

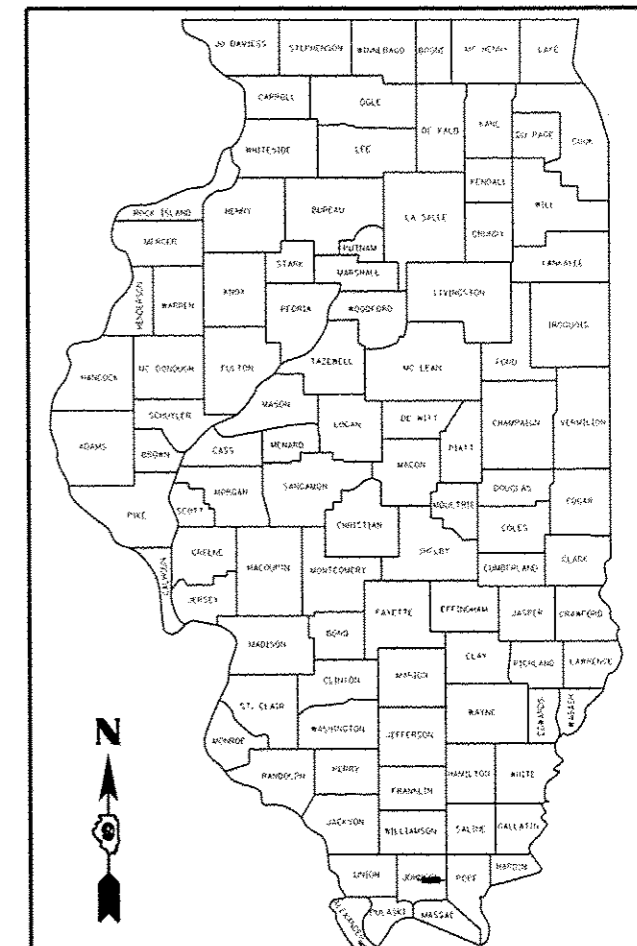
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAP ROUTE 885 (IL-146)  
SECTION 110B-1  
PROJECT ACF-0885 (049)  
JOHNSON COUNTY  
C-99-005-12  
STRUCTURE REPLACEMENT  
OVER BAY CREEK

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	1
D-99-004-12		ILLINOIS	CONTRACT NO. 78279	

D-99-004-12



LOCATION OF SECTION INDICATED THUS: —

**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES & STANDARDS
3 - 6	SUMMARY OF QUANTITIES
7	TYPICAL SECTIONS
8	SCHEDULES OF QUANTITIES
9	ALIGNMENT, TIES, & BENCHMARKS
10	REMOVAL PLAN
11 - 12	PLAN AND PROFILE SHEET
13	TRAFFIC CONTROL AND STAGING
14	WIDE LOAD DETOUR SIGNING
15	TEMPORARY EROSION CONTROL PLAN
16	RIGHT-OF-WAY SHEET
17	DRAINAGE DETAILS & SCHEDULES
18 - 19	DISTRICT 9 STANDARDS
20 - 23	CROSS SECTIONS
24 - 52	BRIDGE PLANS

FOR LIST OF HIGHWAY STANDARDS, SEE SHEET NO. 2

**UTILITY NOTE**

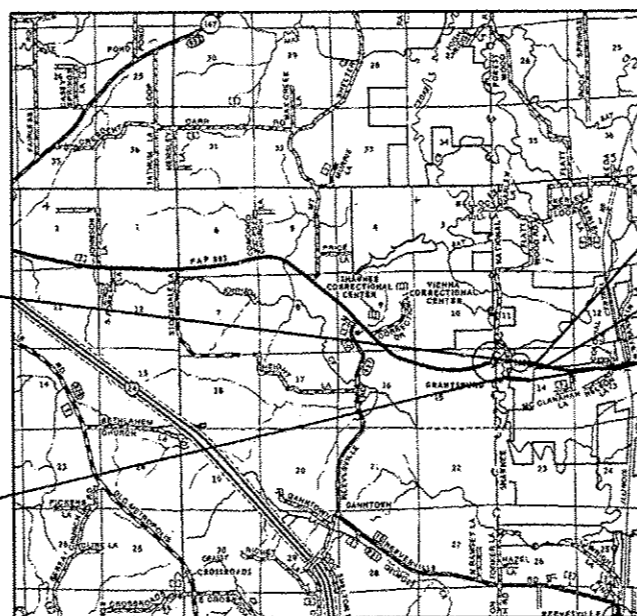
THE LOCATIONS OF THOSE BURIED AND ABOVEGROUND UTILITIES SHOWN ARE APPROXIMATE, ARE SHOWN FOR CONTRACTOR INFORMATIONAL USE ONLY, AND ARE NOT TO BE REFERENCED FOR CONSTRUCTION PURPOSES. THE IMPLIED PRESENCE OR ABSENCE OF UTILITIES IS NOT TO BE CONSTRUED BY THE OWNER, ENGINEER, CONTRACTOR, OR SUBCONTRACTORS TO BE AN ACCURATE AND COMPLETE REPRESENTATION OF UTILITIES THAT MAY OR MAY NOT EXIST ON THE CONSTRUCTION SITE. BURIED AND ABOVEGROUND UTILITY LOCATION, IDENTIFICATION, AND MARKING ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. REROUTING, DISCONNECTION, PROTECTION, ETC. OF AN UTILITIES MUST BE COORDINATED BETWEEN THE CONTRACTOR, UTILITY COMPANY, AND OWNER. SITE SAFETY, INCLUDING THE AVOIDANCE OF HAZARDS ASSOCIATED WITH BURIED AND ABOVEGROUND UTILITIES, REMAIN THE SOLE RESPONSIBILITY OF THE CONTRACTOR



Know what's below.  
Call before you dig.

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

PROJECT MANAGER - DAVID PICHE (618) 549-2171  
CONTRACT NO. 78279



**AREA LOCATION PLAN**



GROSS LENGTH = 770.92 FT. = 0.146 MILES  
NET LENGTH = 770.92 FT. = 0.146 MILES



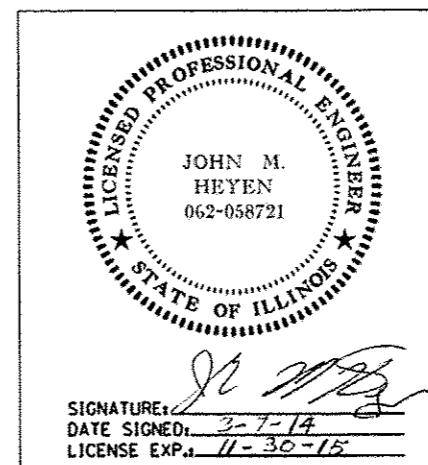
STRUCTURE #044-0061  
STA. 488+77.18  
TO STA. 490+12.51

END IMPROVEMENTS IL-146  
STA 491+80.16

END IMPROVEMENTS ALT. ACCESS  
STA 103+46.25

BEGIN IMPROVEMENTS IL-146  
STA 487+47.91

BEGIN IMPROVEMENTS ALT. ACCESS  
STA 100+07.58



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**FUNCTIONAL CLASSIFICATION**  
MINOR ARTERIAL (NON-URBAN)  
2011 ADT = 1170  
P.V. = 94.9% S.U. = 3.4% M.U. = 1.7%  
ROAD DISTRICT #1

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED *March 18, 2014*

*Jeffrey S. Keenan*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

*May 9, 2014*  
*John D. Baranzelli, P.E.*  
ENGINEER OF DESIGN AND ENVIRONMENT

*May 9, 2014*  
*Omer Osman, P.E.*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**

**GENERAL NOTES**

- 1 ALL AREAS DISTURBED BY THE CONTRACTOR OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE SEEDED AS DIRECTED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.
- 2 ACCESS TO ALL ENTRANCES SHALL BE MAINTAINED AT ALL TIMES.
- 3 IN ADDITION TO THE REQUIREMENTS OF ARTICLE 107.16, THE CONTRACTOR SHALL PROTECT THE SURFACE OF ALL BRIDGE DECKS AND BRIDGE APPROACH PAVEMENTS IN A MANNER SATISFACTORY TO THE ENGINEER BEFORE ANY EQUIPMENT IS ALLOWED TO CROSS THE STRUCTURE. PROTECTION SHALL BE PROVIDED FOR ALL EQUIPMENT, AS DEFINED IN ARTICLE 101.17, REGARDLESS IF TRACK MOUNTED OR WHEELED.
- 4 THESE PLANS HAVE BEEN PREPARED USING STANDARD SYMBOLS AS INDICATED IN THESE PLANS, AND THEY SHALL TAKE PRECEDENCE OVER THOSE SHOWN ON STANDARD 000001 IF THERE IS A CONFLICT.
- 5 ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE COPY OF THE STANDARD INCLUDED IN THESE PLANS.
- 6 FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF EIGHT SAND BAGS PER BARRICADE.
- 7 THE ENGINEER SHALL BE THE SOLE JUDGE CONCERNING CURING TIME FOR BITUMINOUS SURFACE BEFORE TRAFFIC IS ALLOWED ON THE PAVEMENT.
- 8 ELEVATION DATA IS BASED ON NATIONAL GEODETIC VERTICAL DATUM 1988 (NGVD88).
- 9 BEFORE ORDERING PIPE CULVERTS, PIPE DRAINS, END SECTIONS OR INLETS THE CONTRACTOR SHALL VERIFY LENGTHS AND QUANTITIES REQUIRED.
- 10 ALL DRAINAGE STRUCTURES SHALL BE FREE OF SILT, DEBRIS, OR OTHER SUCH OBSTRUCTIONS AT THE TIME OF FINAL INSPECTION. THE CLEANING OF THESE DRAINAGE STRUCTURES SHALL BE INCLUDED IN THE VARIOUS PAY ITEMS INVOLVED.
- 11 GRADING SHALL BE DONE BY HAND AROUND LIGHT POLES, UTILITY POLES, SIGN POSTS, SHRUBS, TREES OR OTHER NATURAL OR MAN-MADE OBJECTS WHERE SHALLOW FILLS OR CUTS ARE ADJACENT TO THE ITEMS. IT IS THE INTENT THAT THE LIMITS OF CONSTRUCTION BE SUCH AS TO PRESERVE IN THE ORIGINAL STATE AS MUCH AREA OF TEMPORARY EASEMENTS AS POSSIBLE. THE DECISION AS TO ITEMS TO REMAIN IN PLACE SHALL BE AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE CONTRACT UNIT PRICE PER CUBIC YARD FOR EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
- 12 FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:  
 HOT-MIX ASPHALT - 112 LBS/SQ YD-IN (2.016 TON/CU YD)  
 ALL AGGREGATE - 2.05 TONS/CU YD  
 RIPRAP - 1.5 TONS/CU YD  
 SEEDING FERTILIZER RATIO PERMANENT (NIT:PHOS:POT) - 90:90:90 LBS/AC  
 SEEDING FERTILIZER RATIO WITH CLASS 7 (NIT:PHOS:POT) - 40:0:0 LBS/AC  
 TEMPORARY EROSION CONTROL SEEDING - 100 LBS/AC  
 AGRICULTURAL GROUND LIMESTONE - 2.00 TONS/AC  
 MULCH - 2.00 TONS/AC  
 EARTHWORK SHRINKAGE = 20%  
 TEMPORARY DITCH CHECK - 10 FT PER LOCATION
- 13 THE THICKNESS OF HOT MIX ASPHALT MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HOT MIX ASPHALT MIXTURE IS PLACED.
- 14 TRENCH BACKFILL REQUIRED FOR STORM SEWER, SANITARY SEWER, OR WATER MAINS SHALL ONLY BE PLACED UP TO ONE FOOT BELOW THE FINAL GRADE IN AREAS HAVING A PROPOSED GRASS OR SOD SURFACE.
- 15 AT ALL LOCATIONS WHERE THE PROPOSED HOT MIX ASPHALT OR CONCRETE PAVEMENT JOINS AN EXISTING HOT MIX ASPHALT OR CONCRETE PAVEMENT, A FULL DEPTH SAWED JOINT SHALL BE CONSTRUCTED. THE COST OF THIS JOINT WILL BE INCLUDED IN THE COST OF THE TYPE OF PAVEMENT BEING CONSTRUCTED.
- 16 THE LIMITS OF ROCK AND EARTH SLOPES SHOWN IN THE CROSS SECTIONS ARE APPROXIMATE. THE ACTUAL SLOPE USED SHALL BE DETERMINED BY THE MATERIAL CLASSIFICATION AS DEFINED IN ARTICLE 202.04, AND AS DIRECTED BY THE ENGINEER.
- 17 PRIOR TO PLACEMENT OF THE FINAL PAVEMENT MARKINGS THE RESIDENT ENGINEER SHOULD CONTACT THE BUREAU OF OPERATIONS AND ARRANGE FOR INSPECTION AND APPROVAL OF THE PAVEMENT MARKING LAYOUT.

- 18 THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF TRAFFIC OPERATIONS 72 HOURS PRIOR TO THE SHUT-DOWN.
- 19 THE ADVANCE DETECTOR LOOPS ARE TYPICALLY LOCATED 300 FEET IN ADVANCE OF THE STOP BAR. THE BUREAU OF OPERATIONS SHOULD APPROVE THE LOOP LOCATIONS PRIOR TO INSTALLATION.
- 20 THE CENTERLINE PAVEMENT MARKING SHOULD BE REMOVED FROM THE STOP BAR TO THE SAND ATTENUATORS OR DRUMS. EDGE LINE PAVEMENT MARKING SHOULD BE REMOVED IF A 10 FOOT LANE WIDTH CANNOT BE MAINTAINED. TEMPORARY EDGE LINES SHOULD BE INSTALLED WHEN THE EDGE LINES ARE REMOVED.
- 21 ANY TIME THE CONCRETE BARRIER IS NOT IN THE PROPER POSITION, FLAGGERS SHALL BE IN PLACE TO CONTROL TRAFFIC. THE TEMPORARY TRAFFIC SIGNALS SHALL BE TURNED OFF OR COVERED.
- 22 ALL OBSTRUCTIONS WHICH ARE WITHIN THE CLEAR ZONE SHOWN ON THE TYPICAL SECTION, AND ARE NOT SHIELDED BY THE PROPOSED GUARDRAIL, SHALL BE REMOVED ON IL-146 BETWEEN STATION 487+47.91 AND STATION 491+80.16. TYPICAL OBSTRUCTIONS ARE HEADWALLS, FOUNDATIONS, ETC. WHICH PROJECT 100 mm (4 IN.) OR MORE ABOVE THE GROUNDLINE; AND TREES WHICH WILL MATURE TO A DIAMETER OF 100 mm (4 IN.) OR GREATER.
- 23 COMMITMENTS:  
NONE AS OF JUNE 13, 2014

**HIGHWAY STANDARDS**

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS  
 001001-02 AREAS OF REINFORVEMENT BARS  
 001006 DECIMAL OF AN INCH AND OF A FOOT  
 280001-07 TEMPORARY EROSION CONTROL SYSTEMS  
 420001-07 PAVEMENT JOINTS  
 420401-10 BRIDGE APPROACH PAVEMENT CONNECTOR  
 515001-03 NAME PLATE FOR BRIDGES  
 542401-01 METAL END SECTIONS FOR PIPE CULVERTS  
 602001-02 CATCH BASIN TYPE A  
 604036-02 GRATE TYPE 8  
 610001-06 SHOULDER INLET WITH CURB  
 630001-10 STEEL PLATE BEAM GUARDRAIL  
 630201-06 PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL  
 630301-06 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS  
 631031-12 TRAFFIC BARRIER TERMINAL, TYPE 6  
 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT  
 635011-02 REFLECTOR MARKER AND MOUNTING DETAILS  
 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  
 701201-04 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH  
 701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS  
 701321-13 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER  
 701326-04 LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS ≥ 45 MPH  
 701901-03 TRAFFIC CONTROL DEVICES  
 704001-07 TEMPORARY CONCRETE BARRIER  
 720001-01 SIGN PANEL MOUNTING DETAILS  
 720006-04 SIGN PANEL ERECTION DETAILS  
 780001-04 TYPICAL PAVEMENT MARKINGS  
 781001-03 TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS

**UTILITY NOTES**

- 1 THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. MEMBERS OF JULIE KNOWN TO BE WITHIN THE LIMITS OF THE IMPROVEMENT ARE:

**UTILITY CONTACT INFORMATION**

AMEREN GTS 370 S. MAIN DECATUR, IL 62523 ATTN: MICHAEL WETHERELL	SHAWNEE COMMUNICATIONS P.O. BOX 69 EQUALITY, IL 62934 ATTN: JOHN BOURLAND
AMEREN ILLINOIS 1800 W. MAIN MARION, IL 62959 ATTN: JOE REINHARD	SOUTHEASTERN IL ELEC COOP HIGHWAY 142 EAST ELDORADO, IL 62930 ATTN: ERIC JUNG
FRONTIER COMMUNICATIONS 208 W. UNION MARION, IL 62959 ATTN: RICK SHAW	CLEARWAVE COMMUNICATIONS P.O. BOX 808 HARRISBURG, IL 62946 ATTN: AARON CARIAN
MILLSTONE WATER C/O CLARIDA AND ZEIGLER 410 N. COURT ST. MARION, IL 62959 ATTN: ANDY RAINWATER	

- 2 ANY DAMAGE TO THE UNDERGROUND FACILITIES CAUSED BY THE CONTRACTOR SHALL BE REPAIRED TO THE SATISFACTION OF THE DEPARTMENT AT THE CONTRACTOR'S EXPENSE, INCLUDING TEMPORARY REPAIRS WHICH MAY BE REQUIRED TO KEEP THE FACILITY OPERATIONAL WHILE MATERIAL IS BEING OBTAINED TO MAKE PERMANENT REPAIRS. UTILITY ADJUSTMENTS SHALL BE MADE BY THE UTILITY COMPANIES UNLESS NOTED OTHERWISE.
- 3 THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE BASED ON FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE. THE CONTRACTOR SHALL OBTAIN EXACT UTILITY LOCATIONS FROM THE UTILITY COMPANIES AND BY FIELD INSPECTION. THE FOLLOWING STANDARD UTILITY DEPTHS WERE USED IF INFORMATION WAS UNAVAILABLE:  
 TELEPHONE / FIBER OPTIC - 2 FEET  
 GAS - 2.5 FEET  
 CABLE TV - 1.5 FEET  
 ELECTRIC - 3 FEET  
 SANITARY SEWER - 2.5 FEET  
 WATER - 4 FEET
- 4 ALL ELECTRIC LINES WILL REMAIN ENERGIZED DURING CONSTRUCTION UNLESS OTHERWISE COORDINATED WITH THE UTILITY COMPANY.

Prepared By: *Joe Z...*  
DISTRICT STUDIES & PLANS ENGINEER

Examined By: *[Signature]*  
DISTRICT LAND ACQUISITION ENGINEER

Examined By: *Carrie Nelson*  
DISTRICT PROGRAM DEVELOPMENT ENGINEER

Examined By: *[Signature]*  
DISTRICT OPERATIONS ENGINEER

Examined By: *[Signature]*  
DISTRICT PROJECT IMPLEMENTATION ENGINEER

Examined By: *Daryl J. De...*  
DISTRICT CONSTRUCTION ENGINEER

Examined By: *[Signature]*  
DISTRICT MATERIALS ENGINEER



LAYOUT	2/7/11
DESIGN	2/7/11
CHECKED	2/7/11
REVIEWED	2/28/11

FILE NAME : p:\spraw\206\hanson\dam\hanson Project - Old\Documents\88810131\W015-5844-206118.dwg	USER NAME : dkw01573	DESIGNED - BKC	REVISOR -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES & HIGHWAY STANDARDS IL-146 (OVER BAY CREEK)	F.A.P. RTE. 885	SECTION 110B-1	COUNTY JOHNSON	TOTAL SHEETS 52	SHEET NO. 2	CONTRACT NO. 78279
MODEL : GENERAL NOTES	PLOT SCALE : 2.8288' / 1" / in.	CHECKED - MH	REVISOR -	SCALE:	SHEET NO. OF SHEETS STA. TO STA.	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					
	PLOT DATE : 03/10/2014	DATE - 02/17/14	REVISOR -								



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LAYOUT	2/7/11
DESIGNED	2/7/11
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REVIEWED	2/7/11

FILE NAME =	USER NAME = dave@1573	DESIGNED - CAD	REVISIONS -
MODEL = S00_PAGE 1	PLOT SCALE = 2.0000' / 1"	CHECKED - MH	REVISIONS -
	PLOT DATE = 03/10/2014	DATE - 02/17/14	REVISIONS -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**IL-146 (OVER BAY CREEK)  
SUMMARY OF QUANTITIES**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	3
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	

CONSTRUCTION CODE
STP FUNDS
80% FED
20% STATE
BRIDGE
0011
RURAL

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
20800150	TRENCH BACKFILL	CU YD	14
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	256
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	42
20200100	EARTH EXCAVATION	CU YD	1010
20200200	ROCK EXCAVATION	CU YD	2435
20300100	CHANNEL EXCAVATION	CU YD	120
25000200	SEEDING, CLASS 2	ACRE	0.50
25000350	SEEDING, CLASS 7	ACRE	0.50
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	65
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	46
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	46
25100115	MULCH, METHOD 2	ACRE	1.00
25100630	EROSION CONTROL BLANKET	SQ YD	1610
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	50

CONSTRUCTION CODE
STP FUNDS
80% FED
20% STATE
BRIDGE
0011
RURAL

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
28000305	TEMPORARY DITCH CHECKS	FOOT	300
28000400	PERIMETER EROSION BARRIER	FOOT	813
28000500	INLET AND PIPE PROTECTION	EACH	3
28100105	STONE RIPRAP, CLASS A3	SQ YD	44
28100109	STONE RIPRAP, CLASS A5	SQ YD	1052
28200200	FILTER FABRIC	SQ YD	1096
31101600	SUBBASE GRANULAR MATERIAL, TYPE B 8"	SQ YD	812
35600716	HOT-MIX ASPHALT BASE COURSE WIDENING, 10"	SQ YD	75
40300100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	487
40300300	BITUMINOUS MATERIALS (COVER AND SEAL COATS)	GALLON	661
40300500	COVER COAT AGGREGATE	TON	9
40300600	SEAL COAT AGGREGATE	TON	9
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	174
40600990	TEMPORARY RAMP	SQ YD	28

144



LAYOUT	BAC	2/7/11
DRAWN	BAC	2/7/11
REVIEWED	MH	2/28/11

CODE NO.	ITEM	UNIT	CONSTRUCTION CODE	
			STP FUNDS	TOTAL QUANTITY
40603092	HOT-MIX ASPHALT BINDER COURSE, IL-19.0 FG, N90	TON	80% FED	118
40603320	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90	TON	20% STATE	77
42001420	BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)	SO YD	BRIDGE	46
44000100	PAVEMENT REMOVAL	SO YD	0011	78
44000200	DRIVEWAY PAVEMENT REMOVAL	SO YD	RURAL	64
44004250	PAVED SHOULDER REMOVAL	SO YD		75
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SO YD		267
48203037	HOT-MIX ASPHALT SHOULDERS, 10"	SO YD		116
50100100	REMOVAL OF EXISTING STRUCTURES	EACH		1
50102400	CONCRETE REMOVAL	CU YD		2
50200100	STRUCTURE EXCAVATION	CU YD		184
50200300	COFFERDAM EXCAVATION	CU YD		237
50201121	COFFERDAM (TYPE 2) (LOCATION - 1)	EACH		1
50201122	COFFERDAM (TYPE 2) (LOCATION - 2)	EACH		1

CODE NO.	ITEM	UNIT	CONSTRUCTION CODE	
			STP FUNDS	TOTAL QUANTITY
50300225	CONCRETE STRUCTURES	CU YD	80% FED	190.7
50300255	CONCRETE SUPERSTRUCTURE	CU YD	20% STATE	301.4
50300260	BRIDGE DECK GROOVING	SO YD	BRIDGE	648
50300300	PROTECTIVE COAT	SO YD	0011	844
50500105	FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	RURAL	1
50500505	STUD SHEAR CONNECTORS	EACH		3600
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND		90390
50800515	BAR SPLICERS	EACH		760
50800530	MECHANICAL SPLICERS	EACH		156
51201900	FURNISHING STEEL PILES HP14X89	FOOT		1057
51202305	DRIVING PILES	FOOT		276
51203900	TEST PILE STEEL HP14X89	EACH		1
51204650	PILE SHOES	EACH		7
51500100	NAME PLATES	EACH		1

FILE NAME *	USER NAME * holsteadw	DESIGNED - CAD	REVISED -
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MODEL * #MODEL*	PLOT SCALE * 2.0000 "/> in.	DATE - 02/17/14	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SCALE:		SHEET NO. 2 OF 4 SHEETS		STA.	TO STA.	F.A.P. RTE. 885	SECTION 1108-1	COUNTY JOHNSON	TOTAL SHEETS 52	SHEET NO. 4
IL-146 (OVER BAY CREEK) SUMMARY OF QUANTITIES						CONTRACT NO. 78279				
						FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				



DESIGNED	2/7/14
CHECKED	2/7/14
REVIEWED	2/26/14

CONSTRUCTION CODE
STP FUNDS
80% FED
20% STATE
BRIDGE
0011
RURAL

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
52100510	ANCHOR BOLTS, 3/4"	EACH	24
52100520	ANCHOR BOLTS, 1"	EACH	24
542D0220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	75
54210182	PIPE ELBOW, 12"	EACH	1
54213447	END SECTIONS 12"	EACH	3
54213450	END SECTIONS 15"	EACH	4
550B0050	STORM SEWERS, CLASS B, TYPE 1 12"	FOOT	34
59100100	GEOCOMPOSITE WALL DRAIN	SO YD	57
60100945	PIPE DRAINS 12"	FOOT	61
60207000	CATCH BASINS, TYPE A, TYPE B GRATE	EACH	1
60900515	CONCRETE THRUST BLOCKS	EACH	2
61000335	TYPE G INLET BOX, STANDARD 610001	EACH	2
* 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	12.5
* 63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	3

CONSTRUCTION CODE
STP FUNDS
80% FED
20% STATE
BRIDGE
0011
RURAL

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	1
* 63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	2
63200310	GUARDRAIL REMOVAL	FOOT	264
64300240	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 2	EACH	1
66201120	CONCRETE SHOULDER CURB	FOOT	32
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	12
67100100	MOBILIZATION	L SUM	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	4
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1
70106700	TEMPORARY RUMBLE STRIPS	EACH	12
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	2

\* SPECIALTY ITEM

FILE NAME =	USER NAME = dave01973	DESIGNED - CAD	REVISIONS -
PROJECT =	PROJECT =	CHECKED - MH	REVISIONS -
MODEL =	MODEL =	DATE - 02/17/14	REVISIONS -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

IL-146 (OVER BAY CREEK)  
SUMMARY OF QUANTITIES

SCALE:	SHEET NO. 3 OF 4 SHEETS	STA. TO STA.	F.A.P. RTE. 885	SECTION 110B-1	COUNTY JOHNSON	TOTAL SHEETS 52	SHEET NO. 5
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FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT CONTRACT NO. 78279



CONSTRUCTION CODE
STP FUNDS
80% FED
20% STATE
BRIDGE
0011
RURAL

CONSTRUCTION CODE
STP FUNDS
80% FED
20% STATE
BRIDGE
0011
RURAL

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
70200100	NIGHTTIME WORKZONE LIGHTING	L SUM	1
70300100	SHORT TERM PAVEMENT MARKING	FOOT	108
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	3200
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	1094
70400100	TEMPORARY CONCRETE BARRIER	FOOT	350.0
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	350.0
70600240	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE, NARROW), TEST LEVEL 2	EACH	2
70600340	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 2	EACH	2
* 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	3200
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	5
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	3
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	15
* 78200510	BARRIER WALL MARKERS, TYPE A	EACH	6
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
78300100	PAVEMENT MARKING REMOVAL	SQ FT	531
78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	5
* 86200300	UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	1
X2010400	STUMP REMOVAL ONLY	UNIT	32
X5860110	GRANULAR BACKFILL FOR STRUCTURES	CU YD	107
Z0004552	APPROACH SLAB REMOVAL	SQ YD	222
Z0007601	BUILDING REMOVAL NO. 1	L SUM	1
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	44
Z0022800	FENCE REMOVAL	FOOT	131
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	139
Z0065000	SETTING PILES IN ROCK	EACH	23
Z0073002	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	210

REVISED	2/28/11
REVIEWED	2/27/11
DESIGNED	2/17/11
DRAWN	2/17/11

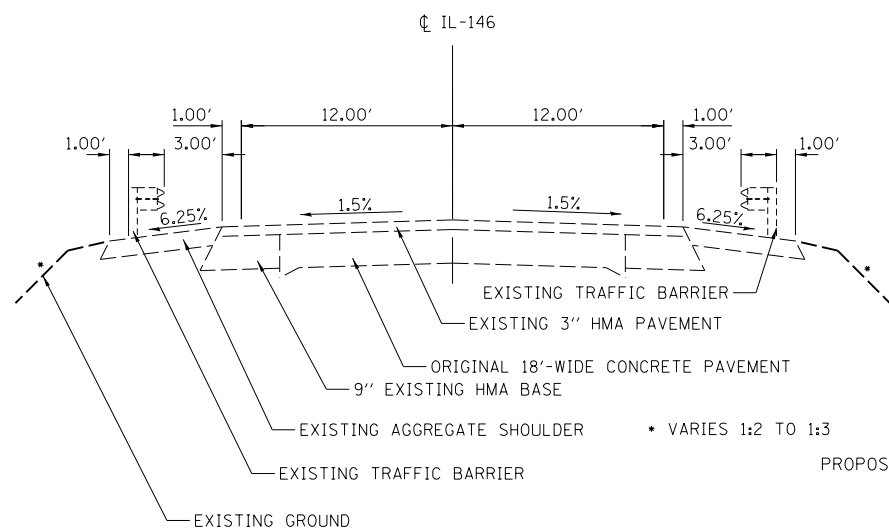
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MODEL * #MODEL#	PLOT SCALE * 2.0000 "/ in.	CHECKED - MH	REVISED - REVISED
	PLOT DATE * 3/21/2014	DATE - 02/17/14	REVISED - REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

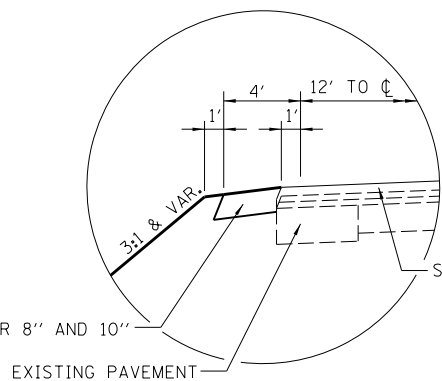
**IL-146 (OVER BAY CREEK)  
SUMMARY OF QUANTITIES**

SCALE:	SHEET NO. 4 OF 4 SHEETS	STA.	TO STA.	F.A.P. RTE. 885	SECTION 1108-1	COUNTY JOHNSON	TOTAL SHEETS 52	SHEET NO. 6
				FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

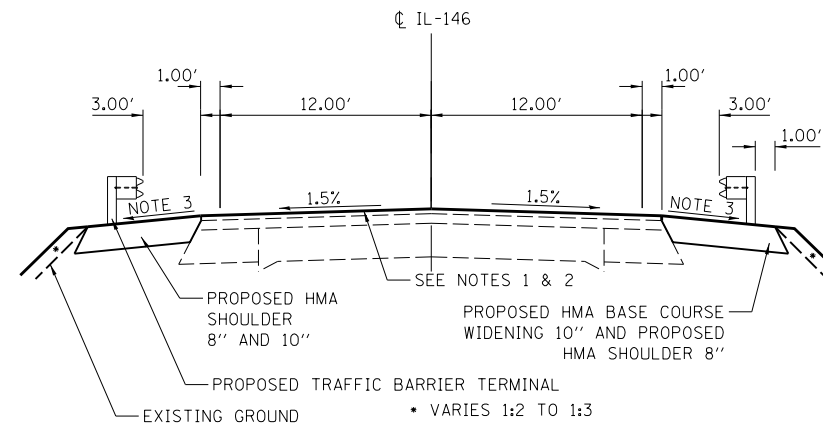
\* SPECIALTY ITEM



**EXISTING IL-146 TYPICAL SECTION**



PROPOSED HMA SHOULDER DETAIL  
 LT STA. 487+02.91 TO LT STA. 488+41.18  
 LT STA. 491+75.10 TO LT STA. 492+25.16



**PROPOSED IL-146 TYPICAL SECTION**

STA. 487+47.91 TO STA. 488+41.18  
 STA. 488+41.18 TO STA. 488+47.18 - BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)  
 STA. 488+47.18 TO STA. 490+42.51 - BRIDGE OMISSION  
 STA. 490+42.51 TO STA. 490+48.51 - BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)  
 STA. 490+48.51 TO STA. 491+80.16

**NOTE 1**

STA. 487+02.91 TO STA. 488+41.18  
 PROPOSED HMA SURFACE COURSE, MIX "C", N90 - 1 1/2"  
 STA. 487+47.91 TO STA. 488+41.18  
 PROPOSED HMA BINDER COURSE, IL-19.0, N90 - VARIABLE DEPTH

**NOTE 2**

STA. 490+48.51 TO STA. 492+25.16  
 PROPOSED HMA SURFACE COURSE, MIX "C", N90 - 1 1/2"  
 STA. 490+48.51 TO STA. 491+80.16  
 PROPOSED HMA BINDER COURSE, IL-19.0, N90 - VARIABLE DEPTH

**NOTE 3**

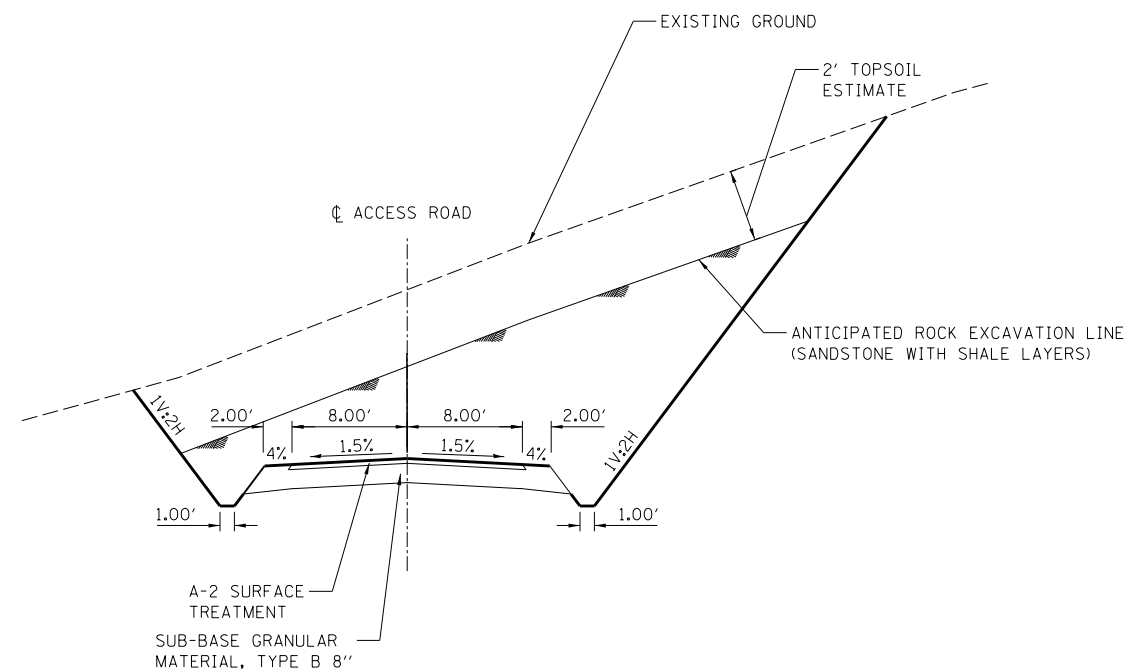
ROTATE SHOULDERS TO MATCH PCC CONNECTOR OVER 25.00'  
 STA. 488+16.18 TO STA. 488+41.18 - TRANSITION PAVED SHOULDER FROM 4.0% CROSS SLOPE TO 2.0% CROSS SLOPE  
 STA. 490+48.51 TO STA. 490+73.51 - TRANSITION PAVED SHOULDER FROM 2.0% CROSS SLOPE TO 4.0% CROSS SLOPE

**MIXTURE TABLE**

LOCATIONS:	HOT-MIX ASPHALT SURFACE COURSE AND LEVELING BINDER
MIXTURE USE(S):	HOT-MIX ASPHALT SURFACE COURSE, MIX C, N90
AC/PG:	PG 64-22
ABR % (MAX.):	SEE SPECIAL PROVISION
DESIGN AIR VOIDS:	4.0%, 90 GYRATION DESIGN
MIXTURE COMPOSITION: (GRADATION MIXT)	IL-9.5 MM
FRICTION AGGREGATE:	C SURFACE
QUALITY MANAGEMENT PROGRAM:	QC/QA

LOCATIONS:	HOT-MIX ASPHALT BINDER COURSE, BASE COURSE WIDENING AND HMA SHOULDERS
MIXTURE USE(S):	HOT-MIX ASPHALT BINDER COURSE, N90, IL-19.0 MM FINE GRADE
AC/PG:	PG 64-22
ABR % (MAX.):	SEE SPECIAL PROVISION
DESIGN AIR VOIDS:	4.0%, 90 GYRATION DESIGN
MIXTURE COMPOSITION: (GRADATION MIXT)	IL-19.0 MM FINE GRADE
FRICTION AGGREGATE:	NONE
QUALITY MANAGEMENT PROGRAM:	QC/QA

THE HOT MIX ASPHALT BASE COURSE WIDENING, 10" CONSTRUCTED IN PRE-STAGE I MAY BE INCORPORATED INTO THE FINAL HOT MIX ASPHALT SHOULDERS, 8" DURING STAGE II CONSTRUCTION IF APPROVED BY THE ENGINEER. SUCH CHANGE WILL NOT BE A CAUSE FOR ADDITIONAL COMPENSATION, BUT THE CONTRACTOR WILL BE PAID FOR THE ACTUAL QUANTITY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.



**PROPOSED ACCESS ROAD TYPICAL SECTION**

STA. 100+07.58 TO STA. 103+46.25

LAYOUT	BKC	2/7/11
DRAWN	BKC	2/7/11
REVIEWED	MH	2/28/11

FILE NAME =	USER NAME = dward01573	DESIGNED - BKC	REVISED -
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MODEL = IL-146 and Access	PLOT SCALE = 10.0000 "/in.	CHECKED - MH	REVISED -
	PLOT DATE = 03/10/2014	DATE - 02/17/14	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TYPICAL SECTIONS (IL-146 OVER BAY CREEK)**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	7
CONTRACT NO. 78279				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

TREE REMOVAL					
LOCATION			2100110	2100210	X2010400
			TREE REMOVAL 6-15 UNITS DIAMETER	TREE REMOVAL OVER 15 UNITS	STUMP REMOVAL ONLY
STATION	OFFSET	SIDE	UNITS	UNITS	UNITS
<b>ACCESS ROAD</b>					
101+61.37	6.04	RT			8
101+61.69	16.10	LT			8
101+71.77	6.85	RT			8
102+00.03	7.64	LT	6		
102+01.73	9.82	RT	6		
102+07.51	10.18	RT	6		
102+18.53	8.55	RT			8
102+29.69	21.61	RT	6		
102+32.58	34.11	RT	6		
102+33.47	29.33	RT	6		
102+34.75	28.36	RT	6		
102+35.66	35.24	RT	6		
102+37.41	9.37	RT	15		
102+37.81	15.25	RT	6		
102+41.88	22.70	RT	6		
102+45.58	18.14	RT	6		
102+46.55	10.60	RT	8		
102+53.29	12.96	RT	6		
102+57.62	7.28	RT	6		
102+58.45	6.50	RT	6		
102+58.98	11.26	RT	8		
102+59.78	12.35	RT	12		
102+60.10	19.75	RT	6		
102+61.84	24.31	RT	6		
102+62.59	23.72	RT	6		
102+70.85	10.49	RT	8		
102+72.13	8.16	RT	8		
102+72.77	18.83	RT	6		
102+73.13	19.70	RT	6		
102+74.67	8.23	RT		18	
102+80.20	2.36	LT	6		
102+83.32	12.62	RT	8		
102+88.22	8.46	LT	12		
102+89.78	7.96	RT		24	
102+94.49	7.92	RT	6		
102+99.65	6.50	RT	6		
103+01.74	28.61	LT	12		
103+04.17	9.00	RT	6		
103+04.99	12.83	LT	6		
103+12.79	8.97	LT	6		
103+12.80	9.36	RT	15		
<b>TOTALS</b>			<b>256</b>	<b>42</b>	<b>32</b>

PAVEMENT SCHEDULE															
LOCATION				31101600	35600716	40300100	40300300	40300500	40300600	40600990	40603090	40603320	42001420	48203029	48203037
				SUBBASE GRANULAR MATERIAL, TYPE B 8'	HOT-MIX ASPHALT BASE COURSE WIDENING, 10"	BITUMINOUS MATERIALS (PRIME COAT)	BITUMINOUS MATERIALS (COVER AND SEAL COATS)	COVER COAT AGGREGATE	SEAL COAT AGGREGATE	TEMPORARY RAMP	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N90	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N90	BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)	HOT-MIX ASPHALT SHOULDERS, 8"	HOT-MIX ASPHALT SHOULDERS, 10"
				SQ YD	SQ YD	GALLON	GALLON	TON	TON	SQ YD	TON	TON	SQ YD	SQ YD	SQ YD
BEGIN STATION	OFFSET	END STATION	OFFSET												
<b>IL 146</b>															
486+84.16		RT	488+62.18												
487+02.91			487+07.91							14					99
487+02.91			488+41.18			40						34			
487+02.91		LT	487+33.55												19
487+33.55			488+41.18												41
487+42.14		RT	488+54.19			31									
487+47.91			488+41.18			27						40			
488+41.18			488+47.18											25	
490+27.51		LT	491+42.10												75
490+27.51		RT	492+25.16												112
490+42.51			490+48.51											21	
490+48.51			491+80.16			51						78			
490+48.51			492+25.16			44						43			
491+42.10		LT	492+25.16												37
492+20.65			492+25.16							14					
<b>ACCESS ROAD</b>															
100+07.58			103+46.25												
<b>TOTAL</b>				<b>812</b>	<b>75</b>	<b>487</b>	<b>661</b>	<b>9</b>	<b>9</b>	<b>28</b>	<b>118</b>	<b>77</b>	<b>46</b>	<b>267</b>	<b>116</b>

PAVEMENT MARKING SCHEDULE										
LOCATION			78001110	78100100	78100105	78200410	78200510	78201000	78300200	NOTE
			PAINT PAVEMENT MARKING - LINE 4"	RAISED REFLECTIVE PAVEMENT MARKER	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	GUARDRAIL MARKERS, TYPE A	BARRIER WALL MARKERS TYPE A	TERMINAL MARKER DIRECT APPLIED	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	
			FOOT	EACH	EACH	EACH	EACH	EACH	EACH	
BEGIN STATION	END STATION	OFFSET								
<b>IL 146</b>										
485+95.00	493+95.00	LT	800							WHITE
485+95.00	493+95.00	RT	800							WHITE
485+95.00	493+95.00	CL	1600							YELLOW
487+02.91	488+41.18	CL		2					2	TWO-WAY AMBER
487+68.43	488+62.18	RT					5			
488+47.18		RT							1	
488+41.18	490+48.51	CL			3					TWO-WAY AMBER
488+47.18		LT								
488+62.18	490+27.52	LT							3	
488+62.18	490+27.52	RT							3	
490+27.51	491+21.26	LT								
490+27.51	491+21.26	RT							5	
490+48.51	492+25.16	CL			3					TWO-WAY AMBER
491+21.26		RT								
491+21.26		LT							1	
<b>TOTAL</b>			<b>3200</b>	<b>5</b>	<b>3</b>	<b>15</b>	<b>6</b>	<b>4</b>	<b>5</b>	

SEEDING SCHEDULE								
LOCATION			25000200	25000350	25000400	25000500	25000600	25100115
			SEEDING, CLASS 2	SEEDING, CLASS 7	NITROGEN FERTILIZER NUTRIENT	PHOSPHORUS FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	MULCH, METHOD 2
			ACRES	ACRE	POUND	POUND	POUND	ACRE
BEGIN STATION	END STATION	OFFSET						
<b>IL 146</b>								
487+62.88	488+77.20	RT	0.05	0.05	7	5	5	0.10
490+12.54	491+51.63	RT	0.05	0.05	6	5	5	0.10
490+12.54	491+44.78	LT	0.05	0.05	7	5	5	0.10
<b>ACCESS ROAD</b>								
100+07.58	103+46.25	LT	0.17	0.17	23	16	16	0.34
100+07.58	103+46.25	RT	0.16	0.16	22	15	15	0.32
<b>TOTAL</b>			<b>0.50</b>	<b>0.50</b>	<b>65</b>	<b>46</b>	<b>46</b>	<b>1.00</b>

EARTHWORK SCHEDULE						
LOCATION		A	B	C	D	20200200
		20200100	EXCAVATION TO BE USED IN EMBANKMENT, ADJUSTED FOR SHRINKAGE (20%)	EMBANKMENT**	EARTHWORK BALANCE EXCESS (+) OR SHORTAGE (-)***	ROCK EXCAVATION
		EARTH EXCAVATION*	CU YD	CU YD	CU YD	CU YD
BEGIN STATION	END STATION					
<b>IL 146</b>						
487+47.91	488+54.77				3	-3
490+34.93	491+80.16				66	-66
<b>ACCESS</b>						
100+07.58	103+46.25	1010	808		47	761
<b>TOTAL</b>		<b>1010</b>	<b>808</b>		<b>116</b>	<b>692</b>

**EQUATIONS USED**  
 B = A \* 0.80  
 D = B - C

**NOTES**  
 \* - CUTS FROM CROSS SECTIONS  
 \*\* - FILL FROM CROSS SECTIONS  
 \*\*\* - AN EXCESS OF EXCAVATED SOIL

LAYOUT	BKC	2/7/11
DRAWN	BKC	2/7/11
REVIEWED	MH	2/28/11

FILE NAME =	USER NAME = dwd01573	DESIGNED - CAD	REVISED -
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	PLOT DATE = 03/10/2014	DATE - 02/17/14	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**SCHEDULE OF QUANTITIES  
 (IL-146 OVER BAY CREEK)**

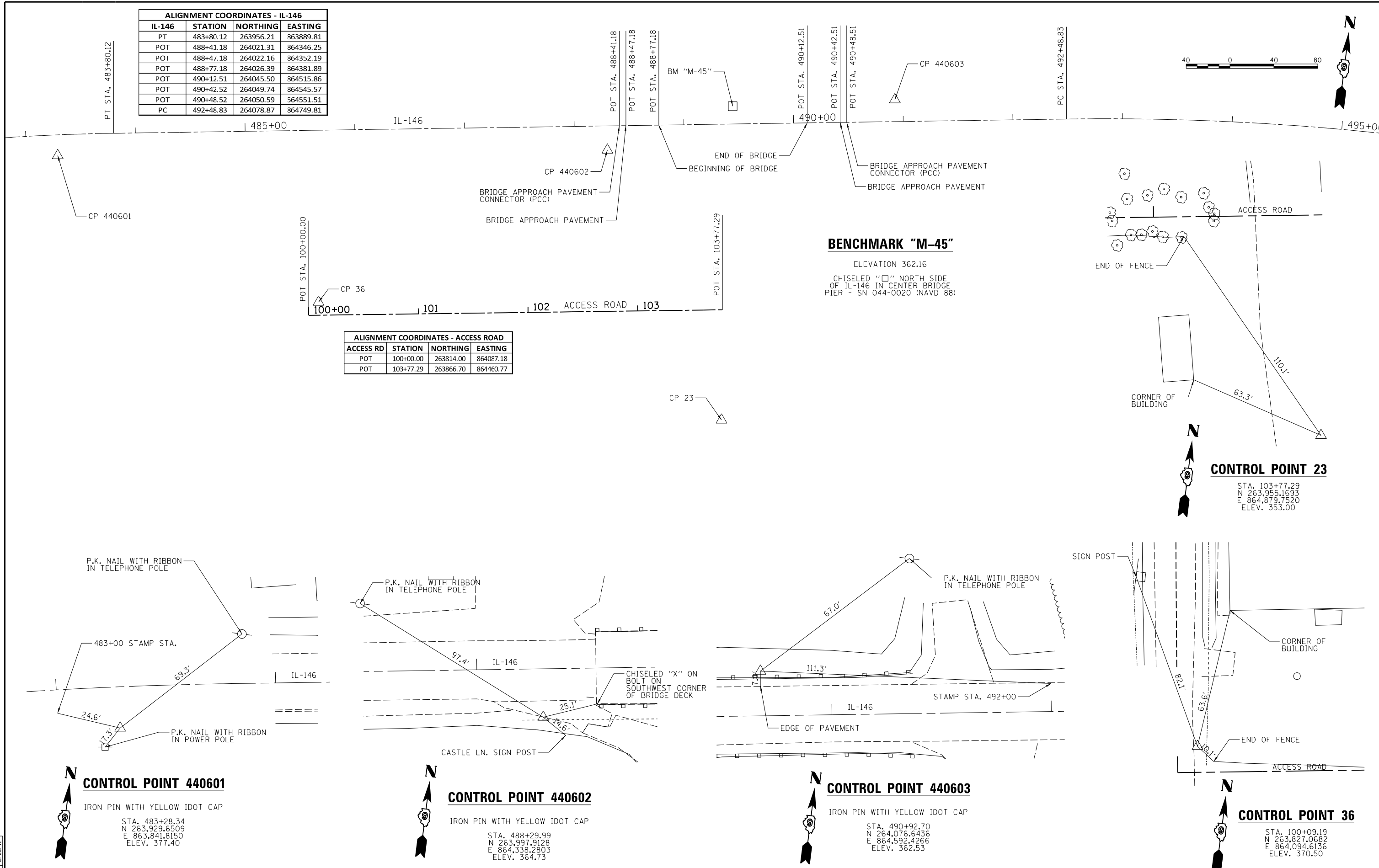
SCALE:	SHEET NO.	OF	SHEETS	STA.	TO	STA.	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	8
<b>CONTRACT NO. 78279</b>				



ALIGNMENT COORDINATES - IL-146			
IL-146	STATION	NORTHING	EASTING
PT	483+80.12	263956.21	863889.81
POT	488+41.18	264021.31	864346.25
POT	488+47.18	264022.16	864352.19
POT	488+77.18	264026.39	864381.89
POT	490+12.51	264045.50	864515.86
POT	490+42.52	264049.74	864545.57
POT	490+48.52	264050.59	864551.51
PC	492+48.83	264078.87	864749.81

ALIGNMENT COORDINATES - ACCESS ROAD			
ACCESS RD	STATION	NORTHING	EASTING
POT	100+00.00	263814.00	864087.18
POT	103+77.29	263866.70	864460.77



**CONTROL POINT 440601**  
 IRON PIN WITH YELLOW IDOT CAP  
 STA. 483+28.34  
 N 263,929.6509  
 E 863,841.8150  
 ELEV. 377.40

**CONTROL POINT 440602**  
 IRON PIN WITH YELLOW IDOT CAP  
 STA. 488+29.99  
 N 263,997.9128  
 E 864,338.2803  
 ELEV. 364.73

**CONTROL POINT 440603**  
 IRON PIN WITH YELLOW IDOT CAP  
 STA. 490+92.70  
 N 264,076.6436  
 E 864,592.4266  
 ELEV. 362.53

**CONTROL POINT 36**  
 IRON PIN WITH YELLOW IDOT CAP  
 STA. 100+09.19  
 N 263,827.0682  
 E 864,094.6136  
 ELEV. 370.50

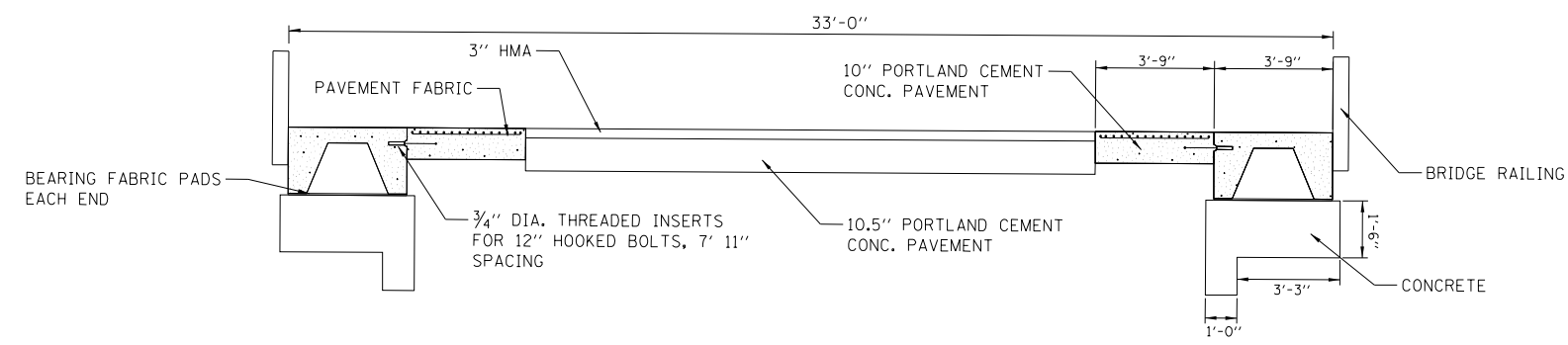
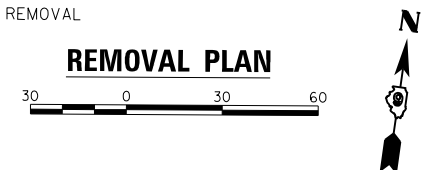
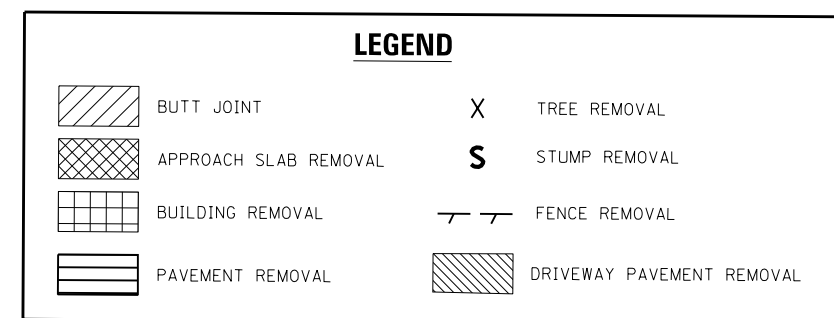
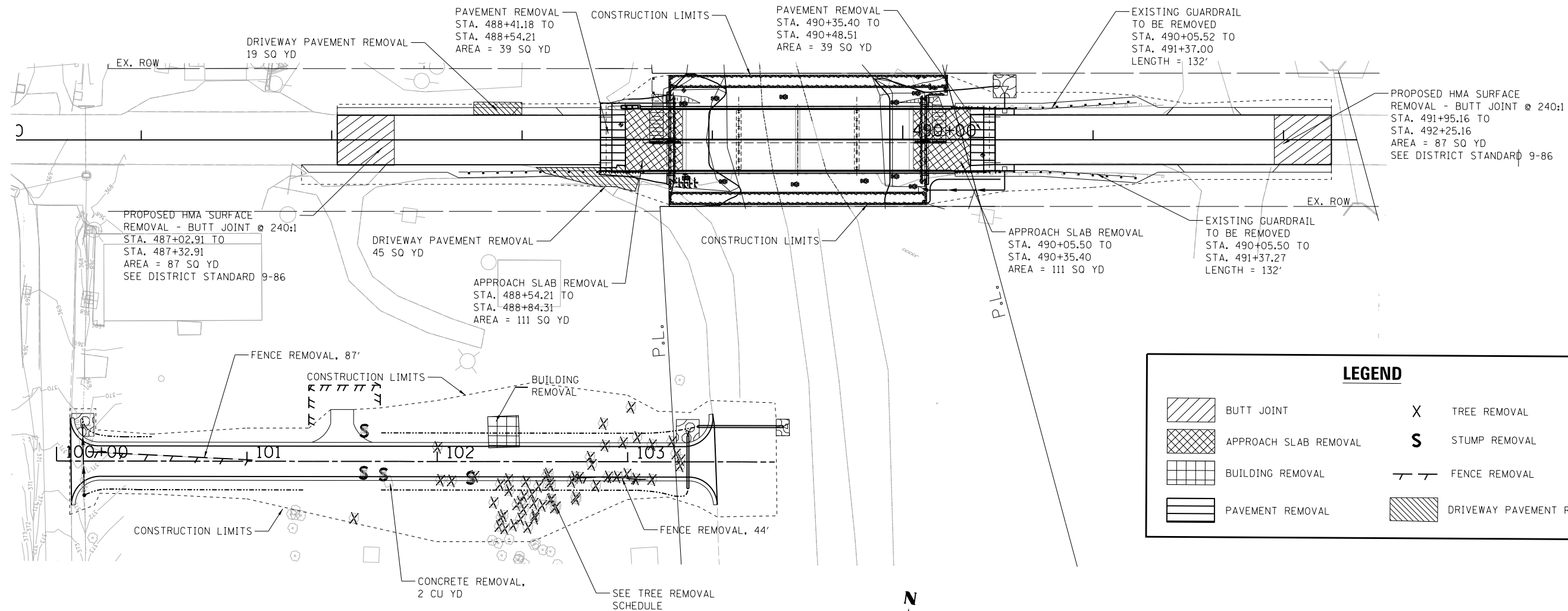
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DRAWN	BKC	2/7/11
REVIEWED	MH	2/28/11

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MODEL = 40 scale	DATE = 03/10/2014	DATE - 02/17/14	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

<b>ALIGNMENT, TIES, &amp; BENCHMARKS          IL-146 (OVER BAY CREEK)</b>			
SCALE:	SHEET NO.	OF SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	9
CONTRACT NO. 78279				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



**SECTIONAL VIEW OF EXISTING APPROACH SLAB**

LAYOUT	BKC	2/7/11
DRAWN	BKC	2/7/11
REVIEWED	MH	2/28/11

FILE NAME =	USER NAME = dwd01573	DESIGNED - CAD	REVISED -
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MODEL = 30 scale	PLOT SCALE = 60.0000' / in.	CHECKED - MH	REVISED -
	PLOT DATE = 03/10/2014	DATE - 02/17/14	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**REMOVAL PLAN & SECTIONAL APPROACH VIEW**

SCALE:	SHEET NO.	OF	SHEETS	STA.	TO	STA.
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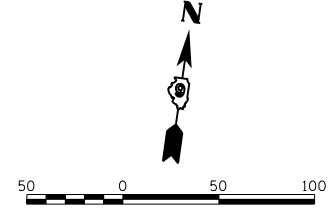
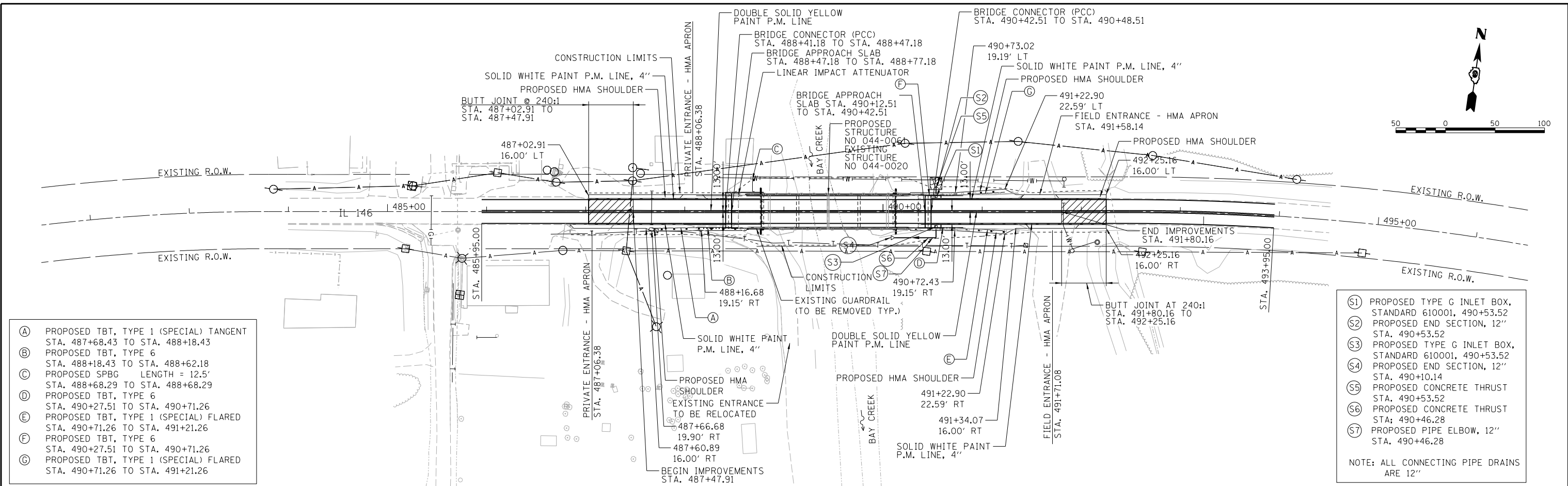
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885	110B-1	JOHNSON	52	10
CONTRACT NO. 78279				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

DATE	
BY	
PLAN	
SURVEYED	
PLOTTED	
ALIGNED	
CHECKED	
FILE NAME	
NO.	



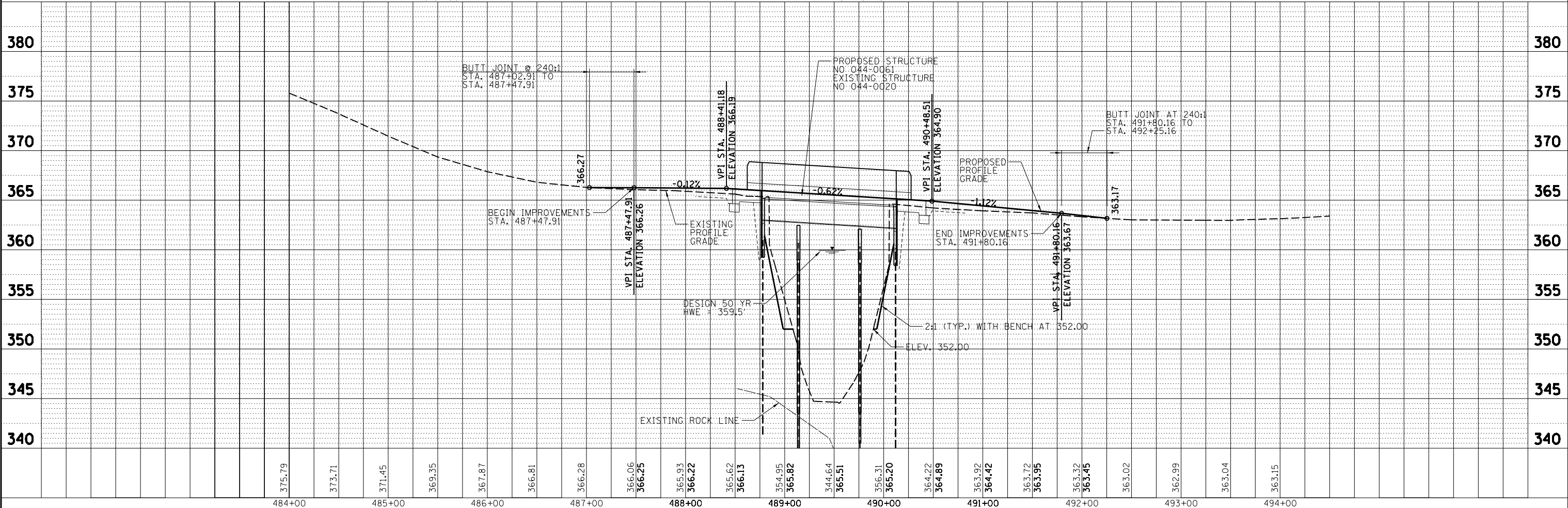
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BY	
PROFILE	
SURVEYED	
PLOTTED	
GRADES CHECKED	
STRUCTURE	
NOT AT THIS OFFICE	
NO.	

LAYOUT	
DRAWN	
REVIEWED	



- (A) PROPOSED TBT, TYPE 1 (SPECIAL) TANGENT STA. 487+68.43 TO STA. 488+18.43
- (B) PROPOSED TBT, TYPE 6 STA. 488+18.43 TO STA. 488+62.18
- (C) PROPOSED SPBG LENGTH = 12.5' STA. 488+68.29 TO STA. 488+68.29
- (D) PROPOSED TBT, TYPE 6 STA. 490+27.51 TO STA. 490+71.26
- (E) PROPOSED TBT, TYPE 1 (SPECIAL) FLARED STA. 490+71.26 TO STA. 491+21.26
- (F) PROPOSED TBT, TYPE 6 STA. 490+27.51 TO STA. 490+71.26
- (G) PROPOSED TBT, TYPE 1 (SPECIAL) FLARED STA. 490+71.26 TO STA. 491+21.26

- (S1) PROPOSED TYPE G INLET BOX, STANDARD 610001, 490+53.52
  - (S2) PROPOSED END SECTION, 12" STA. 490+53.52
  - (S3) PROPOSED TYPE G INLET BOX, STANDARD 610001, 490+53.52
  - (S4) PROPOSED END SECTION, 12" STA. 490+10.14
  - (S5) PROPOSED CONCRETE THRUST STA. 490+53.52
  - (S6) PROPOSED CONCRETE THRUST STA. 490+46.28
  - (S7) PROPOSED PIPE ELBOW, 12" STA. 490+46.28
- NOTE: ALL CONNECTING PIPE DRAINS ARE 12"



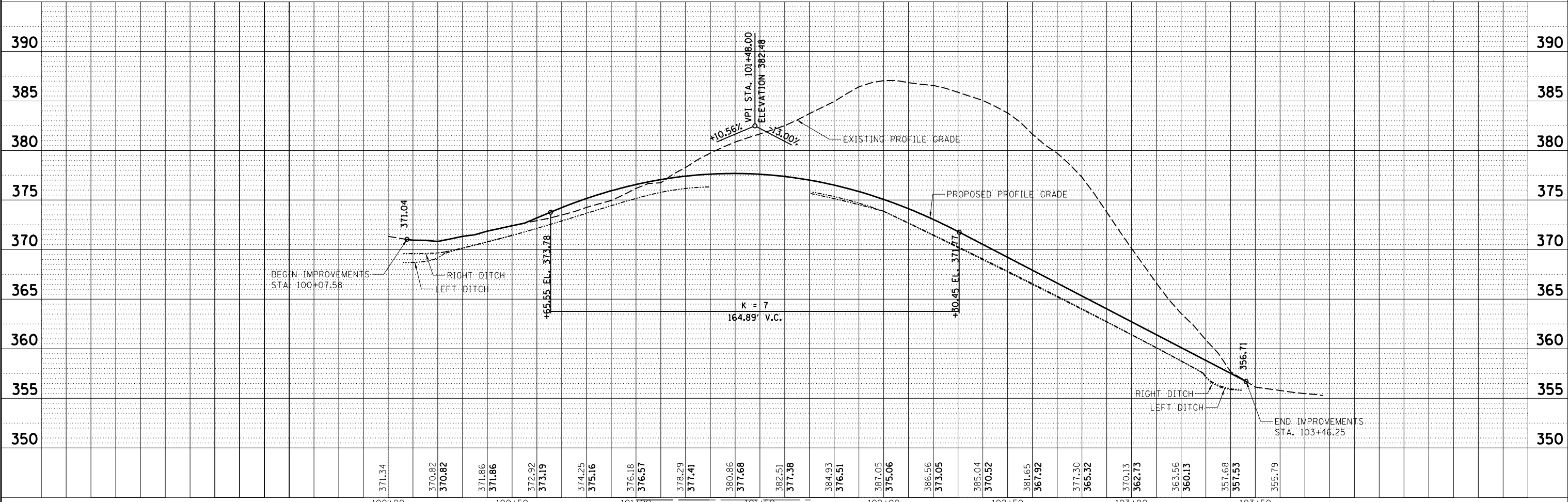
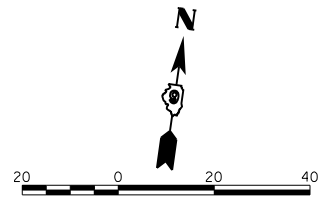
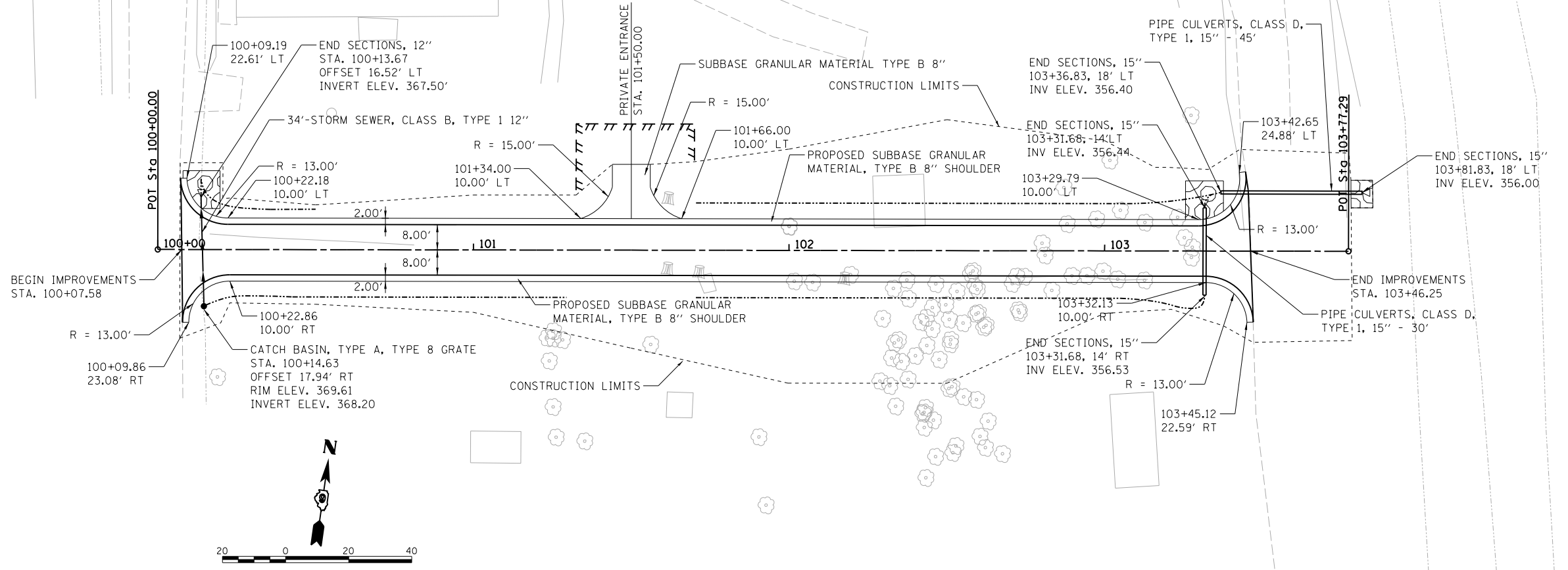
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PLOT SCALE = 100.0001' / in.								CHECKED - MH	REVISED -	CONTRACT NO. 78279					
PLOT DATE = 03/10/2014								DATE - 02/17/14	REVISED -	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					
									SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.		

PLAN	SURVEYED	DATE
	PLOTTED	BY
	ALIGNED	
	CHECKED	
	FILED	
	NO. /	
	NO.	



PROFILE	SURVEYED	DATE
	PLOTTED	BY
	GRADES CHECKED	
	STRUCTURE NOTATIONS CHECKED	
	NO. /	
	NO.	

LAYOUT	DATE
DRAWN	BY
REVIEWED	



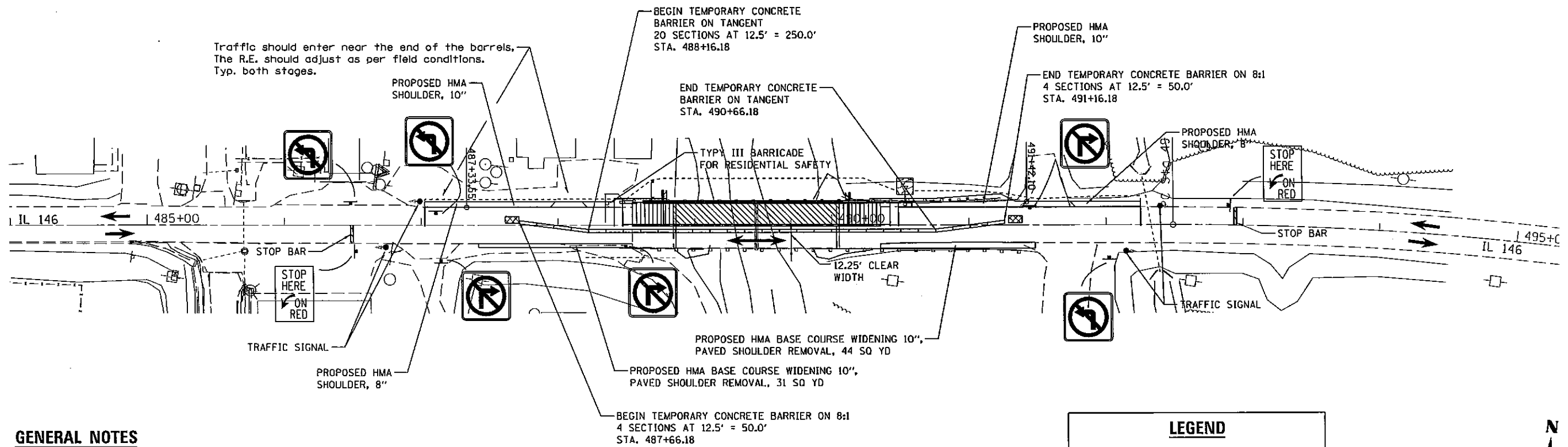
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		DATE - 02/17/14	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PLAN & PROFILE (ACCESS ROAD)**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	12
CONTRACT NO. 78279				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



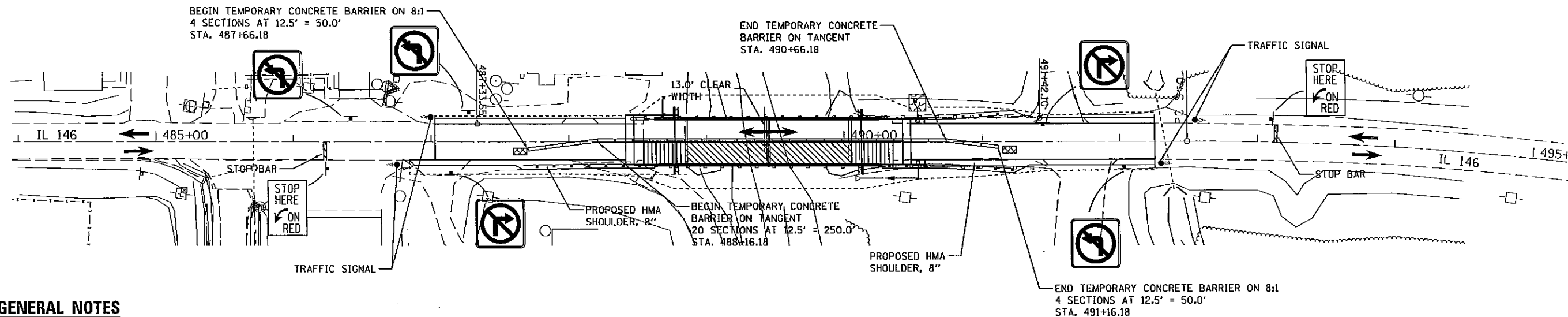
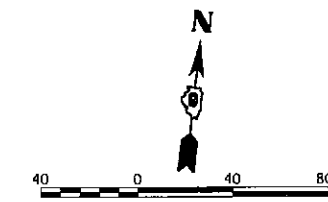
**GENERAL NOTES**

- GRADE RAISE OF ROADWAY WILL BE PERFORMED UNDER STANDARD 701201
- ACCESS ROAD SHOULD BE FINISHED DURING STAGE 1 OF CONSTRUCTION

**STAGE 1 CONSTRUCTION**

**LEGEND**

- [Hatched Box] APPROACH SLAB REMOVAL
- [Diagonal Lines Box] STRUCTURE REMOVAL
- [Cross-hatched Box] IMPACT ATTENUATOR



**GENERAL NOTES**

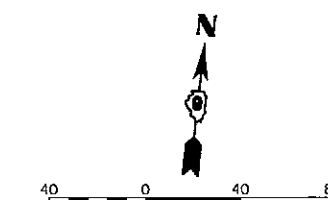
- GRADE RAISE OF ROADWAY WILL BE PERFORMED UNDER STANDARD 701201

- REFER TO STANDARDS:
- 701001 - OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
  - 701006 - OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
  - 701011 - OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
  - 701201 - LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS >= 45 MPH
  - 701301 - LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
  - 701321 - LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
  - 701326 - LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS >= 45 MPH
  - 701901 - TRAFFIC CONTROL DEVICES
  - 704001 - TEMPORARY CONCRETE BARRIER
  - 720001 - SIGN PANEL MOUNTING DETAILS
  - 720006 - SIGN PANEL ERECTION DETAILS

**STAGE 2 CONSTRUCTION**

**LEGEND**

- [Hatched Box] APPROACH SLAB REMOVAL
- [Diagonal Lines Box] STRUCTURE REMOVAL
- [Cross-hatched Box] IMPACT ATTENUATOR



LAYOUT	B/C	2/7/11
DRAWN	B/C	2/7/11
REVIEWED	MH	2/28/11

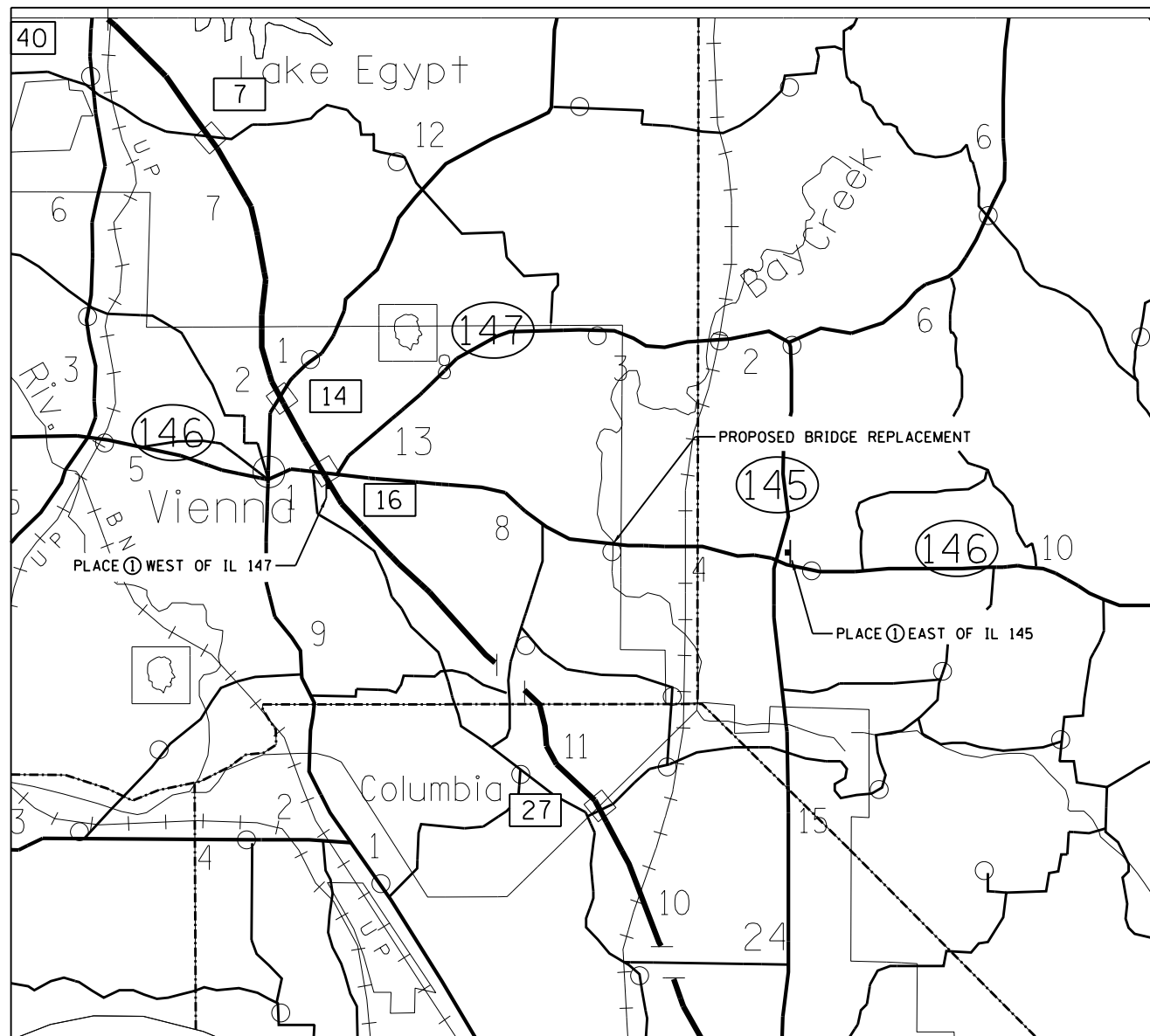
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MODEL = #MO0EL3	PLOT SCALE = 79.9998' / in.	DATE - 02/17/14	REVISED -
	PLOT DATE = 3/24/2014		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

IL-146 TRAFFIC CONTROL AND STAGING

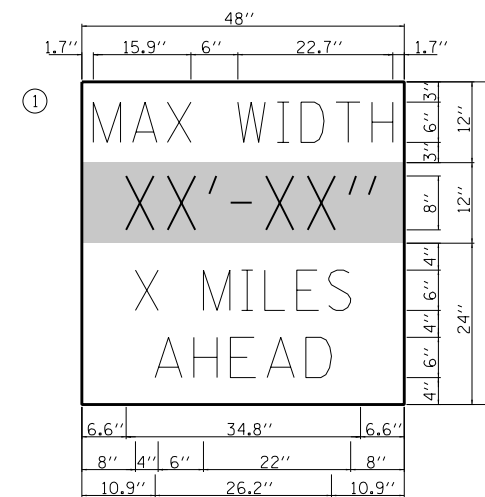
SCALE: SHEET NO. OF SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	1108-1	JOHNSON	52	13
CONTRACT NO. 78279				
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				



**DETOUR SIGNING PLAN**

**SIGN LEGEND**



**W12-1103**

W12-1103 (WIDTH IS 8D):  
 NO BORDER, BLACK ON WHITE;  
 "MAX WIDTH" D;  
 NO BORDER, BLACK ON ORANGE;  
 "XX'-XX'" D;  
 NO BORDER, BLACK ON WHITE;  
 "X MILES" D; "AHEAD" D

**DETOUR NOTES:**

1. THE CONTRACTOR SHALL FURNISH THE POSTS AND ERECT THE SIGNS AT THE LOCATIONS AS DIRECTED BY THE ENGINEER, ALL SIGNS SHALL BE POST MOUNTED.
2. THE ABOVE NOTED WORK, INCLUDING SIGNS, POSTS, HARDWARE, AND LABOR SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE, EACH, FOR TRAFFIC CONTROL AND PROTECTION, STD 701321 AND NO OTHER COMPENSATION WILL BE ALLOWED.
3. THE WIDTH SHOWN ON THE W12-1103 SIGN DURING IL-146 CONSTRUCTION SHALL BE 10'-9" FOR STAGE I AND 11'-6" FOR STAGE II OR AS DIRECTED BY THE ENGINEER. THE "X" MILES AHEAD WILL BE DETERMINED BY THE ENGINEER.

LAYOUT	BKC	2/7/11
DRAWN	BKC	2/7/11
REVIEWED	MH	2/28/11

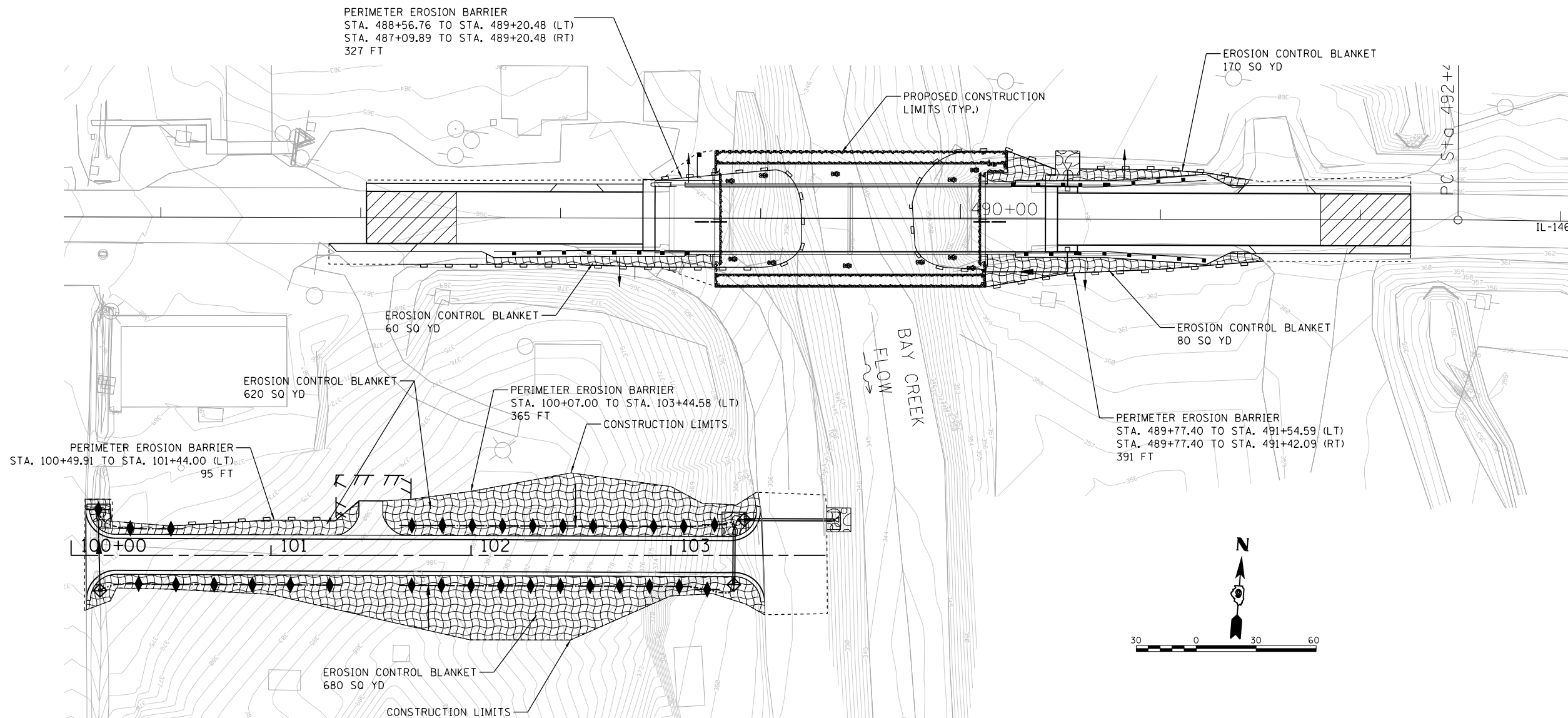
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MODEL = BRIDGE STAGE CONSTRUCTION	PLOT SCALE = 100.0000' / 1in.	CHECKED - MH	REVISED -
	PLOT DATE = 03/10/2014	DATE - 02/17/14	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**






**IL-146 (OVER BAY CREEK) WIDE LOAD DETOUR SIGNING**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	14
CONTRACT NO. 78279				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



**EROSION CONTROL LEGEND**

-  EROSION CONTROL BLANKET
-  PERIMETER EROSION BARRIER
-  DRAINAGE PATTERN DIRECTION
-  DITCH CHECK
-  INLET PROTECTION

**INTENDED SEQUENCE**

1. PLACEMENT OF PERIMETER EROSION BARRIER PRIOR TO COMMENCEMENT OF ANY WORK. SEE STANDARD 280001.
2. PLACEMENT OF TEMPORARY SEEDING ON GRADED SURFACES NOT HAVING PERMANENT SEEDING APPLIED.
3. PLACEMENT OF EROSION CONTROL BLANKET AFTER FINAL GRADING.
4. ONGOING MAINTENANCE OF EROSION CONTROL ELEMENTS.
5. REMOVE TEMPORARY EROSION CONTROL ELEMENTS AFTER FINAL GRADING AND PERMANENT SEEDING ESTABLISHED AS APPROVED BY THE ENGINEER.

**NOTES**

1. MAJOR GRADING SLOPES ALONG THE PROPOSED ROADWAY ARE 2:1 MAX.
2. SOILS DISTURBANCE SHALL ONLY OCCUR WITHIN THE AREAS SHOWN.
3. RECEIVING WATER FOR DRAINAGE FROM PROJECT IS BAY CREEK, BAY CREEK IS A TRIBUTARY OF THE OHIO RIVER.

LAYOUT	BKC	2/7/11
DRAWN	BKC	2/7/11
REVIEWED	MH	2/28/11

FILE NAME =	USER NAME = dwd01573	DESIGNED - CAD	REVISED -
p:\sp1-svr-306.hanson.dom\hanson_projects\01d\Documents\08H0131\W015-SN044-006110Bay	01d\Documents\08H0131\W015-SN044-006110Bay	CR\AWCAD\Road\SHAD 1978279-sht-eros	REVISED -
MODEL = BRIDGE STAGE CONSTRUCTION	PLOT SCALE = 60.0000' / in.	CHECKED - MH	REVISED -
	PLOT DATE = 03/11/2014	DATE = 11/01/13	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY EROSION CONTROL PLAN  
IL-146 (OVER BAY CREEK)**

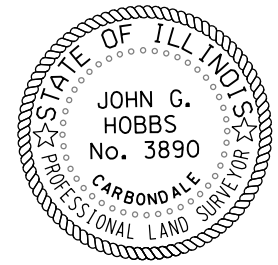
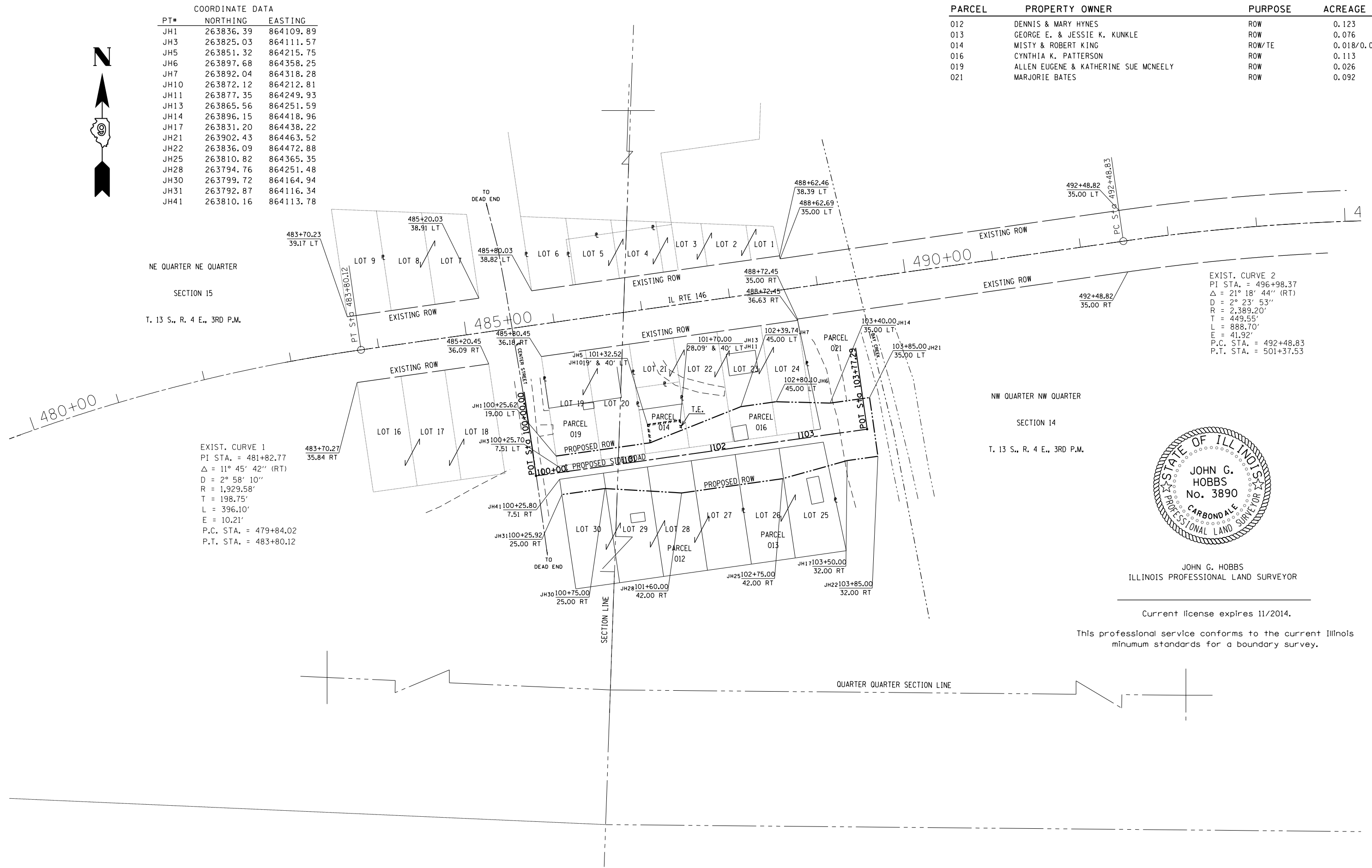
SCALE: SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	15
CONTRACT NO. 78279				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



COORDINATE DATA		
PT#	NORTHING	EASTING
JH1	263836.39	864109.89
JH3	263825.03	864111.57
JH5	263851.32	864215.75
JH6	263897.68	864358.25
JH7	263892.04	864318.28
JH10	263872.12	864212.81
JH11	263877.35	864249.93
JH13	263865.56	864251.59
JH14	263896.15	864418.96
JH17	263831.20	864438.22
JH21	263902.43	864463.52
JH22	263836.09	864472.88
JH25	263810.82	864365.35
JH28	263794.76	864251.48
JH30	263799.72	864164.94
JH31	263792.87	864116.34
JH41	263810.16	864113.78

PARCEL	PROPERTY OWNER	PURPOSE	ACREAGE
012	DENNIS & MARY HYNES	ROW	0.123
013	GEORGE E. & JESSIE K. KUNKLE	ROW	0.076
014	MISTY & ROBERT KING	ROW/TE	0.018/0.014
016	CYNTHIA K. PATTERSON	ROW	0.113
019	ALLEN EUGENE & KATHERINE SUE MCNEELY	ROW	0.026
021	MARJORIE BATES	ROW	0.092



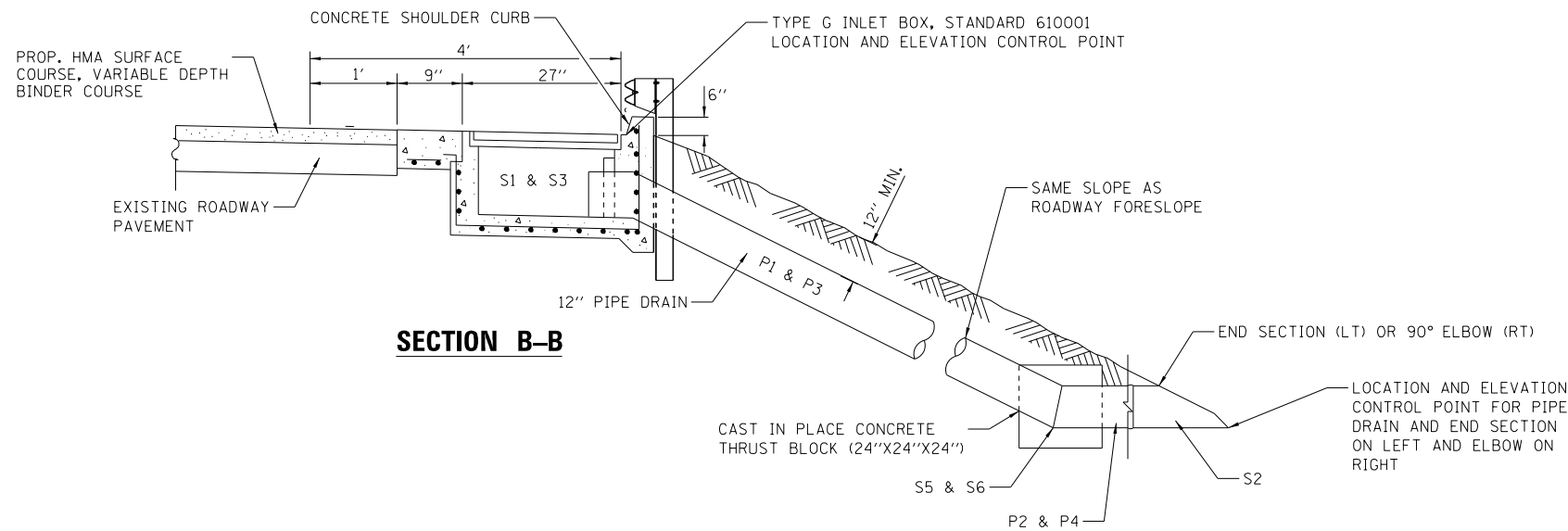
JOHN G. HOBBS  
ILLINOIS PROFESSIONAL LAND SURVEYOR

Current license expires 11/2014.

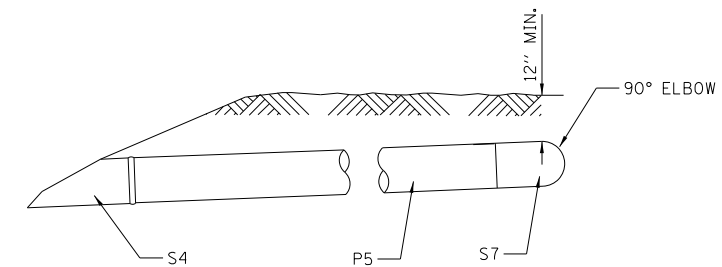
This professional service conforms to the current Illinois minimum standards for a boundary survey.

FILE NAME =	USER NAME = halsteadtw	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	RIGHT OF WAY PLANS IL 146/SN 044-0020		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	Plot Scale = 100.0000' / in.	CHECKED -	REVISED -		SCALE: 1" = 100'	SHEET 1	OF 1 SHEETS	IL 146	110B-1	JOHNSON	52	16
	PLOT DATE = 3/21/2014	DATE -	REVISED -		STA. 484+00.00	TO STA. 490+00.00		R-99-003-09		CONTRACT NO. 78279		
					ILLINOIS FED. AID PROJECT							

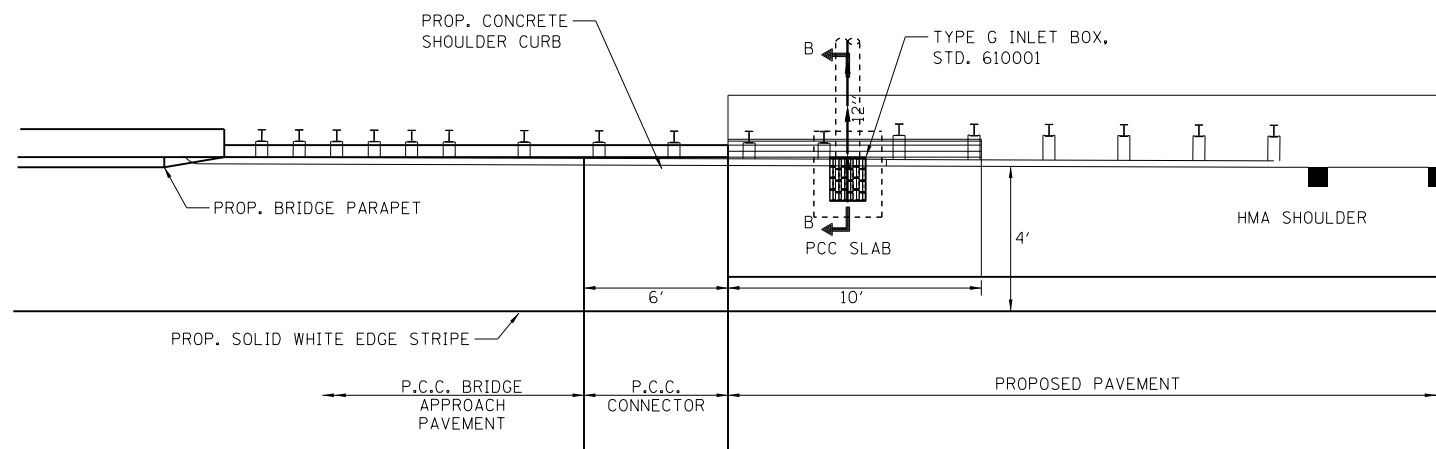




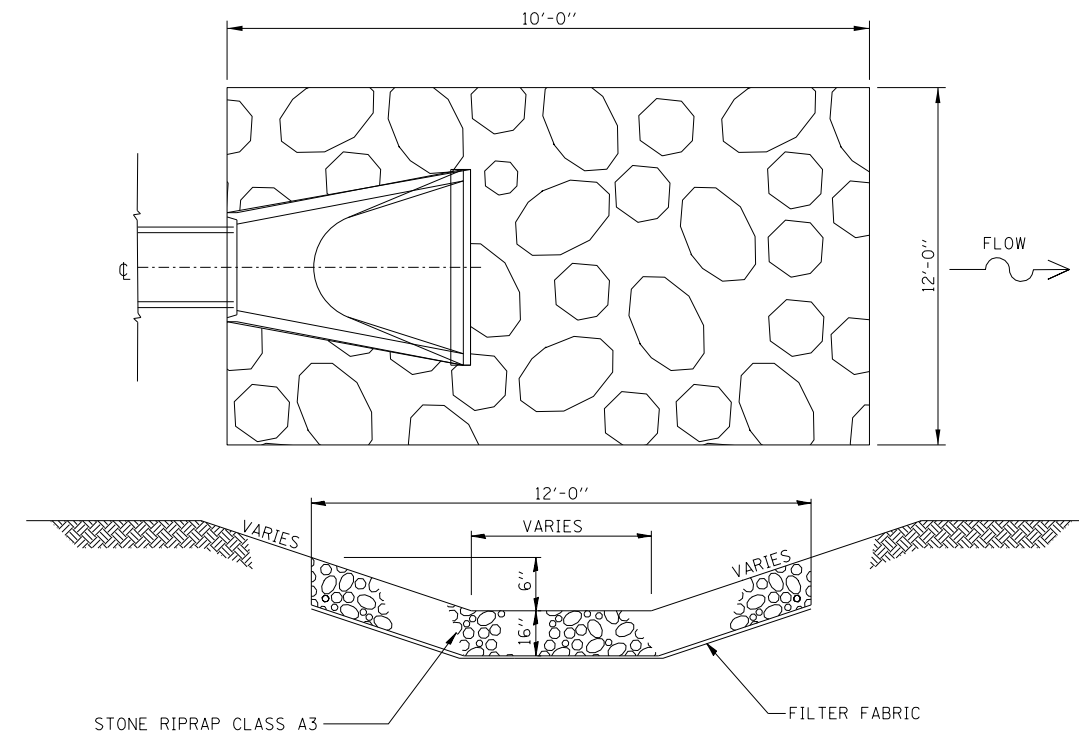
**SECTION B-B**



**PARALLEL PIPE DRAIN (RT)**



**INLET BOX AND PIPE DRAIN DETAIL**



**IL RTE 146 STATION 490+53.52 LT**

DRAINAGE STRUCTURE													
LOCATION						28100105	28200200	54210182	54213447	54213450	60207000	60900515	61000335
STR	STATION	OFFSET	SIDE	RIM ELEV	INVERT ELEV	STONE RIPRAP CLASS A3	FILTER FABRIC	PIPE ELBOW 12"	END SECTIONS 12"	END SECTIONS 15"	CATCH BASIN, TYPE A, TYPE 8 GRATE	CONCRETE THRUST BLOCKS	TYPE G INLET BOX STANDARD 610001
IL 146													
S1	490+53.52	16.0	LT	364.59	361.92								1
S2	490+53.52	26.2	LT	-	359.90	14	14		1				
S3	490+53.52	16.0	RT	364.59	361.92								1
S4	490+10.14	26.5	RT	-	359.72				1				
S5	490+53.52	22.0	LT	-	359.92							1	
S6	490+46.28	22.0	RT	-	359.92							1	
S7	490+46.28	26.5	RT	-	359.90			1					
ACCESS													
	100+13.67	16.5	LT	-	367.50	10	10		1				
	100+14.63	17.9	RT	369.61	368.20						1		
	103+31.68	14.0	LT	-	356.44	10	10			1			
	103+31.68	14.0	RT	-	356.53					1			
	103+36.83	18.0	LT	-	356.40					1			
	103+81.83	18.0	LT	-	356.00	10	10			1			
TOTALS						44	44	1	3	4	1	2	2

PIPE STRUCTURE												
LOCATION						20800150	542D0220	550B0050	60100945			
PIPE NUMBER	FROM STRUCTURE S-NUMBER	TO STRUCTURE S-NUMBER	PIPE SLOPE %	CU YD	FOOT	FOOT	FOOT	FOOT				
IL 146												
P1	S1	361.92	S5	359.92	33.3%	1						7
P2	S5	359.92	S2	359.90	0.5%							5
P3	S3	361.92	S6	359.92	33.3%	1						7
P4	S6	359.92	S7	359.90	0.5%							5
P5	S7	359.90	S4	359.72	0.5%							37
ACCESS												
		368.20		367.50	0.5%	4					34	
		356.53		356.44	0.5%	3				30		
		356.40		356.00	0.5%	5				45		
TOTALS						14	75	34	61			

LAYOUT	BKC	2/7/11
DRAWN	BKC	2/7/11
REVIEWED	MH	2/28/11

FILE NAME =	USER NAME = dwd01573	DESIGNED - CAD	REVISED -
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MODEL = DRAINAGE DETAILS	PLOT SCALE = 39.9999' / in.	DATE - 02/17/14	REVISED -
	PLOT DATE = 03/10/2014		

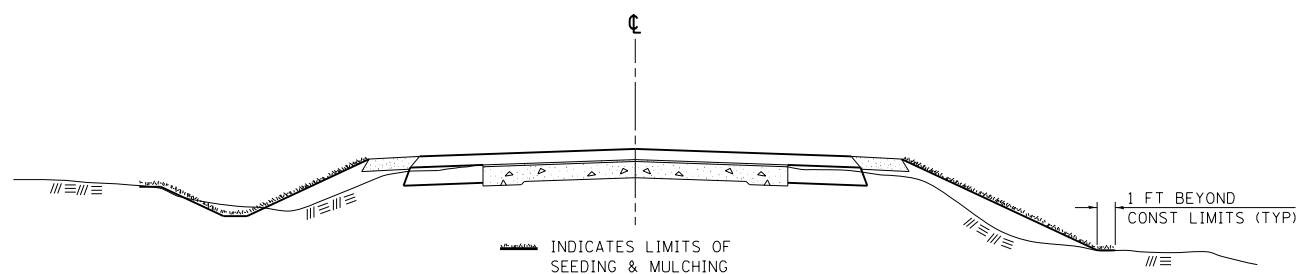
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DRAINAGE DETAILS & SCHEDULES  
IL-146 (OVER BAY CREEK)**

SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	17
CONTRACT NO. 78279				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

## SEEDING & MULCHING



### GENERAL NOTES

IN GENERAL, ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE SEEDED AND MULCHED UPON COMPLETION OF ALL GRADING OPERATIONS.

FERTILIZER NUTRIENTS AND LIMESTONE SHALL BE APPLIED TO ALL SEEDED AREAS.

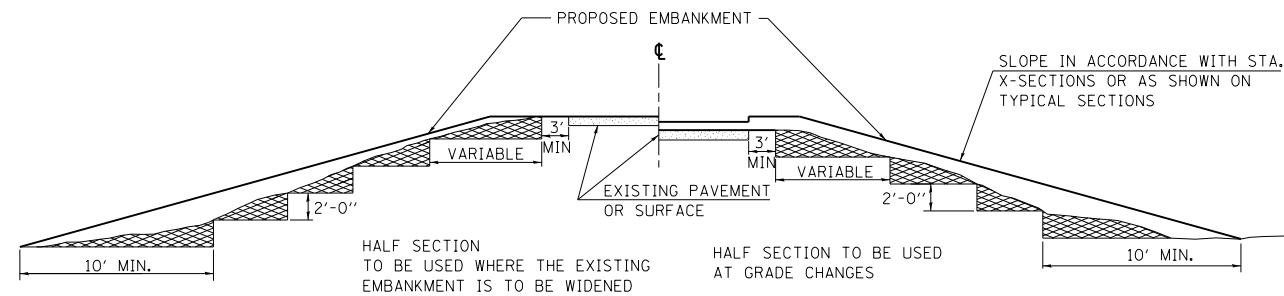
THE RATES OF APPLICATION OF FERTILIZER, MULCH AND LIMESTONE SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS.

SECTIONS 250 AND 251 OF THE STANDARD SPECIFICATIONS SHALL GOVERN THIS WORK EXCEPT AS SPECIFIED HEREIN OR AS NOTED IN THE SPECIAL PROVISIONS.

REVISIONS	
REDRAWN	2-15-89
REVISED	8-15-94
REVISED	6-3-99
REVISED	

STD. 9-12

## TYPICAL CROSS SECTION SHOWING STEP CONSTRUCTION ON EXISTING FILL

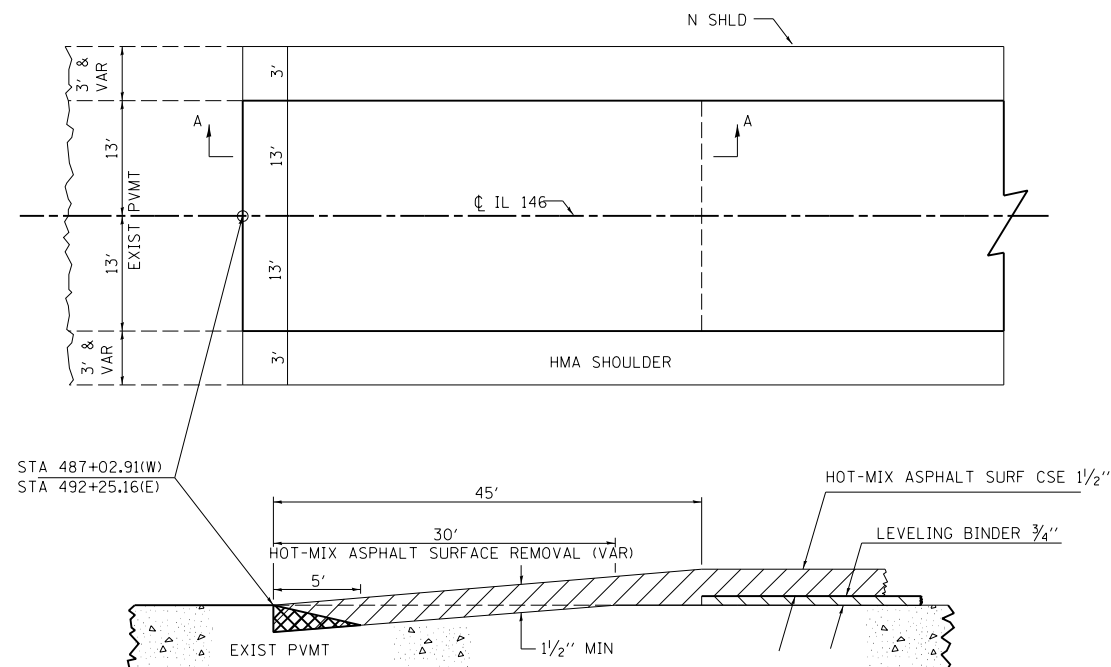


MATERIAL TO BE REMOVED AND REPLACED IN THE EMBANKMENT IN ACCORDANCE WITH ART. 205.04 OF THE STANDARD SPECIFICATION. COST TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED BECAUSE OF THIS WORK.

REVISIONS	
REDRAWN	2-15-89
REVISED	8-15-94
CHECKED	6-3-99
REVISED	

STD. 9-16

## BUTT JOINT



STA 487+02.91(W)  
STA 492+25.16(E)



TEMPORARY RAMP

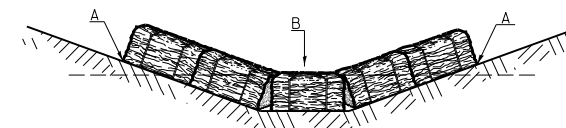
### SECTION A-A

REVISIONS	
DRAWN	10-17-90
REVISED	01-11-07
REVISED	
REVISED	

STD. 9-86

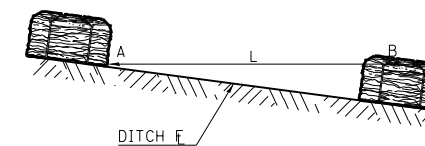
## TEMPORARY DITCH CHECKS

### PLACEMENT OF TEMPORARY STRAW BALE DITCH CHECK IN DRAINAGEWAY



POINTS A SHOULD BE HIGHER THAN POINT B

### SPACING BETWEEN TEMPORARY DITCH CHECKS



L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION  
B = THE LOW POINT IN CENTER OF CHECK

REVISIONS	
DRAWN	9-01-99
REVISED	10-3-01
REVISED	
REVISED	

STD. 9-108

LAYOUT	BKC	2/7/11
DRAWN	BKC	2/7/11
REVIEWED	MH	2/28/11

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	PLOT DATE = 03/10/2014		

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

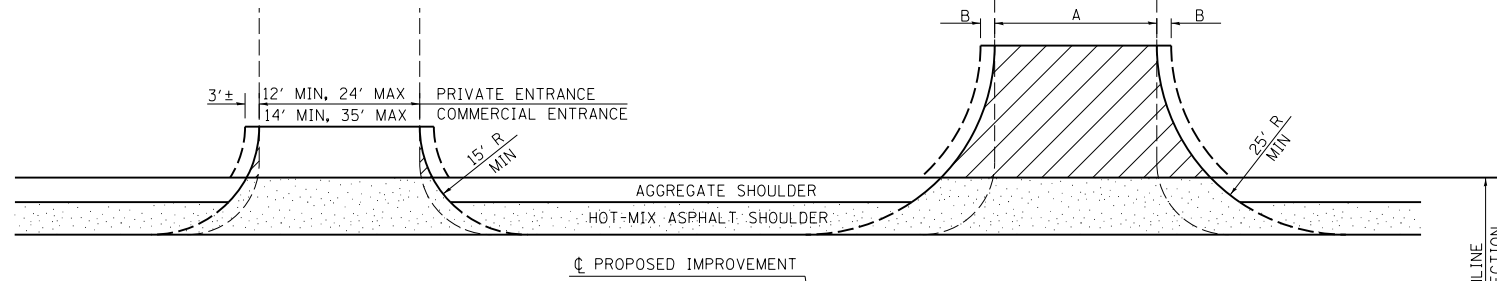
**DISTRICT 9 STANDARDS  
IL-146 (OVER BAY CREEK)**

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

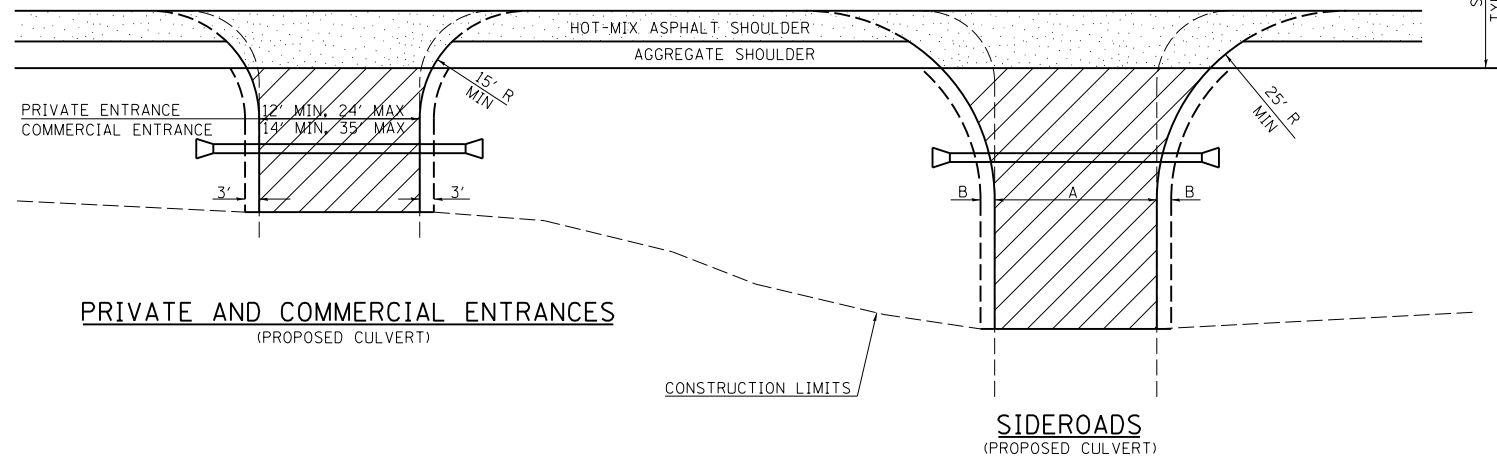
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	18
CONTRACT NO. 78279				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

# RURAL SIDE APPROACH DETAILS

## PRIVATE AND COMMERCIAL ENTRANCES



## SIDEROADS



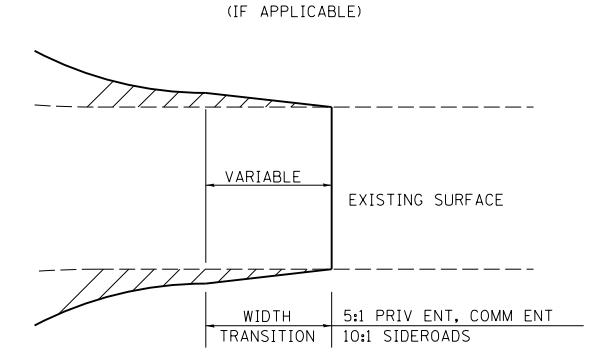
## SIDEROAD DIMENSIONS (MIN.)

ADT	A (FT)	B (FT)
0 TO 250	18'	2'
250 TO 400	20'	2'
GREATER THAN 400	22'	4'

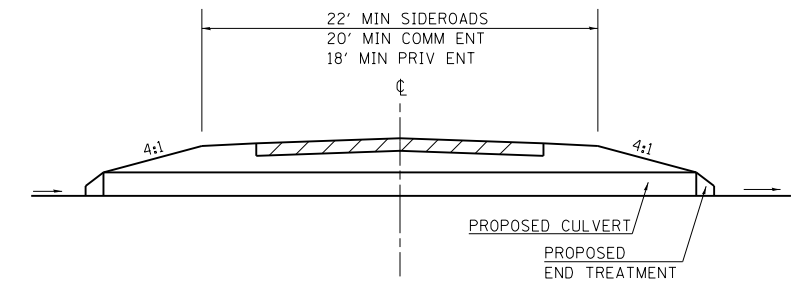
## FIELD ENTRANCE TREATMENT

CONSTRUCT MAINLINE HOT-MIX ASPHALT AND AGGREGATE SHOULDERS THROUGH FIELD ENTRANCES.  
IF A PIPE IS REQUIRED, PROVIDE A 22' WIDE EARTH EMBANKMENT WITH 15' RADII AT THE INTERSECTION.

## WIDTH TRANSITION DETAIL TO EXISTING



## DETAIL FOR CALCULATING CULVERT LENGTH



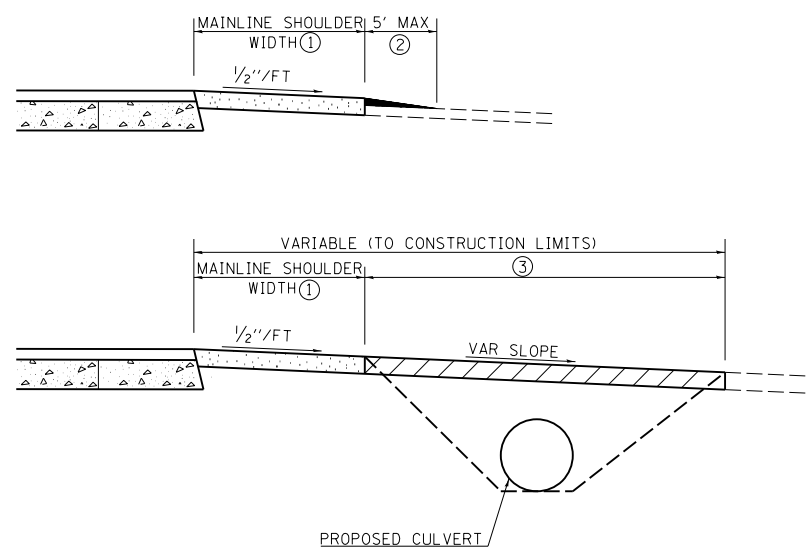
## LEGEND

- CONSTRUCT HOT-MIX ASPHALT SHOULDER "FULL SHOULDER WIDTH" THROUGH ENTRANCE/INTERSECTION UNLESS OTHERWISE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
- IF REQUIRED, AGGREGATE TAPER FOR EXISTING GRAVEL SURFACE; HOT-MIX ASPHALT TAPER FOR EXISTING HIGHER TYPE SURFACES.
- 6" AGGREGATE SURFACE COURSE FOR EXISTING GRAVEL SURFACE; 2" HOT-MIX ASPHALT RESURFACING ON 4" AGGREGATE BASE COURSE FOR EXISTING HOT-MIX ASPHALT SURFACE; PCC DRIVEWAY PAVEMENT (6" - PE; 7" - CE) FOR EXISTING CONCRETE SURFACE.
- 3" MINIMUM HOT-MIX ASPHALT RESURFACING ON 8" MINIMUM AGGREGATE BASE COURSE FOR EXISTING GRAVEL SURFACE OR OIL & CHIP SURFACE; MATCH EXISTING FOR EXISTING HIGHER TYPE SURFACES.

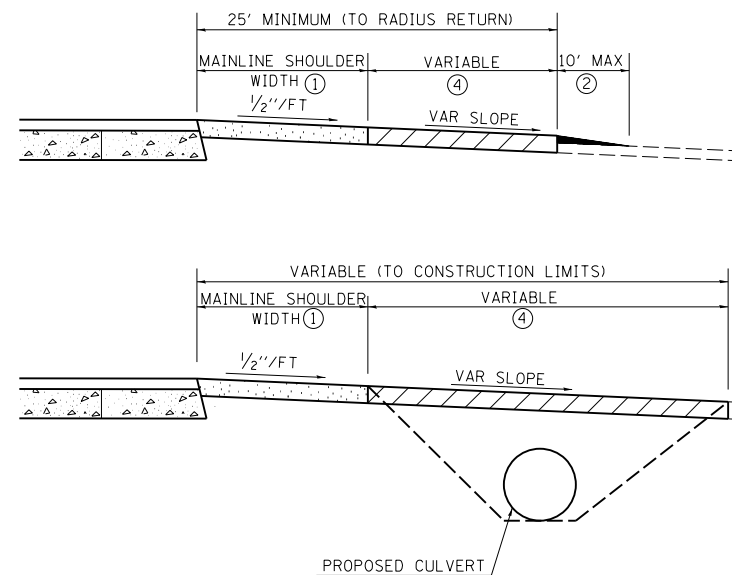
## GENERAL NOTES

- ENTRANCE LOCATIONS ARE TO COMPLY WITH IDOT'S POLICY "ACCESS TO STATE HIGHWAYS".
- IN GENERAL, RELOCATED PRIVATE ENTRANCES ARE TO HAVE A 16' WIDE SURFACE WITH 3' WIDE SHOULDERS (22' WIDE EMBANKMENT).
- SEE PLANS FOR PROPOSED PROFILE GRADES AT ENTRANCES/SIDEROADS. THE DESIRABLE MAXIMUM PROFILE GRADE FOR ENTRANCES ARE 12% FOR PE; 10% FOR CE.
- ENTRANCE PIPE CULVERTS ARE TO BE A MINIMUM 15" DIAMETER AND NORMALLY REPLACED IN KIND; SIDEROAD PIPE CULVERTS ARE GENERALLY TO BE CONCRETE (18" MINIMUM DIAMETER).
- THE INTERSECTION RADII OF SIDEROADS CONSTRUCTED TO FULL POLICY STANDARDS SHOULD COMPLY WITH THAT NOTED IN THE BUREAU OF LOCAL ROADS ADMINISTRATIVE POLICIES MANUAL (5-8-13).

## PRIVATE AND COMMERCIAL ENTRANCES



## SIDEROADS



LAYOUT	BKC	2/7/11
DRAWN	BKC	2/7/11
REVIEWED	MH	2/28/11

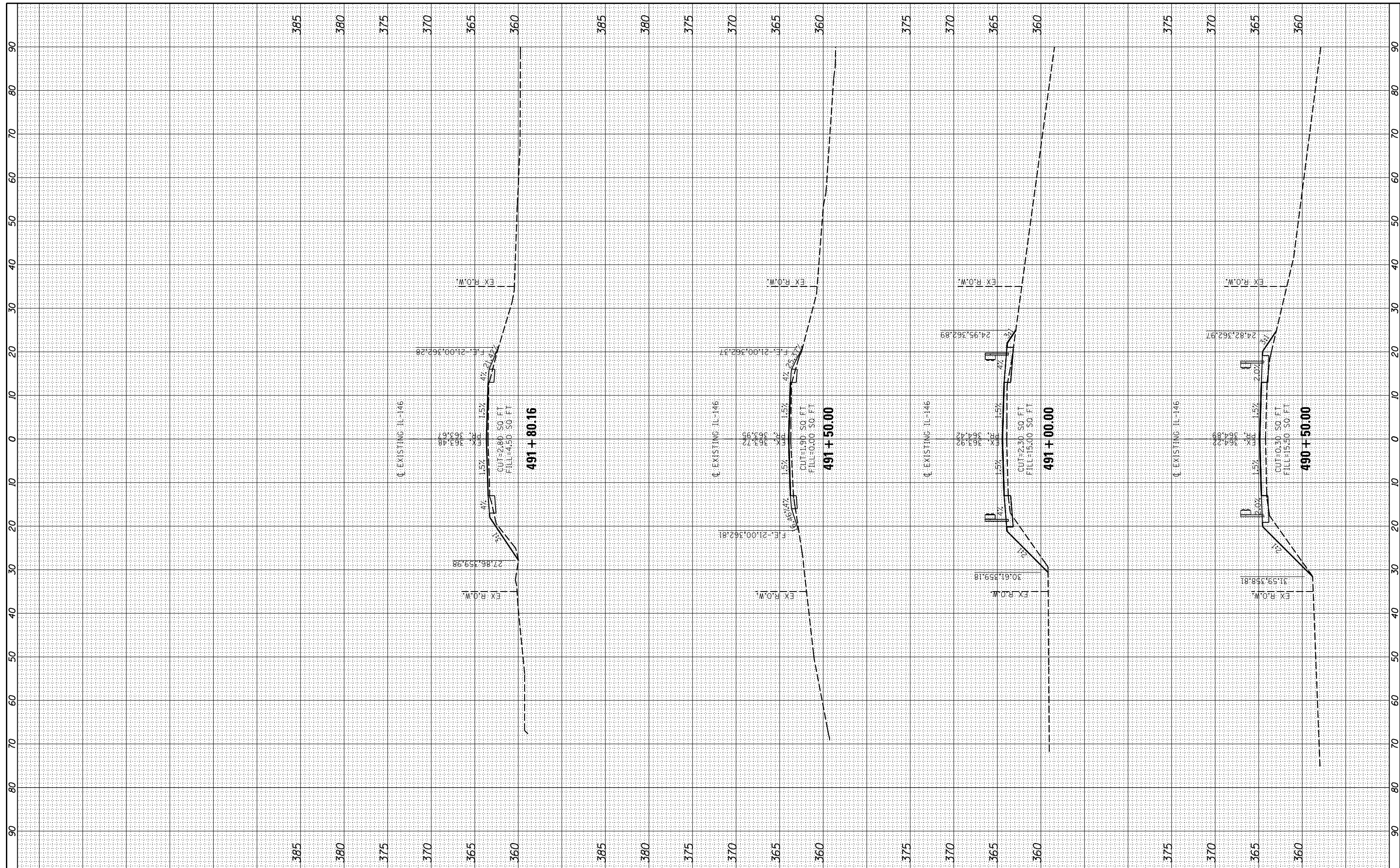
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MODEL = Standards - 2	PLOT SCALE = 2.0000' / in.	DATE - 02/17/14	REVISED -
	PLOT DATE = 03/10/2014		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	19
CONTRACT NO. 78279				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



FINAL SURVEY NO.	SURVEYED PLOTTED TEMPLATE AREAS CHECKED	BY	DATE

ORIGINAL SURVEY NO.	SURVEYED PLOTTED TEMPLATE AREAS CHECKED	BY	DATE



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DESIGNED - BKC  
 CHECKED - MH  
 DATE - 11/1/13

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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

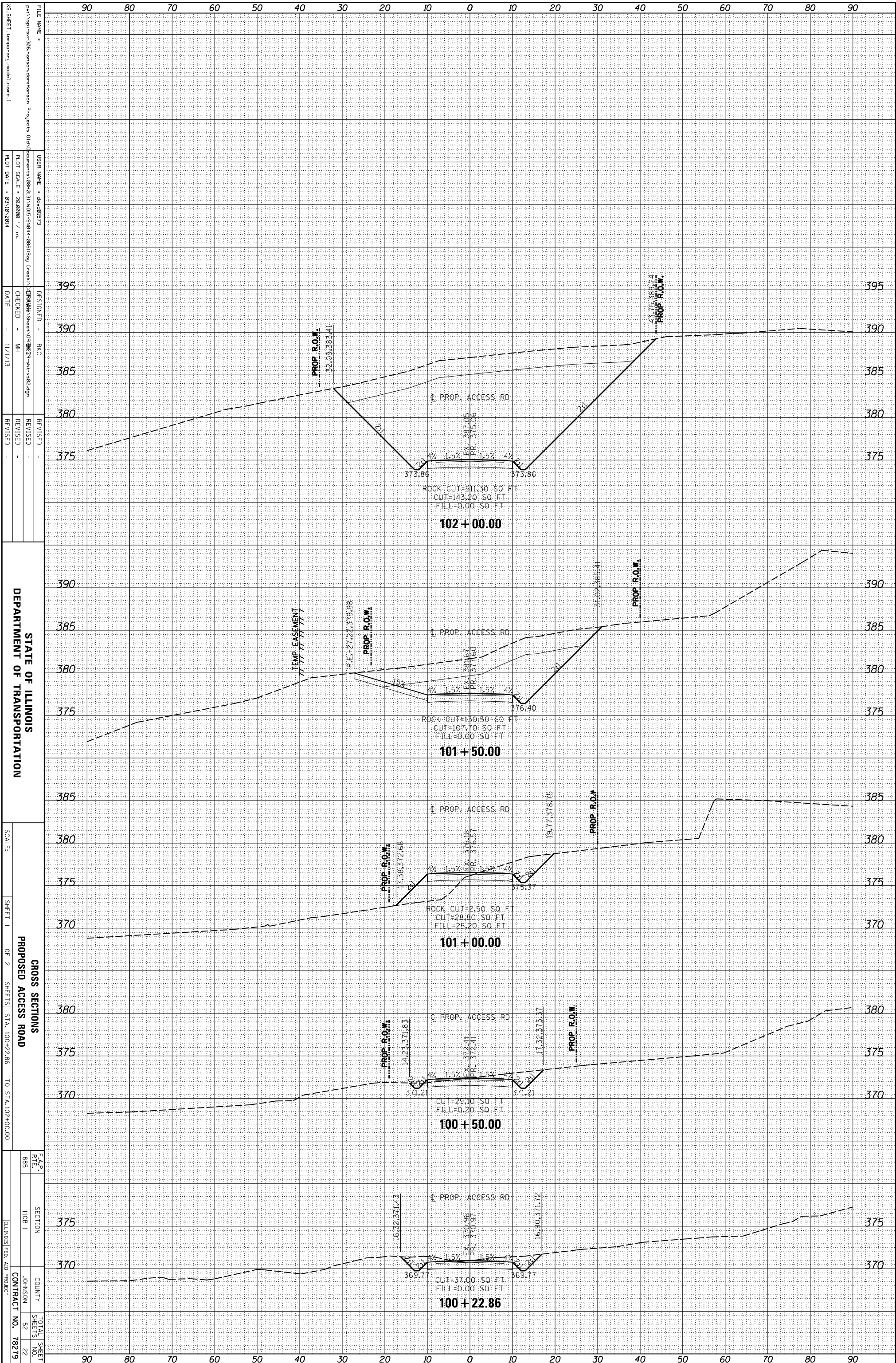
CROSS SECTIONS  
 IL-146 (OVER BAY CREEK)

SCALE: SHEET 2 OF 2 SHEETS STA. 490+50.00 TO STA. 491+80.16

F.A.P. RTE. 885	SECTION 110B-1	COUNTY JOHNSON	TOTAL SHEETS 52	SHEET NO. 21
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78279	

ORIGINAL SURVEY	SURVEYED	BY	DATE
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	TEMPLATE		
	AREAS		
	CHECKED		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
	TEMPLATE		
	AREAS		
	CHECKED		



STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS  
 PROPOSED ACCESS ROAD

F.A.P. SECTION COUNTY TOTAL SHEET  
 R.T.E. 110B-1 JOHNSON 52 NO.  
 885 110B-1 52 22  
 ILLINOIS FED. AID PROJECT CONTRACT NO. 78279

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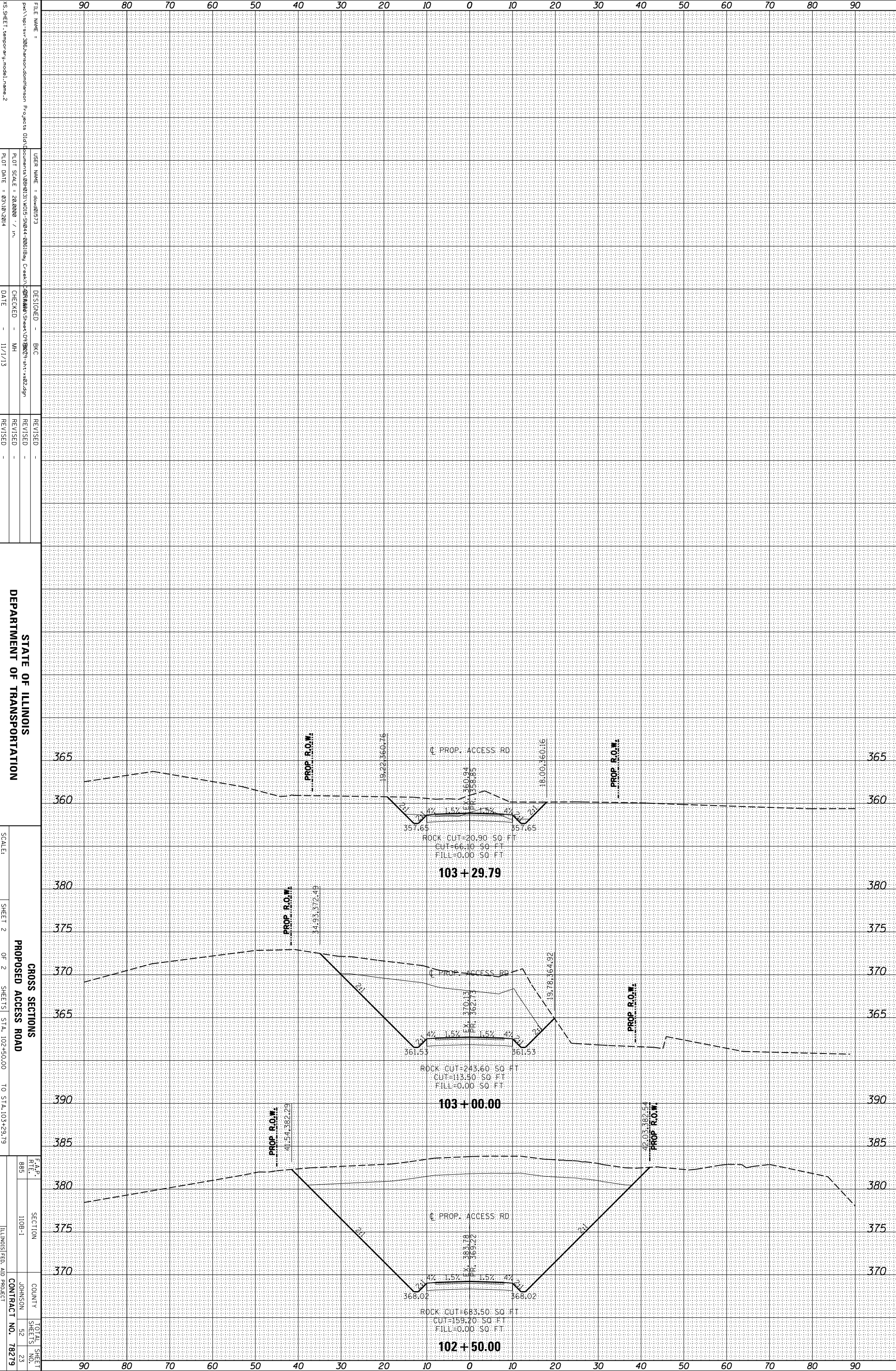
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SCALE:  
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PROJECT INFORMATION

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	TEMPLATE		
	AREAS		
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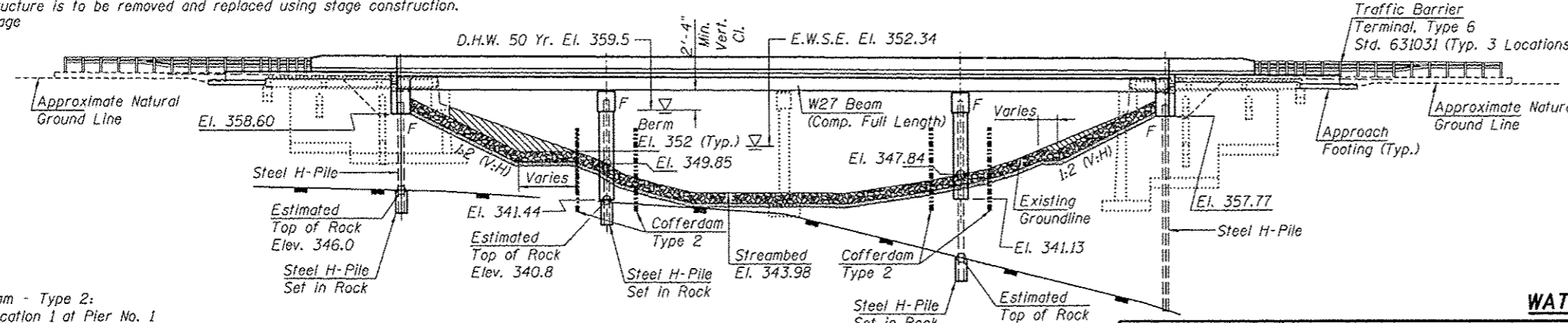
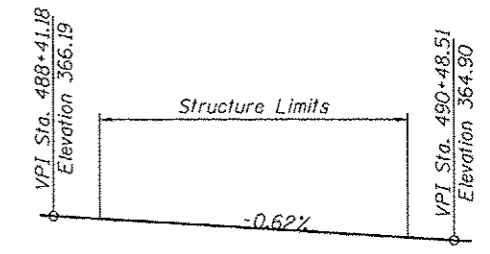
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 DATE

REVISIONS  
 REVISION NO.  
 REVISION DATE

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 CROSS SECTIONS  
 PROPOSED ACCESS ROAD  
 SHEET 2 OF 2 SHEETS STA. 102+50.00 TO STA. 103+29.79  
 F.A.P. RTE. 885  
 SECTION 110B-1  
 COUNTY JOHNSON  
 CONTRACT NO. 78279  
 TOTAL SHEET NO. 52  
 SHEET NO. 23

B.M. #45: Chiseled "C" North side of Il. 146 in center of Bridge Pier - Elev. 362.161 (NAVD 88).  
 Existing Structure (No. 044-0020):  
 Existing Abutments were built in 1928 as S.B.I. Rte. 146, Section 111B and reconstructed in 1976. A new abutment cap was constructed on top of the existing abutment wall and also added a pier in the channel. The existing superstructure was removed and replaced with 27" PPC Deck Beams and a 2 1/2" wearing surface. The existing approach slabs were also widened.  
 The wearing surface was milled and overlaid in 1989. The present structure is a two span structure. Total structure length is 123'-3 3/4" Bk. to Bk. of Abutments.  
 The structure is to be removed and replaced using stage construction.  
 No salvage



Note:  
 Cofferdam - Type 2:  
 Location 1 at Pier No. 1  
 Location 2 at Pier No. 2

Note:  
 Precure the H-Piles at the West Abutment and backfill with Bentonite to increase flexibility of the piles.

Channel Excavation  
 See Roadway Plans

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevations (ft.)				
	W. Abut.	Pier 1	Pier 2	E. Abut.
Q100	358.6	340.0	327.0	357.8

**ELEVATION**

**LEGEND**

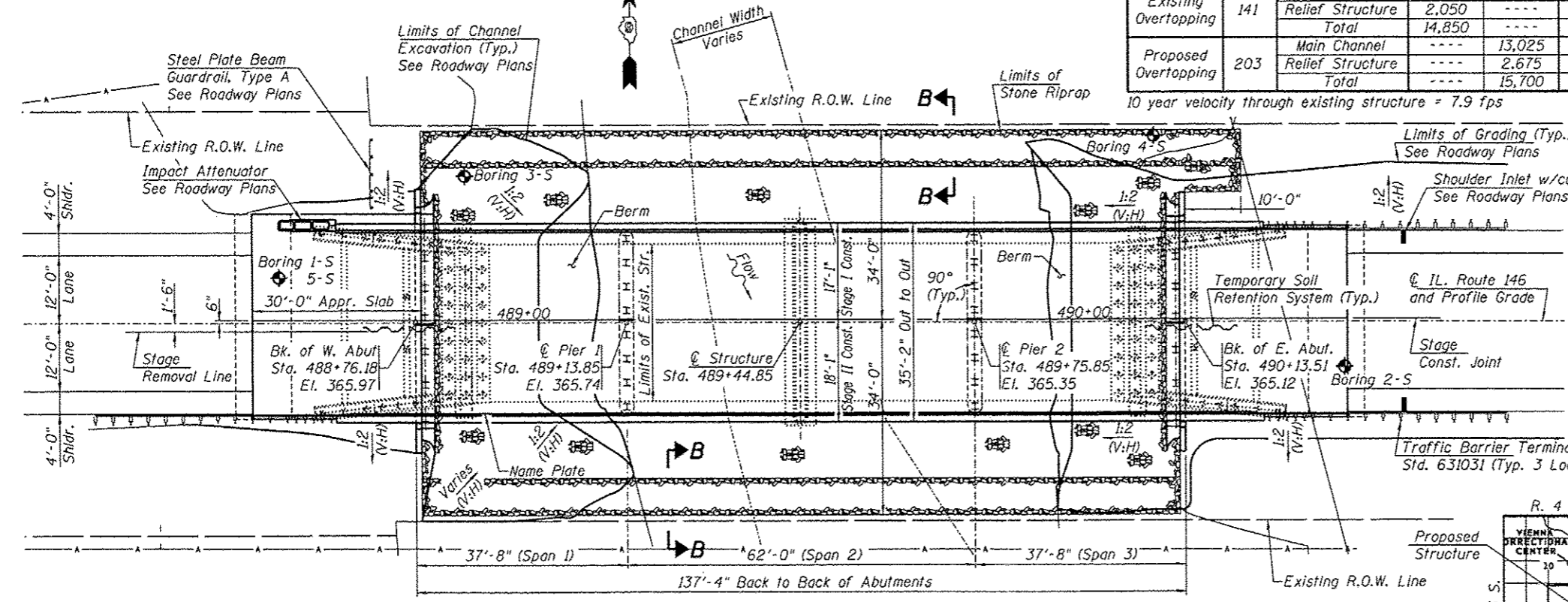
Indicates Boring Location

**WATERWAY INFORMATION**

Flood	Type	Discharge (cfs)		Waterway Opening (Sq. Ft.)		Natural H.W.E.	Head (Ft.)		Headwater Elevation (Ft.)	
		Existing	Proposed	Existing	Proposed		Existing	Proposed	Existing	Proposed
Ten-Year	Main Channel	7,753	7,563	976.3	991.9	358.3	1.7	1.6	360.0	359.9
	Relief Structure	957	1,147	405.0	405					
	Total	8,710	8,710	1,381.3	1,396.9					
Design	Main Channel	10,579	10,366	1,099.9	1,124.1	359.5	2.4	2.2	361.9	361.7
	Relief Structure	1,821	2,034	477.0	477.0					
	Total	12,400	12,400	1,576.9	1,601.1					
Base	Main Channel	11,685	11,488	1,152.9	1,180.3	360.0	2.6	2.4	362.6	362.4
	Relief Structure	2,215	2,412	507.0	507.0					
	Total	13,900	13,900	1,659.9	1,687.3					
Existing Overtopping	Main Channel	12,800	----	1,185.2	1,214.3	360.3	2.7	----	363.0	----
	Relief Structure	2,050	----	525.0	525.0					
	Total	14,850	----	1,710.2	1,739.3					
Proposed Overtopping	Main Channel	----	13,025	1,201.6	1,248.5	360.6	----	2.4	----	363.0
	Relief Structure	----	2,675	543.0	543.0					
	Total	----	15,700	1,744.6	1,791.5					

10 year velocity through existing structure = 7.9 fps

10 year velocity through proposed structure = 7.6 fps



**APPROVED**  
 For Structural Adequacy Only  
 Thomas E. Havenar  
 Engineer of Bridges & Structures



SIGNATURE  
 DATE: 03-06-2014  
 LIC. EXP. DATE: 11-30-2014

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 3  
 Design Spectral Acceleration at 1.0 sec. (S<sub>D1</sub>) = 0.369  
 Design Spectral Acceleration at 0.2 sec. (S<sub>D5</sub>) = 0.964  
 Soil Site Class = C

**DESIGN SPECIFICATIONS**

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interims

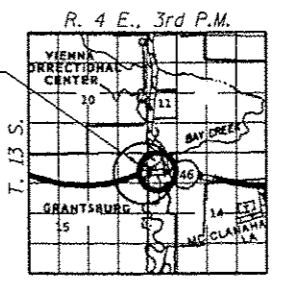
**PLAN**

**LOADING HL-93**

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

**DESIGN STRESSES**

FIELD UNITS  
 f'c = 3,500 psi  
 fy = 60,000 psi (Reinforcement)  
 fy = 50,000 psi (M270 Grade 50W)



**LOCATION SKETCH**

**GENERAL PLAN and ELEVATION**  
**IL. ROUTE 146 over BAY CREEK**  
**F.A.P. ROUTE 885 - SECTION 110B-1**  
**JOHNSON COUNTY**  
**STATION 489+44.85**  
**STRUCTURE NO. 044-0061**



**GENERAL NOTES**

Fasteners shall be AASHTO A325 Type 1, mechanically galvanized bolts in painted areas and ASTM A325 Type 3 in unpainted areas. Bolts  $\frac{7}{8}$  in.  $\phi$ , holes  $\frac{15}{16}$  in.  $\phi$ , unless otherwise noted.

Calculated weight of Structural Steel = 88,430 lbs.

All structural steel shall be AASHTO M 270 Grade 50W.

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

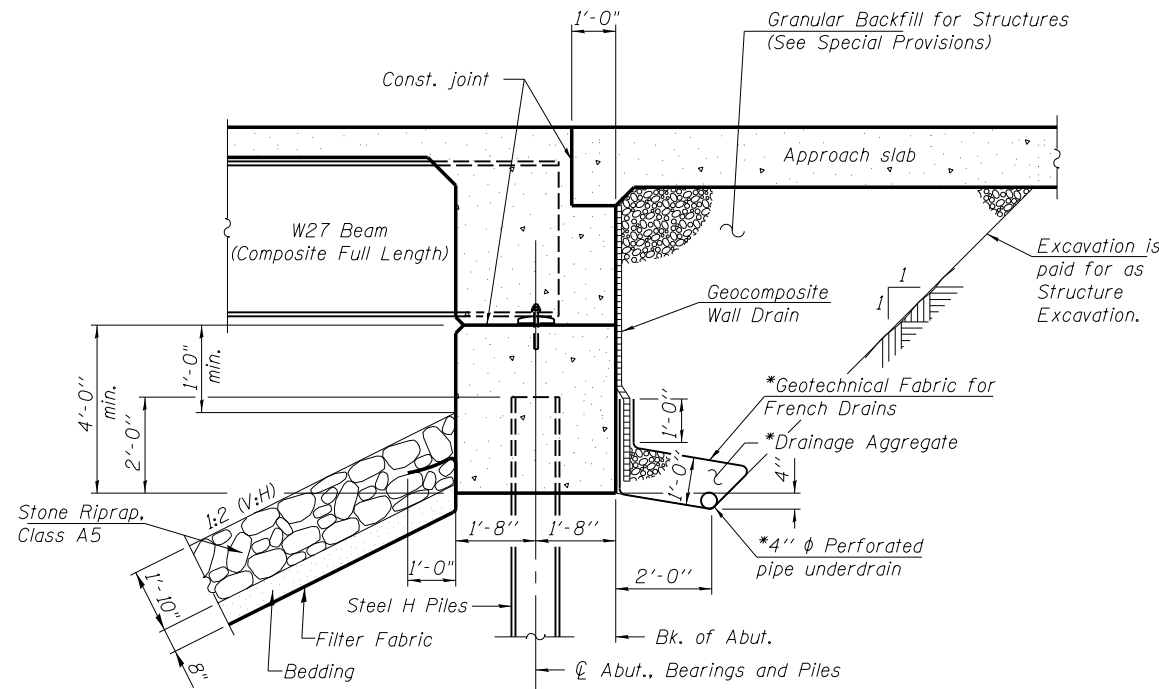
Reinforcement bars designated (E) shall be epoxy coated.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of  $\frac{1}{8}$  inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 1'-6". Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.

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

Slipforming of parapets is not allowed.



**SECTION THRU INTEGRAL ABUTMENT**

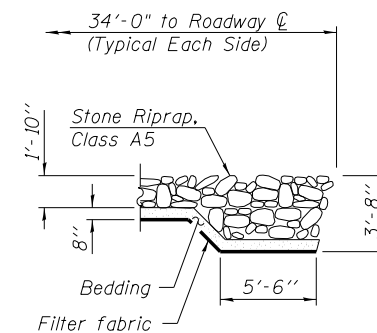
\* Included in the cost of Pipe Underdrains for Structures. See Special Provisions.

**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 slope. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101)

**INDEX OF SHEETS**

1. General Plan and Elevation
2. General Data
3. Substructure and Cofferdam Layout and Cofferdam Details
4. Stage Construction Details (Sheet 1 of 2)
5. Stage Construction Details (Sheet 2 of 2)
6. Temporary Concrete Barrier for Stage Construction
7. Top of Deck Elevations (Sheet 1 of 3)
8. Top of Deck Elevations (Sheet 2 of 3)
9. Top of Deck Elevations (Sheet 3 of 3)
10. Top of West Approach Slab Elevations
11. Top of East Approach Slab Elevations
12. Superstructure Plan and Deck Cross Section
13. Superstructure Details
14. West Integral Abutment Diaphragm Details
15. East Integral Abutment Diaphragm Details
16. Cast-In-Place Bridge Approach Slab Details (Sheet 1 of 2)
17. Cast-In-Place Bridge Approach Slab Details (Sheet 2 of 2)
18. Structural Steel - Framing Plan
19. Structural Steel - Details
20. Bearing Details
21. West Abutment
22. East Abutment
23. Pier Number 1
24. Pier Number 2
25. HP Pile Details
26. Bar Splicer Assembly and Mechanical Splicer Details
27. Cantilever Forming Brackets
28. Boring Logs (Sheet 1 of 2)
29. Boring Logs (Sheet 2 of 2)



**SECTION B-B**

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A5	Sq. Yd.	-	1052	1052
Filter Fabric	Sq. Yd.	-	1052	1052
Removal of Existing Structures	Each	-	-	1
Structure Excavation	Cu. Yd.	-	184	184
Cofferdam Excavation	Cu. Yd.	-	237	237
Cofferdam (Type 2) (Location - 1)	Each	-	1	1
Cofferdam (Type 2) (Location - 2)	Each	-	1	1
Concrete Structures	Cu. Yd.	21.6	169.1	190.7
Concrete Superstructure	Cu. Yd.	301.4	-	301.4
Bridge Deck Grooving	Sq. Yd.	648	-	648
Protective Coat	Sq. Yd.	844	-	844
Furnishing and Erecting Structural Steel	L. Sum	1	-	1
Stud Shear Connectors	Each	3600	-	3600
Reinforcement Bars, Epoxy Coated	Pound	69670	20720	90390
Bar Splicers	Each	632	128	760
Mechanical Splicers	Each	-	156	156
Furnishing Steel Piles HP14x89	Foot	-	1057	1057
Driving Piles	Foot	-	276	276
Test Pile Steel HP14x89	Each	-	1	1
Pile Shoes	Each	-	7	7
Name Plates	Each	1	-	1
Anchor Bolts, $\frac{3}{4}$ "	Each	24	-	24
Anchor Bolts, 1"	Each	24	-	24
Geocomposite Wall Drain	Sq. Yd.	-	57	57
Granular Backfill for Structures	Cu. Yd.	-	107	107
Asbestos Bearing Pad Removal	Each	-	44	44
Pipe Underdrains for Structures 4"	Foot	-	139	139
Setting Piles in Rock	Each	-	23	23
Temporary Soil Retention System	Sq. Ft.	-	210	210

STATION 489+44.85  
 BUILT 2014 BY  
 STATE OF ILLINOIS  
 F.A.P. RT. 885 SEC. 110B-1  
 LOADING HL93  
 STR. NO. 044-0061

**NAME PLATE**  
 See Std. 515001

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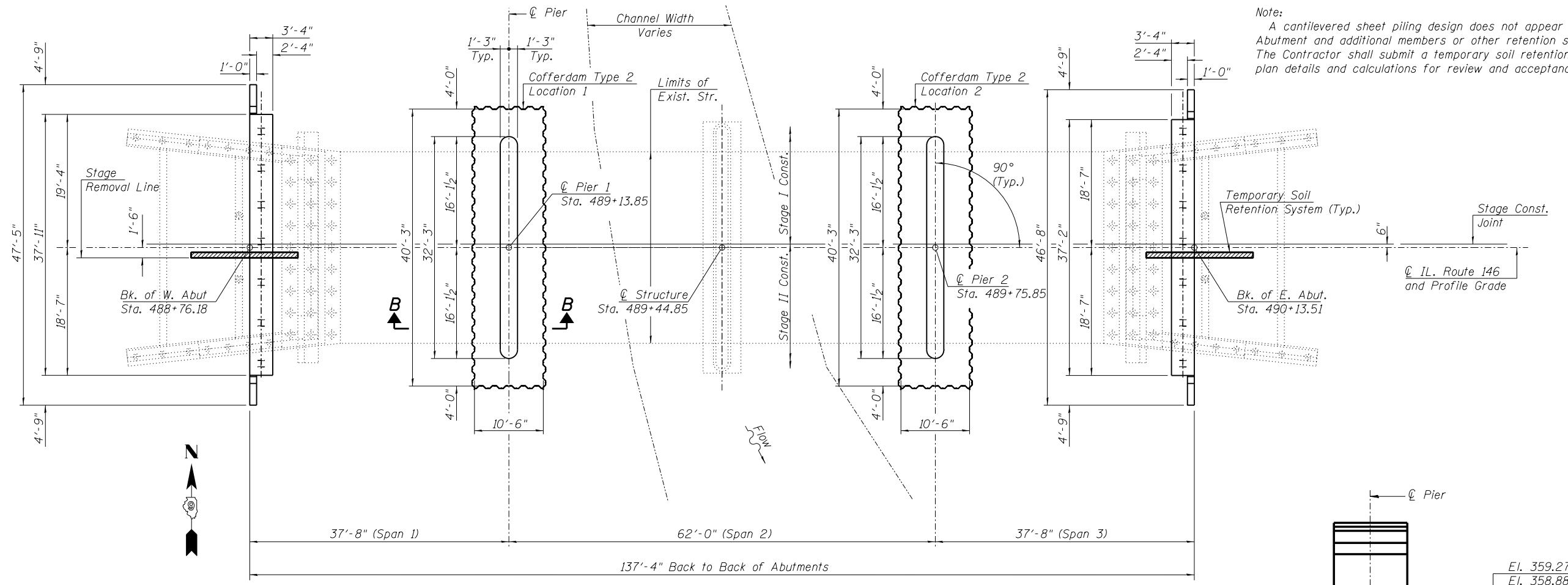
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	TEH	-
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

GENERAL DATA  
 STRUCTURE NO. 044-0061

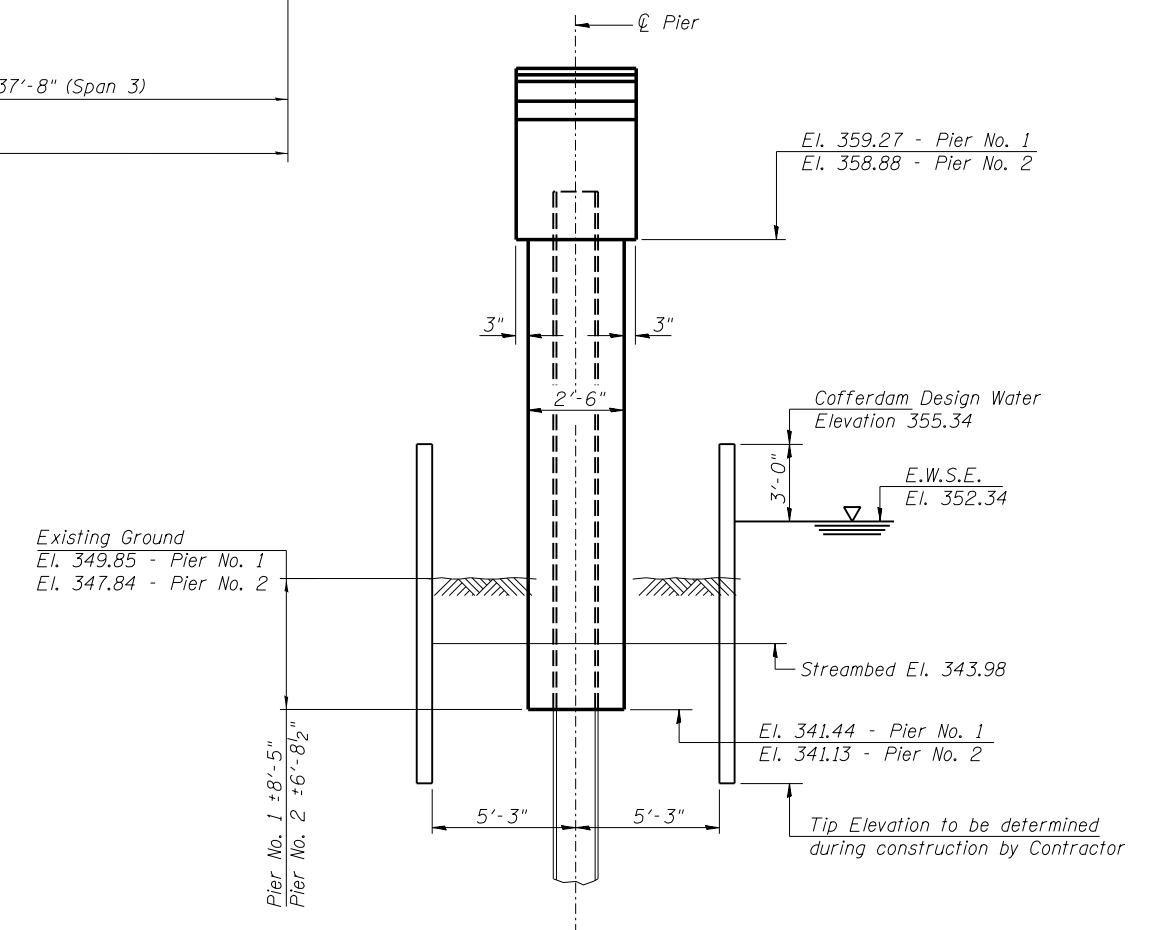
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885	110B-1	JOHNSON	52	25
CONTRACT NO.			78279	
ILLINOIS FED. AID PROJECT				

SHEET NO. 02 OF 29 SHEETS



Note:  
 A cantilevered sheet piling design does not appear feasible at the West Abutment 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.

**PLAN**



**COFFERDAM DETAILS - SECTION B-B**  
 (Piers No. 1 & 2)

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

**SUBSTRUCTURE and COFFERDAM LAYOUT and COFFERDAM DETAILS**  
**STRUCTURE NO. 044-0061**  
 SHEET NO. 03 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	26
CONTRACT NO. 78279			ILLINOIS FED. AID PROJECT	

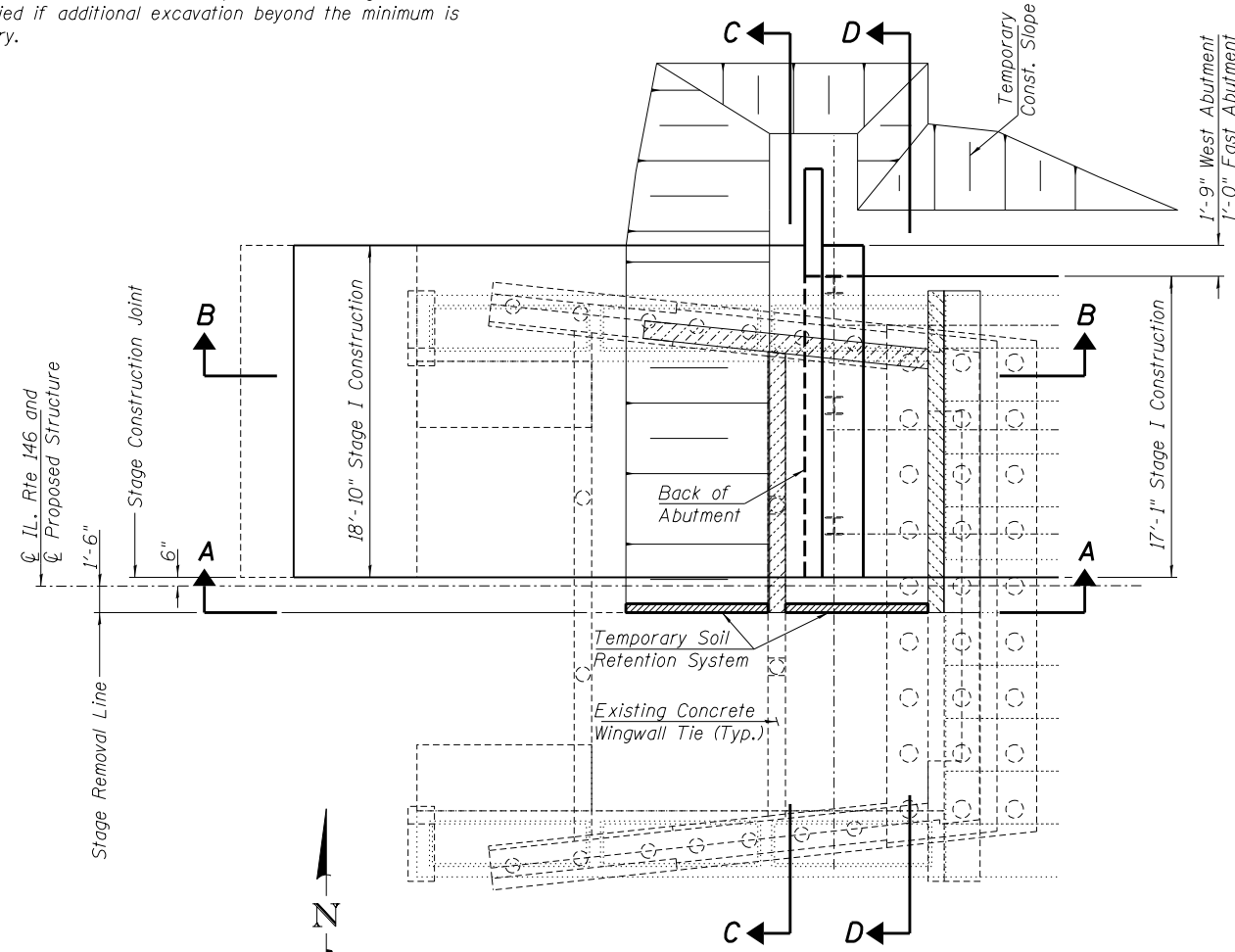
**Notes:**

Excavation that is required to remove portions of the Existing Closed Abutments and to construct New Abutments, shall be the minimum amount required. The Engineer shall be notified if additional excavation beyond the minimum is necessary.

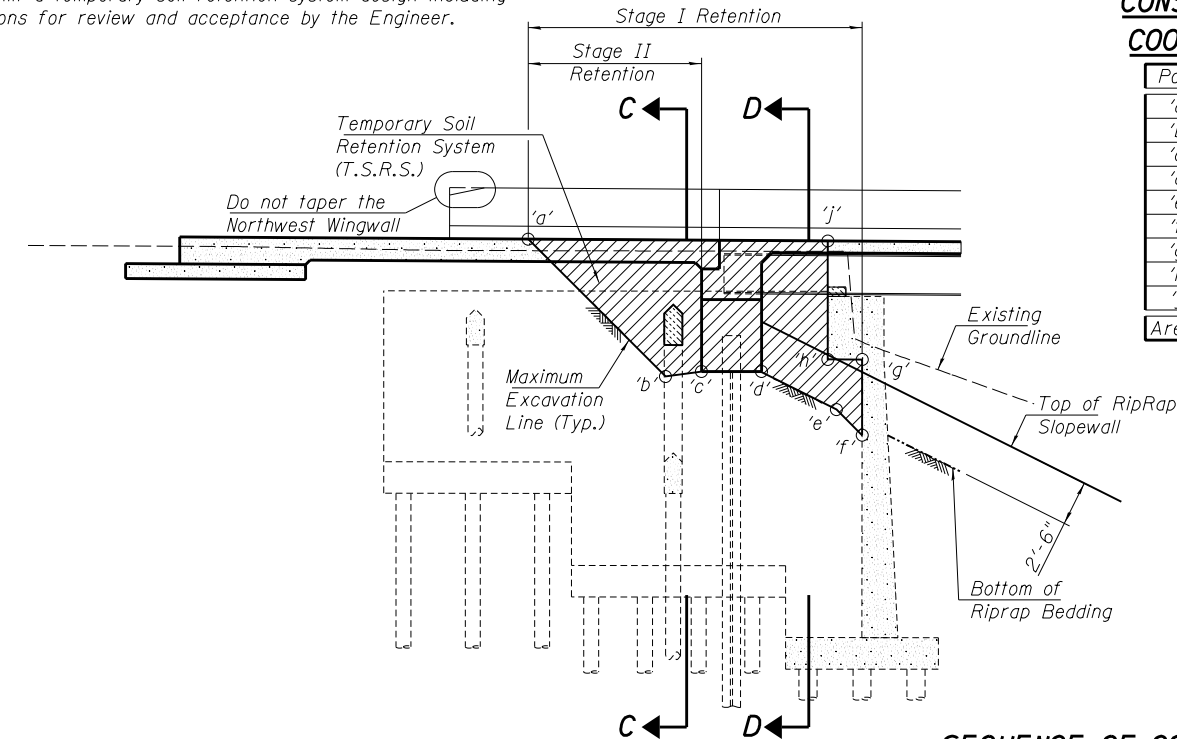
A cantilevered sheet piling design does not appear feasible at the West Abutment and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.

**T.S.R.S. CONSTRUCTION LIMITS COORDINATE VALUES**

Point	'X' (Dist.)	'Y' (Dist.)
'a'	0.00	0.00
'b'	7.63	-7.63
'c'	9.63	-7.36
'd'	12.97	-7.36
'e'	17.14	-9.47
'f'	18.56	-10.90
'g'	18.56	-6.69
'h'	16.65	-6.69
'j'	16.65	-0.10
Area	Sq. Ft. = 105	



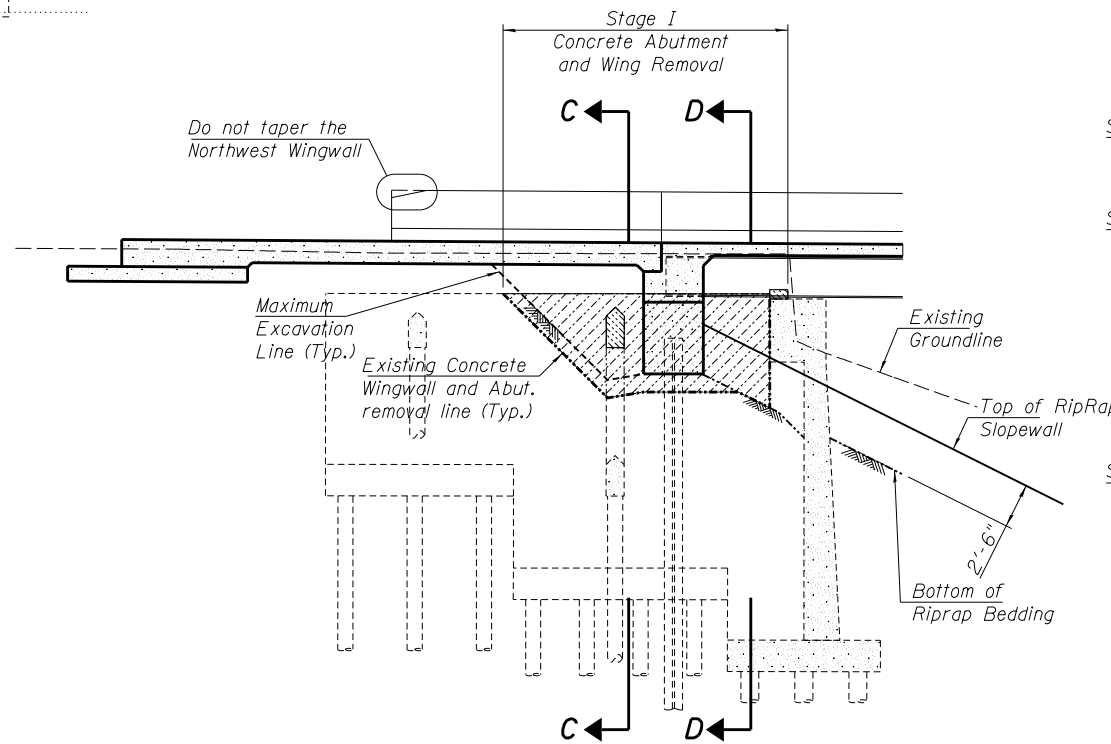
**PLAN - STAGE I CONSTRUCTION**  
(W. Abutment Shown, East Abutment Similar)



**SECTION A-A**

**SEQUENCE OF CONSTRUCTION**

- Stage I Removal**
- Shift all traffic to the south side of the existing bridge.
  - Remove existing superstructure and approach slabs on the north side of the existing bridge.
  - Provide Temporary Soil Retention System at each abutment area.
  - Excavate north side abutment areas to their required limits.
  - Remove northern portion of concrete wingwall tie and complete closure of the Temporary Soil Retention System.
  - Remove northern portions of existing wingwalls and abutment backwalls as shown in the plans, and remove northern portion of existing pier cap.
- Stage I Construction**
- Construct northern portions of new substructures, superstructure and approach slabs.
- Stage II Removal**
- Shift all traffic to the newly completed north bridge and approach portion.
  - Remove existing superstructure and approach slabs of the remaining southern portion of the existing bridge.
  - Excavate remaining southern portions of abutment areas to their required limits.
  - Remove remaining portions of existing wingwalls, wingwall ties, abutment caps, abutment front walls as shown in the plans and completely remove the existing pier.
- Stage II Construction**
- Complete remainder of new substructures and superstructure.
  - Complete remainder of the new abutment backfills and underdrain systems, and remove Temporary Soil Retention Systems.
  - Complete remainder of the new approach slabs.



**SECTION B-B**

**LEGEND**

- Existing Concrete to be removed during Stage I Construction.
- Indicates exposed area of Temporary Soil Retention System.

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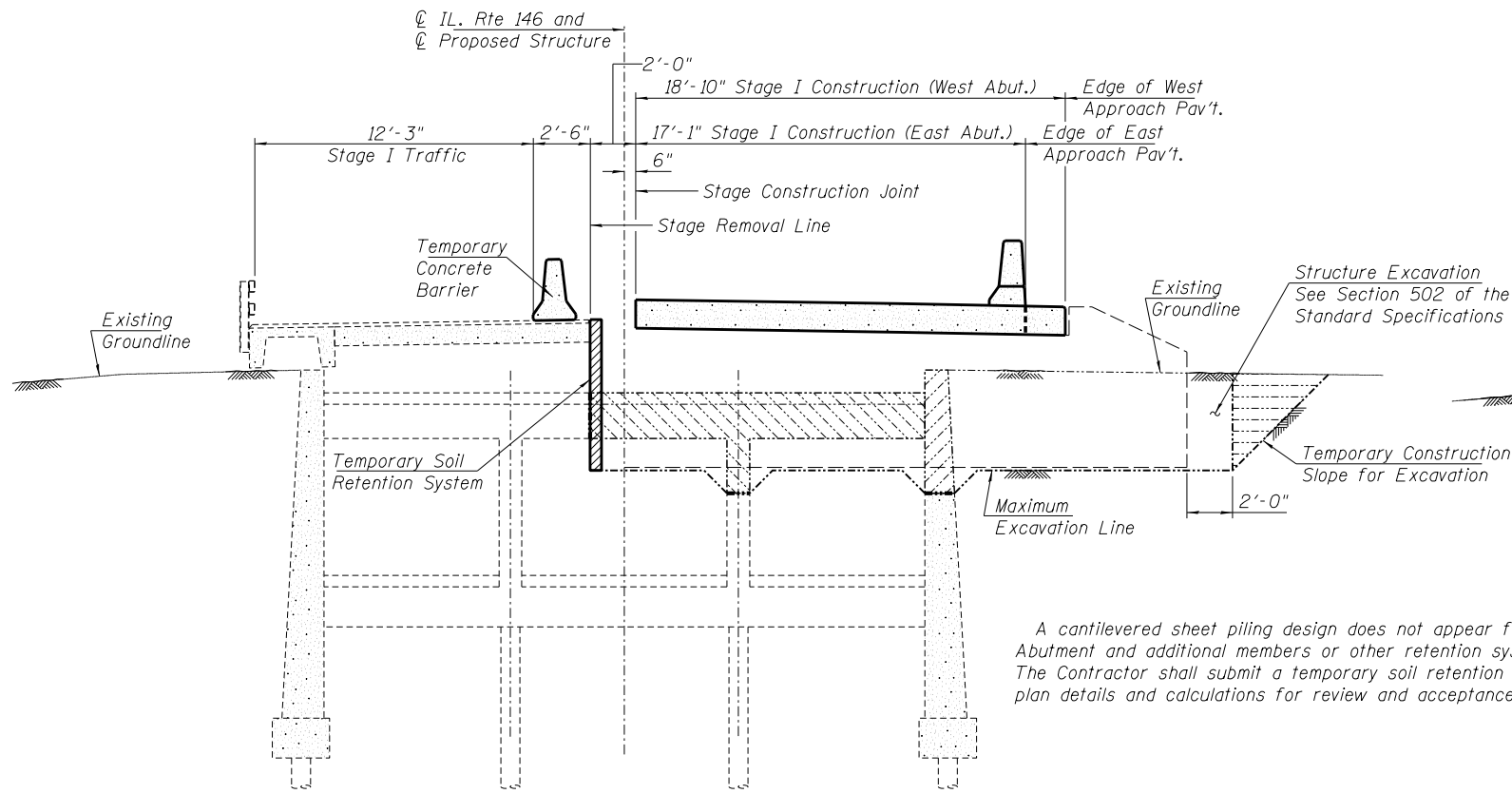
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

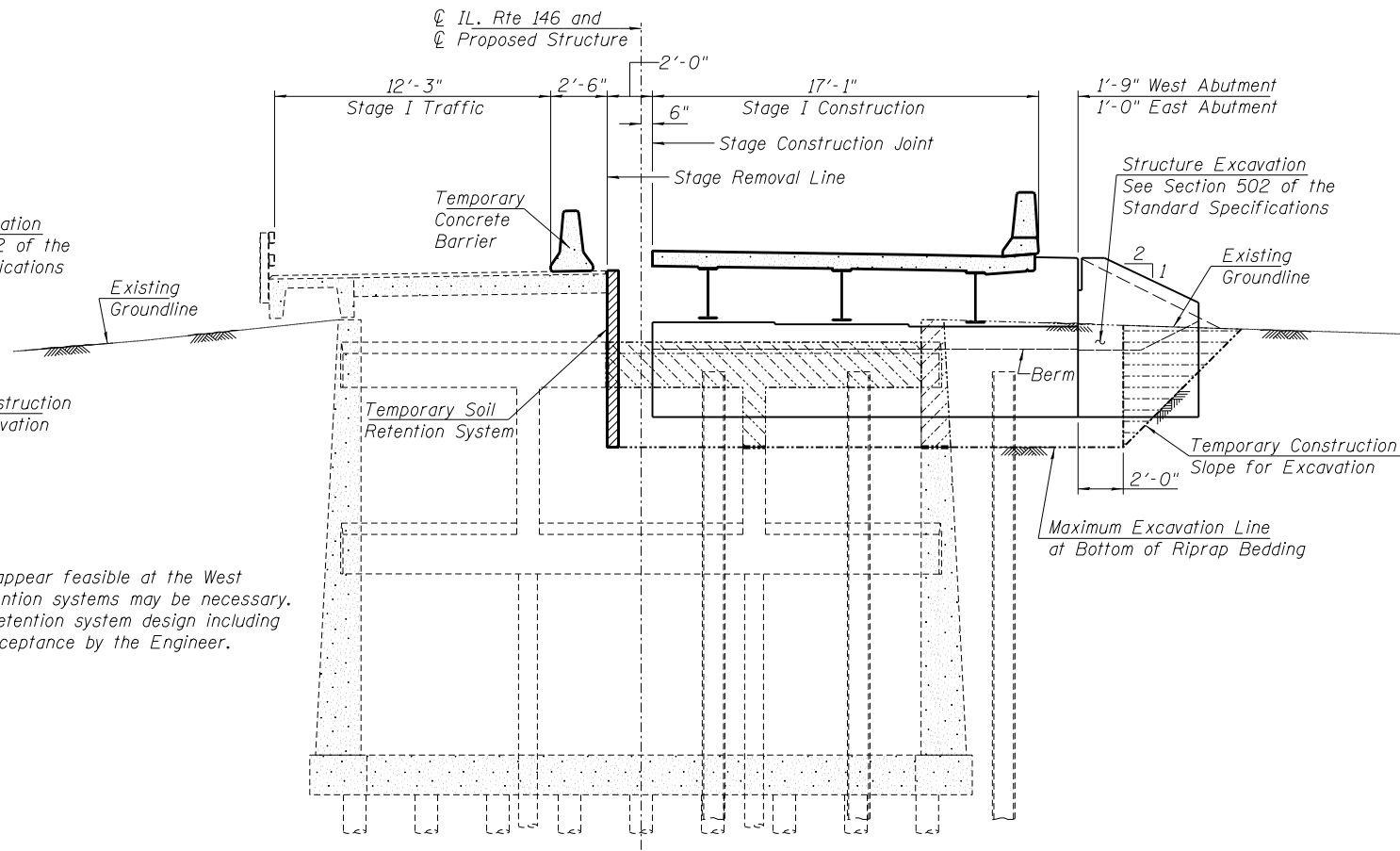
**STAGE CONSTRUCTION DETAILS (Sheet 1 of 2)  
STRUCTURE NO. 044-0061**

SHEET NO. 04 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	27
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78279	






**SECTION C-C**



**SECTION D-D**

**LEGEND**

-  Existing Concrete to be removed during Stage I Construction.
-  Indicates exposed area of Temporary Soil Retention System.
-  Over excavation beyond the limits of Structure Excavation. This area not measured for payment.

A cantilevered sheet piling design does not appear feasible at the West Abutment 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.

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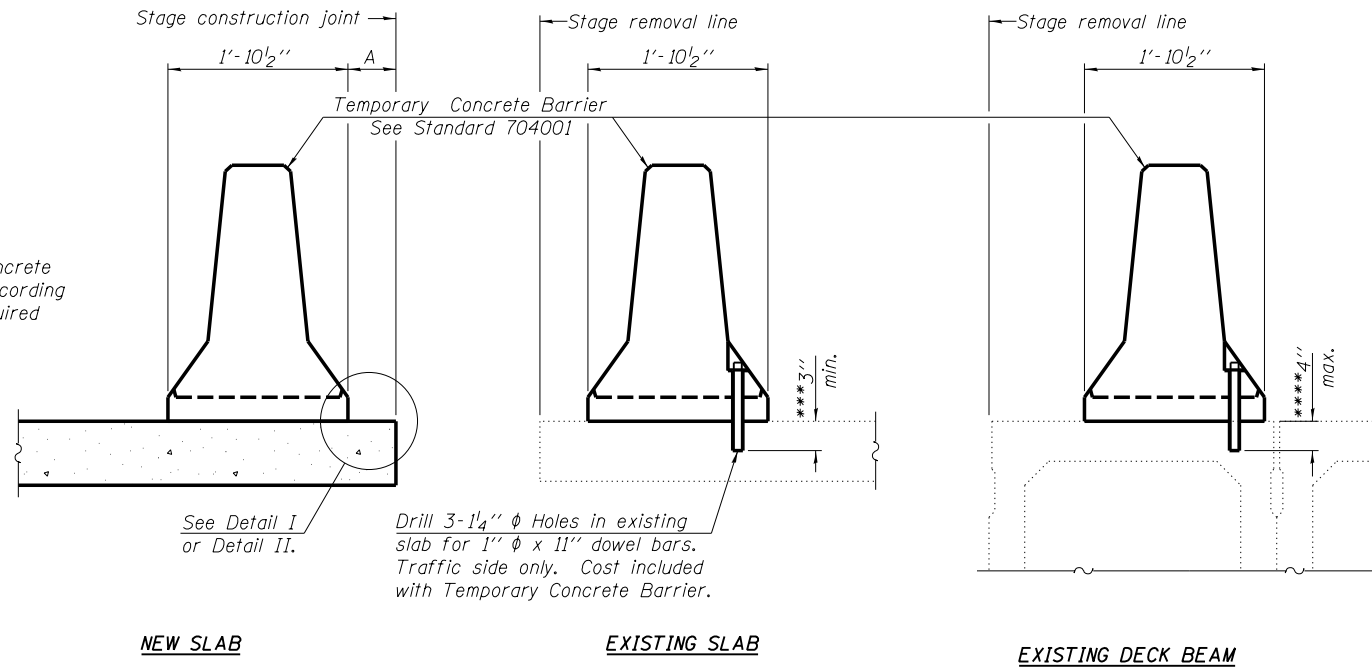
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS (Sheet 2 of 2)  
 STRUCTURE NO. 044-0061**

SHEET NO. 05 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	28
CONTRACT NO. 78279			ILLINOIS FED. AID PROJECT	

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



**SECTIONS THRU SLAB OR DECK BEAM**

**NOTES**

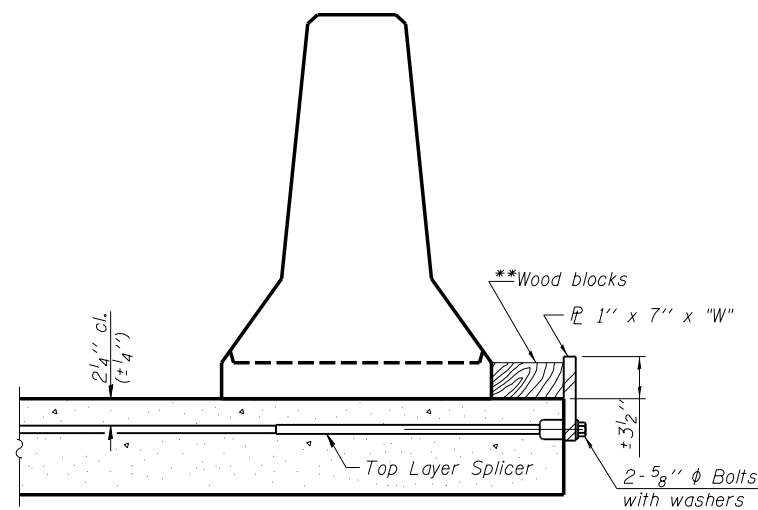
Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1" x 7" x "W" steel  $\bar{r}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\bar{c}$  of each barrier panel.

Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1" x 7" x "W" steel  $\bar{r}$  to the concrete slab or concrete wearing surface with 2-5/8"  $\phi$  Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate  $\bar{c}$  of each barrier panel.

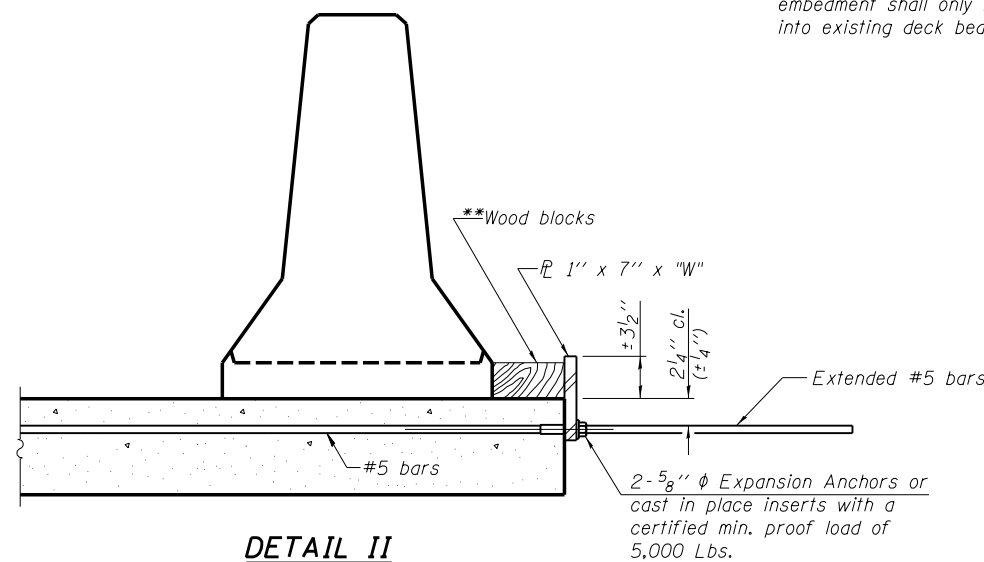
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

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

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



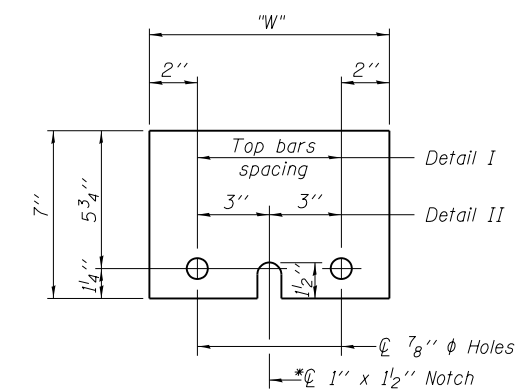
**DETAIL I**



**DETAIL II**

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

"W" = Top bars spacing + 4"

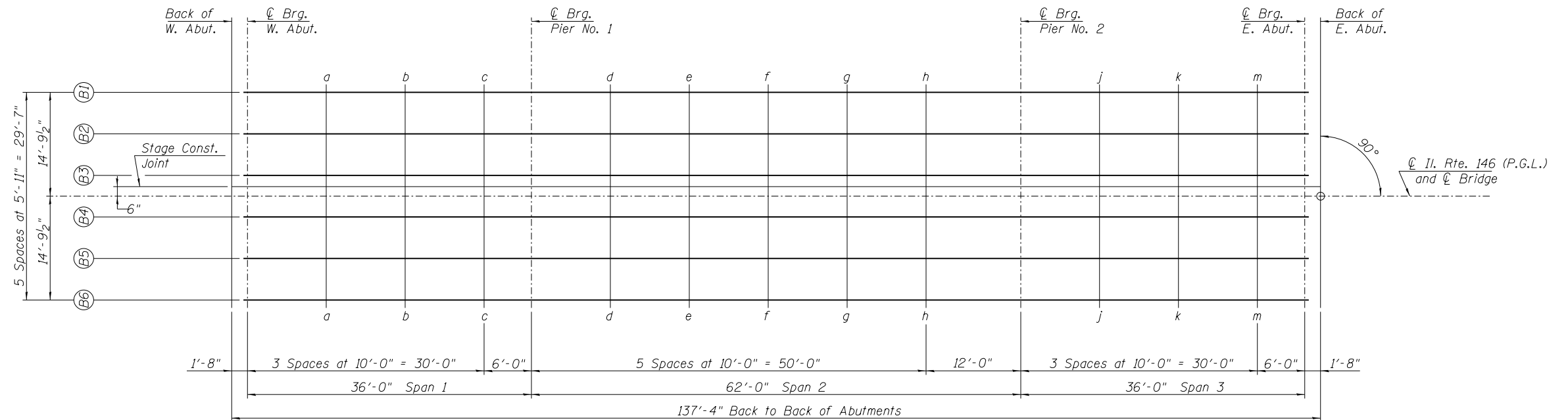


**STEEL RETAINER  $\bar{r}$  1" x 7" x "W"**

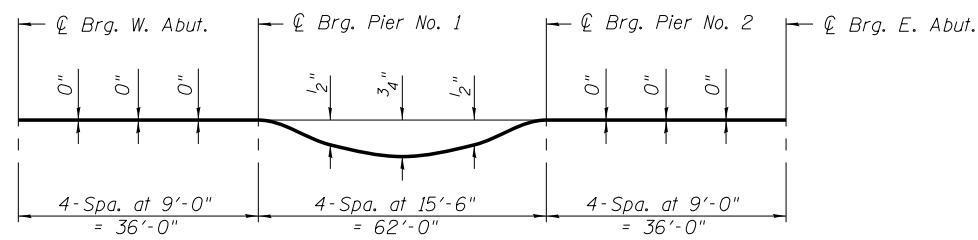
\* Required only with Detail II

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F.A.P. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	29
CONTRACT NO. 78279				
ILLINOIS FED. AID PROJECT				



**DIAGRAMMATIC PLAN**

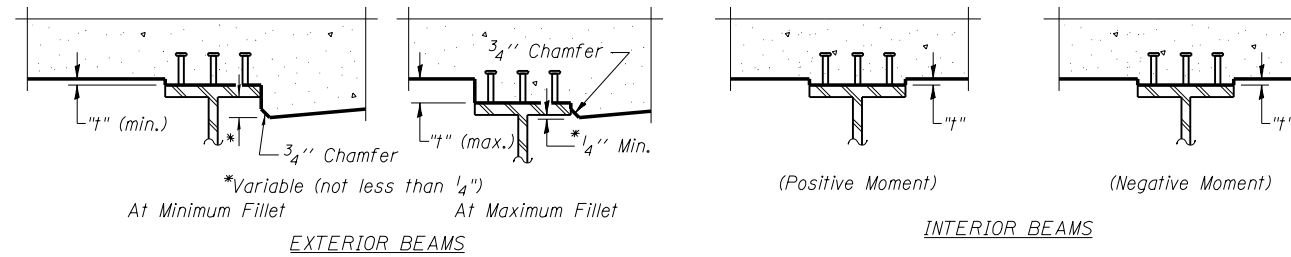


**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets 8 & 9 of 29.



**FILLET HEIGHTS**

To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown above. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets 8 & 9 of 29, minus 8" slab thickness, equals the fillet heights "t" above top flange of beams.

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**TOP OF DECK ELEVATIONS (Sheet 1 of 3)  
STRUCTURE NO. 044-0061**

SHEET NO. 07 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	30
CONTRACT NO. 78279				

ILLINOIS FED. AID PROJECT

**BEAM 1**

Location	Station	Offset	Theoretical Grade Elevations	Theo. Grade Elevations Adj. for D.L. Deflection
Bk. West Abut.	488+76.18	-14.79	365.74	365.74
⊕ Brg. West Abut	488+77.85	-14.79	365.73	365.73
a	488+87.85	-14.79	365.67	365.67
b	488+97.85	-14.79	365.60	365.60
c	489+07.85	-14.79	365.54	365.54
⊕ Brg. Pier No. 1	489+13.85	-14.79	365.50	365.50
d	489+23.85	-14.79	365.44	365.47
e	489+33.85	-14.79	365.38	365.42
f	489+43.85	-14.79	365.32	365.38
g	489+53.85	-14.79	365.26	365.30
h	489+63.85	-14.79	365.19	365.22
⊕ Brg Pier No. 2	489+75.85	-14.79	365.12	365.12
j	489+85.85	-14.79	365.06	365.05
k	489+95.85	-14.79	365.00	365.00
m	490+05.85	-14.79	364.93	364.93
⊕ Brg. East Abut.	490+11.85	-14.79	364.90	364.90
Bk. East Abut.	490+13.51	-14.79	364.89	364.89

**BEAM 2**

Location	Station	Offset	Theoretical Grade Elevations	Theo. Grade Elevations Adj. for D.L. Deflection
Bk. West Abut.	488+76.18	-8.88	365.84	365.84
⊕ Brg. West Abut	488+77.85	-8.88	365.83	365.83
a	488+87.85	-8.88	365.77	365.77
b	488+97.85	-8.88	365.71	365.70
c	489+07.85	-8.88	365.64	365.64
⊕ Brg. Pier No. 1	489+13.85	-8.88	365.61	365.61
d	489+23.85	-8.88	365.54	365.57
e	489+33.85	-8.88	365.48	365.53
f	489+43.85	-8.88	365.42	365.48
g	489+53.85	-8.88	365.36	365.41
h	489+63.85	-8.88	365.30	365.33
⊕ Brg Pier No. 2	489+75.85	-8.88	365.22	365.22
j	489+85.85	-8.88	365.16	365.16
k	489+95.85	-8.88	365.10	365.10
m	490+05.85	-8.88	365.04	365.04
⊕ Brg. East Abut.	490+11.85	-8.88	365.00	365.00
Bk. East Abut.	490+13.51	-8.88	364.99	364.99

**BEAM 3**

Location	Station	Offset	Theoretical Grade Elevations	Theo. Grade Elevations Adj. for D.L. Deflection
Bk. West Abut.	488+76.18	-2.96	365.93	365.93
⊕ Brg. West Abut	488+77.85	-2.96	365.92	365.92
a	488+87.85	-2.96	365.86	365.86
b	488+97.85	-2.96	365.79	365.79
c	489+07.85	-2.96	365.73	365.73
⊕ Brg. Pier No. 1	489+13.85	-2.96	365.70	365.70
d	489+23.85	-2.96	365.63	365.66
e	489+33.85	-2.96	365.57	365.62
f	489+43.85	-2.96	365.51	365.57
g	489+53.85	-2.96	365.45	365.50
h	489+63.85	-2.96	365.39	365.42
⊕ Brg Pier No. 2	489+75.85	-2.96	365.31	365.31
j	489+85.85	-2.96	365.25	365.25
k	489+95.85	-2.96	365.19	365.19
m	490+05.85	-2.96	365.13	365.13
⊕ Brg. East Abut.	490+11.85	-2.96	365.09	365.09
Bk. East Abut.	490+13.51	-2.96	365.08	365.08

**STAGE CONSTRUCTION JOINT**

Location	Station	Offset	Theoretical Grade Elevations	Theo. Grade Elevations Adj. for D.L. Deflection
Bk. West Abut.	488+76.18	-0.50	365.97	365.97
⊕ Brg. West Abut	488+77.85	-0.50	365.96	365.96
a	488+87.85	-0.50	365.89	365.89
b	488+97.85	-0.50	365.83	365.83
c	489+07.85	-0.50	365.77	365.77
⊕ Brg. Pier No. 1	489+13.85	-0.50	365.73	365.73
d	489+23.85	-0.50	365.67	365.69
e	489+33.85	-0.50	365.61	365.65
f	489+43.85	-0.50	365.55	365.61
g	489+53.85	-0.50	365.48	365.53
h	489+63.85	-0.50	365.42	365.45
⊕ Brg Pier No. 2	489+75.85	-0.50	365.35	365.35
j	489+85.85	-0.50	365.29	365.28
k	489+95.85	-0.50	365.22	365.22
m	490+05.85	-0.50	365.16	365.16
⊕ Brg. East Abut.	490+11.85	-0.50	365.12	365.12
Bk. East Abut.	490+13.51	-0.50	365.11	365.11

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**TOP OF DECK ELEVATIONS (Sheet 2 of 3)  
STRUCTURE NO. 044-0061**

SHEET NO. 08 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	31
CONTRACT NO. 78279			ILLINOIS FED. AID PROJECT	

**☉ ROADWAY - ☉ BRIDGE & P.G.L.**

Location	Station	Offset	Theoretical Grade Elevations	Theo. Grade Elevations Adj. for D.L. Deflection
Bk. West Abut.	488+76.18	0.00	365.97	365.97
☉ Brg. West Abut	488+77.85	0.00	365.96	365.96
a	488+87.85	0.00	365.90	365.90
b	488+97.85	0.00	365.84	365.84
c	489+07.85	0.00	365.78	365.77
☉ Brg. Pier No. 1	489+13.85	0.00	365.74	365.74
d	489+23.85	0.00	365.68	365.70
e	489+33.85	0.00	365.62	365.66
f	489+43.85	0.00	365.55	365.61
g	489+53.85	0.00	365.49	365.54
h	489+63.85	0.00	365.43	365.46
☉ Brg Pier No. 2	489+75.85	0.00	365.36	365.36
j	489+85.85	0.00	365.29	365.29
k	489+95.85	0.00	365.23	365.23
m	490+05.85	0.00	365.17	365.17
☉ Brg. East Abut.	490+11.85	0.00	365.13	365.13
Bk. East Abut.	490+13.51	0.00	365.12	365.12

**BEAM 4**

Location	Station	Offset	Theoretical Grade Elevations	Theo. Grade Elevations Adj. for D.L. Deflection
Bk. West Abut.	488+76.18	2.96	365.93	365.93
☉ Brg. West Abut	488+77.85	2.96	365.92	365.92
a	488+87.85	2.96	365.86	365.86
b	488+97.85	2.96	365.79	365.79
c	489+07.85	2.96	365.73	365.73
☉ Brg. Pier No. 1	489+13.85	2.96	365.70	365.70
d	489+23.85	2.96	365.63	365.66
e	489+33.85	2.96	365.57	365.62
f	489+43.85	2.96	365.51	365.57
g	489+53.85	2.96	365.45	365.50
h	489+63.85	2.96	365.39	365.42
☉ Brg Pier No. 2	489+75.85	2.96	365.31	365.31
j	489+85.85	2.96	365.25	365.25
k	489+95.85	2.96	365.19	365.19
m	490+05.85	2.96	365.13	365.13
☉ Brg. East Abut.	490+11.85	2.96	365.09	365.09
Bk. East Abut.	490+13.51	2.96	365.08	365.08

**BEAM 5**

Location	Station	Offset	Theoretical Grade Elevations	Theo. Grade Elevations Adj. for D.L. Deflection
Bk. West Abut.	488+76.18	8.88	365.84	365.84
☉ Brg. West Abut	488+77.85	8.88	365.83	365.83
a	488+87.85	8.88	365.77	365.77
b	488+97.85	8.88	365.71	365.70
c	489+07.85	8.88	365.64	365.64
☉ Brg. Pier No. 1	489+13.85	8.88	365.61	365.61
d	489+23.85	8.88	365.54	365.57
e	489+33.85	8.88	365.48	365.53
f	489+43.85	8.88	365.42	365.48
g	489+53.85	8.88	365.36	365.41
h	489+63.85	8.88	365.30	365.33
☉ Brg Pier No. 2	489+75.85	8.88	365.22	365.22
j	489+85.85	8.88	365.16	365.16
k	489+95.85	8.88	365.10	365.10
m	490+05.85	8.88	365.04	365.04
☉ Brg. East Abut.	490+11.85	8.88	365.00	365.00
Bk. East Abut.	490+13.51	8.88	364.99	364.99

**BEAM 6**

Location	Station	Offset	Theoretical Grade Elevations	Theo. Grade Elevations Adj. for D.L. Deflection
Bk. West Abut.	488+76.18	14.79	365.74	365.74
☉ Brg. West Abut	488+77.85	14.79	365.73	365.73
a	488+87.85	14.79	365.67	365.67
b	488+97.85	14.79	365.60	365.60
c	489+07.85	14.79	365.54	365.54
☉ Brg. Pier No. 1	489+13.85	14.79	365.50	365.50
d	489+23.85	14.79	365.44	365.47
e	489+33.85	14.79	365.38	365.42
f	489+43.85	14.79	365.32	365.38
g	489+53.85	14.79	365.26	365.30
h	489+63.85	14.79	365.19	365.22
☉ Brg Pier No. 2	489+75.85	14.79	365.12	365.12
j	489+85.85	14.79	365.06	365.05
k	489+95.85	14.79	365.00	365.00
m	490+05.85	14.79	364.93	364.93
☉ Brg. East Abut.	490+11.85	14.79	364.90	364.90
Bk. East Abut.	490+13.51	14.79	364.89	364.89

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**TOP OF DECK ELEVATIONS (Sheet 3 of 3)  
STRUCTURE NO. 044-0061**

SHEET NO. 09 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	32
CONTRACT NO. 78279			ILLINOIS FED. AID PROJECT	



**NORTH EDGE OF CONCRETE**

Location	Station	Offset	Theoretical Grade Elevations
Free End of West Appr.	488+47.18	-19.33	365.83
'A'	488+57.18	-19.33	365.76
'B'	488+67.18	-19.33	365.70
Abut. End of West Appr.	488+77.18	-19.33	365.64

**NORTH EDGE OF SHOULDER**

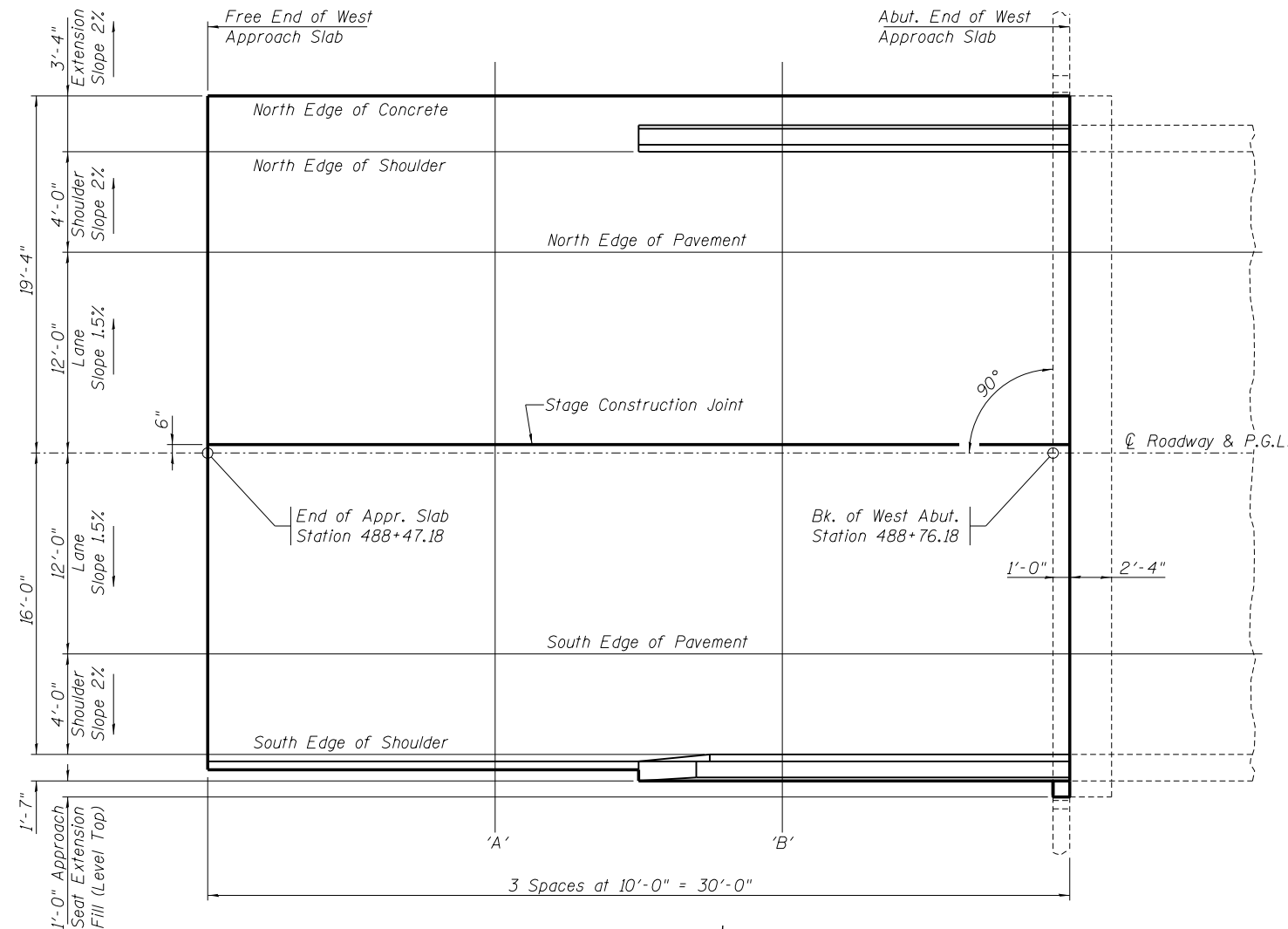
Location	Station	Offset	Theoretical Grade Elevations
Free End of West Appr.	488+47.18	-16.00	365.89
'A'	488+57.18	-16.00	365.83
'B'	488+67.18	-16.00	365.77
Abut. End of West Appr.	488+77.18	-16.00	365.71

**NORTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
Free End of West Appr.	488+47.18	-12.00	365.97
'A'	488+57.18	-12.00	365.91
'B'	488+67.18	-12.00	365.85
Abut. End of West Appr.	488+77.18	-12.00	365.79

**STAGE CONSTRUCTION JOINT**

Location	Station	Offset	Theoretical Grade Elevations
Free End of West Appr.	488+47.18	-0.50	366.15
'A'	488+57.18	-0.50	366.08
'B'	488+67.18	-0.50	366.02
Abut. End of West Appr.	488+77.18	-0.50	365.96



**PLAN**



**☉ ROADWAY & P.G.L.**

Location	Station	Offset	Theoretical Grade Elevations
Free End of West Appr.	488+47.18	0.00	366.15
'A'	488+57.18	0.00	366.09
'B'	488+67.18	0.00	366.03
Abut. End of West Appr.	488+77.18	0.00	365.97

**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
Free End of West Appr.	488+47.18	12.00	365.97
'A'	488+57.18	12.00	365.91
'B'	488+67.18	12.00	365.85
Abut. End of West Appr.	488+77.18	12.00	365.79

**SOUTH EDGE OF SHOULDER**

Location	Station	Offset	Theoretical Grade Elevations
Free End of West Appr.	488+47.18	16.00	365.89
'A'	488+57.18	16.00	365.83
'B'	488+67.18	16.00	365.77
Abut. End of West Appr.	488+77.18	16.00	365.71

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF WEST APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 044-0061**

SHEET NO. 10 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	33
CONTRACT NO. 78279				
ILLINOIS FED. AID PROJECT				

**NORTH EDGE OF SHOULDER**

Location	Station	Offset	Theoretical Grade Elevations
Abut. End of East Appr.	490+12.51	-16.00	364.87
'A'	490+22.51	-16.00	364.81
'B'	490+32.51	-16.00	364.74
Free End of East Appr.	490+42.51	-16.00	364.68

**NORTH EDGE OF PAVEMENT**

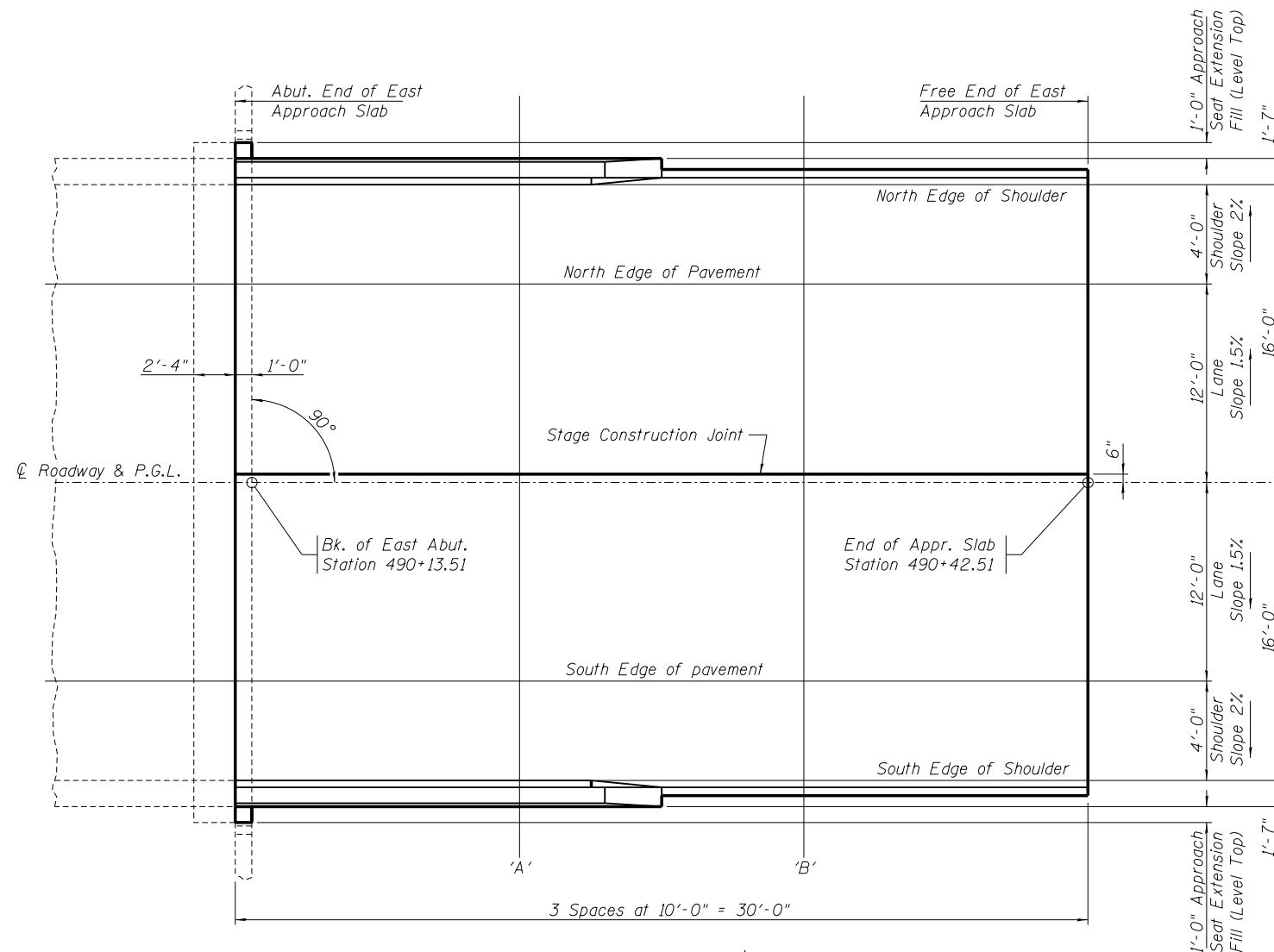
Location	Station	Offset	Theoretical Grade Elevations
Abut. End of East Appr.	490+12.51	-12.00	364.95
'A'	490+22.51	-12.00	364.89
'B'	490+32.51	-12.00	364.82
Free End of East Appr.	490+42.51	-12.00	364.76

**STAGE CONSTRUCTION JOINT**

Location	Station	Offset	Theoretical Grade Elevations
Abut. End of East Appr.	490+12.51	-0.50	365.12
'A'	490+22.51	-0.50	365.06
'B'	490+32.51	-0.50	364.99
Free End of East Appr.	490+42.51	-0.50	364.93

**☐ ROADWAY & P.G.L.**

Location	Station	Offset	Theoretical Grade Elevations
Abut. End of East Appr.	490+12.51	0.00	365.13
'A'	490+22.51	0.00	365.07
'B'	490+32.51	0.00	365.00
Free End of East Appr.	490+42.51	0.00	364.94



**SOUTH EDGE OF PAVEMENT**

Location	Station	Offset	Theoretical Grade Elevations
Abut. End of East Appr.	490+12.51	12.00	364.95
'A'	490+22.51	12.00	364.89
'B'	490+32.51	12.00	364.82
Free End of East Appr.	490+42.51	12.00	364.76

**SOUTH EDGE OF SHOULDER**

Location	Station	Offset	Theoretical Grade Elevations
Abut. End of East Appr.	490+12.51	16.00	364.87
'A'	490+22.51	16.00	364.81
'B'	490+32.51	16.00	364.74
Free End of East Appr.	490+42.51	16.00	364.68

**PLAN**



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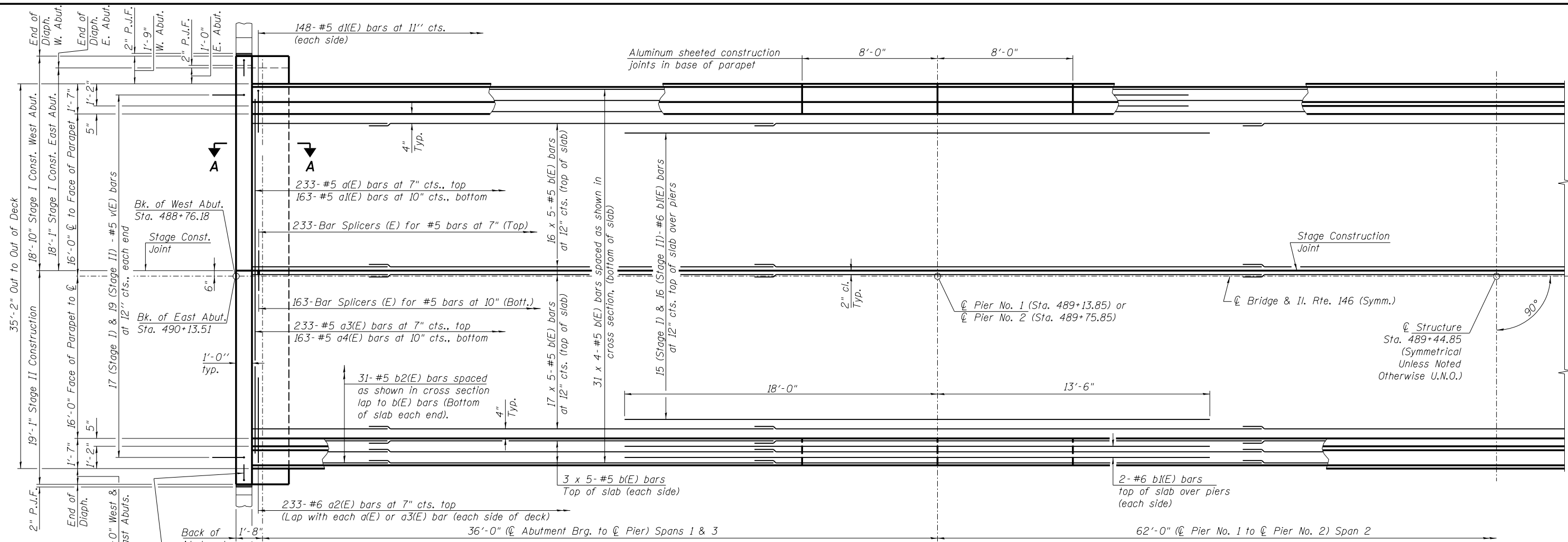
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**STATE OF ILLINOIS  
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**TOP OF EAST APPROACH SLAB ELEVATIONS  
STRUCTURE NO. 044-0061**

SHEET NO. 11 OF 29 SHEETS

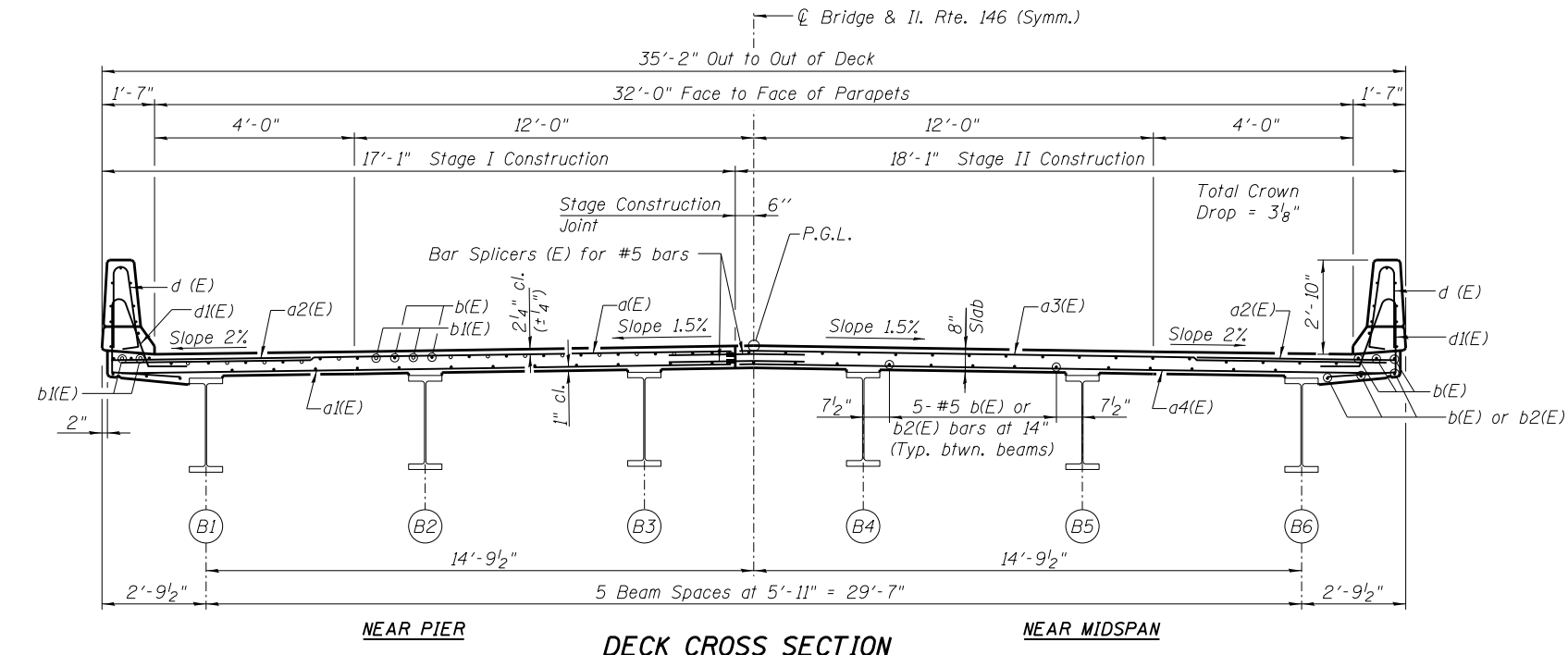
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CONTRACT NO. 78279			ILLINOIS FED. AID PROJECT	



**PARTIAL PLAN**



1- #5 v(E) bar (Rotate hook parallel to Back of Abutment) Each Side, Each End.



**DECK CROSS SECTION**  
(Looking East)

Notes:  
See Sheet 13 of 29 for superstructure details and Bill of Material.  
Bars indicated thus 17 x 5-#5 etc. indicates 17 lines of bars with 5 lengths per line.  
See Sheet 13 of 29 for parapet reinforcement.  
See Sheet 14 & 15 of 29 for Section A-A.

**MINIMUM BAR LAP**  
#5 bar = 3'-3"



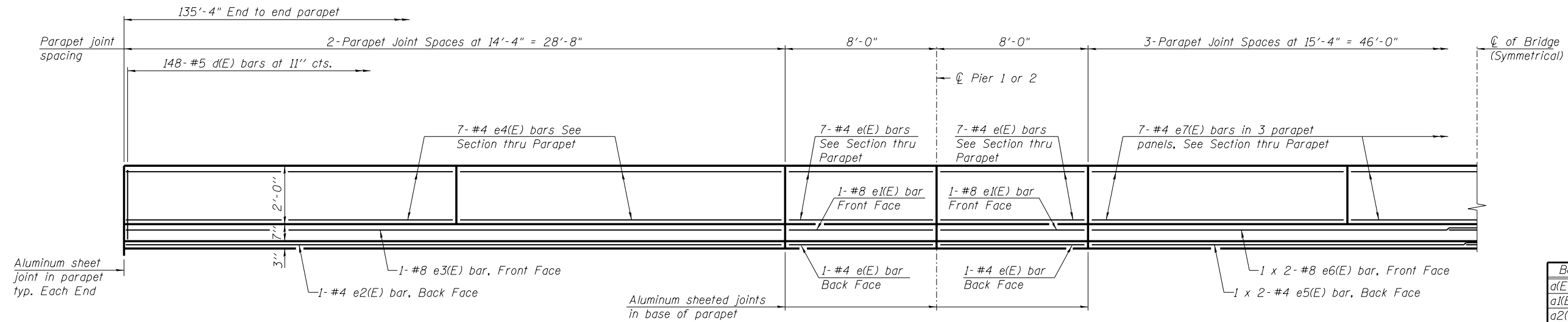
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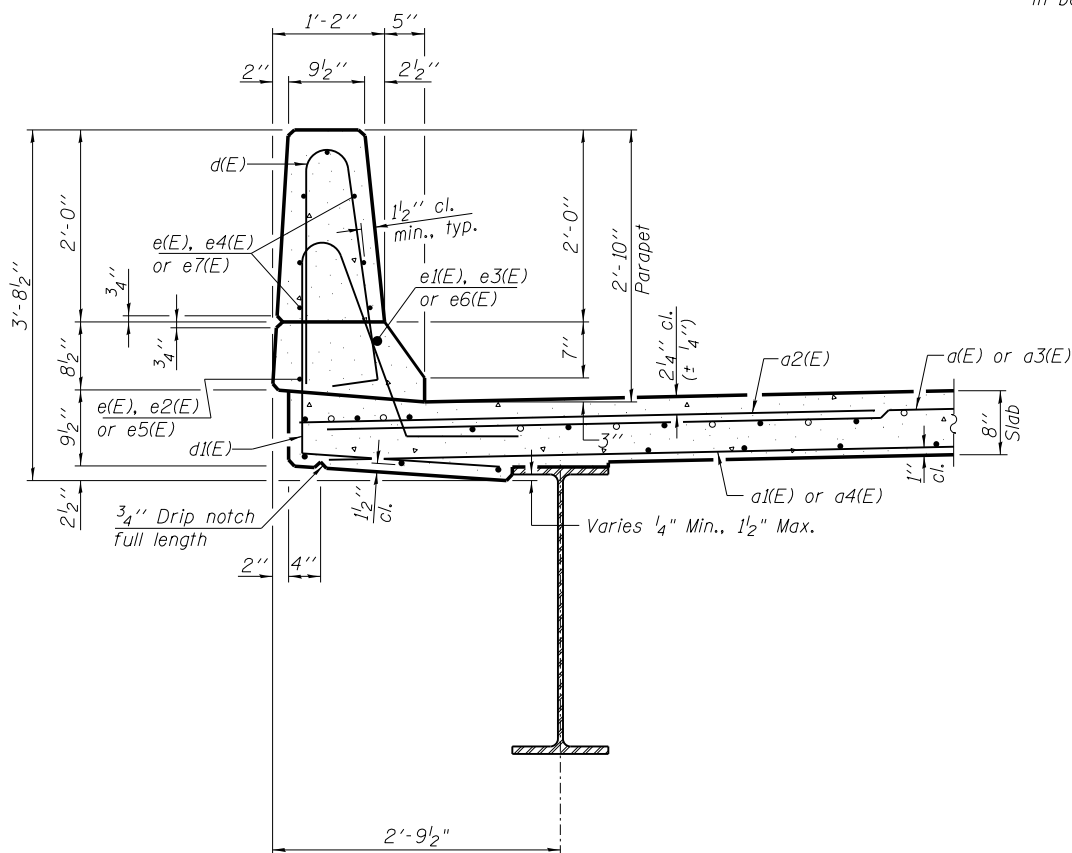
**SUPERSTRUCTURE PLAN AND DECK CROSS SECTION**  
**STRUCTURE NO. 044-0061**

SHEET NO. 12 OF 29 SHEETS

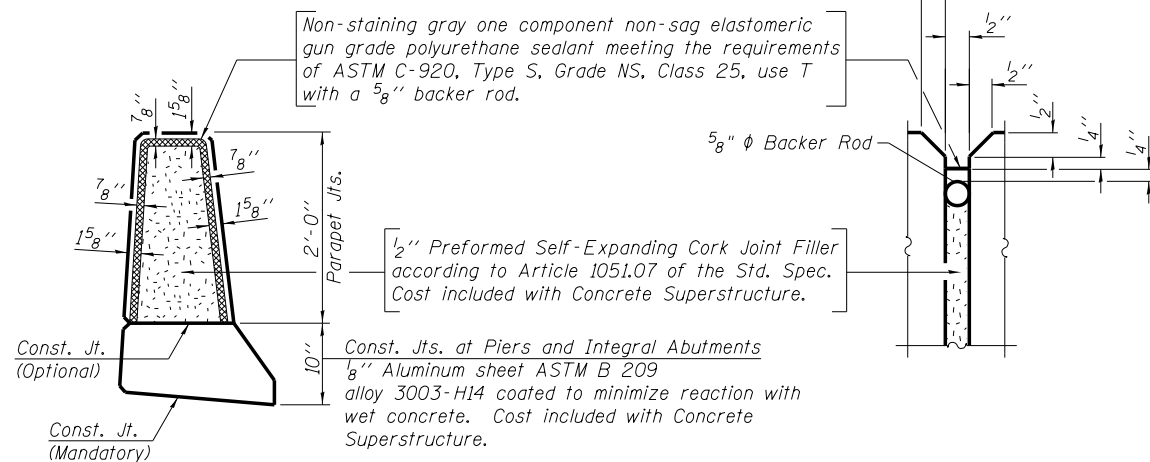
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	35
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78279	



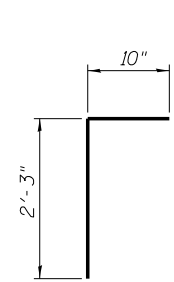
**INSIDE ELEVATION OF PARAPET**



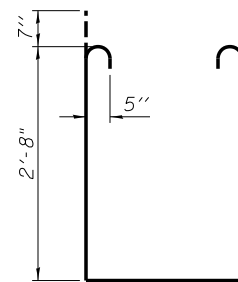
**SECTION THRU PARAPET**



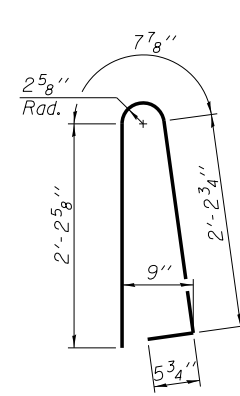
**PARAPET JOINT DETAILS**



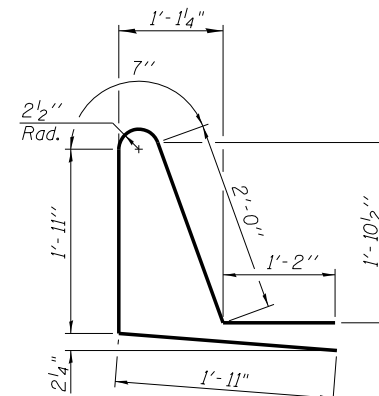
**BAR v(E)**



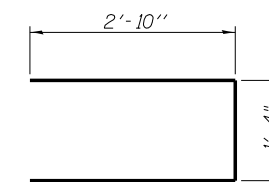
**BAR s(E)**



**BAR d(E)**



**BAR d1(E)**



**BAR s1(E)**

**SUPERSTRUCTURE  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	233	#5	16'-7"	—
a1(E)	163	#5	15'-11"	—
a2(E)	466	#6	6'-6"	—
a3(E)	233	#5	17'-7"	—
a4(E)	163	#5	16'-11"	—
b(E)	319	#5	29'-8"	—
b1(E)	70	#6	31'-6"	—
b2(E)	62	#5	16'-4"	—
d(E)	296	#5	5'-7"	⌋
d1(E)	296	#5	7'-7"	⌋
e(E)	64	#4	7'-8"	—
e1(E)	8	#8	7'-8"	—
e2(E)	4	#4	28'-4"	—
e3(E)	4	#8	28'-4"	—
e4(E)	56	#4	14'-0"	—
e5(E)	4	#4	23'-10"	—
e6(E)	4	#8	25'-5"	—
e7(E)	42	#4	15'-0"	—
m(E)	4	#6	18'-6"	—
m1(E)	4	#6	17'-9"	—
m2(E)	24	#6	5'-6"	—
m3(E)	36	#5	4'-0"	—
m4(E)	9	#6	3'-5"	—
m5(E)	3	#6	4'-2"	—
m6(E)	6	#6	2'-1"	—
m7(E)	6	#6	3'-1"	—
m8(E)	8	#6	18'-9"	—
s(E)	77	#5	7'-0"	⌋
s1(E)	77	#5	8'-6"	⌋
v(E)	76	#5	3'-1"	⌋
Reinforcement Bars, Epoxy Coated		Pound	41280	
Concrete Superstructure		Cu. Yds.	191.2	

Bars indicated thus 1 x 3 - #5 etc. indicates 1 line of bars with 3 lengths per line.

**MINIMUM BAR LAP**

#4 bar = 2'-0"  
#8 bar = 5'-2"

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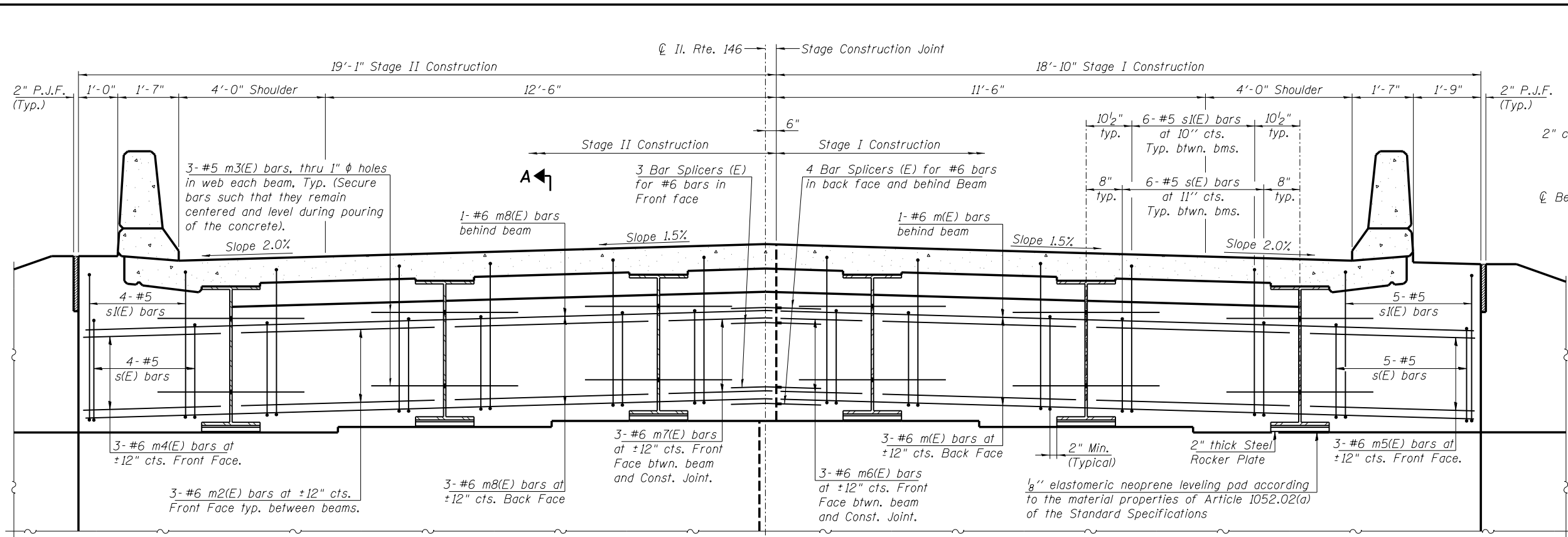
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SUPERSTRUCTURE DETAILS  
STRUCTURE NO. 044-0061

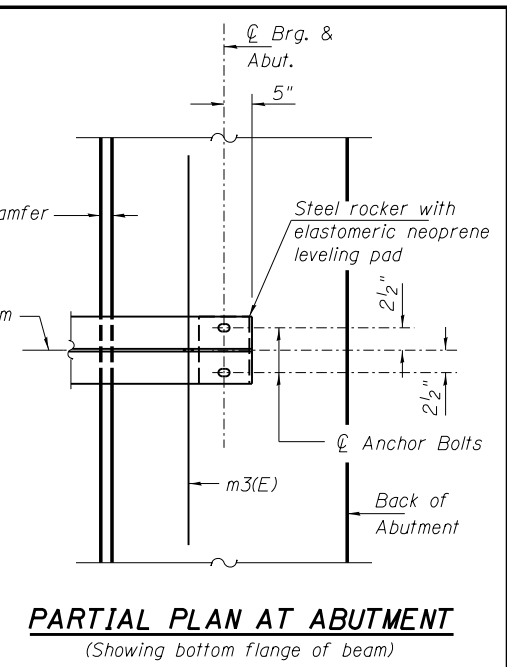
SHEET NO. 13 OF 29 SHEETS

F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	36
CONTRACT NO. 78279				

ILLINOIS FED. AID PROJECT

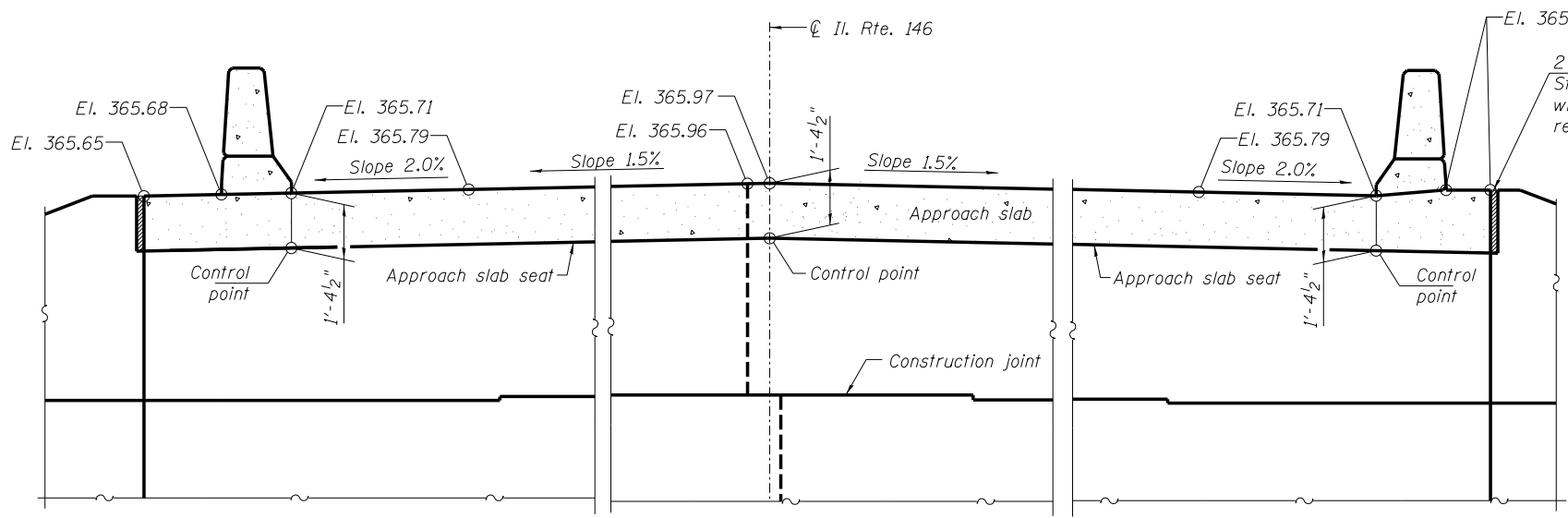


**DIAPHRAGM ELEVATION AT WEST ABUTMENT**  
(Looking West)

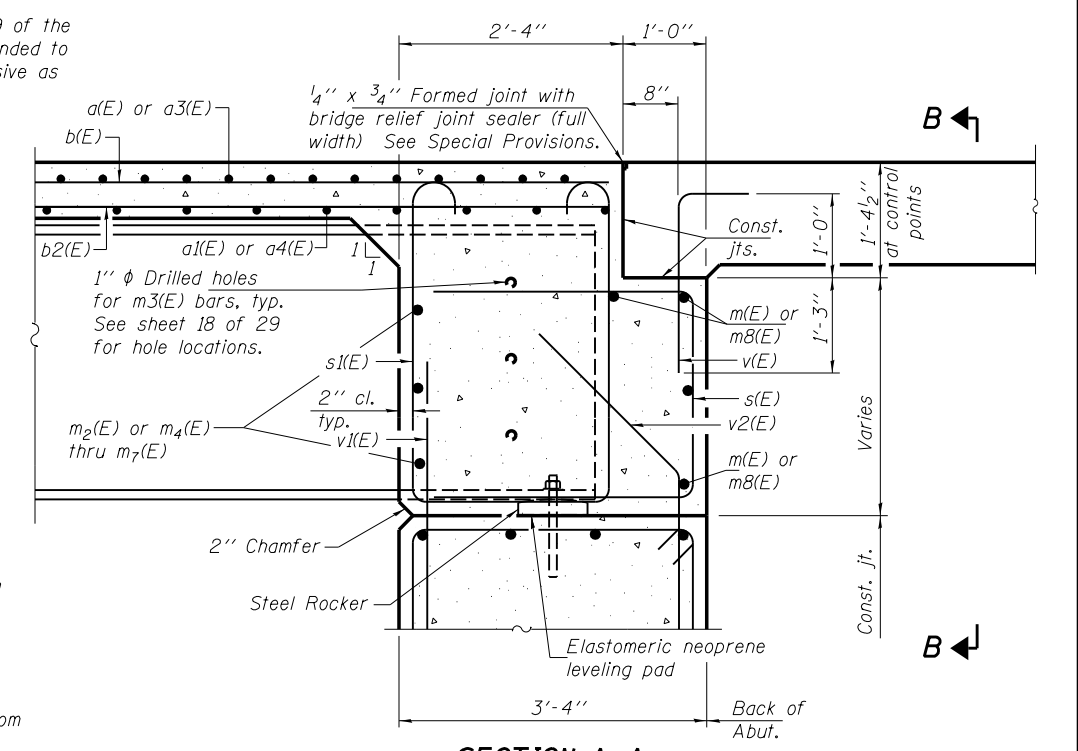


**PARTIAL PLAN AT ABUTMENT**  
(Showing bottom flange of beam)

**MIN. BAR LAP**  
#6 bar = 3'-0"



**SECTION B-B**  
(Looking at Back of Abutment)



**SECTION A-A**

**Notes:**  
 Reinforcement bars in diaphragm are billed with superstructure on sheet 13 of 29.  
 Concrete in diaphragm is included with Concrete Superstructure on sheet 13 of 29.  
 For details of bars s(E), s<sub>1</sub>(E) and v(E) see sheet 13 of 29.  
 The approach slab seat shall have a constant slope determined from the control points shown.  
 For bearing details see sheet 20 of 29.  
 For bearing seat elevations see West Abutment Details sheet 21 of 29.

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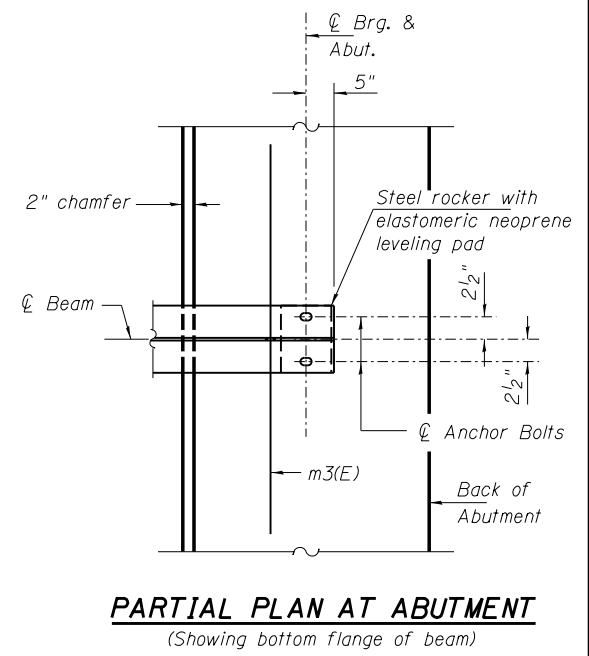
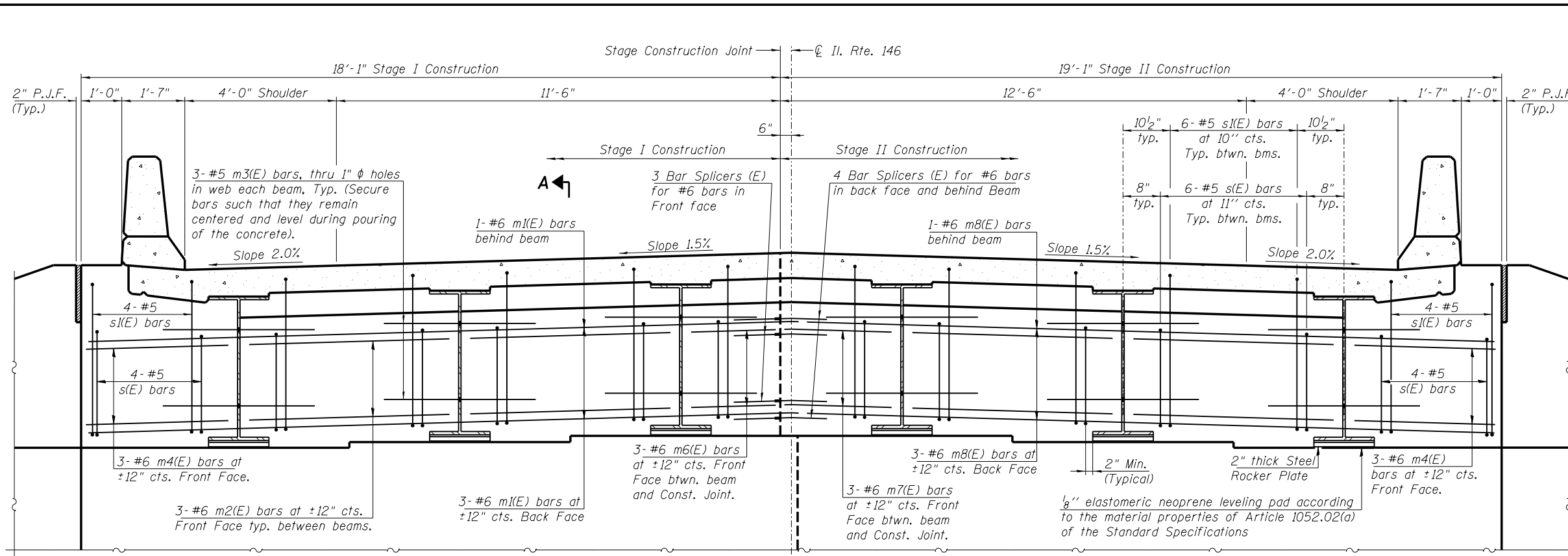
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**WEST INTEGRAL ABUTMENT DIAPHRAGM DETAILS**  
**STRUCTURE NO. 044-0061**

SHEET NO. 14 OF 29 SHEETS

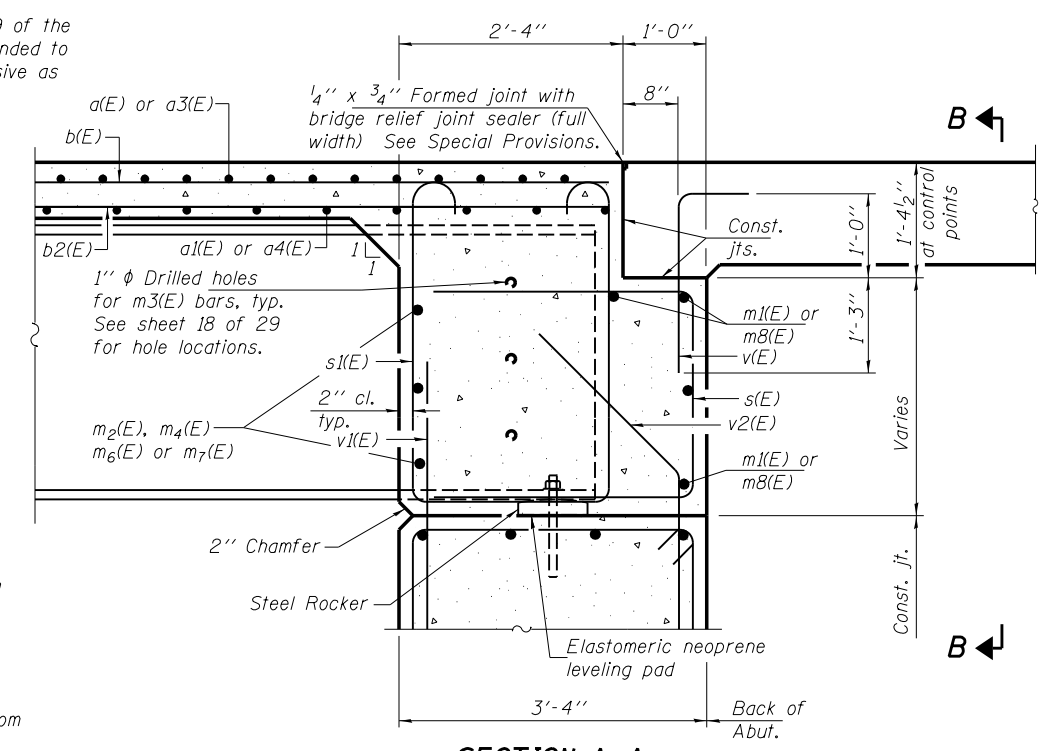
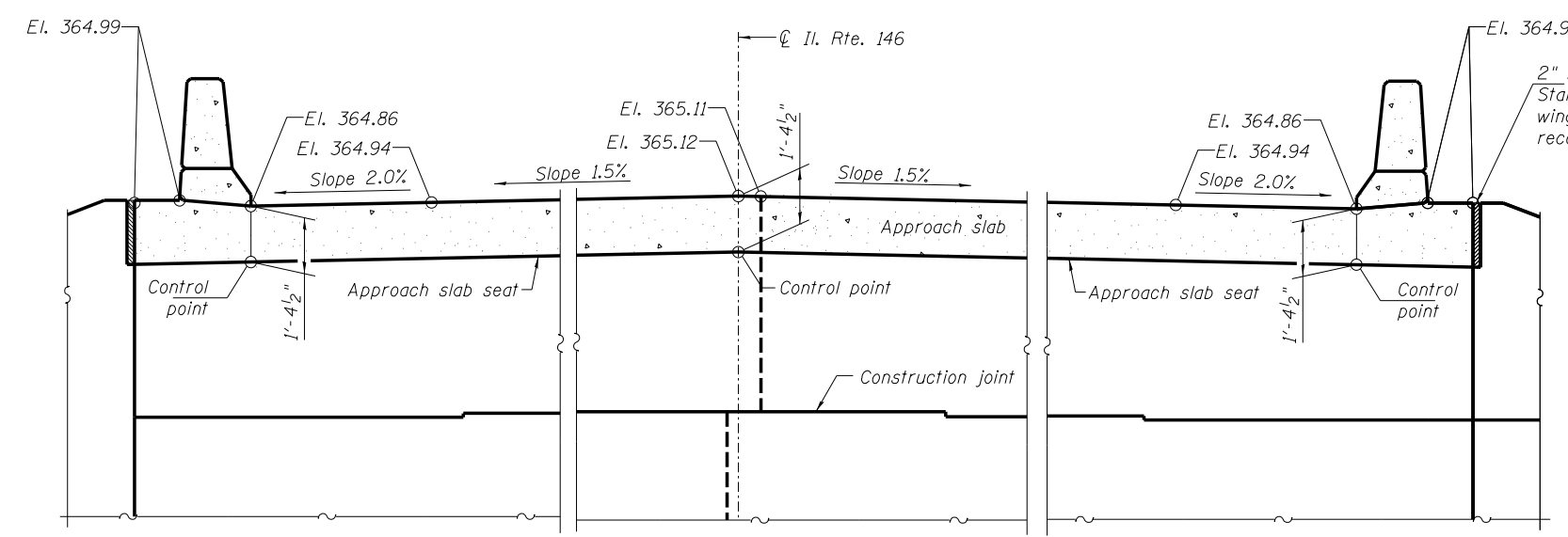
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	37
CONTRACT NO. 78279			ILLINOIS FED. AID PROJECT	



**DIAPHRAGM ELEVATION AT EAST ABUTMENT**  
(Looking East)

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

**MIN. BAR LAP**  
#6 bar = 3'-0"



**SECTION B-B**  
(Looking at Back of Abutment)

**SECTION A-A**

Notes:  
Reinforcement bars in diaphragm are billed with superstructure on sheet 13 of 29.  
Concrete in diaphragm is included with Concrete Superstructure on sheet 13 of 29.  
For details of bars s(E), s<sub>1</sub>(E) and v(E) see sheet 13 of 29.  
The approach slab seat shall have a constant slope determined from the control points shown.  
For bearing details see sheet 20 of 29.  
For bearing seat elevations see East Abutment Details sheet 22 of 29.

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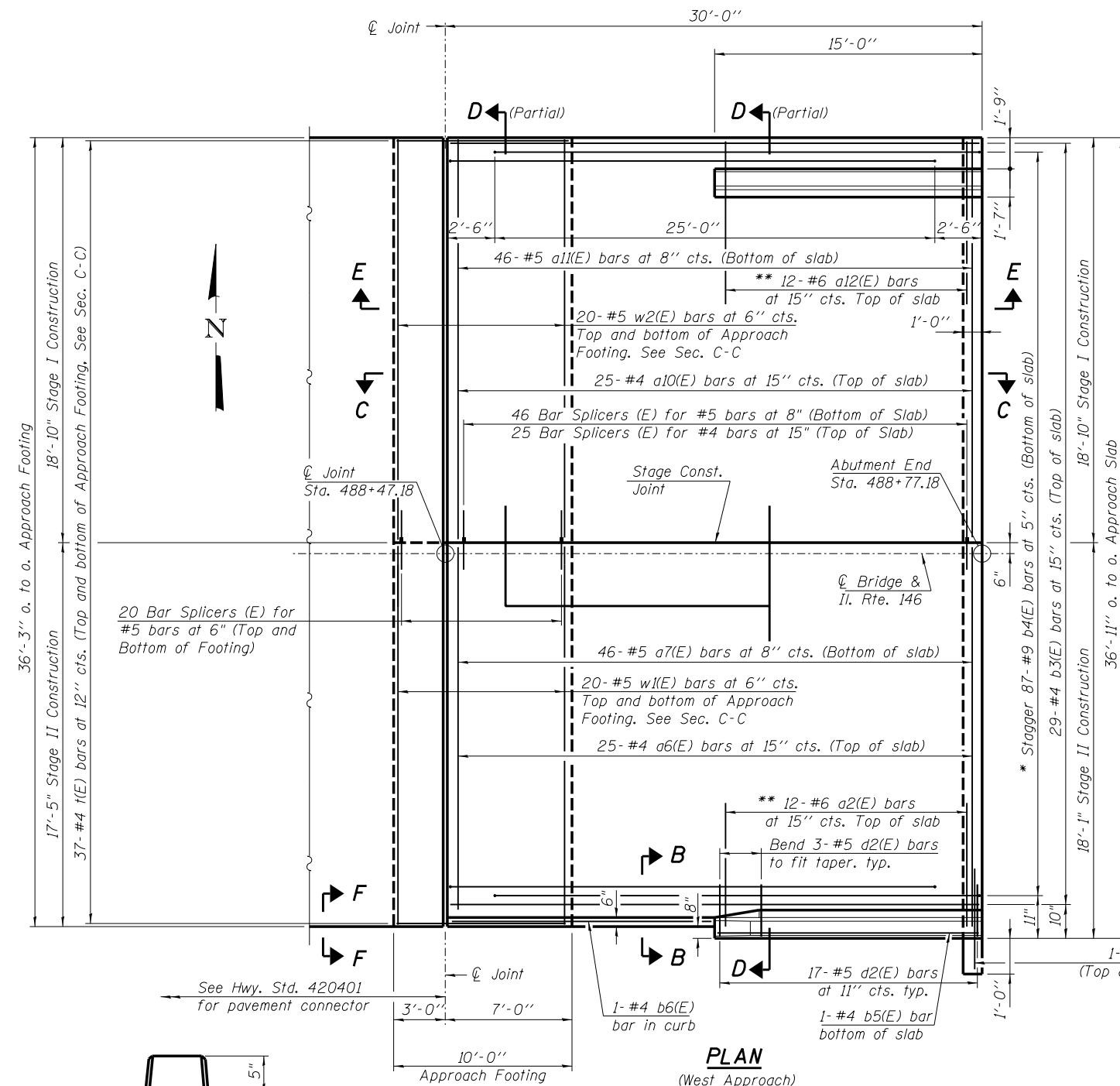
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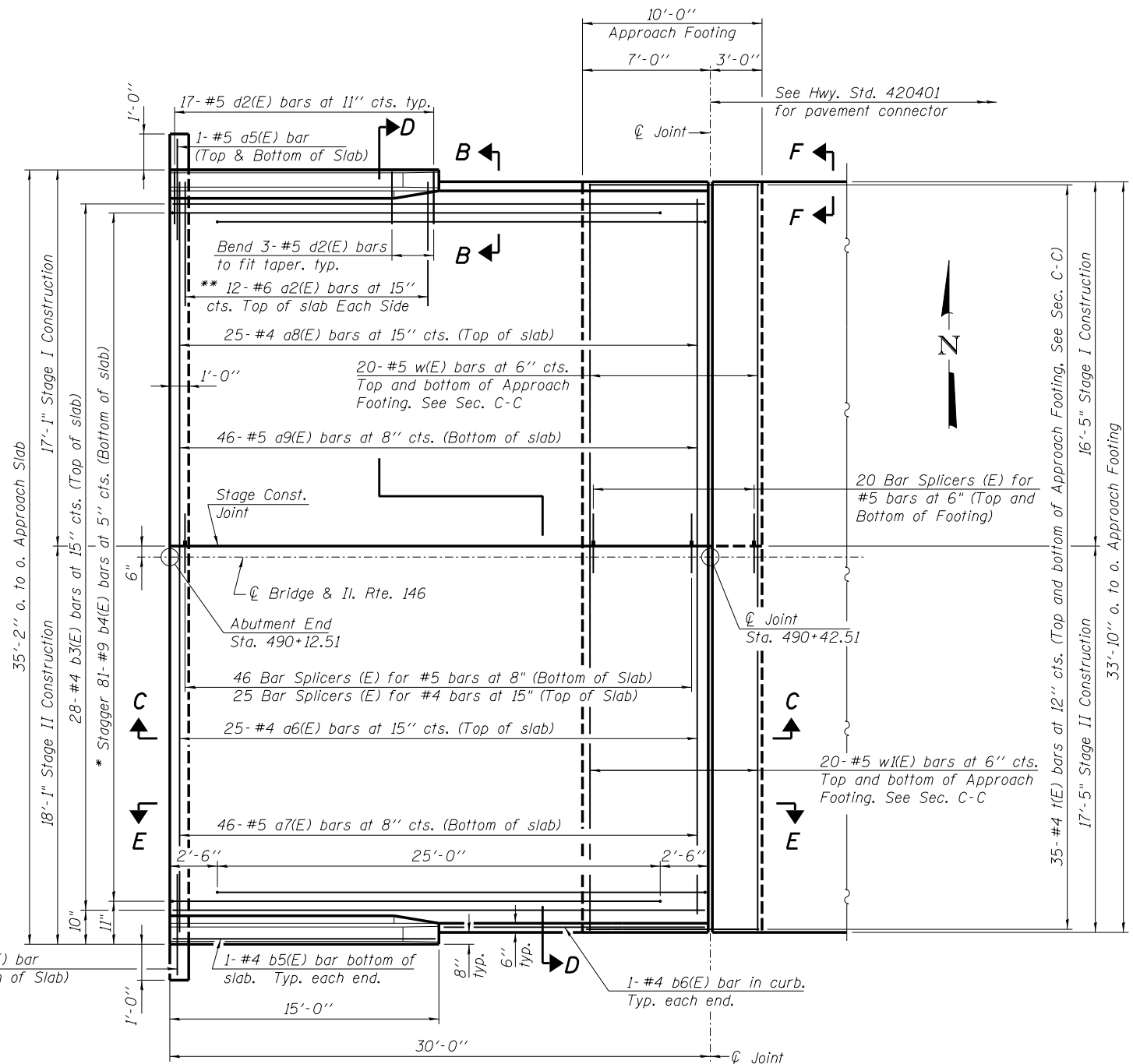
**EAST INTEGRAL ABUTMENT DIAPHRAGM DETAILS**  
**STRUCTURE NO. 044-0061**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	38
ILLINOIS FED. AID PROJECT			CONTRACT NO. 78279	

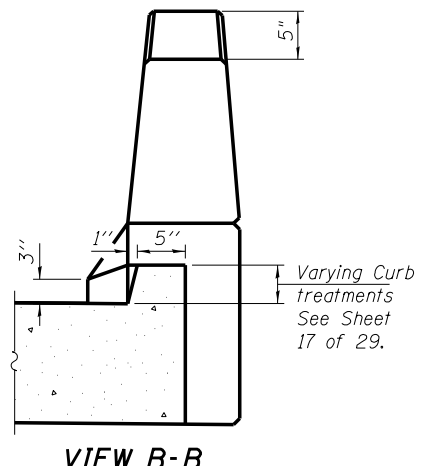
SHEET NO. 15 OF 29 SHEETS



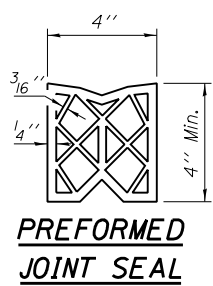
**PLAN**  
(West Approach)



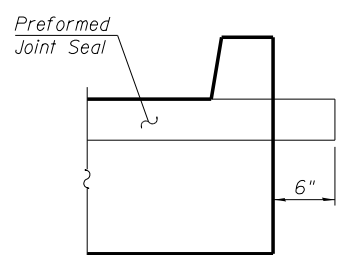
**PLAN**  
(East Approach)



**VIEW B-B**

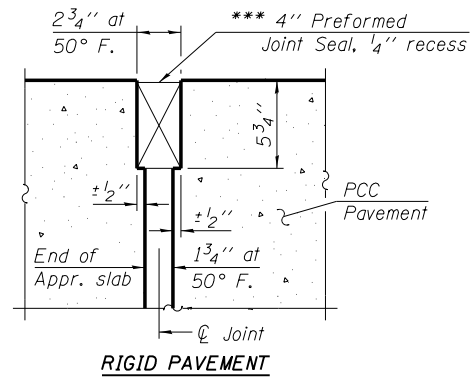


**PREFORMED JOINT SEAL**



**VIEW F-F**

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



**DETAIL A**

- Notes:
- \* Tilt #9 b4(E) bars as required to maintain clearance.
  - \*\* Space between a6(E), a8(E) or a10(E) bars, typ. ea. parapet.
  - \*\*\* Cost included with Concrete Superstructure.

See sheet 17 of 29 for Sections C-C & D-D's (Full & Partials) and View E-E. a6(E), a7(E), a8(E), a9(E), a10(E) and a11(E) bar spacings measured along  $\bar{C}$  Rdwy. The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be 1/2" for installation purposes.

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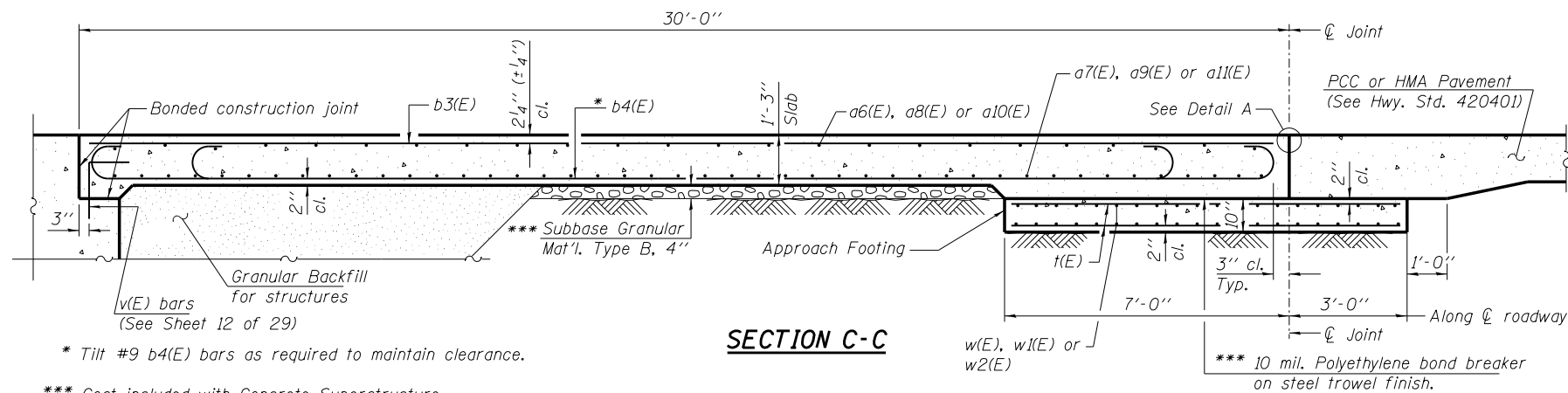
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CAST-IN-PLACE BRIDGE APPROACH SLAB DETAILS (Sheet 1 of 2)  
STRUCTURE NO. 044-0061

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	39
CONTRACT NO.			78279	

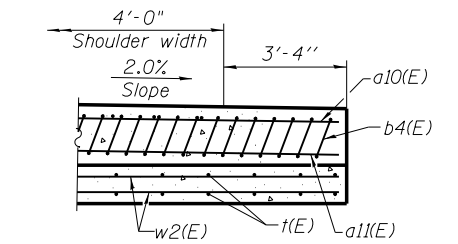
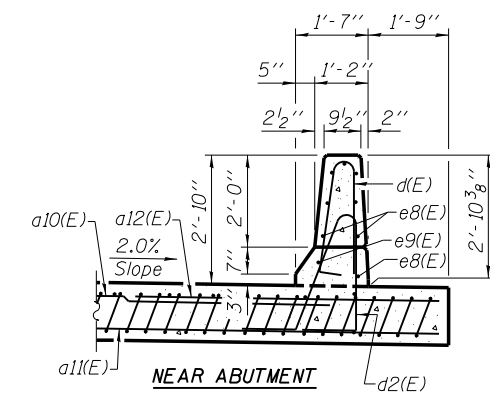
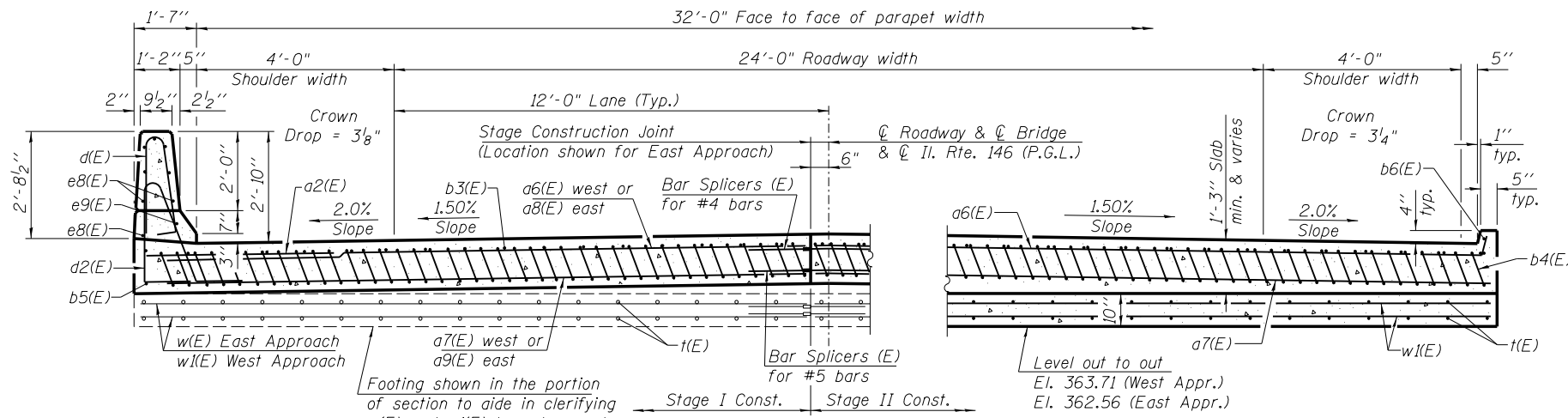
SHEET NO. 16 OF 29 SHEETS

ILLINOIS FED. AID PROJECT



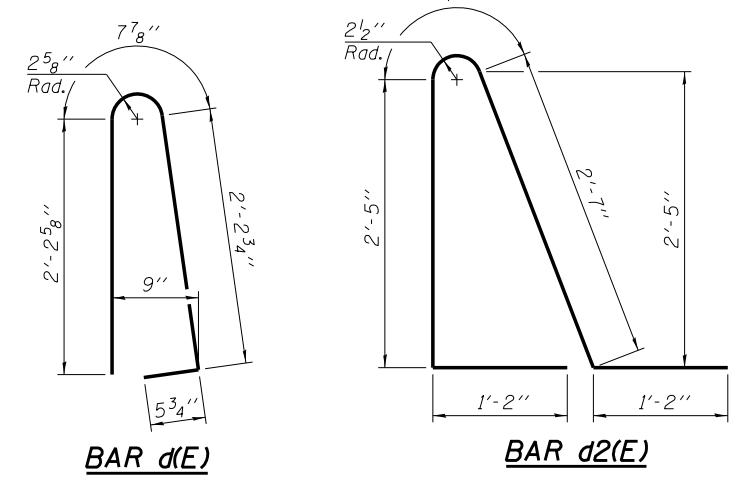
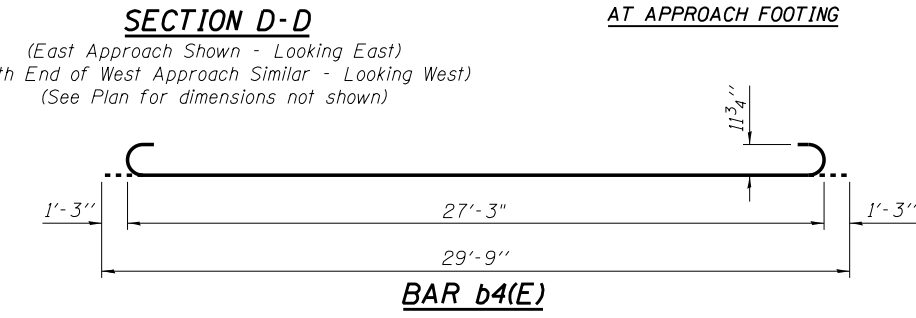
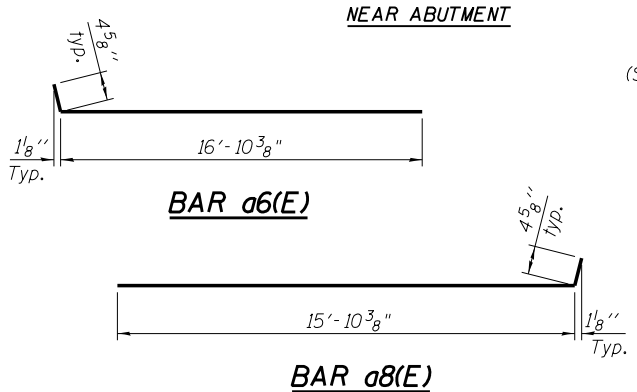
Notes:  
 See sheet 16 of 29 for Detail A and View B-B.  
 Approach slab and parapet concrete shall be paid for as Concrete Superstructure.  
 Approach footing concrete shall be paid for as Concrete Structures.  
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.  
 For v(E) bar details, see sheet 13 of 29.  
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.  
 For bar splicer details, see sheet 26 of 29.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 29.  
 For additional parapet details, see sheet 13 of 29.

\* Tilt #9 b4(E) bars as required to maintain clearance.  
 \*\*\* Cost included with Concrete Superstructure.



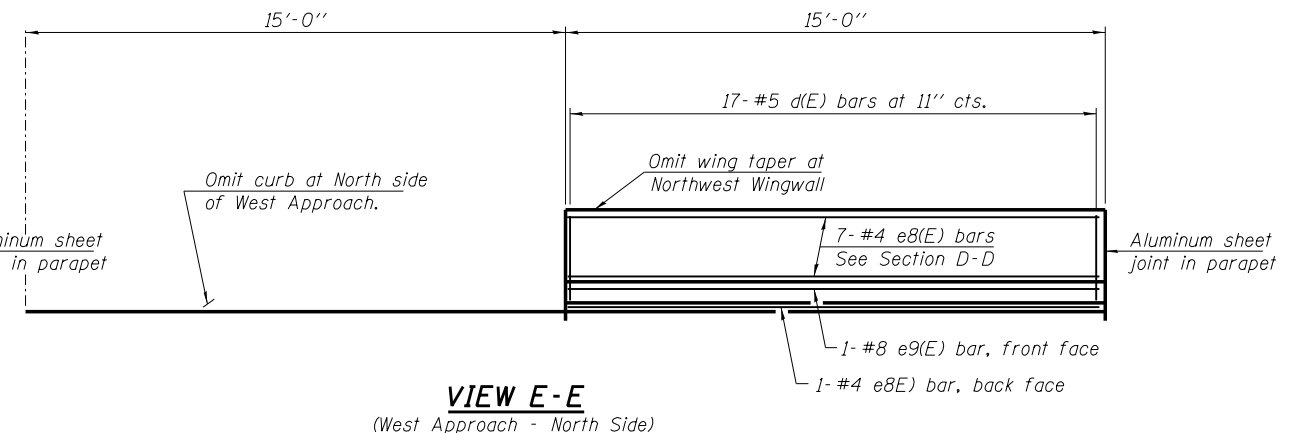
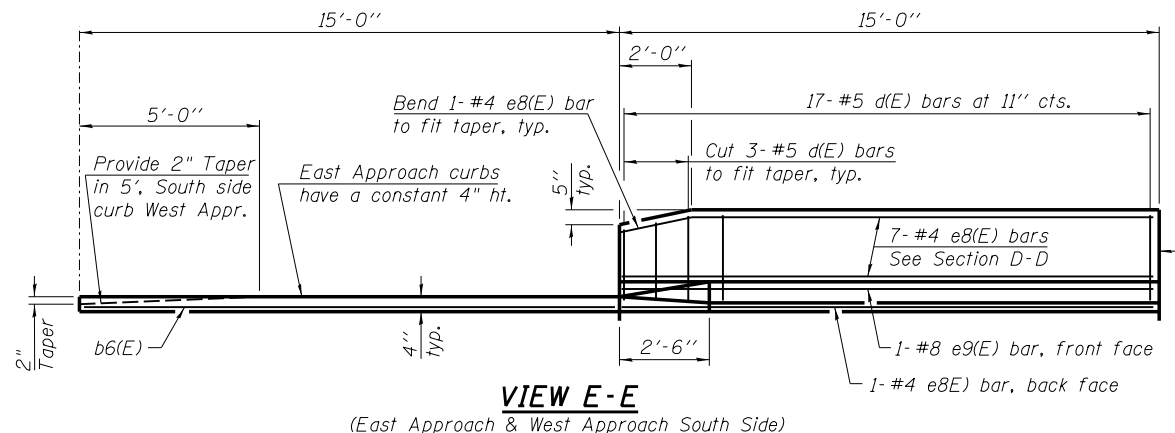
**PARTIAL SECTION D-D**  
 (North End of West Approach - Looking West)  
 (See Plan for dimensions not shown)

**PARTIAL SECTION D-D**  
 (North End of West Approach - Looking West)  
 (See Plan for dimensions not shown)



**TWO APPROACHES**  
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a2(E)	36	#6	6'-6"	—
a5(E)	6	#5	4'-3"	—
a6(E)	50	#4	17'-3"	—
a7(E)	92	#5	17'-1"	—
a8(E)	25	#4	16'-3"	—
a9(E)	46	#5	16'-1"	—
a10(E)	25	#4	18'-6"	—
a11(E)	46	#5	18'-6"	—
a12(E)	12	#6	8'-3"	—
b3(E)	57	#4	29'-8"	—
b4(E)	168	#9	29'-9"	—
b5(E)	3	#4	14'-8"	—
b6(E)	3	#4	14'-7"	—
d(E)	68	#5	5'-7"	—
d2(E)	68	#5	7'-11"	—
e8(E)	32	#4	14'-8"	—
e9(E)	4	#8	14'-8"	—
t(E)	144	#4	9'-8"	—
w(E)	40	#5	16'-1"	—
w1(E)	80	#5	17'-1"	—
w2(E)	40	#5	18'-6"	—
Concrete Superstructure		Cu. Yd.	110.2	
Concrete Structures		Cu. Yd.	21.6	
Reinforcement Bars, Epoxy Coated		Pound	28390	



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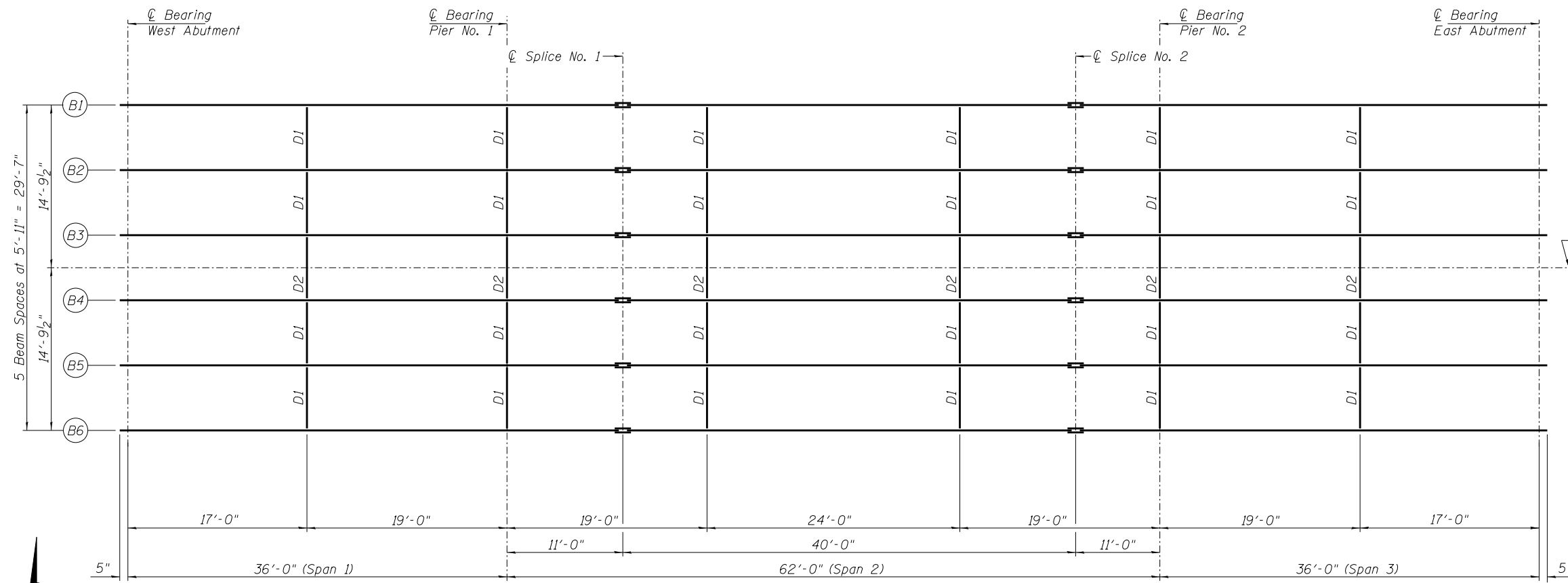
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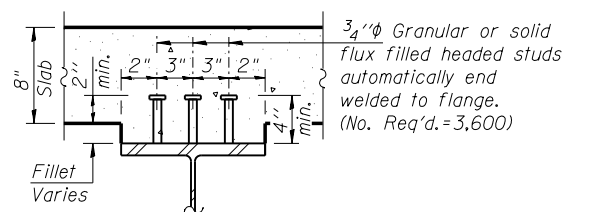
CAST-IN-PLACE BRIDGE APPROACH SLAB DETAILS (Sheet 2 of 2)  
 STRUCTURE NO. 044-0061  
 SHEET NO. 17 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	40
CONTRACT NO. 78279			ILLINOIS FED. AID PROJECT	

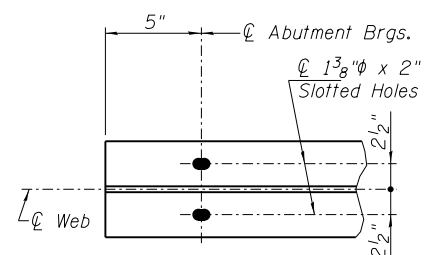




**FRAMING PLAN**

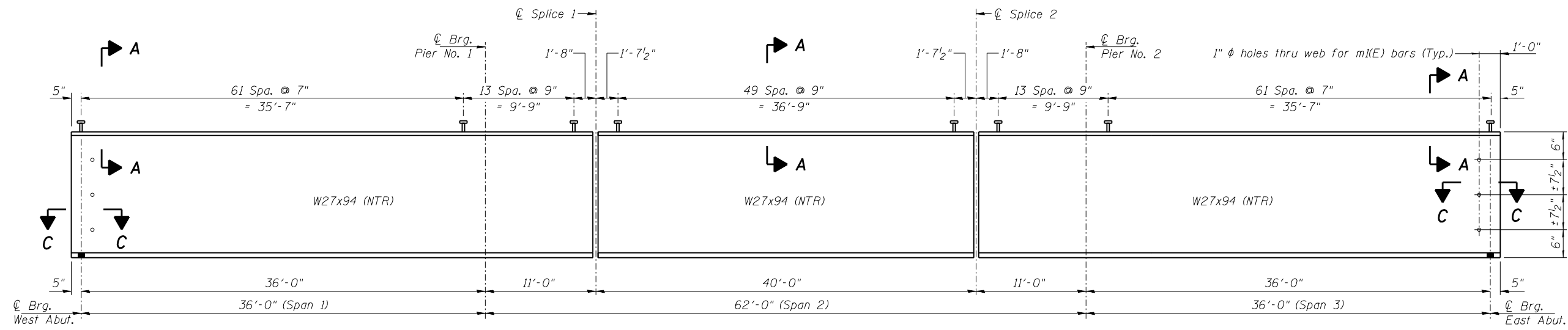


**SECTION A-A**



**SECTION C-C**

**Notes:**  
 All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.  
 Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.  
 All beams, splice plates, connecting angles and diaphragms shall conform to the requirements of AASHTO M270 Grade 50W.



**GIRDER ELEVATION**

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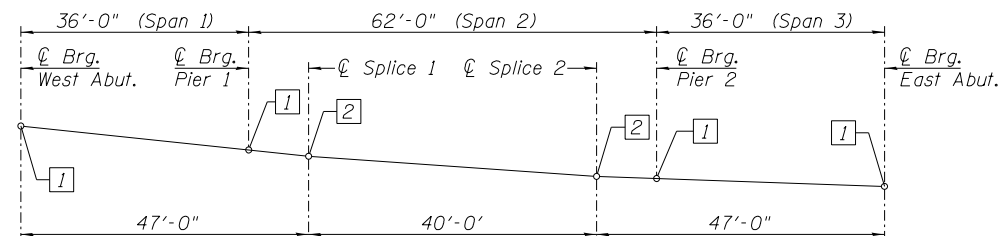
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**STATE OF ILLINOIS  
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**STRUCTURAL STEEL - FRAMING PLAN  
 STRUCTURE NO. 044-0061**

SHEET NO. 18 OF 29 SHEETS

F.A.P. R.E. 885	SECTION 110B-1	COUNTY JOHNSON	TOTAL SHEETS 52	SHEET NO. 41
CONTRACT NO. 78279			ILLINOIS FED. AID PROJECT	



**BLOCKING DIAGRAM**

- 1 - See Table for Final Top of Beam Elevations at abutments and piers.
- 2 - Theoretical Top of Beam Elevations before dead load deflections.

**TOP of BEAM ELEVATIONS TABLE**

For Fabrication Only

Beam Number	℄ Brg. W. Abut.	℄ Brg. Pier 1	℄ Splice No. 1	℄ Splice No. 2	℄ Brg. Pier 2	℄ Brg. E. Abut.
Beam 1	365.02	364.77	364.69	364.44	364.38	364.19
Beam 2	365.12	364.87	364.79	364.55	364.49	364.29
Beam 3	365.21	364.96	364.88	364.64	364.58	364.38
Beam 4	365.21	364.96	364.88	364.64	364.58	364.38
Beam 5	365.12	364.87	364.79	364.55	364.49	364.29
Beam 6	365.02	364.77	364.69	364.44	364.38	364.19

	0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
$I_s$	(in <sup>4</sup> ) 3270	3270	3270
$I_c(n)$	(in <sup>4</sup> ) 9468	-	9468
$I_c(3n)$	(in <sup>4</sup> ) 7023	-	7023
$I_c(cr)$	(in <sup>4</sup> ) -	4786	-
$S_s$	(in <sup>3</sup> ) 243	243	243
$S_c(n)$	(in <sup>3</sup> ) 370	-	370
$S_c(3n)$	(in <sup>3</sup> ) 335	-	335
$S_c(cr)$	(in <sup>3</sup> ) -	289	-
DC1	(k/ft) 0.705	0.705	0.705
M <sub>DC1</sub>	(k) 32	195	144
DC2	(k/ft) 0.150	0.150	0.150
M <sub>DC2</sub>	(k) 7	41	31
DW	(k/ft) 0.267	0.267	0.267
M <sub>DW</sub>	(k) 12	74	55
$M_L + IM$	(k) 303	371	390
$M_u$ (Strength I)	(k) 597	1055	982
$\phi_r M_n$	(k) 1946	-	1867
$f_s$ DC1	(ksi) 1.57	9.62	7.12
$f_s$ DC2	(ksi) 0.24	1.72	1.10
$f_s$ DW	(ksi) 0.43	3.06	1.96
$f_s$ (L+IM)	(ksi) 9.83	15.40	12.63
$f_s$ (Service II)	(ksi) 15.02	34.42	26.60
$0.95R_h F_y$	(ksi) 47.50	47.50	47.50
$f_s$ (Total)(Strength I)	(ksi) -	45.72	-
$\phi_r F_n$	(ksi) -	50.00	-
$V_f$	(k) 18.1	22.6	18.6

$I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$  (Total-Strength I, and Service II) due to non-composite dead loads (in<sup>4</sup> and in<sup>3</sup>).

$I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$  (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in<sup>4</sup> and in<sup>3</sup>).

$I_c(3n), S_c(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$  (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).

$I_c(cr), S_c(cr)$ : Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing  $f_s$  (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).

DC1: Un-factored non-composite dead load (kips/ft.).

M<sub>DC1</sub>: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M<sub>DC2</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

$M_L + IM$ : Un-factored live load moment plus dynamic load allowance (kip-ft.).

$M_u$  (Strength I): Factored design moment (kip-ft.).

$1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$

$\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).

$f_s$  DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).

$M_{DC1} / S_{nc}$

$f_s$  DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).

$M_{DC2} / S_c(3n)$  or  $M_{DC2} / S_c(cr)$  as applicable.

$f_s$  DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).

$M_{DW} / S_c(3n)$  or  $M_{DW} / S_c(cr)$  as applicable.

$f_s$  (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).

$M_L + IM / S_c(n)$  or  $M_L + IM / S_c(cr)$  as applicable.

$f_s$  (Service II): Sum of stresses as computed below (ksi).

$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s (L + IM)$

$0.95R_h F_y$ : Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

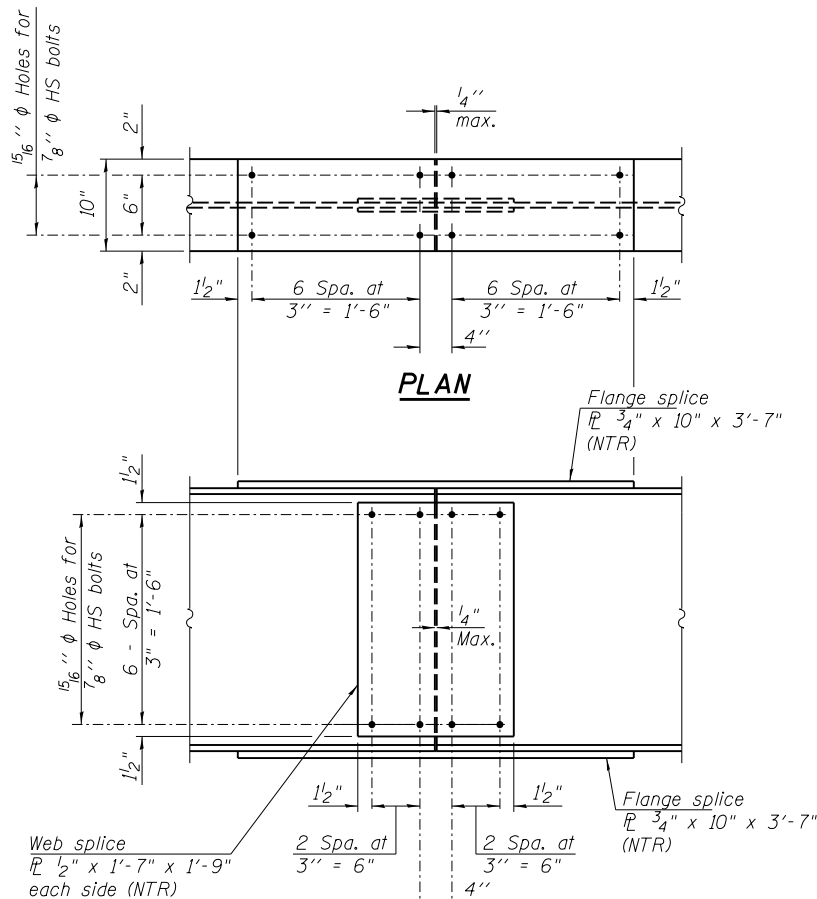
$f_s$  (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).

$1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_s (L + IM)$

$\phi_r F_n$ : Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

$V_f$ : Maximum factored shear range in span computed according to Article 6.10.10.

	Abuts.	Piers
$R_{DC1}$	(k) 7.3	40
$R_{DC2}$	(k) 1.5	8.6
$R_{DW}$	(k) 2.8	15.2
$R_L + IMP$	(k) 51.9	85.6
$R_{Total}$	(k) 63.5	149.4

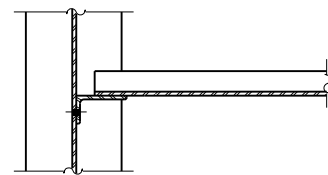


**ELEVATION**

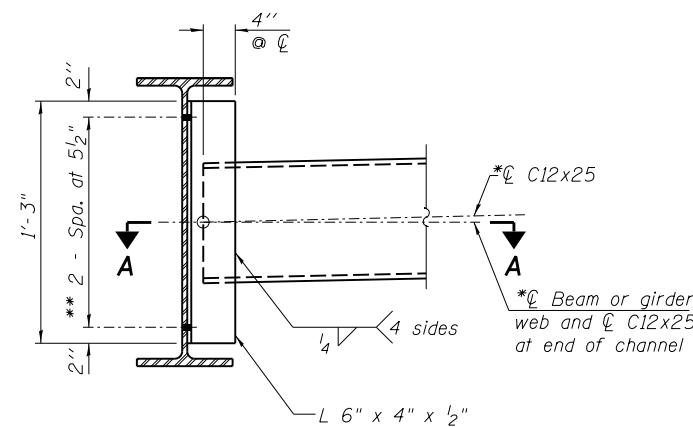
**FIELD SPLICE DETAIL**

(12 Required)

Note: Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.



**SECTION A-A**



**INTERIOR DIAPHRAGM D1**

(24 Required)

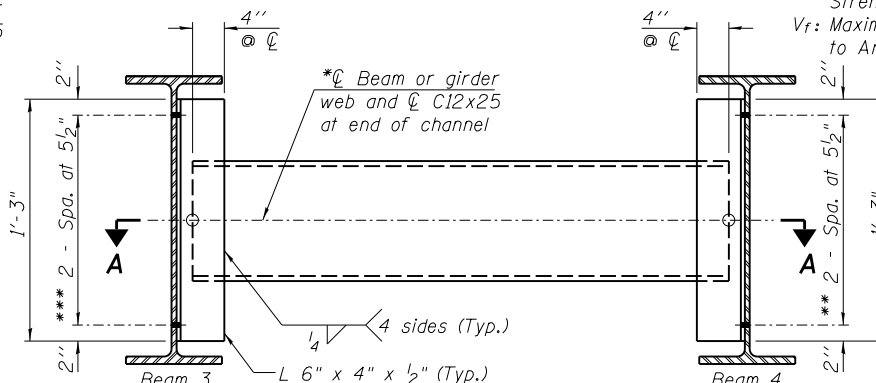
Note: Two hardened washers required for each set of oversized holes.

\*Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.

The alternate C12x30, if utilized, shall be provided at no additional cost to the Department.

\*\*3/4''  $\phi$  HS bolts, 15/16''  $\phi$  holes

Note: All beams, splice plates, connecting angles and diaphragms shall conform to the requirements of AASHTO M270 Grade 50W.

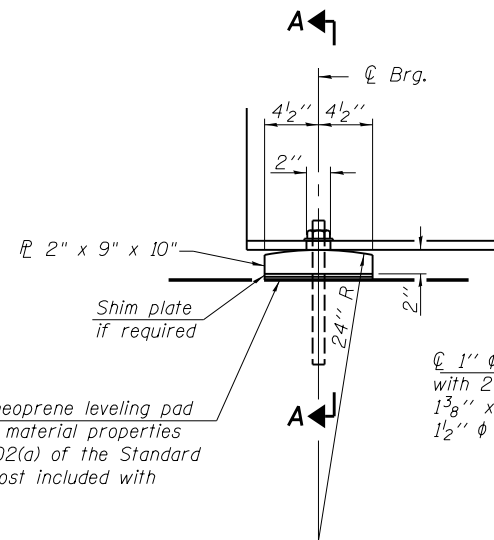


**INTERIOR DIAPHRAGM D2**

(6 Required)

\*\*\*3/4''  $\phi$  H.S. bolts, 13/16''  $\phi$  holes in Beam 3 web and 13/16'' x 17/8'' vertically slotted holes in connection angle at Beam 3 end of diaphragm assembly.

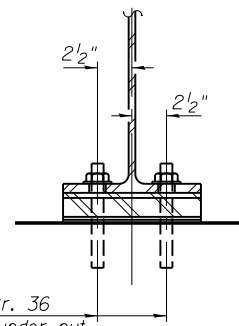
3/4''  $\phi$  H.S. bolts, 15/16''  $\phi$  holes in all connection parts at Beam 4 end of diaphragm assembly. Other notes on Diaphragm D1 pertain, and Section A-A is Similar.



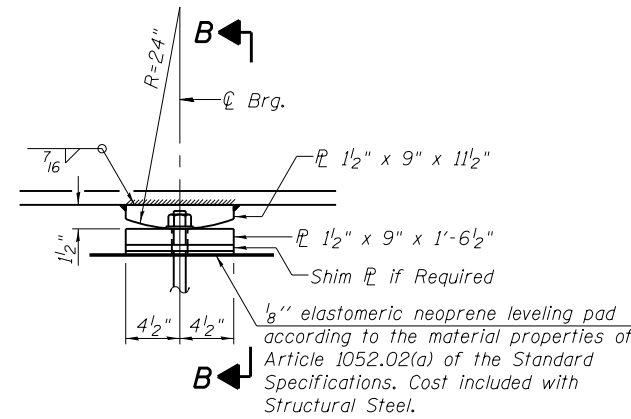
**ELEVATION AT ABUTMENT**

1/8" elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Structural Steel.

1"  $\phi$  x 12" anchor bolts F1554 Gr. 36 with 2 1/4" x 2 1/4" x 5/16" PL washer under nut. 1 3/8" x 2" slotted hole in flange. 1 1/2"  $\phi$  holes in bearing plate.

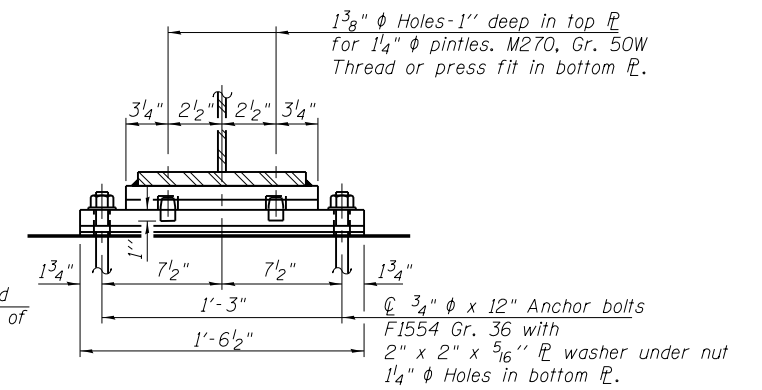


**SECTION A-A**



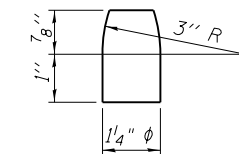
**ELEVATION AT PIER**

**FIXED PIER BEARING DETAILS**



**SECTION B-B**

**INTEGRAL ABUTMENT FIXED BEARING DETAILS**



**PINTLE**

**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.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

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

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

The structural steel plates and pintles of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50W.

The anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.

**BILL OF MATERIAL**

Item	Unit	Total
Anchor Bolts, 3/4"	Each	24
Anchor Bolts, 1"	Each	24

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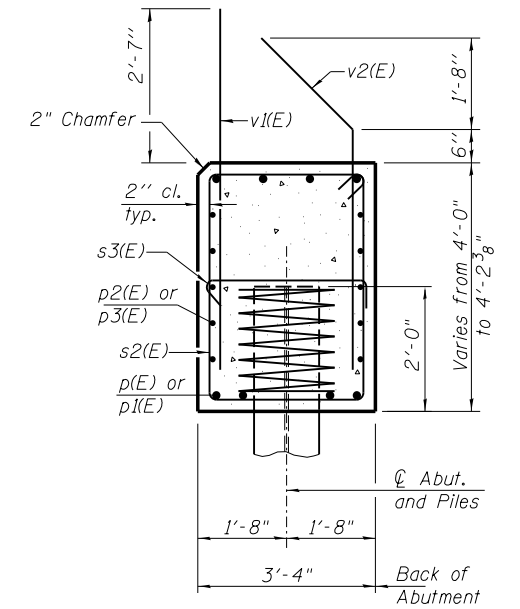
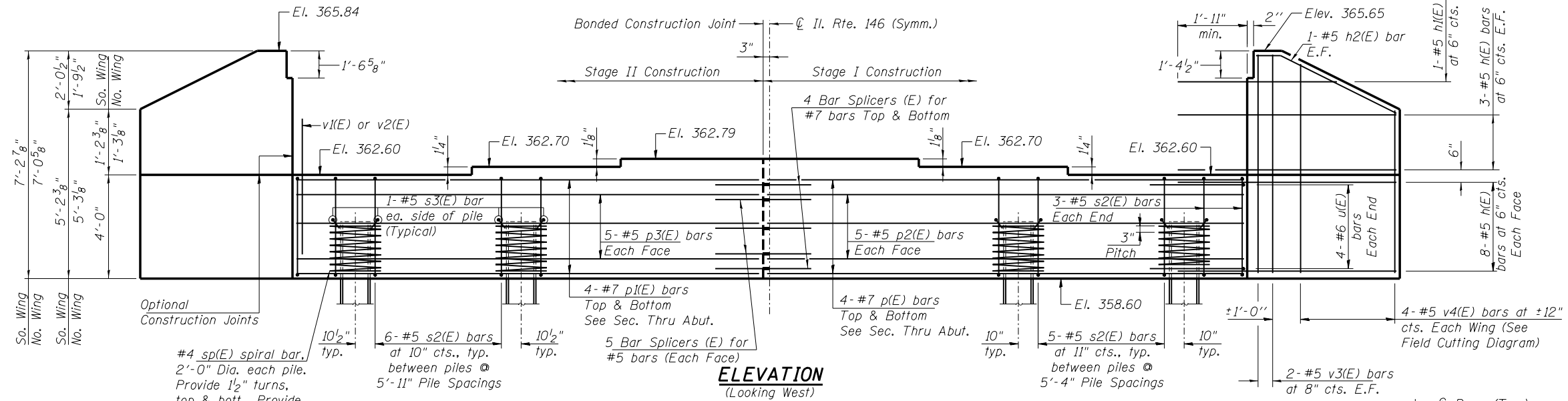
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BEARING DETAILS  
STRUCTURE NO. 044-0061**

SHEET NO. 20 OF 29 SHEETS

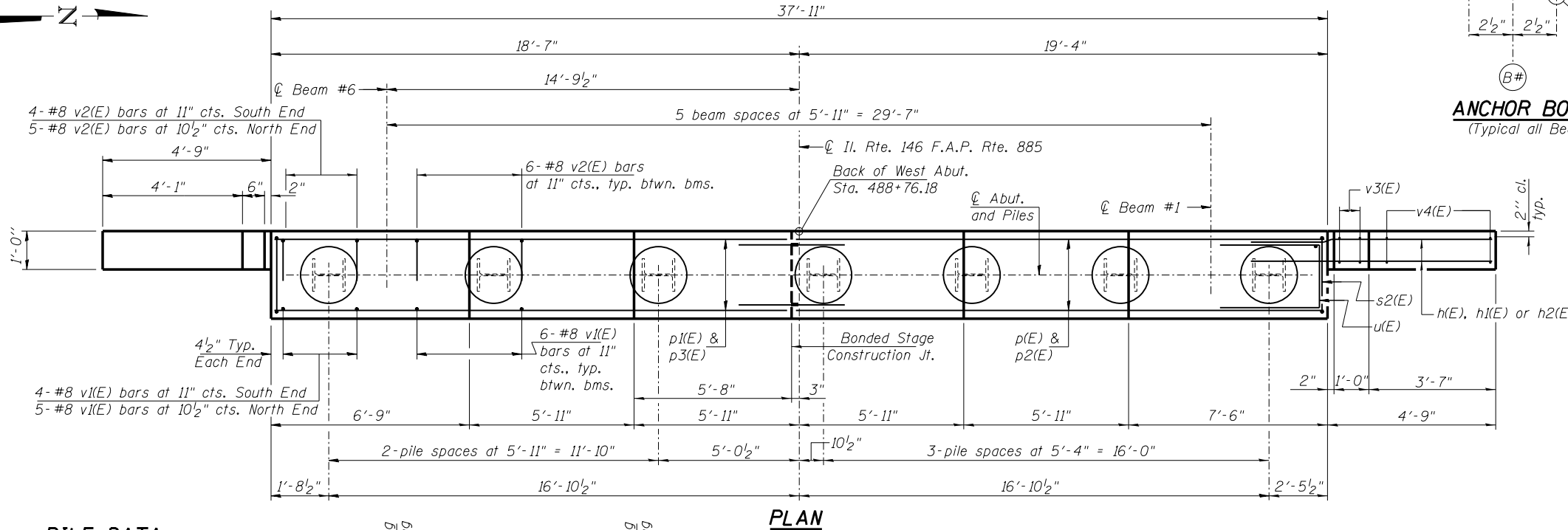
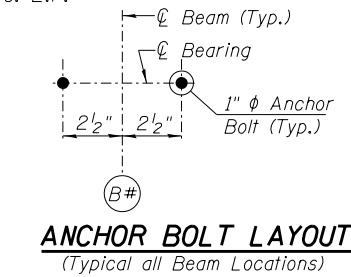
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	43
CONTRACT NO.			78279	
ILLINOIS FED. AID PROJECT				

Notes:  
Pour steps monolithically with cap.



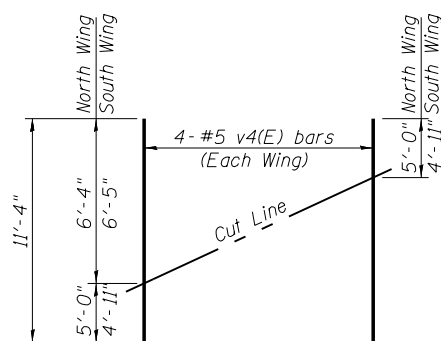
**BILL OF MATERIAL**

Bar No.	Size	Length	Shape
h(E)	#5	6'-6"	—
h2(E)	#5	5'-4"	—
h2(E)	#5	4'-11"	—
p(E)	#7	19'-3"	—
p1(E)	#7	18'-0"	—
p2(E)	#5	19'-3"	—
p3(E)	#5	18'-0"	—
s2(E)	#5	14'-3"	□
s3(E)	#5	4'-0"	⌋
sp(E)	#4	2'-0"	⋈
u(E)	#6	10'-7"	⌋
v1(E)	#8	5'-11"	—
v2(E)	#8	6'-2"	—
v3(E)	#5	6'-9"	—
v4(E)	#5	11'-4"	—
Structure Excavation	Cu. Yd.	93	
Concrete Structures	Cu. Yd.	21.4	
Reinforcement Bars, Epoxy Coated	Pound	3850	
Furnishing Steel Piles, HP 14x89	Foot	133	
Setting Piles in Rock	Each	7	



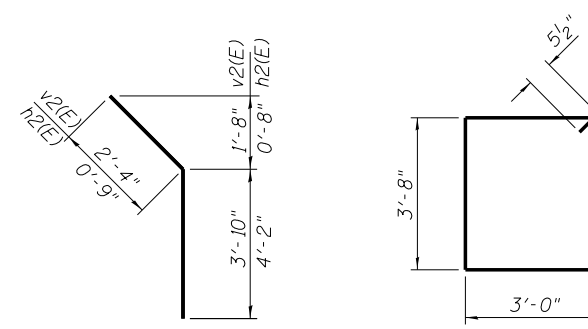
**PILE DATA**

Type: HP 14x89  
Nominal Required Bearing: 705 kips  
Factored Resistance Available: 388 kips  
Factored Resistance Available During an Extreme Event I: 705 kips  
Est. Length: 19 Feet  
No. Production Piles: 7  
No. Test Piles: 0  
Est. Top of Rock Elevation: 346.0  
Rock Socket Depth: 4 Feet  
Rock Socket Diameter: 2 Feet

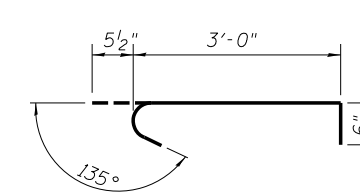


**FIELD CUTTING DIAGRAM**

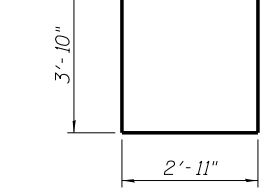
Order v4(E) full length. Cut as shown and use remainder of bars in opposite face.



**BAR s2(E)**



**BAR u(E)**



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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT  
STRUCTURE NO. 044-0061

SHEET NO. 21 OF 29 SHEETS

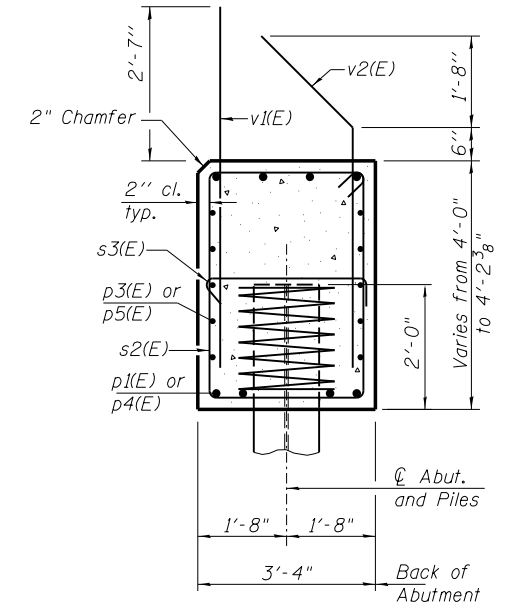
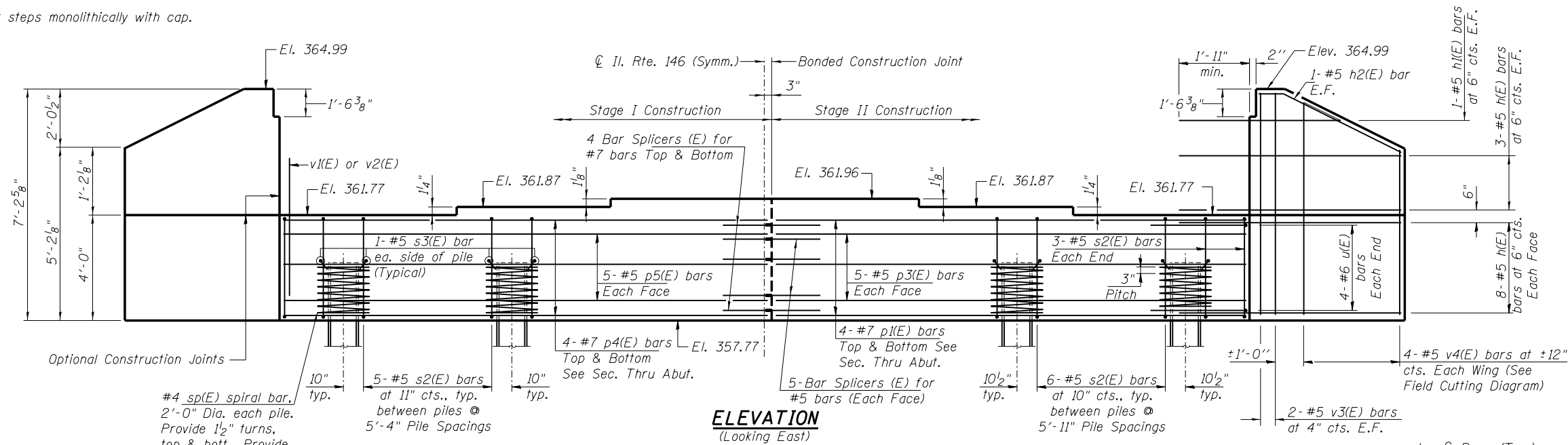
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	44
CONTRACT NO. 78279				

ILLINOIS FED. AID PROJECT

For details of piles see sheet 25 of 29.  
Bonded Stage Construction Joint locations on abutments varies from locations shown on Piers, Superstructure and Approach Slabs.

\* Length is height of spiral.

Notes:  
Pour steps monolithically with cap.



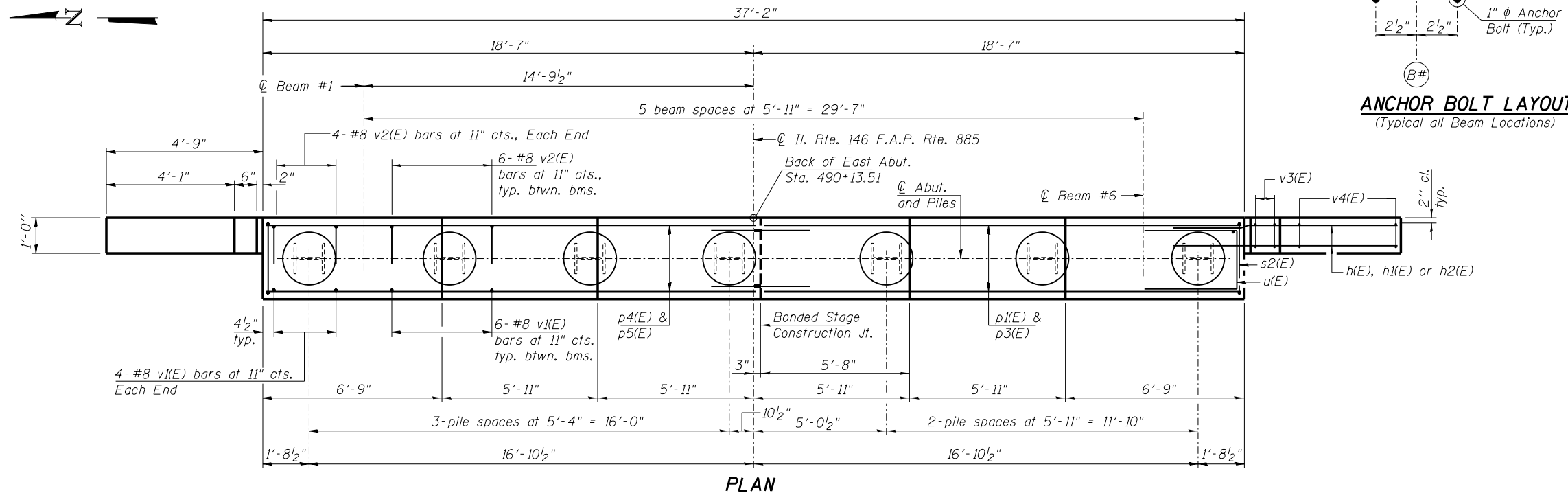
SEC. THRU ABUT.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	44	#5	6'-6"	—
h1(E)	4	#5	5'-4"	—
h2(E)	4	#5	4'-11"	—
p1(E)	8	#7	18'-0"	—
p3(E)	10	#5	18'-0"	—
p4(E)	8	#7	18'-6"	—
p5(E)	10	#5	18'-6"	—
s2(E)	39	#5	14'-3"	□
s3(E)	14	#5	4'-0"	□
sp(E)	7	#4	2'-0"	
u(E)	8	#6	10'-7"	□
v1(E)	38	#8	5'-11"	—
v2(E)	38	#8	6'-2"	—
v3(E)	8	#5	6'-9"	—
v4(E)	8	#5	11'-4"	—
Structure Excavation		Cu. Yd.	91	
Concrete Structures		Cu. Yd.	21.0	
Reinforcement Bars, Epoxy Coated		Pound	3790	
Furnishing Steel Piles, HP 14x89		Foot	276	
Driving Piles		Foot	276	
Test Pile Steel, HP 14x89		Each	1	
Pile Shoes		Each	7	

For details of piles see sheet 25 of 29.  
Bonded Stage Construction Joint locations on abutments, vary from locations shown on Piers, Superstructure and Approach Slabs.

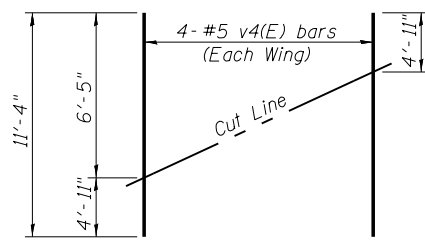
\* Length is height of spiral.



PLAN

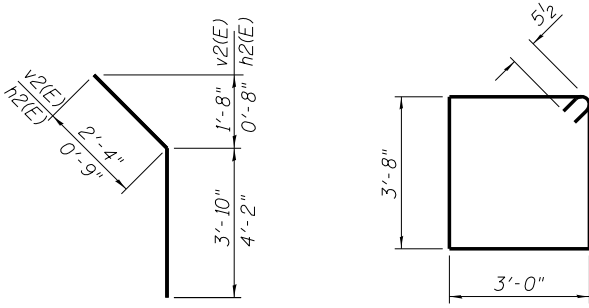
**PILE DATA**

Type: HP 14x89  
Nominal Required Bearing: 705 kips  
Factored Resistance Available: 388 kips  
Factored Resistance Available During an Extreme Event I: 705 kips  
Est. Length: 46 Feet  
No. Production Piles: 6 w/ pile shoes  
No. Test Piles: 1 w/ pile shoe

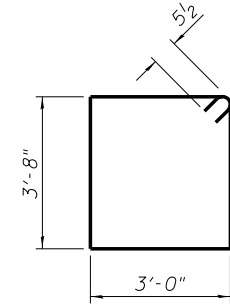


FIELD CUTTING DIAGRAM

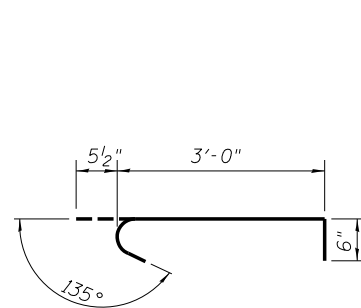
Order v4(E) full length. Cut as shown and use remainder of bars in opposite face.



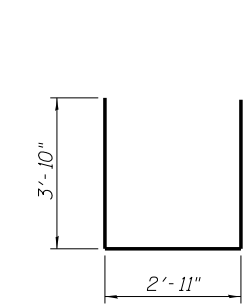
BAR v2(E) & h2(E)



BAR s2(E)



BAR s3(E)



BAR u(E)

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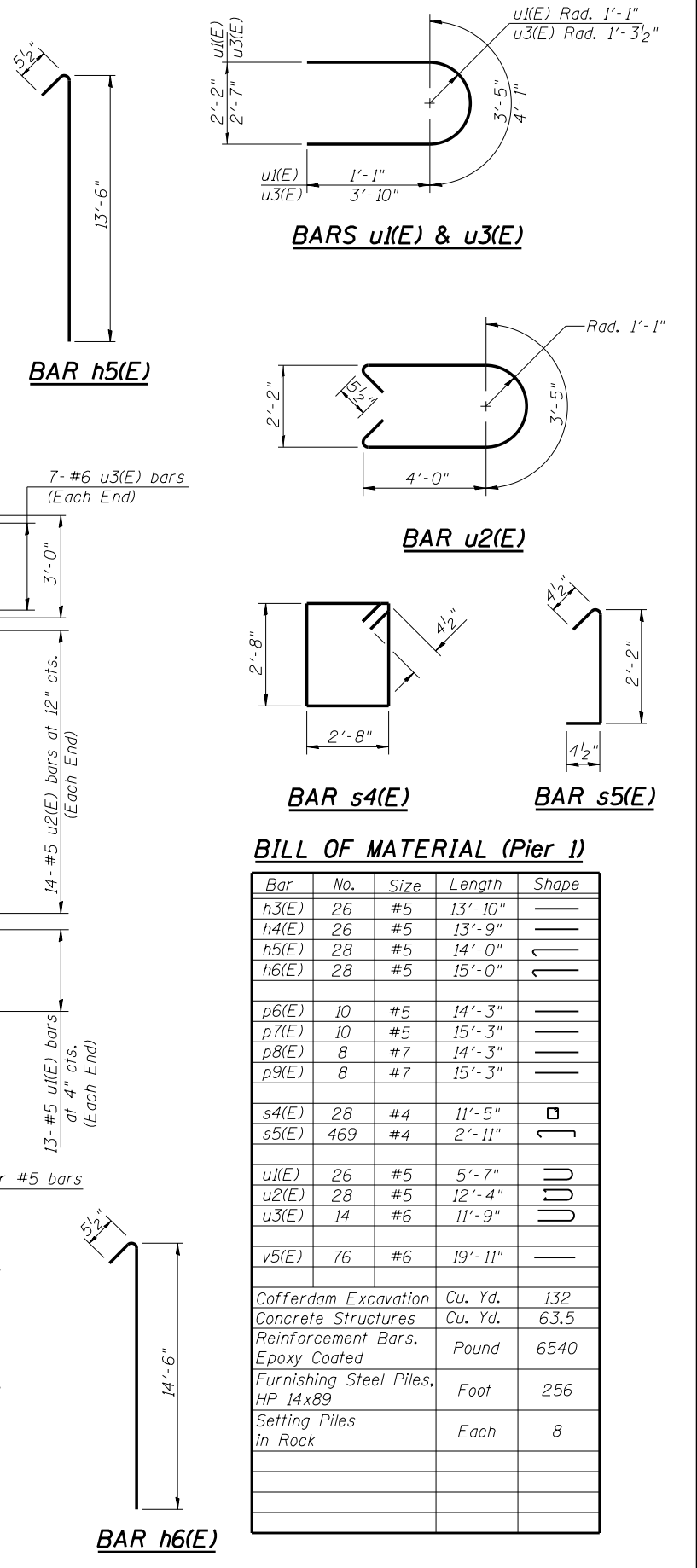
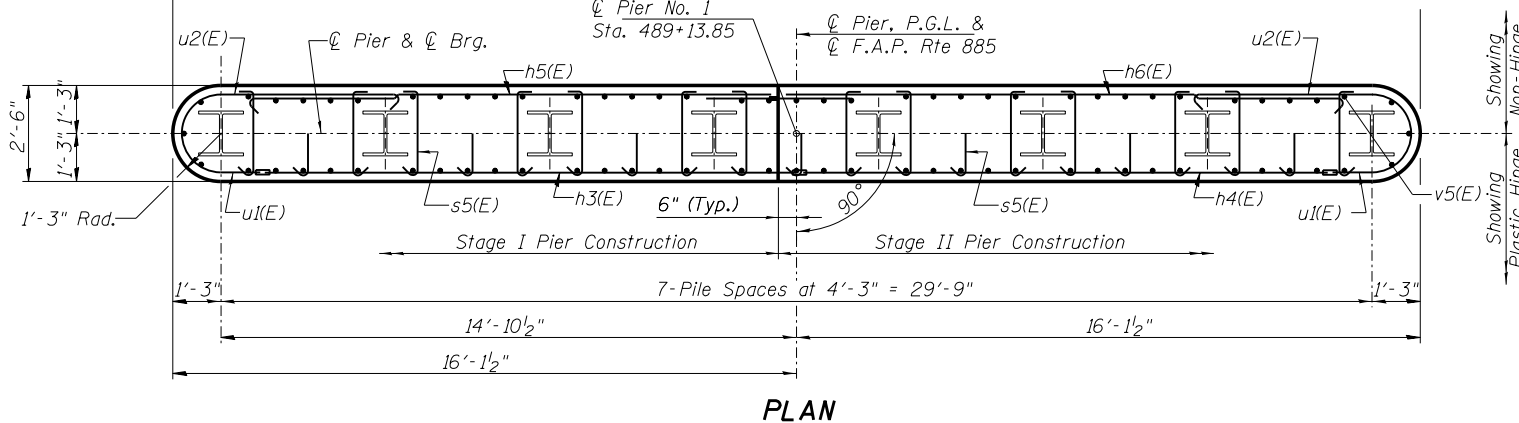
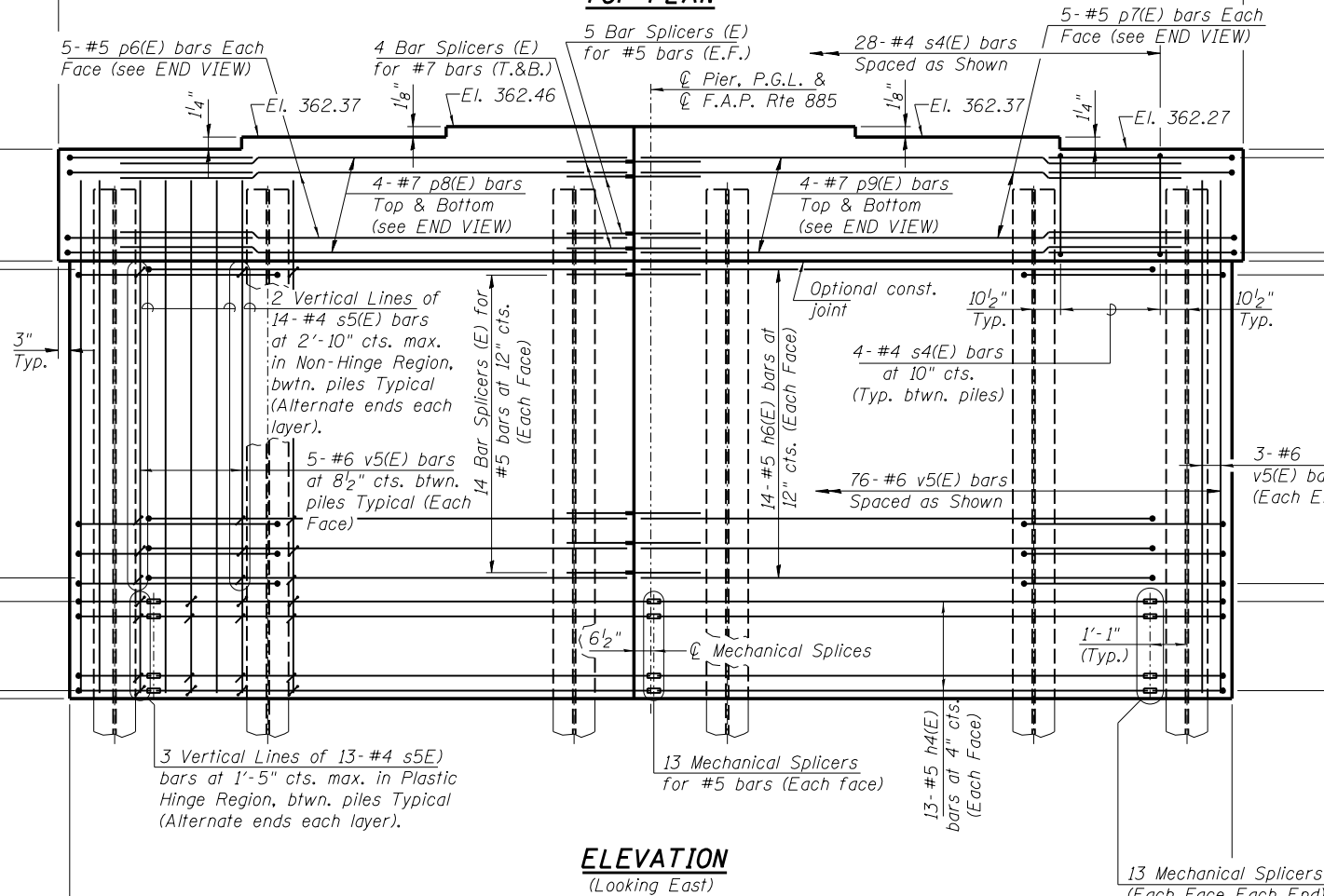
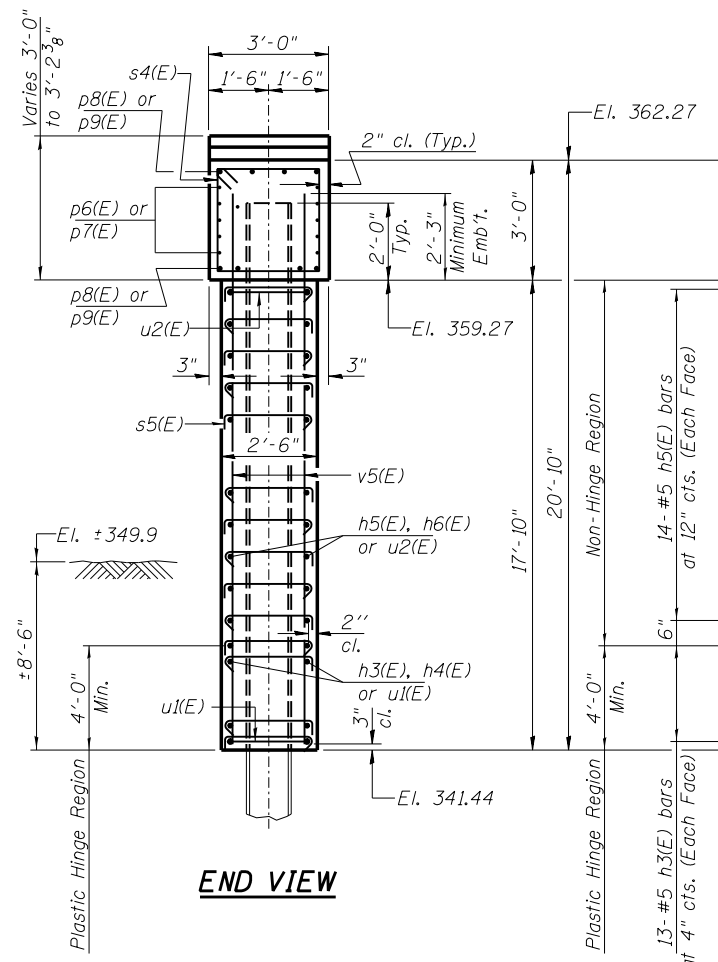
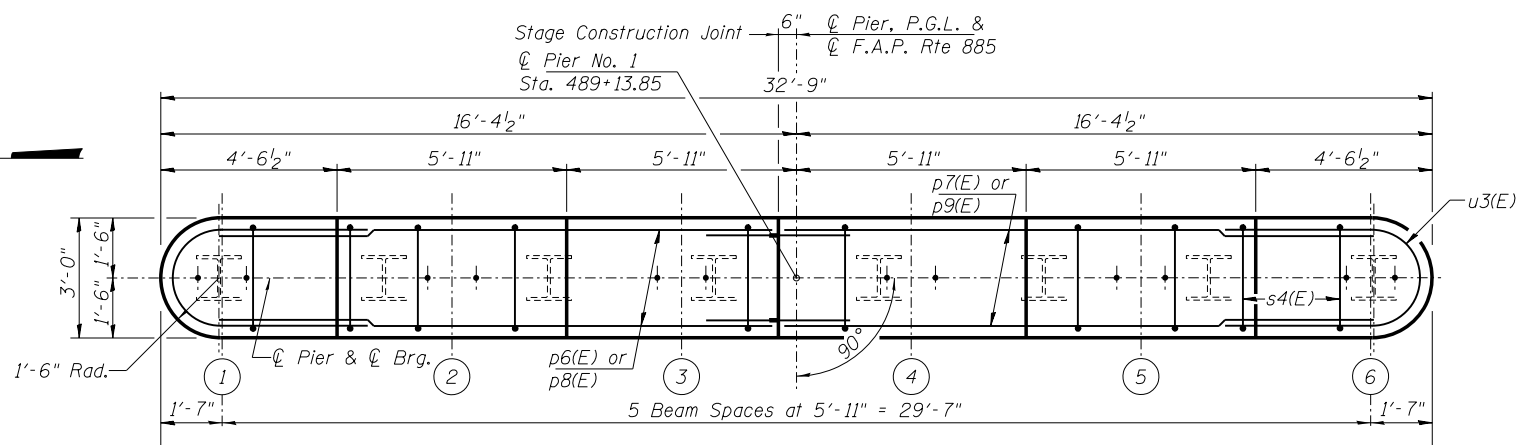
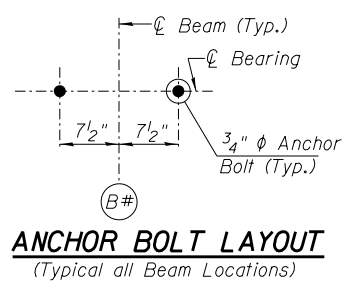
EAST ABUTMENT  
STRUCTURE NO. 044-0061

SHEET NO. 22 OF 29 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	45
CONTRACT NO. 78279				

ILLINOIS FED. AID PROJECT

Notes:  
 Space reinforcement in cap to miss anchor bolts.  
 Pour steps monolithically with cap.  
 For details of piles, See Sheet 25 of 29.  
 For Stage Construction Details, See Sheets 4 & 5 of 29.



**BILL OF MATERIAL (Pier 1)**

Bar	No.	Size	Length	Shape
h3(E)	26	#5	13'-10"	—
h4(E)	26	#5	13'-9"	—
h5(E)	28	#5	14'-0"	—
h6(E)	28	#5	15'-0"	—
p6(E)	10	#5	14'-3"	—
p7(E)	10	#5	15'-3"	—
p8(E)	8	#7	14'-3"	—
p9(E)	8	#7	15'-3"	—
s4(E)	28	#4	11'-5"	□
s5(E)	469	#4	2'-11"	┌┐
u1(E)	26	#5	5'-7"	U
u2(E)	28	#5	12'-4"	U
u3(E)	14	#6	11'-9"	U
v5(E)	76	#6	19'-11"	—
Cofferdam Excavation		Cu. Yd.	132	
Concrete Structures		Cu. Yd.	63.5	
Reinforcement Bars, Epoxy Coated		Pound	6540	
Furnishing Steel Piles, HP 14x89		Foot	256	
Setting Piles in Rock		Each	8	

**PILE DATA**

Type: HP 14x89  
 Nominal Required Bearing: 705 kips  
 Factored Resistance Available: 388 kips  
 Factored Resistance Available During an Extreme Event I: 705 kips  
 Est. Length: 32 Feet  
 No. Production Piles: 8  
 No. Test Piles: 0  
 Est. Top of Rock Elevation: 340.8  
 Rock Socket Depth: 10 Feet  
 Rock Socket Diameter: 2 Feet

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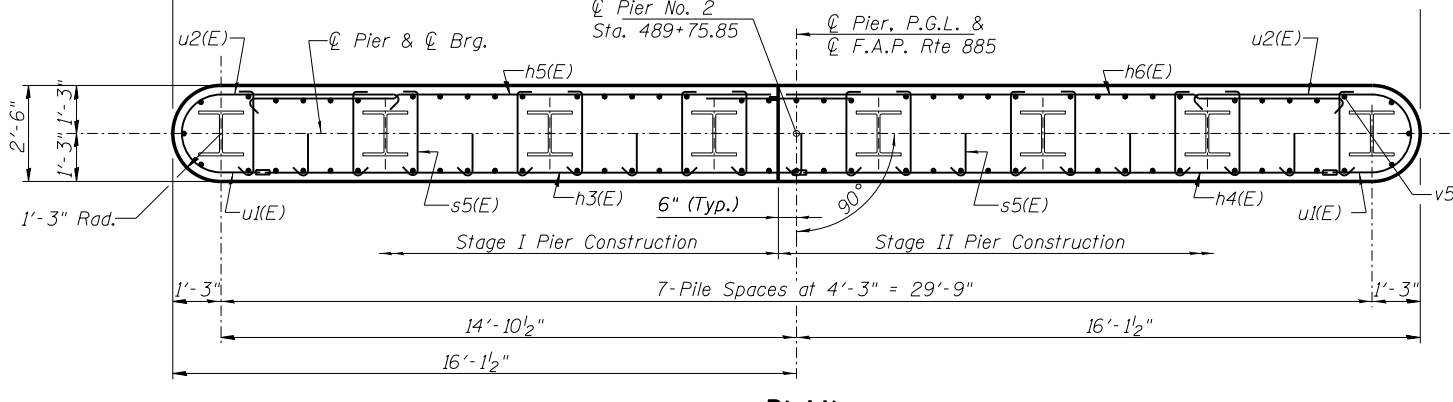
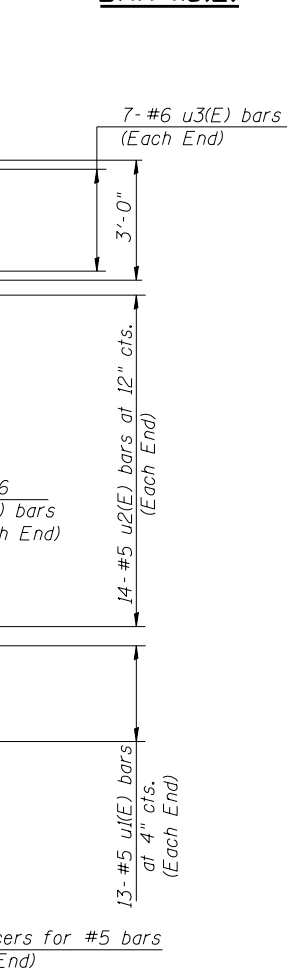
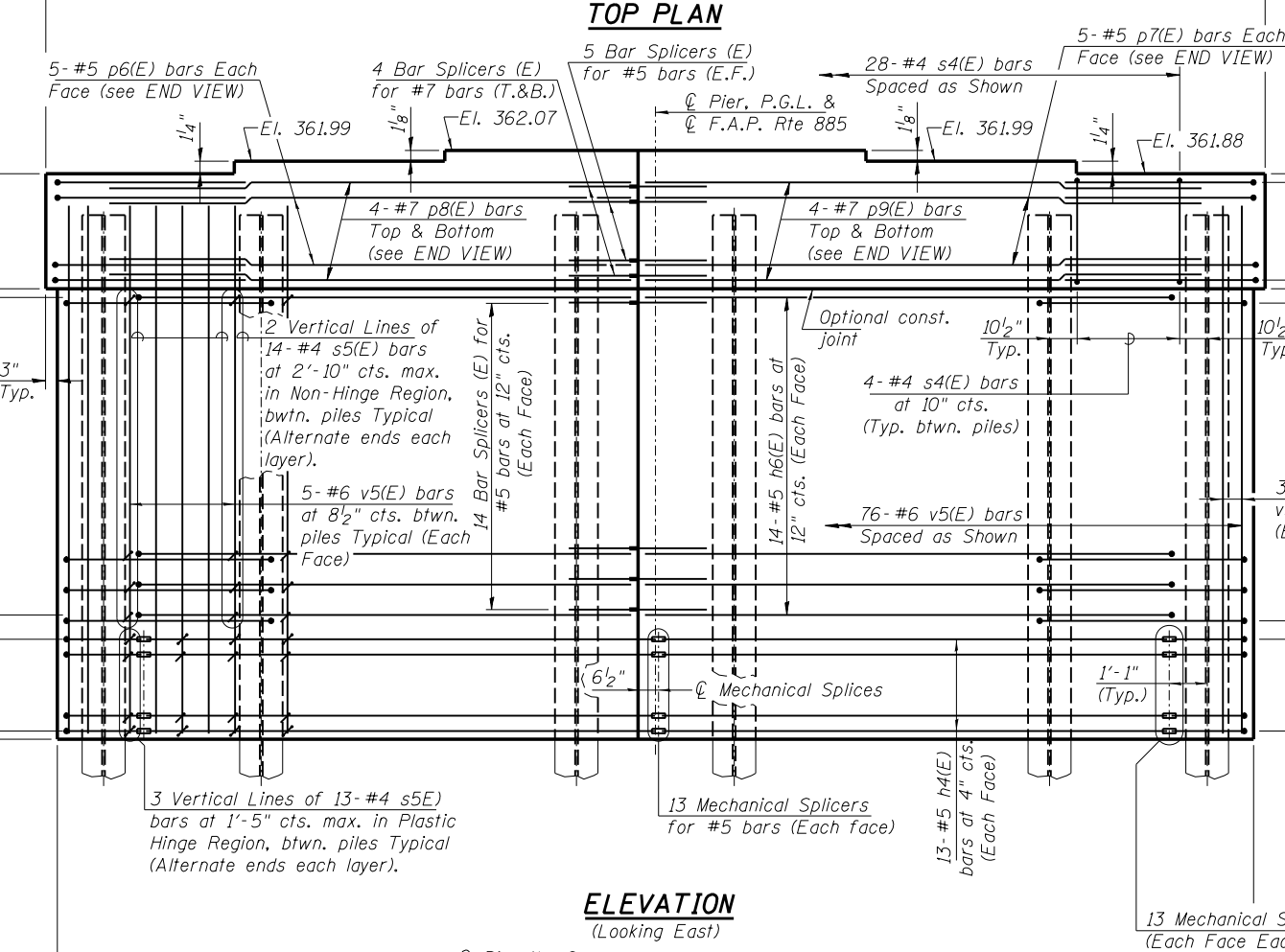
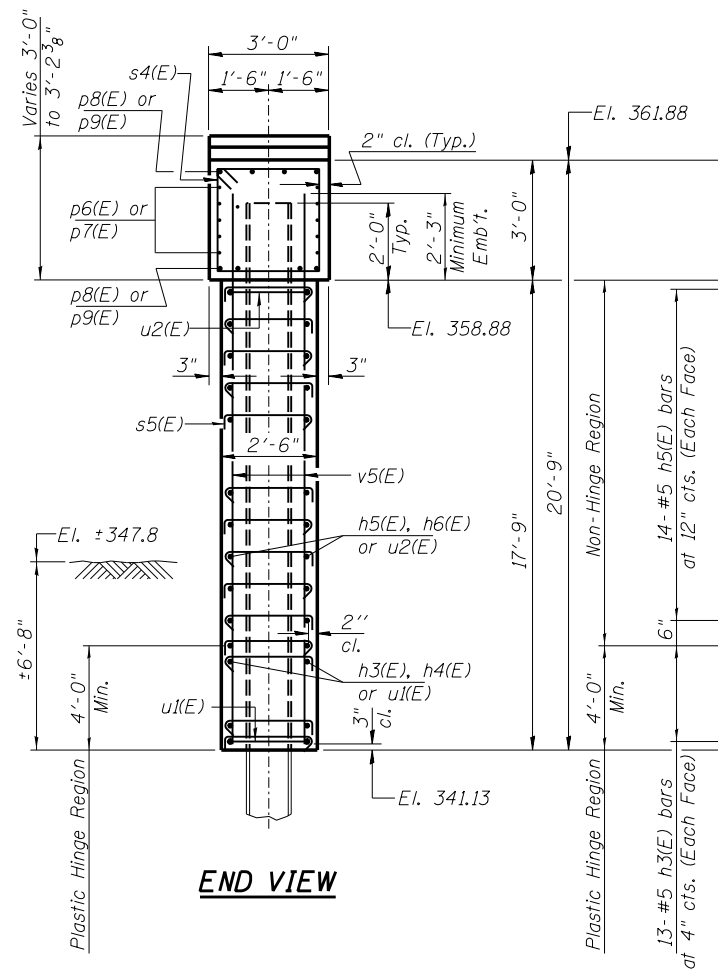
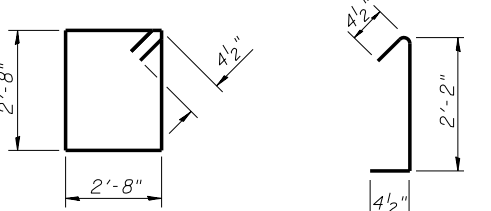
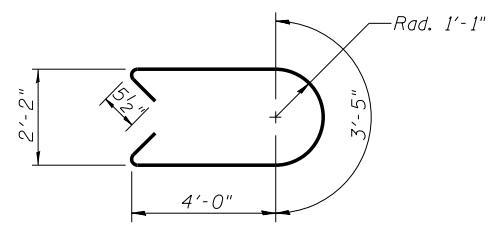
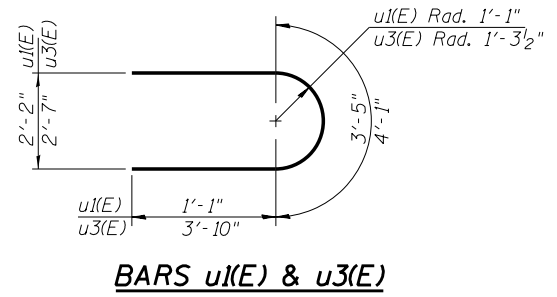
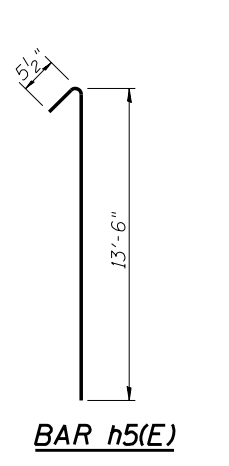
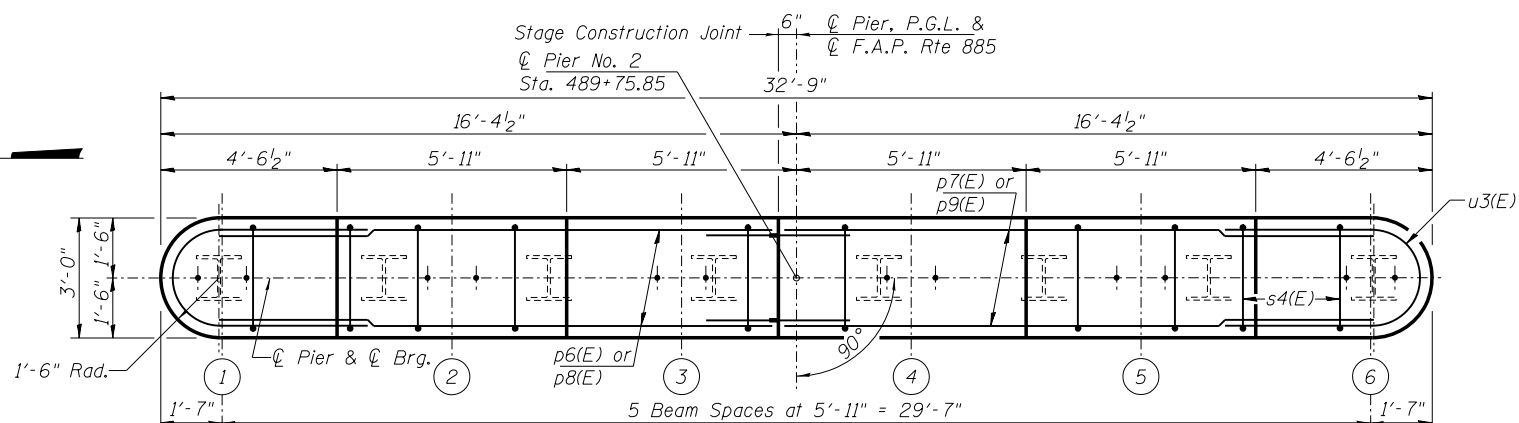
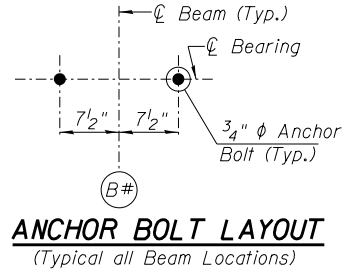
STATE OF ILLINOIS  
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PIER NUMBER 1  
 STRUCTURE NO. 044-0061

SHEET NO. 23 OF 29 SHEETS

F.A.P. RTE. 885	SECTION 110B-1	COUNTY JOHNSON	TOTAL SHEETS 52	SHEET NO. 46
CONTRACT NO. 78279			ILLINOIS FED. AID PROJECT	

Notes:  
 Space reinforcement in cap to miss anchor bolts.  
 Pour steps monolithically with cap.  
 For details of piles, See Sheet 25 of 29.  
 For Stage Construction Details, See Sheets 4 & 5 of 29.

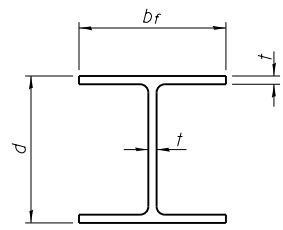


**PILE DATA**

Type:	HP 14x89
Nominal Required Bearing:	705 kips
Factored Resistance Available:	388 kips
Factored Resistance Available During an Extreme Event I:	705 kips
Est. Length:	49 Feet
No. Production Piles:	8
No. Test Piles:	0
Est. Top of Rock Elevation:	324.0
Rock Socket Depth:	12 Feet
Rock Socket Diameter:	2 Feet

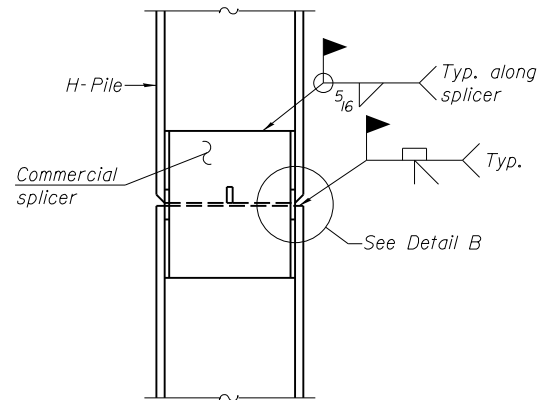
**BILL OF MATERIAL (Pier 2)**

Bar	No.	Size	Length	Shape
h3(E)	26	#5	13'-10"	—
h4(E)	26	#5	13'-9"	—
h5(E)	28	#5	14'-0"	—
h6(E)	28	#5	15'-0"	—
p6(E)	10	#5	14'-3"	—
p7(E)	10	#5	15'-3"	—
p8(E)	8	#7	14'-3"	—
p9(E)	8	#7	15'-3"	—
s4(E)	28	#4	11'-5"	□
s5(E)	469	#4	2'-11"	┌┐
u1(E)	26	#5	5'-7"	U
u2(E)	28	#5	12'-4"	U
u3(E)	14	#6	11'-9"	U
v5(E)	76	#6	19'-11"	—
Cofferdam Excavation	Cu. Yd.	105		
Concrete Structures	Cu. Yd.	63.2		
Reinforcement Bars, Epoxy Coated	Pound	6540		
Furnishing Steel Piles, HP 14x89	Foot	392		
Setting Piles in Rock	Each	8		

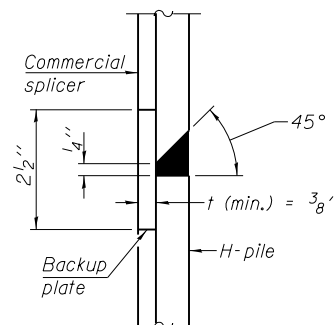


**STEEL PILE TABLE**

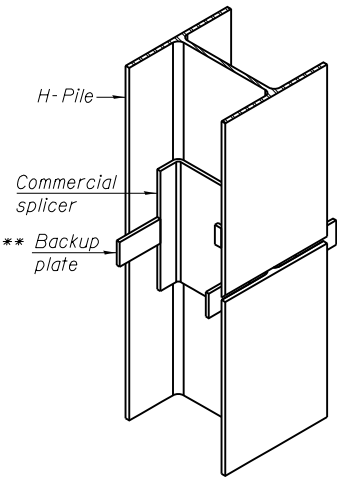
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11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

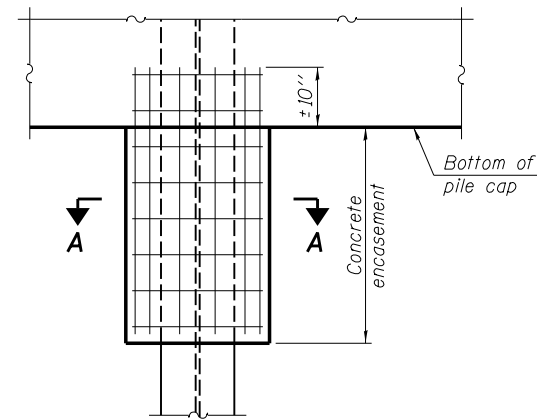


**DETAIL "B"**



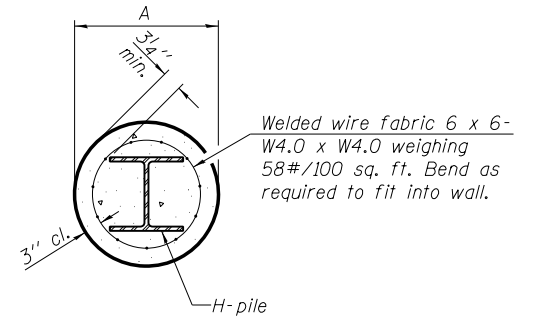
**ISOMETRIC VIEW**

**WELDED COMMERCIAL SPLICE**



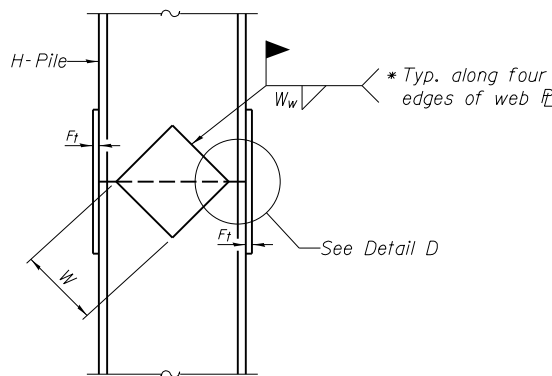
**ELEVATION**

**PILE ENCASEMENT**



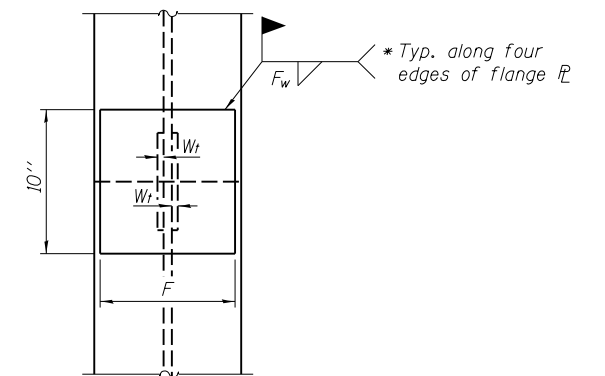
**SECTION A-A**

Note:  
Forms for encasement may be omitted when soil conditions permit.

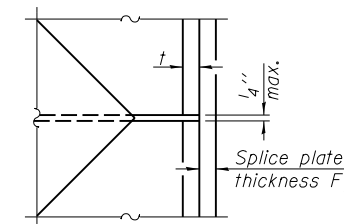


**ELEVATION**

**DETAIL D**



**END VIEW**



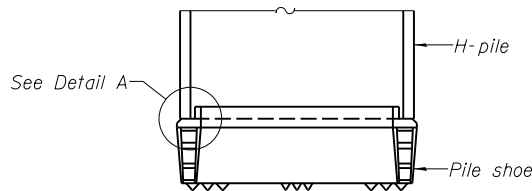
**WELDED PLATE FIELD SPLICE**

Designation	F	F <sub>t</sub>	F <sub>w</sub>	W	W <sub>t</sub>	W <sub>w</sub>
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"	1/16"	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"	1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	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"

**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.).

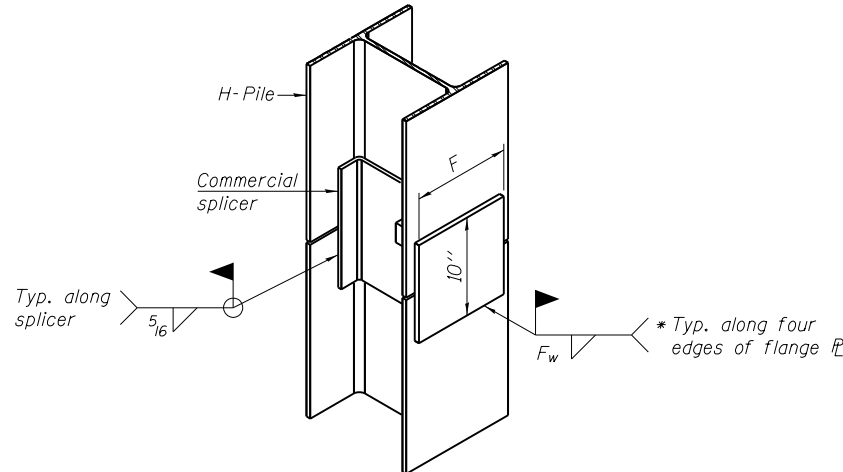
Note:  
The steel H-piles shall be according to AASHTO M270 Grade 50.



**ELEVATION**

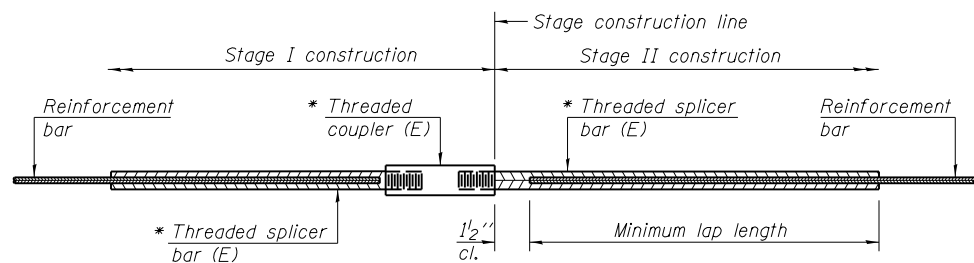
**DETAIL A**

**H-PILE SHOE ATTACHMENT**



**ISOMETRIC VIEW**





**STANDARD BAR SPLICER ASSEMBLY**

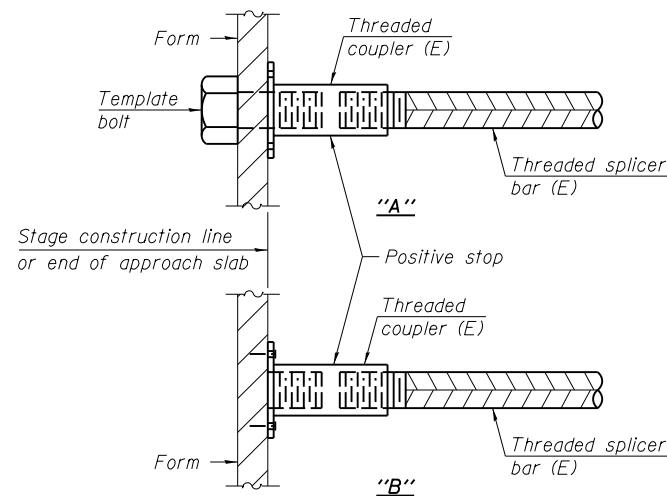
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	6'-5"	6'-10"	7'-9"	8'-7"	9'-8"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

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

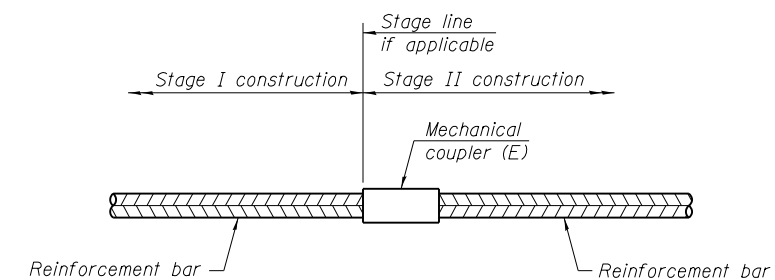
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Superstructure	#5	396	2'-7"
Diaphragms	#6	14	3'-1"
Bridge Appr. Slabs	#4	50	2'-1"
Bridge Appr. Slabs	#5	172	2'-7"
Abutments	#5	20	2'-7"
Abutments	#7	16	4'-8"
Pier Walls	#5	56	2'-7"
Pier Caps	#7	16	4'-8"
Pier Caps	#5	20	2'-7"



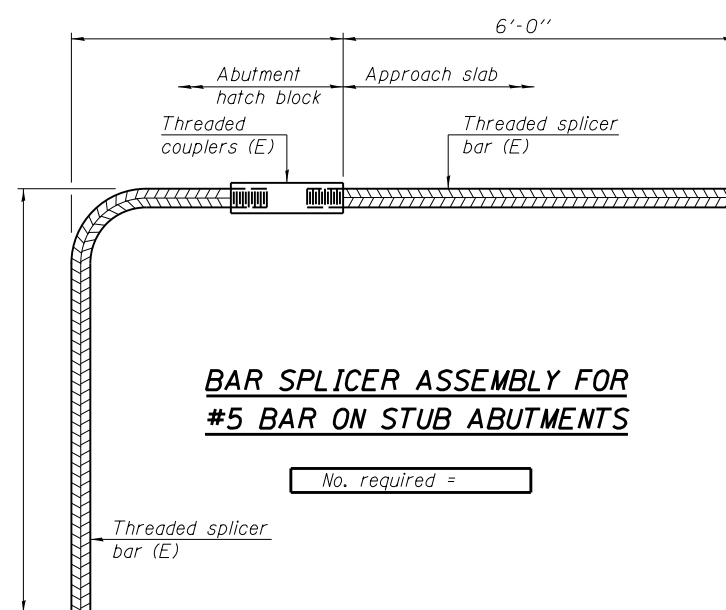
**INSTALLATION AND SETTING METHODS**

"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
Pier 1 Wall	#5	78
Pier 2 Wall	#5	78



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

No. required =

**NOTES**

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

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	CHECKED - TEH	REVISED -
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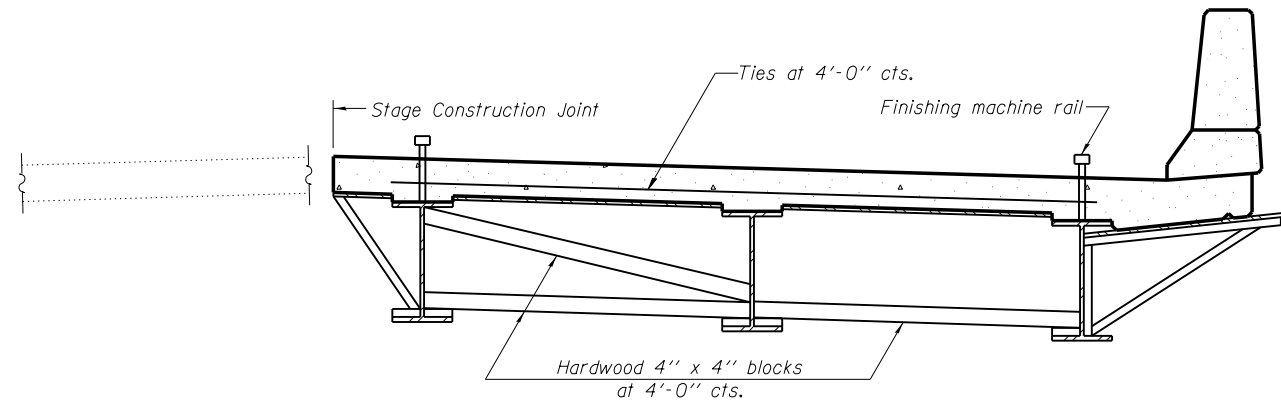
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
885	110B-1	JOHNSON	52	49
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When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.

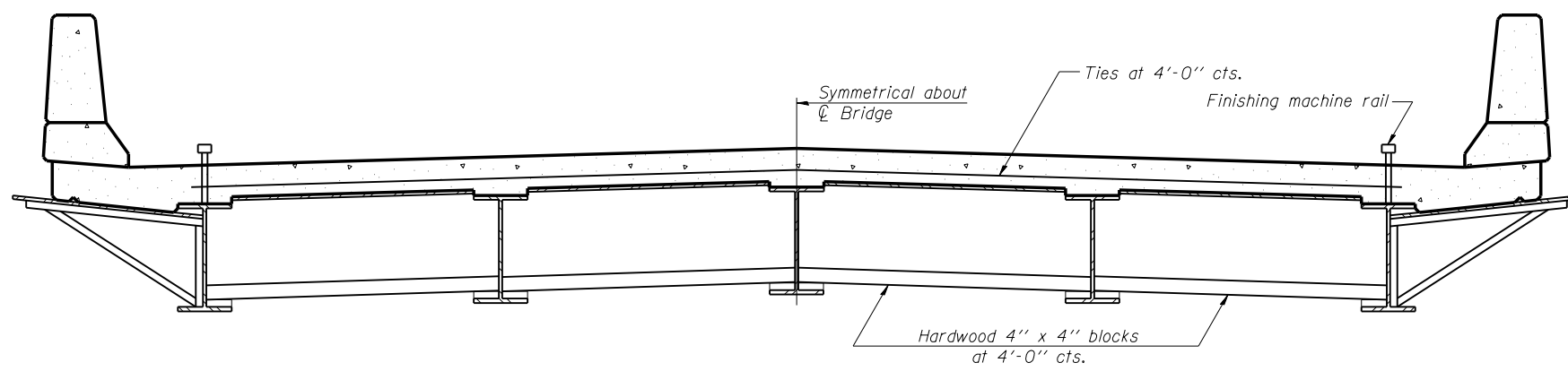
The finishing machine rails shall be placed on the top flange of the exterior beams.

The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.

For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.



**FORM BRACES FOR  
STAGE CONSTRUCTION**



**FORM BRACES FOR  
STANDARD CONSTRUCTION**

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885	110B-1	JOHNSON	52	50
CONTRACT NO. 78279			ILLINOIS FED. AID PROJECT	



