

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

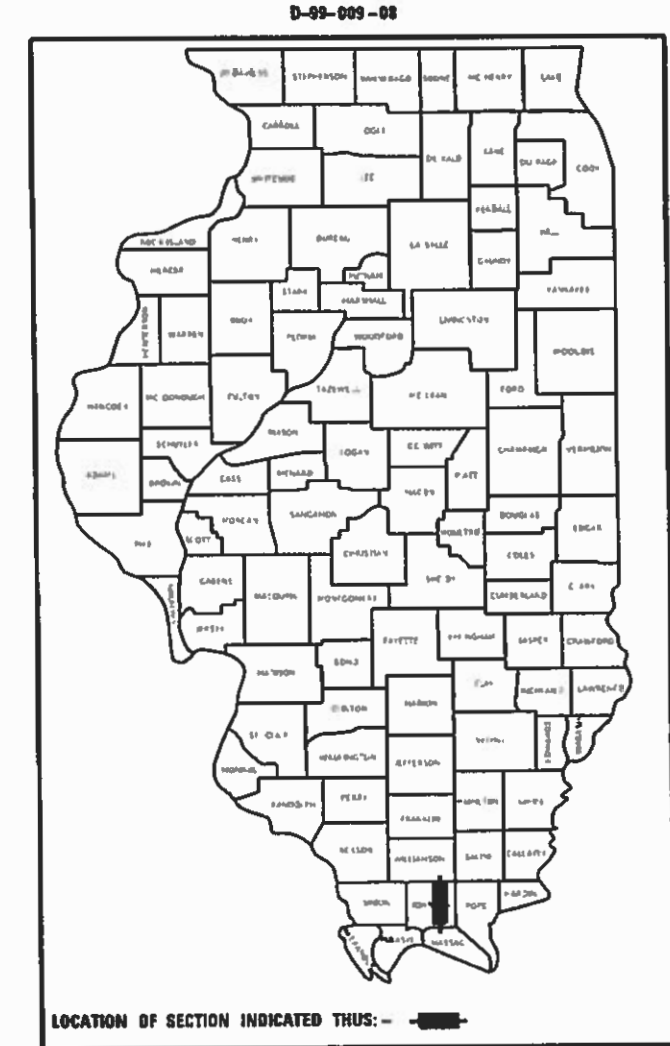
FAS RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	1
ILLINOIS			CONTRACT NO. 78029	

FOR INDEX OF SHEETS, SEE SHEET NO. 3  
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 5-10  
FOR STRUCTURAL PAVEMENT DESIGN INFORMATION, SEE SHEET NO. 28-30

**PROPOSED  
HIGHWAY PLANS**

FAS 960 (US 45)  
SECTION 38 B-1  
PROJECT: STP-RDIY(280)  
BRIDGE REPLACEMENT  
JOHNSON COUNTY

C-99-009-08



**TRAFFIC DATA**

TRAFFIC DATA TABLE, SHEET NO. 3

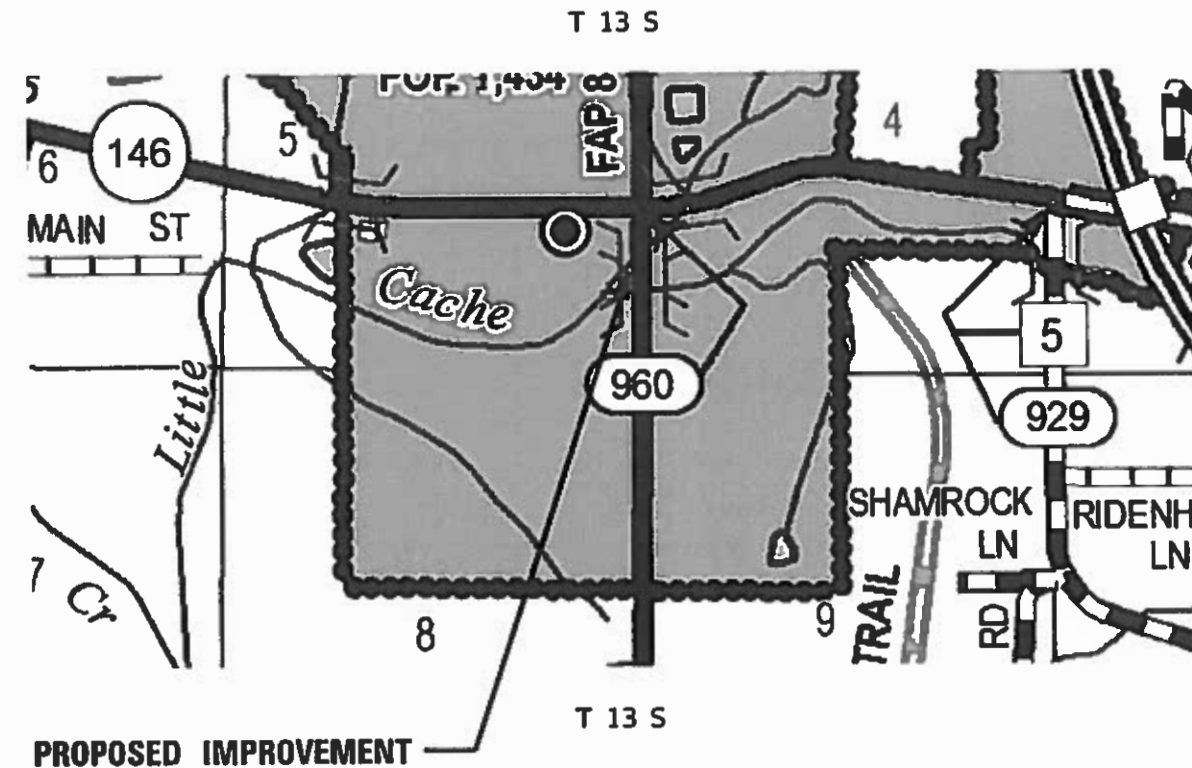
**TOWNSHIPS  
VIENNA**

DESIGN DESIGNATION : NA  
COORDINATE SYSTEM : ESPG:102671  
POSTED SPEED : 35 MPH

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

PROJECT ENGINEER: VALERIE ROLLA (618)-351-5214  
PROJECT DESIGNER: MICHAELA DOLLINS (618)-351-5215

CONTRACT NO. 78029



GROSS LENGTH = 775 FT. = 0.15 MILES  
NET LENGTH = 303 FT. = 0.06 MILES

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED 01-22 20 19

*[Signature]*  
REGION FIVE ENGINEER

March 22 20 19  
*[Signature]*  
ENGINEER OF DESIGN AND ENVIRONMENT

March 22 20 19  
*[Signature]*  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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 User: Gp, Notes

Prepared By: Charles Stein  
 DISTRICT STUDIES & PLANS ENGINEER

Examined By: Nancy Lee  
 DISTRICT LAND ACQUISITION ENGINEER

Examined By: Cassie Nelson  
 DISTRICT PROGRAM DEVELOPMENT ENGINEER

Examined By: Karl Kelly  
 DISTRICT OPERATIONS ENGINEER

Examined By: [Signature]  
 DISTRICT PROJECT IMPLEMENTATION ENGINEER

Examined By: Doyle J. Tullis  
 DISTRICT CONSTRUCTION ENGINEER

Examined By: [Signature]  
 DISTRICT MATERIALS ENGINEER

USER NAME = DOLLINSML	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 100.0000 * / in.	CHECKED -	REVISED -
PLOT DATE = 1/9/2019	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**SIGNATURE SHEET**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	2
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

**HIGHWAY STANDARDS**

- 000001-07: 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
- 420401-13: PAVEMENT CONNECTOR (PCC) FOR BRIDGE SLAB APPROACH
- 482001-02: HMA SHOULDER ADJACENT TO FLEXIBLE PAVEMENT
- 515001-03: NAME PLATE FOR BRIDGES
- 606001-07: CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
- 630001-12: STEEL PLATE BEAM GUARDRAIL
- 630201-07: PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
- 630301-09: SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 631031-15: TRAFFIC BARRIER TERMINAL, TYPE 6
- 701001-02: OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
- 701006-05: OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
- 701011-04: OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
- 701201-05: LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45MPH
- 701301-04: LANE CLOSURE, 2L, 2W, SHORT TME OPERATIONS
- 701306-04: LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS ≥ 45 MPH
- 701311-03: LANE CLOSURE 2L, 2W MOVING OPERATIONS-DAY ONLY
- 701321-17: LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
- 701326-04: LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS ≥ 45 MPH
- 701901-08: TRAFFIC CONTROL DEVICES
- 704001-08: TEMPORARY CONCRETE BARRIER
- 725001-01: OBJECT AND TERMINAL MARKERS
- 780001-05: TYPICAL PAVEMENT MARKINGS
- 781001-04: TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
- 782006: GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
- B.L.R. 21-9: TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

**COMMITMENTS**

NONE

**TRAFFIC DATA**

MP	0.00-0.13	0.13-4.98
2017		
P.V.=	2920	1740
S.U.=	140	220
M.U.=	90	90
ADT=	3150	2050
2039		
P.V.=	3635	2165
S.U.=	175	275
M.U.=	110	110
ADT=	3920	2550

**INDEX OF SHEETS**

**SHEET NO.      DESCRIPTION**

**ROADWAY PLANS**

- 1      COVER SHEET
- 2      SIGNATURE SHEET
- 3      INDEX OF SHEETS, HIGHWAY STANDARDS, TRAFFIC DATA, AND COMMITMENTS
- 4      GENERAL NOTES AND MIXTURE REQUIREMENTS
- 5-10    SUMMARY OF QUANTITIES
- 11     TYPICAL SECTIONS
- 12     RESURFACING AND SEEDING SCHEDULES
- 13     EARTHWORK, GUARDRAIL, AND PAVEMENT MARKING SCHEDULES
- 14     PLAN AND PROFILE
- 15     STAGING TYPICALS
- 16     STAGE 1 PLAN
- 17     STAGE 2 PLAN
- 18     EROSION CONTROL PLAN

**STRUCTURE PLANS**

- 19     GENERAL PLAN AND ELEVATION
- 20     GENERAL DETAILS
- 21     STAGE CONSTRUCTION DETAILS
- 22     TEMPORARY AND PERMANENT SHEET PILING
- 23     TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
- 24-27    TOP OF SLAB ELEVATIONS
- 28-30    SUPERSTRUCTURE DETAILS
- 31-34    APPROACH SLAB DETAILS
- 35     STEEL RAILING, TYPE SM
- 36     BEARING DETAILS
- 37-40    ABUTMENT DETAILS
- 41-44    PIER DETAILS
- 45     STEEL H-PILE DETAILS
- 46     BAR SPLICER ASSEMBLY DETAILS
- 47-49    SOIL BORING LOGS

**CROSS SECTIONS**

- 50-54    US 45 CROSS SECTIONS
- 55      RIGHT OF WAY

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USER NAME = DOLLINSML	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INDEX OF SHEETS, HIGHWAY STANDARDS, TRAFFIC DATA, AND COMMITMENTS</b>	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
DRAWN -	REVISED -	960			38B-1	JOHNSON	55	3			
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -			CONTRACT NO. 78029						
PLOT DATE = 1/23/2019	DATE -	REVISED -			ILLINOIS FED. AID PROJECT						
					SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.





# SUMMARY OF QUANTITIES

COUNTY:	JOHNSON COUNTY
ROUTE:	US 45
FUNDING:	80% FEDERAL, 20% STATE
LOCATION:	RURAL
TOTAL QUANTITY	BRIDGE
	0010

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	
20200100	EARTH EXCAVATION	CU YD	99	99
25000100	SEEDING, CLASS 1	ACRE	1	1
25000350	SEEDING, CLASS 7	ACRE	1	1
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	13	13
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	13	13
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	13	13
25000700	AGRICULTURAL GROUND LIMESTONE	TON	1	1
25100630	EROSION CONTROL BLANKET	SQ YD	532	532
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	36	36
28000400	PERIMETER EROSION BARRIER	FOOT	328	328
28100107	STONE RIPRAP, CLASS A4	SQ YD	1058	1058
28200200	FILTER FABRIC	SQ YD	1058	1058
35600719	HOT-MIX ASPHALT BASE COURSE WIDENING, 10 3/4"	SQ YD	214	214

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PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -					960	38B-1	JOHNSON	55	5	
PLOT DATE = 1/23/2019	CHECKED -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.	ILLINOIS FED. AID PROJECT	
	DATE -	REVISED -										

# SUMMARY OF QUANTITIES - CONT

COUNTY:	JOHNSON COUNTY
ROUTE:	US 45
FUNDING:	80% FEDERAL, 20% STATE
LOCATION:	RURAL
	BRIDGE
	0010

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	
40603085	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N70	TON	22	22
40603315	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	TON	41	41
40700100	BITUMINOUS MATERIALS (TACK COAT)	POUND	75	75
42000060	WELDED WIRE REINFORCEMENT	SQ YD	219	219
42000080	PAVEMENT CONNECTOR (PCC) FOR BRIDGE APPROACH SLAB	SQ YD	219	219
42001300	PROTECTIVE COAT	SQ YD	237	237
44000100	PAVEMENT REMOVAL	SQ YD	593	593
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	79	79
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	109	109
48203100	HOT-MIX ASPHALT SHOULDERS	TON	10	10
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1
50200100	STRUCTURE EXCAVATION	CU YD	194	194
50300225	CONCRETE STRUCTURES	CU YD	246.1	246.1

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USER NAME = DOLLINSML	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY OF QUANTITIES (CON'T)</b>		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	DATE -	REVISED -		CONTRACT NO. 78029						

# SUMMARY OF QUANTITIES - CONT

COUNTY:	JOHNSON COUNTY
ROUTE:	US 45
FUNDING:	80% FEDERAL, 20% STATE
LOCATION:	BRIDGE
TOTAL QUANTITY	ROADWAY 0010

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	211.2	211.2
50300260	BRIDGE DECK GROOVING	SQ YD	615	615
50300300	PROTECTIVE COAT	SQ YD	652	652
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	102	102
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	205,720	205,720
50800515	BAR SPLICERS	EACH	885	885
50901050	STEEL RAILING, TYPE SM	FOOT	251	251
51202100	FURNISHING STEEL PILES HP14X117	FOOT	1,261	1,261
51202305	DRIVING PILES	FOOT	1,261	1,261
51500100	NAME PLATES	EACH	1	1
* 51603000	DRILLED SHAFT IN SOIL	CU YD	76.6	76.6
* 51604000	DRILLED SHAFT IN ROCK	CU YD	11.6	11.6
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	18	18
52100540	ANCHOR BOLTS, 1 1/2"	EACH	4	4

\* SPECIALTY ITEM

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PLOT DATE = 1/23/2019	DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES (CON'T)

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	7
			CONTRACT NO. 78029	
ILLINOIS FED. AID PROJECT				

# SUMMARY OF QUANTITIES - CONT

COUNTY:	JOHNSON COUNTY
ROUTE:	US 45
FUNDING:	80% FEDERAL, 20% STATE
LOCATION:	RURAL
	BRIDGE
	0010

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	
52200010	TEMPORARY SHEET PILING	SQ FT	256	256
52200015	PERMANENT SHEET PILING	SQ FT	319	319
52200020	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	106	106
58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	76	76
60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	79	79
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	2	2
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2	2
63200310	GUARDRAIL REMOVAL	FOOT	108	108
64300260	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2
67100100	MOBILIZATION	L SUM	1	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	2	2
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1
70100460	TRAFFIC CONTROL AND PROTECTION, STANDARD 701306	L SUM	1	1

\* SPECIALTY ITEM

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PLOT DATE = 1/23/2019	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES (CON'T)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	8
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

# SUMMARY OF QUANTITIES - CONT

COUNTY:	JOHNSON COUNTY
ROUTE:	US 45
FUNDING:	80% FEDERAL, 20% STATE
LOCATION:	RURAL BRIDGE 0010

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1
X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1	1
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	1	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	2	2
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	28	28
70300100	SHORT TERM PAVEMENT MARKING	FOOT	72	72
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SQ FT	24	24
70400100	TEMPORARY CONCRETE BARRIER	FOOT	375	375
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	375	375
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	376	376
* 78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	8	8

\* SPECIALTY ITEM

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PLOT DATE = 1/23/2019	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES (CON'T)**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	9
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

# SUMMARY OF QUANTITIES - CONT

COUNTY:	JOHNSON COUNTY
ROUTE:	US 45
FUNDING:	80% FEDERAL, 20% STATE
LOCATION:	RURAL
TOTAL QUANTITY	BRIDGE
	0010

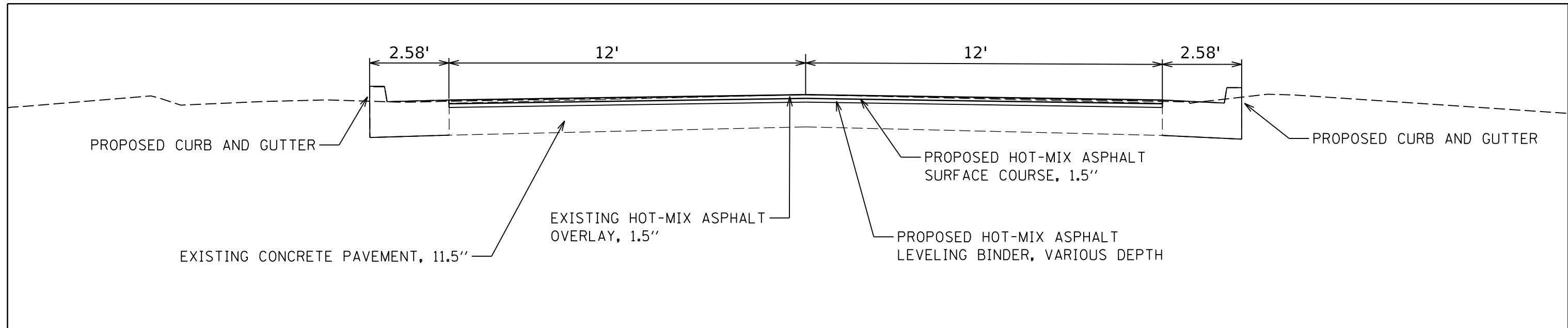
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X0327979	PAVEMENT MARKING REMOVAL - GRINDING	SQ FT	507	507
X4401198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	263	263
X7040125	PINNING TEMPORARY CONCRETE BARRIER	EACH	10	10
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	18	18
∅ Z0076600	TRAINEES	HOUR	500	500
Z0046306	PIPE UNDERDRAINS FOR STRUCTURES 6"	FOOT	116	116
∅ Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	500	500

∅ 0042

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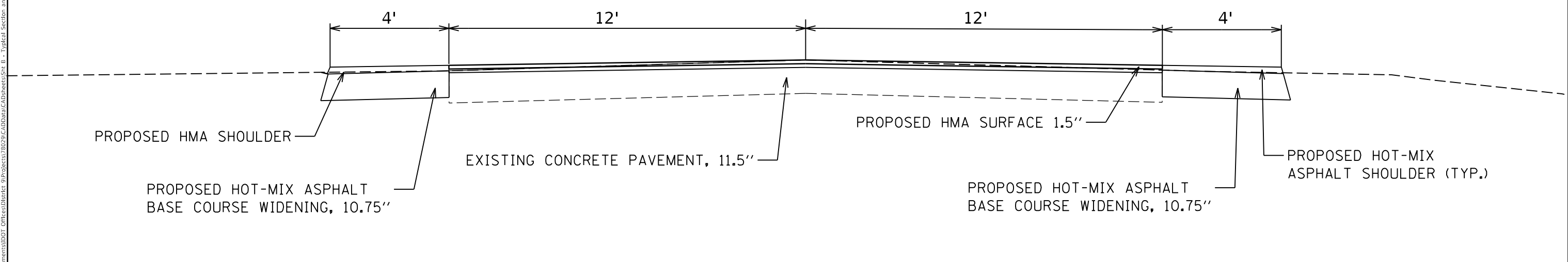
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DRAWN - _____	REVISED - _____	960			38B-1	JOHNSON	55	10	
PLOT SCALE = 100.0000' / in.	CHECKED - _____	REVISED - _____			CONTRACT NO. 78029				
PLOT DATE = 1/23/2019	DATE - _____	REVISED - _____			SCALE: _____	SHEET _____	OF _____	SHEETS	STA. _____



**BASE COURSE WIDENING**  
 LT STATION 1+81.82 TO 2+96.15 AND 4+44.37 TO 6+00.00  
 RT STATION 1+81.82 TO 2+61.10 AND 4+80.60 TO 6+00.00

**BASE COURSE WIDENING REMOVAL**  
 LT STATION 1+81.82 TO 2+96.15  
 RT STATION 1+81.82 TO 2+61.10

**PROPOSED CURB**  
 LT STATION 1+81.82 TO 2+03.67  
 RT STATION 2+04.36 TO 2+61.10



**GUARDRAIL AND 1' ASPHALT SHOULDERS**  
 LT STATION 4+09.05 TO 4+83.58  
 RT STATION 4+37.13 TO 5+11.52

**4' ASPHALT SHOULDERS**  
 LT STATION 4+83.58 TO 6+00.00  
 RT STATION 5+11.52 TO 6+00.00

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USER NAME = fowlera	DESIGNED -	REVISED -
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PLOT SCALE = 10.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 1/23/2019	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

TYPICAL SECTIONS				
SCALE:	SHEET	OF	SHEETS	STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	11
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				





### EARTHWORK SCHEDULE

LOCATION STATION TO STATION				EARTH EXCAVATION		EMBANKMENT		EARTHWORK BALANCE	
				WASTE (+) SHORTAGE (-)		WASTE (+) SHORTAGE (-)		WASTE (+) SHORTAGE (-)	
				CU YD	CU YD	CU YD	CU YD	CU YD	
STAGE 1	1+81.82	TO	2+00.00	2.32	0.00	2.3			
	2+00.00	TO	2+45.00	7.87	0.00	7.9			
	2+45.00	TO	2+50.00	0.80	0.00	0.8			
	2+50.00	TO	2+72.06	3.44	0.00	3.4			
	2+72.06	TO	2+75.00	0.47	0.00	0.5			
	2+75.00	TO	2+90.00	2.50	0.00	2.5			
	2+90.00	TO	3+00.00	2.05	0.74	1.3			
	3+00.00	TO	3+20.00	4.49	0.00	4.5			
	3+20.00	TO	4+23.00	16.17	27.50	-11.3			
	4+23.00	TO	4+50.00	0.00	0.00	0.0			
	4+50.00	TO	4+53.00	0.58	0.00	0.6			
	4+53.00	TO	4+68.00	2.83	0.03	2.8			
	4+68.00	TO	4+76.00	2.24	0.10	2.1			
	4+76.00	TO	5+00.00	7.19	0.23	7.0			
	5+00.00	TO	5+20.00	2.77	0.00	2.8			
	5+20.00	TO	6+00.00	11.05	0.00	11.1			
	TOTAL:				99				
	STAGE 2	1+81.82	TO	2+00.00	2.31	0.00	2.3		
2+00.00		TO	2+45.00	6.33	0.00	6.3			
2+45.00		TO	2+50.00	0.93	0.00	0.9			
2+50.00		TO	2+72.06	3.77	0.00	3.8			
2+72.06		TO	2+75.00	0.83	0.00	0.8			
2+75.00		TO	2+90.00	3.09	0.00	3.1			
2+90.00		TO	3+00.00	3.23	0.00	3.2			
3+00.00		TO	3+20.00	4.12	0.12	4.0			
3+20.00		TO	4+23.00	0.00	0.00	0.0			
4+23.00		TO	4+50.00	3.92	17.91	-14.0			
4+50.00		TO	4+53.00	0.74	0.00	0.7			
4+53.00		TO	4+68.00	4.92	0.08	4.8			
4+68.00		TO	4+76.00	2.62	0.00	2.6			
4+76.00		TO	5+00.00	8.15	0.00	8.2			
5+00.00		TO	5+20.00	2.79	0.00	2.8			
5+20.00	TO	6+00.00	11.11	0.00	11.1				
TOTAL:				99					

### PAVEMENT MARKING SCHEDULE

LOCATION STA TO STA	PAINT PAVEMENT MARKING - LINE 4"		SHORT TERM PAVEMENT MARKING	SHORT TERM PAVEMENT MARKING REMOVAL
	SOLID	SKIP DASH		
	WHITE	YELLOW	YELLOW	
	FOOT	FOOT	FOOT	SQ FT
STA 1+81.82 TO STA 2+11.46	30		8	3
STA 2+11.46 TO STA 3+19.26	108	30	24	8
STA 4+22.37 TO STA 5+14.10	92	30	24	8
STA 5+14.1 TO STA 6+00.00	86		24	8
SUB-TOTAL:				
TOTAL:				

### GUARDRAIL SCHEDULE

LOCATION STATION TO STATION					GUARDRAIL REMOVAL	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	TERMINAL MARKER - DIRECT APPLIED	IMPACT ATTENUATORS, FULLY REDIRECTIVE, TEST LEVEL 3	TRAFFIC BARRIER TERMINAL, TYPE 6
					FOOT	EACH	EACH	EACH	EACH
LT	STA	2+67.48	TO	STA 2+94.85	27.4				
LT	STA	2+49.16	TO	STA 3+05.41			1	1	
LT	STA	4+35.54	TO	STA 4+61.24	25.7				
LT	STA	4+09.5	TO	STA 4+83.9		1	1		1
RT	STA	3+05.08	TO	STA 3+19.84	14.8				
RT	STA	3+06.52	TO	STA 3+32.45			1	1	
RT	STA	4+47.23	TO	STA 4+86.75	39.5				
RT	STA	4+37.12	TO	STA 5+11.52		1	1		1
TOTAL					108	2	4	2	2

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PLOT DATE = 1/23/2019	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

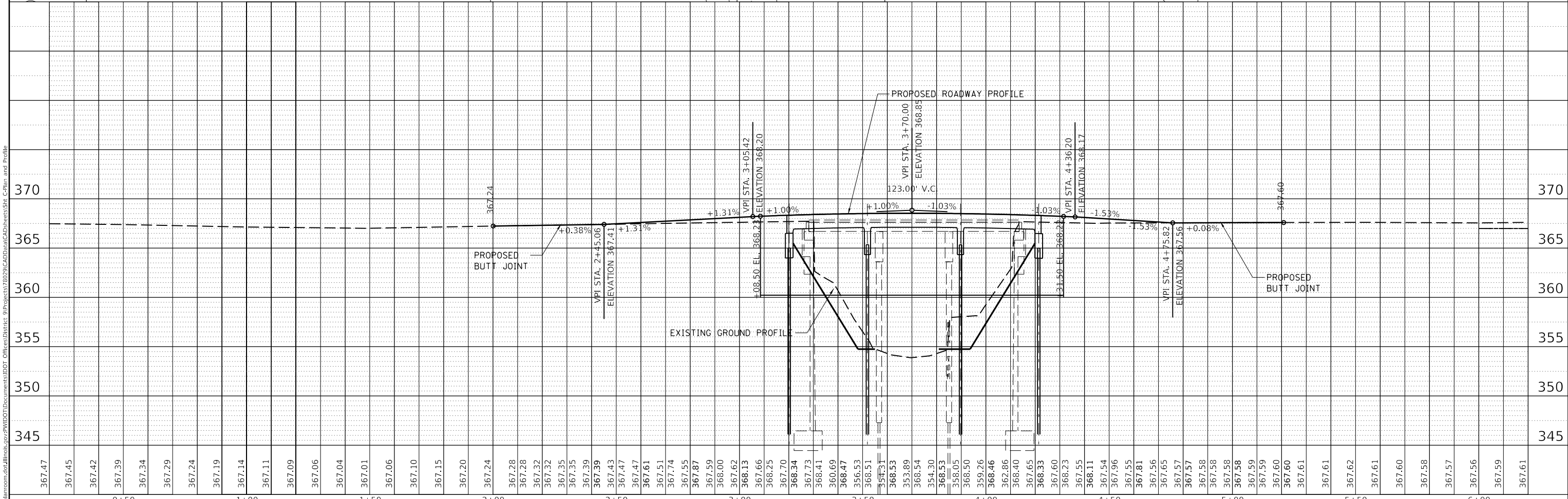
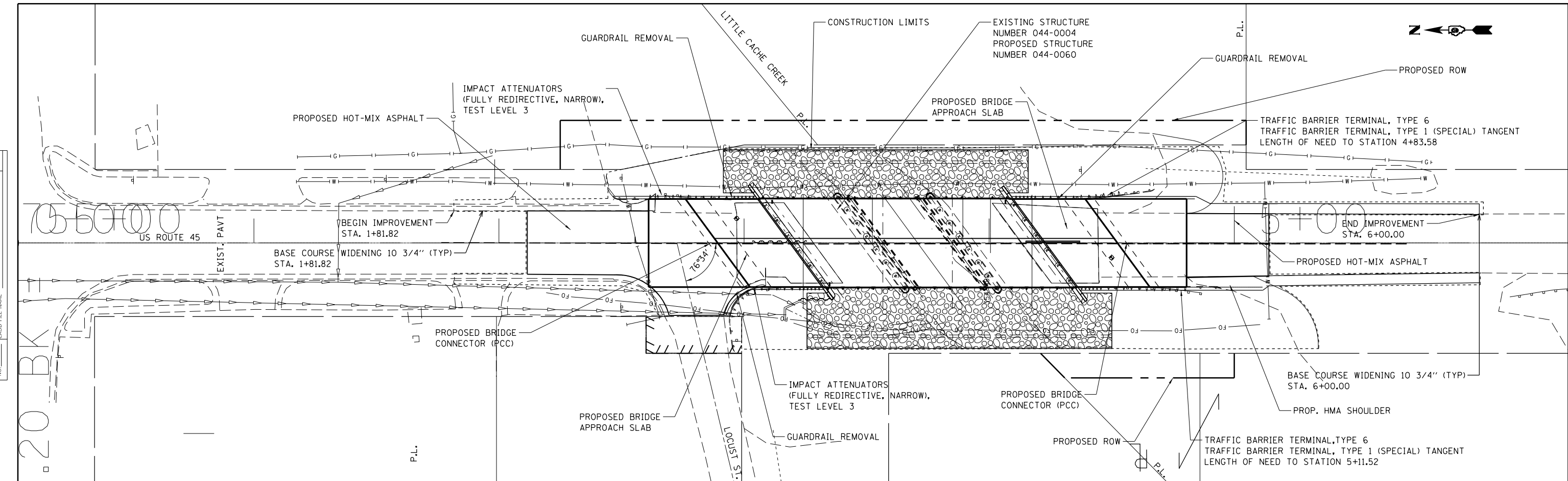
**EARTHWORK, GUARDRAIL, AND  
PAVEMENT MARKING SCHEDULES**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	13
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED	DATE
	PLOTTED	
	ALIGNMENT CHECKED	
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NO. _____	
	FILE NAME _____	

PROFILE	SURVEYED	DATE
	PLOTTED	
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NO. _____	
	FILE NAME _____	



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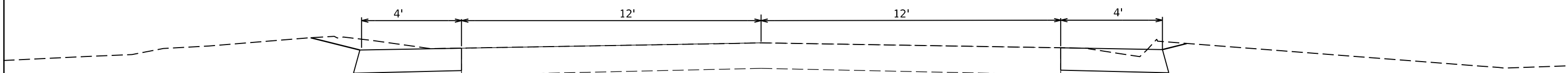
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

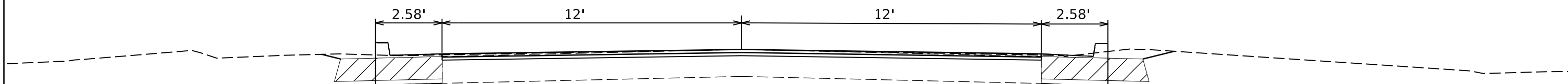
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	388-1	JOHNSON	55	14
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78029	

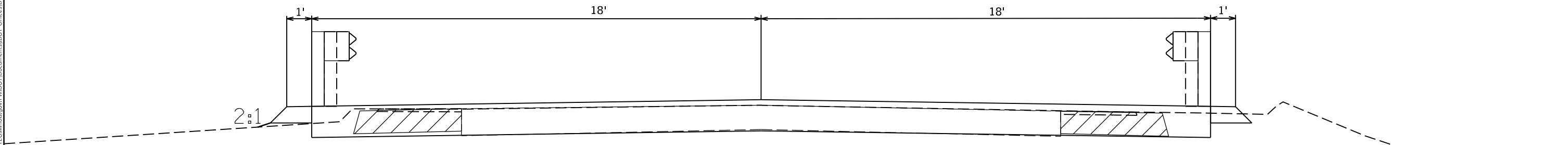
**PRE STAGE 1 BASE COURSE WIDENING**  
**LT STATION 1+81.82 TO 2+96.15 AND 4+44.37 TO 6+00.00**  
**RT STATION 1+81.82 TO 2+61.10 AND 4+80.60 TO 6+00.00**



**STAGE 1 AND STAGE 2**  
**BASE COURSE WIDENING REMOVAL AND PLACEMENT OF CURB**  
**LT STATION 1+81.82 TO 2+03.67**  
**RT STATION 2+04.36 TO 2+61.10**



**STAGE 1 AND STAGE 2**  
**BASE COURSE WIDENING REMOVAL AND PLACEMENT OF PCC CONNECTOR**  
**2+61.10 TO 2+89.26 AND 4+52.37 TO 4+80.50**



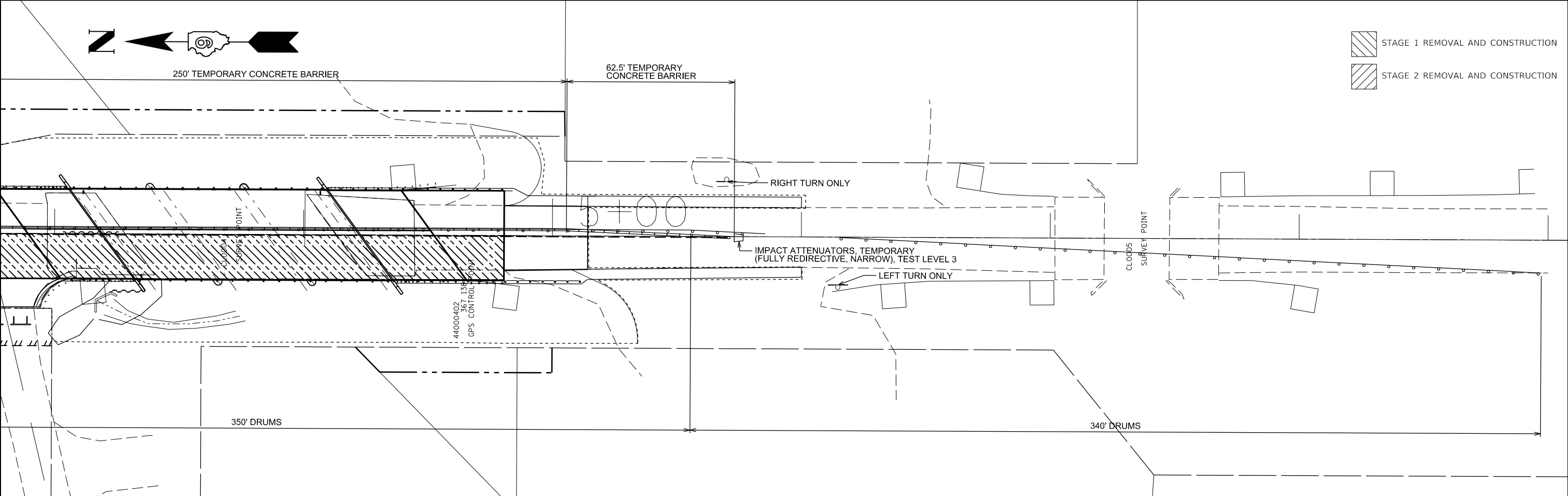
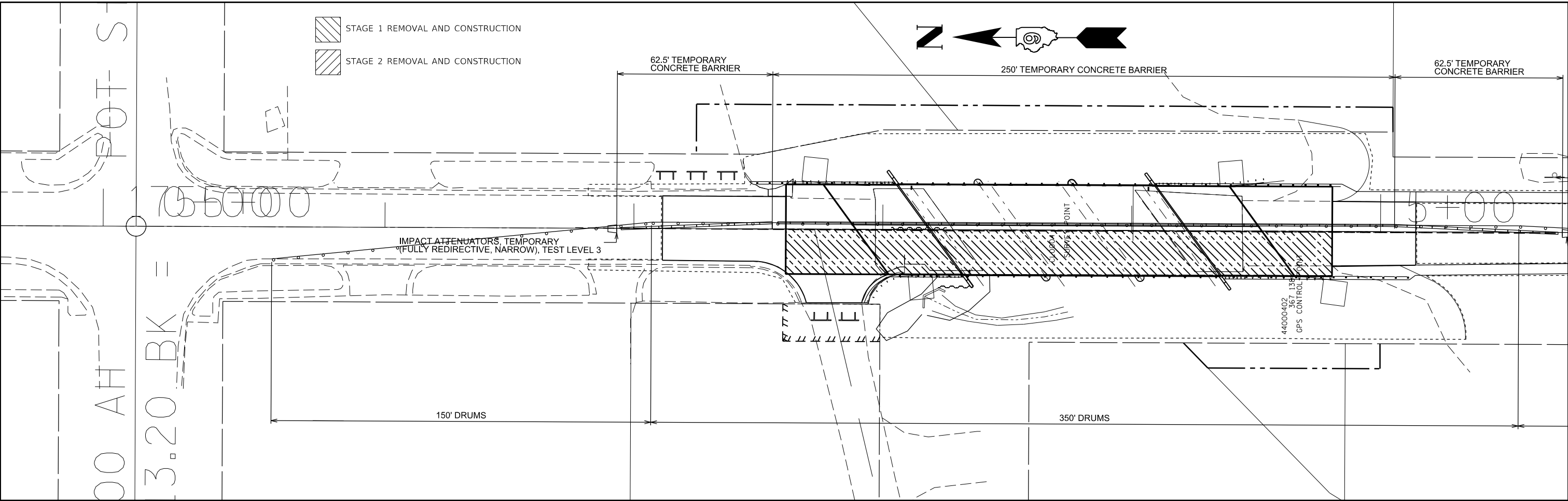
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

<b>STAGING TYPICALS</b>				
SCALE:	SHEET	OF	SHEETS	STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	15
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				



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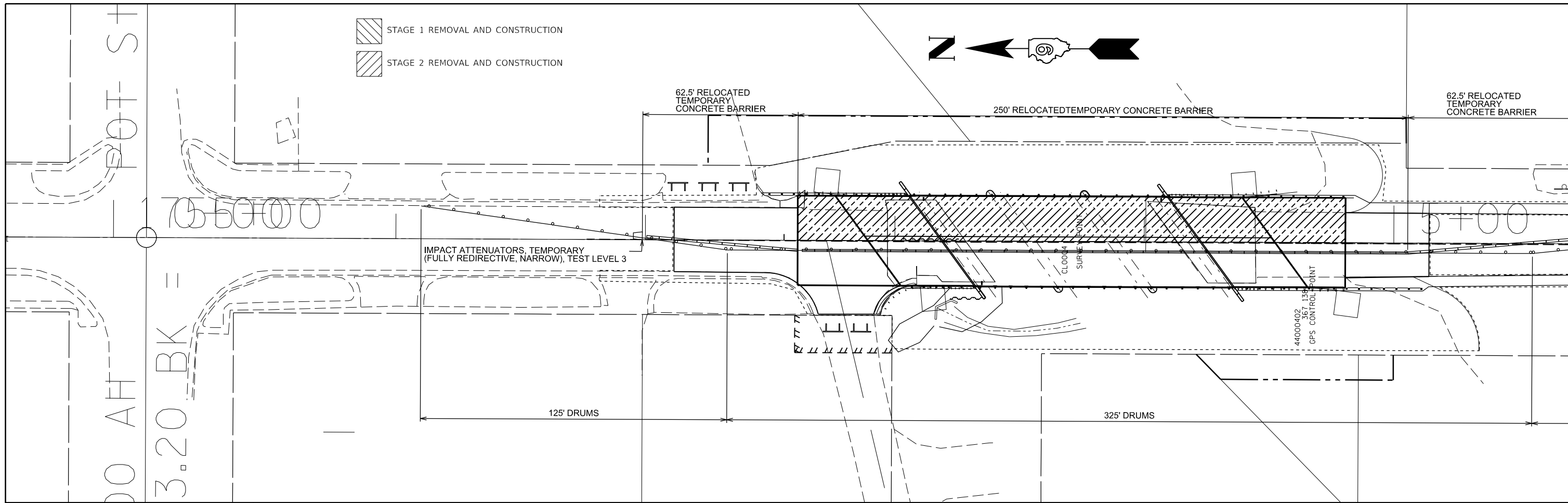
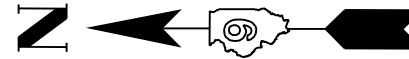
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**



**STAGE 1 PLAN**

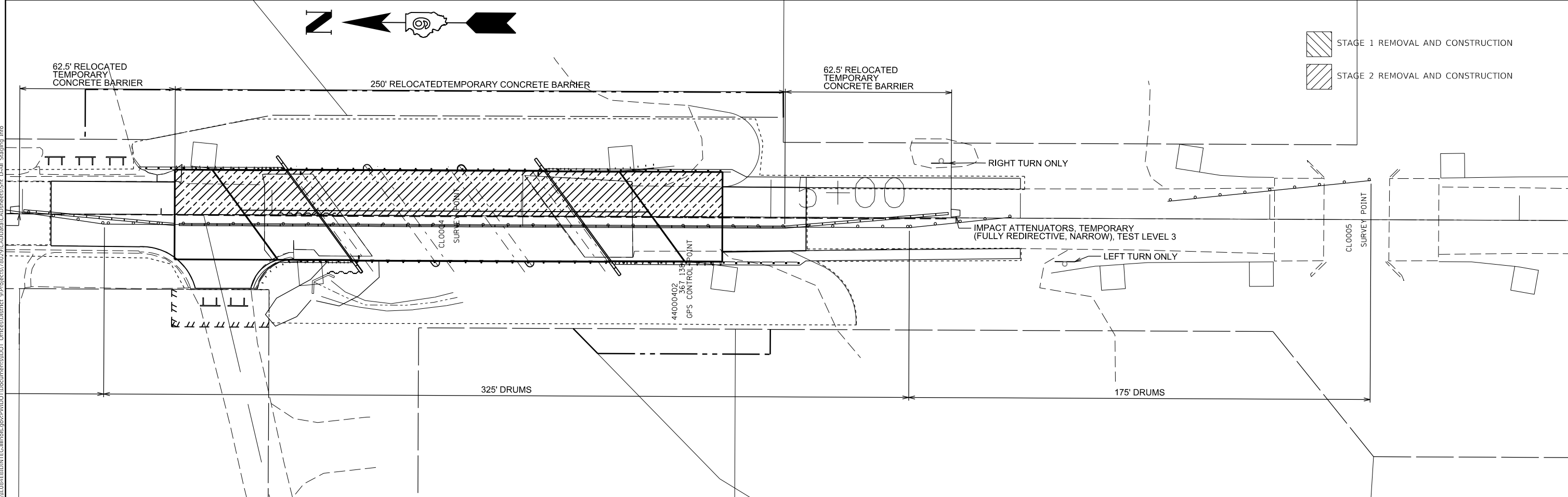
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	16
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

 STAGE 1 REMOVAL AND CONSTRUCTION  
 STAGE 2 REMOVAL AND CONSTRUCTION



 STAGE 1 REMOVAL AND CONSTRUCTION  
 STAGE 2 REMOVAL AND CONSTRUCTION



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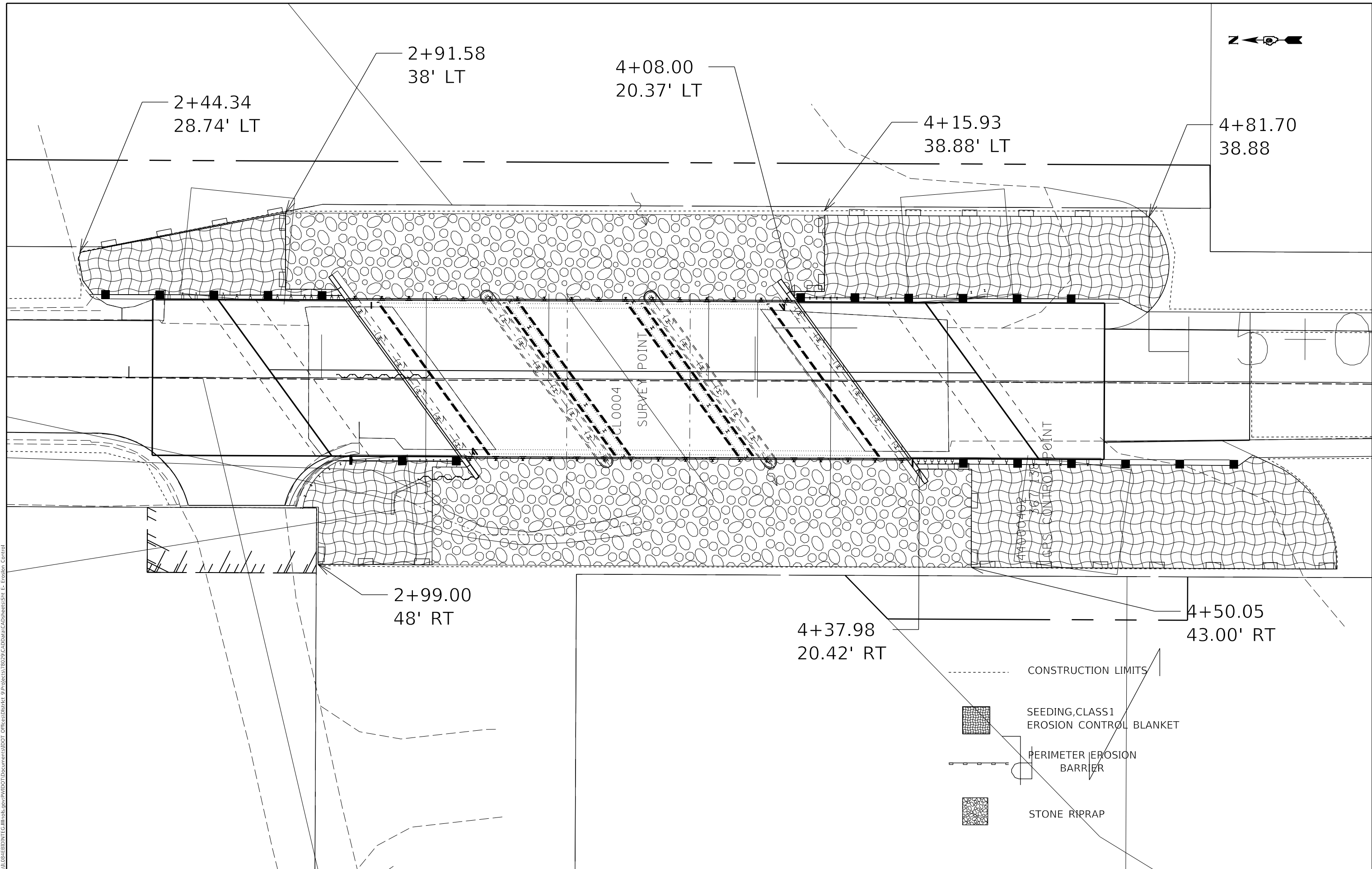
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PLOT DATE = 3/5/2019	CHECKED -	REVISED -
	DATE -	REVISED -

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

**STAGE 2 PLAN**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	17
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				



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PLOT DATE = 3/5/2019	DATE -	REVISED -

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

**EROSION CONTROL PLAN**  
 SCALE:      SHEET      OF      SHEETS      STA.      TO      STA.

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	18
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				



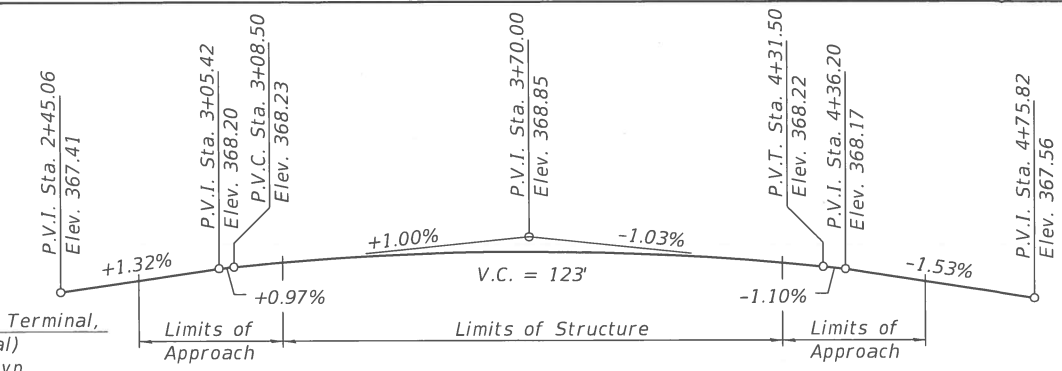
Benchmark: Chiseled "□" on S.E. corner of a Combination Wingwall for 48" and 30" RCCP, 6.5' West of Existing Structure No. 044-0004. Elev. 366.30

Existing Structure (No. 044-0004):

Originally constructed in 1924 and reconstructed in 1981. The original 1924 superstructure was removed, the existing closed reinforced concrete abutments were modified, and 2 new solid wall enclosed pile bent piers were added to accommodate the new 11" PPC Deck Beam Superstructure. The present structure is 3 spans, Span 1 measures 30'-5 3/4" from back of abutment to center of Pier. Span 2 measures 28'-4 1/2" from center of pier to center of pier. Span 3 measures 30'-5 3/4" from center of Pier to back of abutment, for a total structure length of 89'-4" back to back of abutments, with an out to out width of 34'-8". The existing center of Structure is at Sta. 3+70.82. The Structure is to be removed and replaced using stage construction. No Salvage.

**DESIGN SCOUR ELEVATION TABLE**

Event / Limit	Design Scour Elevations (ft.)				Item 113
	N. Abut.	Pier 1	Pier 2	S. Abut.	
Q50	362.6	325.29	325.29	362.57	5
Q500	362.6	325.72	325.72	362.57	
Design	362.6	325.29	325.29	362.57	
Check	362.6	325.72	325.72	362.57	



**PROFILE GRADE - U.S. RTE. 45**  
(Along center of Roadway)

**WATERWAY INFORMATION**

Drainage Area = 32 Sq. Miles Low Grade Elev. 366.3 @ Sta. 15+50.00

Flood Distribution	Freq. Yr.	Discharge cfs		Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
		Exist.	Prop.	Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Main Channel	10 Year	3499	3599	585	582	365.3	0.8	0.7	366.1	366.0
Relief Struct.		1487	1398	243	243					
Culvert		194	183	50	50					
<b>Total</b>		<b>5180</b>	<b>5180</b>	<b>877</b>	<b>874</b>					
Main Channel	Design 50 Year	4704*	5067*	645	661	366.3	0.8	0.7	367.1	367.0
Relief Struct.		1749*	1603*	258	258					
Culvert		1207*	990*	50	50					
<b>Total</b>		<b>7660</b>	<b>7660</b>	<b>953</b>	<b>968</b>					
Main Channel	Base 100 Year	4924*	5345*	645	668	366.7	0.8	0.7	367.5	367.4
Relief Struct.		1921*	1810*	258	258					
Culvert		1875*	1565*	50	50					
<b>Total</b>		<b>8720</b>	<b>8720</b>	<b>953</b>	<b>975</b>					
Main Channel	Existing Overlapping 12 Year	3614	-	592	-	365.4	0.9	-	366.3	-
Relief Struct.		1540	-	245	-					
Culvert		246*	-	50	-					
<b>Total</b>		<b>5400</b>	<b>-</b>	<b>887</b>	<b>-</b>					
Main Channel	Proposed Overlapping 14 Year	-	3879	-	597	365.5	-	0.8	-	366.3
Relief Struct.		-	1463	-	247					
Culvert		-	258*	-	50					
<b>Total</b>		<b>-</b>	<b>5600</b>	<b>-</b>	<b>894</b>					
Main Channel	Max. Calc. 500 Year	4119*	4587*	645	668	367.6	0.7	0.6	368.3	368.2
Relief Struct.		4122*	3755*	258	258					
Culvert		3259*	3158*	50	50					
<b>Total</b>		<b>11500</b>	<b>11500</b>	<b>953</b>	<b>975</b>					

\*Roadway overtopping occurs at structure.

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 3  
 Design Spectral Acceleration at 1.0 sec. (S<sub>D1</sub>) = 0.50  
 Design Spectral Acceleration at 0.2 sec. (S<sub>D5</sub>) = 1.14  
 Soil Site Class = D

**DESIGN SPECIFICATIONS**

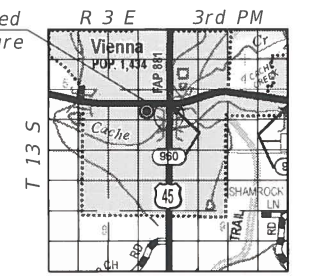
2017 AASHTO LRFD Bridge Design Specifications, 8th Edition

**LOADING HL-93**

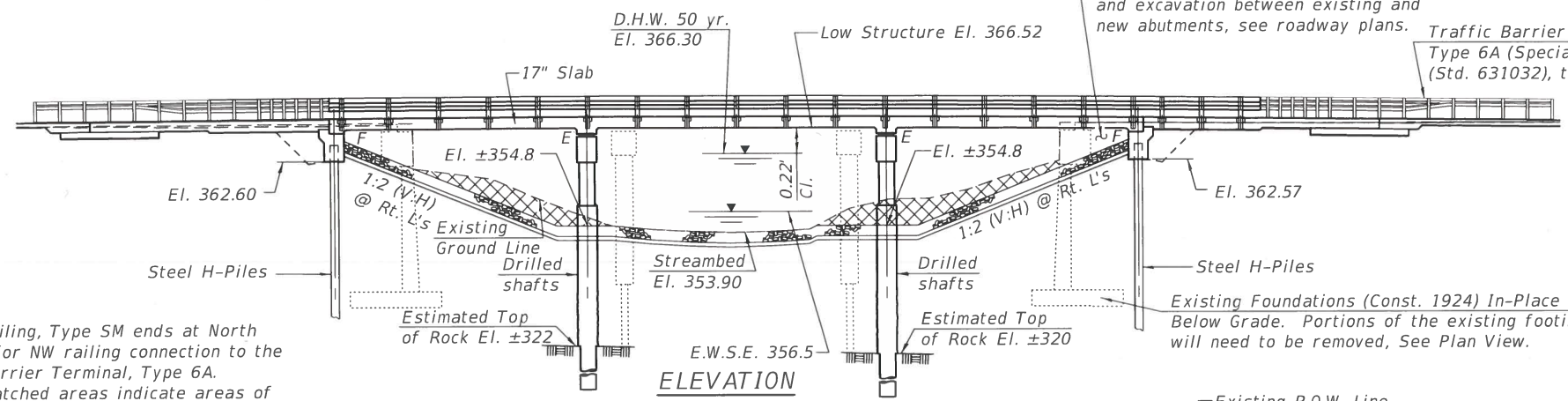
Allow 50#/sq. ft. for future wearing surface.

**GENERAL PLAN**

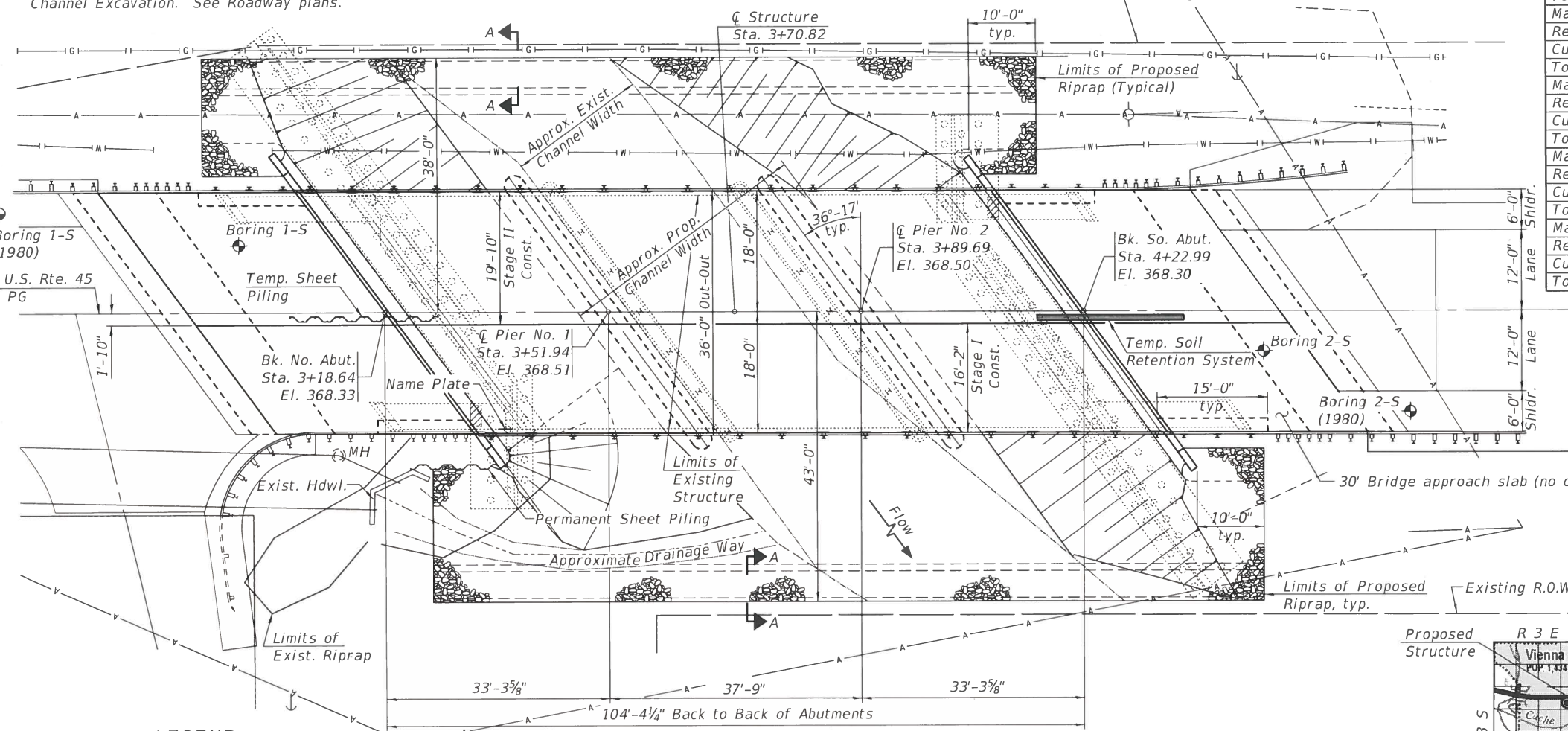
U.S. ROUTE 45 OVER LITTLE CACHE CREEK  
 F.A.S. ROUTE 960 - SECTION 38B-1  
 JOHNSON COUNTY  
 STATION 3+70.82  
 STRUCTURE NO. 044-0060



LOCATION SKETCH



**ELEVATION**



**PLAN**

**DESIGN STRESSES**

FIELD UNITS  
 f'c = 3,500 psi  
 f'c = 5,000 psi (Superstructure and Appr. Slab)  
 fy = 60,000 psi (Reinforcement)

**LEGEND**

Indicates portions of Existing Foundations (Const. 1924) to be Removed to facilitate Proposed Abutment Pile Installation.



EXPIRES 11-30-2020

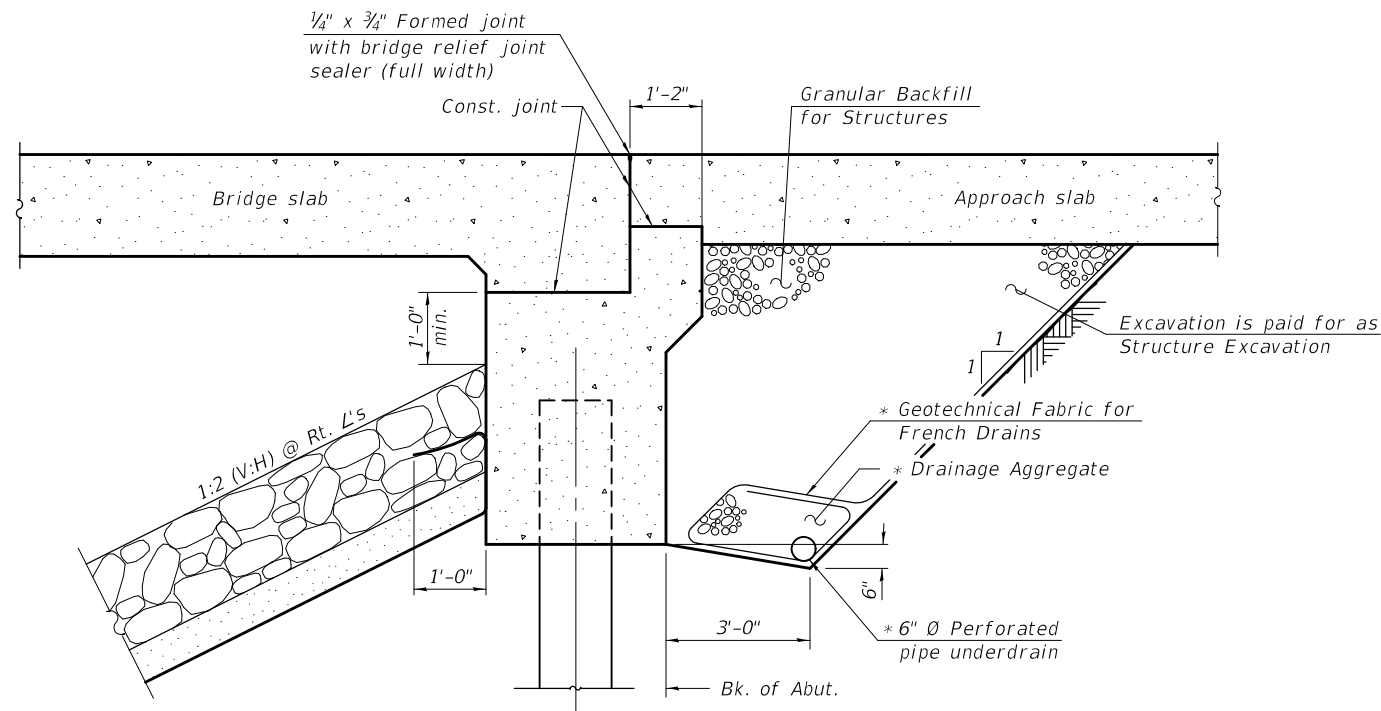
DESIGNED - <i>Michael J. Puzey</i>	EXAMINED - <i>James F. Schuff</i> M.P.E.	DATE - 3/26/19
CHECKED - <i>Mavis Sorell</i>	PASSED - <i>Shawn R. Puzey</i>	REVISIONS -
DRAWN - <i>M.B.M.</i>	REVISIONS -	
CHECKED - <i>NRM/TSS/GRA</i>		

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	19
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

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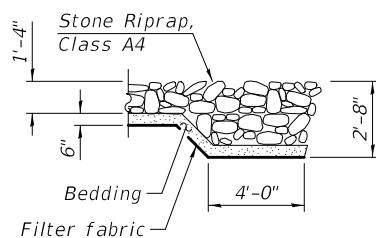


**SECTION THRU ABUTMENT**  
(Horizontal dimensions are at Rt. Δ's)

Note:

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). Granular backfill behind the abutments shall be compacted according to Article 205.06 of the Standard Specifications.

\* Included in the cost of Pipe Underdrains for Structures. (See Special Provisions).



**SECTION A-A**

STATION 3+70.82  
BUILT BY  
STATE OF ILLINOIS  
F.A.S. RTE. 960 SEC. 38B-1  
LOADING HL-93  
STRUCTURE NO. 044-0060

**NAME PLATE**  
See Std. 515001

**GENERAL NOTES**

Reinforcement bars designated (E) shall be epoxy coated.  
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.  
The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of falsework. Dead load deflections are negligible. Forms for deck slab shall be removed prior to placement of bridge approach slab.  
Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage 1 removal to ensure the remaining portion will not be prematurely damaged.  
The embankment configuration shown shall be the minimum that must be paced and compacted prior to construction of the abutments.  
The back face of the abutments and wingwalls shall be coated with coat tar pitch emulsion as per 1061.03 of the Standard Specifications. Cost included with Concrete Structure.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A4	Sq. Yd.	-	1058	1058
Filter Fabric	Sq. Yd.	-	1058	1058
Protective Coat	Sq. Yd.	652	-	652
Removal Of Existing Structures	Each	-	-	1
Structure Excavation	Cu. Yd.	-	194	194
Concrete Structures	Cu. Yd.	27.6	218.5	246.1
Concrete Superstructure	Cu. Yd.	211.2	-	211.2
Bridge Deck Grooving	Sq. Yd.	615	-	615
Concrete Superstructure (Approach Slab)	Cu. Yd.	102.0	-	102.0
Reinforcement Bars, Epoxy Coated	Pound	138980	66740	205720
Bar Splicers	Each	581	304	885
Steel Railing, Type SM	Foot	251	-	251
Furnishing Steel Piles HP14x117	Foot	-	1261	1261
Driving Piles	Foot	-	1261	1261
Name Plates	Each	-	1	1
Drilled Shaft in Rock	Cu. Yd.	-	11.6	11.6
Drilled Shaft in Soil	Cu. Yd.	-	76.6	76.6
Elastomeric Bearing Assembly, Type I	Each	-	18	18
Anchor Bolts, 1 1/2"	Each	-	4	4
Temporary Sheet Piling	Sq. Ft.	-	256	256
Permanent Sheet Piling	Sq. Ft.	-	319	319
Temporary Soil Retention System	Sq. Ft.	-	106	106
Asbestos Bearing Pad Removal	Each	-	18	18
Pipe Underdrains For Structures 6"	Foot	-	116	116
Granular Backfill For Structures	Cu. Yd.	-	76	76

**INDEX OF SHEETS**

- 1 General Plan and Elevation
- 2 General Data
- 3 Stage Construction Details
- 4 Temporary and Permanent Sheet Piling and T.S.R. System
- 5 Temporary Concrete Barrier for Stage Construction
- 6-7 Top of Slab Elevations
- 8-9 Top of Approach Slab Elevations
- 10-11 Superstructure
- 12 Superstructure Details
- 13-16 Bridge Approach Slab Details
- 17 Steel Railing, Type SM
- 18 Bearing Details
- 19 North Abutment
- 20 North Abutment Details
- 21 South Abutment
- 22 South Abutment Details
- 23 Pier No. 1
- 24 Pier No. 1 Details
- 25 Pier No. 2
- 26 Pier No. 2 Details
- 27 HP Pile Details
- 28 Bar Splicer Assembly and Mechanical Splicer Details
- 29-31 Soil Boring Logs

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DESIGNED -	NEPTALI RIVERA-MARTINEZ
CHECKED -	TRAVIS J. SORRELL
DRAWN -	DENNIS A. POP
CHECKED -	N.R.M. / T.J.S. / G.R.A.

EXAMINED	<i>Joanne F. Joffe</i> ENGINEER OF BRIDGE DESIGN
PASSED	<i>Carl Berger</i> ENGINEER OF BRIDGES AND STRUCTURES

DATE -	MARCH 26, 2019
REVISED -	
REVISED -	

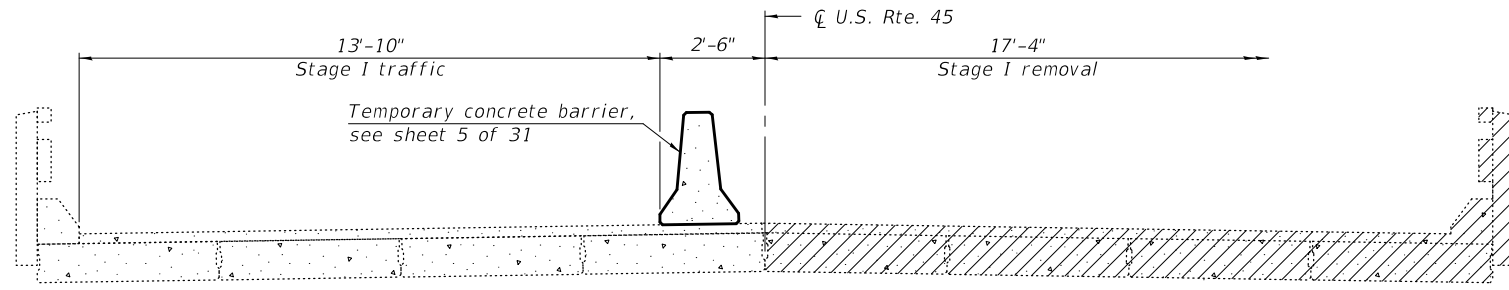
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA**  
**STRUCTURE NO. 044 - 0060**

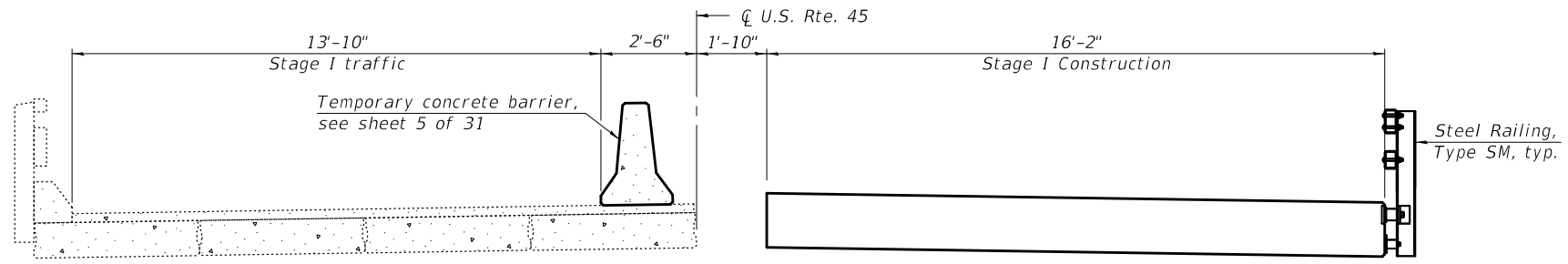
SHEET 2 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

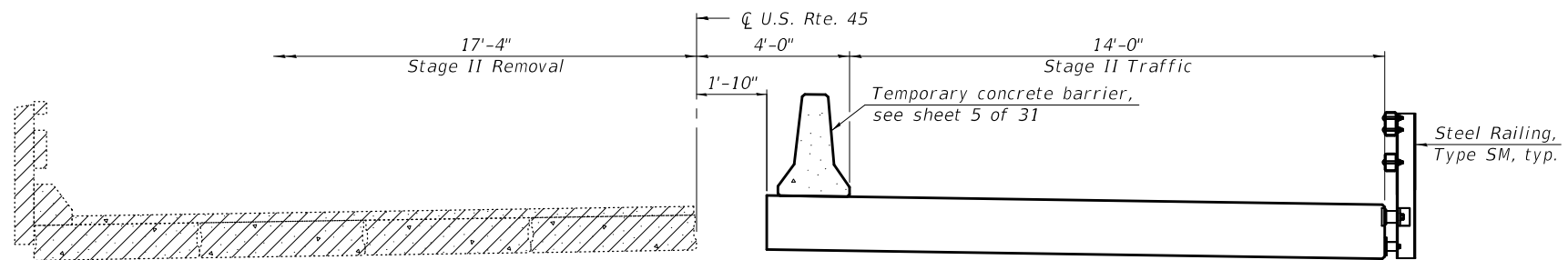
SDATE\$ \$TIMES\$



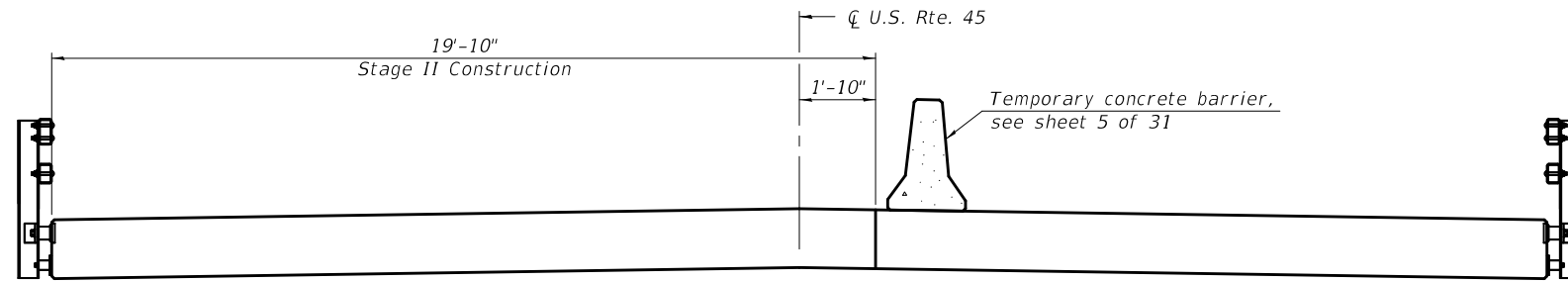
**STAGE I REMOVAL**



**STAGE I CONSTRUCTION**



**STAGE II REMOVAL**



**STAGE II CONSTRUCTION**

Notes:  
 All cross sections are looking South.  
 Hatched area indicates Removal of Existing Superstructure.  
 For quantity of Temporary Concrete Barriers, see Roadway Plans.

MODEL: \$MODELNAME\$  
 FILE NAME: \$FILES\$

DESIGNED -	NEPHTALI RIVERA-MARTINEZ
CHECKED -	TRAVIS J. SORRELL
DRAWN -	DENNIS A. POP
CHECKED -	N.R.M. / T.J.S. / G.R.A.

EXAMINED	<i>Jaime F. Joffe</i> ENGINEER OF BRIDGE DESIGN
PASSED	<i>Carl Pop</i> ENGINEER OF BRIDGES AND STRUCTURES

DATE -	MARCH 26, 2019
REVISED -	
REVISED -	

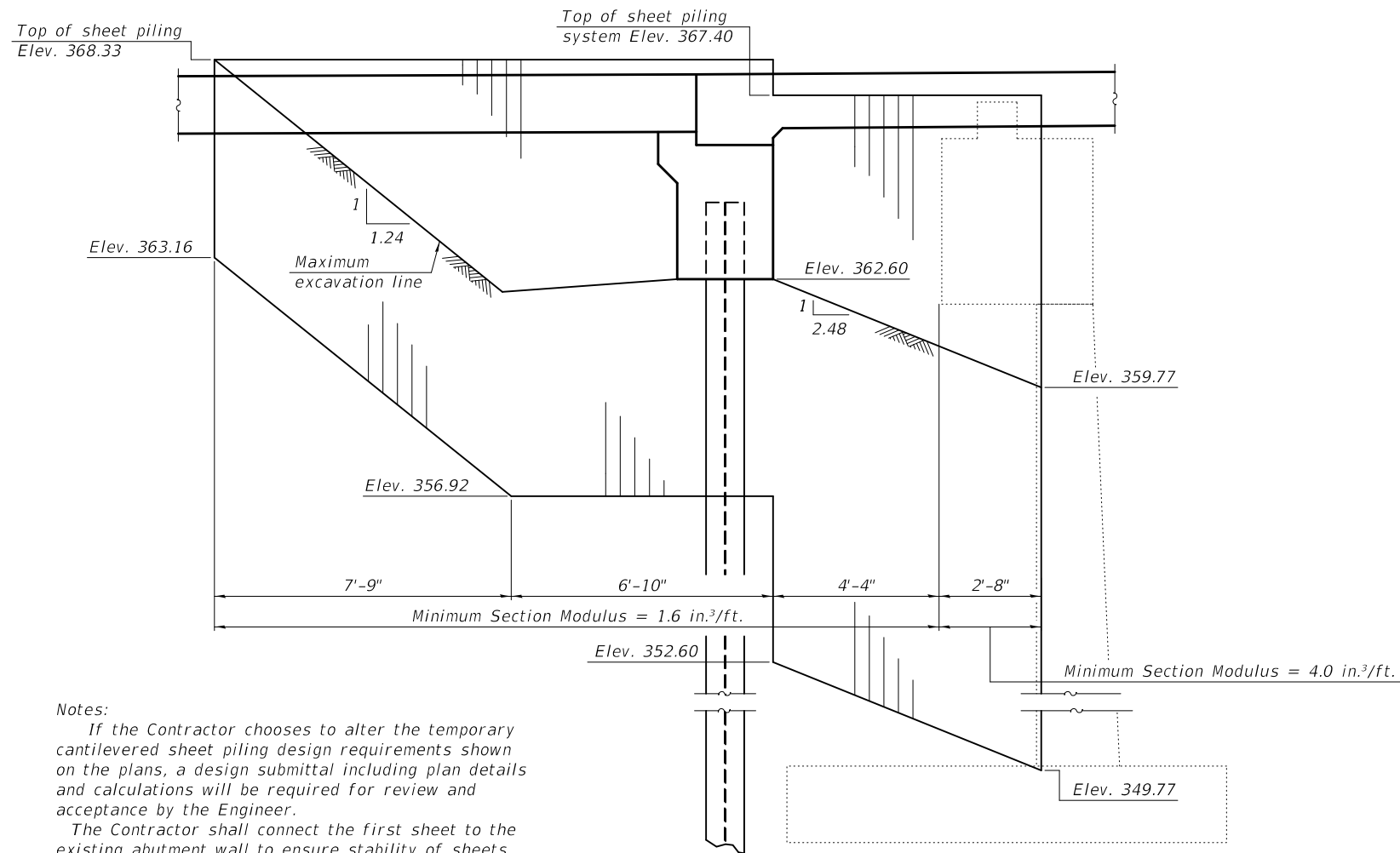
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS  
 STRUCTURE NO. 044 - 0060**

SHEET 3 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	21
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

\$DATE\$ \$TIME\$

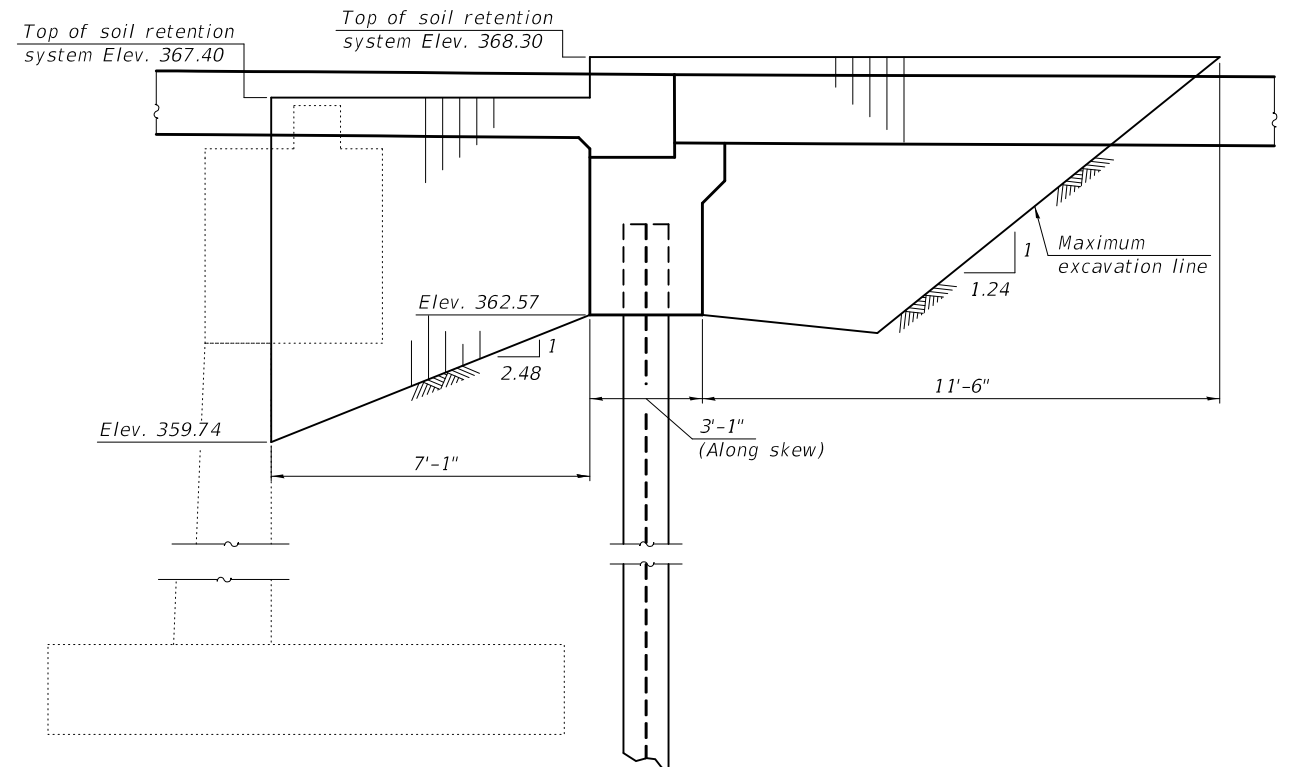


**NORTH ABUTMENT  
TEMPORARY SHEET PILING**

**Notes:**

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.

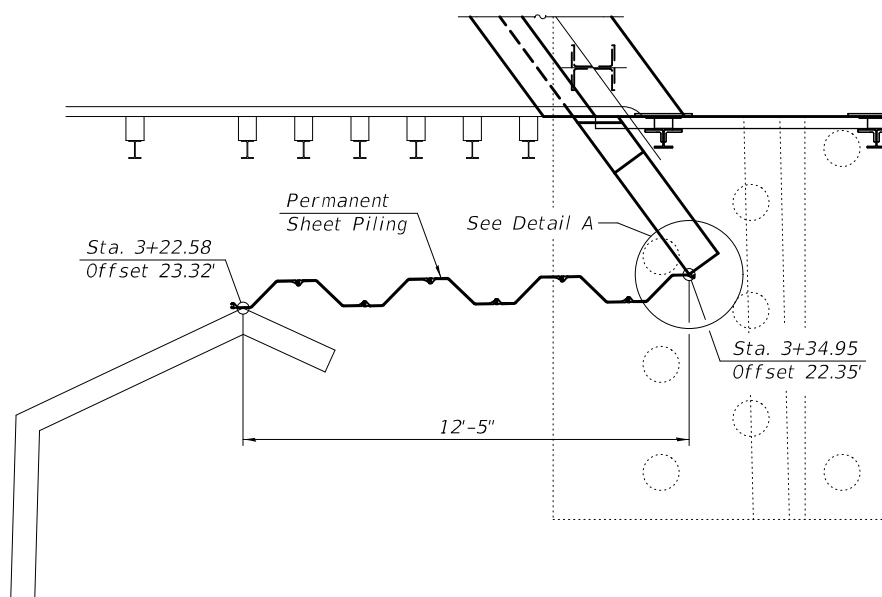
The Contractor shall connect the first sheet to the existing abutment wall to ensure stability of sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Sheet Piling.



**SOUTH ABUTMENT  
TEMPORARY SOIL RETENTION SYSTEM,**

**Note:**

A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.



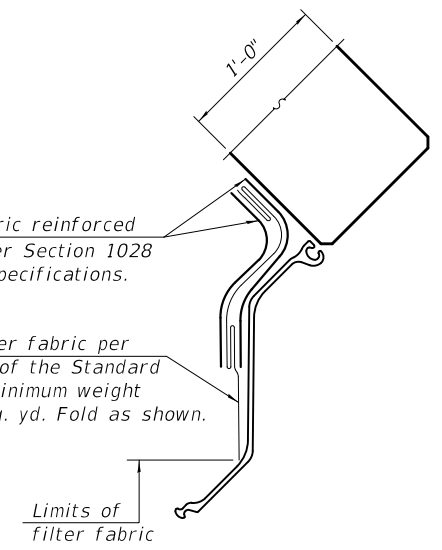
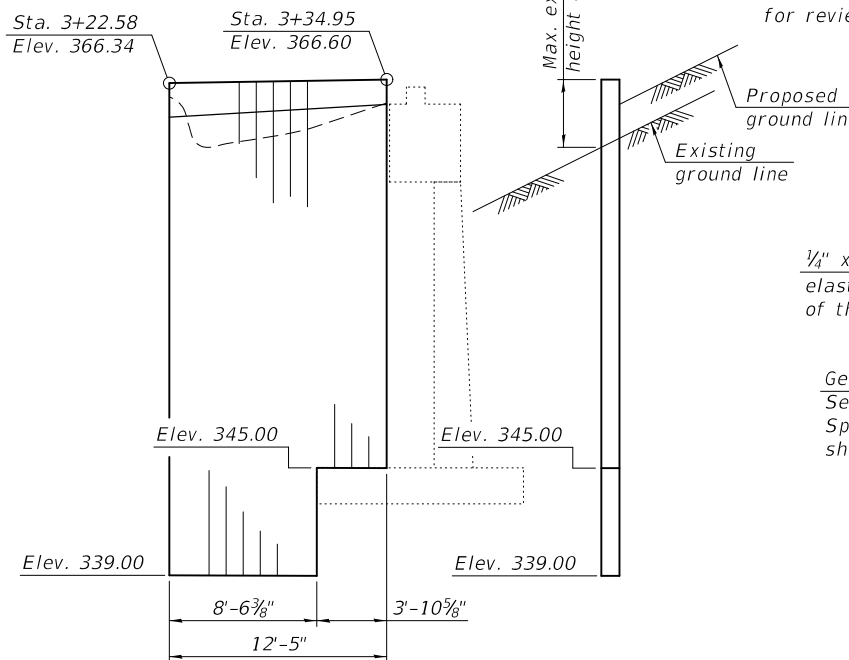
**NORTH ABUTMENT  
PERMANENT SHEET PILING**

**Notes:**

The minimum effective section modulus of the permanent steel sheet pile wall shall be 16 in.³/ft.

Sheet piling shall not be driven until the concrete strength has attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.

The cost of furnishing and installing the bent R sheet pile cap, elastomeric mat, and filter fabric shall be included in the cost of Permanent Sheet Piling.



**DETAIL A**

**BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Permanent Sheet Piling	Sq. Ft.	319
Temporary Sheet Piling	Sq. Ft.	256
Temporary Soil Retention System	Sq. Ft.	106

MODEL: SMODELNAMES  
FILE NAME: SFILES

DESIGNED - NEPTALI RIVERA-MARTINEZ	EXAMINED
CHECKED - TRAVIS J. SORRELL	PASSED
DRAWN - DENNIS A. POP	
CHECKED - N.R.M. / T.J.S. / G.R.A.	

DATE - MARCH 26, 2019

Revised -  
Revised -

*Joanne F. Saff*  
ENGINEER OF BRIDGE DESIGN

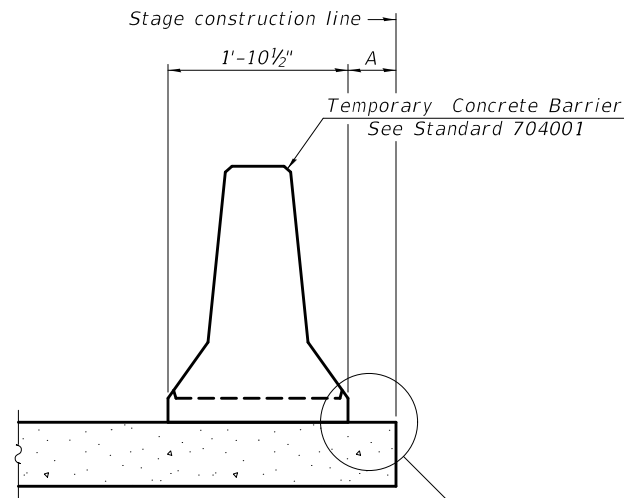
*Carl Ringer*  
ENGINEER OF BRIDGES AND STRUCTURES

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY & PERMANENT SHEET PILING & T.S.R. SYSTEM  
STRUCTURE NO. 044 - 0060**

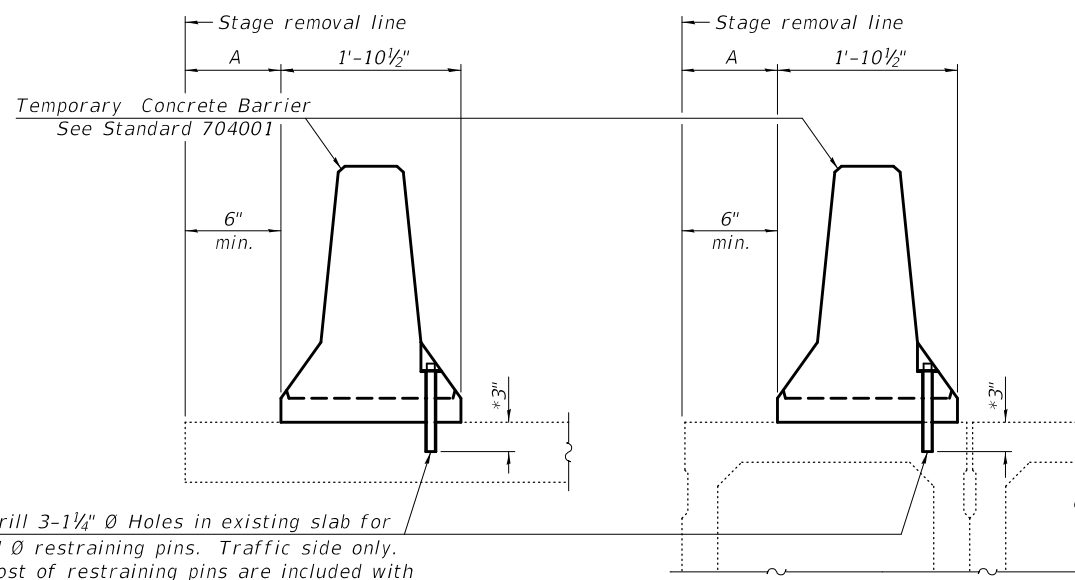
SHEET 4 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	22
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				



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

NEW SLAB OR NEW DECK BEAM

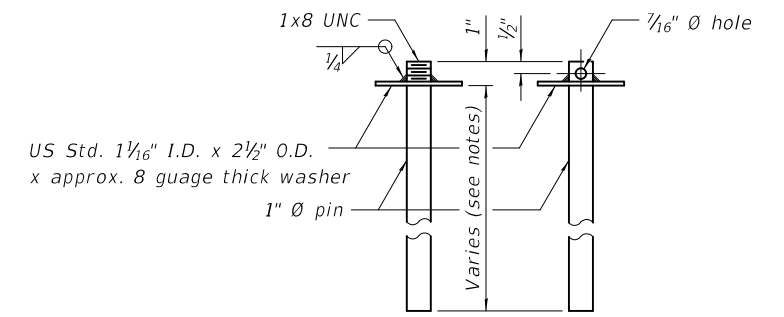


Drill 3-1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

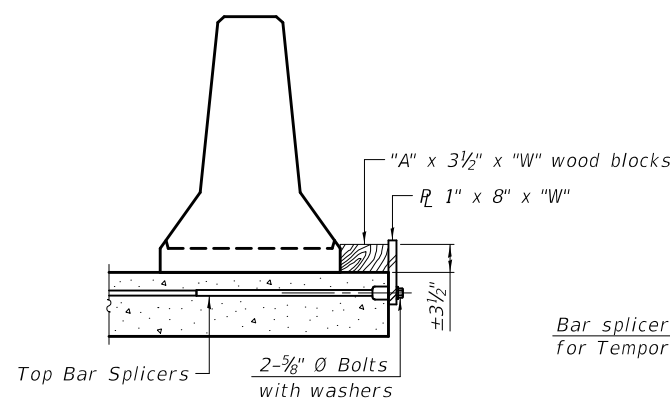
\* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

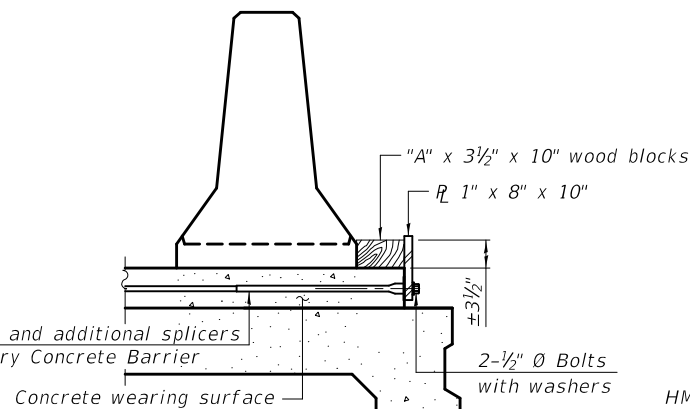


RESTRAINING PIN

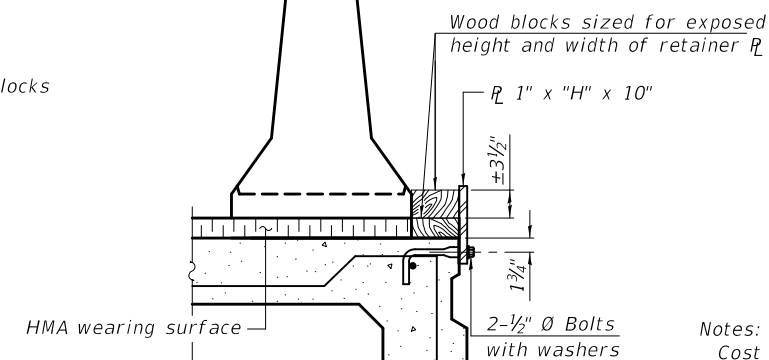
SECTIONS THRU SLAB OR DECK BEAM



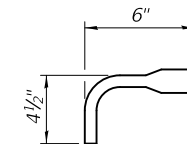
DETAIL I



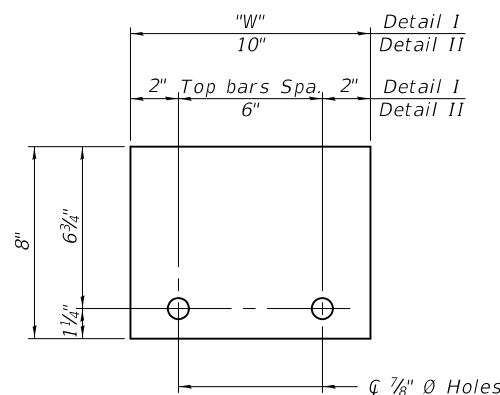
DETAIL II



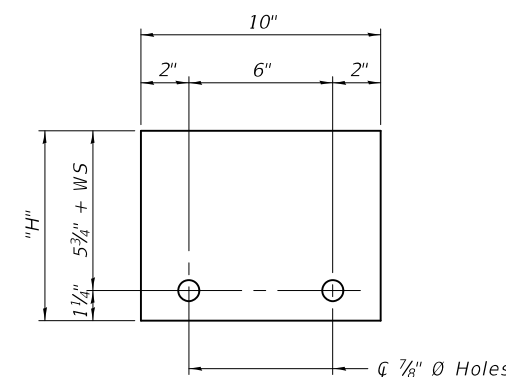
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



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



STEEL RETAINER 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.

MODEL: \$MODEL\$  
FILE NAME: \$FILES\$

R-27 8-11-2017

DESIGNED -	NEPHALI RIVERA-MARTINEZ
CHECKED -	TRAVIS J. SORRELL
DRAWN -	DENNIS A. POP
CHECKED -	N.R.M. / T.J.S. / G.R.A.

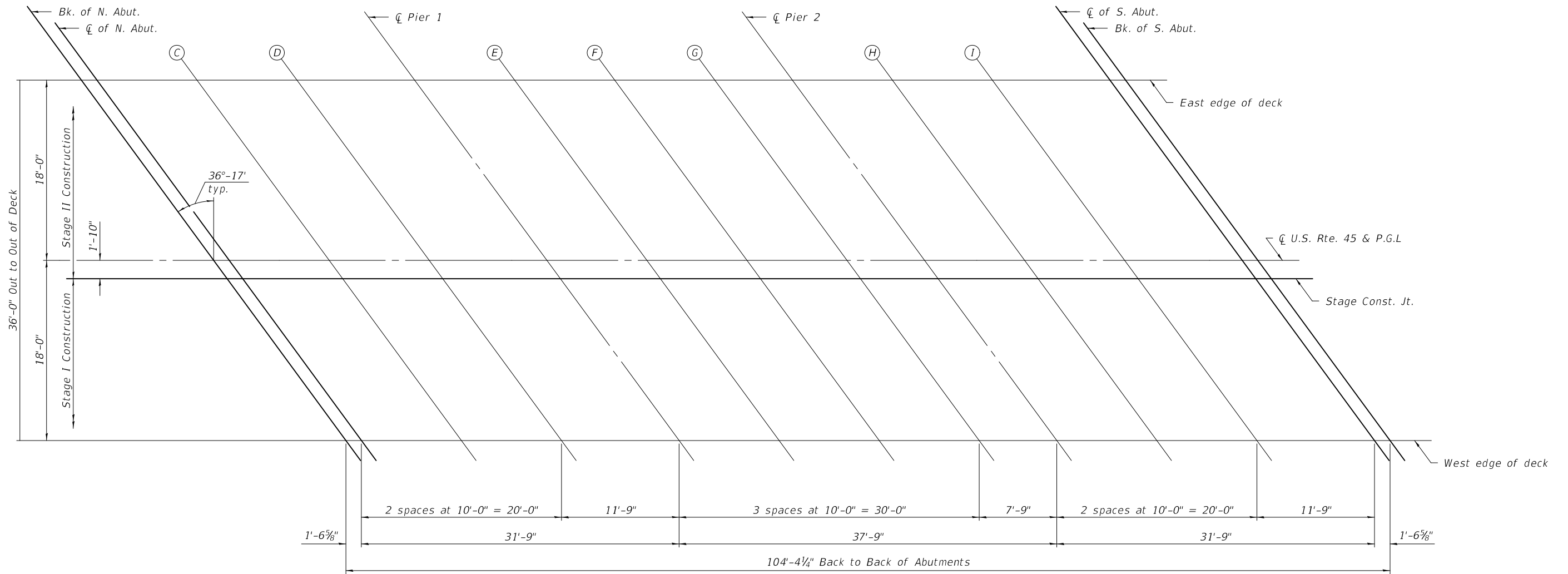
EXAMINED	<i>Jaime F. Joffe</i>	DATE -	MARCH 26, 2019
PASSED	<i>Carl Ringer</i>	REVISOR -	
	ENGINEER OF BRIDGES AND STRUCTURES	REVISOR -	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION  
STRUCTURE NO. 044 - 0060

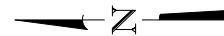
SHEET 5 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	23
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				



Note:  
The dead load deflections are negligible. The  
dead load deflection diagram is not shown.

PLAN



MODEL: \$MODELNAME\$  
FILE NAME: \$FILES\$

DESIGNED - NEPTALI RIVERA-MARTINEZ  
CHECKED - TRAVIS J. SORRELL  
DRAWN - DENNIS A. POP  
CHECKED - N.R.M. / T.J.S. / G.R.A.

EXAMINED  
PASSED

*Joanne F. Jaffe*  
ENGINEER OF BRIDGE DESIGN  
*Carl Rupp*  
ENGINEER OF BRIDGES AND STRUCTURES

DATE - MARCH 26, 2019

REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 044 - 0060

SHEET 6 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	24
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

\$DATE\$ \$TIME\$



EAST EDGE OF DECK

Location	Station	Offset	Theoretical Grade Elevations
Bk. of N. Abut.	3+05.43	-18.00	367.93
Q̄ of N. Abut.	3+06.98	-18.00	367.95
C	3+16.98	-18.00	368.04
D	3+26.98	-18.00	368.12
Q̄ Pier 1	3+38.73	-18.00	368.19
E	3+48.73	-18.00	368.23
F	3+58.73	-18.00	368.26
G	3+68.73	-18.00	368.27
Q̄ Pier 2	3+76.48	-18.00	368.26
H	3+86.48	-18.00	368.24
I	3+96.48	-18.00	368.21
Q̄ of S. Abut.	4+08.23	-18.00	368.14
Bk. of S. Abut.	4+09.78	-18.00	368.13

Q̄ ROADWAY & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
Bk. of N. Abut.	3+18.64	0.00	368.33
Q̄ of N. Abut.	3+20.19	0.00	368.34
C	3+30.19	0.00	368.41
D	3+40.19	0.00	368.47
Q̄ Pier 1	3+51.94	0.00	368.51
E	3+61.94	0.00	368.53
F	3+71.94	0.00	368.54
G	3+81.94	0.00	368.52
Q̄ Pier 2	3+89.69	0.00	368.50
H	3+99.69	0.00	368.46
I	4+09.69	0.00	368.40
Q̄ of S. Abut.	4+21.44	0.00	368.31
Bk. of S. Abut.	4+22.99	0.00	368.30

STAGE CONSTRUCTION JOINT

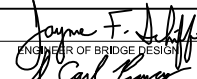

Location	Station	Offset	Theoretical Grade Elevations
Bk. of N. Abut.	3+19.99	1.83	368.31
Q̄ of N. Abut.	3+21.54	1.83	368.32
C	3+31.54	1.83	368.39
D	3+41.54	1.83	368.45
Q̄ Pier 1	3+53.29	1.83	368.49
E	3+63.29	1.83	368.51
F	3+73.29	1.83	368.51
G	3+83.29	1.83	368.49
Q̄ Pier 2	3+91.04	1.83	368.47
H	4+01.04	1.83	368.43
I	4+11.04	1.83	368.37
Q̄ of S. Abut.	4+22.79	1.83	368.27
Bk. of S. Abut.	4+24.34	1.83	368.26

WEST EDGE OF DECK

Location	Station	Offset	Theoretical Grade Elevations
Bk. of N. Abut.	3+31.85	18.00	368.15
Q̄ of N. Abut.	3+33.41	18.00	368.16
C	3+43.41	18.00	368.21
D	3+53.41	18.00	368.25
Q̄ Pier 1	3+65.16	18.00	368.27
E	3+75.16	18.00	368.26
F	3+85.16	18.00	368.25
G	3+95.16	18.00	368.21
Q̄ Pier 2	4+02.91	18.00	368.17
H	4+12.91	18.00	368.11
I	4+22.91	18.00	368.03
Q̄ of S. Abut.	4+34.66	18.00	367.92
Bk. of S. Abut.	4+36.21	18.00	367.90

MODEL: \$MODELNAME\$  
FILE NAME: \$FILES\$

DESIGNED -	NEPTALI RIVERA-MARTINEZ
CHECKED -	TRAVIS J. SORRELL
DRAWN -	DENNIS A. POP
CHECKED -	N.R.M. / T.J.S. / G.R.A.

EXAMINED	
PASSED	
ENGINEER OF BRIDGES AND STRUCTURES	

DATE -	MARCH 26, 2019
REVISED -	
REVISED -	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS  
STRUCTURE NO. 044 - 0060

SHEET 7 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	25
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

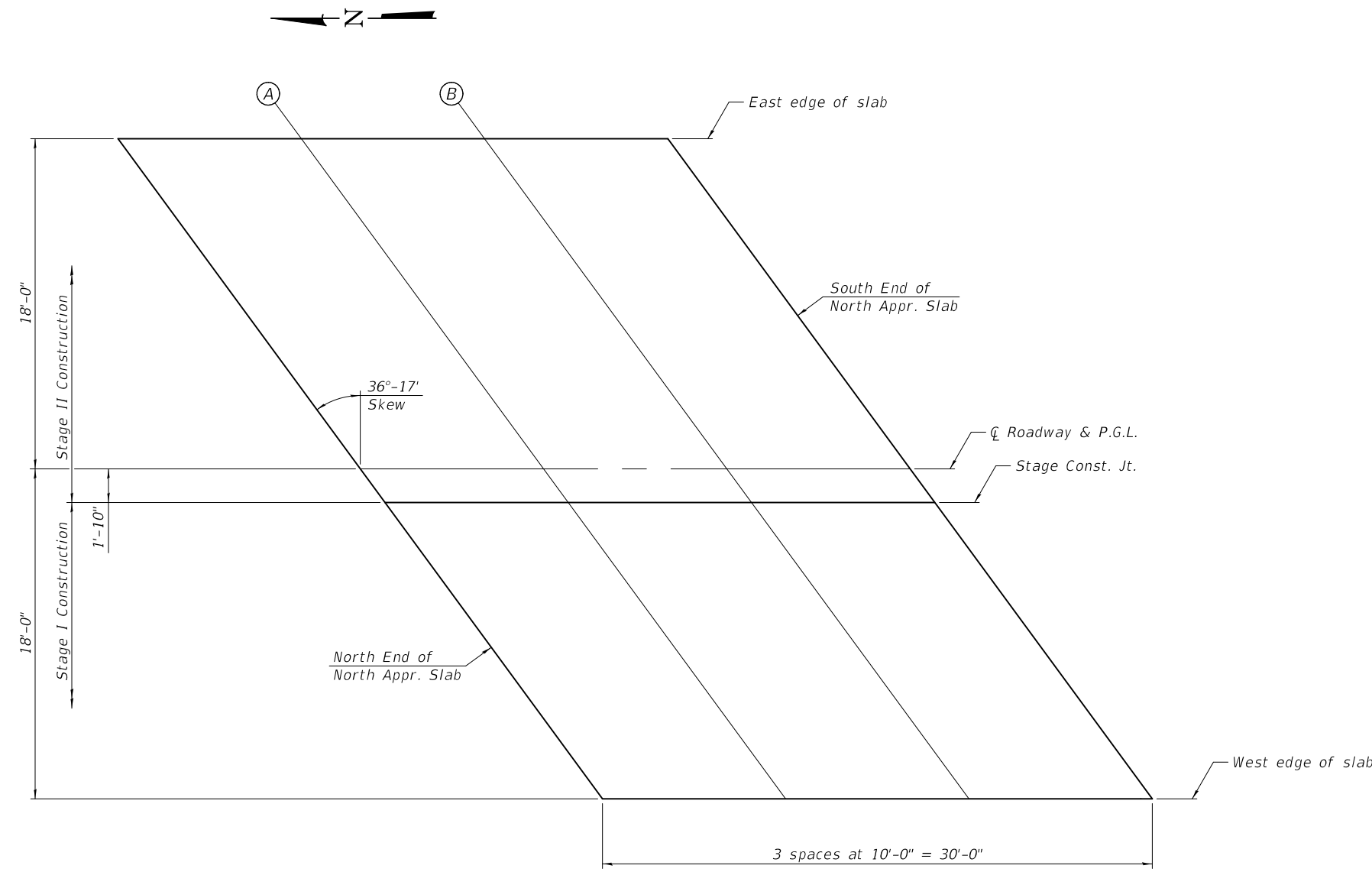


EAST EDGE OF SLAB

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	2+76.05	-18.00	367.54
A	2+86.05	-18.00	367.67
B	2+96.05	-18.00	367.81
S. End of N. Appr. Slab	3+06.05	-18.00	367.94

CL ROADWAY & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	2+89.26	0.00	367.99
A	2+99.26	0.00	368.12
B	3+09.26	0.00	368.24
S. End of N. Appr. Slab	3+19.26	0.00	368.33



PLAN

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	2+90.61	1.83	367.98
A	3+00.61	1.83	368.11
B	3+10.61	1.83	368.23
S. End of N. Appr. Slab	3+20.61	1.83	368.32

WEST EDGE OF SLAB

Location	Station	Offset	Theoretical Grade Elevations
N. End of N. Appr. Slab	3+02.47	18.00	367.89
A	3+12.47	18.00	368.00
B	3+22.47	18.00	368.09
S. End of N. Appr. Slab	3+32.47	18.00	368.16

MODEL: \$MODELNAME\$  
FILE NAME: \$FILES\$

DESIGNED -	NEPHTALI RIVERA-MARTINEZ
CHECKED -	TRAVIS J. SORRELL
DRAWN -	DENNIS A. POP
CHECKED -	N.R.M. / T.J.S. / G.R.A.

EXAMINED	
PASSED	

DATE -	MARCH 26, 2019
REVISED -	
REVISED -	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF NORTH APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 044 - 0060**

SHEET 8 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	26
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

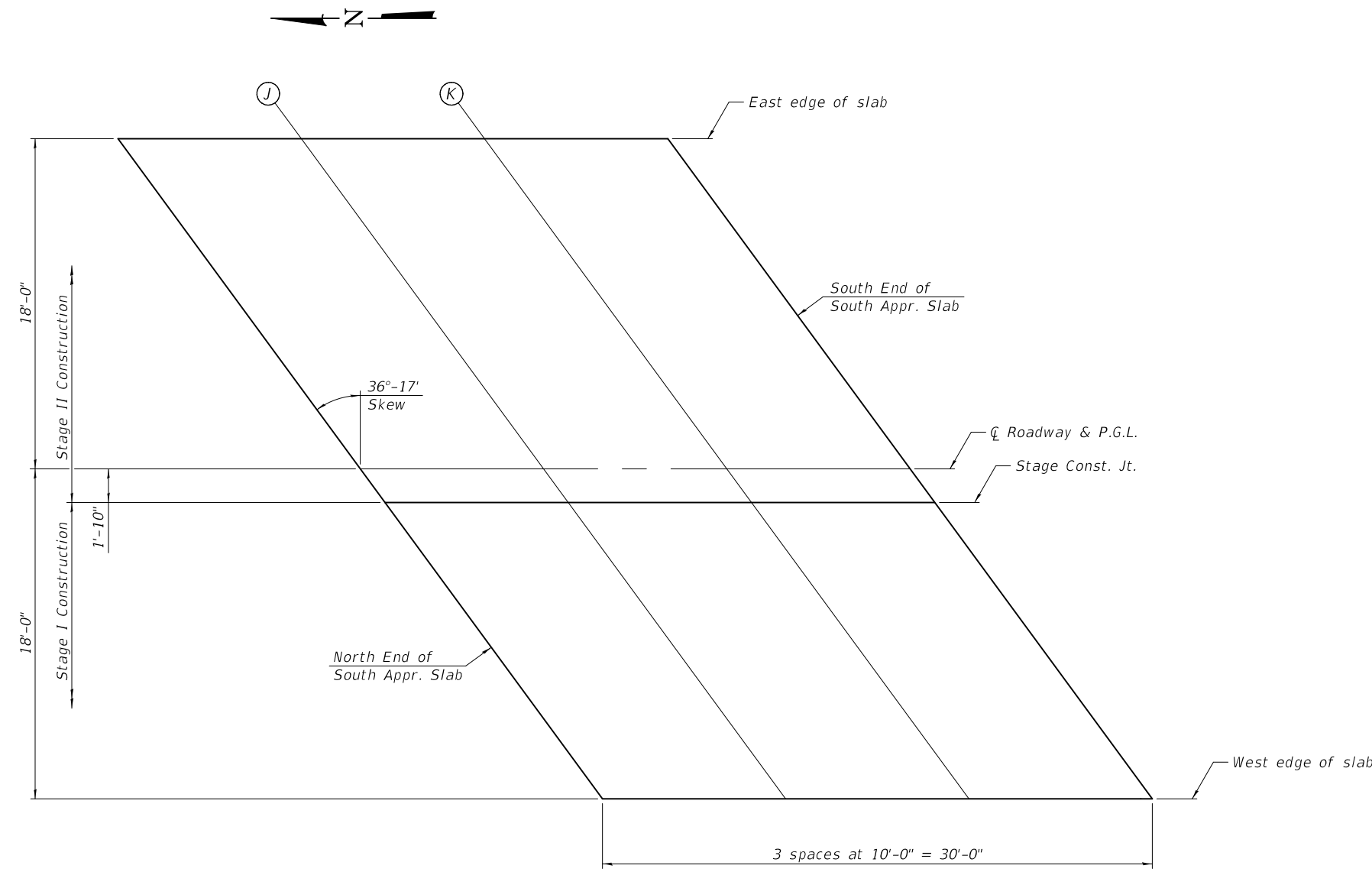
\$DATE\$ \$TIME\$

EAST EDGE OF SLAB

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	4+09.16	-18.00	368.14
J	4+19.16	-18.00	368.06
K	4+29.16	-18.00	367.97
S. End of S. Appr. Slab	4+39.16	-18.00	367.85

☐ ROADWAY & P.G.L.

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	4+22.37	0.00	368.30
J	4+32.37	0.00	368.21
K	4+42.37	0.00	368.08
S. End of S. Appr. Slab	4+52.37	0.00	367.92



PLAN

STAGE CONSTRUCTION JOINT

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	4+23.72	1.83	368.26
J	4+33.72	1.83	368.17
K	4+43.72	1.83	368.03
S. End of S. Appr. Slab	4+53.72	1.83	367.87

WEST EDGE OF SLAB

Location	Station	Offset	Theoretical Grade Elevations
N. End of S. Appr. Slab	4+35.58	18.00	367.91
J	4+45.58	18.00	367.76
K	4+55.58	18.00	367.60
S. End of S. Appr. Slab	4+65.58	18.00	367.45

MODEL: \$MODEL\$  
FILE NAME: \$FILES\$

DESIGNED -	NEPHTALI RIVERA-MARTINEZ
CHECKED -	TRAVIS J. SORRELL
DRAWN -	DENNIS A. POP
CHECKED -	N.R.M. / T.J.S. / G.R.A.

EXAMINED	<i>Jaime F. Salas</i> ENGINEER OF BRIDGE DESIGN
PASSED	<i>Carl Rupp</i> ENGINEER OF BRIDGES AND STRUCTURES

DATE -	MARCH 26, 2019
REVISED -	
REVISED -	

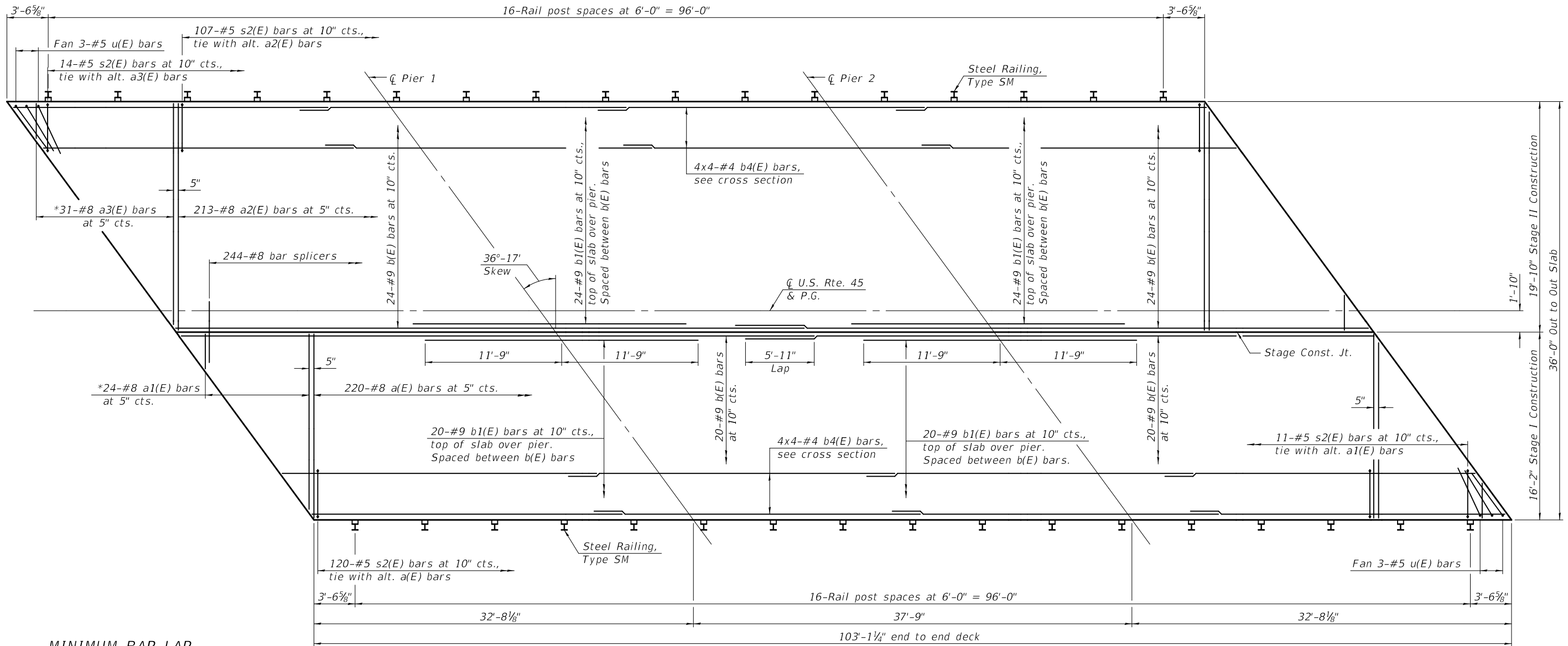
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SOUTH APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 044 - 0060**

SHEET 9 OF 31 SHEETS

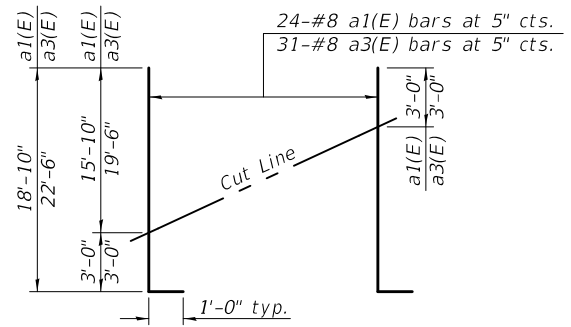
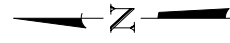
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	27
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

\$DATE\$ \$TIME\$



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

**PLAN**  
(Showing Top Reinforcement and edge beam reinforcement)



**FIELD CUTTING DIAGRAM**

\* Order a1(E) and a3(E) bars full length. Cut as shown to fit skew and use the remainder of hooked section at the edge of the deck in opposite end.

Notes:  
See sheet 12 of 31 for superstructure details and Bill of Material.  
Bars indicated thus 4x4-#4 etc. indicates 4 lines of bars with 4 lengths per line.

MODEL: \$MODELNAME\$  
FILE NAME: \$FILE\$

DESIGNED -	NEPHTALI RIVERA-MARTINEZ
CHECKED -	TRAVIS J. SORRELL
DRAWN -	DENNIS A. POP
CHECKED -	N.R.M. / T.J.S. / G.R.A.

EXAMINED	 ENGINEER OF BRIDGE DESIGN
PASSED	

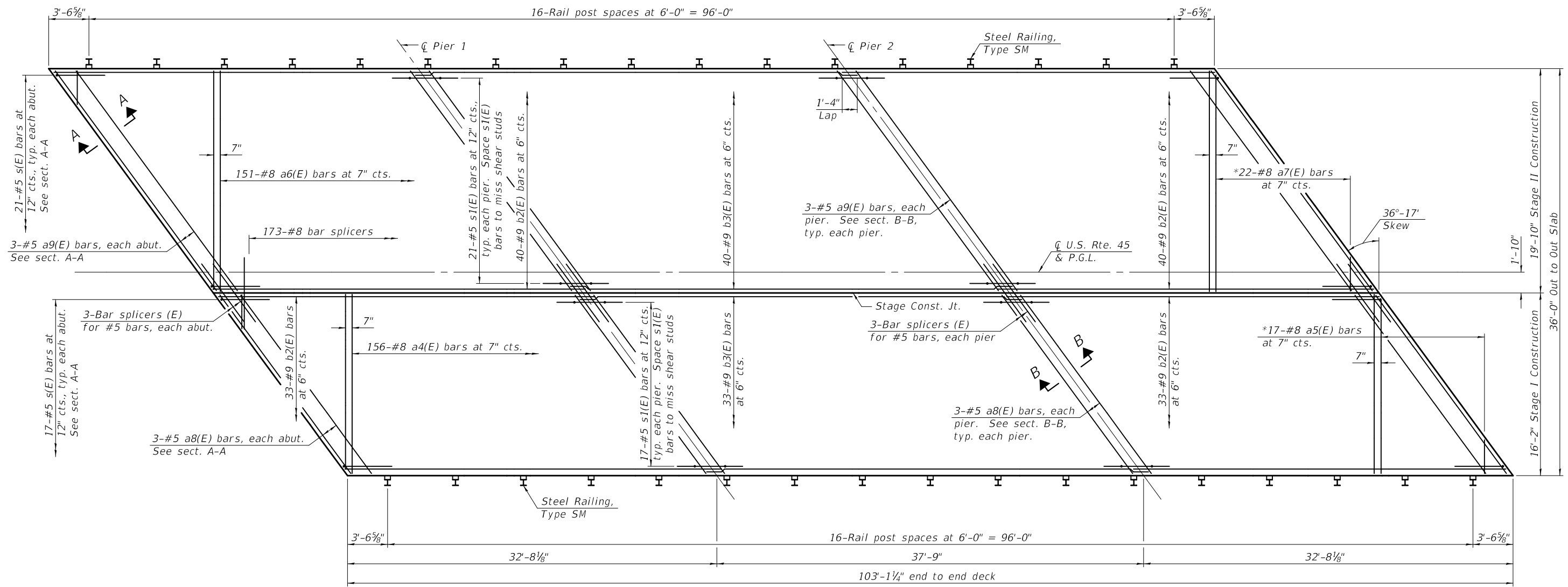
DATE -	MARCH 26, 2019
REVISED -	
REVISED -	

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

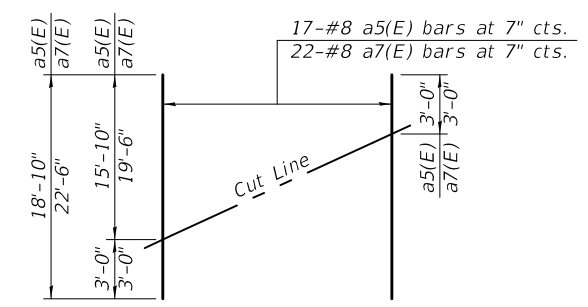
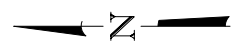
**SUPERSTRUCTURE**  
**STRUCTURE NO. 044 - 0060**

SHEET 10 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	28
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				



**PLAN**  
(Showing Bottom Reinforcement)



**FIELD CUTTING DIAGRAM**

\* Order a5(E) and a7(E) bars full length. Cut as shown to fit skew and use the remainder of bars in opposite end of deck.

Notes:  
See sheet 12 of 31 for superstructure details and Bill of Material.

MODEL: \$MODELNAMES  
FILE NAME: \$FILES

DESIGNED - NEPTALI RIVERA-MARTINEZ	EXAMINED - <i>Joanne F. Saffo</i>	DATE - MARCH 26, 2019
CHECKED - TRAVIS J. SORRELL	PASSED - <i>Carl Kopper</i>	REVISOR -
DRAWN - DENNIS A. POP	ENGINEER OF BRIDGES AND STRUCTURES	REVISOR -
CHECKED - N.R.M. / T.J.S. / G.R.A.		

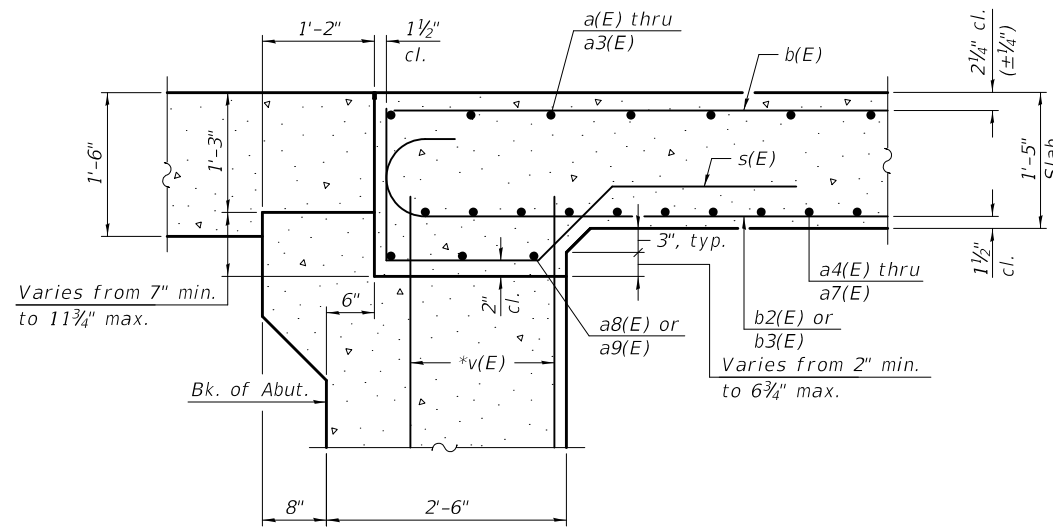
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE**  
**STRUCTURE NO. 044 - 0060**

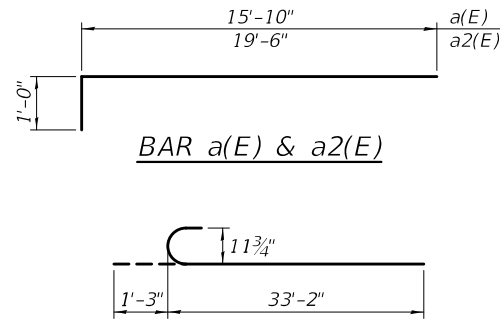
SHEET 11 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	29
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

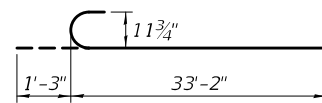
\$DATE\$ \$TIME\$



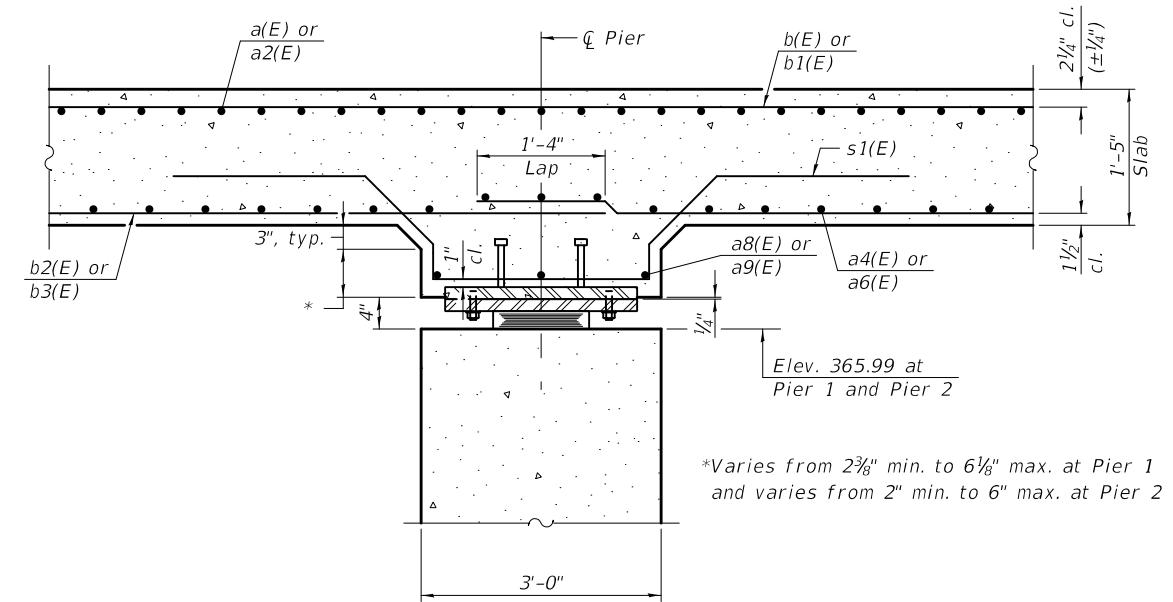
**SECTION A-A**  
Horizontal dimensions at Rt. Δ's to abutments.  
\* v(E) bars billed with abutments.



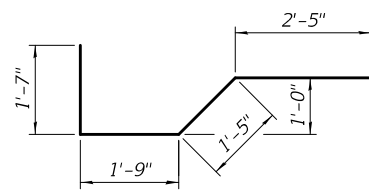
**BAR a(E) & a2(E)**



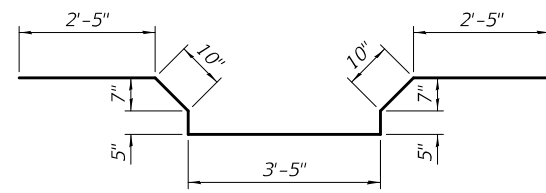
**BAR b2(E)**



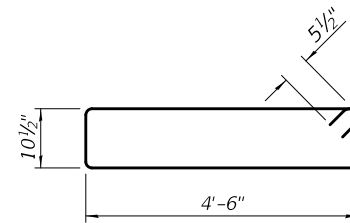
**SECTION B-B**  
Horizontal dimensions at Rt. Δ's to pier.  
\* v1(E) bars billed with piers.



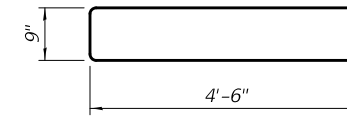
**BAR s(E)**



**BAR s1(E)**



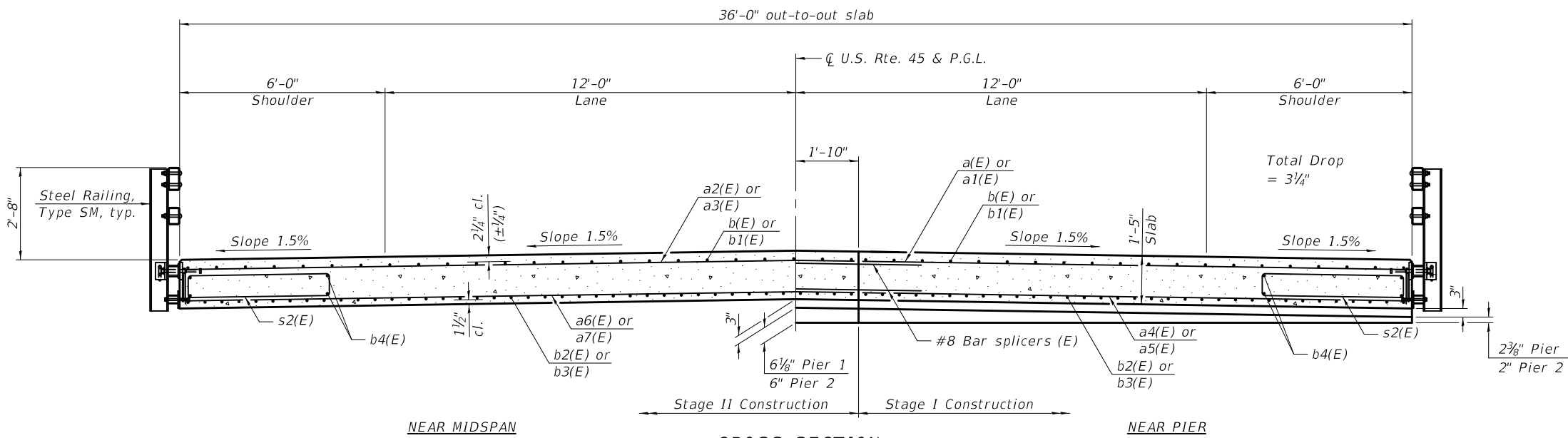
**BAR s2(E)**



**BAR u(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	220	#8	16'-10"	—
a1(E)	24	#8	19'-10"	—
a2(E)	213	#8	20'-6"	—
a3(E)	31	#8	23'-6"	—
a4(E)	156	#8	15'-10"	—
a5(E)	17	#8	18'-10"	—
a6(E)	151	#8	19'-6"	—
a7(E)	22	#8	22'-6"	—
a8(E)	12	#5	19'-8"	—
a9(E)	12	#5	24'-2"	—
b(E)	88	#9	54'-5"	—
b1(E)	88	#9	23'-6"	—
b2(E)	146	#9	34'-5"	—
b3(E)	73	#9	39'-1"	—
b4(E)	32	#4	27'-7"	—
s(E)	76	#5	7'-2"	—
s1(E)	76	#5	10'-9"	—
s2(E)	252	#5	11'-8"	—
u(E)	6	#5	9'-9"	—
Concrete Superstructure		Cu. Yd.	211.2	
Reinforcement Bars, Epoxy Coated		Pound	97180	



**NEAR MIDSPAN**

**CROSS SECTION**  
(Looking South)

**NEAR PIER**

MODEL: SMODELNAMES  
FILE NAME: SFILES

DESIGNED - NEPHALI RIVERA-MARTINEZ  
CHECKED - TRAVIS J. SORRELL  
DRAWN - DENNIS A. POP  
CHECKED - N.R.M. / T.J.S. / G.R.A.

EXAMINED  
PASSED  
ENGINEER OF BRIDGES AND STRUCTURES

DATE - MARCH 26, 2019  
REVISED -  
REVISED -

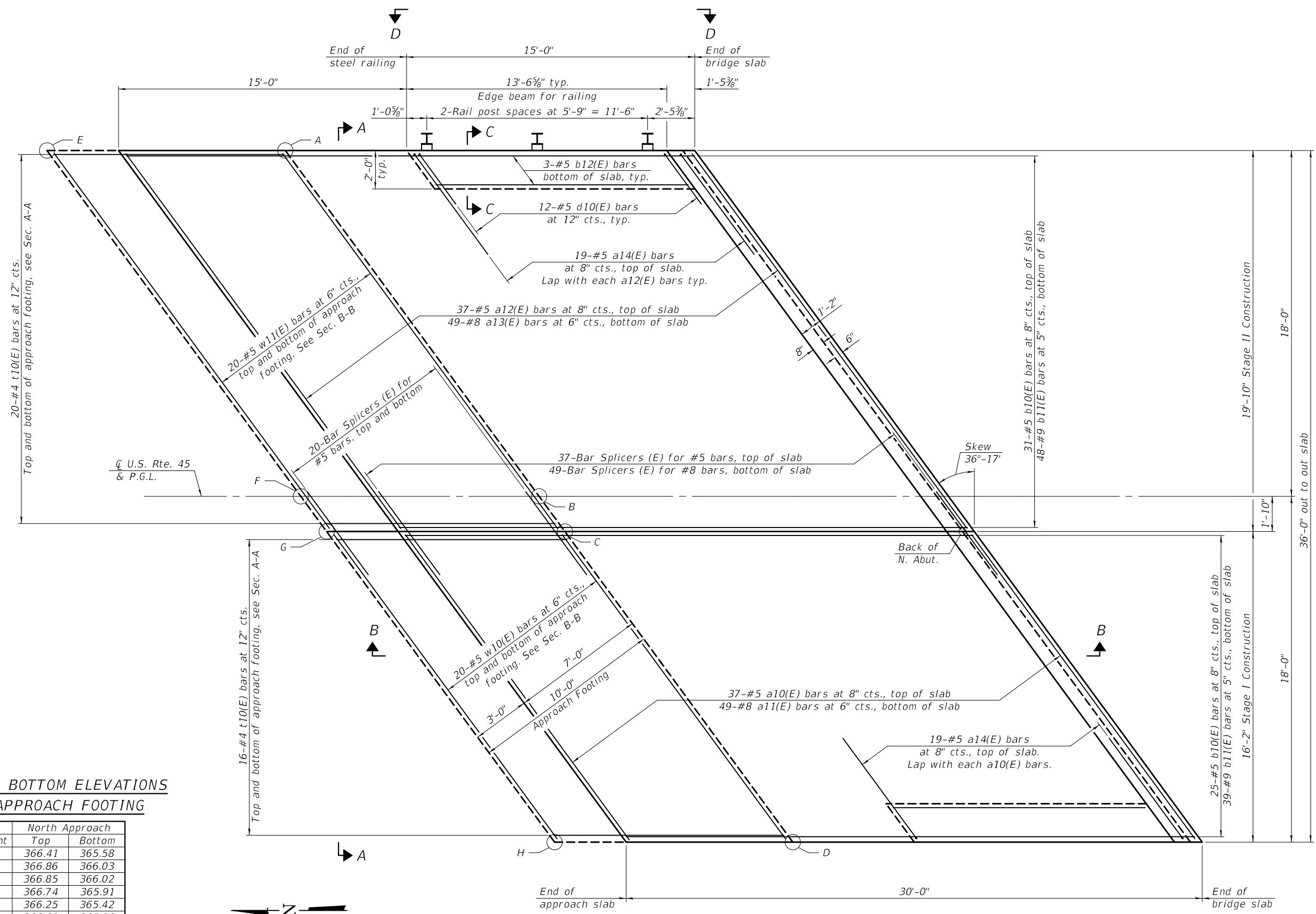
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS**  
**STRUCTURE NO. 044 - 0060**

SHEET 12 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	30
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

SDATES \$ \$TIMES



TOP AND BOTTOM ELEVATIONS  
FOR APPROACH FOOTING

Point	North Approach	
	Top	Bottom
A	366.41	365.58
B	366.86	366.03
C	366.85	366.02
D	366.74	365.91
E	366.25	365.42
F	366.69	365.86
G	366.68	365.85
H	366.60	365.77

PLAN

(Sheet 1 of 2)

MODEL: \$MODELNAME\$  
FILE NAME: \$FILEL\$

DESIGNED - NEPTALI RIVERA-MARTINEZ  
CHECKED - TRAVIS J. SORRELL  
DRAWN - DENNIS A. POP  
CHECKED - N.R.M. / T.J.S. / G.R.A.

EXAMINED  
PASSED  
ENGINEER OF BRIDGES AND STRUCTURES

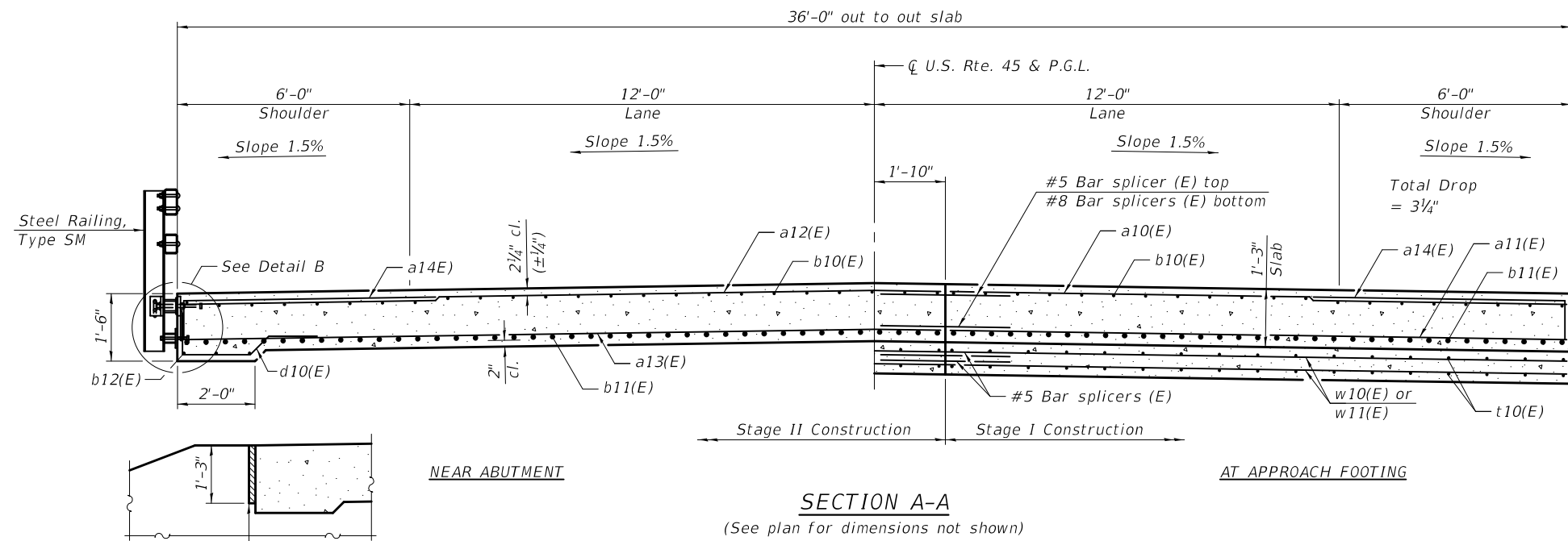
DATE - MARCH 26, 2019  
REVISIONS

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

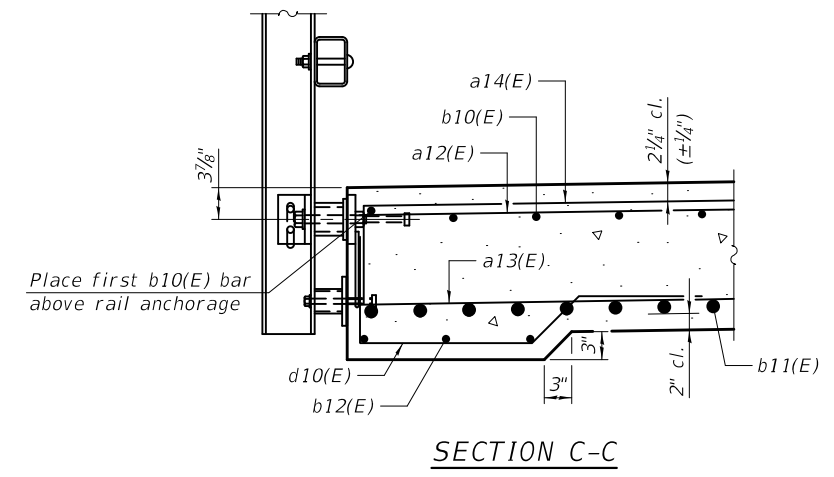
BRIDGE NORTH APPROACH SLAB DETAILS  
STRUCTURE NO. 044 - 0060

SHEET 13 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	31
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				



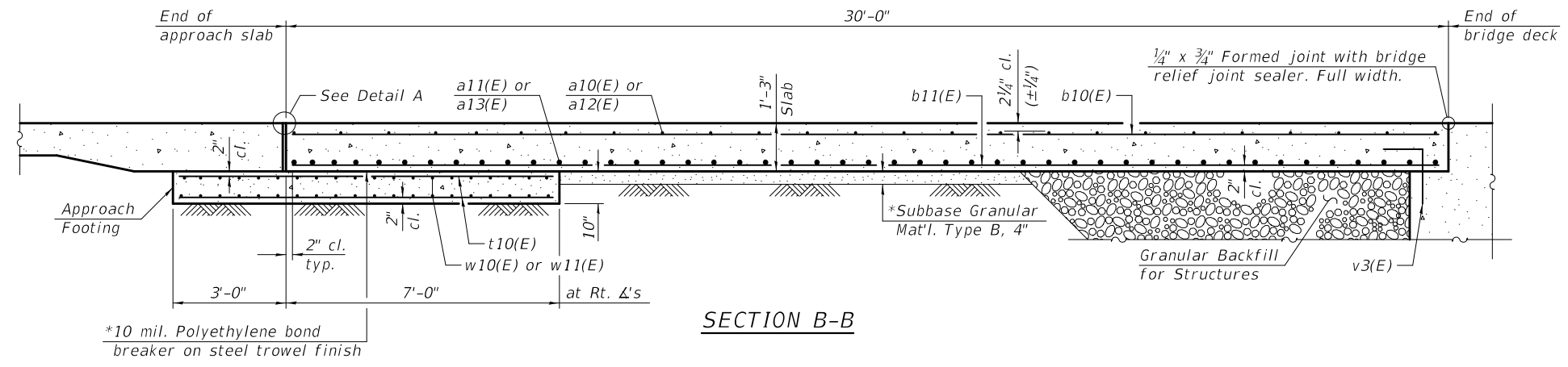
**SECTION A-A**  
(See plan for dimensions not shown)



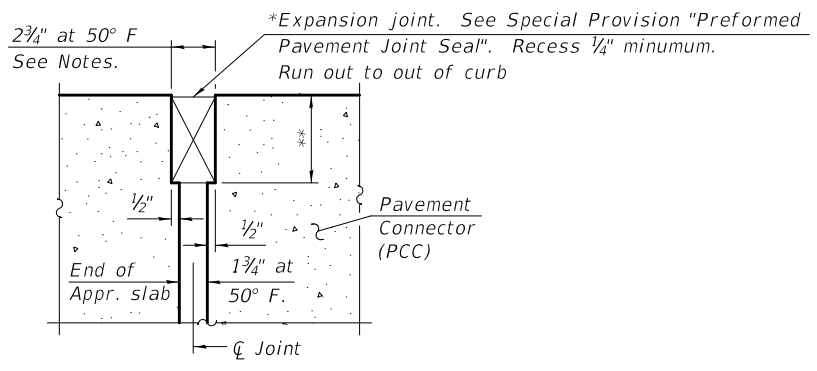
**SECTION C-C**

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.  
 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 ( $Q_{max}$ ) = 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 31.  
 For railing details, see sheet 17 of 31.

2" PJF (per Article 1051.09 of the Standard Specifications) bonded to wingwall with suitable adhesive as recommended by supplier.  
**DETAIL B**



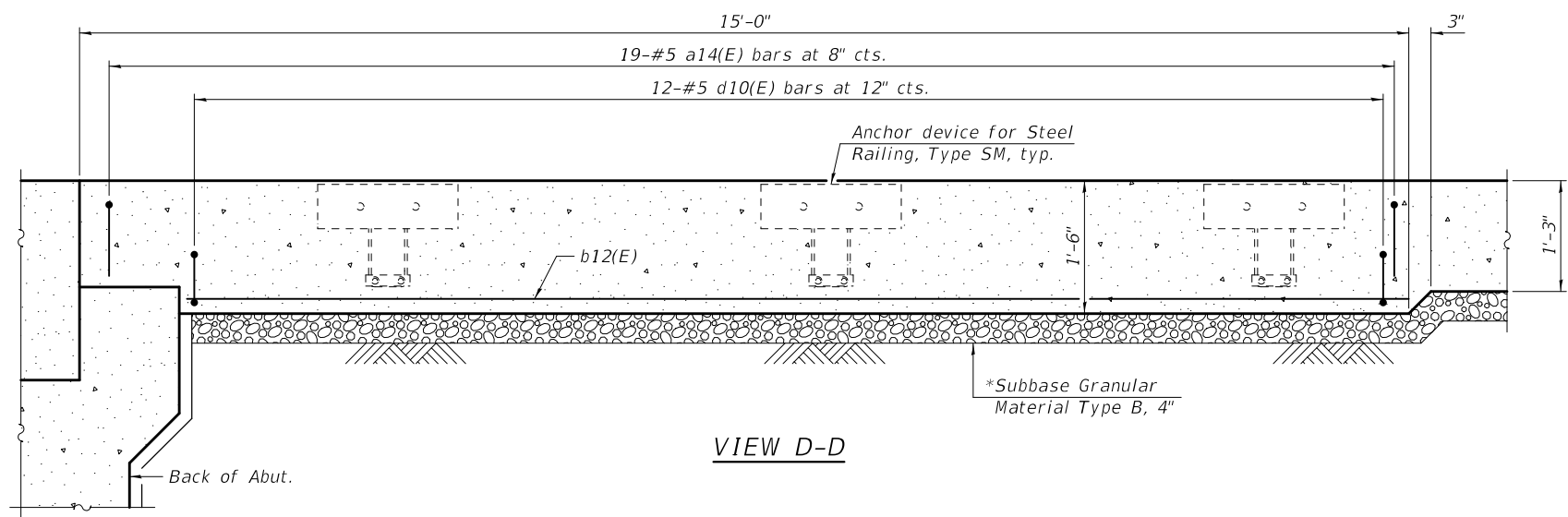
**SECTION B-B**



**DETAIL A**

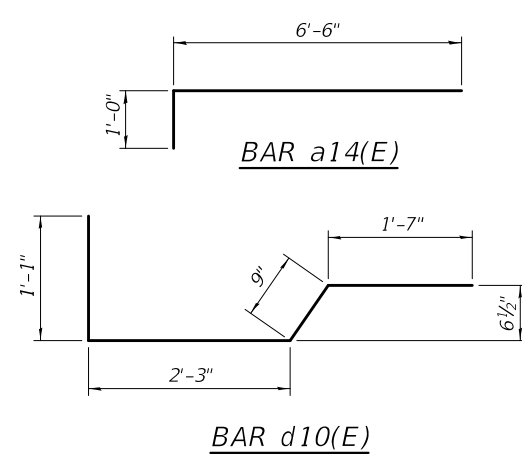
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a10(E)	37	#5	19'-9"	—
a11(E)	49	#8	19'-9"	—
a12(E)	37	#5	24'-3"	—
a13(E)	49	#8	24'-3"	—
a14(E)	38	#5	7'-6"	—
b10(E)	56	#5	29'-8"	—
b11(E)	87	#9	29'-8"	—
b12(E)	6	#5	13'-3"	—
d10(E)	24	#5	5'-8"	┘
t10(E)	72	#4	12'-1"	—
w10(E)	40	#5	19'-9"	—
w11(E)	40	#5	24'-3"	—
Concrete Superstructure (Approach Slab)		Cu. Yd.		51.0
Concrete Structures		Cu. Yd.		13.8
Reinforcement Bars, Epoxy Coated		Pound		20900



**VIEW D-D**

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



(Sheet 2 of 2)

MODEL: \$MODELNAMES  
 FILE NAME: \$FILES

DESIGNED - NEPTALI RIVERA-MARTINEZ	EXAMINED - <i>Joanne F. Joffe</i>	DATE - MARCH 26, 2019
CHECKED - TRAVIS J. SORRELL	PASSED - <i>Carl Perry</i>	REVISOR -
DRAWN - DENNIS A. POP	ENGINEER OF BRIDGES AND STRUCTURES	REVISOR -
CHECKED - N.R.M. / T.J.S. / G.R.A.		

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

**BRIDGE NORTH APPROACH SLAB DETAILS**  
**STRUCTURE NO. 044 - 0060**

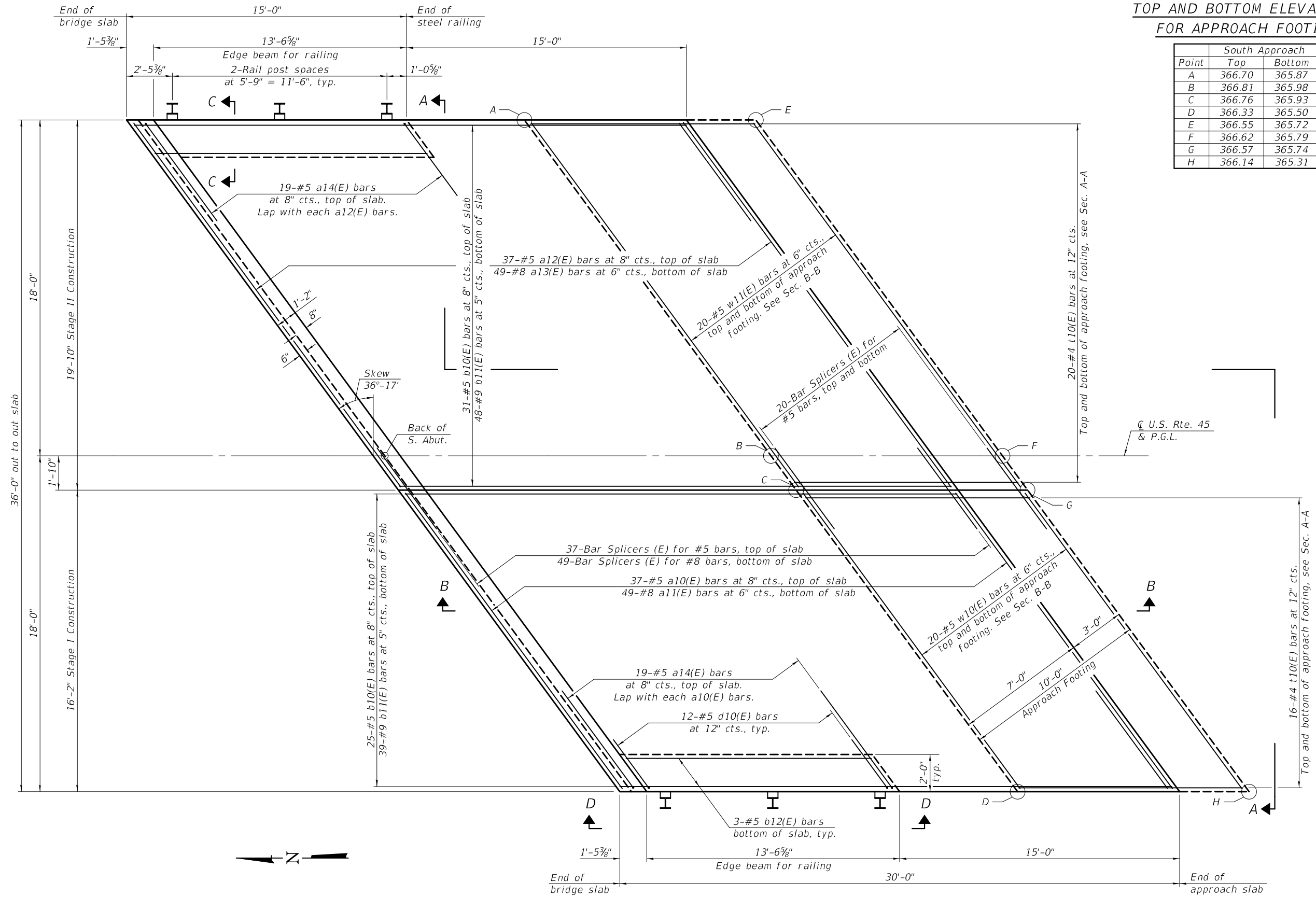
SHEET 14 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	32
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				



TOP AND BOTTOM ELEVATIONS  
FOR APPROACH FOOTING

Point	South Approach	
	Top	Bottom
A	366.70	365.87
B	366.81	365.98
C	366.76	365.93
D	366.33	365.50
E	366.55	365.72
F	366.62	365.79
G	366.57	365.74
H	366.14	365.31



PLAN

(Sheet 1 of 2)

MODEL: \$MODEL\$  
FILE NAME: \$FILE\$

DESIGNED - NEPTALI RIVERA-MARTINEZ  
CHECKED - TRAVIS J. SORRELL  
DRAWN - DENNIS A. POP  
CHECKED - N.R.M. / T.J.S. / G.R.A.

EXAMINED  
PASSED  
ENGINEER OF BRIDGES AND STRUCTURES

DATE - MARCH 26, 2019  
REVISED -  
REVISED -

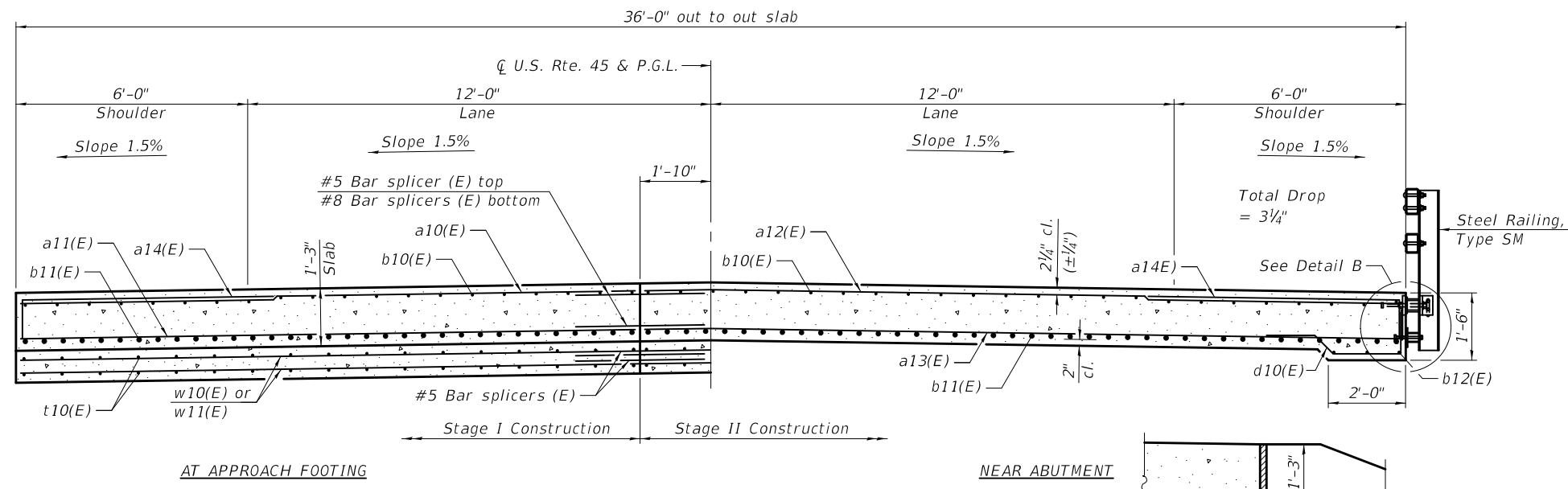
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BRIDGE SOUTH APPROACH SLAB DETAILS  
STRUCTURE NO. 044 - 0060

SHEET 15 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	33
CONTRACT NO. 78029				
ILLINOIS		FED. AID PROJECT		

\$DATE\$ \$TIME\$

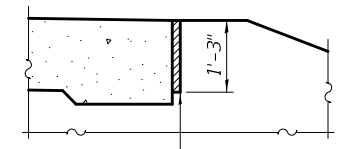


AT APPROACH FOOTING

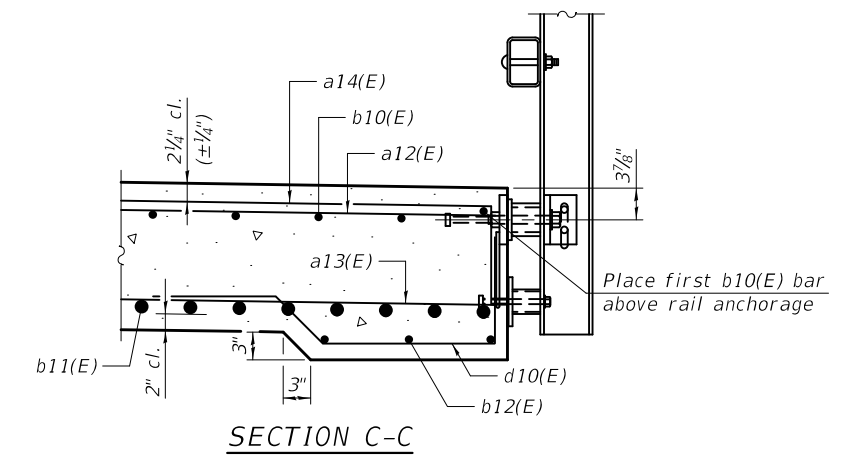
**SECTION A-A**

(See plan for dimensions not shown)

NEAR ABUTMENT



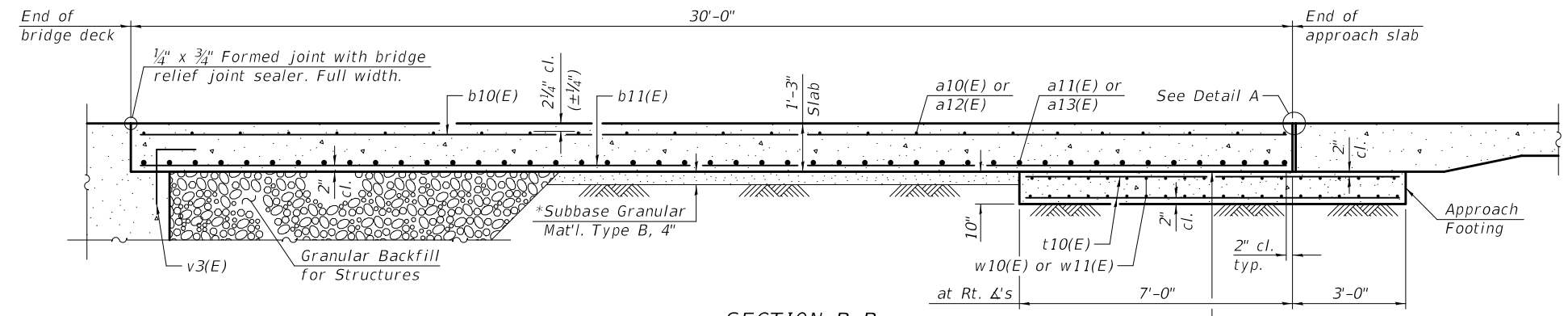
**DETAIL B**



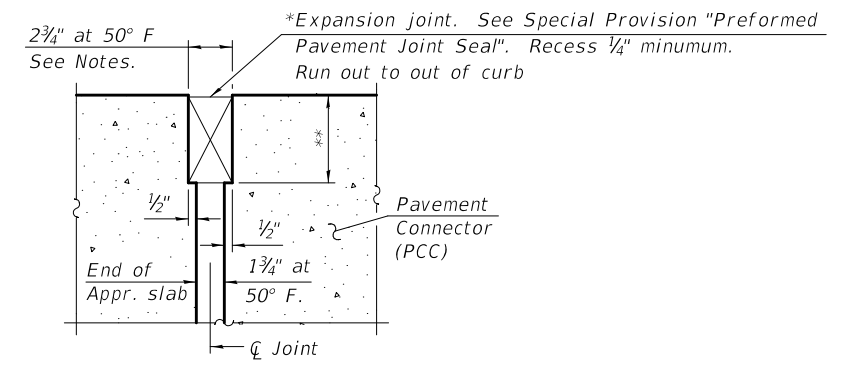
**SECTION C-C**

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.  
 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 (Qmax) = 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 31.  
 For railing details, see sheet 17 of 31.



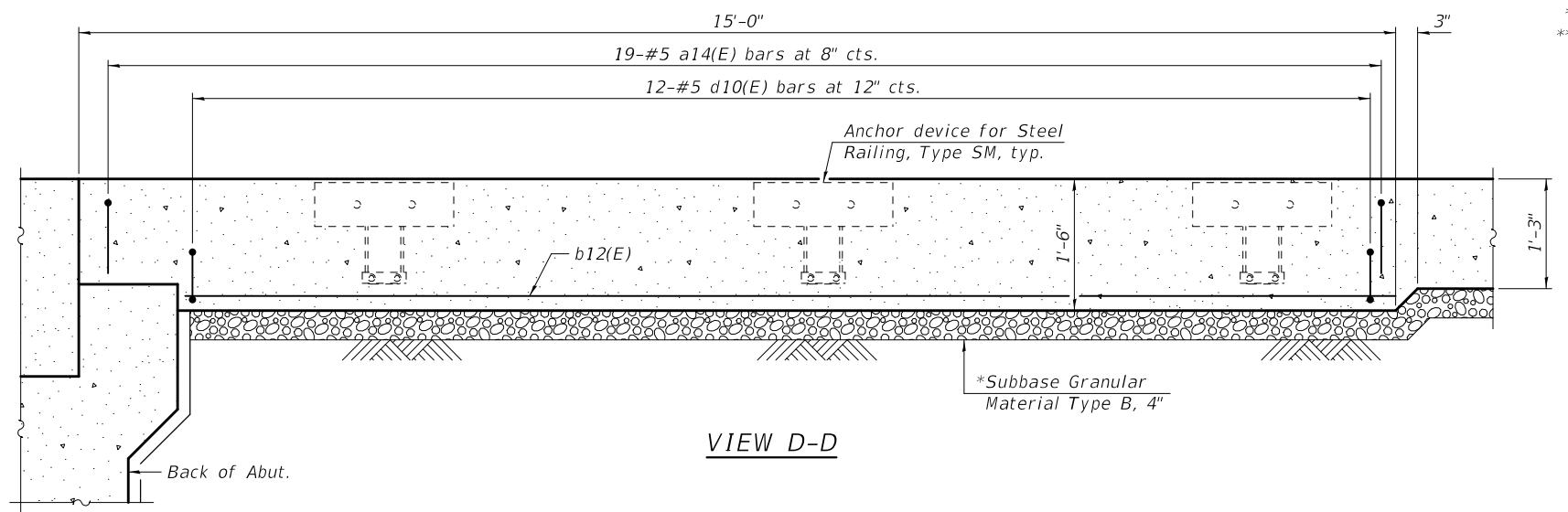
**SECTION B-B**



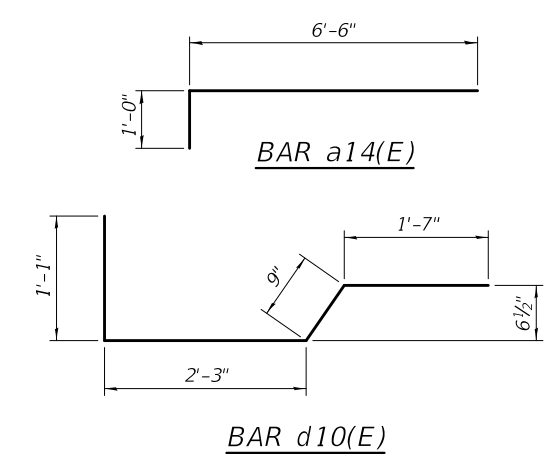
**DETAIL A**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a10(E)	37	#5	19'-9"	—
a11(E)	49	#8	19'-9"	—
a12(E)	37	#5	24'-3"	—
a13(E)	49	#8	24'-3"	—
a14(E)	38	#5	7'-6"	—
b10(E)	56	#5	29'-8"	—
b11(E)	87	#9	29'-8"	—
b12(E)	6	#5	13'-3"	—
d10(E)	24	#5	5'-8"	┘
t10(E)	72	#4	12'-1"	—
w10(E)	40	#5	19'-9"	—
w11(E)	40	#5	24'-3"	—
Concrete Superstructure (Approach Slab)		Cu. Yd.		51.0
Concrete Structures		Cu. Yd.		13.8
Reinforcement Bars, Epoxy Coated		Pound		20900



**VIEW D-D**



(Sheet 2 of 2)

MODEL: SMOELNAMES  
FILE NAME: SFILELS

DESIGNED - NEPTALI RIVERA-MARTINEZ  
 CHECKED - TRAVIS J. SORRELL  
 DRAWN - DENNIS A. POP  
 CHECKED - N.R.M. / T.J.S. / G.R.A.

EXAMINED  
 PASSED  
 ENGINEER OF BRIDGES AND STRUCTURES

DATE - MARCH 26, 2019  
 REVISED -  
 REVISED -

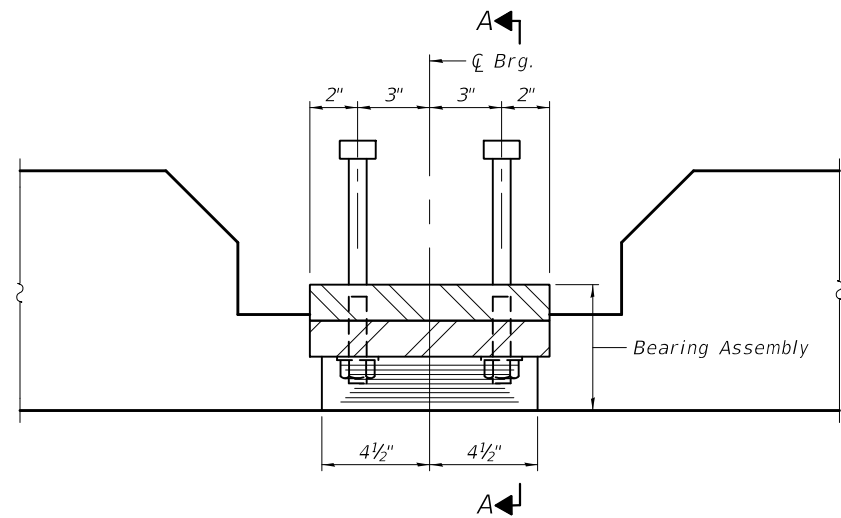
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BRIDGE SOUTH APPROACH SLAB DETAILS  
 STRUCTURE NO. 044 - 0060

SHEET 16 OF 31 SHEETS

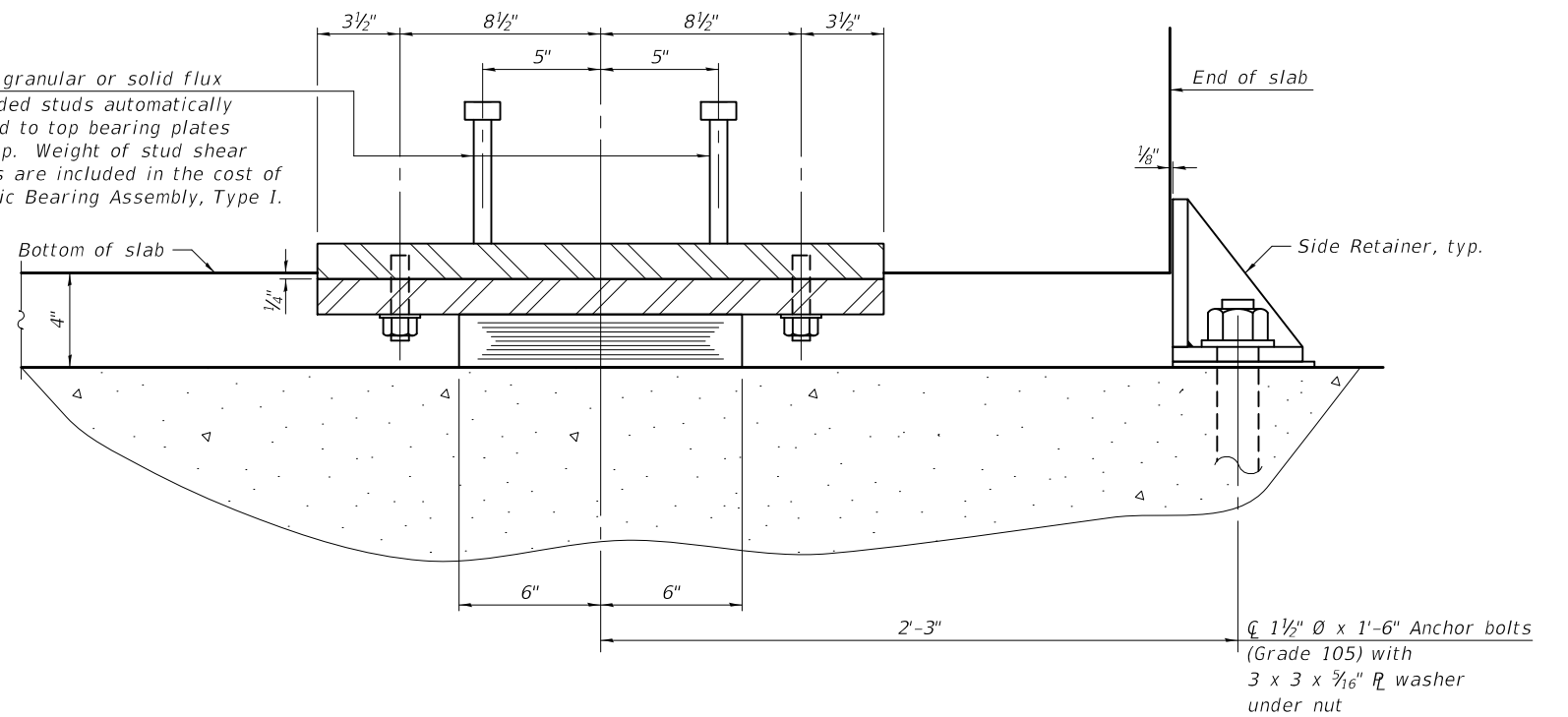
F.A.S. RTE. SECTION COUNTY TOTAL SHEETS SHEET NO.  
 960 38B-1 JOHNSON 55 34  
 CONTRACT NO. 78029  
 ILLINOIS FED. AID PROJECT





ELEVATION AT PIER

3/4" Ø x 6" granular or solid flux filled headed studs automatically end welded to top bearing plates in the shop. Weight of stud shear connectors are included in the cost of Elastomeric Bearing Assembly, Type I.



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

Notes:

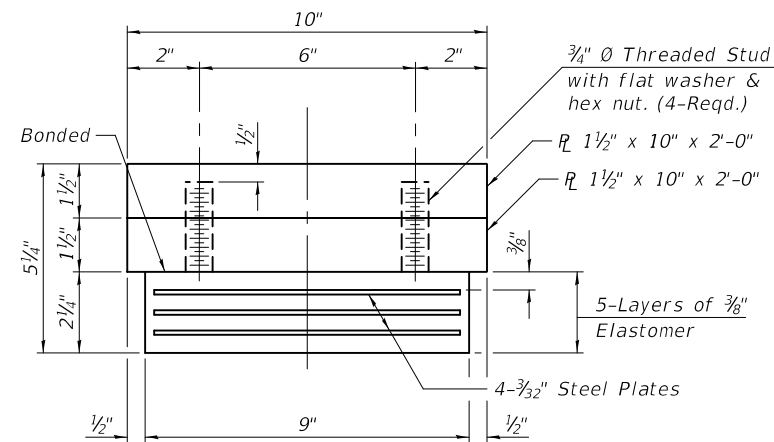
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

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

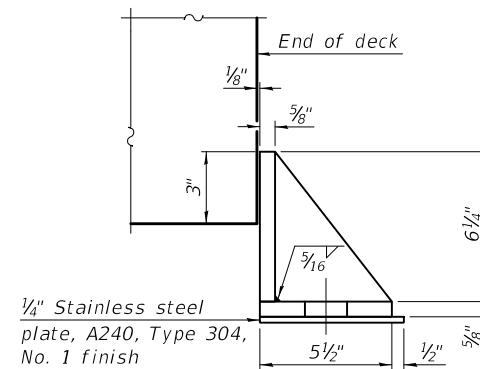
Anchor bolts for side retainers may be cast in place or installed in holes drilled after the deck slab is in place.

All embedded and separate bearing plates, side retainers, anchor bolts, nuts and washers shall be galvanized after shop fabrication according to AASHTO M111.

The structural steel plates of the bearing assembly shall conform to the requirements of AASHTO M270, Grade36.

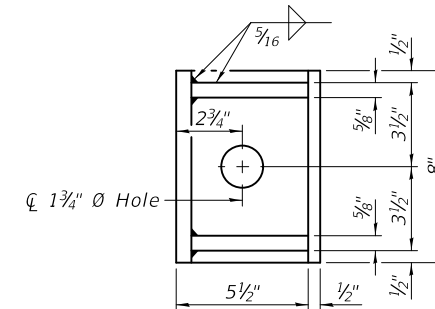


BEARING ASSEMBLY



SIDE RETAINER

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



BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	18
Anchor Bolts, 1 1/2"	Each	4

MODEL: \$MODELNAMES  
FILE NAME: \$FILES

DESIGNED - NEPTALI RIVERA-MARTINEZ  
CHECKED - TRAVIS J. SORRELL  
DRAWN - DENNIS A. POP  
CHECKED - N.R.M. / T.J.S. / G.R.A.

EXAMINED  
PASSED  
ENGINEER OF BRIDGES AND STRUCTURES

DATE - MARCH 26, 2019  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

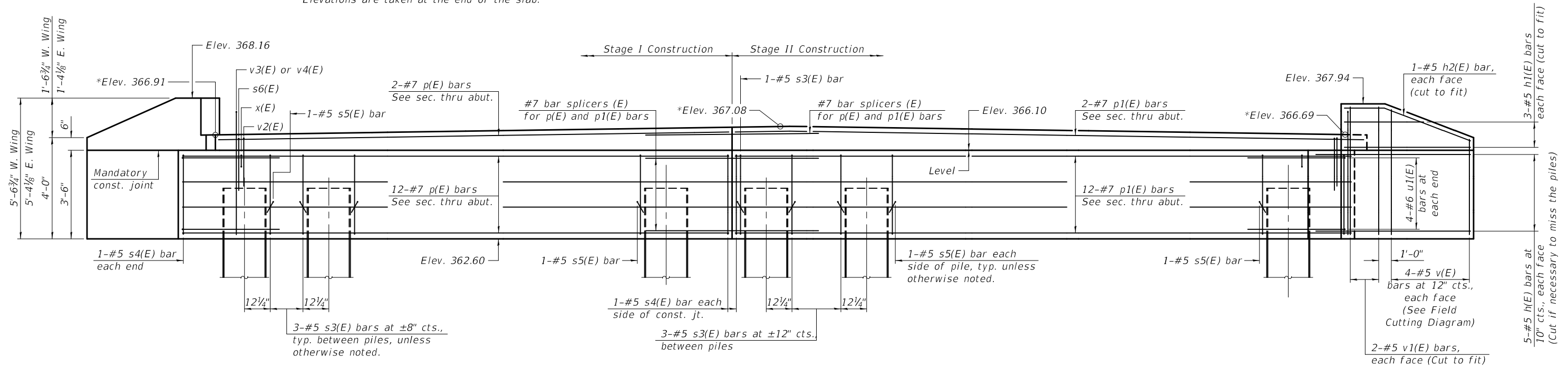
BEARING DETAILS  
STRUCTURE NO. 044 - 0060

SHEET 18 OF 31 SHEETS

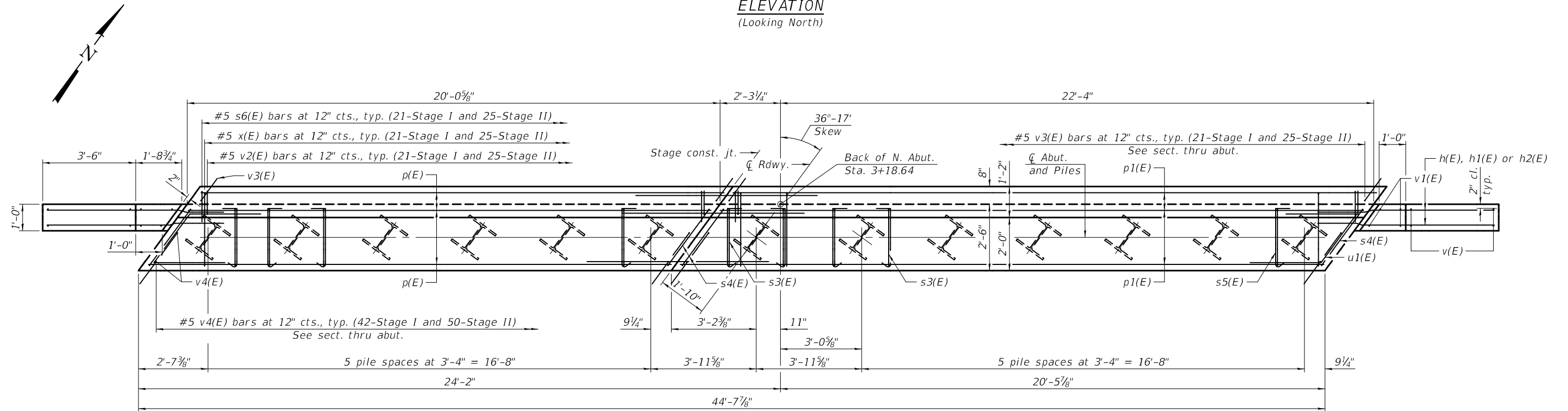
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	36
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

SDATE\$ \$TIMES\$

\*Elevations are taken at the end of the slab.



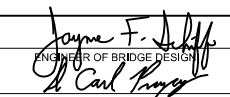
**ELEVATION**  
(Looking North)



**PLAN**

MODEL: \$MODELNAME\$  
FILE NAME: \$FILES\$

DESIGNED -	NEPHTALI RIVERA-MARTINEZ
CHECKED -	TRAVIS J. SORRELL
DRAWN -	DENNIS A. POP
CHECKED -	N.R.M. / T.J.S. / G.R.A.

EXAMINED	 ENGINEER OF BRIDGE DESIGN
PASSED	
ENGINEER OF BRIDGES AND STRUCTURES	

DATE -	MARCH 26, 2019
REVISED -	
REVISED -	

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

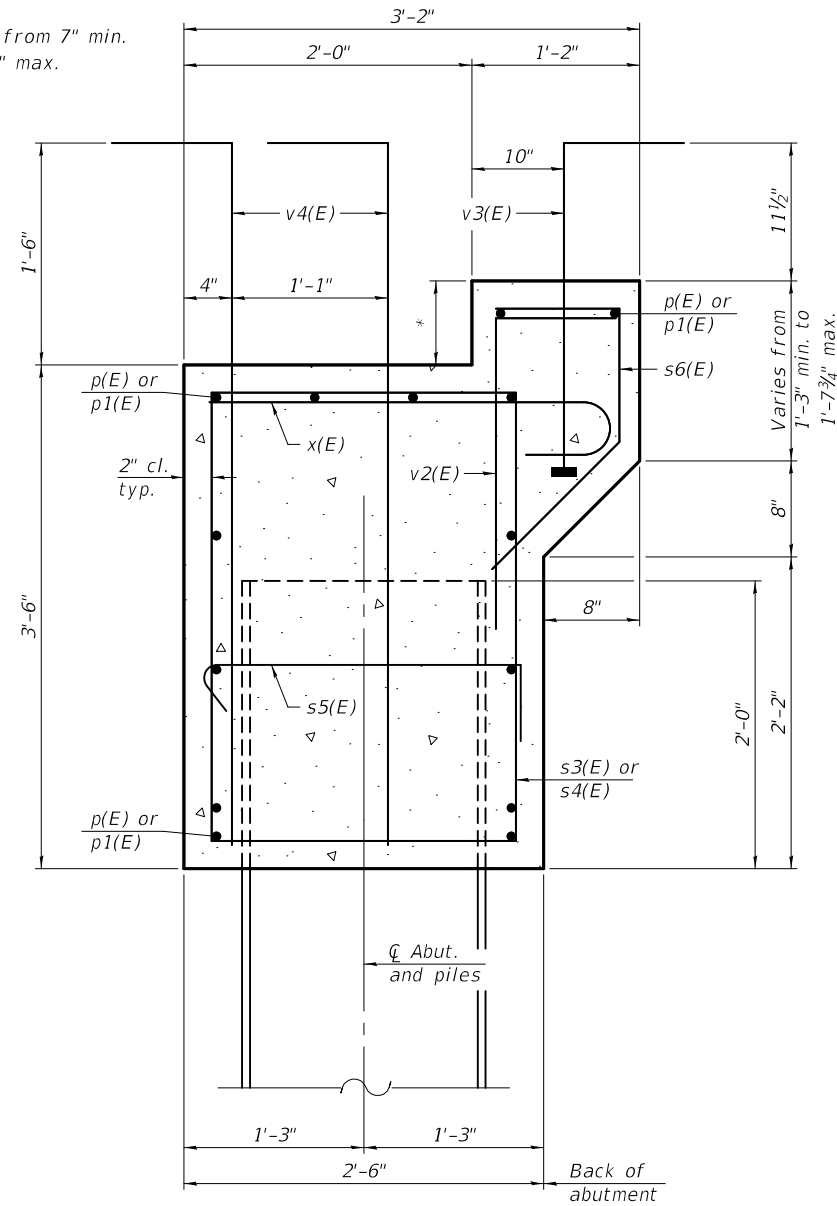
**NORTH ABUTMENT**  
**STRUCTURE NO. 044 - 0060**

SHEET 19 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	37
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

\$DATE\$ \$TIME\$

\* Varies from 7" min. to 11 3/4" max.

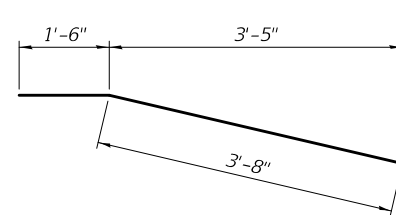


**SECT. THRU ABUT.**

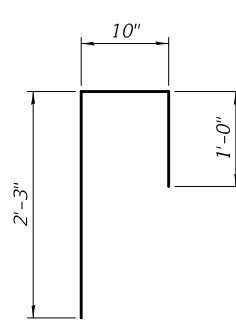
Dimensions at right angles to abutment.

**PILE DATA**

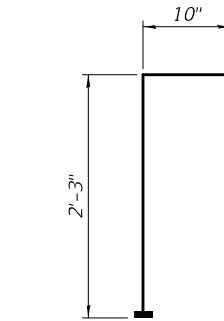
Type: HP14x117  
 Nominal Required Bearing: 929 kips  
 Factored Resistance Available: 511 kips  
 Est. Length: 46 feet  
 No. Production Piles: 13



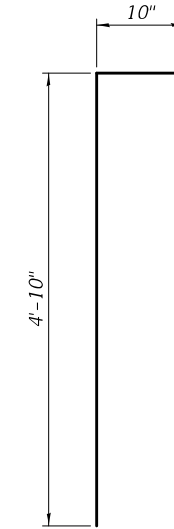
**BAR h2(E)**



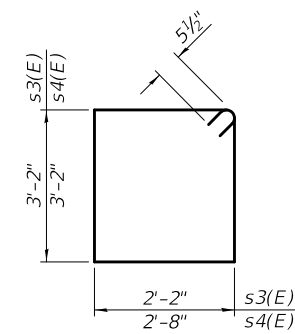
**BAR v2(E)**



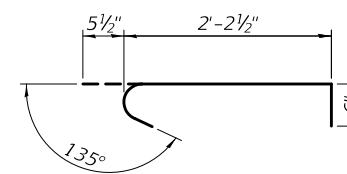
**HEADED BAR v3(E)**



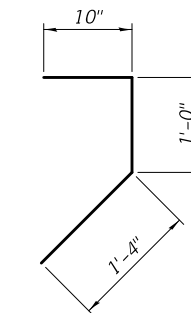
**BAR v4(E)**



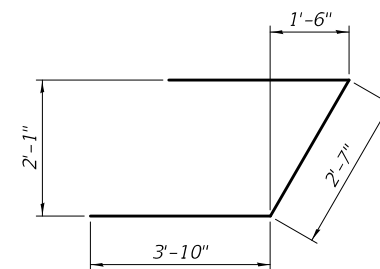
**BAR s3(E) & s4(E)**



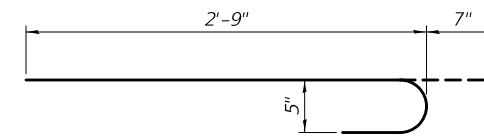
**BAR s5(E)**



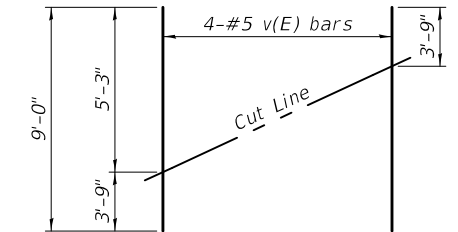
**BAR s6(E)**



**BAR u1(E)**



**BAR x(E)**



**FIELD CUTTING DIAGRAM**

Order v(E) full length. Cut as shown and use remainder of bars in opposite face.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	20	#5	7'-8"	—
h1(E)	12	#5	4'-11"	—
h2(E)	4	#5	5'-2"	—
p(E)	14	#7	19'-8"	—
p1(E)	14	#7	24'-3"	—
s3(E)	34	#5	11'-7"	⌊
s4(E)	4	#5	12'-7"	⌊
s5(E)	23	#5	3'-2"	⌋
s6(E)	46	#5	3'-2"	⌋
u1(E)	8	#6	10'-3"	⌋
v(E)	8	#5	9'-0"	—
v1(E)	8	#5	5'-3"	—
v2(E)	46	#5	4'-1"	⌋
v3(E)	46	#5	3'-1"	⌋
v4(E)	92	#5	5'-8"	⌋
x(E)	46	#5	3'-4"	⌋
Structure Excavation			Cu. Yd.	97
Concrete Structures			Cu. Yd.	19.4
Reinforcement Bars, Epoxy Coated			Pound	3480
Furnishing - Piles, HP14x117			Foot	598
Driving Piles			Foot	598

For details of piles see sheet 27 of 31.

MODEL: \$MODELNAMES  
 FILE NAME: \$FILES

DESIGNED - NEPTALI RIVERA-MARTINEZ  
 CHECKED - TRAVIS J. SORRELL  
 DRAWN - DENNIS A. POP  
 CHECKED - N.R.M. / T.J.S. / G.R.A.

EXAMINED  
 PASSED  
 ENGINEER OF BRIDGES AND STRUCTURES

DATE - MARCH 26, 2019  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

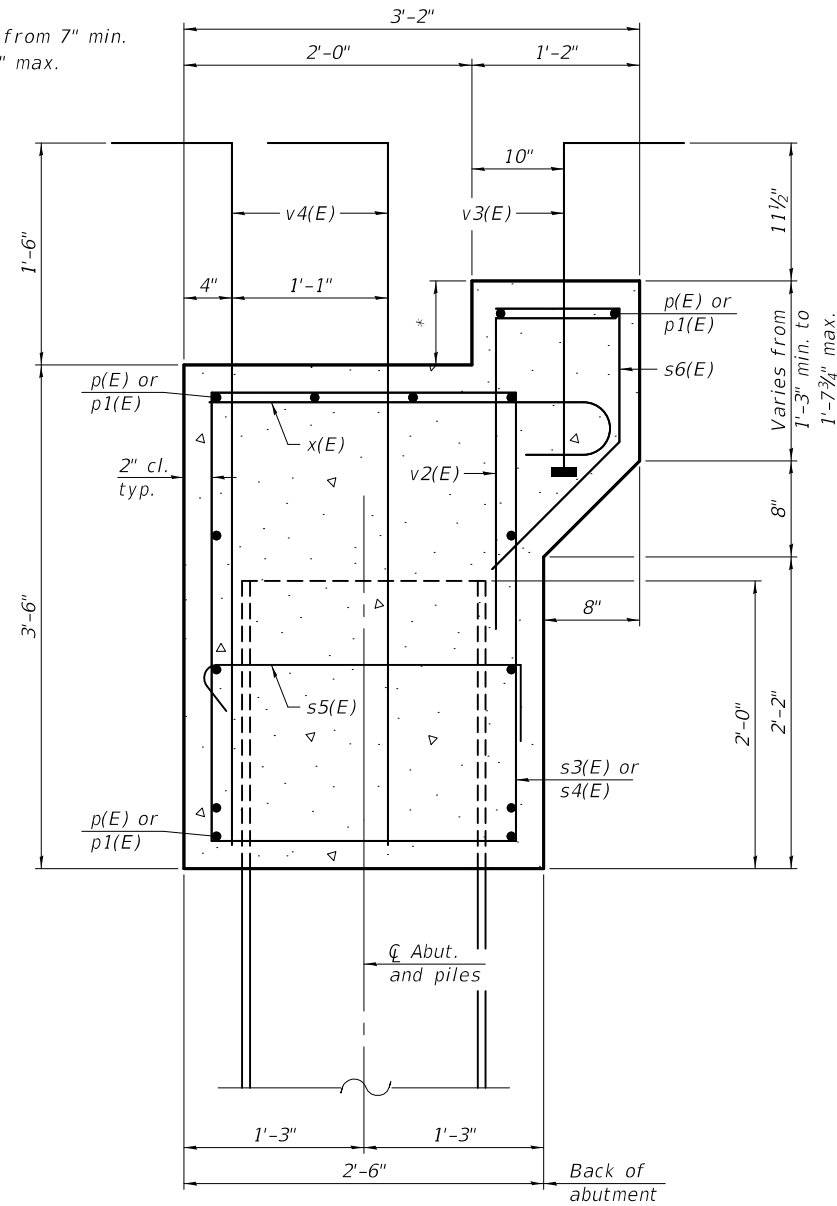
NORTH ABUTMENT DETAILS  
 STRUCTURE NO. 044 - 0060

SHEET 20 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	38
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				



\* Varies from 7" min. to 11 3/4" max.

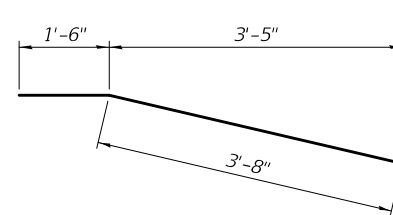


**SECT. THRU ABUT.**

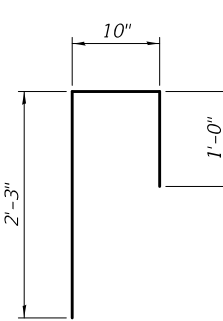
Dimensions at right angles to abutment.

**PILE DATA**

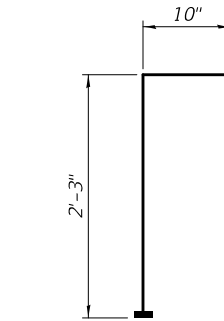
Type: HP14x117  
 Nominal Required Bearing: 929 kips  
 Factored Resistance Available: 511 kips  
 Est. Length: 51 feet  
 No. Production Piles: 13



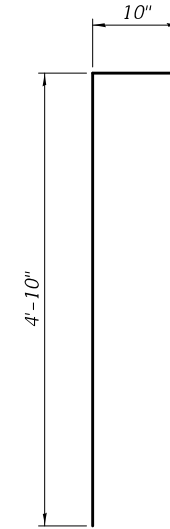
**BAR h2(E)**



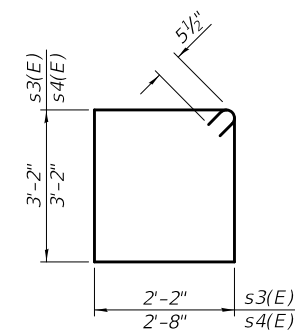
**BAR v2(E)**



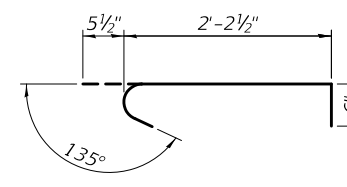
**HEADED BAR v3(E)**



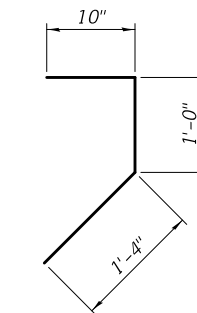
**BAR v4(E)**



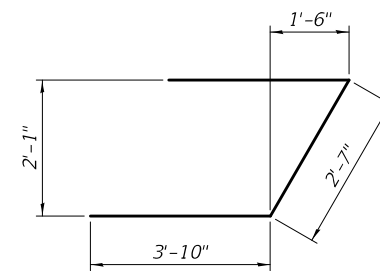
**BAR s3(E) & s4(E)**



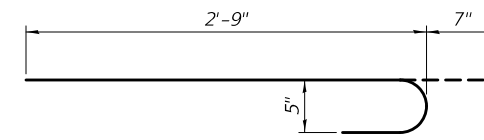
**BAR s5(E)**



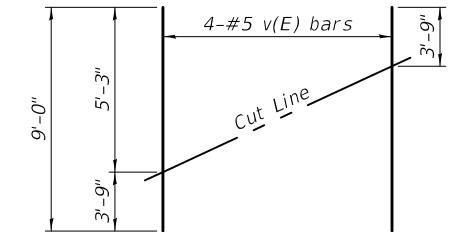
**BAR s6(E)**



**BAR u1(E)**



**BAR x(E)**



**FIELD CUTTING DIAGRAM**

Order v(E) full length. Cut as shown and use remainder of bars in opposite face.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	20	#5	7'-8"	—
h1(E)	12	#5	4'-11"	—
h2(E)	4	#5	5'-2"	—
p(E)	14	#7	19'-8"	—
p1(E)	14	#7	24'-3"	—
s3(E)	34	#5	11'-7"	□
s4(E)	4	#5	12'-7"	□
s5(E)	23	#5	3'-2"	┌
s6(E)	46	#5	3'-2"	└
u1(E)	8	#6	10'-3"	└
v(E)	8	#5	9'-0"	—
v1(E)	8	#5	5'-3"	—
v2(E)	46	#5	4'-1"	└
v3(E)	46	#5	3'-1"	└
v4(E)	92	#5	5'-8"	└
x(E)	46	#5	3'-4"	└
Structure Excavation		Cu. Yd.	97	
Concrete Structures		Cu. Yd.	19.4	
Reinforcement Bars, Epoxy Coated		Pound	3480	
Furnishing - Piles, HP14x117		Foot	663	
Driving Piles		Foot	663	

For details of piles see sheet 27 of 31.

MODEL: \$MODELNAME\$  
 FILE NAME: \$FILES\$

DESIGNED - NEPTALI RIVERA-MARTINEZ  
 CHECKED - TRAVIS J. SORRELL  
 DRAWN - DENNIS A. POP  
 CHECKED - N.R.M. / T.J.S. / G.R.A.

EXAMINED  
 PASSED  
 ENGINEER OF BRIDGES AND STRUCTURES

DATE - MARCH 26, 2019  
 REVISED -  
 REVISED -

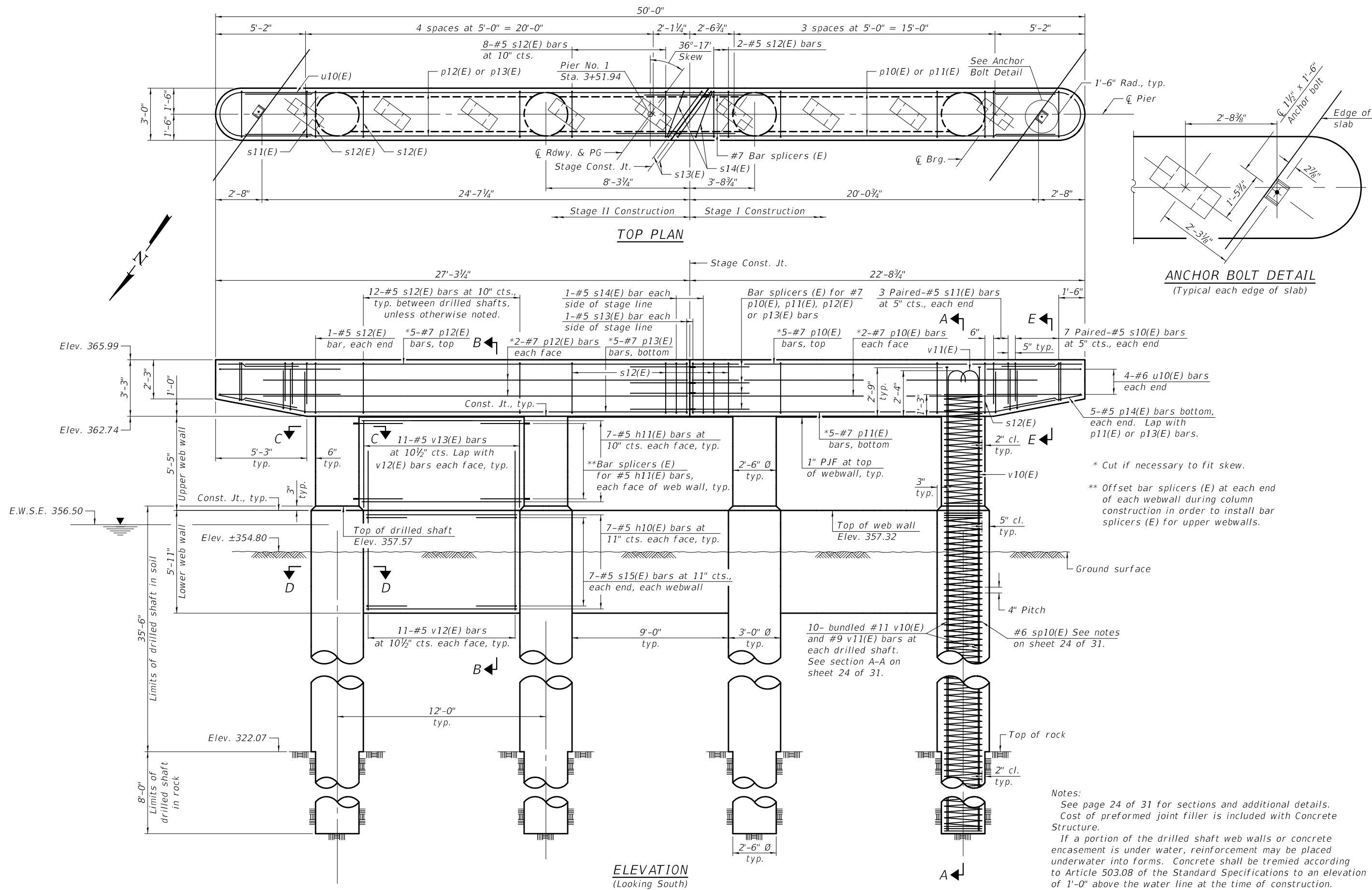
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT DETAILS  
 STRUCTURE NO. 044 - 0060

SHEET 22 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	40
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				





MODEL: \$MODEL\$  
FILE NAME: \$FILE\$

DESIGNED -	NEPHTALI RIVERA-MARTINEZ
CHECKED -	TRAVIS J. SORRELL
DRAWN -	DENNIS A. POP
CHECKED -	N.R.M. / T.J.S. / G.R.A.

EXAMINED  
PASSED

*Jaime F. Salas*  
ENGINEER OF BRIDGE DESIGN

*Carl R. ...*  
ENGINEER OF BRIDGES AND STRUCTURES

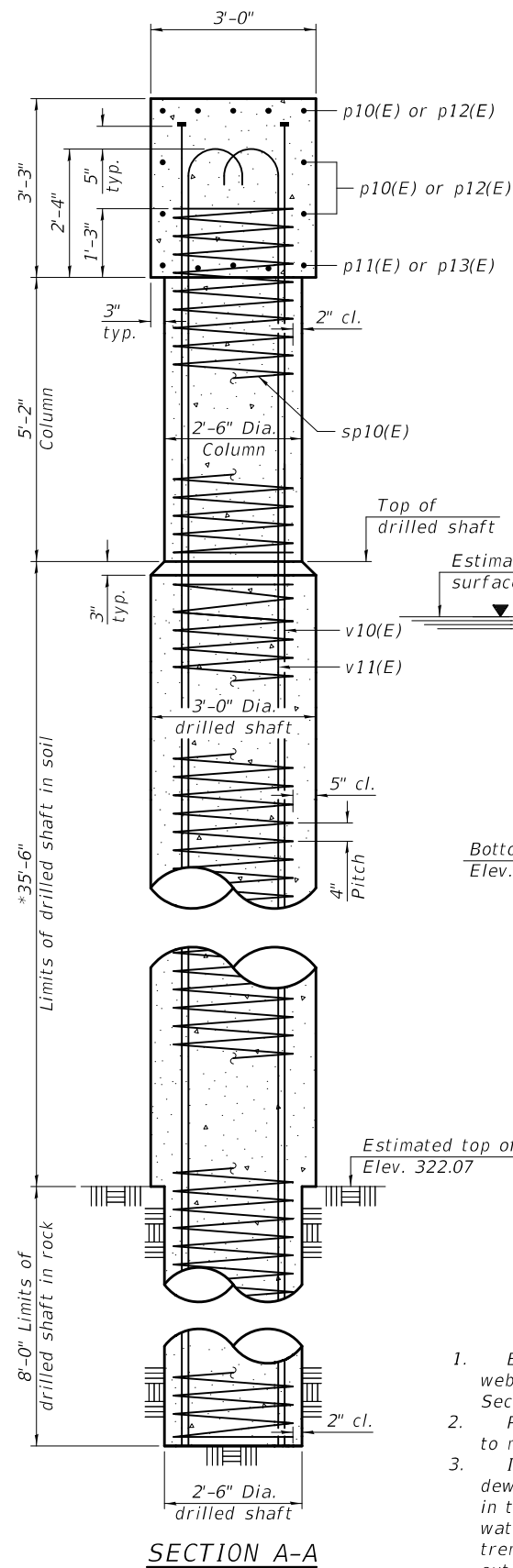
DATE -	MARCH 26, 2019
REVISED -	
REVISED -	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

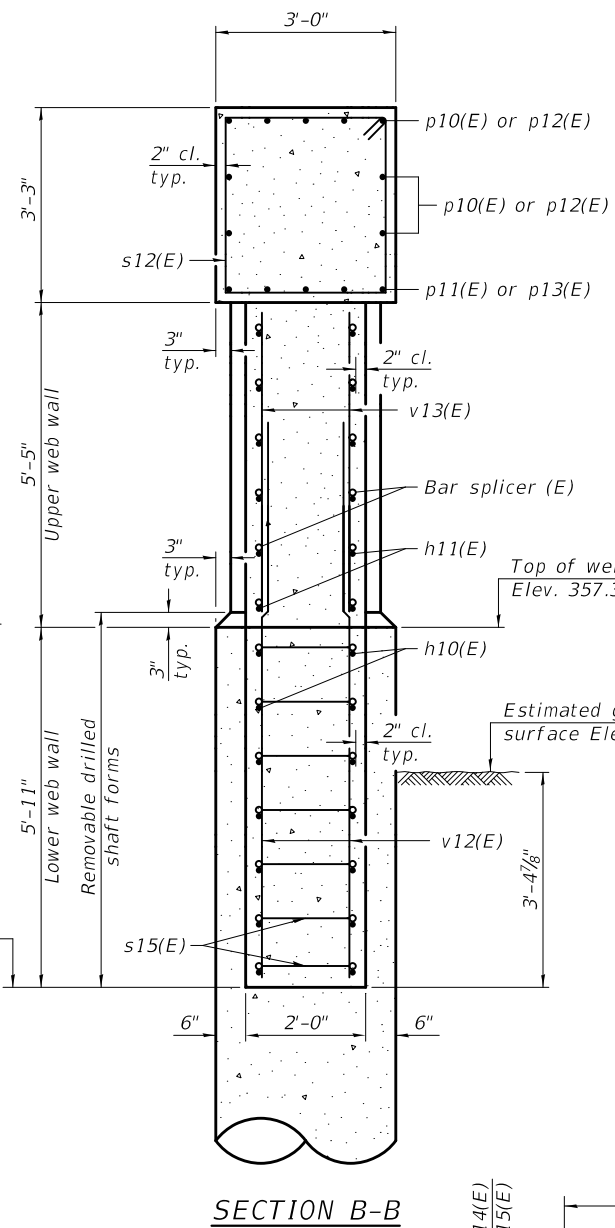
PIER NO. 1  
STRUCTURE NO. 044 - 0060

SHEET 23 OF 31 SHEETS

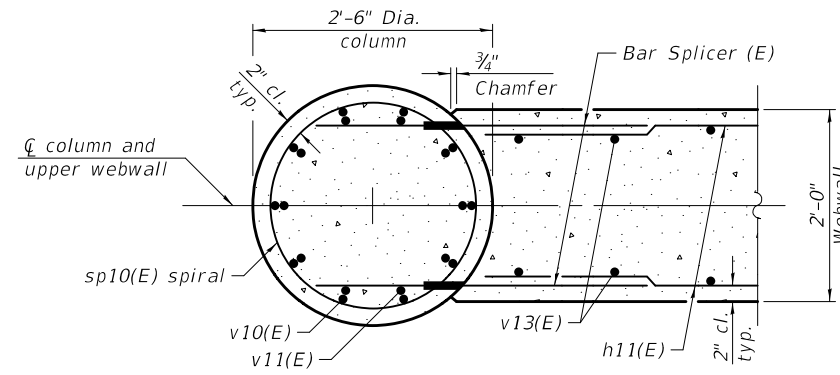
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	41
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				



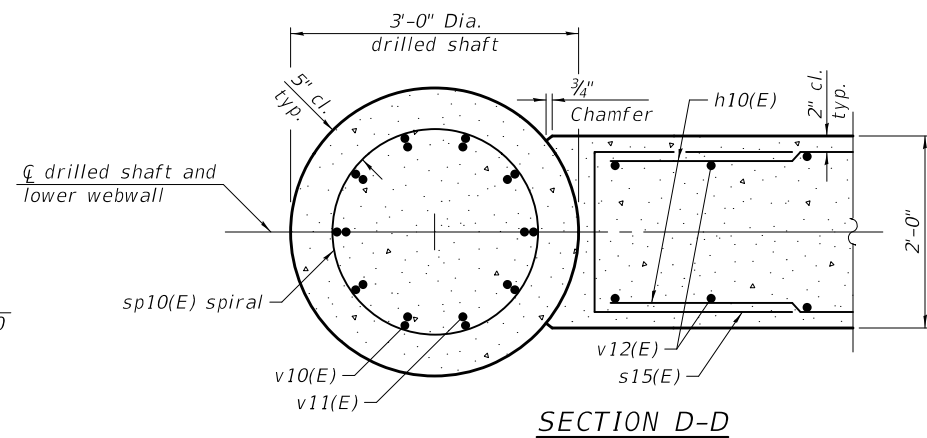
SECTION A-A



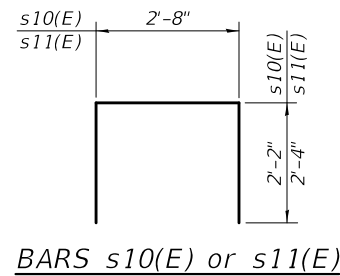
SECTION B-B



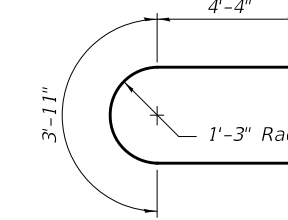
SECTION C-C



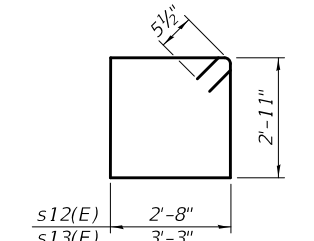
SECTION D-D



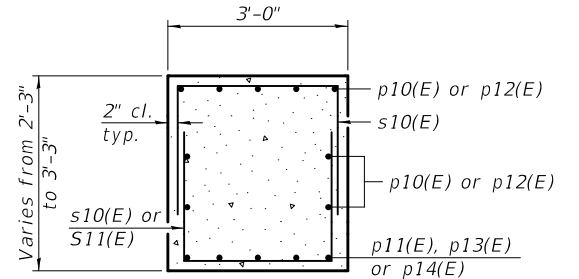
BARS s10(E) or s11(E)



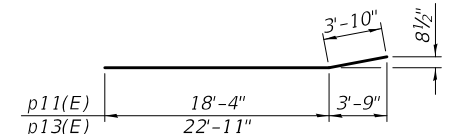
BAR u10(E)



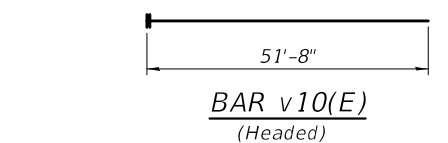
BAR s12(E) or s13(E)



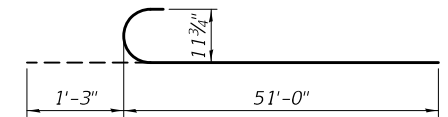
SECTION E-E



\*BAR p11(E) or p13(E)



BAR v10(E)  
(Headed)



BAR v11(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h10(E)	42	#5	8'-8"	—
h11(E)	42	#5	9'-2"	—
p10(E)	9	#7	22'-2"	—
p11(E)	5	#7	22'-2"	—
p12(E)	9	#7	26'-9"	—
p13(E)	5	#7	26'-9"	—
p14(E)	10	#5	4'-7"	—
s10(E)	28	#5	7'-0"	□
s11(E)	12	#5	7'-4"	□
s12(E)	36	#5	12'-1"	□
s13(E)	2	#5	13'-3"	□
s14(E)	2	#5	8'-5"	□
s15(E)	42	#5	8'-10"	□
** sp10(E)	4	#6	49'-11"	⋈
u10(E)	8	#6	12'-7"	U
v10(E)	40	#11	51'-8"	—
v11(E)	40	#9	52'-3"	—
v12(E)	66	#5	9'-0"	—
v13(E)	66	#5	5'-1"	—
Concrete Structures		Cu. Yd.	88.8	
Reinforcement Bars, Epoxy Coated		Pound	29400	
Drilled Shaft in Soil		Cu. Yd.	37.2	
Drilled Shaft in Rock		Cu. Yd.	5.8	

Construction Sequence for Web Wall:

- Excavate between shafts to elevation of web wall base and set lower web wall forms through water to bear on the circular edge of drilled shafts. Secure in place with fill, struts or tie forms together as required.
- Place the lower web wall reinforcement cage into the forms using spacers to maintain proper clearances.
- If the forms can be sealed against the shafts and streambed to allow dewatering, the reinforcement and the concrete placement may be completed in the dry. Alternatively, the rebar cage can be lowered into position through water and the concrete discharged at the base of the excavation through a tremie pipe or pump hose, displacing water, sediment, and tainted concrete out the top of the forms.
- Construct Columns.
- Construct upper web walls.

Notes:

Provide 1 1/2 extra turns top and bottom for #6 sp10(E) spiral. Shop weld together extra spiral turns per AWS D1.4. Provide minimum 4-#4 spacers or equivalent.

Space cap reinforcement to miss anchor bolts.

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.

\* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

\*\* Length is height of spiral.

MODEL: \$MODELNAMES  
FILE NAME: \$FILES

DESIGNED - NEPTALI RIVERA-MARTINEZ  
CHECKED - TRAVIS J. SORRELL  
DRAWN - DENNIS A. POP  
CHECKED - N.R.M. / T.J.S. / G.R.A.

EXAMINED  
PASSED

Joanne F. Joffe  
ENGINEER OF BRIDGE DESIGN  
Paul R. Rupp  
ENGINEER OF BRIDGES AND STRUCTURES

DATE - MARCH 26, 2019

REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

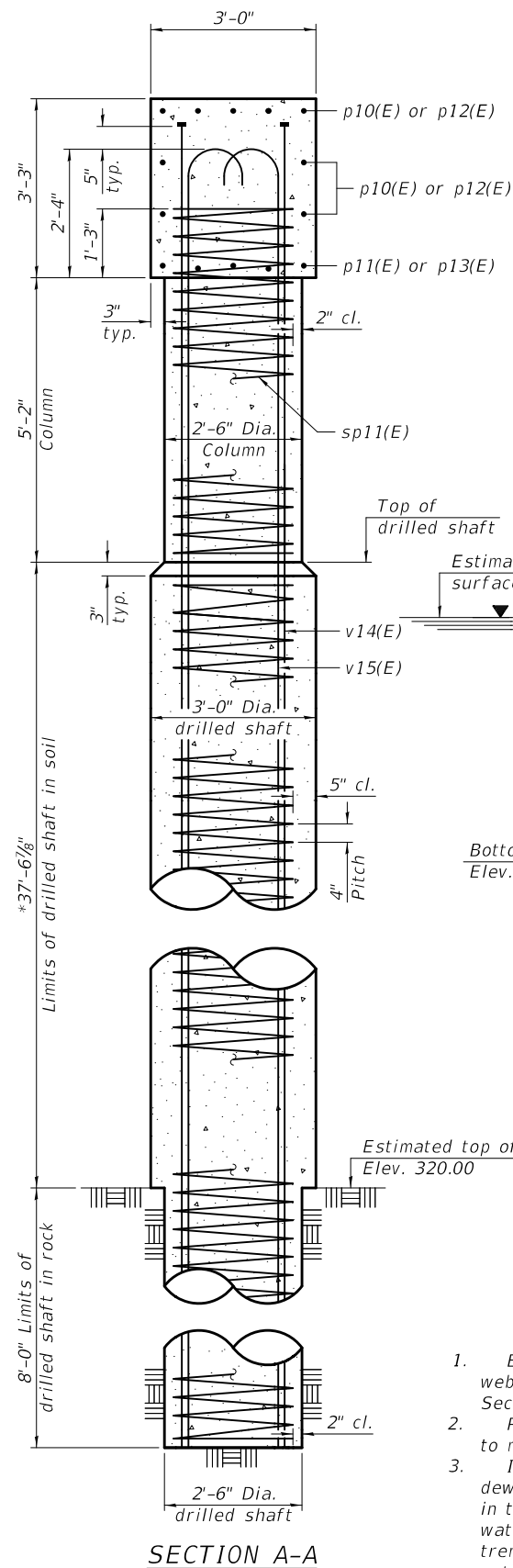
PIER NO. 1 DETAILS  
STRUCTURE NO. 044 - 0060

SHEET 24 OF 31 SHEETS

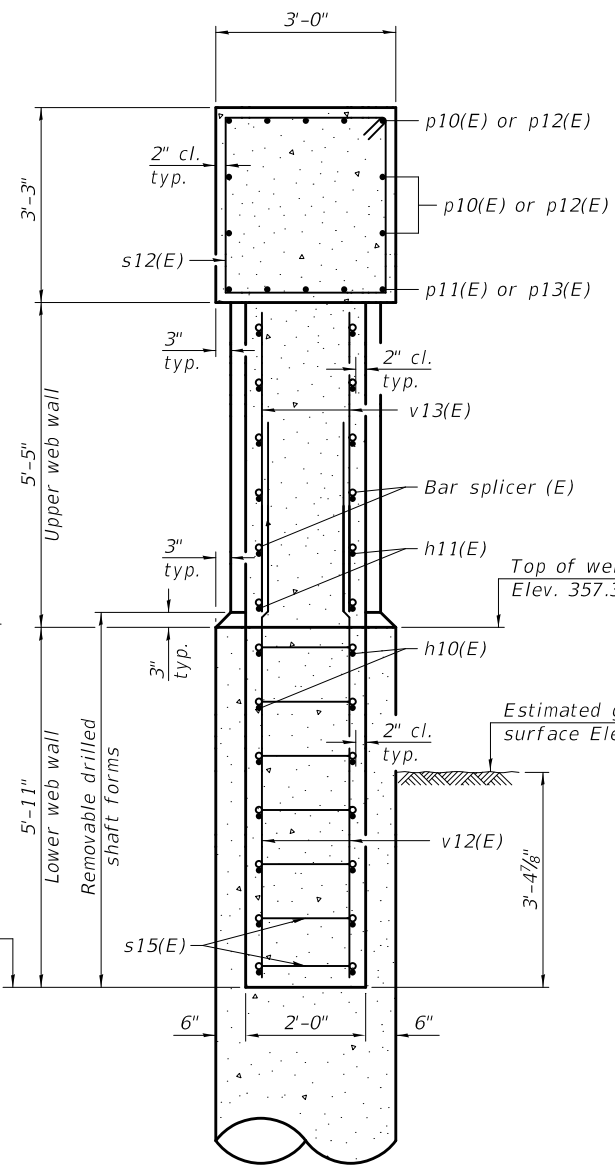
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	42
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

SDATE\$ \$TIMES\$

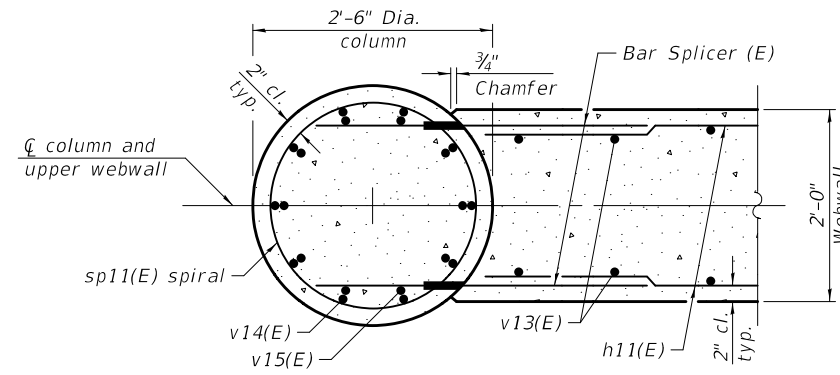




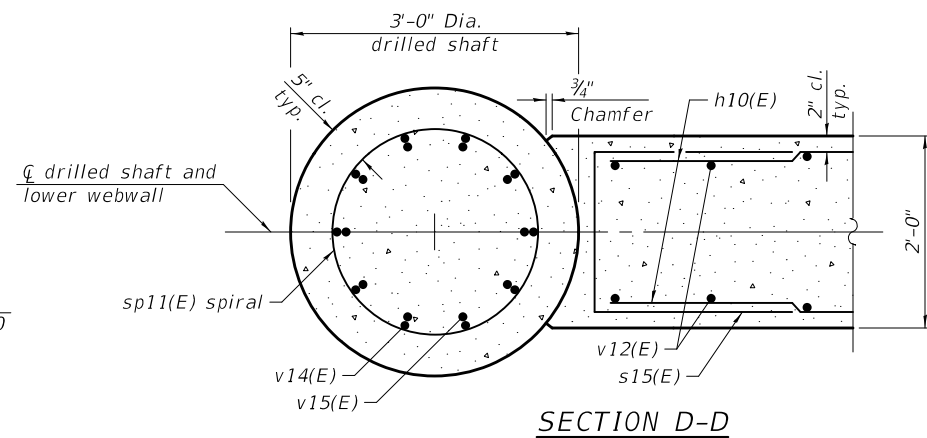
SECTION A-A



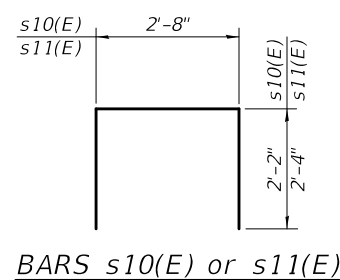
SECTION B-B



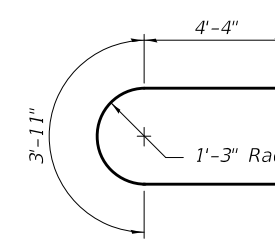
SECTION C-C



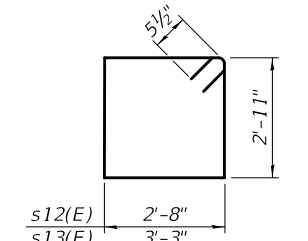
SECTION D-D



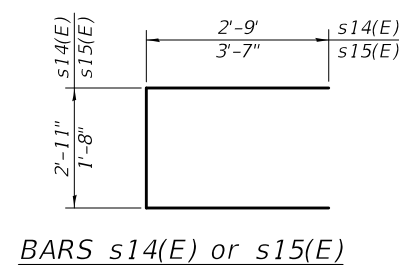
BARS s10(E) or s11(E)



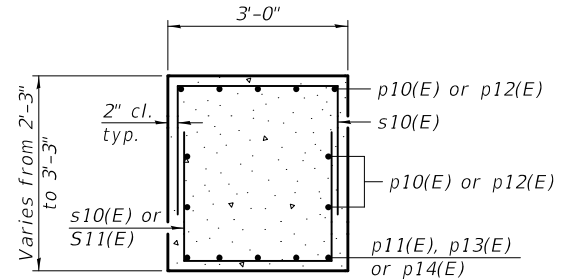
BAR u10(E)



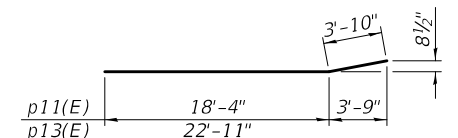
BAR s12(E) or s13(E)



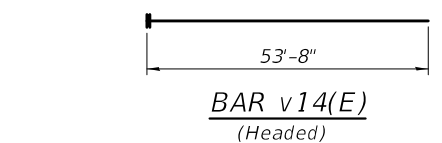
BARS s14(E) or s15(E)



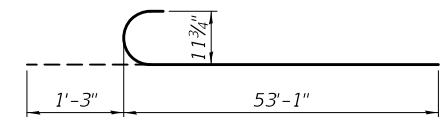
SECTION E-E



\*BAR p11(E) or p13(E)



BAR v14(E)  
(Headed)



BAR v15(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h10(E)	42	#5	8'-8"	—
h11(E)	42	#5	9'-2"	—
p10(E)	9	#7	22'-2"	—
p11(E)	5	#7	22'-2"	—
p12(E)	9	#7	26'-9"	—
p13(E)	5	#7	26'-9"	—
p14(E)	10	#5	4'-7"	—
s10(E)	28	#5	7'-0"	□
s11(E)	12	#5	7'-4"	□
s12(E)	36	#5	12'-1"	□
s13(E)	2	#5	13'-3"	□
s14(E)	2	#5	8'-5"	□
s15(E)	42	#5	8'-10"	□
sp11(E)	4	#6	52'-0"	⋈
u10(E)	8	#6	12'-7"	U
v12(E)	66	#5	9'-0"	—
v13(E)	66	#5	5'-1"	—
v14(E)	40	#11	53'-8"	—
v15(E)	40	#9	54'-4"	—
Concrete Structures		Cu. Yd.	90.9	
Reinforcement Bars, Epoxy Coated		Pound	30380	
Drilled Shaft in Soil		Cu. Yd.	39.4	
Drilled Shaft in Rock		Cu. Yd.	5.8	

Construction Sequence for Web Wall:

- Excavate between shafts to elevation of web wall base and set lower web wall forms through water to bear on the circular edge of drilled shafts. Secure in place with fill, struts or tie forms together as required.
- Place the lower web wall reinforcement cage into the forms using spacers to maintain proper clearances.
- If the forms can be sealed against the shafts and streambed to allow dewatering, the reinforcement and the concrete placement may be completed in the dry. Alternatively, the rebar cage can be lowered into position through water and the concrete discharged at the base of the excavation through a tremie pipe or pump hose, displacing water, sediment, and tainted concrete out the top of the forms.
- Construct Columns.
- Construct upper web walls.

Notes:

Provide 1 1/2 extra turns top and bottom for #6 sp11(E) spiral. Shop weld together extra spiral turns per AWS D1.4. Provide minimum 4-#4 spacers or equivalent.

Space cap reinforcement to miss anchor bolts.

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.

\* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

\*\* Length is height of spiral.

MODEL: \$MODELNAMES  
FILE NAME: \$FILES

DESIGNED - NEPTALI RIVERA-MARTINEZ  
CHECKED - TRAVIS J. SORRELL  
DRAWN - DENNIS A. POP  
CHECKED - N.R.M. / T.J.S. / G.R.A.

EXAMINED  
PASSED

Joanne F. Joffe  
ENGINEER OF BRIDGE DESIGN  
Carla Ringer  
ENGINEER OF BRIDGES AND STRUCTURES

DATE - MARCH 26, 2019

REVISED -  
REVISED -

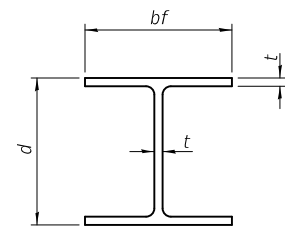
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PIER NO. 2 DETAILS  
STRUCTURE NO. 044 - 0060

SHEET 26 OF 31 SHEETS

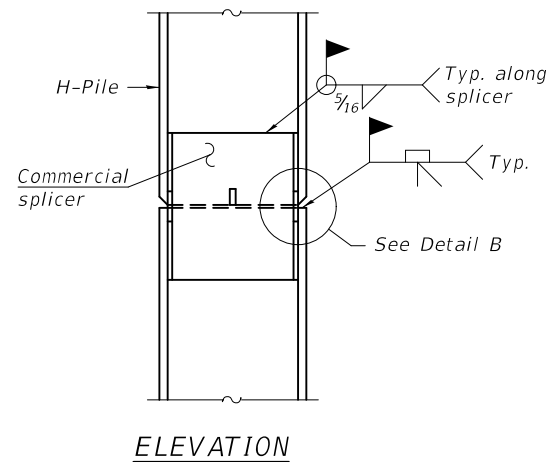
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	44
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

SDATE\$ \$TIMES\$

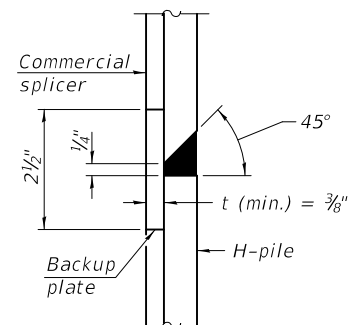


**STEEL PILE TABLE**

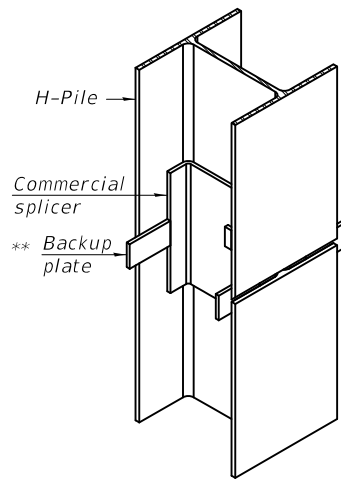
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 3/8"	14 3/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"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

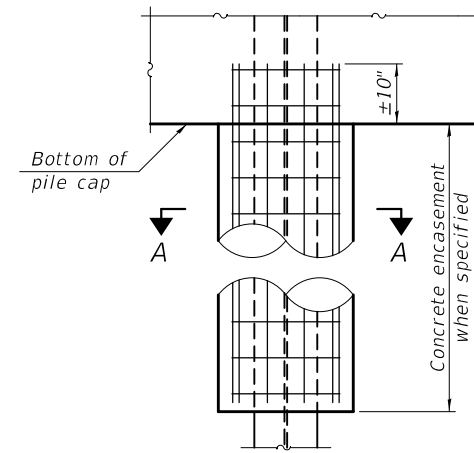


**DETAIL "B"**

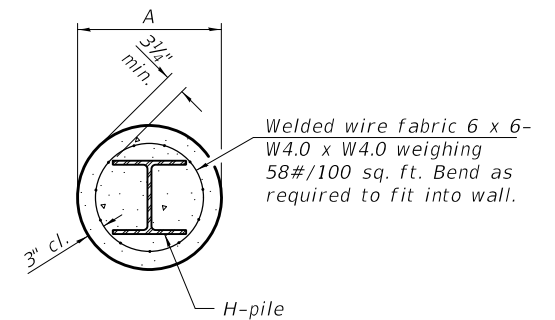


**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE**

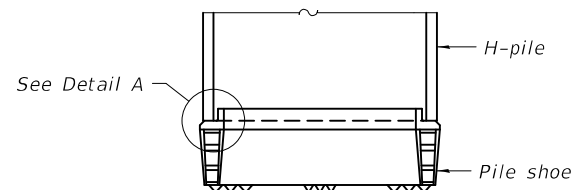


**ELEVATION**

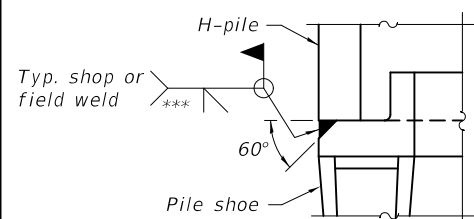


**SECTION A-A**

**INDIVIDUAL PILE CONCRETE ENCASUREMENT**  
 (Forms for encasement may be omitted when soil conditions permit).



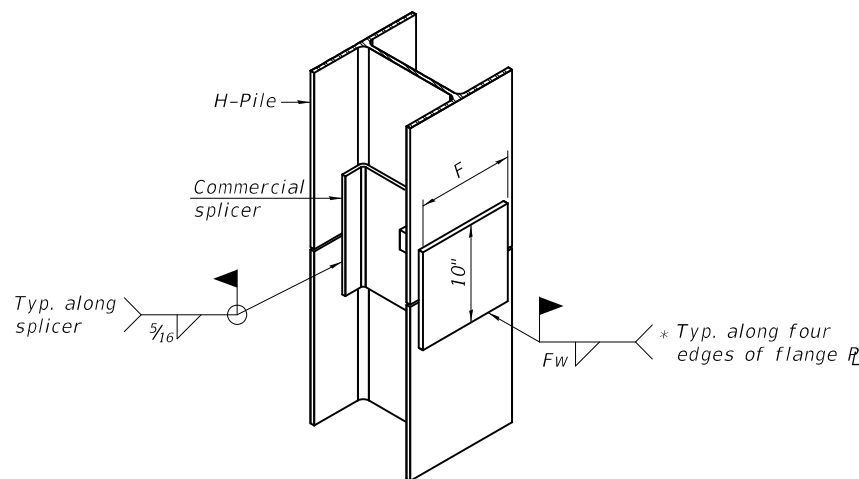
**ELEVATION**



**DETAIL A**

**SHOE ATTACHMENT**

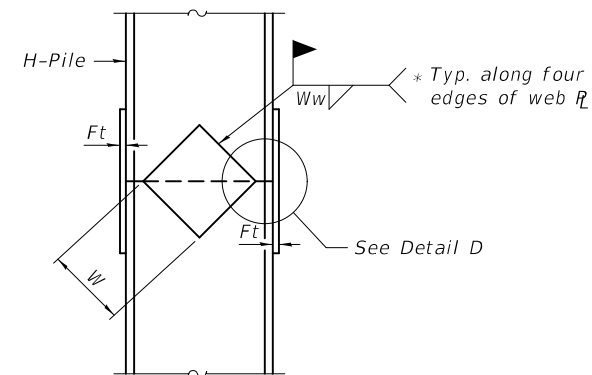
Note:  
 The steel H-piles shall be according to AASHTO M270 Grade 50.



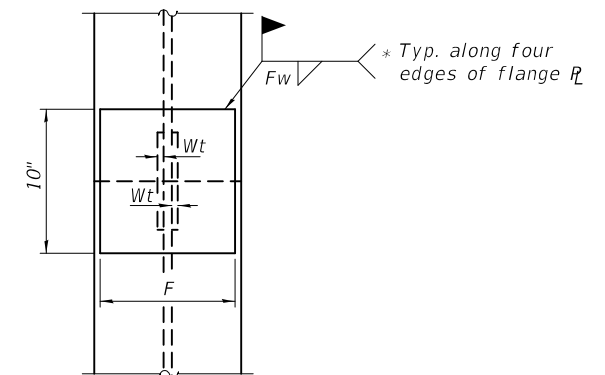
**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE ALTERNATE**

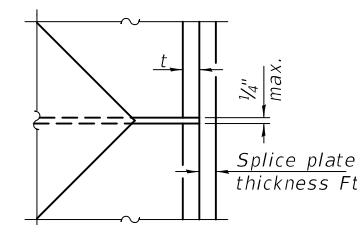
- \* Interrupt welds 1/4" from end of web and/or each flange.
- \*\* Remove portions of backup plates that extend outside the flanges.
- \*\*\* Weld size per pile shoe manufacturer (5/16" min.).



**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"

MODEL: SMODELNAMES  
 FILE NAME: SFILES

F-HP 8-11-2017

DESIGNED - NEPHTALI RIVERA-MARTINEZ	EXAMINED
CHECKED - TRAVIS J. SORRELL	PASSED
DRAWN - DENNIS A. POP	
CHECKED - N.R.M. / T.J.S. / G.R.A.	

DATE - MARCH 26, 2019  
 ENGINEER OF BRIDGE DESIGN  
 ENGINEER OF BRIDGES AND STRUCTURES

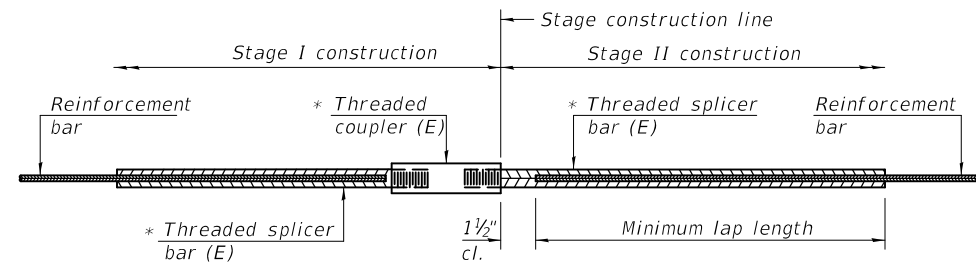
REVISIONS	
REVISIONS	

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS  
 STRUCTURE NO. 044 - 0060

SHEET 27 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	45
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

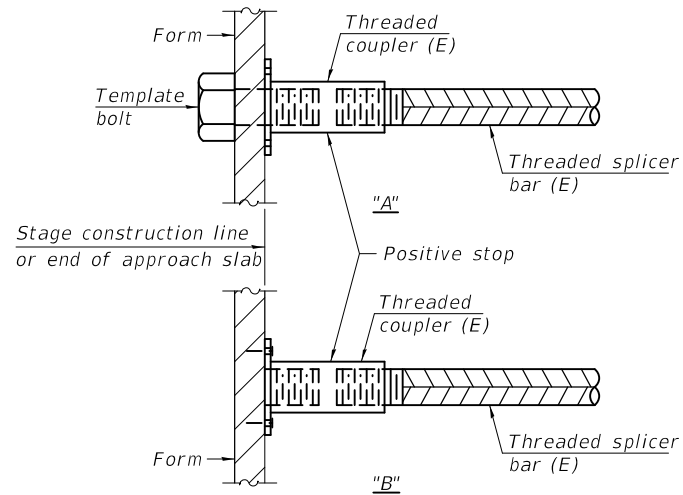


**STANDARD BAR SPLICER ASSEMBLY**

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

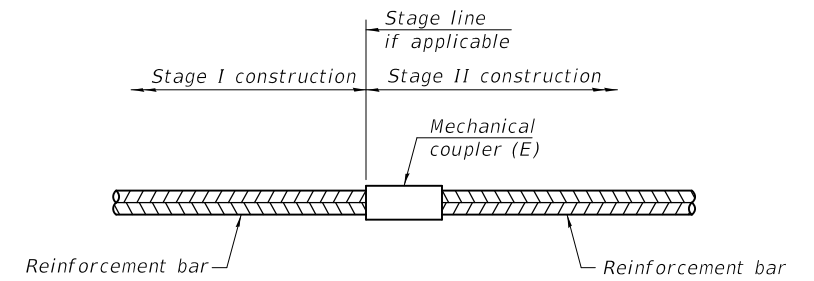
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Superstructure (Top)	#8	224	6'-10"
Superstructure (Bottom)	#8	173	5'-3"
Superstructure (Haunch)	#5	12	3'-7"
Approach Slab Top	#5	74	3'-0"
Approach Slab Bottom	#8	98	4'-9"
Approach Slab Footing	#5	80	3'-2"
Abutment Cap	#7	28	5'-2"
Pier Cap	#7	28	5'-2"
Pier Web Wall	#5	168	3'-7"



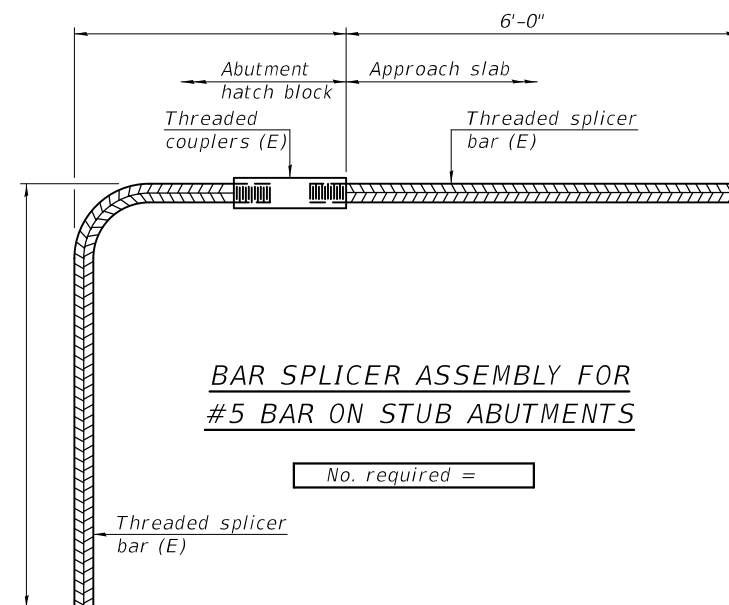
**INSTALLATION AND SETTING METHODS**

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



**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

**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: \$MODELNAME\$  
 FILE NAME: \$FILES\$

DESIGNED - NEPTALI RIVERA-MARTINEZ  
 CHECKED - TRAVIS J. SORRELL  
 DRAWN - DENNIS A. POP  
 CHECKED - N.R.M. / T.J.S. / G.R.A.

EXAMINED  
 PASSED  
 ENGINEER OF BRIDGES AND STRUCTURES

DATE - MARCH 26, 2019  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
 STRUCTURE NO. 044-0060

SHEET 28 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	46
CONTRACT NO. 78029				

ILLINOIS FED. AID PROJECT



Page 1 of 2

**Illinois Department of Transportation**  
Division of Highways  
District Nine Materials

## SOIL BORING LOG

Date 10/27/08

ROUTE US 45 DESCRIPTION FAS 960 (US 45) over Little Cache Creek LOGGED BY Rich Moberly

SECTION 38B-1 LONGITUDE 88.89315021° W LATITUDE 37.41329432° N

COUNTY Johnson DRILLING METHOD \_\_\_\_\_ HAMMER TYPE \_\_\_\_\_

STRUCT. NO. 044-0004  
Station 3+70.82

BORING NO. 2-S  
Station 4+50  
Offset 6.00ft Rt.  
Ground Surface Elev. 367.3 ft

Description	Elev. (ft)	D	B	U	M	S	T	H	S	Qu	T	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	First Encounter (ft)	Upon Completion (ft)	After (ft)	Hrs.	D	B	U	M	S	T	H	S	Qu	T	
																													(ft)
Asphalt and Concrete												354.4							1	0.5		26							
Medium, moist to very moist, grey, Silt Loam A-4	365.80																		WH										
Very soft, very moist, grey and black, Silty Clay Loam A-4	362.80																		WH										
Very soft, very moist, brown, Silt Loam A-4	355.30																		WH										
Stiff, moist, brown, Silty Clay Loam A-6	352.80																		WH										
Medium, very moist, brown mottled grey, Silty Clay to Silty Clay Loam A-6	350.30																		WH										
Soft, very moist, grey, Silty Clay A-6	347.80																		WH										

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
BBS, form 137 (Rev. 11-11)

Page 2 of 2

**Illinois Department of Transportation**  
Division of Highways  
District Nine Materials

## SOIL BORING LOG

Date 10/27/08

ROUTE US 45 DESCRIPTION FAS 960 (US 45) over Little Cache Creek LOGGED BY Rich Moberly

SECTION 38B-1 LONGITUDE 88.89315021° W LATITUDE 37.41329432° N

COUNTY Johnson DRILLING METHOD \_\_\_\_\_ HAMMER TYPE \_\_\_\_\_

STRUCT. NO. 044-0004  
Station 3+70.82

BORING NO. 2-S  
Station 4+50  
Offset 6.00ft Rt.  
Ground Surface Elev. 367.3 ft

Description	Elev. (ft)	D	B	U	M	S	T	H	S	Qu	T	Surface Water Elev. (ft)	Stream Bed Elev. (ft)	Groundwater Elev. (ft)	First Encounter (ft)	Upon Completion (ft)	After (ft)	Hrs.	D	B	U	M	S	T	H	S	Qu	T	
																													(ft)
Soft, very moist, grey, Silty Clay Loam A-6 with Sand seams (continued)																			1	0.4		28							
Medium, moist, grey, broken Limestone Gravel with Sand	322.80																		6										
Cored 48.0 to 53.0 feet 100% Rec; 75% RQD Hard, dry, grey, Limestone	319.30																		8										
Bottom of hole = 53.0 feet	314.30																		9										
Free water observed at 19.5 feet																													
Elevation referenced to BM @ NW corner of structure; Elev. = 366.3 feet																													
To convert "N" values to "N60", multiply by 1.25.																													

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
BBS, form 137 (Rev. 11-11)

MODEL: \$MODELNAME\$  
FILE NAME: \$FILELS

DESIGNED - NEPTALI RIVERA-MARTINEZ  
CHECKED - TRAVIS J. SORRELL  
DRAWN - MICHAEL B. MOSSMAN  
CHECKED - N.R.M. / T.J.S. / G.R.A.

EXAMINED \_\_\_\_\_  
PASSED \_\_\_\_\_  
ENGINEER OF BRIDGES AND STRUCTURES

DATE - MARCH 26, 2019  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SOIL BORING LOGS  
STRUCTURE NO. 044 - 0060**

SHEET 30 OF 31 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	48
CONTRACT NO. 78029				

ILLINOIS FED. AID PROJECT





Illinois Department of Transportation  
Division of Highways  
District Nine Materials

### SOIL BORING LOG

Date 3/1/80

ROUTE US 45 DESCRIPTION FAS 960 (US 45) over Little Cache Creek LOGGED BY Joel Congiaro  
SECTION 38B-1 LONGITUDE 88.89315021° W LATITUDE 37.41329432° N  
COUNTY Johnson DRILLING METHOD HAMMER TYPE

STRUCT. NO.	Station	DEPTH (ft)	BLOW (6")	UCS (tsf)	MOIST (%)	Surface Water Elev.	Stream Bed Elev.	DEPTH (ft)	BLOW (6")	UCS (tsf)	MOIST (%)
044-0004	3+70.82					None					
2-S (1980)	4+72										
	15.00ft Rt.										
	368.0										
Med. moist, black cinders		367.00						2	0.5	29	
Medium, moist to very moist, grey Silty Clay Loam to Silt Loam A-4								7	1.6	28	
		345.50						3	0.5	26	
Stiff, very moist, grey Clay A-7-6								4	1.0	31	
		343.00	-5					3	0.8	28	
Very soft, very moist, grey Silty Clay Loam to Silt Loam A-4		363.00						4	1.4	26	
		340.50						2	0.8	35	
Medium, very moist, brown streaked grey Silty Clay Loam A-4 to A-6		360.50						2	0.8	35	
		338.00	-10					4	1.4	26	
Stiff, moist to very moist, brown mottled grey Silt Loam A-4		358.00						2	0.8	35	
		335.50						2	0.8	35	
Medium, very moist, grey Silty Clay Loam A-4								4	0.6	48	
		333.00	-15					3	0.4	32	
Soft, very moist, organic grey Clay Loam A-4		350.50						3	0.4	32	
		329.00						3	0.4	32	
Medium, wet, grey, fine grained Sand		348.00	-20					3	0.4	32	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
BBS, form 137 (Rev. 11-11)



Illinois Department of Transportation  
Division of Highways  
District Nine Materials

### SOIL BORING LOG

Date 3/1/80

ROUTE US 45 DESCRIPTION FAS 960 (US 45) over Little Cache Creek LOGGED BY Joel Congiaro  
SECTION 38B-1 LONGITUDE 88.89315021° W LATITUDE 37.41329432° N  
COUNTY Johnson DRILLING METHOD HAMMER TYPE

STRUCT. NO.	Station	DEPTH (ft)	BLOW (6")	UCS (tsf)	MOIST (%)	Surface Water Elev.	Stream Bed Elev.	DEPTH (ft)	BLOW (6")	UCS (tsf)	MOIST (%)
044-0004	3+70.82					None					
2-S (1980)	4+72										
	15.00ft Rt.										
	368.0										
Medium, wet, grey, fine grained Sand (continued)								4	0.7	29	
								3	0.5	26	
		323.00	-45								

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
BBS, form 137 (Rev. 11-11)



Illinois Department of Transportation  
Division of Highways  
District Nine Materials

### SOIL BORING LOG

Date 1/1/80

ROUTE US 45 DESCRIPTION FAS 960 (US 45) over Little Cache Creek LOGGED BY Joel Congiaro  
SECTION 38B-1 LONGITUDE 88.89315021° W LATITUDE 37.41329432° N  
COUNTY Johnson DRILLING METHOD HAMMER TYPE

STRUCT. NO.	Station	DEPTH (ft)	BLOW (6")	UCS (tsf)	MOIST (%)	Surface Water Elev.	Stream Bed Elev.	DEPTH (ft)	BLOW (6")	UCS (tsf)	MOIST (%)
044-0004	3+70.82					None					
1-S (1980)	2+55										
	15.00ft Lt.										
	366.5										
Medium, very moist brown Silty Clay Loam A-4 with Course Gravel mixed		364.00						52			
		344.00						100			
Medium, very moist brown mottled gray & black Silty Clay to Silty Clay Loam A-4 to A-6								3	0.7	25	
		361.50	-5					1	0.2	36	
Very soft very moist to wet grey Silty Clay A-6		361.50						1	0.2	21	
		359.00						1	0.2	21	
Very soft wet grey Silty Clay A-6								1	0.1	27	
		356.50	-10					2	0.8	37	
Very soft, wet, grey Clay Loam A-4		356.50						4	0.6	48	
		353.50						2	0.8	37	
Medium, very moist grey organic Silty Clay Loam A-4 with rotten wood mixed								4	0.6	48	
		349.00						55			
Medium, very moist grey Clay Loam A-4 & Gravel		348.50									
Very dense, moist grey broken weathered Sandstone											
		346.50	-20								

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)  
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)  
BBS, form 137 (Rev. 11-11)

MODEL: \$MODELNAME\$  
FILE NAME: \$FILES\$

DESIGNED - NEPTALI RIVERA-MARTINEZ  
CHECKED - TRAVIS J. SORRELL  
DRAWN - MICHAEL B. MOSSMAN  
CHECKED - N.R.M. / T.J.S. / G.R.A.

EXAMINED  
PASSED  
ENGINEER OF BRIDGES AND STRUCTURES

DATE - MARCH 26, 2019  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS  
STRUCTURE NO. 044 - 0060

SHEET 31 OF 31 SHEETS

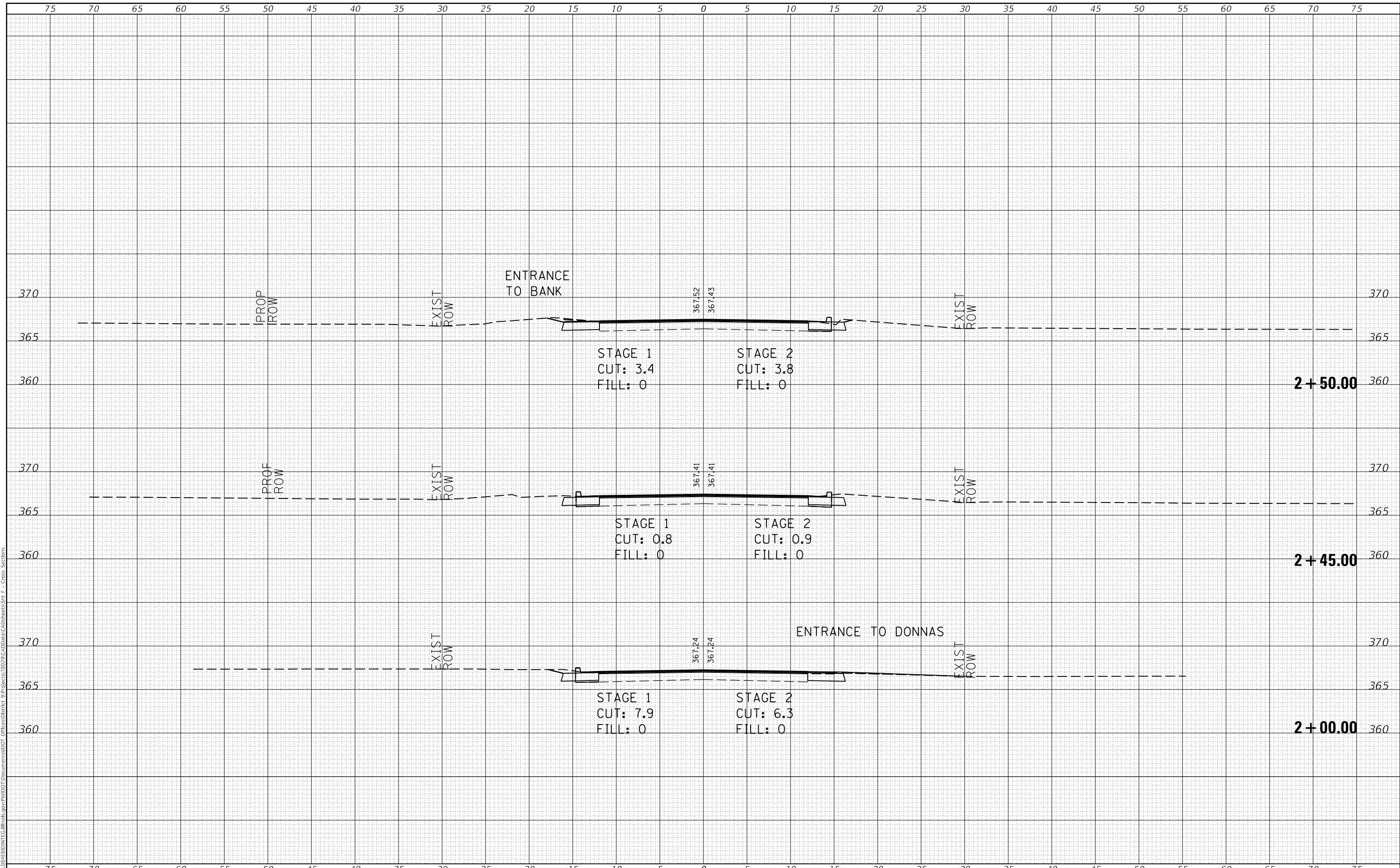
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	49
CONTRACT NO. 78029				
ILLINOIS FED. AID PROJECT				

DATE\$ \$TIME\$

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

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

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	DRAWN -	REVISED -
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PLOT DATE = 3/5/2019	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**US 45 CROSS SECTIONS**

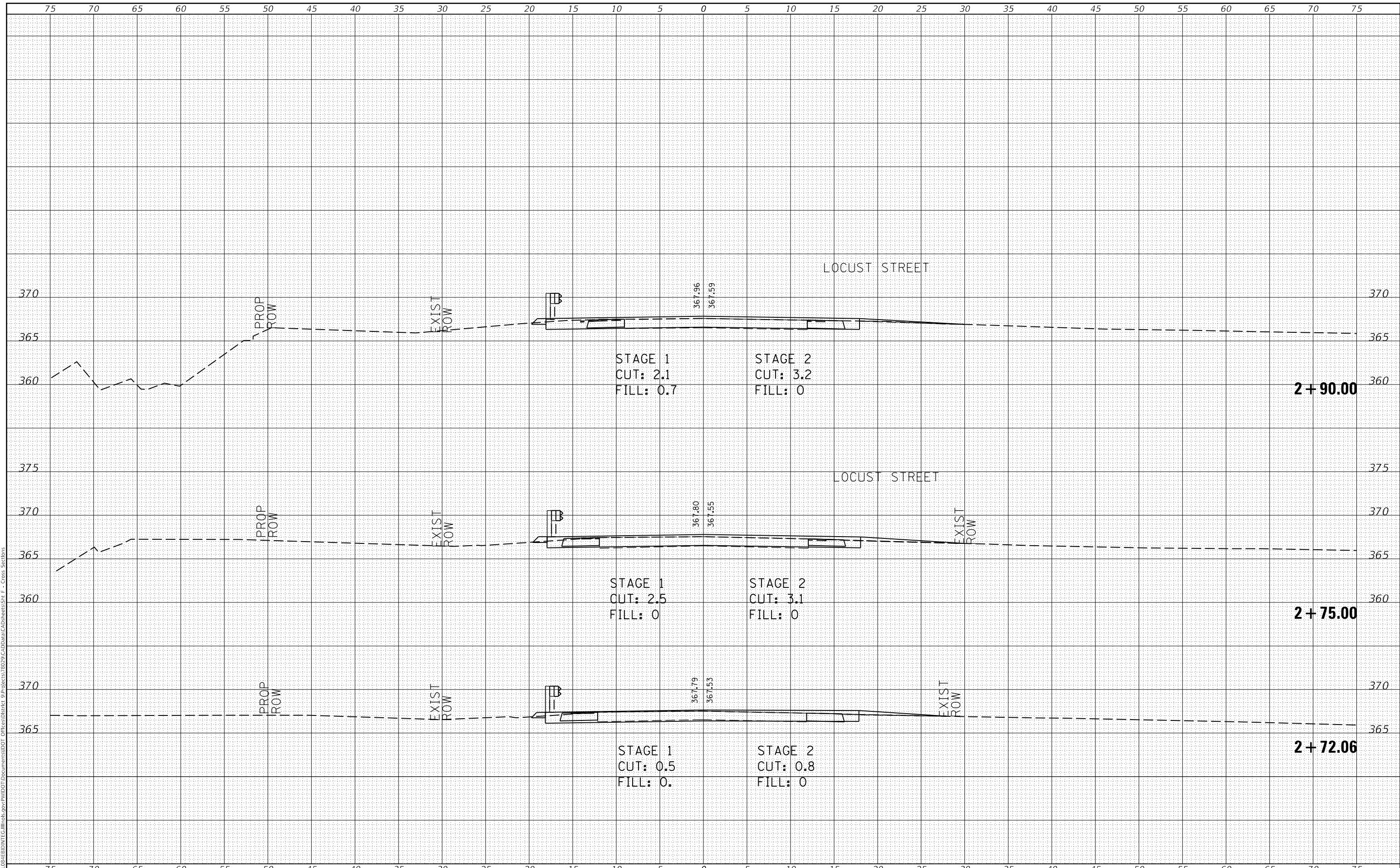
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960	38B-1	JOHNSON	55	50
			CONTRACT NO. 78029	
		ILLINOIS	FED. AID PROJECT	

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

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

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USER NAME = DOLLINSML	DESIGNED -	REVISED -
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PLOT DATE = 3/5/2019	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**US 45 CROSS SECTIONS**

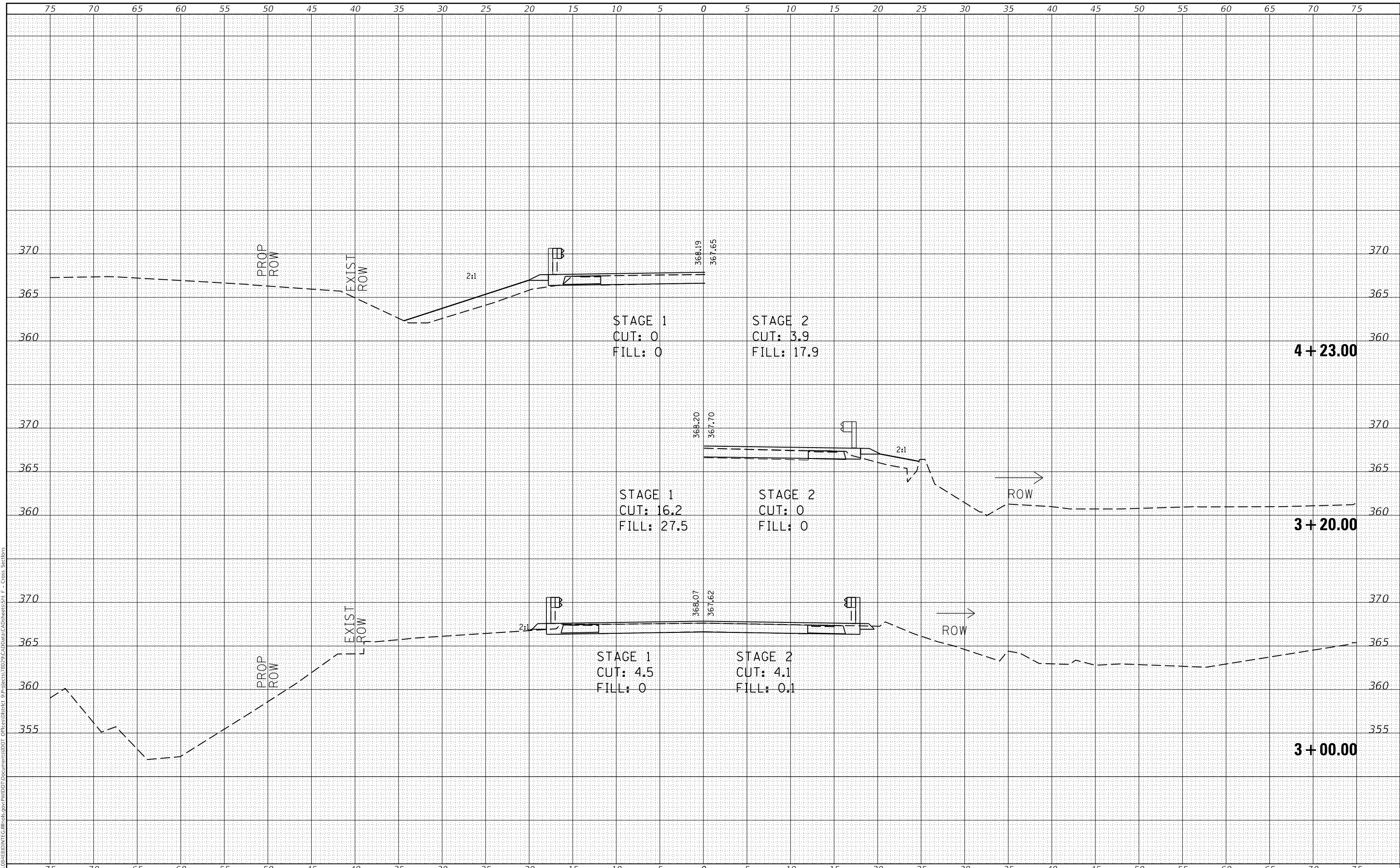
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	51
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78029	

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

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

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USER NAME = DOLLINSML	DESIGNED -	REVISIED -
	DRAWN -	REVISIED -
PLOT SCALE = 10.0000' / in.	CHECKED -	REVISIED -
PLOT DATE = 3/5/2019	DATE -	REVISIED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**US 45 CROSS SECTIONS**

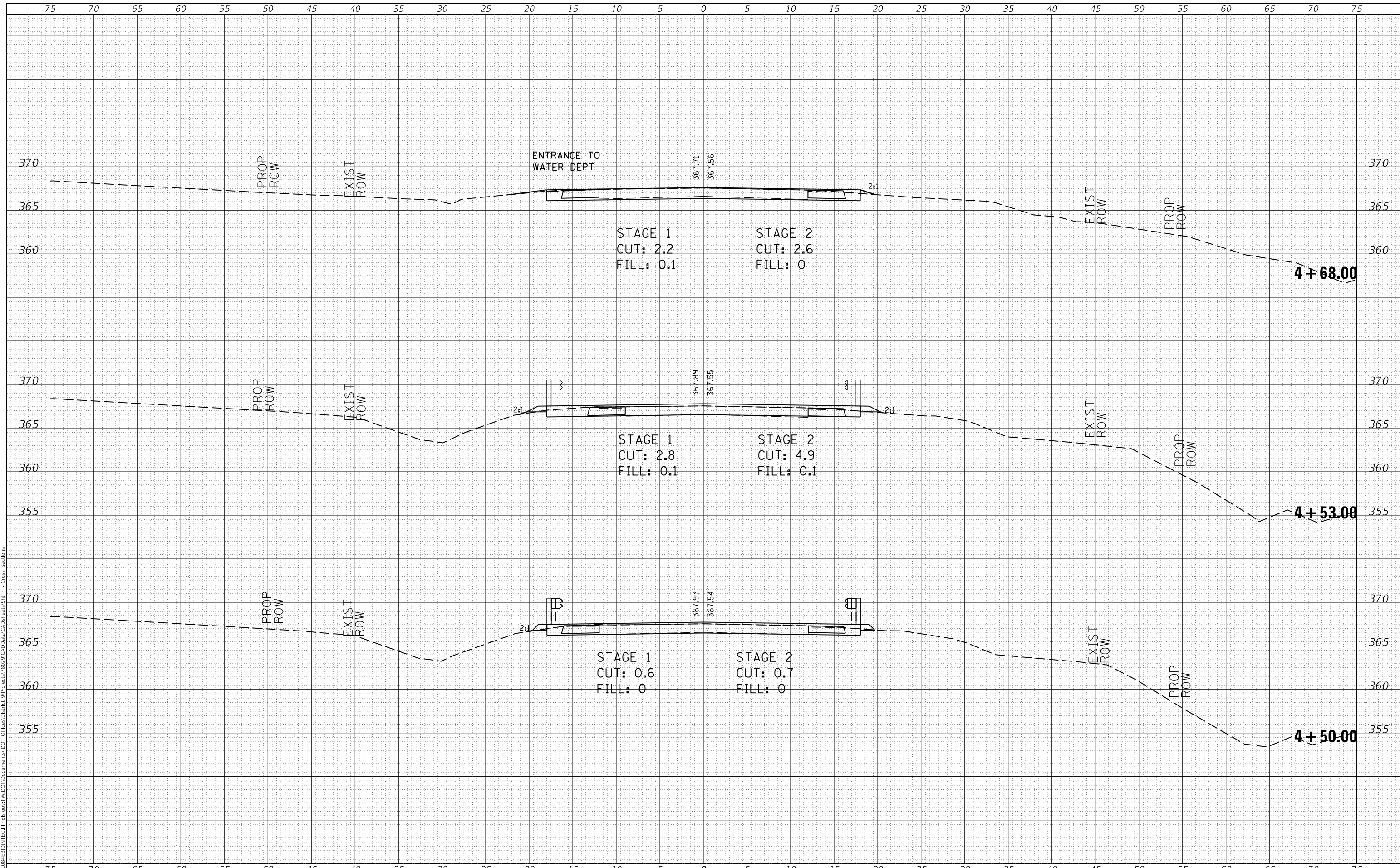
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F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
960	38B-1	JOHNSON	55	52
			CONTRACT NO. 78029	
		ILLINOIS	FED. AID PROJECT	

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

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

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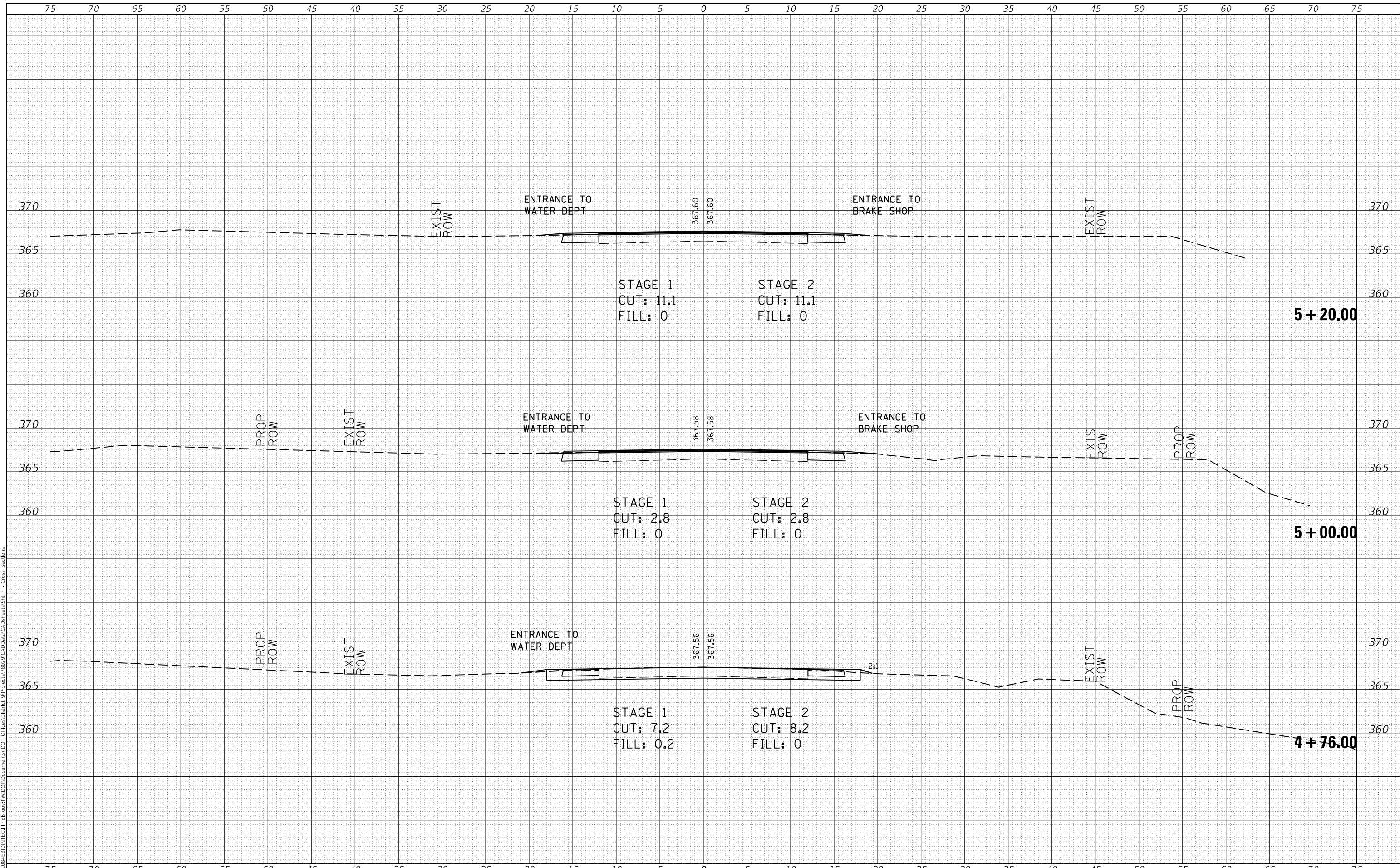
USER NAME = DOLLINSML	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>US 45 CROSS SECTIONS</b>		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 10.0000' / in.	DRAWN -	REVISED -				960	JOHNSON	JOHNSON	55	53
PLOT DATE = 3/5/2019	CHECKED -	REVISED -		SCALE: SHEET OF SHEETS STA. 4+50.00 TO STA. 4+68.00		CONTRACT NO. 78029		ILLINOIS FED. AID PROJECT		
	DATE -	REVISED -								



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

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

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USER NAME = DOLLINSML	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = 10.0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 3/5/2019	DATE -	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**US 45 CROSS SECTIONS**

SCALE: SHEET OF SHEETS STA. 4+76.00 TO STA. 5+20.00

F.A.S. RTE. 960	SECTION 38B-1	COUNTY JOHNSON	TOTAL SHEETS 55	SHEET NO. 54
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78029	

