

CONSTRUCTION CODE		
80% FED.	80% FED.	80% FED.
20% STATE	20% GLEN ELLYN	20% STATE
ROADWAY	GLEN ELLYN	BRIDGE
0004	0020	0040
URBAN	URBAN	URBAN

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	ROADWAY	GLEN ELLYN	BRIDGE
20100500	TREE REMOVAL, ACRES	ACRE	0.7	0.7		
20101400	NITROGEN FERTILIZER NUTRIENT	POUND	68	68		
20101500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	68	68		
20101600	POTASSIUM FERTILIZER NUTRIENT	POUND	68	68		
20200100	EARTH EXCAVATION	CU YD	2140	2140		
20300100	CHANNEL EXCAVATION	CU YD	364	364		
20700220	POROUS GRANULAR EMBANKMENT	CU YD	654	431		223
20800150	TRENCH BACKFILL	CU YD	473	473		
21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	3930	3930		
25000110	SEEDING, CLASS 1A	ACRE	0.75	0.75		
25000310	SEEDING, CLASS 4	ACRE	0.5	0.5		
25100115	MULCH, METHOD 2	ACRE	0.75	0.75		
25100635	HEAVY DUTY EROSION CONTROL BLANKET	SO YD	4137	4137		
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	250	250		

14 • SPECIALTY ITEM

REVISED 10-27-15

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FILE NAME =	USER NAME = j_d	DESIGNED - BJC	REVISED -
Y:\12015 MO 1 Glen Crest Creek\DRN\Design\Drawings\Plotsheets\12015-003-011-500.dgn		DRAWN - BJC	REVISED -
	PLOT SCALE = 100.0000' / 1"	CHECKED - SLD	REVISED -
#MODELNAME#	PLOT DATE = 8/6/2015	DATE - 8/6/2015	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: N/A SHEET 1 OF 9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
870	534X-B	DUPAGE	66	3
			CONTRACT NO. 60V29	
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				80% FED. 20% STATE	80% FED. 20% GLEN ELLYN	80% FED. 20% STATE
				ROADWAY 0004 URBAN	GLEN ELLYN 0028 URBAN	BRIDGE 0040 URBAN
28000305	TEMPORARY DITCH CHECKS	FOOT	375	375		
28000400	PERIMETER EROSION BARRIER	FOOT	604	604		
28000500	INLET AND PIPE PROTECTION	EACH	14	14		
28100107	STONE RIPRAP, CLASS A4	SQ YD	156	156		
28100109	STONE RIPRAP, CLASS A5	SQ YD	188	188		
28200200	FILTER FABRIC	SQ YD	391	391		
28400100	GABIONS	CU YD	26	26		
30300112	AGGREGATE SUBGRADE IMPROVEMENT, 12"	SQ YD	187	187		
31101200	SUBBASE GRANULAR MATERIAL, TYPE B 4"	SQ YD	3352	3352		
31101400	SUBBASE GRANULAR MATERIAL, TYPE B 6"	SQ YD	187	187		
35501308	HOT-MIX ASPHALT BASE COURSE, 6"	SQ YD	84	84		
35501314	HOT-MIX ASPHALT BASE COURSE, 7 1/2"	SQ YD	187	187		
35501317	HOT-MIX ASPHALT BASE COURSE, 8 1/4"	SQ YD	271	271		
35501347	HOT-MIX ASPHALT BASE COURSE, 16"	SQ YD	187	187		
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	4077	4077		
40600635	LEVELING BINDER (MACHINE METHOD), N70	TON	109	109		

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* SPECIALTY ITEM

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FILE NAME :	USER NAME :	DESIGNED -	REVISOR -
Y:\13015 MO 1 Glen Cross Creek\DCN\Design\Pre\Plot\plots\1060V29-003-D11-500.dgn	jd	BJC	
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		BJC	
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		SLD	
		DATE -	REVISOR -
		8/6/2015	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: N/A SHEET 2 OF 9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
870	534X-B	DUPAGE	66	4
CONTRACT NO. 60V29			ILLINOIS FED. AID PROJECT	

EFK Moen, LLC
Civil Engineering Design

Rev.

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				80% FED.	80% FED.	80% FED.
				20% STATE	20% GLEN ELLYN	20% STATE
				ROADWAY	GLEN ELLYN	BRIDGE
				0004	0028	0040
				URBAN	URBAN	URBAN
48203030	HOT-MIX ASPHALT SHOULDERS, 8 1/4"	SO YD	1412	1412		
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1			1
50105220	PIPE CULVERT REMOVAL	FOOT	121	121		
50200100	STRUCTURE EXCAVATION	CU YD	614			614
50800105	REINFORCEMENT BARS	POUND	32,690			32,690
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3270			3270
50800515	BAR SPLICERS	EACH	87			87
54003000	CONCRETE BOX CULVERTS	CU YD	185.7			185.7
54213450	END SECTIONS 15"	EACH	2	2		
54213669	PRECAST REINFORCED CONCRETE FLARED END SECTIONS 24"	EACH	1	1		
54214533	PRECAST REINFORCED CONCRETE FLARED END SECTIONS, EQUIVALENT ROUND-SIZE 48"	EACH	1	1		
542D0220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	27	27		
550A0120	STORM SEWERS, CLASS A, TYPE 1 24"	FOOT	158	158		
550A0410	STORM SEWERS, CLASS A, TYPE 2 24"	FOOT	124	124		
550A4710	STORM SEWERS, CLASS A, TYPE 1 EQUIVALENT ROUND-SIZE 48"	FOOT	9	9		

144 * SPECIALTY ITEM

REVISED 10-27-15

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FILE NAME :	USER NAME :	DESIGNED -	REVISOR -
Y:\13015 MD 1 Glen Creek Creek\00\Design	jd	BJC	
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		BJC	
		CHECKED -	REVISOR -
		SLD	
		DATE -	REVISOR -
		8/6/2015	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
870	534X-B	DUPAGE	66	6
			CONTRACT NO. 60V29	
ILLINOIS FED. AID PROJECT				

SCALE: N/A SHEET 4 OF 9 SHEETS

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				80% FED. 20% STATE	80% FED. 20% GLEN ELLYN	80% FED. 20% STATE
				ROADWAY 0004 URBAN	GLEN ELLYN 0028 URBAN	BRIDGE 0040 URBAN
55100700	STORM SEWER REMOVAL 15"	FOOT	516	516		
55100900	STORM SEWER REMOVAL 18"	FOOT	120	120		
55201100	STORM SEWERS JACKED IN PLACE, 30"	FOOT	39	39		
60107600	PIPE UNDERDRAINS 4"	FOOT	154	154		
60108100	PIPE UNDERDRAINS 4" (SPECIAL)	FOOT	14	14		
60218400	MANHOLES, TYPE A, 4' -DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1	1		
60219000	MANHOLES, TYPE A, 4' -DIAMETER, TYPE 8 GRATE	EACH	1	1		
60219400	MANHOLES, TYPE A, 4' -DIAMETER, TYPE 12 FRAME AND GRATE	EACH	1	1		
60219540	MANHOLES, TYPE A, 4' -DIAMETER, TYPE 24 FRAME AND GRATE	EACH	2	2		
60219570	MANHOLES, TYPE A, 4' -DIAMETER, TYPE 3V FRAME AND GRATE	EACH	1	1		
60221700	MANHOLES, TYPE A, 5' -DIAMETER, TYPE 8 GRATE	EACH	1	1		
60222270	MANHOLES, TYPE A, 5' -DIAMETER, TYPE 3V FRAME AND GRATE	EACH	1	1		
60224129	MANHOLES, TYPE A, 7' -DIAMETER, TYPE 3V FRAME AND GRATE	EACH	1	1		
60224442	MANHOLES, TYPE A, 7' -DIAMETER, TYPE 12 FRAME AND GRATE	EACH	1	1		

14 SPECIALTY ITEM

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		SLO	
		DATE -	REVIS ^{ED} -
		8/6/2015	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: N/A SHEET 5 OF 9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
870	534X-B	DUPAGE	66	7
CONTRACT NO. 60V29			ILLINOIS FED. AID PROJECT	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				80% FED. 20% STATE	80% FED 20% GLEN ELLYN	80% FED. 20% STATE
				ROADWAY	GLEN ELLYN	BRIDGE
				0004 URBAN	0020 URBAN	0040 URBAN
60236200	INLETS, TYPE A, TYPE 8 GRATE	EACH	1	1		
60240312	INLETS, TYPE B, TYPE 11V FRAME AND GRATE	EACH	2	2		
60603800	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	75	75		
60605000	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	FOOT	246	246		
60608562	COMBINATION CONCRETE CURB AND GUTTER, TYPE M-4.12	FOOT	460	460		
60610400	COMBINATION CONCRETE CURB AND GUTTER, TYPE M-6.24	FOOT	379	379		
* 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	362.5	362.5		
* 63000360	LONG-SPAN GUARDRAIL OVER CULVERT, 18 FT 9 IN SPAN	FOOT	337.5	337.5		
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	3	3		
* 63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	1	1		
63200310	GUARDRAIL REMOVAL	FOOT	280	280		
* 66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	964	964		
* 66900450	SPECIAL WASTE PLANS AND REPORTS	L SUM	1	1		
* 66900530	SOIL DISPOSAL ANALYSIS	EACH	1	1		

14 *SPECIALTY ITEM

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FILE NAME =	USER NAME = jf	DESIGNED - BJC	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: N/A SHEET 6 OF 9 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
870	534X-B	DUPAGE	66	8
CONTRACT NO. 60V29				

EFK Moen, LLC
Civil Engineering Design

ILLINOIS FED. AID PROJECT

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				80% FED. 20% STATE	80% FED. 20% GLEN ELLYN	80% FED. 20% STATE
				ROADWAY 0004 URBAN	GLEN ELLYN 0028 URBAN	BRIDGE 0040 URBAN
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	8	8		
67100100	MOBILIZATION	L SUM	1	1		
70103815	TRAFFIC CONTROL SURVEILLANCE	CAL DA	240	240		
70300100	SHORT TERM PAVEMENT MARKING	FOOT	207	207		
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	11236	11236		
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	3842	3842		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	762.5	762.5		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1037.5	1037.5		
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2		
70600251	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	2	2		
70600350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	3	3		
70600352	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	3	3		
78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	3346	3346		
78000650	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	FOOT	45	45		

14 * SPECIALTY ITEM

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Civil Engineering Design

FILE NAME: 1113815 MO 1 Glen Cross Creek\DCM\Design\Drawings\Plotsheets\0160V29-003-D11-500.dgn	USER NAME: jld	DESIGNED: BJC	REVISIONS:	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN: BJC	REVISIONS:		870	534X-B	DUPAGE	66	9				
		CHECKED: SLD	REVISIONS:						CONTRACT NO. 60V29				
		DATE: 8/6/2015	REVISIONS:						ILLINOIS FED. AID PROJECT				

SCALE: N/A SHEET 7 OF 9 SHEETS

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				80% FED.	80% FED.	80% FED.
				20% STATE	20% GLEN ELLYN	20% STATE
				ROADWAY	GLEN ELLYN	BRIDGE
				0004	0028	0040
				URBAN	URBAN	URBAN
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	32	32		
78100200	TEMPORARY RAISED REFLECTIVE PAVEMENT MARKER	EACH	44	44		
78100300	REPLACEMENT REFLECTOR	EACH	12	12		
78200100	MONODIRECTIONAL PRISMATIC BARRIER REFLECTOR	EACH	32	32		
* 78200410	GUARDRAIL MARKERS, TYPE A	EACH	11	11		
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4		
78300100	PAVEMENT MARKING REMOVAL	SQ FT	1096	1096		
X0326694	PLUG EXISTING STORM SEWERS	CU YD	2	2		
X4401198	HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH	50 YD	1023	1023		
X6022050	MANHOLES, TYPE A, 5'-DIAMETER, TYPE 11V FRAME AND GRATE	EACH	1	1		
X6640530	CHAIN LINK FENCE, 5' ATTACHED TO STRUCTURE	FOOT	89			89
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1		
X7040125	PINNING TEMPORARY CONCRETE BARRIER	EACH	402	402		
X7830050	RAISED REFLECTIVE PAVEMENT MARKER, REFLECTOR REMOVAL	EACH	12	12		

* SPECIALTY ITEM

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Civil Engineering Design

FILE NAME =	USER NAME = jld	DESIGNED - BJC	REVIS ^{ED} -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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#MODELNAME	PLOT DATE = 8/6/2015	CHECKED - SLD	REVIS ^{ED} -						CONTRACT NO. 60V29				
									ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				80% FED. 20% STATE	80% FED. 20% GLEN ELLYN	80% FED. 20% STATE
				ROADWAY 0004 URBAN	GLEN ELLYN 0028 URBAN	BRIDGE 0040 URBAN
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1		
Z0018700	DRAINAGE STRUCTURE TO BE REMOVED	EACH	4	4		
Z0026407	TEMPORARY SHEET PILING	SQ FT	4654	3491		1163
Z0056608	STORM SEWER (WATER MAIN REQUIREMENTS) 12 INCH	FOOT	81	81		
Z0056612	STORM SEWER (WATER MAIN REQUIREMENTS) 18 INCH	FOOT	104	104		
Z0056616	STORM SEWER (WATER MAIN REQUIREMENTS) 24 INCH	FOOT	205	205		
Z0056622	STORM SEWER (WATER MAIN REQUIREMENTS) 36 INCH	FOOT	167	167		
Z0062456	TEMPORARY PAVEMENT	SQ YD	1084	1084		
Z0073400	TEMPORARY SUPPORT SYSTEM	EACH	1			1
Z0076600	TRAINEES	HOUR	500	500		
Z0076604	TRAINEES TRAINING PROGRAM GRADUATE	HOUR	500	500		

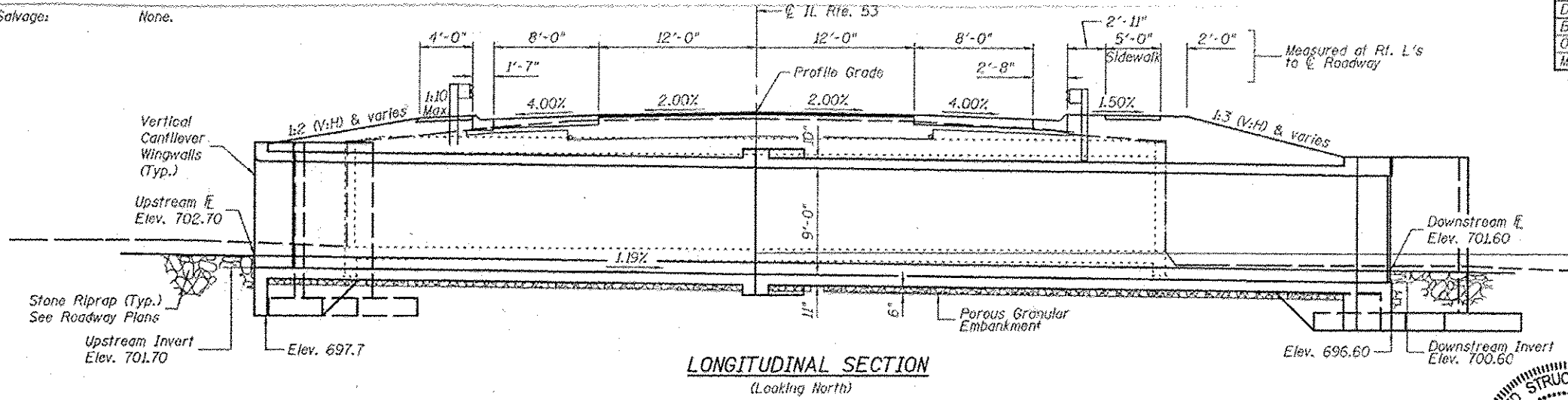
* SPECIALTY ITEM
0042

REVISOR 10-27-15

Bench Mark: CP 21 (BAIRD)
Rebar on the Corner of Butterfield Road and Il. 53 in Front of Mobile Gas Station
Elevation = 689.26

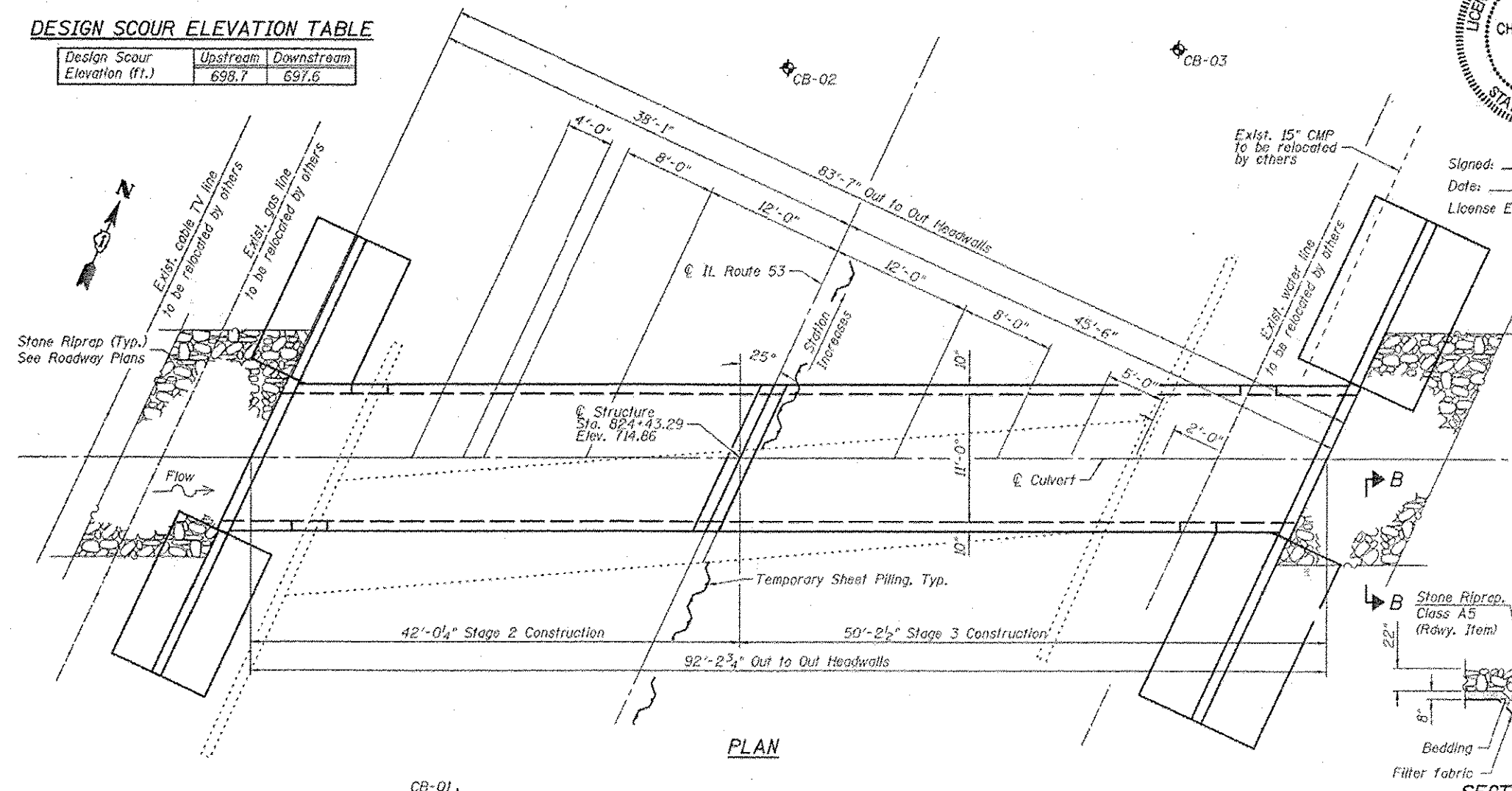
Existing Structure: S.N. 022-2007 is a 171'-6" long, 9'-6" x 8'-0" concrete box culvert built (estimated) prior to 1930 with top slabs rehabilitated at an unknown date. Culvert is skewed 27°40' RA conveying the creek formerly known as the East Branch of DuPage River Tributary #4. Existing structure to be removed and replaced using stage construction.

Salvage: None.



DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	698.7	697.6



WATERWAY INFORMATION

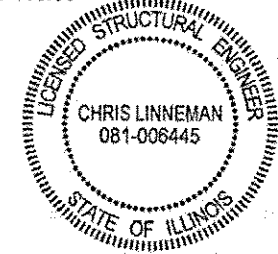
Drainage Area = 2.72 sq. mi. Exist. Low Grade Elev. 714.18 @ Sta. 824+05
Prop. Low Grade Elev. 714.19 @ Sta. 823+89

Flood Yr.	Freq.	C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
10	330	35	51	707.3	1.5	0.1	708.8	707.4	
Design	50	435	40	56	707.8	2.2	0.5	709.9	708.3
Base	100	490	42	58	708.0	2.5	0.7	710.5	708.7
Overtopping									
Max. Calc.	500	670	47	64	708.6	3.6	1.4	712.2	710.0

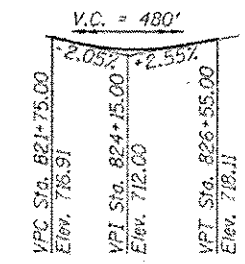
2 Yr. Peak Flow = 172 cfs
2 Yr. Peak Elevation = 705.8
2 Yr. Bypass Opening = 32 sq. ft.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Embankment	Cu. Yd.	223
Removal of Existing Structures	Each	1
Structure Excavation	Cu. Yd.	614
Reinforcement Bars	Pound	32,690
Reinforcement Bars, Epoxy Coated	Pound	3270
Bar Splicers	Each	87
Concrete Box Culverts	Cu. Yd.	185.7
Chain Link Fence, 5 Ft. Attached to Structure	Foot	89
Temporary Sheet Piling	Sq. Ft.	1163
Temporary Support System	Each	1



Signed: [Signature]
Date: 10/23/2015
License Expires: 11/30/2016



DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

DESIGN STRESSES

FIELD UNITS

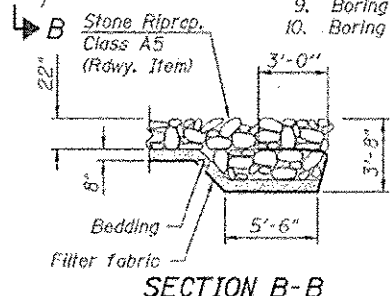
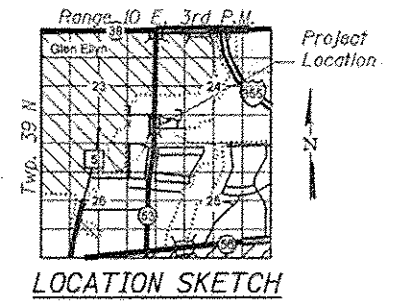
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)

Max. Soil Pressure under footings = 2,500 psf

LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

INDEX OF SHEETS

1. General Plan and Elevation
2. Stage Construction
3. Cast in Place Culvert Details
4. Wingwall Details
5. Wingwall Details
6. Chain Link Fence Details
7. Temporary Support Details
8. Bar Splicer Assembly Details
9. Boring Logs
10. Boring Logs



EFK Moen, LLC
Civil Engineering Design
303 Fountain Parkway, Suite 240
Fairview Heights, IL 62205
Phone 618-206-4250

USER NAME	DESIGNED	REVISION
JA	CTW	10/23/2015 CDL
	CJL	
	JA	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
S.N. 022-0542 (11'x9' BOX CULVERT) - STA 824 + 43.29

P.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
870	534X-B	DUPAGE	66	37

CONTRACT NO. 60V29
ILLINOIS FED. AID PROJECT

PRINT DATE: 10/23/2015 8:58:23 AM Y:\2015 MO I Glen Crest Creek\DDN\Bridges\Find\Plotsheets\0220542-D160V29-001-GPE.dgn

GENERAL NOTES

Precast alternate is not allowed.

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

All exposed concrete edges shall have a 3/4" x 45° chamfer, except where shown otherwise.

Bars noted thus, 3 x 2-#5 indicates 3 lines of bars with 2 lengths of bars per line.

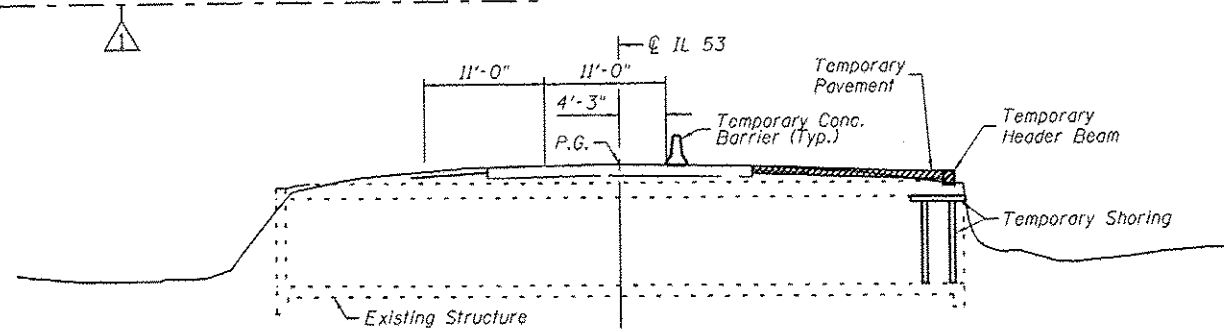
Reinforcement bars designated (E) shall be epoxy coated.

For "Stone Riprap, Class A5" and "Filter Fabric for use with Riprap" Bill of Material, see Roadway plans.

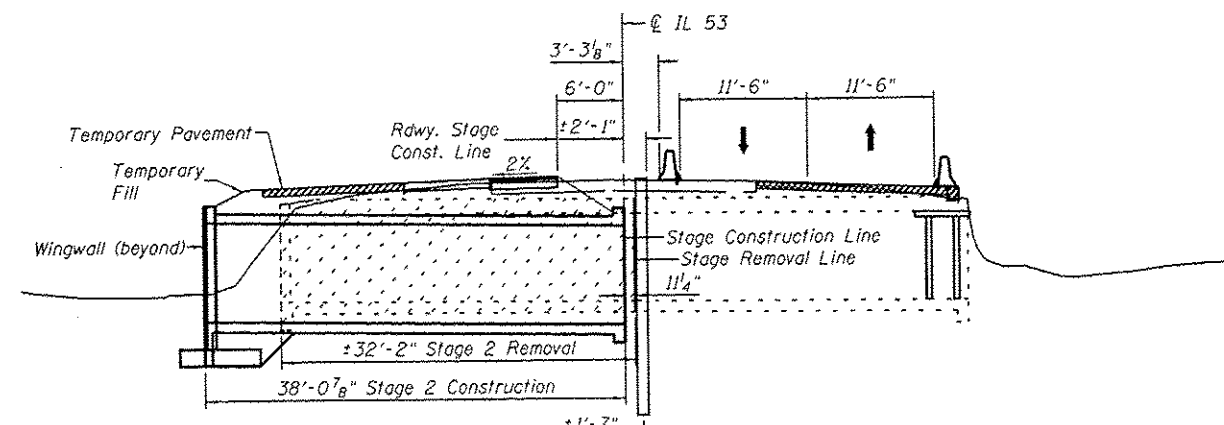
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

It shall be the responsibility of the contractor to divert the stream flow during construction in order to keep the construction area free of water. The method of the water diversion shall be subjected to the approval of the Engineer and the cost shall be included with the cost of the Concrete Box Culverts.

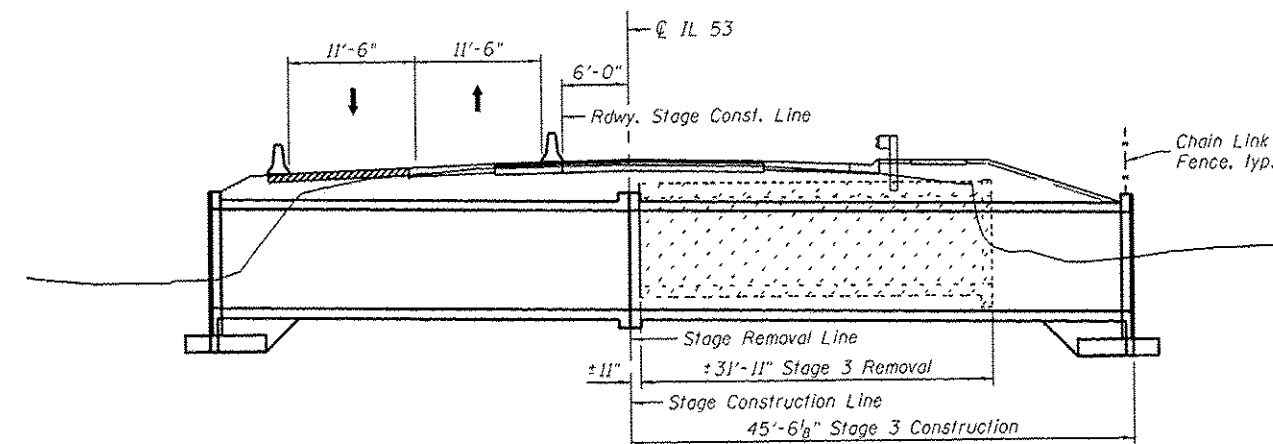
The limit of the porous granular embankment shall include a layer of at least 6 in. in thickness, below the elevation of the bottom of the box for the plan area of the box. The porous granular embankment shall extend at least 2 ft beyond each side of the box and extend up to the top surface of the box. See Roadway plans for additional Porous Granular Embankment limit (Roadway Item).



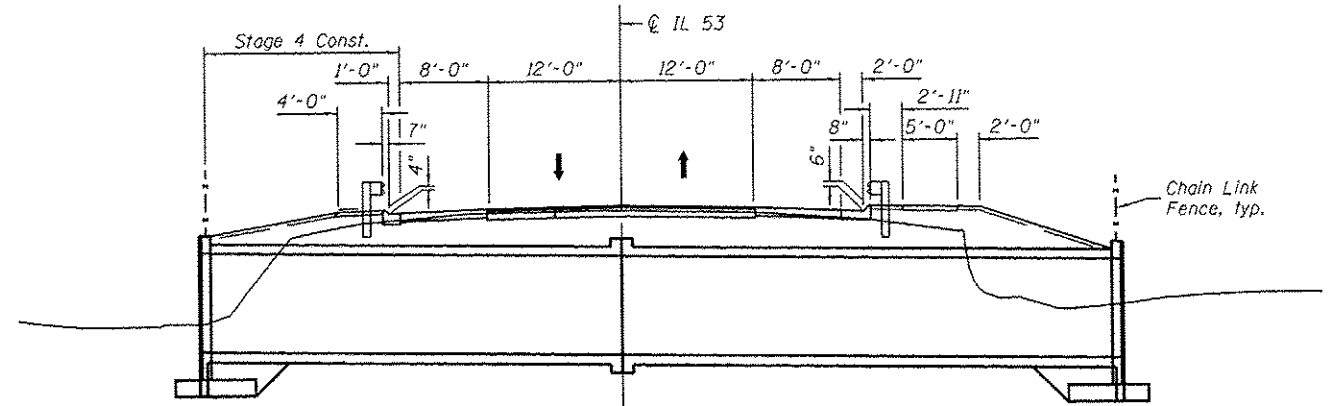
STAGE 1 CONSTRUCTION



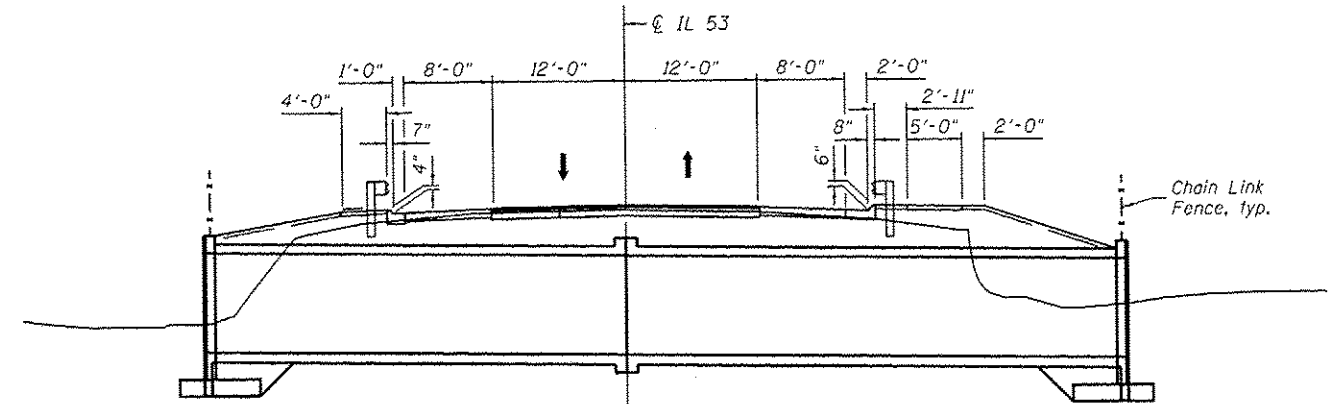
STAGE 2 CONSTRUCTION



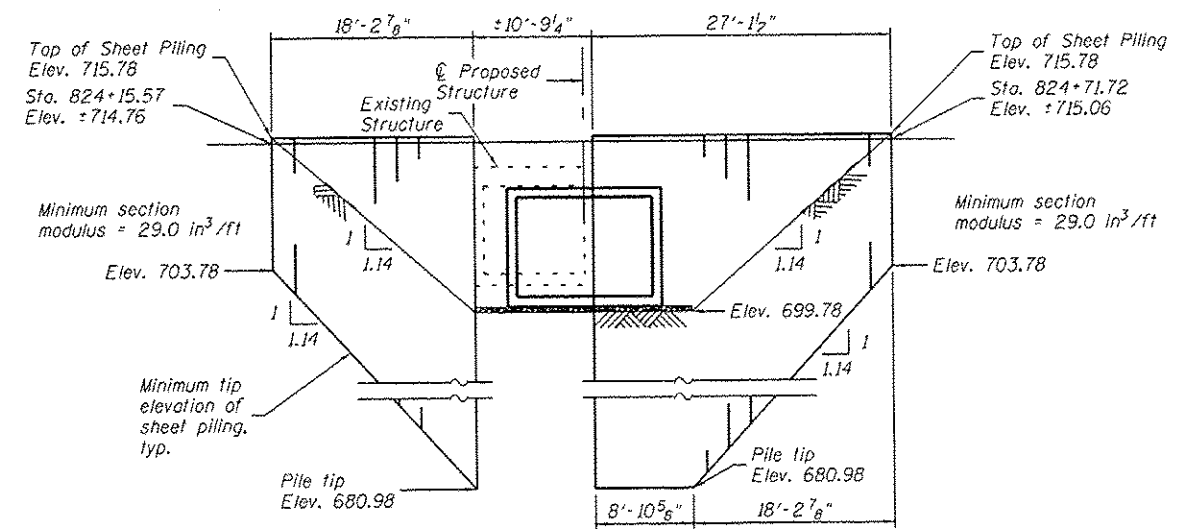
STAGE 3 CONSTRUCTION



STAGE 4 CONSTRUCTION



FINAL CONSTRUCTION



TEMPORARY SHEET PILING DESIGN

(All dimensions along CL Roadway)

NOTES:

Sections shown are at Rt. L's to CL IL 53.

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USER NAME = ja	DESIGNED - CTW	REVISION 10/23/2015 CDL
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PLLOT DATE = 10/23/2015	DRAWN - JA	REVISION
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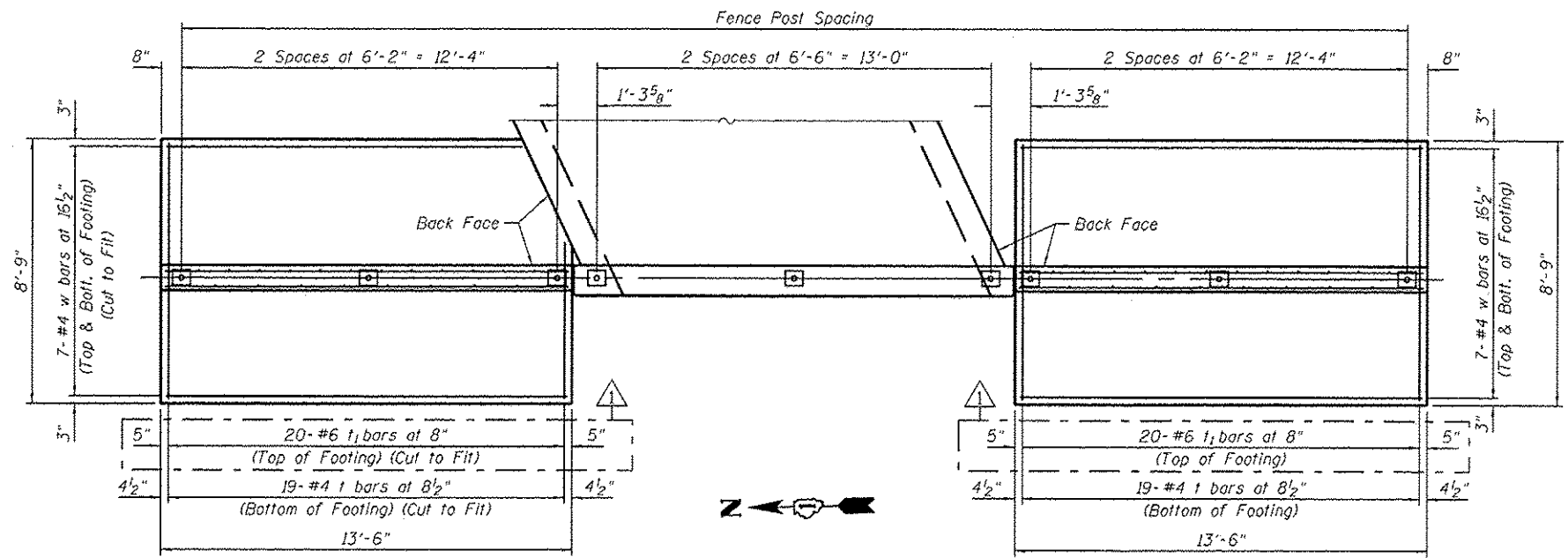
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION
S.N. 022-0542 (11'x9' BOX CULVERT) - STA 824+43.29

SHEET NO. 2 OF 10 SHEETS

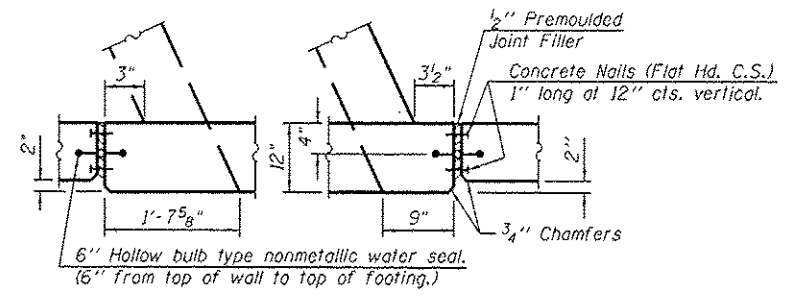
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870	534x-B	DUPAGE	66	38
CONTRACT NO. 60V29				
ILLINOIS FED. AID PROJECT				

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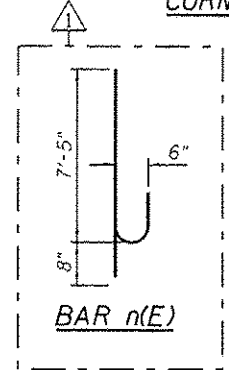
PLAN NW WINGWALL

PLAN SW WINGWALL



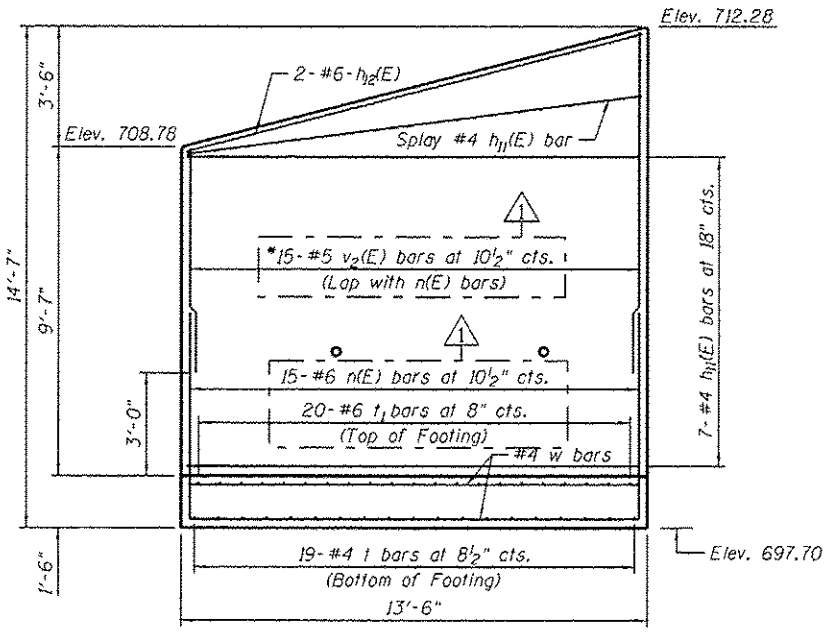
CORNER DETAIL

MINIMUM BAR LAP
 #5 = 3'-2"

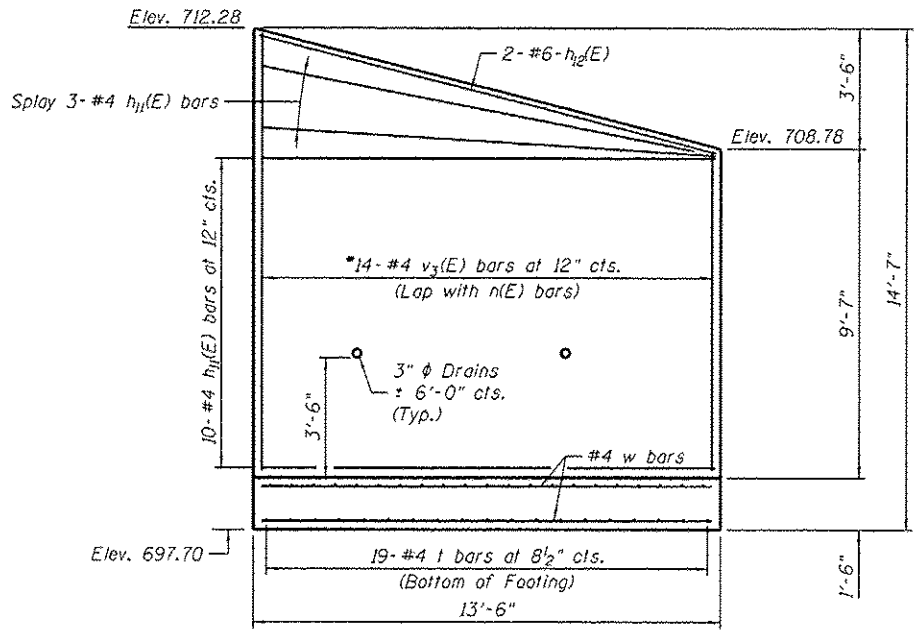


BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
h ₁₁ (E)	42	#4	13'-2"	—	
h ₁₂ (E)	4	#6	13'-7"	—	
n(E)	130	#6	18'-1"	—	
t	38	#4	8'-3"	—	
t ₁	40	#6	8'-3"	—	
v ₂ (E)	15	#5	19'-4"	—	
v ₃ (E)	10	#4	22'-0"	—	
w	28	#4	13'-0"	—	
Concrete Box Culverts				Cu. Yd.	22.4
Reinforcement Bars				Pound	950
Reinforcement Bars, Epoxy Coated				Pound	1260

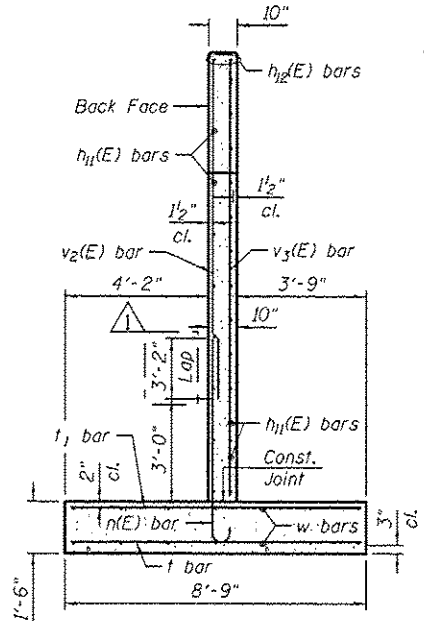


ELEVATION NW WINGWALL
 (Showing Typ. Back Face Reinforcement)



ELEVATION SW WINGWALL
 (Showing Typ. Front Face Reinforcement)

*v₂(E) and v₃(E) bars shall be ordered full length & cut to fit. Balance of bar to be used in opposite wall.



SECTION

NOTES

See Sheet 6 of 10 for Chain Link Fence details.

All wingwall stem reinforcement bars are epoxy coated

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USER NAME = jbr
 PLOT SCALE = 1/8" = 1'-0"
 PLOT DATE = 10/23/2015

DESIGNED - CTW
 CHECKED - CDL
 DRAWN - JA
 DATE - 10/23/2015
 REVISED - 10/23/2015 CDL
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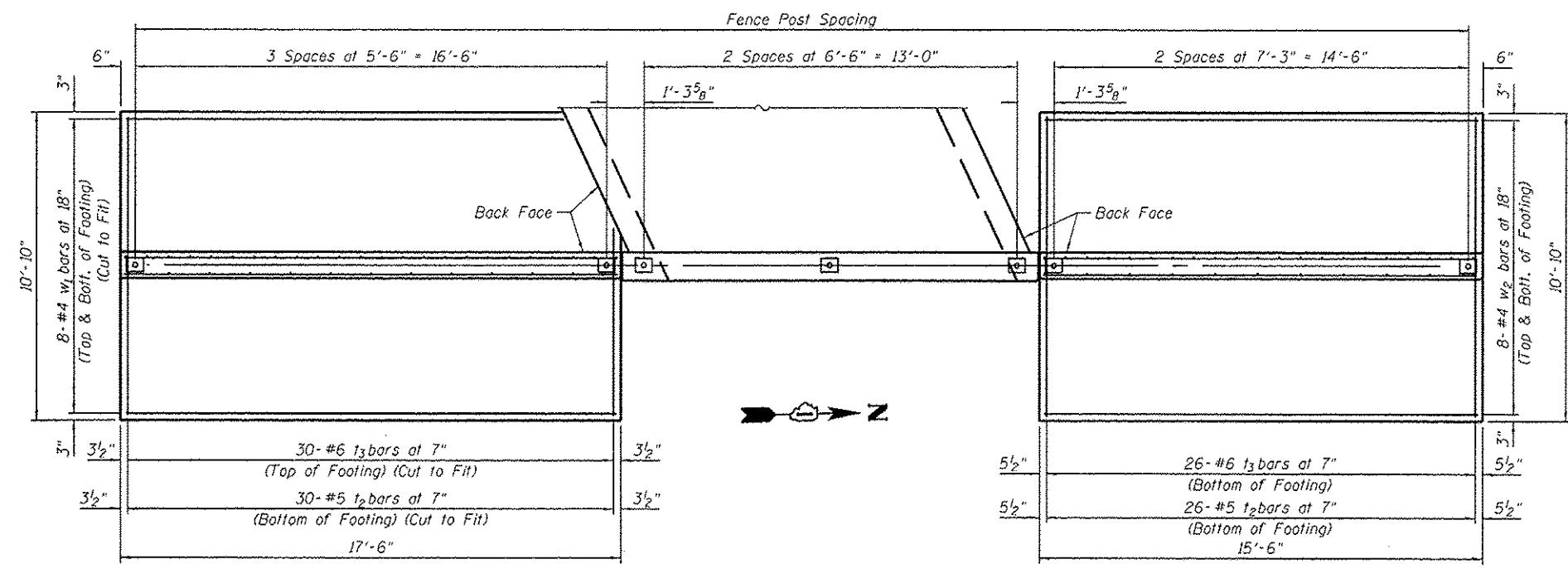
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

WINGWALL DETAILS
 S.N. 022-0542 (11'x9' BOX CULVERT) - STA 824 + 43.29

SHEET NO. 4 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 60V29				
ILLINOIS FED. AID PROJECT				

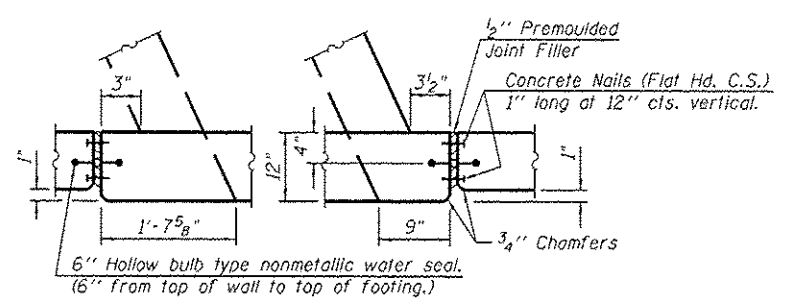
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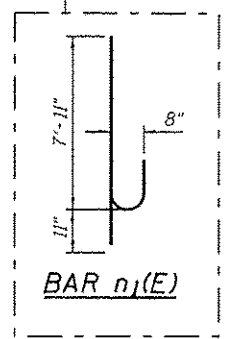
PLAN SE WINGWALL

PLAN NE WINGWALL

MINIMUM BAR LAP
#5 = 3'-2"

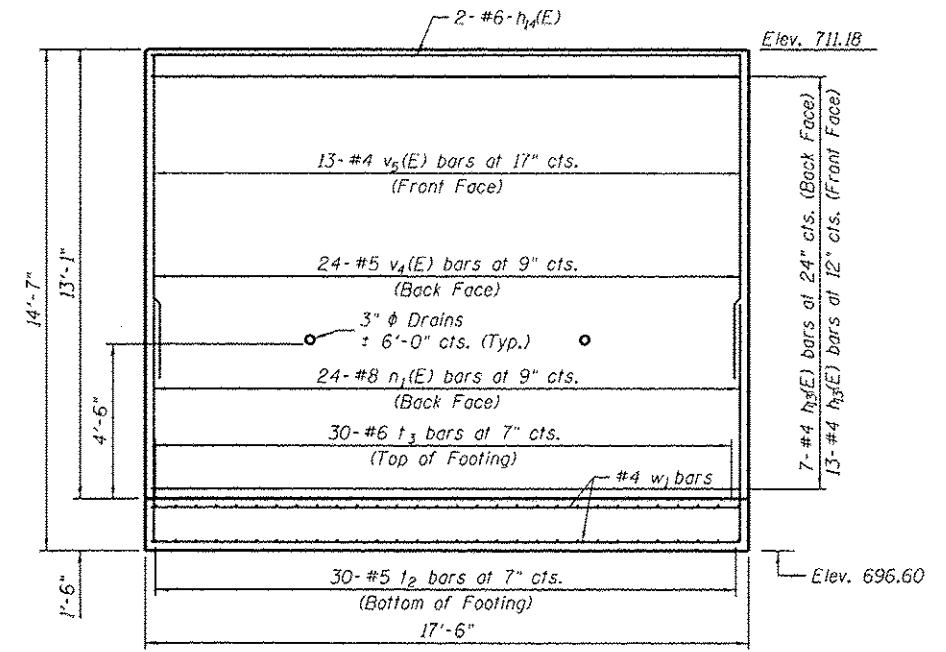


CORNER DETAIL

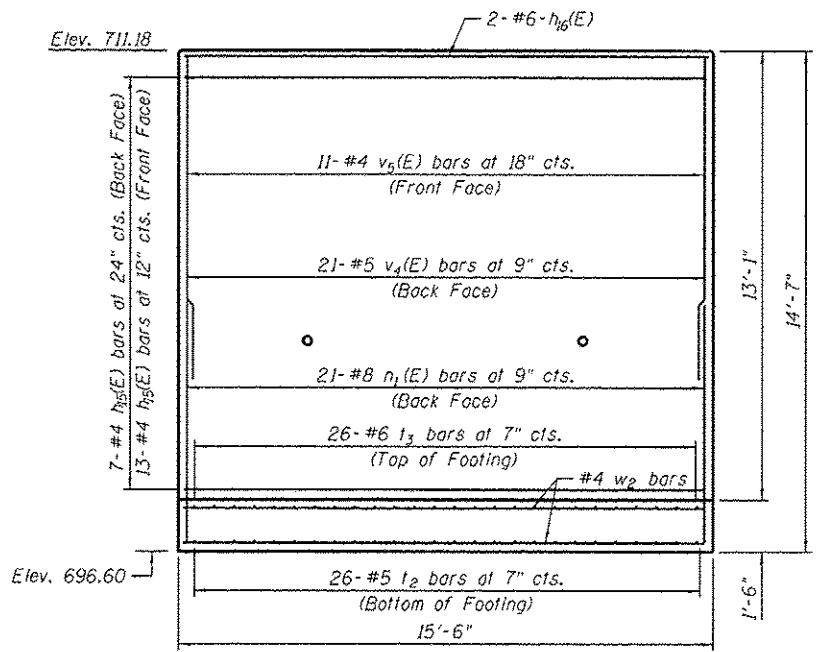


BILL OF MATERIAL

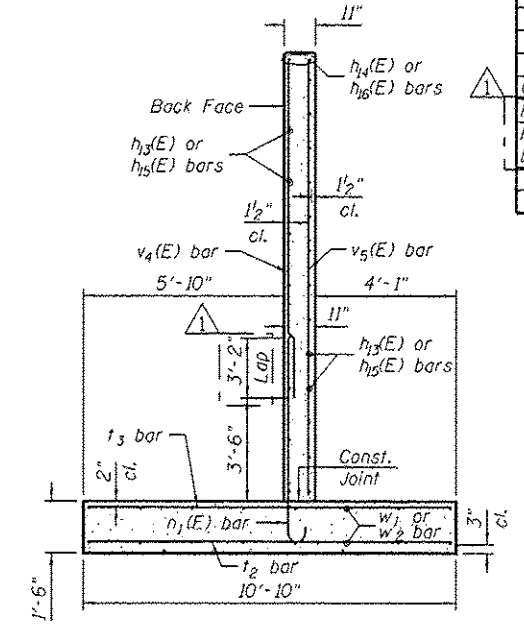
Bar	No.	Size	Length	Shape
h ₃ (E)	20	#4	17'-2"	
h ₄ (E)	2	#6	17'-2"	
h ₅ (E)	20	#4	15'-2"	
h ₆ (E)	2	#6	15'-2"	
n ₁ (E)	45	#8	8'-10"	
t ₂	56	#5	10'-6"	
t ₃	56	#6	10'-6"	
v ₄ (E)	45	#5	9'-5"	
v ₅ (E)	24	#4	12'-9"	
w ₁	16	#4	17'-0"	
w ₂	16	#4	15'-0"	
Concrete Box Culverts				Cu. Yd. 34.3
Reinforcement Bars				Pound 1840
Reinforcement Bars, Epoxy Coated				Pound 2010



ELEVATION SE WINGWALL



ELEVATION NE WINGWALL



SECTION

NOTES

See Sheet 6 of 10 for Chain Link Fence details.

All wingwall stem reinforcement bars are epoxy coated

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PLLOT DATE = 10/23/2015	DRAWN - JA	REVISD -
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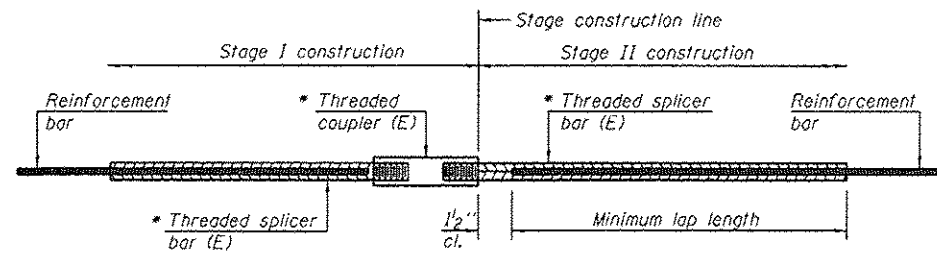
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WINGWALL DETAILS
S.N. 022-0542 (11'x9' BOX CULVERT) - STA 824+43.29

SHEET NO. 5 OF 10 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
870	534X-B		66	41
CONTRACT NO. 60V29			ILLINOIS FED. AID PROJECT	

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STANDARD BAR SPLICER ASSEMBLY

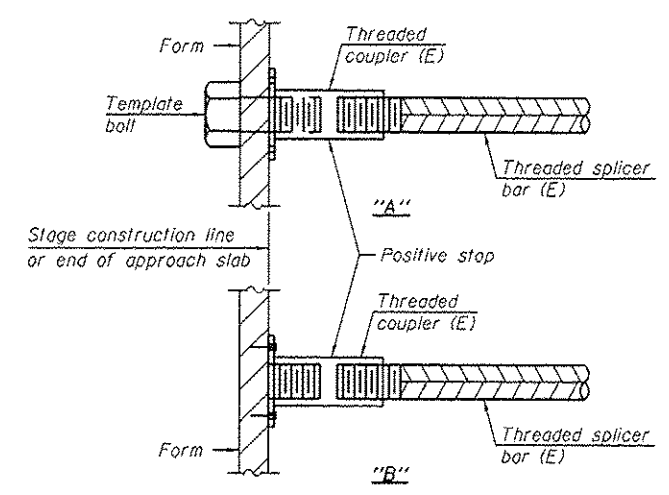
Bar size to be spliced	Minimum Lap Lengths					
	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

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

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

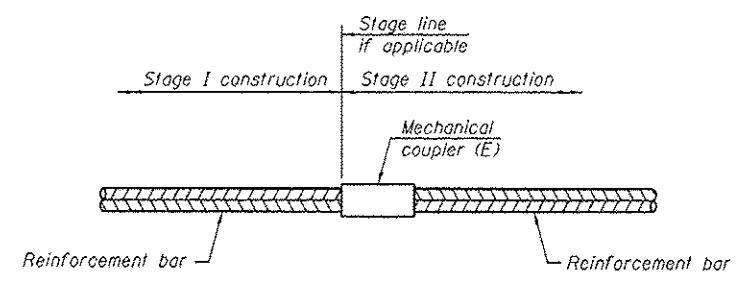
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Top of Top Slab	#4	12	Table 1
Bottom of Top Slab	#6	11	Table 1
Top of Bottom Slab	#5	11	Table 1
Bottom of Bottom Slab	#5	13	Table 1
North Wall	#5	20	Table 2
South Wall	#5	20	Table 2



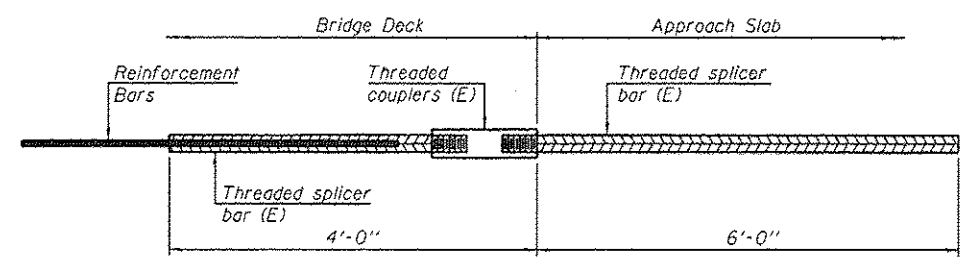
INSTALLATION AND SETTING METHODS

"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.



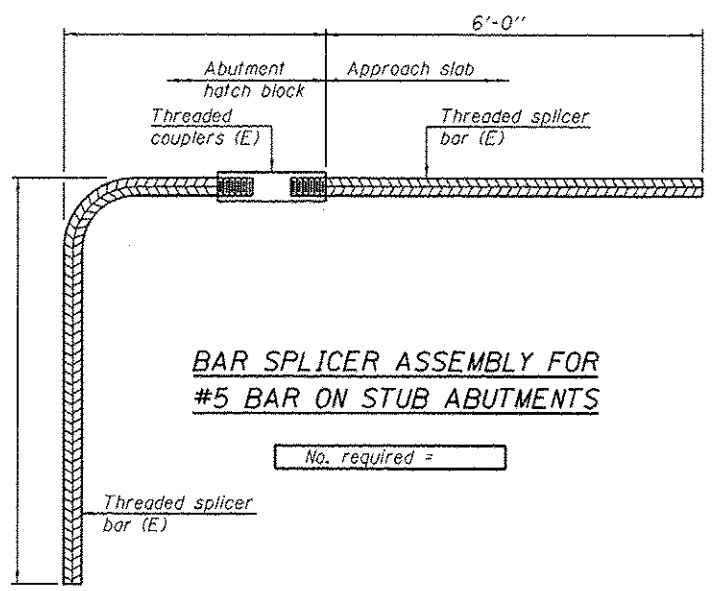
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Bar Splicers	Each	87

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

1-27-12

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PLOT SCALE = 0.2 1/4" = 1"	CHECKED - CDL	REVISD -
PLOT DATE = 10/23/2015	DRAWN - JA	REVISD -
	DATE - 10/23/2015	REVISD -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
 S.N. 022-0542 (11'x9' BOX CULVERT) - STA 824 + 43.29

SHEET NO. 8 OF 10 SHEETS

F.A.P. RTE. =	SECTION =	COUNTY =	TOTAL SHEETS =	SHEET NO. =
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CONTRACT NO. 60V29			ILLINOIS FED. AID PROJECT	