

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	1
		ILLINOIS	CONTRACT NO. 74359	

D-97-014-09



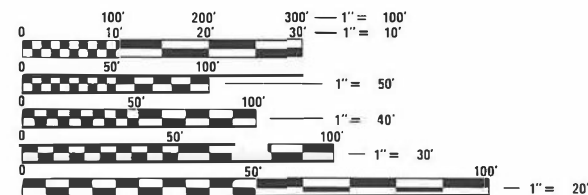
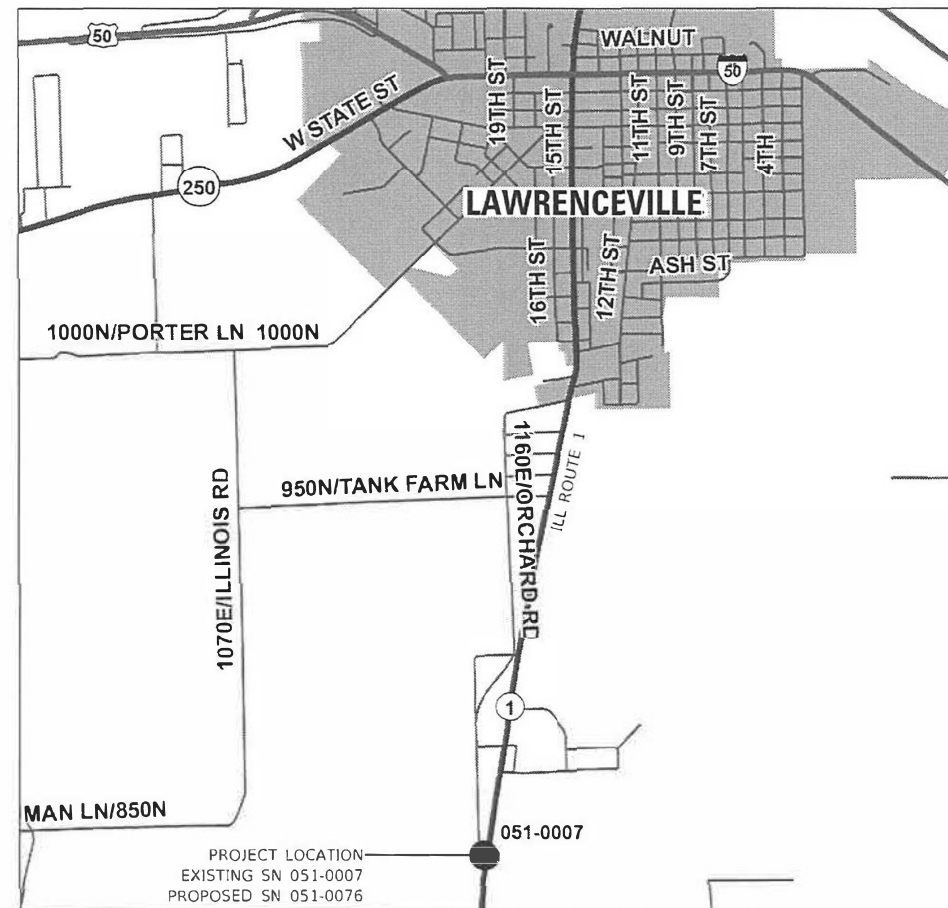
# PROPOSED HIGHWAY PLANS

FAP ROUTE 332 (ILL 1)  
SECTION (15B2)BR  
PROJECT NHPP-UUKC(234)  
BRIDGE REPLACEMENT  
LAWRENCE COUNTY

C-97-037-09

FOR INDEX OF SHEETS, SEE SHEET NO. 2

ADT (2021) = 2900  
% TRUCKS = 17.2%



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 BRIAN LEWIS  
PROJECT MANAGER LEAH HILLE

CONTRACT NO. 74359

PROJECT LOCATION  
EXISTING SN 051-0007  
PROPOSED SN 051-0076

GROSS LENGTH = 533.0 FT. = 0.1 MILE  
NET LENGTH = 533.0 FT. = 0.1 MILE

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED July 12 2023  
Jeffrey P. Myer  
REGIONAL ENGINEER

August 18, 2023  
Scott A. Etk  
ENGINEER OF DESIGN AND ENVIRONMENT

August 18, 2023  
Stephen M. Smith  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

**GENERAL NOTES**

THIS PROJECT IS LOCATED ON FAP ROUTE 332 (ILL 1) IN LAWRENCE COUNTY, 2 MILES SOUTH OF LAWRENCEVILLE OVER INDIAN CREEK. THE WORK INCLUDED IN SECTION (15B2)BR CONSISTS OF A COMPLETE STRUCTURE REPLACEMENT.

THE LOCATIONS OF ONE (1) NEW PERMANENT SURVEY MARKERS ARE TO BE DETERMINED BY THE RESIDENT ENGINEER. THIS MARKER SHALL BE AN IDOT ALUMINUM DISK, CAST-IN-PLACE IN NEW STRUCTURE.

TEMPORARY CONCRETE BARRIER WILL NOT BE ALLOWED ON THE PAVEMENT BETWEEN DECEMBER 1 AND MARCH 1.

ALL ELEVATIONS SHOWN IN PLANS ARE BASED ON U.S.G.S. DATUM.

MATERIAL FOR AGGREGATE SHOULDER, TYPE A SHALL BE CRUSHED STONE OR CRUSHED CONCRETE.

WHEN APPLYING SHORT TERM PAVEMENT MARKINGS, TEMPORARY TAPE SHALL BE USED ON THE SURFACE COURSES AND PAINT SHALL BE USED ON MILLED SURFACES.

PIPE DRAINS FOUR (4) INCHES SHALL BE ATTACHED TO PIPE UNDERDRAINS FOR STRUCTURES AND SHALL EXTEND TO THE BOTTOM OF THE EMBANKMENT SLOPE AND TERMINATE WITH A CONCRETE HEADWALL.

THE RESIDENT ENGINEER SHALL BE THE SOLE JUDGE CONCERNING THE CURING TIME FOR THE VARIOUS HOT-MIX ASPHALT LIFTS.

THE LOCATIONS AND/OR DEPTHS OF UNDERGROUND UTILITIES SHOWN HAVE BEEN TAKEN FROM INFORMATION FURNISHED BY THE UTILITY OWNERS AND MUST BE CONSIDERED APPROXIMATE. FIELD MARKINGS OF FACILITIES IN CRITICAL AREAS MAY BE OBTAINED BY PROVIDING MINIMUM OF FORTY-EIGHT (48) HOURS ADVANCE NOTICE THROUGH THE J.U.L.I.E. SYSTEM BY CALLING 800-892-0123.

THE REMOVAL OF TEMPORARY RAMP SHALL BE INCIDENTAL TO TEMPORARY RAMP.

**UTILITIES IN THE PROJECT AREA**

NAME/ADDRESS OF UTILITY COMPANY	TYPE	EST. DATE OF RELOCATION
FRONTIER COMMUNICATIONS ATT: BRIAN VANGUNDY EMAIL: BRIAN.VANGUNDY@FTR.COM PHONE: (618) 395-6189 (Office) - (618) 838-1393 (Cell)	FIBER	CONTACT INFORMATION ONLY
ILLINOIS GAS ATT: JORDAN KOCHER JKOCHER@ILGAS.COM PHONE: (618) 395-8588	GAS	CONTACT INFORMATION ONLY
MARATHON PIPE LINE ATT: DENNIS DURNEL EMAIL: DDURNAL@MARATHONPETROLEUM.COM PHONE: (419) 581-0038	PIPELINE	CONTACT INFORMATION ONLY
METRO COMMUNICATIONS ATT: BRANDON CLAWSON EMAIL: BCLAWSON@METROCOMM.COM PHONE: (217) 259-5508	FIBER	CONTACT INFORMATION ONLY
NEW WAVE COMMUNICATIONS ATT: JOEL HARRELSON EMAIL: JHARRELSON@NEWWAVE.COM PHONE: (618) 383-2650	FIBER	CONTACT INFORMATION ONLY
BUCKEYE PARTNERS ATT: TIM PATCHETT EMAIL: TIMPATCHETT@MSN.COM PHONE: (708) 404-9510	PIPELINE	CONTACT INFORMATION ONLY

**INDEX OF SHEETS**

SHEET NO.	ITEM
1	COVER SHEET
2	INDEX OF SHEETS, LIST OF STANDARDS, AND GENERAL NOTES
3-5	SUMMARY OF QUANTITIES
6	TYPICAL SECTIONS
7	SCHEDULE OF QUANTITIES
8	PLAN AND PROFILE SHEET
9	STAGE 1 CONSTRUCTION
10	STAGE 2 CONSTRUCTION
11	POST-STAGE CONSTRUCTION
12-41	STRUCTURE PLANS
42-46	DISTRICT 7 DETAIL SHEETS
47-56	CROSS SECTION SHEETS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 56:

STANDARD NO.	DESCRIPTION
000001-08	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420001-10	PAVEMENT JOINTS
420401-13	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB
515001-04	NAME PLATE FOR BRIDGES
601001-05	PIPE UNDERDRAINS
630001-12	STEEL PLATE BEAM GUARDRAIL
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631031-18	TRAFFIC BARRIER TERMINAL, TYPE 6
667101-02	PERMANENT SURVEY MARKERS
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24' FROM PAVEMENT EDGE
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEED $\geq$ 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701311-03	LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
701316-13	LANE CLOSURE, 2L, 2W BRIDGE REPAIR, FOR SPEEDS $\geq$ 45 MPH
701321-18	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701326-04	LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS $\geq$ 45 MPH
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
725001-01	OBJECT AND TERMINAL MARKERS
780001-05	TYPICAL PAVEMENT MARKINGS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

**APPLICATION RATES**

THE FOLLOWING APPLICATION RATES WERE USED IN CALCULATING PLAN QUANTITIES AND HAVE BEEN INCLUDED FOR REFERENCE:

BITUMINOUS MATERIALS (TACK COAT)	0.05 LB/SQ FT (ON MILLED SURFACES)
	0.025 LB/SQ FT (ON HMA LIFTS)
RIP-RAP	1.485 TONS/CU YD
AGGREGATE SURFACE COURSE AND SHOULDER	2.05 TON/CU YD

**MIXTURE REQUIREMENTS**

THE FOLLOWING MIXTURE REQUIREMENTS ARE APPLICABLE TO THIS PROJECT:

LOCATION(S)	MIXTURE USE(S)	PG	DESIGN AIR VOIDS	MIXTURE COMPOSITION	FRICTION AGGREGATE	MIXTURE WEIGHT	QUALITY MANAGEMENT PROGRAM	SUBLOT SIZE	MATERIAL TRANSFER DEVICE (REQUIRED?)
MAINLINE	HMA SURFACE COURSE, IL-9.5, MIX "C", N70	PG 64-22	4.0% @ N=70	IL - 9.5	MIXTURE C	N70	QC/QA	3000	N/A
MAINLINE	HMA BINDER COURSE, IL-19.0, N70	PG 64-22	4.0% @ N=70	IL - 19.0	N/A	N70	QC/QA	3000	N/A
10" HMA WIDENING	HMA BINDER COURSE, IL-19.0, N70	PG 64-22	4.0% @ N=70	IL - 19.0	N/A	N70	QC/QA	3000	N/A

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PLOT DATE = 7/12/2023	DATE = 7/12/2023	REVISED -		ILLINOIS   FED. AID PROJECT								

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0010 80% FEDERAL 20% STATE		
20200100	EARTH EXCAVATION	CU YD	130	130		
20300100	CHANNEL EXCAVATION	CU YD	1800	1800		
28000400	PERIMETER EROSION BARRIER	FOOT	1050	1050		
28100109	STONE RIPRAP, CLASS A5	SQ YD	1717	1717		
28200200	FILTER FABRIC	SQ YD	1717	1717		
35600716	HOT-MIX ASPHALT BASE COURSE WIDENING, 10"	SO YD	420	420		
40600290	BITUMINOUS MATERIALS (TACK COAT)	POUND	750	750		
40600990	TEMPORARY RAMP	SQ YD	400	400		
40603085	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON	85	85		
40604052	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N70	TON	115	115		
42000080	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SO YD	147	147		
44000100	PAVEMENT REMOVAL	SO YD	94	94		
48100100	AGGREGATE SHOULDERS, TYPE A	TON	330	330		
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1		

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0010 80% FEDERAL 20% STATE		
50200100	STRUCTURE EXCAVATION	CU YD	249	249		
50200300	COFFERDAM EXCAVATION	CU YD	340	340		
50201101	COFFERDAM (TYPE 1) (LOCATION - 1)	EACH	1	1		
50201102	COFFERDAM (TYPE 1) (LOCATION - 2)	EACH	1	1		
50300100	FLOOR DRAINS	EACH	20	20		
50300225	CONCRETE STRUCTURES	CU YD	273.5	273.5		
50300255	CONCRETE SUPERSTRUCTURE	CU YD	270.9	270.9		
50300260	BRIDGE DECK GROOVING	SO YD	908	908		
50300300	PROTECTIVE COAT	SO YD	1158	1158		
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	106.7	106.7		
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1	1		
50500505	STUD SHEAR CONNECTORS	EACH	4068	4068		
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	131420	131420		
50800515	BAR SPLICERS	EACH	954	954		

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	3
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0010 80% FEDERAL 20% STATE		
51201600	FURNISHING STEEL PILES HP12X53	FOOT	396	396		
51201900	FURNISHING STEEL PILES HP14X89	FOOT	640	640		
51202305	DRIVING PILES	FOOT	396	396		
51265002	DRILLING AND SETTING PILES ( IN ROCK )	CU FT	604	604		
51500100	NAME PLATES	EACH	1	1		
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	12	12		
52100505	ANCHOR BOLTS, 5/8"	EACH	24	24		
52100520	ANCHOR BOLTS, 1"	EACH	24	24		
52200010	TEMPORARY SHEET PILING	SO FT	1267	1267		
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	136	136		
60146304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	165	165		
* 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	512.5	512.5		
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	4	4		

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0010 80% FEDERAL 20% STATE		
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 ( SPECIAL ) TANGENT	EACH	3	3		
* 63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 ( SPECIAL ) FLARED	EACH	1	1		
63200310	GUARDRAIL REMOVAL	FOOT	519	519		
66700205	PERMANENT SURVEY MARKERS, TYPE I	EACH	2	2		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	8	8		
67100100	MOBILIZATION	L SUM	1	1		
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH	1	1		
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1		
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1		
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1		
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	3	3		

\* SPECIALTY ITEM

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PLOT DATE = 7/12/2023		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	4
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74359	

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0010 80% FEDERAL 20% STATE		
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1		
70107005	PAVEMENT MARKING BLACKOUT TAPE, 5"	FOOT	1550	1550		
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	28	28		
70300100	SHORT TERM PAVEMENT MARKING	FOOT	160	160		
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SO FT	664	664		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	500	500		
70400125	PINNING TEMPORARY CONCRETE BARRIER	EACH	78	78		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	500	500		
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
70600350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4		
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1200	1200		
* 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	19	19		

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0010 80% FEDERAL 20% STATE		
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	3	3		
X4401198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SO YD	990	990		
X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1	1		
Z0004552	APPROACH SLAB REMOVAL	SO YD	240	240		
Z0049799	PROTECTING OR RESETTING SURVEY MARKERS	EACH	1	1		
Z0076600	TRAINEES	HOUR	500	500		
Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	500	500		

\* SPECIALTY ITEM

Ø 0042

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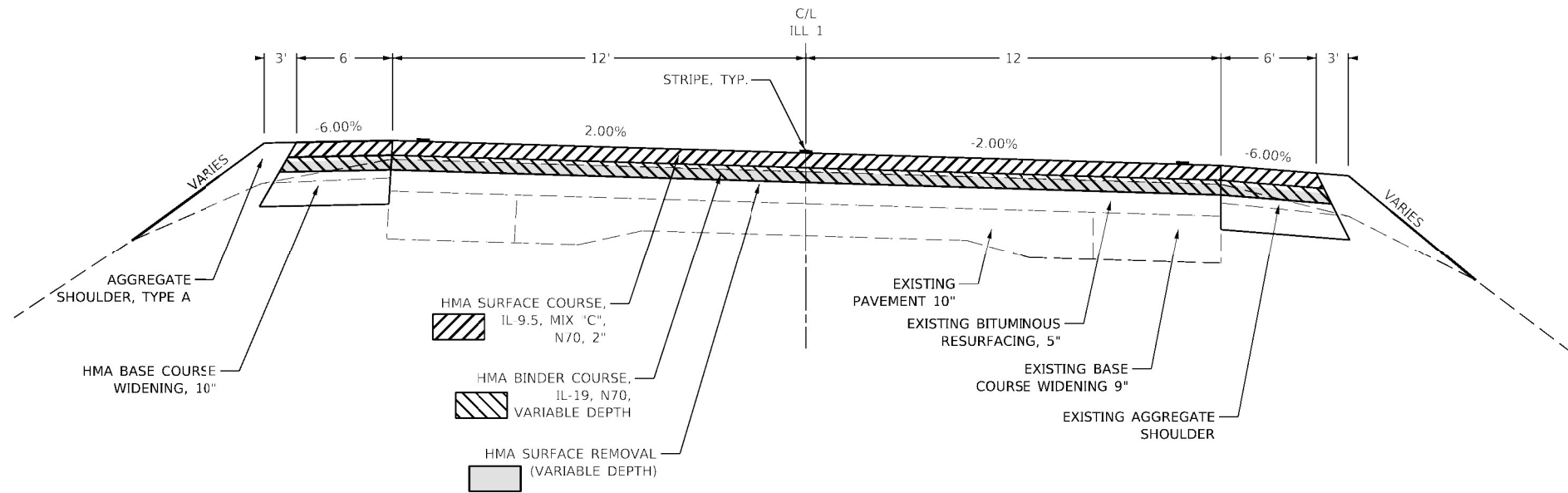
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

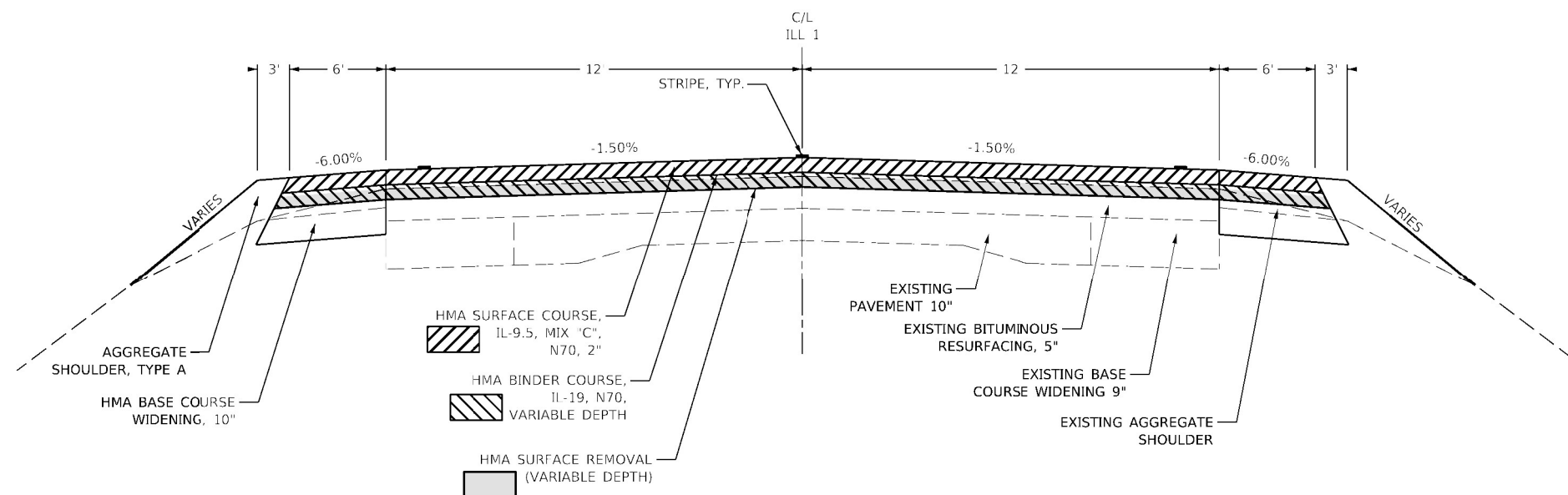
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	5
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

**PROPOSED TYPICAL CROSS SECTIONS (ILL 1)**  
STATION 1053+37 TO STATION 1055+05



**PROPOSED TYPICAL CROSS SECTIONS (ILL 1)**  
STATION 1057+91 TO STATION 1058+70



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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>TYPICAL CROSS SECTIONS</b>			
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	Lawrence	56	6
CONTRACT NO. 74359			ILLINOIS FED. AID PROJECT	



BENCHMARK: 907  
 ELEV: 429.65  
 STA. 1057+39, 19' LT  
 DESCRIPTION: CHISELED "□" ON  
 TOP OF NORTHWEST WINGWALL  
 OF SN 015-007

CL STRUCTURE 051-0076  
 STA. 1056+48.0  
 SKEW: 35°

TRAFFIC BARRIER TERMINAL,  
 TYPE 6, TYP.

TRAFFIC BARRIER TERMINAL,  
 TYPE 1 (SPECIAL) FLARED

END CONSTRUCTION  
 STA. 1058+70.0

AGGREGATE SHOULDERS,  
 TYPE A, TYP.

LIMITS OF  
 CONSTRUCTION

HOT-MIX ASPHALT BASE  
 COURSE WIDENING,  
 10", TYP.

STONE RIPRAP  
 CLASS A5, TYP.

TRAFFIC BARRIER TERMINAL,  
 TYPE 1 (SPECIAL) TANGENT, TYP.

PERIMETER EROSION  
 BARRIER, TYP.

APPROACH  
 FOOTING, TYP.

BRIDGE APPROACH SLAB

PAVEMENT CONNECTOR (PCC)  
 FOR BRIDGE APPROACH SLAB, TYP.

START CONSTRUCTION  
 STA. 1053+37.0

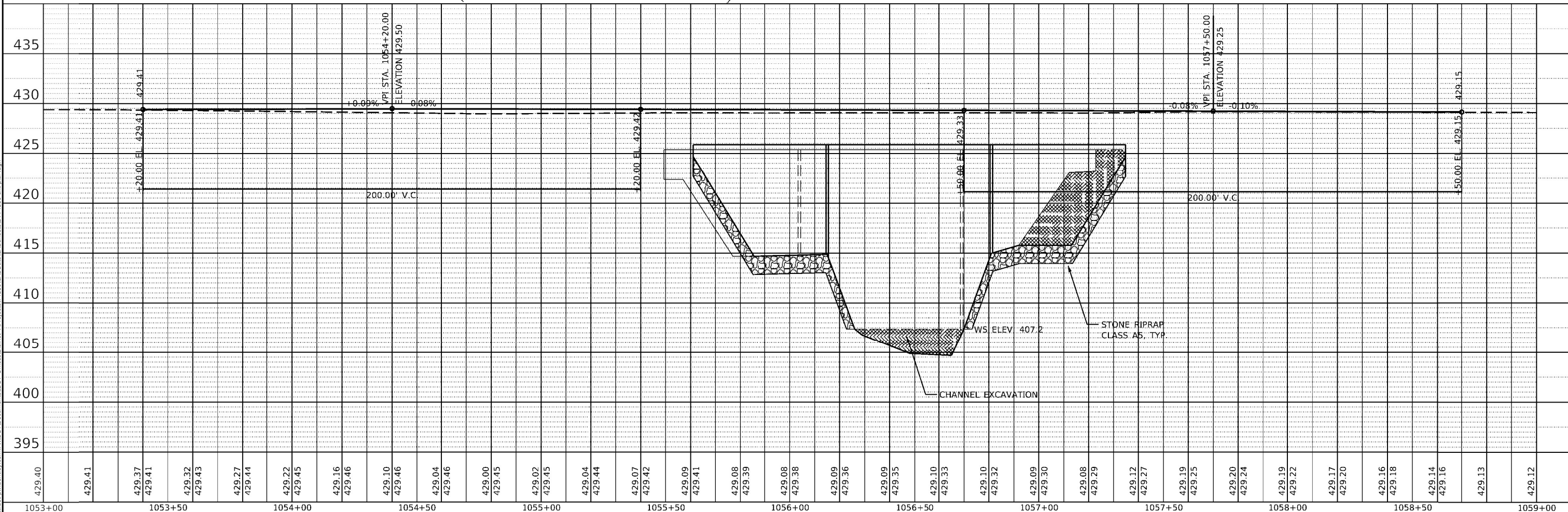
EXISTING R.O.W.

BRIDGE APPROACH SLAB

DATE	
BY	
PLAN	
NO.	
DATE	
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PROFILE	
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DATE	
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PROFILE	
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PLAN & PROFILE SHEET  
 SN 051-0076**

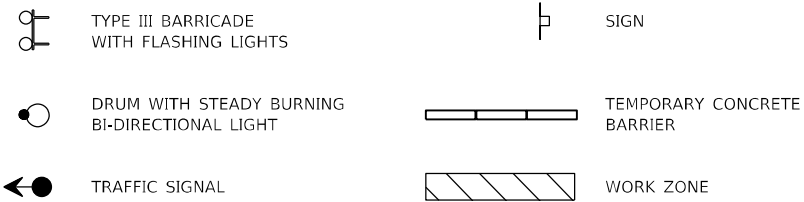
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SCALE: 40.0000' / in. SHEET 1 OF 1 SHEETS STA. 1053+00 TO STA. 1059+00

F.A.P. RTE. 332	SECTION (15B2)BR	COUNTY LAWRENCE	TOTAL SHEETS 56	SHEET NO. 8
			CONTRACT NO. 74359	
ILLINOIS FED. AID PROJECT				

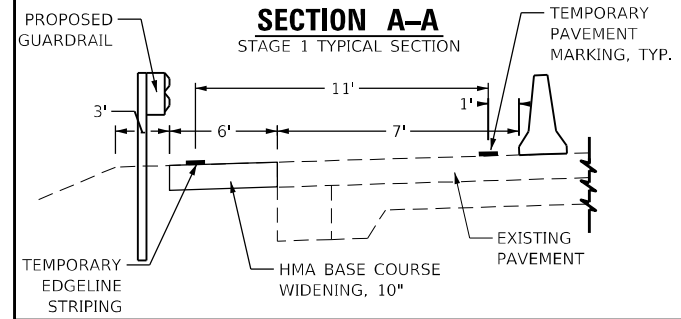


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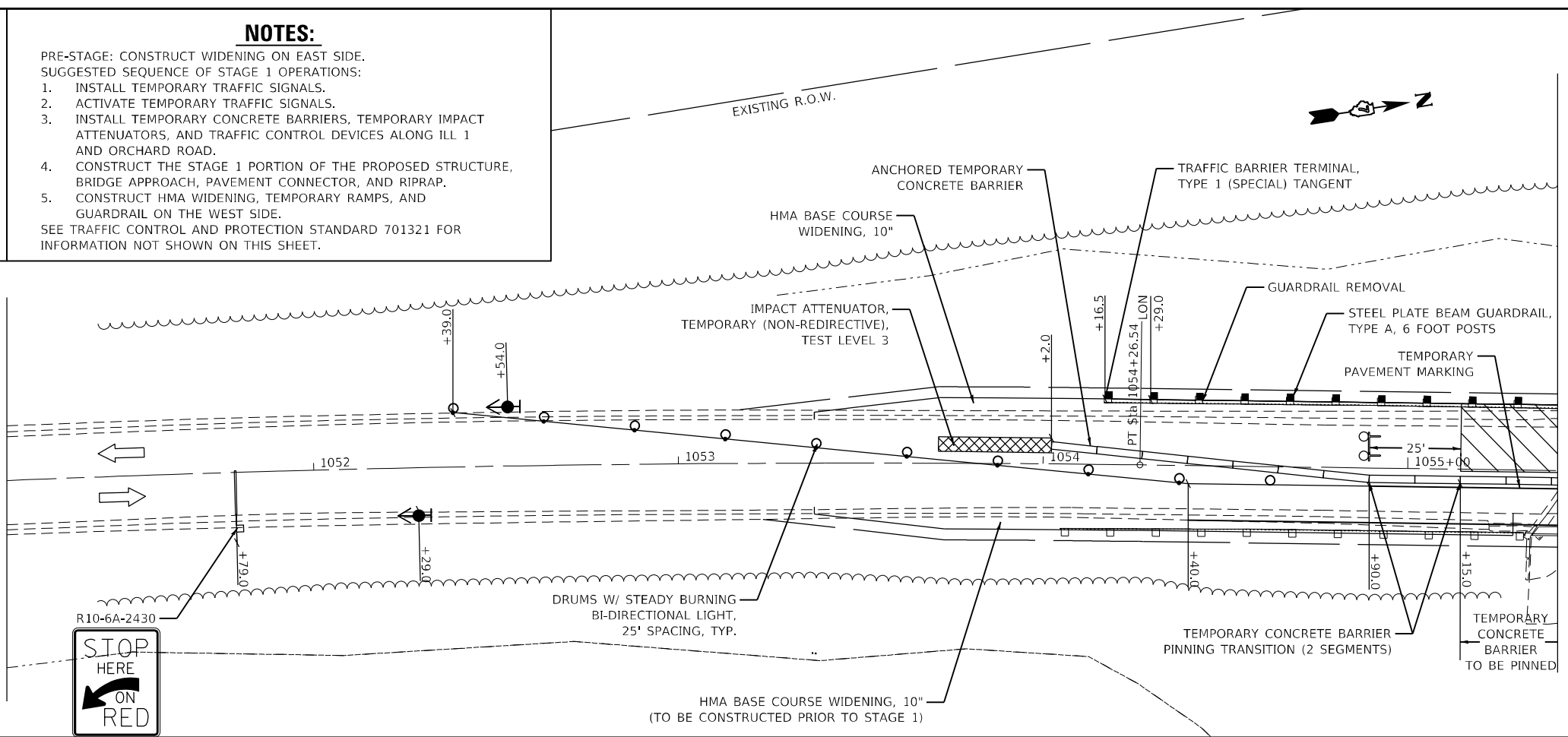


**NOTES:**

PRE-STAGE: CONSTRUCT WIDENING ON EAST SIDE.  
 SUGGESTED SEQUENCE OF STAGE 1 OPERATIONS:  
 1. INSTALL TEMPORARY TRAFFIC SIGNALS.  
 2. ACTIVATE TEMPORARY TRAFFIC SIGNALS.  
 3. INSTALL TEMPORARY CONCRETE BARRIERS, TEMPORARY IMPACT ATTENUATORS, AND TRAFFIC CONTROL DEVICES ALONG ILL 1 AND ORCHARD ROAD.  
 4. CONSTRUCT THE STAGE 1 PORTION OF THE PROPOSED STRUCTURE, BRIDGE APPROACH, PAVEMENT CONNECTOR, AND RIPRAP.  
 5. CONSTRUCT HMA WIDENING, TEMPORARY RAMPS, AND GUARDRAIL ON THE WEST SIDE.  
 SEE TRAFFIC CONTROL AND PROTECTION STANDARD 701321 FOR INFORMATION NOT SHOWN ON THIS SHEET.

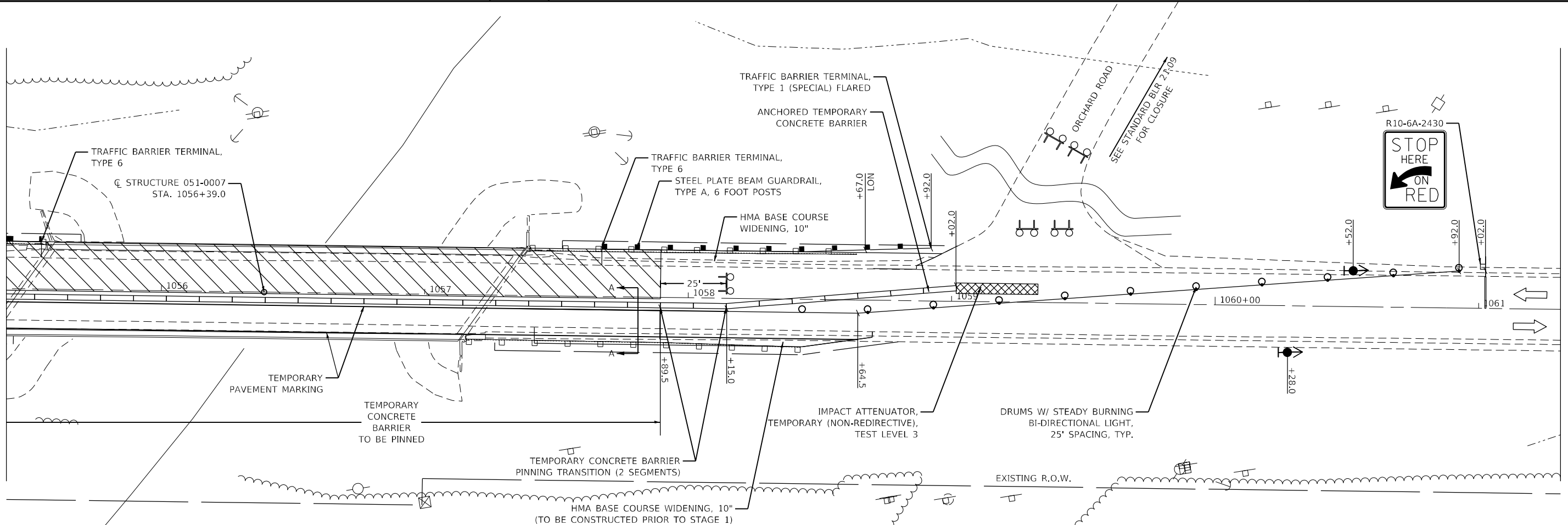


**CONSTRUCT SIGNAGE AND DEVICES PER TRAFFIC CONTROL STANDARD 701321**



**MATCHLINE STATION 1055 + 41.0**

**MATCHLINE STATION 1055 + 41.0**



**CONSTRUCT SIGNAGE AND DEVICES PER TRAFFIC CONTROL STANDARD 701321**

USER NAME = jessica.ville	DESIGNED - LMH	REVISED -
DRAWN - LMH	REVISOR -	REVISIONS -
PLOT SCALE = 40,0000' / in.	CHECKED -	REVISOR -
PLOT DATE = 7/12/2023	DATE - 7/12/2023	REVISIONS -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**STAGE 1  
 TRAFFIC CONTROL STANDARD 701321**

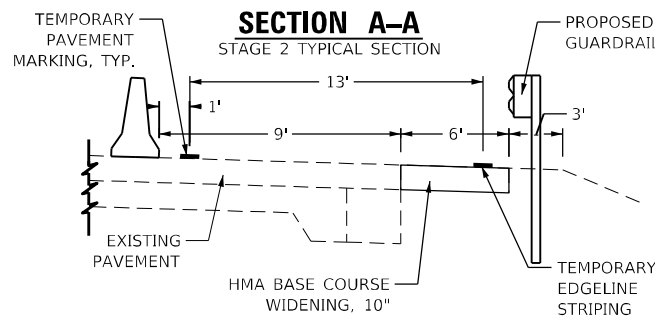
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F.A.P. RTE. 332	SECTION (15B2)BR	COUNTY Lawrence	TOTAL SHEETS 56	SHEET NO. 9
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74359	

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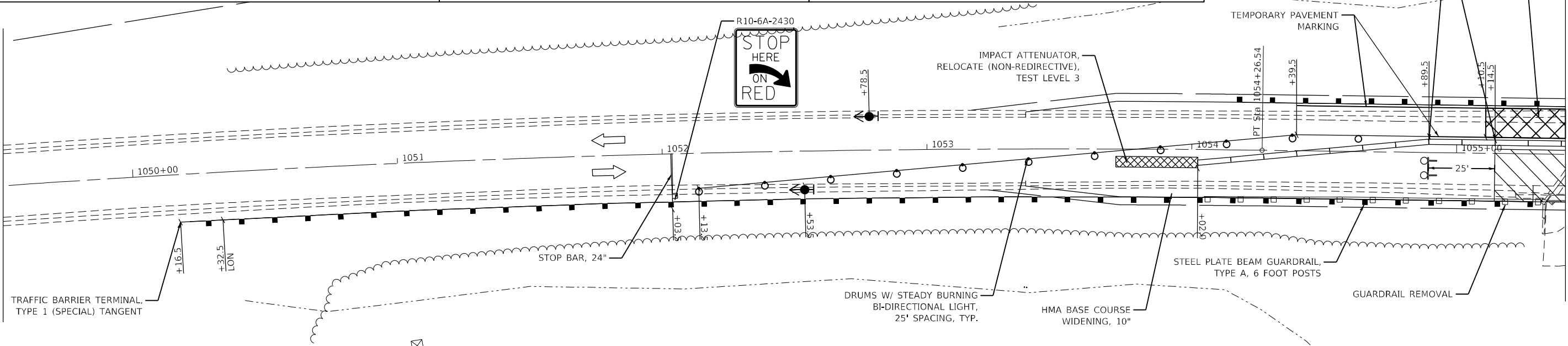
**LEGEND**

- TYPE III BARRICADE WITH FLASHING LIGHTS
- DRUM WITH STEADY BURNING BI-DIRECTIONAL LIGHT
- TRAFFIC SIGNAL
- SIGN
- TEMPORARY CONCRETE BARRIER
- WORK ZONE



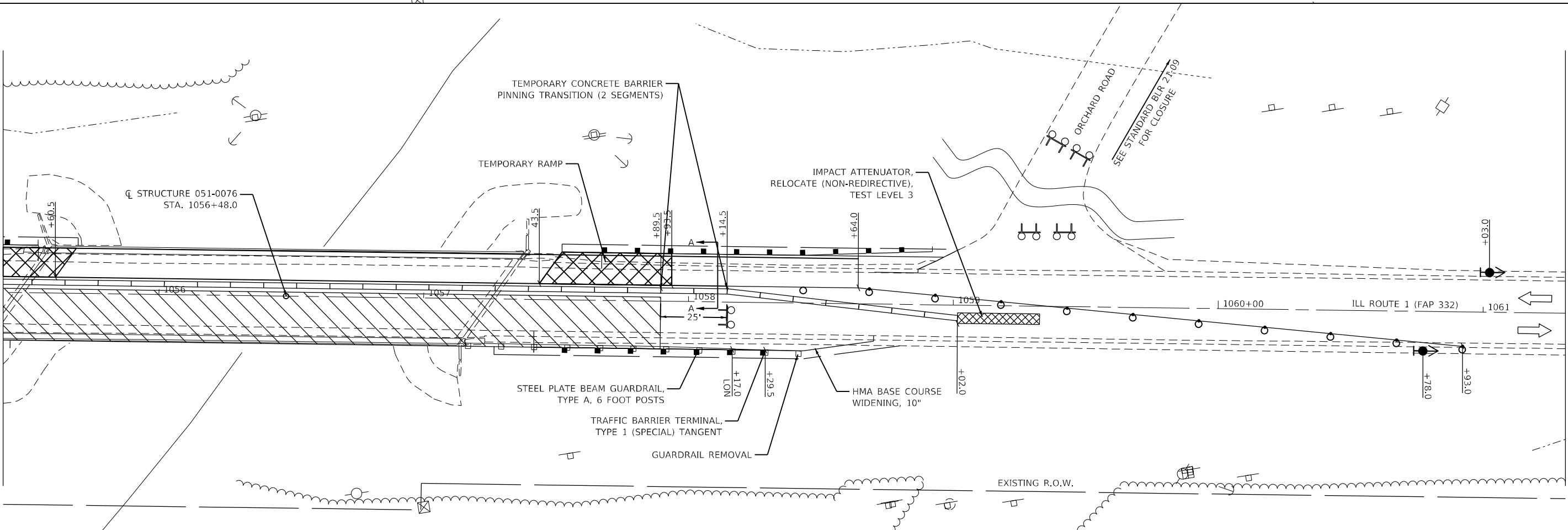
- NOTES:**
1. RELOCATE TEMPORARY CONCRETE BARRIERS, IMPACT ATTENUATORS, AND TRAFFIC CONTROL DEVICES AS REQUIRED.
  2. CONSTRUCT THE STAGE 2 PORTION OF THE PROPOSED STRUCTURE, BRIDGE APPROACH, PAVEMENT CONNECTOR, AND RIP RAP.
  3. CONSTRUCT GUARDRAIL ON THE EAST SIDE.
  4. REMOVE ALL TEMPORARY TRAFFIC BARRIERS AND CONTROL DEVICES.
- SEE TRAFFIC CONTROL AND PROTECTION STANDARD 701321 FOR INFORMATION NOT SHOWN ON THIS SHEET.

**CONSTRUCT SIGNAGE AND DEVICES PER TRAFFIC CONTROL STANDARD 701321**



**MATCHLINE STATION 1055 + 41.0**

**MATCHLINE STATION 1055 + 41.0**



**CONSTRUCT SIGNAGE AND DEVICES PER TRAFFIC CONTROL STANDARD 701321**

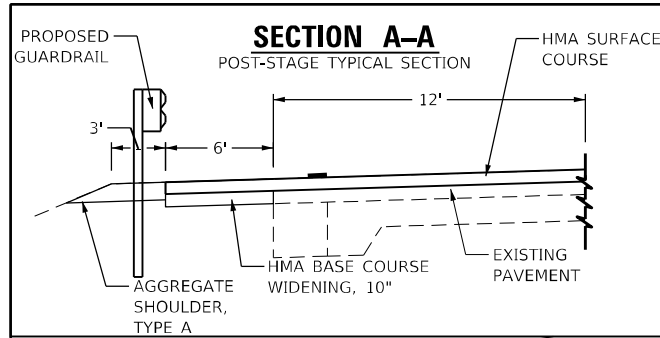
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STAGE 2  
TRAFFIC CONTROL STANDARD 701321**

USER NAME = jessica.hille	DESIGNED - LMH	REVISED -
DRAWN - LMH	REVISIONS -	
PLOT SCALE = 40,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 7/12/2023	DATE - 7/12/2023	REVISED -

SCALE: 40,0000' / in. SHEET OF SHEETS STA. TO STA.

F.A.P. RTE. 332	SECTION (15B2)BR	COUNTY Lawrence	TOTAL SHEETS 56	SHEET NO. 10
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				




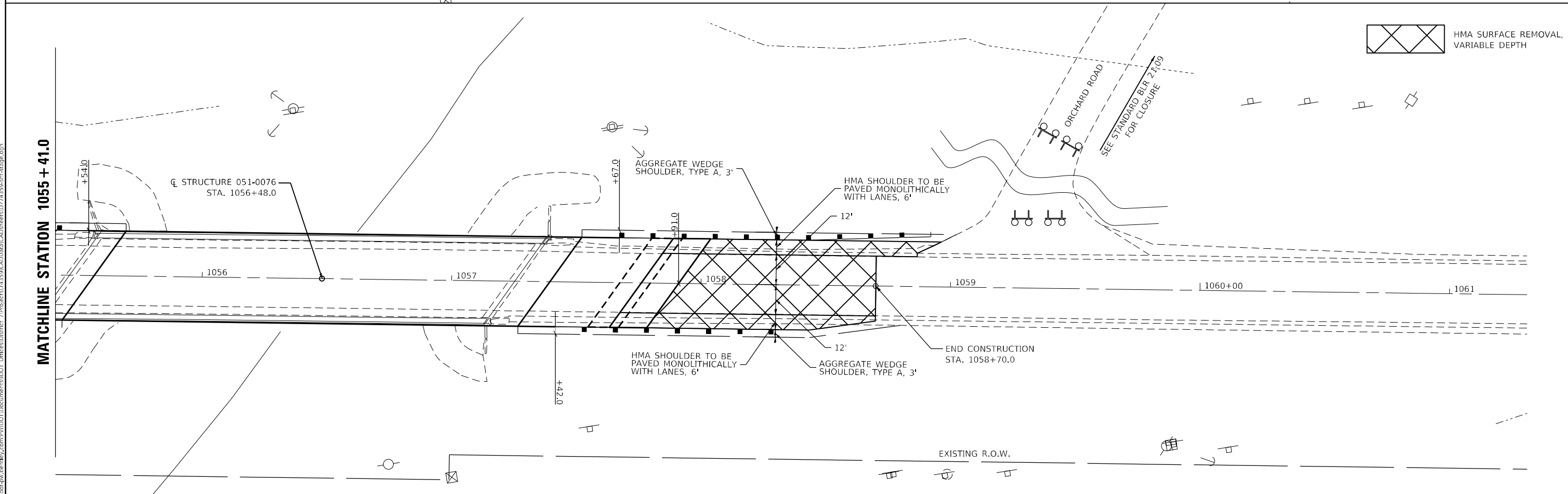
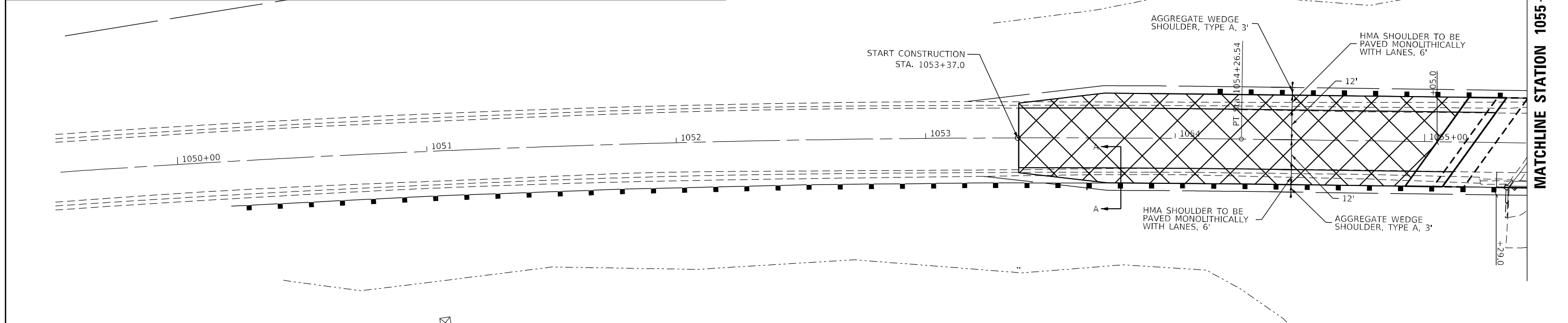
**NOTES:**

SUGGESTED SEQUENCE OF POST-STAGE OPERATIONS:

1. REMOVE ALL TEMPORARY TRAFFIC BARRIERS AND CONTROL DEVICES.
2. SHIFT TRAFFIC AS NEEDED TO PERFORM MILLING, CONSTRUCT HMA BINDER AND SURFACE COURSE, AGGREGATE SHOULDERS, AND STRIPING.

SEE TRAFFIC CONTROL AND PROTECTION STANDARD 701316 FOR INFORMATION NOT SHOWN ON THIS SHEET.

 HMA SURFACE REMOVAL, VARIABLE DEPTH



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USER NAME = jessica.ville	DESIGNED - LMH	REVISED -
DRAWN - LMH	REVISED -	
PLOT SCALE = 40,0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 7/12/2023	DATE - 7/12/2023	REVISED -

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

**POST-STAGE**  
**TRAFFIC CONTROL STANDARD 701316**

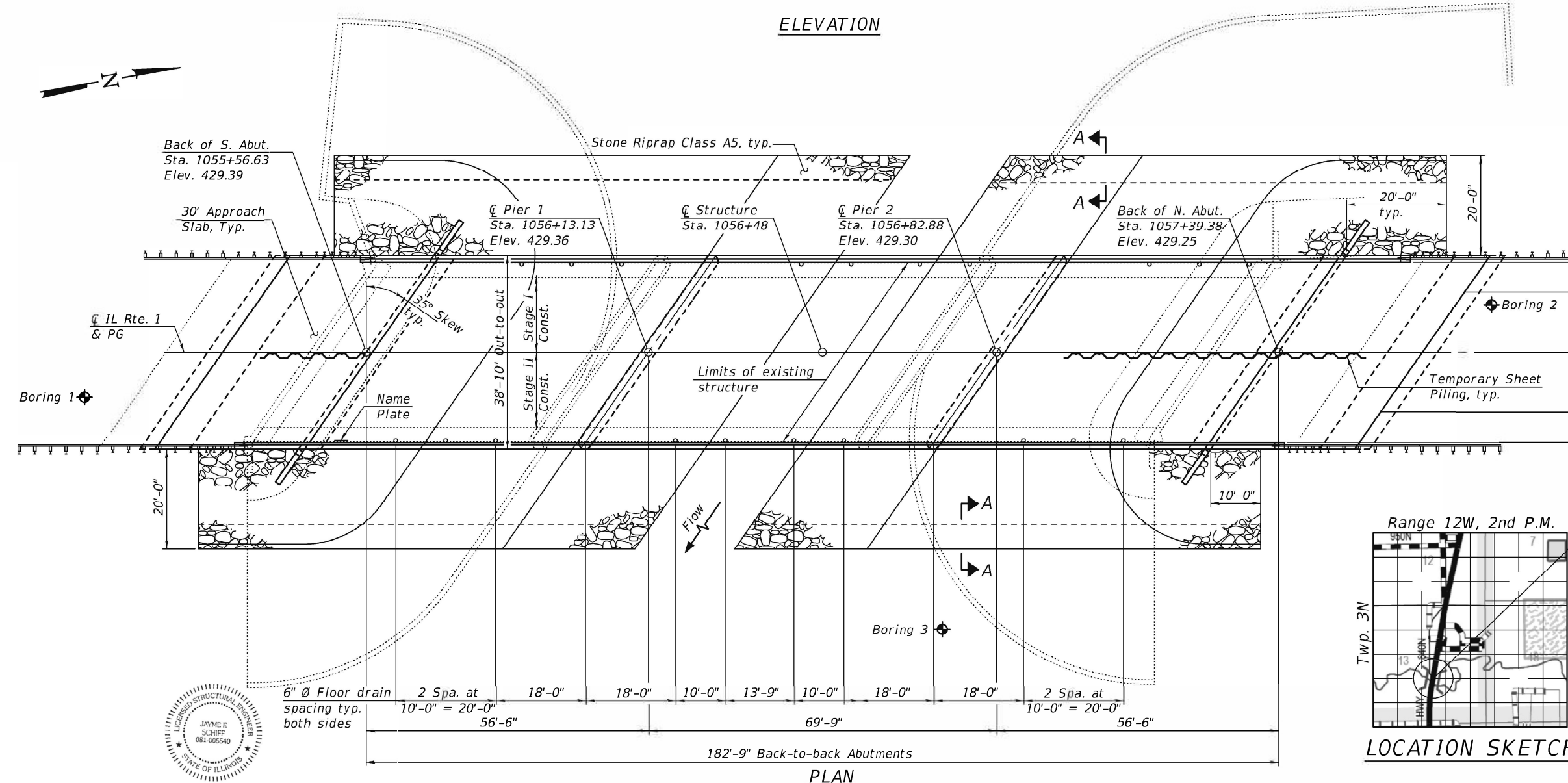
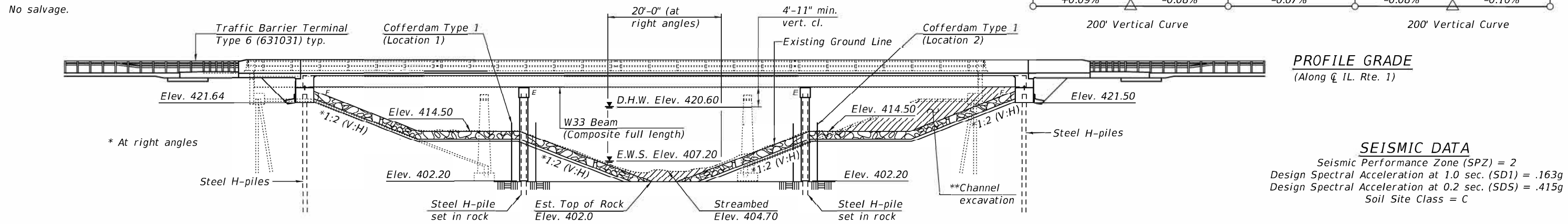
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	Lawrence	56	11
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

Benchmark: BM 907 chiseled square on top of northwest wingwall of SN 051-0007 station 1057+39, 19 ft left, Elevation 429.65.  
 Existing Structure: Structure 051-0007 was built in 1957 as SBI Route 1, Section 15B-2. In 1959, the bridge was resurfaced with a bituminous overlay. In 2013, a new cape seal was laid over the bituminous wearing surface and pourable seals were placed at the abutments. The existing bridge length is 181'-6" back-to-back with a deck width of 35'-8" out-to-out. The superstructure is supported by pile stub abutments and solid wall piers on spread footings. The existing structure will be removed and replaced utilizing stage construction.

\*\*Hatched area indicates channel excavation. For quantities of pavement removal and channel excavation see Roadway Plans.

No salvage.



**PROFILE GRADE**  
(Along IL Rte. 1)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 2  
 Design Spectral Acceleration at 1.0 sec. (SD1) = .163g  
 Design Spectral Acceleration at 0.2 sec. (SDS) = .415g  
 Soil Site Class = C

**DESIGN SPECIFICATIONS**

2020 AASHTO Bridge Design Specifications, 9th Edition

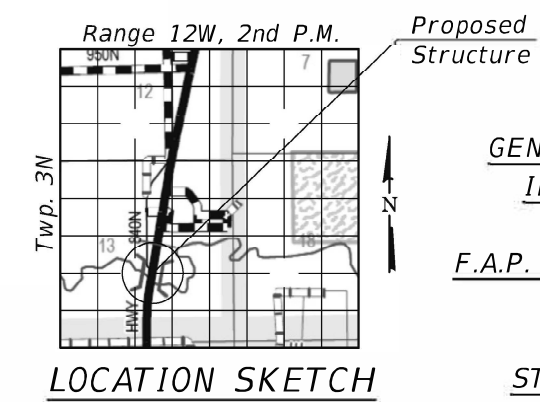
**LOADING HL-93**

Allow 50#/sq. ft. for future wearing surface.

**DESIGN STRESSES**

**FIELD UNITS**

$f'_c = 4,000$  psi (Superstructure)  
 $f'_c = 3,500$  psi (Substructure)  
 $f_y = 60,000$  psi (Reinforcement)  
 $f_y = 50,000$  psi (M270 Grade 50)  
 All structural steel shall be galvanized.



**GENERAL PLAN & ELEVATION**  
**ILLINOIS ROUTE 1 OVER**  
**INDIAN CREEK**  
**F.A.P. ROUTE 332 - SEC (15B2)BR**  
**LAWRENCE COUNTY**  
**STA. 1056+48**  
**STRUCTURE NO. 051-0076**

MODEL: 0510076-74359-001  
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EXPIRES 11-30-2024

DESIGNED - RYAN P. NEGANGARD	EXAMINED - <i>Mark Shuffler</i>	DATE - 8-18-2023
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED - <i>Jayme F. Schiff</i>	REVISOR -
DRAWN - ANDRO R. SAMANIEGO	ENGINEER OF BRIDGE DESIGN	REVISION -
CHECKED - R.P.N. / G.R.A.	ENGINEER OF BRIDGES AND STRUCTURES	REVISION -

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

F.A.P. RTE. 332	SECTION (15B2)BR	COUNTY LAWRENCE	TOTAL SHEETS 56	SHEET NO. 12
ILLINOIS			CONTRACT NO. 74359	

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A5	Sq. Yd.		1,717	1,717
Filter Fabric	Sq. Yd.		1,717	1,717
Removal of Existing Structures	Each	1		1
Structure Excavation	Cu. Yd.		249	249
Cofferdam Excavation	Cu. Yd.		340	340
Cofferdam (Type 1) (Location-1)	Each		1	1
Cofferdam (Type 1) (Location-2)	Each		1	1
Concrete Structures	Cu. Yd.		273.5	273.5
Concrete Superstructure	Cu. Yd.	270.9		270.9
Floor Drains	Each	20		20
Bridge Deck Grooving	Sq. Yd.	908		908
Protective Coat	Sq. Yd.	1,158		1,158
Concrete Superstructure (Approach Slab)	Cu. Yd.	106.7		106.7
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	4,068		4,068
Reinforcement Bars, Epoxy Coated	Pound	109,340	22,080	131,420
Bar Splicers	Each	756	198	954
Furnishing Steel Piles HP12X53	Foot		396	396
Furnishing Steel Piles HP14X89	Foot		640	640
Driving Piles	Foot		396	396
Drilling and Setting Piles (In Rock)	Cu. Ft.		604	604
Name Plates	Each	1		1
Elastomeric Bearing Assembly, Type 1	Each	12		12
Anchor Bolts, 5/8"	Each	24		24
Anchor Bolts, 1"	Each	24		24
Temporary Sheet Piling	Sq. Ft.		1,267	1,267
Granular Backfill for Structures	Cu. Yd.		136	136
Pipe Underdrains for Structure 4"	Foot		165	165

† Reinforcement bars designated in the plans with a "†" shall be textured epoxy coated reinforcement bars. See Special Provisions. Total weight of textured epoxy coated reinforcement bars = 92,360 lbs.

**INDEX OF SHEETS**

- 1 - General Plan & Elevation
- 2 - General Data
- 3 - Temporary Sheet Piling
- 4 - Stage Construction Details
- 5 - Temporary Concrete Barrier
- 6-8 - Top of Slab Elevations
- 9 - Top of South Approach Slab Elevations
- 10 - Top of North Approach Slab Elevations
- 11 - Superstructure
- 12-13 - Superstructure Details
- 14 - Diaphragm Details
- 15-16 - Bridge Approach Slab Details
- 17 - Structural Steel
- 18 - Structural Steel Details
- 19 - Bearing Details
- 20 - South Abutment
- 21 - North Abutment
- 22 - Abutment Details
- 23 - Pier 1
- 24 - Pier 2
- 25 - Pier Details
- 26 - HP Pile Details
- 27 - Parapet Slipforming Option
- 28 - Bar Splicer Assembly & Mechanical Splicer Details
- 29-30 - Soil Borings

**Notes:**

Fasteners shall be ASTM F 3125 Grade A325 Type 1. Fasteners shall be hot dip galvanized. See Special Provision for "Hot Dip Galvanizing for Structural Steel". Bolts 7/8"Ø, holes 1 1/8" Ø, unless otherwise noted.  
 Calculated weight of Structural Steel= 140,850 lbs. (M270 Grade 50)  
 Calculated weight of Structural Steel= 19,710 lbs. (M270 Grade 36)  
 No field welding is permitted except as specified in the contract documents. Reinforcement bars designated (E) shall be epoxy coated.  
 Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 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.  
 All new structural steel shall be galvanized. See Special Provisions for "Hot Dip Galvanizing for Structural Steel".  
 Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.  
 The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

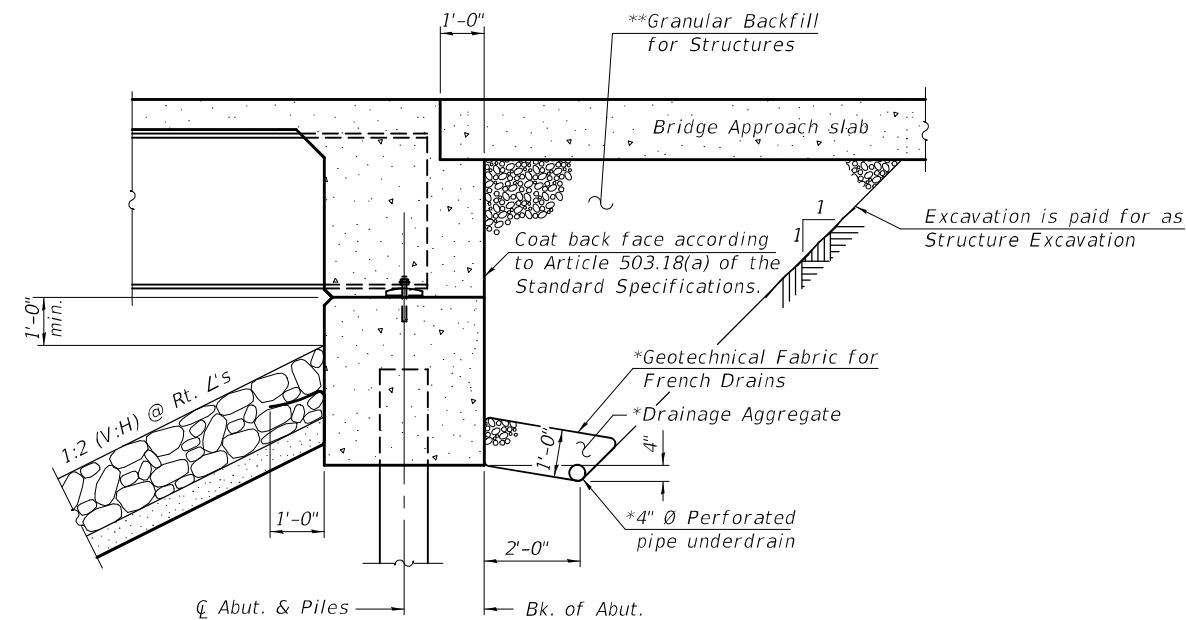
**WATERWAY INFORMATION**

Drainage Area = 26.2 sq. mi.									
Existing Overtopping Elevation = 428.99 at Sta. 1054+77									
Proposed Overtopping Elevation = 428.99 at Sta. 1054+77									
Flood	Freq. Yr.	Q C.F.S.	Opening Ft <sup>2</sup>		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
	10	3910	730	771	418.3	0.5	0.4	418.8	418.7
Design	50	6190	979	1045	420.6	0.5	0.4	421.1	421.0
Base	100	7200	1131	1208	421.9	0.6	0.5	422.5	422.4
Scour Design Check	200	8271	1307	1392	423.3	0.7	0.8	424.0	424.1
Overtopping									
Max. Calc.	500	9710	1572	1665	425.3	1.1	1.3	426.4	426.6

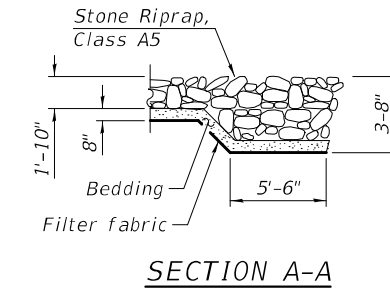
10 year velocity through existing bridge = 5.3 ft/s  
 10 year velocity through proposed bridge = 5.1 ft/s

**DESIGN SCOUR ELEVATION TABLE**

Event / Limit	Design Scour Elevations (ft.)				
	S. Abut.	Pier 1	Pier 2	N. Abut.	Item 113
Q100	421.6	402.0	402.0	421.5	8
Q200	421.6	401.9	401.9	421.5	
Design	421.6	402.0	402.0	421.5	
Check	421.6	401.9	401.9	421.5	



**SECTION THRU INTEGRAL ABUTMENT**  
 (Horiz. dim. @ Rt. L's)



**SECTION A-A**

STATION 1056+48.00  
 BUILT 20 BY  
 STATE OF ILLINOIS  
 F.A.P. RTE. 332 - SEC. (15B2)BR  
 LOADING HL-93  
 STRUCTURE NO. 051-0076

**NAME PLATE**  
 See Std. 515001

**Notes:**

All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).  
 \* Included in the cost of Pipe Underdrains for Structures.  
 \*\*Granular Backfill for Structures shall follow Std. Spec. 586 except the Coarse Aggregate shall be Grade CA 7, CA 11, or CA 14. Granular backfill behind the abutments shall be compacted according to Article 205.06 of the Standard Specifications.

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DESIGNED - RYAN P. NEGANGARD	EXAMINED - <i>Mark Shuffler</i> ENGINEER OF BRIDGE DESIGN	DATE - AUGUST 18, 2023
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED - <i>James F. [Signature]</i> ENGINEER OF BRIDGES AND STRUCTURES	REVISED -
DRAWN - ANDRO R. SAMANIEGO		REVISED -
CHECKED - R.P.N. / G.R.A.		

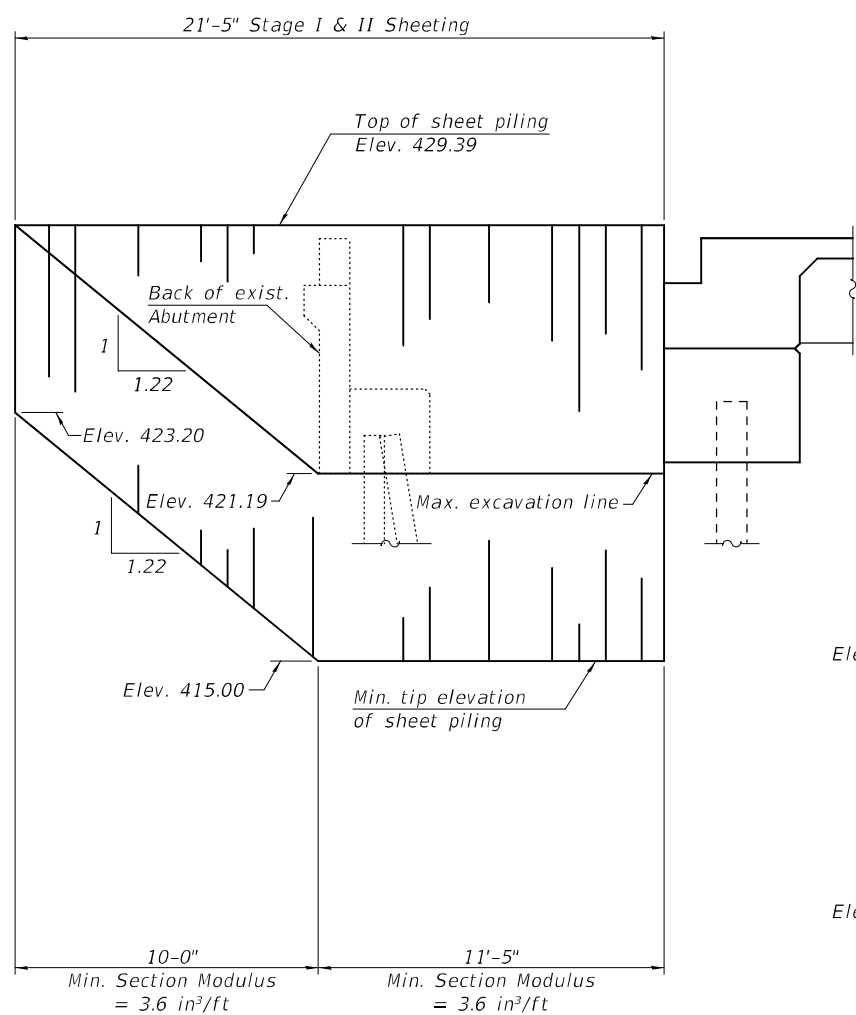
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA**  
**STRUCTURE NO. 051-0076**

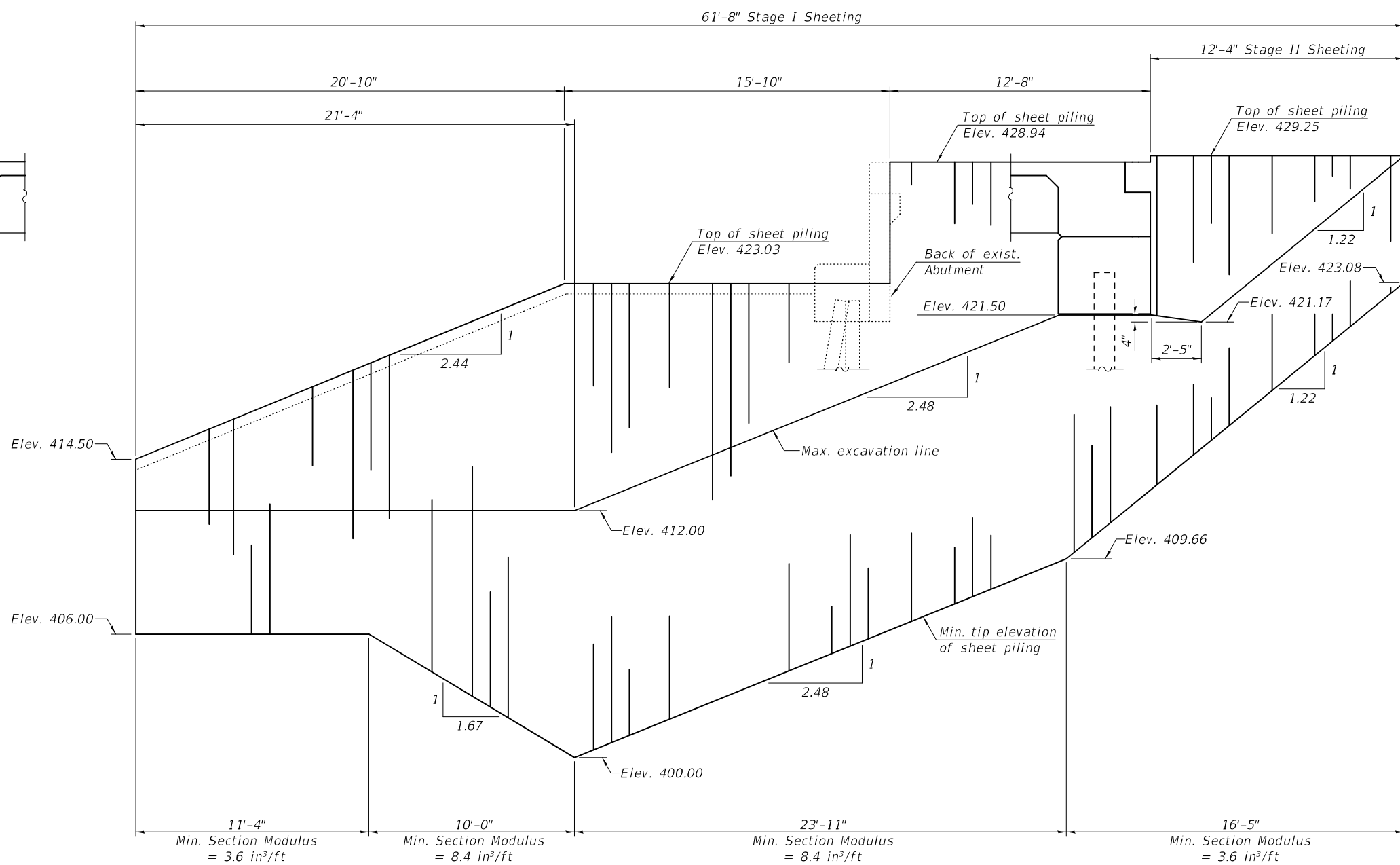
SHEET 2 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	13
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

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**TEMPORARY SHEET PILING**  
 (South Abutment looking West)



**TEMPORARY SHEET PILING**  
 (North Abutment looking West)

**Note:**  
 If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

DESIGNED - RYAN P. NEGANGARD	EXAMINED
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED
DRAWN - ANDRO R. SAMANIEGO	
CHECKED - R.P.N. / G.R.A.	

DATE - AUGUST 18, 2023

*Mark Shuffin*  
 ENGINEER OF BRIDGE DESIGN

*Jayne F. Hoff*  
 ENGINEER OF BRIDGES AND STRUCTURES

REVISÉD -
REVISÉD -

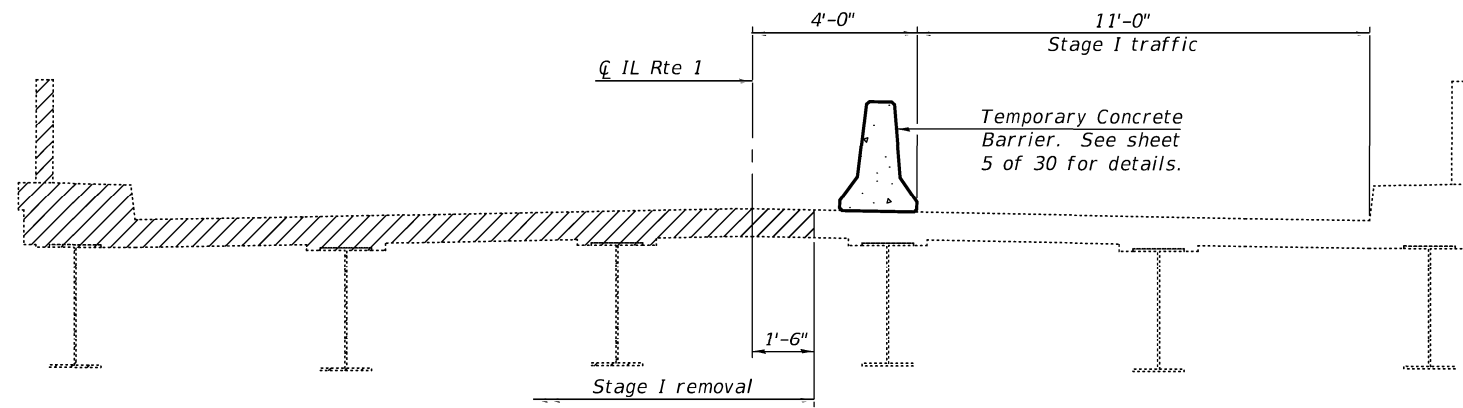
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**TEMPORARY SHEET PILING**  
**STRUCTURE NO. 051-0076**

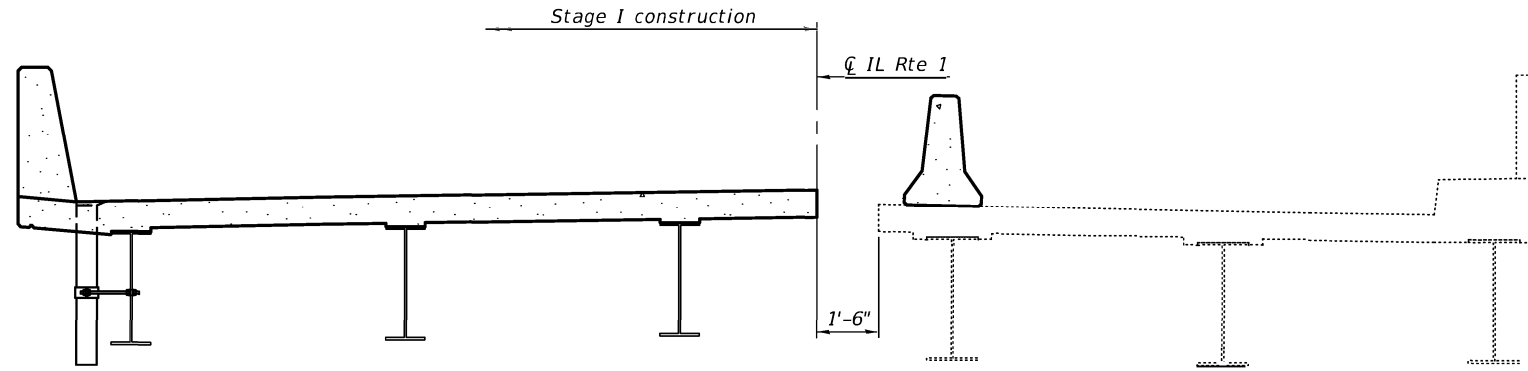
SHEET 3 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	14
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

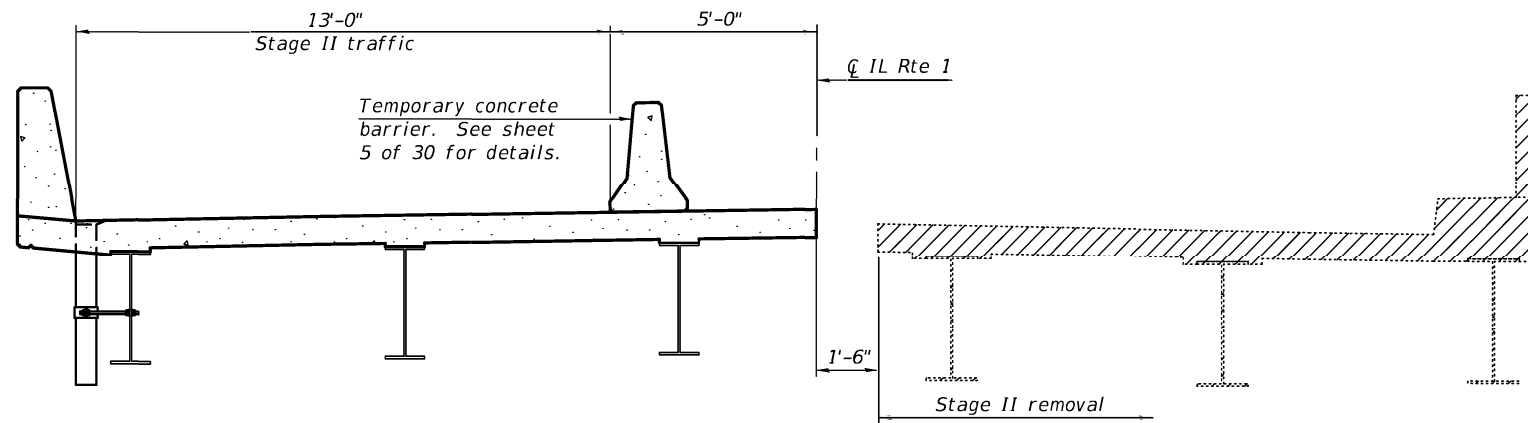
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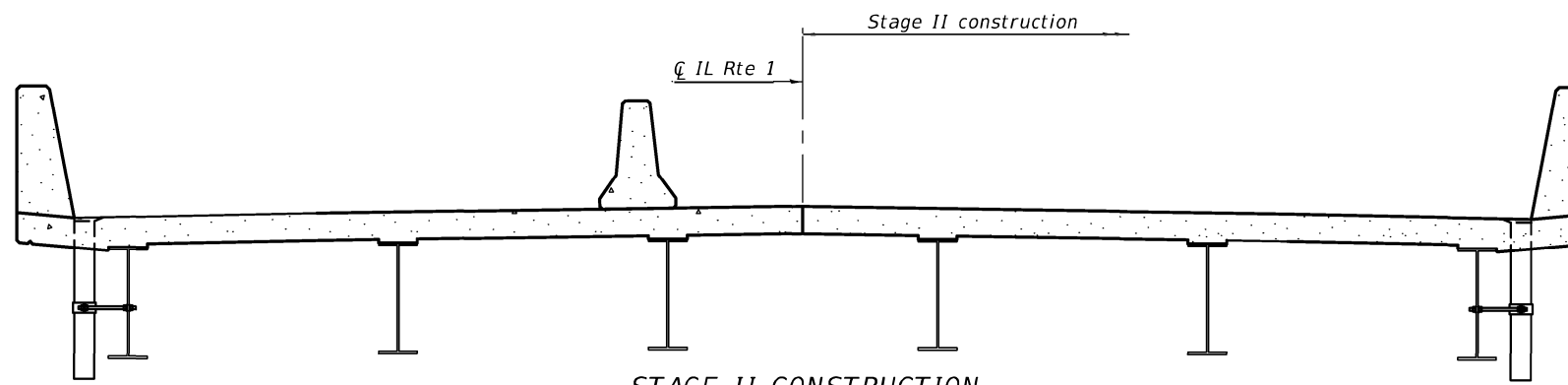
**STAGE I REMOVAL**



**STAGE I CONSTRUCTION**



**STAGE II REMOVAL**



**STAGE II CONSTRUCTION**

Notes:  
 Hatched area indicates Removal of Existing Structures.  
 For quantity of Temporary Concrete Barrier, see Roadway Plans.  
 All staging cross sections are looking North.

DESIGNED - RYAN P. NEGANGARD	EXAMINED - <i>Mark Shelton</i> ENGINEER OF BRIDGE DESIGN	DATE - AUGUST 18, 2023
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED - <i>Joey F. [Signature]</i> ENGINEER OF BRIDGES AND STRUCTURES	REVISED -
DRAWN - ANDRO R. SAMANIEGO		REVISED -
CHECKED - R.P.N. / G.R.A.		

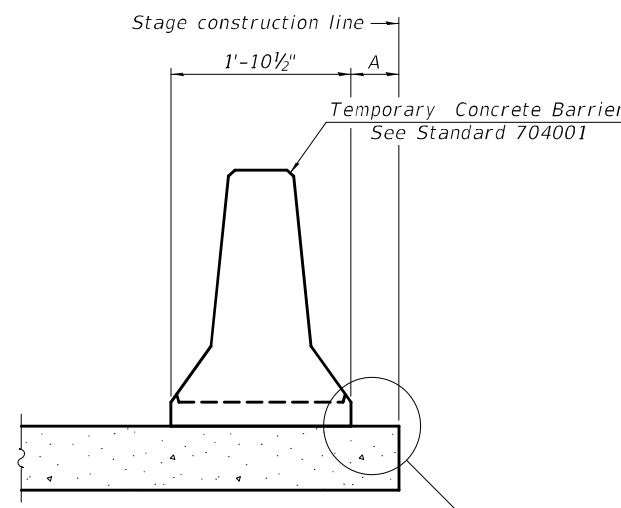
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS  
 STRUCTURE NO. 051-0076**

SHEET 4 OF 30 SHEETS

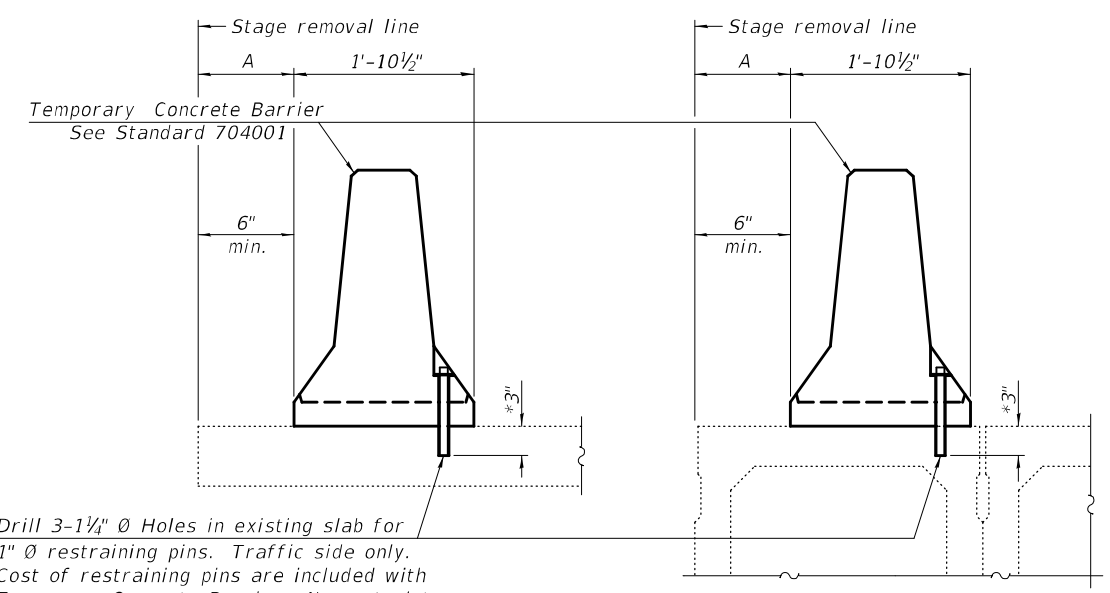
F.A.P. RTE. 332	SECTION (15B2)BR	COUNTY LAWRENCE	TOTAL SHEETS 56	SHEET NO. 15
			CONTRACT NO. 74359	
ILLINOIS FED. AID PROJECT				

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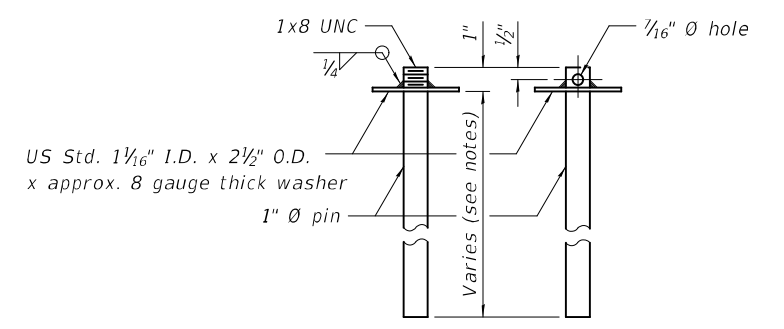
When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

**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".

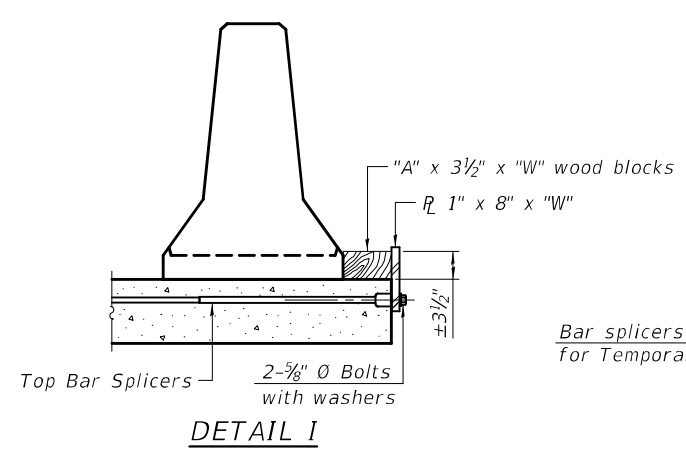
**EXISTING SLAB**      **EXISTING DECK BEAM**



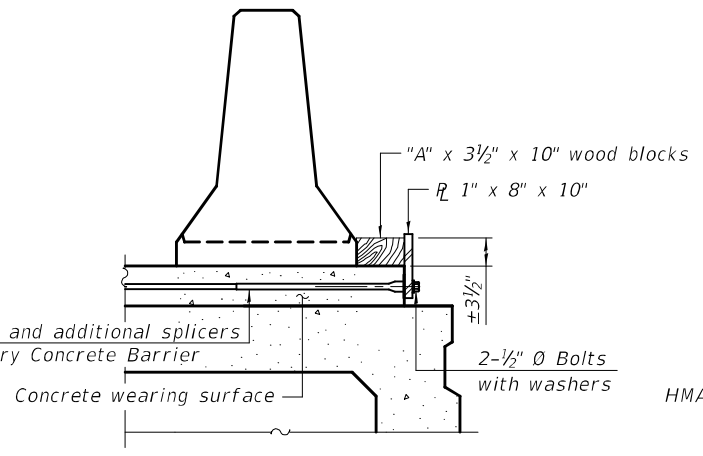
**RESTRAINING PIN**

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

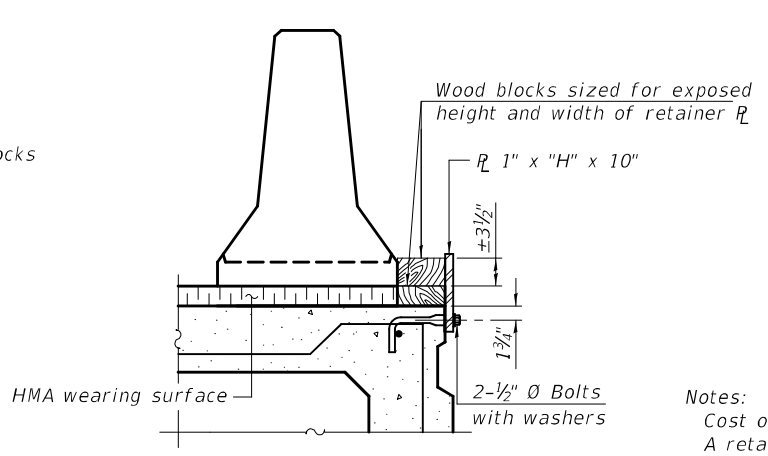
**SECTIONS THRU SLAB OR DECK BEAM**



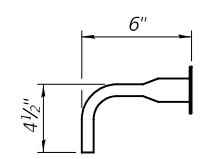
**DETAIL I**



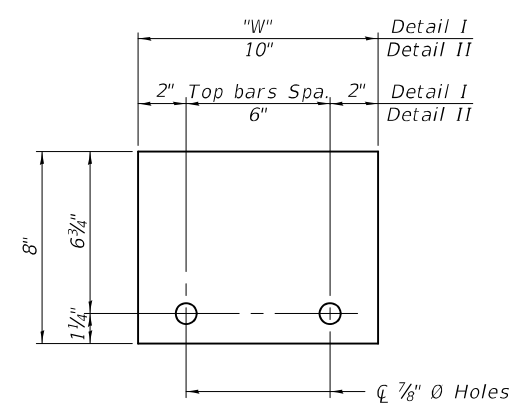
**DETAIL II**



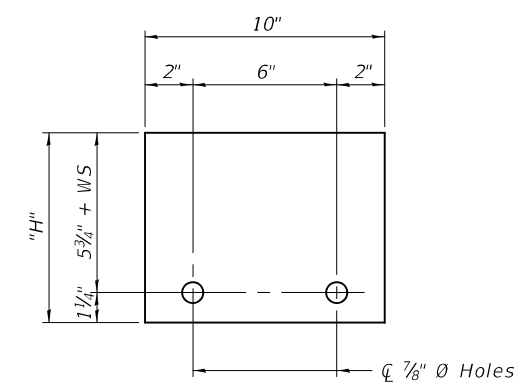
**DETAIL III**



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



**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 center of each temporary concrete barrier.  
 The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.  
 When the 'A' dimension is less than 1 1/2', the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.  
**Detail I** - Installation for a new bridge deck or bridge slab.  
**Detail II** - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.  
**Detail III** - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

**RAILING CRITERIA**

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27      10-12-2021

DESIGNED - RYAN P. NEGANGARD	EXAMINED - <i>Mark Shuffler</i>	DATE - AUGUST 18, 2023
CHECKED - T. L. MEIER / M. A. PAULIONIS	ENGINEER OF BRIDGE DESIGN	
DRAWN - ANDRO R. SAMANIEGO	PASSED - <i>Jayne F. Hoff</i>	REVISER -
CHECKED - R.P.N. / G.R.A.	ENGINEER OF BRIDGES AND STRUCTURES	REVISER -

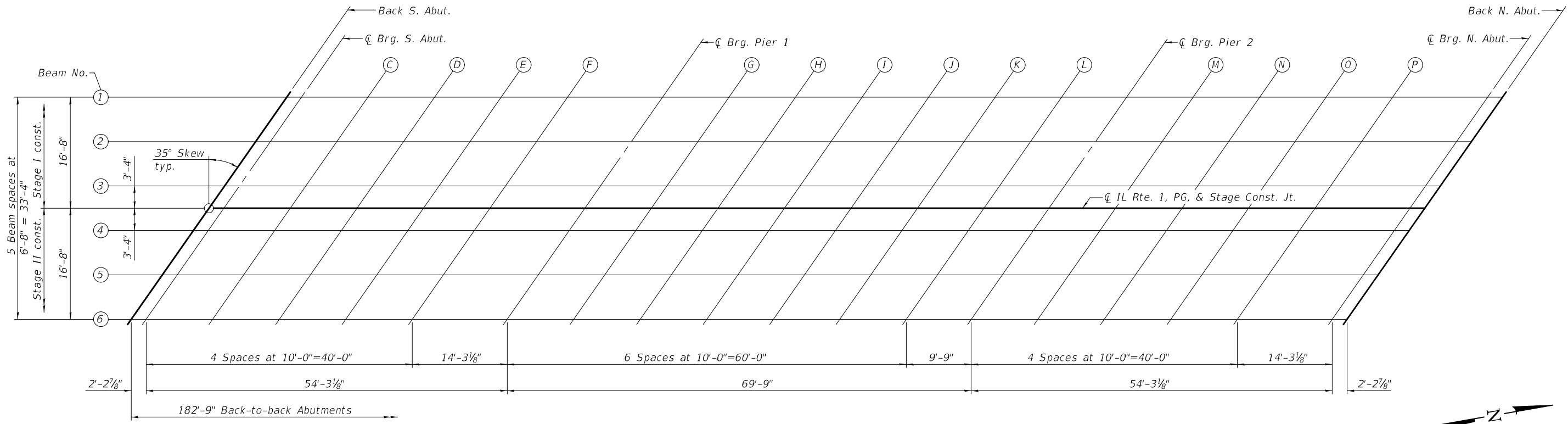
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CONCRETE BARRIER**  
**STRUCTURE NO. 051-0076**

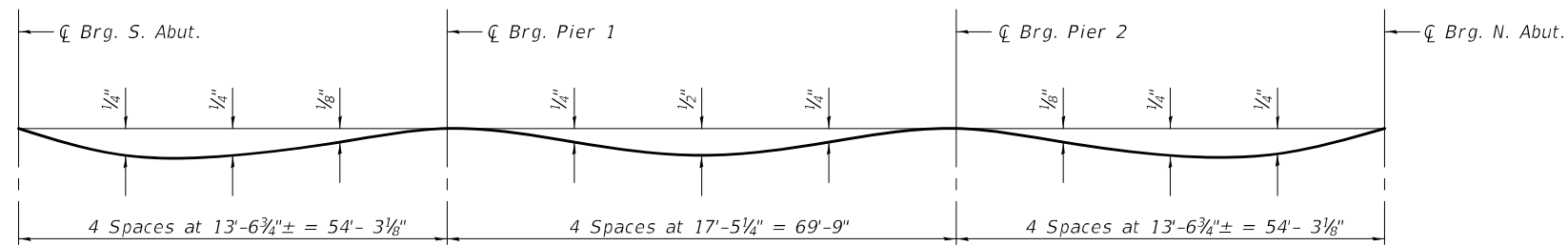
SHEET 5 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	16
ILLINOIS			CONTRACT NO. 74359	
FED. AID PROJECT				





PLAN

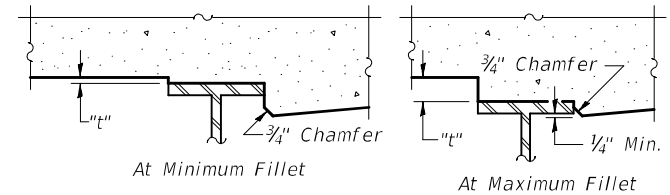


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 7 & 8 of 30.





To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 7 & 8 of 30, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

MODEL: 0510076-74359-006  
 FILE NAME: pw:\idol-pw-bentley.com\FWIDOT\Documents\DOT Offices\Bureau of Bridges and Structures\Projects\0510076\CADD Plans\0510076-74359.dgn

DESIGNED - RYAN P. NEGANGARD	EXAMINED
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED
DRAWN - ANDRO R. SAMANIEGO	
CHECKED - R.P.N. / G.R.A.	

DATE - AUGUST 18, 2023

  
 ENGINEER OF BRIDGE DESIGN  
  
 ENGINEER OF BRIDGES AND STRUCTURES

REVISD -
REVISD -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATION  
 STRUCTURE NO. 051-0076

SHEET 6 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	17
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

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**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
BK. of S. Abut.	1055+68.30	-16.67	429.11	429.11
Q Brg. S. Abut.	1055+70.54	-16.67	429.11	429.11
C	1055+80.54	-16.67	429.10	429.12
D	1055+90.54	-16.67	429.10	429.12
E	1056+00.54	-16.67	429.09	429.11
F	1056+10.54	-16.67	429.08	429.10
Q Brg. Pier 1	1056+24.80	-16.67	429.07	429.07
G	1056+34.80	-16.67	429.07	429.08
H	1056+44.80	-16.67	429.06	429.09
I	1056+54.80	-16.67	429.05	429.09
J	1056+64.80	-16.67	429.04	429.08
K	1056+74.80	-16.67	429.04	429.06
L	1056+84.80	-16.67	429.03	429.04
Q Brg. Pier 2	1056+94.55	-16.67	429.02	429.02
M	1057+04.55	-16.67	429.01	429.02
N	1057+14.55	-16.67	429.00	429.02
O	1057+24.55	-16.67	428.99	429.02
P	1057+34.55	-16.67	428.99	429.01
Q Brg. N. Abut.	1057+48.81	-16.67	428.97	428.97
Bk. of N. Abut.	1057+51.05	-16.67	428.97	428.97

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
BK. of S. Abut.	1055+63.63	-10.00	429.24	429.24
Q Brg. S. Abut.	1055+65.87	-10.00	429.24	429.24
C	1055+75.87	-10.00	429.23	429.25
D	1055+85.87	-10.00	429.22	429.25
E	1055+95.87	-10.00	429.22	429.24
F	1056+05.87	-10.00	429.21	429.22
Q Brg. Pier 1	1056+20.13	-10.00	429.20	429.20
G	1056+30.13	-10.00	429.19	429.21
H	1056+40.13	-10.00	429.19	429.22
I	1056+50.13	-10.00	429.18	429.22
J	1056+60.13	-10.00	429.17	429.21
K	1056+70.13	-10.00	429.16	429.19
L	1056+80.13	-10.00	429.16	429.17
Q Brg. Pier 2	1056+89.88	-10.00	429.15	429.15
M	1056+99.88	-10.00	429.14	429.15
N	1057+09.88	-10.00	429.13	429.15
O	1057+19.88	-10.00	429.12	429.15
P	1057+29.88	-10.00	429.11	429.14
Q Brg. N. Abut.	1057+44.14	-10.00	429.10	429.10
Bk. of N. Abut.	1057+46.38	-10.00	429.10	429.10

**BEAM 3**



Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
BK. of S. Abut.	1055+58.96	-3.33	429.34	429.34
Q Brg. S. Abut.	1055+61.20	-3.33	429.34	429.34
C	1055+71.20	-3.33	429.33	429.35
D	1055+81.20	-3.33	429.33	429.35
E	1055+91.20	-3.33	429.32	429.34
F	1056+01.20	-3.33	429.31	429.33
Q Brg. Pier 1	1056+15.46	-3.33	429.30	429.30
G	1056+25.46	-3.33	429.30	429.31
H	1056+35.46	-3.33	429.29	429.32
I	1056+45.46	-3.33	429.28	429.32
J	1056+55.46	-3.33	429.28	429.31
K	1056+65.46	-3.33	429.27	429.30
L	1056+75.46	-3.33	429.26	429.27
Q Brg. Pier 2	1056+85.21	-3.33	429.25	429.25
M	1056+95.21	-3.33	429.24	429.25
N	1057+05.21	-3.33	429.23	429.25
O	1057+15.21	-3.33	429.23	429.25
P	1057+25.21	-3.33	429.22	429.24
Q Brg. N. Abut.	1057+39.48	-3.33	429.20	429.20
Bk. of N. Abut.	1057+41.71	-3.33	429.20	429.20

**Q IL RTE 1, PG, & STAGE CONST. JT.**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
BK. of S. Abut.	1055+56.63	0.00	429.39	429.39
Q Brg. S. Abut.	1055+58.87	0.00	429.39	429.39
C	1055+68.87	0.00	429.39	429.40
D	1055+78.87	0.00	429.38	429.40
E	1055+88.87	0.00	429.37	429.39
F	1055+98.87	0.00	429.37	429.38
Q Brg. Pier 1	1056+13.13	0.00	429.36	429.36
G	1056+23.13	0.00	429.35	429.36
H	1056+33.13	0.00	429.34	429.37
I	1056+43.13	0.00	429.33	429.37
J	1056+53.13	0.00	429.33	429.37
K	1056+63.13	0.00	429.32	429.35
L	1056+73.13	0.00	429.31	429.33
Q Brg. Pier 2	1056+82.88	0.00	429.30	429.30
M	1056+92.88	0.00	429.29	429.30
N	1057+02.88	0.00	429.29	429.30
O	1057+12.88	0.00	429.28	429.30
P	1057+22.88	0.00	429.27	429.29
Q Brg. N. Abut.	1057+37.14	0.00	429.26	429.26
Bk. of N. Abut.	1057+39.38	0.00	429.25	429.25

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DESIGNED - RYAN P. NEGANGARD	EXAMINED
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED
DRAWN - ANDRO R. SAMANIEGO	
CHECKED - R.P.N. / G.R.A.	

  
 ENGINEER OF BRIDGE DESIGN  
  
 ENGINEER OF BRIDGES AND STRUCTURES

DATE - AUGUST 18, 2023

REVISED -

REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATION  
STRUCTURE NO. 051-0076**

SHEET 7 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	18
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
BK. of S. Abut.	1055+54.30	3.33	429.35	429.35
☒ Brg. S. Abut.	1055+56.53	3.33	429.34	429.34
C	1055+66.53	3.33	429.34	429.35
D	1055+76.53	3.33	429.33	429.35
E	1055+86.53	3.33	429.32	429.35
F	1055+96.53	3.33	429.32	429.33
☒ Brg. Pier 1	1056+10.80	3.33	429.31	429.31
G	1056+20.80	3.33	429.30	429.32
H	1056+30.80	3.33	429.29	429.32
I	1056+40.80	3.33	429.29	429.33
J	1056+50.80	3.33	429.28	429.32
K	1056+60.80	3.33	429.27	429.30
L	1056+70.80	3.33	429.26	429.28
☒ Brg. Pier 2	1056+80.55	3.33	429.26	429.26
M	1056+90.55	3.33	429.25	429.25
N	1057+00.55	3.33	429.24	429.26
O	1057+10.55	3.33	429.23	429.25
P	1057+20.55	3.33	429.22	429.24
☒ Brg. N. Abut.	1057+34.81	3.33	429.21	429.21
Bk. of N. Abut.	1057+37.05	3.33	429.21	429.21


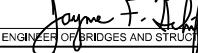
**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
BK. of S. Abut.	1055+49.63	10.00	429.25	429.25
☒ Brg. S. Abut.	1055+51.87	10.00	429.25	429.25
C	1055+61.87	10.00	429.24	429.26
D	1055+71.87	10.00	429.23	429.26
E	1055+81.87	10.00	429.23	429.25
F	1055+91.87	10.00	429.22	429.23
☒ Brg. Pier 1	1056+06.13	10.00	429.21	429.21
G	1056+16.13	10.00	429.20	429.22
H	1056+26.13	10.00	429.20	429.23
I	1056+36.13	10.00	429.19	429.23
J	1056+46.13	10.00	429.18	429.22
K	1056+56.13	10.00	429.18	429.20
L	1056+66.13	10.00	429.17	429.18
☒ Brg. Pier 2	1056+75.88	10.00	429.16	429.16
M	1056+85.88	10.00	429.15	429.16
N	1056+95.88	10.00	429.14	429.16
O	1057+05.88	10.00	429.13	429.16
P	1057+15.88	10.00	429.13	429.15
☒ Brg. N. Abut.	1057+30.14	10.00	429.11	429.11
Bk. of N. Abut.	1057+32.38	10.00	429.11	429.11

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Dead Load Deflection
BK. of S. Abut.	1055+44.96	16.67	429.13	429.13
☒ Brg. S. Abut.	1055+47.20	16.67	429.13	429.13
C	1055+57.20	16.67	429.12	429.14
D	1055+67.20	16.67	429.11	429.14
E	1055+77.20	16.67	429.11	429.13
F	1055+87.20	16.67	429.10	429.11
☒ Brg. Pier 1	1056+01.46	16.67	429.09	429.09
G	1056+11.46	16.67	429.08	429.10
H	1056+21.46	16.67	429.08	429.10
I	1056+31.46	16.67	429.07	429.11
J	1056+41.46	16.67	429.06	429.10
K	1056+51.46	16.67	429.06	429.08
L	1056+61.46	16.67	429.05	429.06
☒ Brg. Pier 2	1056+71.21	16.67	429.04	429.04
M	1056+81.21	16.67	429.03	429.04
N	1056+91.21	16.67	429.02	429.04
O	1057+01.21	16.67	429.01	429.04
P	1057+11.21	16.67	429.01	429.03
☒ Brg. N. Abut.	1057+25.47	16.67	428.99	428.99
Bk. of N. Abut.	1057+27.71	16.67	428.99	428.99

MODEL: 0510076-74359-008  
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DESIGNED - RYAN P. NEGANGARD	EXAMINED	DATE - AUGUST 18, 2023
CHECKED - T. L. MEIER / M. A. PAULIONIS	 ENGINEER OF BRIDGE DESIGN	
DRAWN - ANDRO R. SAMANIEGO	PASSED	REVISED -
CHECKED - R.P.N. / G.R.A.	 ENGINEER OF BRIDGES AND STRUCTURES	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATION  
STRUCTURE NO. 051-0076**

SHEET 8 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	19
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

WEST EDGE OF SHOULDER

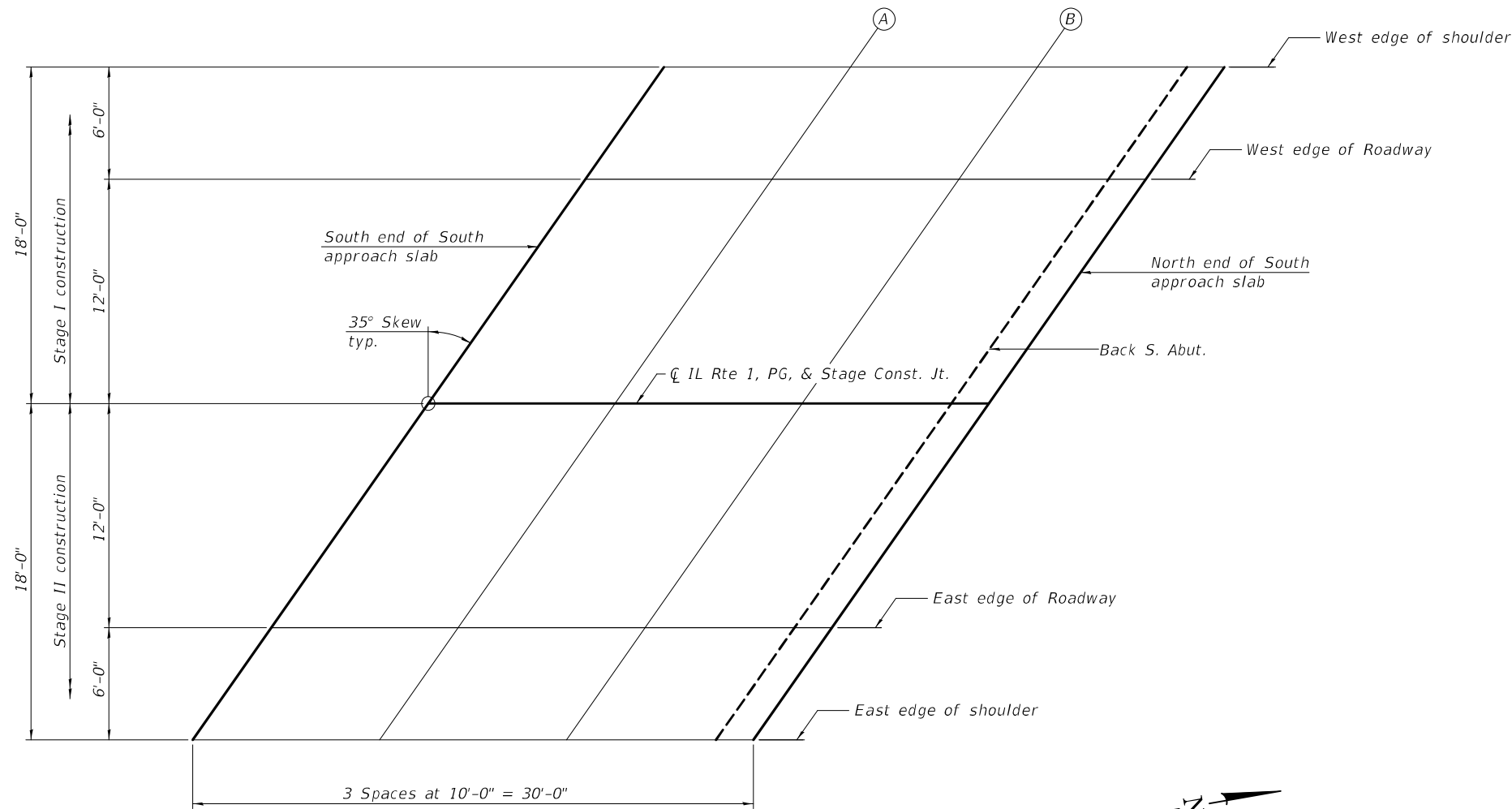
Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr. Slab	1055+40.45	-18.00	429.11
A	1055+50.45	-18.00	429.10
B	1055+60.45	-18.00	429.09
N. End of S. Appr. Slab	1055+70.45	-18.00	429.09

WEST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr. Slab	1055+36.25	-12.00	429.23
A	1055+46.25	-12.00	429.22
B	1055+56.25	-12.00	429.21
N. End of S. Appr. Slab	1055+66.25	-12.00	429.21

CL RTE 1, PG, & STAGE CONST. JT.

Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr. Slab	1055+27.85	0.00	429.41
A	1055+37.85	0.00	429.41
B	1055+47.85	0.00	429.40
N. End of S. Appr. Slab	1055+57.85	0.00	429.39



PLAN

EAST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr. Slab	1055+19.45	12.00	429.24
A	1055+29.45	12.00	429.23
B	1055+39.45	12.00	429.23
N. End of S. Appr. Slab	1055+49.45	12.00	429.22

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End of S. Appr. Slab	1055+15.25	18.00	429.12
A	1055+25.25	18.00	429.12
B	1055+35.25	18.00	429.11
N. End of S. Appr. Slab	1055+45.25	18.00	429.10

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DESIGNED - RYAN P. NEGANGARD  
CHECKED - T. L. MEIER / M. A. PAULIONIS  
DRAWN - ANDRO R. SAMANIEGO  
CHECKED - R.P.N. / G.R.A.

EXAMINED  
PASSED  
ENGINEER OF BRIDGE DESIGN  
ENGINEER OF BRIDGES AND STRUCTURES

DATE - AUGUST 18, 2023  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SOUTH APPROACH SLAB ELEVATION  
STRUCTURE NO. 051-0076**

SHEET 9 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	20
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

WEST EDGE OF SHOULDER

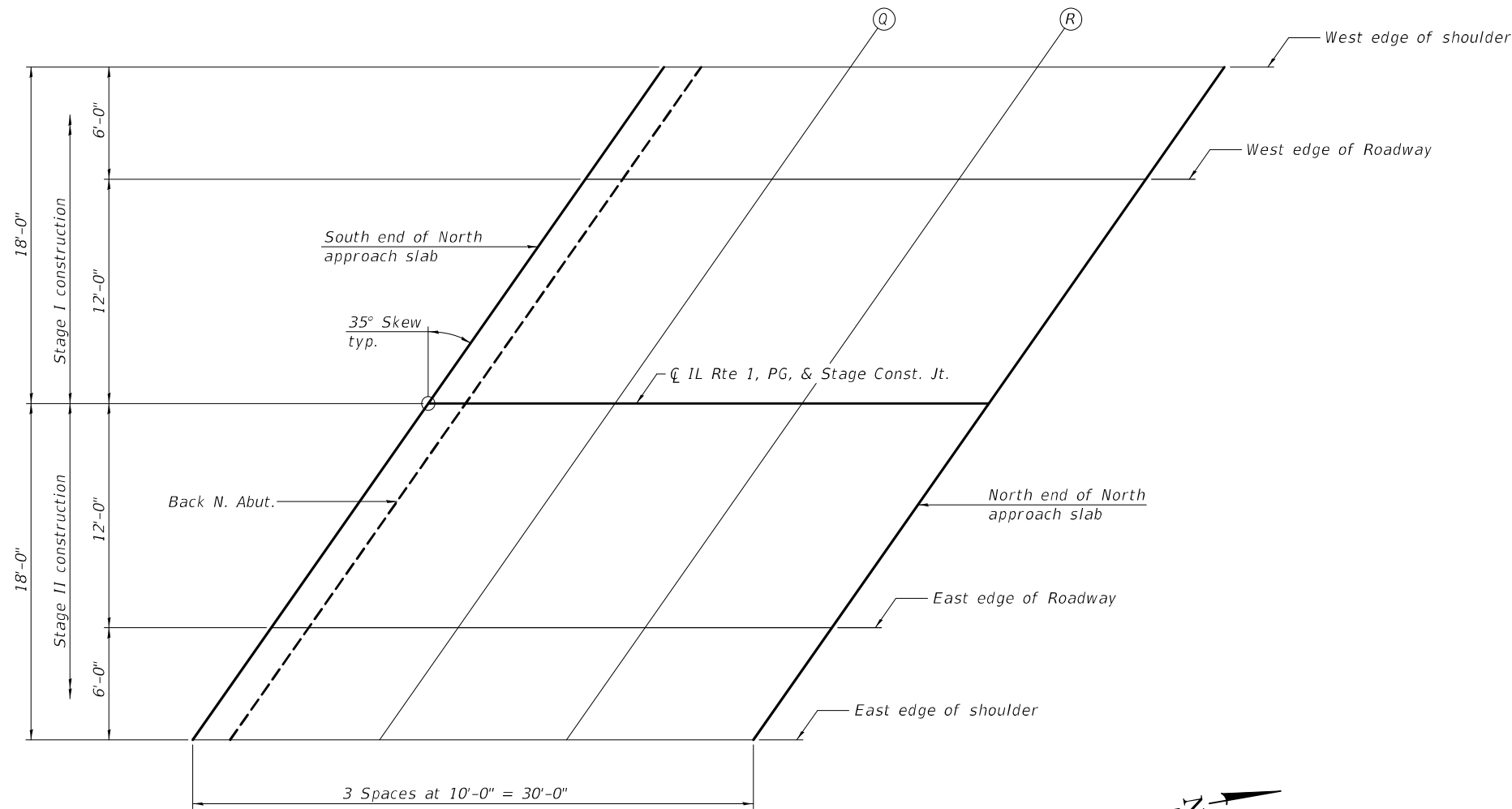
Location	Station	Offset	Theoretical Grade Elevations
S. End of N. Appr. Slab	1057+50.75	-18.00	428.94
Q	1057+60.75	-18.00	428.94
R	1057+70.75	-18.00	428.93
N. End of N. Appr. Slab	1057+80.75	-18.00	428.92

WEST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
S. End of N. Appr. Slab	1057+46.55	-12.00	429.07
Q	1057+56.55	-12.00	429.06
R	1057+66.55	-12.00	429.05
N. End of N. Appr. Slab	1057+76.55	-12.00	429.04

CL RTE 1, PG, & STAGE CONST. JT.

Location	Station	Offset	Theoretical Grade Elevations
S. End of N. Appr. Slab	1057+38.15	0.00	429.26
Q	1057+48.15	0.00	429.25
R	1057+58.15	0.00	429.24
N. End of N. Appr. Slab	1057+68.15	0.00	429.23



PLAN

EAST EDGE OF ROADWAY

Location	Station	Offset	Theoretical Grade Elevations
S. End of N. Appr. Slab	1057+29.75	12.00	429.08
Q	1057+39.75	12.00	429.07
R	1057+49.75	12.00	429.07
N. End of N. Appr. Slab	1057+59.75	12.00	429.06

EAST EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
S. End of N. Appr. Slab	1057+25.55	18.00	428.97
Q	1057+35.55	18.00	428.96
R	1057+45.55	18.00	428.95
N. End of N. Appr. Slab	1057+55.55	18.00	428.94

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DESIGNED - RYAN P. NEGANGARD	EXAMINED - <i>Mark Shuffin</i>
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED - <i>Jaime F. [Signature]</i>
DRAWN - ANDRO R. SAMANIEGO	
CHECKED - R.P.N. / G.R.A.	

DATE - AUGUST 18, 2023

REVISOR -

REVISIONS -

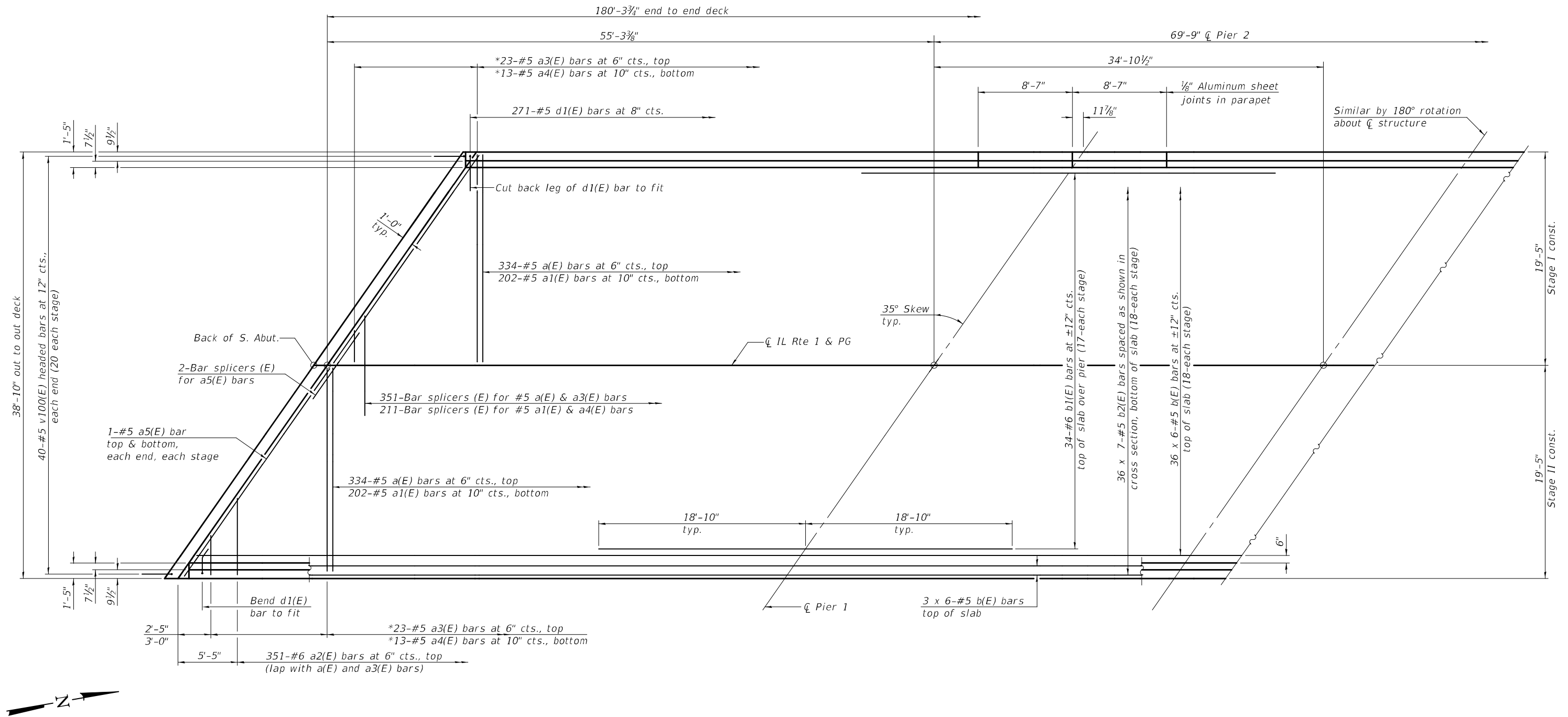
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF NORTH APPROACH SLAB ELEVATION  
STRUCTURE NO. 051-0076**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	21
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

SHEET 10 OF 30 SHEETS

MODEL: 0510076-74359-011  
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**MINIMUM BAR LAP**

#5 bar = 3'-6"

\* See Field Cutting Diagram on sheet 13 of 30.

**PARTIAL PLAN**

**Notes:**

See sheet 12 & 13 of 30 for superstructure details and Bill of Material.  
 Bars indicated thus 36 x 6-#5 etc. indicates 36 lines of bars with 6 lengths per line.

DESIGNED - RYAN P. NEGANGARD	EXAMINED - <i>Mark Shuffler</i>
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED - <i>Joey F. Hoff</i>
DRAWN - ANDRO R. SAMANIEGO	
CHECKED - R.P.N. / G.R.A.	

DATE - AUGUST 18, 2023
REVISIONS
REVISIONS

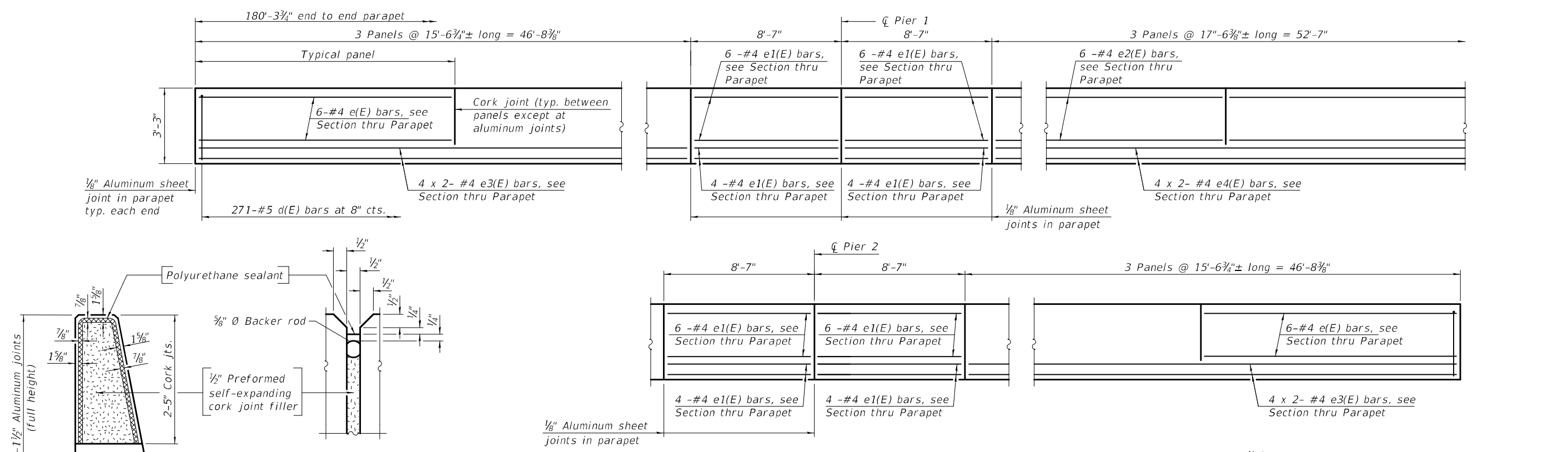
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE  
 STRUCTURE NO. 051-0076**

SHEET 11 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	22
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

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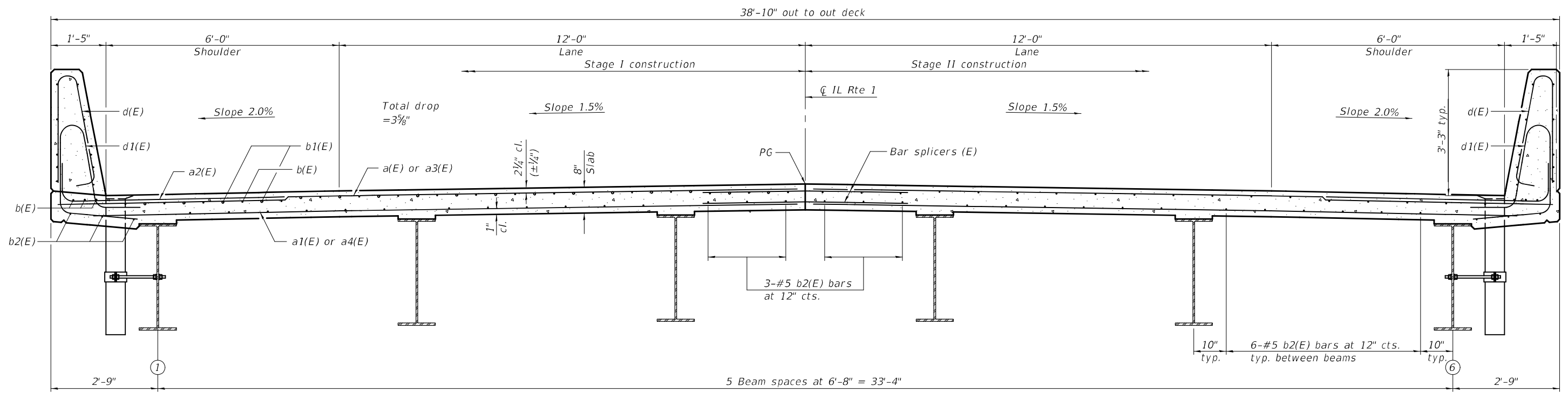


**PARAPET JOINT DETAILS**

**MINIMUM BAR LAP**  
#4 bar = 2'-5"

**INSIDE ELEVATION OF PARAPET**

**Notes:**  
 See sheet 13 of 30 for superstructure details and Bill of Material.  
 Bars indicated thus 4 x 2-#5 etc. indicates 4 lines of bars with 2 lengths per line.



**NEAR PIER**

**CROSS SECTION**  
(Looking North)

**NEAR MIDSPAN**

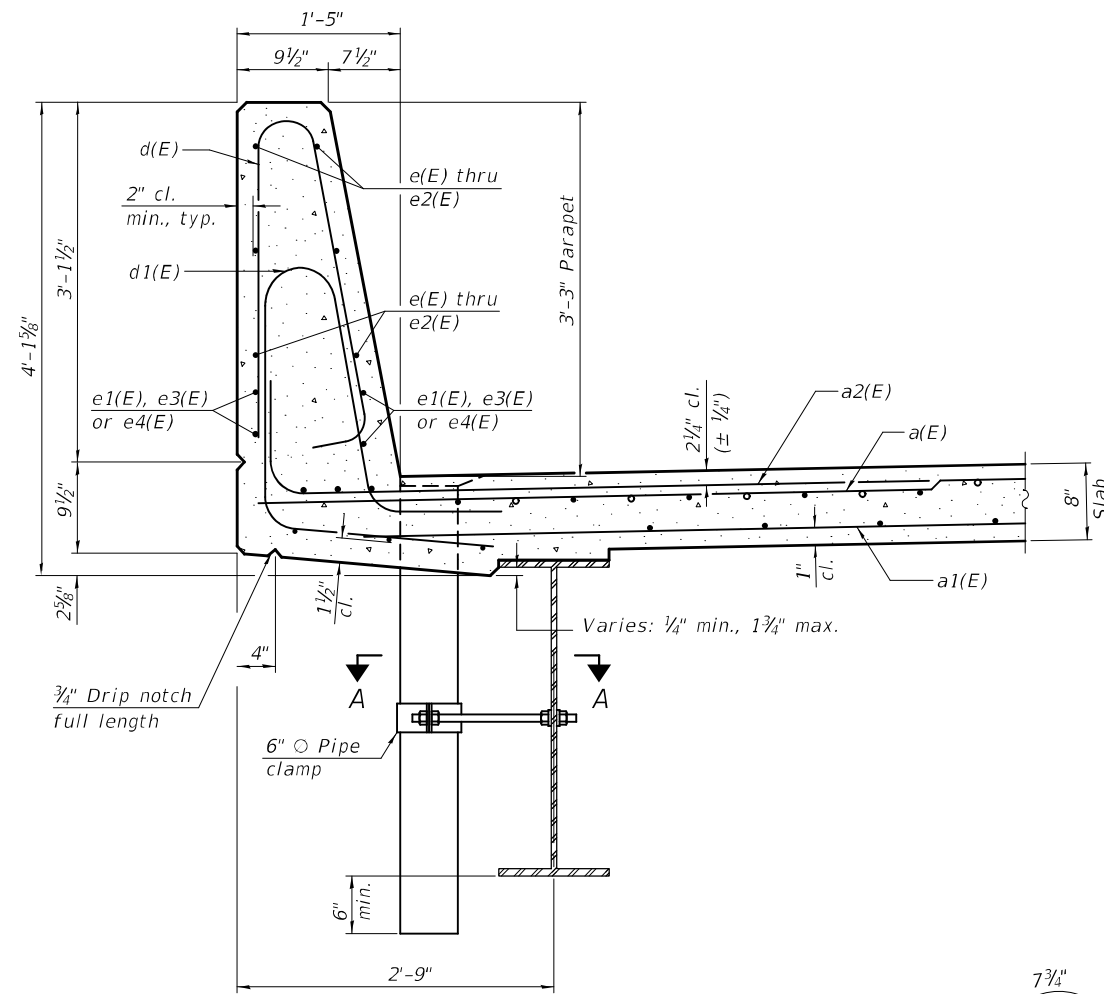
DESIGNED - RYAN P. NEGANGARD	EXAMINED - <i>Mark Shuffler</i>	DATE - AUGUST 18, 2023
CHECKED - T. L. MEIER / M. A. PAULIONIS	ENGINEER OF BRIDGE DESIGN	
DRAWN - ANDRO R. SAMANIEGO	PASSED - <i>Jaime F. ...</i>	REVISED -
CHECKED - R.P.N. / G.R.A.	ENGINEER OF BRIDGES AND STRUCTURES	REVISED -

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

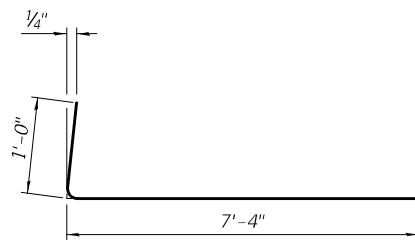
**SUPERSTRUCTURE DETAILS**  
**STRUCTURE NO. 051-0076**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	23
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

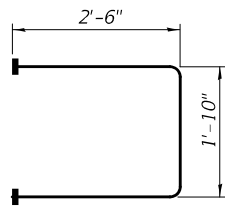
SHEET 12 OF 30 SHEETS



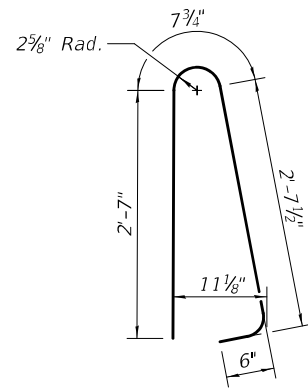
SECTION THRU PARAPET



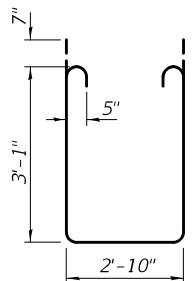
BAR a2(E)



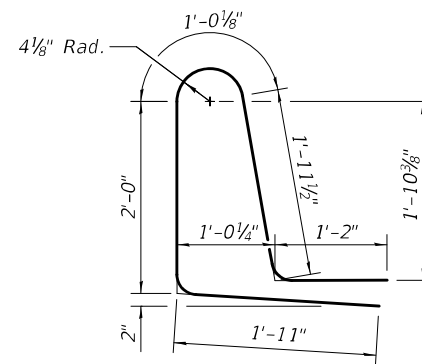
BAR s10(E)  
(Headed)



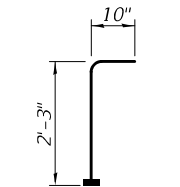
BAR d(E)



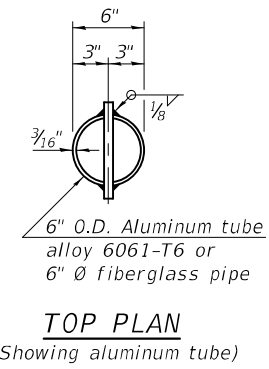
BAR s11(E)



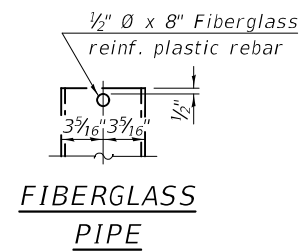
BAR d1(E)



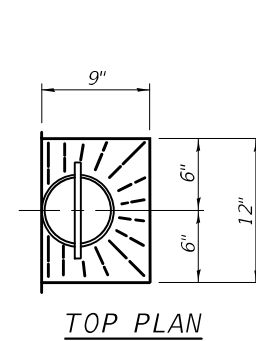
BAR v100(E)  
(Headed)



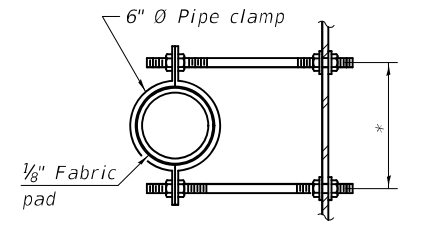
ALUMINUM  
TUBE



FIBERGLASS  
PIPE



TOP PLAN  
(Showing aluminum tube)



SECTION A-A

\*Dimension as required by pipe clamp

Notes:

Fiberglass pipe shall conform to ASTM D2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.

The exterior surfaces of the floor drains shall be painted according to Article 506 with the finish coat as specified. The exterior surfaces of the drains shall be cleaned according to the Society of Protective Coatings Spec. SSPC-SP1 prior to painting.

The top portion of aluminum floor drains shall be coated to minimize reaction with wet concrete.

The clamping device shall be galvanized according to AASHTO M 232. Cost of clamping device included with Floor Drains.

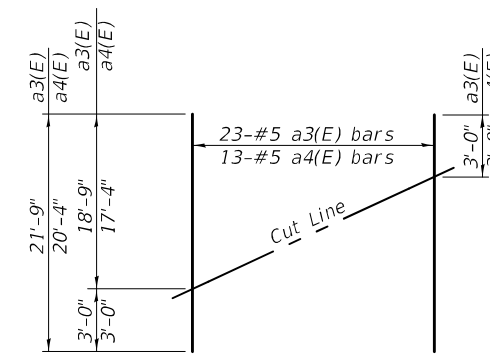
The Polyurethane Sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.

SUPERSTRUCTURE  
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
† a(E)	668	#5	19'-1"	—
† a1(E)	404	#5	18'-3"	—
† a2(E)	702	#6	8'-4"	└
† a3(E)	46	#5	21'-9"	—
† a4(E)	26	#5	20'-4"	—
† a5(E)	8	#5	23'-4"	—
† b(E)	252	#5	32'-11"	—
† b1(E)	68	#6	37'-8"	—
† b2(E)	252	#5	28'-9"	—
d(E)	542	#5	6'-5"	└
d1(E)	542	#5	8'-1"	└
† e(E)	72	#4	15'-3"	—
† e1(E)	80	#4	8'-3"	—
† e2(E)	36	#4	17'-3"	—
† e3(E)	32	#4	24'-5"	—
† e4(E)	16	#4	27'-4"	—
m10(E)	16	#6	23'-4"	—
m11(E)	24	#6	7'-9"	—
m12(E)	12	#6	3'-0"	—
s10(E)	72	#5	6'-10"	└
s11(E)	72	#5	10'-2"	└
v100(E)	80	#5	3'-1"	└
Reinforcement Bars, Epoxy Coated	Pound		64,650	
Concrete Superstructure	Cu. Yd.		263.1	

† Reinforcement bars shall be textured epoxy coated reinforcement bars. See Special Provisions.



FIELD CUTTING DIAGRAM

Order a3(E) and a4(E) bars full length. Cut as shown and use remainder of bars in opposite end of deck.

MODEL: 0510076-74359-013  
FILE NAME: pw:\idol-pw-bentley.com\FWIDOT\Documents\DOT Offices\Bureau of Bridges and Structures\Projects\0510076\CADD Plans\0510076-74359.dgn  
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DESIGNED - RYAN P. NEGANGARD  
CHECKED - T. L. MEIER / M. A. PAULIONIS  
DRAWN - ANDRO R. SAMANIEGO  
CHECKED - R.P.N. / G.R.A.

EXAMINED  
PASSED

*Mark Shuffler*  
ENGINEER OF BRIDGE DESIGN  
*Jaime F. ...*  
ENGINEER OF BRIDGES AND STRUCTURES

DATE - AUGUST 18, 2023

REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

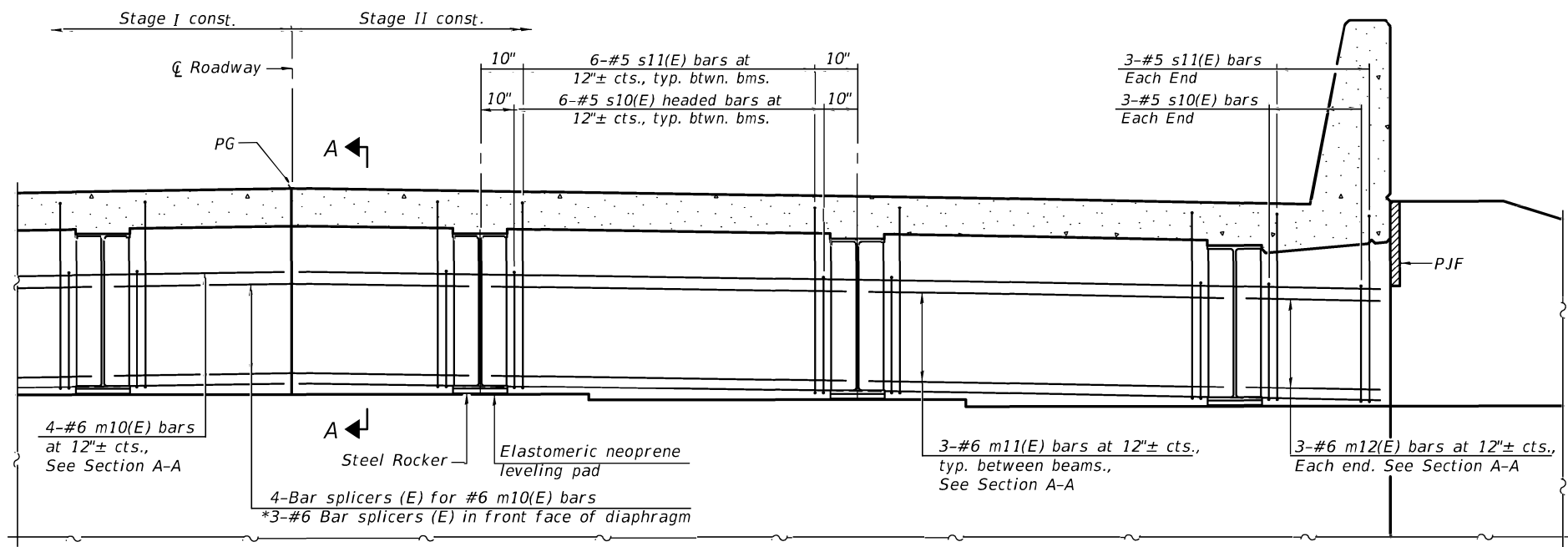
SUPERSTRUCTURE DETAILS  
STRUCTURE NO. 051-0076

SHEET 13 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	24
CONTRACT NO. 74359				

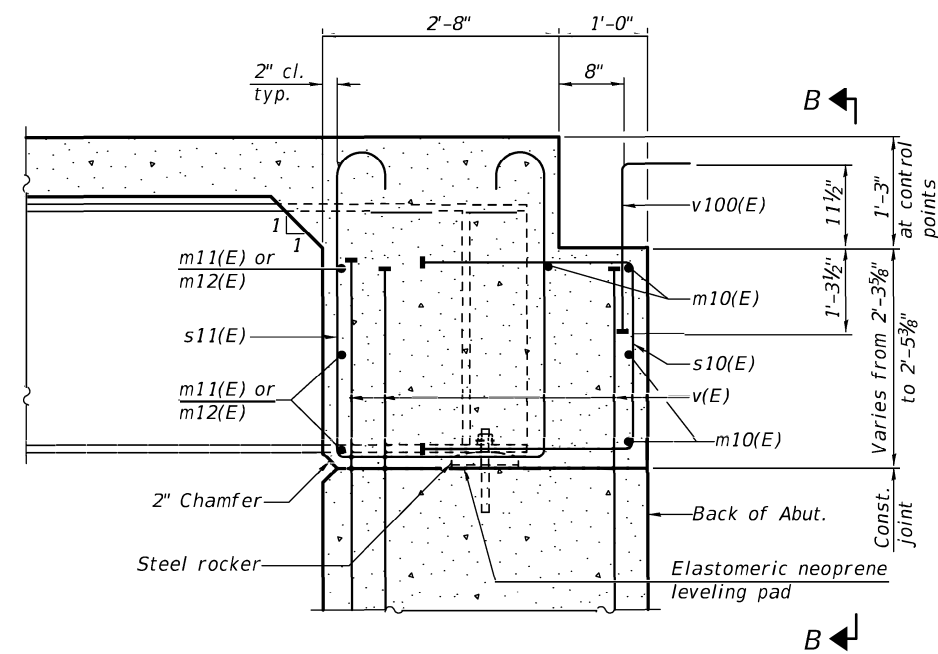
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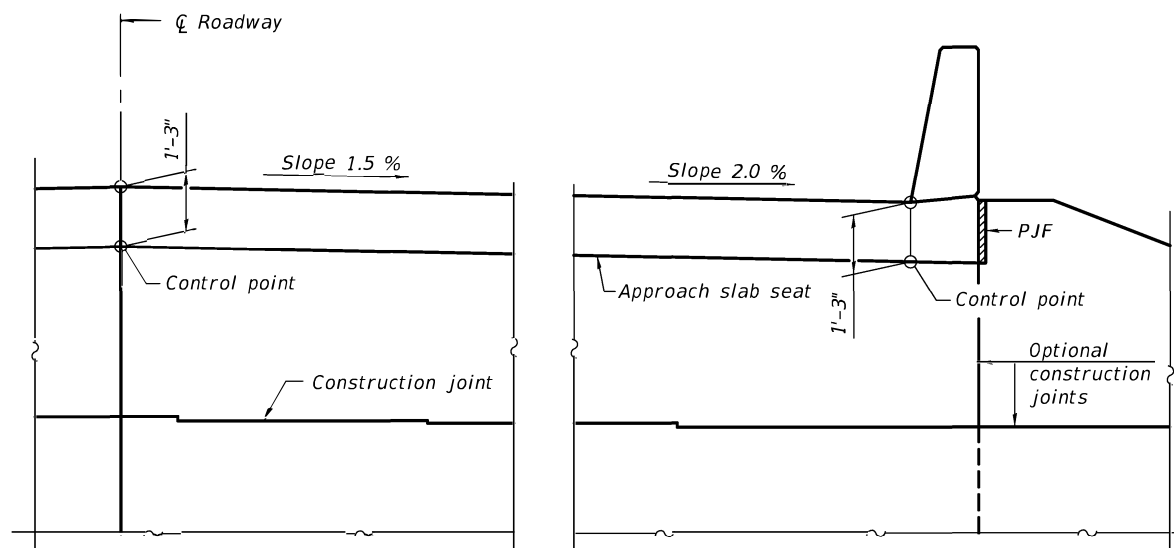


**DIAPHRAGM AT ABUTMENT**  
(North abutment shown, South abutment similar)

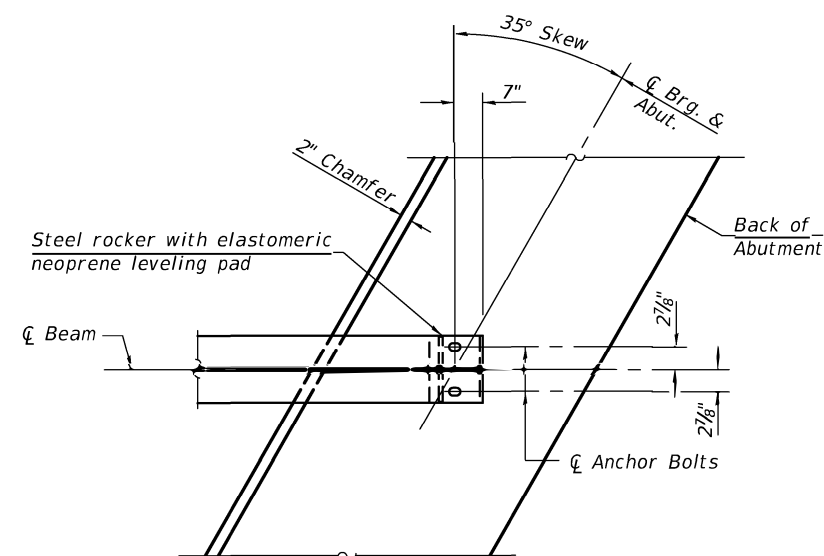
\*See sheet 28 of 30 for detail of bar splicer in front face of diaphragm.



**SECTION A-A**  
(Horiz. dim. @ Rt. L's)



**VIEW B-B**



**PLAN AT ABUTMENT**  
(Showing bottom flange of beam)

Notes:  
See sheet 12 & 13 of 30 for superstructure details and Bill of Material.  
See sheet 16 of 30 for PJF details.  
The s10(E) and s11(E) bars shall be placed parallel to the beams.  
Spacing for these bars shall be at right angles to the beams.  
The approach slab seat shall have a constant slope determined from the control points shown.

MODEL: 0510076-74359-014  
FILE NAME: pw:\idot-pw\benley.com\p\idot\Documents\DOT Offices\Bureau of Bridges and Structures\Projects\0510076\CA DD Plans\0510076-74 359.dgn

DESIGNED	RYAN P. NEGANGARD
CHECKED	T. L. MEIER / M. A. PAULIONIS
DRAWN	ANDRO R. SAMANIEGO
CHECKED	R.P.N. / G.R.A.

EXAMINED	<i>Mark Stoffer</i> ENGINEER OF BRIDGE DESIGN
PASSED	<i>Joey F. Hoff</i> ENGINEER OF BRIDGES AND STRUCTURES

DATE	AUGUST 18, 2023
REVISED	-
REVISED	-

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

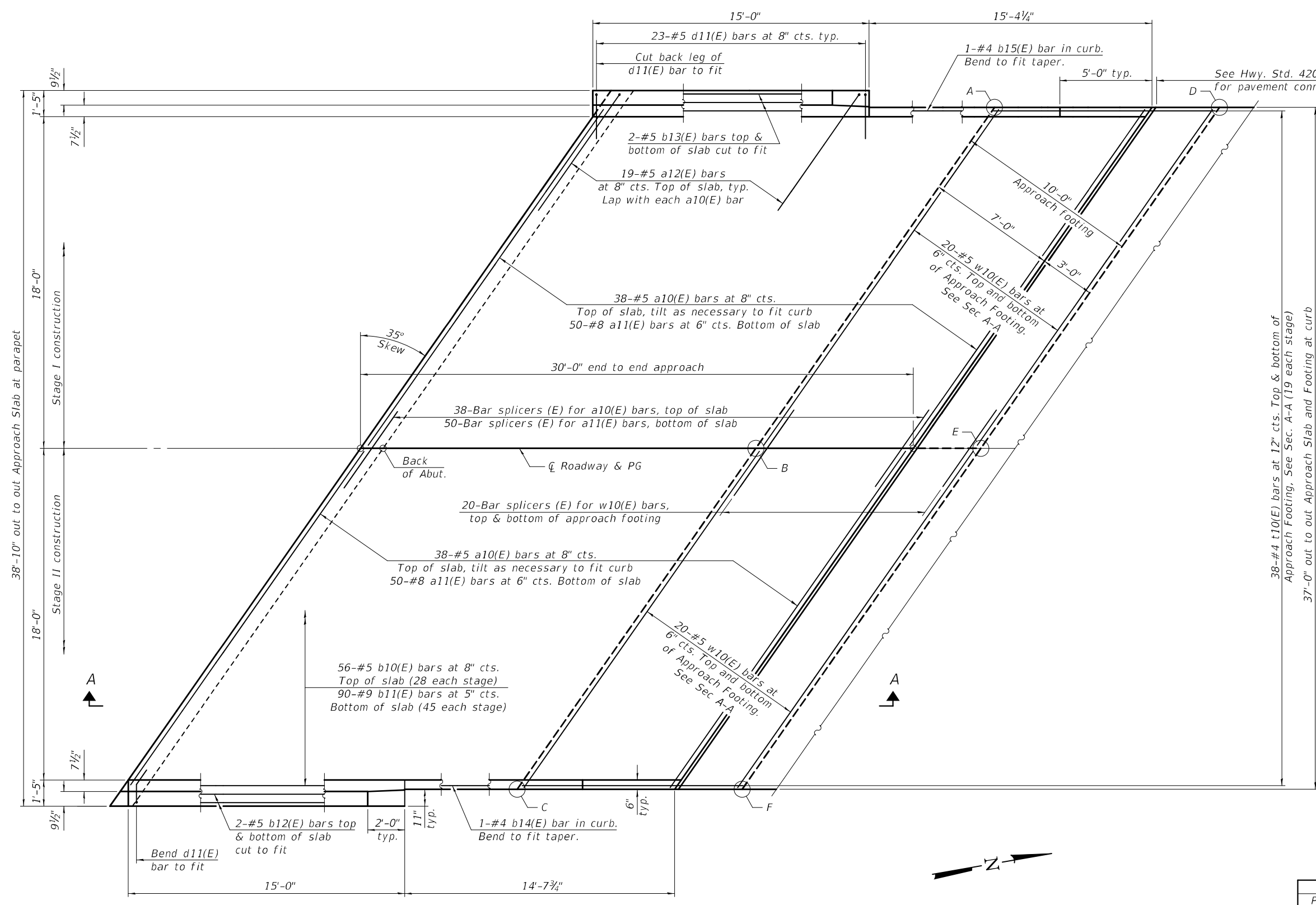
**DIAPHRAGM DETAILS**  
**STRUCTURE NO. 051-0076**

SHEET 14 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	25
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

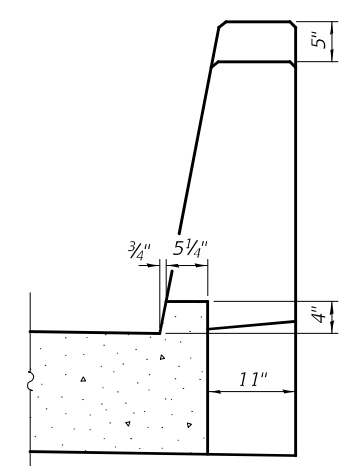
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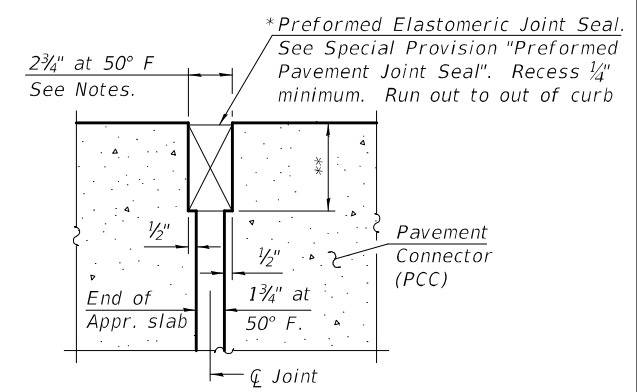


**PLAN**

(North approach slab shown; South approach slab similar by 180° rotation)



**VIEW B-B**



**DETAIL A**  
(at Rt. L's)

\* Cost included with Concrete Superstructure (Approach Slab).  
 \*\* Per manufacturer recommendations

**TOP AND BOTTOM ELEVATIONS FOR APPROACH FOOTING**

South Approach			North Approach		
Point/Location	Top	Bottom	Point/Location	Top	Bottom
A - NE	427.86	427.03	A - SW	427.66	426.83
B - N C	428.16	427.33	B - S C	427.99	427.16
C - NW	427.84	427.01	C - SE	427.69	426.86
D - SE	427.87	427.04	D - NW	427.65	426.82
E - S C	428.17	427.34	E - N C	427.98	427.15
F - SW	427.85	427.02	F - NE	427.68	426.85

(Sheet 1 of 2)

DESIGNED - RYAN P. NEGANGARD  
 CHECKED - T. L. MEIER / M. A. PAULIONIS  
 DRAWN - ANDRO R. SAMANIEGO  
 CHECKED - R.P.N. / G.R.A.

EXAMINED  
 PASSED  
 ENGINEER OF BRIDGE DESIGN  
 ENGINEER OF BRIDGES AND STRUCTURES

DATE - AUGUST 18, 2023  
 REVISED -  
 REVISED -

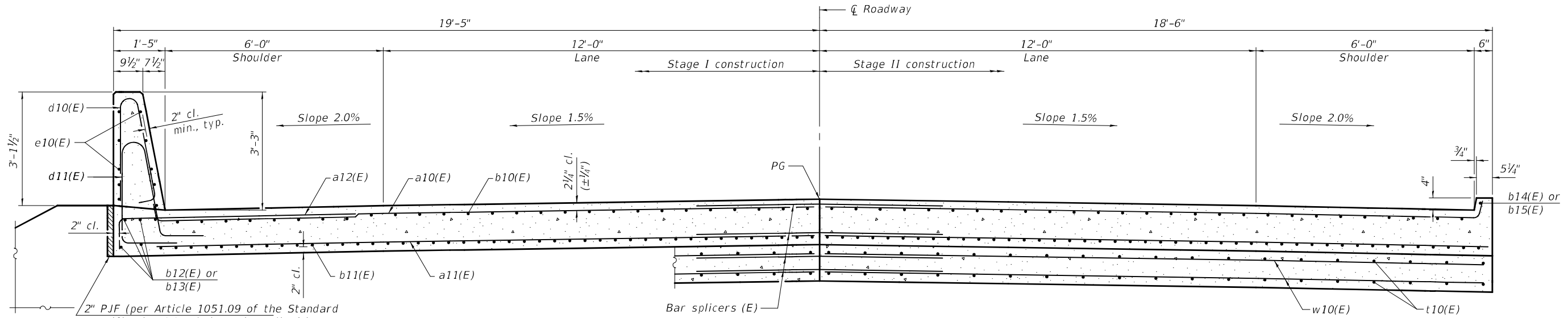
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS**  
**STRUCTURE NO. 051-0076**

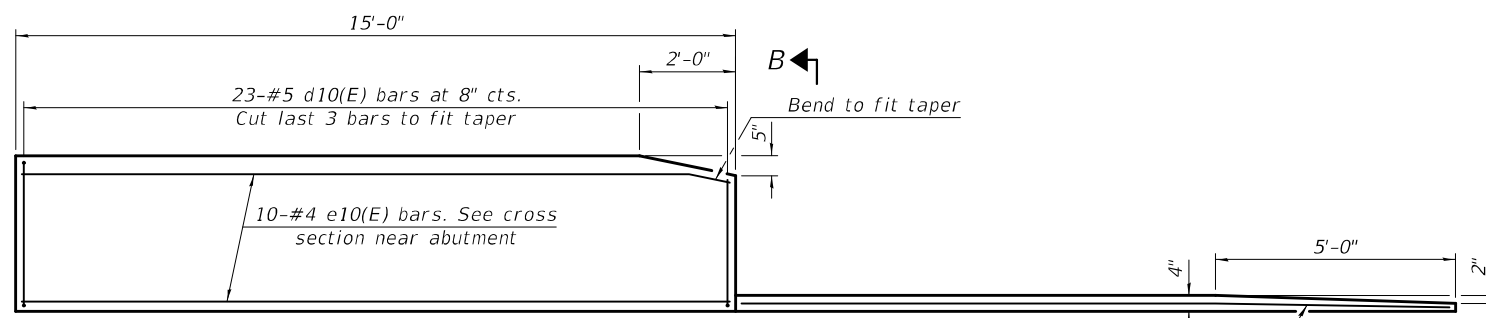
SHEET 15 OF 30 SHEETS

F.A.P. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.  
 332 (15B2)BR LAWRENCE 56 26  
 CONTRACT NO. 74359  
 ILLINOIS FED. AID PROJECT

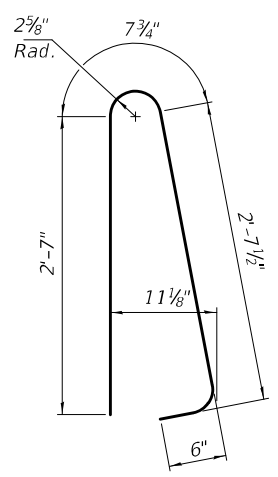
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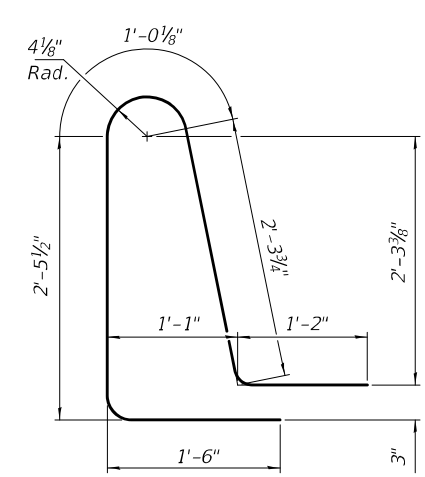
**CROSS SECTION**  
(Looking North)



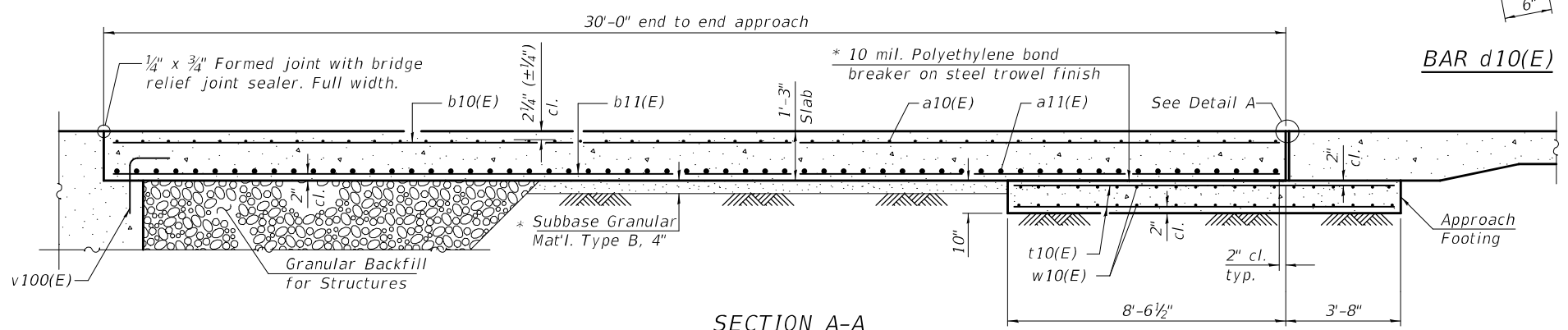
**INSIDE ELEVATION OF PARAPET AND CURB**



**BAR d10(E)**



**BAR d11(E)**



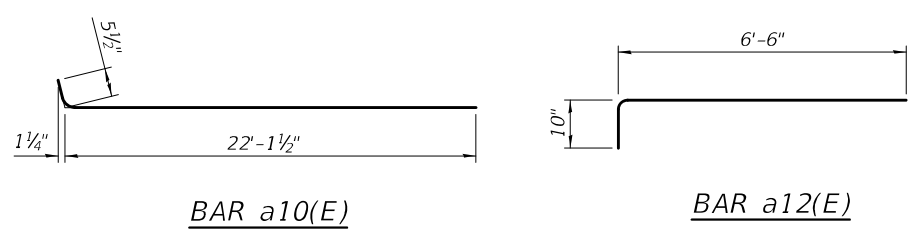
**SECTION A-A**

**TWO APPROACHES  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
† a10(E)	152	#5	22'-7"	┌───┐
† a11(E)	200	#8	22'-3"	┌───┐
† a12(E)	76	#5	7'-4"	┌───┐
† b10(E)	112	#5	29'-8"	┌───┐
† b11(E)	180	#9	29'-8"	┌───┐
† b12(E)	8	#5	15'-6"	┌───┐
† b13(E)	8	#5	14'-2"	┌───┐
† b14(E)	2	#4	14'-6"	┌───┐
† b15(E)	2	#4	14'-10"	┌───┐
d10(E)	92	#5	6'-5"	┌───┐
d11(E)	92	#5	8'-6"	┌───┐
† e10(E)	40	#4	14'-8"	┌───┐
t10(E)	152	#4	11'-10"	┌───┐
w10(E)	160	#5	22'-3"	┌───┐
Concrete Superstructure		Cu. Yd.	7.8	
Concrete Superstructure (Approach Slab)		Cu. Yd.	106.7	
Concrete Structures		Cu. Yd.	27.9	
Reinforcement Bars, Epoxy Coated		Pound	44,690	

† Reinforcement bars shall be textured epoxy coated reinforcement bars. See Special Provisions.

**Notes:**  
 The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.  
 Parapet concrete shall be paid for as Concrete Superstructure.  
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).  
 Approach footing concrete shall be paid for as Concrete Structures.  
 The approach footing maximum applied service bearing pressure (Q<sub>max</sub>) = 2.0 ksf.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 30.



**BAR a10(E)**

**BAR a12(E)**

(Sheet 2 of 2)

MODEL: 0510076-74359-016  
FILE NAME: pw:\idol-pw-bentley.com\FWIDOT\Documents\DOT Offices\Bureau of Bridges and Structures\Projects\0510076\CADD Plans\0510076-74359.dgn

DESIGNED - RYAN P. NEGANGARD	EXAMINED - <i>Mark Shuffler</i>	DATE - AUGUST 18, 2023
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED - <i>James F. ...</i>	REVISIONS -
DRAWN - ANDRO R. SAMANIEGO		
CHECKED - R.P.N. / G.R.A.		

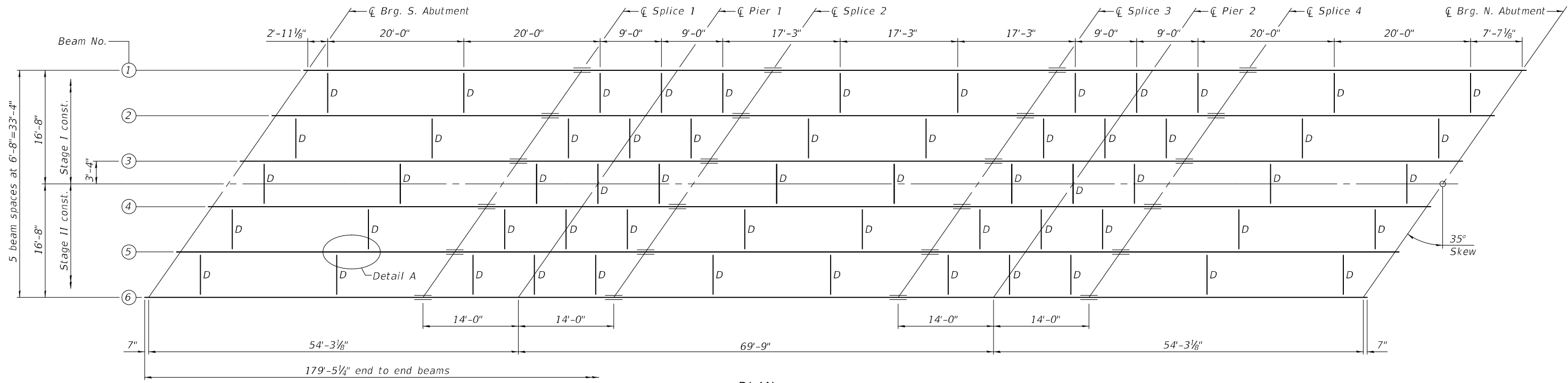
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS  
STRUCTURE NO. 051-0076**

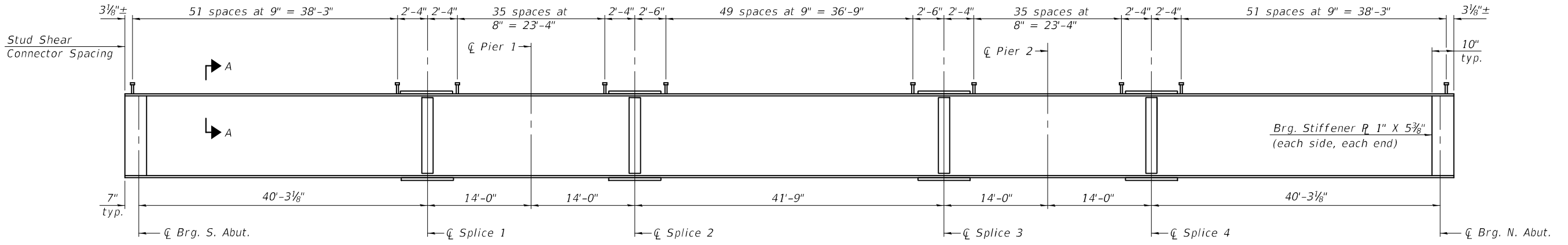
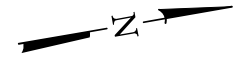
SHEET 16 OF 30 SHEETS

F.A.P. RTE. 332	SECTION (15B2)BR	COUNTY LAWRENCE	TOTAL SHEETS 56	SHEET NO. 27
				CONTRACT NO. 74359
ILLINOIS FED. AID PROJECT				

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**PLAN**  
(All beams are W33x118, AASHTO M270 Grade 50, CVN)

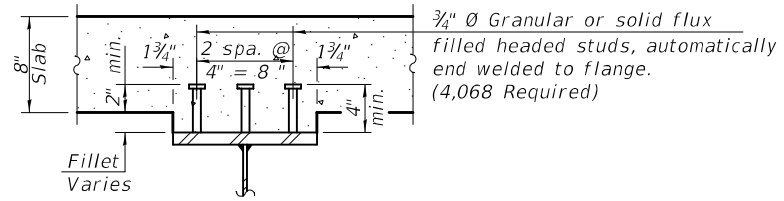


**BEAM ELEVATION**

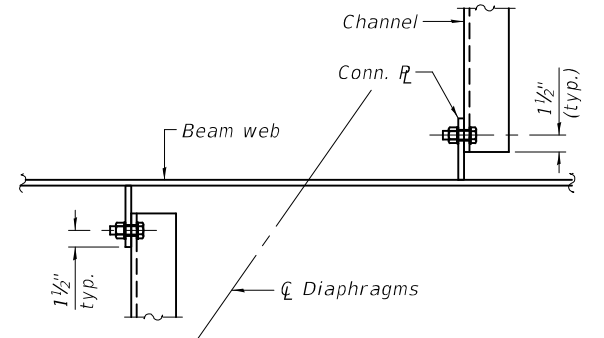
**\* TOP OF BEAM ELEVATIONS**

Location	Cl Brg. S. Abut.	Cl Splice 1	Cl Brg. Pier 1	Cl Splice 2	Cl Splice 3	Cl Brg. Pier 2	Cl Splice 4	Cl Brg. N. Abut.
Beam 1	428.40	428.31	428.31	428.30	428.27	428.26	428.24	428.26
Beam 2	428.53	428.44	428.44	428.43	428.40	428.39	428.37	428.39
Beam 3	428.63	428.54	428.54	428.53	428.50	428.49	428.47	428.49
Beam 4	428.63	428.55	428.55	428.54	428.51	428.49	428.47	428.50
Beam 5	428.54	428.45	428.45	428.44	428.41	428.38	428.38	428.40
Beam 6	428.42	428.33	428.33	428.32	428.29	428.28	428.26	428.28

\* For Fabrication use only



**SECTION A-A**



**DETAIL A**

Note:  
See sheet 18 of 30 for additional notes and details.

MODEL: 0510076-74359-017  
FILE NAME: p:\w\idol-pw\entley.com\FWIDOT\Documents\DOT Offices\Bureau of Bridges and Structures\Projects\0510076\CADD Plans\0510076-74359.dgn

DESIGNED - RYAN P. NEGANGARD  
CHECKED - T. L. MEIER / M. A. PAULIONIS  
DRAWN - ANDRO R. SAMANIEGO  
CHECKED - R.P.N. / G.R.A.

EXAMINED  
PASSED  
*Mark Shuffler*  
ENGINEER OF BRIDGE DESIGN  
*Jayne F. [Signature]*  
ENGINEER OF BRIDGES AND STRUCTURES

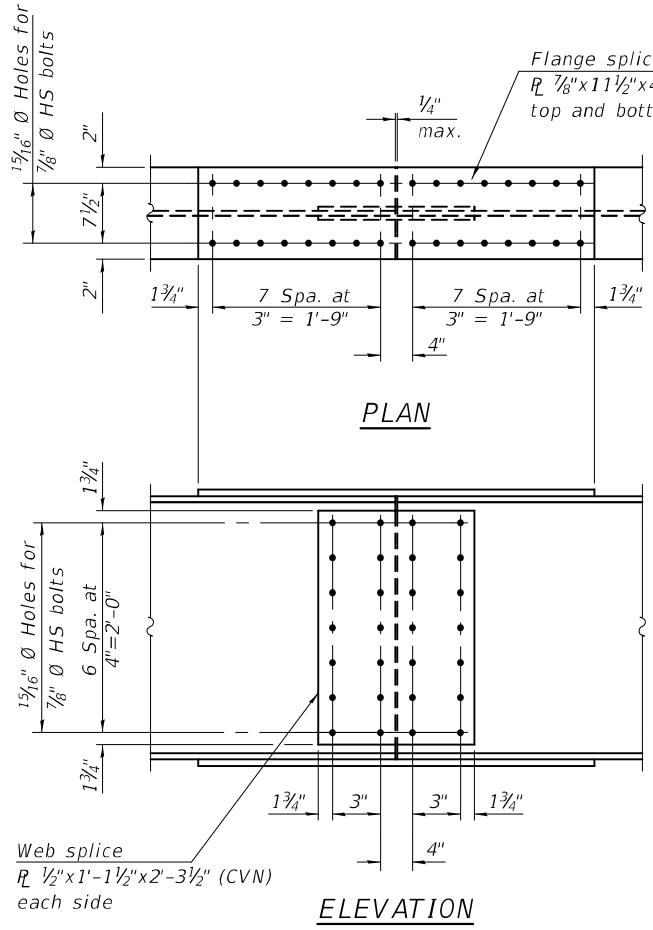
DATE - AUGUST 18, 2023  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STRUCTURAL STEEL  
STRUCTURE NO. 051-0076**

SHEET 17 OF 30 SHEETS

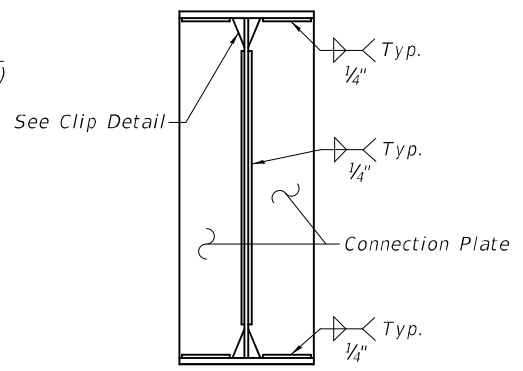
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	28
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				



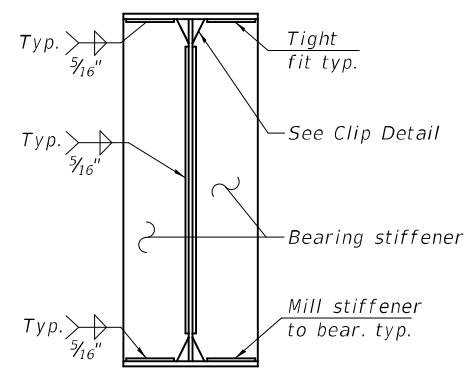
**SPLICE DETAIL**  
(24 Required)

Flange splice  
R 7/8"x1 1/2"x4'-1 1/2" (CVN)  
top and bottom

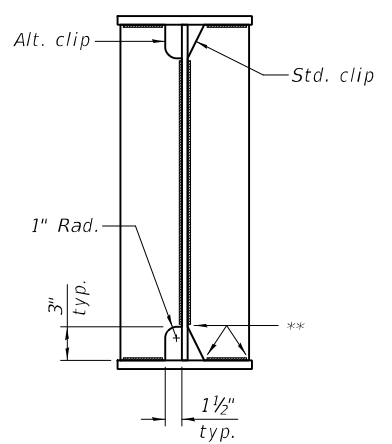
Web splice  
R 1/2"x1'-1 1/2"x2'-3 1/2" (CVN)  
each side



**CONNECTION PLATE DETAIL**

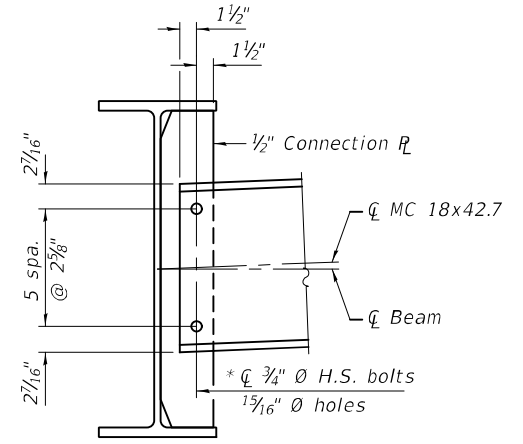


**BEARING STIFFENER DETAIL**



**WELD LIMITS AND CLIP DETAILS**

\*\* Stop welds 1/4" (±1/8") from edges as shown. Typical.

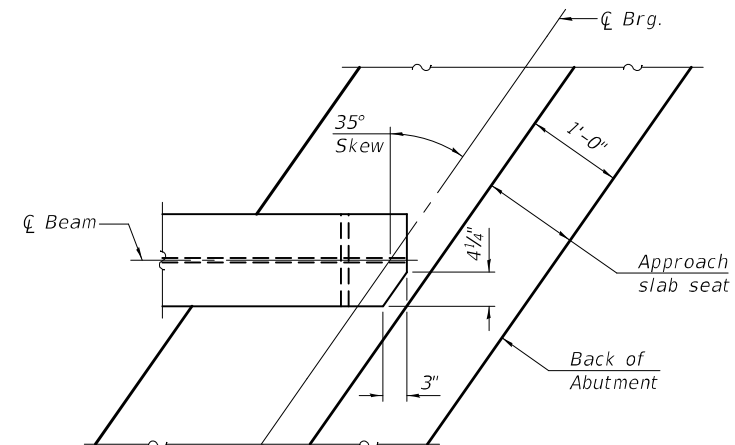


**DIAPHRAGM D**

\* Install only one 7/8" Ø H.S. bolt in center most hole above C of beam at each end of the stage line diaphragm. The bolts shall be finger-tightened prior to deck pour to permit rotation. Install 3/4" Ø H.S. bolts and fully tighten immediately after stage II deck pour is complete.

INTERIOR BEAM MOMENT TABLE			
	0.4 Span 1 or 0.6 Span 3	Pier 1 or Pier 2	0.5 Span 2
$I_s$	(in <sup>4</sup> ) 5900	5900	5900
$I_c(n)$	(in <sup>4</sup> ) 17294	17294	17294
$I_c(3n)$	(in <sup>4</sup> ) 13035	13035	13035
$I_c(cr)$	(in <sup>4</sup> ) -	7373	-
$S_s$	(in <sup>3</sup> ) 359	359	359
$S_c(n)$	(in <sup>3</sup> ) 549	549	549
$S_c(3n)$	(in <sup>3</sup> ) 500	500	500
$S_c(cr)$	(in <sup>3</sup> ) -	422	-
DC1	(k/ft) 0.840	0.840	0.840
M <sub>DC1</sub>	(k) 164.9	329.8	181.0
DC2	(k/ft) 0.175	0.175	0.175
M <sub>DC2</sub>	(k) 34.3	68.7	37.7
DW	(k/ft) 0.333	0.333	0.333
M <sub>DW</sub>	(k) 65.4	130.8	71.8
LLDF	0.543	0.528	0.512
M <sub>LL + IM</sub>	(k) 516.1	501.0	520.2
M <sub>u</sub> (Strength I)	(k) 1250.3	1571.1	1291.4
$\phi_r M_n$	(k) 2708	-	2708
$f_s$ DC1	(ksi) 5.51	11.02	6.05
$f_s$ DC2	(ksi) 0.82	1.65	0.90
$f_s$ DW	(ksi) 1.57	3.14	1.72
$f_s$ (LL + IM)	(ksi) 11.28	10.95	11.37
$f_s$ (Service II)	(ksi) 22.57	30.05	23.46
0.95R <sub>n</sub> F <sub>yf</sub>	(ksi) 47.50	47.50	47.50
$f_s$ (Total)(Strength I)	(ksi) -	46.80	-
$\phi_r F_n$	(ksi) -	47.74	-
V <sub>r</sub>	(k) 28.5	27.6	20.6

	Abutments		Piers	
	Interior	Exterior	Interior	Exterior
LLDF	0.719	0.540	0.719	0.540
OCF	1.177	1.177	-	-
R <sub>DC1</sub>	(k) 16.7	15.6	58.2	54.1
R <sub>DC2</sub>	(k) 3.5	3.5	12.1	12.1
R <sub>DW</sub>	(k) 6.6	6.0	23.1	20.8
R <sub>LL</sub>	(k) 61.7	46.4	83.6	62.8
R <sub>IM</sub>	(k) 16.0	11.9	16.4	12.3
R <sub>TOTAL</sub>	(k) 104.5	83.4	193.4	162.1



**TOP FLANGE CLIP DETAIL**

Notes:  
Two hardened washers required for each set of oversized holes.  
Alternate channels of equal depth and larger weight are permitted to facilitate material acquisition. Alternate channels, if utilized, shall be provided at no additional cost to the Department.  
All splice plates and bearing stiffeners shall be AASHTO M270, Grade 50.  
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.  
"CVN" denotes Charpy-V-Notch impact energy requirements, zone 2.

$I_s, S_s$  : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$ (Total-Strength I, and Service II) due to non-composite dead loads (in.<sup>4</sup> and in.<sup>3</sup>).  
 $I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$ (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.<sup>4</sup> and in.<sup>3</sup>).  
 $I_c(3n), S_c(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$ (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.<sup>4</sup> and in.<sup>3</sup>).  
 $I_c(cr), S_c(cr)$ : Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing  $f_s$  (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.<sup>4</sup> and in.<sup>3</sup>).  
DC1: Un-factored non-composite dead load (kips/ft.).  
M<sub>DC1</sub>: Un-factored moment due to non-composite dead load (kip-ft.).  
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).  
M<sub>DC2</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).  
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).  
M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).  
LLDF: Live Load Distribution Factor for moment and shear computed according to Article 4.6.2.2 and further IDOT provisions.  
M<sub>LL + IM</sub>: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).  
M<sub>u</sub> (Strength I): Factored design moment (kip-ft.).  
1.25 (M<sub>DC1</sub> + M<sub>DC2</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>LL + IM</sub>  
 $\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).  
 $f_s$  DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).  
M<sub>DC1</sub> / S<sub>nc</sub>  
 $f_s$  DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).  
M<sub>DC2</sub> / S<sub>c(3n)</sub> or M<sub>DC2</sub> / S<sub>c(cr)</sub> as applicable.  
 $f_s$  DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).  
M<sub>DW</sub> / S<sub>c(3n)</sub> or M<sub>DW</sub> / S<sub>c(cr)</sub> as applicable.  
 $f_s$  (LL + IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).  
M<sub>LL + IM</sub> / S<sub>c(n)</sub> or M<sub>LL + IM</sub> / S<sub>c(cr)</sub> as applicable.  
 $f_s$  (Service II): Sum of stresses as computed below (ksi).  
 $f_s$  DC1 +  $f_s$  DC2 +  $f_s$  DW + 1.3  $f_s$  (LL + IM)  
0.95R<sub>n</sub>F<sub>yf</sub>: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).  
 $f_s$  (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).  
1.25 ( $f_s$ DC1 +  $f_s$ DC2) + 1.5  $f_s$ DW + 1.75  $f_s$ (LL + IM)  
 $\phi_r F_n$ : Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).  
V<sub>r</sub>: Maximum factored shear range in span computed according to Article 6.10.10.  
OCF: Obtuse Correction Factor applied to non-continuous exterior beam ends and computed according to Article 4.6.2.2.3c-1 or as further simplified by IDOT provisions.  
R<sub>DC1</sub>: Un-factored reaction due to non-composite dead load (kip).  
R<sub>DC2</sub>: Un-factored reaction due to long-term composite (superimposed excluding future wearing surface) dead load (kip).  
R<sub>DW</sub>: Un-factored reaction due to long-term composite (superimposed future wearing surface only) dead load (kip).  
R<sub>LL</sub>: Un-factored live load reaction (kip).  
R<sub>IM</sub>: Un-factored dynamic load allowance (impact) (kip).

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DESIGNED - RYAN P. NEGANGARD	EXAMINED
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED
DRAWN - ANDRO R. SAMANIEGO	
CHECKED - R.P.N. / G.R.A.	

DATE - AUGUST 18, 2023  
REVISOR -  
REVISOR -

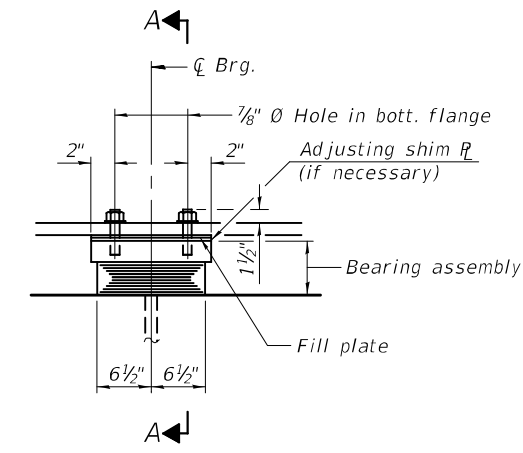
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS  
STRUCTURE NO. 051-0076

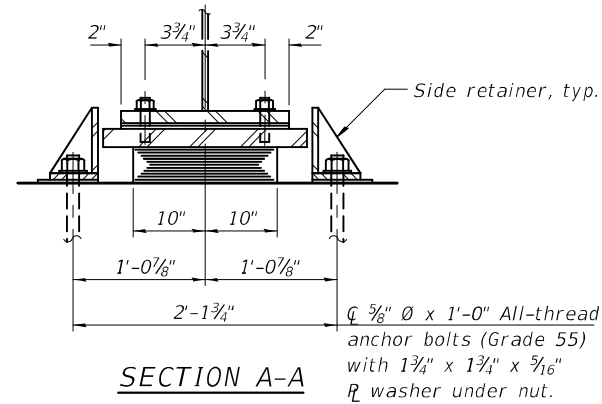
SHEET 18 OF 30 SHEETS

F.A.P. RTE. 332	SECTION (15B2)BR	COUNTY LAWRENCE	TOTAL SHEETS 56	SHEET NO. 29
CONTRACT NO. 74359				
ILLINOIS				FED. AID PROJECT

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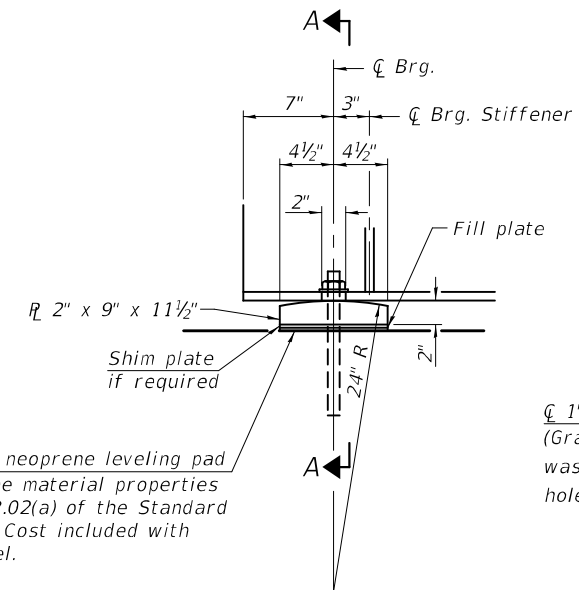


ELEVATION AT PIER

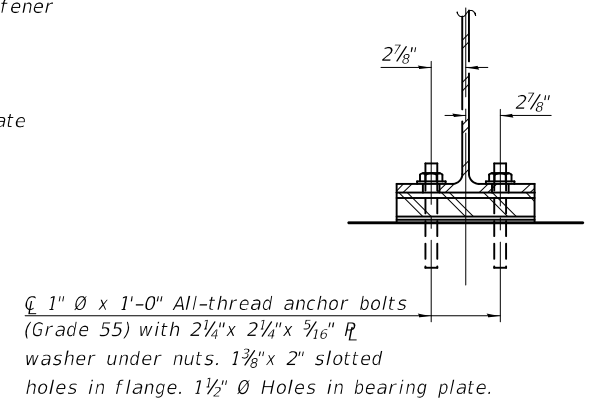


SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

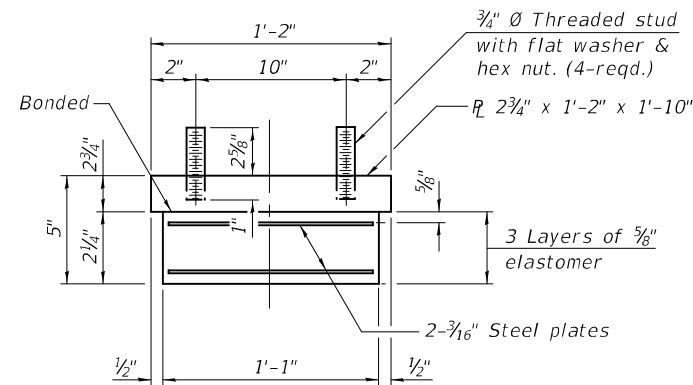


ELEVATION AT ABUTMENT



SECTION A-A

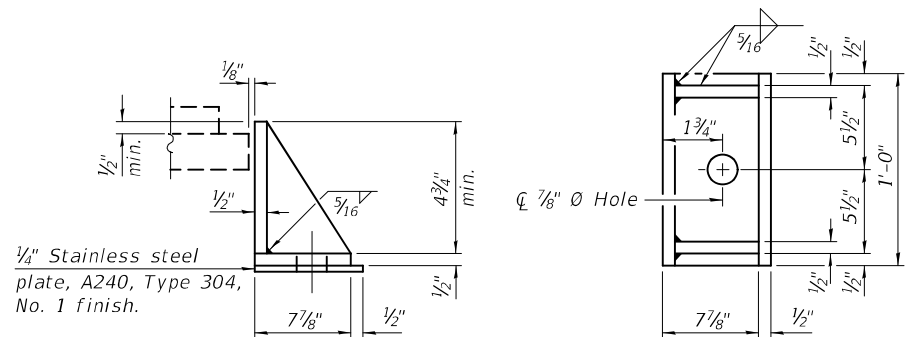
FIXED BEARING  
(12 Required)



BEARING ASSEMBLY

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

Notes:  
Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.  
Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.  
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.  
All bearing plates, shim and fill plates, side retainers, anchor bolts, nuts, and washers shall be galvanized according to AASHTO M111 or M232 as applicable.  
All bearing plates and structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50.  
The anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.



SIDE RETAINER

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

FILL PLATE THICKNESS TABLE

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
South Abut.	-	-	-	-	-	-
Pier 1	-	-	-	1/8"	-	-
Pier 2	-	-	-	1/8"	-	-
North Abut.	-	-	-	1/8"	-	-

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	12
Anchor Bolts, 3/8"	Each	24
Anchor Bolts, 1"	Each	24

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DESIGNED - RYAN P. NEGANGARD  
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DRAWN - ANDRO R. SAMANIEGO  
CHECKED - R.P.N. / G.R.A.  
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DESIGNED - RYAN P. NEGANGARD	EXAMINED - <i>Mark Shuffler</i>	DATE - AUGUST 18, 2023
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED - <i>Jaime F. ...</i>	REVISIONS
DRAWN - ANDRO R. SAMANIEGO	ENGINEER OF BRIDGES AND STRUCTURES	REVISIONS
CHECKED - R.P.N. / G.R.A.		REVISIONS

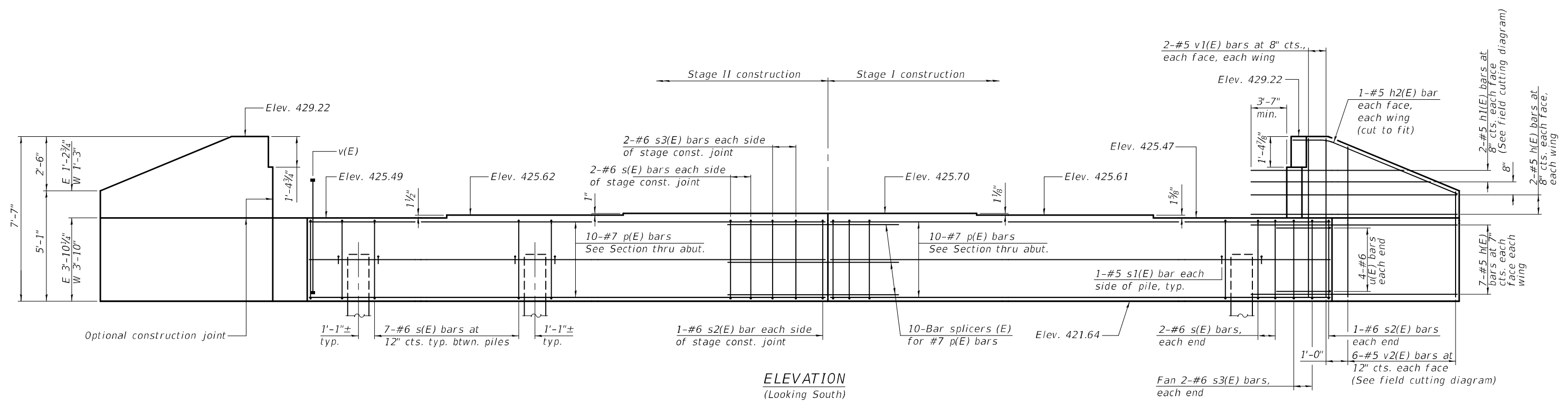
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS  
STRUCTURE NO. 051-0076

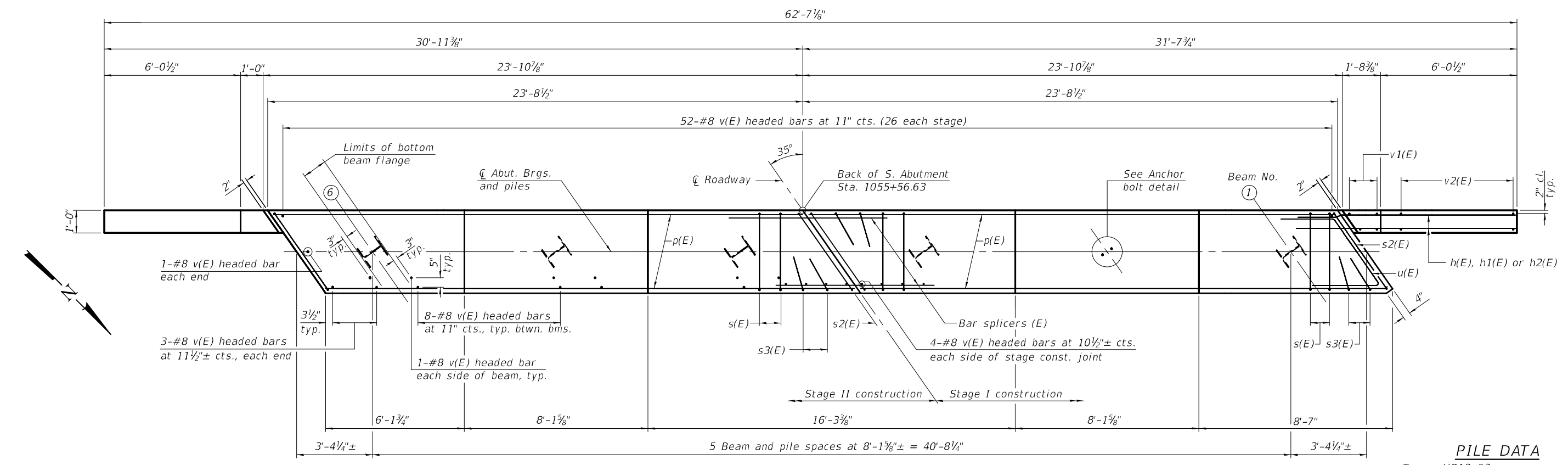
SHEET 19 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	30
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

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**ELEVATION**  
(Looking South)



**PLAN**

**PILE DATA**

Type: HP12x53  
 Nominal Required Bearing: 418 kips  
 Factored Resistance Available: 230 kips  
 Est. Length: 28'-0"  
 No. Production Piles: 6  
 No. Test Piles: 0

Note:  
 See sheet 22 of 30 for additional abutment details, notes, and Bill of Materials.

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT  
 STRUCTURE NO. 051-0076**

DESIGNED - RYAN P. NEGANGARD	EXAMINED -
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED -
DRAWN - ANDRO R. SAMANIEGO	
CHECKED - R.P.N. / G.R.A.	

Mark Shuffler  
 ENGINEER OF BRIDGE DESIGN  
 Joanne F. [Signature]  
 ENGINEER OF BRIDGES AND STRUCTURES

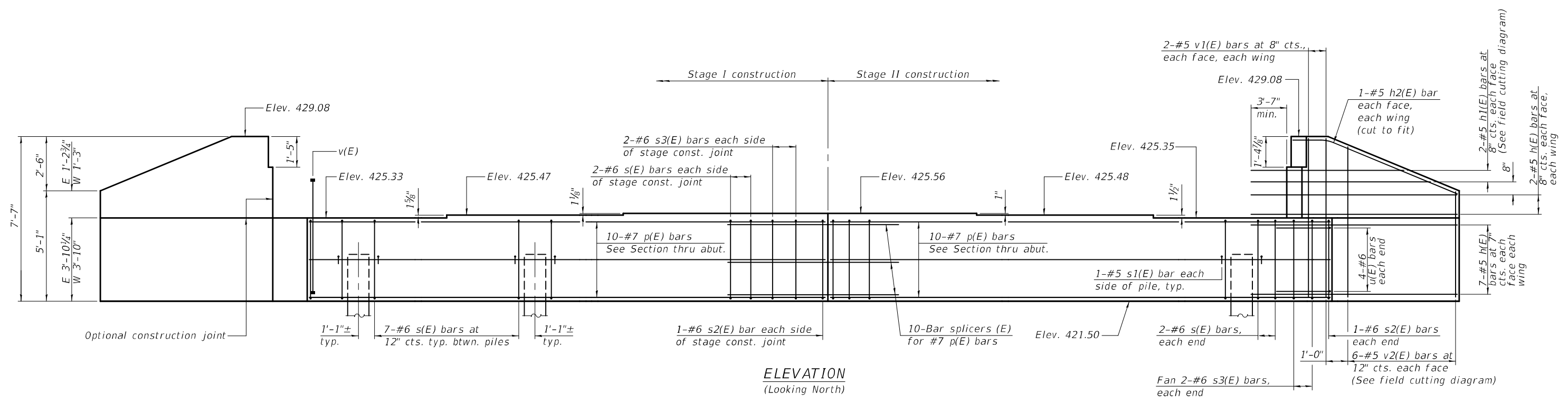
DATE - AUGUST 18, 2023
REVISED -
REVISED -

SHEET 20 OF 30 SHEETS

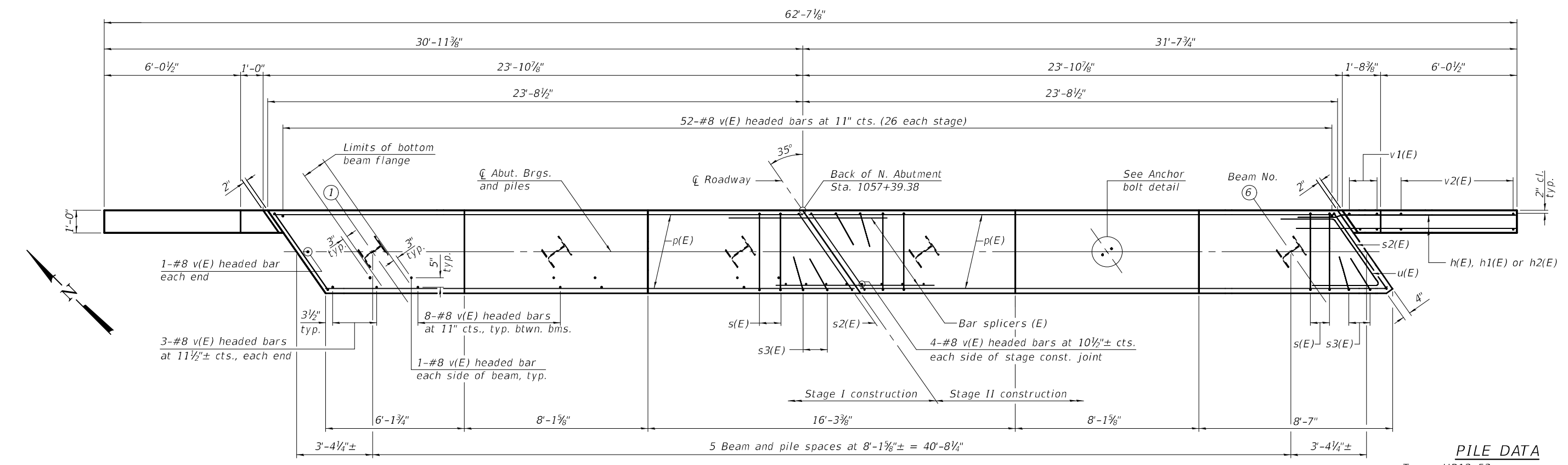
F.A.P. RTE. 332	SECTION (15B2)BR	COUNTY LAWRENCE	TOTAL SHEETS 56	SHEET NO. 31
CONTRACT NO. 74359				

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**ELEVATION**  
(Looking North)



**PLAN**

**PILE DATA**

Type: HP12x53  
 Nominal Required Bearing: 418 kips  
 Factored Resistance Available: 230 kips  
 Est. Length: 38'-0"  
 No. Production Piles: 6  
 No. Test Piles: 0

Note:  
 See sheet 22 of 30 for additional abutment details, notes, and Bill of Materials.

DESIGNED - RYAN P. NEGANGARD	EXAMINED - <i>Mark Shuffler</i>	DATE - AUGUST 18, 2023
CHECKED - T. L. MEIER / M. A. PAULIONIS	ENGINEER OF BRIDGE DESIGN	
DRAWN - ANDRO R. SAMANIEGO	PASSED - <i>Jaime F. ...</i>	REVISER -
CHECKED - R.P.N. / G.R.A.	ENGINEER OF BRIDGES AND STRUCTURES	REVISER -

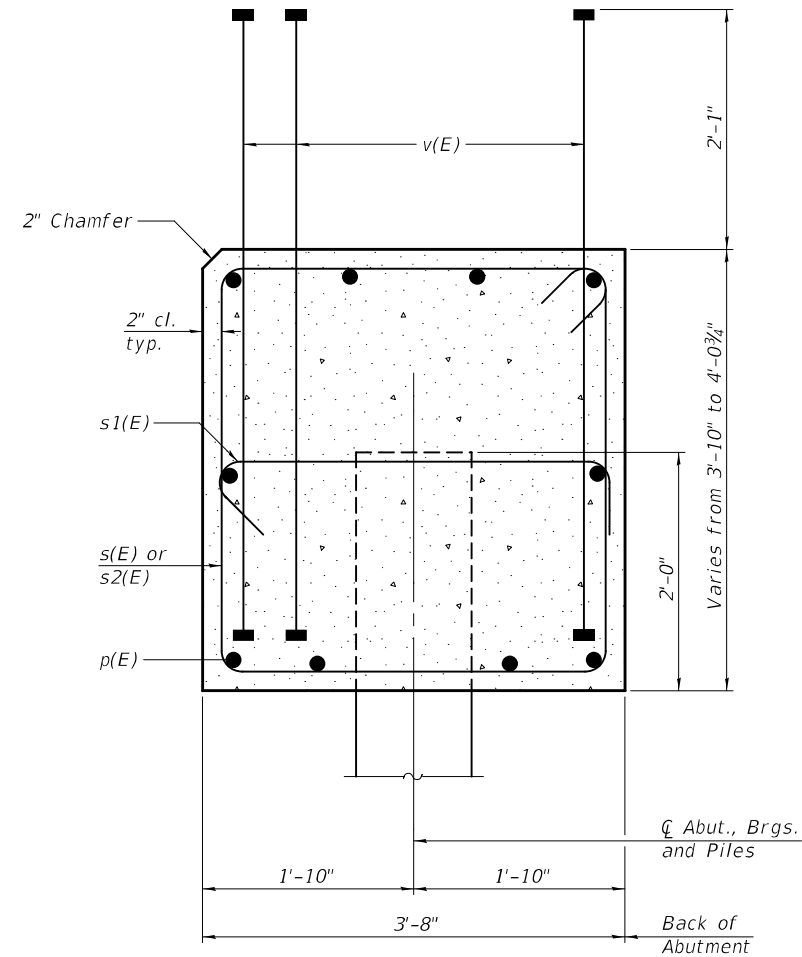
**STATE OF ILLINOIS  
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**NORTH ABUTMENT  
 STRUCTURE NO. 051-0076**

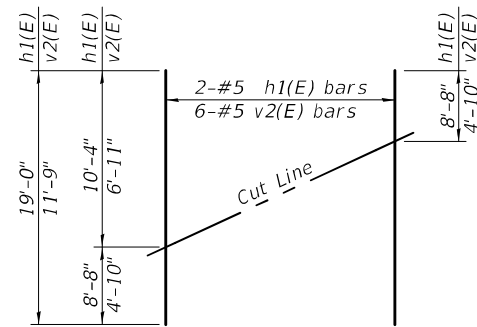
SHEET 21 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	32
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

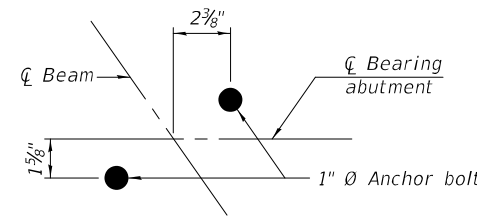




**SECTION THRU ABUTMENT**  
Dimensions at right angles to abutment



**FIELD CUTTING DIAGRAM**  
Order h1(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite face.



**ANCHOR BOLT DETAIL**

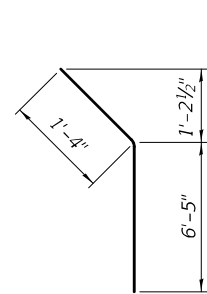
**SOUTH ABUTMENT  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	36	#5	11'-3"	—
h1(E)	4	#5	19'-0"	—
h2(E)	4	#5	7'-9"	—
p(E)	20	#7	23'-4"	—
s(E)	36	#6	15'-0"	□
s1(E)	12	#5	4'-4"	□
s2(E)	4	#6	16'-6"	□
s3(E)	8	#6	7'-6"	□
u(E)	8	#6	12'-6"	▽
v(E)	112	#8	5'-7"	—
v1(E)	8	#5	7'-3"	—
v2(E)	12	#5	11'-9"	—
Structure Excavation	Cu. Yd.	125		
Concrete Structures	Cu. Yd.	29.2		
Reinforcement Bars, Epoxy Coated	Pound	4,570		
Furnishing Steel Piles HP12x53	Foot	168		
Driving Piles	Foot	168		

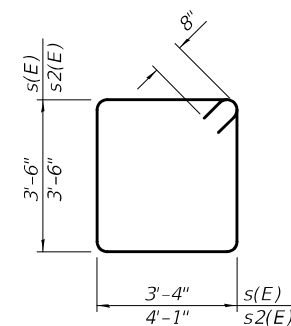
**NORTH ABUTMENT  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	36	#5	11'-3"	—
h1(E)	4	#5	19'-0"	—
h2(E)	4	#5	7'-9"	—
p(E)	20	#7	23'-4"	—
s(E)	36	#6	15'-0"	□
s1(E)	12	#5	4'-4"	□
s2(E)	4	#6	16'-6"	□
s3(E)	8	#6	7'-6"	□
u(E)	8	#6	12'-6"	▽
v(E)	112	#8	5'-7"	—
v1(E)	8	#5	7'-3"	—
v2(E)	12	#5	11'-9"	—
Structure Excavation	Cu. Yd.	124		
Concrete Structures	Cu. Yd.	29.2		
Reinforcement Bars, Epoxy Coated	Pound	4,570		
Furnishing Steel Piles HP12x53	Foot	228		
Driving Piles	Foot	228		

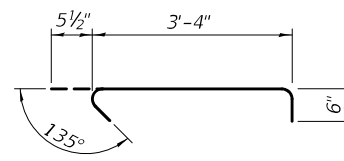
Notes:  
Pour steps monolithically with cap.  
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.  
For details of piles see sheet 26 of 30.  
Space reinforcement in cap to miss anchor bolts.



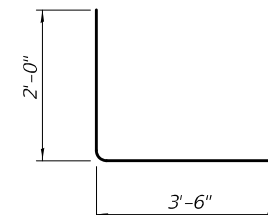
**BAR h2(E)**



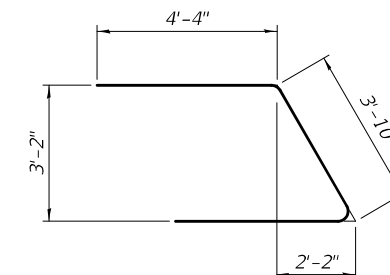
**BAR s(E) & s2(E)**



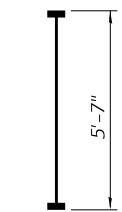
**BAR s1(E)**



**BAR s3(E)**



**BAR u(E)**



**BAR v(E)  
(Headed)**

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CHECKED - R.P.N. / G.R.A.

EXAMINED  
PASSED

*Mark Shuffler*  
ENGINEER OF BRIDGE DESIGN  
*Jayne F. Hoff*  
ENGINEER OF BRIDGES AND STRUCTURES

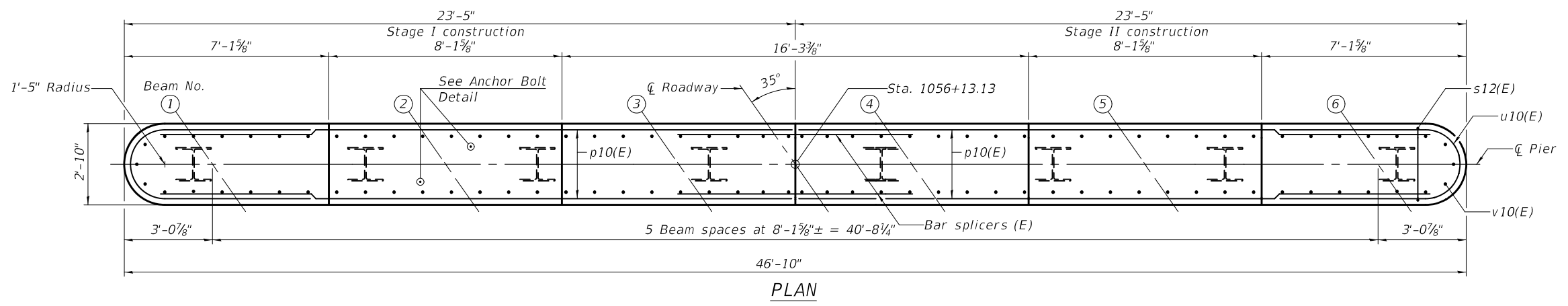
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DEPARTMENT OF TRANSPORTATION**

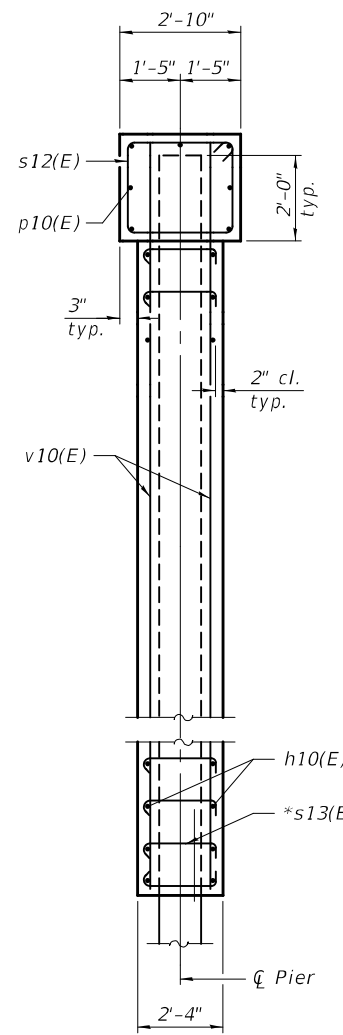
**ABUTMENT DETAILS  
STRUCTURE NO. 051-0076**

SHEET 22 OF 30 SHEETS

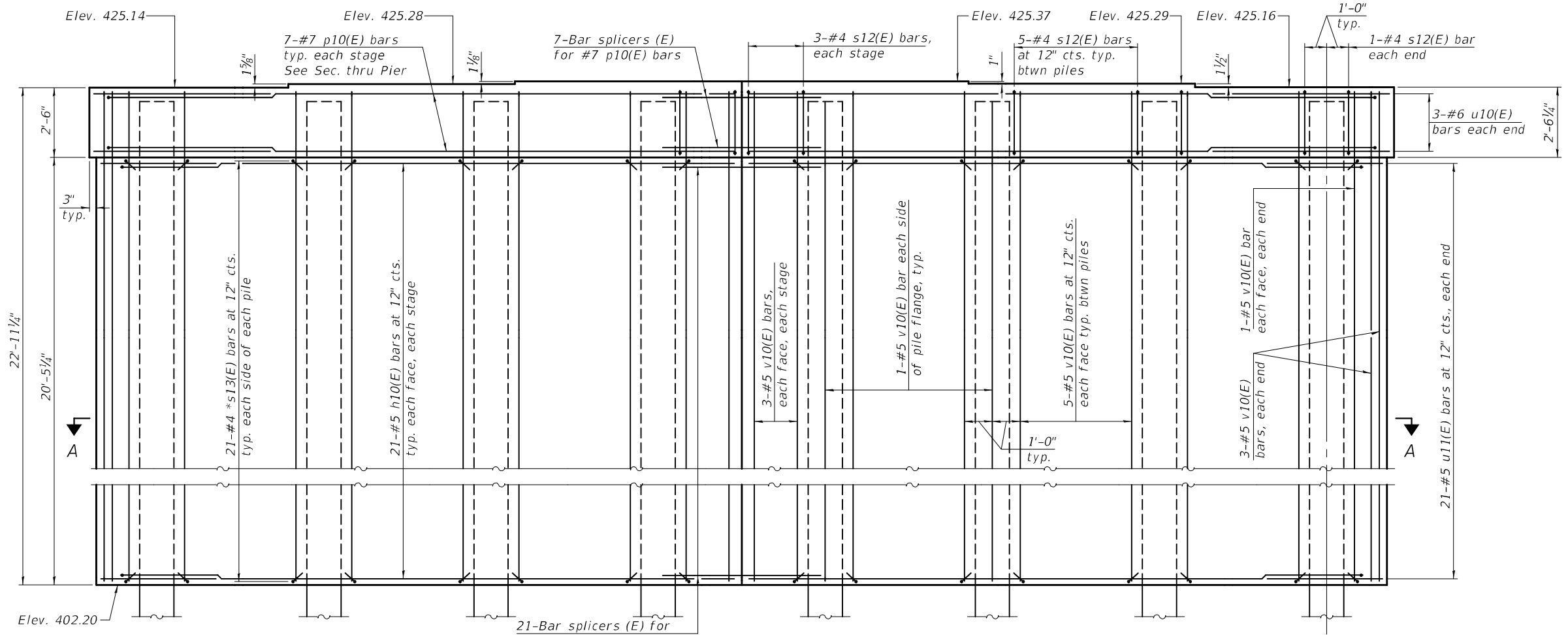
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	33
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				



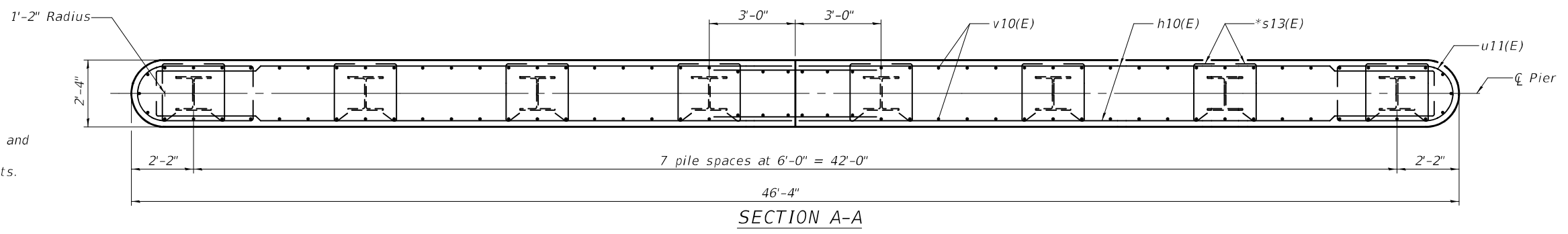
PLAN



SECTION THRU PIER



ELEVATION  
(Looking North)



SECTION A-A

Notes:  
 Pour steps monolithically with cap.  
 See sheet 25 of 30 for additional pier details and Bill of Material.  
 Space reinforcement in cap to miss anchor bolts.  
 See sheet 26 of 30 for pile details.  
 \*Hook s13(E) bar around h10(E) & v10(E) bars.  
 Clear cover for s13(E) bar will be 1 1/2".

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CHECKED - R.P.N. / G.R.A.	

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 ENGINEER OF BRIDGE DESIGN  
 Jayne F. [Signature]  
 ENGINEER OF BRIDGES AND STRUCTURES

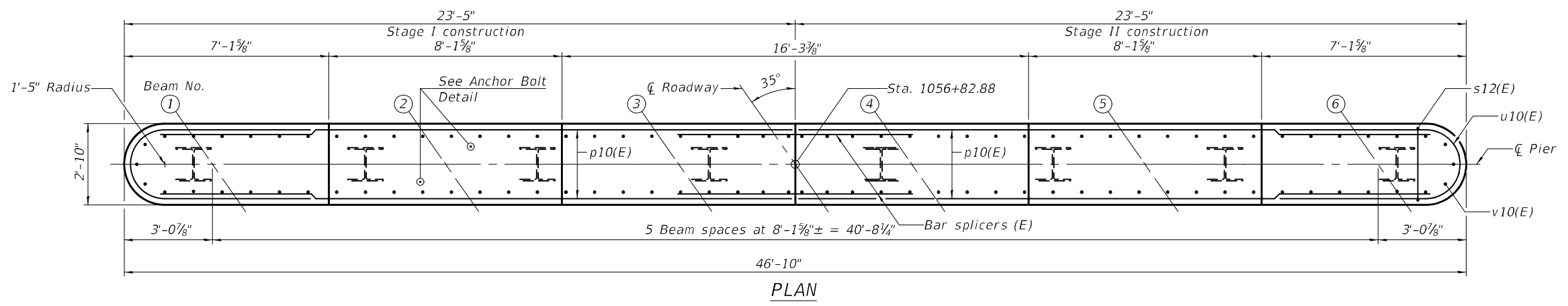
DATE - AUGUST 18, 2023
REVISED -
REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

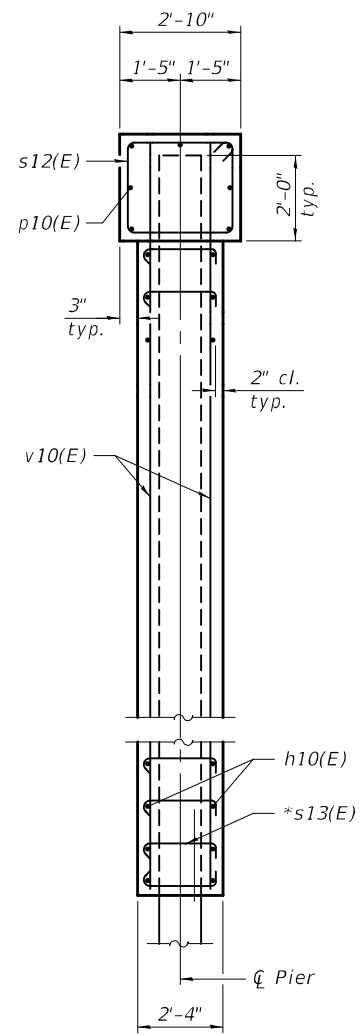
PIER 1  
 STRUCTURE NO. 051-0076

SHEET 23 OF 30 SHEETS

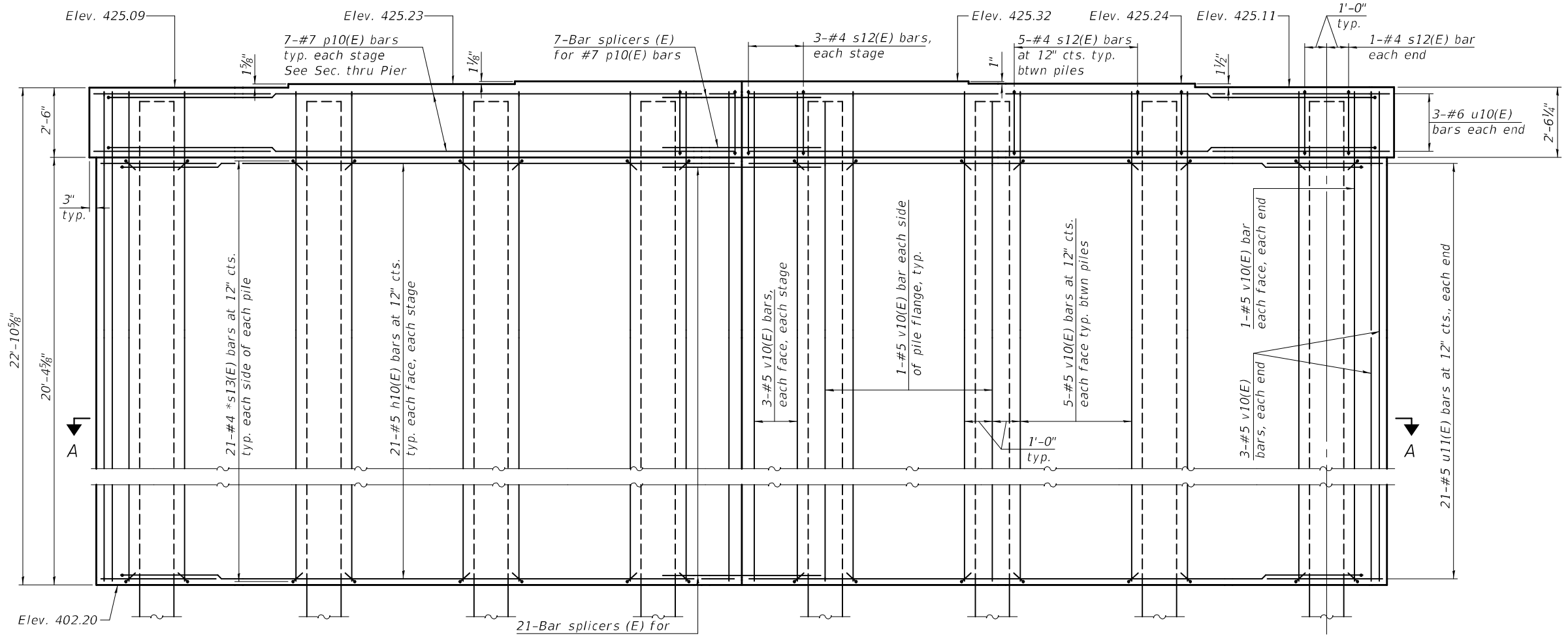
F.A.P. RTE. 332	SECTION (15B2)BR	COUNTY LAWRENCE	TOTAL SHEETS 56	SHEET NO. 34
CONTRACT NO. 74359			ILLINOIS FED. AID PROJECT	



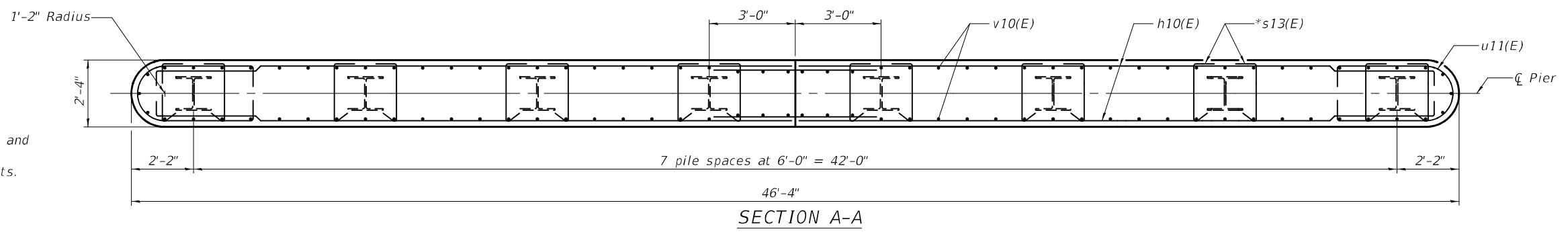
PLAN



SECTION THRU PIER



ELEVATION  
(Looking North)



SECTION A-A

Notes:  
 Pour steps monolithically with cap.  
 See sheet 25 of 30 for additional pier details and Bill of Material.  
 Space reinforcement in cap to miss anchor bolts.  
 See sheet 26 of 30 for pile details.  
 \*Hook s13(E) bar around h10(E) & v10(E) bars.  
 Clear cover for s13(E) bar will be 1 1/2".

MODEL: 0510076-74359-024  
 FILE NAME: p:\w\idol-pw.bentley.com\FWIDOT\Documents\Bureau of Bridges and Structures\Projects\0510076\CADD Plans\0510076-74359.dgn  
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DESIGNED - RYAN P. NEGANGARD	EXAMINED - <i>Mark Shuffler</i> ENGINEER OF BRIDGE DESIGN	DATE - AUGUST 18, 2023
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED - <i>Joey F. Hoff</i> ENGINEER OF BRIDGES AND STRUCTURES	REVISED -
DRAWN - ANDRO R. SAMANIEGO		REVISED -
CHECKED - R.P.N. / G.R.A.		

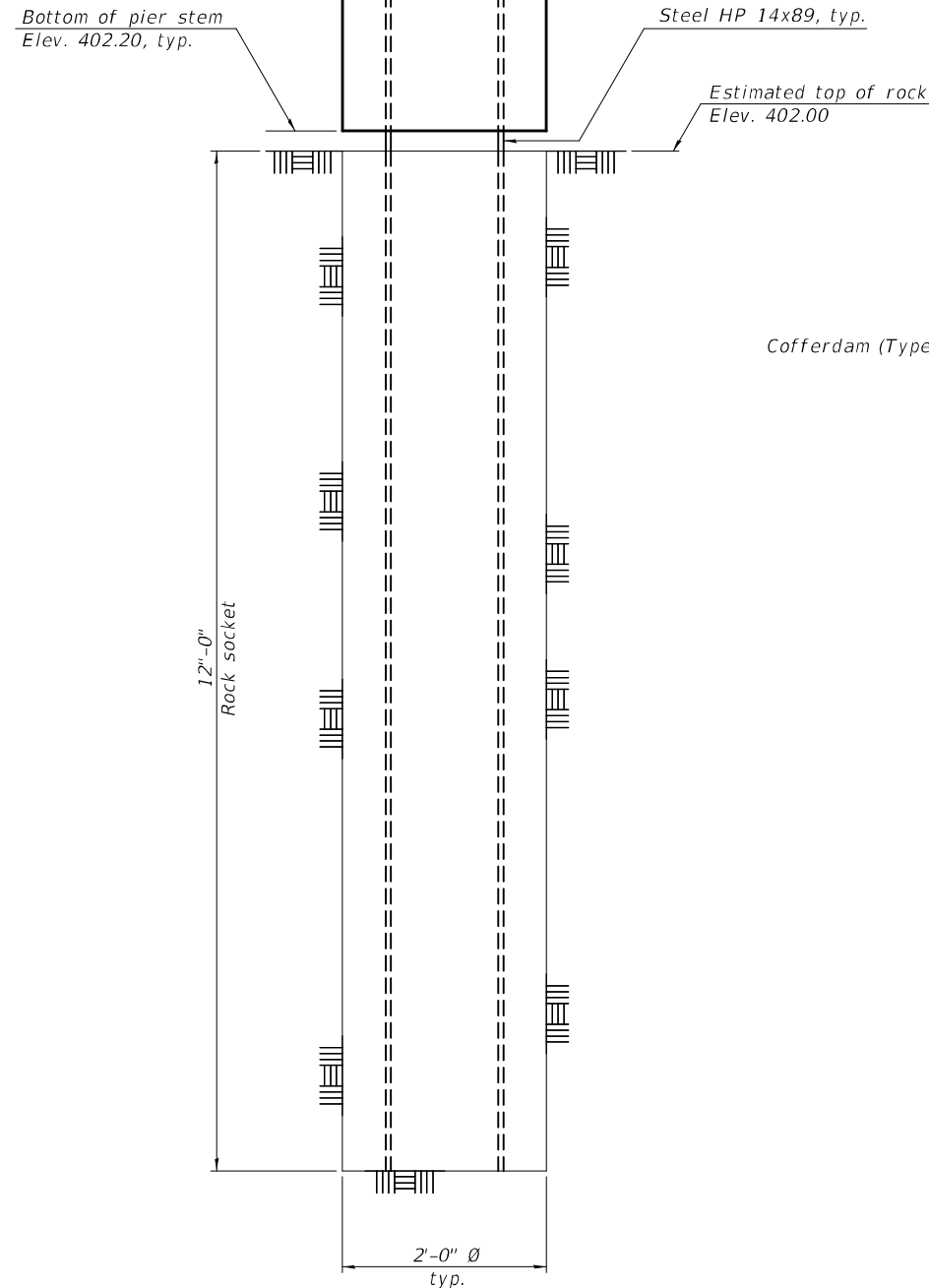
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PIER 2  
 STRUCTURE NO. 051-0076

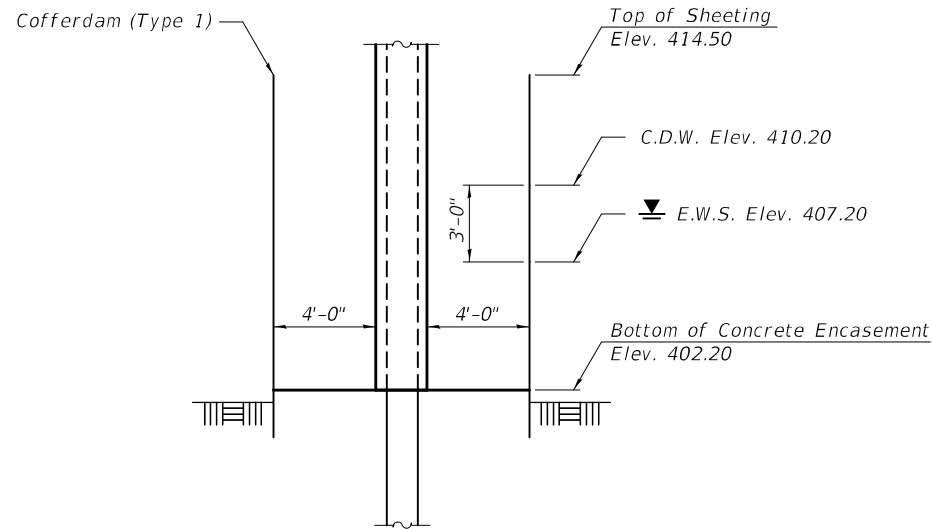
SHEET 24 OF 30 SHEETS

F.A.P. RTE. 332	SECTION (15B2)BR	COUNTY LAWRENCE	TOTAL SHEETS 56	SHEET NO. 35
CONTRACT NO. 74359			ILLINOIS FED. AID PROJECT	

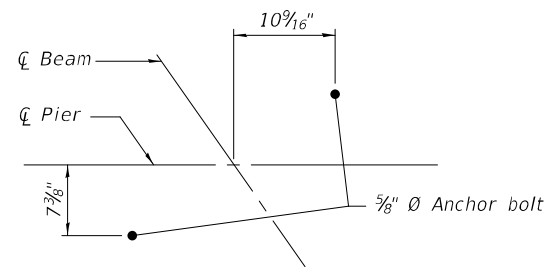
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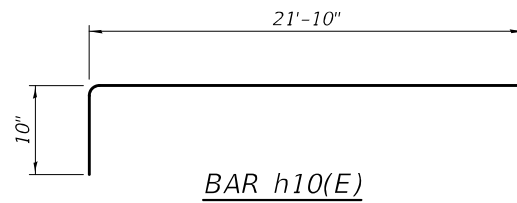
**ROCK SOCKET DETAIL**



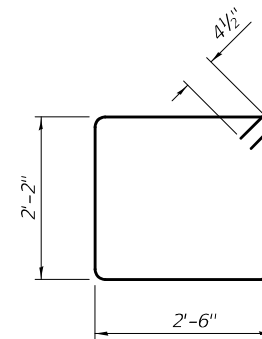
**COFFERDAM DETAIL**



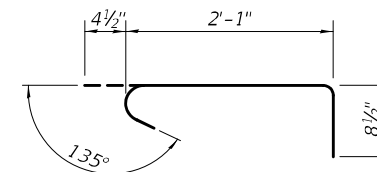
**ANCHOR BOLT DETAIL**



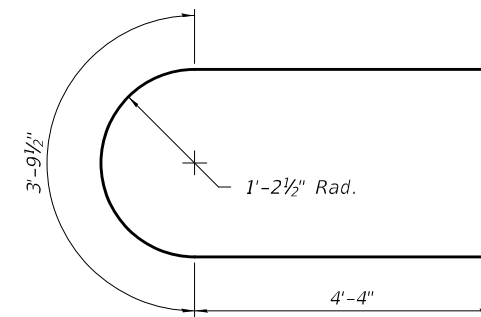
**BAR h10(E)**



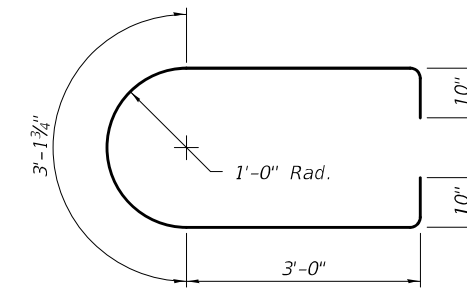
**BAR s12(E)**



**BAR s13(E)**



**BAR u10(E)**



**BAR u11(E)**

**PIER 1  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h10(E)	84	#5	22'-8"	—
p10(E)	14	#7	21'-10"	—
s12(E)	38	#4	10'-1"	□
s13(E)	336	#4	3'-2"	┌
u10(E)	6	#6	12'-6"	U
u11(E)	42	#5	10'-10"	U
v10(E)	98	#5	22'-7"	—
Cofferdam Excavation			Cu. Yd.	181
Cofferdam (Type 1) (Location-1)			Each	1
Concrete Structures			Cu. Yd.	93.7
Reinforcement Bars, Epoxy Coated			Pound	6,470
Furnishing Steel Piles HP14X89			Foot	320
Drilling and Setting Piles (In Rock)			Cu. Ft.	302

**PIER 1  
PILE DATA**

Type: HP 14x89  
 Nominal Required Bearing: Set in Rock  
 Factored Resistance Available: 300 kips  
 Est. Length: \*40'-0"  
 No. Production Piles: 8  
 No. Test Piles: 0

\* The estimated pile length accounts for possible variation in top of rock to ensure a 12' rock socket depth can be achieved without pile splices.

**PIER 2  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h10(E)	84	#5	22'-8"	—
p10(E)	14	#7	21'-10"	—
s12(E)	38	#4	10'-1"	□
s13(E)	336	#4	3'-2"	┌
u10(E)	6	#6	12'-6"	U
u11(E)	42	#5	10'-10"	U
v10(E)	98	#5	22'-7"	—
Cofferdam Excavation			Cu. Yd.	159
Cofferdam (Type 1) (Location-2)			Each	1
Concrete Structures			Cu. Yd.	93.5
Reinforcement Bars, Epoxy Coated			Pound	6,470
Furnishing Steel Piles HP14X89			Foot	320
Drilling and Setting Piles (In Rock)			Cu. Ft.	302

**PIER 2  
PILE DATA**

Type: HP 14x89  
 Nominal Required Bearing: Set in Rock  
 Factored Resistance Available: 300 kips  
 Est. Length: \*40'-0"  
 No. Production Piles: 8  
 No. Test Piles: 0

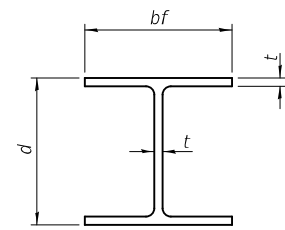
DESIGNED - RYAN P. NEGANGARD	EXAMINED - <i>Mark Shuffler</i>	DATE - AUGUST 18, 2023
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED - <i>Jaime F. [Signature]</i>	REVISIONS -
DRAWN - ANDRO R. SAMANIEGO	ENGINEER OF BRIDGES AND STRUCTURES	REVISIONS -
CHECKED - R.P.N. / G.R.A.		

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PIER DETAILS  
STRUCTURE NO. 051-0076**

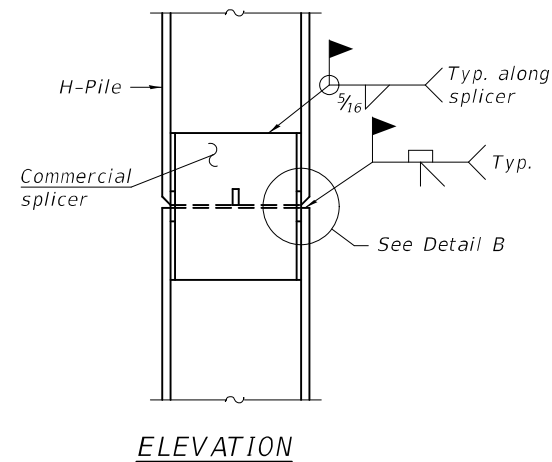
SHEET 25 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	36
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

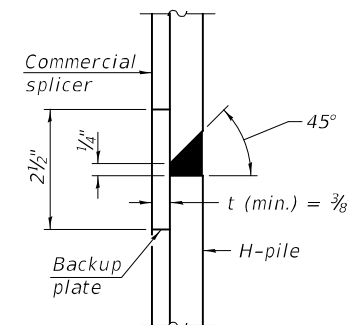


**STEEL PILE TABLE**

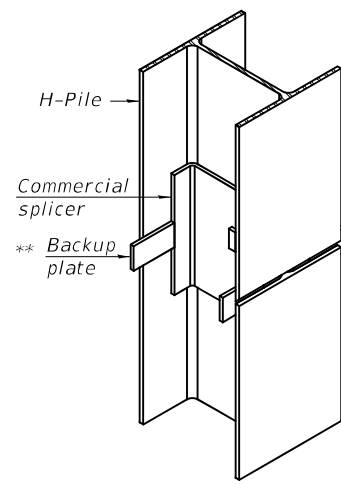
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 3/8"	14 3/4"	5/8"	30"
x73	13 3/8"	14 3/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



**ELEVATION**

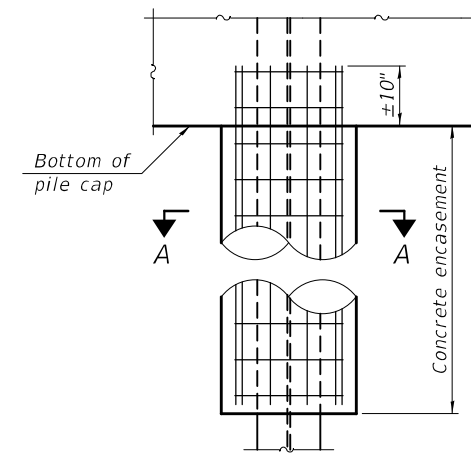


**DETAIL "B"**

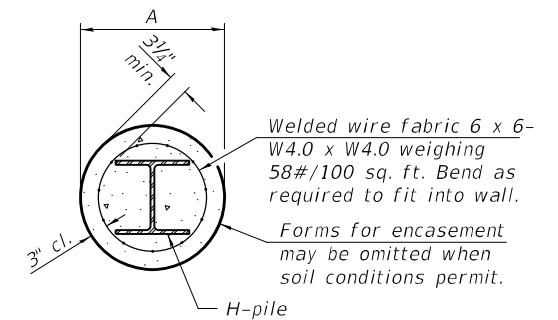


**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE**

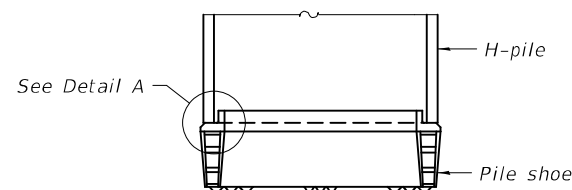


**ELEVATION**

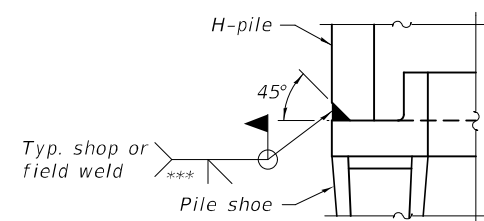


**SECTION A-A**

**INDIVIDUAL PILE CONCRETE ENCASUREMENT (when specified)**



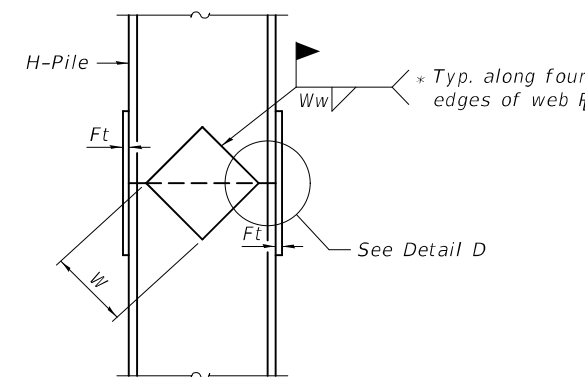
**ELEVATION**



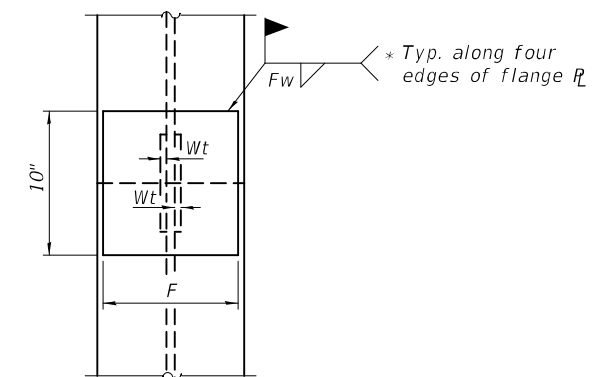
**DETAIL A**

**SHOE ATTACHMENT**

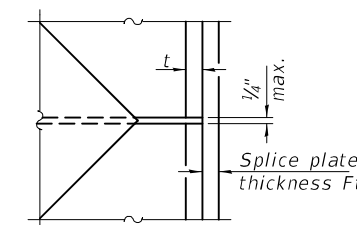
Note:  
The steel H-piles shall be according to AASHTO M270 Grade 50.



**ELEVATION**



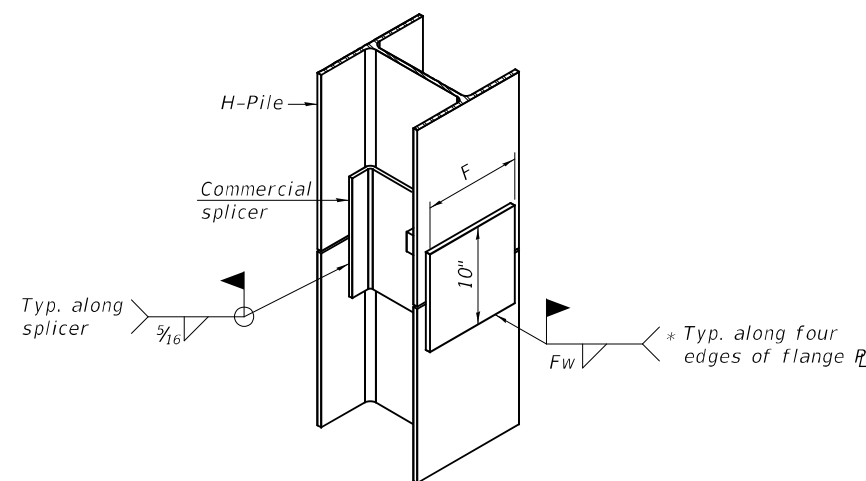
**END VIEW**



**DETAIL D**

**WELDED PLATE FIELD SPLICE**

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"



**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE ALTERNATE**

- \* Interrupt welds 1/4" from end of web and/or each flange.
- \*\* Remove portions of backup plates that extend outside the flanges.
- \*\*\* Weld size per pile shoe manufacturer (5/16" min.).

MODEL: 0510076-74359-026  
FILE NAME: pw:\idol-pw-bentley.com\FWIDOT\Documents\DOT Offices\Bureau of Bridges and Structures\Projects\0510076\CADD Plans\0510076-74359.dgn

F-HP 2-1-2023

DESIGNED - RYAN P. NEGANGARD	EXAMINED -	DATE - AUGUST 18, 2023
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED -	
DRAWN - ANDRO R. SAMANIEGO		
CHECKED - R.P.N. / G.R.A.		

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

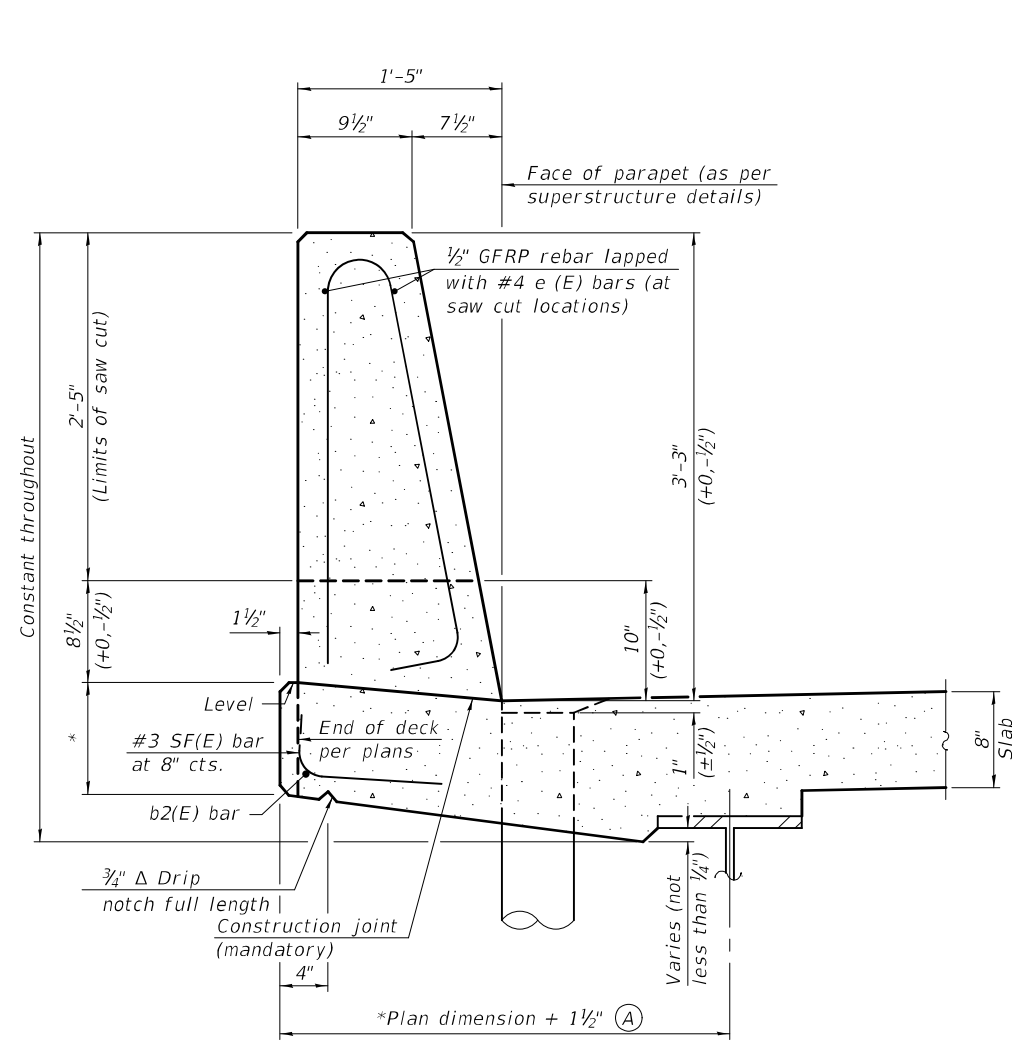
**HP PILE DETAILS  
STRUCTURE NO. 051-0076**

SHEET 26 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	37
CONTRACT NO. 74359				

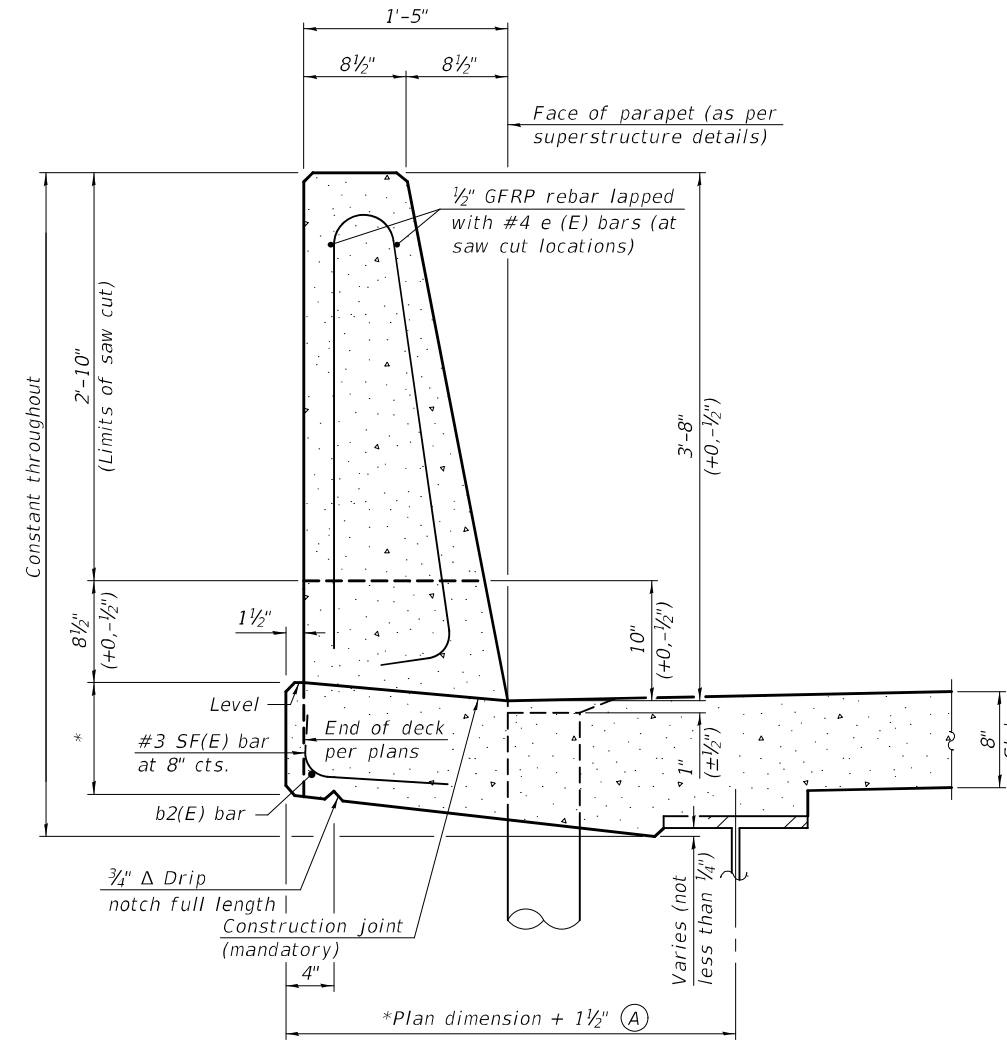
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**39" CONSTANT-SLOPE  
PARAPET SECTION**

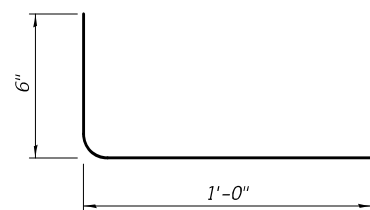
(Showing dimensions, d(E), and 1/2" Ø GFRP rebar)



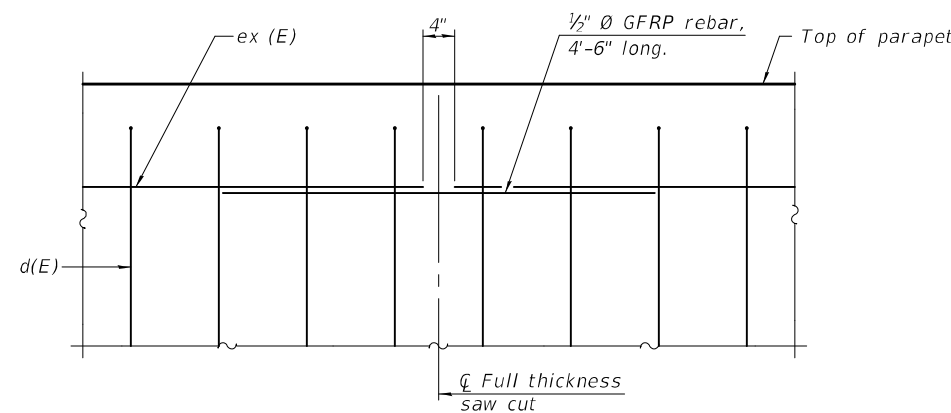
**44" CONSTANT-SLOPE  
PARAPET SECTION**

(Showing dimensions, d(E), and 1/2" Ø GFRP rebar)

\*See Superstructure Details.



**SF(E) BAR**



**GFRP REBAR STIFFENING DETAIL**

(Place as shown in parapet section at each parapet joint location.)

Notes:  
All dimensions shall remain the same as shown on superstructure details, except dimension A which is to be revised as shown. Additional concrete needed to revise dimension A = 0.00348 cu. yds./ft. for 39" and 44" parapets.  
Place full depth aluminum sheets as shown on superstructure details.  
Replace all cork joint filler locations with a full thickness saw cut.  
Steel superstructure shown. Other superstructure types similar.

MODEL: 0510076-74359-027  
FILE NAME: pw:\idol-pw.bentley.com\FWIDOT\Documents\DOT Offices\Bureau of Bridges and Structures\Projects\0510076\CADD Plans\0510076-74359.dgn

SFP 39-44

11-1-2022

DESIGNED - RYAN P. NEGANGARD	EXAMINED
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED
DRAWN - ANDRO R. SAMANIEGO	
CHECKED - R.P.N. / G.R.A.	

DATE - AUGUST 18, 2023

Mark Shuffler  
ENGINEER OF BRIDGE DESIGN

Jayne F. [Signature]  
ENGINEER OF BRIDGES AND STRUCTURES

REVISIONS	
REVISIONS	

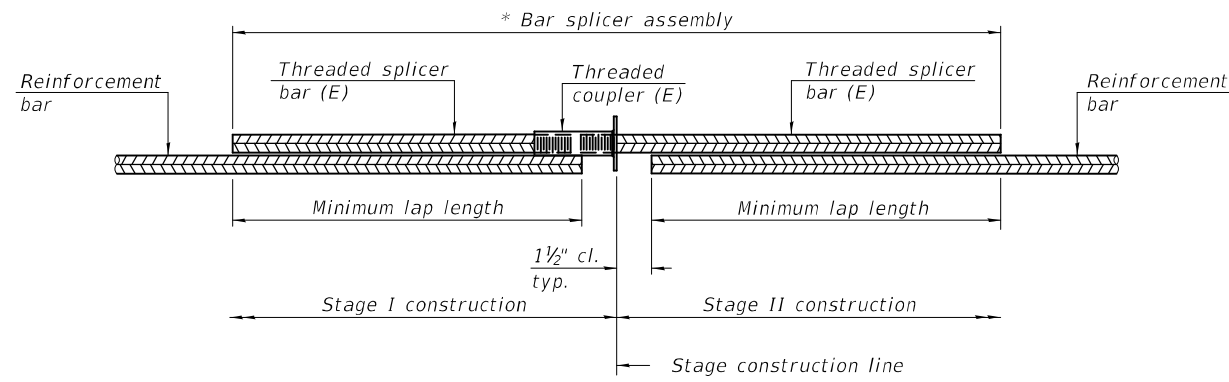
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION  
STRUCTURE NO. 051-0076

SHEET 27 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	38
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

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**STANDARD BAR SPLICER ASSEMBLY PLAN**

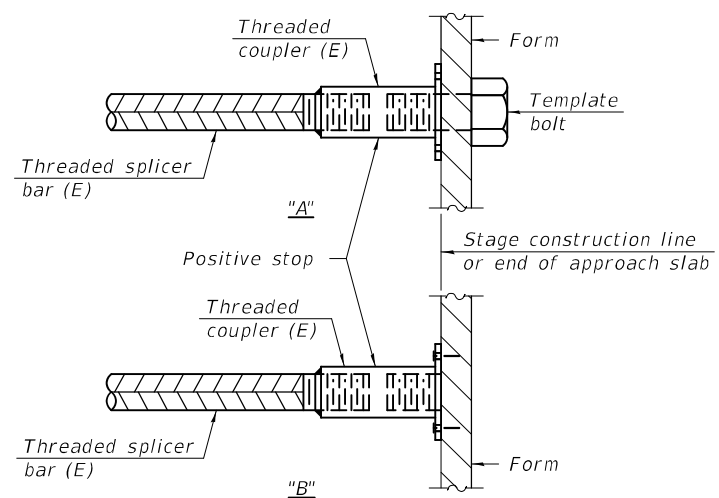
Only bar splicer assemblies as presented on the approved QPL list may be used.

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
† Slab Top	#5	351	3'-0"
† Slab Bottom	#5	211	3'-6"
† Slab Along Ends	#5	4	3'-4"
Abutment Diaphragm, Back Face	#6	8	4'-0"
Abutment Diaphragm, Front Face	#6	6	See Diaphragm Bar Splicer Detail
† Approach Slab Top	#5	76	3'-4"
† Approach Slab Bottom	#8	100	4'-9"
Approach Slab Footing	#5	80	3'-2"
Abutment Caps	#7	20	5'-0"
Pier Caps	#7	14	5'-0"
Pier Walls	#5	84	3'-7"

† Threaded splicer bars shall be textured epoxy coated reinforcement bars. See Special Provisions.

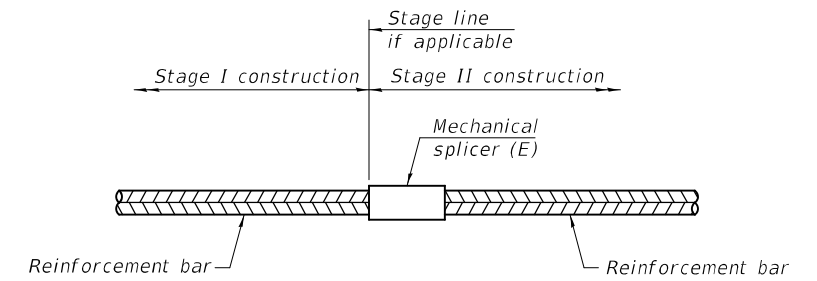


**INSTALLATION AND SETTING METHODS**

"A" : Set bar splicer assembly by means of a template bolt.

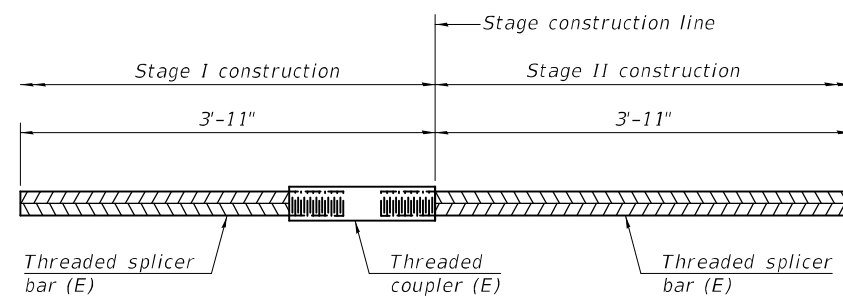
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.

(E) : Indicates epoxy coating.



**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



**DIAPHRAGM BAR SPLICER DETAIL**

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.

MODEL: 0510076-74359-028  
 FILE NAME: p:\w\idol-pw\Bentley.com\FWIDOT\Documents\DOT Offices\Bureau of Bridges and Structures\Projects\0510076\CADD Plans\0510076-74359.dgn

BSD-1

2-1-2023

DESIGNED - RYAN P. NEGANGARD	EXAMINED	DATE - AUGUST 18, 2023
CHECKED - T. L. MEIER / M. A. PAULIONIS	PASSED	REVISED -
DRAWN - ANDRO R. SAMANIEGO		REVISED -
CHECKED - R.P.N. / G.R.A.		

*Mark Shuffler*  
 ENGINEER OF BRIDGE DESIGN

*Jayne F. [Signature]*  
 ENGINEER OF BRIDGES AND STRUCTURES

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
 STRUCTURE NO. 051-0076**

SHEET 28 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	39
CONTRACT NO. 74359				

ILLINOIS FED. AID PROJECT







Illinois Department of Transportation  
Division of Highways  
IDOT - D7

### SOIL BORING LOG

Page 1 of 2

Date 7/24/19

ROUTE FAP 332 (IL 1) DESCRIPTION IL 1 over Indian Creek LOGGED BY: Sandschafer

SECTION (15B2)BR LOCATION SE 1/4, SEC. 13, TWP. 3N, RNG. 12W, 3rd PM, Latitude 38.693009, Longitude -87.693667

COUNTY Lawrence DRILLING METHOD Hollow stem auger & split spoon HAMMER Auto 140#

STRUCT. NO. 051-0007 (E)  
051-0076 (P)  
Station 1056+36

BORING NO. 2 (N. Abutment)  
Station 1057+82  
Offset 9.5 ft West  
Ground Surface Elev. 429.07 ft

DEPTH (ft)	BLOW COUNT (blows/6")	UNIFORMITY COEFFICIENT (tsf)	MOISTURE (%)	SOIL TYPE	DEPTH (ft)	BLOW COUNT (blows/6")	UNIFORMITY COEFFICIENT (tsf)	MOISTURE (%)	SOIL TYPE
0				4-3/4" Asphalt over 9-3/4" Concrete	0				4-3/4" Asphalt over 9-3/4" Concrete
427.77				Grey, CLAY	427.77				Grey, CLAY
4	4			Very stiff, moist	4	4			Very stiff, moist
5	5	3.1	19		5	5	3.1	19	
6	6	B			6	6	B		
404.57				Soft, moist, brown mottled, grey, SILTY CLAY LOAM	404.57				Soft, moist, brown mottled, grey, SILTY CLAY LOAM
-5	4			Stiff, moist, brown, SANDY LOAM	-5	4			Stiff, moist, brown, SANDY LOAM
6	6	3.5	17		6	6	3.5	17	
9	9	B			9	9	B		
422.07				Very stiff, moist, dark brown, CLAY	422.07				Very stiff, moist, dark brown, CLAY
4	4			Very stiff, moist, dark brown, CLAY	4	4			Very stiff, moist, dark brown, CLAY
4	4	1.5	19		4	4	1.5	19	
4	4	S			4	4	S		
-10	3			Very stiff, moist, dark brown marbled grey, SILTY CLAY	-10	3			Very stiff, moist, dark brown marbled grey, SILTY CLAY
5	5	2.0	20		5	5	2.0	20	
5	5	B			5	5	B		
396.57				Very stiff, moist, grey, CLAY	396.57				Very stiff, moist, grey, CLAY
3	3			Very stiff, moist, grey, CLAY	3	3			Very stiff, moist, grey, CLAY
4	4	1.8	20		4	4	1.8	20	
5	5	B			5	5	B		
394.07-35				Hard, moist, grey, SHALE	394.07-35				Hard, moist, grey, SHALE
-15	5			Hard, moist, grey, SHALE	-15	5			Hard, moist, grey, SHALE
5	5	1.7	19		5	5	1.7	19	
6	6	B			6	6	B		
413.57				Stiff, moist, grey, SILTY LOAM with fine-grained sand	413.57				Stiff, moist, grey, SILTY LOAM with fine-grained sand
412.07				Stiff, moist, grey, SILTY CLAY	412.07				Stiff, moist, grey, SILTY CLAY
1	1			Stiff, moist, grey, SILTY CLAY	1	1			Stiff, moist, grey, SILTY CLAY
3	3	1.2	20		3	3	1.2	20	
4	4	B			4	4	B		
409.57				Borehole continued with rock coring.	409.57				Borehole continued with rock coring.
409.07-20				Borehole continued with rock coring.	409.07-20				Borehole continued with rock coring.

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), WH-Weight of Hammer, NT-Not Tested.

BBS, form 137 (Rev. 8-99)



Illinois Department of Transportation  
Division of Highways  
IDOT - D7

### ROCK CORE LOG

Page 2 of 2

Date 7/24/19

ROUTE FAP 332 (IL 1) DESCRIPTION IL 1 over Indian Creek LOGGED BY: Sandschafer

SECTION (15B2)BR LOCATION SE 1/4, SEC. 13, TWP. 3N, RNG. 12W, 3rd PM, Latitude 38.693009, Longitude -87.693667

COUNTY Lawrence CORING METHOD Rotary, surf set diamond bit

STRUCT. NO. 051-0007 (E)  
051-0076 (P)  
Station 1056+36

BORING NO. 2 (N. Abutment)  
Station 1057+82  
Offset 9.5 ft West  
Ground Surface Elev. 429.07 ft

DEPTH (ft)	DEPTH (#)	RECOVERY (%)	CORRECTION (%)	QUALITY (%)	DIAMETER (min/ft)	STRENGTH (tsf)
389.57	40	C1	50	74	2.96	57.4
Grey, SHALE						
Depth 42.5', Moisture Content: 5.8%, Dry Density: 144.1 pcf						
384.07	45	C2	100	8	3.07	83.2
Hard, grey, sandy, SHALE						
Depth 45.0', Moisture Content: 5.8%, Dry Density: 144.0 pcf						
379.07	50					
End of Boring						

Color pictures of the cores Available on Request  
Cores will be stored for examination until 07/10/24  
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)



Illinois Department of Transportation  
Division of Highways  
IDOT - D7

### SOIL BORING LOG

Page 1 of 1

Date 7/26/19

ROUTE FAP 332 (IL 1) DESCRIPTION IL 1 over Indian Creek LOGGED BY: Sandschafer

SECTION (15B2)BR LOCATION SE 1/4, SEC. 13, TWP. 3N, RNG. 12W, 3rd PM, Latitude 38.692623, Longitude -87.693549

COUNTY Lawrence DRILLING METHOD Hollow stem auger & split spoon HAMMER Auto 140#

STRUCT. NO. 051-0007 (E)  
051-0076 (P)  
Station 1056+36

BORING NO. 3 (Pier)  
Station 1056+72  
Offset 55.5 ft East  
Ground Surface Elev. 415.75 ft

DEPTH (ft)	BLOW COUNT (blows/6")	UNIFORMITY COEFFICIENT (tsf)	MOISTURE (%)	SOIL TYPE	DEPTH (ft)	BLOW COUNT (blows/6")	UNIFORMITY COEFFICIENT (tsf)	MOISTURE (%)	SOIL TYPE
415.45				Topsoil	415.45				Topsoil
50				Brown, SILTY LOAM	50				Brown, SILTY LOAM
4	4			Stiff, moist	4	4			Stiff, moist
4	4	1.4	21		4	4	1.4	21	
4	4	B			4	4	B		
389.75				Medium, light grey	389.75				Medium, light grey
-5	2			Medium, light grey	-5	2			Medium, light grey
2	2	0.8	25		2	2	0.8	25	
2	2	B			2	2	B		
395.75-20				Stiff, light brown	395.75-20				Stiff, light brown
2	2			Stiff, light brown	2	2			Stiff, light brown
3	3	1.0	23		3	3	1.0	23	
3	3	B			3	3	B		
-10	2			Very soft, dark brown	-10	2			Very soft, dark brown
1	1	0.2	23		1	1	0.2	23	
2	2	B			2	2	B		
402.45				brown and grey marbled	402.45				brown and grey marbled
4	4	0.7	20		4	4	0.7	20	
14	14	B			14	14	B		
394.07-35				Medium, moist, brown, SILTY CLAY SHALE	394.07-35				Medium, moist, brown, SILTY CLAY SHALE
-15	35			Medium, moist, brown, SILTY CLAY SHALE	-15	35			Medium, moist, brown, SILTY CLAY SHALE
50	50	4.0	10		50	50	4.0	10	
4	4	7/8		Very dense, moist, grey, poker chipped and powdered	4	4	7/8		Very dense, moist, grey, poker chipped and powdered
50	50	E			50	50	E		
2	2	3/4			2	2	3/4		
13	13				13	13			
16	16	4.0	11		16	16	4.0	11	
50	50	E			50	50	E		
1	1	2			1	1	2		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), WH-Weight of Hammer, NT-Not Tested.

BBS, form 137 (Rev. 8-99)

MODEL: 0510076-74359-030  
FILE NAME: pw:\idol-pw-bentley.com\FWIDOT\Documents\IDOT Offices\Bureau of Bridges and Structures\Projects\0510076\CADD Plans\0510076-74359.dgn

DESIGNED - RYAN P. NEGANGARD  
CHECKED - T. L. MEIER / M. A. PAULIONIS  
DRAWN - ANDRO R. SAMANIEGO  
CHECKED - R.P.N. / G.R.A.

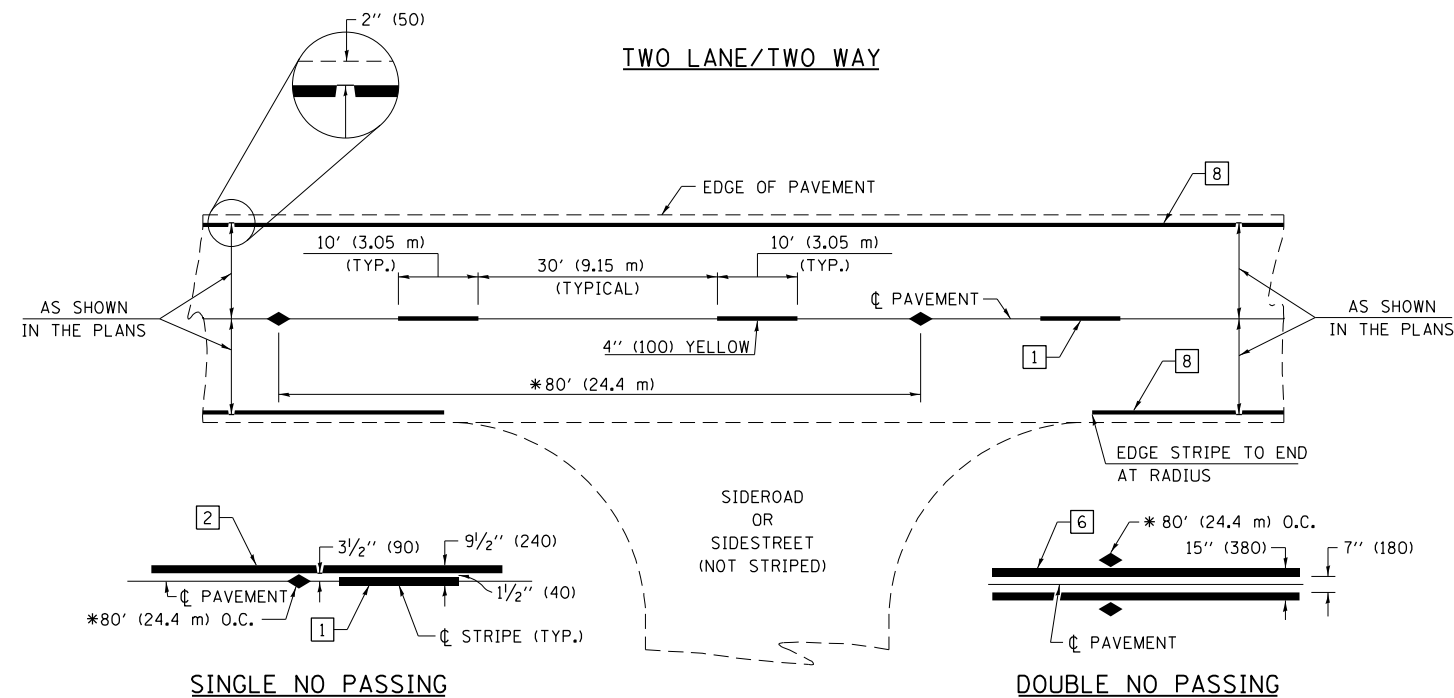
EXAMINED  
PASSED  
DATE - AUGUST 18, 2023

REVISER -  
REVISER -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS  
STRUCTURE NO. 051-0076  
SHEET 30 OF 30 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	41
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				



\* REDUCE TO 40' (12.2 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEEDS OF 45 mph (70 km/h) OR LESS.

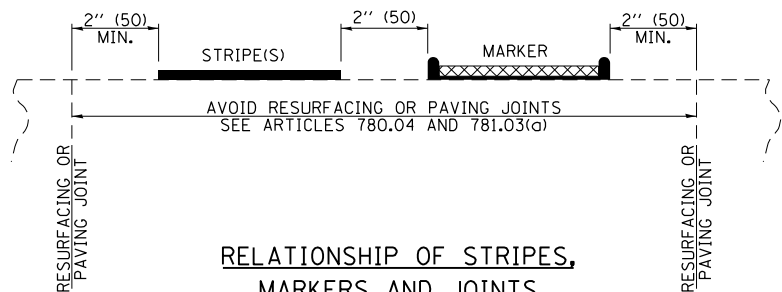
**PAVEMENT MARKING LEGEND**

- 1 4" (100) SKIP-DASH (YELLOW)
  - 2 4" (100) SOLID (YELLOW)
  - 3 12" (300) DIAGONAL (YELLOW)
  - 4 4" (100) DOUBLE YELLOW (NARROW)
  - 5 12" (300) SOLID WHITE
  - 6 4" (100) DOUBLE YELLOW (WIDE)
  - 7 6" (150) SKIP-DASH (WHITE)
  - 8 4" (100) SOLID (WHITE)
  - 9 12" (300) DIAGONAL (WHITE)
  - 10 6" (150) SOLID (WHITE)
  - 11 24" (600) STOP BAR (WHITE)
  - 12 8" (200) SOLID (WHITE)
  - 13 4" (100) PARKING WHITE
- 

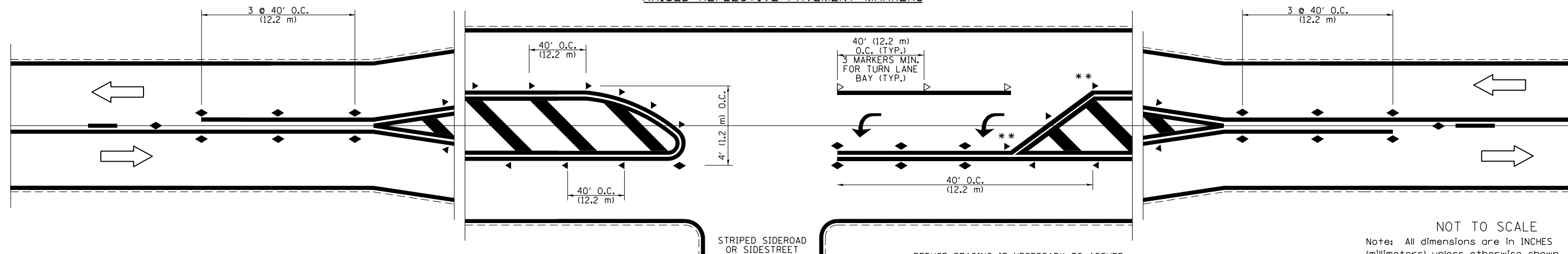
**TYPICAL PAVEMENT MARKERS LEGEND**

- ◆ TWO-WAY AMBER MARKER
- ▶ ONE-WAY AMBER MARKER
- ▷ ONE-WAY CRYSTAL MARKER

**RELATIONSHIP OF STRIPES, MARKERS AND JOINTS**



**RAISED REFLECTIVE PAVEMENT MARKERS**



\*\* REDUCE SPACING IF NECESSARY TO ASSURE MARKERS AT CORNER POINTS.

NOT TO SCALE  
Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

**DISTRICT 7 DETAIL NO. 7800001**

USER NAME = jessica.ville	DESIGNED -	REVISED -	NAS	06/22
	DRAWN -	REVISED -		
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -		
PLOT DATE = 7/12/2023	DATE -	REVISED -		

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

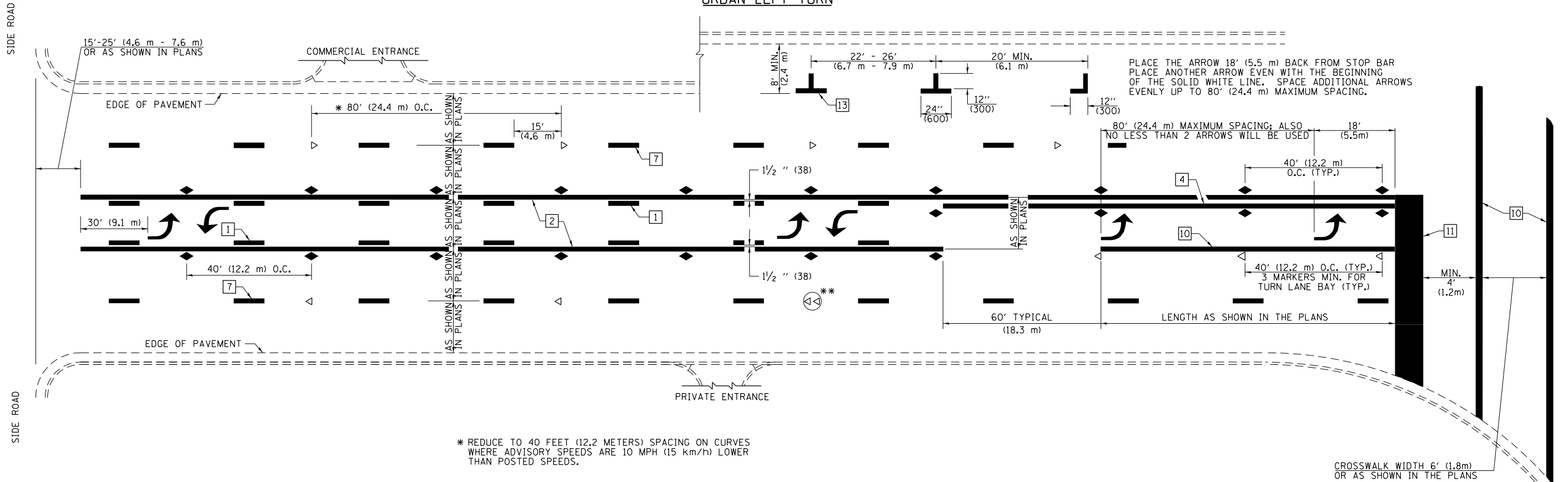
**PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS  
(RURAL & URBAN APPLICATIONS)**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	42
			CONTRACT NO. 74359	

ILLINOIS FED. AID PROJECT

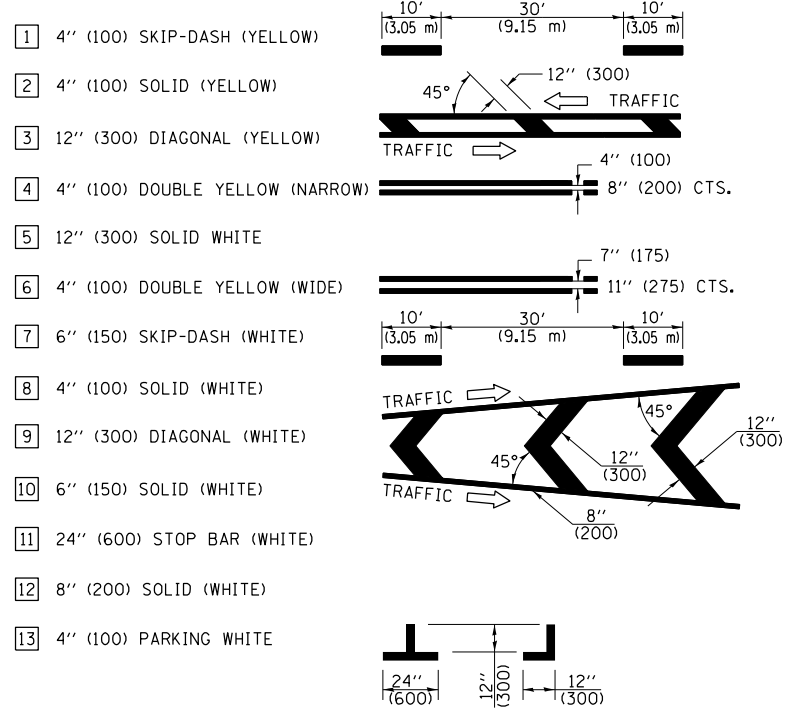
**URBAN LEFT TURN**



\* REDUCE TO 40 FEET (12.2 METERS) SPACING ON CURVES WHERE ADVISORY SPEEDS ARE 10 MPH (15 km/h) LOWER THAN POSTED SPEEDS.

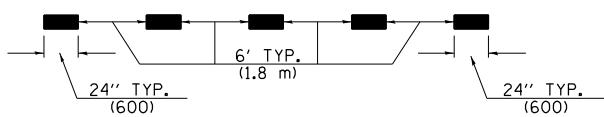
\*\* DOUBLE LANE LINE MARKERS SHALL BE SPECIFIED AND SPACED AS SHOWN IN HIGHWAY STANDARD 781001 FOR MULTI-LANE DIVIDED AND UNDIVIDED HIGHWAYS.

**PAVEMENT MARKING LEGEND**

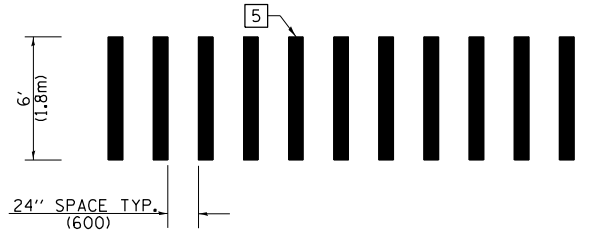


**GENERAL NOTES**

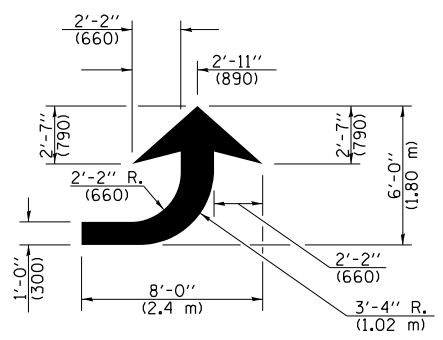
1. TURN ARROW PAIRS SHALL BE PLACED AT 250' (75 m) INTERVALS AND SHALL BE EVENLY SPACED BETWEEN BOTH ENDS OF THE BIDIRECTIONAL LEFT TURN LANE. USE A MINIMUM OF TWO PAIRS PER BLOCK.
2. THE SOLID YELLOW PAVEMENT MARKINGS [2] SHOULD GENERALLY START OR END NEAR THE RADIUS POINT OF EACH STREET RETURN EXCEPT WHERE ONE OR BOTH ENDS WOULD INCLUDE STOP BARS.
3. THE SKIP-DASH PAVEMENT MARKINGS [1] OR [7] SHOULD BE CENTERED BETWEEN BOTH ENDS OF EACH CITY BLOCK AND SHALL BE PLACED SO THEY LINE UP ACROSS FROM EACH OTHER.
4. USE LARGE ARROW SIZE FOR BOTH RURAL AND URBAN LOCATIONS. (SEE SECTION 780 FOR SYMBOLS TABLE)
5. LANE LINE EXTENSIONS SHALL BE THE SAME COLOR AND WIDTH AS THE LANE LINE BEING EXTENDED.
6. ALL WHITE SKIP-DASH LINES SHALL BE 6" IN WIDTH.



**LANE LINE EXTENSIONS**

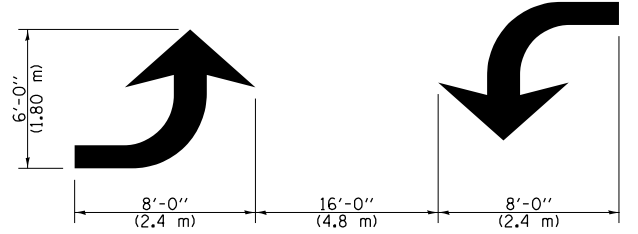


**CROSSWALK DETAIL (DECATUR CITY LIMITS ONLY)**



**LEFT ARROW**

REVERSE FOR RIGHT ARROW  
AREA = 15.6 SQ. FT. (1.47 m<sup>2</sup>)  
(WHITE)



**TYPICAL DOUBLE TURN ARROWS (WHITE)**

NOT TO SCALE

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

**DISTRICT 7 DETAIL NO. 7800001**

USER NAME = jessica.wille	DESIGNED -	REVISED -	NAS	06/22
DRAWN -	REVISED -	REVISED -		
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -		
PLOT DATE = 7/12/2023	DATE -	REVISED -		

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS  
(RURAL & URBAN APPLICATIONS)**

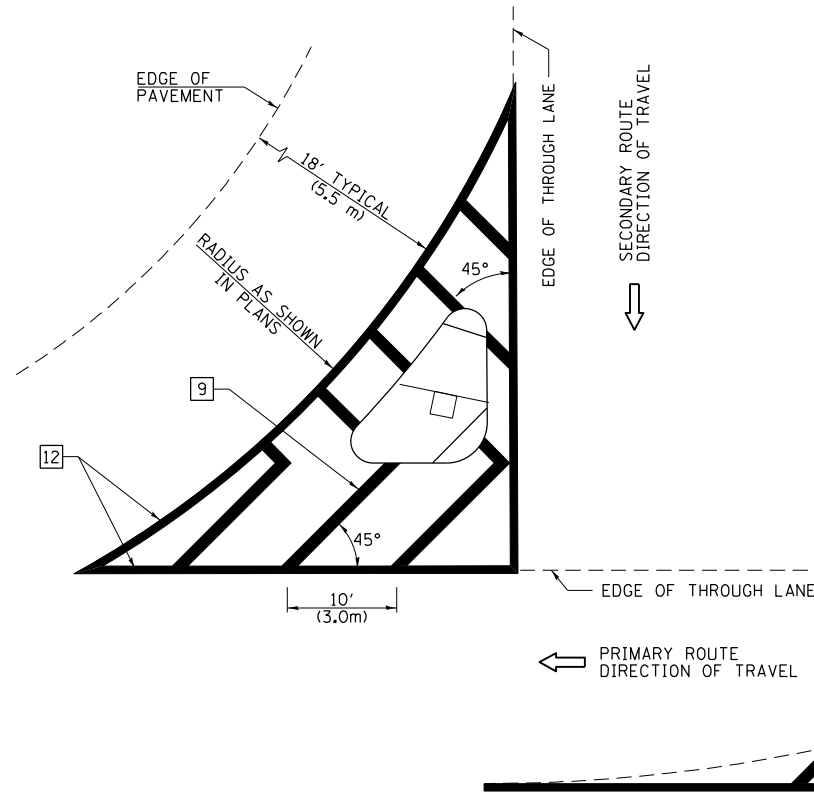
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	43
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

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 SHEET: 074359-plt-detail.dgn

**ISLANDS**

**OPTION 1**

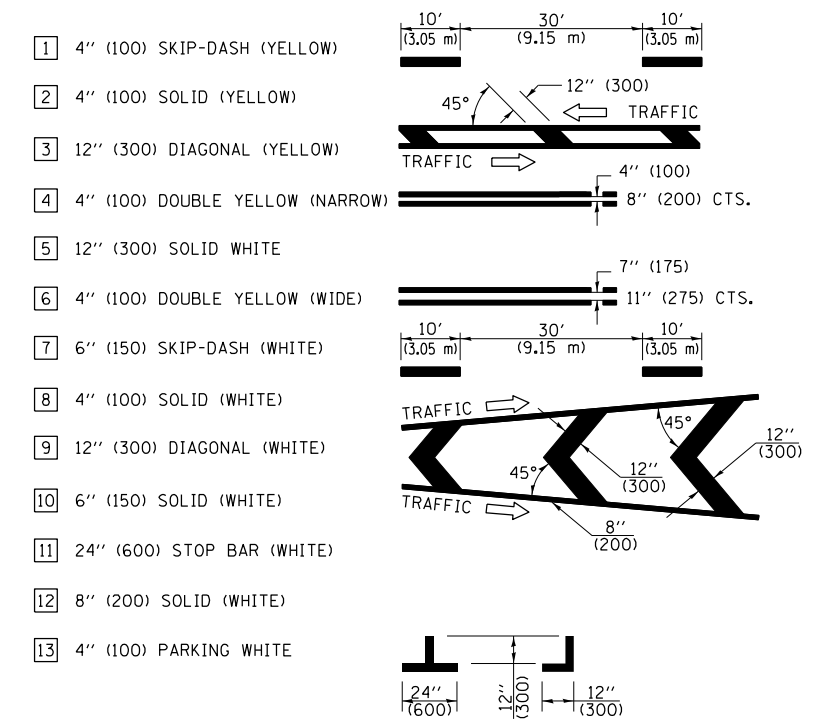


**GENERAL NOTES**

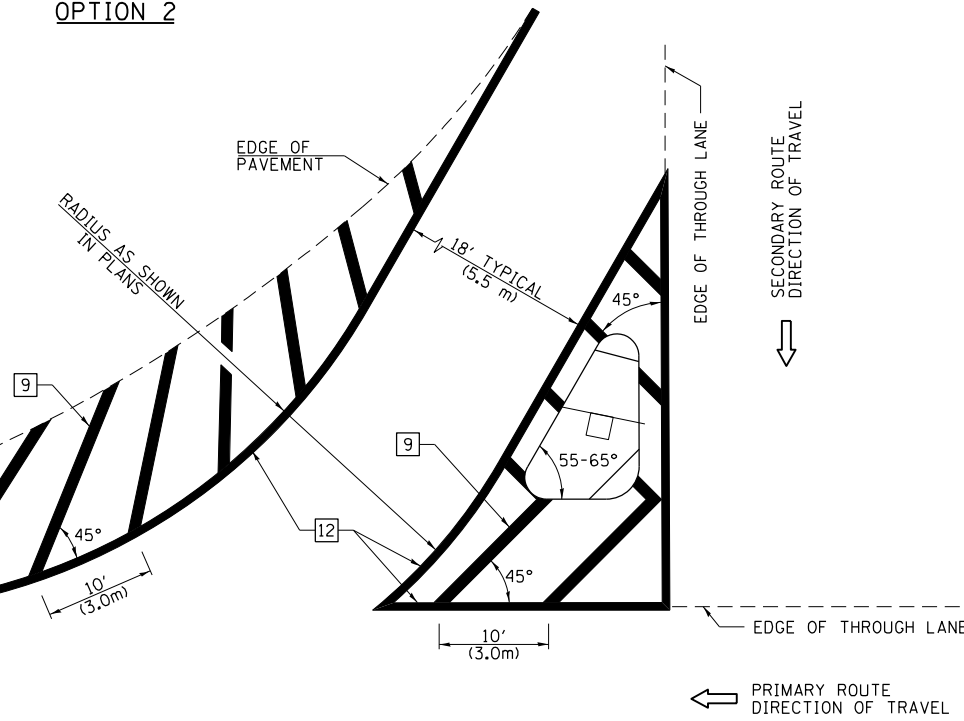
1. RAISED AND CORRUGATED MEDIANS SHALL BE OUTLINED WITH [2].
2. SOME OF THE INFORMATION INCLUDED WITH THIS DETAIL MAY NOT BE APPLICABLE TO THIS IMPROVEMENT.
3. PAVEMENT MARKINGS ARE TO BE EXTENDED THROUGH OMISSIONS WHEN APPLICABLE.
4. FINAL PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO PLACING ANY RAISED REFLECTIVE PAVEMENT MARKERS.
5. THE FOLLOWING CRITERIA SHALL BE USED FOR SELECTING THE DIAGONAL PAVEMENT MARKING SPACING:
 

< 30 MPH (< 50 km/h)	15' (4.5 m)
30-45 MPH (50-75 km/h)	20' (6.0 m)
> 45 MPH (> 75 km/h)	30' (9.0 m)
6. THE USE OF ISLAND STRIPING OPTION 1 OR OPTION 2 SHALL BE AS SHOWN ON THE PLANS.

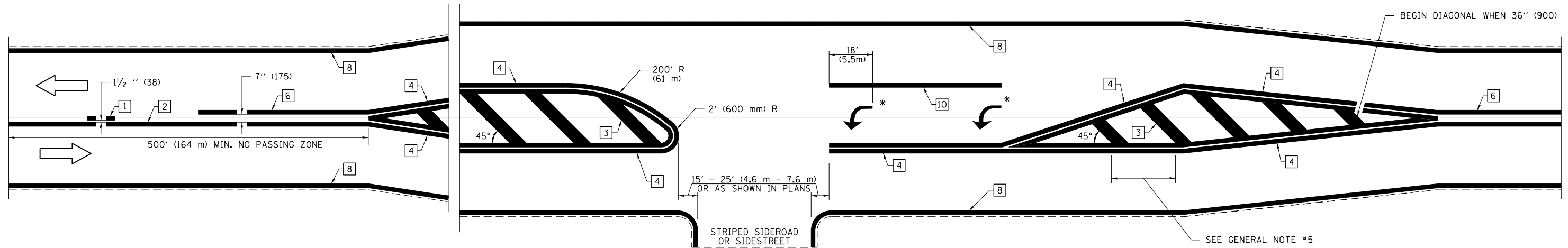
**PAVEMENT MARKING LEGEND**



**OPTION 2**



**RURAL LEFT TURN STRIPING**



\* PLACE AN ARROW 18' (5.5 m) BACK FROM END OF THE SOLID WHITE LINE. PLACE ANOTHER ARROW EVEN WITH THE BEGINNING OF THE SOLID WHITE LINE. SPACE ADDITIONAL ARROWS EVENLY UP TO 80' (24.4 m) MAXIMUM SPACING. USE MINIMUM OF 2 ARROWS.

NOT TO SCALE  
Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

**DISTRICT 7 DETAIL NO. 7800001**

USER NAME = jessica.ville	DESIGNED -	REVISOR -	DATE -
	DRAWN -	REVISOR -	DATE -
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISOR -	DATE -
PLOT DATE = 7/12/2023	DATE -	REVISOR -	DATE -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS  
(RURAL & URBAN APPLICATIONS)**

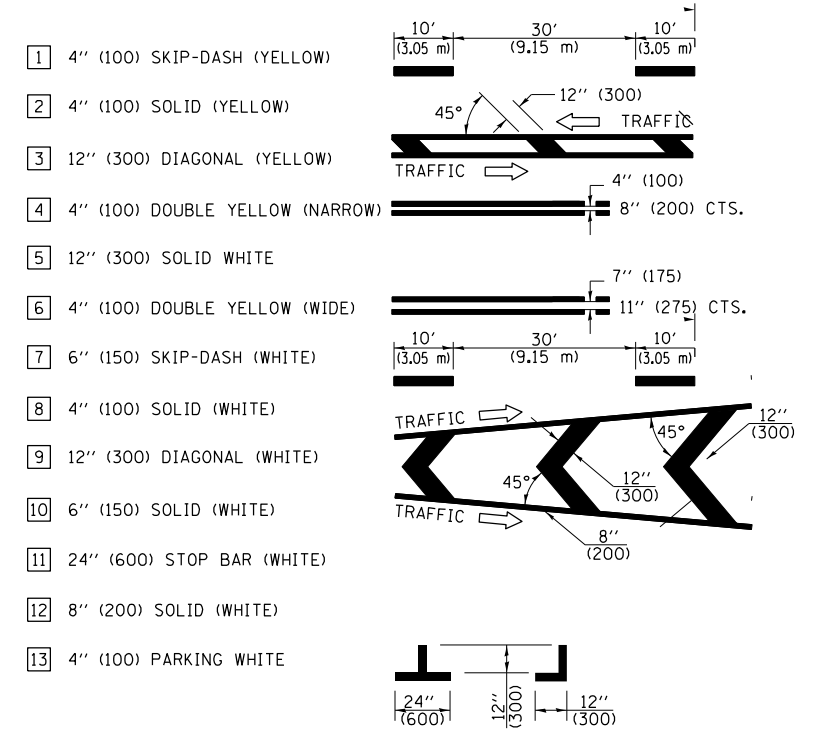
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	44
CONTRACT NO. 74359				

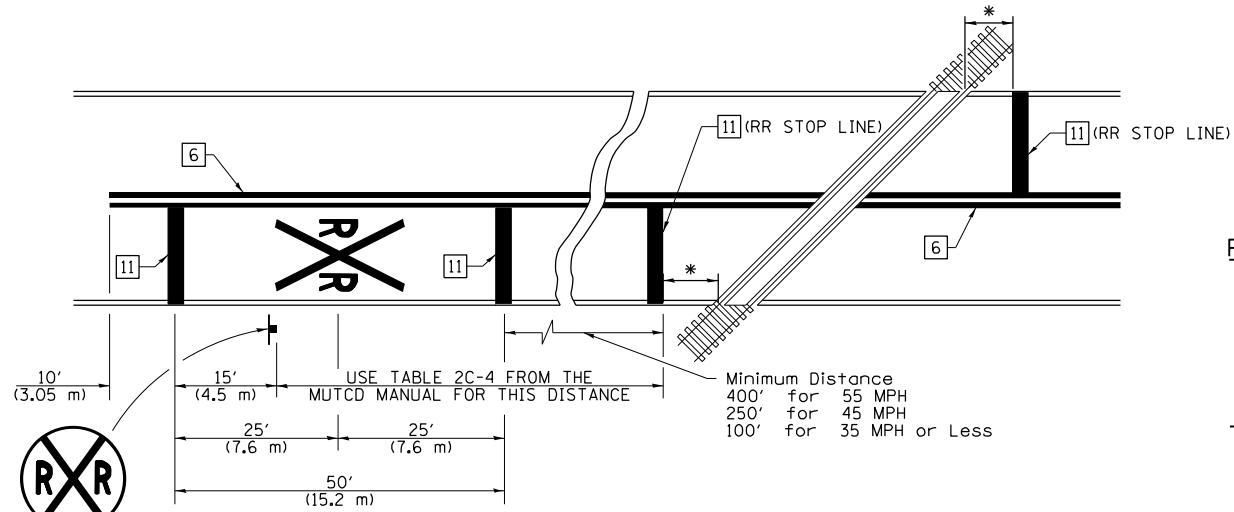
ILLINOIS FED. AID PROJECT

# SUPPLEMENTAL PAVEMENT MARKING TREATMENT FOR RAILROAD-HIGHWAY GRADE CROSSING

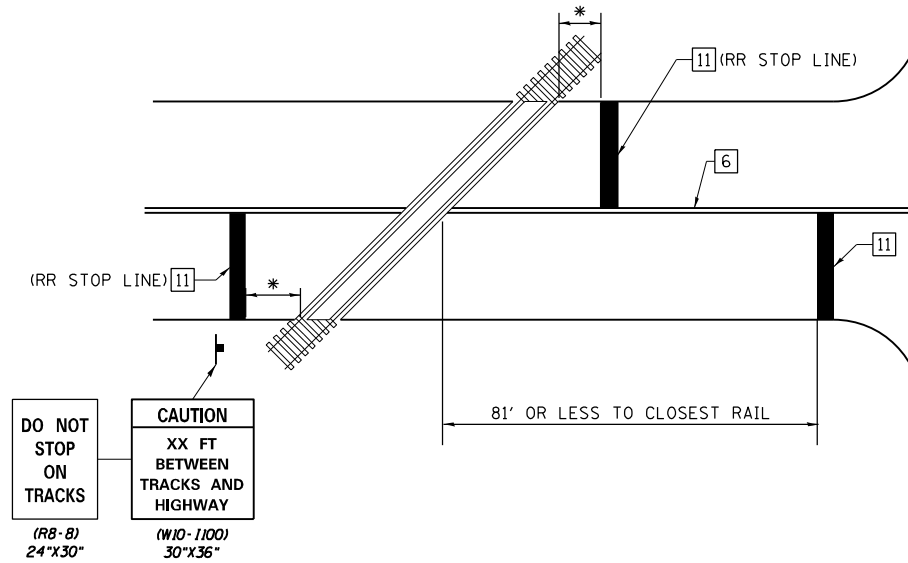
## PAVEMENT MARKING LEGEND



### PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING



### RAILROAD CROSSING WITH NON-SIGNALIZED INTERSECTION

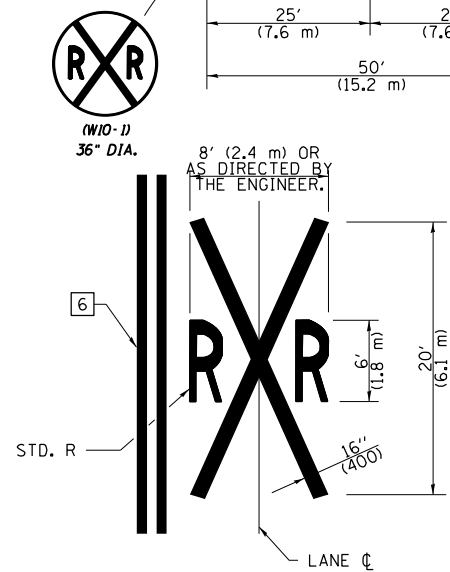


### NOTES

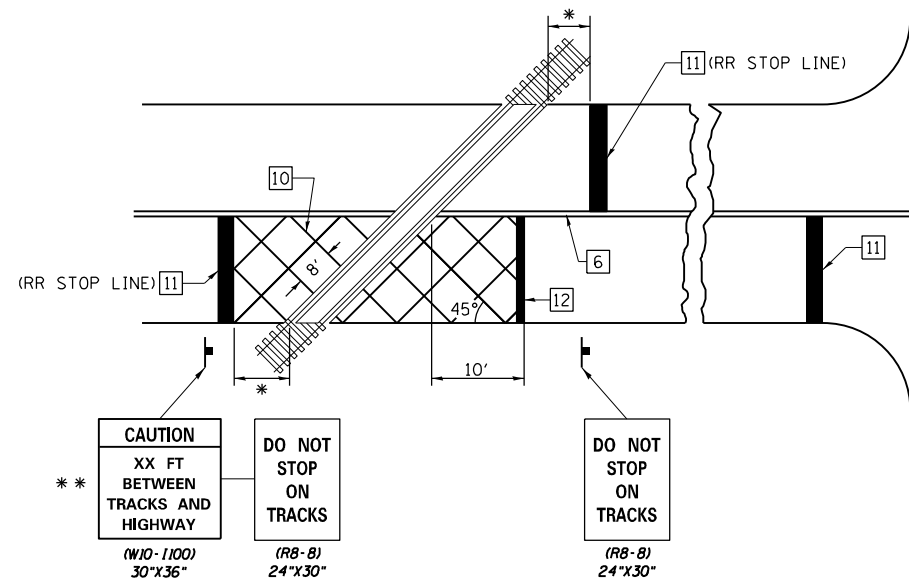
THE TRAVERSE SPREAD OF THE "X" MAY VARY ACCORDING TO LANE WIDTH.

ON MULTI-LANE ROADS, THE STOP LINES SHALL EXTEND ACROSS ALL APPROACH LANES AND SEPARATE RXR SYMBOLS SHALL BE PLACED ADJACENT TO EACH OTHER IN EACH LANE.

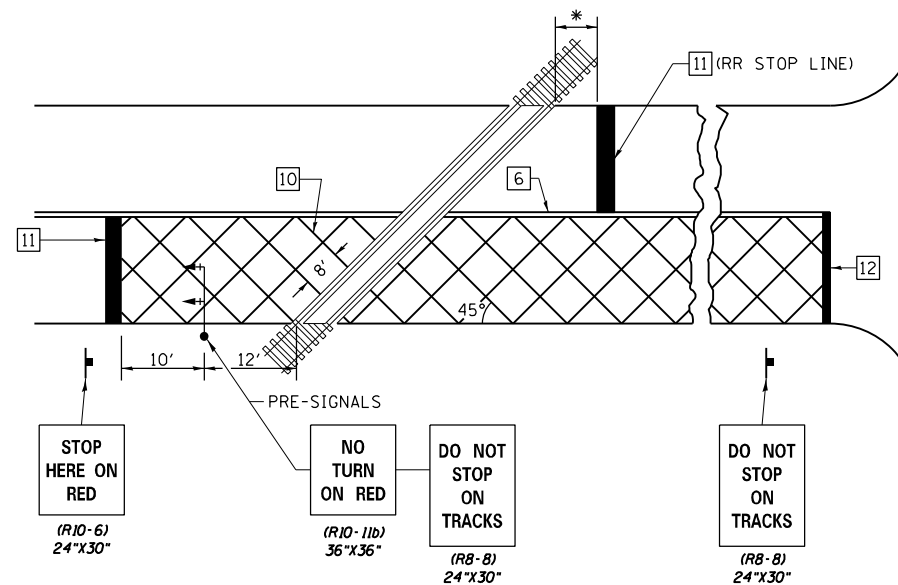
WHEN THE PAVEMENT MARKING SYMBOL IS USED, A PORTION OF THE SYMBOL SHOULD BE LOCATED DIRECTLY ADJACENT TO THE ADVANCE WARNING SIGN (W10-1) AS PLACED BY TABLE II-1, CONDITION B OF THE MUTCD.



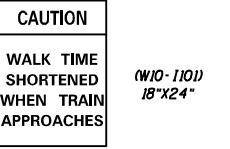
### RAILROAD CROSSING WITH INTERCONNECT ONLY



### RAILROAD CROSSING WITH INTERCONNECT AND PRE-SIGNALS



- ### GENERAL NOTES
- SUPPLEMENTAL PAVEMENT MARKINGS TO BE INSTALLED ONLY ON APPROACHES TO INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS WHICH ARE INTERCONNECTED WITH THE RAILROAD WARNING SIGNALS.
  - EXTEND PAVEMENT MARKINGS TO THE INTERSECTION ONLY WHERE PRE-SIGNALS ARE USED.
  - WHEN PEDESTRIAN SIGNALS ARE PRESENT WITH INTERCONNECTED SIGNALS, WARNING SIGN W10-1101 (18"x24") SHALL BE PLACED NEAR EACH PEDESTRIAN SIGNAL HEAD. COUNTDOWN PEDESTRIAN SIGNAL HEADS SHALL NOT BE UTILIZED ALONG WITH INTERCONNECTED SIGNALS.
  - PLEASE REFER TO THE IDOT BUREAU OF OPERATION MEMO OPS T-06 DATED DECEMBER 1, 2020 FOR ADDITIONAL INFORMATION.



\* 15' FROM NEAR RAIL OR 8' FROM AND PARALLEL TO GATE IF PRESENT

\*\* WARNING SIGN W10-1100 SHALL BE USED AS AN INTERIM MEASURE AT INTERCONNECTED SIGNAL LOCATIONS WHERE PRE-SIGNALS ARE TO BE INSTALLED IN THE FUTURE. THIS SIGN SHALL BE REMOVED WHEN THE PRE-SIGNALS ARE INSTALLED AND THE PAVEMENT MARKINGS ARE EXTENDED TO THE INTERSECTION.

NOT TO SCALE  
 Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

### DISTRICT 7 DETAIL NO. 7800001

USER NAME = jessica.hille	DESIGNED -	REVISED -	NAS	06/22
DRAWN -	REVISOR -	REVISOR -		
PLOT SCALE = 100,0000' / in.	CHECKED -	REVISOR -		
PLOT DATE = 7/12/2023	DATE -	REVISOR -		

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS  
 (RURAL & URBAN APPLICATIONS)

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	45
			CONTRACT NO. 74359	
		ILLINOIS	FED. AID PROJECT	

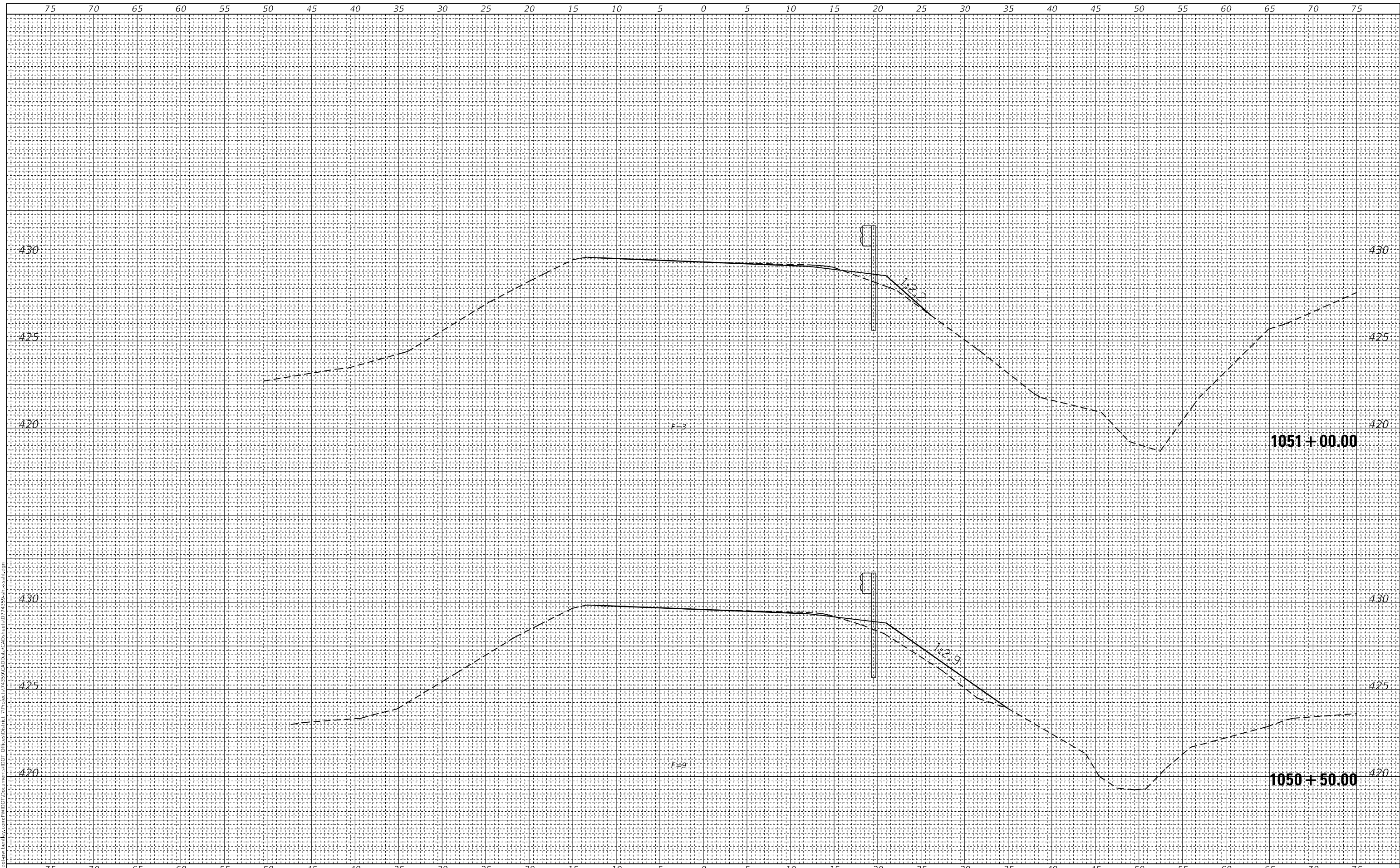
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 PROJECT: 74359



FINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
	AREAS CHECKED		

ORIGINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
	AREAS CHECKED		

MODEL: Definit  
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USER NAME = jessica.ville	DESIGNED - BLL	REVISED -
	DRAWN - BLL	REVISED -
PLOT SCALE = 10,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 7/12/2023	DATE - 7/12/2023	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS**

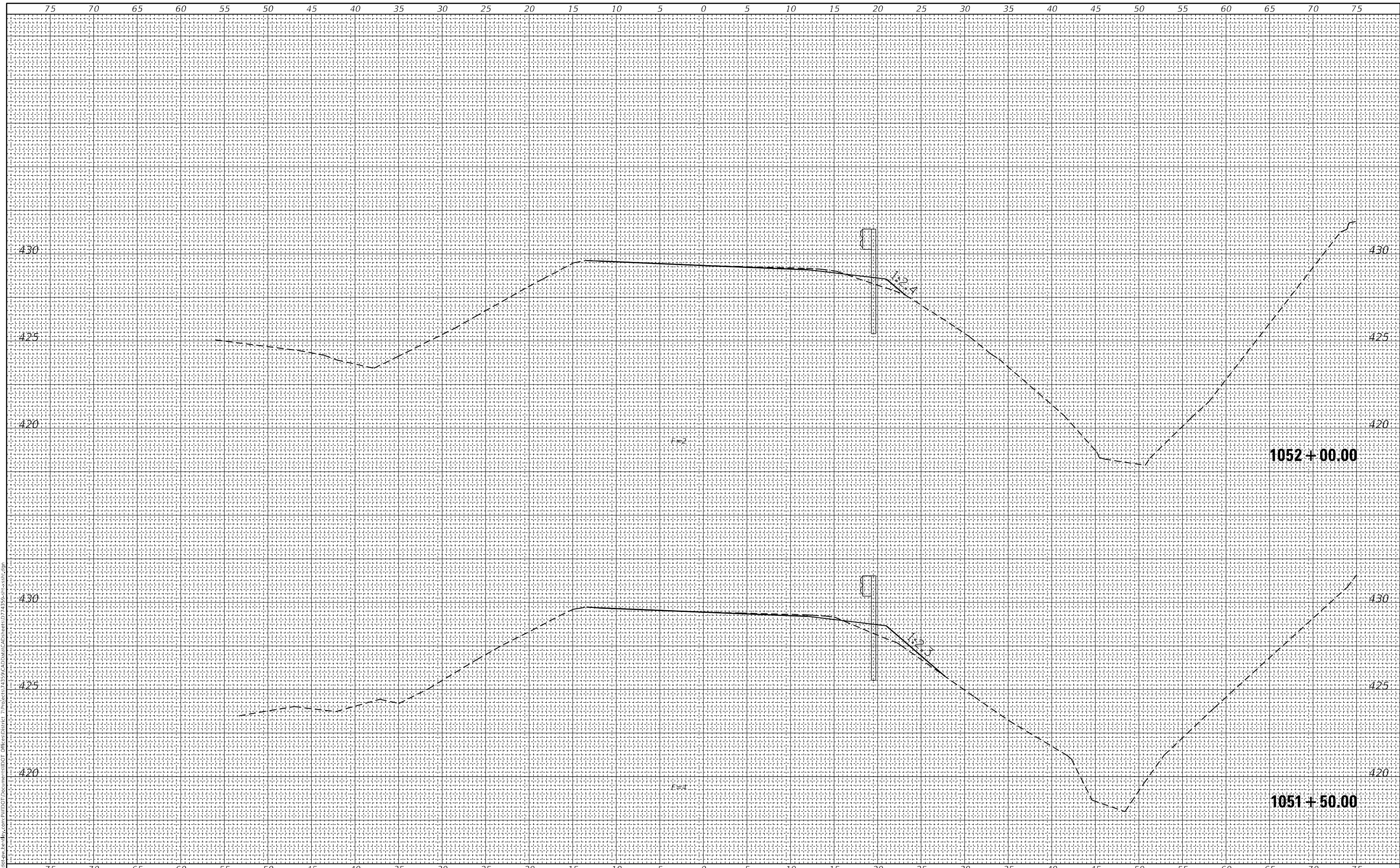
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	47
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

FINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
	AREAS CHECKED		

ORIGINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
	AREAS CHECKED		

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USER NAME = jessica.ville	DESIGNED - BLL	REVISED -
	DRAWN - BLL	REVISED -
PLOT SCALE = 10,0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 7/12/2023	DATE - \$DATE\$	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS**

SCALE: 10,0000 ' / in. SHEET OF SHEETS STA. 1051+50.00 TO STA. 1052+00.00

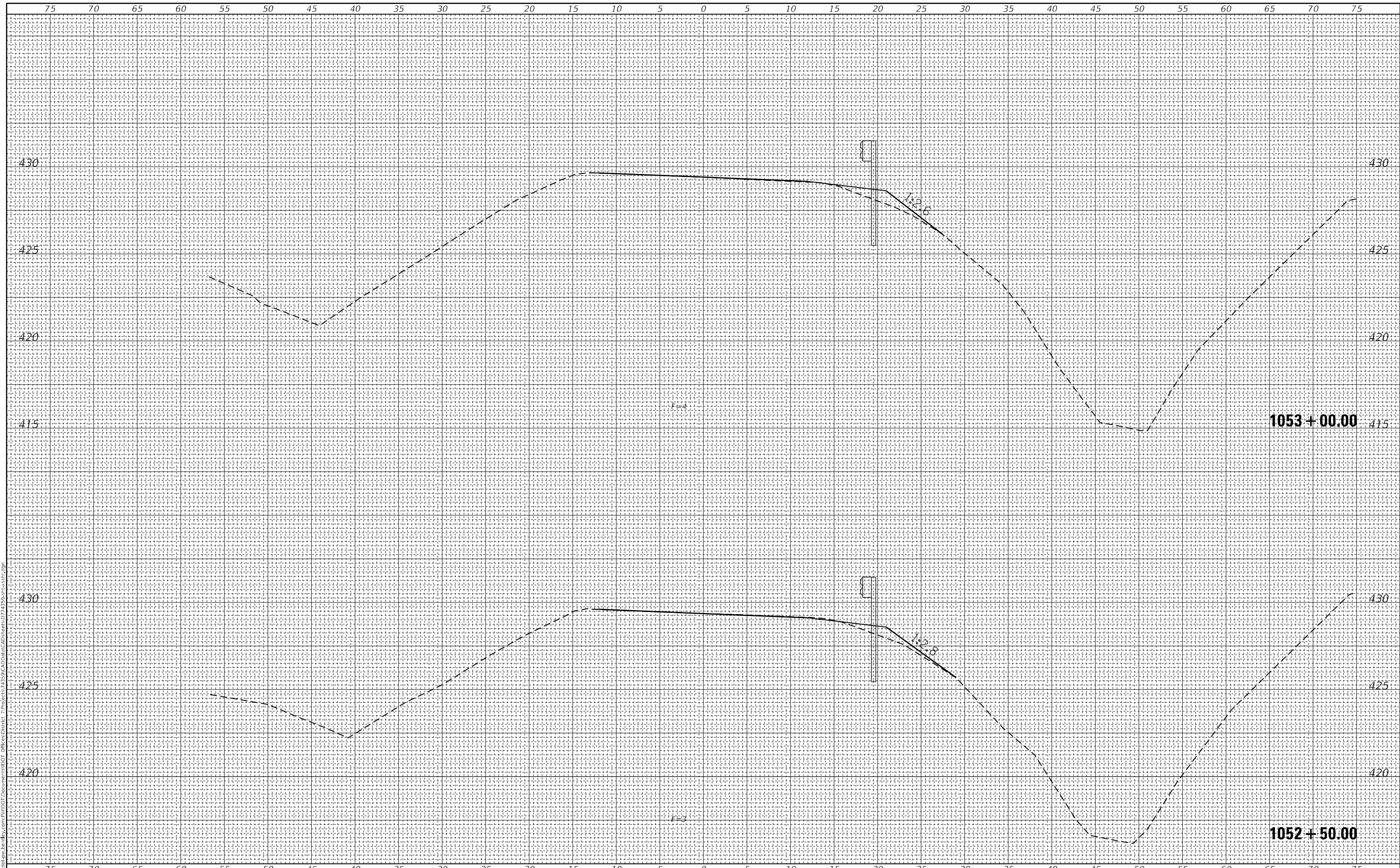
F.A.P. RTE. 332	SECTION (15B2)BR	COUNTY LAWRENCE	TOTAL SHEETS 56	SHEET NO. 48
			CONTRACT NO. 74359	
		ILLINOIS	FED. AID PROJECT	



FINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
	AREAS CHECKED		

ORIGINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
	AREAS CHECKED		

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PLOT DATE = 7/12/2023	DATE - \$DATE\$	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS**

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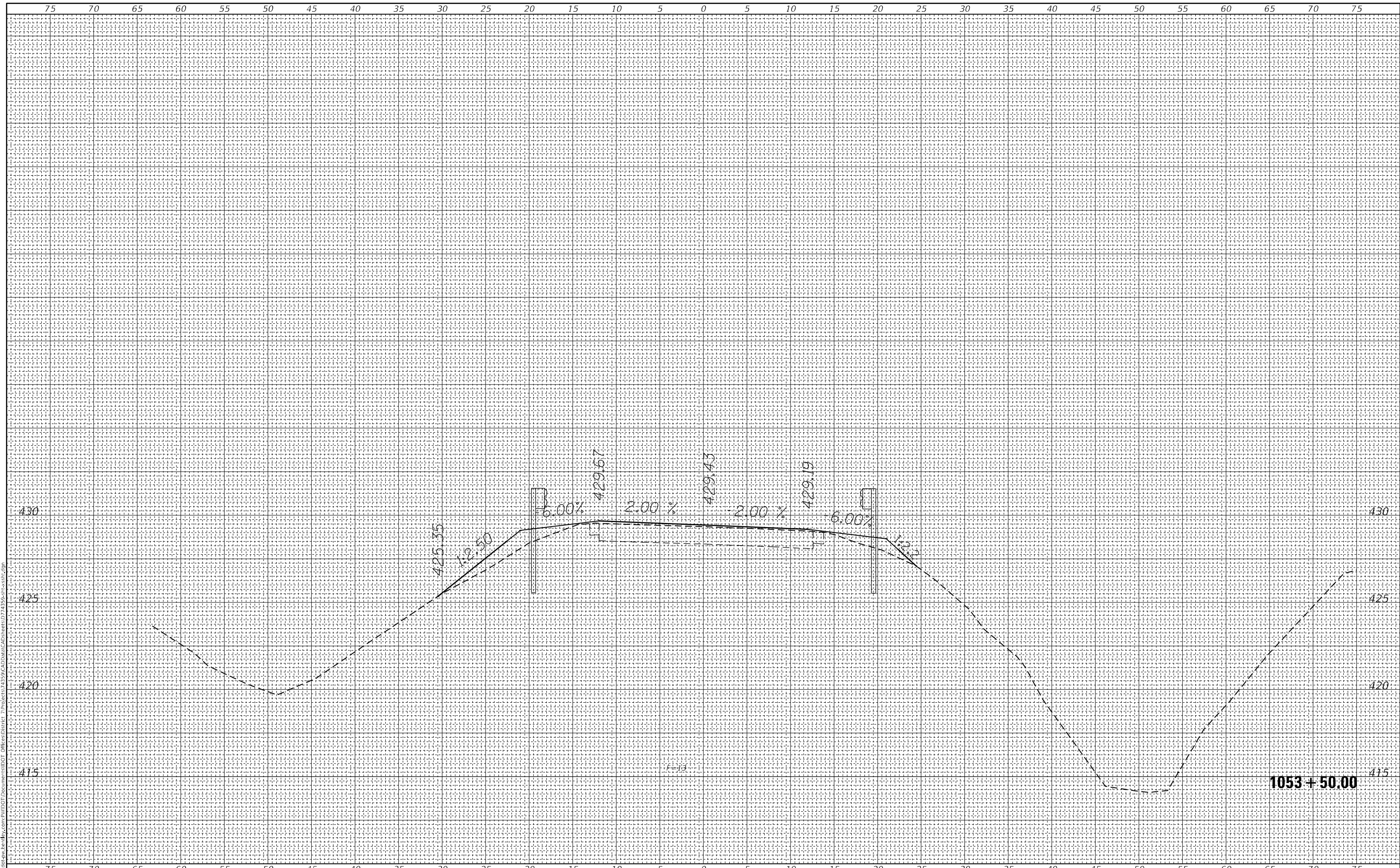
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	49
CONTRACT NO. 74359				

ILLINOIS FED. AID PROJECT

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS CHECKED		

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PLOT DATE = 7/12/2023	DATE - \$DATES	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

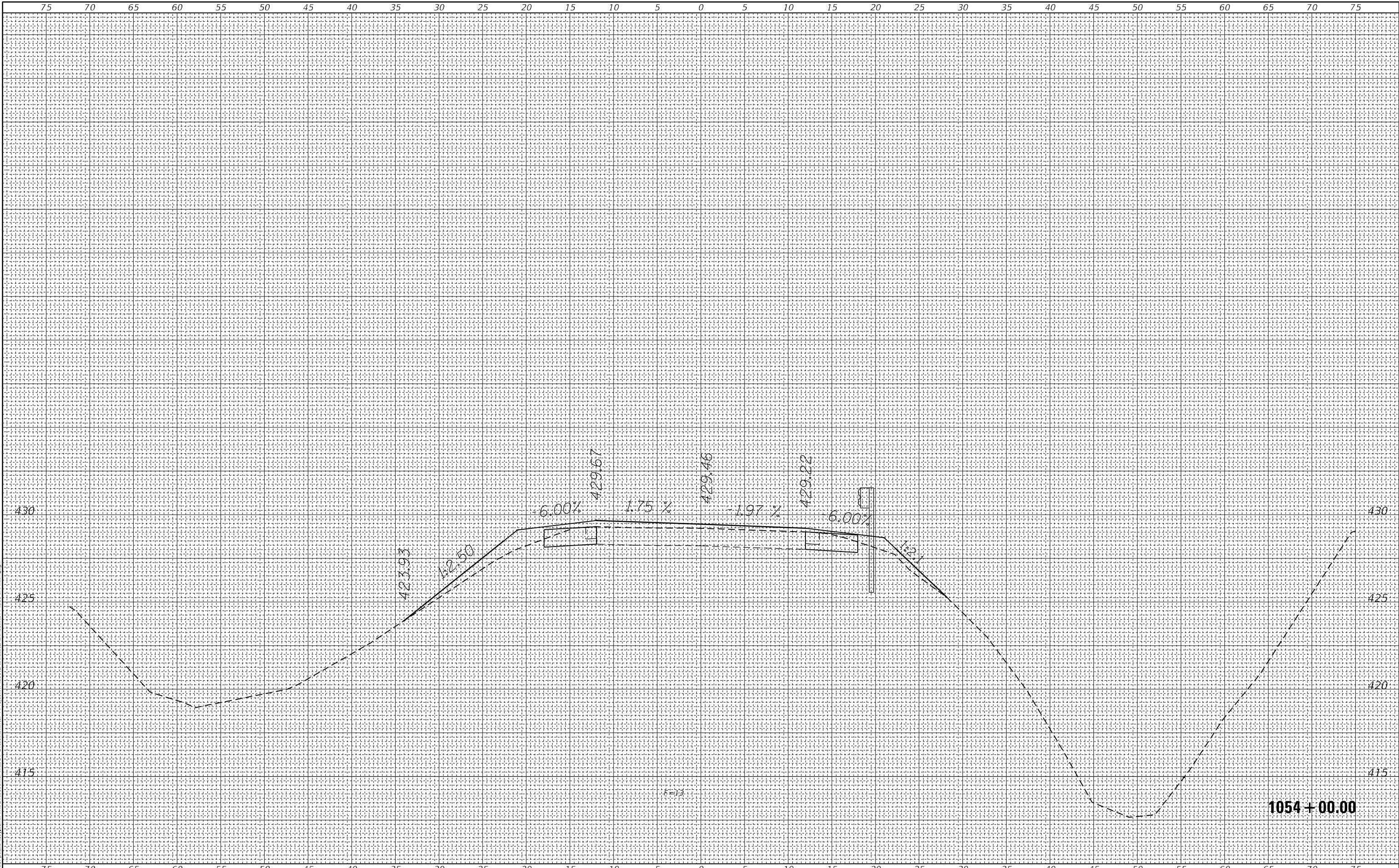
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SCALE: 10,0000' / in. SHEET	OF SHEETS STA. 1053+50.00 TO STA. 1053+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	50
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

FINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS CHECKED		

ORIGINAL SURVEY NO.	SURVEYED	BY	DATE
	PLOTTED		
	TEMPLATE		
	AREAS CHECKED		

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1054+00.00

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	DRAWN - BLL	REVISED -
PLOT SCALE = 10,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 7/12/2023	DATE - \$DATES	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: 10,0000' / in. SHEET OF SHEETS STA. 1054+00.00 TO STA. 1054+00.00

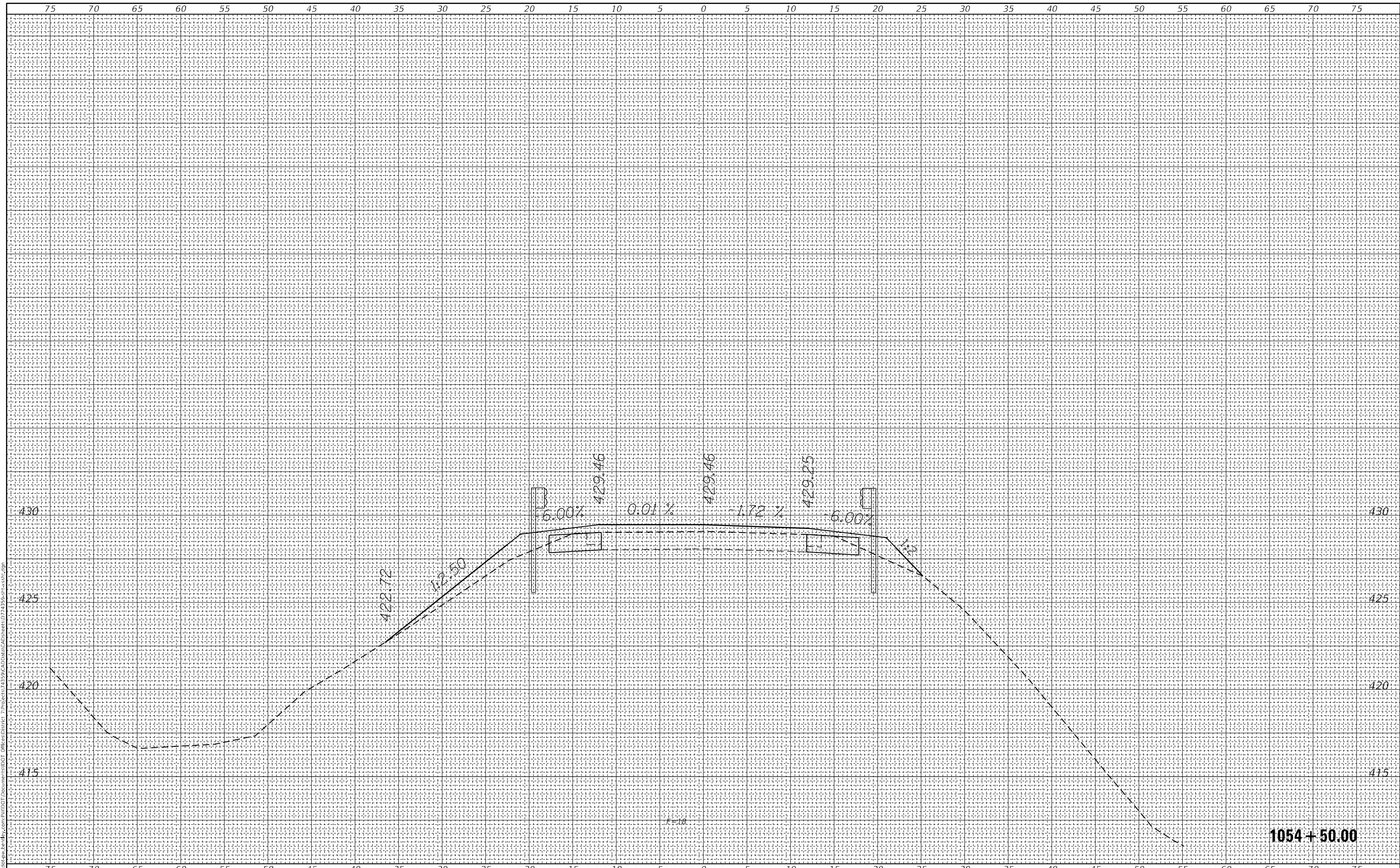
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	51
CONTRACT NO. 74359				

ILLINOIS FED. AID PROJECT

FINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
	AREAS CHECKED		

ORIGINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
	AREAS CHECKED		

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PLOT DATE = 7/12/2023	DATE - \$DATES	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS**

SCALE: 10,0000 ' / in. SHEET OF SHEETS STA. 1054+50.00 TO STA. 1054+50.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	52
				CONTRACT NO. 74359

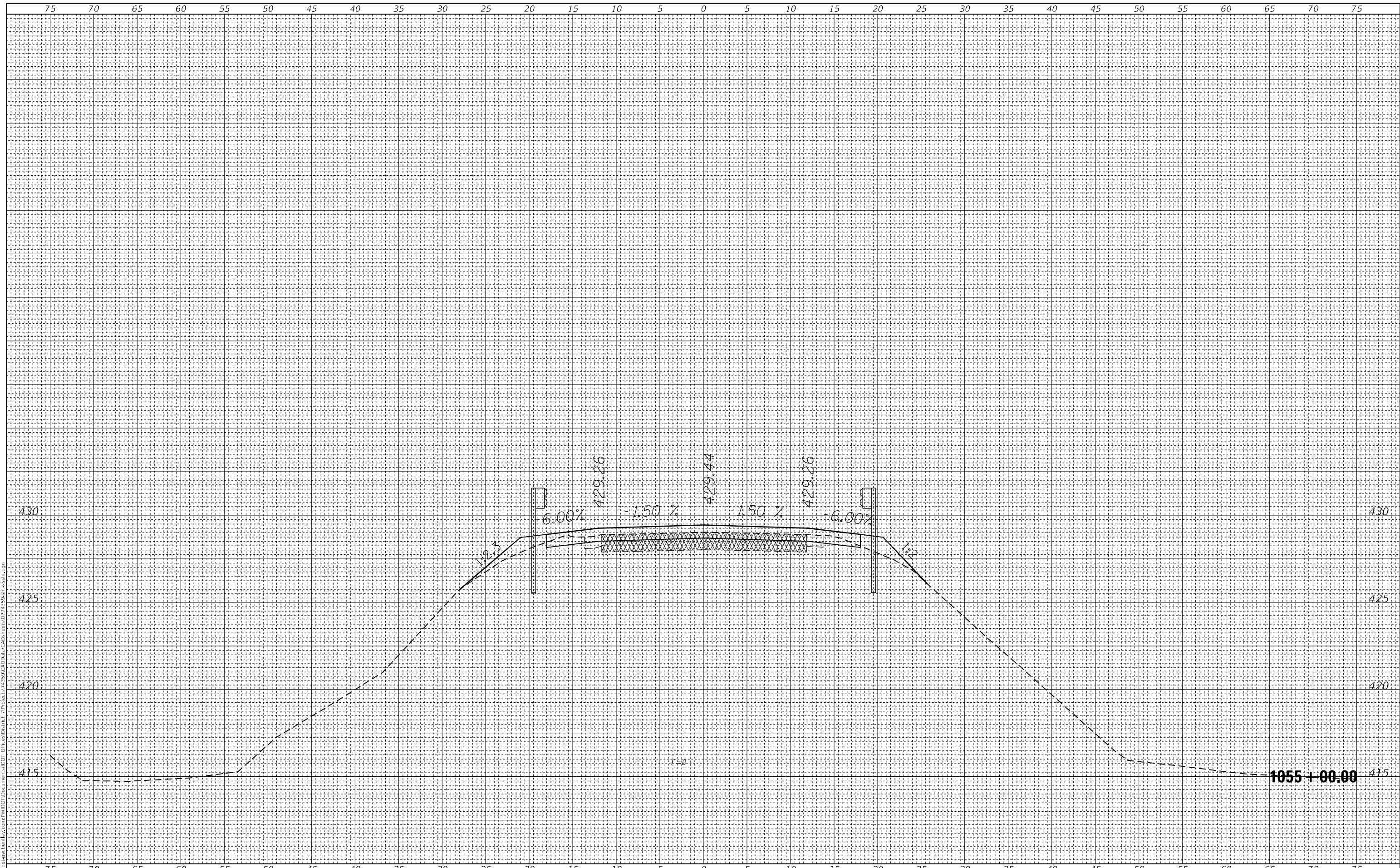
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ILLINOIS FED. AID PROJECT

FINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
	AREAS CHECKED		

ORIGINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
	AREAS CHECKED		

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PLOT DATE = 7/12/2023	DATE - \$DATES	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: 10,0000' / in. SHEET OF SHEETS STA. 1055+00.00 TO STA. 1055+00.00

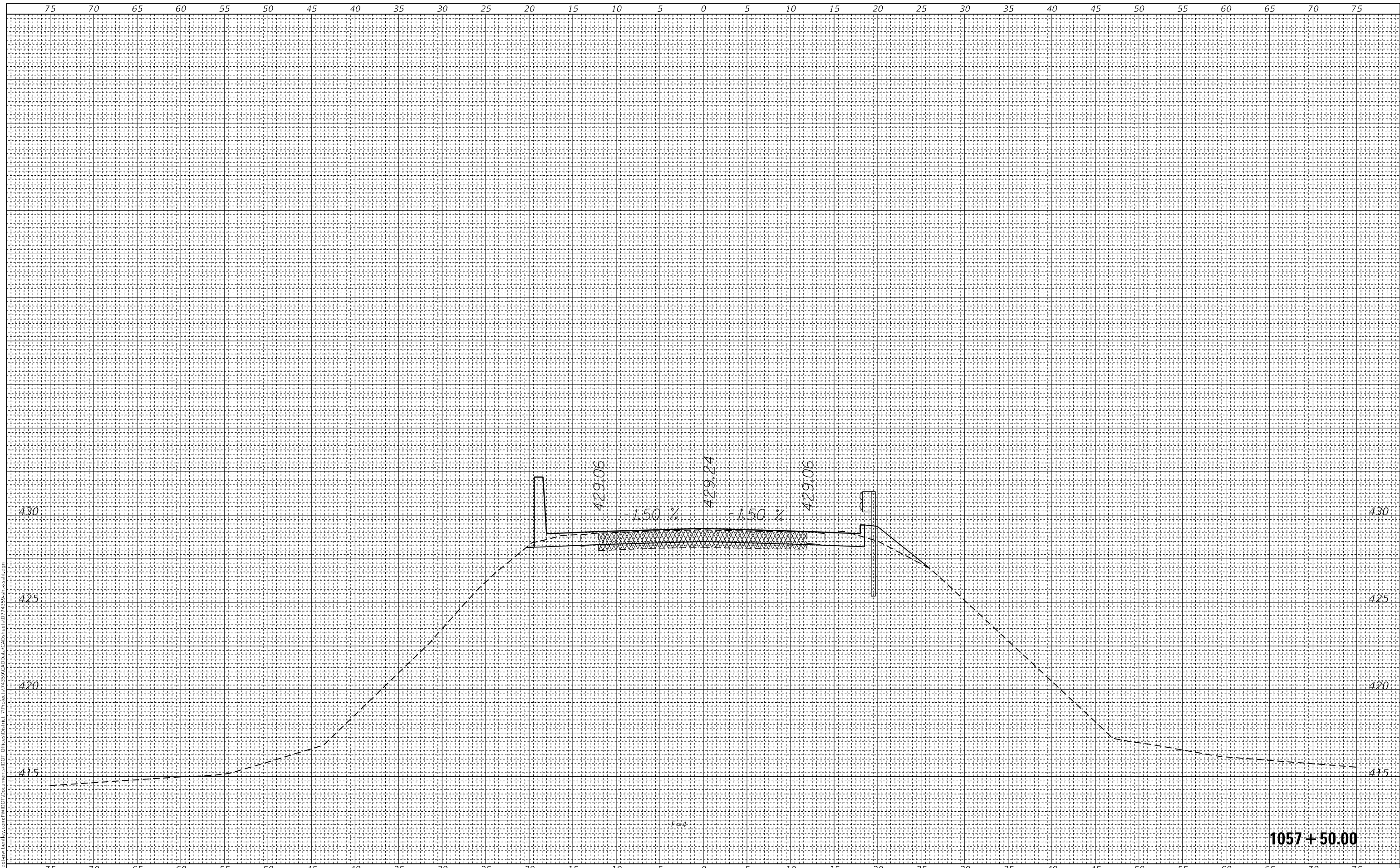
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	53
CONTRACT NO. 74359				

ILLINOIS FED. AID PROJECT

FINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS CHECKED		

ORIGINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS CHECKED		

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PLOT DATE = 7/12/2023	DATE - \$DATES	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS**

SCALE: 10,0000' / in. SHEET OF SHEETS STA. 1057+50.00 TO STA. 1057+50.00

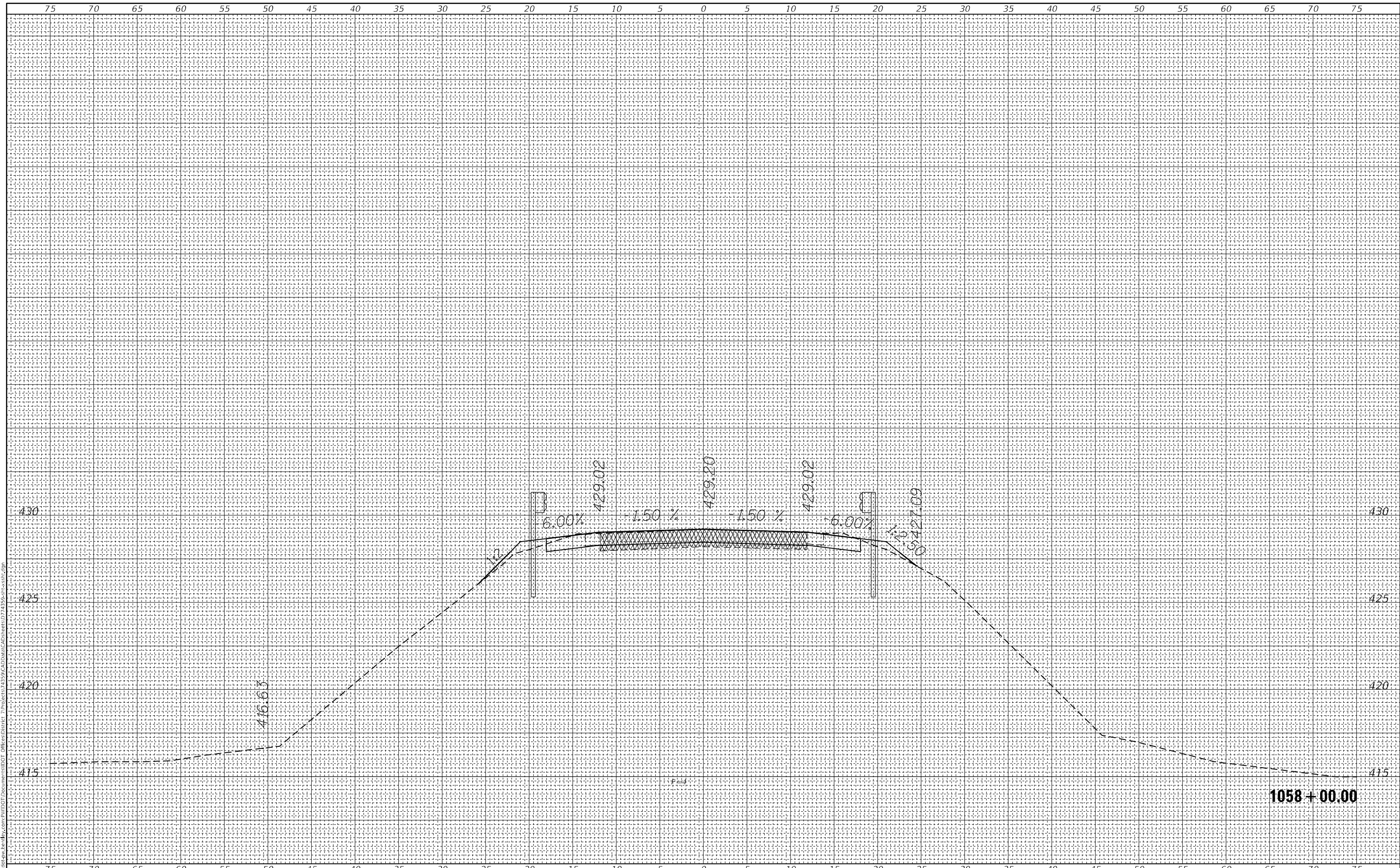
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	54
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

**1057+50.00**

FINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
	AREAS CHECKED		

ORIGINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	TEMPLATE		
	AREAS CHECKED		

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PLOT SCALE = 10,0000' / in.	CHECKED -	REVISED -
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS**

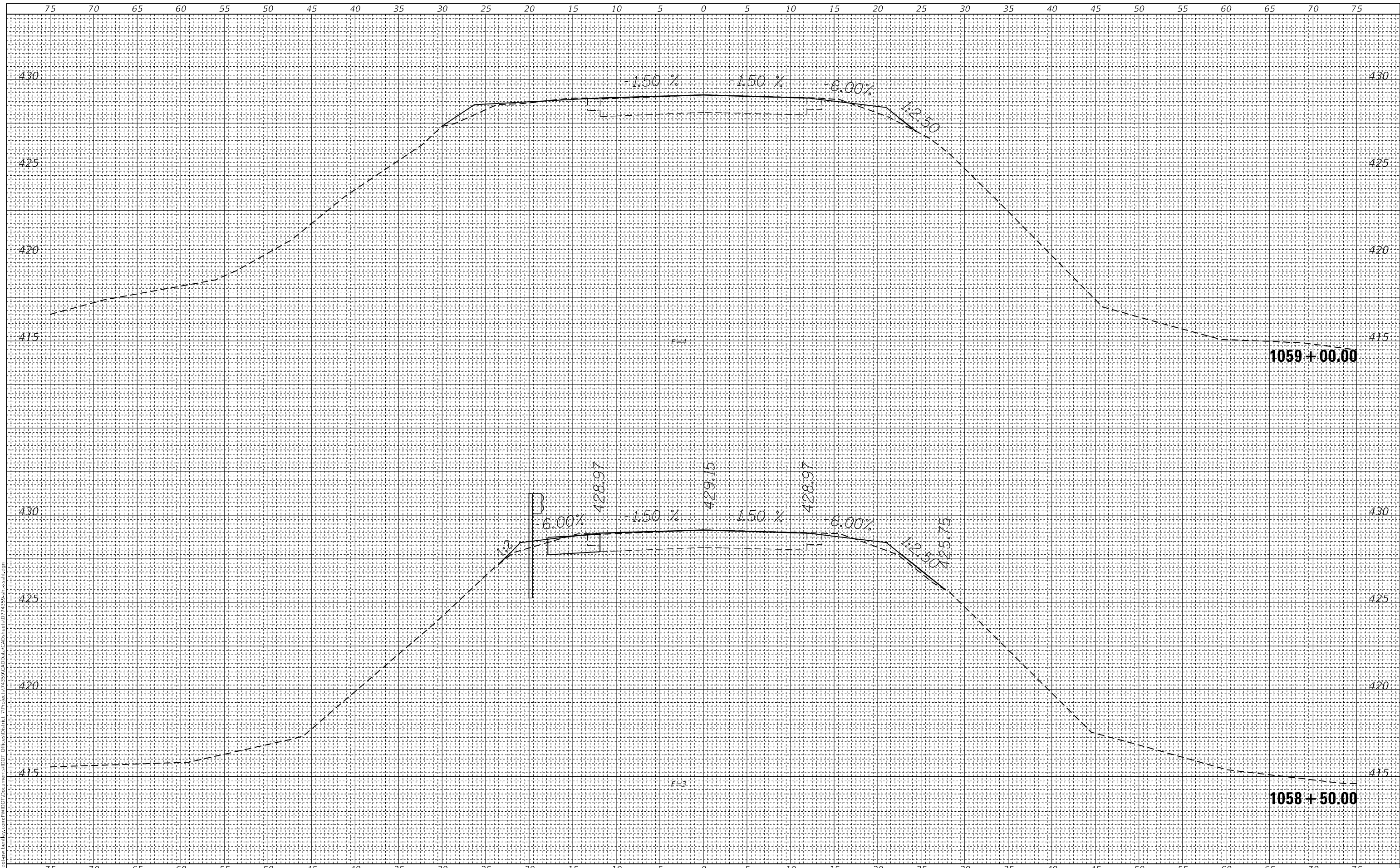
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	(15B2)BR	LAWRENCE	56	55
CONTRACT NO. 74359				
ILLINOIS FED. AID PROJECT				

FINAL SURVEY NO.	SURVEYED	BY	DATE
NOTE BOOK NO.	PLOTTED		
	TEMPLATE		
	AREAS CHECKED		

ORIGINAL SURVEY NO.	SURVEYED	BY	DATE
	PLOTTED		
	TEMPLATE		
	AREAS CHECKED		

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USER NAME = jessica.ville	DESIGNED - BLL	REVISED -
	DRAWN - BLL	REVISED -
PLOT SCALE = 10,0000' / in.	CHECKED -	REVISED -
PLOT DATE = 7/12/2023	DATE - SDATE\$	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS**

SCALE: 10,0000' / in. SHEET OF SHEETS STA. 1058+50.00 TO STA. 1059+00.00

F.A.P. RTE. 332	SECTION (15B2)BR	COUNTY LAWRENCE	TOTAL SHEETS 56	SHEET NO. 56
			CONTRACT NO. 74359	
ILLINOIS FED. AID PROJECT				