04-24-2015 LETTING ITEM 097

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	1
	ILLINOIS	CONTRACT NO. 78214		

INDEX OF SHEETS

LIST OF STANDARDS

000001-06	666001-01
001001-02	701001-02
001006	701006-05
280001-07	701011-04
420001-08	701201-04
420601-05	701301-04
420701-02	701311-03
515001-03	701321-14
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630201-06	701901-04
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635006-03	780001-05
635011-02	781001-03

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

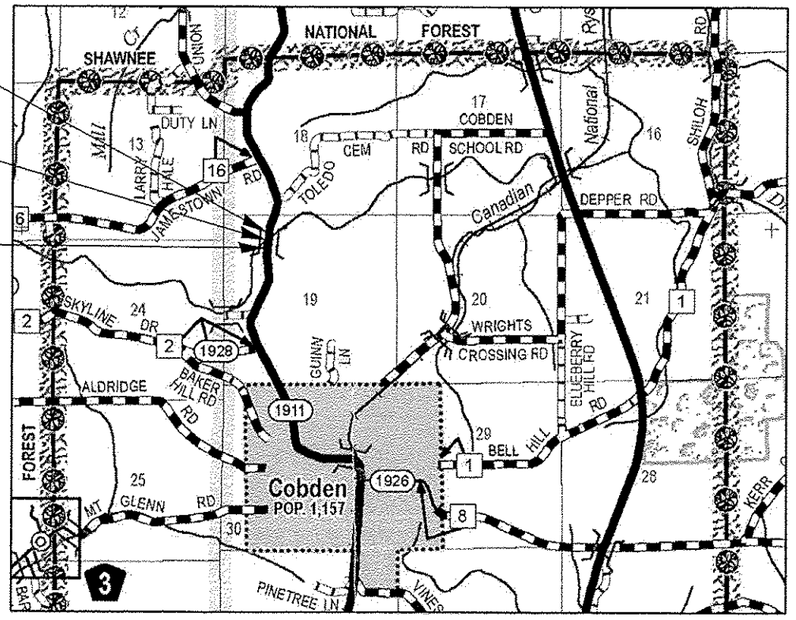
PROPOSED
HIGHWAY PLANS

FAS ROUTE 1911 (OLD US 51)
SECTION 11B-2
PROJECT ACRS-1911(108)
STRUCTURE REPLACEMENT OVER DRURY CREEK
UNION COUNTY

C-99-073-10

D-99-070-10

LOCATION OF SECTION INDICATED THUS: –



N

LOCATION MAP
NOT TO SCALE

FUNCTIONAL CLASSIFICATION –
MAJOR COLLECTOR (NON-URBAN)
POSTED & DESIGN SPEED = 55 MPH
2009 ADT = 1030
2029 ADT = 1530
TOWNSHIP: COUNTY UNIT ROAD DISTRICT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Jan 30 20 15
Jeffrey L Kern
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
Mar 20 20 15
John D. Baranzelli PE by auth
ENGINEER OF DESIGN AND ENVIRONMENT
Mar 20 20 15
Omer Osman PE by
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

PROJECT ENGINEER: DAVID PICHE, (618) 549-2171

CONTRACT NO. 78214

GROSS LENGTH = 500.00 FT. = 0.095 MILE
NET LENGTH = 500.00 FT. = 0.095 MILE

LICENSED PROFESSIONAL ENGINEER
SHELLEY L DINTELMAN
062-055901
STATE OF ILLINOIS

SIGNATURE Shelley L Dintelman
DATE SIGNED: 1/16/15
LICENSE EXPIRES: 11/30/2015

EFK·Moen, LLC
Civil Engineering Design

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

GENERAL NOTES

1. THE THICKNESS OF HOT MIX ASPHALT 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 IS PLACED.

2. IF SO DIRECTED BY THE ENGINEER, DITCHES ADJACENT TO EMBANKMENTS SHALL BE CONSTRUCTED PRIOR TO STARTING THE CONSTRUCTION OF THE EMBANKMENT FILL.

3. FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:

ALL HOT MIX ASPHALT	2.016 TONS/CU YD
ALL AGGREGATE	2.05 TONS/CU YD
BITUMINOUS MATERIALS:	
ON PAVEMENT	0.05 LB/SQ FT
INTERMEDIATE LIFTS (FOG COATS)	0.025 LB/SQ FT
ON AGGREGATE SURFACE	0.25 LB/SQ FT
RIPRAP	1.50 TONS/CU YD

4. 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.

5. AFTER A LIFT OF BITUMINOUS CONCRETE HAS BEEN PLACED ON A LANE, THAT LANE SHALL REMAIN CLOSED TO TRAFFIC UNTIL THE NEW MAT HAS COOLED TO 150°F.

6. BITUMINOUS RESURFACING SHALL BE PLACED IN A SEQUENCE THAT WILL MINIMIZE THE TIME THE CENTERLINE EDGE IS EXPOSED TO TRAFFIC. WHEN AT THE END OF A DAY'S OPERATION THE EXPOSED CENTERLINE EDGE IS GREATER THAN 600 METERS (2,000 FT.), THE CONTRACTOR SHALL BE REQUIRED TO PAVE IN THE ADJACENT LANE ON THE FOLLOWING WORK DAY. PRIOR TO WINTER SHUTDOWN, RESURFACING ON ADJACENT LANES IS TO BE BROUGHT UP TO THE SAME ELEVATION.

7.

8. ATTAINMENT OF PROPER CROWN OR SUPERELEVATION SHALL BE FULLY ACCOMPLISHED WITH THE HOT MIX ASPHALT SURFACE REMOVAL OR HOT MIX ASPHALT BINDER COURSE OR LEVELING BINDER, WHEN SPECIFIED.

9. THE REMOVAL OF BROKEN CONCRETE IN EXISTING DITCHES SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

10. THE EXISTING ROAD SIGNS THAT INTERFERE WITH CONSTRUCTION WILL BE REMOVED OR RELOCATED AS DIRECTED BY THE ENGINEER ACCORDING TO ARTICLE 107.25 OF THE STANDARD SPECIFICATIONS. AFTER THE CONSTRUCTION IS COMPLETED, THE STANDARD SPECIFICATIONS. AFTER THE CONSTRUCTION IS COMPLETED, THE CONTRACTOR WILL RE-ERECT THE SIGNS AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO COMPENSATION WILL BE ALLOWED.

11. 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.

12. TREES SHALL BE PRESERVED THROUGHOUT THIS SECTION AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. GENERALLY, TREES OUTSIDE THE CLEAR ZONE, AND WHICH DO NOT INTERFERE WITH CONSTRUCTION, SHALL NOT BE DISTURBED.

13. 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.

14. THE ADVANCE DETECTOR LOOPS ARE TYPICALLY LOCATED 275 FEET IN ADVANCE OF THE STOP BAR. THE BUREAU OF OPERATIONS SHOULD APPROVE THE LOOP LOCATIONS PRIOR TO INSTALLATION.

15. THE CENTERLINE PAVEMENT MARKING SHOULD BE REMOVED BETWEEN THE STOP BARS. 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.

16. 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 SET TO FLASH ALL RED.

17. STONE RIP RAP USED IN DITCHES SHALL BE PLACED IMMEDIATELY UPON COMPLETION OF EARTHWORK AND GRADING IN ORDER TO PREVENT EROSION.

18. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ANY DEBRIS OR DIRT CAUSED BY CONSTRUCTION ACTIVITY THAT COVERS THE NEW RIP RAP AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

19. EXISTING UNDERGROUND AND ABOVE-GRADE FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN PLOTTED ON THESE CONTRACT DOCUMENTS BASED UPON THE INFORMATION AND SURVEYS AVAILABLE AT THE TIME OF DRAWING PREPARATION. THE LOCATION OF THESE FEATURES MUST, THEREFORE, BE CONSIDERED APPROXIMATE ONLY. IN ADDITION, THERE MAY BE OTHER FACILITIES, STRUCTURES, AND UTILITIES WHICH DID NOT EXIST OR THE EXISTENCE OF WHICH WAS NOT KNOWN AT THE TIME OF DRAWING PREPARATION. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR(S) TO HAVE ALL EXISTING FACILITIES, STRUCTURES, AND UTILITIES LOCATED IN THE FIELD PRIOR TO ANY EXCAVATION OR CONSTRUCTION ACTIVITY; AND TO PROTECT ALL SUCH EXISTING FEATURES DURING CONSTRUCTION.

20. GRADING SHALL BE DONE BY HAND AROUND LIGHT POLE, 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 AS POSSIBLE. THE DECISION AS TO ITEMS TO REMAIN IN PLACE SHALL BE DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER CUBIC YARD FOR EARTH EXCAVATION, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

21. SEEDING SHALL BE DONE ON ALL AREAS THAT ARE DISTURBED BY CONSTRUCTION OPERATIONS AS DIRECTED BY THE ENGINEER. SEEDING SHALL BE PAID FOR ONLY WITHIN THE PROPOSED CONSTRUCTION LIMITS RIGHT-OF-WAY OR EASEMENT LIMITS. ALL AREAS DISTURBED BY THE CONTRACTOR OUTSIDE THE PROPOSED CONSTRUCTION LIMITS SHALL BE SEEDED, AS DIRECTED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

22. IF ASH TREES ARE REMOVED ON THE PROJECT, THE CONTRACTOR SHALL BECOME FAMILIAR WITH AND COMPLY WITH MEASURES SPECIFIED BY THE ILLINOIS DEPARTMENT OF AGRICULTURE (IDOA) TO PREVENT THE SPREAD OF THE EMERALD ASH BORER. THE IDOA INFORMATION FOR ASH TREE REMOVAL CAN BE FOUND ON THE IDOA WEBSITE AT WWW.AGR.STATE.IL.US/EAB.

23. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL EXISTING FIELD DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.

24. WHEN TRAFFIC IS SHIFTED CLOSER TO THE EXISTING GUARDRAIL OR BARRIER, THE GUARDRAIL OR BARRIER SHOULD BE REFLECTORIZED AT A 25' SPACING.

COMMITMENTS

DUE TO THE PRESENCE OF THE INDIANA BAT AND NORTHERN LONG-EARED BAT, CLEARING OF TREES SHALL BE PROHIBITED FROM APRIL 1 THROUGH SEPTEMBER 30.

MIXTURES REQUIREMENTS

LOCATION (S):	HOT-MIX ASPHALT SURFACE COURSE	HOT-MIX ASPHALT LEVELING BINDER	HOT-MIX ASPHALT SHOULDERS AND BASE COURSE WIDENING
MIXTURE USE (S):	HOT-MIX ASPHALT SURFACE COURSE, MIX C, N70	HOT-MIX ASPHALT LEVELING BINDER COURSE, N70, IL-9.5mm FINE GRADED	HOT-MIX ASPHALT BINDER, N70, IL-19.0mm
AC/PG:	PG64-22	PG64-22	PG64-22
ABR % (MAX):	SEE SPECIAL PROVISION	SEE SPECIAL PROVISION	SEE SPECIAL PROVISION
DESIGN AIR VOIDS:	4.0%, 70 GYRATION DESIGN	4.0%, 70 GYRATION DESIGN	4.0%, 70 GYRATION DESIGN
MIXTURE COMPOSITION: (GRADATION MIXTURE)	IL-9.5mm	IL-9.5mm FINE GRADED	IL-19.0mm
FRICTION AGGREGATE:	C SURFACE	NONE	NONE
QUALITY MANAGEMENT PROGRAM:	QCQA	QCQA	QCQA

Prepared By: _____ DISTRICT STUDIES & PLANS ENGINEER

Examined By: _____ DISTRICT LAND ACQUISITION ENGINEER

Examined By: _____ DISTRICT PROGRAM DEVELOPMENT ENGINEER

Examined By: _____ DISTRICT OPERATIONS ENGINEER

Examined By: _____ DISTRICT PROJECT IMPLEMENTATION ENGINEER

Examined By: _____ DISTRICT CONSTRUCTION ENGINEER

Examined By: _____ DISTRICT MATERIALS ENGINEER

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

SCALE: N.T.S. | SHEET NO. 1 OF 1 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	2
		CONTRACT NO. 78214		
		ILLINOIS FED. AID PROJECT		

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE 80% FEDERAL 20% STATE ROADWAY 0004 RURAL	CONSTRUCTION CODE 80% FEDERAL 20% STATE BRIDGE 0011 RURAL
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	348	348	
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	88	88	
20200100	EARTH EXCAVATION	CU YD	550	550	
20700220	POROUS GRANULAR EMBANKMENT	CU YD	1613	238	1375
25000200	SEEDING, CLASS 2	ACRE	0.75	0.75	
25000350	SEEDING, CLASS 7	ACRE	0.75	0.75	
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	68	68	
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	68	68	
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	68	68	
25000700	AGRICULTURAL GROUND LIMESTONE	TON	1.5	1.5	
25100115	MULCH, METHOD 2	ACRE	0.75	0.75	
25100635	HEAVY DUTY EROSION CONTROL BLANKET	SQ YD	3743	3743	
28000305	TEMPORARY DITCH CHECKS	FOOT	97	97	
28000400	PERIMETER EROSION BARRIER	FOOT	335	335	
14					

* SPECIALTY ITEM

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: N.A. | SHEET NO. 1 OF 5 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	3
		CONTRACT NO. 78214		
	ILLINOIS FED. AID PROJECT			

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE 80% FEDERAL 20% STATE ROADWAY 0004 RURAL	CONSTRUCTION CODE 80% FEDERAL 20% STATE BRIDGE 0011 RURAL
28100109	STONE RIPRAP, CLASS A5	SQ YD	507	507	
28200200	FILTER FABRIC	SQ YD	507	507	
35650500	BASE COURSE WIDENING 10"	SQ YD	155	155	
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	1013	1013	
40600637	LEVELING BINDER (MACHINE METHOD), IL-9.5FG, N70	TON	72	72	
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	162	162	
40600990	TEMPORARY RAMP	SQ YD	80	80	
40603315	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	TON	106	106	
42000500	PORTLAND CEMENT CONCRETE PAVEMENT 10"	SQ YD	342	342	
42001200	PAVEMENT FABRIC	SQ YD	342	342	
44000100	PAVEMENT REMOVAL	SQ YD	163	163	
44004250	PAVED SHOULDER REMOVAL	SQ YD	26	26	
48203006	HOT-MIX ASPHALT SHOULDERS, 2 1/4"	SQ YD	130	130	
48203029	HOT-MIX ASPHALT SHOULDERS, 8"	SQ YD	155	155	

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* SPECIALTY ITEM

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE 80% FEDERAL 20% STATE ROADWAY 0004 RURAL	CONSTRUCTION CODE 80% FEDERAL 20% STATE BRIDGE 0011 RURAL
	48203037	HOT-MIX ASPHALT SHOULDERS, 10"	SQ YD	181	181	
	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1		1
	50105220	PIPE CULVERT REMOVAL	FOOT	18	18	
	50200100	STRUCTURE EXCAVATION	CU YD	2116		2116
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	84260		84260
	50800515	BAR SPLICERS	EACH	164		164
	51500100	NAME PLATES	EACH	1		1
	54003000	CONCRETE BOX CULVERTS	CU YD	296.8		296.8
*	63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	450	450	
*	63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4	4	
	63200310	GUARDRAIL REMOVAL	FOOT	626	626	
	66600105	FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH	16	16	
	67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	5	5	
	67100100	MOBILIZATION	L SUM	1	1	

14 *SPECIALTY ITEM

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: N.A. | SHEET NO. 3 OF 5 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1913	11B-2	UNION	44	5
		CONTRACT NO. 78214		
		ILLINOIS FED. AID PROJECT		

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE 80% FEDERAL 20% STATE ROADWAY 0004 RURAL	CONSTRUCTION CODE 80% FEDERAL 20% STATE BRIDGE 0011 RURAL
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1	
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	L SUM	1	1	
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	4	4	
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1	
70106700	TEMPORARY RUMBLE STRIPS	EACH	6	6	
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	2	2	
70300100	SHORT TERM PAVEMENT MARKING	FOOT	152	152	
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	2899	2899	
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	1016	1016	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	375	375	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	350	350	
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2	2	
70600350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2	

14

* SPECIALTY ITEM

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: N.A. | SHEET NO. 4 OF 5 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	118-2	UNION	44	6
		CONTRACT NO. 78214		
	ILLINOIS	FED. AID PROJECT		

	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE 80% FEDERAL 20% STATE ROADWAY 0004 RURAL	CONSTRUCTION CODE 80% FEDERAL 20% STATE BRIDGE 0011 RURAL
*	78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	2899	2899	
*	78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	11	11	
*	78200410	GUARDRAIL MARKERS, TYPE A	EACH	8	8	
*	78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	
	78300100	PAVEMENT MARKING REMOVAL	SQ FT	965	965	
	78300200	RAISED REFLECTIVE PAVEMENT MARKER REMOVAL	EACH	11	11	
*	86200300	UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	1	1	
	X4401198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	SQ YD	128	128	
	Z0005216	HOT-MIX ASPHALT STABILIZATION 6" AT STEEL PLATE BEAM GUARD RAIL	SQ YD	236	236	
	Z0028462	GEOTEXTILE RETAINING WALL	SQ FT	309		309
*	Z0054517	ROCK FILL - FOUNDATION	TON	428		428
	Z0073002	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	727		727
ϕ	Z0076600	TRAINEES	HOUR	500	500	
ϕ	Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	500	500	

12 * SPECIALTY ITEM ϕ 0042

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Civil Engineering Design

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: N.A. | SHEET NO. 5 OF 5 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	7

CONTRACT NO. 78214

ILLINOIS FED. AID PROJECT

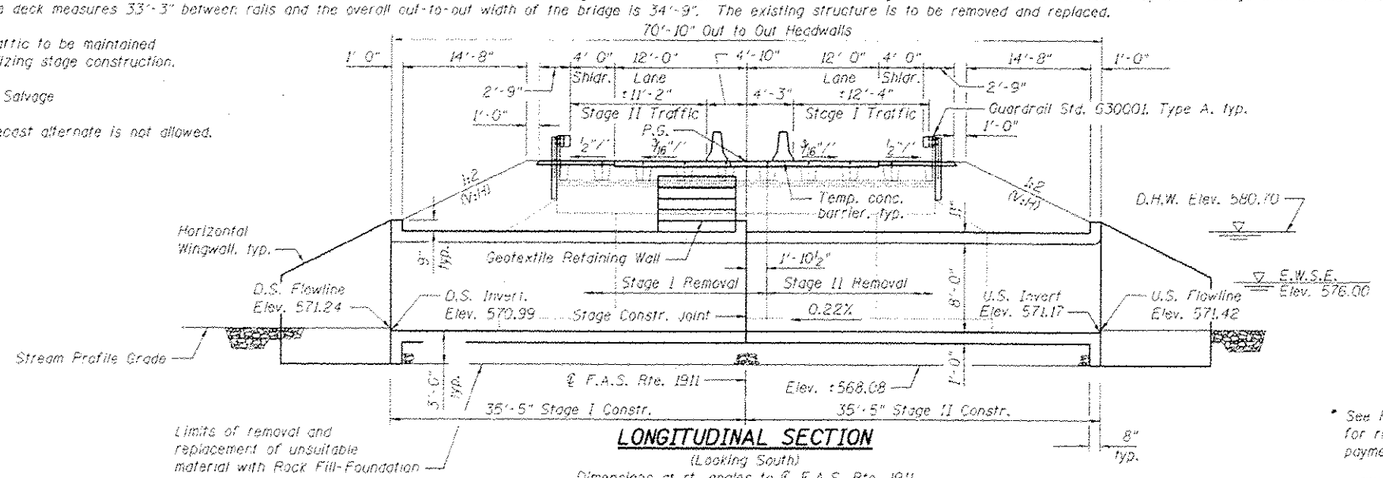
Bench Mark: BM 910043 - Chiseled square on southeast corner of SN 091-0043. Elev. 587.92

Existing Structure: SN 091-0043 was originally built in 1922 as SBI 2 (Section IIA) and widened during a superstructure replacement in 1980 as FAS 1911 (Section IIA-BR). The existing structure is a 33 foot (back-to-back abutments) single span precast concrete channel beam bridge. The substructure consists of the original closed abutments founded on spread footings with widened abutment caps. The deck measures 33'-3" between rails and the overall out-to-out width of the bridge is 34'-9". The existing structure is to be removed and replaced.

Traffic to be maintained utilizing stage construction.

No Salvage

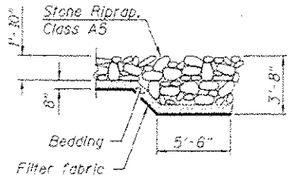
Precast alternate is not allowed.



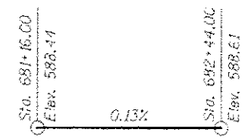
LONGITUDINAL SECTION

(Looking South)

Dimensions at rt. angles to ℄ F.A.S. Rte. 1911



SECTION A-A



PROFILE GRADE

(Along ℄ Roadway)

LOADING HL-93

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

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi

fy = 60,000 psi (Reinforcement)

STATION 681+80.20
BUILT 201_ BY
STATE OF ILLINOIS
F.A.S. RTE. 1911 SEC. 11B-2
LOADING HL-93
STRUCTURE NO. 091-2029

NAME PLATE

See Std. 515001

WATERWAY INFORMATION

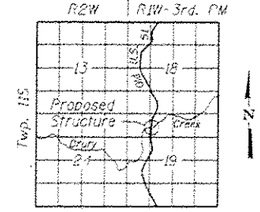
Drainage Area = 1.51 Sq. Mi. Low Grade Elev. 587.70 @ Sta. 678+49.20

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	1040	107.79	227.40	578.75	0.67	0.14	579.42	578.89
Design	50	1780	158.96	240.00	580.70	0.90	0.25	581.60	580.95
Base	100	2120	178.90	240.00	581.46	1.26	0.54	582.72	582.00
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	3030	220.10	240.00	583.03	2.63	1.75	585.66	584.78

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	560.17	567.99

INDEX OF SHEETS



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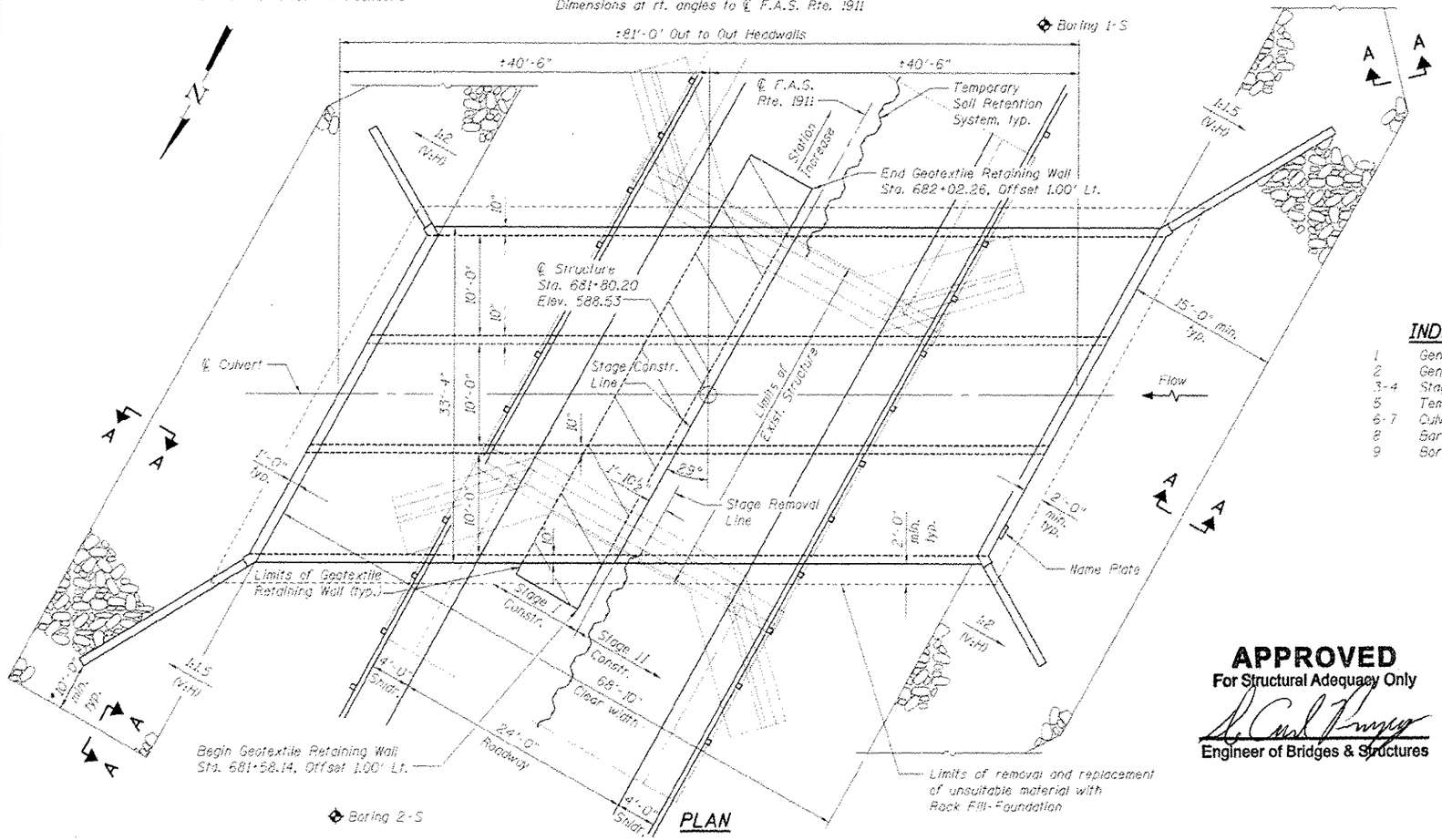


PLAN

* See Roadway Plans for riprap layout and payment.

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

JERILYN M. HASSARD
062-006521
LICENSED
STRUCTURAL
ENGINEER
OF
ILLINOIS

01/16/2015

JERILYN M. HASSARD
EDWARDSVILLE, ILLINOIS
ILLINOIS LICENSED STRUCTURAL
ENGINEER NO. 081-006521
EXPIRES 11/30/2016

GENERAL PLAN AND ELEVATION
OLD U.S. ROUTE 51
OVER DRURY CREEK
F.A.S. RTE. 1911 - SEC. 11B-2
UNION COUNTY
STATION 681+80.20
STRUCTURE NO. 091-2029

MODJESKI-MASTERS

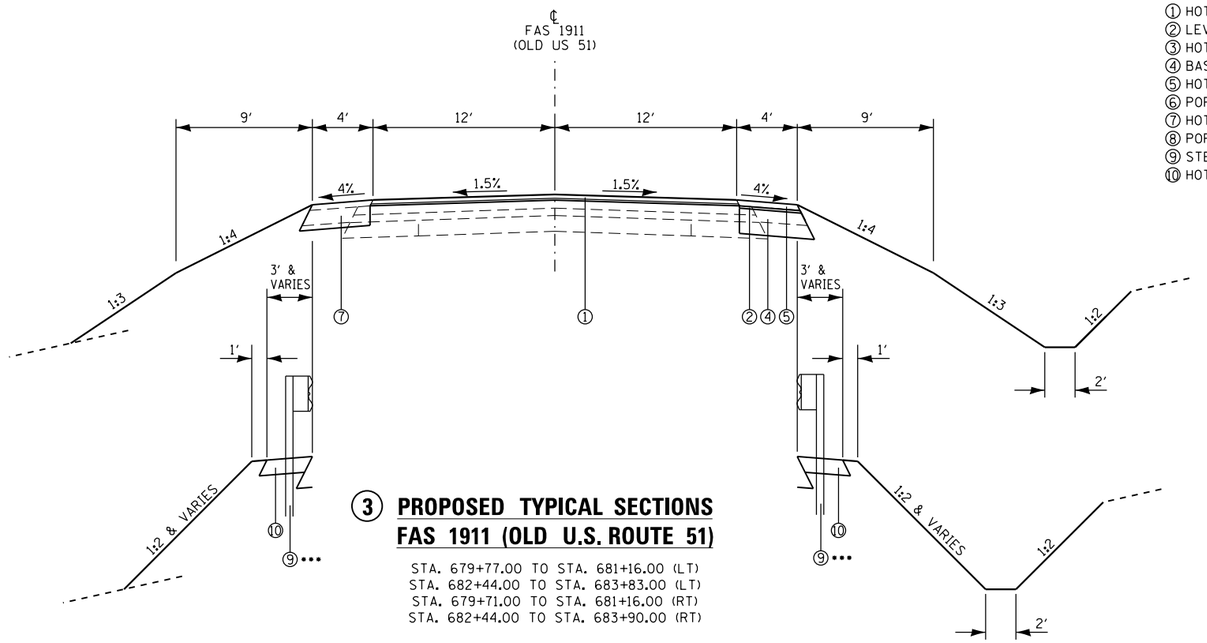
USER NAME =	DESIGNED - JTH	REVISED -	
	CHECKED - COB	REVISED -	
PLOT SCALE =	DRAWN - ACC	REVISED -	
PLOT DATE = 01/15/15	CHECKED - JMH	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 091-2029
SHEET NO. 1 OF 9 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	20
		CONTRACT NO. 78214		
		ILLINOIS FED. AID PROJECT		

••• GUARDRAIL & TRAFFIC BARRIER TERMINALS
STA. 680+54.92 TO STA. 683+79.90 (LT)
STA. 679+70.33 TO STA. 682+95.33 (RT)

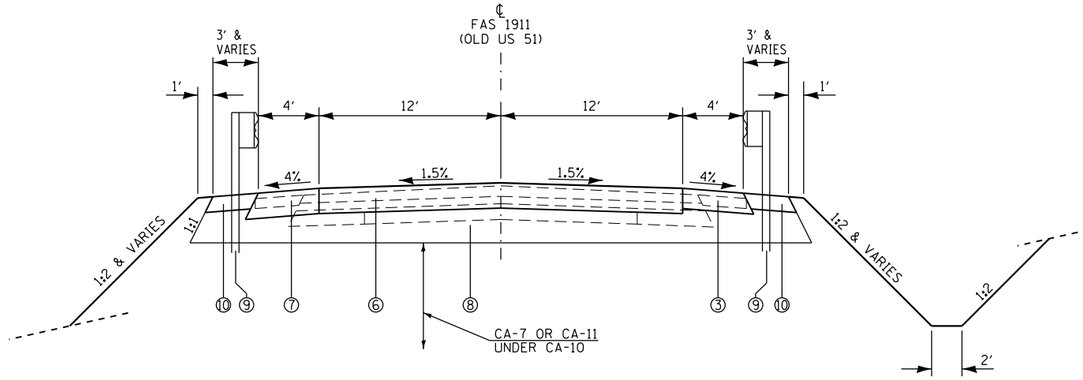


PROPOSED

① HOT MIX ASPHALT SURFACE COURSE, MIX "C", N70, 1-1/2"
② LEVELING BINDER (MACHINE METHOD), N70, IL-9.5mm FINE GRADE, 3/4" MIN
③ HOT MIX ASPHALT SHOULDER, 8"
④ BASE COURSE WIDENING, 10"
⑤ HOT MIX ASPHALT SHOULDER, 2-1/4"
⑥ PORTLAND CEMENT CONCRETE PAVEMENT 10"
⑦ HOT MIX ASPHALT SHOULDER, 10"
⑧ POROUS GRANULAR EMBANKMENT, CA-10, 1'-0" MIN.
⑨ STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS
⑩ HOT MIX ASPHALT STABILIZATION 6" AT STEEL PLATE BEAM GUARDRAIL

③ PROPOSED TYPICAL SECTIONS FAS 1911 (OLD U.S. ROUTE 51)

STA. 679+77.00 TO STA. 681+16.00 (LT)
STA. 682+44.00 TO STA. 683+83.00 (LT)
STA. 679+71.00 TO STA. 681+16.00 (RT)
STA. 682+44.00 TO STA. 683+90.00 (RT)



④ PROPOSED TYPICAL SECTIONS FAS 1911 (OLD U.S. ROUTE 51)

STA. 681+16.00 TO STA. 682+44.00

FILE NAME =	USER NAME = jd	DESIGNED - JRD	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TYPICAL SECTIONS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Y:\10057.14 Drury Creek\DGN\Design\Final\Plotsheets\008-009-D978214-sht-typical.dgn	PLOT SCALE = 10.0000 ' / in.	DRAWN - JRD	REVISED -			1911	11B-2	UNION	44	9
$MODELNAME$	PLOT DATE = 1/16/2015	CHECKED - SLD	REVISED -					CONTRACT NO. 78214		
		DATE - 1/15/15	REVISED -		SCALE: N.T.S. SHEET 2 OF 2 SHEETS			ILLINOIS FED. AID PROJECT		

SEEDING SCHEDULE

LOCATION	STATION	STATION	SEEDING CL 2 (ACRE)	SEEDING CL 7 (ACRE)	NITROGEN FERTILIZER NUTRIENT (POUND)	PHOSPHORUS FERTILIZER NUTRIENT (POUND)	POTASSIUM FERTILIZER NUTRIENT (POUND)	MULCH METHOD 2 (ACRE)	AGRICULTURAL GROUND LIMESTONE (TON)
LEFT SIDE	678+80.00	684+80.00	0.25	0.25	23	23	23	0.25	0.5
RIGHT SIDE	678+80.00	684+80.00	0.5	0.5	45	45	45	0.5	1
		TOTALS	0.75	0.75	68	68	68	0.75	1.5

EARTHWORK

STATION	STATION	EARTH EXCAVATION (CU YD)	FOR INFORMATION ONLY: EARTH EXCAVATION ADJUSTED FOR 25% SHRINKAGE (CU YD)	EMBANKMENT (CU YD)	EARTHWORK BALANCE WASTE (+) SHORTAGE (-) (CU YD)	RIPRAP EXCAVATION MATERIAL (CU YD)	RIPRAP EXCAVATION ADJUSTED FOR 25% SHRINKAGE (CU YD)	STRUCTURE EXCAVATION (CU YD)	STRUCTURE EXCAVATION ADJUSTED FOR 25% SHRINKAGE (CU YD)
678+80.00	684+80.00	550	415	1,220	-805				
681+36.24	682+24.16				1,585			2116	1585
681+10.40 (LT)	682+50.00 (LT)				140	185	140		
681+50.00 (RT)	682+50.00 (RT)				100	130	100		
	TOTALS	550	415		1,020				

NOTES:

1. RIPRAP EXCAVATION IS NOT A PAY ITEM AND IT IS INCLUDED IN THE COST OF STONE RIPRAP CLASS A5
2. THE EARTHWORK SCHEDULE HAS ASSUMED THE RIPRAP EXCAVATION MAY BE USED AS EMBANKMENT

EROSION CONTROL

LOCATION	STATION	OFFSET	STATION	OFFSET	PERIMETER EROSION BARRIER (FOOT)	HEAVY DUTY EROSION CONTROL BLANKET (SQ YD)	FILTER FABRIC (SQ YD)	STONE RIPRAP CLASS A5 (SQ YD)
LEFT SIDE	678+75.00	19.5'	681+24.90	44.36'	264			
RIGHT SIDE	678+75.00	23'	679+05.00	23'	30			
RIGHT SIDE	684+45.00	26'	684+85.00	20'	41			
LEFT SIDE	678+80.00		684+50.00			1,665		
RIGHT SIDE	678+80.00		684+50.00			2,059		
LEFT SIDE	681+10.40		682+50.00				274	274
RIGHT SIDE	681+50.00		682+50.00				233	233
				TOTALS	335	3,724	507	507

DITCH CHECKS

LOCATION	STATION	OFFSET	TEMPORARY DITCH CHECKS (FOOT)
RIGHT SIDE	679+50.00	42.30'	7.4
	680+00.00	45.00'	7.4
	680+50.00	45.70'	6.5
	681+00.00	46.50'	6.5
	681+50.00	38.70'	6.5
	682+50.00	37.50'	6.5
	683+00.00	47.50'	6.5
	683+50.00	43.60'	7.4
	684+00.00	42.70'	7.4
LEFT SIDE	682+50.00	39.70'	6.5
	683+00.00	37.50'	6.5
	683+50.00	34.40'	7.4
	684+00.00	30.80'	7.4
	684+50.00	22.70'	6.5
		TOTALS	97

GUARDRAIL SCHEDULE

LOCATION	STATION	OFFSET	STATION	OFFSET	GUARDRAIL REMOVAL (FOOT)	HMA STABILIZATION 6'' AT GUARDRAIL (SQ YD)	TRAFFIC BARRIER TERMINAL TYPE 1 (SPECIAL) TANGENT (EACH)	STEEL BEAM GUARDRAIL TYPE A, 6' POSTS (FOOT)	GUARDRAIL MARKER TYPE A (EACH)	TERMINAL MARKER DIRECT APPLIED (EACH)
LEFT SIDE	680+53.69	18.02	681+44.51	17.39	91					
	682+15.96	17.01	684+31.59	18.26	216					
RIGHT SIDE	679+29.06	18.04	681+44.43	17.11	216					
	682+15.81	17.25	683+18.93	18.01	103					
LEFT SIDE	680+43.80		683+90.96			118				
RIGHT SIDE	679+59.34		683+06.37			118				
LEFT SIDE	680+54.92		681+04.91				1			
	683+29.91		683+79.90				1			
RIGHT SIDE	679+70.33		680+20.32				1			
	682+45.32		682+95.31				1			
LEFT SIDE	681+04.91		683+29.91					225	4	
RIGHT SIDE	680+20.32		682+45.32					225	4	
LEFT SIDE	680+54.92									1
	683+79.90									1
RIGHT SIDE	679+70.33									1
	682+95.31									1
				TOTALS	626	236	4	450	8	4

ENGINEER'S FIELD OFFICE

LOCATION	FIELD OFFICE TYPE A (CAL MO)
OLD US 51	678+80.00 TO 684+80.00	5
	TOTAL	5

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	PLOT DATE = 1/21/2015	CHECKED - SLD	REVISED -
		DATE - 1/21/15	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: N.A. | SHEET NO. 1 OF 2 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	10
		CONTRACT NO. 78214		
	ILLINOIS	FED. AID PROJECT		

PAVEMENT

LOCATION	STATION	STATION	PORTLAND CEMENT CONCRETE PAVEMENT 10'' (SQ YD)	POROUS GRANULAR EMBANKMENT (CU YD)	PAVEMENT FABRIC (SQ YD)	BITUMINOUS MATERIALS (PRIME COAT) (POUND)	HMA SHOULDERS 10'' (SQ YD)	BASE COURSE WIDENING 10'' (SQ YD)	HMA SHOULDERS 8'' (SQ YD)	HMA SHOULDERS 2.25'' (SQ YD)	LEVELING BINDER MACHINE METHOD IL-9.5FG, N70 (TON)	HMA SURFACE COURSE MIX ''C'', N70 (TON)
OLD US 51	681+16.00	682+44.00	342	238	342							
OLD US 51	679+30.00	681+16.00				223					36	
OLD US 51	682+44.00	684+30.00				223					36	
OLD US 51	678+80.00	681+16.00				285						53
OLD US 51	682+44.00	684+80.00				282						53
LEFT SIDE	679+77.00	683+83.00					181					
RIGHT SIDE	679+71.00	681+43.76						77				
RIGHT SIDE	682+16.49	683+90.00						78				
LEFT SIDE	678+80.00	679+77.00							42			
LEFT SIDE	683+83.00	684+80.00							39			
RIGHT SIDE	678+80.00	679+71.00							37			
RIGHT SIDE	683+90.00	684+80.00							37			
RIGHT SIDE	679+71.00	681+16.00								65		
RIGHT SIDE	682+44.00	683+90.00								65		
		TOTALS	342	238	342	1013	181	155	155	130	72	106

RIGHT OF WAY MARKERS

LOCATION	FURNISHING AND ERECTING RIGHT OF WAY MARKERS (EACH)
SEE RIGHT-OF-WAY SHEET FOR LOCATIONS	16
TOTAL	16

TEMPORARY PAVEMENT AND REMOVALS

LOCATION			TEMPORARY RAMP (SQ YD)	HMA SURFACE REMOVAL BUTT JOINT (SQ YD)	PAVEMENT REMOVAL (SQ YD)	PAVED SHOULDER REMOVAL (SQ YD)	HMA SURFACE REMOVAL VARB-DEPTH (SQ YD)
OLD US 51	678+80.00	678+87.50	21				
OLD US 51	681+08.50	681+16.00	20				
OLD US 51	682+44.00	682+51.50	20				
OLD US 51	684+72.50	684+80.00	19				
OLD US 51	680+24.32	681+43.78					
OLD US 51	682+16.48	683+43.11					
OLD US 51	678+80.00	679+10.00		84			
OLD US 51	684+30.00	684+80.00		78			
OLD US 51	681+16.00	681+43.85			81		
OLD US 51	682+16.52	682+44.00			81		
RIGHT SIDE	681+16.00	681+43.76				13	
RIGHT SIDE	682+16.49	682+44.00				13	
OLD US 51	679+30.00	680+00.00					128
		TOTALS	80	162	163	26	128

TEMPORARY PAVEMENT MARKING SCHEDULE

STATION	STATION	SHORT TERM PMK (FOOT)	TEMPORARY PMK LINE 4'' (FOOT)	WORK ZONE PAV MARKING REMOVAL (SQ FT)	REMARKS
677+99.50	685+65.74	76		25	SHORT TERM CENTER LINE
677+99.50	685+65.74	76		25	SHORT TERM CENTER LINE
678+59.50	685+23.48		664	221	SGL WHT EOP LEFT SIDE
677+99.50	685+65.74		1532	511	DBL YLLW CENTER LINE
678+04.52	685+07.50		703	234	SGL WHT EOP RIGHT SIDE
	TOTALS	152	2,899	1,016	

DRAINAGE STRUCTURE SCHEDULE

ROUTE	STATION	OFFSET	STATION	OFFSET	NOTE	PIPE CULVERT REMOVAL (FOOT)
OLD US 51	682+26.46	38.57' RT.	682+44.19	36.71' RT.	EXIST. 12'' CMP	18
					TOTAL	18

PAINT PAVEMENT MARKING SCHEDULE

STATION	STATION	PAVEMENT MARKING REMOVAL (SQ FT)	PAINT PAVEMENT MARKING LINE 4'' (FOOT)	RAISED REFLECTIVE PAV MARKER REMOVAL (EACH)	RAISED REFLECTIVE PAVEMENT MARKER (EACH)	REMARKS
678+59.50	685+23.48	221	664			SGL WHT EOP LEFT SIDE
677+99.50	685+65.74	510	1532	11	11	DBL YLLW CENTER LINE
678+04.52	685+07.50	234	703			SGL WHT EOP RIGHT SIDE
	TOTALS	965	2,899	11	11	

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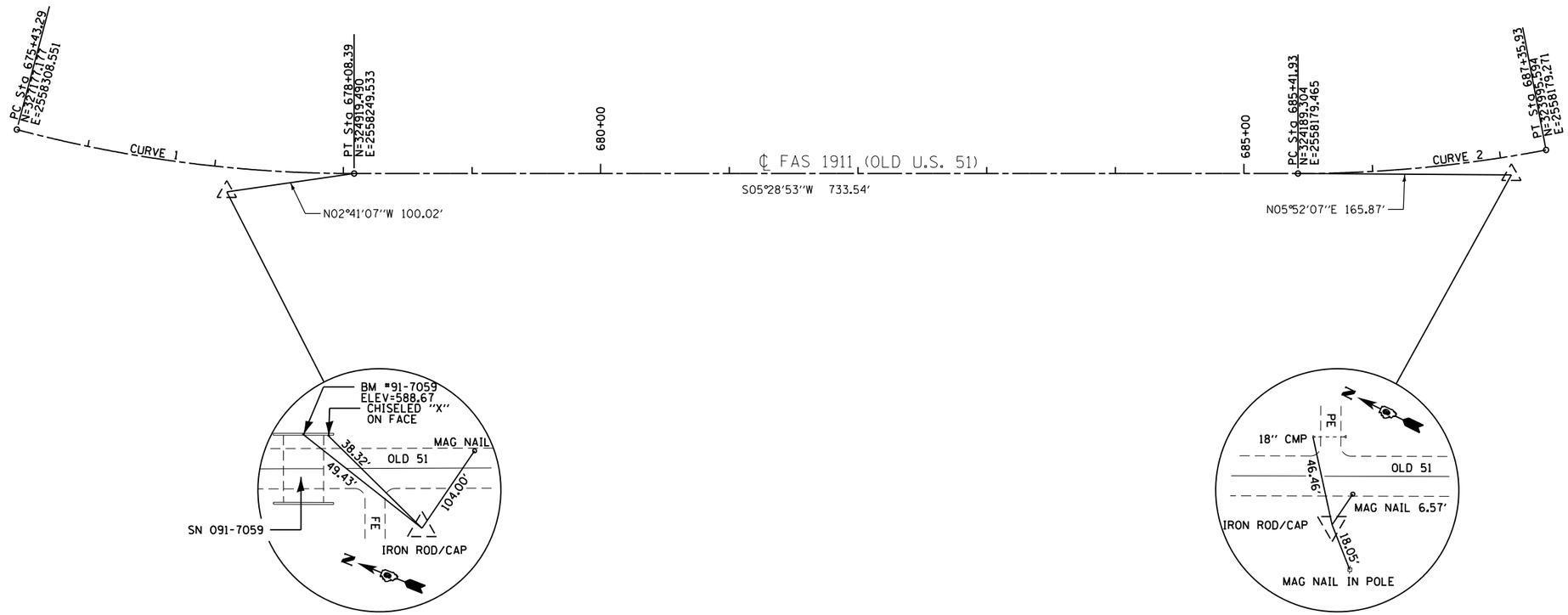
	PLOT DATE = 1/21/2015	DATE - 1/21/15	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES

SCALE: N.A. | SHEET NO. 2 OF 2 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	11
		CONTRACT NO. 78214		
		ILLINOIS FED. AID PROJECT		



CONTROL POINT #91432
STA 677+11.03 18.92' RT.
N=325019.400
E=2558244.847
Z=587.10

CONTROL POINT #91431
STA 687+06.20 14.44' RT.
N=324024.299
E=2558162.505
Z=588.53

CURVE 1
PI STA. = 676+76.59
Δ = 14° 50' 14" (LT)
D = 5° 35' 49"
R = 1,023.71'
T = 133.30'
L = 265.10'
E = 8.64'
P.C. STA = 675+43.29
P.T. STA = 678+08.39

BENCHMARKS:

1. BM 910043 - CHISLED SQUARE ON SOUTHEAST CORNER OF SN 091-0043, ELEV = 587.92

2. RESET-NGS MONUMENT SET VERTICALLY IN THE W. FACE OF THE S.W. CORNER OF THE FIRST NATIONAL BANK OF COBDEN LOCATED NEXT TO FUZZY'S BAR & GRILL "88" ELEV. = 616.26

CURVE 2
PI STA. = 686+39.22
Δ = 10° 50' 50" (LT)
D = 5° 35' 29"
R = 1,024.71'
T = 97.29'
L = 194.00'
E = 4.61'
P.C. STA = 685+41.93
P.T. STA = 687+35.93

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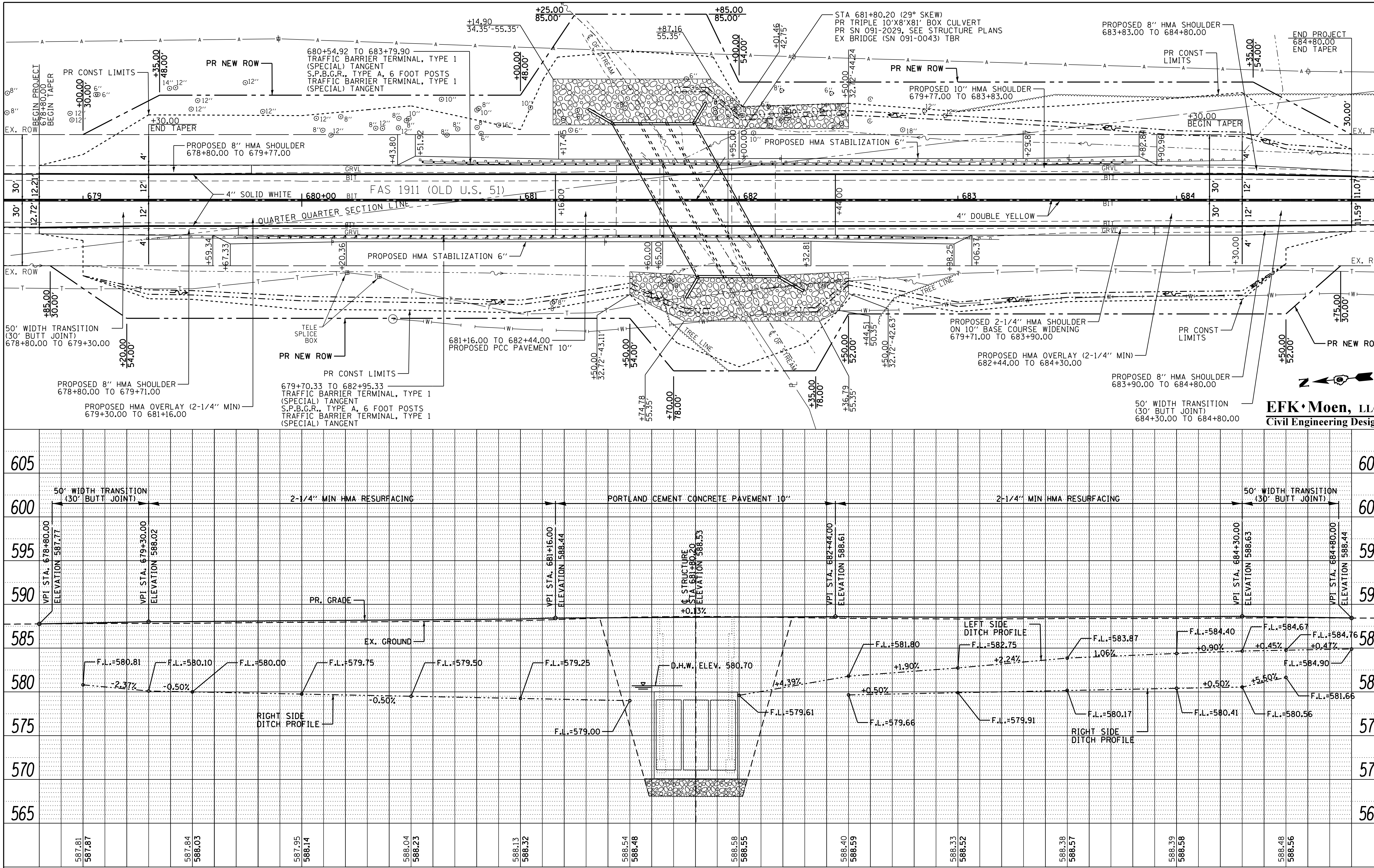
	PLOT DATE = 1/16/2015	DATE - 1/15/15	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ALIGNMENT, TIES AND BENCHMARKS

SCALE: 1" = 50' | SHEET NO. 1 OF 1 SHEETS | STA. 675+43.29 TO STA. 687+35.93

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	12
		CONTRACT NO. 78214		
	ILLINOIS	FED. AID PROJECT		



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$MODELNAME$	PLOT DATE = 1/16/2015	DATE - 1/15/15	REVISED -		SCALE: 1" = 20' SHEET 1 OF 1 SHEETS STA. 678+80 TO STA. 684+80	ILLINOIS FED. AID PROJECT				

SCHEDULE OF QUANTITIES

TEMPORARY CONCRETE BARRIER = 350 LF
(STA. 680+05.22 - STA. 683+54.78)

TEMPORARY BRIDGE SIGNAL = 1 EACH

TEMPORARY RUMBLE STRIPS = 6 EACH

IMPACT ATTENUATORS, TEMPORARY
(NON-REDIRECTIVE), TEST LEVEL 3 = 2 EACH

TRAFFIC CONTROL SURVEILLANCE = 4 CAL DA

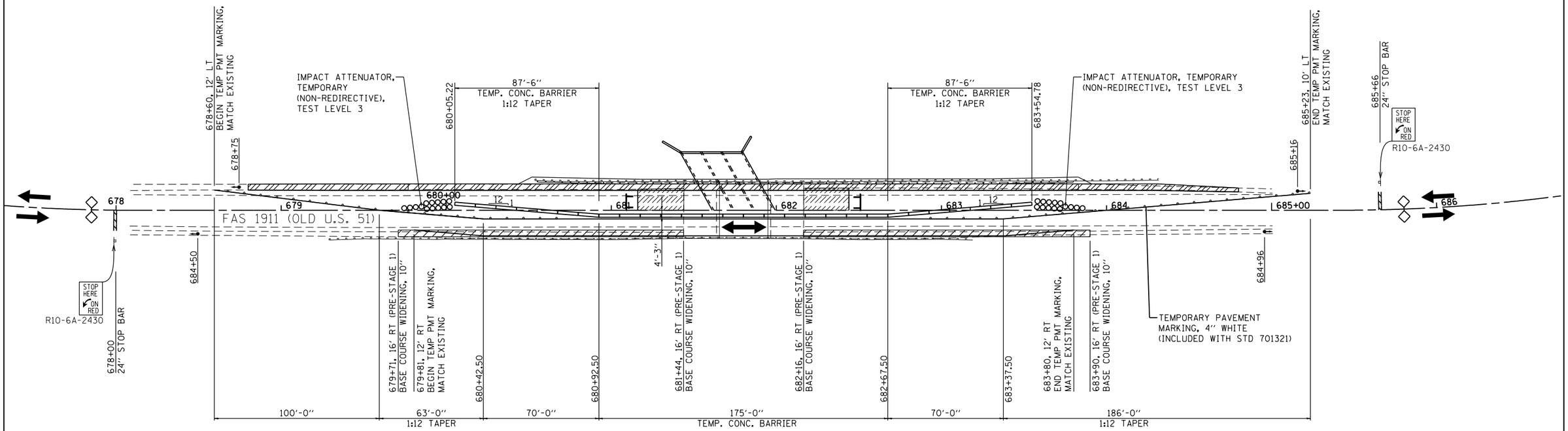
CHANGEABLE MESSAGE SIGN = 2 CAL MO

LEGEND

- TEMPORARY CONCRETE BARRIER W/ MONODIRECTIONAL PRISMATIC REFLECTOR
- IMPACT ATTENTUATOR, TEMPORARY (NON-REDIRECTIVE NARROW), TEST LEVEL 3
- DRUMS WITH STEADY BURNING BI-DIRECTIONAL LIGHT
- SIGN
- TYPE III BARRICADE
- TEMPORARY TRAFFIC SIGNAL
- DETECTOR LOOPS
- BASE COURSE WIDENING, 10''
- PAVEMENT REMOVAL
- HMA SHOULDER (2¼'', 8'', 10'')

GENERAL NOTES

1. PRE-STAGE I: CONSTRUCT THE BASE COURSE FROM RT. STA. 679+71 TO RT. STA. 681+44 AND RT. STA. 682+16 TO RT. STA. 683+90 AS SHOWN ON THIS SHEET PRIOR TO PLACING THE SIGNALS IN OPERATION AND PLACEMENT OF THE TEMPORARY BARRIERS.
2. TRAFFIC CONTROL SHALL BE ERECTED AS SHOWN AND ACCORDING TO TRAFFIC CONTROL AND PROTECTION, STANDARD 701321. SEE STANDARD 701321 FOR THE COMPLETION OF THE STAGE CONSTRUCTION TRAFFIC CONTROL THAT IS NOT SHOWN THAT INCLUDES, BUT IS NOT LIMITED TO, ADVANCE SIGNING. ADVANCE LOOP PLACEMENT, DRUMS WITH STEADY BURNING LIGHTS, DOUBLE VERTICAL PANELS AND BARRIER WALL/GUARDRAIL MARKERS.
3. SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.
4. COORDINATE LOCATION OF SIGNALS WITH FINAL WORK AS DIRECTED BY THE ENGINEER.
5. CONSTRUCT TEMPORARY RUMBLE STRIPS AT LOCATIONS SHOWN ON STANDARD 701321.
6. ADVANCE WIDTH RESTRICTIONS WARNING SHALL BE INCLUDED IN THE COST OF STANDARD 701321.
7. THE DIMENSION SHOWN ON THE WIDTH RESTRICTION SIGN (W12-1102(O)-48) SHOWN ON STANDARD 701321 AND ON THE ADVANCE WARNING SIGN (W12-1103) SHOWN ON SHEET 16 SHALL BE 10'-10'' FOR STAGE 1 CONSTRUCTION.
8. THE ADVANCED DETECTOR LOOPS ARE TYPICALLY LOCATED 275 FEET IN ADVANCE OF THE STOP BAR. THE BUREAU OF OPERATIONS SHOULD APPROVE THE LOOP LOCATIONS PRIOR TO INSTALLATION.
9. THE CENTERLINE PAVEMENT MARKING SHOULD BE REMOVED BETWEEN THE STOP BARS. 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.
10. VERTICAL PANELS SHOWN ON STANDARD 701321 WILL NOT BE REQUIRED ON THE NEW GUARDRAIL.
11. ANY TIME THE CONCRETE BARRIER IS NOT IN THE PROPER POSITION, FLAGGERS SHALL BE IN PLACE TO CONTROL TRAFFIC AND THE TEMPORARY TRAFFIC SIGNALS SHALL BE TURNED OFF OR COVERED.
12. THE STAGE 1 CONSTRUCTION SHALL INCLUDE THE REMOVAL OF THE EXISTING LT. SIDE PAVEMENT FROM STA. 681+44 TO 682+16 AND THE EAST SIDE OF EXISTING BRIDGE. CONSTRUCT EAST END OF PROPOSED TRIPLE BOX CULVERT AS DETAILED ON THE ATTACHED STRUCTURAL PLANS. PLACE THE PROPOSED LT. SIDE PAVEMENT FROM STA. 681+16 TO STA. 682+44. PLACE PROPOSED LT. SIDE HOT-MIX ASPHALT SHOULDER STA. 678+80 TO STA. 684+80. ERECT PROPOSED LT. SIDE GUARDRAIL.



STAGE 1 PLAN

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Civil Engineering Design

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION PLAN AND DETAILS
STRUCTURE NO. 091-2029

SCALE: 1'' = 30' | SHEET NO. 1 OF 3 SHEETS | STA. 677+32 TO STA. 686+77

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	14
		CONTRACT NO. 78214		
	ILLINOIS	FED. AID PROJECT		

SCHEDULE OF QUANTITIES

TEMPORARY CONCRETE BARRIER = 25 LF
(STA. 679+92.77 - STA. 680+05.22)
(STA. 683+54.78 - STA. 683+67.23)

RELOCATE TEMPORARY CONCRETE BARRIER = 350 LF
(STA. 680+05.22 - STA. 683+54.78)

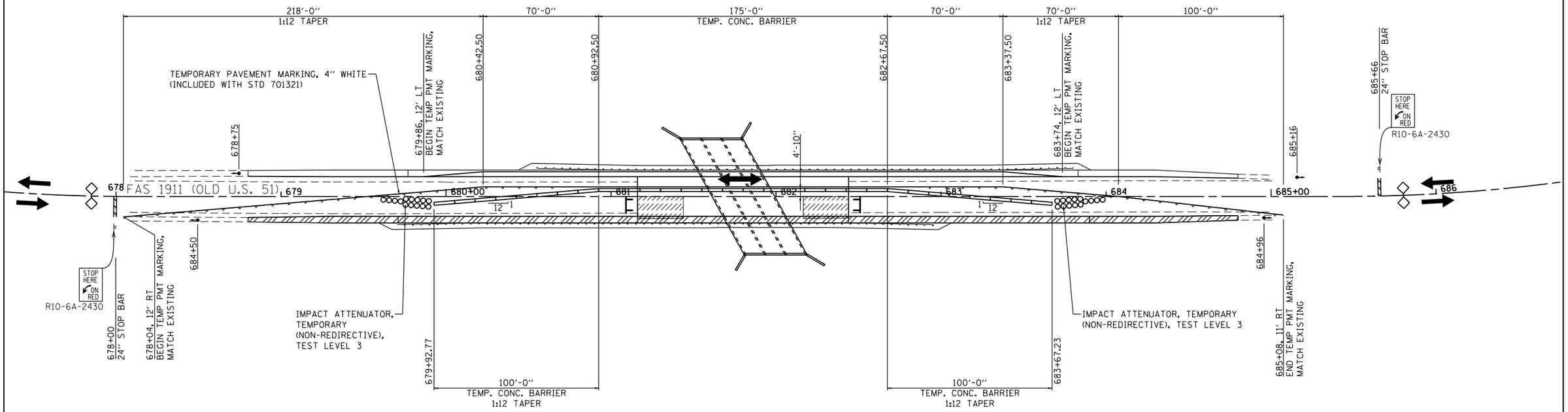
IMPACT ATTENUATORS, RELOCATE
(NON-REDIRECTIVE), TEST LEVEL 3 = 2 EACH

LEGEND

- TEMPORARY CONCRETE BARRIER W/ MONODIRECTIONAL PRISMATIC REFLECTOR
- IMPACT ATTENTUATOR, TEMPORARY (NON-REDIRECTIVE NARROW), TEST LEVEL 3
- DRUMS WITH STEADY BURNING BI-DIRECTIONAL LIGHT
- SIGN
- TYPE III BARRICADE
- TEMPORARY TRAFFIC SIGNAL
- DETECTOR LOOPS
- BASE COURSE WIDENING, 10''
- PAVEMENT REMOVAL
- HMA SHOULDER (2¼'', 8'', 10'')

GENERAL NOTES

1. TRAFFIC CONTROL SHALL BE ERECTED AS SHOWN AND ACCORDING TO TRAFFIC CONTROL AND PROTECTION, STANDARD 701321. SEE STANDARD 701321 FOR THE COMPLETION OF THE STAGE CONSTRUCTION TRAFFIC CONTROL THAT IS NOT SHOWN THAT INCLUDES, BUT IS NOT LIMITED TO, ADVANCE SIGNING. ADVANCE LOOP PLACEMENT, DRUMS WITH STEADY BURNING LIGHTS, DOUBLE VERTICAL PANELS AND BARRIER WALL/GUARDRAIL MARKERS.
2. SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.
3. COORDINATE LOCATION OF SIGNALS WITH FINAL WORK AS DIRECTED BY THE ENGINEER.
4. CONSTRUCT TEMPORARY RUMBLE STRIPS AT LOCATIONS SHOWN ON STANDARD 701321.
5. ADVANCE WIDTH RESTRICTIONS WARNING SHALL BE INCLUDED IN THE COST OF STANDARD 701321.
6. THE DIMENSION SHOWN ON THE WIDTH RESTRICTION SIGN (W12-1102(O)-48) SHOWN ON STANDARD 701321 AND ON THE ADVANCE WARNING SIGN (W12-1103) SHOWN ON SHEET 16 SHALL BE 9'-8'' FOR STAGE 2 CONSTRUCTION.
7. THE ADVANCED DETECTOR LOOPS ARE TYPICALLY LOCATED 275 FEET IN ADVANCE OF THE STOP BAR. THE BUREAU OF OPERATIONS SHOULD APPROVE THE LOOP LOCATIONS PRIOR TO INSTALLATION.
8. THE CENTERLINE PAVEMENT MARKING SHOULD BE REMOVED BETWEEN THE STOP BARS. 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.
9. VERTICAL PANELS SHOWN ON STANDARD 701321 WILL NOT BE REQUIRED ON THE NEW GUARDRAIL.
10. ANY TIME THE CONCRETE BARRIER IS NOT IN THE PROPER POSITION, FLAGGERS SHALL BE IN PLACE TO CONTROL TRAFFIC AND THE TEMPORARY TRAFFIC SIGNALS SHALL BE TURNED OFF OR COVERED.
11. THE STAGE 2 CONSTRUCTION SHALL INCLUDE THE REMOVAL OF THE EXISTING RT. SIDE PAVEMENT FROM STA. 681+16 TO 682+44 AND THE WEST SIDE OF EXISTING BRIDGE. CONSTRUCT WEST END OF PROPOSED TRIPLE BOX CULVERT AS DETAILED ON THE ATTACHED STRUCTURAL PLANS. PLACE THE PROPOSED RT. SIDE PAVEMENT FROM STA. 681+16 TO STA. 682+44. PLACE PROPOSED RT. SIDE HOT-MIX ASPHALT SHOULDER STA. 678+80 TO STA. 684+80. ERECT PROPOSED RT. SIDE GUARDRAIL.



STAGE 2 PLAN

EFK • Moen, LLC
Civil Engineering Design

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	PLOT DATE = 1/21/2015	DATE - 1/21/15	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION PLAN AND DETAILS
STRUCTURE NO. 091-2029

SCALE: 1'' = 30' | SHEET NO. 2 OF 3 SHEETS | STA. 677+32 TO STA. 686+77

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	15
		CONTRACT NO. 78214		
		ILLINOIS FED. AID PROJECT		

SCHEDULE OF QUANTITIES

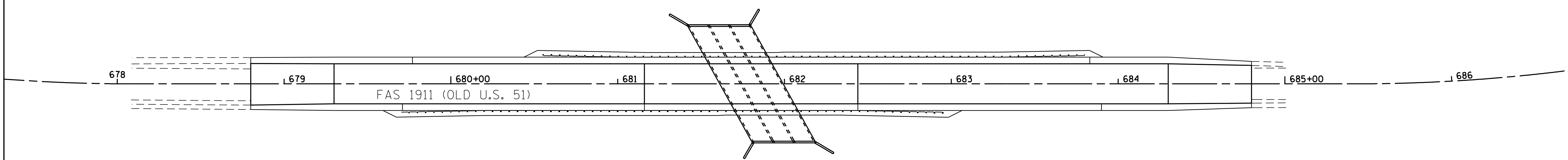
NONE

LEGEND

- TEMPORARY CONCRETE BARRIER W/ MONODIRECTIONAL PRISMATIC REFLECTOR
- IMPACT ATTENTUATOR, TEMPORARY (NON-REDIRECTIVE NARROW), TEST LEVEL 3
- DRUMS WITH STEADY BURNING BI-DIRECTIONAL LIGHT
- SIGN
- TYPE III BARRICADE
- TEMPORARY TRAFFIC SIGNAL
- DETECTOR LOOPS
- BASE COURSE WIDENING, 10″
- PAVEMENT REMOVAL
- HMA SHOULDER (2¼″, 8″, 10″)

GENERAL NOTES

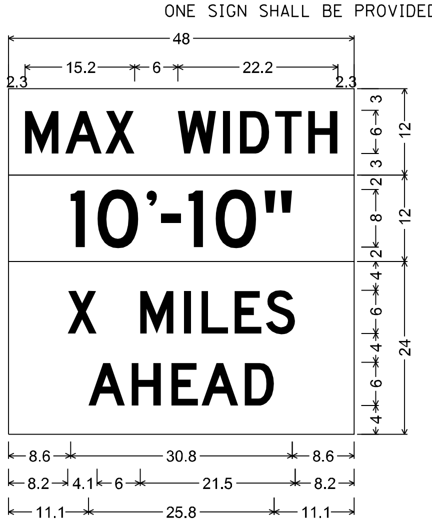
1. TRAFFIC CONTROL SHALL BE ERECTED AS SHOWN AND ACCORDING TO TRAFFIC CONTROL STANDARD 701201 AND 701311.
2. SEE SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC CONTROL REQUIREMENTS.
3. THE STAGE 3 CONSTRUCTION SHALL INCLUDE PLACING HOT-MIX ASPHALT PAVEMENT STA. 678+80 TO STA. 681+16 AND STA. 682+44 TO 684+80 AND COMPLETING ALL REMAINING ROADSIDE IMPROVEMENTS WITHIN THE PROJECT LIMITS.



STAGE 3 PLAN

W12–I103 (STAGE 1)

NOTE: THIS SIGN SHALL BE LOCATED AS DIRECTED BY THE ENGINEER.
ONE SIGN SHALL BE PROVIDED FOR EACH APPROACH TO THE SITE.



No border, White on None;
[MAX WIDTH] Black D 2K;
No border, White on Orange;
[10'-10"] Black D 2K;
No border, White on None;
[X MILES] Black D 2K;
[AHEAD] Black D 2K;
Table of widths and spaces.

2.3	M 4.7	0.9	A 5.1	0.4	X 4.1

6.0	W 5.4	0.9	I 0.9	1.5	D 4.0	0.8	T 3.7	0.9	H 4.1	2.3

8.6	1 2.0	1.8	0 5.6	1.2	' 1.4	0.6	- 2.8	1.0	1 2.0	1.8	0 5.6	1.2	" 3.8	8.6

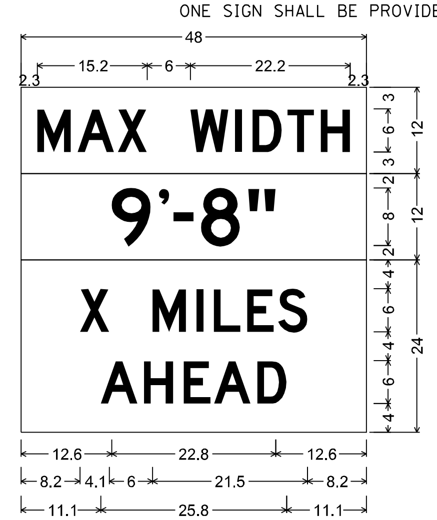
8.2	X 4.1

6.0	M 4.7	1.4	I 1.0	1.4	L 3.7	0.9	E 3.7	0.6	S 4.1	8.2

11.1	A 5.1	0.9	H 4.1	1.4	E 3.7	0.5	A 5.1	0.9	D 4.1	11.1

W12–I103 (STAGE 2)

NOTE: THIS SIGN SHALL BE LOCATED AS DIRECTED BY THE ENGINEER.
ONE SIGN SHALL BE PROVIDED FOR EACH APPROACH TO THE SITE.



No border, White on None;
[MAX WIDTH] Black D 2K;
No border, White on Orange;
[9'-8"] Black D 2K;
No border, White on None;
[X MILES] Black D 2K;
[AHEAD] Black D 2K;
Table of widths and spaces.

2.3	M 4.7	0.9	A 5.1	0.4	X 4.1

6.0	W 5.4	0.9	I 0.9	1.5	D 4.0	0.8	T 3.7	0.9	H 4.1	2.3

12.6	9 5.4	1.2	' 1.4	0.6	- 2.8	1.0	8 5.4	1.2	" 3.8	12.6

8.2	X 4.1

6.0	M 4.7	1.4	I 1.0	1.4	L 3.7	0.9	E 3.7	0.6	S 4.1	8.2

11.1	A 5.1	0.9	H 4.1	1.4	E 3.7	0.5	A 5.1	0.9	D 4.1	11.1

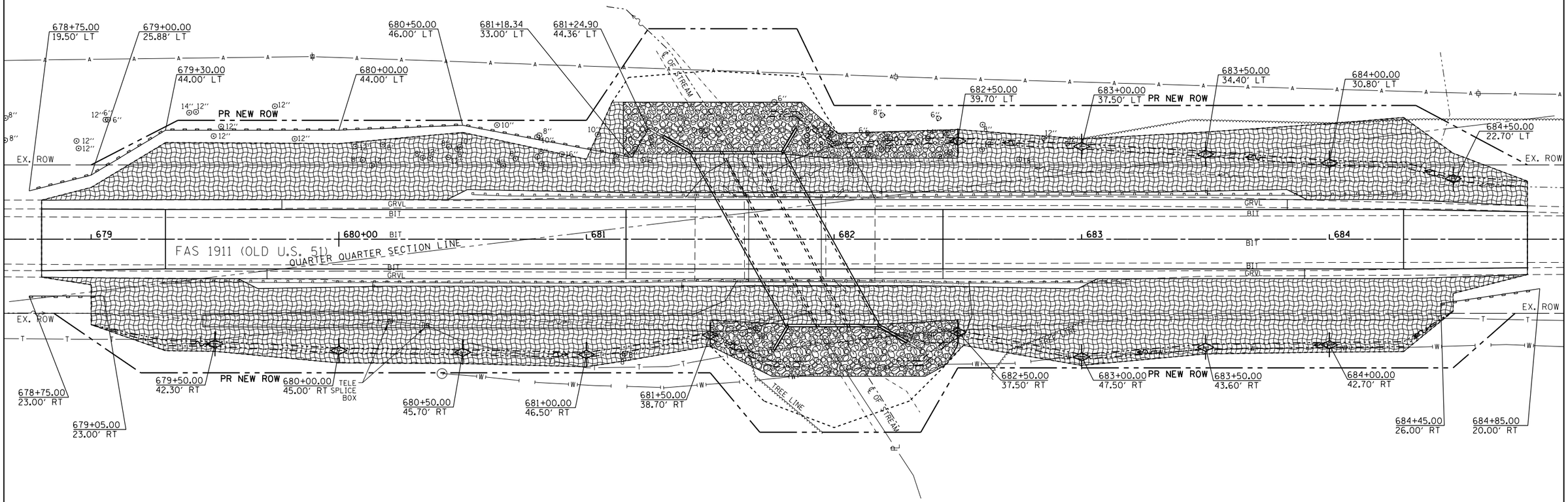
LEGEND

TEMPORARY EROSION CONTROL

- INLET AND PIPE PROTECTION
- PERIMETER EROSION BARRIER
- DITCH CHECK

PERMANENT EROSION CONTROL

- EROSION CONTROL BLANKET
- RIPRAP & FILTER FABRIC



EFK • Moen, LLC
Civil Engineering Design

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	PLOT DATE = 1/16/2015	DATE - 1/15/15	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EROSION AND SEDIMENT CONTROL

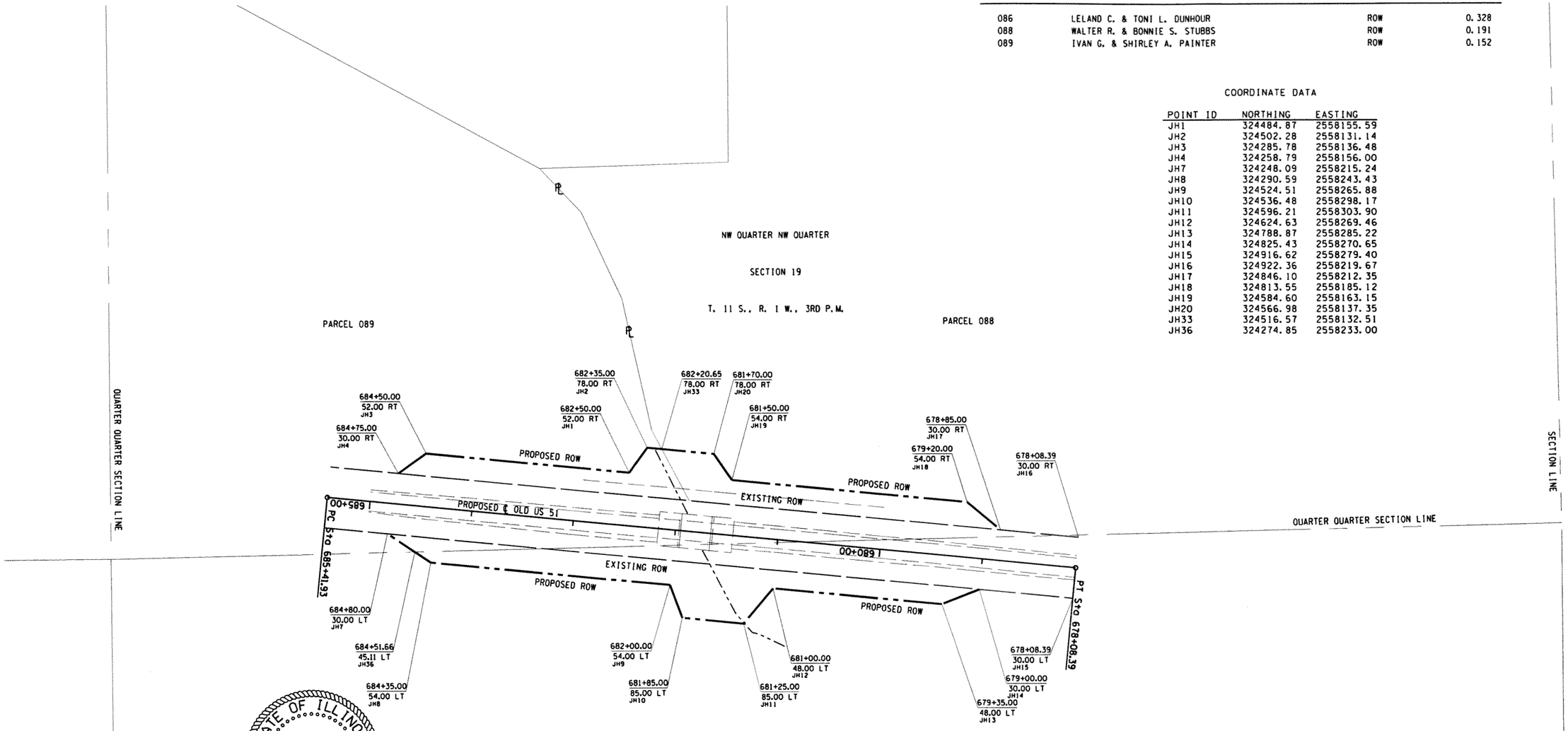
SCALE: 1" = 20' | SHEET NO. 1 OF 1 SHEETS | STA. 678+80 TO STA. 684+80

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	17
		CONTRACT NO. 78214		
	ILLINOIS	FED. AID PROJECT		

PARCEL	PROPERTY OWNER	PURPOSE	ACREAGE
086	LELAND C. & TONI L. DUNHOUR	ROW	0.328
088	WALTER R. & BONNIE S. STUBBS	ROW	0.191
089	IVAN G. & SHIRLEY A. PAINTER	ROW	0.152

COORDINATE DATA

POINT ID	NORTHING	EASTING
JH1	324484.87	2558155.59
JH2	324502.28	2558131.14
JH3	324285.78	2558136.48
JH4	324258.79	2558156.00
JH7	324248.09	2558215.24
JH8	324290.59	2558243.43
JH9	324524.51	2558265.88
JH10	324536.48	2558298.17
JH11	324596.21	2558303.90
JH12	324624.63	2558269.46
JH13	324788.87	2558285.22
JH14	324825.43	2558270.65
JH15	324916.62	2558279.40
JH16	324922.36	2558219.67
JH17	324846.10	2558212.35
JH18	324813.55	2558185.12
JH19	324584.60	2558163.15
JH20	324566.98	2558137.35
JH33	324516.57	2558132.51
JH36	324274.85	2558233.00



STATE OF ILLINOIS
JOHN G. HOBBS
No. 3890
PROFESSIONAL LAND SURVEYOR
CARBONDALE

JOHN G. HOBBS
ILLINOIS PROFESSIONAL LAND SURVEYOR

Current license expires 11/2014.

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

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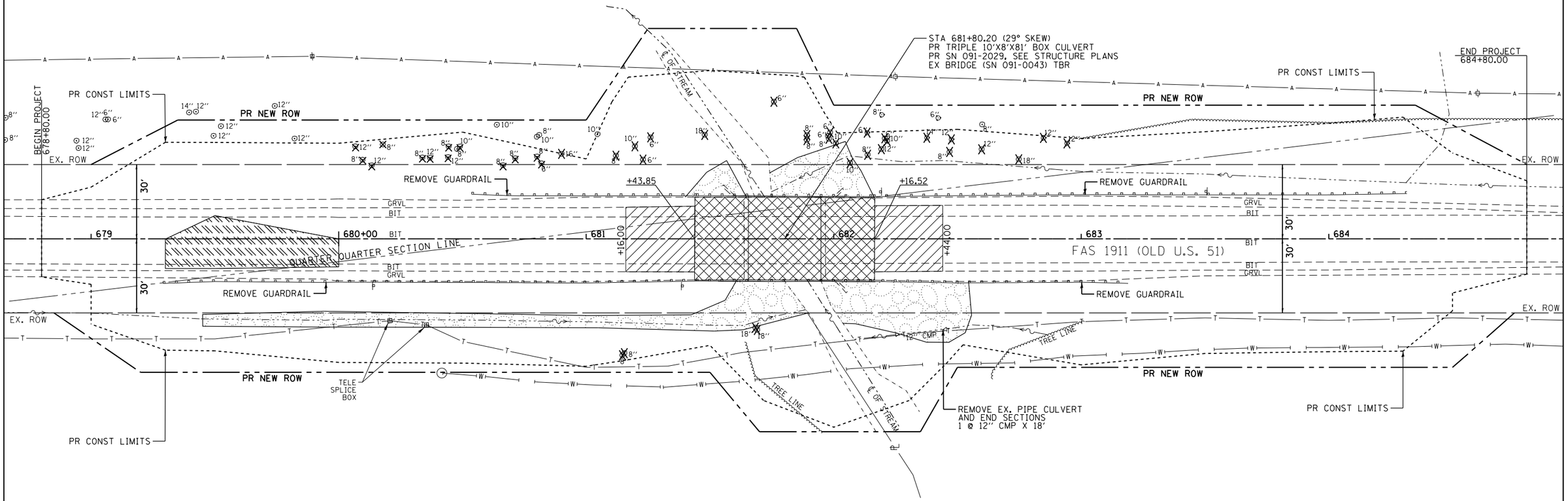
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RIGHT OF WAY SHEET
OLD US 51 SN# 091-0043

SCALE: 1" = 100' | SHEET 1 OF 1 SHEETS | STA. 678+08.39 TO STA. 685+41.93

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	11B-2	UNION	44	18
	R-99-009-12	CONTRACT NO. 78214		
	ILLINOIS FED. AID PROJECT			



PAVEMENT REMOVAL LEGEND

PAVEMENT REMOVAL
STA. 681+16.00 TO STA. 681+43.85
STA. 682+16.52 TO STA. 682+44.00

REMOVAL OF EXISTING STRUCTURE
STA. 681+43.85 TO STA. 682+16.52

HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH
STA. 679+30.00 TO STA. 680+00.00

PAVED SHOULDER REMOVAL (PRESTAGE BASE WIDENING)
STA. 681+16.00 TO STA. 681+43.76 (RT)
STA. 682+16.49 TO STA. 682+44.00 (RT)

X TREE REMOVAL

SIZE	STATION	OFFSET	SIDE	SIZE	STATION	OFFSET	SIDE	SIZE	STATION	OFFSET	SIDE	SIZE	STATION	OFFSET	SIDE
12"	680+06.68	37.37'	LT.	8"	680+71.33	32.53'	LT.	8"	681+89.18	41.87	LT.	14"	682+37.62	40.83'	LT.
8"	680+09.64	31.93'	LT.	8"	680+80.17	33.24'	LT.	6"	681+97.68	41.54'	LT.	8"	682+46.80	35.12'	LT.
12"	680+13.37	29.68'	LT.	6"	680+81.98	30.48'	LT.	8"	681+98.05	40.42'	LT.	12"	682+47.53	40.13'	LT.
8"	680+17.83	38.11'	LT.	16"	680+90.04	34.30'	LT.	6"	681+98.54	42.96'	LT.	12"	682+59.76	36.16'	LT.
8"	680+33.84	32.86'	LT.	8"	681+12.01	33.56'	LT.	10"	682+00.85	38.55'	LT.	18"	682+74.75	32.12'	LT.
12"	680+36.94	32.77'	LT.	10"	681+19.69	37.35'	LT.	10"	682+06.59	30.67'	LT.	12"	682+84.72	40.75'	LT.
12"	680+44.22	33.02'	LT.	6"	681+22.96	31.97'	LT.	6"	682+13.50	42.88'	LT.	12"	682+94.21	38.55'	LT.
8"	680+44.44	37.32'	LT.	6"	681+26.00	40.97'	LT.	8"	682+13.69	33.96'	LT.	8"	681+14.63	47.07'	RT.
8"	680+47.83	36.30'	LT.	18"	681+47.89	42.01'	LT.	12"	682+19.25	36.21'	LT.	8"	681+15.41	46.23'	RT.
10"	680+49.00	37.27'	LT.	6"	681+75.85	55.38'	LT.	6"	682+20.63	40.59'	LT.	18"	681+68.35	35.90'	RT.
8"	680+66.42	29.72'	LT.	8"	681+89.16	39.88'	LT.	10"	682+21.60	39.55'	LT.	18"	681+69.07	36.88'	RT.

PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
NOTE BOOK
NO.
STRUCTURE NOTATNS CH'KD
BY
DATE

EFK·Moen, LLC
Civil Engineering Design

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	PLOT DATE = 1/16/2015	DATE - 1/15/15	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REMOVALS

SCALE: 1" = 20' | SHEET NO. 1 OF 1 SHEETS | STA. 678+80 TO STA. 684+80

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	19
		CONTRACT NO. 78214		
	ILLINOIS FED. AID PROJECT			

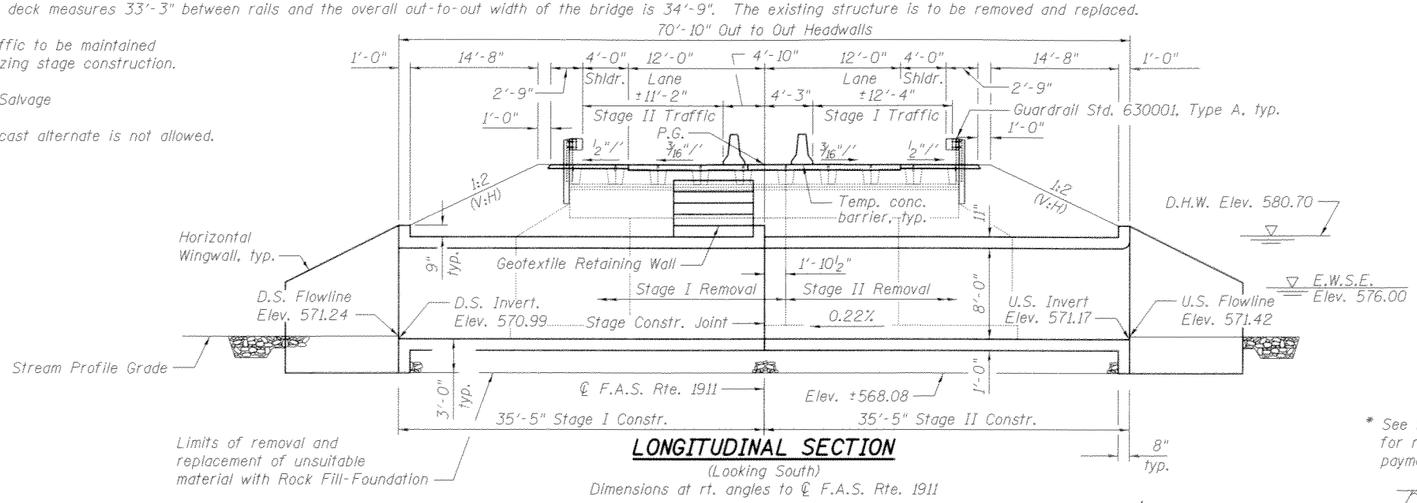
Bench Mark: BM 910043 - Chiseled square on southeast corner of SN 091-0043, Elev. 587.92

Existing Structure: SN 091-0043 was originally built in 1922 as SBI 2 (Section 11A) and widened during a superstructure replacement in 1980 as FAS 1911 (Section 11A-BR). The existing structure is a 33 foot (back-to-back abutments) single span precast concrete channel beam bridge. The substructure consists of the original closed abutments founded on spread footings with widened abutment caps. The deck measures 33'-3" between rails and the overall out-to-out width of the bridge is 34'-9". The existing structure is to be removed and replaced.

Traffic to be maintained utilizing stage construction.

No Salvage

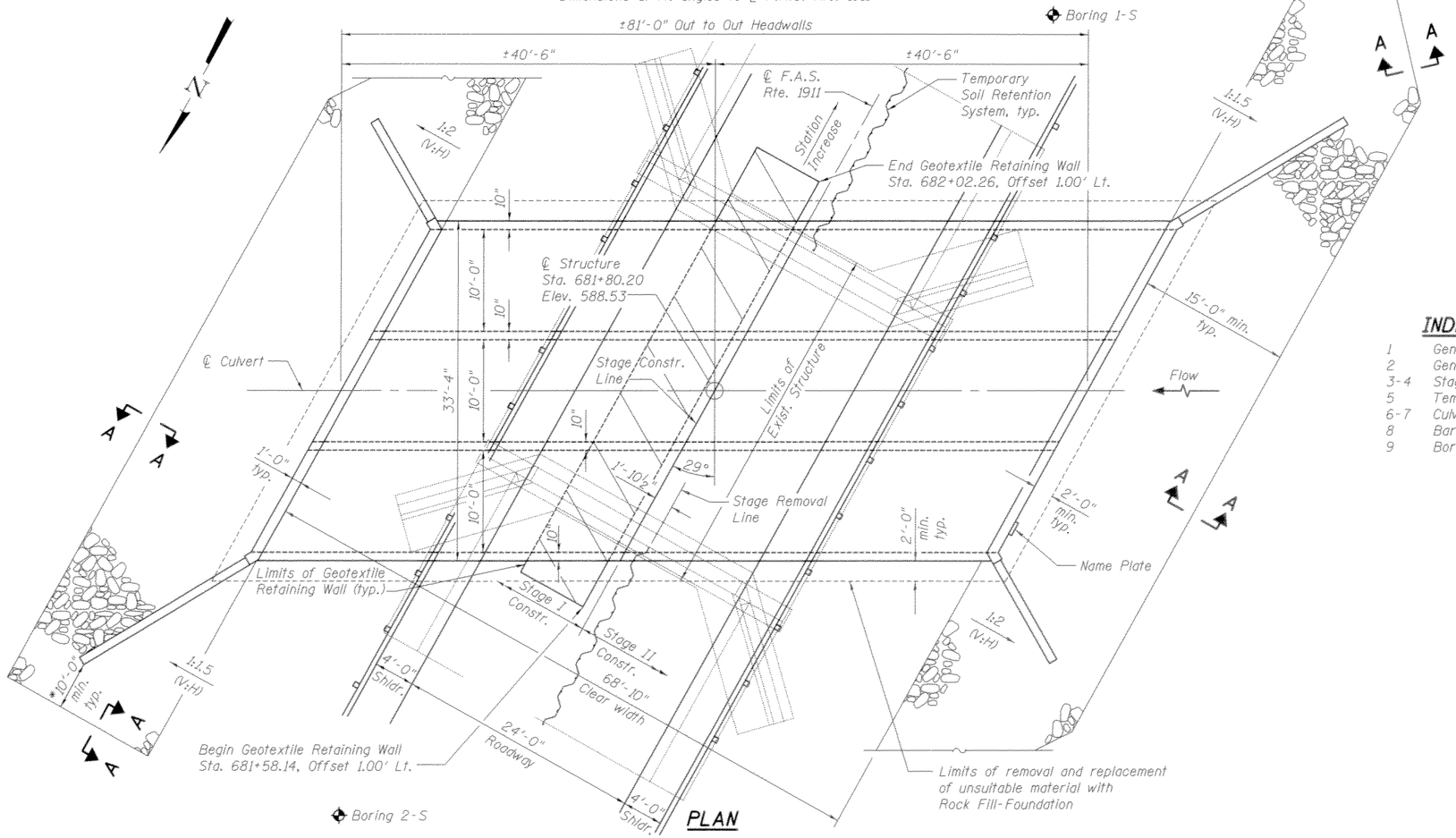
Precast alternate is not allowed.



LONGITUDINAL SECTION

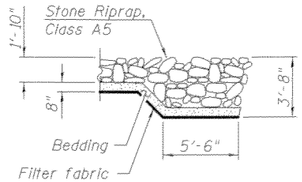
(Looking South)

Dimensions at rt. angles to ℄ F.A.S. Rte. 1911

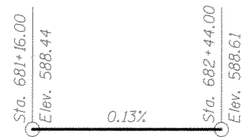


PLAN

* See Roadway Plans for riprap layout and payment.



SECTION A-A



PROFILE GRADE

(Along ℄ Roadway)

LOADING HL-93

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

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi

fy = 60,000 psi (Reinforcement)

STATION 681+80.20
BUILT 201_ BY
STATE OF ILLINOIS
F.A.S. RTE. 1911 SEC. 11B-2
LOADING HL-93
STRUCTURE NO. 091-2029

NAME PLATE

See Std. 515001

WATERWAY INFORMATION

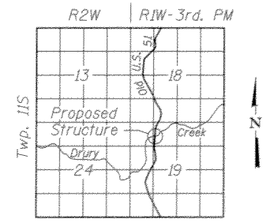
Drainage Area = 1.51 Sq. Mi. Low Grade Elev. 587.70 @ Sta. 678+49.20

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	1040	107.79	227.40	578.75	0.67	0.14	579.42	578.89
Design	50	1780	158.96	240.00	580.70	0.90	0.25	581.60	580.95
Base	100	2120	178.90	240.00	581.46	1.26	0.54	582.72	582.00
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	3030	220.10	240.00	583.03	2.63	1.75	585.66	584.78

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	568.17	567.99

INDEX OF SHEETS



LOCATION SKETCH

JERILYN M. HASSARD 081-006521 LICENSED STRUCTURAL ENGINEER OF ILLINOIS

01/16/2015

JERILYN M. HASSARD
EDWARDSVILLE, ILLINOIS
ILLINOIS LICENSED STRUCTURAL ENGINEER NO. 081-006521
EXPIRES 11/30/2016

GENERAL PLAN AND ELEVATION
OLD U.S. ROUTE 51
OVER DRURY CREEK
F.A.S. RTE. 1911 - SEC. 11B-2
UNION COUNTY
STATION 681+80.20
STRUCTURE NO. 091-2029

MODJESKI and MASTERS Experience great bridges.

USER NAME =	DESIGNED - JTH	REVISED -
	CHECKED - CDB	REVISED -
PLOT SCALE =	DRAWN - AEC	REVISED -
PLOT DATE = 01/16/15	CHECKED - JMH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 091-2029
SHEET NO. 1 OF 9 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	20
		CONTRACT NO. 78214		
	ILLINOIS FED. AID PROJECT			

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.

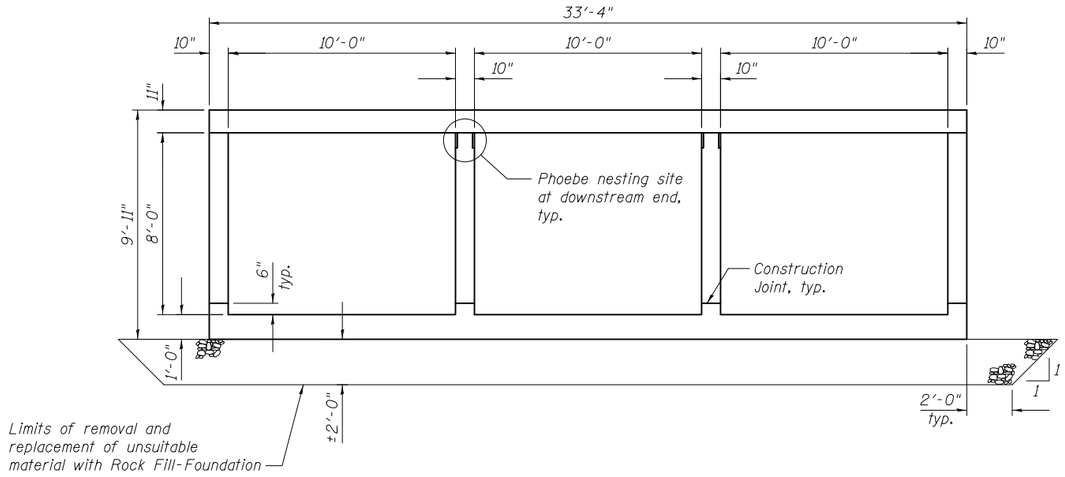
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.

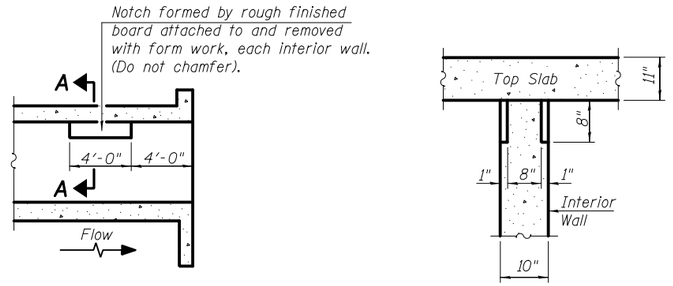
Removal and replacement of weak soils with Rock Fill-Foundation will be required beneath the culvert. The Engineer will determine the required depth following excavation to plan grade.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	1,375
Removal of Existing Structures	Each	1
Structure Excavation	Cu. Yd.	2,116
Reinforcement Bars, Epoxy Coated	Pound	84,260
Bar Splicers	Each	164
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	296.8
Geotextile Retaining Wall	Sq. Ft.	309
Rock Fill-Foundation	Ton	428
Temporary Soil Retention System	Sq. Ft.	727



SECTION THRU BARREL



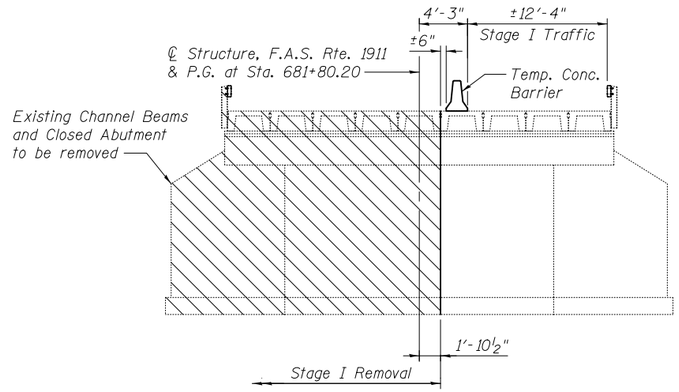
LONGITUDINAL SECTION

SECTION A-A

PHOEBE NESTING SITE DETAILS

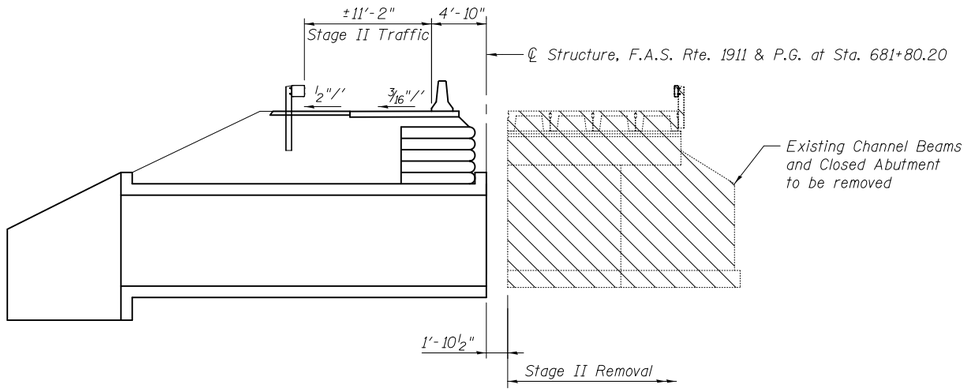
(Downstream End Only)

MODJESKI and MASTERS Experience great bridges.	USER NAME =	DESIGNED - JTH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL STRUCTURE DATA STRUCTURE NO. 091-2029	F.A.S. RTE. 1911	SECTION 11B-2	COUNTY UNION	TOTAL SHEETS 44	SHEET NO. 21
		CHECKED - CDB	REVISED -							
	PLOT SCALE =	DRAWN - AEC	REVISED -		SHEET NO. 2 OF 9 SHEETS			CONTRACT NO. 78214		
	PLOT DATE = 01/16/15	CHECKED - JMH	REVISED -					ILLINOIS FED. AID PROJECT		



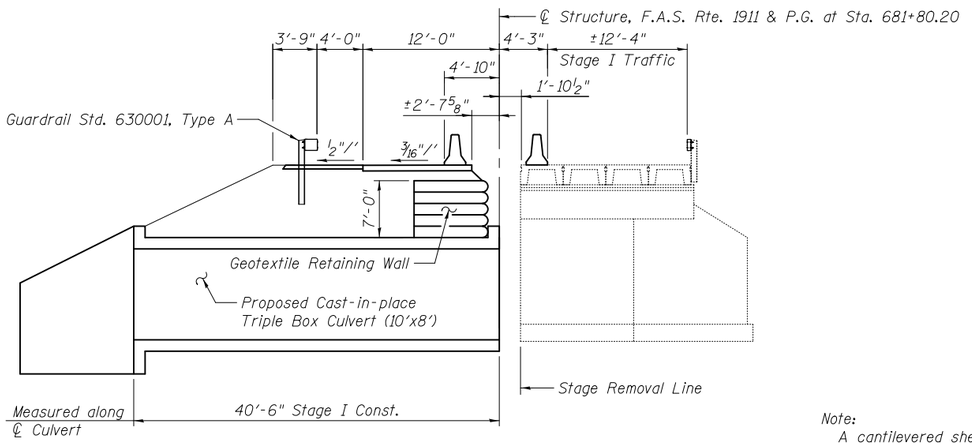
STAGE I REMOVAL

(Looking upstation)
Dimensions at rt. angles to ℄ F.A.S. Rte. 1911



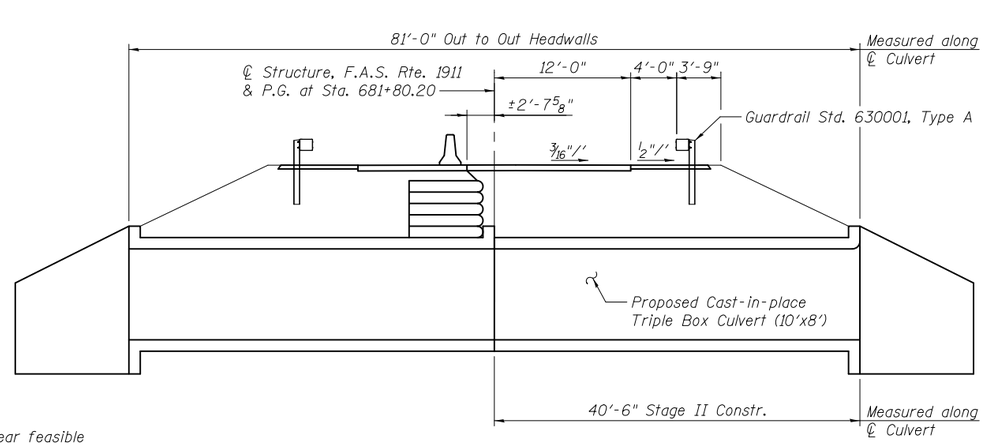
STAGE II REMOVAL

(Looking upstation)
Dimensions at rt. angles to ℄ F.A.S. Rte. 1911



STAGE I CONSTRUCTION

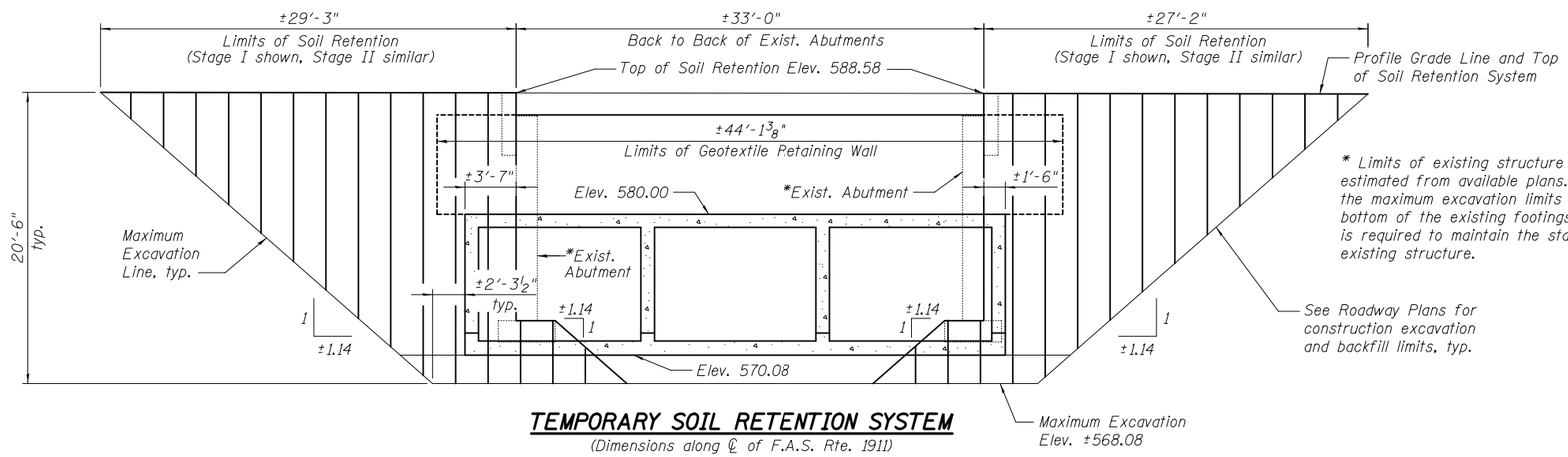
(Looking upstation)
Dimensions at rt. angles to ℄ F.A.S. Rte. 1911
unless noted otherwise



STAGE II CONSTRUCTION

(Looking upstation)
Dimensions at rt. angles to ℄ F.A.S. Rte. 1911
unless noted otherwise

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



TEMPORARY SOIL RETENTION SYSTEM

(Dimensions along ℄ of F.A.S. Rte. 1911)

** Limits of existing structure have been estimated from available plans. As shown, the maximum excavation limits are below the bottom of the existing footings. Soil retention is required to maintain the stability of the existing structure.*

Notes:
For details of Temporary Concrete Barrier see Sheet No. 5 of 9.
For details of Geotextile Retaining Wall see Sheet 4 of 9.
For quantity of Temporary Concrete Barrier see Roadway Plans.
Hatched areas indicate areas of removal to be paid for as Removal of Existing Structures. The existing structure, including footings, shall be removed at least 1'-0" below the proposed ground line and as required for construction of the culvert.

BILL OF MATERIAL

Item	Unit	Total
Geotextile Retaining Wall	Sq. Ft.	309
Temporary Soil Retention System	Sq. Ft.	727

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	CHECKED - CDB	REVISED -
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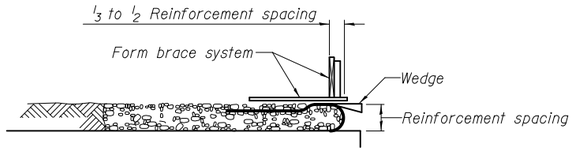
PLOT DATE = 01/16/15	CHECKED - JMH	REVISED -

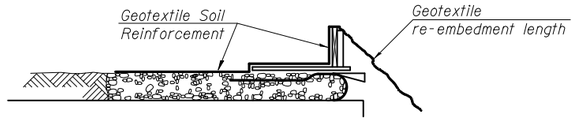
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS – 1
STRUCTURE NO. 091–2029
SHEET NO. 3 OF 9 SHEETS

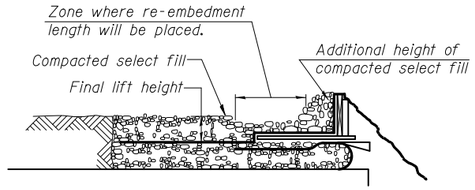
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	22
		CONTRACT NO. 78214		
	ILLINOIS	FED. AID PROJECT		



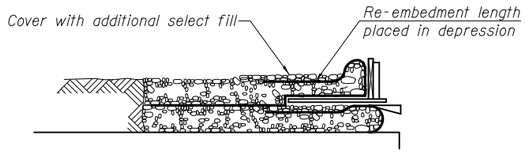
1. Place form brace system on completed reinforcement level; back from the finished fabric face a distance of 1/3 to 1/2 the geotextile reinforcement spacing.



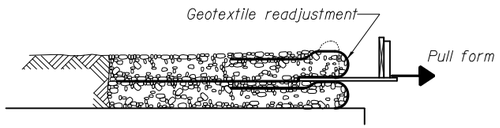
2. Position fabric so that the required geotextile re-embedment length extends over the top of the form brace and the design reinforcement width is placed with no slack against the previous level.



3. Compact select fill material in lifts to final lift height, create (±3″) depression in zone where re-embedment length will be located and place additional height of compacted select fill against form brace.



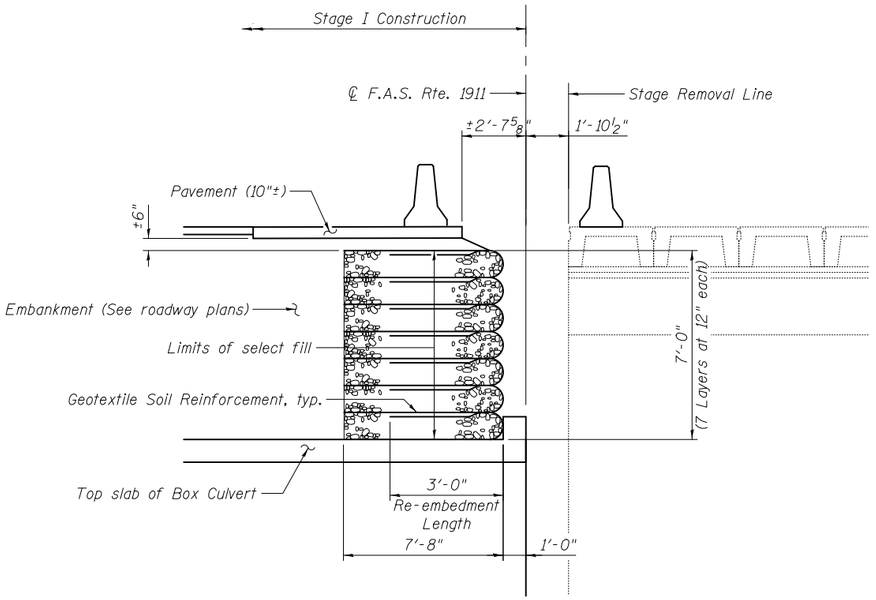
4. Fold geotextile re-embedment length back over form brace into zone where depression was made in select fill and place additional select fill (±3″) to embed geotextile and bring to final lift height.



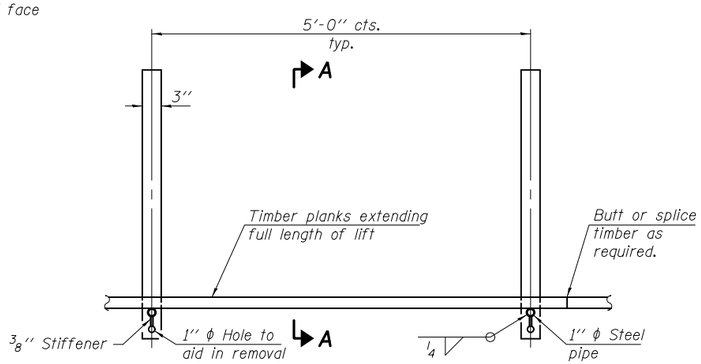
5. Pull form brace outward allowing geotextile face to slightly readjust to form tight round face level with plan reinforcement spacing.

TEMPORARY GEOTEXTILE WALL CONSTRUCTION SEQUENCE

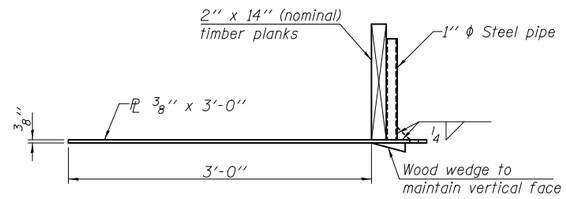
Note:
The geotextile soil reinforcement shall have a minimum allowable tensile strength (T min.) of 35 lb./in. as determined by the procedure described in the Special Provision. The computations supporting the determination of (T min.) shall be submitted to the engineer for approval.



GEOTEXTILE RETAINING WALL DETAIL



PLAN

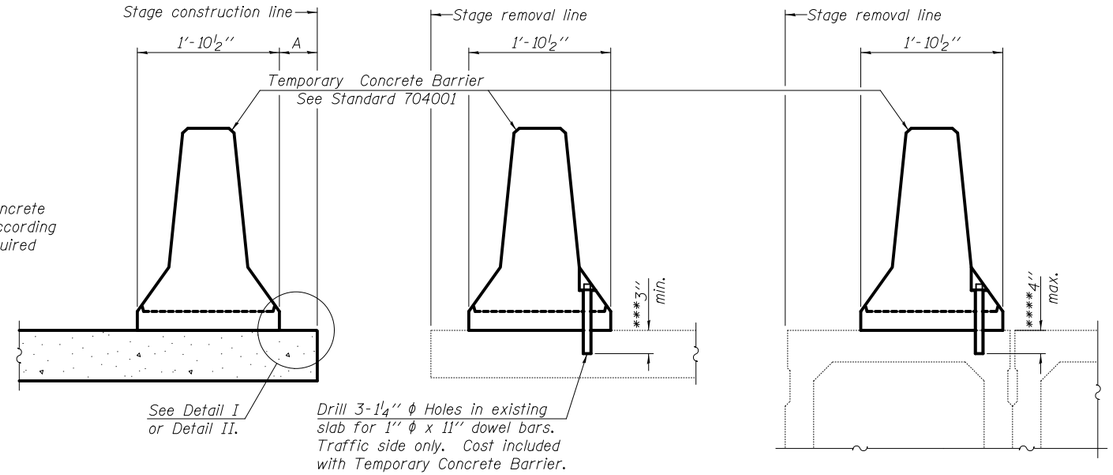


SECTION A-A

TEMPORARY GEOTEXTILE FORM BRACE DETAIL

Note:
This is a suggested detail, the Contractor is responsible for the design of the form brace system to be used.

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



NEW SLAB | EXISTING SLAB | EXISTING DECK BEAM OR CHANNEL BEAM

NOTES

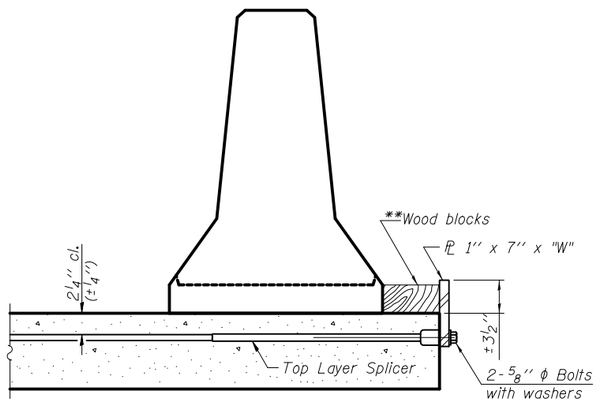
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1'' x 7'' x "W" steel ℄ to the top layer of couplers with 2-⅝'' ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1'' x 7'' x "W" steel ℄ to the concrete slab or concrete wearing surface with 2-⅝'' ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

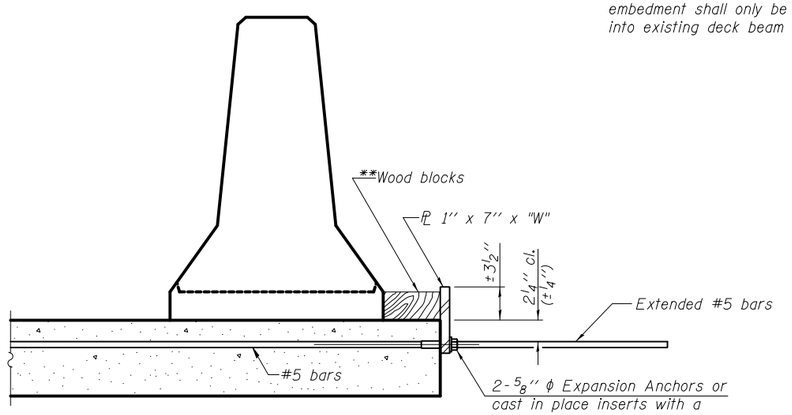
Cost of anchorage is included with Temporary Concrete Barrier.

The 1'' x 7'' x "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.

SECTIONS THRU SLAB OR BEAM



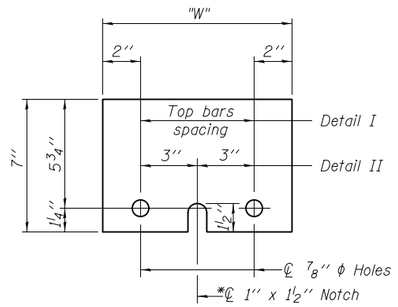
DETAIL I



DETAIL II

*** 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.



STEEL RETAINER ℄ 1'' x 7'' x "W"

* Required only with 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''

R-27 7-1-10

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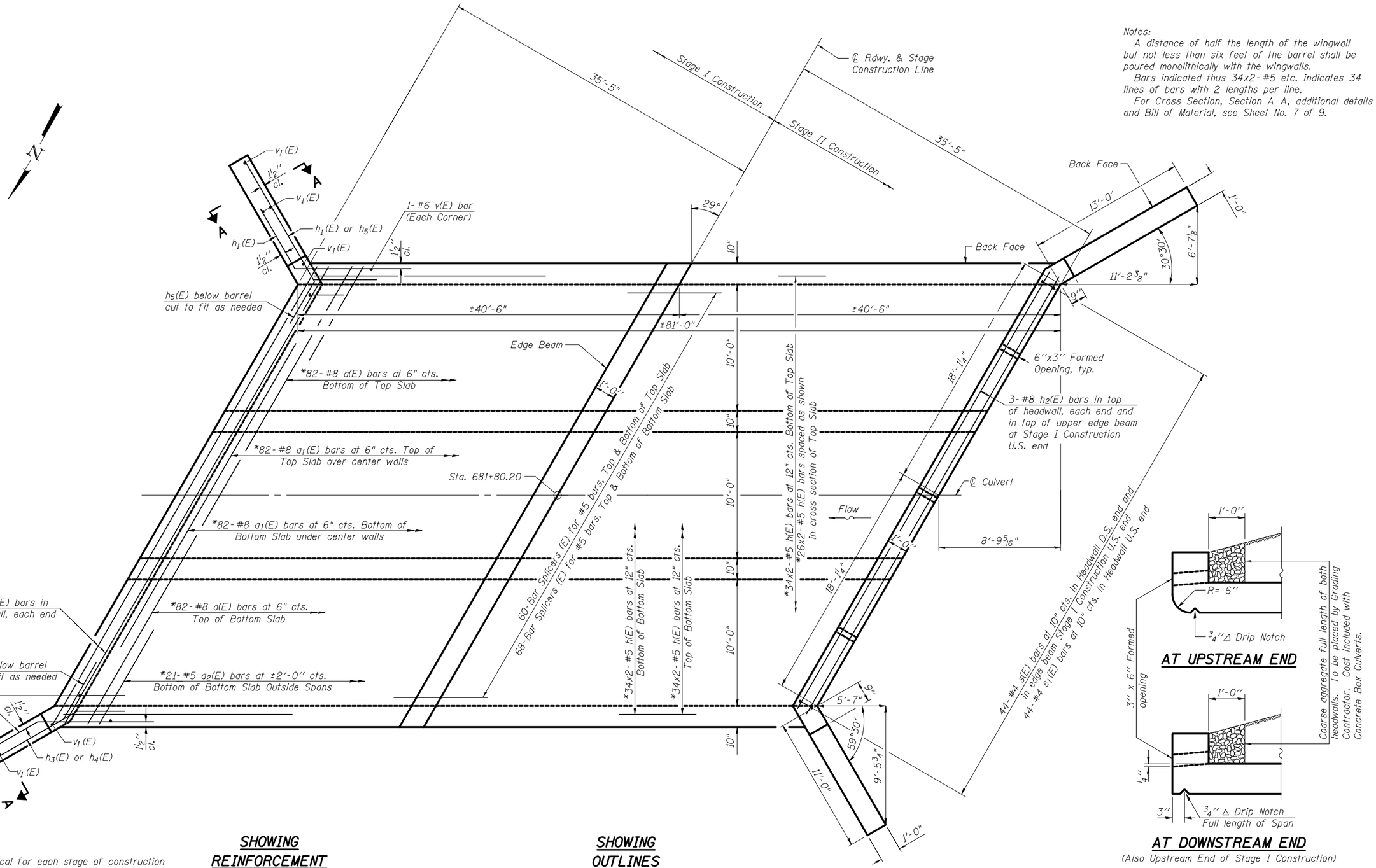
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 091-2029
SHEET NO. 5 OF 9 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	24
		CONTRACT NO. 78214		
	ILLINOIS	FED. AID PROJECT		

Notes:
A distance of half the length of the wingwall but not less than six feet of the barrel shall be poured monolithically with the wingwalls.
Bars indicated thus 34x2-#5 etc. indicates 34 lines of bars with 2 lengths per line.
For Cross Section, Section A-A, additional details and Bill of Material, see Sheet No. 7 of 9.



*Bars typical for each stage of construction for triple box.

SHOWING REINFORCEMENT

SHOWING OUTLINES

PLAN

DRAIN DETAIL

USER NAME =	DESIGNED - JTH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - CDB	REVISED -	
PLOT SCALE =	DRAWN - PRC	REVISED -	
PLOT DATE = 01/16/15	CHECKED - JTH	REVISED -	

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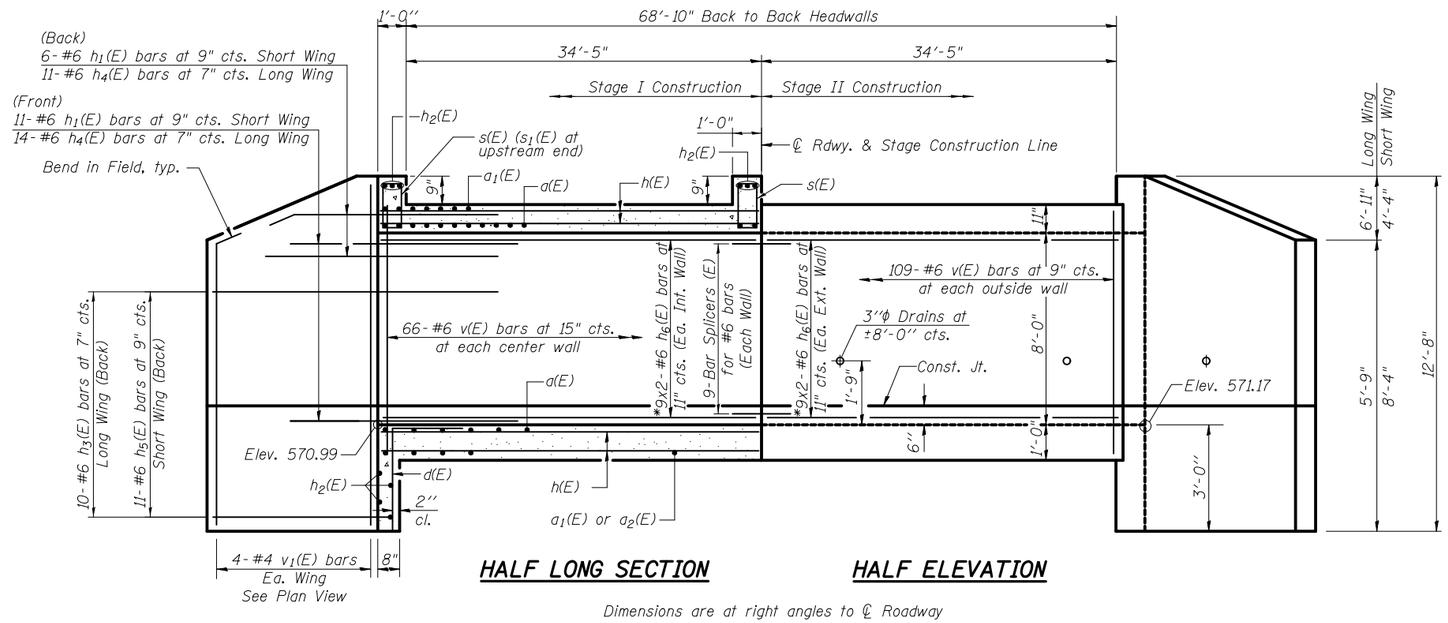
CULVERT DETAILS – 1
STRUCTURE NO. 091–2029
SHEET NO. 6 OF 9 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	25
		CONTRACT NO. 78214		
	ILLINOIS FED. AID PROJECT			

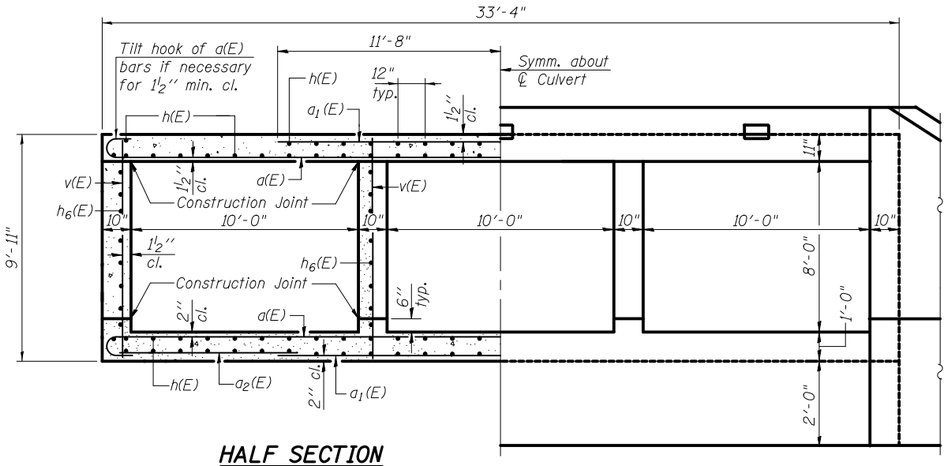


HALF LONG SECTION

HALF ELEVATION

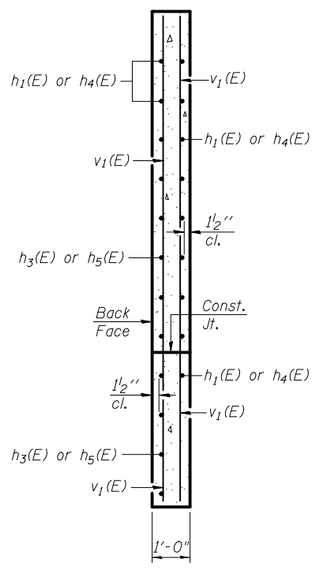
Dimensions are at right angles to ℄ Roadway

* Bars typical for each stage construction triple box

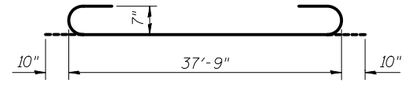


HALF SECTION THRU BARREL

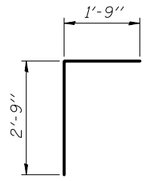
HALF END ELEVATION



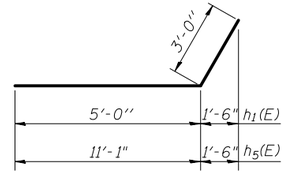
SECTION A-A



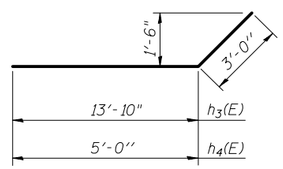
BAR a(E)



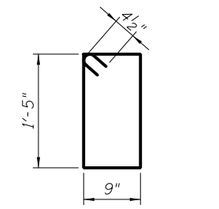
BAR d(E)



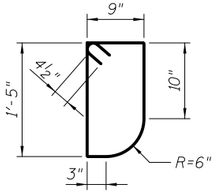
BARS h1(E) & h5(E)



BARS h3(E) & h4(E)



BARS s(E)



BARS s1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	328	#8	39'-5"	
a1(E)	328	#8	26'-8"	
a2(E)	84	#5	8'-8"	
d(E)	66	#4	4'-6"	
h(E)	512	#5	21'-8"	
h1(E)	34	#6	8'-0"	
h2(E)	15	#8	36'-5"	
h3(E)	20	#6	16'-10"	
h4(E)	50	#6	8'-0"	
h5(E)	22	#6	14'-1"	
h6(E)	144	#6	21'-11"	
v(E)	354	#6	9'-7"	
v1(E)	16	#4	12'-4"	
s(E)	88	#4	5'-1"	
s1(E)	44	#4	4'-11"	
Reinforcement Bars, Epoxy Coated			Pound	84,260
Concrete Box Culverts			Cu. Yd.	296.8

Notes:
Bars indicated thus 9x2-#6 etc. indicates 9 lines of bars with 2 lengths per line.
For Culvert Plan view and location of Section A-A, see Sheet No. 6 of 9.
For Bar Splicer Assembly Details, see Sheet No. 8 of 9.

MIN. BAR LAP

#5 bars - 2'-7"
#6 bars - 3'-6"

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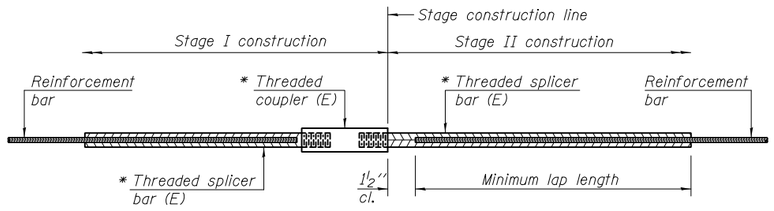
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT DETAILS – 2
STRUCTURE NO. 091–2029
SHEET NO. 7 OF 9 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	26
		CONTRACT NO. 78214		
	ILLINOIS	FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

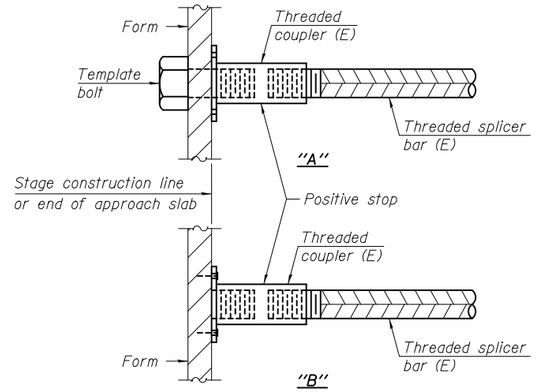
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"	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 + 1½" + thread length

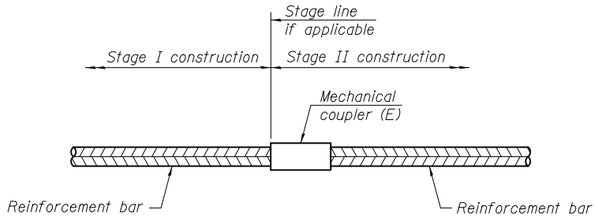
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Top Slab	5	60	3
Culvert Walls	6	36	4
Bottom Slab	5	68	3



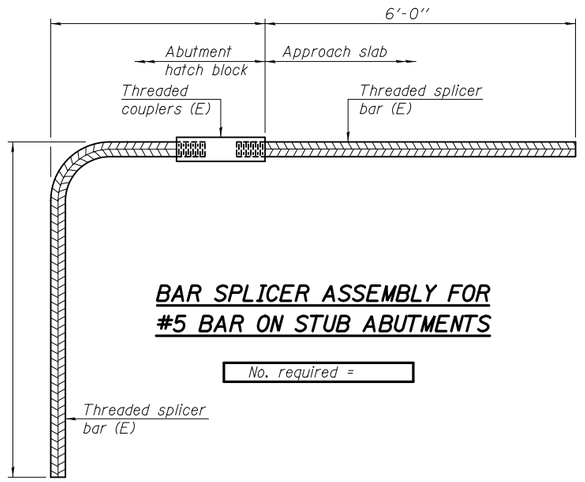
INSTALLATION AND SETTING METHODS

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



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 8-31-12

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DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 091-2029
SHEET NO. 8 OF 9 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	27
		CONTRACT NO. 78214		
	ILLINOIS	FED. AID PROJECT		

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Nine Materials

Bridge Foundation
Boring Log
Sheet 1 of 1

FAS 1911 (Old US Hwy 51) Over Drury Creek

Route: FAS 1911 Structure Number: 091-0043 Date: 6/2/2011
Section 11A-BR Bored By: R Moberly
County: Union Location: 0.8 mile North of Cobden Checked By: R Graeff

Boring No 1-S
Station 682+32
Offset 11' Rt CL
Ground Surface 588.3 Ft

Surf Wat Elev: 573.5
Ground Water Elevation
when Drilling
At Completion
At: Hrs:

DEPTH	BLOWS	Qu tsf	W%	DEPTH	BLOWS	Qu tsf	W%
16" Asphalt	Cored			Cored 22.0 to 27.0 feet			
586.8				100% Recovery, 83% RQD			
Medium, moist to very moist, brown mottlec grey, Silty Clay Loam A-6	Augered			561.3			
	1						
	2	0.7S	24	Hard, dry, grey, Clay Shale			
	1			Cored 27.0 to 32.0 feet			
5.0	1			50% Recovery; 12% RQD	30.0		
	1	0.6B	27				
	1						
581.3				556.3			
Soft, very moist, grey, Silty Clay Loam A-4	WH			Hard, dry, grey, Clay Shale			
	1	0.4B	27				
	WH			Cored 32.0 to 37.0 feet			
10.0	WH			100% Recovery; 7% RQD	35.0		
	1	0.3B	30				
	WH						
576.3				551.3			
Stiff, moist, grey, Silt Loam to Silty Clay Loam A-4	2						
	6	1.2S	21	Bottom of hole = 37.0 Feet			
	7			No free water observed			
573.8							
Very soft, very moist, grey, Silt Loam A-4	15.0 WH			Elevation referenced to BM at SE corner of bridge; Elev.= 587.9 Ft.	40.0		
	WH	0.1B	26				
	1			Borehole advanced with hollow stem auger (8" O.D, 3.25" I.D.)			
571.3							
Medium to stiff, moist, brown mottled grey, Silty Clay A-6	1			To convert "N" values to "N60" multiply by 1.25			
	2	1.0B	25				
	1						
568.8							
Medium, very moist, grey and brown, Clay A7-6 with broken Sandstone gravel	20.0 2				45.0		
	4	0.8E	20				
	7						
566.3							
Hard, dry, grey, Clay Shale 565.8	100/0.5"						
Hard, dry, grey, Clay Shale							
Cored 22.0 to 27.0 feet							
25.0					50.0		

N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

ILLINOIS DEPARTMENT OF TRANSPORTATION
District Nine Materials

Bridge Foundation
Boring Log
Sheet 1 of 1

FAS 1911 (Old US Hwy 51) Over Drury Creek

Route: FAS 1911 Structure Number: 091-0043 Date: 6/3/2011
Section 11A-BR Bored By: R Moberly
County: Union Location: 0.8 mile North of Cobden Checked By: R Graeff

Boring No 2-S
Station 681+26
Offset 12' Lt CL
Ground Surface 588.2 Ft

Surf Wat Elev: 573.5
Ground Water Elevation
when Drilling 571.2
At Completion
At: Hrs:

DEPTH	BLOWS	Qu tsf	W%	DEPTH	BLOWS	Qu tsf	W%
8.5" Asphalt over 10" concrete	Cored			Hard, dry, grey, Clay Shale			
586.7				Cored 24.0 to 29.0 feet			
Medium, moist to very moist, brown, Silty Clay A-6	Augered			93% Recovery; 45% RQD			
	1						
	1	0.8B	21				
	1			559.2			
583.7				Hard, dry, grey, Clay Shale	30.0		
Medium, very moist, brown mottled grey, Silty Clay Loam A-6	5.0 1			Cored 29.0 to 34.0 feet			
	1	0.7S	23				
	1			80% Recovery; 33% RQD			
581.2							
Soft, very moist, brown mottled grey, Silt Loam to Silty Clay Loam A-4	1						
	1	0.4B	24				
	1						
				554.2			
10.0	WH			Hard, dry, grey, Clay Shale	35.0		
	WH	0.3B	28				
	WH			Cored 34.0 to 39.0 feet			
576.2							
Stiff, moist, grey, Silt Loam A-4	3			80% Recovery; 9% RQD			
	8	1.4S	21				
	10						
				549.2			
573.7							
Very soft, wet, grey, Silt Loam A-4	15.0 WH			Bottom of hole = 39.0 Feet	40.0		
	1	0.1B	29				
	WH			Free water observed at 17.0 Feet			
571.2							
Very soft, wet, grey, Silt Loam A-4 with sand layers	WH			Elevation referenced to BM at SE corner of bridge; Elev.= 587.9 Ft			
	WH	0.0B	25				
	WH			Borehole advanced with hollow stem auger (8" O.D, 3.25" I.D.)			
568.7							
Stiff, moist to very moist, brown mottled grey, Silty Clay Loam A-6	20.0 WH			To convert "N" values to "N60" multiply by 1.25	45.0		
	1	1.1B	22				
	2						
566.2							
Soft, very moist, brown mottled grey, Silty Clay Loam A-6	WH						
	WH	0.4B	28				
	WH						
564.2							
Hard, dry, grey, Clay Shale	25.0 100/0.5"				50.0		

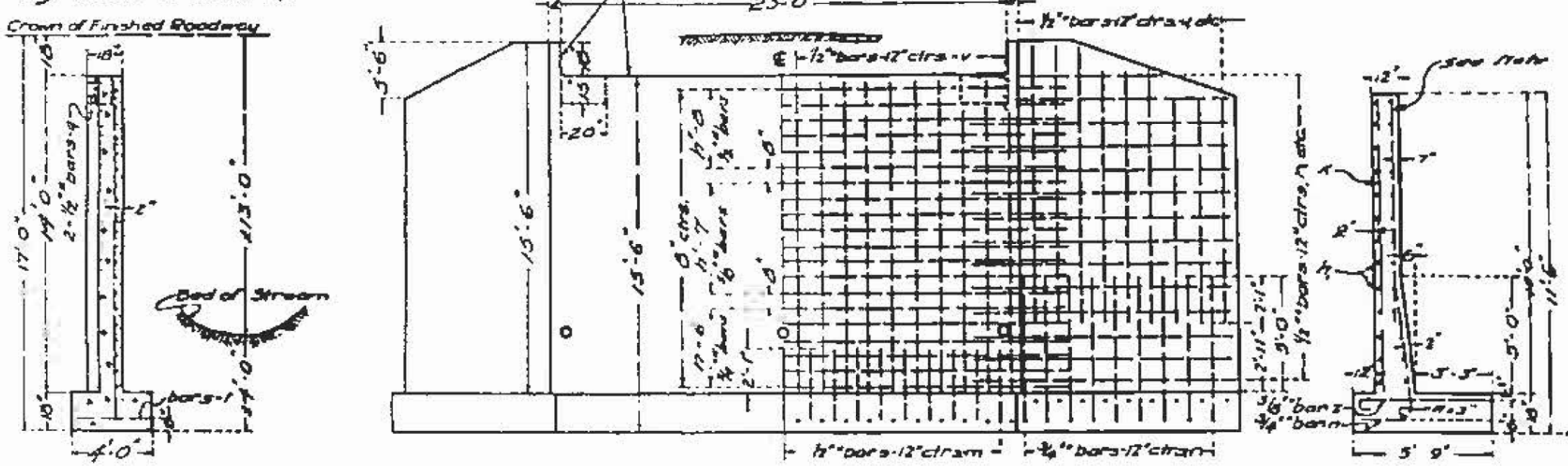
N-Std Pentr Test: 2" OD Sampler,140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

Note:
For B.M. see road plans
h, h_2 and h_3 bars to be placed 2" from stream side of wings and supported by bars "K" and "K_1".

STATE OF ILLINOIS
STATE HIGHWAY DEPARTMENT
R. C. ABUTMENTS FOR GIRDER BRIDGE
HEIGHT OVER ALL 17 FT.

Sheet No. 2
2 sheets

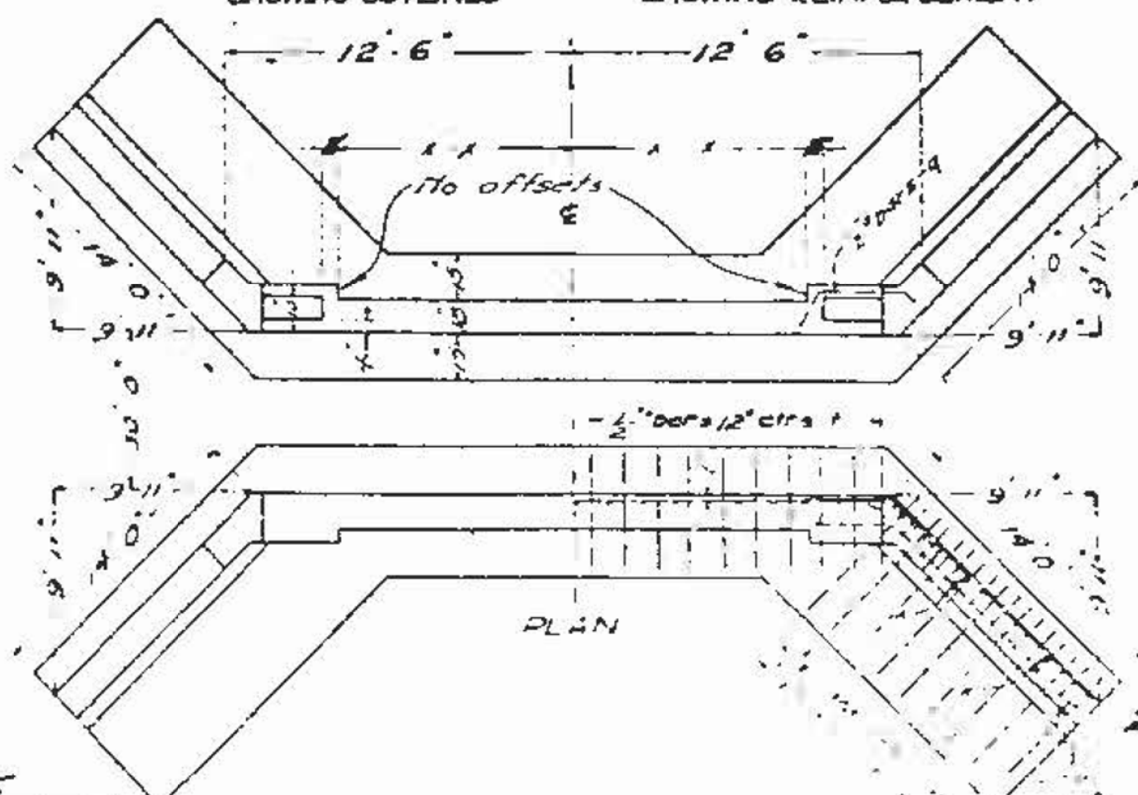
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	ILL	14	20	38	39



SECTION OF ABUTMENT

FRONT ELEVATION
SHOWING OUTLINES SHOWING REINFORCEMENT

END OF WING



PLAN

HORIZONTAL STEEL - MAIN WALL

Bars		Length of Bridge Seat							
		19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"	25'-0"	26'-0"
h	No	7	8	5	6	8	8	9	10
	Size	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Cts	7½	6½	10"	9"	8"	7½	7"	6½
h'	No	7	7	5	6	7	6	6	6
	Size	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Cts	7½	6½	10"	9"	8"	7½	7"	6½
h''	No	8	11	7	7	8	8	9	10
	Size	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	Cts	7½	6½	10"	9"	8"	7½	7"	6½
[illegible]		12"	12"	18"	18"	18"	18"	18"	18"

Class A concrete to be used throughout. Proportions 1:2½:5

BILL OF MATERIAL

Bars	No.	Size	Length
[illegible]	49	½"	13'-6"
[illegible]	8	½"	12'-0"
[illegible]	12	½"	10'-6"
[illegible]	16	½"	9'-0"
[illegible]	16	½"	7'-6"
[illegible]	12	¾"	29'-0"
[illegible]	14	[illegible]	28'-0"
[illegible]	16	[illegible]	27'-6"
[illegible]	4	[illegible]	12'-0"
[illegible]	4	[illegible]	14'-0"
[illegible]	40	[illegible]	16'-0"
[illegible]	8	[illegible]	13'-9"
[illegible]	8	[illegible]	8'-6"
[illegible]	33	[illegible]	[illegible]
[illegible]	32	[illegible]	[illegible]
[illegible]	49	[illegible]	3'-9"
[illegible]	32	[illegible]	[illegible]
[illegible]	4	[illegible]	[illegible]
[illegible]			4970
[illegible]			937

STATION 681+80

SECTION-11
UNION COUNTY
FED. AID PROJ. NO. 14

ENGINEER OF DESIGN

FOR INFORMATION ONLY

MODJESKI and MASTERS
Experience great bridges.

USER NAME =	DESIGNED - JTH	REVISED -
	CHECKED - CDB	REVISED -
PLOT SCALE =	DRAWN - AEC	REVISED -
PLOT DATE = 01/16/15	CHECKED - JMH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
STRUCTURE NO. 091-0043

SCALE: NTS | SHEET NO. 1 OF 6 SHEETS

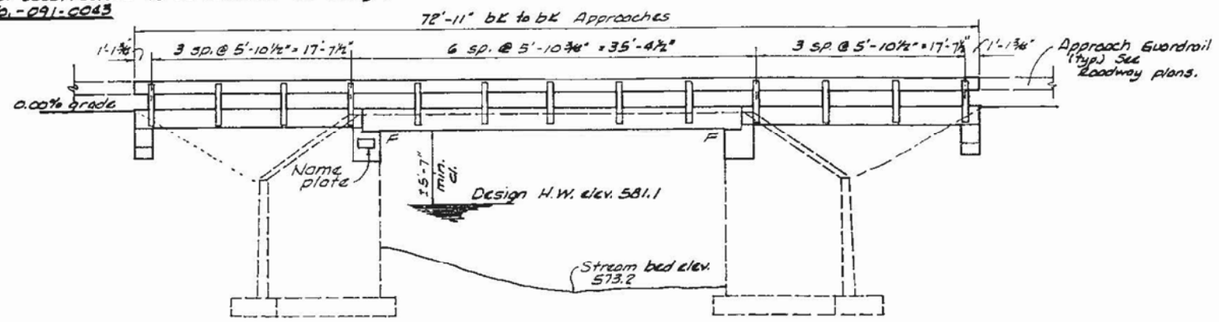
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	29

CONTRACT NO. 78214
ILLINOIS FED. AID PROJECT

B.M. = "O" cut north end of West headwall of exist. culvert 16' right sta. 676+66, elev. 588.88.
Existing bridge: One span R.C. thru girder 33' long on closed R.C. abutments. 20' roadway. Built 1921 Super. and portions of substructure to be removed. No salvage.
Str. No. - 091-0043

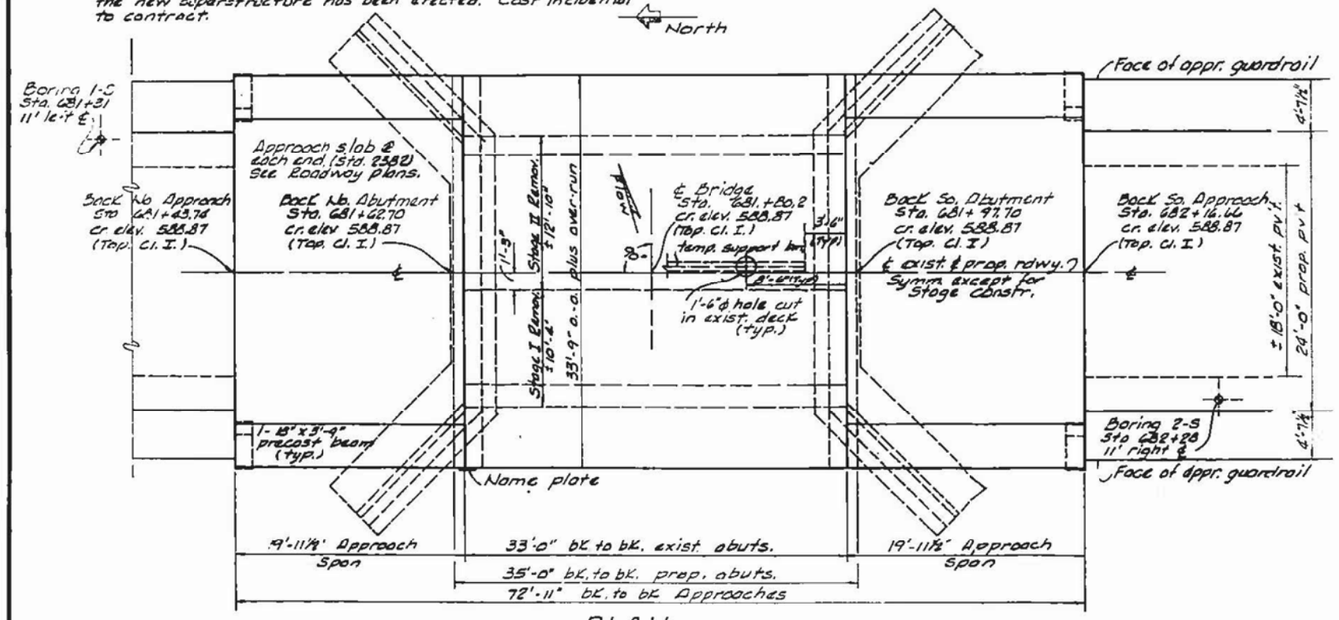
Route	Section	County	Total Sheets	Sheet No.
FAS 1911	11A-BR	Union	17	12
Station	681+80.8			
FHWA Reg. 5	Illinois	PROJECT B2-S-911(103)		

Bridge Sheet 1 of 6 sheets



ELEVATION

NOTE:
To prevent damage to the abutments from unrestrained earth pressure, adequate struts shall be placed at the abutments before the existing superstructure is removed and shall remain in place until the new superstructure has been erected. Cost incidental to contract.



PLAN

GENERAL NOTES:

1. Plan dimensions and details relative to the exist. structure have been taken from exist. plans and are subject to normal const. variations. It shall be the responsibility of Contractor to verify such dimensions and details in the field and make necessary approved adjustments prior to constr. or ordering materials. Such variations shall not be cause for additional compensation for a change in scope of work, however, the Contractor will be paid for the quantity actually furnished, at the bid price for the work.
2. See Proposal for boring data.
3. Expansion bolts shall consist of self-drilling expansion anchors and ¾" x 12" hooked bolts.
4. Field reinforcement bars shall conform to the req. of AASHTO M-31 or M-53, Grade 60.
5. Limits of "WATERPROOFING MEMBRANE SYSTEM" shall be 12" beyond both ends of deck and cut to cut of deck.
6. For constr. staging and schedule for Cl I "Placement, see Special Provisions.
7. Item "BITUMINOUS CONCRETE SURFACE COURSE, MIXTURE 'D', CLASS I" includes only the quantity between back of abuts. For Cl I" on approaches, approach slab quantities, pavement removal, etc., See Roadway Plans.
8. Item "REMOVAL OF EXIST. SUPERSTRUCTURE" shall be in accord. with Art. 501.02. of the Stand. Specs. Concrete removal of req. portions of the substructure shall be in accord. with Art. 501.03 of the Stand. Specs.

TOTAL BILL OF MATERIAL

Item	Unit	Appr. Sp.	Super	Sub	Total
Precast Conc. Bridge Slab	Sq. ft.	299	1111	-	1410
Temporary Support System	L. Sum	-	-	-	1
Temporary Bridge Rail	lin. ft.	-	-	-	70
Waterproof. Membrane System	Sq. yd.	-	131	-	131
Class X Concrete	cu. yd.	1.6	-	17.3	18.9
Steel Railing - Type S	lin. ft.	-	146	-	146
Reinforcement Bars	lb.	-	-	1490	1490
Removal of Exist. Superstructure	ea.	-	1	-	1
Concrete Removal	cu. yd.	-	-	7.6	7.6
Bit. Conc. Surf. Crse. Mix. D, Cl. 2"	Tons	-	10	-	10
Expansion Bolts ¾ inch	ea.	-	-	34	34
Name Plate	ea.	-	-	-	1

WATERWAY INFORMATION

Drainage area (1.59 sq. mi.)	1018 Acres
Design discharge (50 yr. flood)	1670 c.f.s.
Existing opening (below 50 yr. H.W.)	213 sq. ft.
Required opening (below 50 yr. H.W.)	213 sq. ft.
Proposed opening (below 50 yr. H.W.)	213 sq. ft.
Created head for design discharge	0.2 ft.
100 yr. discharge	2190 c.f.s.
Created head for 100 yr. discharge	0.6 ft.
100 yr. frequency H.W. elev. 581.9	

DESIGN STRESSES

FIELD UNITS	PRECAST UNITS
f'c = 3500 psi	fc = 1800 psi
fy = 60,000 psi	fs = 20,000 psi
	n = 8

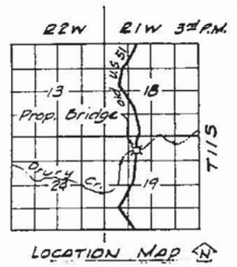
Design specs: AASHTO 1977 with 1978 and 1979 interims. 25 lbs/sq. ft. allowance made for future resurfacing.
Loading HS 20-44

09-01-0-8
MOSES, JOHNSON, SANDOVAL & ASSOC. LTD.

STATION 681+80.2
REBUILT 19__ BY
STATE OF ILLINOIS
FAS 1911 SEC. 11A-BR.
FA PROJECT BR-S-911(103)
LOADING HS-20
STRUCTURE NO. *

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Engineer of Bridges & Traffic Structures

NAME PLATE
Std. 2113
1 required
* Structure No. to be supplied by District.



GENERAL PLAN & ELEVATION

PROJECT B2-S-1911 (103)
RTE FAS 1911 (Old U.S. 51)
SECTION 11A-BR over Drury Creek
COUNTY Union
STATION 681+80.2

FOR INFORMATION ONLY

USER NAME =	DESIGNED - JTH	REVISED -	
	CHECKED - CDB	REVISED -	
PLOT SCALE =	DRAWN - AEC	REVISED -	
PLOT DATE = 01/16/15	CHECKED - JMH	REVISED -	

MODJESKI and MASTERS
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

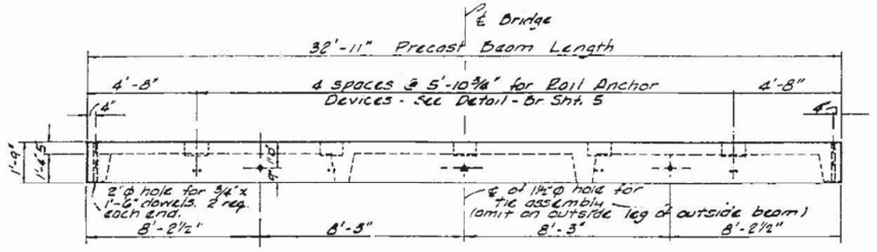
EXISTING STRUCTURE PLANS
STRUCTURE NO. 091-0043

SCALE: NTS | SHEET NO. 2 OF 6 SHEETS

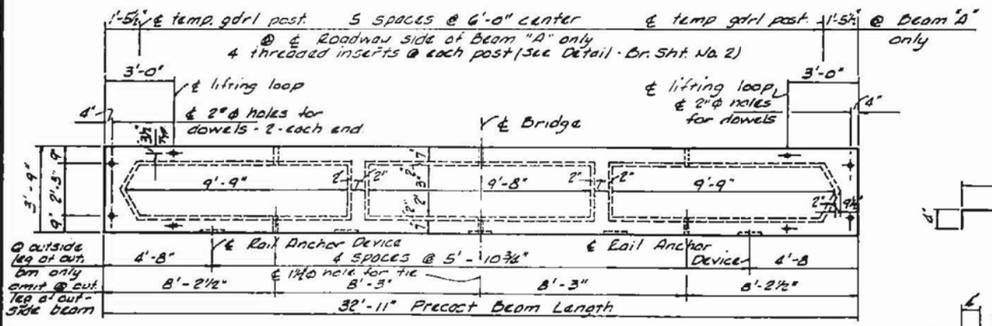
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	30
		CONTRACT NO. 78214		
	ILLINOIS FED. AID PROJECT			

Route	Section	County	Tot. Sheets	Sht. No.
FAS Rte 1911	11A-B2	Union	17	14
Station 681+80.2				
FHWA Reg. 5	Illinois	FROJ.		

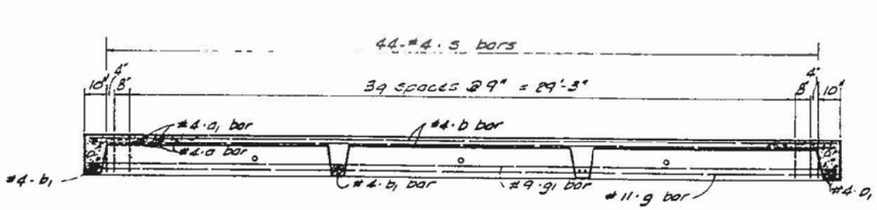
Bridge Sheet 3 of 6 sheets



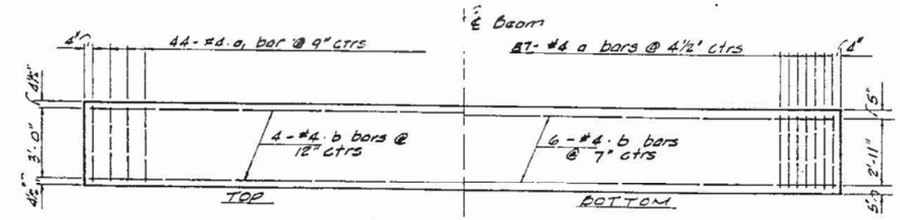
ELEVATION



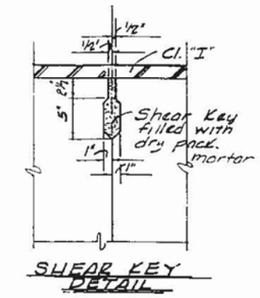
PLAN



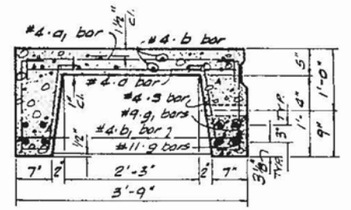
LONGITUDINAL SECTION



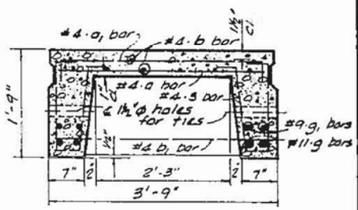
SLAB REINFORCEMENT PLAN



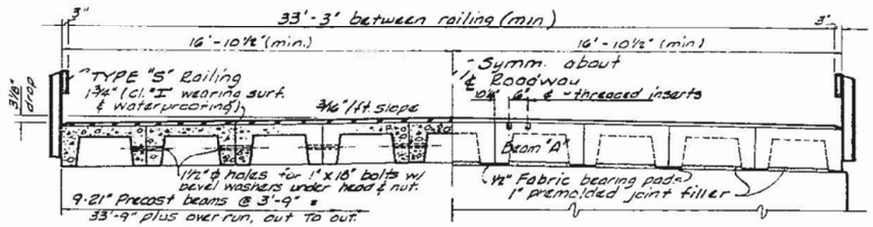
SHEAR KEY DETAIL



SECTION THRU EXTERIOR BEAM

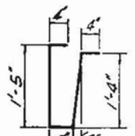


SECTION THRU INTERIOR BEAM

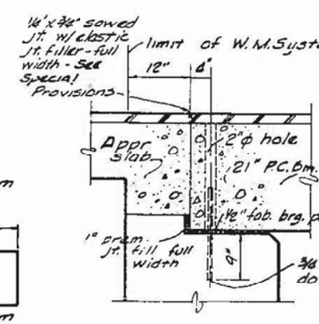


HALF CROSS-SECTION

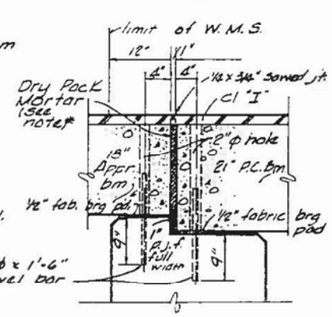
HALF END VIEW looking South



½" FABRIC BEARING PAD



SECTION @ ℄ Roadway



SECTION @ Approach Precast Beam

* The 1" joint shall be packed with the same mix as Shear Keys. This dimension may vary to accomodate tolerance in beam lengths.

BAR LIST - ONE BEAM				
Bar	No.	Size	Length	Shape
a	87	#4	3'-3"	
a,	44	#4	4'-0"	
b	10	#4	32'-6"	
b,	8	#4	3'-6"	
g	4	#11	32'-6"	
g,	4	#9	32'-6"	
s	88	#4	3'-10"	

BILL OF MATERIAL - SUPERSTR.		
Item	Unit	Quant.
Prec. Conc. Bridge Slab	Sq. ft	1111
Waterproofing Mem. Sys.	Sq. yd.	131
Bit. Conc. Surf., Mix "D", Cl. "I"	Ton	10
Removal of Exist. Superstructure	ea	1

NOTE: For Precast beam notes and lifting loop details, See Bridge Sheet No. 4.

SUPERSTRUCTURE DETAILS

RTE FAS 1911 (OLD U.S. 51)
SECTION 11A-B2 over DEVLY CREEK
COUNTY Union
STATION 681+80.2

NEON, SANDOVAL & ASSOC LTD

FOR INFORMATION ONLY

MODJESKI and MASTERS
Experience great bridges.

USER NAME =	DESIGNED - JTH	REVISED -	
	CHECKED - CDB	REVISED -	
PLOT SCALE =	DRAWN - AEC	REVISED -	
PLOT DATE = 01/16/15	CHECKED - JMH	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

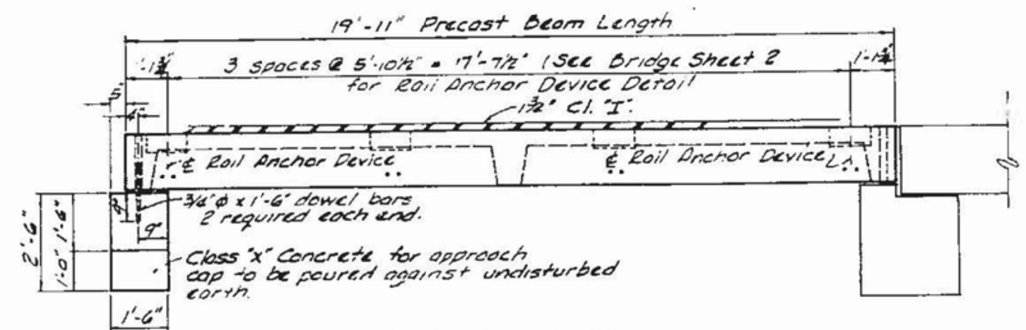
EXISTING STRUCTURE PLANS
STRUCTURE NO. 091-0043

SCALE: NTS | SHEET NO. 3 OF 6 SHEETS

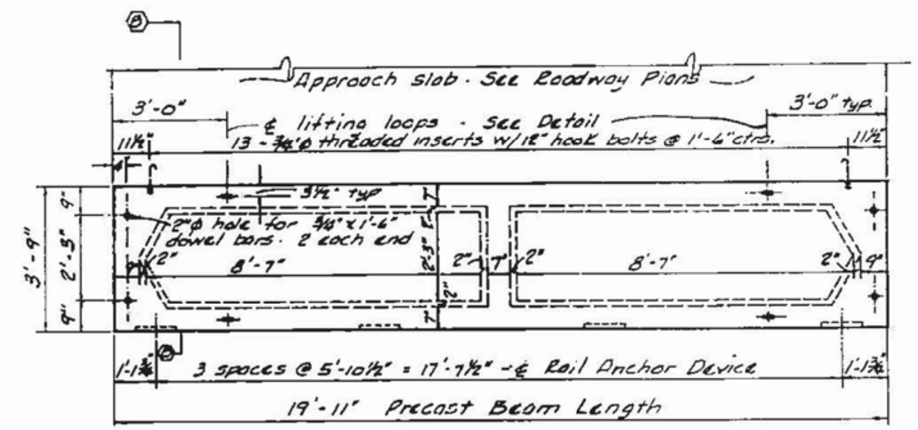
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	31
		CONTRACT NO. 78214		
		ILLINOIS	FED. AID PROJECT	

Route	Section	County	Total Sheets	Sheet No.
FAS R11	11A-BE	Union	17	15
Station 681+80 8				

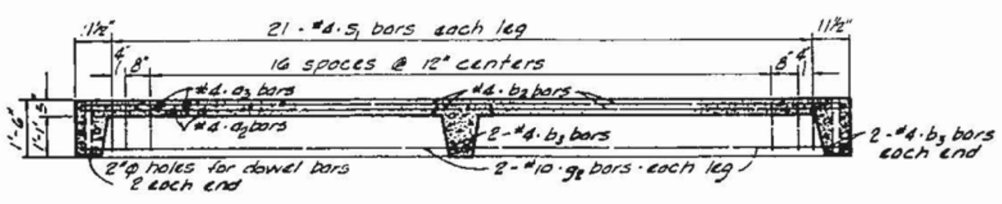
Bridge Sheet 4 of 6 sheets



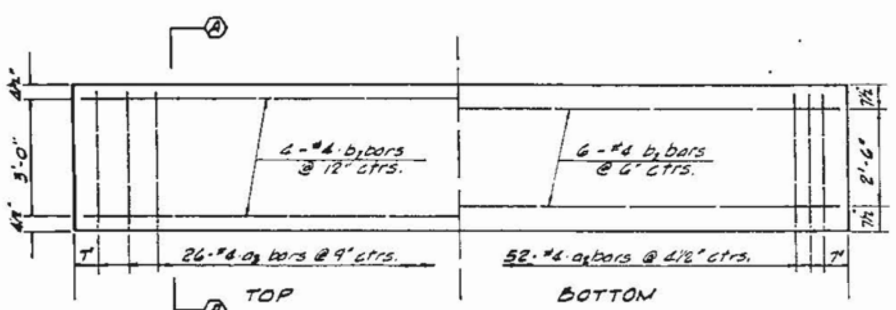
HALF ELEVATION



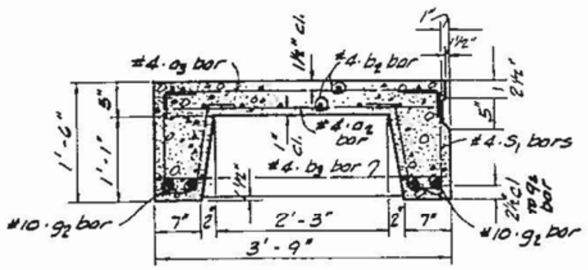
PARTIAL PLAN



LONGITUDINAL SECTION



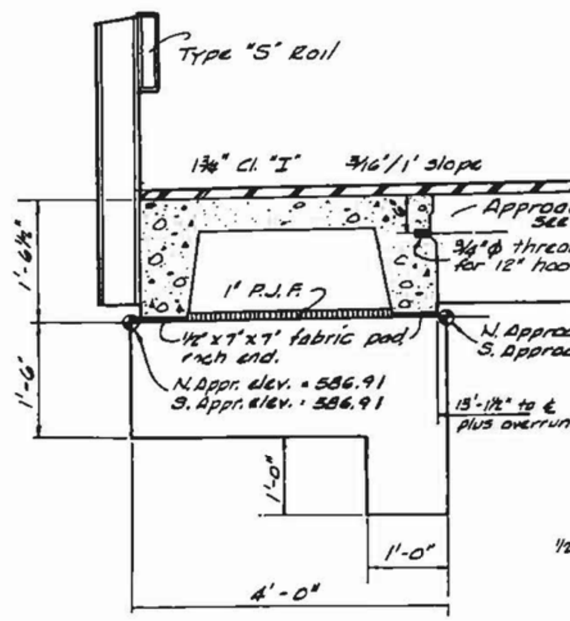
SLAB REINFORCEMENT



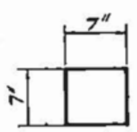
SECTION A-A

GENERAL NOTES - Superstructure & Approach Spans

1. Lifting loops for precast units shall be ½"φ, 6x25 class wire rope with fiber core, and shall have a min. ultimate tensile strength of 21,000 lbs. Loops shall be burned off after each beam has been erected.
2. The cost for reinforcement and accessories cast into the precast units, the bearing pads, the P.J.F., the furnishing, the drilling for, placing & grouting anchor dowels shall be included in the contract unit price for "PRECAST CONCRETE BRIDGE SLAB".
3. The 12" hooked bolts shall be included in the contract unit price for "PRECAST CONCRETE BRIDGE SLAB".
4. Longitudinal shear keys and 1" transverse joint at approach span precast beams shall be packed with a very dry mix of 2:1 sand and P.C. mortar.
5. After beams have been erected, holes for the dowel anchor shall be drilled into the substructure and the anchor dowels grouted in place.



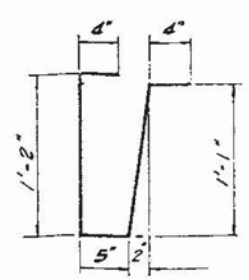
SECTION B-B



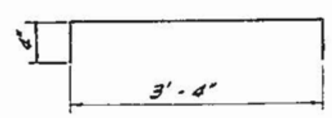
½" Fabric bearing pad 8 required

BAR LIST - ONE PRECAST BEAM				
Bar	No.	Size	Length	Shape
o_2	52	#4	3'-3"	
o_3	26	#4	4'-0"	
b_2	10	#4	19'-6"	
b_3	6	#4	3'-6"	
g_2	4	#10	19'-6"	
s_1	42	#4	3'-4"	

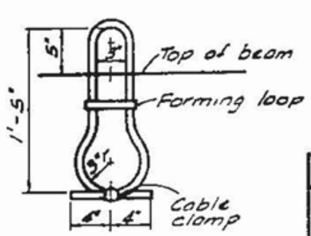
BILL OF MATERIALS - APPROACH SPANS		
Item	unit	Quantity
Precast Concrete Bridge Slab	Sq. ft.	299
Class "X" Concrete	cu.yd.	1.6



"S_1" Bar



"o_3" bar



LIFTING LOOP DETAIL
16 required (approach span)
36 required (bridge span)

APPROACH SPAN DETAILS

RTE FAS 1911 (old U.S. 51)
SECTION 11A-BR over DRURY CREEK
COUNTY Union
STATION 681+80.2

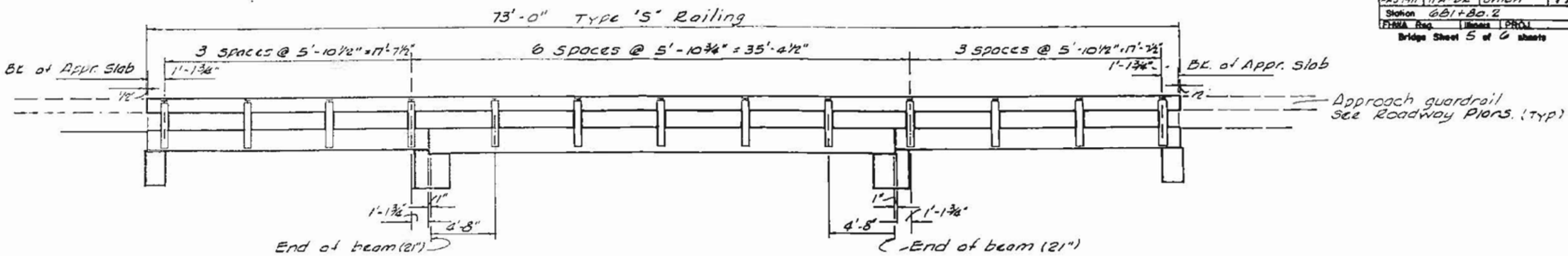
MOSS, JOHNSON, SANDOVAL & ASSOC. LTD.

FOR INFORMATION ONLY

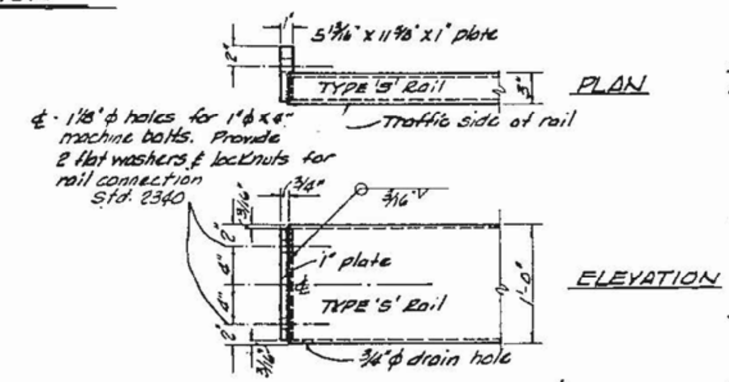
MODJESKI and MASTERS Experience great bridges.	USER NAME =	DESIGNED - JTH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING STRUCTURE PLANS STRUCTURE NO. 091-0043	F.A.S. RTE. 1911	SECTION 11B-2
		CHECKED - CDB	REVISED -			COUNTY UNION	TOTAL SHEETS 44, SHEET NO. 32
	PLOT SCALE =	DRAWN - AEC	REVISED -			CONTRACT NO. 78214	
	PLOT DATE = 01/16/15	CHECKED - JMH	REVISED -		SCALE: NTS / SHEET NO. 4 OF 6 SHEETS	ILLINOIS FED. AID PROJECT	

Route	Section	County	Tot. Shts.	Sht. No.
FAS 911	11A-BR	Union	17	16
Station 681+80.2				
FHWA Reg.	Illinois PROJ.			

Bridge Sheet 5 of 6 sheets



ELEVATION

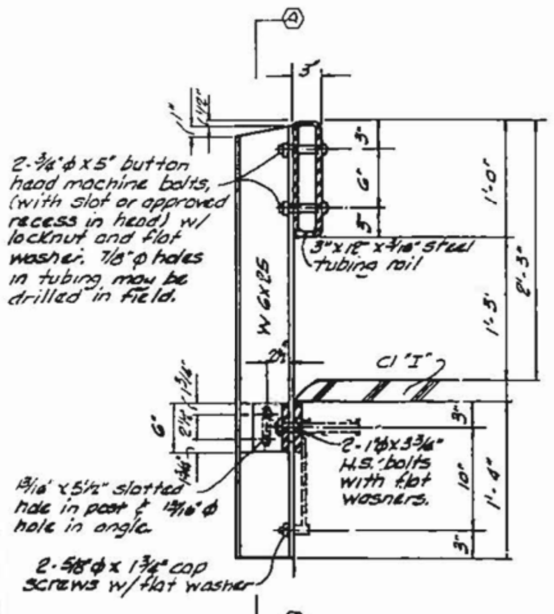


END OF RAIL DETAILS

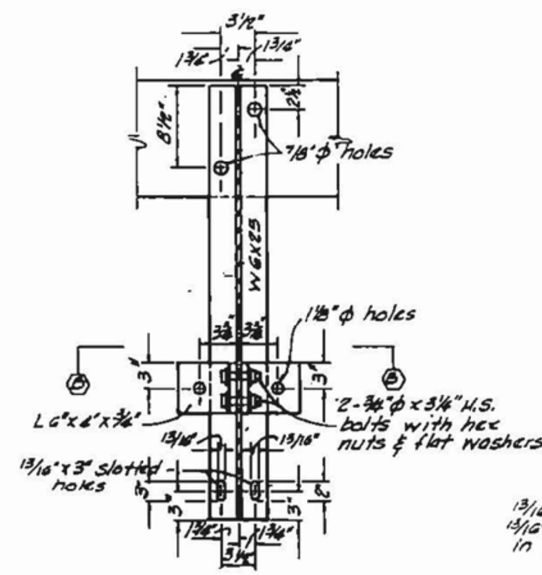
RAILING NOTES:

1. Hollow structural steel shall conform to the requirements of ASTM designation A-500 Gr. 'B'. or A-501 Structural Steel Tubing. All other steel shapes and plates shall conform to the requirements of AASHTO M-183, except posts & ℄s shall conform to AASHTO M-223, Grade 50.
2. Bolts, nuts, and cap screws shall conform to the requirements of ASTM A-307, except for high-strength bolts, nuts and washers noted, which shall conform to AASHTO M-164.
3. All bolts, nuts, cap screws, washers and lock washer shall be galvanized in accordance with AASHTO M-232.
4. All posts, railing, rail splices, anchor devices & angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized railing shall not be painted.
5. Railing shall be in accordance with Sec. 508 of the Std. Specs, except as noted, and shall be paid for at the contract unit price per lineal foot of "STEEL RAILING, TYPE 'S'".
6. All field drilled holes shall be coated with an approved zinc rich paint before erection.
7. The ¾"φ high strength bolts used to connect the 6"x4"x¾" angles to the posts shall be tightened in accordance with Art. 507.04(g)(3) of the Std. Specs. The 1"φ high strength bolts connecting the angles to the concrete shall be tightened to a snug fit, and given an additional ⅛ turn. The ⅝"φ cap screws in bottom of posts shall be tightened to a snug fit only.

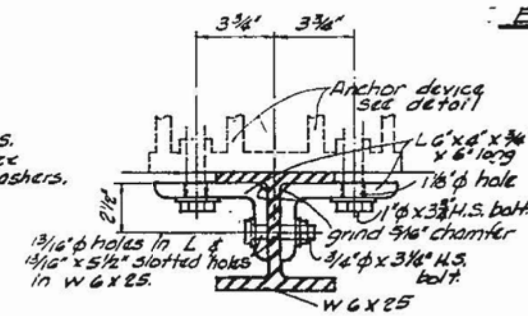
8. The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Sec. 714.08, Type "B" or place ⅛" fabric bearing pad between post and concrete.



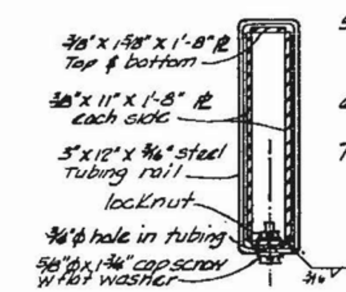
SECTION @ RAIL POST



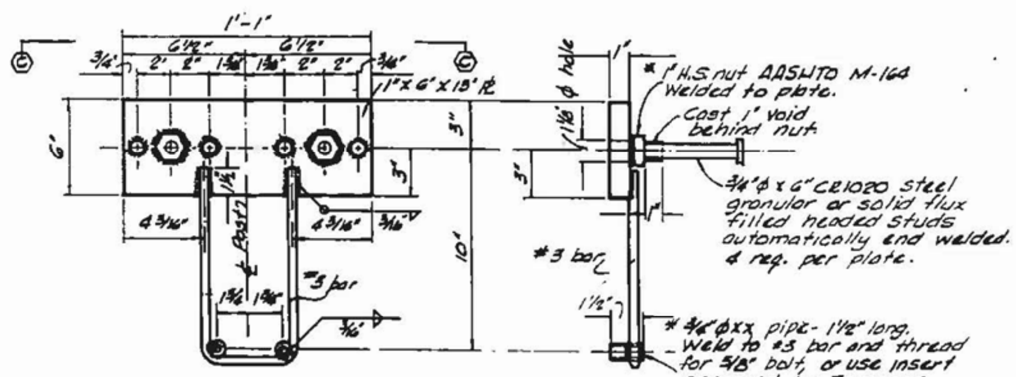
SECTION A-A



SECTION B-B



SECTION @ RAIL SPLICE

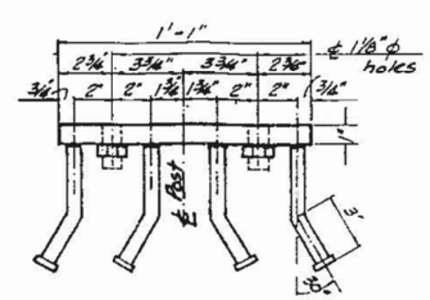


REAR VIEW

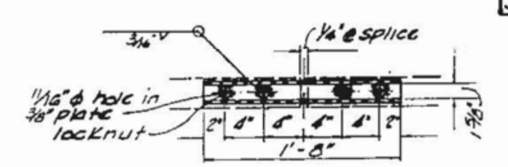
SIDE VIEW

ANCHOR DEVICE DETAIL

* threaded areas shall be plugged or blocked during casting of beam



SECTION C-C



PLAN - BOTTOM SPLICE PLATE

BILL OF MATERIAL		
Item	Unit	Quantity
Steel Railing - Type 'S'	lin. ft.	146'0"

MOSS, JOHNSON, SANDOVAL & ASSOC. LTD.

RAILING DETAILS

RTE FAS 1911 (old U.S 51)
SECTION 11 A-BR over DRURY CREEK
COUNTY Union
STATION 681 + 80.2

FOR INFORMATION ONLY

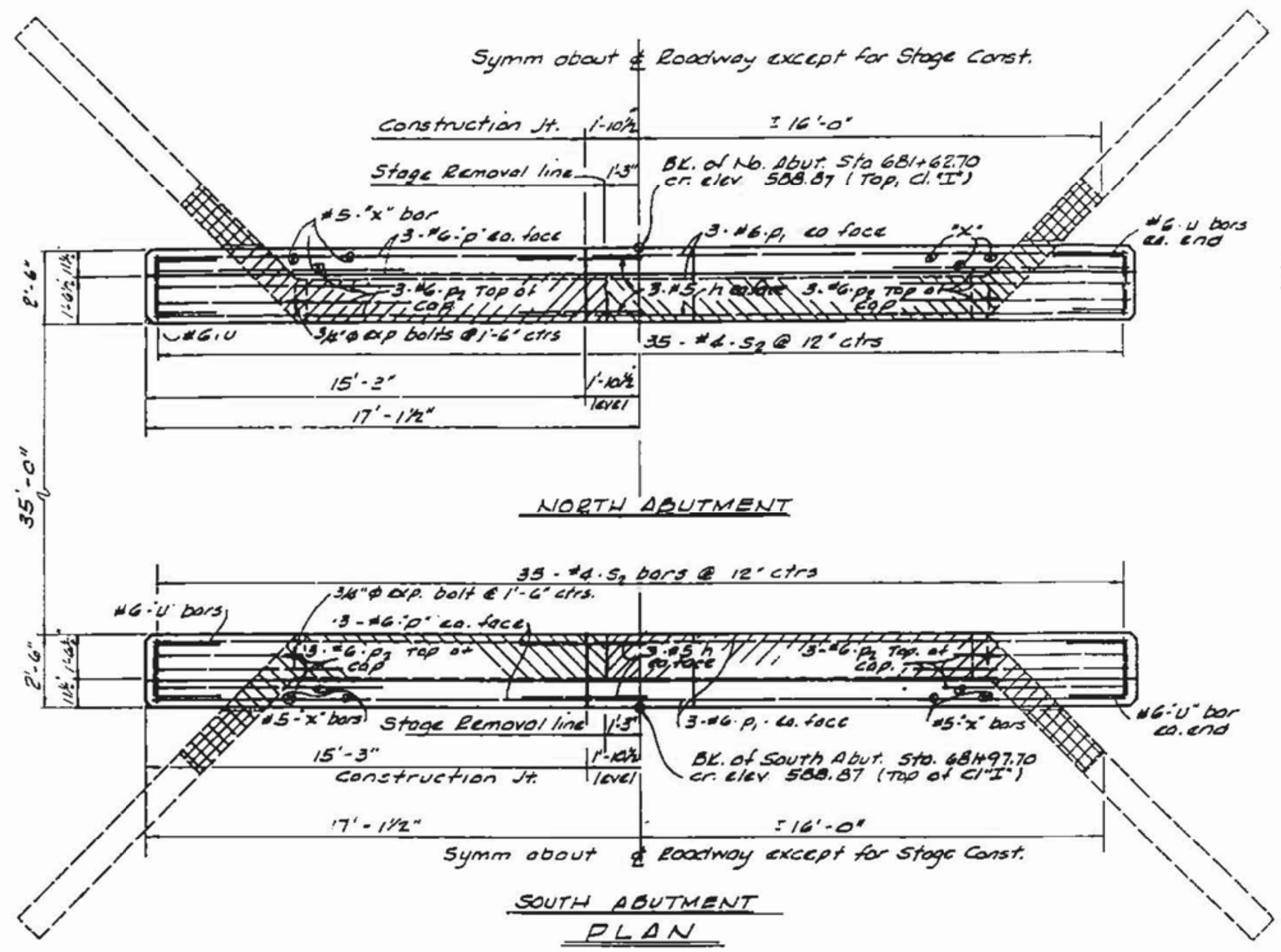
MODJESKI and MASTERS Experience great bridges.	USER NAME =	DESIGNED - JTH	REVISED -
		CHECKED - CDB	REVISED -
	PLOT SCALE =	DRAWN - AEC	REVISED -
	PLOT DATE = 01/16/15	CHECKED - JMH	REVISED -

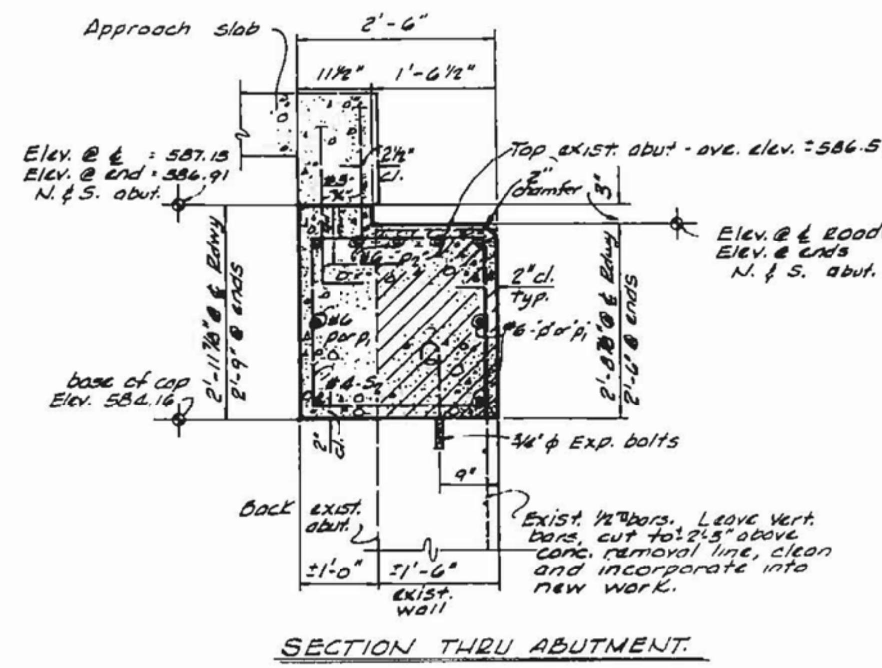
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
STRUCTURE NO. 091–0043

SCALE: NTS | SHEET NO. 5 OF 6 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	33
		CONTRACT NO. 78214		
	ILLINOIS FED. AID PROJECT			

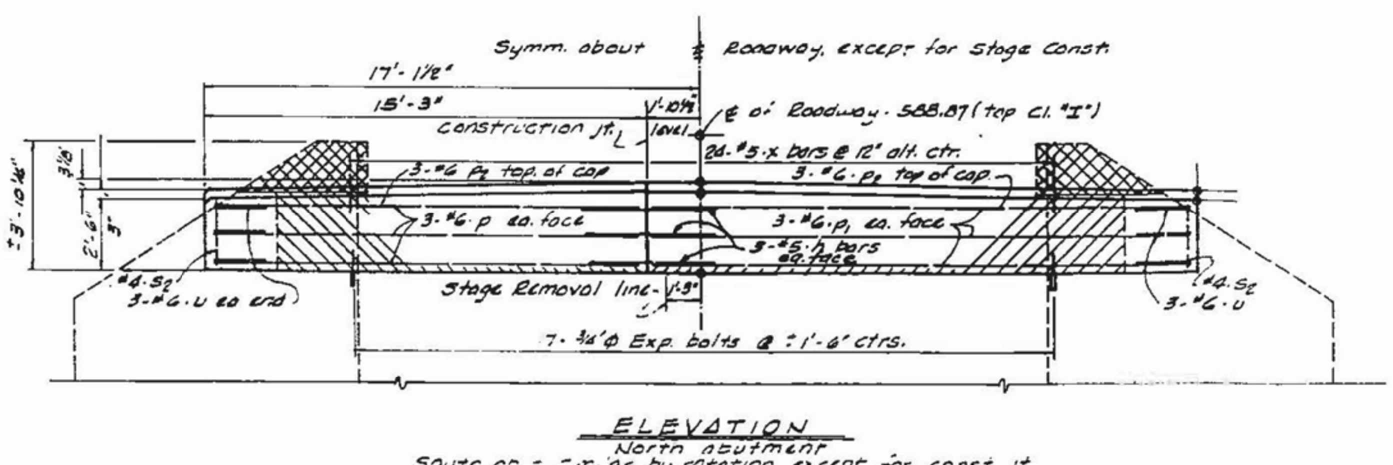


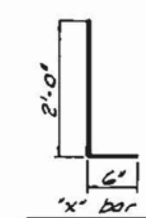


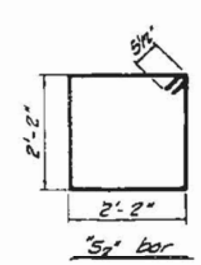
BILL OF MATERIAL - TWO ABUTMENTS				
Bar	No.	Size	Length	Shape
h	12	#5	4'-0"	┘
p	12	#6	15'-0"	—
p1	12	#6	18'-9"	—
p2	12	#8	8'-0"	—
S2	70	#4	9'-7"	▭
u	12	#6	6'-3"	⊏
x	48	#5	2'-6"	L

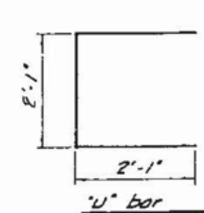
Class "X" Concrete	cu. yds.	17.3
Reinforcement bars	lbs	1490
Concrete Removal	cu. yds.	7.6
Expansion bolts - ¾"φ	ea.	34

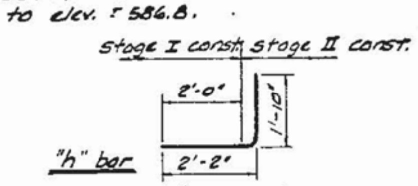
NOTE: Remove hatched portions of abutments and wings to elev. 584.17. Remove cross-hatched portions of wings to elev. ± 586.8.











"h" bars shall conform to the requirements of AASHTO M-31 or M53, Grade 40. These bars to be lapped with "p" bars during Stage I const.; straightened and lapped with "p1" bars during Stage II construction.

SUBSTRUCTURE DETAILS

RTE FAS 1911 (Old U.S. 51)
SECTION 11A-BR over DRURY CREEK
COUNTY Union
STATION 681+80.2

MOSS, JOHNSON, SANDOVAL & ASSOC LTD.

FOR INFORMATION ONLY

USER NAME =	DESIGNED - JTH	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	CHECKED - CDB	REVISED -	
PLOT SCALE =	DRAWN - AEC	REVISED -	
PLOT DATE = 01/16/15	CHECKED - JMH	REVISED -	

MODJESKI and MASTERS Experience great bridges.

EXISTING STRUCTURE PLANS
STRUCTURE NO. 091–0043

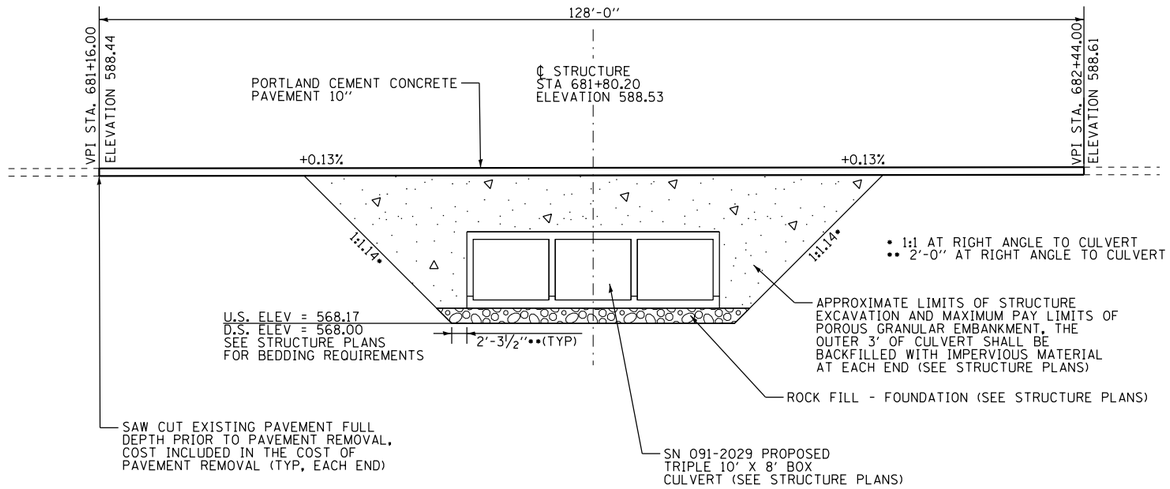
SCALE: NTS | SHEET NO. 6 OF 6 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	34

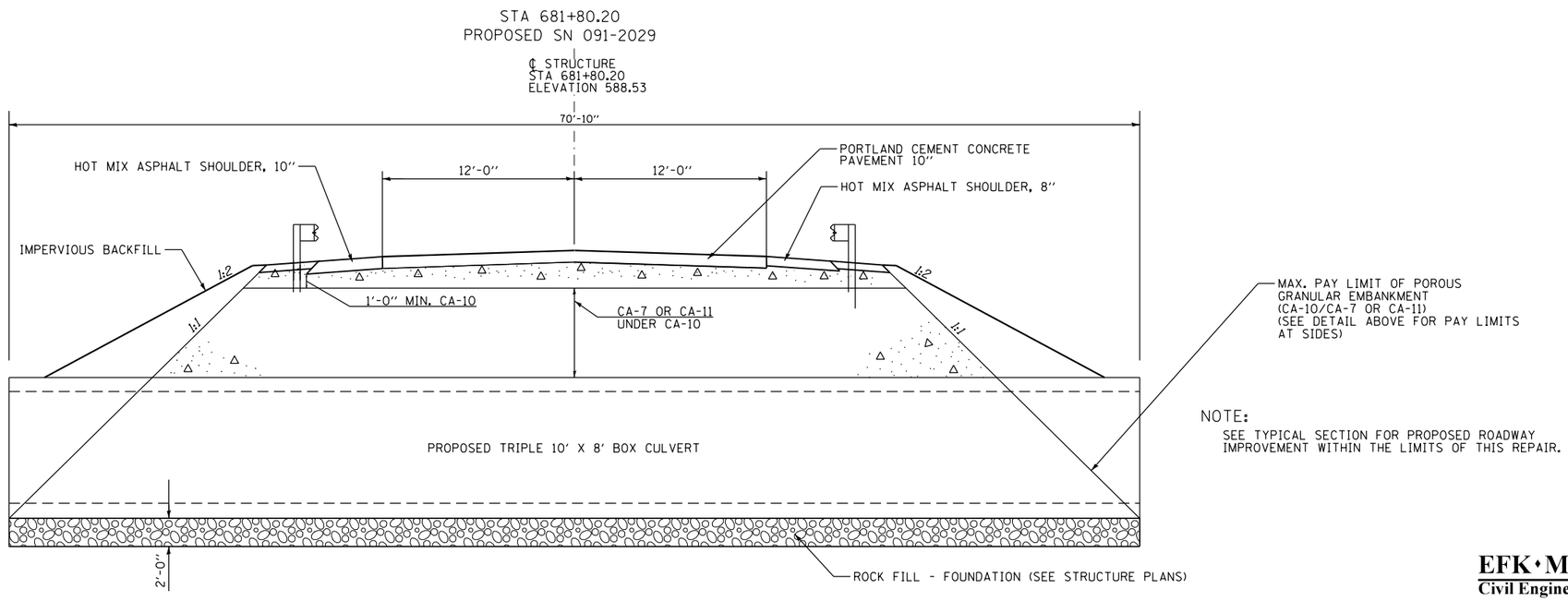
CONTRACT NO. 78214

ILLINOIS FED. AID PROJECT

POROUS GRANULAR EMBANKMENT SECTION AT STRUCTURE REPLACEMENT STA 681+80.20



POROUS GRANULAR EMBANKMENT TYPICAL



NOTE:
SEE TYPICAL SECTION FOR PROPOSED ROADWAY IMPROVEMENT WITHIN THE LIMITS OF THIS REPAIR.

EFK•Moen, LLC
Civil Engineering Design

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	PLOT DATE = 1/16/2015	DATE - 1/15/15	REVISED -

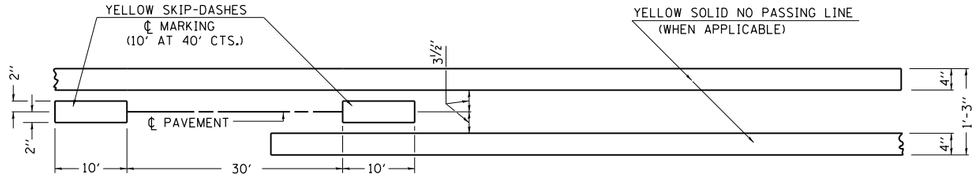
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS

SCALE: N.A. | SHEET 1 OF 3 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	35
		CONTRACT NO. 78214		
		ILLINOIS	FED. AID PROJECT	

PAVEMENT MARKING DETAILS



TYPICAL SPACING

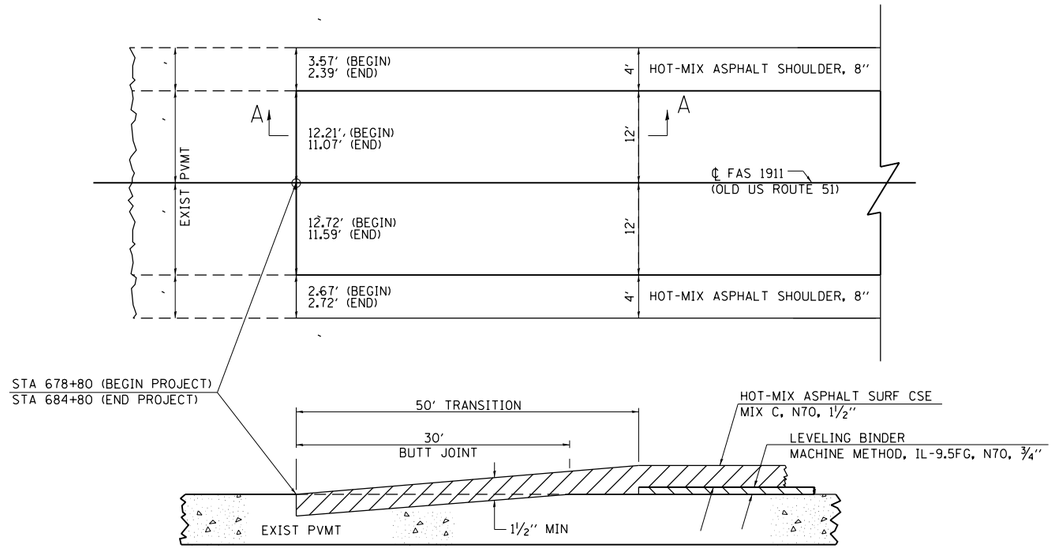
PAINT PAVEMENT MARKING-LINE 4″			
STA. - STA.	SOLID EDGE-LINE WHITE	SKIP-DASH CENTERLINE YELLOW	SOLID NO PASSING LINE YELLOW
	FOOT		
678+59.50 - 685+23.48 (LT)	664′		
677+99.50 - 685+65.74 (CL)			1532′
678+04.52 - 685+07.50 (RT)	703′		

REVISIONS

REDRAWN	2-15-89
REVISED	8-19-94
REVISED	3-26-08
REVISED	

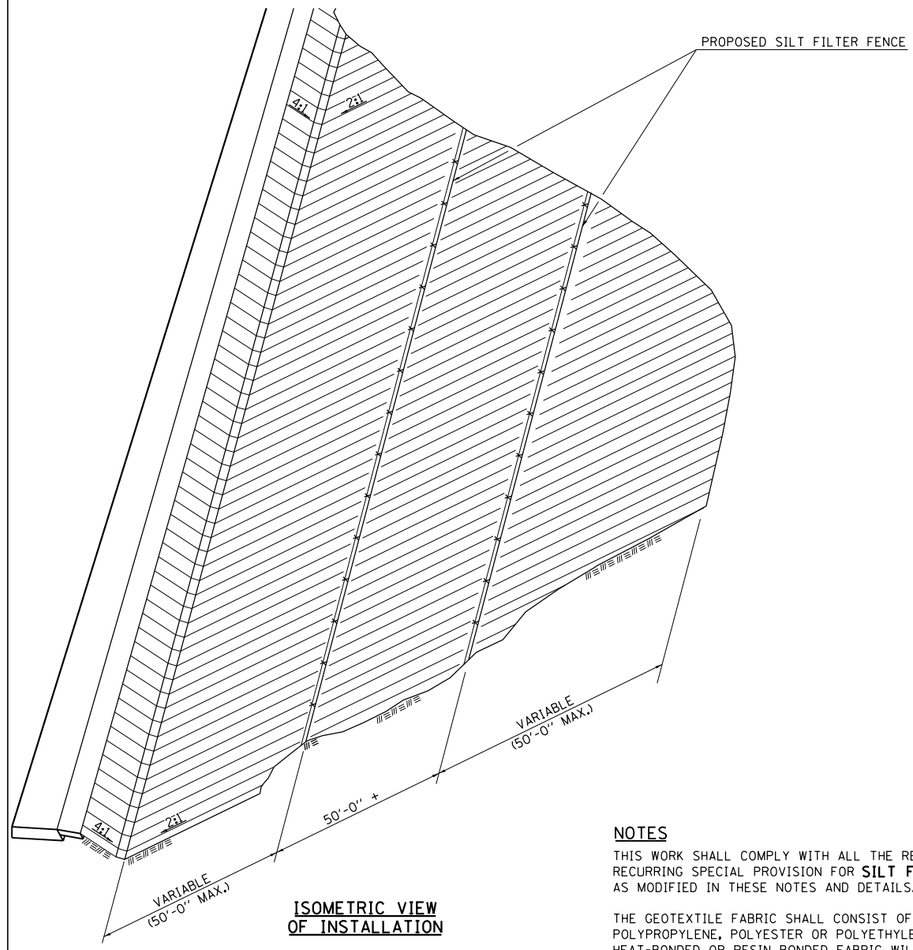
STD. 9-31

BUTT JOINT

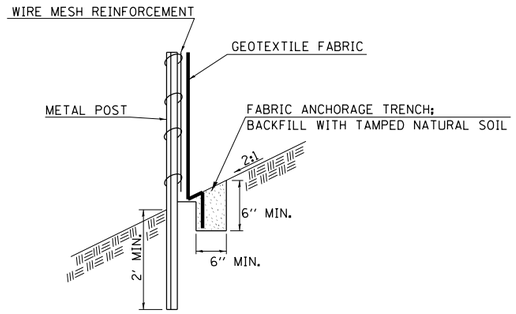


SECTION A-A

DETAIL OF SILT FILTER FENCE



ISOMETRIC VIEW
OF INSTALLATION



ELEVATION VIEW

NOTES

THIS WORK SHALL COMPLY WITH ALL THE REQUIREMENTS OF THE RECURRING SPECIAL PROVISION FOR **SILT FILTER FENCE**, EXCEPT AS MODIFIED IN THESE NOTES AND DETAILS.

THE GEOTEXTILE FABRIC SHALL CONSIST OF WOVEN FILAMENTS OF POLYPROPYLENE, POLYESTER OR POLYETHYLENE. NEEDLE PUNCHED, HEAT-BONDED OR RESIN BONDED FABRIC WILL NOT BE PERMITTED.

THE WIRE MESH REINFORCEMENT SHALL BE A MINIMUM OF 36″ IN HEIGHT, HAVE A MINIMUM WIRE SIZE OF .14 GAGE AND A MAXIMUM WIRE SPACING OF SIX INCHES. WOVEN WIRE FENCING MAY BE USED PROVIDED IT MEETS THESE REQUIREMENTS.

THE WIRE MESH REINFORCEMENT SHALL BE ATTACHED TO THE STEEL POST WITH TIE WIRES. THE GEOTEXTILE FABRIC SHALL BE ATTACHED TO THE WIRE MESH REINFORCEMENT WITH HOG RINGS. THE STEEL POSTS SHALL BE A MINIMUM OF 6′ LONG AND SHALL BE PLACED ON 10′ CENTERS.

THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER FOOT FOR **PERIMETER EROSION BARRIER**, AS MEASURED IN PLACE. THE UNIT PRICE SHALL INCLUDE THE COST OF ALL MATERIAL, EQUIPMENT AND LABOR TO CONSTRUCT THE FENCE AS DESCRIBED.

FILE NAME =	USER NAME = jd	DESIGNED -	REVISED -
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	PLOT SCALE = 40.0000 ′ / in.	CHECKED - SLD	REVISED -
$MODELNAME$	PLOT DATE = 1/16/2015	DATE - 1/15/15	REVISED -

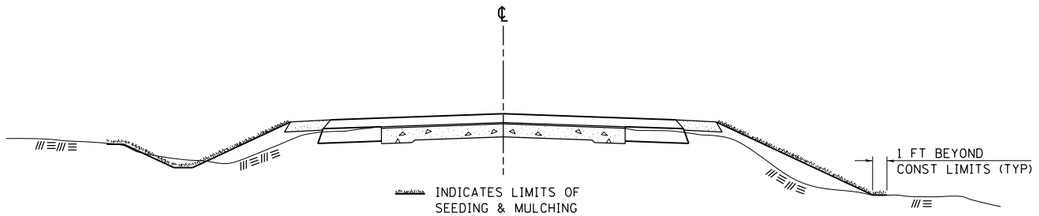
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS

SCALE: N.A. | SHEET 2 OF 3 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	36
		CONTRACT NO. 78214		
		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.

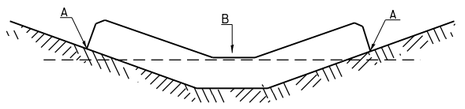
SECTIONS 250 AND 251 OF THE STANDARD SPECIFICATIONS SHALL GOVERN THIS WORK EXCEPT AS SPECIFIED HEREIN OR AS NOTED IN THE SPECIAL PROVISIONS.

REVISIONS	
REDRAWN	2-15-89
REVISED	8-15-94
REVISED	6-3-99
REVISED	3-27-08

STD. 9-12

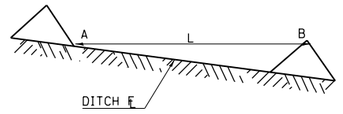
TEMPORARY DITCH CHECKS

PLACEMENT OF TEMPORARY DITCH CHECK IN DRAINAGE WAY



POINTS A SHOULD BE HIGHER THAN POINT B

SPACING BETWEEN TEMPORARY DITCH CHECKS



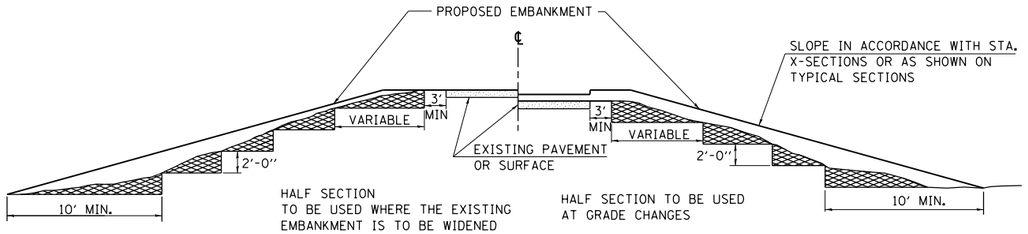
L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION

B = THE LOW POINT IN CENTER OF CHECK

REVISIONS	
DRAWN	9-01-99
REVISED	10-3-01
RESIZED	5-8-08
REVISED	05-04-10

STD. 9-108

TYPICAL CROSS SECTION SHOWING STEP CONSTRUCTION ON EXISTING FILL



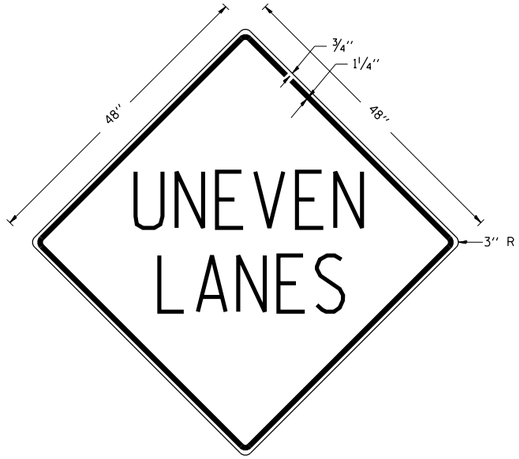
MATERIAL TO BE REMOVED AND REPLACED IN THE EMBANKMENT IN ACCORDANCE WITH ART. 205.04 OF THE STANDARD SPECIFICATION. COST TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED BECAUSE OF THIS WORK.

REVISIONS	
REDRAWN	2-15-89
REVISED	8-15-94
CHECKED	6-3-99
RESIZED	5-7-08

STD. 9-16

UNEVEN LANES SIGN

W8-11 (48" x 48")



COLORS:
LEGEND AND BORDER - BLACK NON-REFLECTORIZED
BACKGROUND - ORANGE REFLECTORIZED

NOTE: PRIOR TO ALLOWING TRAFFIC ON ANY PORTION OF THE ROADWAY THAT HAS BEEN COLDMILLED OR BEFORE RESURFACING OPERATIONS BEGIN, THE CONTRACTOR SHALL HAVE ERECTED "UNEVEN PAVEMENT" SIGNS THAT CONFORM TO THE ABOVE DETAILS. A MINIMUM OF ONE SIGN AT EACH END OF THE IMPROVEMENT WILL BE REQUIRED. THE CONTRACTOR SHALL MAINTAIN THE "UNEVEN PAVEMENT" SIGNS UNTIL THE RESURFACING OPERATIONS ARE COMPLETED.

IF AT ANY TIME THE SIGNS ARE IN PLACE BUT NOT APPLICABLE, THEY SHALL BE TURNED FROM THE VIEW OF MOTORISTS OR COVERED AS DIRECTED BY THE ENGINEER.

THE COST OF FURNISHING, ERECTING, MAINTAINING, AND REMOVING THE REQUIRED SIGNS SHALL BE INCLUDED IN THE CONTRACT.

REVISIONS	
DRAWN	2-15-89
REVISED	4-6-93
REDSIGNED	7-23-04
RESIZED	5-8-08

STD. 9-41

FILE NAME =	USER NAME = jd	DESIGNED -	REVISED -
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	PLOT SCALE = 40.0000 ' / in.	CHECKED - SLD	REVISED -
$MODELNAME$	PLOT DATE = 1/16/2015	DATE - 1/15/15	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

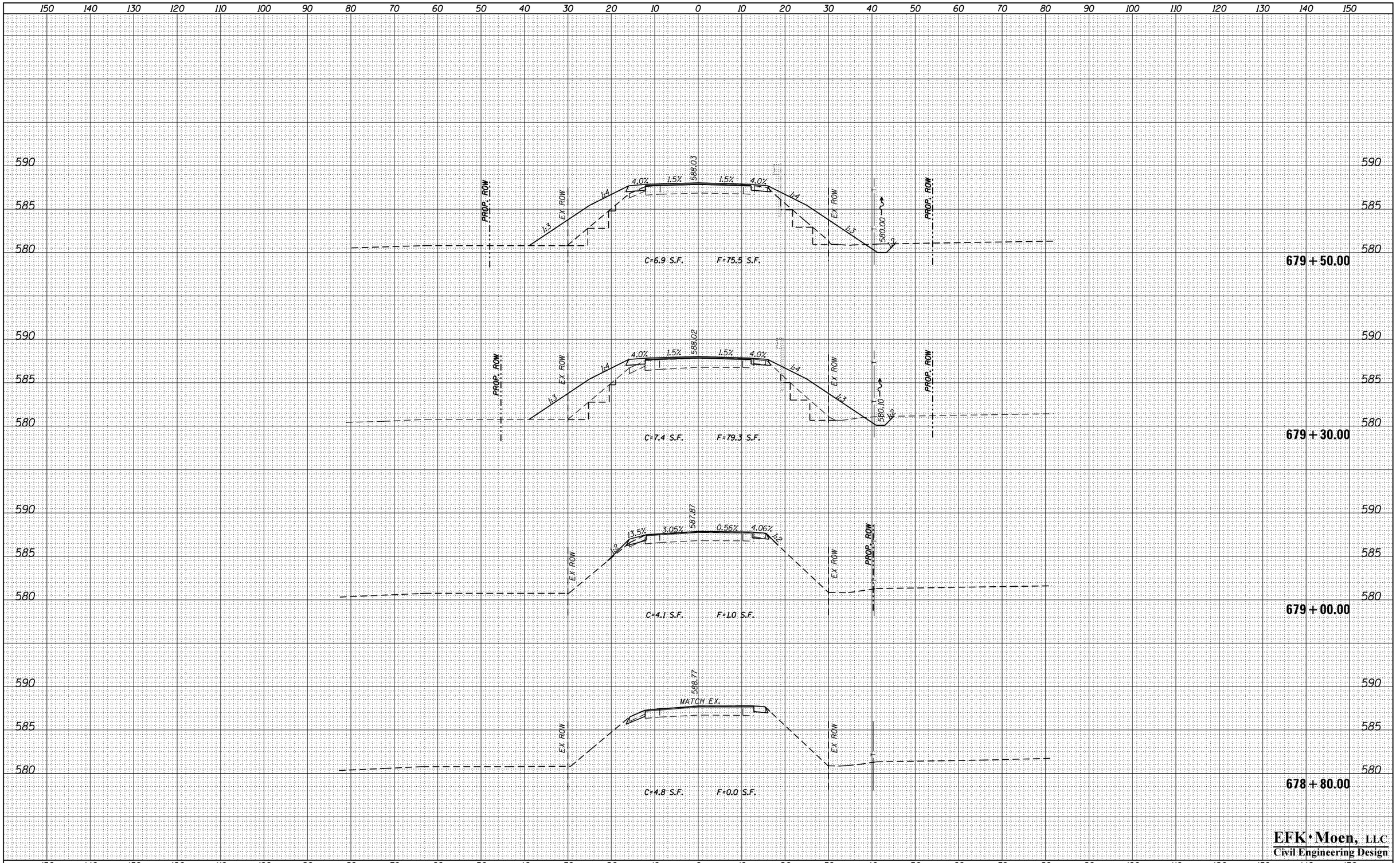
DETAILS

SCALE: N.A. | SHEET 3 OF 3 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	37

CONTRACT NO. 78214

ILLINOIS | FED. AID PROJECT



FINAL SURVEY

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

ORIGINAL SURVEY

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

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Civil Engineering Design

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		DRAWN - DWB	REVISED -
	PLOT SCALE = 20.0000 ' / in.	CHECKED - SLD	REVISED -
$MODELNAME$	PLOT DATE = 1/16/2015	DATE - 1/15/15	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: 10'H : 5'V | SHEET 1 OF 7 SHEETS | STA. 678+80.00 TO STA. 679+50.00

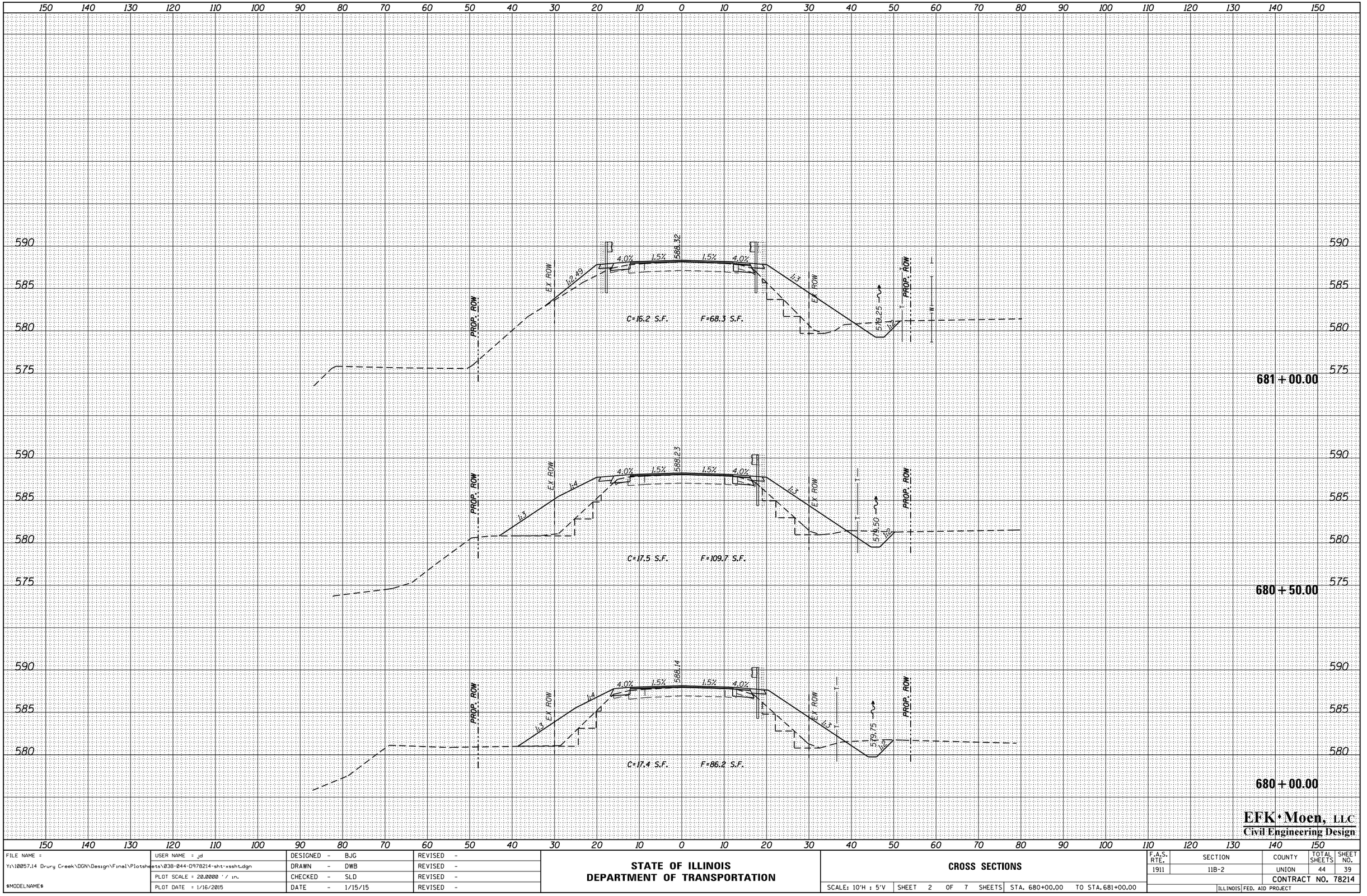
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	38
		CONTRACT NO. 78214		
		ILLINOIS	FED. AID PROJECT	

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

BY	DATE

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

BY	DATE



EFK·Moen, LLC
Civil Engineering Design

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$MODELNAME$	PLOT DATE = 1/16/2015	DATE - 1/15/15	REVISED -

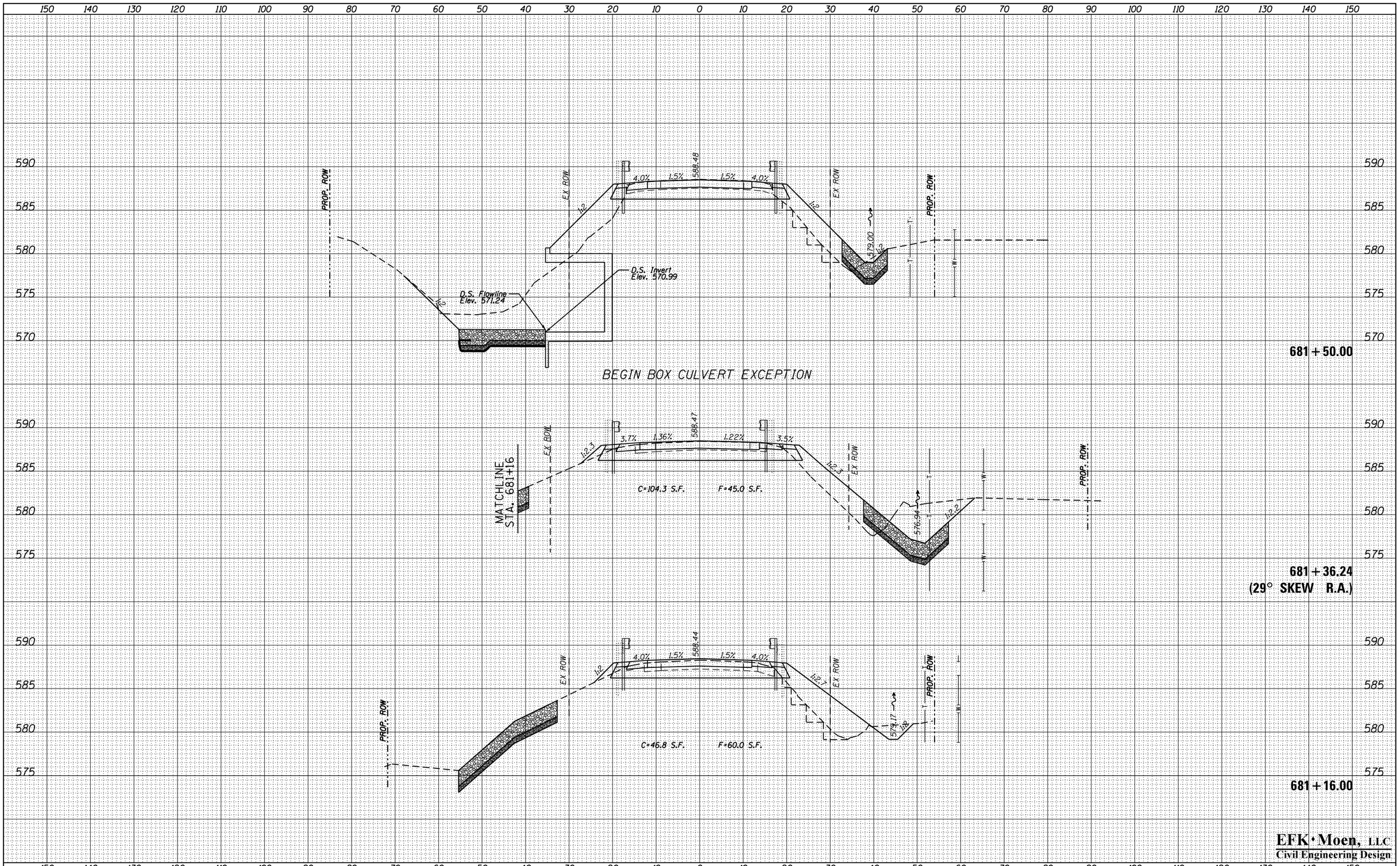
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: 10'H : 5'V | SHEET 2 OF 7 SHEETS | STA. 680+00.00 TO STA.681+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	39
		CONTRACT NO. 78214		
	ILLINOIS	FED. AID PROJECT		

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



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

EFK • Moen, LLC
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$MODELNAME$	PLOT DATE = 1/16/2015	DATE - 1/15/15	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: 10'H : 5'V | SHEET 3 OF 7 SHEETS | STA. 681+16.00 | TO STA. 681+50.00

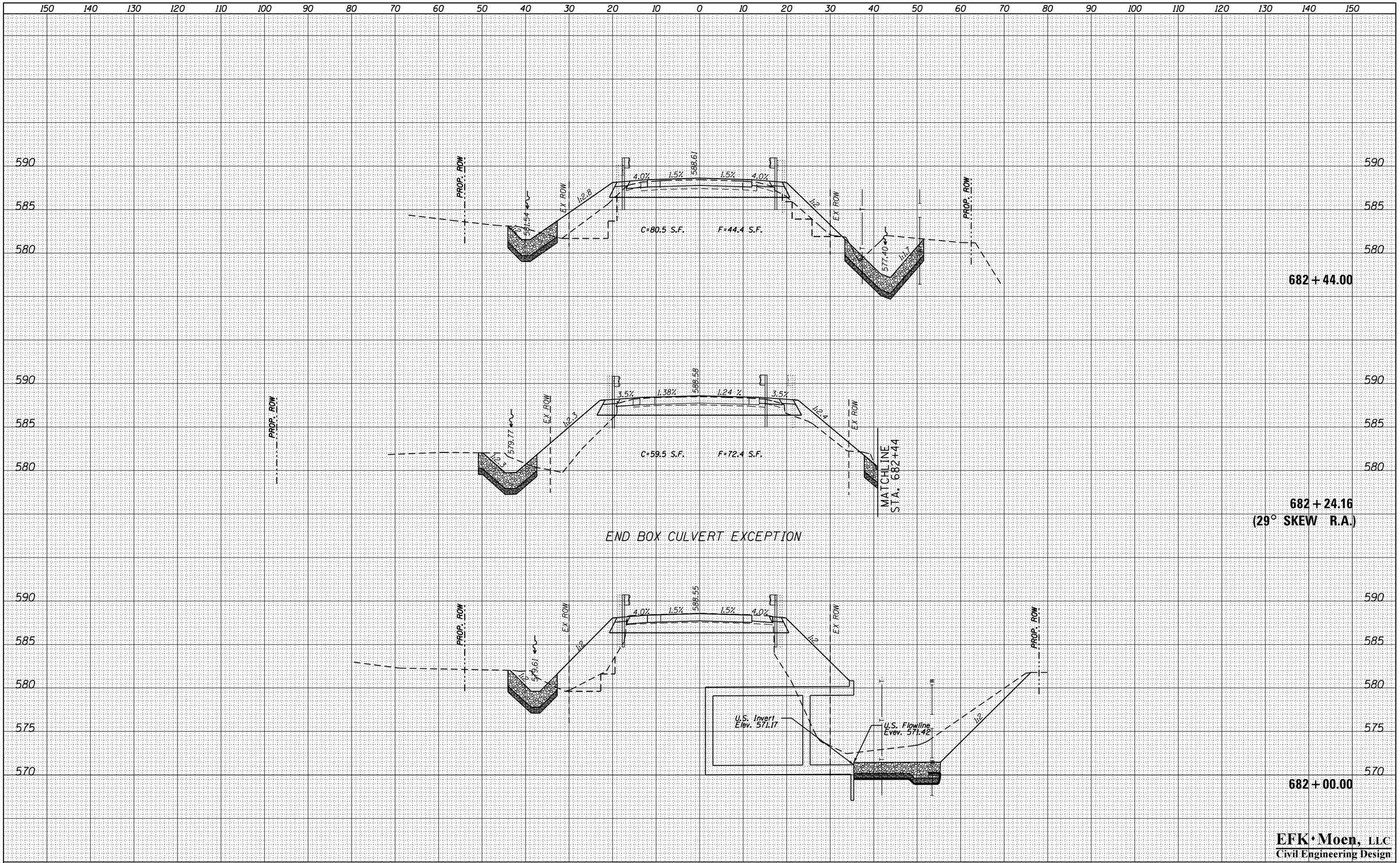
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	40
		CONTRACT NO. 78214		
		ILLINOIS FED. AID PROJECT		

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

BY	DATE

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

BY	DATE



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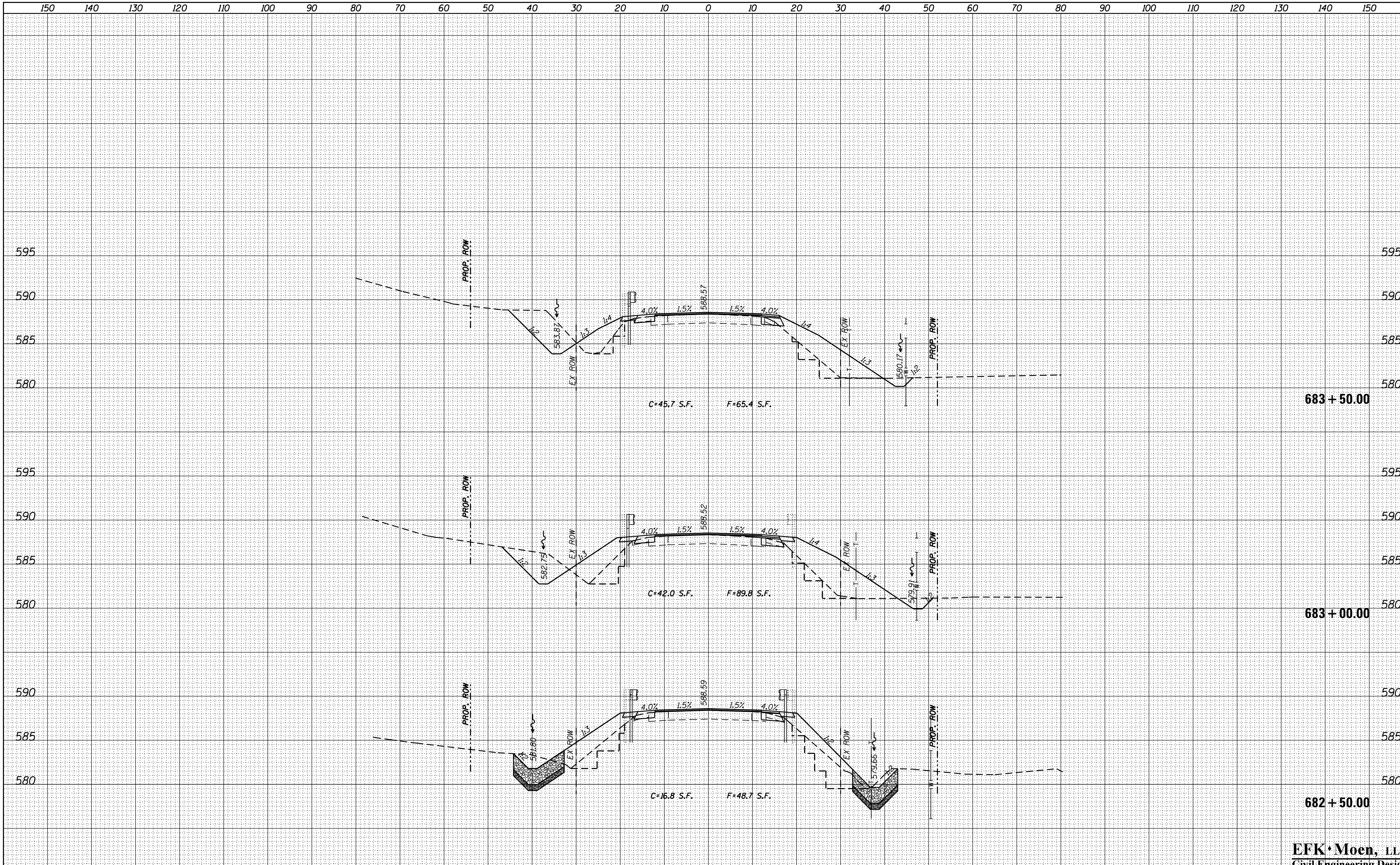
$MODELNAME$	PLOT DATE = 1/16/2015	DATE - 1/15/15	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: 10'H : 5'V | SHEET 4 OF 7 SHEETS | STA. 682+00.00 TO STA.682+44.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	41
		CONTRACT NO. 78214		
	ILLINOIS FED. AID PROJECT			



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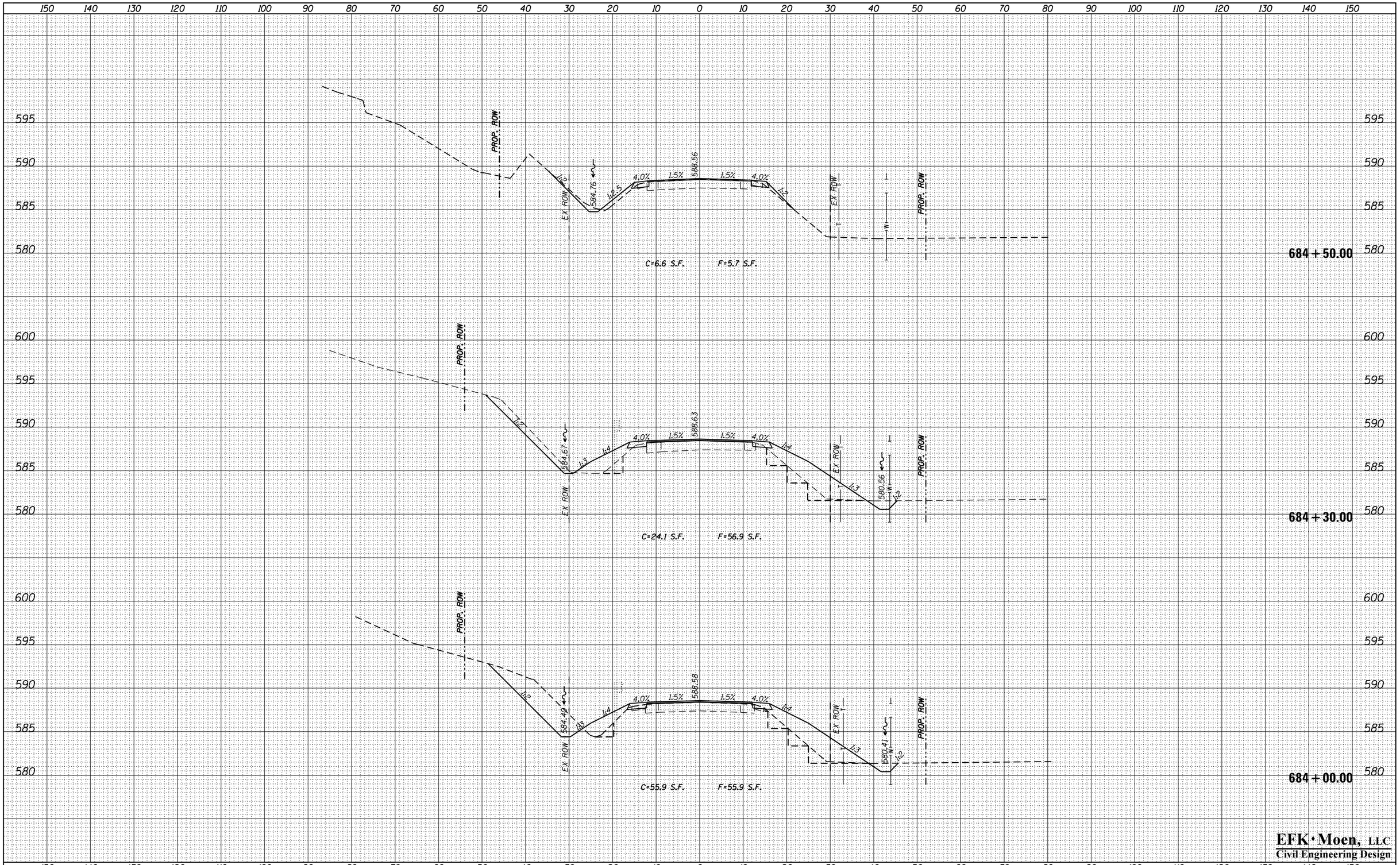
	PLOT SCALE = 20.0000 ' / in.	DRAWN - DWB	REVISED -		SCALE: 10'H : 5'V SHEET 5 OF 7 SHEETS STA. 682+50.00 TO STA. 683+50.00	COUNTY UNION	TOTAL SHEETS 44 / SHEET NO. 42
$MODELNAME$	PLOT DATE = 1/16/2015	CHECKED - SLD	REVISED -			CONTRACT NO. 78214	
		DATE - 1/15/15	REVISED -			ILLINOIS FED. AID PROJECT	

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

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



FINAL SURVEY

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

ORIGINAL SURVEY

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

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FILE NAME = Y:\10057.14 Drury Creek\DGN\Design\Final\Plotsheets\038-044-D978214-sht-xssht.dgn	USER NAME = jd	DESIGNED - BJG	REVISED -
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$MODELNAME$	PLOT DATE = 1/16/2015	DATE - 1/15/15	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: 10'H : 5'V | SHEET 6 OF 7 SHEETS | STA. 684+00.00 TO STA. 684+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	43
		CONTRACT NO. 78214		
	ILLINOIS FED. AID PROJECT			

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

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

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

595
590
585
580

EX. ROW
EX. ROW
EX. ROW
EX. ROW
MATCH EX.
188.44
C=4.0 S.F.
F=0.0 S.F.

685 + 00.00

684 + 80.00

EFK · Moen, LLC
Civil Engineering Design

FILE NAME = Y:\10057.14 Drury Creek\DGN\Design\Final\Plotsheets\038-044-D978214-sht-xssht.dgn	USER NAME = jd	DESIGNED - BJG	REVISED -
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	PLOT DATE = 1/16/2015	DATE - 1/15/15	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS

SCALE: 10'H : 5'V | SHEET 7 OF 7 SHEETS | STA. 684+80.00 TO STA.685+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1911	11B-2	UNION	44	44
		CONTRACT NO. 78214		
		ILLINOIS FED. AID PROJECT		