

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	111-BR-2	BOND	25	1
		ILLINOIS	CONTRACT NO. 76P50	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

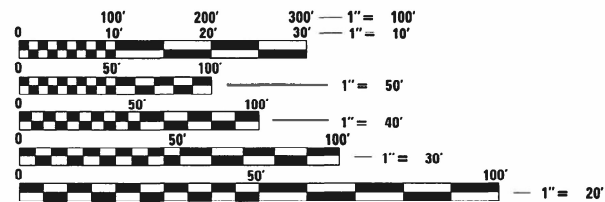
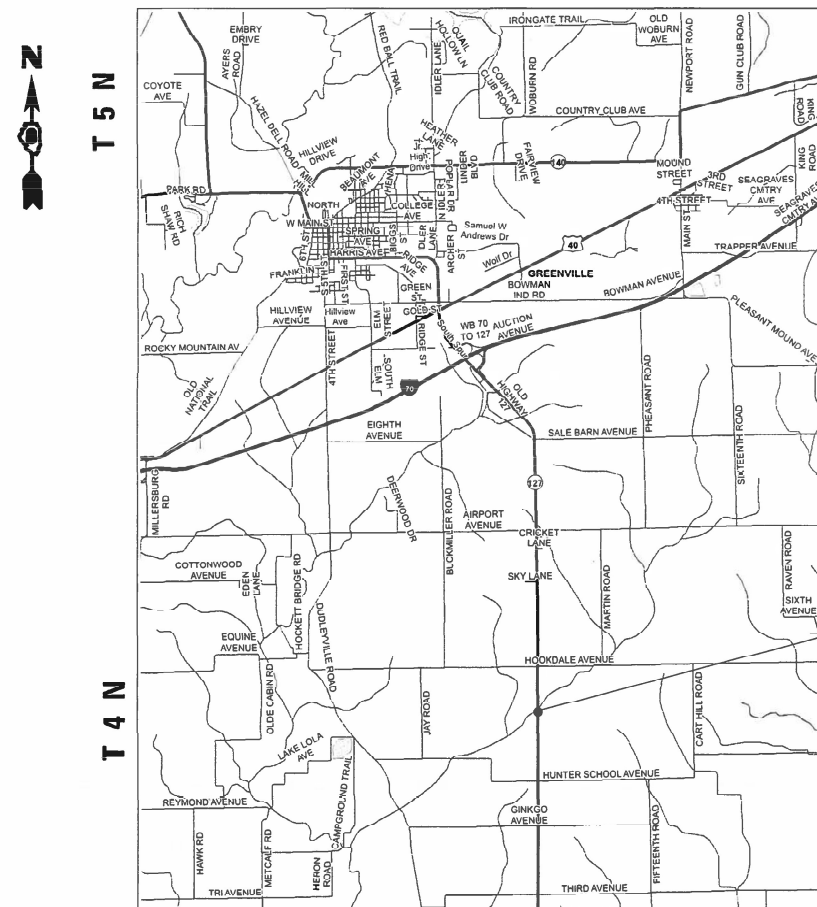
PROPOSED
HIGHWAY PLANS

FAP ROUTE 42 (IL 127)
SECTION 111-BR-2
PROJECT STP-3FY7(959)
BRIDGE JOINT REPLACE, REPAIR
& BRIDGE DECK OVERLAY
BOND COUNTY

D-98-055-21



C-98-086-21
R 3 W



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

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

PROJECT ENGINEER CHERYL KEPLAR 618-346-3123
PROJECT MANAGER KAREN CHALLANDES 618-346-3329

CONTRACT NO. 76P50

PROJECT LOCATION:
IL 127 OVER LITTLE BEAVER CREEK
4.2 MI S OF I-70
SN 003-0049
STA 1365 + 47.46
LATITUDE: 38.81416
LONGITUDE: -89.37128

ADT
2019 ADT = 2850 (ACTUAL)
2022 ADT = 2950 (ESTIMATED)
2042 ADT = 3600 (ESTIMATED)
SU = 4.6% MU = 11.4%

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED Dec 14 2021
Kaith Roberts REGIONAL ENGINEER

February 4 2022
[Signature] ENGINEER OF DESIGN AND ENVIRONMENT

February 4 2022
[Signature] DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

GROSS /NET LENGTH = 2212 FT. = 0.4189 MILE

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES, COMMITMENTS, AND ADT
- 3-6 SUMMARY OF QUANTITIES
- 7 TYPICAL SECTIONS
- 8 SCHEDULES
- 9-11 PLAN SHEETS
- 12 DETAILS
- 13-25 STRUCTURE SHEETS

HIGHWAY STANDARDS

- 000001-08
- 001001-02
- 001006
- 482011-03
- 630001-12
- 630301-09
- 631031-17
- 701006-05
- 701011-04
- 701301-04
- 701306-04
- 701311-03
- 701321-18
- 701326-04
- 701901-08
- 704001-08
- 780001-05
- 781001-04
- 782006-01
- 606001-08
- 725001-01

GENERAL NOTES

1. UTILITIES KNOWN TO HAVE FACILITIES WITHIN THE PROJECT AREA:
 AT&T ILLINOIS
 BOND MADISON WATER COMPANY
 PLAINES MARKETING, LP
2. NO SURVEY WAS PERFORMED FOR THIS PROJECT AND THE PLANS WERE CREATED USING MICROFILM AND FIELD MEASUREMENTS.
3. TWO (2) CHANGEABLE MESSAGE SIGN SHALL BE REQUIRED FOR THIS PROJECT AND SHALL BE PLACED TWO (2) WEEKS PRIOR TO ANY LANE CLOSURE. THE CHANGEABLE MESSAGE SIGNS SHALL BE PLACED AT THE DIRECTION OF THE ENGINEER.

COMMITMENTS

NONE

MIX CHART

				BD Overlay
MIXTURE USE	POLY SURFACE	BINDER		POLY SURFACE
AC/PG	SBS PG 76-22	PG 64-22		SBS PG 76-22
RAP % (MAX)	SEE SPECIAL PROVISION	SEE SPECIAL PROVISION		SEE SPECIAL PROVISION
DESIGN AIR VOIDS	4.0% @ Ndes=70	4.0% @ Ndes=70		4.0% @ Ndes=70
MIX COMPOSITION (Gradation)	IL 9.5	IL 9.5 FG		IL 9.5
FRICITION AGG	MIXTURE "D"	MIXTURE "C"		MIXTURE "D"
QUALITY MGMT PROGRAM	QC/QA	QC/QA		QC/QA
MatTranDev Required?	no	no		no

		SHOULDERS (lower)	SHOULDERS (surface)		
MIXTURE USE					
AC/PG		PG 64-22	PG 64-22		
RAP % (MAX)		SEE SPECIAL PROVISION	SEE SPECIAL PROVISION		
DESIGN AIR VOIDS		4.0% @ Ndes=30	4.0% @ Ndes=30		
MIX COMPOSITION (Gradation)		IL 19.0L	IL 9.5L		
FRICITION AGG					
QUALITY MGMT PROGRAM		QC/QA	QC/QA		
MatTranDev Required?		no	no		

Plan quantities for Bituminous Concrete Surface Course items are calculated using a unit weight of 112 lb/sq yd/in (59.8 kg/sq m/25 mm thickness).
 Any QCP Pay Item that has a quantity of 1600 tons or less will have two sublots each of which will be half of the Plan Quantity or half of the Adjusted Quantity by the Resident Engineer/Technician.

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	CHECKED -	REVISED -				42	111-BR-2	BOND	25	2

80% FED
20% STATE

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				MINOR STRUCTURES	ROADWAY
				0047 RURAL	0005 RURAL
20200100	EARTH EXCAVATION	CU YD	2	2	
40600295	POLYMERIZED BITUMINOUS MATERIALS (TACK COAT)	POUND	4638	150	4488
40600370	LONGITUDINAL JOINT SEALANT	FOOT	2393	149	2244
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	978		978
40602970	HOT-MIX ASPHALT BINDER COURSE, 1L-9.5FG, N70	TON	419		419
40604162	POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, 1L-9.5, MIX "D", N70	TON	550	47	503
44004250	PAVED SHOULDER REMOVAL	SQ YD	212	6	206
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	307		307
48203008	HOT-MIX ASPHALT SHOULDERS, 2 3/4"	SQ YD	1995		1995
48203100	HOT-MIX ASPHALT SHOULDERS	TON	92		92
50102400	CONCRETE REMOVAL	CU YD	29.7	29.7	
50300100	FLOOR DRAINS	EACH	6	6	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	61.3	61.3	

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USER NAME = challandeske	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	BOND	25	3
PLOT DATE = 12/17/2021	CHECKED -	REVISED -								CONTRACT NO. 76M81		
	DATE -	REVISED -								ILLINOIS	FED. AID PROJECT	

80% FED
20% STATE

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				MINOR STRUCTURES	ROADWAY
				0047 RURAL	0005 RURAL
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	8490	8490	
50800515	BAR SPLICERS	EACH	68	68	
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	664	664	
* 63000003	STEEL PLATE BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	FOOT	700		700
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4		4
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4		4
63200310	GUARDRAIL REMOVAL	FOOT	400		400
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6	
67100100	MOBILIZATION	L SUM	1	1	
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1	
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	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 STRIPS	EACH	6	6	

* SPECIALTY ITEM

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PLOT DATE = 12/17/2021	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	111-BR-2	BOND	25	4
CONTRACT NO. 76M81				
ILLINOIS FED. AID PROJECT				

80% FED
20% STATE

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				MINOR STRUCTURES	ROADWAY
				0047	0005
				RURAL	RURAL
70107005	PAVEMENT MARKING BLACKOUT TAPE, 5"	FOOT	113	113	
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	28	28	
70300100	SHORT TERM PAVEMENT MARKING	FOOT	625	37	588
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	151	6	145
70300221	TEMPORARY PAVEMENT MARKING - LINE 4" - PAINT	FOOT	5508	320	5188
70400100	TEMPORARY CONCRETE BARRIER	FOOT	350	350	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	350	350	
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2	
70600332	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2	
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4		4
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	5508	320	5188
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	30	2	28
* 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	24		24
* 78200011	BARRIER WALL REFLECTORS, TYPE C	EACH	4	4	

* SPECIALTY ITEM

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PLOT DATE = 12/17/2021	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	111-BR-2	BOND	25	5
CONTRACT NO. 76M81			ILLINOIS FED. AID PROJECT	

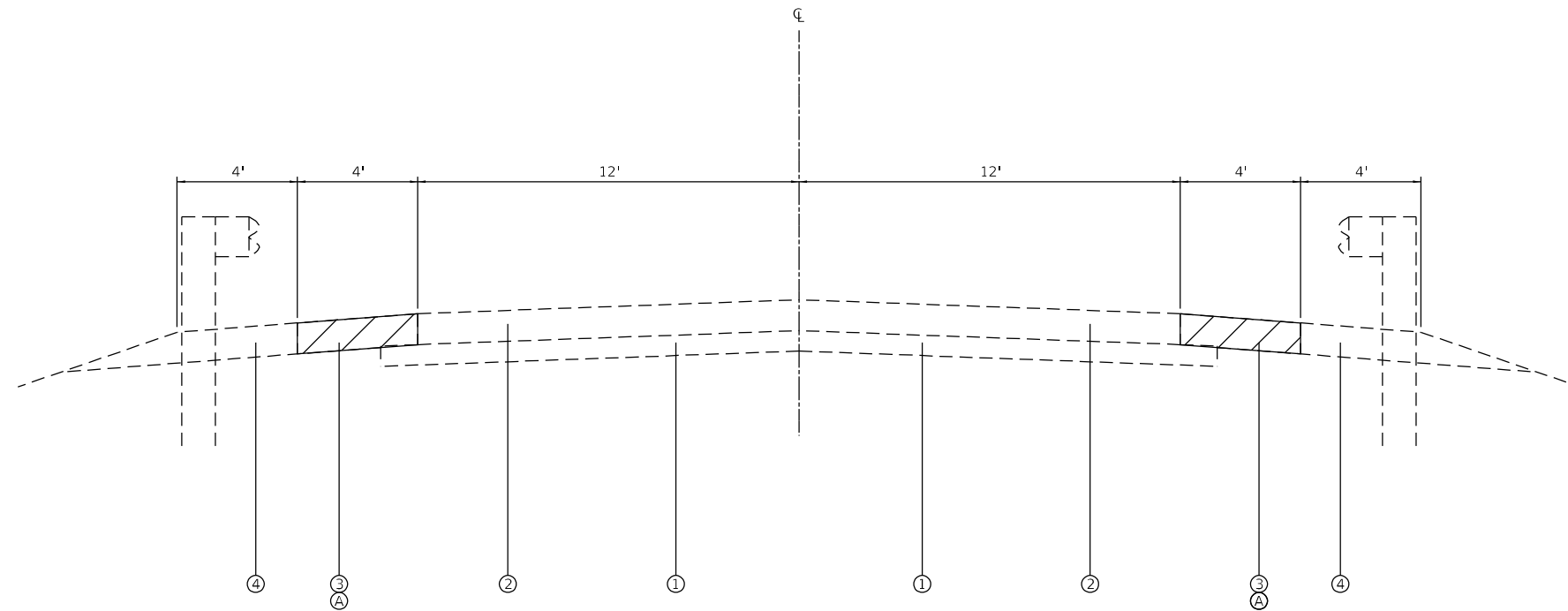
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				MINOR STRUCTURES	ROADWAY
				0047 RURAL	0005 RURAL
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	30	2	28
78300202	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	1836	107	1729
* X5060601	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1	
X5870015	BRIDGE DECK CONCRETE SEALER	SQ FT	1127	1127	
X6061005	CONCRETE CURB, TYPE B (SPECIAL)	FOOT	60		60
X6320100	GUARDRAIL REMOVAL SPECIAL	FOOT	380		380
Z0001903	STRUCTURAL STEEL REMOVAL	POUND	2850	2850	
* Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1	
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	100	100	
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE 1)	SQ YD	3	3	
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ YD	12	12	
Z0032470	JOINT SEALER	FOOT	48		48

* SPECIALTY ITEM

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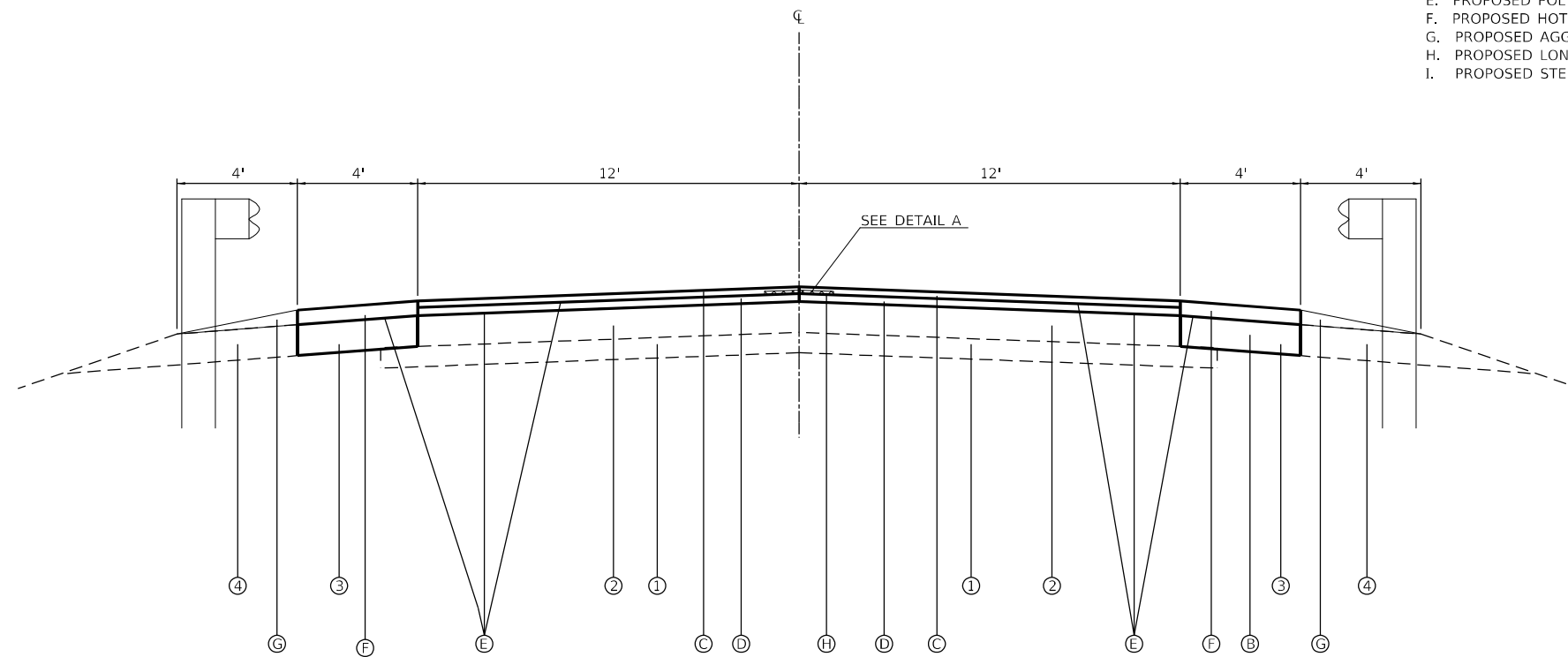
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PLOT DATE = 12/17/2021	CHECKED -	REVISED -		ILLINOIS FED. AID PROJECT								
	DATE -	REVISED -										

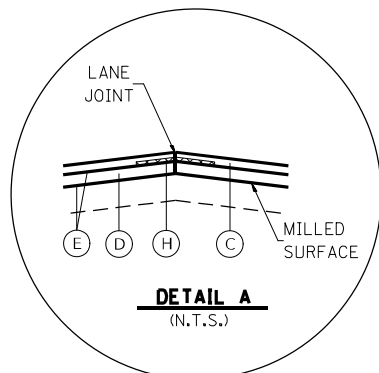


EXISTING TYPICAL SECTION
 STA. 731+00 TO STA. 742+13.42
 STA. 743+55.36 TO STA. 752+12

1. EXISTING STABILIZED SUBBASE, 4"
2. EXISTING STANDARD REINFORCED P.C.C. PAVEMENT, 8"
3. EXISTING HOT-MIX ASPHALT SHOULDERS, 8"
4. EXISTING AGGREGATE SHOULDERS, 8"
5. EXISTING STEEL PLATE BEAM GUARDRAIL
- A. PROPOSED PAVED SHOULDER REMOVAL SEE SCHEDULE FOR LOCATIONS
- B. PROPOSED HOT-MIX ASPHALT SHOULDER 8"
- C. PROPOSED POLYMERIZED HOT-MIX ASPHALT SURFACE, IL 9.5, MIX "D", N70 1 1/2"
- D. PROPOSED HOT-MIX ASPHALT BINDER, 1 1/4"
- E. PROPOSED POLYMERIZED BITUMINOUS MATERIALS (TACK COAT)
- F. PROPOSED HOT-MIX ASPHALT SHOULDER OVERLAY - 2 1/2"
- G. PROPOSED AGGREGATE WEDGE SHOULDER, TYPE B
- H. PROPOSED LONGITUDINAL JOINT SEALANT
- I. PROPOSED STEEL PLATE BEAM GUARDRAIL



PROPOSED TYPICAL SECTION
 STA. 731+00 TO STA. 742+13.42
 STA. 743+55.36 TO STA. 752+12



**DETAIL "A" SHALL BE APPLIED ALONG THE CENTERLINE OF PAVEMENT

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

TYPICAL SECTION

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	111-BR-2	BOND	25	7
CONTRACT NO. 76P50				
ILLINOIS FED. AID PROJECT				

PAVING SCHEDULE

STATION	TO	STATION	NOTES	POLYMERIZED	POLYMERIZED	HOT-MIX	LONGITUDINAL	HOT-MIX	AGGREGATE
				BITUMINCUS MATERIALS (TACK COAT)	HMA SURFACE CSE, IL 9.5, MIX "D",N70	ASPHALT BINDER COURSE, IL 9.5FG, N70	JOINT SEALANT	ASPHALT SHOULDERS 2.75"	WEDGE SHOULDER, TYPE B
				POUND	TON	TON	FOOT	SQ YD	TON
729+62.50	TO	731+00.00	BUTT JOINT	275	31	26	138	122	19
731+00.00	TO	742+12.85		2226	249	208	1113	989	152
742+12.85	TO	743+55.93	STRUCTURE	150	47		149		
743+55.93	TO	752+12.00		1712	192	160	856	761	117
752+12.00	TO	753+49.50	BUTT JOINT	275	31	26	138	122	19
SUB TOTAL				4638	550	419	2393	1995	307

GUARDRAIL

STATION	TO	STATION	NOTES	STEEL PLATE	TRAFFIC	TRAFFIC BARRIER	CONCRETE CURB,	GUARDRAIL	BARRIER WALL
				BEAM GUARDRAIL, TYPE A, 9 FOOT POSTS	BARRIER	TERMINAL, TYPE 1 (SPECIAL) TANGENT	TERMINAL MARKER DIRECT APPLIED	TYPE B (SPECIAL)	REFLECTORS TYPE A
				FOOT	EACH	EACH	FOOT	EACH	EACH
NORTHWEST				215	1	1	15	6	
NORTHEAST				165	1	1	15	6	
STRUCTURE									4
SOUTHEAST				185	1	1	15	6	
SOUTHWEST				215	1	1	15	6	
TOTAL				380	400	4	60	24	4

PAVEMENT MARKING

STATION	TO	STATION	NOTES	THERMOPLASTIC / TEMPORARY		PAVEMENT MARKING	SHORT TERM	PAVEMENT	SHORT TERM	RAISED	RAISED REFLECTIVE
				LINE 4"		REMOVAL -	PAVEMENT	MARKING	PAVEMENT MARKING	REFLECTIVE	RAISED REFLECTIVE
				YELLOW	WHITE	WATER BLASTING	MARKING	BLACKOUT TAPE, 5"	REMOVAL	PAVEMENT MARKER	REMOVAL
				FOOT	FOOT	SQ FT	FOOT	FOOT	SQ FT	EACH	EACH
729+62.50	TO	731+00.00	NO PASSING SB	172	275	149	36		6	2	2
731+00.00	TO	742+12.85	PASSING	278	2226	835	291	56	72	14	14
742+12.85	TO	743+55.00	STRUCTURE	36	284	107	37		6	2	2
743+55.00	TO	752+12.00	PASSING	214	1714	643	224	57	61	11	11
752+12.00	TO	753+49.50	PASSING	34	275	103	36		6	2	2
SUB TOTAL				734	4774	1836	625	113	151	30	30
TOTAL				5508		1836	625	113	151	30	30

PAVED SHOULDER REMOVAL

STATION	TO	STATION	NOTES	PAVED	HOT-MIX
				SHOULDER	ASPHALT
				REMOVAL	SHOULDERS
				SQ YD	TON
STAGE 1					
741+00.00	TO	742+21.72		54	24
742+21.72	TO	743+64.80	STRUCTURE	3	
743+64.80	TO	744+75.00		49	22
STAGE 2					
741+00.00	TO	742+03.98		46	21
742+03.98	TO	743+47.06	STRUCTURE	3	
743+47.06	TO	744+75.00		57	25
TOTAL				212	92

STAGING ITEMS

STATION	TO	STATION	NOTES	TEMPORARY	RELOCATE	IMPACT ATTENUATORS,	IMPACT ATTENUATORS,
				CONCRETE	TEMPORARY CONCRETE	TEMPORARY (FULLY	RELOCATE (FULLY
				BARRIER	BARRIER	REDIRECTIVE, NARROW) TL3	REDIRECTIVE, NARROW) TL3
				FOOT	FOOT	EACH	EACH
741+12.85	TO	744+55.93	STAGE 1	350		2	
741+12.85	TO	744+55.93	STAGE 2		350		2
TOTAL				350	350	2	2

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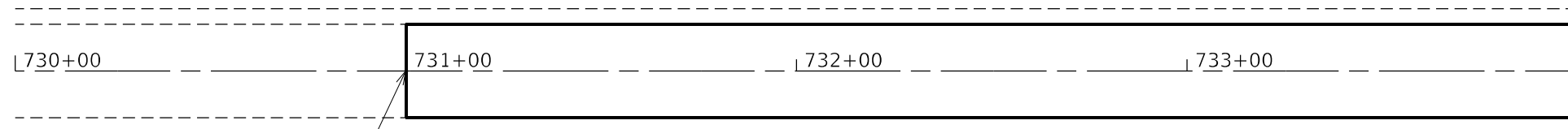
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PLOT DATE = 12/17/2021	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SCHEDULES

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	111-BR-2	BOND	25	8
CONTRACT NO. 76P50				
ILLINOIS FED. AID PROJECT				



BEGIN RESURFACING
STA. 731+00

MATCH LINE STATION 734+00

MATCH LINE STATION 734+00



STA. 739+25
STOP BAR

MATCH LINE STATION 740+00

FOR STAGING LAYOUT, SEE STANDARD 701321

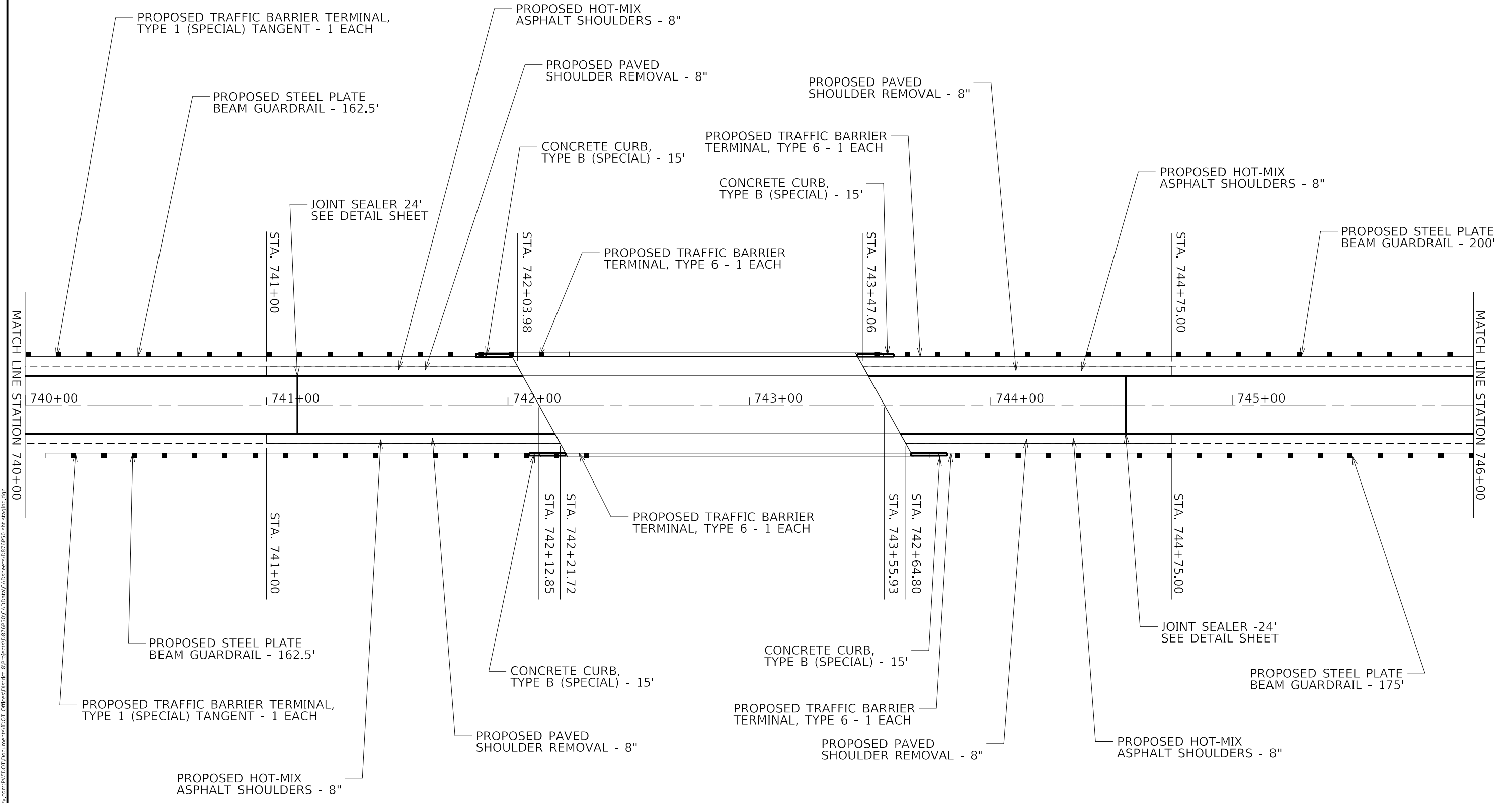
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PLAN VIEW			
SCALE:	SHEET 1	OF 3 SHEETS	STA. TO STA.

F.A.P. RTE. 42	SECTION 111-BR-2	COUNTY BOND	TOTAL SHEETS 25	SHEET NO. 9
			CONTRACT NO. 76M81	
		ILLINOIS FED. AID PROJECT		



FOR STAGING LAYOUT, SEE STANDARD 701321

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PLAN VIEW			
SCALE:	SHEET 2	OF 3	SHEETS
	STA.		TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	111-BR-2	BOND	25	10
CONTRACT NO. 76M81				
ILLINOIS FED. AID PROJECT				



PROPOSED TRAFFIC BARRIER TERMINAL,
TYPE 1 (SPECIAL) TANGENT - 1 EACH

STA. 746+45
STOP BAR

END RESURFACING
STA. 752+12

MATCH LINE STATION 746+00

746+00 747+00 748+00 749+00 750+00 751+00 752+00

PROPOSED TRAFFIC BARRIER TERMINAL,
TYPE 1 (SPECIAL) TANGENT - 1 EACH

FOR STAGING LAYOUT, SEE STANDARD 701321

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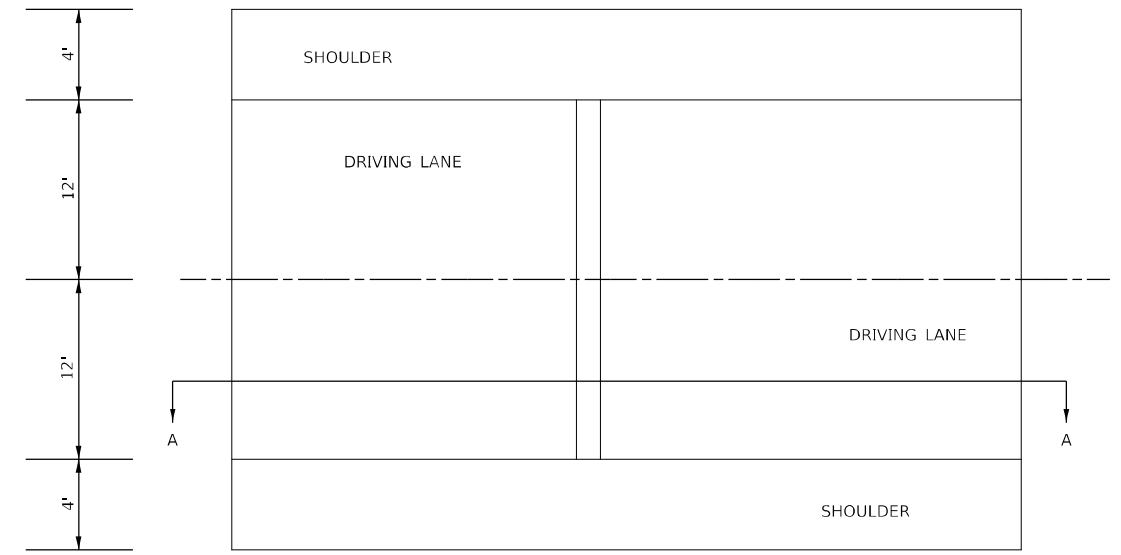
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

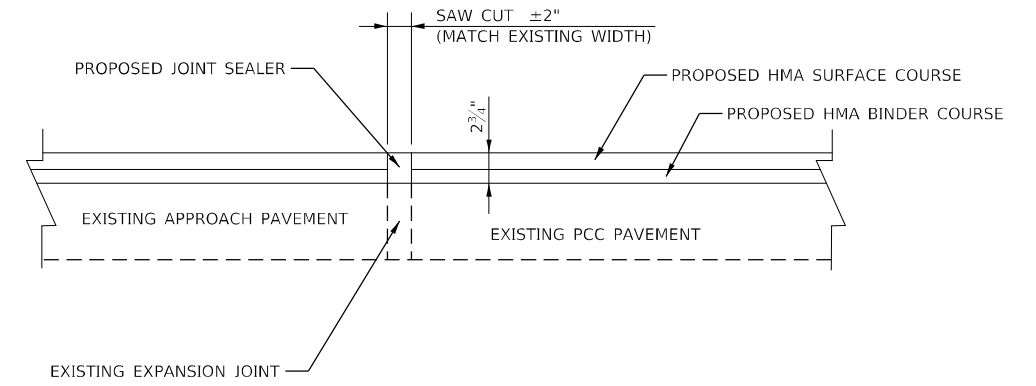
PLAN VIEW

SCALE: SHEET 3 OF 3 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	111-BR-2	BOND	25	11
CONTRACT NO. 76M81				
ILLINOIS FED. AID PROJECT				

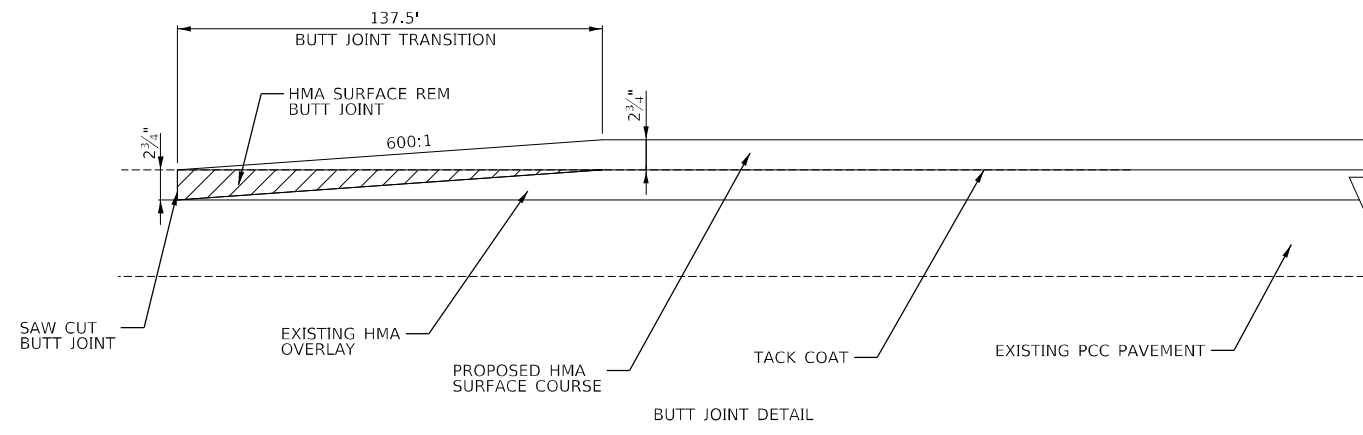


PLAN VIEW



SECTION A-A

EXPANSION JOINT DETAIL
NORTH AND SOUTH JOINTS ARE SIMILAR



BUTT JOINT DETAIL

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PLOT DATE = 12/17/2021	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PAVING DETAILS

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE. 42	SECTION 111-BR-2	COUNTY BOND	TOTAL SHEETS 25	SHEET NO. 12
CONTRACT NO. 76P50				
ILLINOIS FED. AID PROJECT				

Existing Structure: 003-0049 was built in 1980 under contract 33845, FA Route 42, Sec 111 BR.
It is a 3 span continuous wide flange supported on pile bent abutments and pile supported piers.

The deck ends, mudwalls and approach ends shall be removed and replaced solid. Before replacing solid, the beam ends shall be cleaned and painted. The deck shall be patched, and overlaid with waterproofing membrane system and hot-mix asphalt.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Polymerized HMA Surface Course, IL 9.5, Mix "D" N70	Ton	47
Concrete Removal	Cu. Yd.	29.7
Concrete Superstructure	Cu. Yd.	61.3
Reinforcement Bars, Epoxy Coated	Pound	8490
Bar Splicers	Each	68
Waterproofing Membrane System	Sq. Yd.	664
Deck Slab Repair (Partial)	Sq. Yd.	12
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	3
Bridge Deck Concrete Sealer	Sq. Ft.	1127
Longitudinal Joint Sealant	Foot	149
Polymerized Bituminous Material (Tack Coat)	Pound	150
Structural Steel Removal	Pound	2850
Cleaning and Painting Steel Bridge No. 1	L. Sum	1
Containment & Disposal of Non-Lead Paint	L. Sum	1
Cleaning Residues No. 1	L. Sum	1
Paved Shoulder Removal	Sq. Yd.	6
Earth Excavation	Cu. Yd.	2
Floor Drains	Each	6
Structural Repair of Concrete (Depth equal to or less than 5 inches)	Sq. Ft.	100

GENERAL NOTES

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 qualified personnel approved by the Engineer.

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

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". After removal of deck ends and end diaphragms, but prior to encasement of the steel beams, all beams, bearings and other structural steel within 5' (measured along the beam) of the deck joints and the fascia beams shall be cleaned per Near White Blast Cleaning- SSPC-SP10.

The designated areas cleaned per Near White Blast Cleaning and per Commercial Grade Power Tool Cleaning shall be painted according to the requirements of paint system 1- 0Z/E/U. The color of the final finish coat for all steel surfaces shall be Reddish Brown (Munsell No. 2.5 YR 3/4).

Containment of cleaning residue is required to control nuisance dust. See special provisions for Containment and Disposal of Non-Lead Paint Cleaning Residues.

SSPC QP1 Certification is required for this Contract.

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

The quantities for Deck Slab Repairs (Partial Depth) and Deck Slab Repair (Full Depth Type 1) are estimated. Size of patches and locations will be determined by the Engineer in the field during construction and must be documented in the AS BUILT plans.

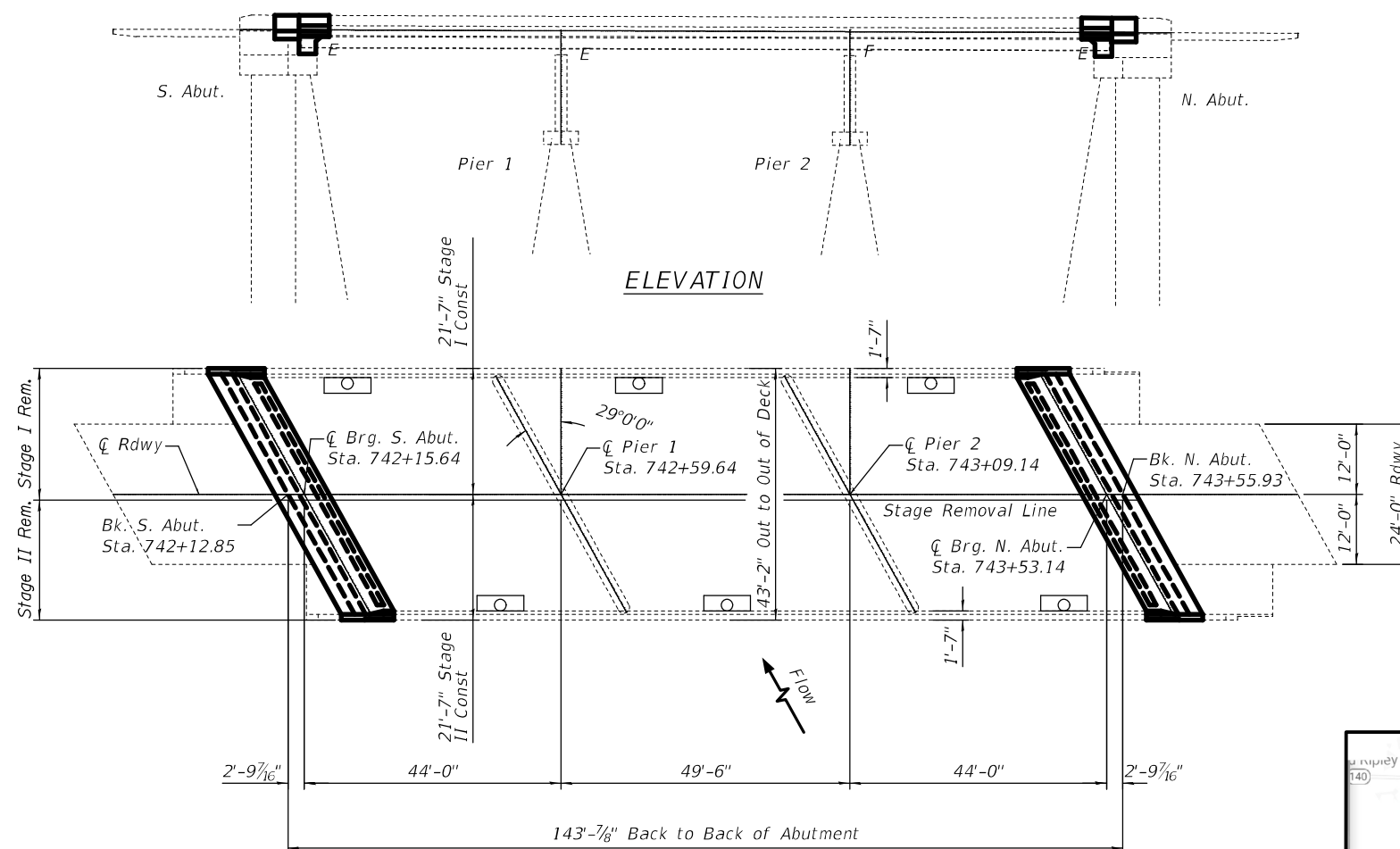
The bridge HMA is calculated based on 1 1/4" excluding 3/4" for WMS.

Bridge deck concrete sealer shall be placed on top/inside faces of (parapets & curbs) (full length).

Repairs shall be made to the abutment bearing seats using Formed Concrete Repairs.

SHEET INDEX

- 1) General Plan and Elevation
- 2) Deck Section
- 3) Joint Removal & Replacement (S. Abut.)
- 4) Joint Removal & Replacement (N. Abut.)
- 5) X-Sec (S. Appr. Removal & Replacement)
- 6) X-Sec (N Appr. & Shld Appr. Removal & Replacement)
- 7) Existing Joint & Waterproofing Staging Details
- 8) Proposed Joint Details
- 9) Diaphragms at Abutments
- 10) Drain Details
- 11) Temporary Concrete Barrier
- 12) Bar Splicers
- 13) For Information Only - Existing Abutments



ELEVATION

PLAN

FLOOR DRAIN REPLACEMENT



(6 Req'd)

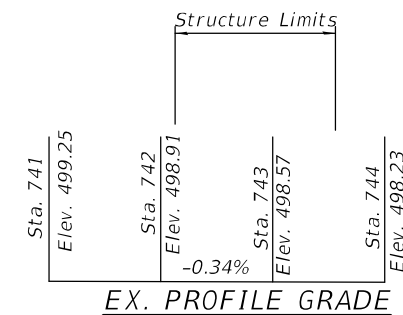
Existing drains & adjacent concrete to be removed and replaced with 6" circular drains and full depth patch. (See sheet 10 of 13 for details)



Expires 11-30-2022
01/27/2022



LOCATION SKETCH



EX. PROFILE GRADE

**DESIGN STRESSES
FIELD UNITS**

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

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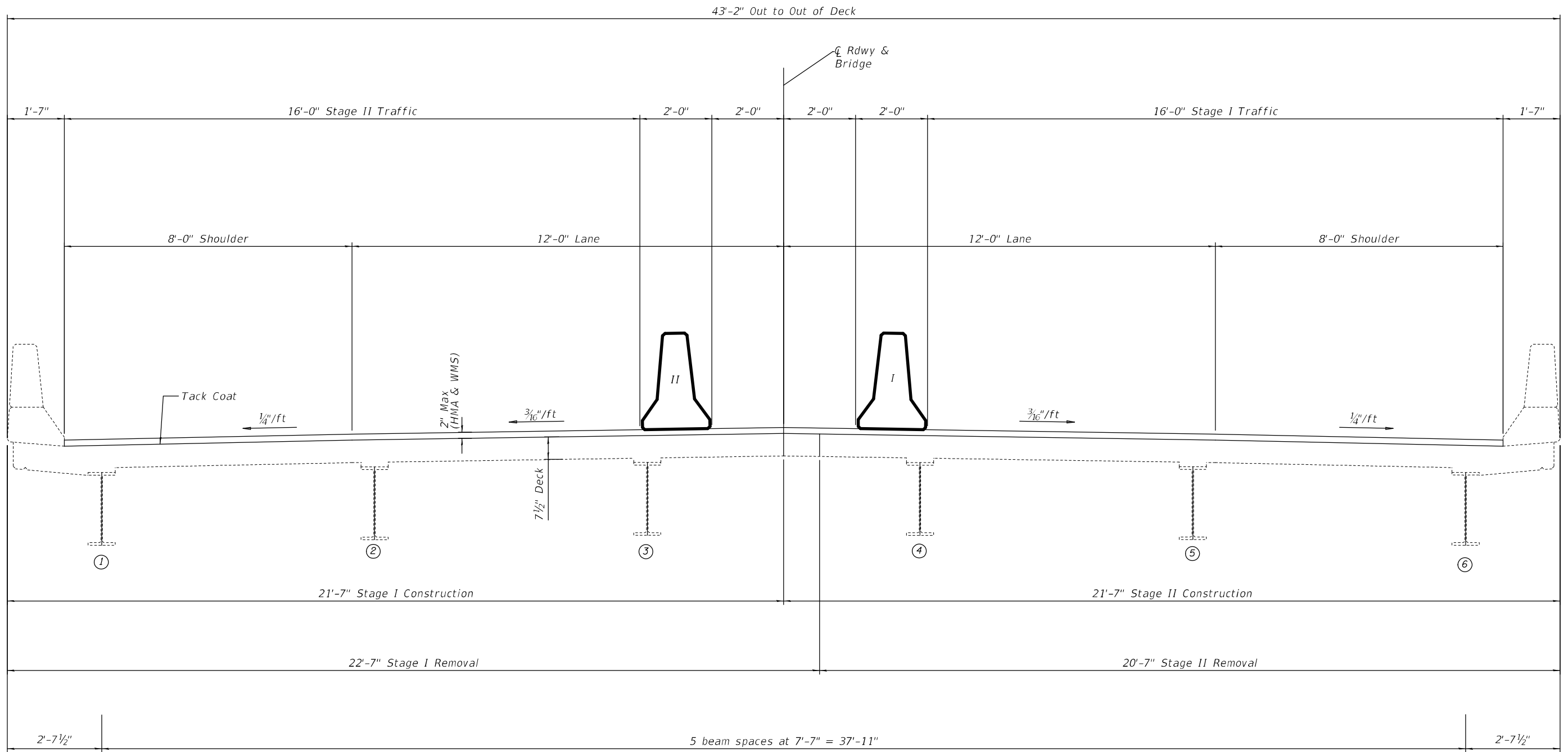
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN & ELEVATION (IL 127 over Little Beaver Creek)
SN 003-0049**

SCALE: SHEET 1 OF 13 SHEETS STA. TO STA.

F.A.P. RTE. 42	SECTION 111-BR-2	COUNTY BOND	TOTAL SHEETS 25	SHEET NO. 13
CONTRACT NO. 76P50			ILLINOIS FED. AID PROJECT	



DECK SECTION AWAY FROM ABUTMENTS

(Looking North)

Note:

A tack coat, per Section 406, with a residual asphalt rate of 0.025 lb/ sq ft should be placed on top of the 1/2" thick Asphalt Sand Seal Protection Layer of the Waterproofing Membrane System, before the HMA surfacing is placed.

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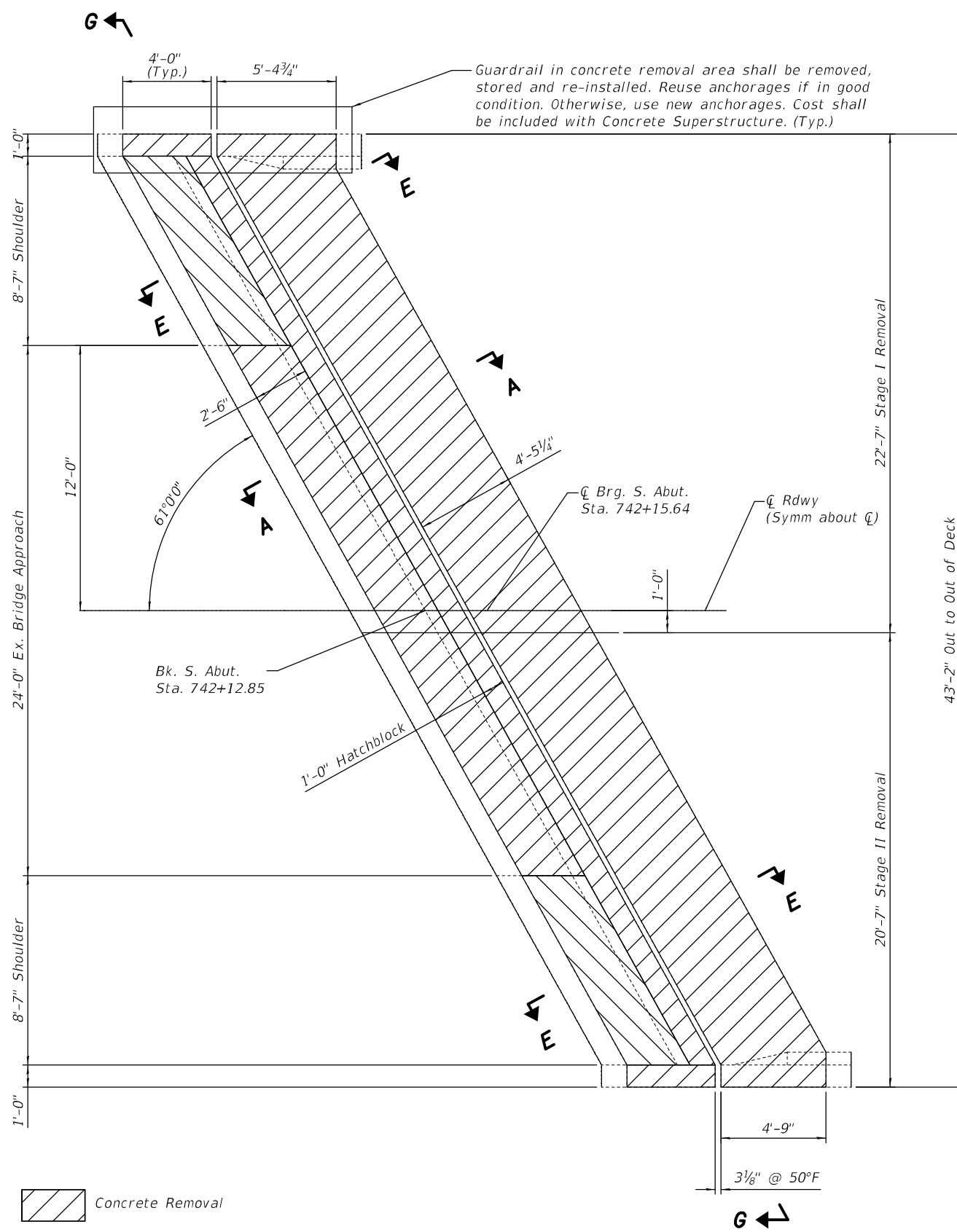
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DECK CROSS SECTION
SN 003-0049**

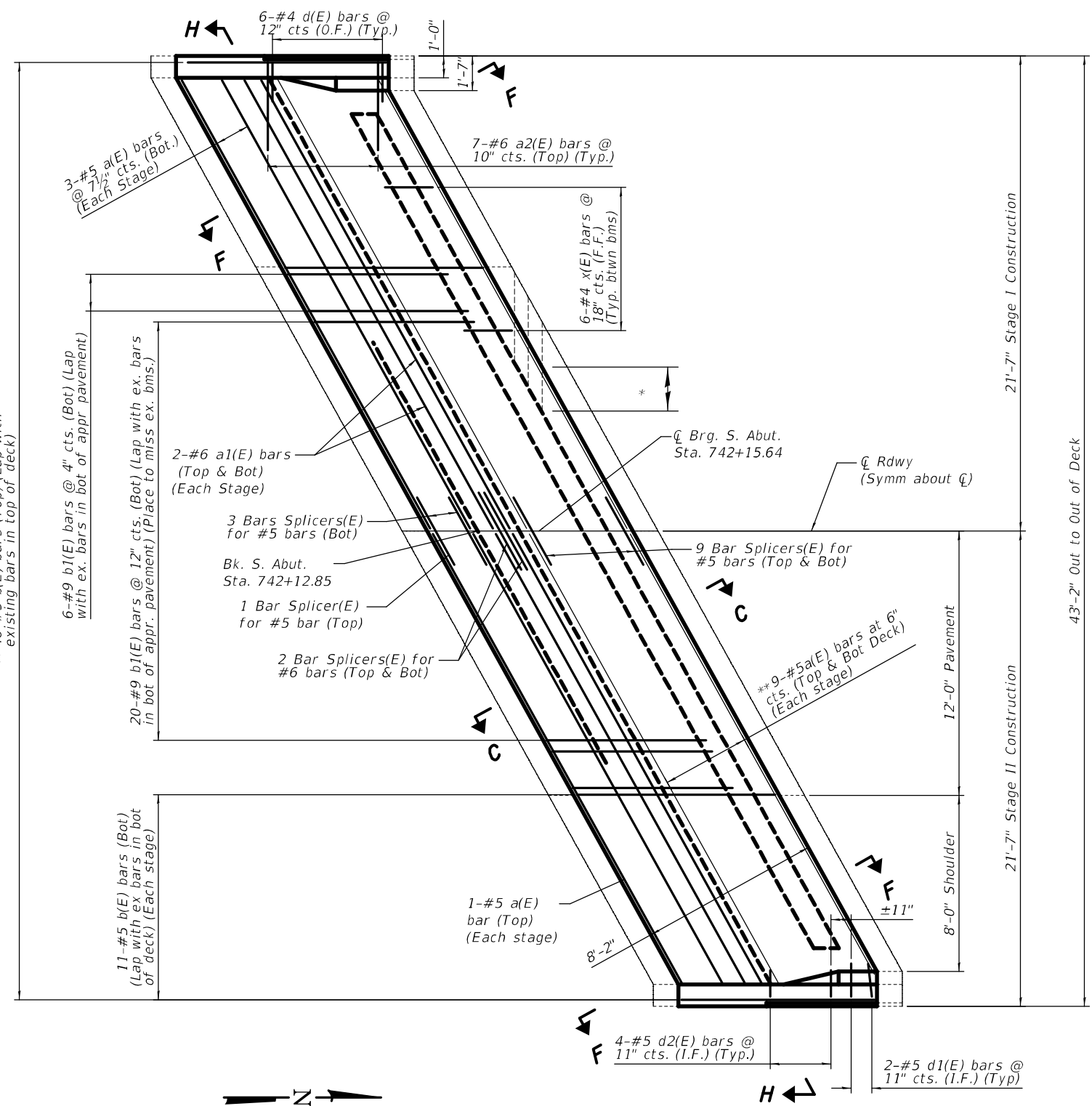
SCALE: SHEET 2 OF 13 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	111-BR-2	BOND	25	14
CONTRACT NO. 76P50				
ILLINOIS FED. AID PROJECT				



- Concrete Removal
- Paved Shoulder Removal
(Earth Excavation below Shoulder)

CONCRETE REMOVAL



CONCRETE REPLACEMENT

Note:
 See sheet 7 of 13 for Bill of Material & Sections A-A, B-B & E-E.
 See sheet 8 of 13 for Sections C-C & F-F.
 See sheet 5 of 13 for Sections G-G & H-H.

* Existing transverse bars extending from deck into removed area shall be cut allowing 2'-0" to extend into the removed area. In addition, these bars shall be cleaned, straighten, and incorporated into the new construction.

** Cut to fit if necessary

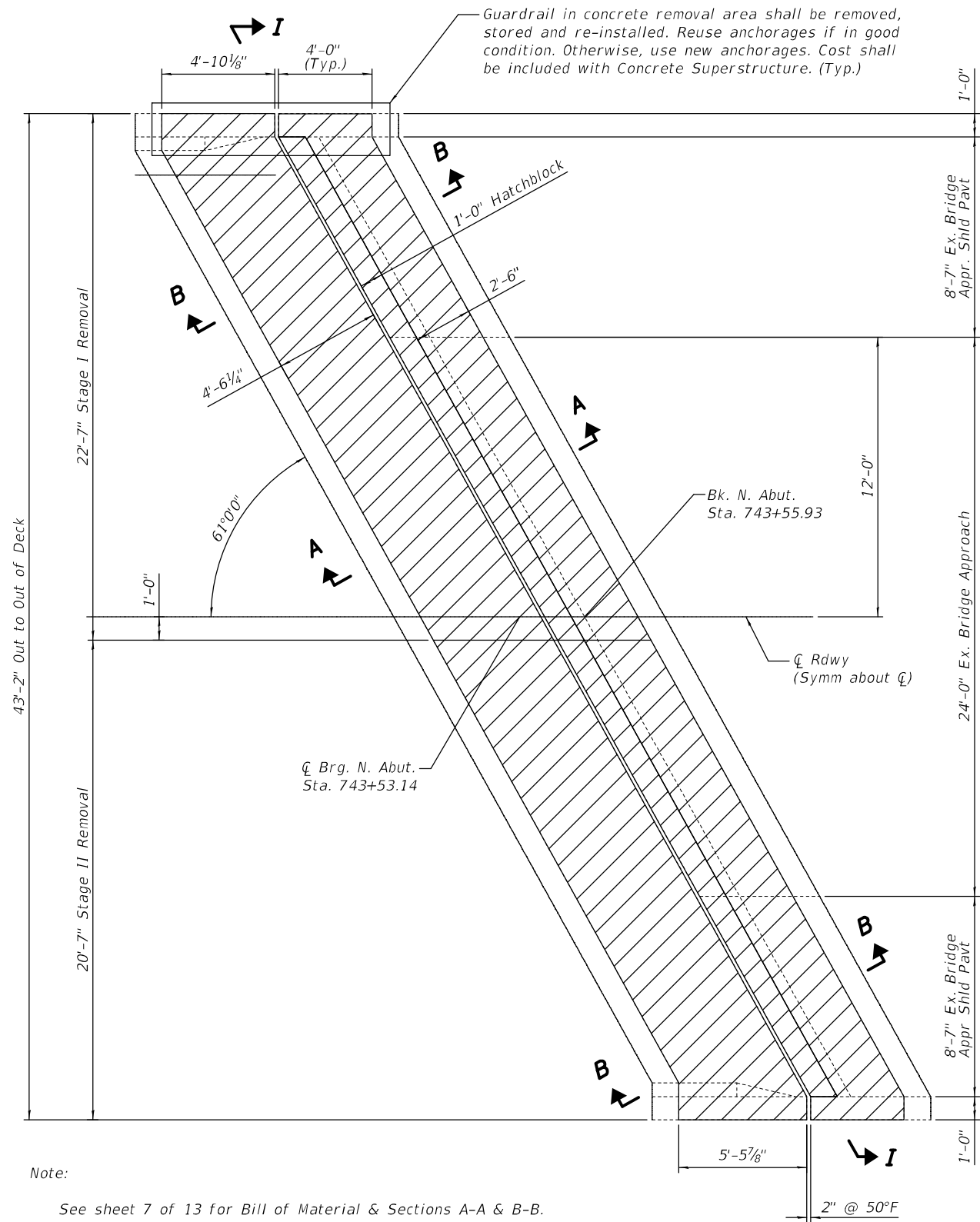
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PLOT DATE = 1/24/2022	DATE -	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

JOINT REMOVAL & REPLACEMENT (S. Abut.)			
SN 003-0049			
SCALE:	SHEET 3	OF 13 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	111-BR-2	BOND	25	15
CONTRACT NO. 76P50				
ILLINOIS FED. AID PROJECT				



Note:

See sheet 7 of 13 for Bill of Material & Sections A-A & B-B.

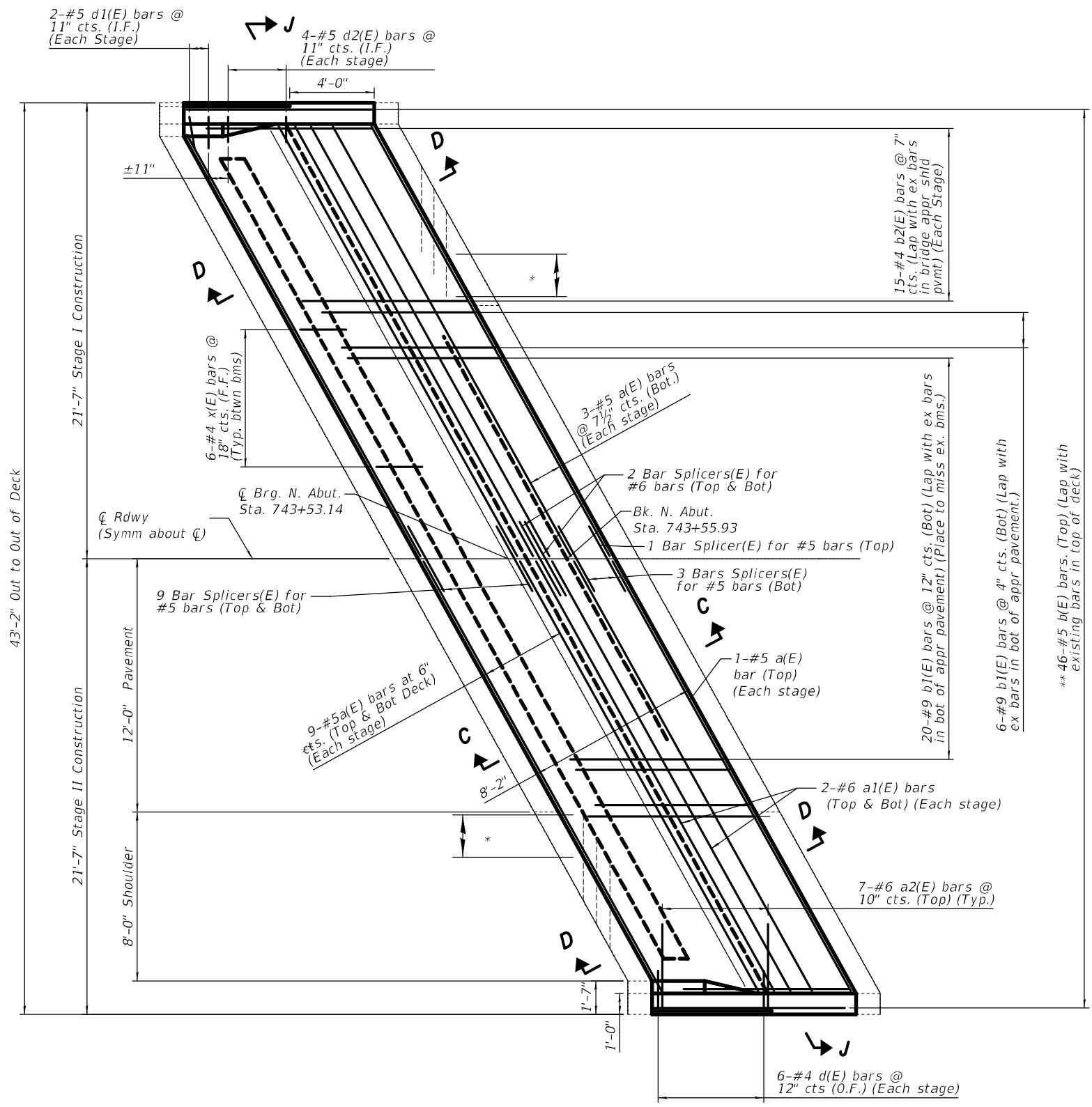
See sheet 8 of 13 for Sections C-C & D-D.

See sheet 6 of 13 for Sections I-I & J-J.

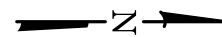
* Existing transverse bars extending from deck or Bridge Appr Shld Pvmt into removed area shall be cut allowing 2'-0" to extend into the removed area. In addition, these bars shall be cleaned, straighten, and incorporated into the new construction.

** Cut to fit if necessary

CONCRETE REMOVAL



CONCRETE REPLACEMENT



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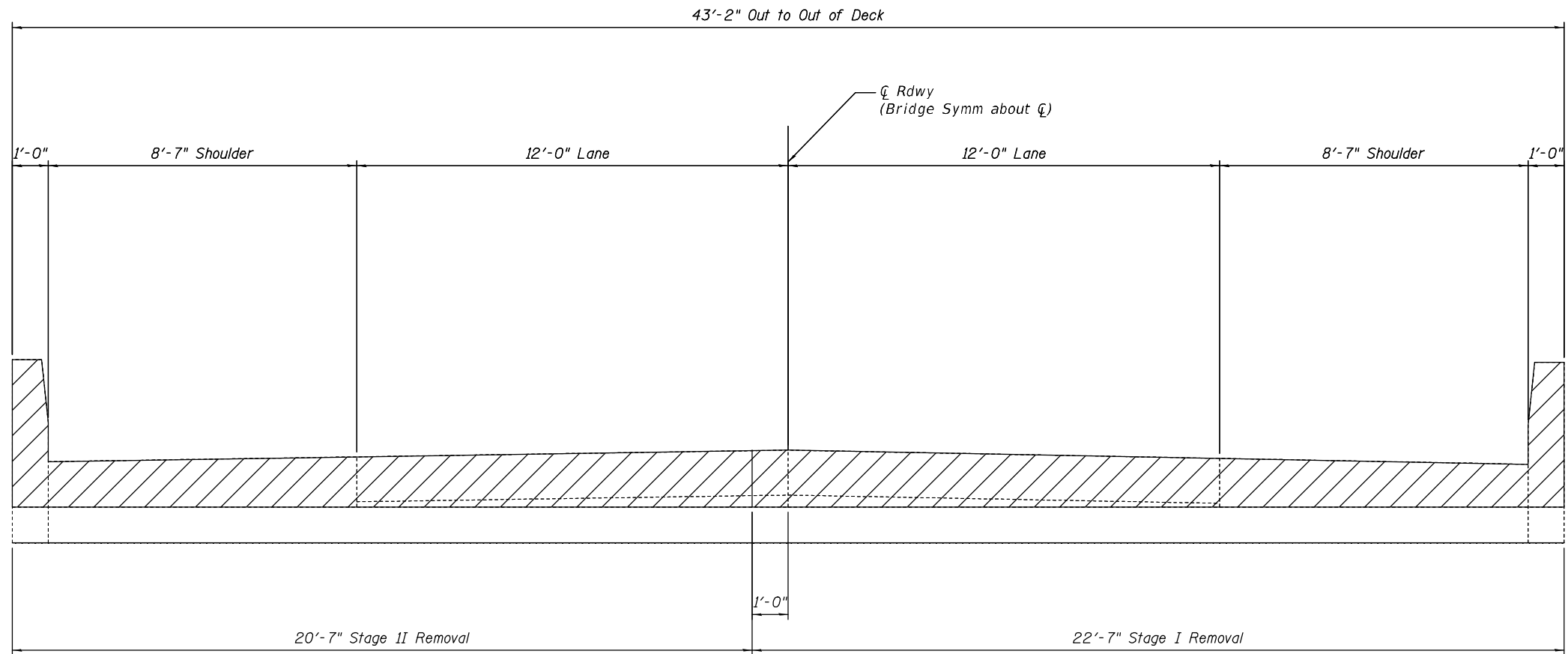
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

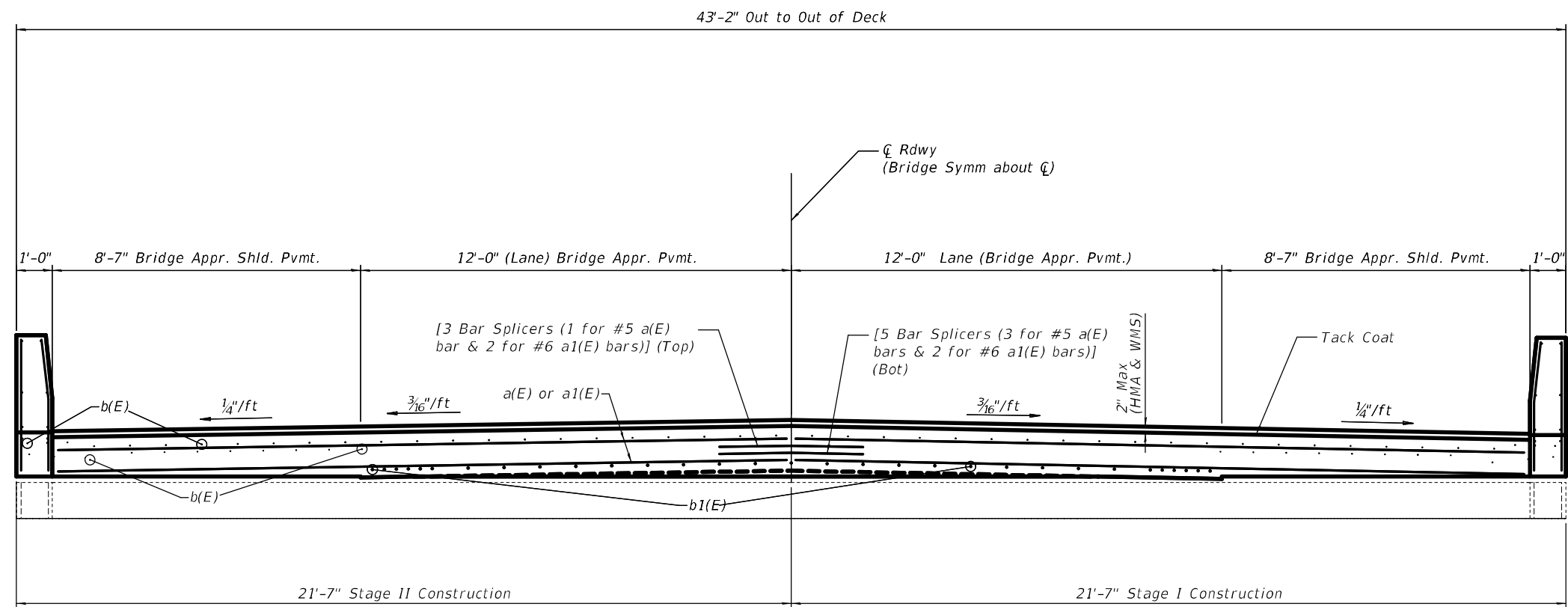
**JOINT REMOVAL & REPLACEMENT (N. Abut.)
SN 003-0049**

SCALE: SHEET 4 OF 13 SHEETS STA. TO STA.

F.A.P. RTE. 42	SECTION 111-BR-2	COUNTY BOND	TOTAL SHEETS 25	SHEET NO. 16
ILLINOIS FED. AID PROJECT			CONTRACT NO. 76P50	



SECTION G-G



SECTION H-H

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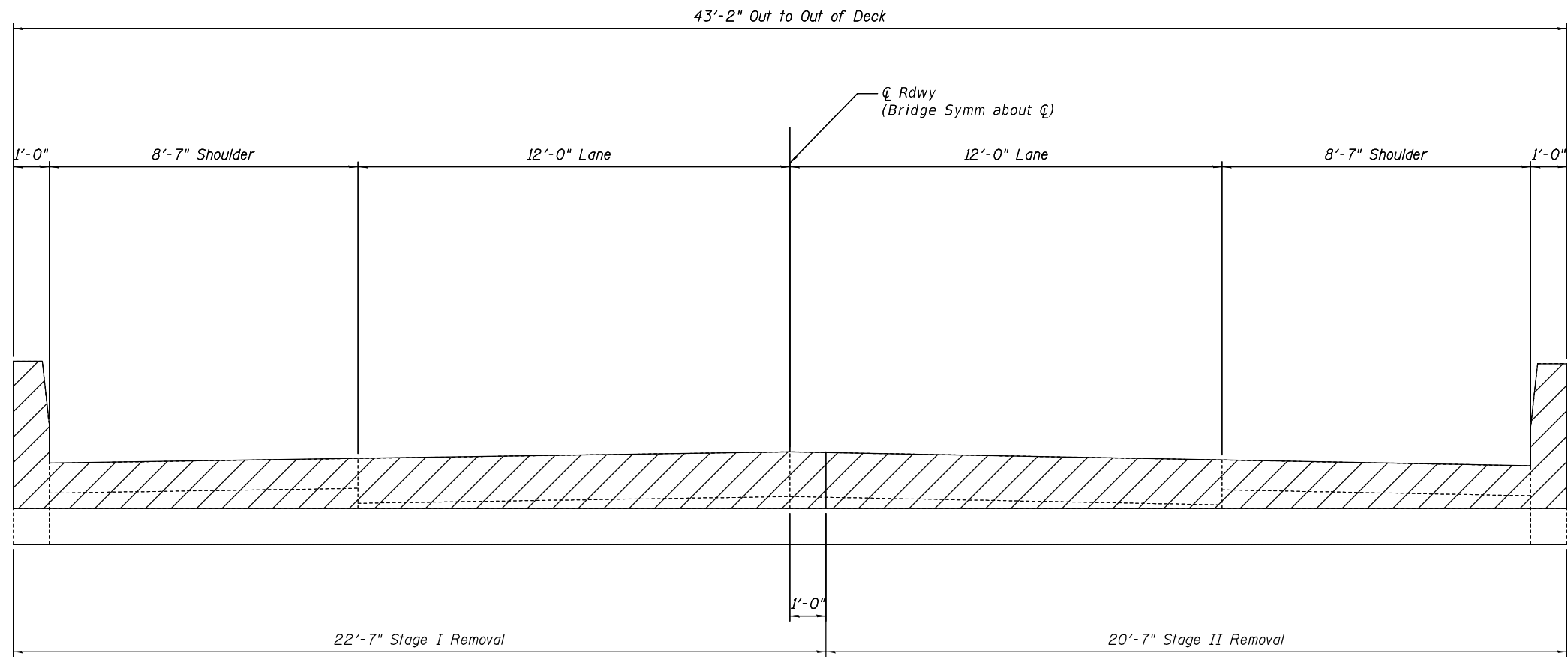
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

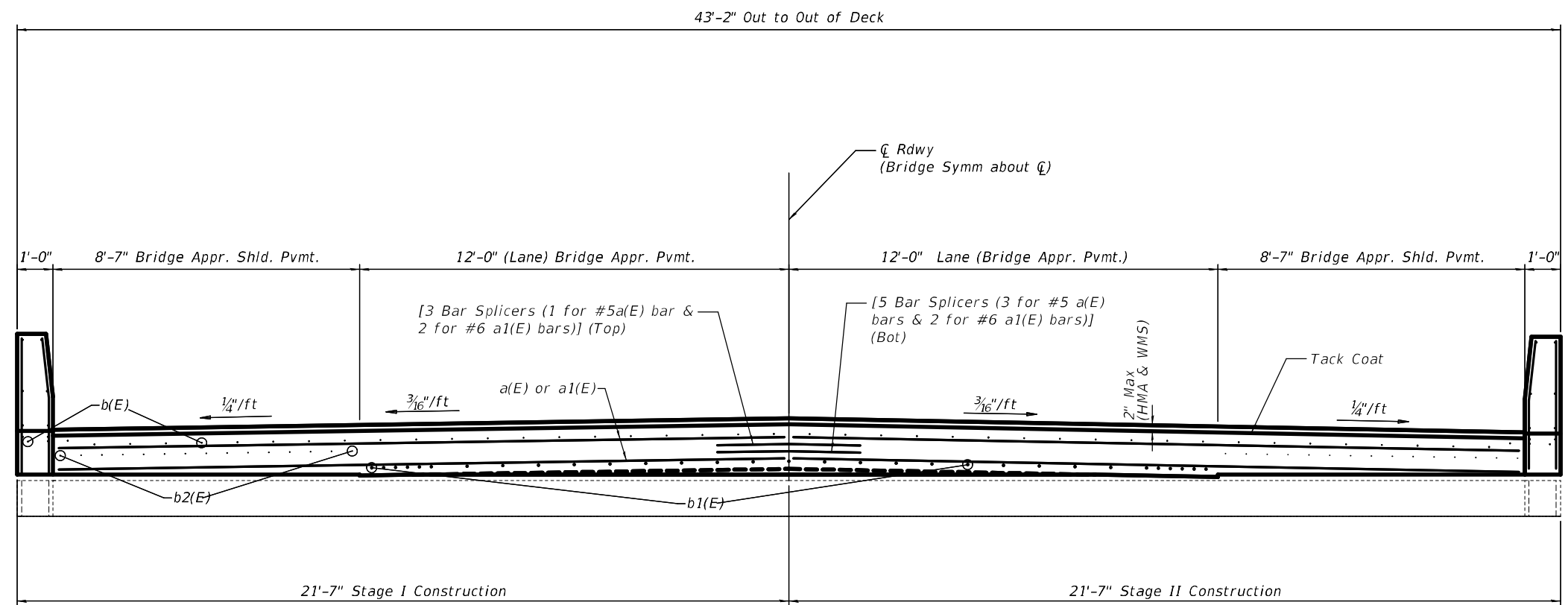
**CROSS SECTION (S. Approach Removal & Replacement)
SN 003-0049**

SCALE: SHEET 5 OF 13 SHEETS STA. TO STA.

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42	111-BR-2	BOND	25	17
CONTRACT NO. 76P50				
ILLINOIS FED. AID PROJECT				



SECTION I-I



SECTION J-J

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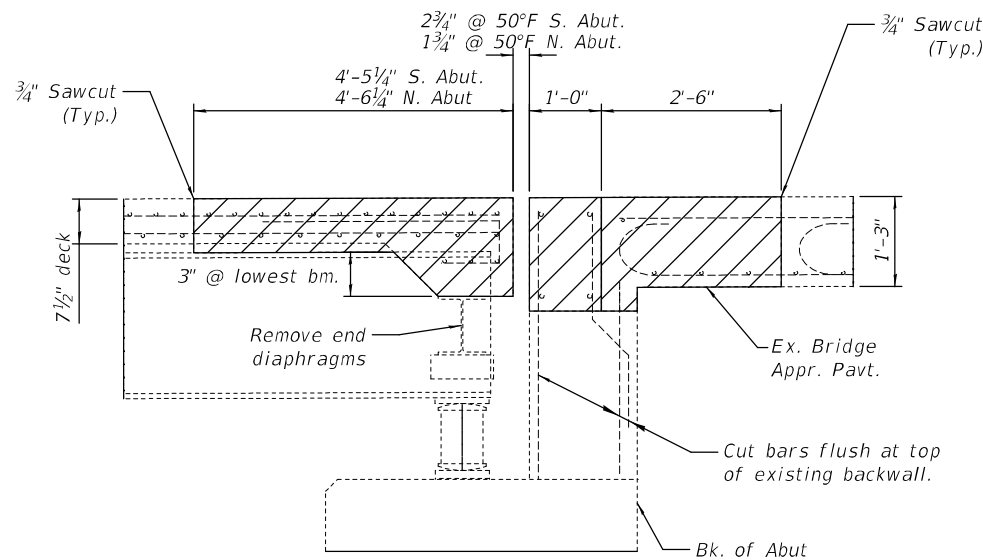
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

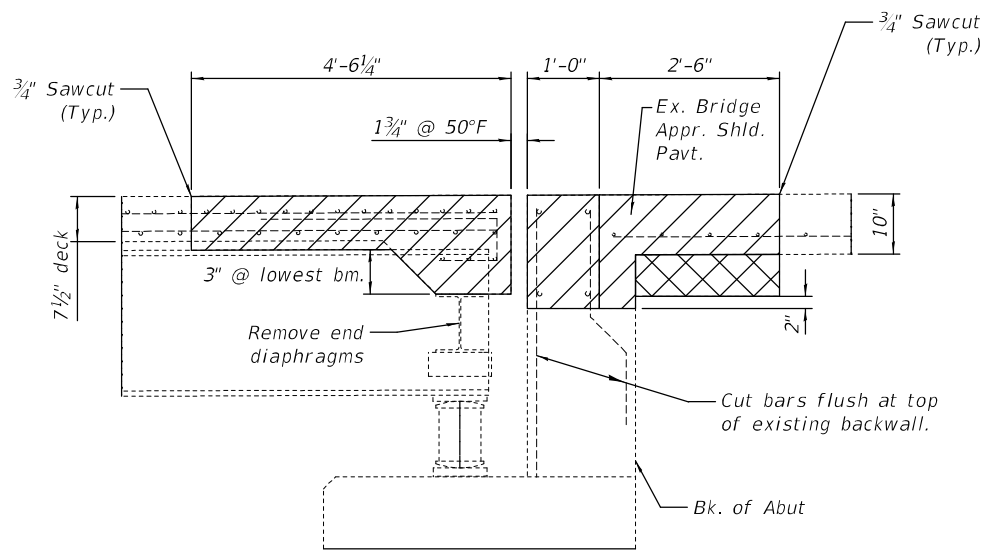
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SN 003-0049

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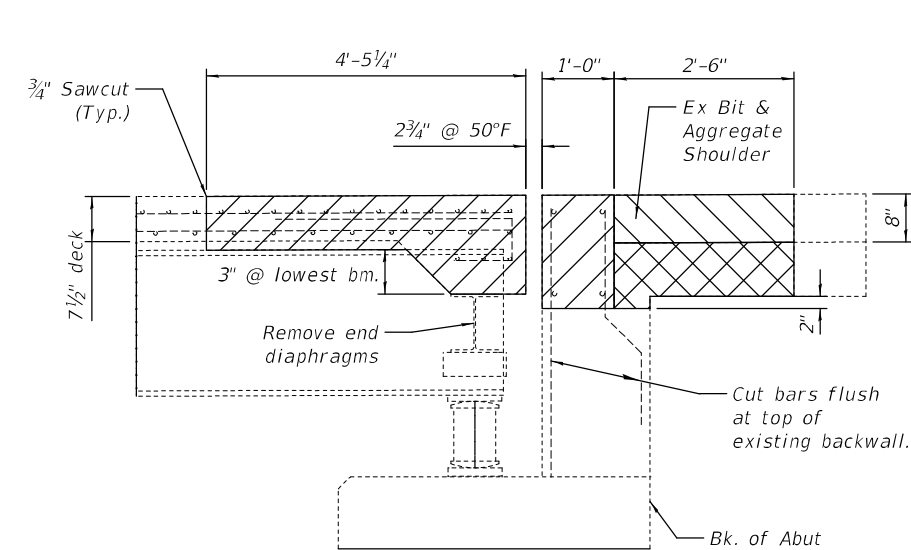
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CONTRACT NO. 76P50				
ILLINOIS FED. AID PROJECT				



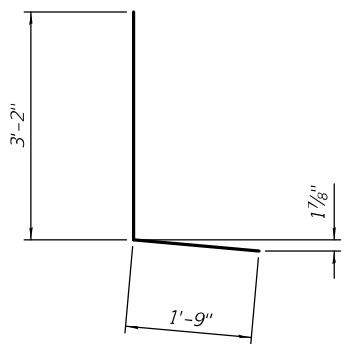
SECTION A-A



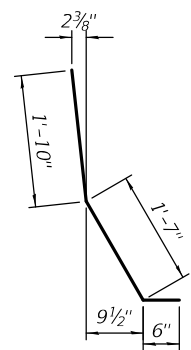
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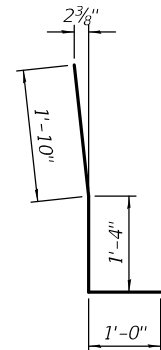
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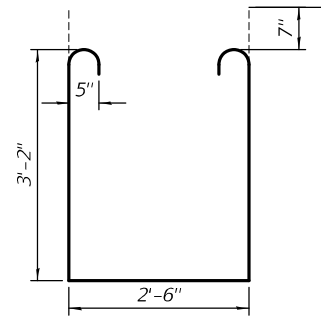
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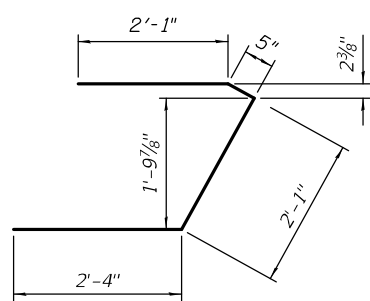
BAR d1(E)



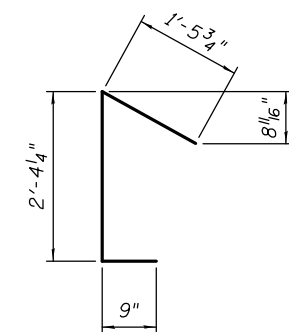
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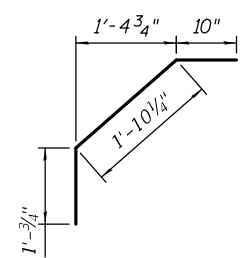
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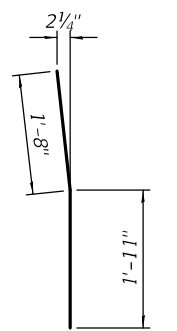
BAR u(E)



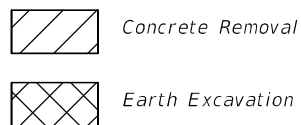
BAR u1(E)



BAR x(E)

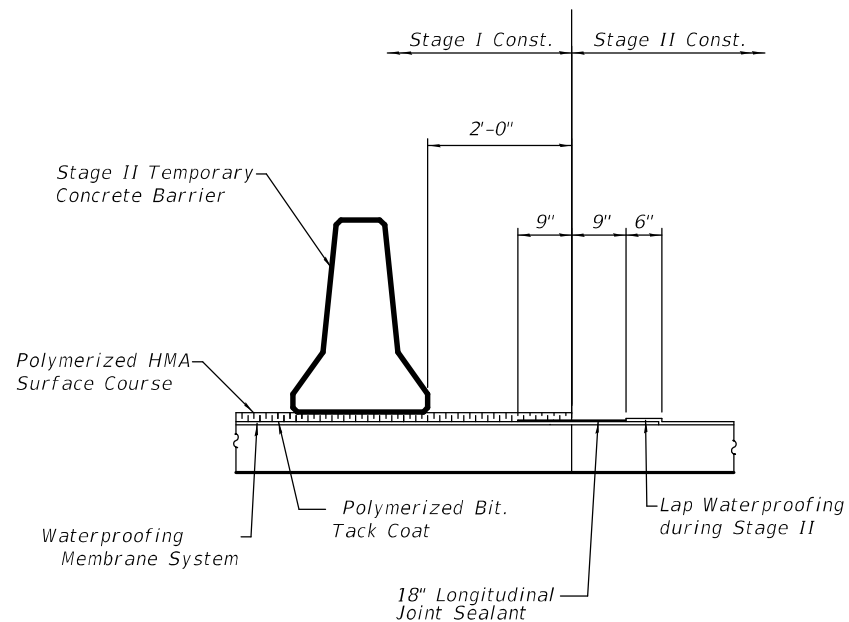


BAR v1(E)



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	88	#5	23'-3"	▬
a1(E)	16	#6	23'-3"	▬
a2(E)	28	#6	4'-0"	▬
b(E)	114	#5	9'-0"	▬
b1(E)	64	#9	7'-3"	▬
b2(E)	30	#4	7'-10"	▬
d(E)	24	#4	4'-11"	└┘
d1(E)	8	#5	3'-11"	└┘
d2(E)	16	#5	4'-2"	└┘
m(E)	56	#6	8'-0"	▬
m1(E)	4	#6	22'-6"	▬
s(E)	88	#5	10'-0"	┌┐
u(E)	6	#6	6'-11"	└┘
u1(E)	6	#6	4'-7"	└┘
v(E)	110	#8	1'-8"	▬
v1(E)	16	#6	3'-7"	▬
v2(E)	16	#6	3'-7"	▬
x(E)	60	#4	3'-9"	└┘
Concrete Removal			Cu. Yd.	29.7
Concrete Superstructure			Cu. Yd.	61.3
Reinforcement Bars, Epoxy Coated			Pound	8490
Paved Shoulder Removal			Sq. Yd.	6
Earth Excavation			Cu. Yd.	2



WATERPROOFING STAGING

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EXISTING JOINT & WATERPROOFING STAGING DETAILS
SN 003-0049**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	111-BR-2	BOND	25	19

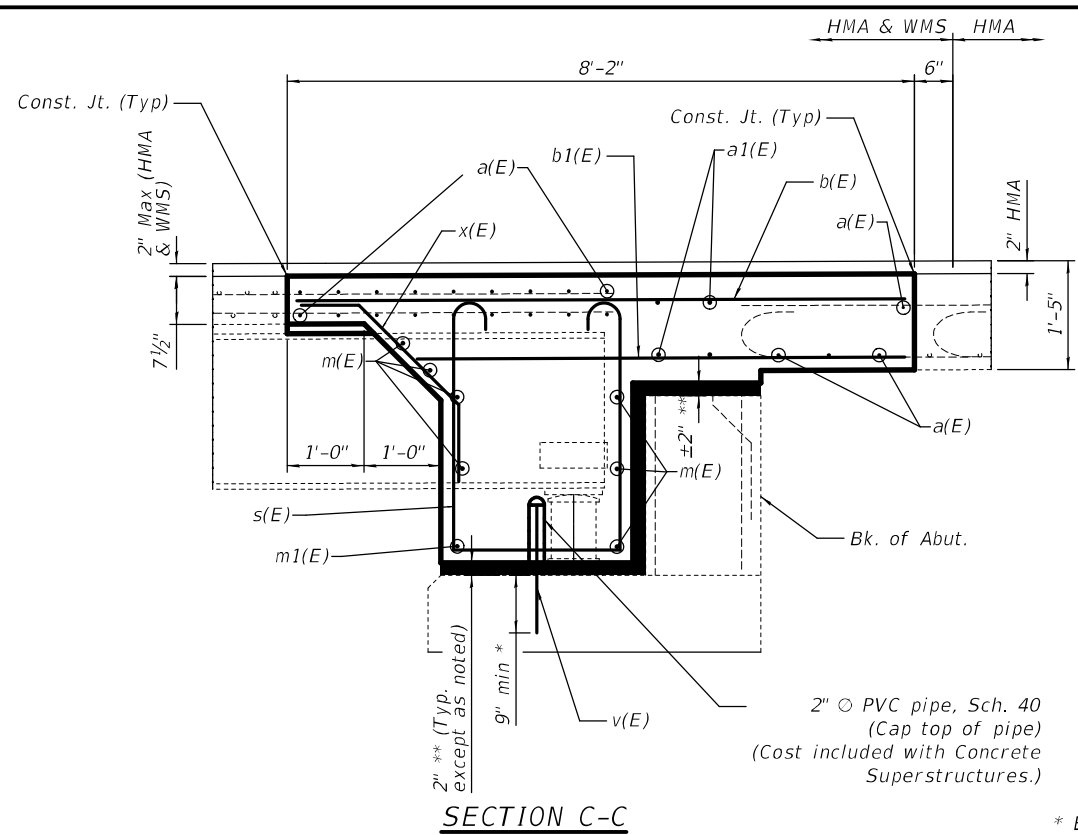
CONTRACT NO. 76P50

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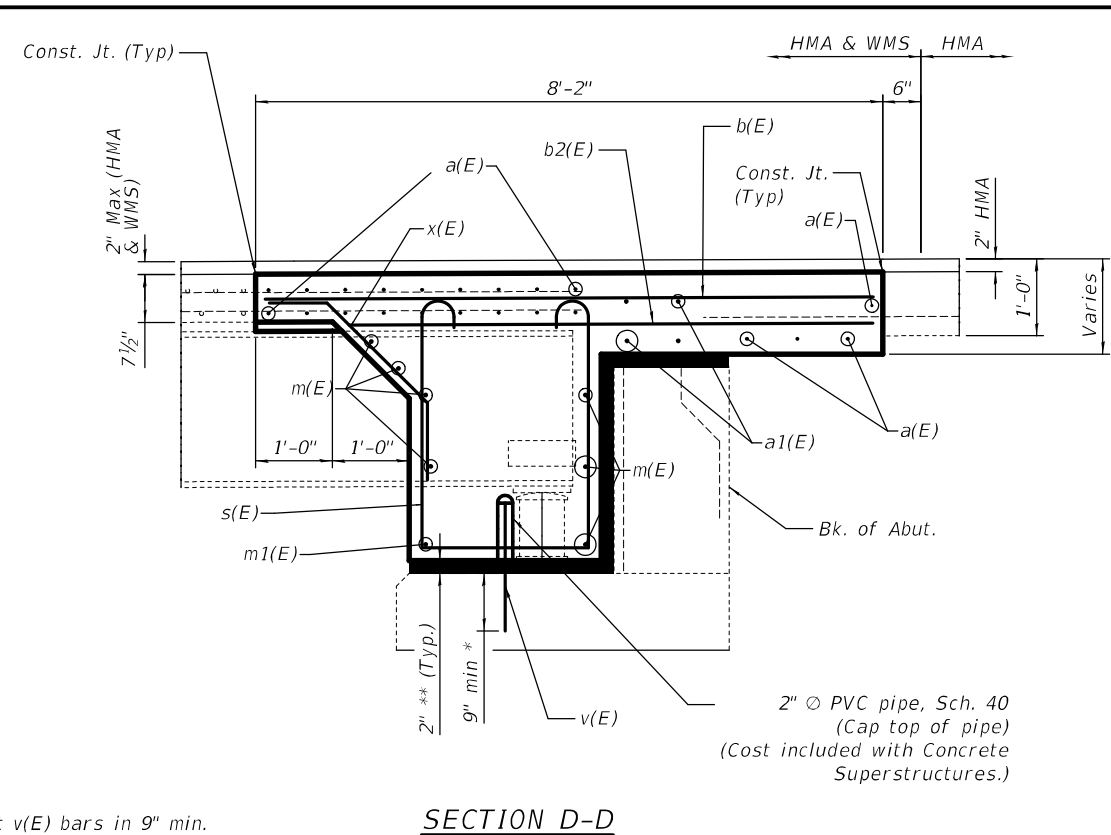
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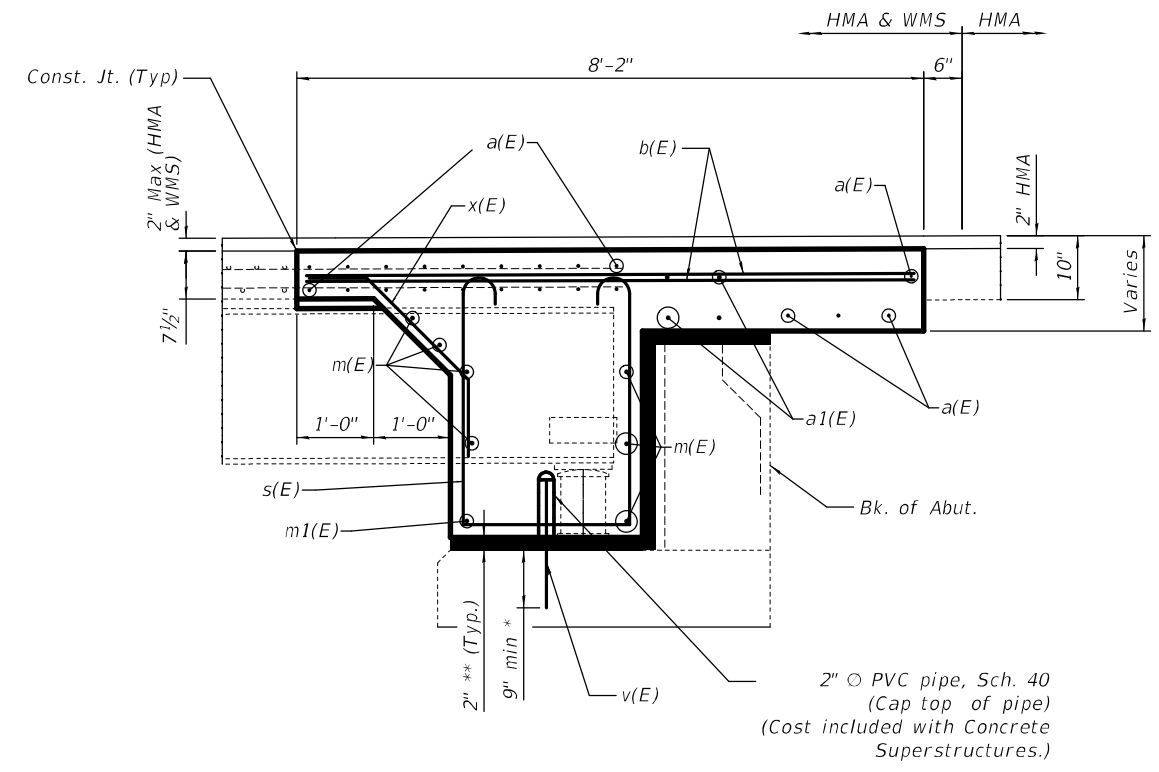
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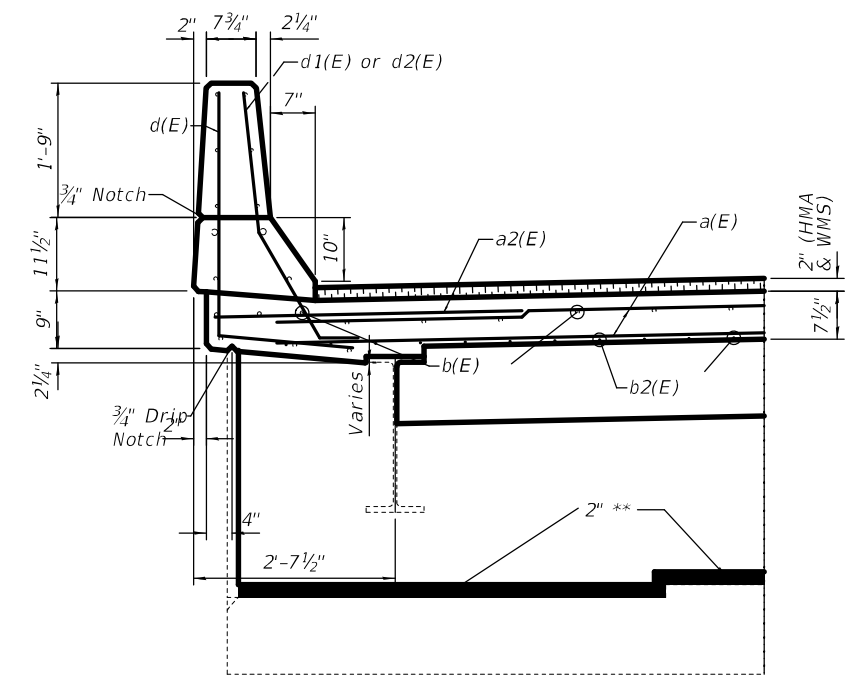
SECTION C-C



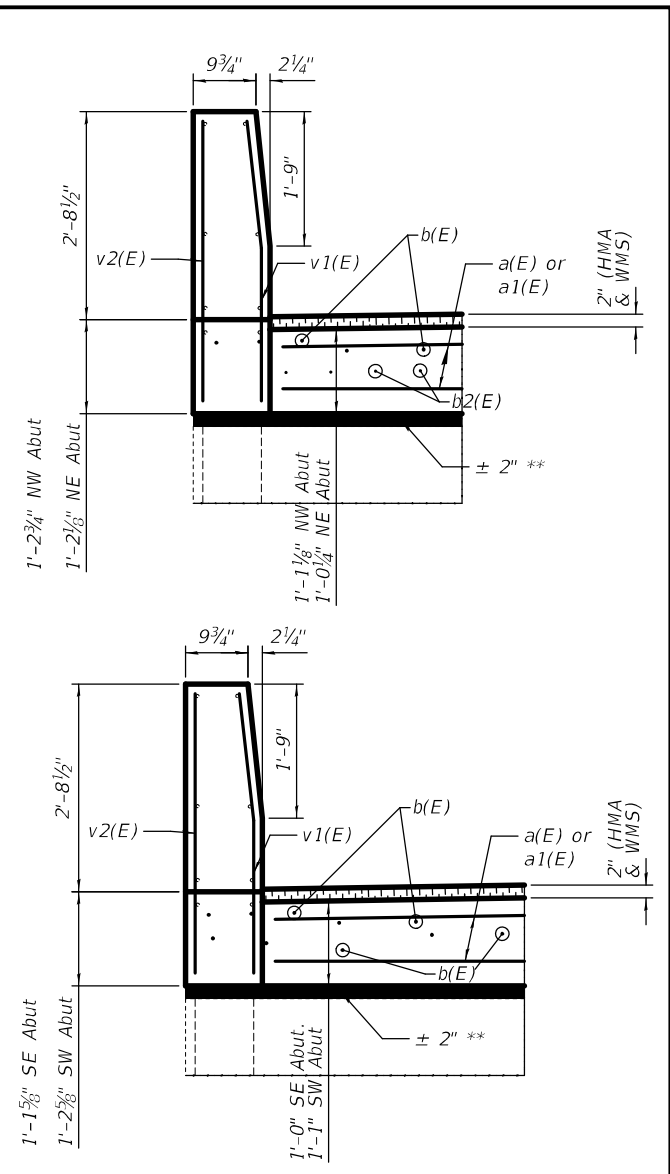
SECTION D-D
(@ N. Abut.)



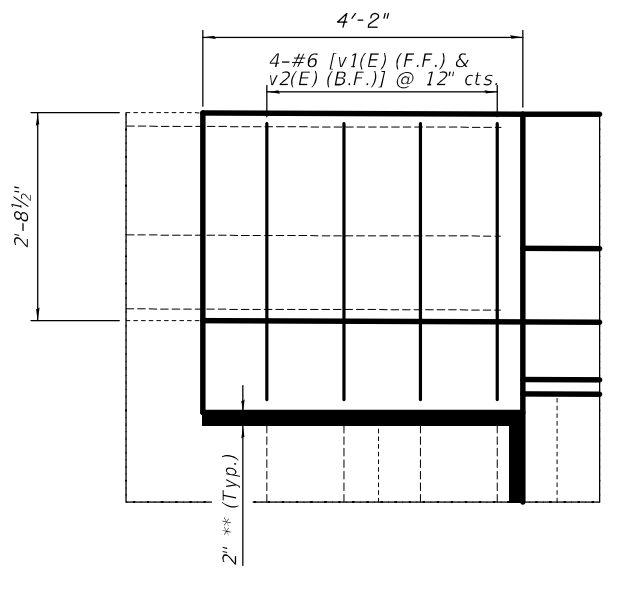
SECTION F-F
(@ S. Abut.)



PARAPET SECTION



WINGWALL SECTIONS



WINGWALL ELEVATION
(S.E. & N.W. corner shown, S.W. & N.E. corner similar)

* Epoxy grout v(E) bars in 9" min. holes according to Article 584 of the Standard Specifications. (Cost included with Concrete Superstructures.)

** 2" Preformed Flexible Foam Expansion Joint Filler. (Cost included with Concrete Superstructure.)

2" Ø PVC pipe, Sch. 40
(Cap top of pipe)
(Cost included with Concrete Superstructures.)

2" Ø PVC pipe, Sch. 40
(Cap top of pipe)
(Cost included with Concrete Superstructures.)

2" Ø PVC pipe, Sch. 40
(Cap top of pipe)
(Cost included with Concrete Superstructures.)

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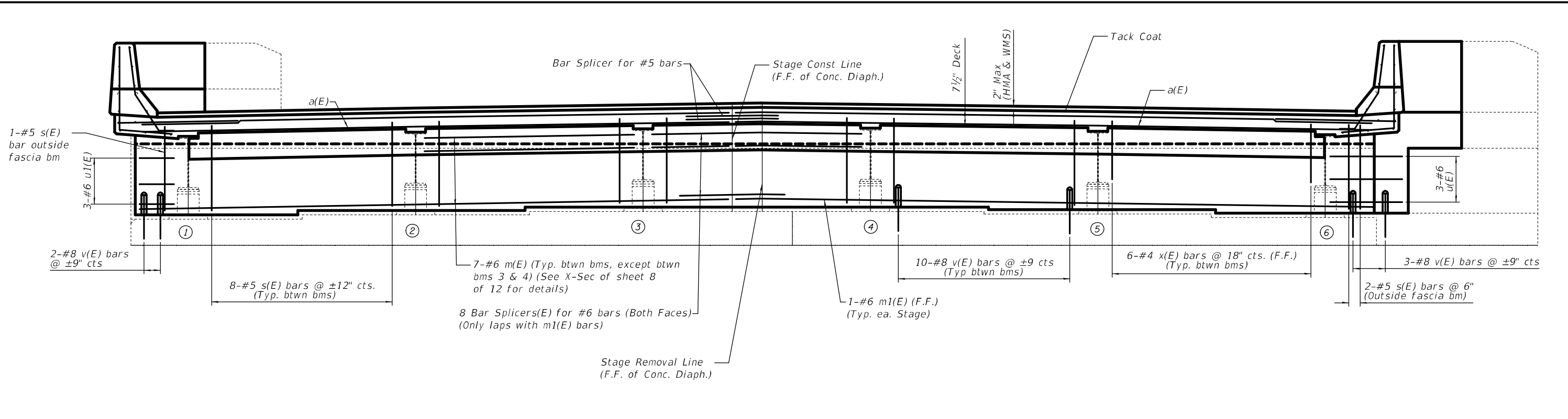
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

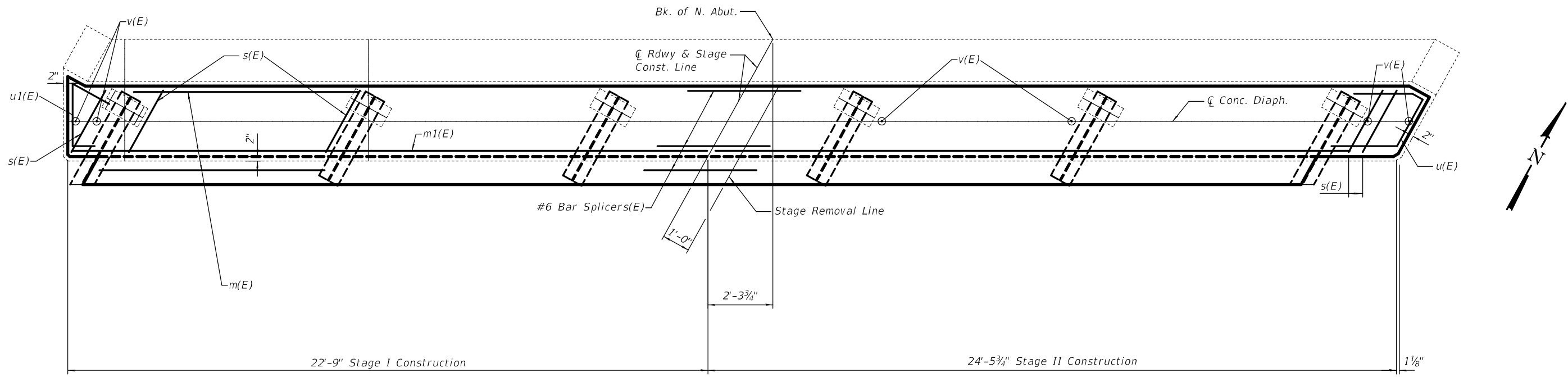
**PROPOSED JOINT DETAILS
SN 003-0049**

SCALE: SHEET 8 OF 13 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	111-BR-2	BOND	25	20
CONTRACT NO. 76P50				
ILLINOIS FED. AID PROJECT				



N. ABUT DIAPHRAGM (Looking North)
 South Abutment Similar (Measured parallel to Abutment)



PLAN VIEW THRU DIAPHRAGM
 (N. Abutment shown, S. Abutment similar)

MODEL: 0030049-76P50-009
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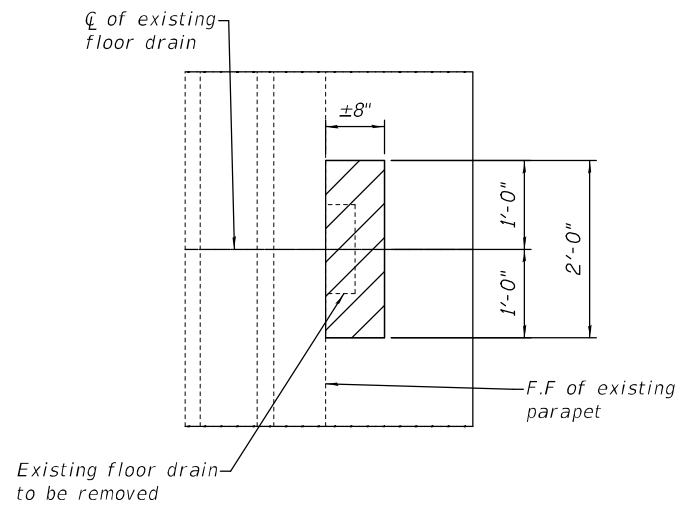
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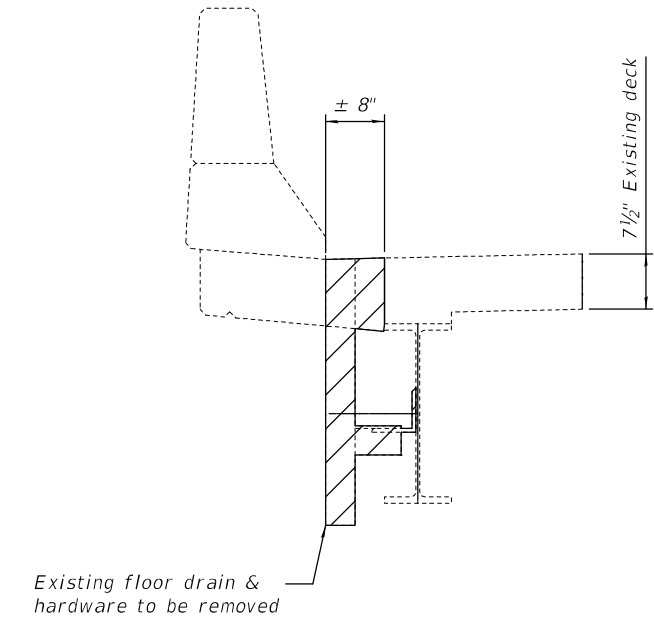
DIAPHRAGMS AT ABUTMENTS			
SN 003-0049			
SCALE:	SHEET 9 OF 13 SHEETS	STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76P50				
ILLINOIS FED. AID PROJECT				

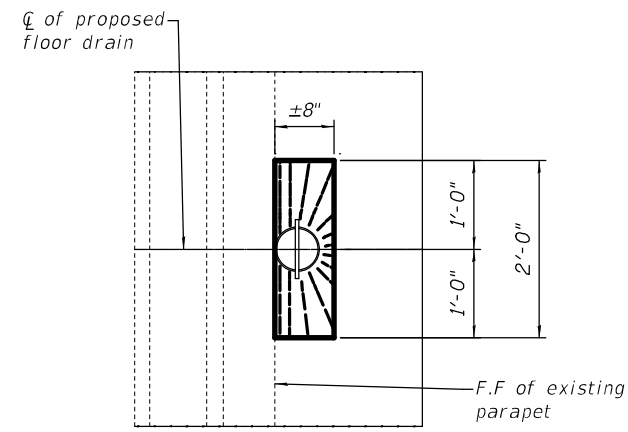
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PLAN-REMOVAL OF EXISTING FLOOR DRAIN AND ADJACENT CONCRETE



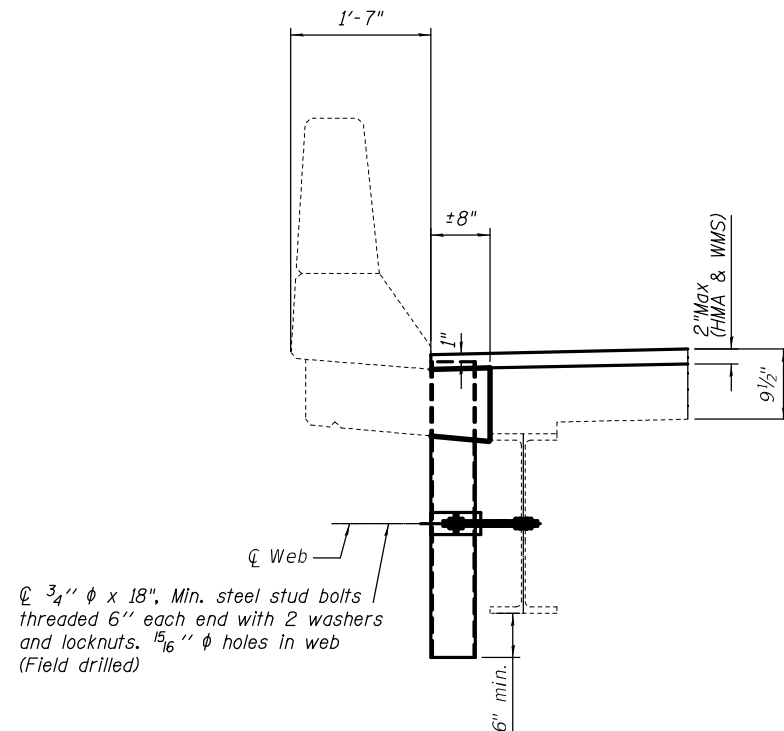
SECTION-REMOVAL OF EXISTING FLOOR DRAIN AND ADJACENT CONCRETE



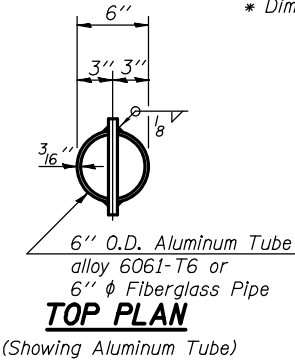
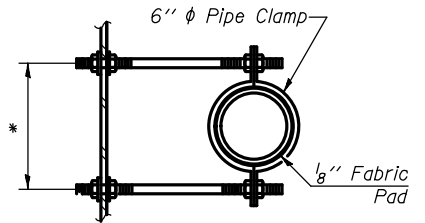
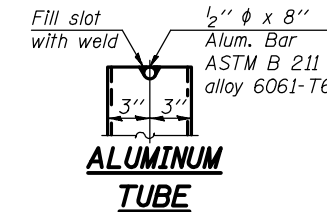
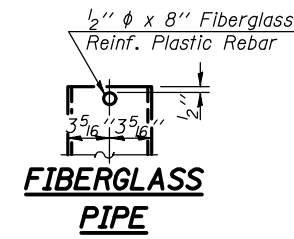
PLAN-PROPOSED FLOOR DRAIN, FULL DEPTH PATCH & HMA DRAINS

(See sheet 1 of 13 for locations to replace rectangular drain with proposed drain) (6 Req'd)

Slope to drain with 1" minimum HMA at drains edge



SECTION-PROPOSED FLOOR DRAIN & FULL DEPTH PATCH



Notes:
 The floor drains shall be painted to match the outside of the fascia beams.
 Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
 Galvanize clamping device according to AASHTO M232.
 Cost of clamping device and inserts is included with Floor Drains.
 Cost of Concrete Removal and replacement and removal of existing drains is included in cost of Deck Slab Repair (Full Depth, Type I)

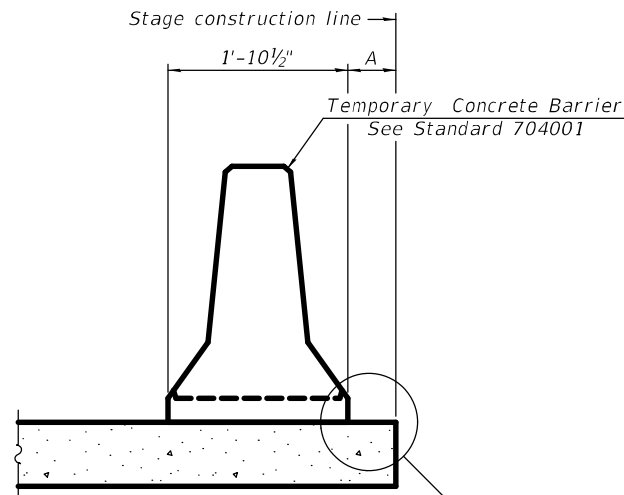
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**DRAIN DETAIL
 SN 003-0049**

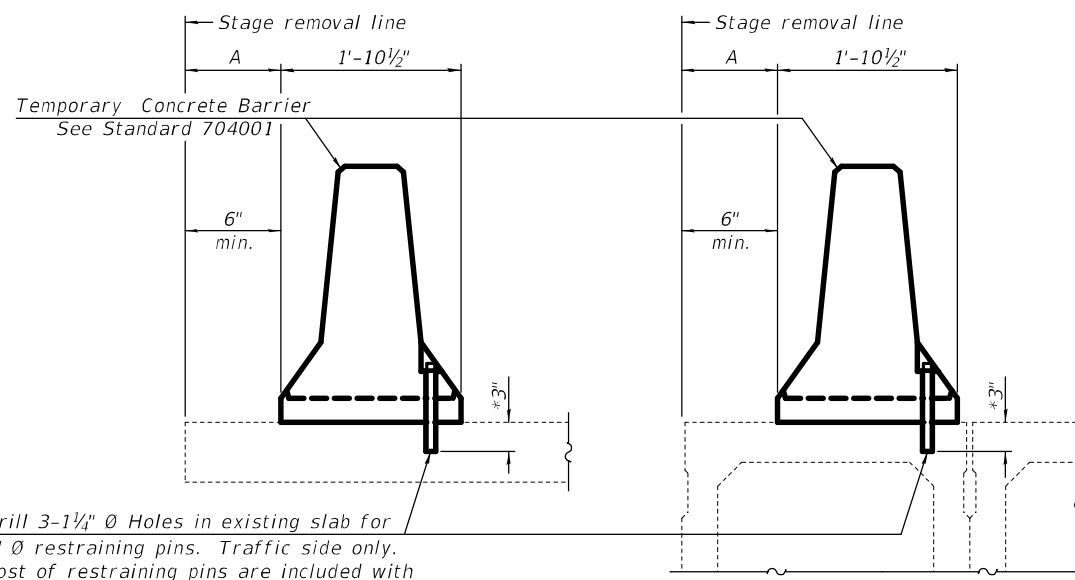
SCALE: SHEET 10 OF 13 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	111-BR-2	BOND	25	22
CONTRACT NO. 76P50				
ILLINOIS FED. AID PROJECT				



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

NEW SLAB OR NEW DECK BEAM



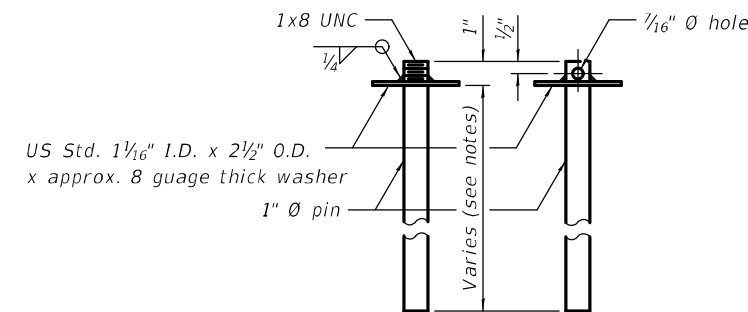
Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

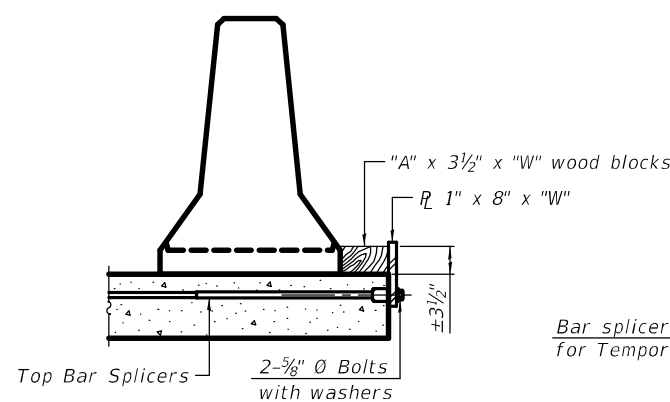
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

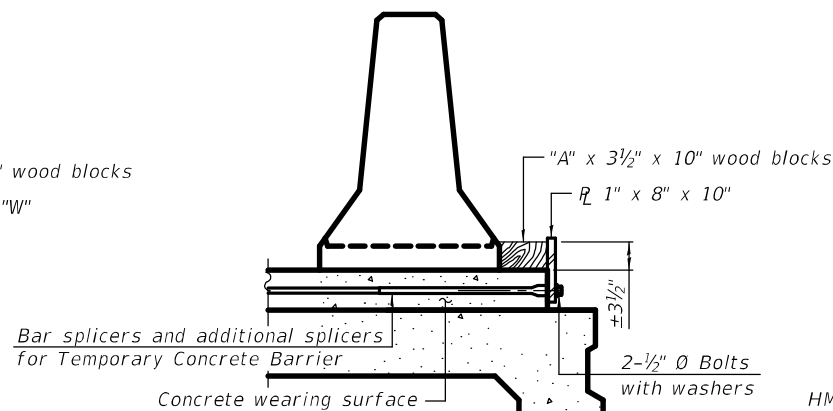
SECTIONS THRU SLAB OR DECK BEAM



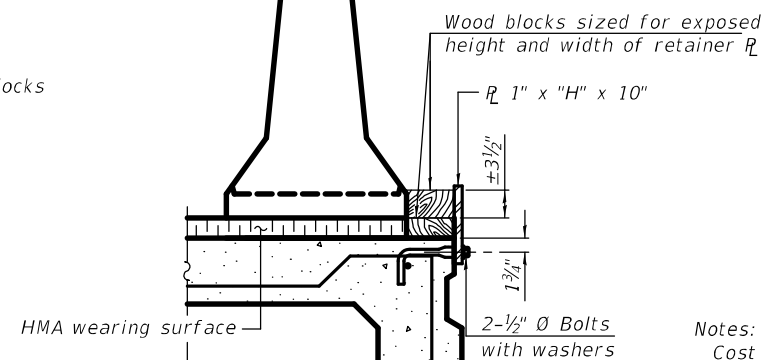
RESTRAINING PIN



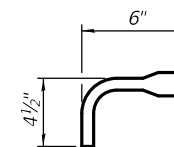
DETAIL I



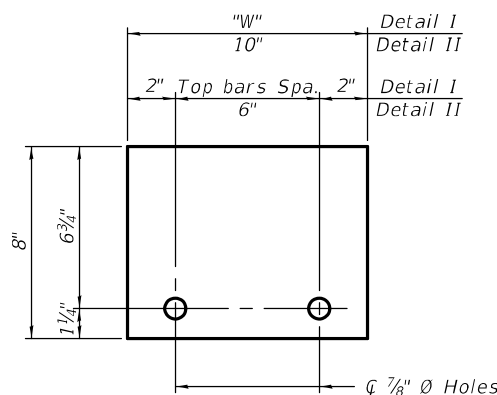
DETAIL II



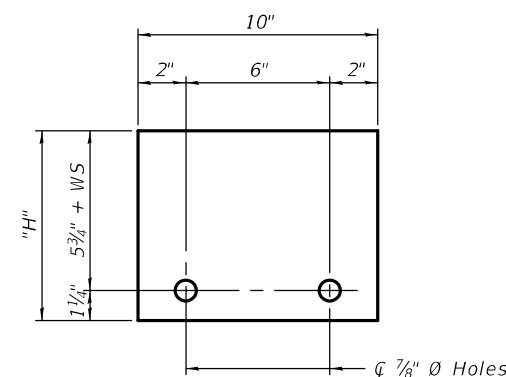
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



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



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

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

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

R-27 2-17-2017

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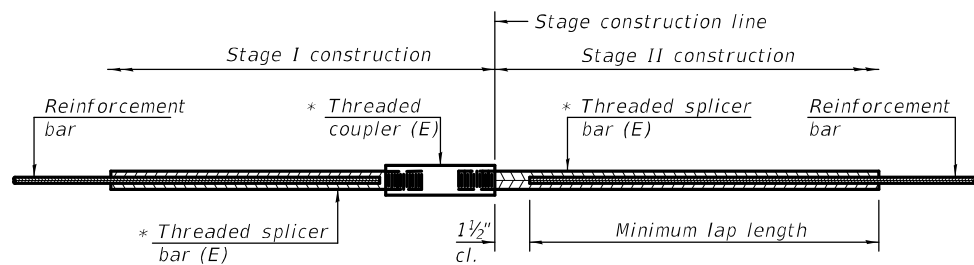
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PLOT DATE = 1/24/2022	CHECKED - AYW	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 003-0049

SCALE: SHEET 11 OF 13 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	111-BR-2	BOND	25	23
CONTRACT NO. 76P50			ILLINOIS FED. AID PROJECT	

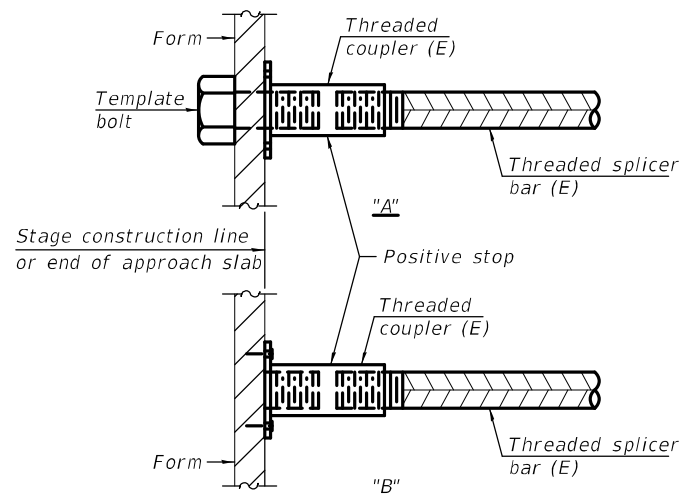


STANDARD BAR SPLICER ASSEMBLY

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

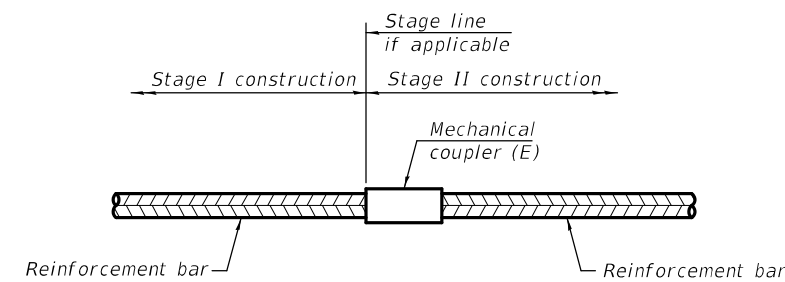
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Abutments	#6	24	4'-0"
Abutments	#5	44	3'-6"



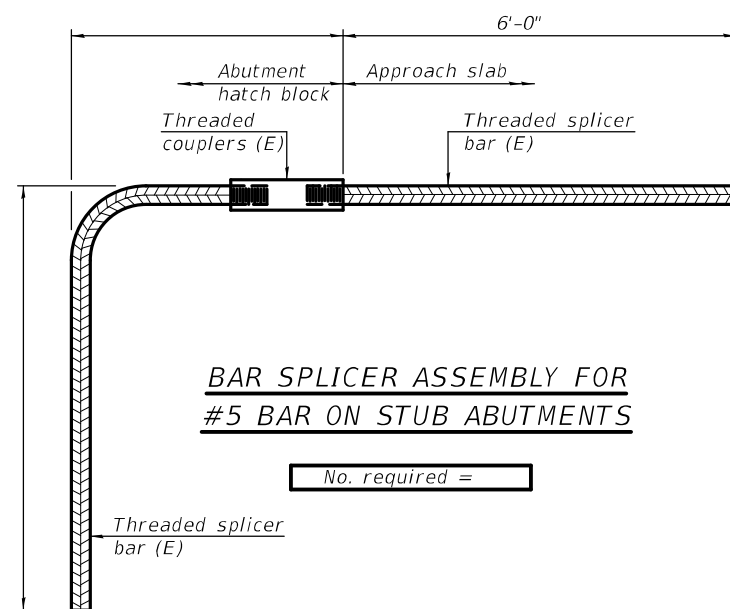
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

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2-17-2017

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DRAWN - AYW	REVISOR -	
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 STRUCTURE NO. 003-0049**

SCALE: SHEET 12 OF 13 SHEETS STA. TO STA.

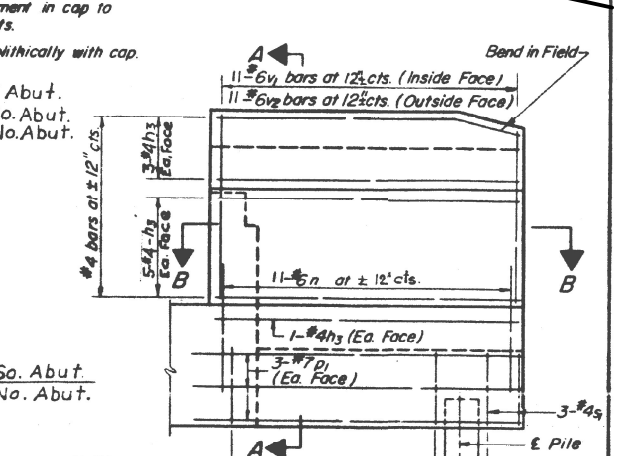
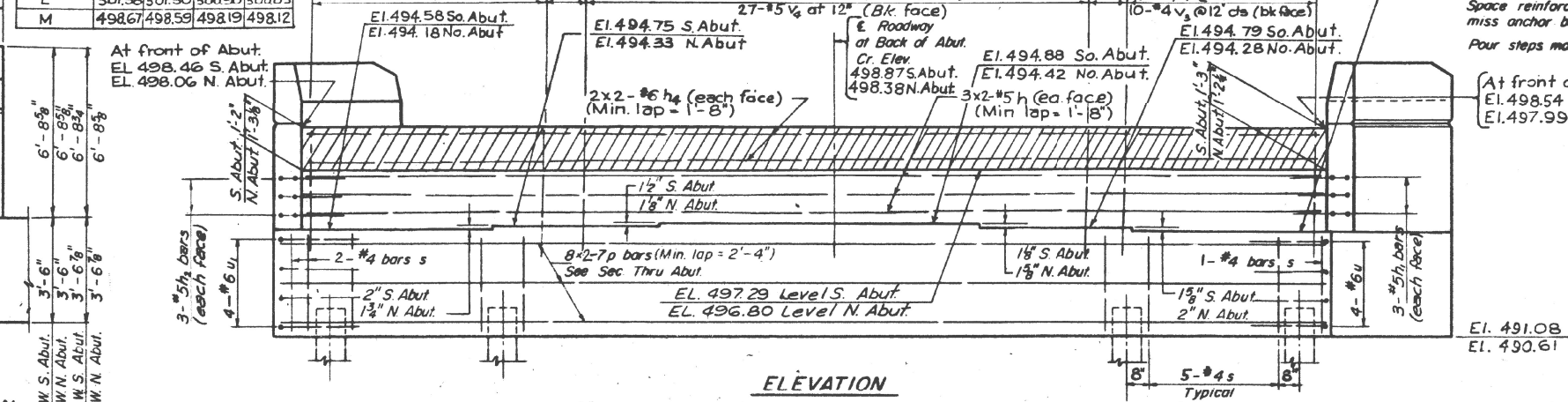
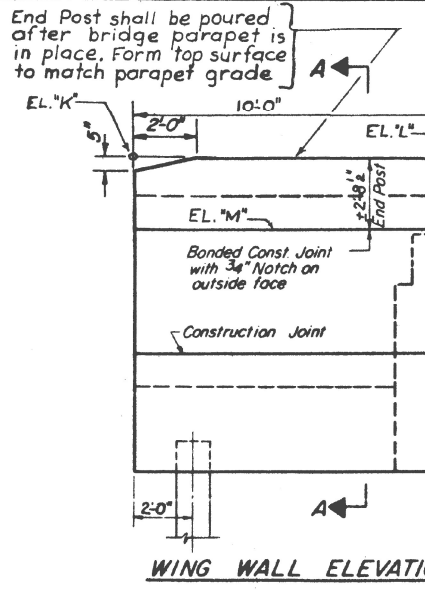
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 76P50	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

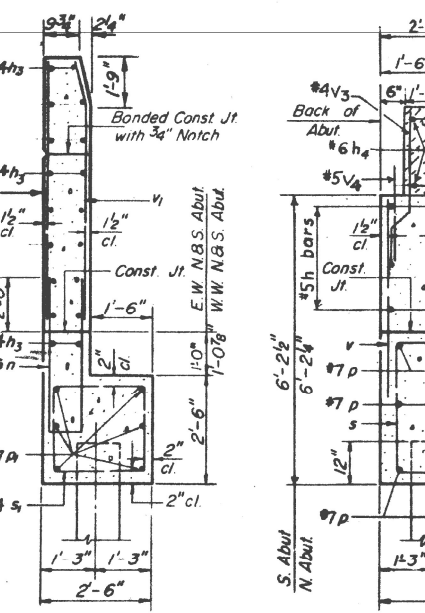
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FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT

TABLE OF WINGWALL ELEVATIONS

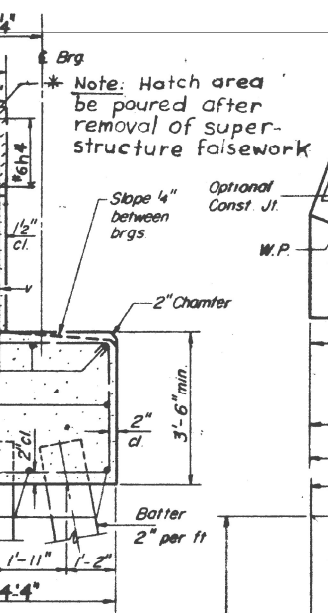
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L	501.38	501.30	500.90	500.83
M	498.67	498.59	498.19	498.12



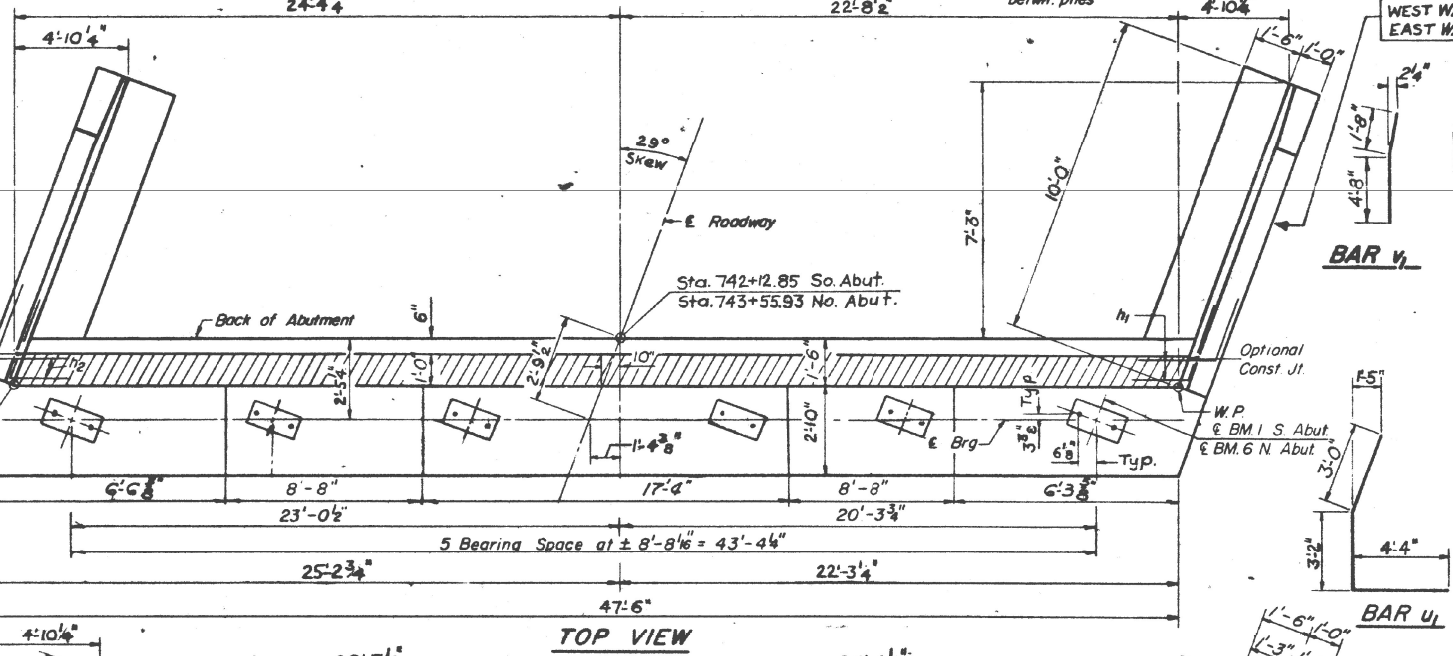
FOR INFORMATION ONLY



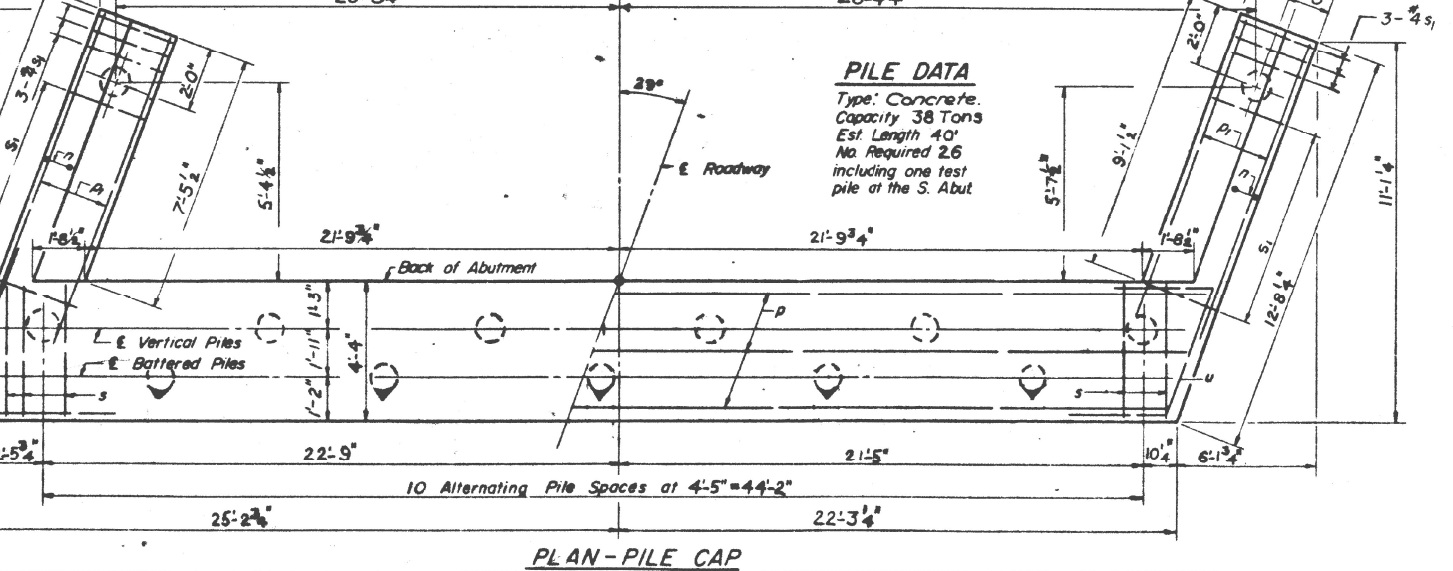
SEC. A-A



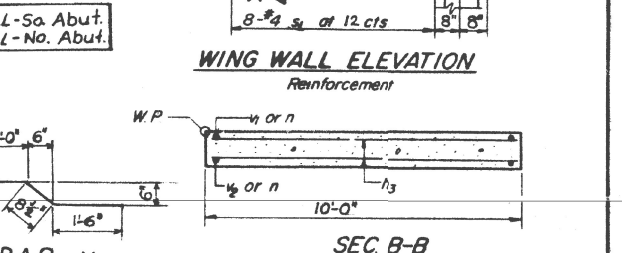
SEC. THRU ABUT.



TOP VIEW



PLAN - PILE CAP



SEC. B-B

PILE DATA
Type: Concrete.
Capacity 38 Tons
Est. Length 40'
No. Required 26
including one test pile at the S. Abut.

BILL OF MATERIAL

Bar	No	Size	Length	Shape
h	24	#5	2'-4"	—
h1	12	#5	4'-6"	—
h2	12	#5	4'-6"	—
h3	72	#4	9'-0"	—
h4	16	#6	25'-4"	—
n	44	#6	9'-3"	U
p	32	#7	25'-0"	—
ph	24	#7	9'-9"	—
s	106	#4	15'-1"	□
s1	44	#4	9'-5"	□
u	8	#6	11'-0"	—
u1	8	#6	10'-6"	L
v	192	#4	4'-8"	—
v1	44	#6	6'-4"	—
v2	44	#6	6'-5"	—
v3	96	#4	3'-3"	—
v4	54	#5	2'-8"	—
Structure Excavation		Cu Yds	85	
Class X Concrete		Cu Yds	84	
Reinforcement Bars		Lbs	7980	
Concrete Piles		Lin Ft	1000	
Test Piles (Concrete)		Ea	1	

ABUTMENT DETAIL
F.A. RTE. 42 OVER
LITTLE BEAVER CREEK
SECTION 111 BR
BOND COUNTY
STA. 742+84.39
DALTON-DALTON-LITTLE-NEWPORT
CONSULTING ENGINEERS - AKRON, OHIO

DESIGNED H.G.S.
CHECKED H.K.II
DRAWN H.G.S.
CHECKED H.K.II

A-1-R (15°-34°) 6-25-76

USER NAME = vlnsonay	DESIGNED - AYW	REVISED -
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PLOT DATE = 1/24/2022	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY - EXISTING ABUTMENTS
SN 003-0049

SCALE: SHEET 13 OF 13 SHEETS STA. TO STA.

F.A.P. RTE. 42	SECTION 111-BR-2	COUNTY BOND	TOTAL SHEETS 25	SHEET NO. 25
CONTRACT NO. 76P50			ILLINOIS FED. AID PROJECT	

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