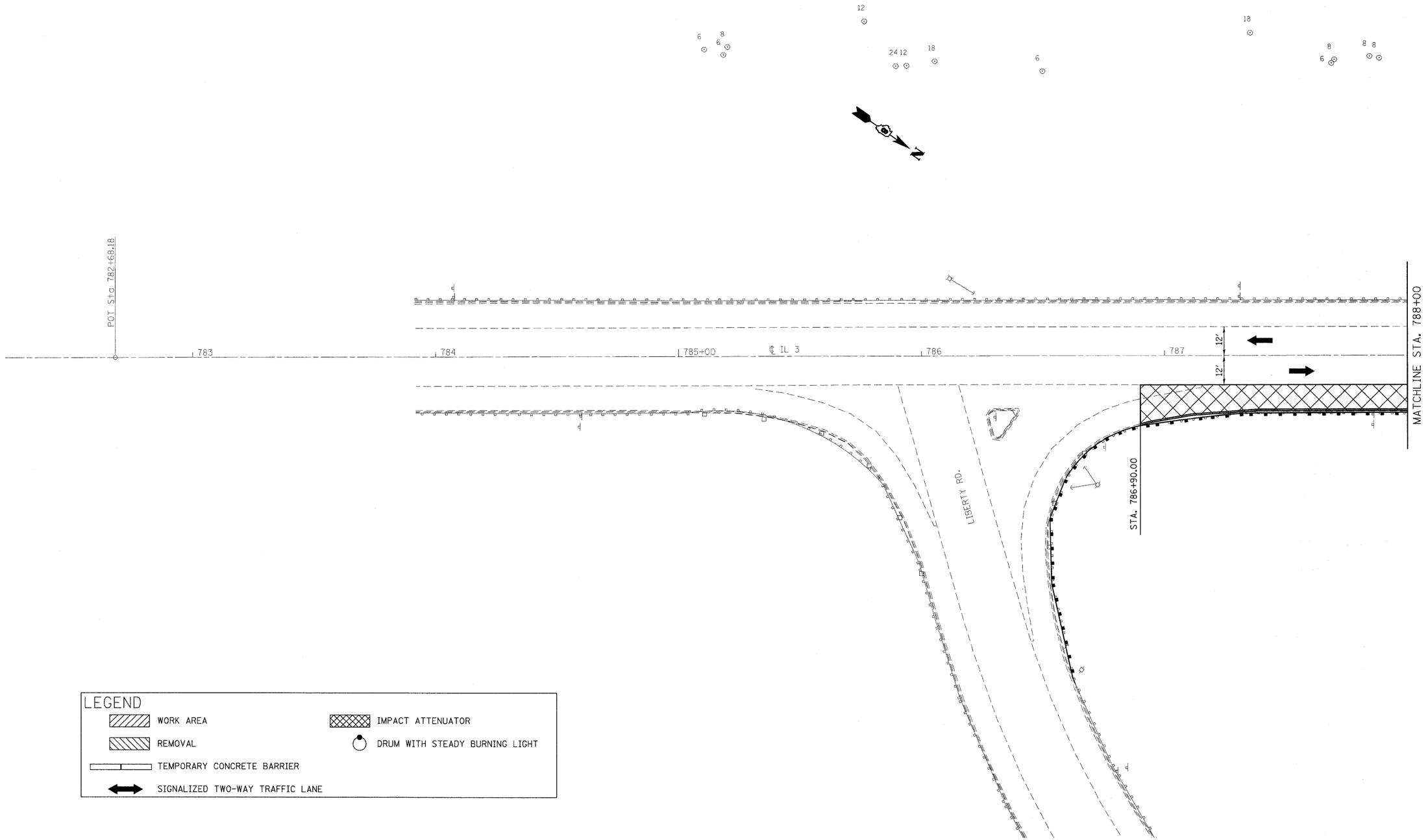
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION

SCALE: | SHEET NO. 1 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	11
		CONTRACT NO. 76883		
	ILLINOIS FED. AID PROJECT			



LEGEND

- WORK AREA
- REMOVAL
- TEMPORARY CONCRETE BARRIER
- SIGNALIZED TWO-WAY TRAFFIC LANE
- IMPACT ATTENUATOR
- DRUM WITH STEADY BURNING LIGHT

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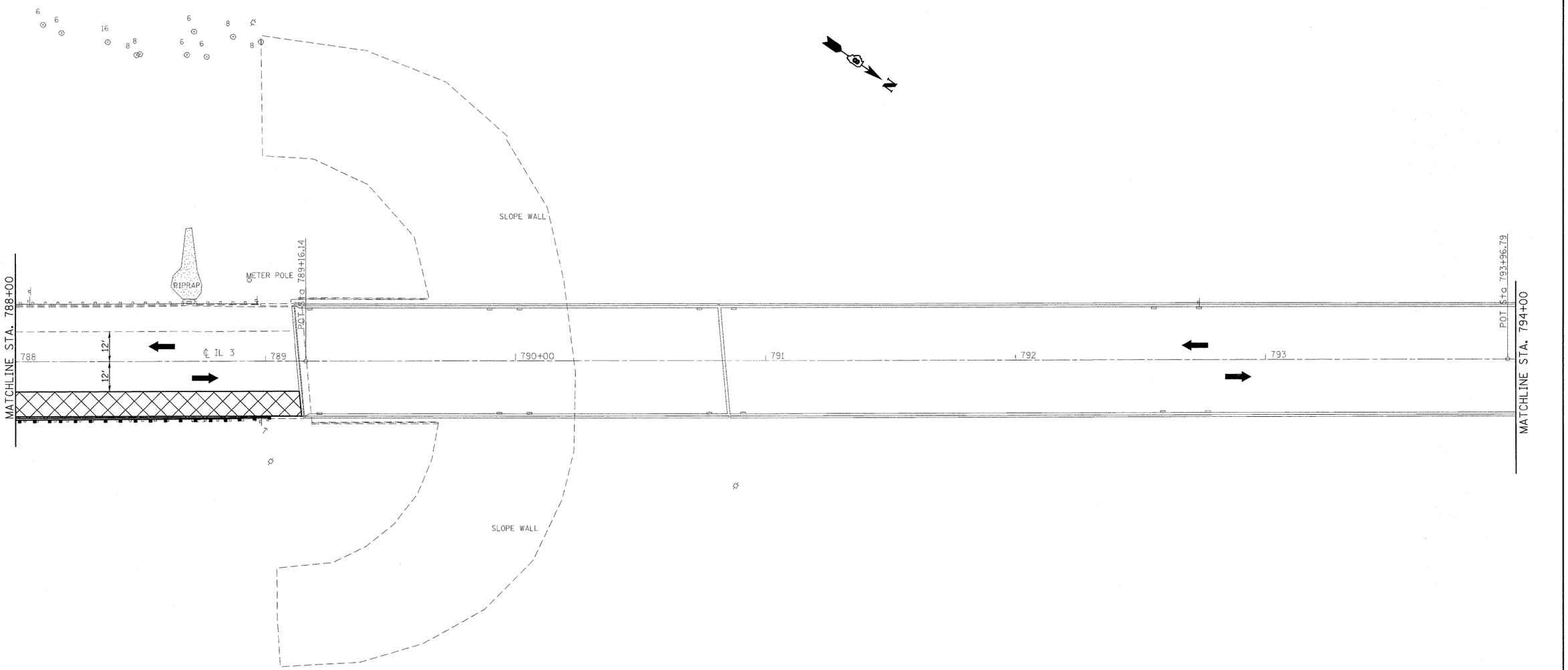
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE IA CONSTRUCTION

SCALE: | SHEET NO. 2 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-II	RANDOLPH	51	12
		CONTRACT NO. 76883		
	ILLINOIS FED. AID PROJECT			



LEGEND

- WORK AREA
- REMOVAL
- TEMPORARY CONCRETE BARRIER
- SIGNALIZED TWO-WAY TRAFFIC LANE
- IMPACT ATTENUATOR
- DRUM WITH STEADY BURNING LIGHT

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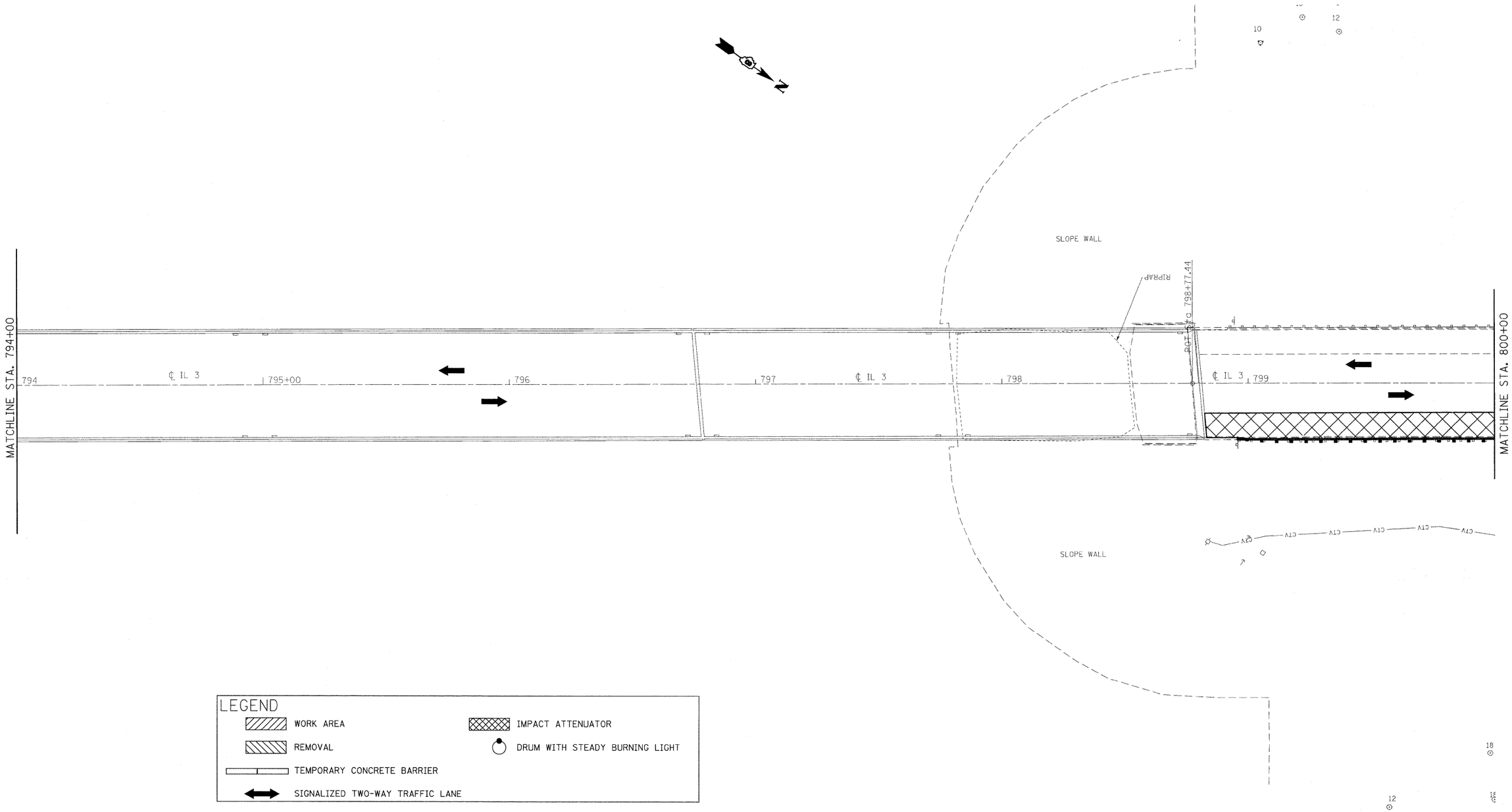
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE IA CONSTRUCTION

SCALE: | SHEET NO. 3 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-11	RANDOLPH	51	13
		CONTRACT NO. 76883		
	ILLINOIS	FED. AID PROJECT		



LEGEND

- WORK AREA
- REMOVAL
- TEMPORARY CONCRETE BARRIER
- SIGNALIZED TWO-WAY TRAFFIC LANE
- IMPACT ATTENUATOR
- DRUM WITH STEADY BURNING LIGHT

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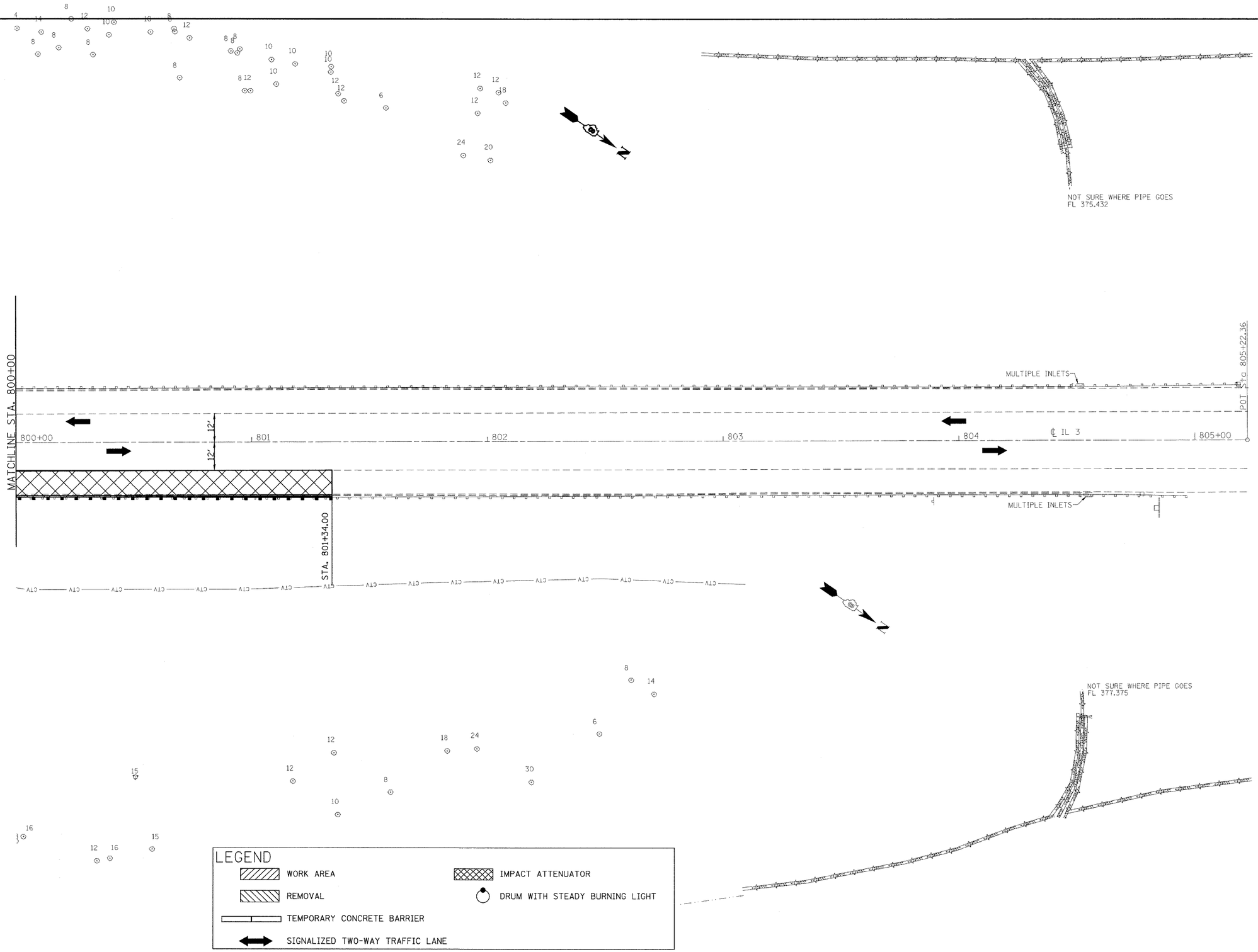
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE IA CONSTRUCTION

SCALE: | SHEET NO. 4 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	14
		CONTRACT NO. 76883		
	ILLINOIS FED. AID PROJECT			



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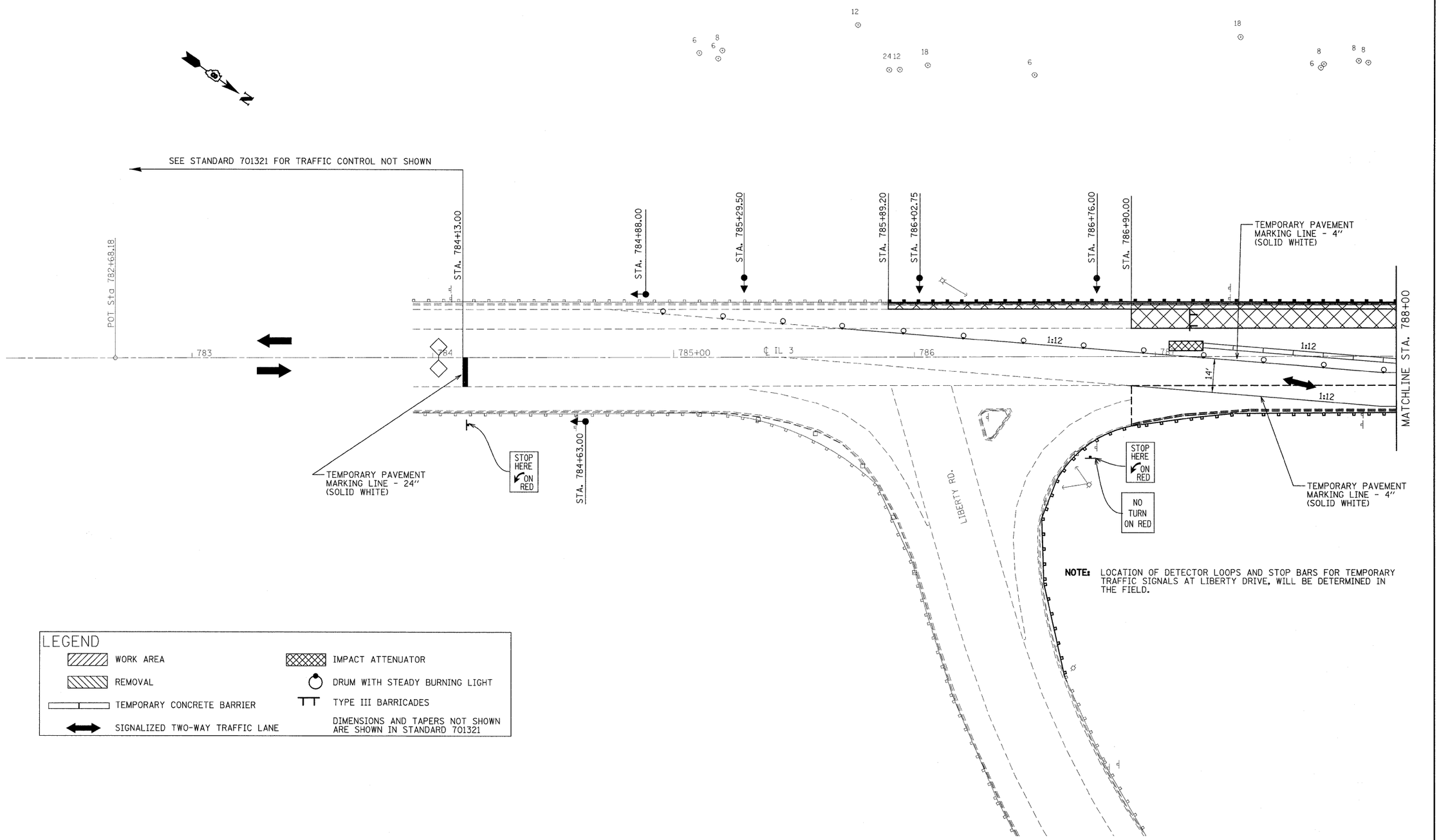
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE IA CONSTRUCTION

SCALE: | SHEET NO. 5 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-11	RANDOLPH	51	15
		CONTRACT NO. 76883		
	ILLINOIS	FED. AID PROJECT		



NOTE: LOCATION OF DETECTOR LOOPS AND STOP BARS FOR TEMPORARY TRAFFIC SIGNALS AT LIBERTY DRIVE, WILL BE DETERMINED IN THE FIELD.

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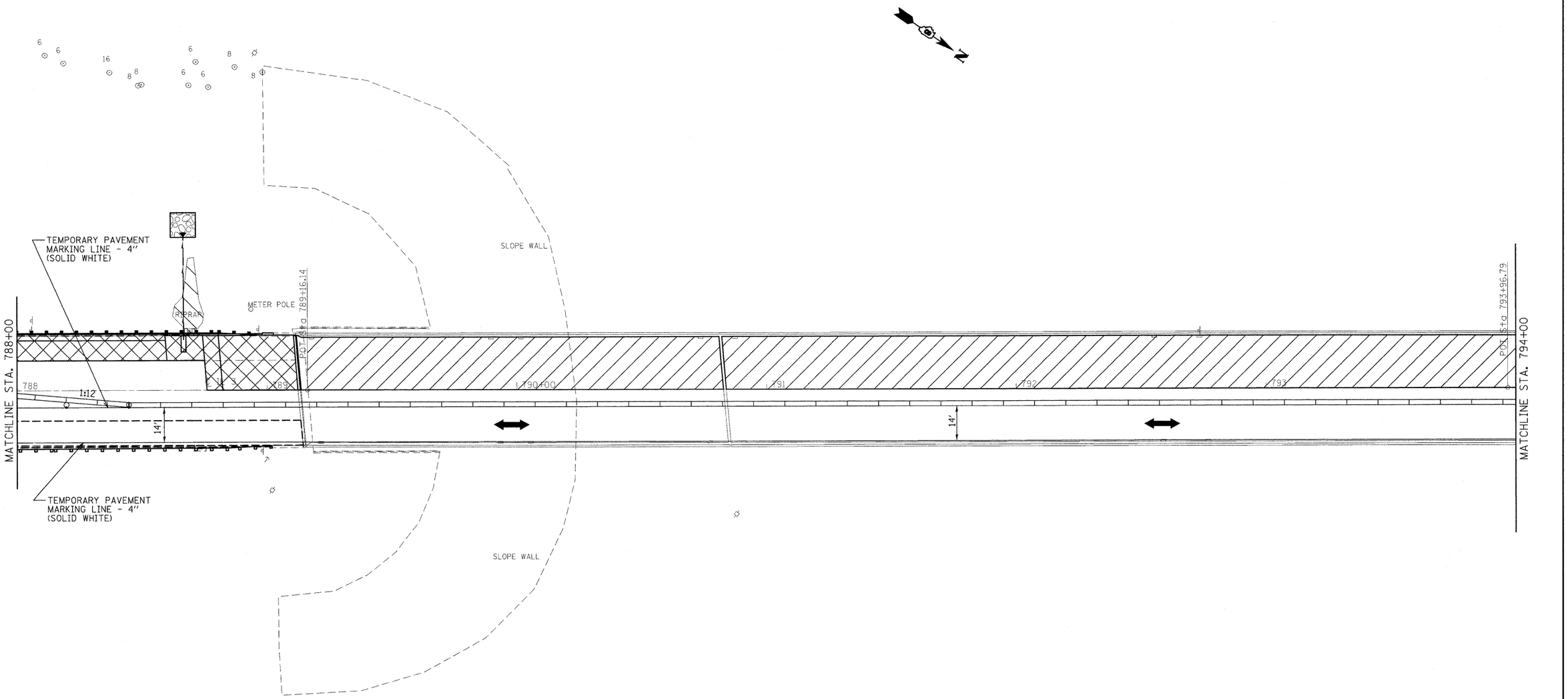
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE I CONSTRUCTION

SCALE: | SHEET NO. 6 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	16
		CONTRACT NO. 76883		
		ILLINOIS FED. AID PROJECT		



LEGEND

- WORK AREA
- REMOVAL
- TEMPORARY CONCRETE BARRIER
- SIGNALIZED TWO-WAY TRAFFIC LANE
- IMPACT ATTENUATOR
- DRUM WITH STEADY BURNING LIGHT

DIMENSIONS AND TAPERS NOT SHOWN ARE SHOWN IN STANDARD 701321

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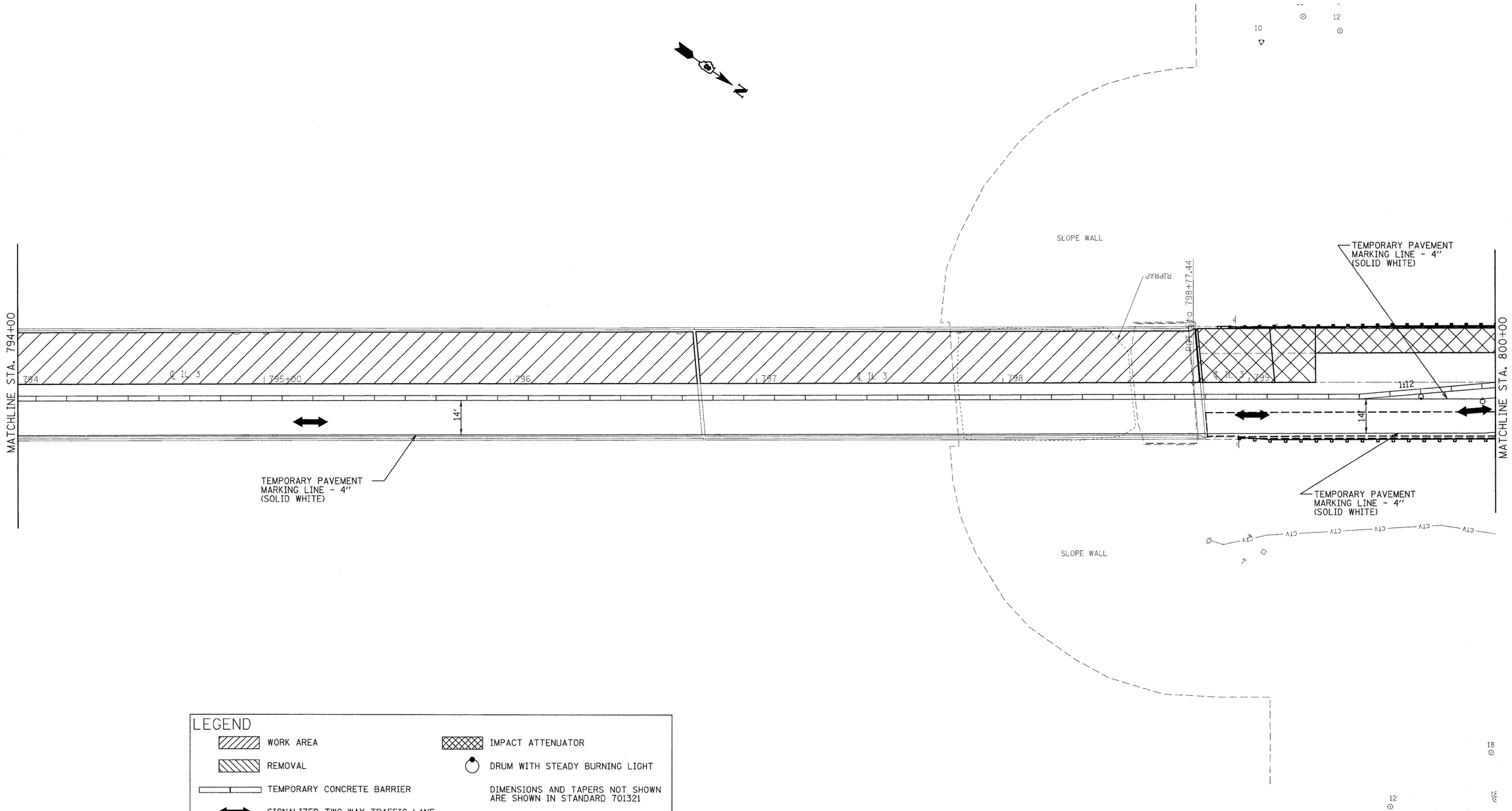
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE I CONSTRUCTION

SCALE: | SHEET NO. 7 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	17
		CONTRACT NO. 76883		
	ILLINOIS FED. AID PROJECT			



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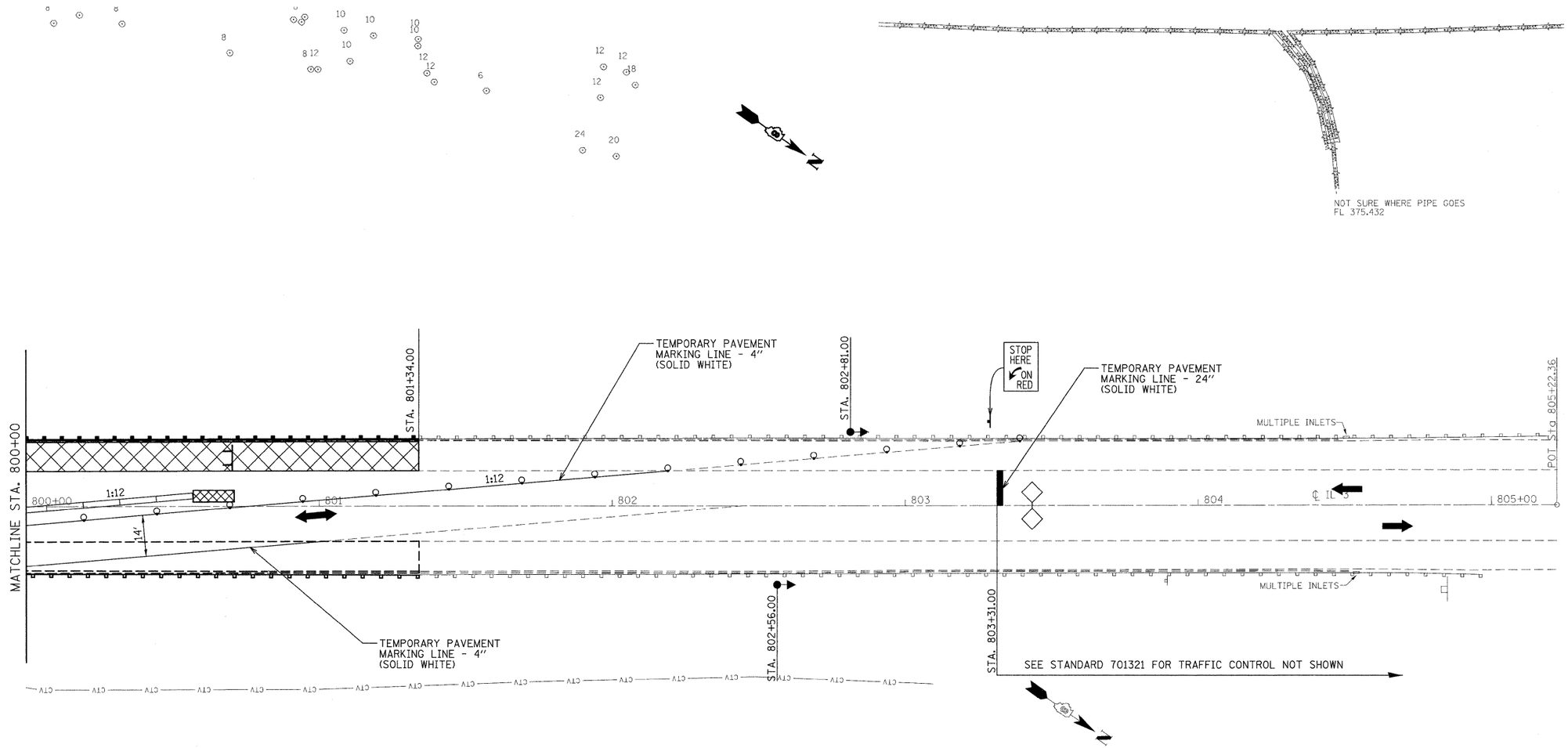
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE I CONSTRUCTION

SCALE: | SHEET NO. 8 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	18
		CONTRACT NO. 76883		
	ILLINOIS	FED. AID PROJECT		



LEGEND

- WORK AREA
- REMOVAL
- TEMPORARY CONCRETE BARRIER
- SIGNALIZED TWO-WAY TRAFFIC LANE
- IMPACT ATTENUATOR
- DRUM WITH STEADY BURNING LIGHT

DIMENSIONS AND TAPERS NOT SHOWN ARE SHOWN IN STANDARD 701321

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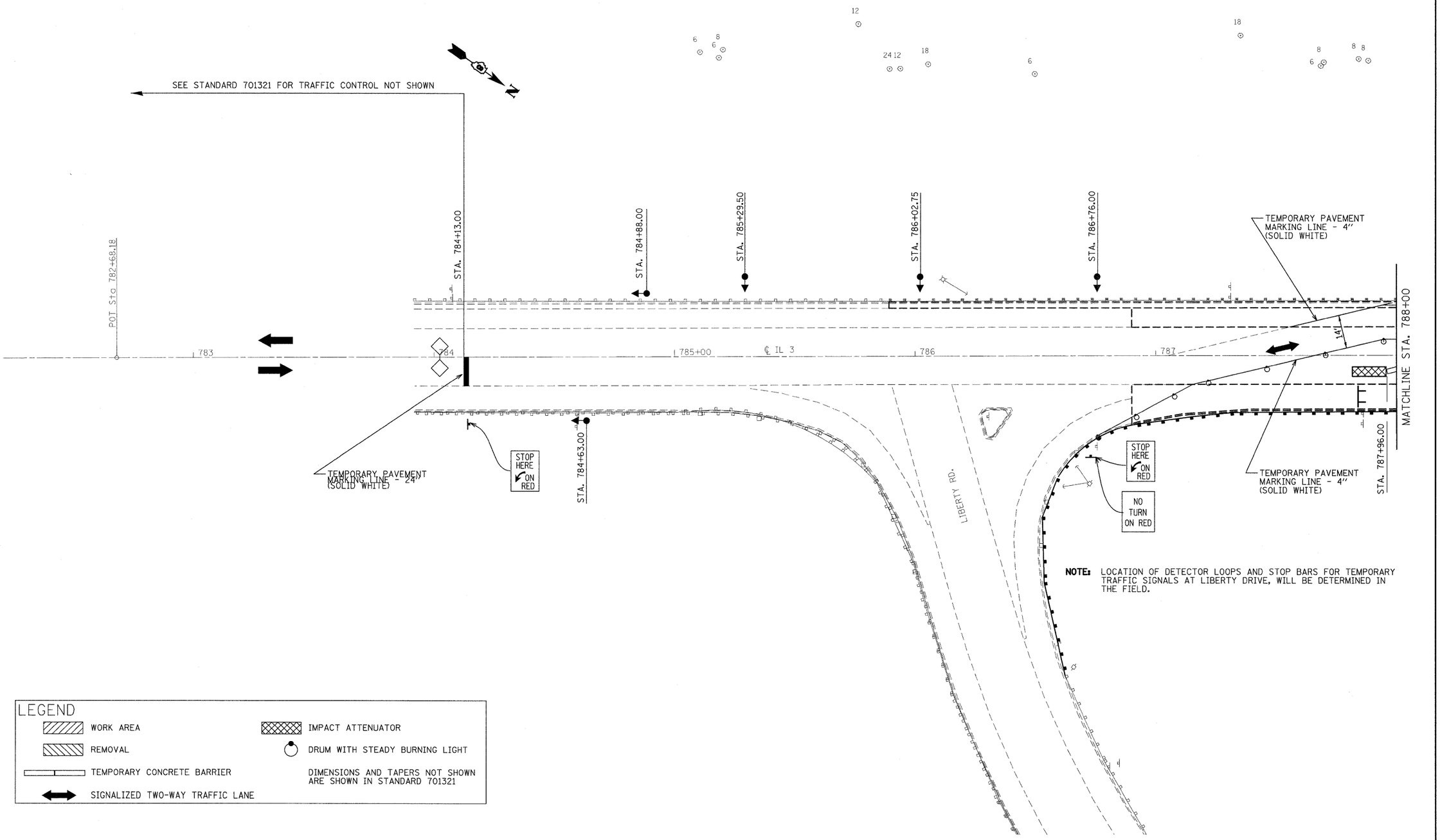
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE 1 CONSTRUCTION

SCALE: | SHEET NO. 9 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	19
		CONTRACT NO. 76883		
	ILLINOIS	FED. AID PROJECT		



NOTE: LOCATION OF DETECTOR LOOPS AND STOP BARS FOR TEMPORARY TRAFFIC SIGNALS AT LIBERTY DRIVE, WILL BE DETERMINED IN THE FIELD.

LEGEND

- WORK AREA
- REMOVAL
- TEMPORARY CONCRETE BARRIER
- SIGNALIZED TWO-WAY TRAFFIC LANE
- IMPACT ATTENUATOR
- DRUM WITH STEADY BURNING LIGHT

DIMENSIONS AND TAPERS NOT SHOWN ARE SHOWN IN STANDARD 701321

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

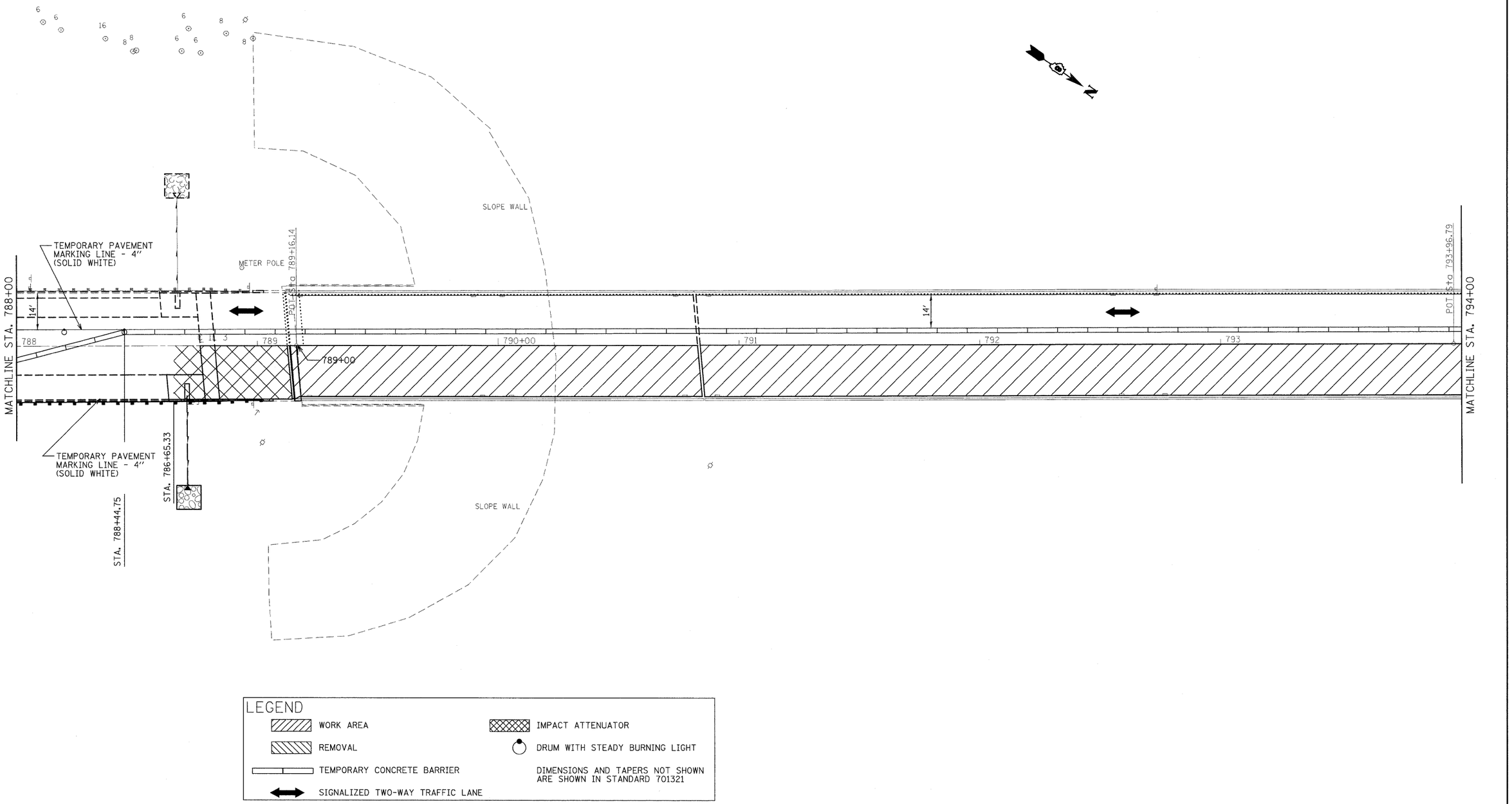
STAGE II CONSTRUCTION

SCALE: | SHEET NO. 10 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-11	RANDOLPH	51	20

CONTRACT NO. 76683

ILLINOIS FED. AID PROJECT



LEGEND

- WORK AREA
- REMOVAL
- TEMPORARY CONCRETE BARRIER
- SIGNALIZED TWO-WAY TRAFFIC LANE
- IMPACT ATTENUATOR
- DRUM WITH STEADY BURNING LIGHT

DIMENSIONS AND TAPERS NOT SHOWN ARE SHOWN IN STANDARD 701321

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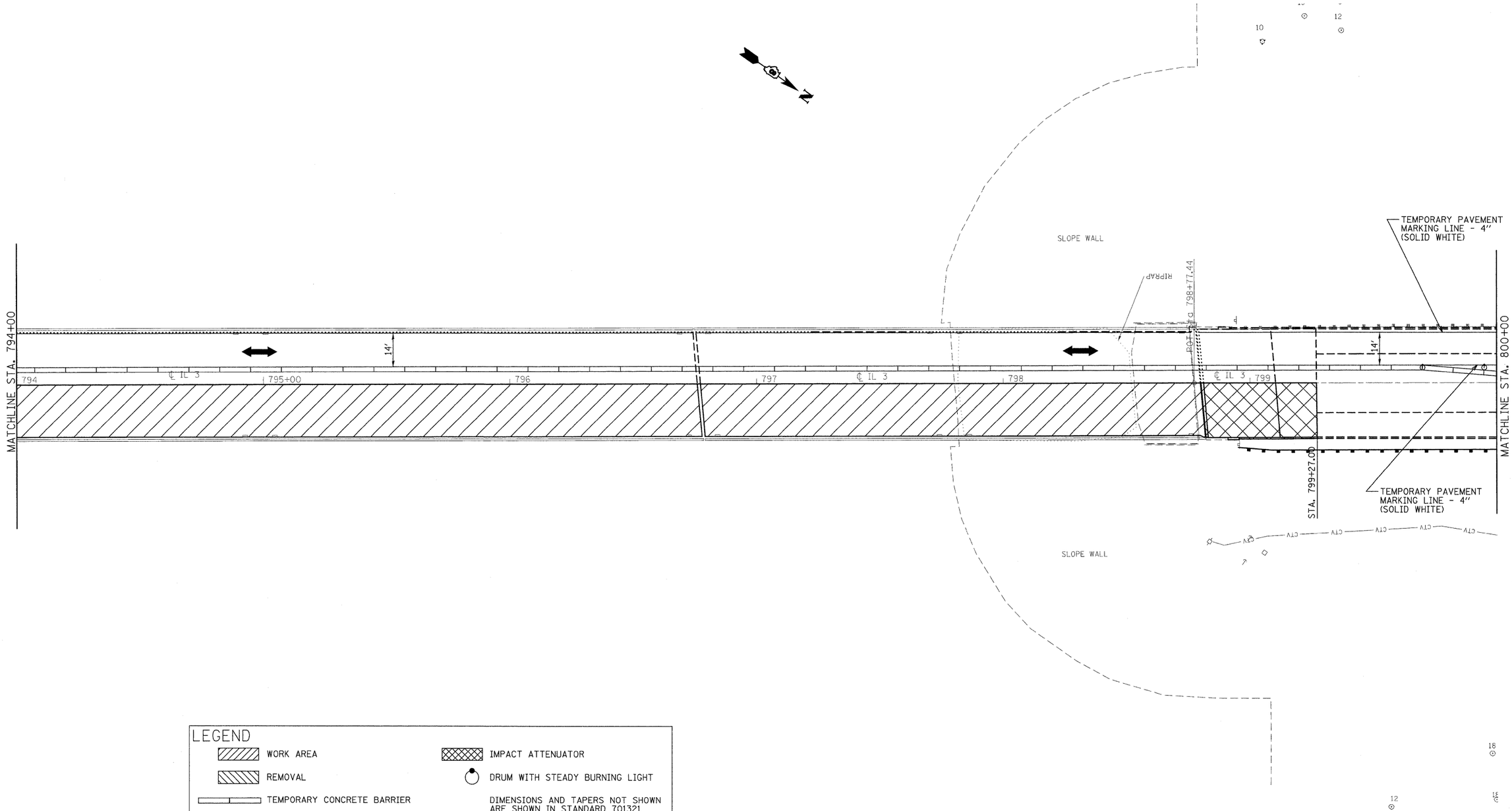
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE II CONSTRUCTION

SCALE: | SHEET NO. 11 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	21
		CONTRACT NO. 76883		
	ILLINOIS	FED. AID PROJECT		



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

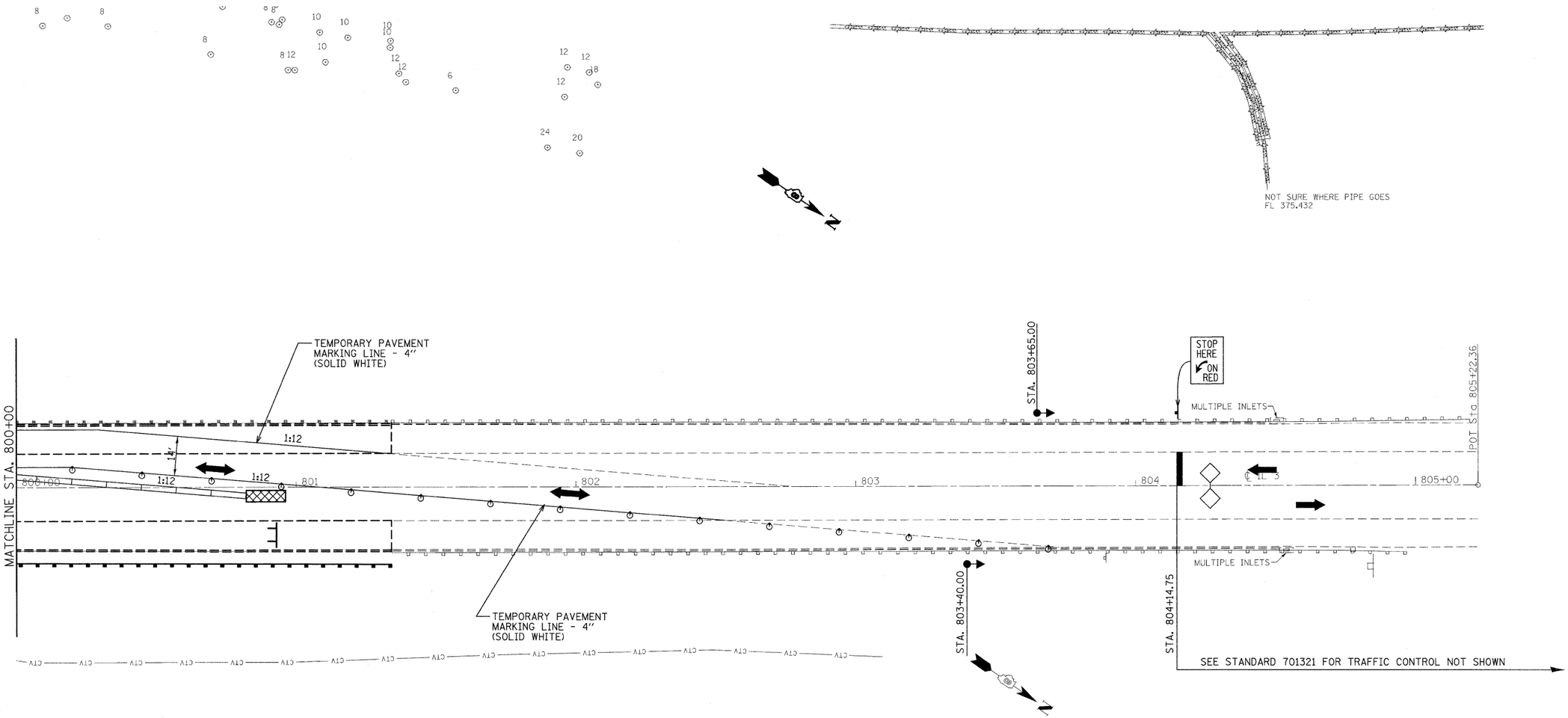
STAGE II CONSTRUCTION

SCALE: | SHEET NO. 12 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	22

CONTRACT NO. 76883

ILLINOIS FED. AID PROJECT



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	PLOT DATE = 2/17/2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE II CONSTRUCTION

SCALE: | SHEET NO. 13 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-11	RANDOLPH	51	23
		CONTRACT NO. 76883		
	ILLINOIS	FED. AID PROJECT		

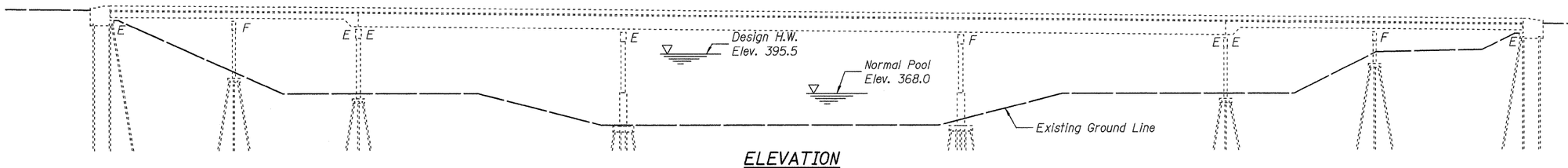
EXISTING STRUCTURE: S.N. 079-0036, originally constructed in 1971 as SBI Route 3 Sec. 73B-1 at Station 793+80.00, using 48" and 108" welded steel I-girders with 8½" concrete deck, 7 spans, 969'-11" back-back abutments, 46'-0" out-out width, open pile bent abutments on steel bearing piles, wall/hammerhead piers with footings on steel bearing piles.

Staged construction shall be used to maintain one lane of traffic.

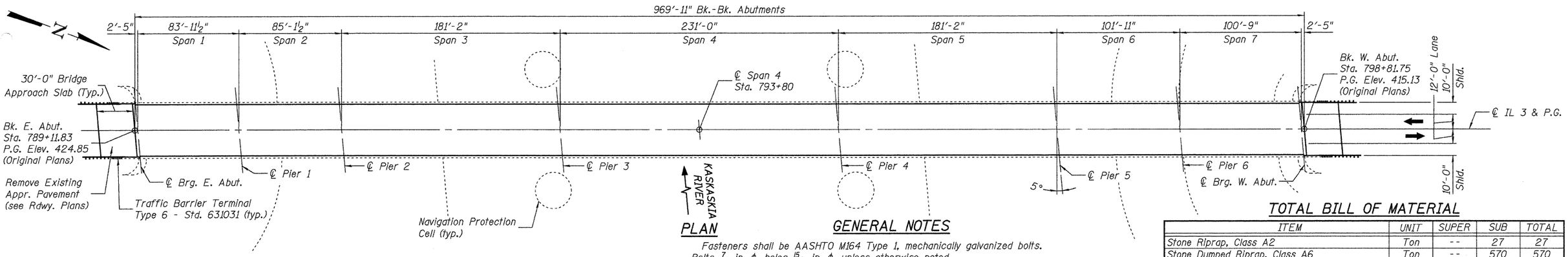
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

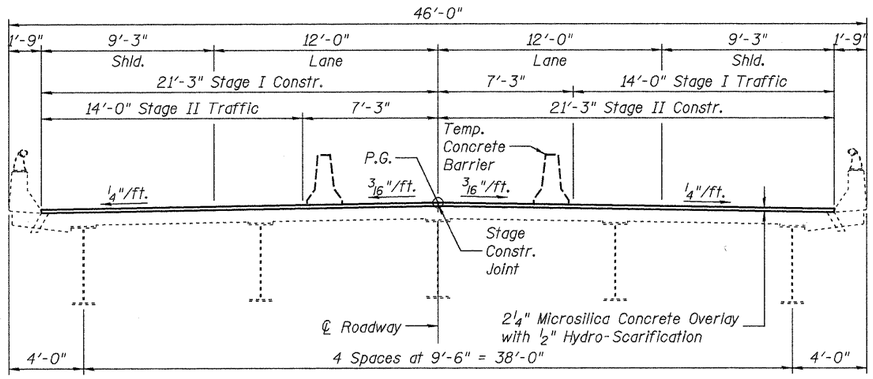
INDEX OF SHEETS

Sheet No.	Description
1	Gen Plan, Gen Notes, Bill of Mat'l
2	Temporary Concrete Barrier
3-5	Superstructure
6-7	Bridge Approach Slab Details
8	Preformed Joint Strip Seal
9	Finger Plate Expansion Joints
10-13	Bearings
14	East & West Abutments
15-16	Piers 2 & 5
17	Miscellaneous Details
18	Slopewall Joint Filling
19	Bar Splicer Assembly Details
20-22	Steel Girder Repairs

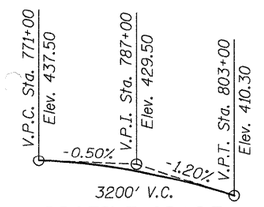


ELEVATION





CROSS SECTION
(Looking North-West)



PROFILE GRADE
(from original 1970 plans)

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Ralph E. Anderson (TJD)
ENGINEER OF BRIDGES AND STRUCTURES

Note:
Engineer's stamp below applies to Sheets 1-19 of 22.

STATE OF ILLINOIS
DAVID C. DEPP
081-005117
LICENSED STRUCTURAL ENGINEER

Signed: David Depp
Date: 2-15-2010
Lic. Expires: 11-30-2010

Johnson, Depp & Quisenberry CONSULTING ENGINEERS Springfield, Illinois	
DESIGNED: JDQ	DRAWN: P. Ray
CHECKED: DCD	CHECKED: DCD

LOADING HS20-44
Allow 25#/sq. ft. for proposed wearing surface

DESIGN SPECIFICATIONS
2002 AASHTO LFD Bridge Design Specs.
1995 FHWA Seismic Retrofitting Manual for Highway Bridges

DESIGN STRESSES
EXISTING STRUCTURE
fc = 1,200/1,400 psi (super/sub-structure)
fs = 20,000 psi (reinforcement)
fs = 20,000 psi (A36 structural steel)
NEW CONSTRUCTION
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (M270 Grade 36)

SEISMIC DATA
Seismic Performance Category (SPC) = C
Bedrock Acceleration Coefficient (A) = 0.13g
Site Coefficient (S) = 1.5

PLAN

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts ⅞ in. ϕ, holes ¹⁵⁄₁₆ in. ϕ, unless otherwise noted.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions. Reinforcement bars designated (E) shall be epoxy coated.

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

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by an individual acceptable to the Engineer. Any cracks that cannot be removed by grinding ¼ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

Plan dimensions and details relative to existing plans are subject to routine 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 based upon the unit price bid for the work.

Bearing seat surfaces shall be constructed or adjusted to their designated elevations within a tolerance of ⅛ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

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

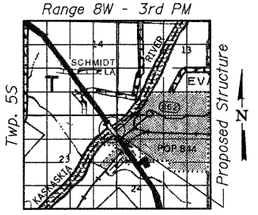
The SSPC QP-1 and QP-2 Painting Contractor Certification will be required for this Contract.

Existing and new structural steel that will be inaccessible after installation of the trough at Piers 2 & 5 shall be cleaned and painted according to the notes on sheet 9 of 22. Other existing structural steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures". All new structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Complete field painting of structural steel shall be done under a separate painting contract.

The Contractor shall obtain a construction permit from the Illinois Department of Natural Resources (IDNR), Office of Water Resources for any temporary construction activity placed in the water except cofferdams. This shall include the placement of material for run-arounds, causeways, etc. Any permit application by the Contractor shall refer to the IDNR permit number as shown in the contract plans.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A2	Ton	--	27	27
Stone Dumped Riprap, Class A6	Ton	--	570	570
Joint or Crack Filling	Pound	--	1629	1629
Concrete Removal	Cu Yd	13.4	--	13.4
Concrete Structures	Cu Yd	27.9	36.8	64.7
Concrete Superstructure	Cu Yd	143.5	--	143.5
Bridge Deck Grooving	Sq Yd	4621	--	4621
Protective Coat	Sq Yd	5555	--	5555
Floor Drain Extension	Each	12	--	12
Furnishing and Erecting Structural Steel	Pound	17810	13960	31770
Jack and Remove Existing Bearings	Each	--	35	35
Structural Steel Repair	Pound	400	--	400
Cont. & Disp. of Lead Paint Cleaning Residues	L Sum	1	--	1
Cleaning and Painting Structural Steel, Loc. 1	L Sum	1	--	1
Reinforcement Bars, Epoxy Coated	Pound	36080	7520	43600
Bar Splicers	Each	334	6	340
Preformed Joint Strip Seal	Foot	90	--	90
Fabric Reinforced Elastomeric Trough	Foot	--	96	96
Elastomeric Bearing Assembly, Type I	Each	--	30	30
Elastomeric Bearing Assembly, Type II	Each	--	10	10
Anchor Bolts, 1"	Each	--	140	140
Anchor Bolts, 1½"	Each	--	20	20
Concrete Sealer	Sq Ft	--	886	886
Plug Existing Deck Drains	Each	302	--	302
Stiffener Intersection Modification	Each	104	--	104
Structural Repair of Concrete (Depth = < 5")	Sq Ft	--	400	400
Navigation Lighting System	L Sum	1	--	1
Bridge Deck Microsilica Concrete Overlay 2¼"	Sq Yd	4526	--	4526
Bridge Deck Hydro-Scarification ½"	Sq Yd	4526	--	4526
Deck Slab Repair (Full Depth, Type II)	Sq Yd	95	--	95
Vertical Clearance Gauge	Each	--	2	2



LOCATION SKETCH

GENERAL PLAN & ELEVATION
ILLINOIS 3 OVER KASKASKIA RIVER
"PUBLIC WATER"
F.A.P. RTE. 312 SEC. 73BR-1I
RANDOLPH COUNTY
STATION 793+80
STRUCTURE NO. 079-0036

SHEET 1 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-1I	RANDOLPH	51	24
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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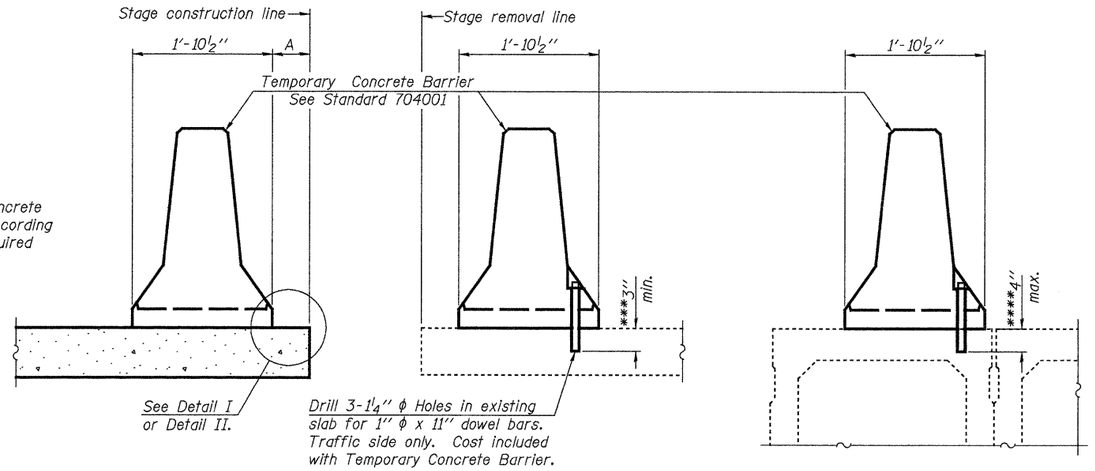
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



NEW SLAB | **EXISTING SLAB** | **EXISTING DECK BEAM**

SECTIONS THRU SLAB OR DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel ℙ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

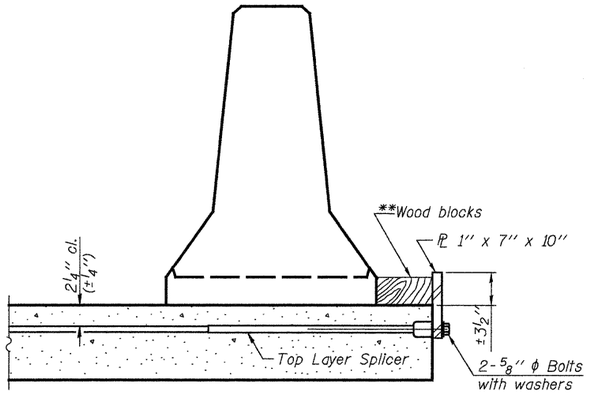
Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x 10" steel ℙ to the concrete slab or concrete wearing surface with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier.

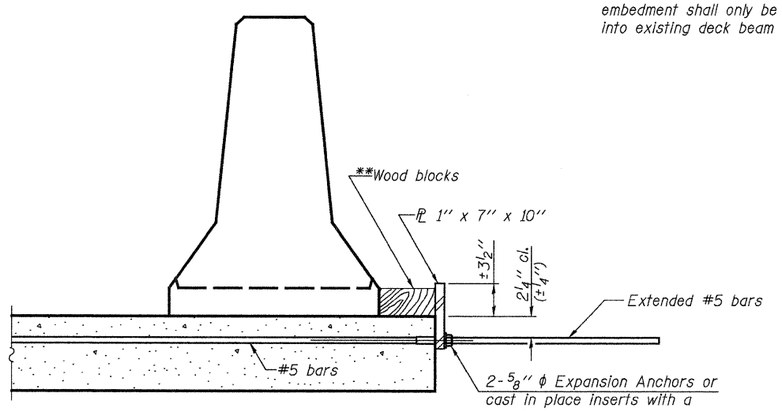
The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

*** Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.

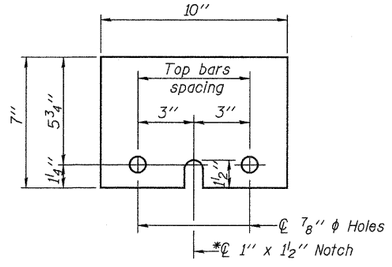


DETAIL I



DETAIL II

**Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.



STEEL RETAINER ℙ 1" x 7" x 10"

* Required only with Detail II

Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED:	JDQ	DRAWN:	SJS
CHECKED:	DCD	CHECKED:	DCD

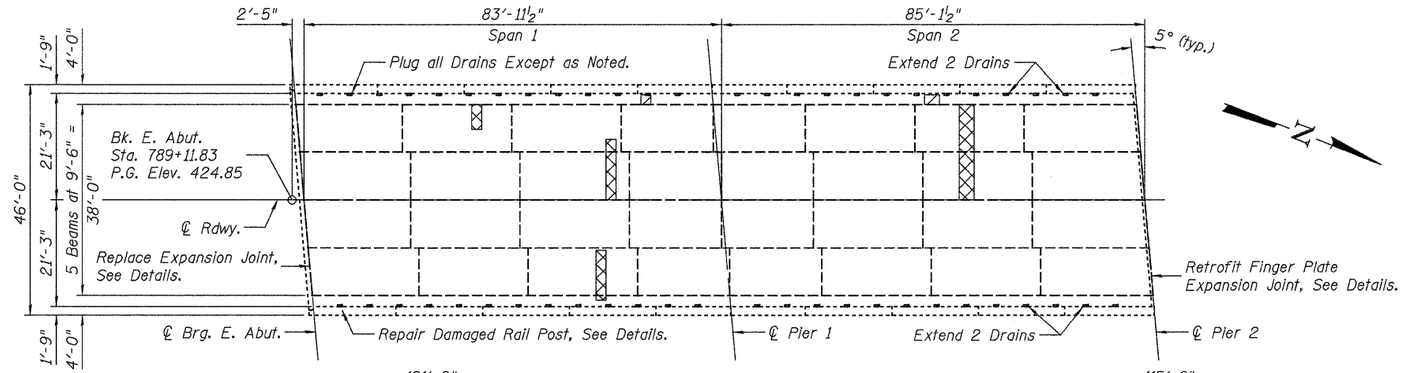
R-27 10-1-08

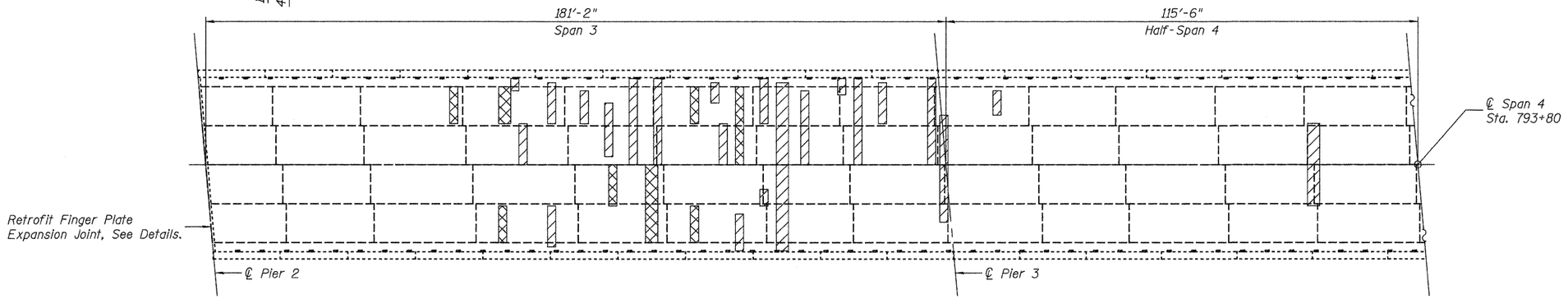
TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION STRUCTURE NO. 079-0036

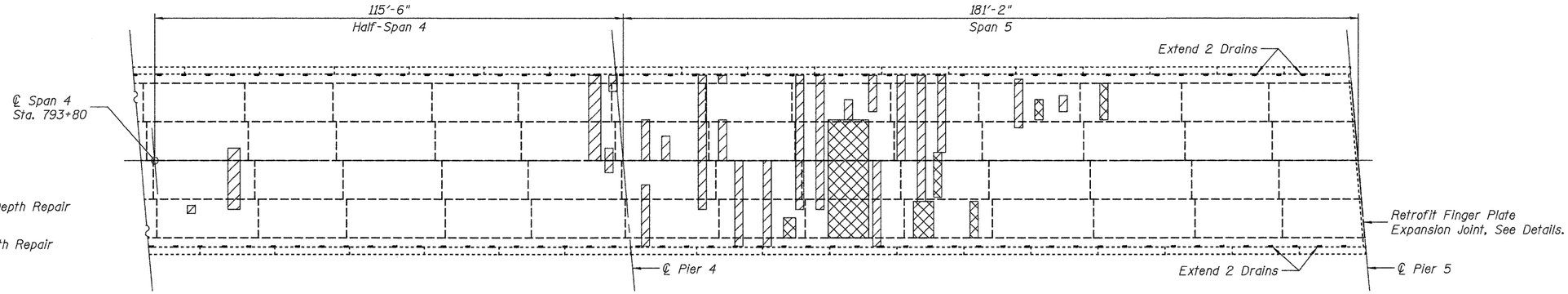
SHEET 2 OF 22

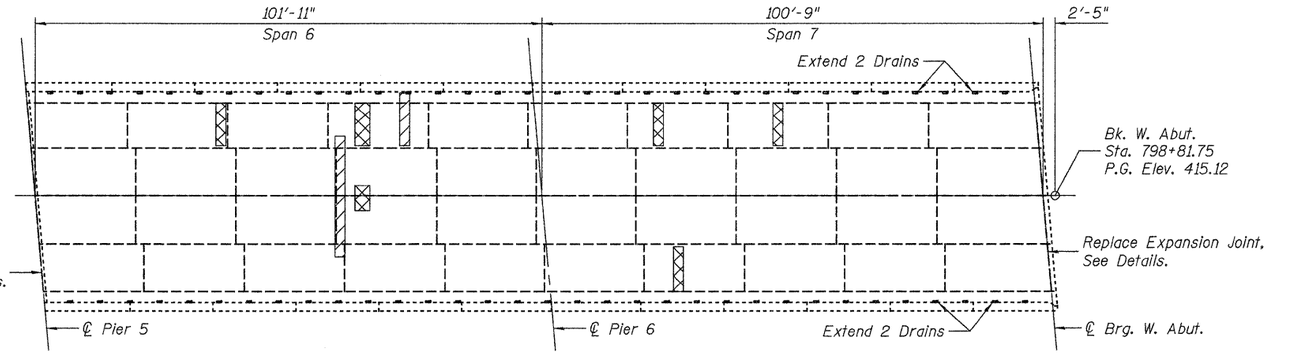
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	25
	STA. 793+80	CONTRACT NO. 76883		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION









LEGEND

Estimated Partial Depth Repair

Estimated Full Depth Repair

Notes:

Deck Condition Survey performed 10/17/2006 by IDOT-D8.

Repair areas are estimated, the Engineer shall determine actual repair locations and record them on the As-Built plans.

Partial depth repairs are included with Bridge Deck Hydro-scarification, see Special Provision for Bridge Deck Microsilica Concrete Overlay.

BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	95

Johnson, Depp & Quisenberry CONSULTING ENGINEERS Springfield, Illinois	
DESIGNED: JDQ	DRAWN: SJS
CHECKED: DCD	CHECKED: DCD

SUPERSTRUCTURE - DECK REPAIRS
STRUCTURE NO. 079-0036

SHEET 3 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-11	RANDOLPH	51	26
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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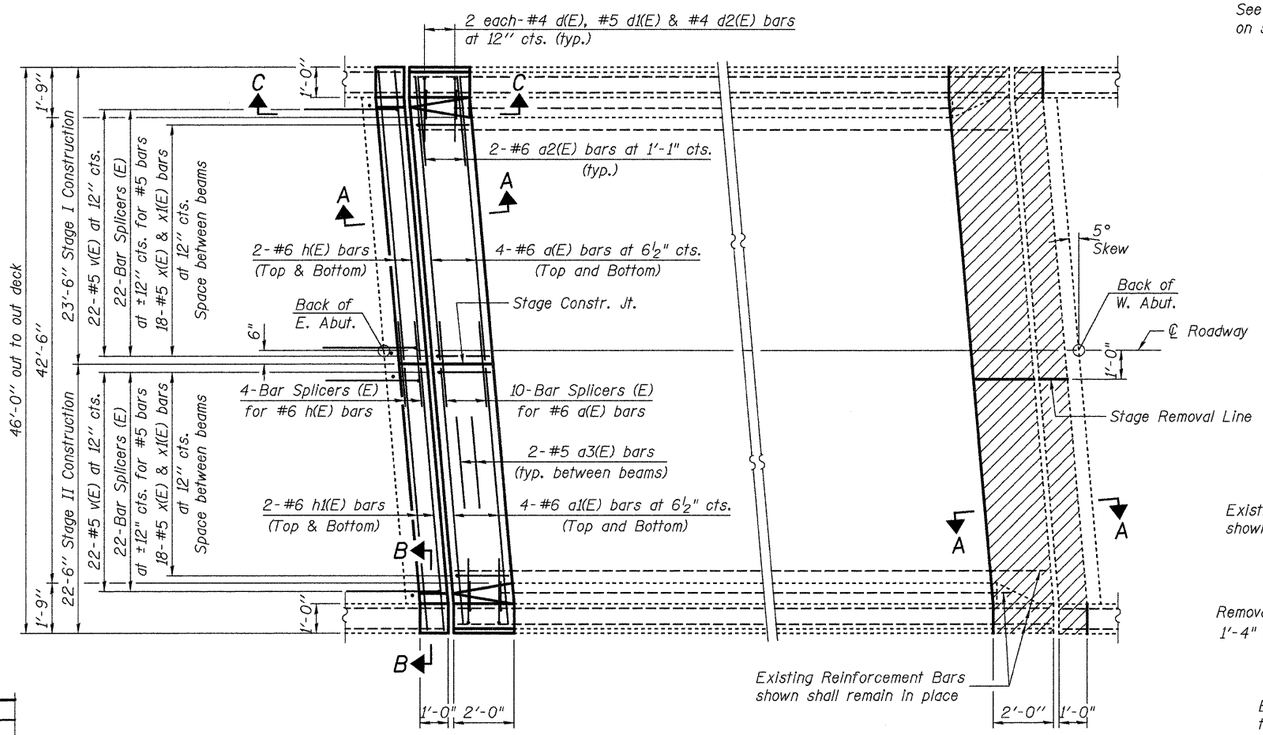
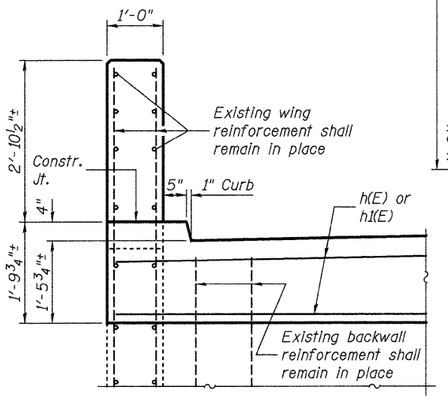
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



NEW CONSTRUCTION
(Typical Each End of Bridge)

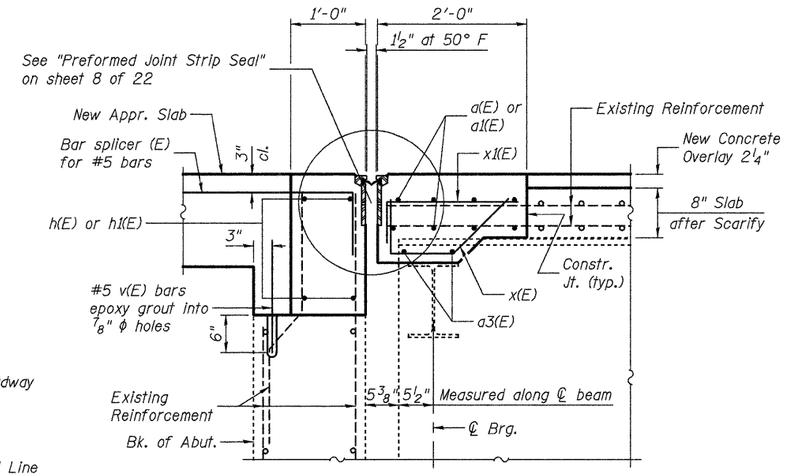
CONCRETE REMOVAL
(Typical Each End of Bridge)



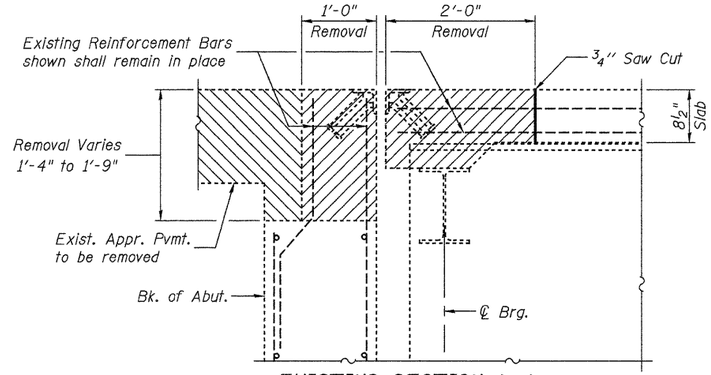
SECTION B-B

PLAN

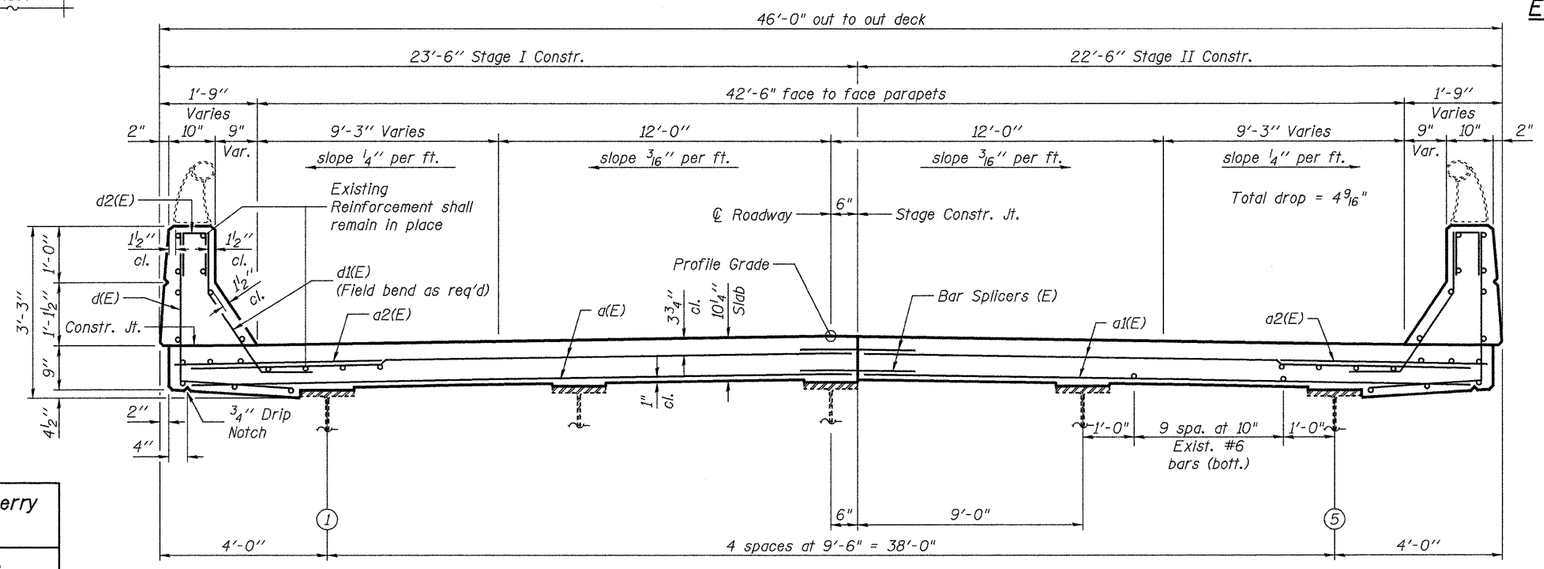
Indicates Limits of Concrete Removal.



PROPOSED SECTION A-A



EXISTING SECTION A-A



CROSS SECTION
(Looking North-West)

Notes:
For Section C-C see Sheet 5 of 22.

Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

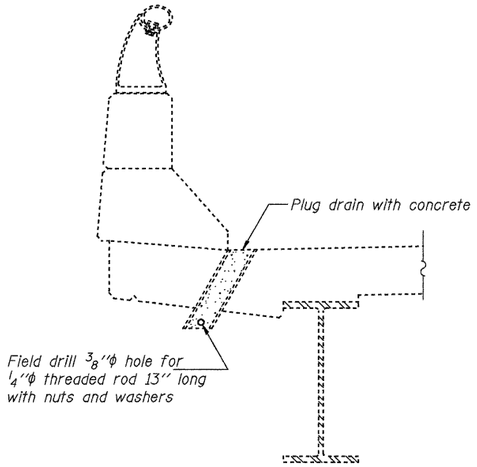
Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED:	JDQ	DRAWN:	PTR
CHECKED:	DCD	CHECKED:	DCD

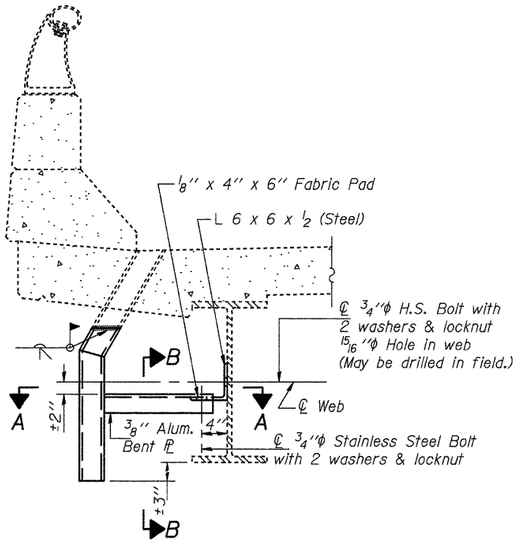
SUPERSTRUCTURE
STRUCTURE NO. 079-0036

SHEET 4 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-11	RANDOLPH	51	27
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

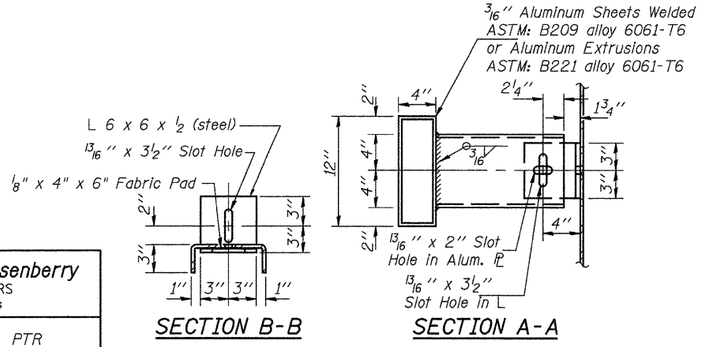
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION AT DRAIN PLUG

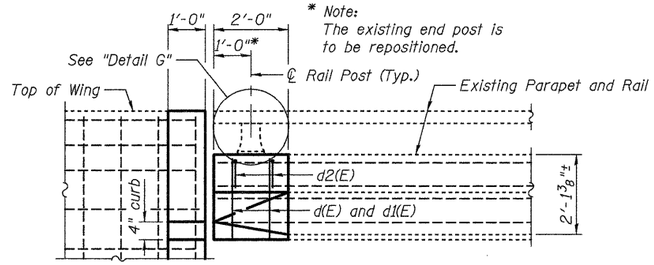


SECTION AT DRAIN EXTENSION



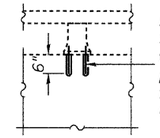
SECTION B-B SECTION A-A

Johnson, Depp & Quisenberry CONSULTING ENGINEERS Springfield, Illinois			
DESIGNED:	JDQ	DRAWN:	PTR
CHECKED:	DCD	CHECKED:	DCD



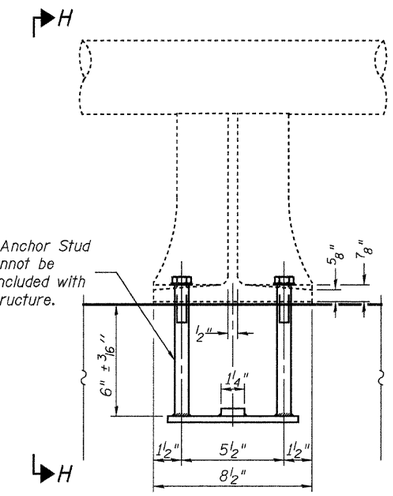
* Note: The existing end post is to be repositioned.

SECTION C-C
PARTIAL INSIDE ELEVATION OF PARAPET

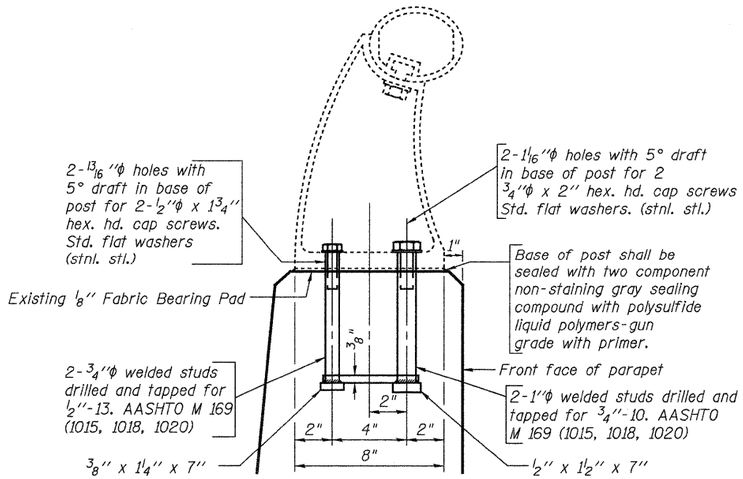


New 3/4"ϕ (front) & 1/2"ϕ (back) Stainless Steel threaded rods with washers & nuts. Epoxy grout into parapet using existing post as a template. Cost included in Concrete Superstructure.

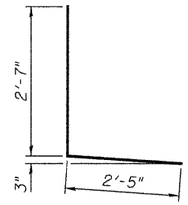
RAIL POST REPAIR
(See Deck Repair sheet for location)



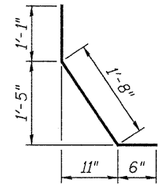
DETAIL G



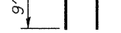
SECTION H-H



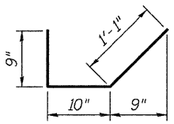
BAR d(E)



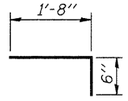
BAR d1(E)



BAR d2(E)



BAR x(E)



BAR x1(E)

SUPERSTRUCTURE BILL OF MATERIAL

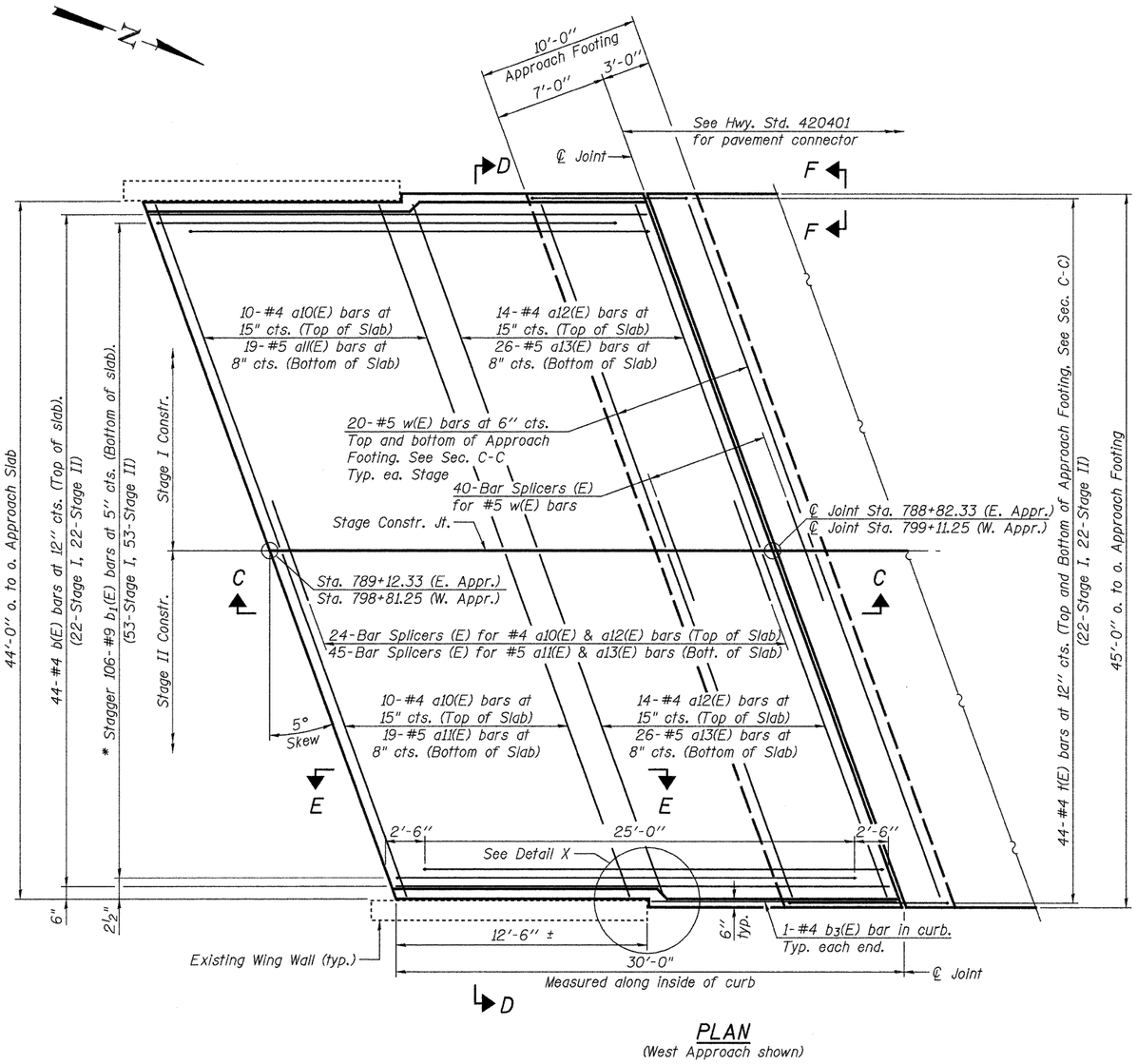
Bar	No.	Size	Length	Shape
d(E)	16	#6	23'-0"	———
d1(E)	16	#6	22'-0"	———
d2(E)	8	#6	5'-0"	———
d3(E)	16	#5	9'-2"	———
d(E)	8	#4	5'-0"	L
d1(E)	8	#5	3'-3"	⌐
d2(E)	8	#4	2'-1"	⊓
h(E)	8	#6	23'-3"	———
h1(E)	8	#6	22'-3"	———
x(E)	72	#5	2'-8"	⌐
x1(E)	72	#5	2'-2"	L
v(E)	88	#5	1'-9"	———
Reinforcement Bars, Epoxy Coated		Pound	2430	
Concrete Superstructure		Cu. Yd.	14.4	
Plug Existing Deck Drains		Each	302	
Floor Drain Extension		Each	12	
Concrete Removal		Cu. Yd.	13.4	

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 079-0036

SHEET 5 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-1I	RANDOLPH	51	28
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

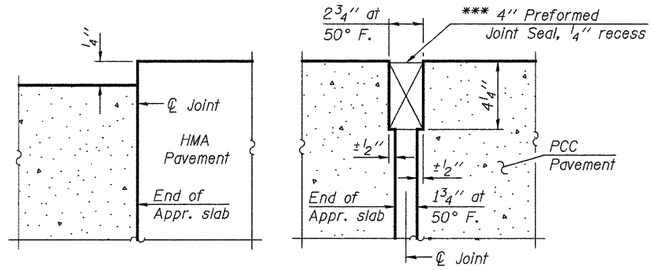
Notes:
See sheet 7 of 22 for Sections C-C & D-D and View E-E.
a10(E), a11(E), a12(E) and a13(E) bar spacings measured parallel to ℄ Rdwy.



PLAN
(West Approach shown)

* Tilt #9 b_1(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.

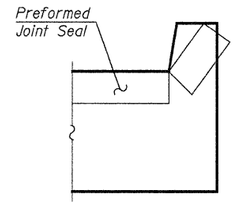


FLEXIBLE PAVEMENT

RIGID PAVEMENT

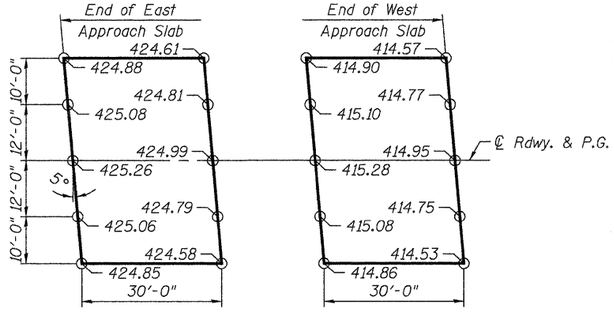
PREFORMED JOINT SEAL

DETAIL A



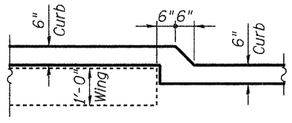
VIEW F-F

Angle Preformed Joint Seal at 45° at curbs when req'd for drainage.



TOP OF APPROACH SLAB ELEVATIONS

NOTE:
Proposed elevations are based on the original 1970 plan elevations, increased by 0.15' (1¾") to account for the proposed deck overlay. The top of the existing abutment backwall can be used as a temporary benchmark by assuming the following elevations:
Back of East Abut. original PG Elev. 424.85
Back of West Abut. original PG Elev. 415.13



DETAIL X

(Sheet 1 of 2)
BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 079-0036

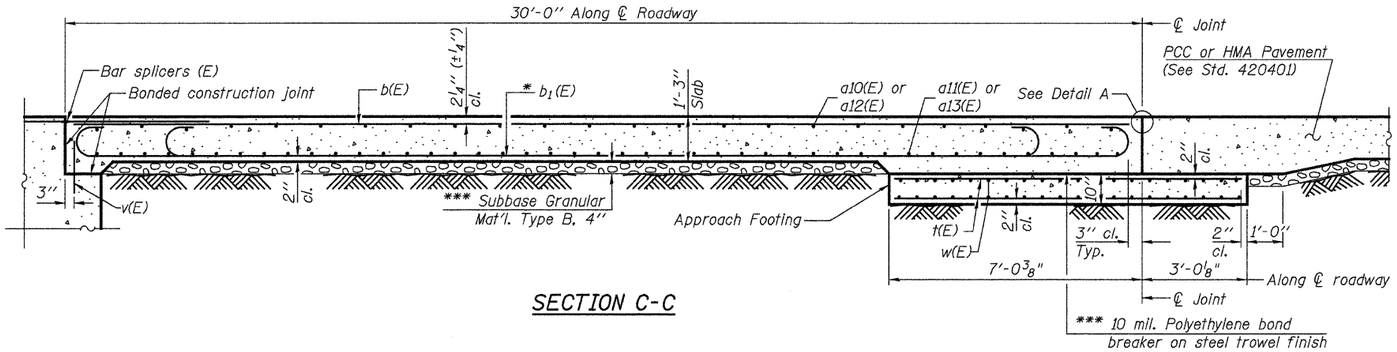
Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED:	JDQ	DRAWN:	SJS
CHECKED:	DCD	CHECKED:	DCD

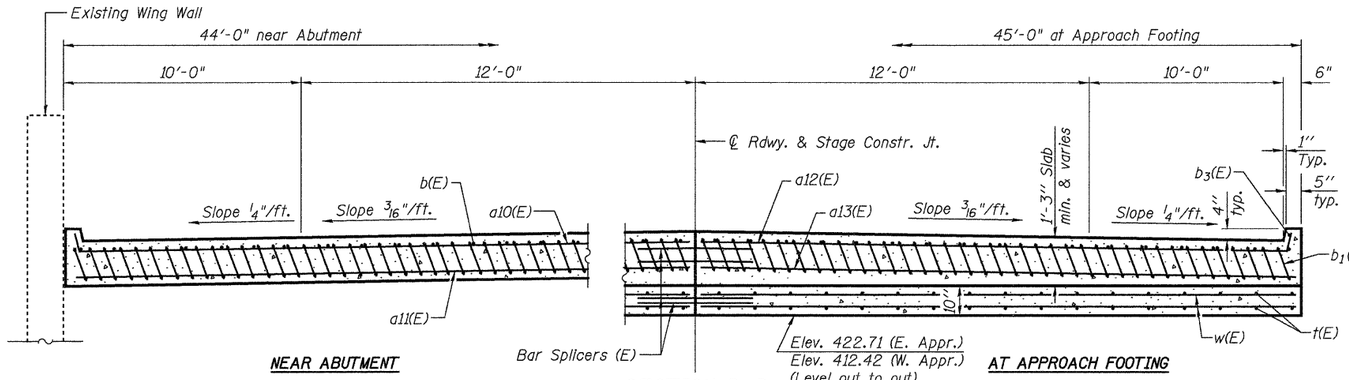
BA-R 10-31-08 (Modified)

SHEET 6 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-II	RANDOLPH	51	29
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION C-C

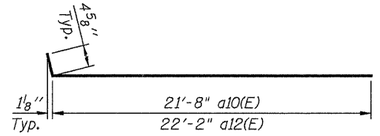


NEAR ABUTMENT

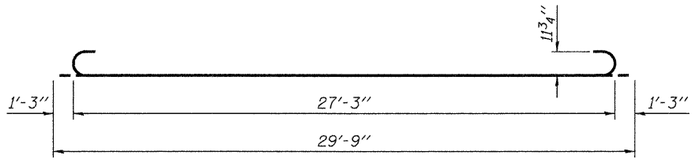
AT APPROACH FOOTING

SECTION D-D

(See Plan for dimensions not shown)



BARS a10(E) & a12(E)



BAR b1(E)

Notes:
See sheet 6 of 22 for Detail A and View B-B.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v(E) bar details, see sheet 4 of 22.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet 19 of 22.
Cost of excavation for approach footing included with Concrete Structures.

* Tilt #9 b1(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.

TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	40	#4	22'-0"	
a11(E)	76	#5	21'-9"	
a12(E)	56	#4	22'-6"	
a13(E)	104	#5	22'-3"	
b(E)	88	#4	29'-8"	
b1(E)	212	#9	29'-9"	
b3(E)	4	#4	17'-2"	
t(E)	176	#4	9'-8"	
w(E)	160	#5	22'-3"	
Concrete Superstructure			Cu. Yd.	129.1
Concrete Structures			Cu. Yd.	27.9
Reinforcement Bars, Epoxy Coated			Pound	33650

Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED:	JDQ	DRAWN:	SJS
CHECKED:	DCD	CHECKED:	DCD

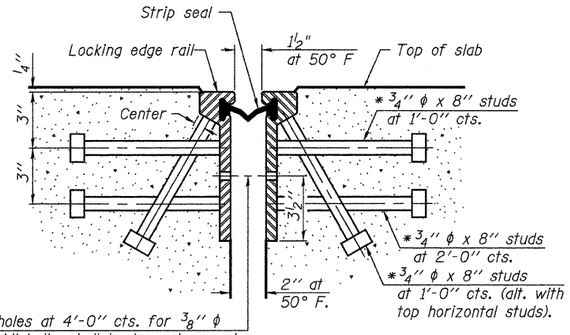
BA-R 10-31-08 (Modified)

(Sheet 2 of 2)
BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 079-0036

SHEET 7 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-11	RANDOLPH	51	30
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

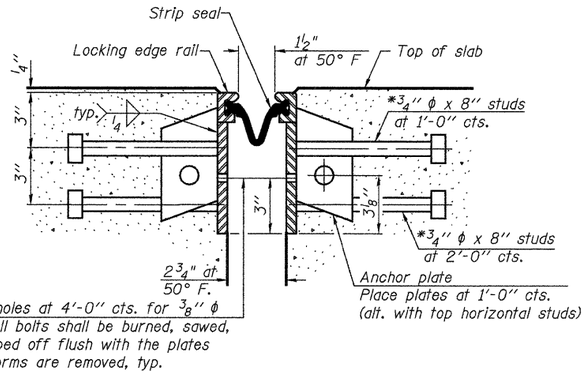
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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



7/16" ϕ holes at 4'-0" cts. for ⅜" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT



7/16" ϕ holes at 4'-0" cts. for ⅜" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT

Notes:

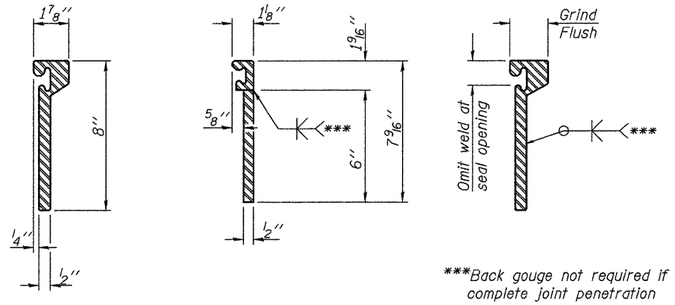
The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

The manufacturer's recommended installation methods shall be followed.

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

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



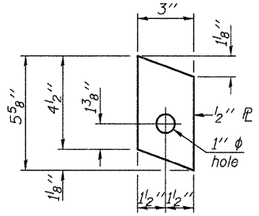
***Back gouge not required if complete joint penetration is verified by mock-up.

ROLLED EXTRUDED RAIL

WELDED RAIL

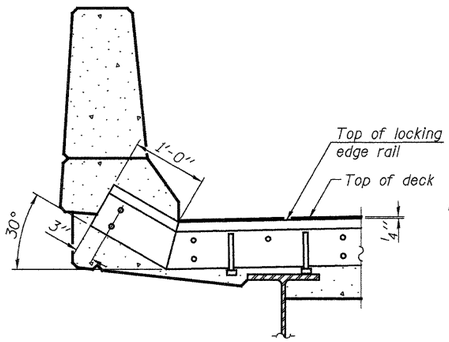
LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

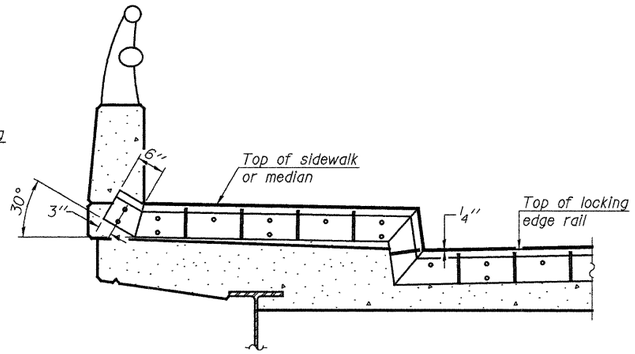


ANCHOR PL

(for welded rail)



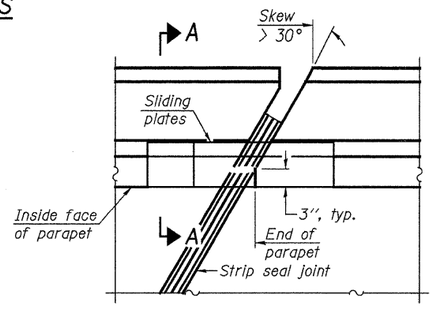
AT PARAPET



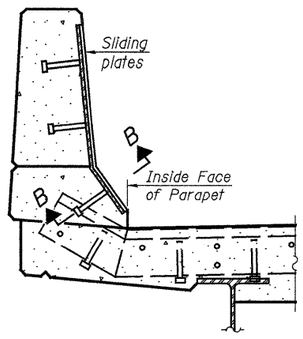
AT SIDEWALK OR MEDIAN

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

LOCKING EDGE RAILS



PLAN

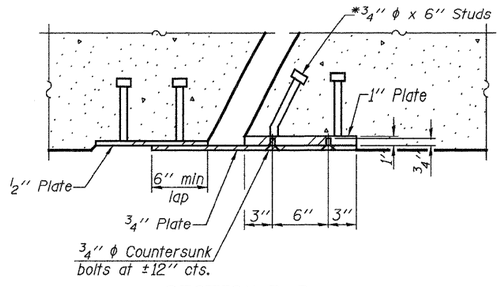


SECTION A-A

POINT BLOCK DETAILS

(for skews > 30°)

TYPICAL END TREATMENTS



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	90

Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

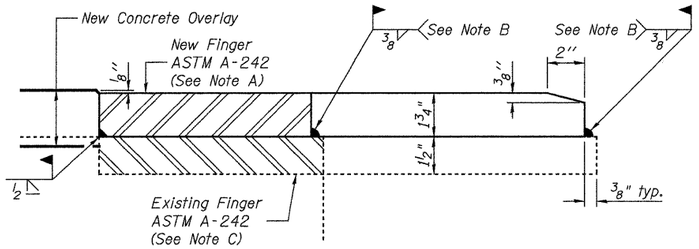
DESIGNED:	JDQ	DRAWN:	PTR
CHECKED:	DCD	CHECKED:	DCD

EJ-SSJ 10-1-08

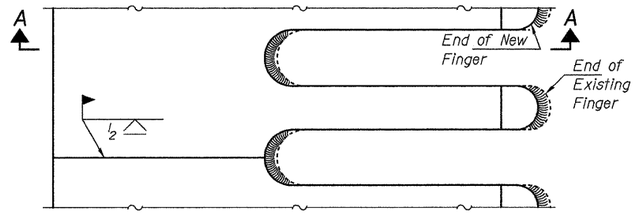
PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 079-0036

SHEET 8 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-11	RANDOLPH	51	31
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



SECTION A-A

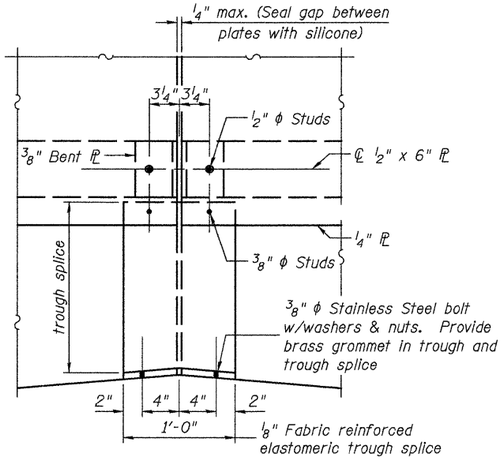


FINGER PLATE RETROFIT

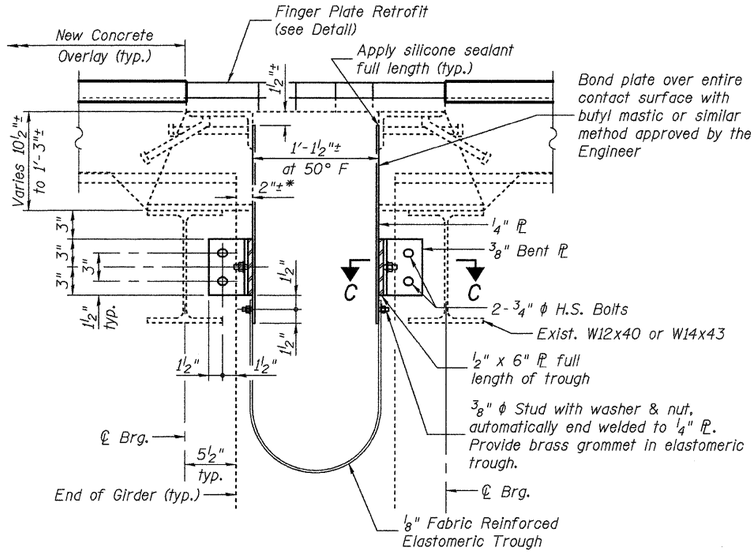
Note A:
New Finger shall be blast cleaned to SSPC SP 10 and shop painted with the inorganic zinc rich primer.

Note B:
Fillet weld sizes at ends (tips) and crotches of fingers shall vary from 3/8" near centers to 3/16" minimum near edges as new and existing plates converge.

Note C:
Existing Finger widths and exact locations must be field verified. A template shall be made to insure alignment. Remove foreign material that would prevent uniform contact between new and existing plates by method approved by the Engineer.



TROUGH SPLICE DETAIL

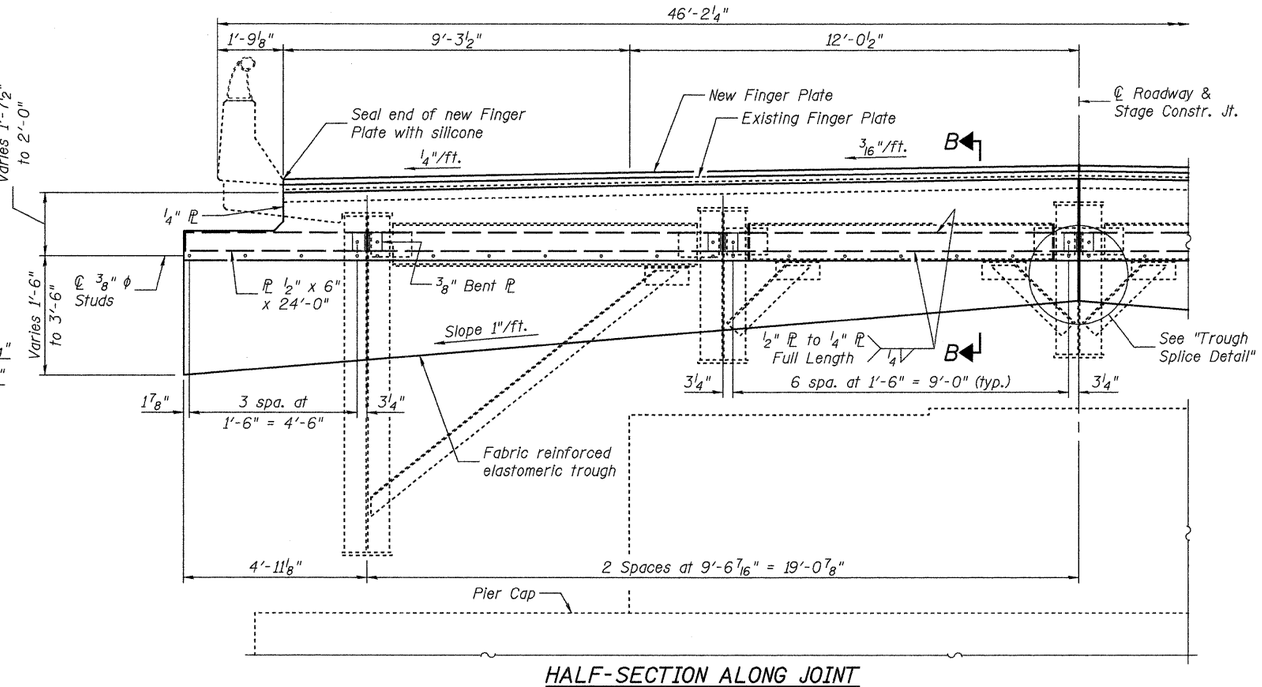


SECTION B-B

** Note:*
Existing dimension from End of Girder to End of Deck shall be field verified prior to fabricating bent plates.

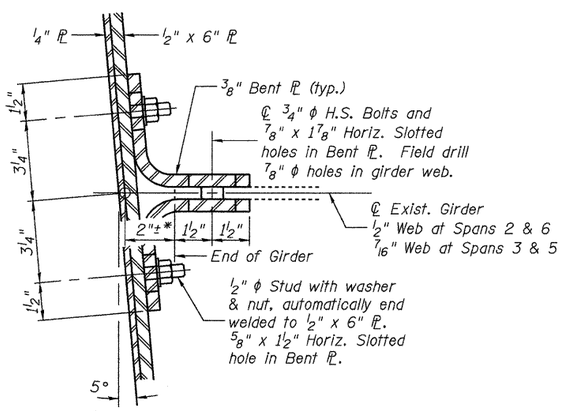
PLAN OF EXISTING FINGER PLATE

(from original plans, see Note C)



HALF-SECTION ALONG JOINT

Spans 2 & 6 side shown, Spans 3 & 5 side similar



SECTION C-C

BILL OF MATERIAL

Item	Unit	Total
Furnishing and Erecting Structural Steel	Pound	17810
Fabric Reinforced Elastomeric Trough	Foot	96
Cleaning and Painting Structural Steel, Location 1	L Sum	1
Containment and Disposal of Lead Paint Cleaning Residues	L Sum	1

NOTES:
New Finger Plate shall be ASTM A242, or AASHTO M270 Grade 50W, or equivalent.

The 1/4" trough plate shall be galvanized according to AASHTO M111, or may be stainless steel.

All steel for the Finger Plate Retrofit and Trough installation is included in Furnishing and Erecting Structural Steel.

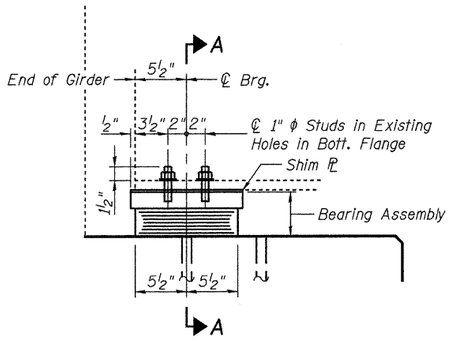
NOTES (Cont'd):
Existing and new structural steel that will be inaccessible after installation of the trough shall be cleaned and painted prior to installing the trough, according to the Special Provision for "Cleaning and Painting Existing Steel Structures". Cost shall be included with Cleaning and Painting Structural Steel, Location 1. As a minimum this shall include all existing and new steel on the trough side of the cross-frame top beam including the bottom surface of the beam. The designated areas of existing steel shall be cleaned per Near White Blast Cleaning - SSPC-SP10. Existing and new steel in designated areas shall be painted according to the requirements of Paint System 1 - OZ/E/U. The color of the final finish coat shall be Gray, Munsell No. 5B 7/1.

FINGER PLATE EXPANSION JOINT AT PIERS 2 & 5 STRUCTURE NO. 079-0036

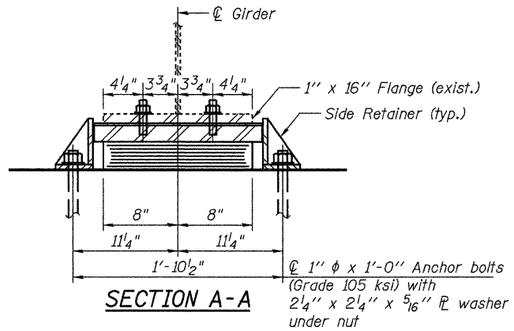
Johnson, Depp & Quisenberry CONSULTING ENGINEERS Springfield, Illinois			
DESIGNED: JDQ	DRAWN: PTR		
CHECKED: DCD	CHECKED: DCD		

SHEET 9 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-11	RANDOLPH	51	32
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

Notes:
Existing expansion bearings shall be removed and replaced according to the plans. Jacking shall be according to the Special Provisions for "JACK AND REMOVE EXISTING BEARINGS". If web stiffeners are not present directly over the jack location, hardwood timbers shall be installed tightly between top and bottom flanges to prevent rotation.

The abutment bearings shall be in place and the jacks lowered before the new concrete deck is poured at the abutments.

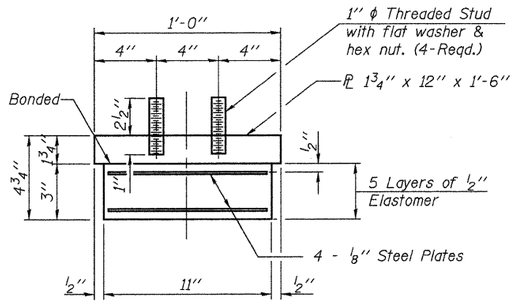
Diaphragm removal and replacement may be required to facilitate drilling holes. Cost shall be included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions. The Shim Thickness Table is copied from the original plans.

Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

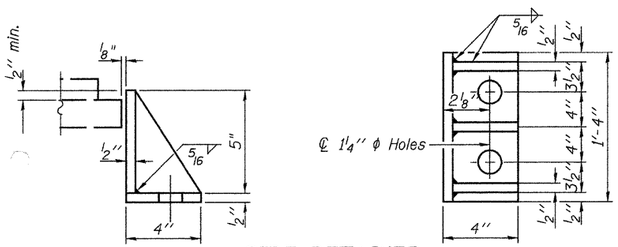
New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

The structural steel bearing plates for the expansion bearings shall conform to the requirements of AASHTO M 270 Grade 50. The plates for the side retainers and steel extensions may be Grade 36 or 50.



BEARING ASSEMBLY

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



SIDE RETAINER

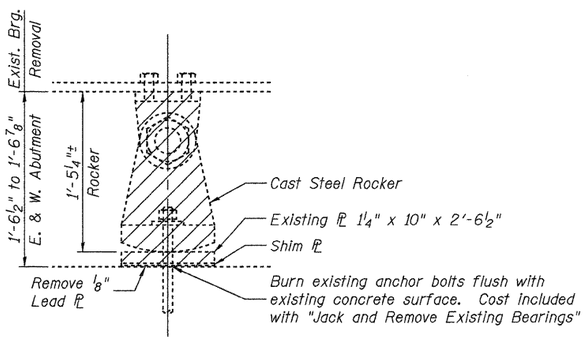
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

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

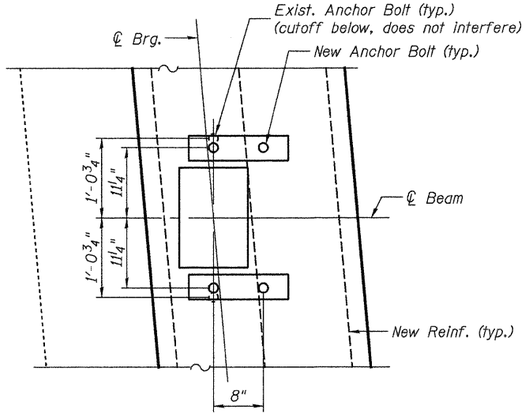
Anchor bolts for side retainers shall be installed in holes drilled after members are in place.

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

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.



EXISTING BEARING REMOVAL



ANCHOR BOLT LAYOUT

BILL OF MATERIAL

Item	Unit	E. Abut.	W. Abut.
Jack and Remove Existing Bearings	Each	5	5
Elastomeric Bearing Assembly Type I	Each	5	5
Furnishing and Erecting Structural Steel	Pound	-	-
Anchor Bolts, 1"	Each	20	20

SHIM THICKNESS TABLE

Location	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5
East Abut.	-	-	-	1/4"	3/8"
West Abut.	-	-	-	1/4"	3/8"

INTERIOR GIRDER REACTION TABLE			
		E. Abut.	W. Abut.
R (DL)	(K)	51.5	44.0
R (LL)	(K)	53.8	55.3
R (Imp)	(K)	12.9	12.2
R (Total)	(K)	118.2	111.5
Minimum Jack Capacity	(Tons)	65	65

Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

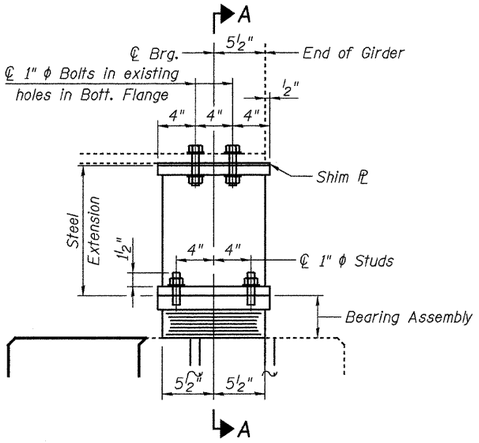
DESIGNED:	JDQ	DRAWN:	PTR
CHECKED:	DCD	CHECKED:	DCD

I-2E-1 10-1-08 (Modified)

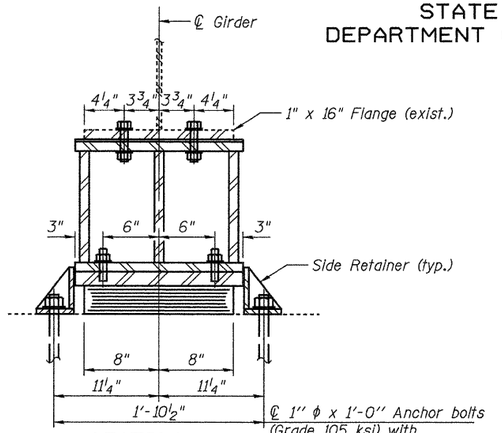
BEARINGS - ABUTMENTS
STRUCTURE NO. 079-0036

SHEET 10 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-11	RANDOLPH	51	33
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

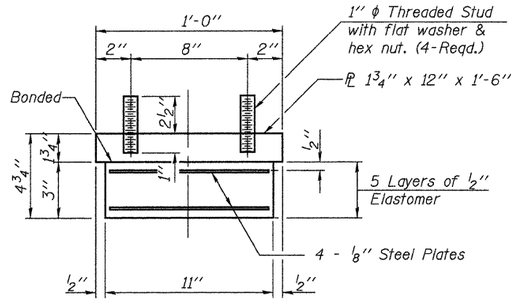


ELEVATION



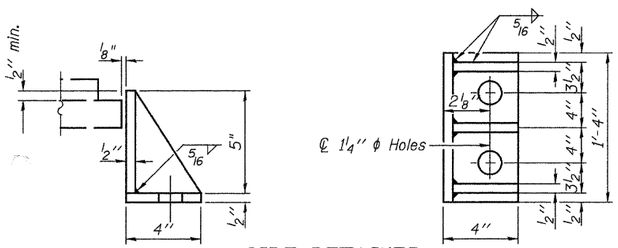
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

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



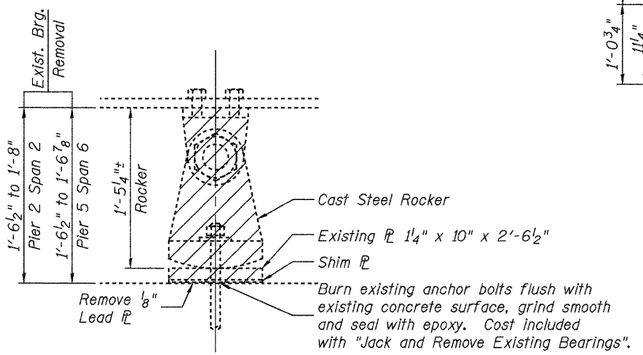
SIDE RETAINER
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

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

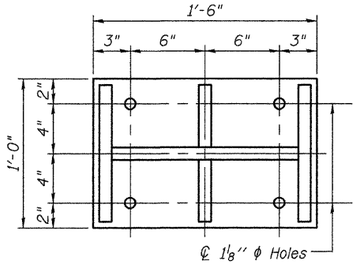
Anchor bolts for side retainers shall be installed in holes drilled after members are in place.

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

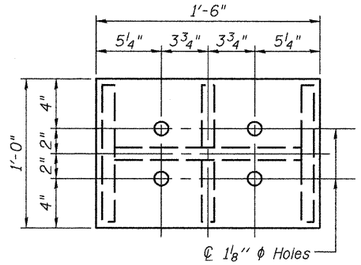
Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.



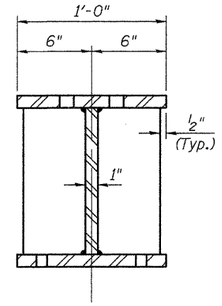
EXISTING BEARING REMOVAL



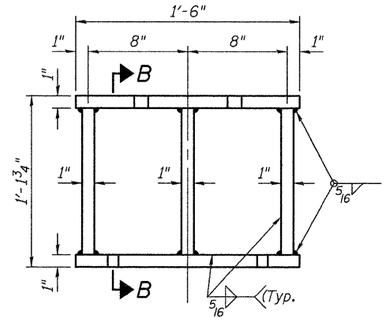
PLAN - BOTTOM



PLAN - TOP

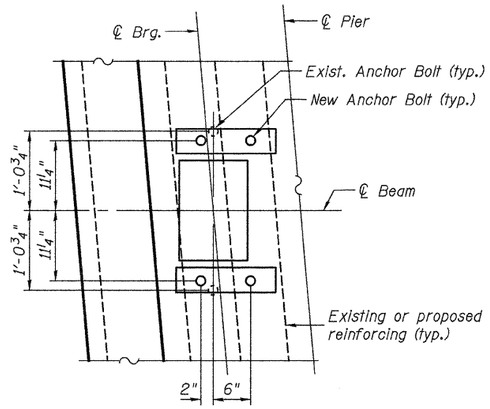


SECTION B-B



ELEVATION

STEEL EXTENSION



ANCHOR BOLT LAYOUT

Notes:
See Additional Notes on Sheet 10 of 22.

BILL OF MATERIAL

Item	Unit	Pier 2	Pier 5
Jack and Remove Existing Bearings	Each	5	5
Elastomeric Bearing Assembly Type I	Each	5	5
Furnishing and Erecting Structural Steel	Pound	1570	1430
Anchor Bolts, 1"	Each	20	20

SHIM THICKNESS TABLE

Location	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5
Pier 2-Span 2	⅛"	-	-	¼"	½"
Pier 5-Span 6	-	-	-	¼"	⅜"

INTERIOR GIRDER REACTION TABLE			
		Pier 2 -Span 2	Pier 5 -Span 6
R (DL)	(K)	51.5	44.0
R (LL)	(K)	53.8	55.3
R (Imp)	(K)	12.9	12.2
R (Total)	(K)	118.2	111.5
Minimum Jack Capacity	(Tons)	65	65

BEARINGS
PIER 2-SPAN 2 & PIER 5-SPAN 6
STRUCTURE NO. 079-0036

	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SHEET 11 OF 22	312	73BR-1I	RANDOLPH	51	34
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

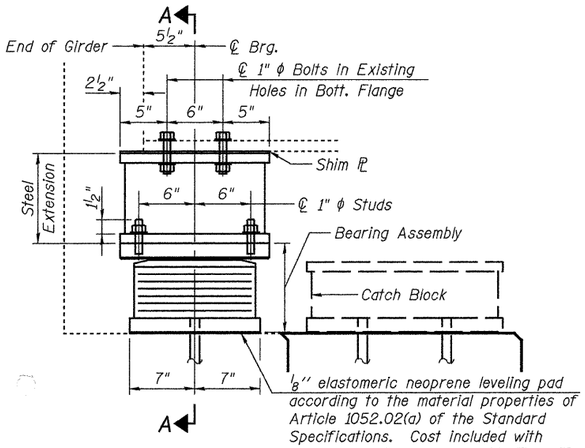
DESIGNED:	JDQ	DRAWN:	PTR
CHECKED:	DCD	CHECKED:	DCD

I-2E-1

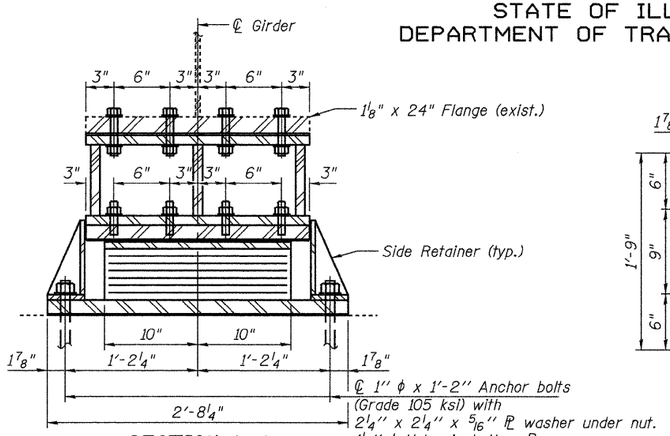
10-1-08 (Modified)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

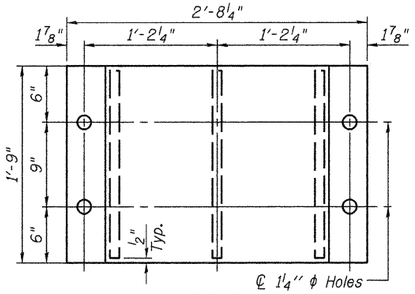
TYPE II ELASTOMERIC EXP. BRG.



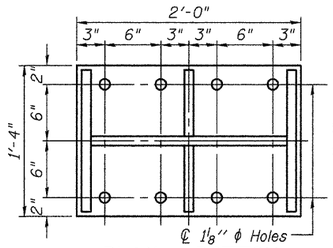
ELEVATION



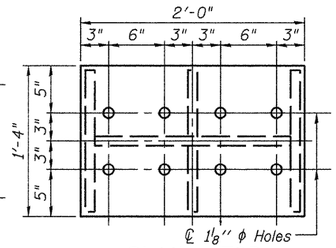
SECTION A-A



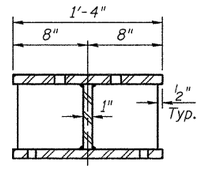
PLAN



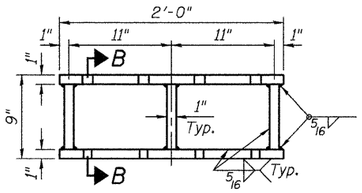
PLAN - BOTTOM



PLAN - TOP

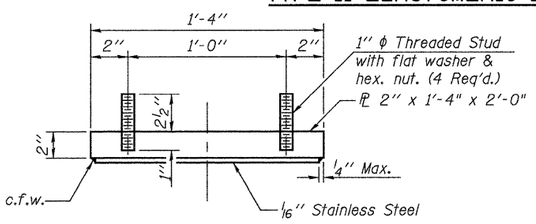


SECTION B-B

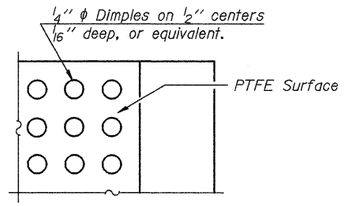


ELEVATION

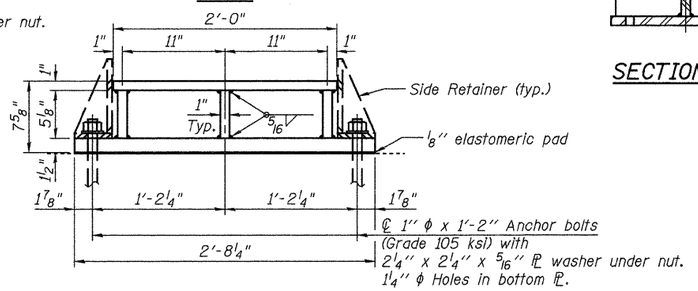
STEEL EXTENSION



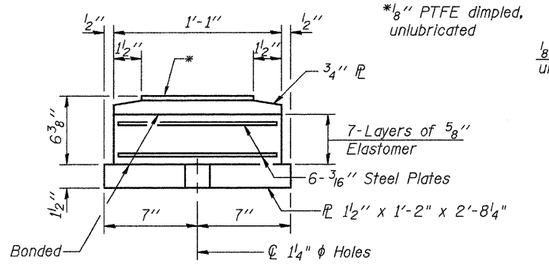
TOP BEARING ASSEMBLY



PLAN-PTFE SURFACE

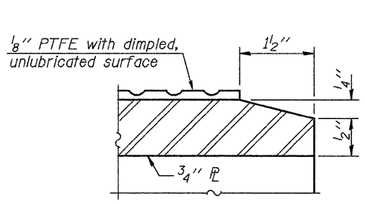


CATCH BLOCK - ELEVATION

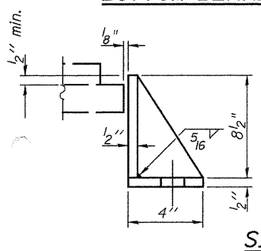


*⅛" PTFE dimpled, unlubricated

TOP BEARING ASSEMBLY

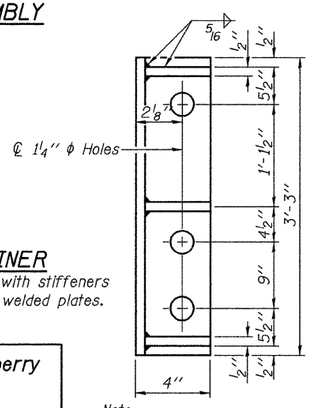


SECTION THRU PTFE

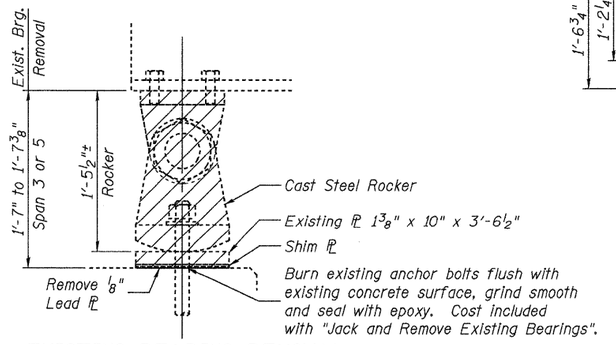


SIDE RETAINER

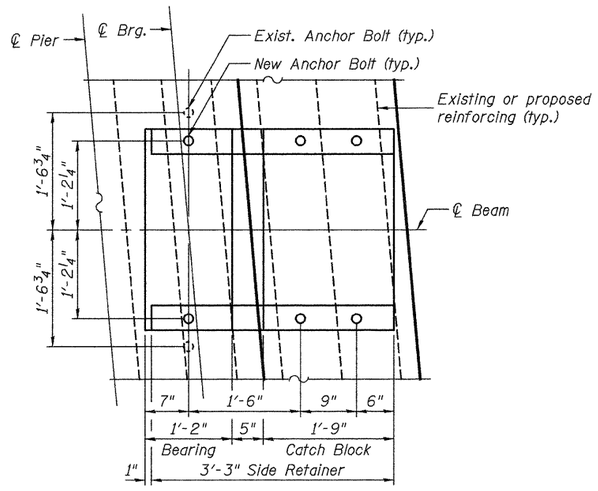
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



Note:
Retainer for one side is shown, retainer for other side is similar by opposite hand.



EXISTING BEARING REMOVAL



ANCHOR BOLT LAYOUT

Notes:

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

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

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

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The ⅛" 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 surfaces.

Bonding of ⅛" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

See Additional Notes on Sheet 10 of 22.

BILL OF MATERIAL

Item	Unit	Pier 2	Pier 5
Jack and Remove Existing Bearings	Each	5	5
Elastomeric Bearing Assembly Type II	Each	5	5
Furnishing and Erecting Structural Steel	Pound	4390	4390
Anchor Bolts, 1"	Each	30	30

INTERIOR GIRDER REACTION TABLE

		Pier 2 -Span 3	Pier 5 -Span 5
R (DL)	(K)	117.1	117.1
R (LL)	(K)	67.5	67.5
R (Imp)	(K)	10.8	10.8
R (Total)	(K)	195.4	195.4
Minimum Jack Capacity	(Tons)	120	120

SHIM THICKNESS TABLE

Location	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5
Pier 2-Span 3	-	-	-	¼"	⅜"
Pier 5-Span 5	-	-	-	¼"	⅜"

Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

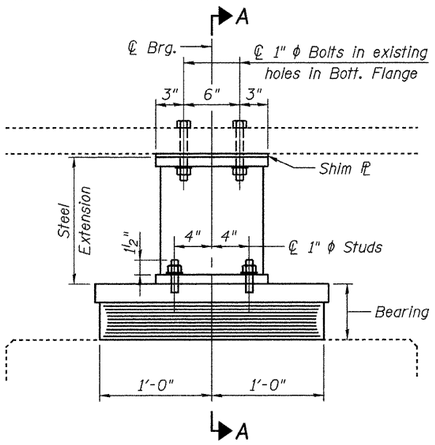
DESIGNED:	JDQ	DRAWN:	PTR
CHECKED:	DCD	CHECKED:	DCD

I-2E-2 10-1-08 (Modified)

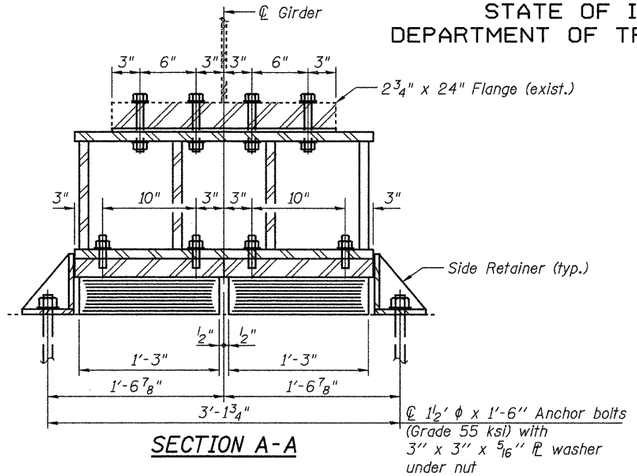
BEARINGS
PIER 2-SPAN 3 & PIER 5-SPAN 5
STRUCTURE NO. 079-0036

SHEET 12 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-11	RANDOLPH	51	35
	STA. 793+80		CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

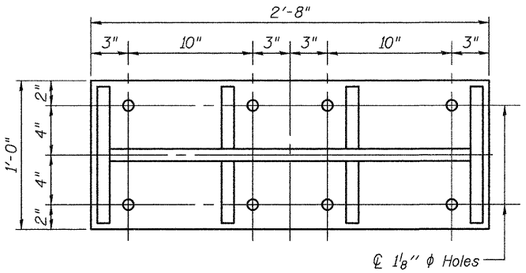


ELEVATION

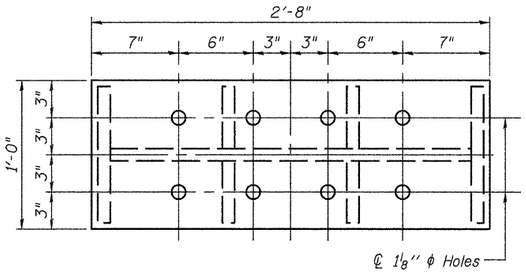


SECTION A-A

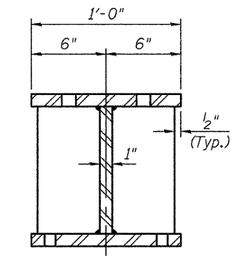
TYPE I ELASTOMERIC EXP. BRG.



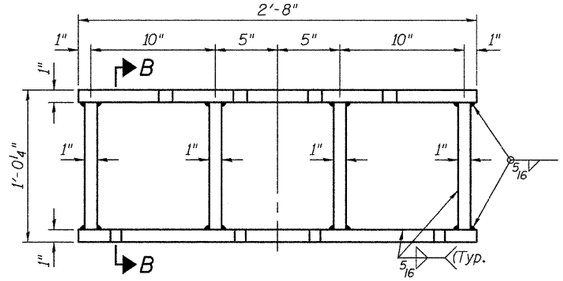
PLAN - BOTTOM



PLAN - TOP

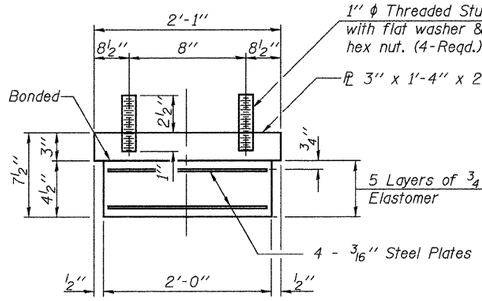


SECTION B-B



ELEVATION

STEEL EXTENSION



BEARING ASSEMBLY

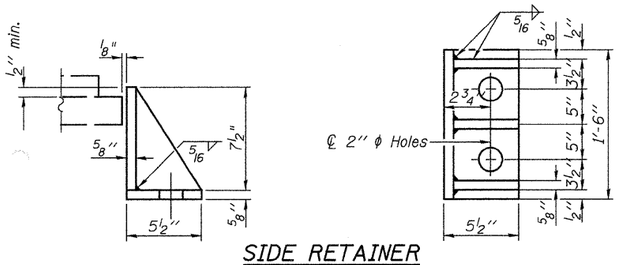
Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in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

Anchor bolts for side retainers shall be installed in holes drilled after members are in place.

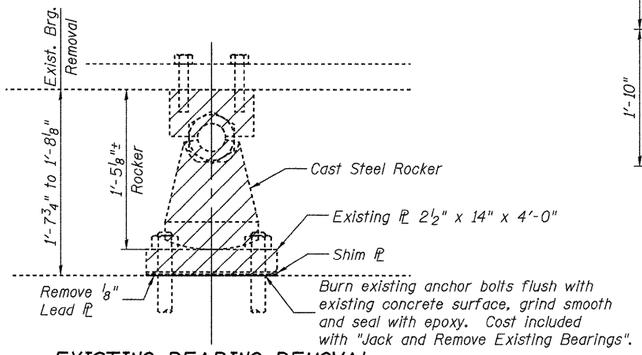
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

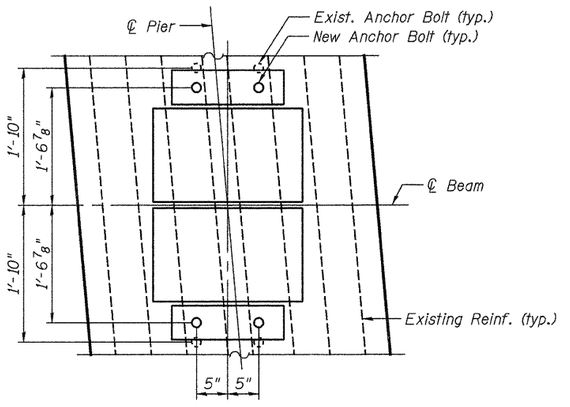
Note:
Shim plates shall not be placed under Bearing Assembly.



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



EXISTING BEARING REMOVAL



ANCHOR BOLT LAYOUT

Notes:
See Additional Notes on Sheet 10 of 22.

BILL OF MATERIAL

Item	Unit	Total
Jack and Remove Existing Bearings	Each	5
Elastomeric Bearing Assembly Type I	Each	10
Furnishing and Erecting Structural Steel	Pound	2180
Anchor Bolts, 1½"	Each	20

SHIM THICKNESS TABLE

Location	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5
Pier 3	-	-	-	¼"	⅜"

INTERIOR GIRDER REACTION TABLE		
		Pier 3
R (DL)	(K)	431.0
R (LL)	(K)	160.5
R (Imp)	(K)	24.1
R (Total)	(K)	615.6
Minimum Jack Capacity	(Tons)	400

Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED:	JDQ	DRAWN:	PTR
CHECKED:	DCD	CHECKED:	DCD

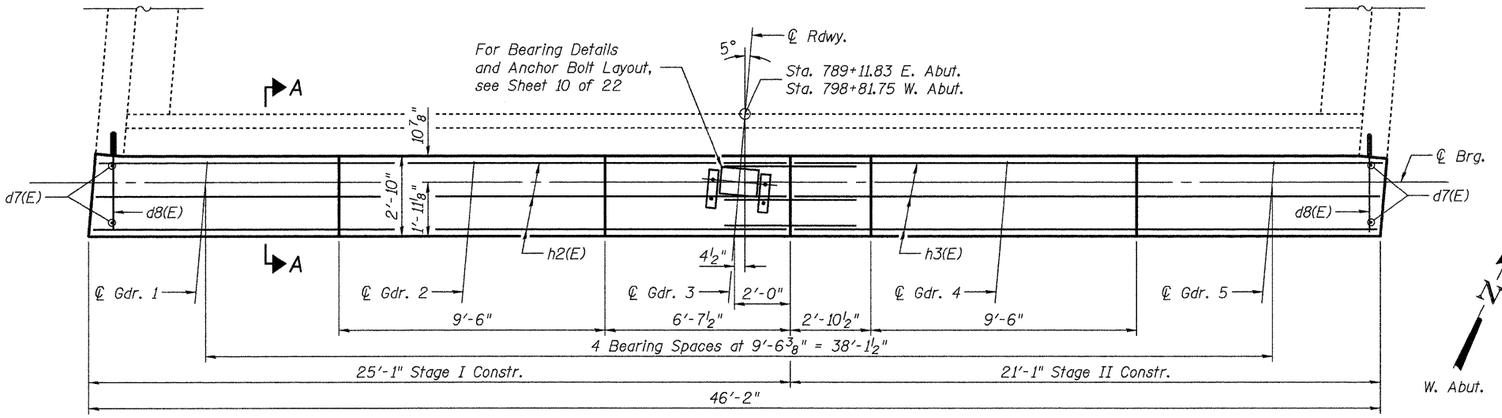
I-2E-1

10-1-08 (Modified)

BEARINGS - PIER 3
STRUCTURE NO. 079-0036

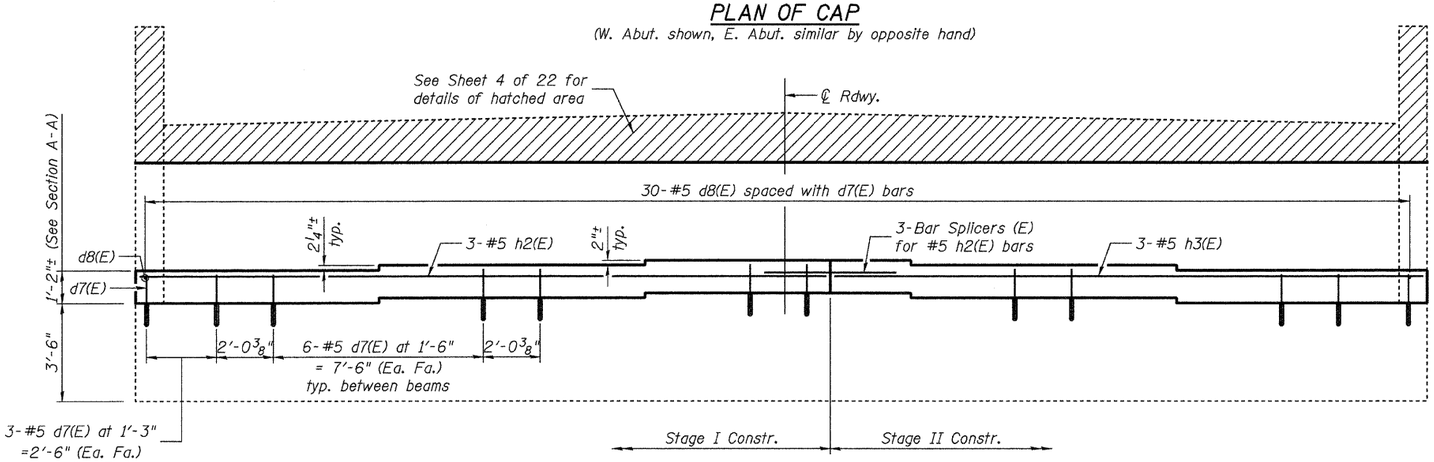
SHEET 13 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-11	RANDOLPH	51	36
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

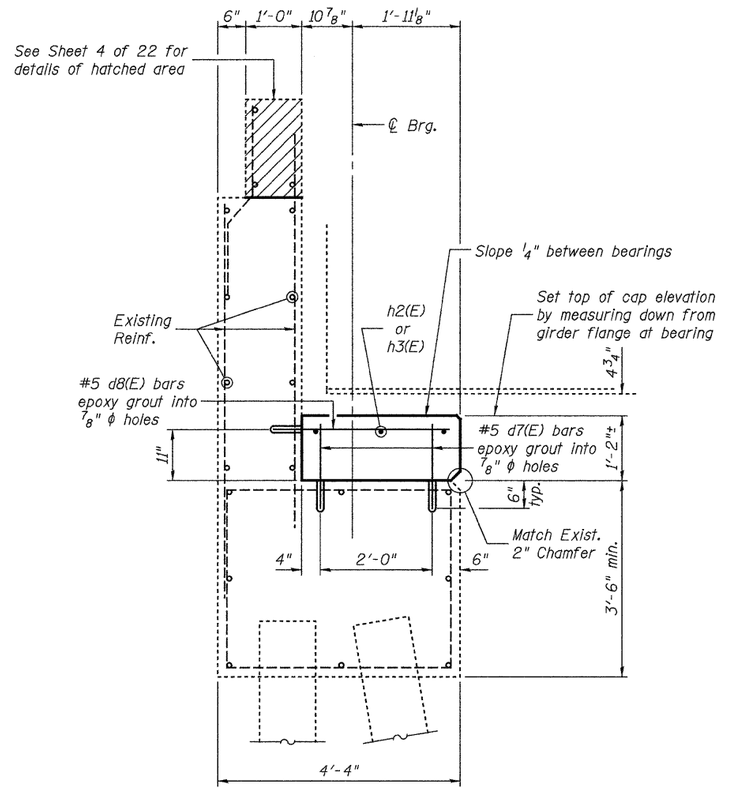


PLAN OF CAP

(W. Abut. shown, E. Abut. similar by opposite hand)



ELEVATION

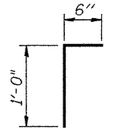


SECTION A-A

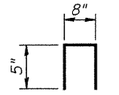
Note:
Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.

BILL OF MATERIAL

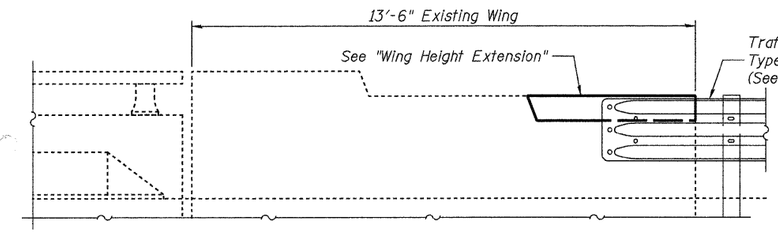
Bar	No.	Size	Length	Shape
d5(E)	8	#5	1'-6"	L
d6(E)	8	#4	1'-6"	⊓
d7(E)	60	#5	1'-6"	—
d8(E)	30	#5	3'-2"	—
e1(E)	8	#4	3'-11"	—
h2(E)	3	#5	24'-6"	—
h3(E)	3	#5	20'-9"	—
			E. Abut.	W. Abut.
Concrete Structures		Cu. Yd.	5.7	5.7
Reinforcement Bars, Epoxy Coated		Pound	380	380
Concrete Sealer		Sq. Ft.	131	131



BAR d5(E)

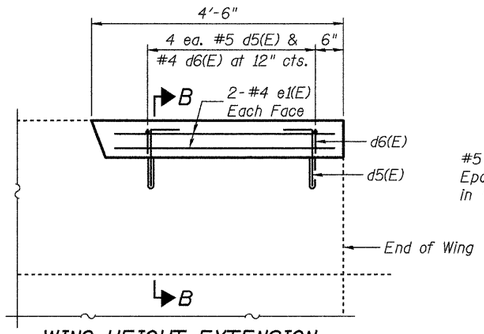


BAR d6(E)

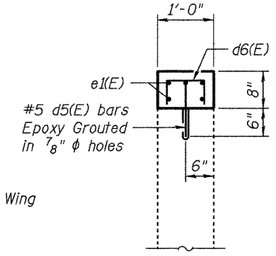


GUARDRAIL CONNECTION AT ABUT. WINGS

(Replace existing guardrail connection)



WING HEIGHT EXTENSION



SECTION B-B

Reinforcement Bar list is for one Abutment only.
Space cap reinforcement to miss anchor bolts.
Apply Concrete Sealer to new beam seat areas (full length of cap).

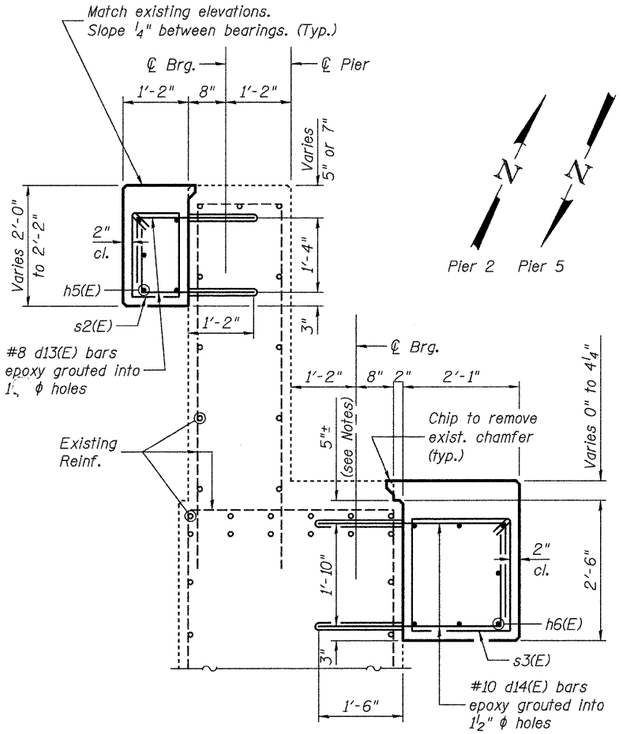
Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED:	JDQ	DRAWN:	PTR
CHECKED:	DCD	CHECKED:	DCD

EAST & WEST ABUTMENTS
STRUCTURE NO. 079-0036

SHEET 14 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-11	RANDOLPH	51	37
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

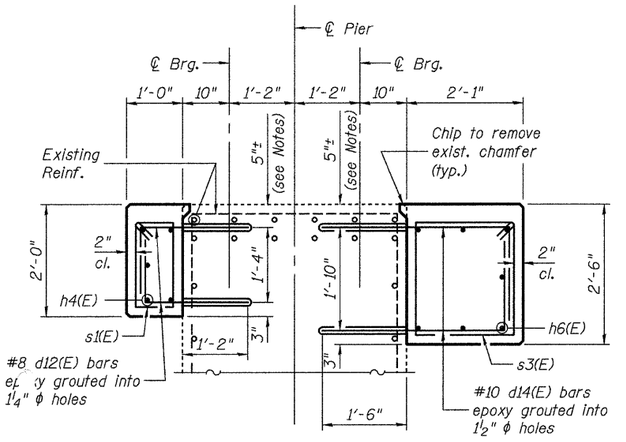
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Pier 2 Pier 5

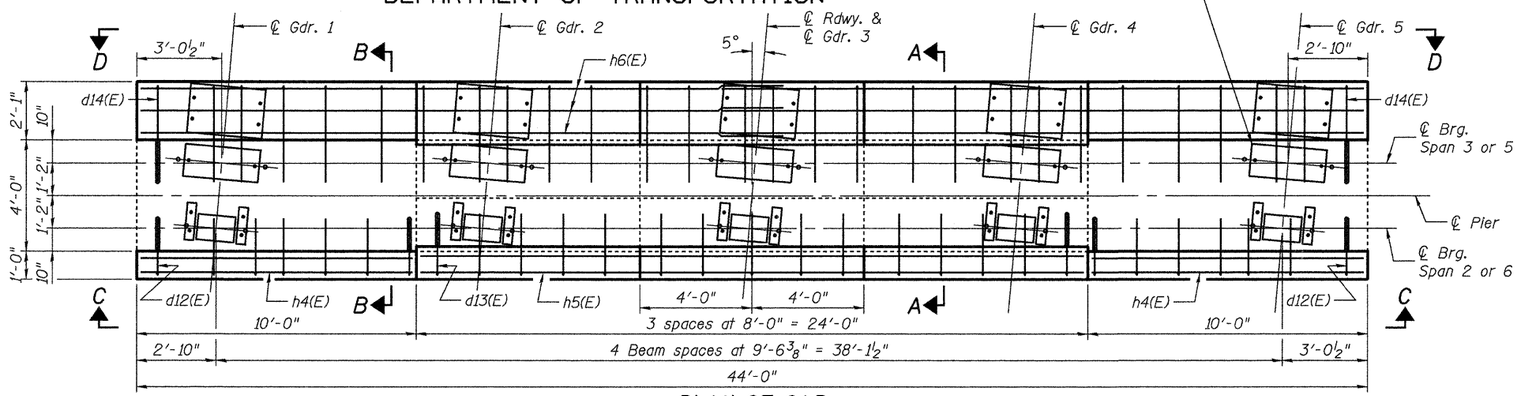
SPAN 2 OR 6 SPAN 3 OR 5

SECTION A-A
(Interior Girders)

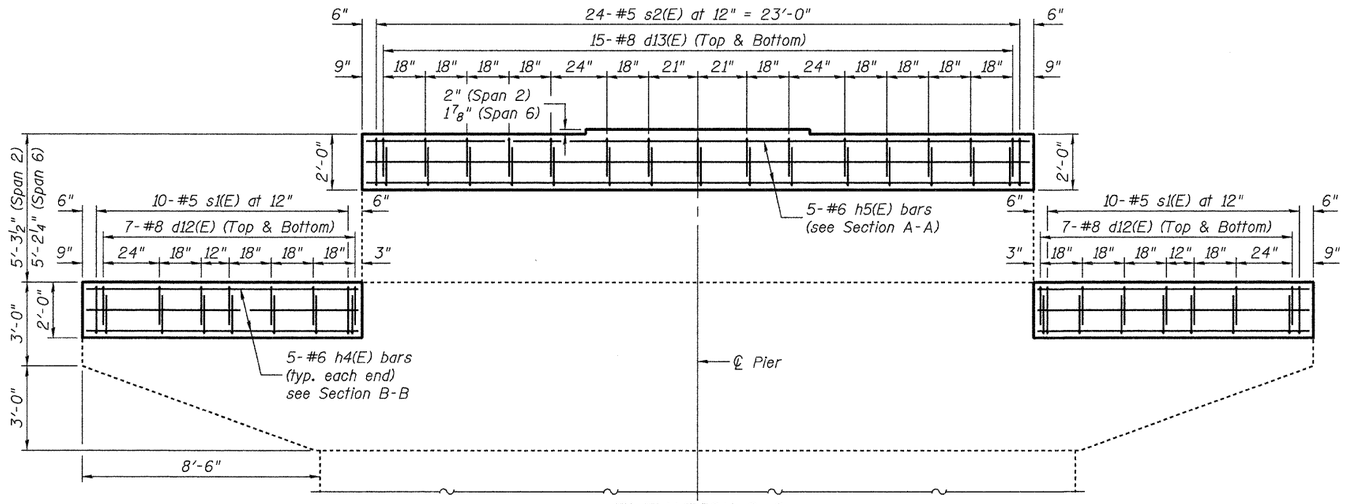


SPAN 2 OR 6 SPAN 3 OR 5

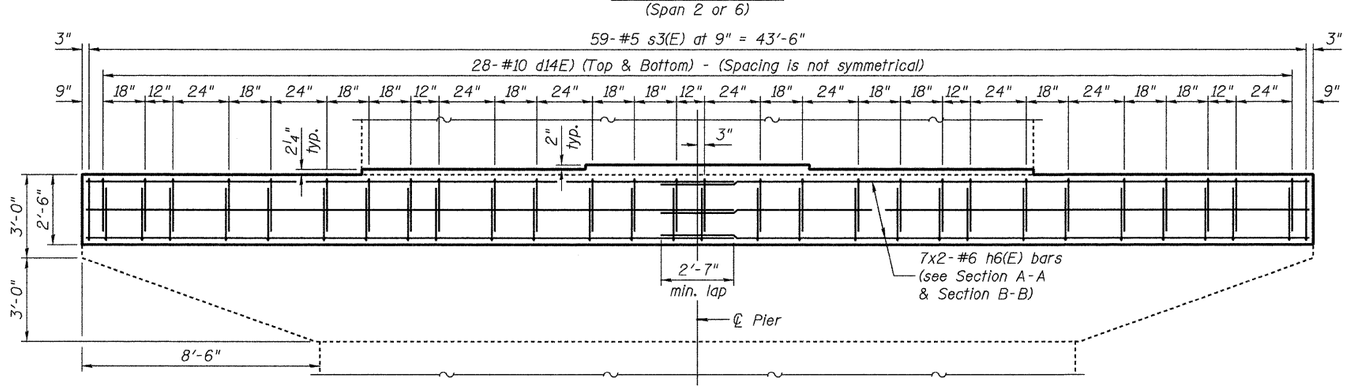
SECTION B-B
(Exterior Girders)



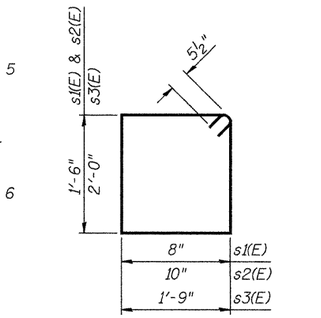
PLAN OF CAP
(Pier 2 shown, Pier 5 similar by rotation)



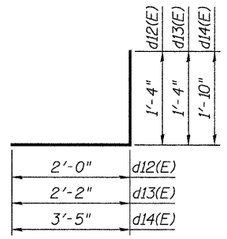
ELEVATION C-C
(Span 2 or 6)



ELEVATION D-D
(Span 3 or 5)



BARS s1(E), s2(E), s3(E)



BARS d12(E), d13(E) & d14(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d12(E)	28	#8	3'-4"	⌟
d13(E)	30	#8	3'-6"	⌟
d14(E)	56	#10	5'-3"	⌟
h4(E)	10	#6	9'-8"	—
h5(E)	5	#6	23'-8"	—
h6(E)	14	#6	23'-2"	—
s1(E)	20	#5	5'-3"	▯
s2(E)	24	#5	5'-7"	▯
s3(E)	59	#5	8'-5"	▯

		Pier 2	Pier 5
Concrete Structures	Cu. Yd.	12.7	12.7
Reinforcement Bars, Epoxy Coated	Pound	3380	3380
Concrete Sealer	Sq. Ft.	312	312

Reinforcement Bar list is for one Pier only.
Space cap reinforcement to miss anchor bolts.
Apply Concrete Sealer to existing and new beam seat areas (full length of cap).

Notes:
Prior to drilling holes for the top d12(E) and d14(E) bars, the top two rows of the existing longitudinal reinforcing bars shall be located by removing the concrete side cover for a small area at intermittent locations (about 8-10 foot spacing). The vertical position of the drilled holes shall be adjusted if necessary to be centered between the existing reinforcing rows.
The proposed horizontal spacing for the d12(E) thru d14(E) bars is intended to avoid the existing and proposed anchor bolts and the existing vertical reinforcing.

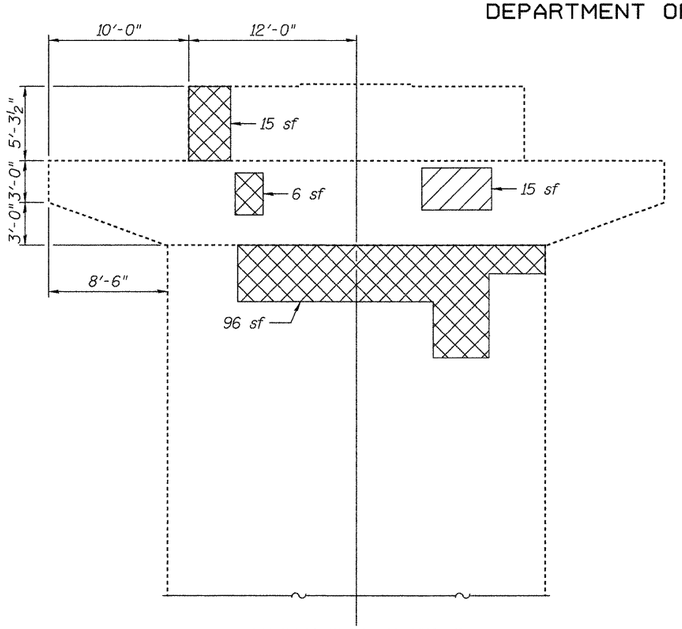
Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED:	JDQ	DRAWN:	PTR
CHECKED:	DCD	CHECKED:	DCD

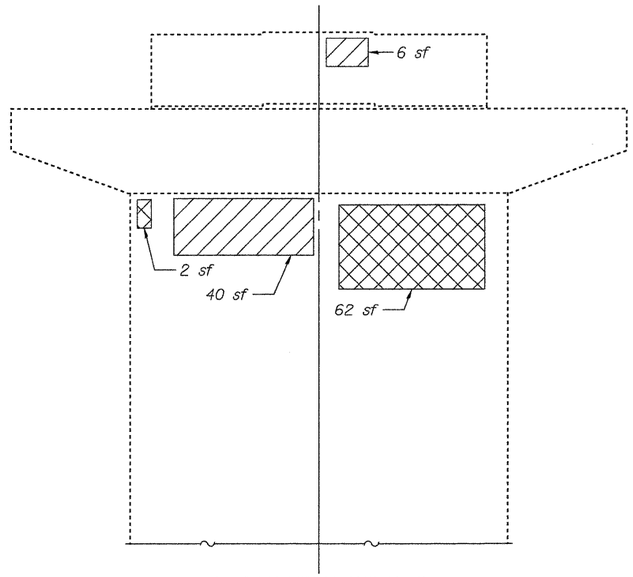
PIERS 2 & 5
STRUCTURE NO. 079-0036

SHEET 15 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-11	RANDOLPH	51	38
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

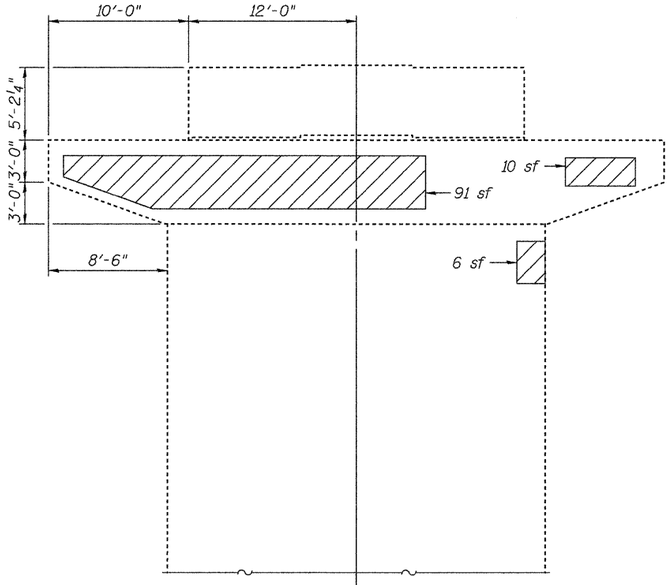
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



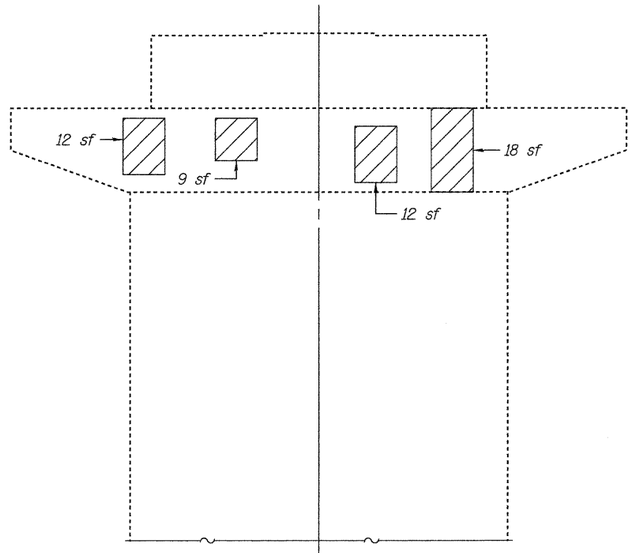
ELEVATION-PIER 2
Facing North-West



ELEVATION-PIER 2
Facing South-East



ELEVATION-PIER 5
Facing North-West



ELEVATION-PIER 5
Facing South-East

Notes:

Concrete for repair areas on the upper sides of the pier cap that overlap with the proposed pier cap extensions shall be placed monolithically with the cap extensions, to avoid an undesired construction joint.

For repair areas at the top of the pier column/wall just below the cap, if the remaining sound portion of the existing #5 vertical reinforcing does not provide the required minimum lap length below the cap, then replacement reinforcing bars shall be epoxy grouted vertically to provide a minimum embedment of 12" above the bottom of the cap. Epoxy grout for this shall be suitable for "overhead" application.

The Engineer shall record actual repair locations on the As-Built plans.

LEGEND

Hollow or Unsound Concrete

Spalled Concrete with Exposed Rebar

BILL OF MATERIAL

Item	Unit	Pier 2	Pier 5
Structural Repair of Concrete (Depth = < 5")	Sq. Ft.	242	158

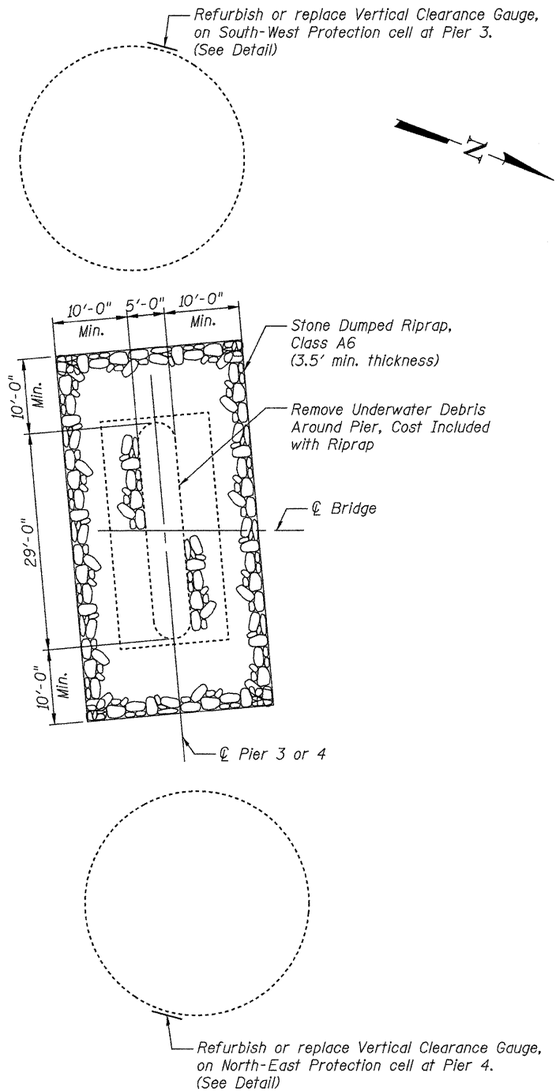
Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED:	JDQ	DRAWN:	SJS
CHECKED:	DCD	CHECKED:	DCD

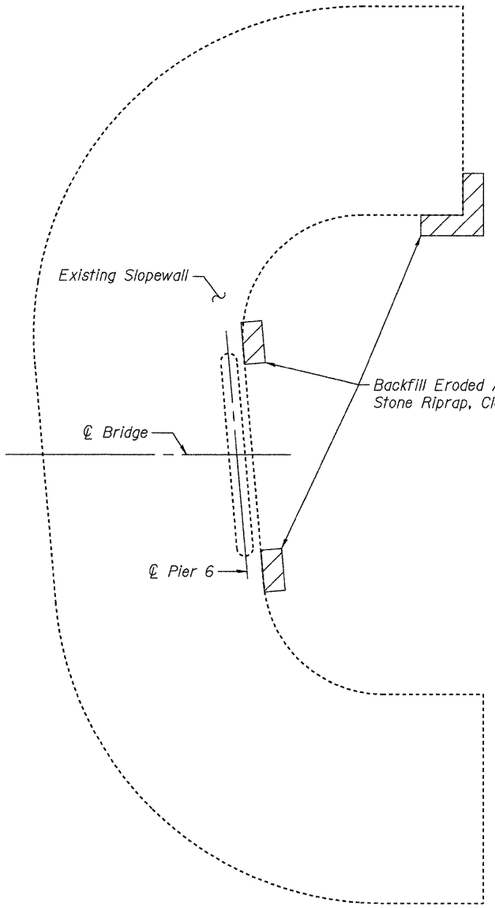
PIERS 2 & 5 REPAIRS
STRUCTURE NO. 079-0036

SHEET 16 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-11	RANDOLPH	51	39
		STA. 793+80	CONTRACT NO. 76883		
	FED ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

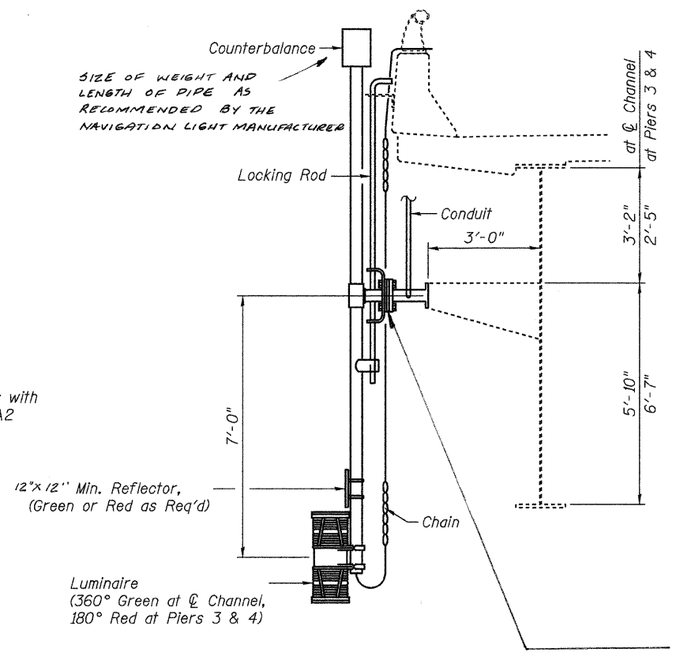
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN - AT PIERS 3 & 4



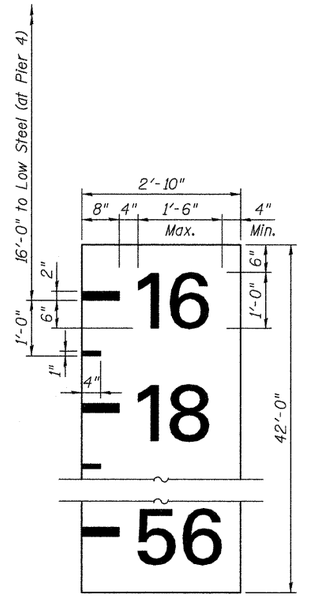
PLAN - AT PIER 6



SECTION AT NAVIGATION LIGHT

Navigation Light System shall be replaced, including light assemblies and conduit. See Special Provisions.

The existing navigation lights shall remain the property of Illinois Department of Transportation. The Contractor shall deliver the existing navigation lights to the IDOT maintenance facility at 12540 Sportsman Road, Highland, IL, 62249; phone number 618-654-5110.



VERTICAL CLEARANCE GAUGE

Also see Special Provisions.

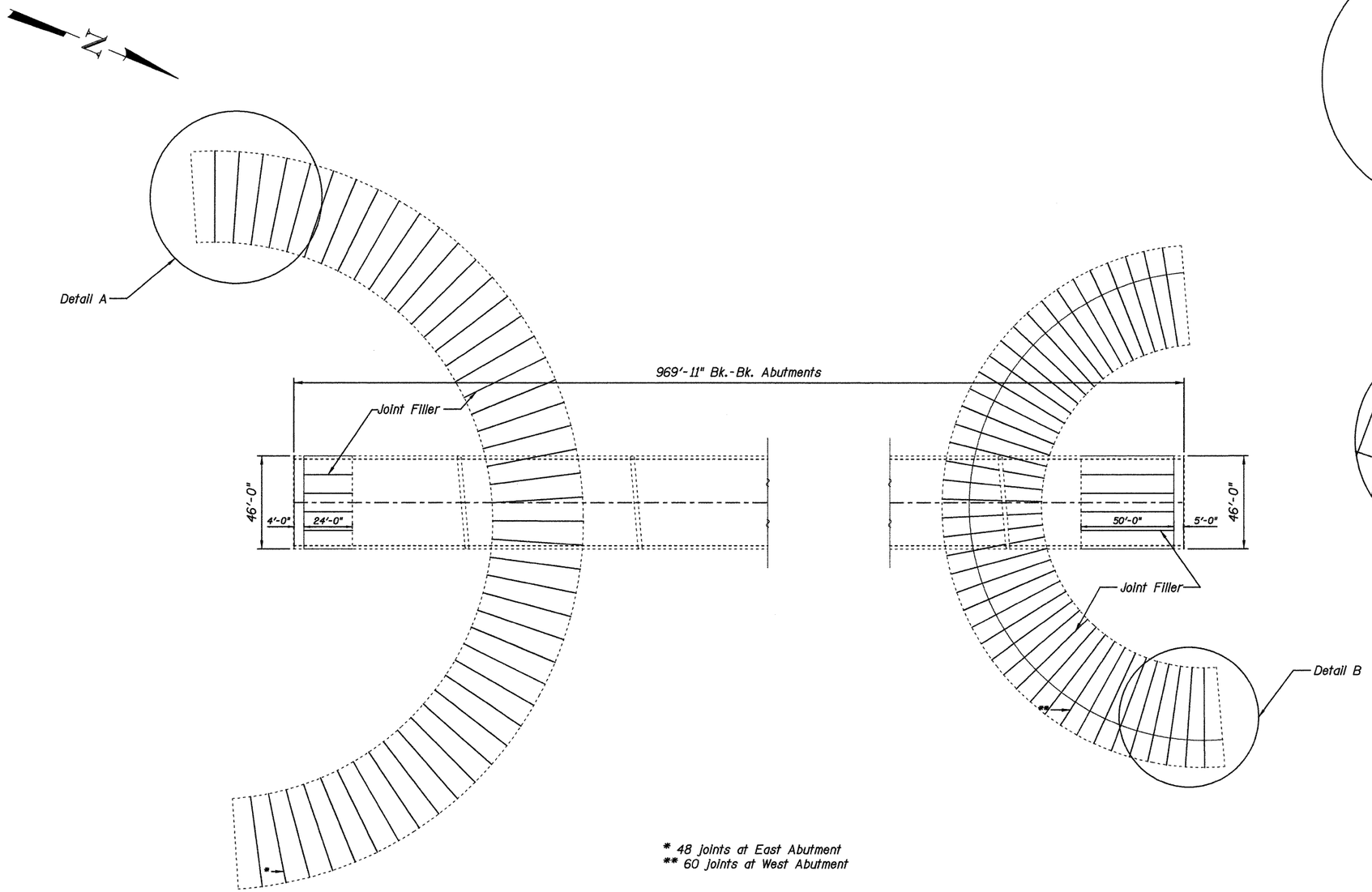
Johnson, Depp & Quisenberry CONSULTING ENGINEERS Springfield, Illinois	
DESIGNED: JDQ	DRAWN: SJS/PTR
CHECKED: DCD	CHECKED: DCD

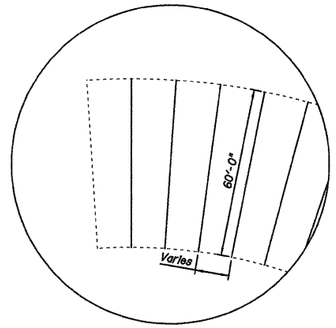
MISCELLANEOUS DETAILS
STRUCTURE NO. 079-0036

SHEET 17 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-1I	RANDOLPH	51	40
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

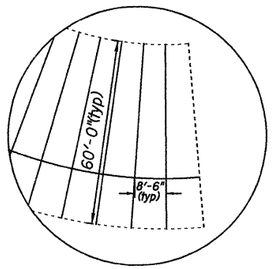
Rev.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION





DETAIL "A"



DETAIL "B"

* 48 joints at East Abutment
** 60 joints at West Abutment

JOINT OR CRACK FILLING SCHEDULE

E Abutment Pounds	W Abutment Pounds	Comments
35.8	62.1	Slopewall
702.8	827.7	Abutment Cone
738.6	889.8	Subtotals
1628.4		TOTAL

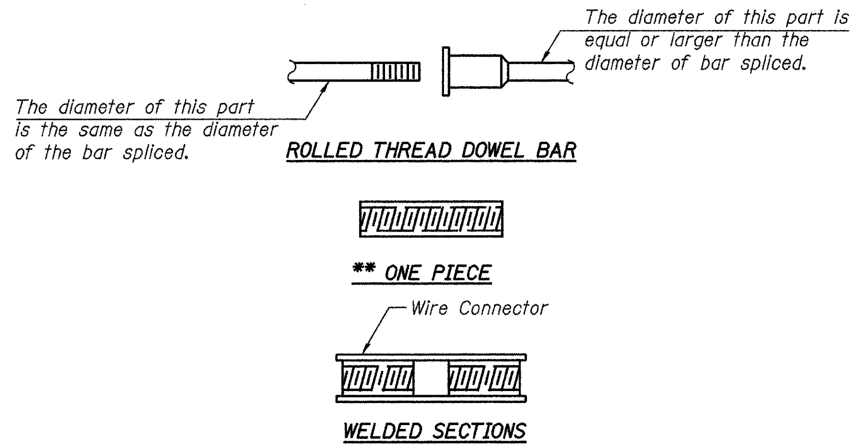
Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED:	IDOT-D8	DRAWN:	IDOT-D8
CHECKED:	IDOT-D8	CHECKED:	IDOT-D8

SLOPEWALL JOINT FILLING
STRUCTURE NO. 079-0036

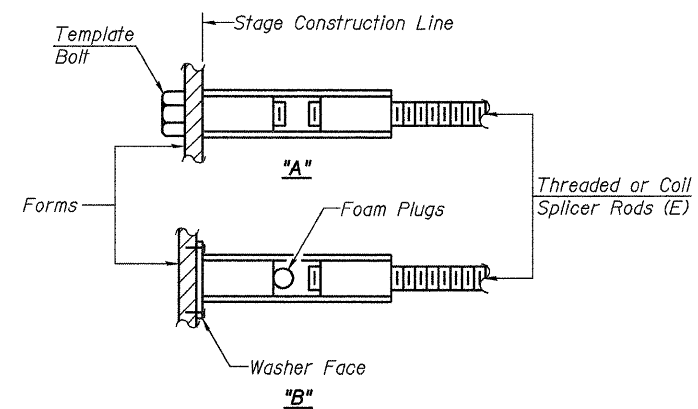
SHEET 18 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-11	RANDOLPH	51	41
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



BAR SPLICER ASSEMBLY ALTERNATIVES

**Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



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.

NOTES

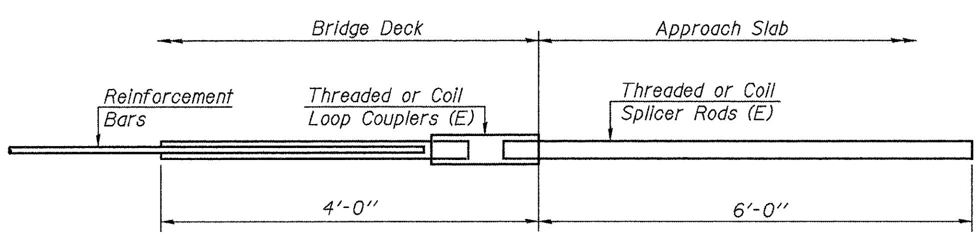
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

① Minimum Capacity (Tension in kips) $= 1.25 \times fy \times A_t$

② Minimum *Pull-out Strength (Tension in kips) $= 0.66 \times fy \times A_t$

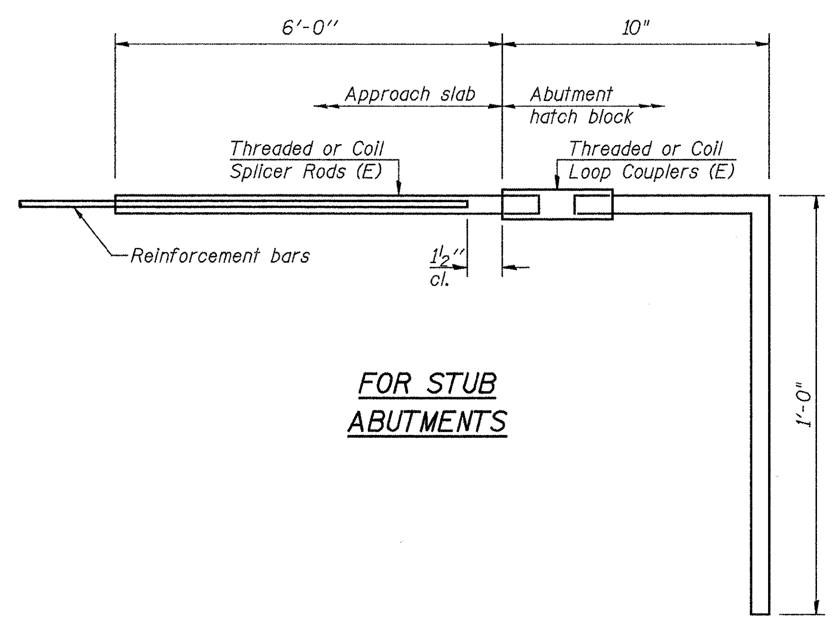
Where fy = Yield strength of lapped reinforcement bars in ksi.
A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-2"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



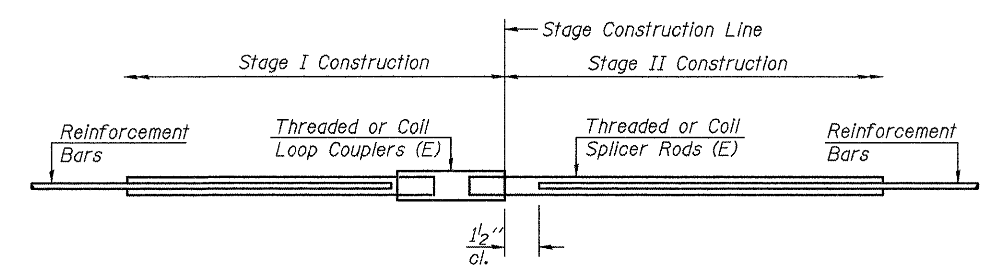
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 88



STANDARD

Bar Size	No. Assemblies Required	Location
#6	28	Deck/Abut.
#4	48	Appr. Slab
#5	170	Appr. Slab
#5	6	Abutments

Johnson, Depp & Quisenberry
CONSULTING ENGINEERS
Springfield, Illinois

DESIGNED:	JDQ	DRAWN:	SJS
CHECKED:	DCD	CHECKED:	DCD

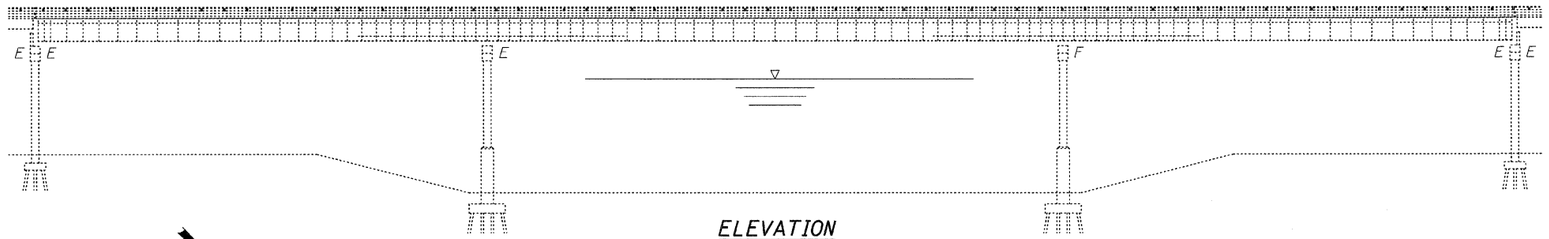
BSD-1 10-1-08

BAR SPLICER ASSEMBLY DETAILS
STRUCTURE NO. 079-0036

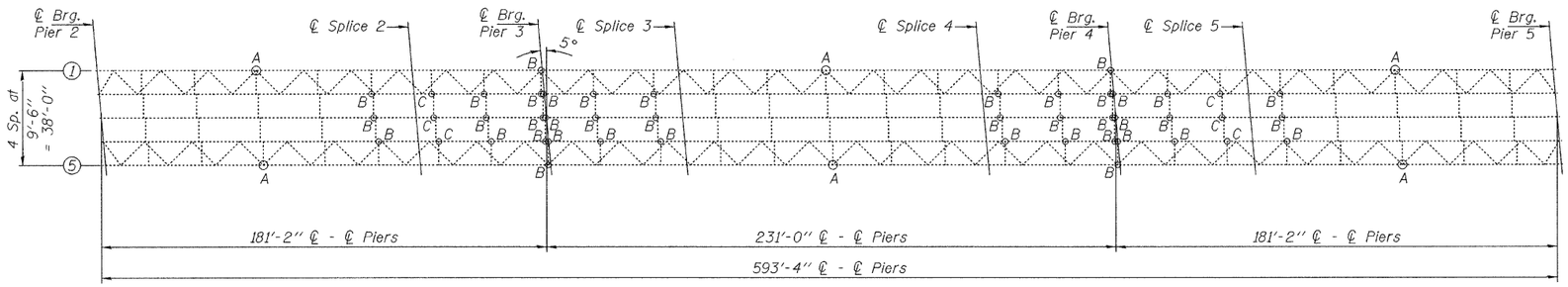
SHEET 19 OF 22	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	312	73BR-1I	RANDOLPH	51	42
		STA. 793+80	CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FILE: J:\JDQ\10175 IL-D8VV*4 IL 3 Kaskaskia River-FINAL\0790036-76883-019-barsplicer.dgn
USER: DCD
DATE: 02/15/2010 11:36:49

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



PLAN

A - Repair details A. See sheet 2 of 3.

B C - Stiffener modification detail. See sheet 3 of 3.

Engineer's stamp below applies to sheets 20 thru 22 of 22.

NOTES

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

Fasteners shall be high strength bolts. Bolts $^{7}/_{8}$"ϕ, open holes $^{15}/_{16}$"ϕ, unless otherwise noted.

Plan dimensions and details relative to existing plans are subject to routine 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 based upon the unit price bid for the work.

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

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

Surfaces of existing steel exposed down to bare metal as a result of the stiffener modification work shall be spot cleaned and painted with an aluminum epoxy mastic according to Article 506.05. The cost of this work shall be included with Stiffener Intersection Modification.

Cost of removal and/or 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 in the cost of Structural Steel Repair. Cost of temporarily supporting the lateral bracing is included with Structural Steel Repair.

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

The Contractor shall grind all cracked welds parallel to the direction of the existing weld and not perpendicular to the weld.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Stiffener Intersection Modification	Each	104
Structural Steel Repair	Pound	400

DESIGNED	Adrian T. Halloway
CHECKED	Victor H. Veliz
DRAWN	baliva
CHECKED	VHV ATH

FEBRUARY 26, 2010

EXAMINED _____ ENGINEER OF STRUCTURAL SERVICES

PASSED _____ ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS RALPH E. ANDERSON 081-004625 SPRINGFIELD LICENSED STRUCTURAL ENGINEER

EXPIRES 11-30-2010

PLAN & ELEVATION
SBI RT. 3
OVER THE KASKASKIA RIVER
SN 079-0036

	SBI RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
SHEET NO. 20	3	73-BR-1I	RANDOLPH	51	43
22 SHEETS			CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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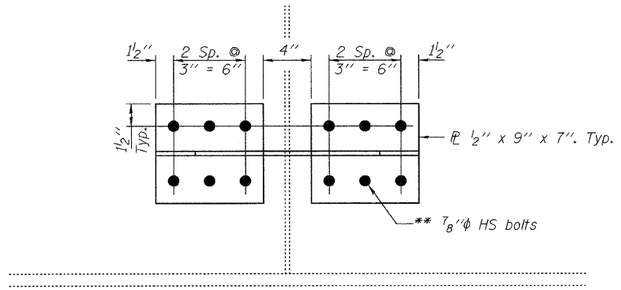
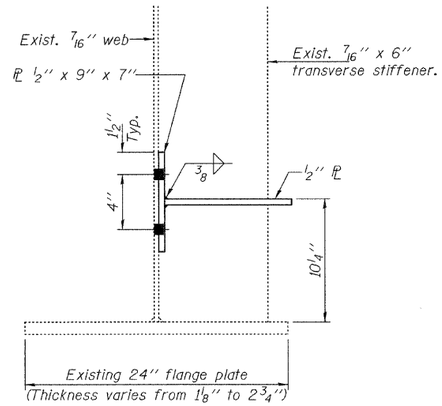
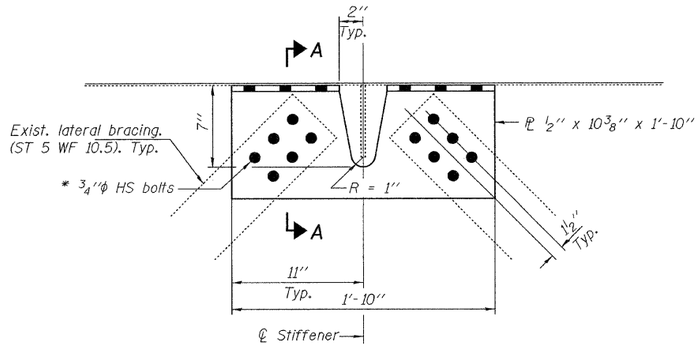
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



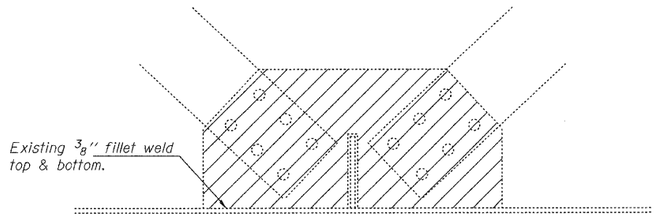
SECTION A-A



PLAN

REPAIR A
(6 req'd.)

* Use holes in existing lateral bracing as a template for drilling holes on new plate.
** Use holes in new ½" x 7" ℄ as a template for drilling holes in existing web.



REPAIR A
EXISTING CONNECTION PLATE REMOVAL
(6 req'd.)

Procedure for Lateral Bracing Retrofit Detail:
(Cost included with Structural Steel Repair)

1. Remove existing ½" connecting plate. The minimum distance from cut to face of web shall be the larger of ¼" or web to plate weld size, with removal of remaining material by grinding as described below. The cut shall be made parallel to the web without angling the cut towards the web. Equipment and method of cutting shall be approved by the Engineer. Any method of removal to be used shall ensure that no damage is done to the existing web, vertical stiffener or welds connecting these elements. Cutting shall be done in a manner such that the paint on the opposite face of the web is not damaged. If damage occurs, the damaged area shall be repainted at the contractor's expense and procedures shall be modified to prevent damage at subsequent removal locations.

2. Remove material between cut and web by grinding and grind smooth at web surface. Web plate surfaces shall have a roughness average (Ra) of 250μ in. or less. Grinding equipment shall be approved by the Engineer. The grinding operation should not gouge the girder web plate.

3. The web surface at the modification shall be inspected using dye penetrant or magnetic particle (MT) methods. Any cracks found shall be identified and reported to the Bureau of Bridges and Structures for further disposition.

DESIGNED	ATH
CHECKED	VHV
DRAWN	baliva
CHECKED	ATH VHV

FEBRUARY 26, 2010
EXAMINED — ENGINEER OF STRUCTURAL SERVICES
PASSED — ENGINEER OF BRIDGES AND STRUCTURES

REPAIR DETAILS
SBI RT. 3
OVER THE KASKASKIA RIVER
SN 079-0036

SHEET NO. 21	SBI RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	3	73-BR-1I	RANDOLPH	51	44
			CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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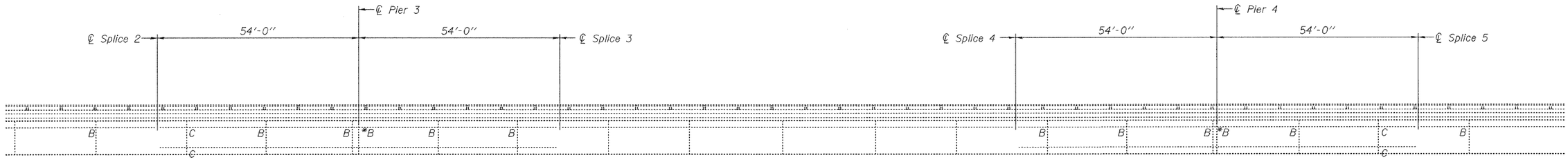
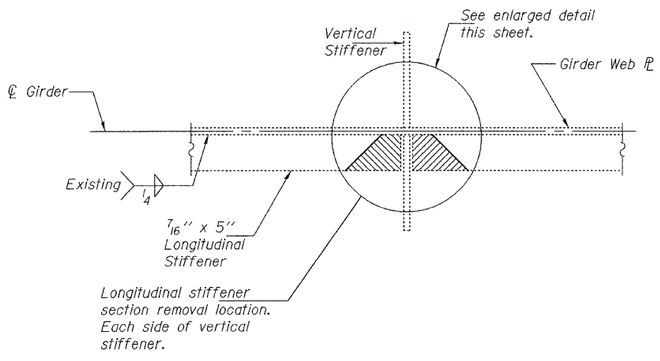
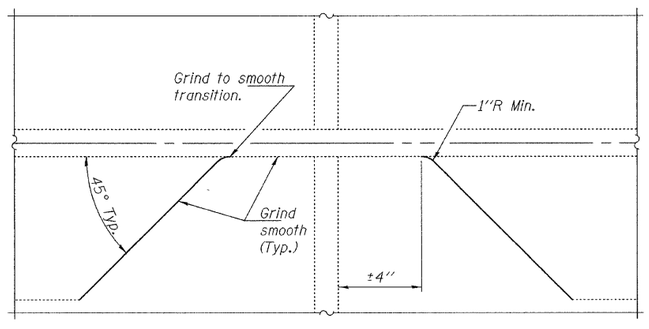
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PARTIAL GIRDER ELEVATION

(Typical beams 2, 3 & 4)
* Perform repair on fascia beams also.





REPAIR DETAIL B & C

Hatched area indicates section removal.
(Showing 2 Locations)

Note:
Repair B to be performed at the top stiffener intersection only.
Repair C to be performed at the top & bottom stiffener intersection.

Note:
Cost of grinding, testing and painting shall be included with Stiffener Intersection Modification.

Procedure for Stiffener Intersection Modification:

1. Cut existing longitudinal stiffener 4" from face of vertical stiffener and along web as shown, with a 1"R (Min) at Web. The minimum distance from cut to face of web shall be the larger of 1/4" or web to plate weld size, with removal of remaining material by grinding as described below. The cut shall be made parallel to the web without angling the cut towards the web. Equipment and method of cutting shall be approved by the Engineer. Any method of removal to be used shall ensure that no damage is done to the existing web, vertical stiffener or welds connecting these elements. Cutting shall be done in a manner such that the paint on the opposite face of the web is not damaged. If damage occurs, the damaged area shall be repainted at the contractor's expense and procedures shall be modified to prevent damage at subsequent removal locations.

2. Remove material between cut and web by grinding and grind smooth at web surface and cut end of stiffener. Web plate surfaces and cut end of stiffener shall have a roughness average (Ra) of 250μ in. or less. Grinding equipment shall be approved by the Engineer. The grinding operation should not gouge the girder web plate.

3. The web surface at the modification shall be inspected using dye penetrant or magnetic particle (MT) methods. Any cracks found shall be identified and reported to the Bureau of Bridges and Structures for further disposition.

4. The exposed steel surfaces shall be cleaned and painted using an aluminum epoxy mastic primer according to Article 506.05.

Each 4" stiffener removal area is to be considered as one retrofit. Accepted above referenced work will be paid for at the contract unit price each for Stiffener Intersection Modification, which price shall include all materials, equipment, labor, cleaning, testing and painting.

DESIGNED	ATH
CHECKED	VHV
DRAWN	ballva
CHECKED	ATH VHV

SIMD/REPS 04-26-2004

FEBRUARY 26, 2010
EXAMINED A. Carl Kruzy
ENGINEER OF STRUCTURAL SERVICES
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

REPAIR DETAILS
SBI RT. 3
OVER THE KASKASKIA RIVER
SN 079-0036

SHEET NO. 22	SBI RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
22 SHEETS	3	73-BR-1I	RANDOLPH	51	45
			CONTRACT NO. 76883		
	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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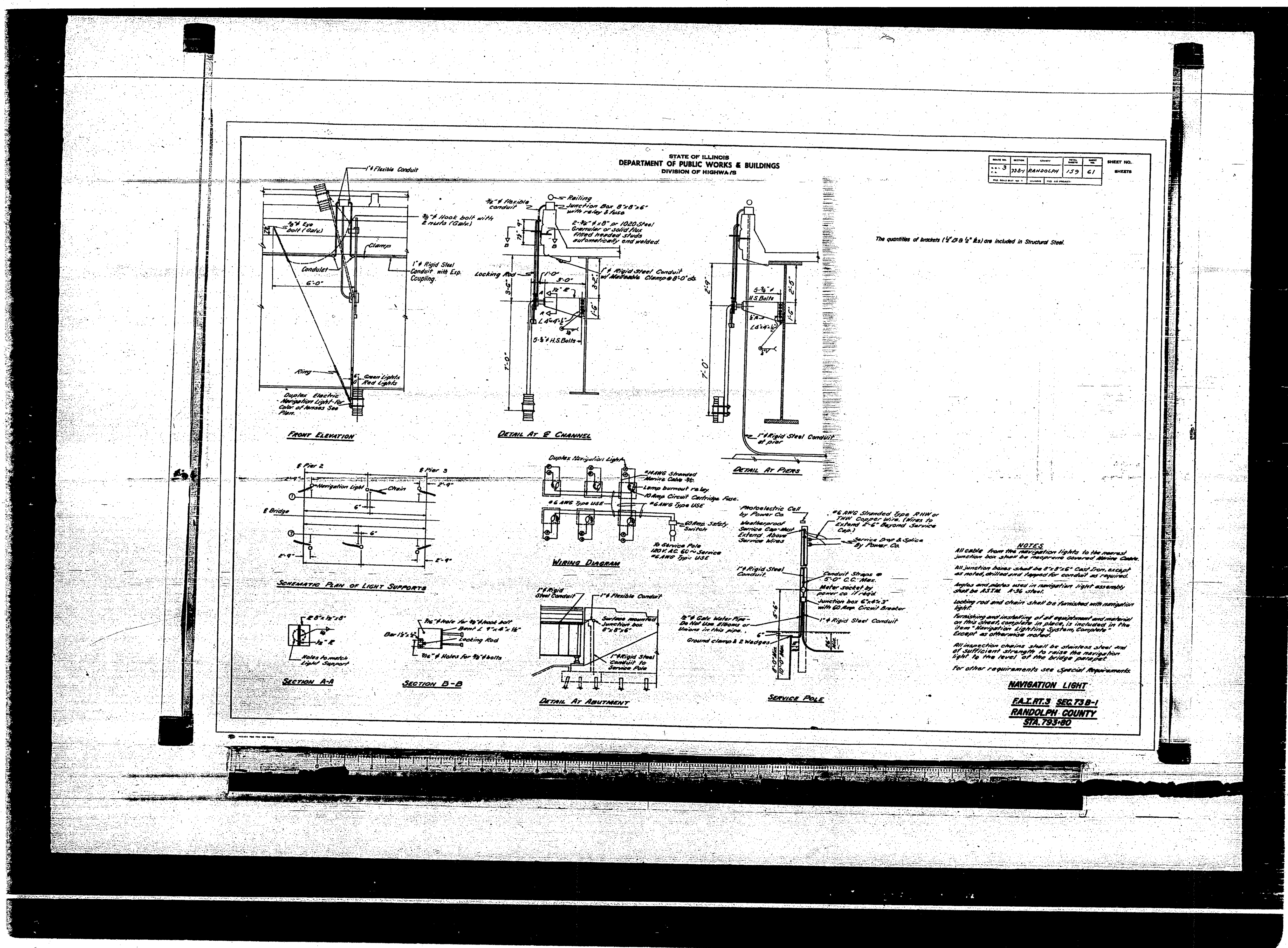

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	PLOT SCALE = 20.0000 ' / IN.	DRAWN -	REVISED -		SCALE: SHEET NO. 1 OF 6 SHEETS STA. TO STA.
	PLOT DATE = 1/27/2010	CHECKED -	REVISED -		
		DATE -	REVISED -		

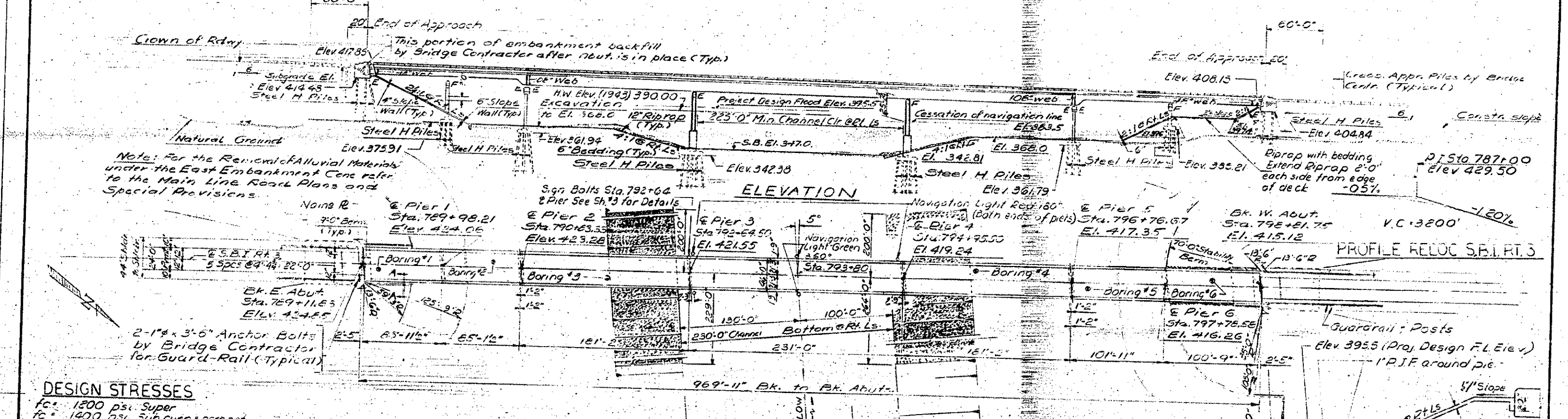
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	46
		CONTRACT NO. 76883		
		ILLINOIS FED. AID PROJECT		

B.M. S & W in root of twin maple 40' Lt. of Sta. 792+00 Elev. 366.65
Existing Structure located on S.B.I. Rte 3 - 1965.3' Deck Girders; 4@160' & 1@95' Penn. Trusses; Rdwy width 21' on Solid Reinf. Concr. Piers & Abuts. To be removed by Contractor after New Structure is in place. No salvage. ~~Existing Piers within the channel shall be removed to Elevation 346.0.~~

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 3 F.A.	73B-1	RANDOLPH	159	62

SHEET NO. 1
27 SHEETS



DESIGN STRESSES

f'c = 1200 psi Super
f'c = 1400 psi Sub. curb & parapet
fs = 20,000 psi Reinforcement
fs = 20,000 psi Struct (A-36)
Vc = 75 psi Ftgs. & Wingwalls
n = 10
ΣA = 1/1000 Non-Composite
ΣA = 1/1200 Composite
Allow 25#/□' for future Wear Surf.
LOADING HS20-44

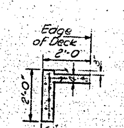
STATION 793+80.00
BUILT 19__ BY
STATE OF ILLINOIS
S.B.I. RT. 3 - SEC. 73-B-1
LOADING HS20

NAME PLATE
See Std. 2113-1

WATERWAY INFORMATION

	Div. of Hwys.	Corps of Engrs.
Drainage Area	3673600 Acres	
Character	Level, wooded & cultivated	
Req'd Opening	21900 Sq.Ft.	21100 Sq.Ft.
Present Opening (Below Low Steel of Present Bridge)	29000 Sq.Ft.	
Prop. Opening	21900 Sq.Ft.	27000 Sq.Ft.
Ordinary Water Elev.	351.5	
Low Water Elev.	None	
High Water Elev.	390.0	395.5
	Q = 87000 c.f.s.	100000 c.f.s.

APPROACH PILE DATA
Type Creosoted
No Req'd. 12
Length Req'd. 6 - 44' long (E. Abut.)
6 - 40' long (W. Abut.)



SEC. A-A

GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown.

Fasteners shall be bolted using high strength bolts. Bolts ¾"φ, open holes 13/16"φ unless otherwise noted.

Roadway expansion guards shall be assembled in the shop in proper position with the ends in place and shall be left assembled for shop inspection.

The roadway expansion plates shall be flame cut as provided in Article 507.04(l) of the Standard Specifications.

Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

Slope wall shall be reinforced with welded wire fabric 6" x 6" mesh, weighing 58# per 100 sq. ft.

Layout of slope walls may be varied in the field to suit ground conditions as directed by the Engineer.

Class A Excavation for structures includes excavation for slope wall.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.

Cast steel shall be Class 90 Structural steel weldments of equal sections and meeting A.S.T.M. A-441 may be substituted for castings at the option of the Contractor, subject to approval by the Engineer prior to fabrication. No additional compensation will be allowed the Contractor for this substitution.

The basic Lead Silico Chromate paint system shall be used for shop & field painting of structural steel.

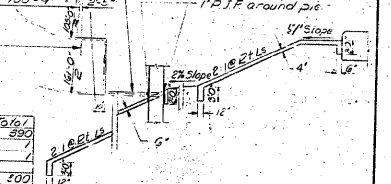
The Contractor shall drive 6 steel test piles in permanent locations, one each at abutments and piers 1, 3, 4, 5 as directed by Engineer before ordering the remainder of piles.

Anchor bolts shall be set before fastening diaphragms or cross frames over supports.

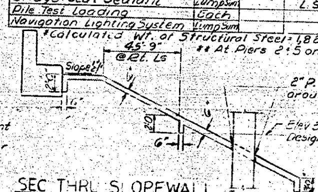
TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Cofferdam Excavation	Cu. Yds.		390	390
Cofferdam, Pier 3	Ea.		1	1
Cofferdam, Pier 4	Ea.		1	1
Cl. A Excavation for Structures	Cu. Yds.		300	300
Preformed Joint Sealer	Lin. Ft.	92		92
Protective Coat	Sq. Yds.	5310		5310
Class X Concrete	Cu. Yds.	1411.7	1303.8	2715.5
* Structural Steel	L.S.	L.S.		L.S.
Stud Shear Connectors	Each	3570		3570
Aluminum Railing	Lin. Ft.	1933		1933
Reinforcement Bars	Lbs.	365,780	110,400	476,180
Steel Piles (12 BP 53)	Lin. Ft.		7214	7214
Test Piles Steel (12 BP 53)	Each		6	6
Name Plates	Each	1		1
Slope Wall (6")	Sq. Yds.		6660	6660
Slope Wall (4")	Sq. Yds.		500	500
Removal of Exist. Structs. #2	Each			1
Creosoted Piles (Over 38')	Lin. Ft.		498	498
** Bridge Seat Sealant	Lump Sum		L.S.	L.S.
Pile Test Loading	Each			2
Navigation Lighting System	Lump Sum			L.S.

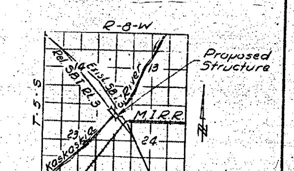
*Calculated Wt. of Structural Steel = 1,826,540 lbs.
** At Piers 2 & 5 only



SEC. THRU SLOPEWALL
(West Abutment)



SEC. THRU SLOPEWALL (East Abut.)



LOCATION SKETCH

GENERAL PLAN & ELEVATION
S.B.I. RTE. 3 - SECTION 73B-1
RANDOLPH CO.
STA. 793+80.00

DESIGNED	Harbal Singh
CHECKED	Emil O. Miller
DRAWN	F. Mercado
CHECKED	Emil O. Miller

March 24 1970
EXAMINED Carl E. Thunman, Jr.
PASSED M. C. Baumann
APPROVED Richard H. Golterman

Rev. W.H. 5-25-70

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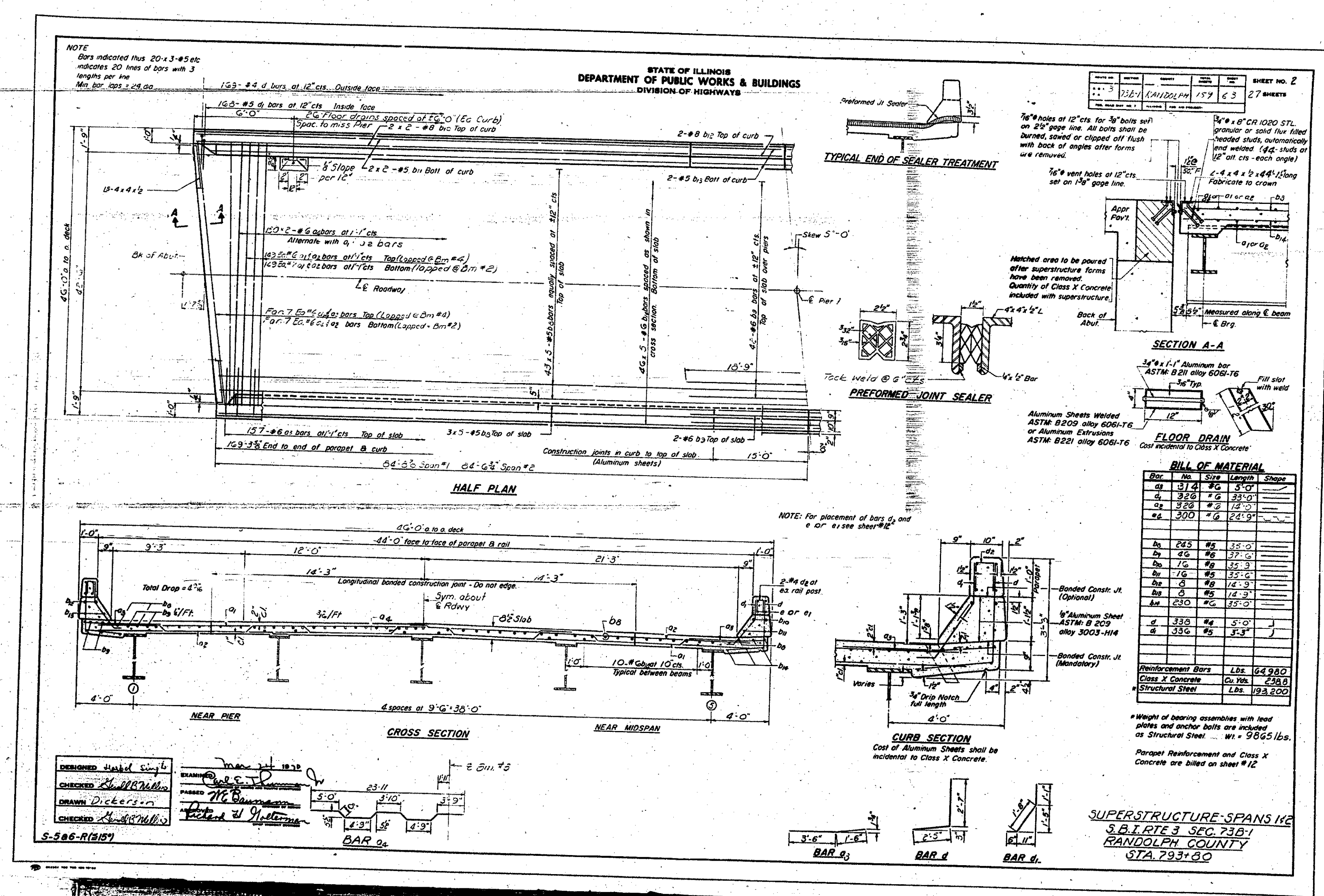
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS

SCALE: | SHEET NO. 2 OF 6 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	47

CONTRACT NO. 76883
ILLINOIS | FED. AID PROJECT



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a3	314	#6	5'-0"	
a1	326	#6	33'-0"	
a2	326	#7	14'-0"	
a4	300	#6	24'-9"	
b8	245	#5	35'-0"	
b9	46	#6	37'-6"	
b10	16	#8	35'-9"	
b11	16	#5	35'-6"	
b12	8	#8	14'-9"	
b13	8	#5	14'-9"	
b14	230	#6	35'-0"	
d	338	#4	5'-0"	
d1	336	#5	3'-3"	
Reinforcement Bars			Lbs.	64,980
Class X Concrete			Cu. Yds.	238.8
* Structural Steel			Lbs.	193,200

* Weight of bearing assemblies with lead plates and anchor bolts are included as Structural Steel. .... Wt. = 9865 lbs.

Parapet Reinforcement and Class X Concrete are billed on sheet #12

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

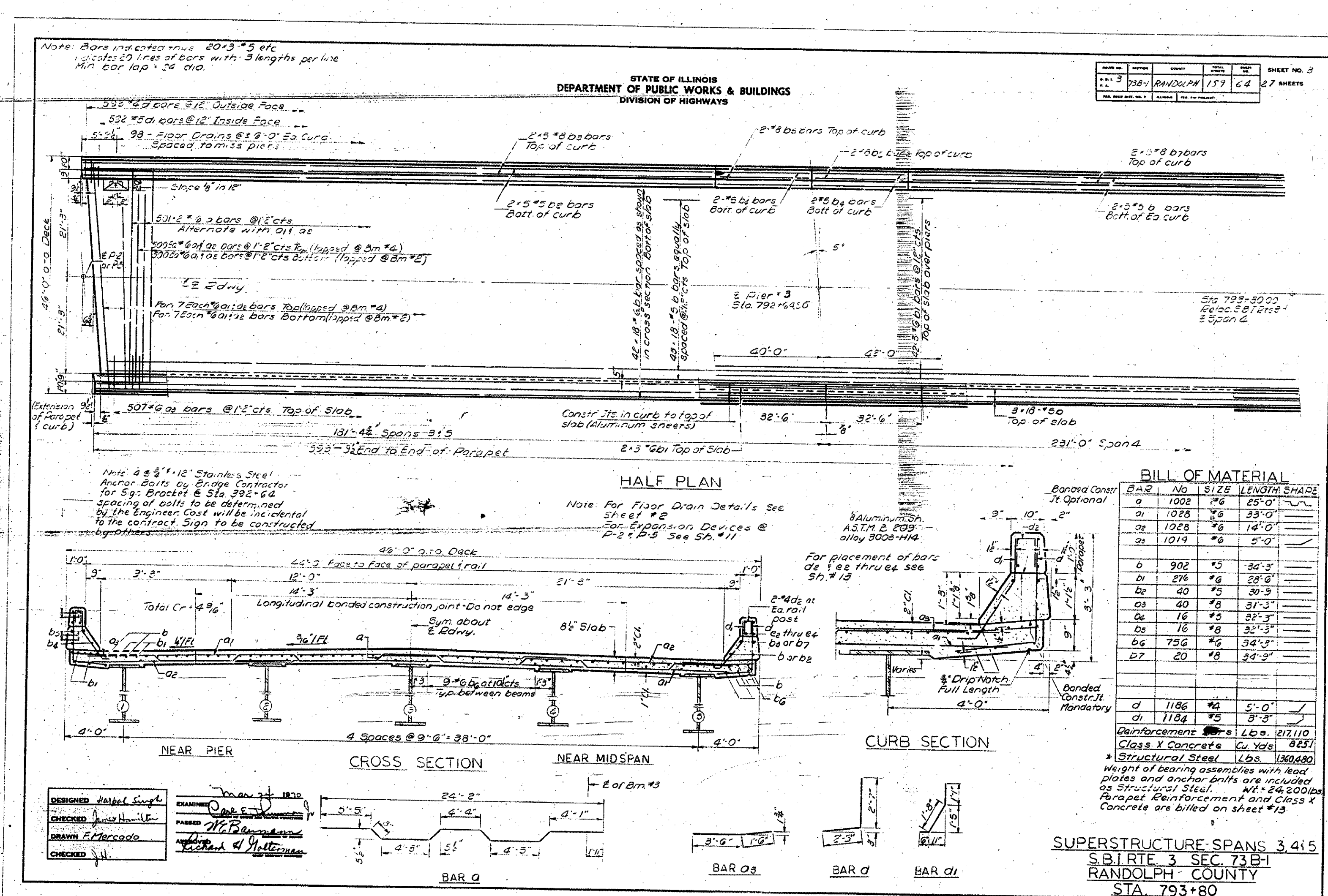
EXISTING STRUCTURE PLANS

SCALE: | SHEET NO. 3 OF 6 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	48

CONTRACT NO. 76883

ILLINOIS FED. AID PROJECT



BILL OF MATERIAL

BAR	No	SIZE	LENGTH	SHAPE
a	1002	#6	25'-0"	
a1	1028	#6	33'-0"	
a2	1028	#6	14'-0"	
a3	1019	#6	5'-0"	
b	902	#5	34'-3"	
b1	276	#6	28'-6"	
b2	40	#5	30'-3"	
b3	40	#8	31'-3"	
b4	16	#5	32'-3"	
b5	16	#8	32'-3"	
b6	756	#6	34'-3"	
b7	20	#8	34'-9"	
d	1186	#4	5'-0"	
d1	1184	#5	3'-3"	
Reinforcement Bars		Lbs.	217,110	
Class X Concrete		Cu. Yds.	8251	
* Structural Steel		Lbs.	1360,480	

* Weight of bearing assemblies with lead plates and anchor bolts are included as Structural Steel. Wt. = 24,200 lbs. Parapet Reinforcement and Class X Concrete are billed on sheet #13

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

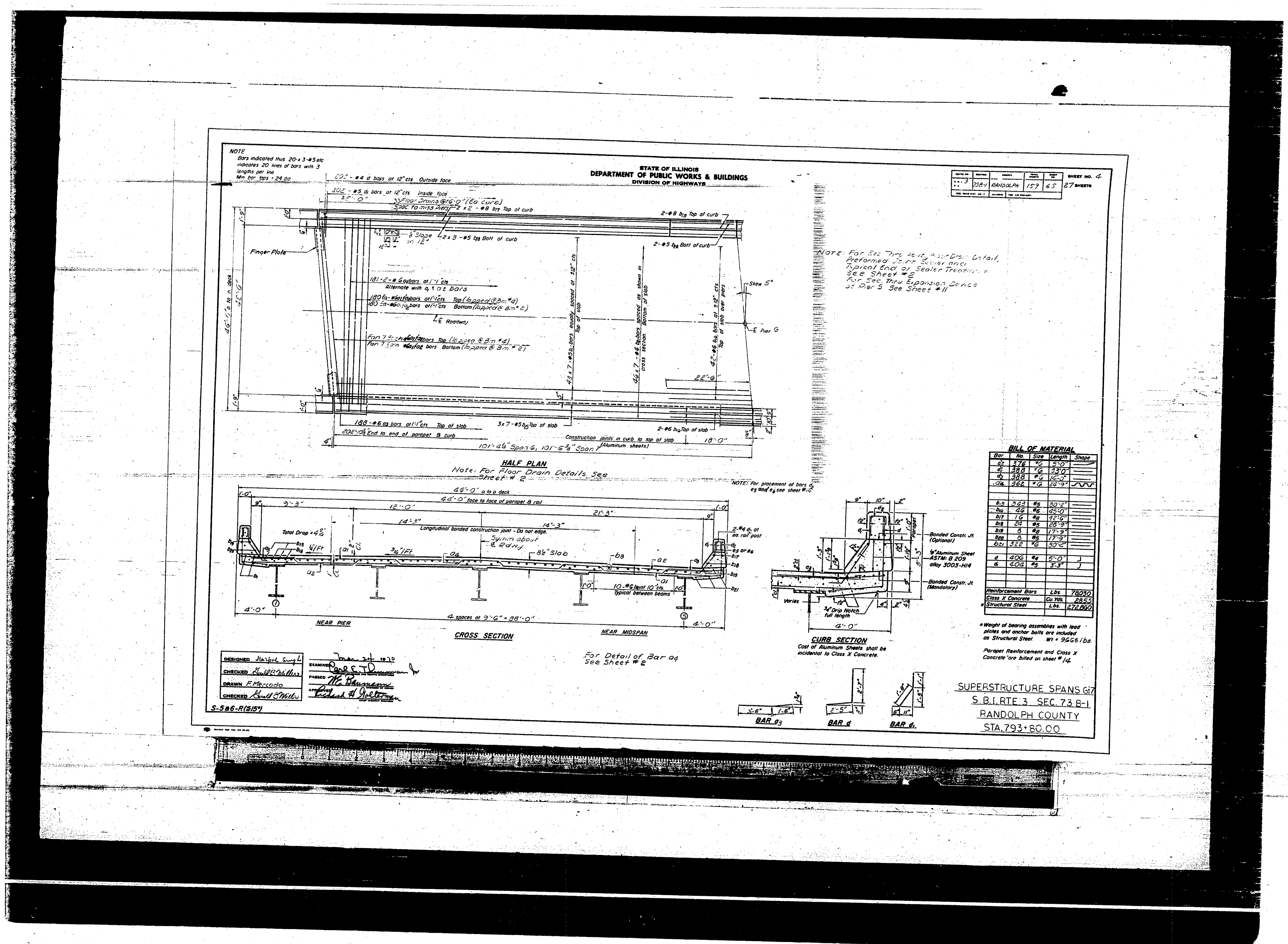
EXISTING STRUCTURE PLANS

SCALE: | SHEET NO. 4 OF 6 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	49

CONTRACT NO. 76883

ILLINOIS | FED. AID PROJECT



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	PLOT DATE = 1/27/2010	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

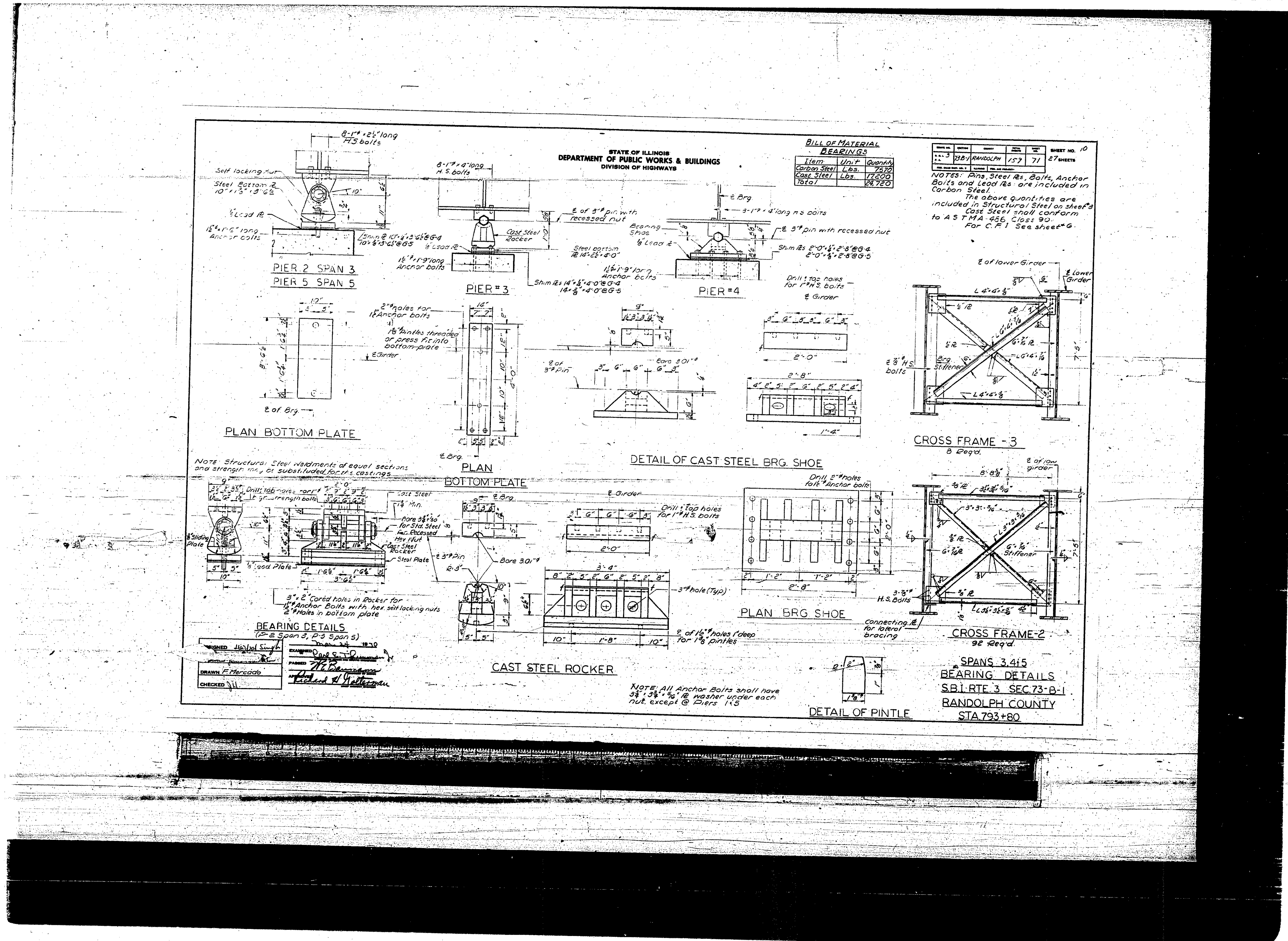
EXISTING STRUCTURE PLANS

SCALE: | SHEET NO. 5 OF 6 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	50

CONTRACT NO. 76883

ILLINOIS | FED. AID PROJECT



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS

SCALE: | SHEET NO. 6 OF 6 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
312	73BR-1I	RANDOLPH	51	51

CONTRACT NO. 76883

ILLINOIS FED. AID PROJECT