

09-21-12 LETTING ITEM 038

INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES, HIGHWAY STANDARDS, & TYPICAL SECTION
- 3 SUMMARY OF QUANTITIES & QUANTITY SCHEDULES
- 4 PLAN AND PROFILE
- 5 EROSION CONTROL
- 6-12 BRIDGE PLANS
- 13-15 CROSS SECTIONS

ENGINEERING PLANS FOR

TR 92 BRIDGE REPLACEMENT

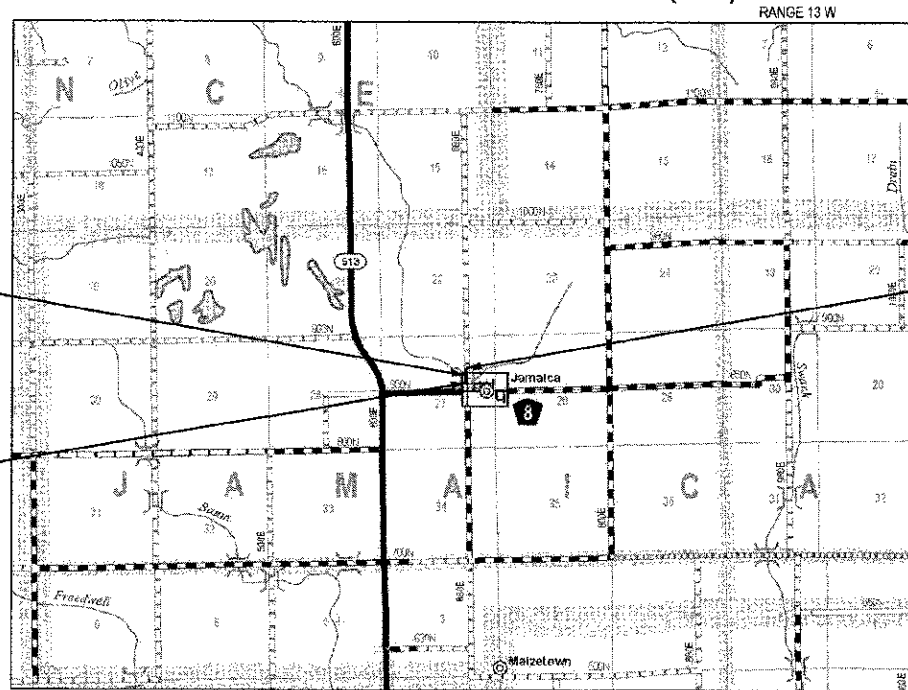
HIGHWAY BRIDGE PROGRAM

JAMAICA TOWNSHIP VERMILION COUNTY ILLINOIS

JOB NUMBER : C-95-330-11
 SECTION NUMBER : 05-09118-00-BR
 PROJECT NUMBER : BROS-0183(312)



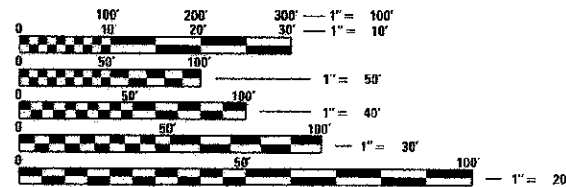
LOCATION OF SECTION INDICATED THUS:



STRUCTURE REPLACEMENT
 OVER JORDAN CREEK
 DISTRICT 5
 STATION 5+00.00
 EXISTING SN: 092-3095
 PROPOSED SN: 092-3508

PROJECT BEGINS
 STA 4+00.00

PROJECT ENDS
 STA 6+00.00

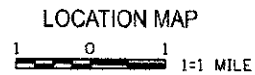


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.



Know what's below.
 Call before you dig.

PROJECT ENGINEER: ADAM GROVES



LENGTH = 200.00 FT = 0.038 MILE
 FUNCTIONAL CLASSIFICATION = LOCAL ROAD
 ADT = 25
 DESIGN SPEED = 30 MPH

ESI ESI CONSULTANTS, LTD
 783 WINNERS ROAD
 CHARLESTON, IL 61820
 (217) 245-1000
 WWW.ESICONSULTANTS.LTD.COM

ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003695
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APPROVED	<i>June 11 20 2012</i> <i>Boyle R. Stuber</i> COUNTY ENGINEER
APPROVED	<i>June 11 20 2012</i> <i>William E. Knight</i> ROAD COMMISSIONER
PASSED	<i>June 18 20 12</i> <i>Scott J. Kelly</i> DISTRICT FIVE ENGINEER OF LOCAL ROADS & STREETS
Releasing For Bid Based on Limited Review	<i>June 20 20 12</i> <i>John</i> DEPUTY DIRECTOR OF HIGHWAYS, REGION THREE ENGINEER STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION



Daniel Feuerborn
 License Expires 11-30-2013

GENERAL NOTES

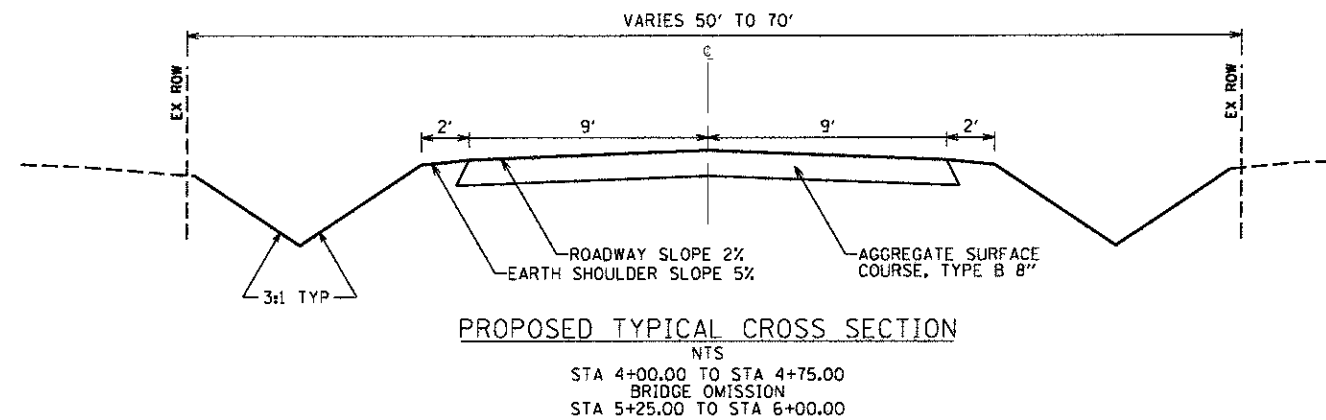
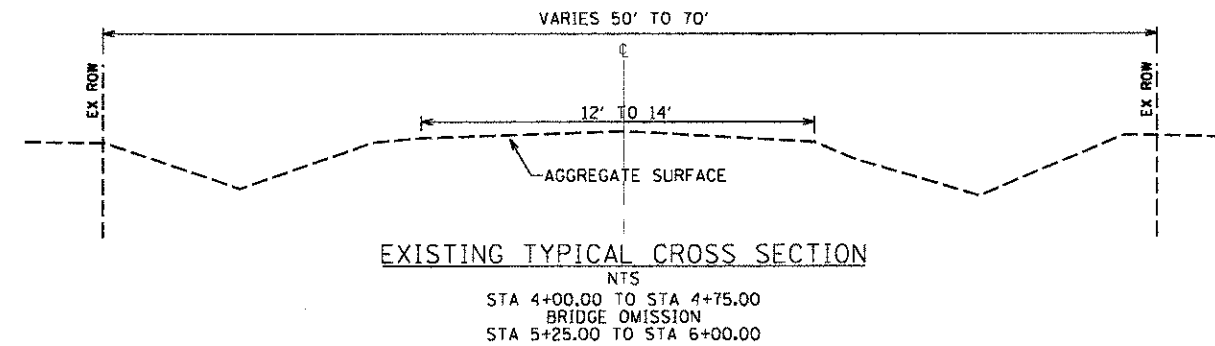
1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED JANUARY 1, 2012," THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.
2. THE CONTRACTOR SHALL COORDINATE ACTIVITIES WITH ALL UTILITIES WITHIN THE PROJECT LIMITS. THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE, BUT ARE NOT GUARANTEED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THEIR EXACT LOCATIONS FROM THE UTILITY COMPANIES AND BY FIELD INSPECTION. THE CONTRACTOR IS REQUIRED TO CONTACT J.U.L.I.E. AT 1-800-892-0123, PRIOR TO PROCEEDING WITH ANY EXCAVATION AND WORK ON THE PROJECT.
3. THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES...
 AGGREGATE SURFACE COURSE, TYPE B - 1.8 TON/CU YD
 MULCH METHOD - 2.0 TON/ACRE
 TEMPORARY SEEDING - 100LB/ACRE

LIST OF ILLINOIS DOT HIGHWAY STANDARDS

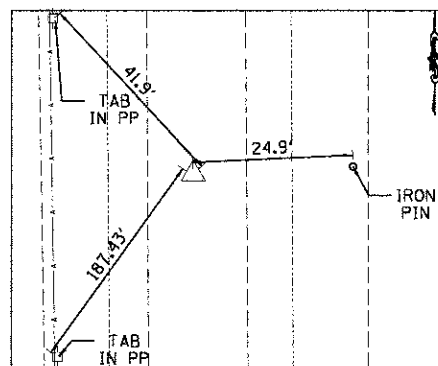
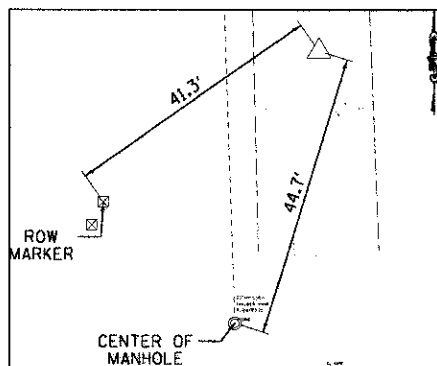
STANDARD NO. DESCRIPTION

000001-06	STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS
280001-06	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGES
601101-01	CONCRETE HEADWALL FOR PIPE DRAIN
635006-03	REFLECTOR AND TERMINAL MARKER PLACEMENT
701901-02	TRAFFIC CONTROL DEVICES
BLR-21-9	TYP APP OF TRAFFIC CONTROL DEVICES, CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR-22-7	TYP APP OF TRAFFIC CONTROL DEVICES, CONSTRUCTION ON RURAL LOCAL HIGHWAYS, RURAL TRAFFIC, 2L, 2W, ROAD CLOSED TO THRU TRAFFIC

TYPICALS



ALIGNMENT AND TIES



POT STA 0+00.00
 N: 1210988.0976
 E: 1130939.4503

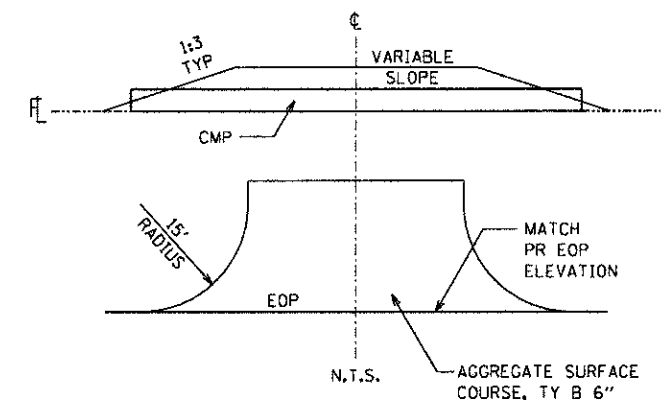
POT STA 11+00.00
 E: 1212087.9866
 N: 1130923.8262

NOTE:
 STATION EQUATION
 2+00.00 = 100+00.00

SET 5/8" IRON PIN & CAP
 N: 1210937.9697
 E: 1130941.1625
 STA 97+49.85
 1.0' RT

SET 5/8" IRON PIN & CAP
 N: 1212487.8133
 E: 1130919.1467
 STA 14+99.85
 1.0' RT

TYP ENTRANCE DETAIL



NO.	DATE	DESCRIPTION OF REVISIONS	NO.	DATE	DESCRIPTION OF REVISIONS

SUMMARY OF QUANTITIES

SP	PAY CODE	ITEM	UNITS	TOTAL QUANTITY
	20200100	EARTH EXCAVATION	CU YD	200
	20300100	CHANNEL EXCAVATION	CU YD	56.5
	25000200	SEEDING, CLASS 2	ACRE	0.25
	25000400	NITROGEN FERTILIZER NUTRIENT	POUND	22.5
	25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	22.5
	25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	22.5
	25100115	MULCH, METHOD 2	ACRE	0.25
	28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	25
*	28000305	TEMPORARY DITCH CHECKS	FOOT	54
	28000500	INLET AND PIPE PROTECTION	EACH	1
	28100207	STONE RIPRAP, CLASS A4	TON	162
	28200200	FILTER FABRIC	SQ YD	270
	40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	133
	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
	50105220	PIPE CULVERT REMOVAL	FOOT	20
	50200100	STRUCTURE EXCAVATION	CU YD	64.8
	50300225	CONCRETE STRUCTURES	CU YD	17.7
	50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	1308
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3530
A	50900205	STEEL RAILING, TYPE S1	FOOT	97
	51201400	FURNISHING STEEL PILES HP 10X42	FOOT	300
	51202305	DRIVING PILES	FOOT	300
	51203400	TEST PILE STEEL HP10X42	EACH	2
	51204650	PILE SHOES	EACH	10
	51500100	NAME PLATES	EACH	1
	542D0217	PIPE CULVERTS, CLASS D, TYPE 1 12"	FOOT	27
	59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	36.3
	67100100	MOBILIZATION	L SUM	1
	70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
A	78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
*	XX004566	CONCRETE CUT-OFF WALL	CU YD	6.2

A: SPECIALTY ITEMS

EARTHWORK SCHEDULE

STATION	CUT		FILL		TOTAL CU YD
	SQ FT	CU YD	SQ FT	CU YD	
4+00	15.6		2.3		
4+30	26.0		0.7		24.8
4+60	57.4		10.2		52.4
4+75	59.4		2.7		36.0
BRIDGE OMISSION					
5+25	50.4		1.2		25.7
5+40	38.2		2.8		42.1
5+70	32.3		2.4		37.6
6+00	23.4		9.5		
TOTAL CUT EARTH EXCAVATION		TOTAL FILL EMBANKMENT		TOTAL EARTHWORK	
200 CU YD		25 CU YD		225 CU YD	
FURNISHED EXCAVATION =				0 CU YD	

* FURNISHED EXCAVATION INCLUDES 25% SHRINKAGE AND 5% WASTE OF EARTH EXCAVATION.

TEMP DITCH CHECK

STATION	OFFSET	SIDE	TEMPORARY DITCH CHECK (FOOT)
4+15.75	0+17.20	RT	6.0
4+40.66	0+19.40	RT	6.0
4+65.55	0+21.60	RT	6.0
5+19.89	0+20.00	RT	6.0
5+44.87	0+18.90	RT	6.0
5+69.80	0+17.10	RT	6.0
5+21.82	0+19.30	LT	6.0
5+46.78	0+17.80	LT	6.0
5+71.69	0+15.70	LT	6.0
TOTAL :			54

AGGREGATE SCHEDULE

STATION	TO STATION	AGG SURF CSE, TY B, 8" (SQ YD)	AGG SURF CSE, TY B, 6" (SQ YD)
4+00.00	- 4+75.00	136.7	
5+25.00	- 6+00.00	136.7	
FE 4+56.50			40.4
FE 5+90.00			38.5
TOTAL :		274	77

PRINTED DATE: 6/11/2012
 PROJECT: 05-TR 92 OVER JORDAN CREEK
 DRAWN BY: ADG
 CHECKED BY: ADG
 DATE: 05-17-2012
 ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #164-003885

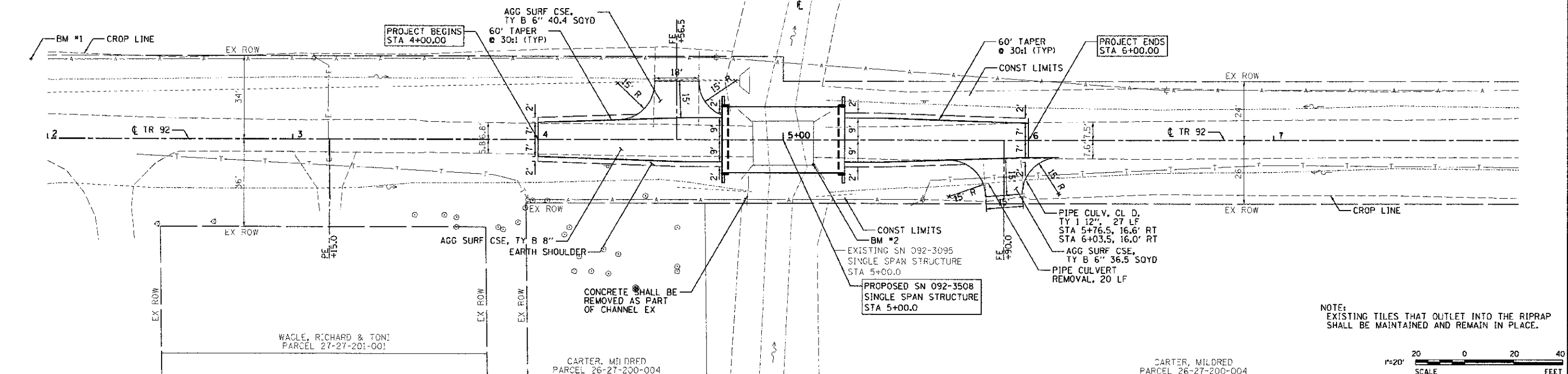
NO.	DATE	DESCRIPTION OF REVISIONS	NO.	DATE	DESCRIPTION OF REVISIONS

BENCH MARK #1 - SPIKE IN POWER POLE
 STA 1+93.19, 33.2' LT, ELEV = 667.59
 BENCH MARK #2 - CUT " " IN NORTH END OF EAST HUB GUARD
 STA 5+12.20, 10.0' RT, ELEV = 669.13
 BENCH MARK #3 - SPIKE IN POWER POLE
 STA 8+67.00, 19.94' LT, ELEV = 669.88

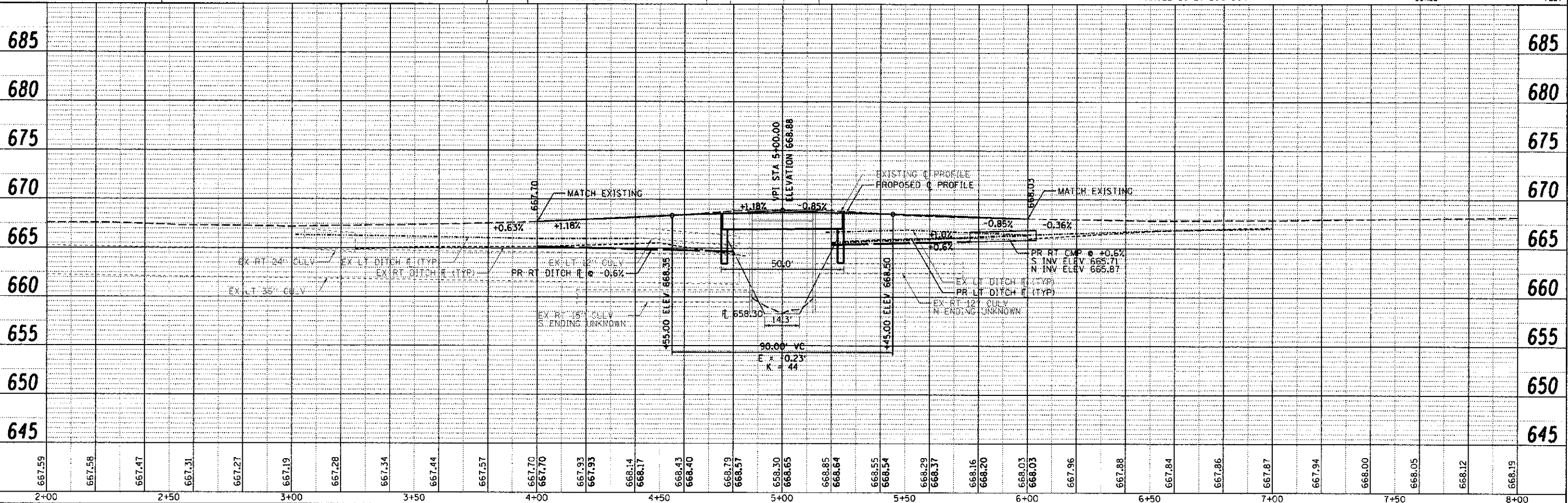
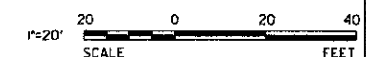
GUICHARD, GLORIA & DONALD
 PARCEL 26-27-200-001

GUICHARD, GLORIA & DONALD
 PARCEL 26-27-200-001

CONTRACT NUMBER: 91463



NOTE:
 EXISTING TILES THAT OUTLET INTO THE RIPRAP
 SHALL BE MAINTAINED AND REMAIN IN PLACE.



667.59	667.58	667.47	667.31	667.27	667.19	667.28	667.34	667.44	667.57	667.70	667.70	667.93	667.93	668.14	668.17	668.43	668.40	668.79	668.57	668.30	668.65	668.85	668.84	668.55	668.54	668.29	668.37	668.16	668.20	668.03	668.03	667.96	667.88	667.84	667.86	667.87	667.94	668.00	668.05	668.12	668.19
2+00	2+50	3+00	3+50	4+00	4+50	5+00	5+50	6+00	6+50	7+00	7+50	8+00																													

ESI CONSULTANTS, LTD
 753 WINDSOR ROAD
 CHARLESTON, IL 61910
 (217) 543-1900
 WWW.ESICONSULTANTS.COM
 ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003885

VERMILION COUNTY
 2732 Batestown Road
 Oakwood, IL 61858
 (217) 431-6682 Ext. 101

NO.	DATE	DESCRIPTION OF REVISIONS	NO.	DATE	DESCRIPTION OF REVISIONS

ESI PROJECT NO: 11-406
 FILE: 04_TR_92_PirPr.f
 DATE: 05-17-2012
 ENGR: ADG
 DRAWN BY: ADG
 QCQA:

TR 92 OVER JORDAN CREEK
05-09118-00-BR
JAMAICA TOWNSHIP - VERMILION COUNTY

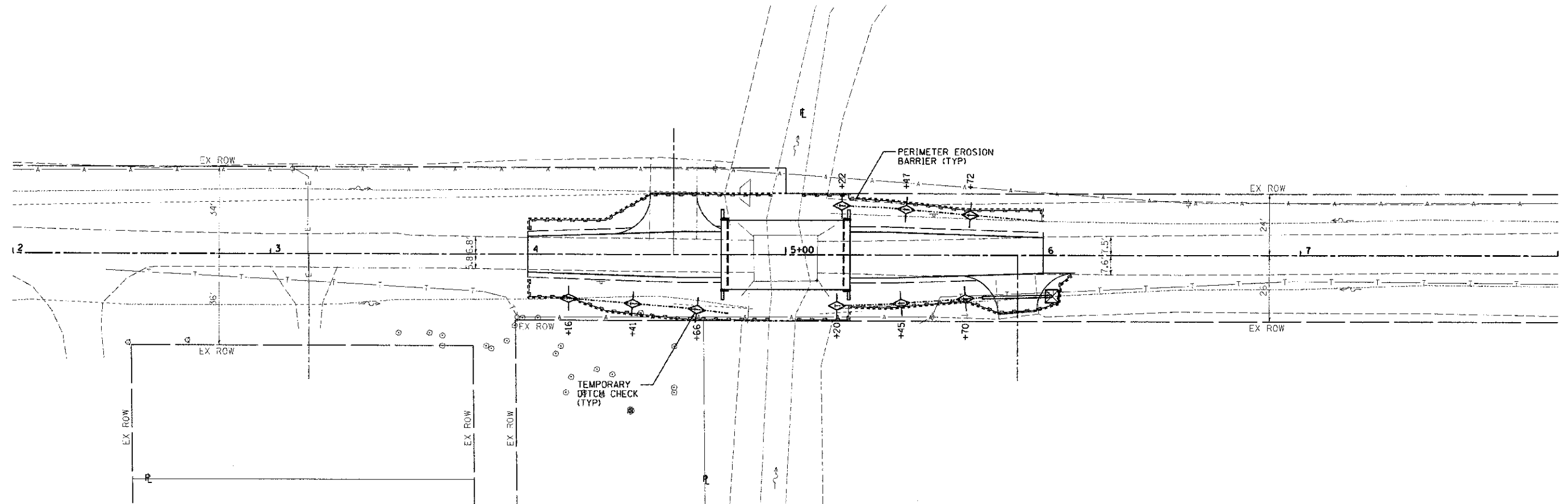
PLAN & PROFILE
 SHEET 1 OF 1
04
 OF 15

INTENDED SEQUENCE

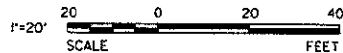
CONTRACT NUMBER: 91463



1. PLACEMENT OF PERIMETER EROSION CONTROL BARRIER PRIOR TO THE COMMENCEMENT OF ANY WORK ON THE PROJECT. SEE STANDARD 280001.
2. REMOVAL OF EXISTING STRUCTURE
3. CONSTRUCTION OF PROPOSED STRUCTURE
4. CONSTRUCTION OF PROPOSED ROADWAY AND SHOULDERS
5. CONSTRUCTION OF PROPOSED DITCHES AND ENTRANCES
6. PLACEMENT OF TEMPORARY DITCH CHECKS
7. SEEDING



NOTE:
DITCH CHECKS ARE SHOWN TO ACCOMMODATE AN ASSUMED HEIGHT OF 1.5'. DITCH CHECKS SHALL NOT BE SPACED ANY GREATER THAN THE HEIGHT OF DITCH CHECK DIVIDED BY THE DITCH SLOPE.



PRINTED DATE: 05/17/2012
 PLOT DATE: 05/17/2012
 PLOT TIME: 10:00:00 AM
 PLOT USER: J. ADG
 PLOT DEVICE: HP DesignJet 2550

ESI ESI CONSULTANTS, LTD
 723 WINDSOR ROAD
 CHARLESTON, IL 61922
 (217) 348-4900
 WWW.ESICONSULTANTS.LTD.COM
 ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #154-003666

VERMILION COUNTY
 2732 Batetown Road
 Oakwood, IL 61858
 (217) 431-6682 Ext. 101

NO.	DATE	DESCRIPTION OF REVISIONS	NO.	DATE	DESCRIPTION OF REVISIONS

ESI PROJECT NO: 11-405
 FILE: 05_TR 92.EroCtrl
 DATE: 05-17-2012
 ENGR: ADG
 DRAWN BY: ADG
 QCQA:

TR 92 OVER JORDAN CREEK
05-09118-00-BR
 JAMAICA TOWNSHIP - VERMILION COUNTY

EROSION CONTROL
 SHEET 1 OF 1

SHEET NUMBER
05
 OF 15

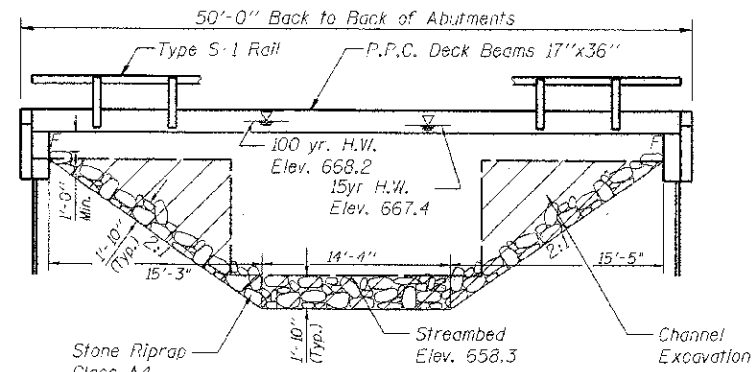
B.M. #1 - Sta. 1+93.19, 33.2' Left, Survey Spike in Power Pole, Elev. 667.59
 B.M. #2 - Sta. 5+12.20, 10.0' Right, Cut [J North End of East Hub Guard, Elev. 669.13
 B.M. #3 - Sta. 8+67.00, 19.94' Left, Survey Spike in Power Pole, Elev. 669.88

Existing Structure - Structure 092-3095 consists of a two span reinforced concrete deck on steel I-beams on timber pile abutments. The bk. to bk. of abutments length is 25' and the out-to-out width is 17.2'. The existing structure shall be completely replaced. Road closure shall be used during construction.

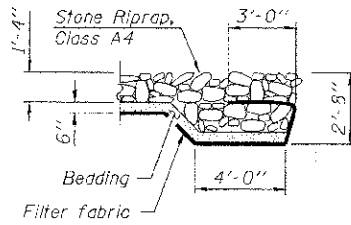
Salvage - Any material deemed salvageable by the Engineer shall be stockpiled on the R.O.W. and shall become the property of Jamaica Township. The Contractor shall dispose of all remaining material.

GENERAL NOTES

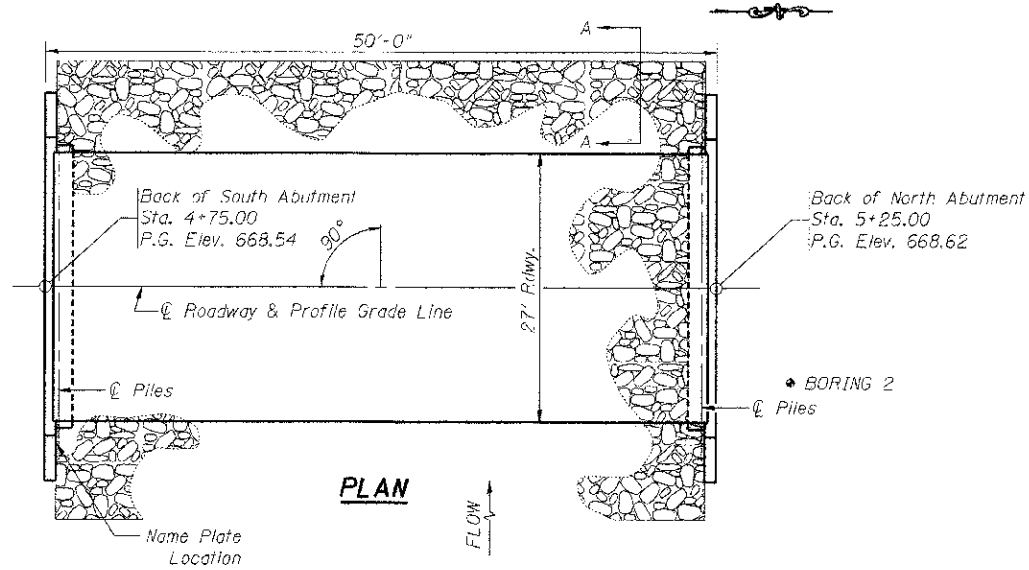
1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
4. The Contractor shall drive 1 test pile at each abutment, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.



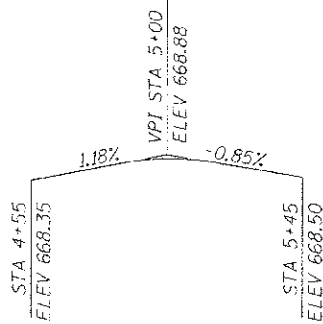
ELEVATION



SECTION A-A



PLAN



PROFILE GRADE

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications - 4th ed.

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.199
 Design Spectral Acceleration at 0.2 sec. (S_{D2}) = 0.185
 Soil Site Class = C

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $F_y = 60,000$ psi (reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 7,000$ psi
 $f'_ci = 6,000$ psi
 $F'_s = 270,000$ psi ($1/2$ " low relax. strands)
 $F_{sl} = 201,960$ psi ($1/2$ " low relax. strands)

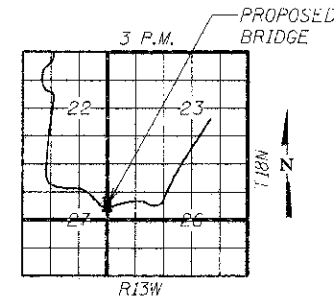
PILE DATA (2-ABUTS.)

Type STEEL HP 10 x 42
 Nominal Required Bearing 335 kips
 Factored Resistance Available 184 kips
 Estimated Pile Length 37' North Abt.
 38' South Abt.
 Number of Production Piles 10
 Number of Test Piles 0

JORDAN CREEK
 BUILT 201 BY
 VERMILION COUNTY
 SFC. 05-09118-00-BR
 PROJECT NO. BROS-0183(309)
 TR 92 STA. 5+00
 STR. NO. 092-3508 LOADING HL-93

LETTERING FOR NAME PLATE

Locate Name Plate on the outside face of the Southeast Wingwall.



LOCATION SKETCH

WATERWAY INFORMATION

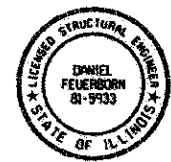
Drainage Area - 6.13 SQ MI Low Grade Elev. = 667.19 @ Sta. 3+00									
Flood	Freq. Yr.	C.F.S.	Opening	Nat.	Head	Headwater	Headwater	Headwater	Headwater
			Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
Design	15	681	176.6	301.6	667.4	0.0	0.0	667.4	667.4
Base	100	1090	185.6	301.6	668.2	0.2	0.1	668.4	668.3
Overtopping									
Max. Calc.	500								

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub. Abuts.	Total
Removal of Existing Structures	Each	-	-	1
Concrete Structures	Cu. Yd.	-	17.7	17.7
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1308	-	1308
Steel Bridge Railing, Type S-1	Foot	97	-	97
Reinforcement Bars, Epoxy Coated	Pound	-	3530	3530
Furnishing Steel Piles HP 10x42	Foot	-	300	300
Driving Piles	Foot	-	300	300
Name Plates	Each	1	-	1
Concrete Cut-off Wall	Cu. Yd.	-	6.2	6.2
Structure Excavation	Cu. Yd.	-	64.8	64.8
Stone Riprap Class A4	Ton	-	162	162
Channel Excavation	Cu. Yd.	-	56.5	56.5
Controlled Low-Strength Material	Cu. Yd.	-	36.3	36.3
Filter Fabric	Sq. Yd.	-	270	270
Test Piles Steel HP 10x42	Each	-	2	2
Pile Shoes	Each	-	10	10

INDEX OF SHEETS

1. General Plan & Elevation
2. Superstructure
3. Superstructure Details
4. Steel Railing
5. Abutment Details
6. Pile Details
7. Boring Logs



Daniel Feuerborn
 License Expires 11-30-2012
 Date

I certify that to the best of knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.

GENERAL PLAN & ELEVATION
TOWNSHIP ROUTE 92 OVER JORDAN CREEK
SEC. 05-09118-00-BR
VERMILION COUNTY
STATION 5+00.00
STRUCTURE NO. 092-3508

PREPARED DATE: 6/11/2012
 FILE: 05-09118-00-BR-01-001-001.dwg
 USER: jordan
 PLOT DATE: 6/11/2012



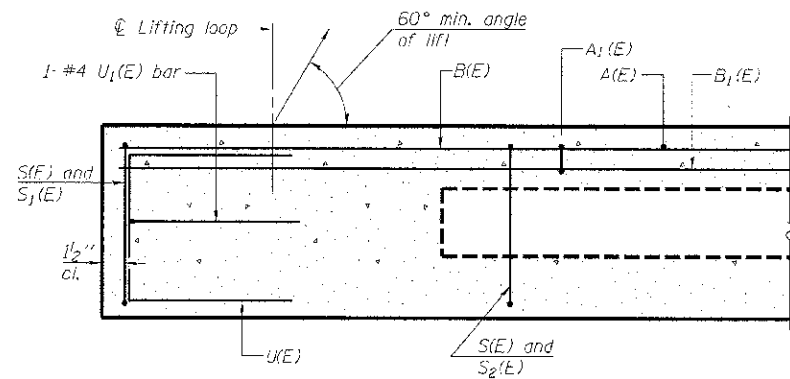
USER NAME = #USER#
 PLOT SCALE = 0.0033' / IN.
 PLOT DATE = 6/11/2012

DESIGNED - DF	REVISED -
CHECKED -	REVISED -
DRAWN - JEH, ADG	REVISED -
CHECKED - DF	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

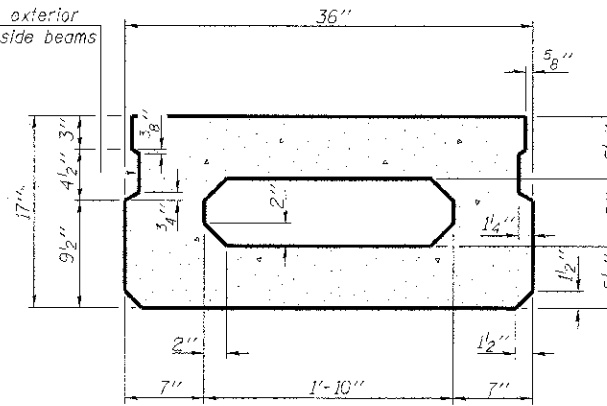
TWP. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
92	05-09118-00-BR	VERMILION	15 06

CONTRACT NO. 91463
 ILLINOIS FED. AID PROJECT

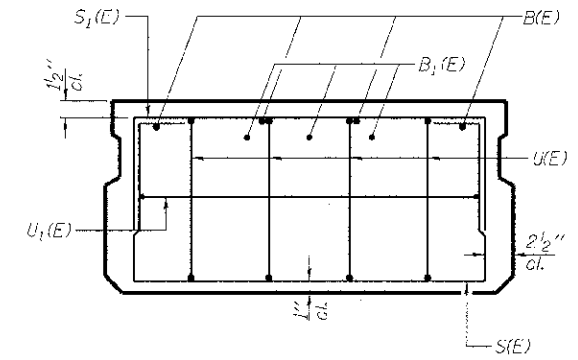


SECTION A-A

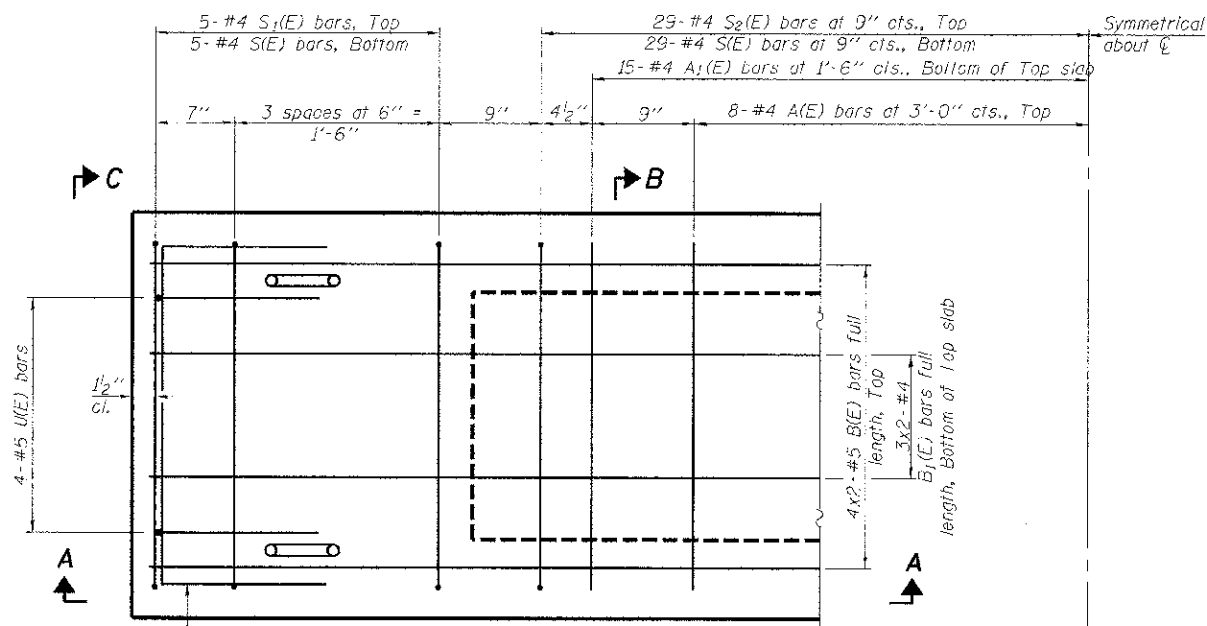
Omit key on exterior face of outside beams



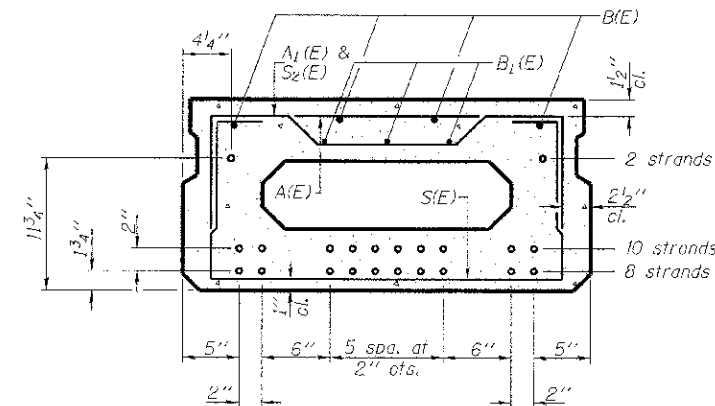
SECTION B-B
(Showing dimensions)



VIEW C-C



PLAN VIEW



SECTION B-B
(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	16	#4	2'-7"	—
A1(E)	30	#4	2'-10"	—
B(E)	8	#5	25'-4"	—
B1(E)	6	#4	25'-1"	—
S(E)	68	#4	5'-9"	—
S2(E)	10	#4	4'-3"	—
S2(E)	58	#4	4'-6"	—
U(E)	8	#5	3'-8"	—
U1(E)	2	#4	5'-0"	—

Note: See sheet of for additional details and Bill of Material.

MINIMUM BAR LAP

#4 bar = 2'-0"
#5 bar = 2'-6"

Note: Spacing of S1(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

PRINTED DATE: 6/11/2012 FILE NAME: \\proj\apps\design\subarea\02-18-02-Subarea.dgn

PD-1736-0

7-1-10

ESI
ESI CONSULTANTS, LTD
Chattanooga, Georgia, USA 30409

USER NAME = #USER#
PLOT SCALE = 0.8893 / IN
PLOT DATE = 6/11/2012

DESIGNED - DF
CHECKED -
DRAWN - JEH, ADG
CHECKED - DF

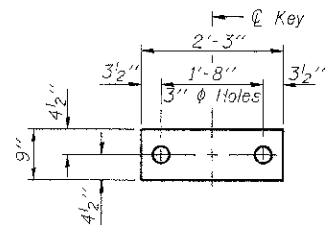
REVISED -
REVISED -
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REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

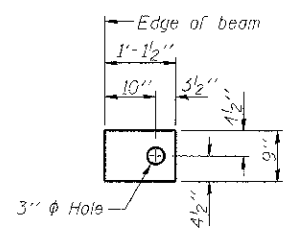
17" x 36" PPC DECK BEAM
STRUCTURE NO. 092-3508

SHEET NO 2 OF 7 SHEETS

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
92	05-09118-00-BR	VERMILION	15	07
CONTRACT NO. 91463			ILLINOIS FED. AID PROJECT	



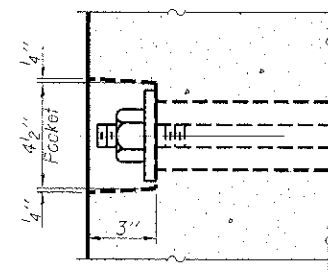
FABRIC BEARING PAD
(Interior)



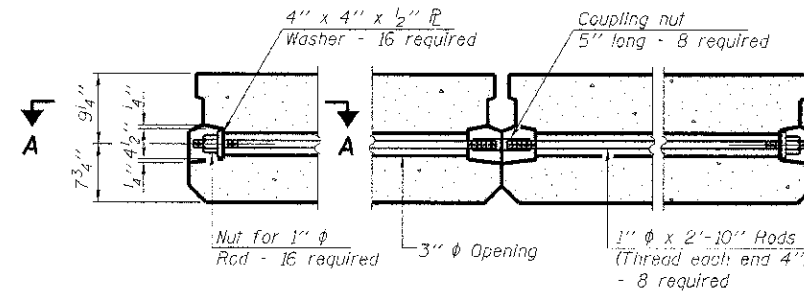
FABRIC BEARING PAD
(Exterior)

FIXED

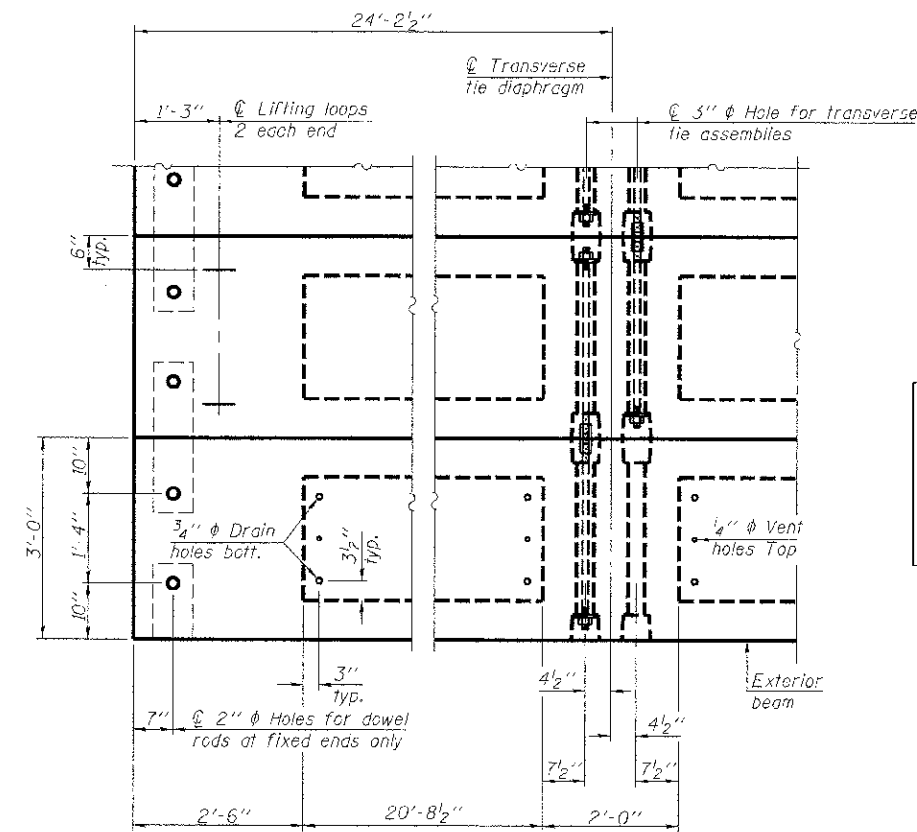
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



SECTION A-A

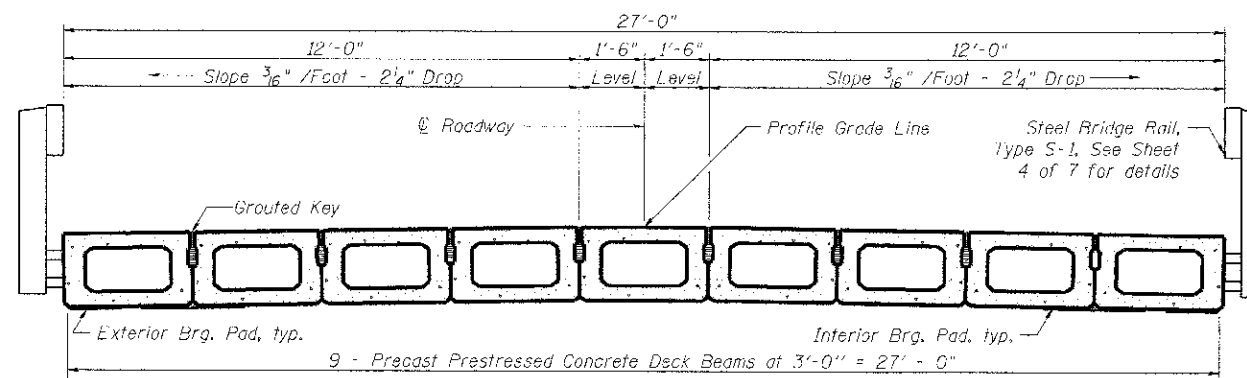


TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW

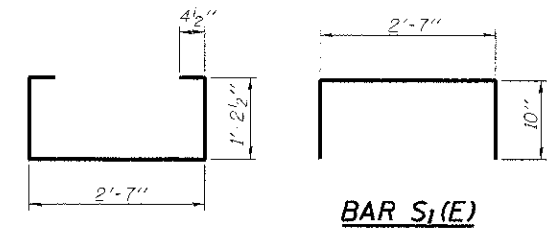
Note: Connect beams in pairs with the transverse tie configuration shown.



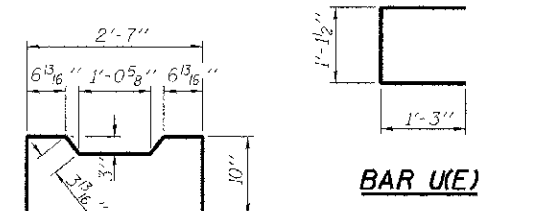
CROSS SECTION

NOTES

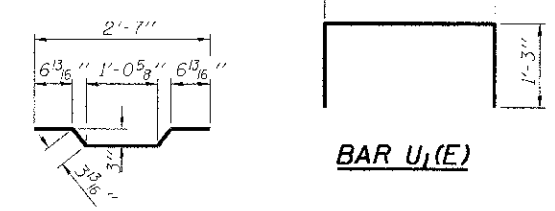
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" diameter rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.
Corrosion inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
Compressive strength of prestressed concrete, f'c, shall be 7000 psi.
Compressive strength of prestressed concrete at release, f'cl, shall be 6000 psi.



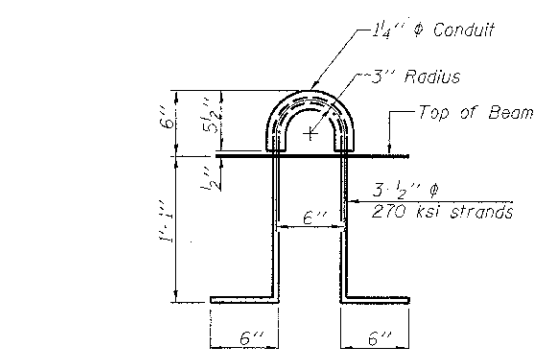
BAR S1(E)



BAR S2(E)



BAR U1(E)



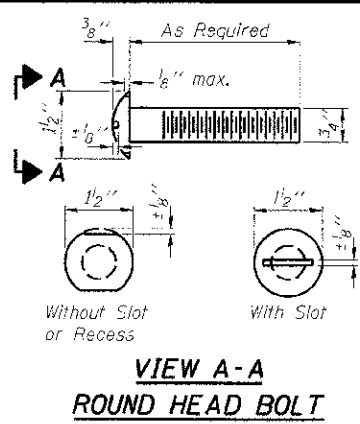
LIFTING LOOP DETAIL

BILL OF MATERIAL

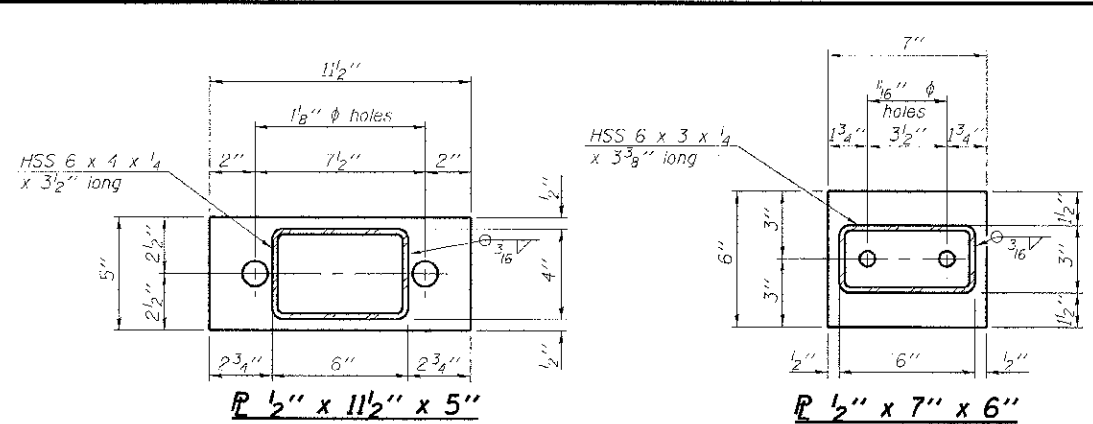
Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	1308
---	---------	------

PRINTED DATE: 6/11/2012 FILE NAME: c:\projects\1736\1736-00-01.dwg USER: jeh, adg, df DATE: 6/11/2012

PD-1736-0D	7-1-10	DESIGNED - DF	REVISER -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	17" x 36" PPC DECK BEAM DETAILS STRUCTURE NO. 092-3508	TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = 6/11/2012	CHECKED - DF	REVISER -	ILLINOIS FED. AID PROJECT							

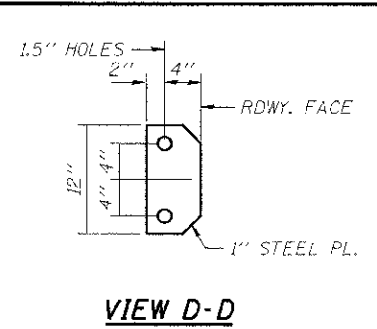


**VIEW A-A
ROUND HEAD BOLT**

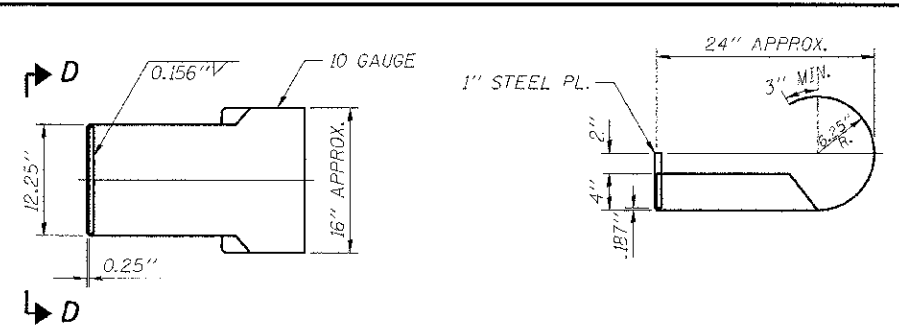


SECTION B-B

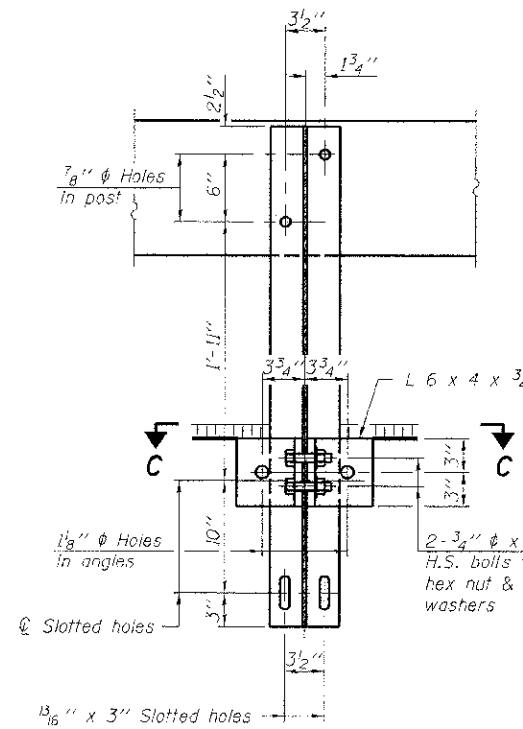
SECTION AT RAILING POST



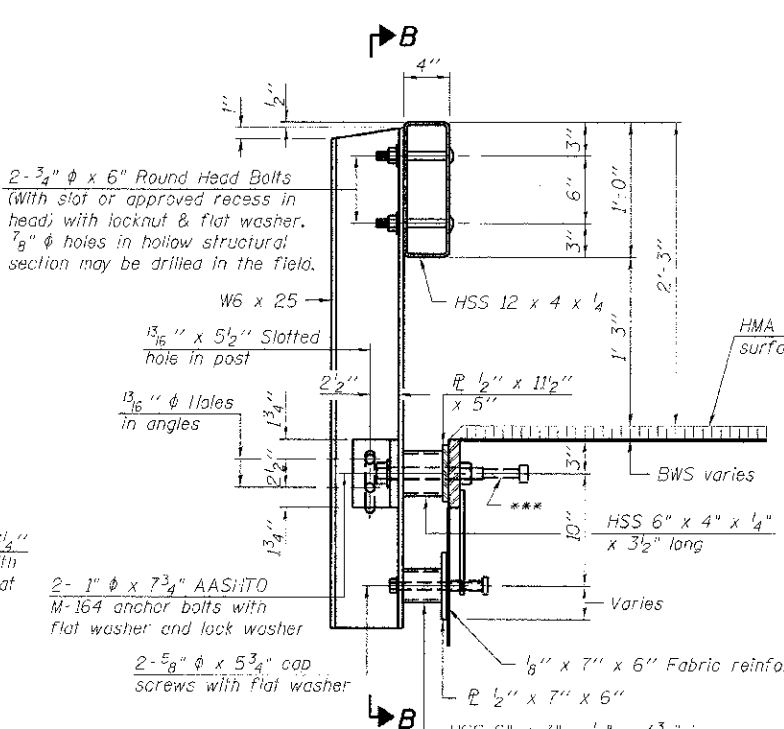
VIEW D-D



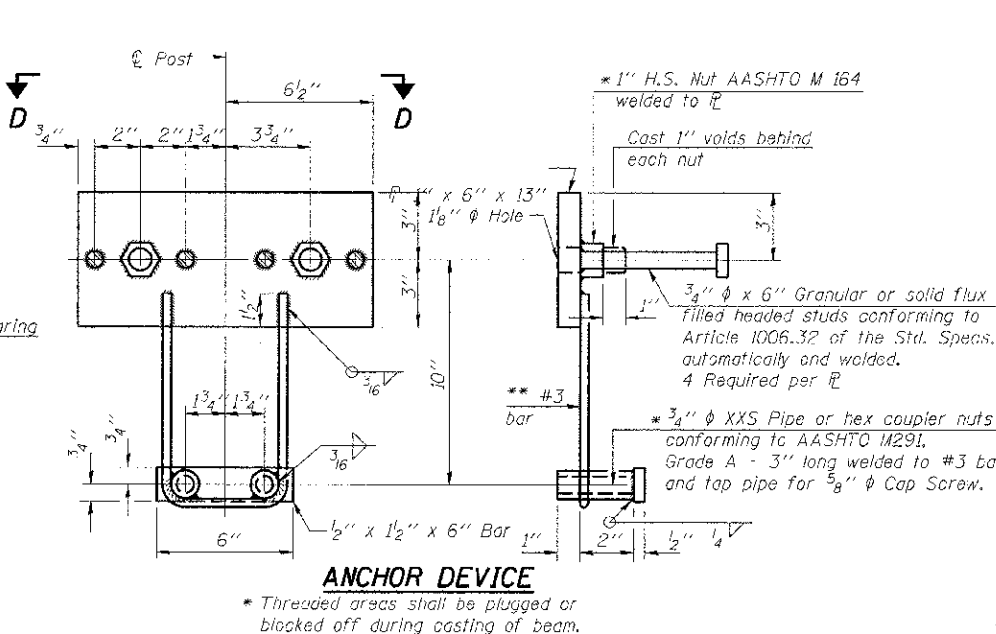
CURLED END SECTION DETAILS



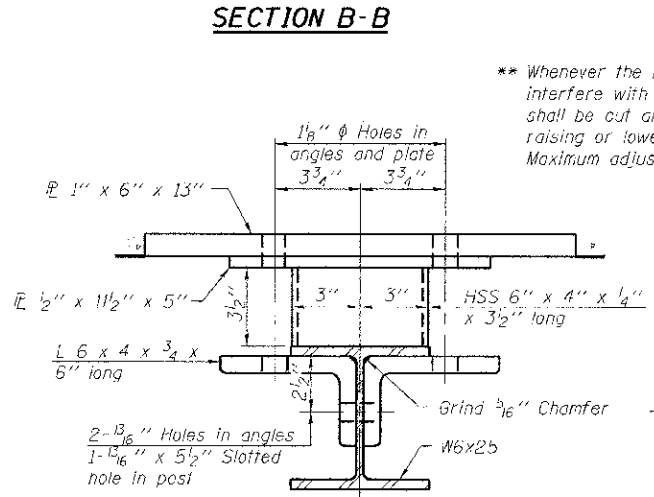
SECTION C-C



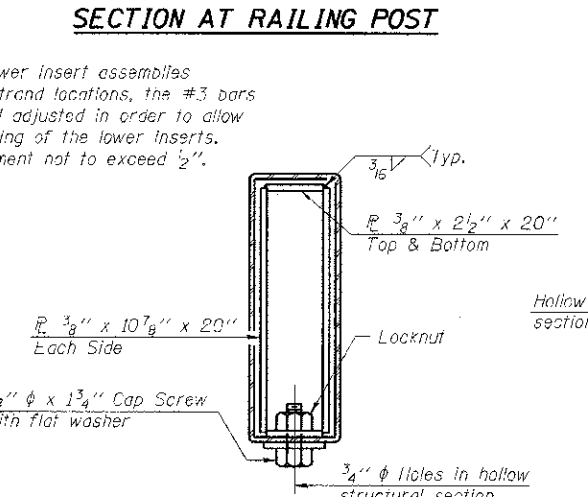
SECTION AT RAIL SPLICING



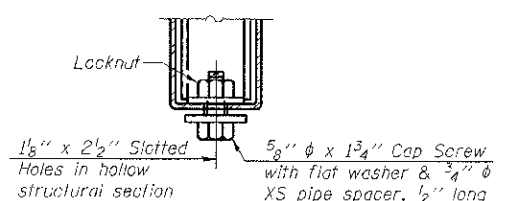
ANCHOR DEVICE



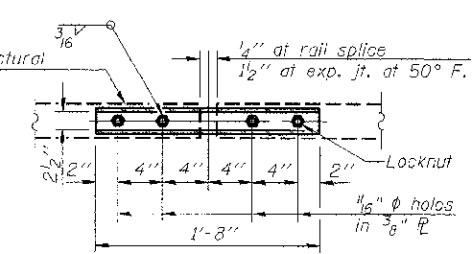
SECTION C-C



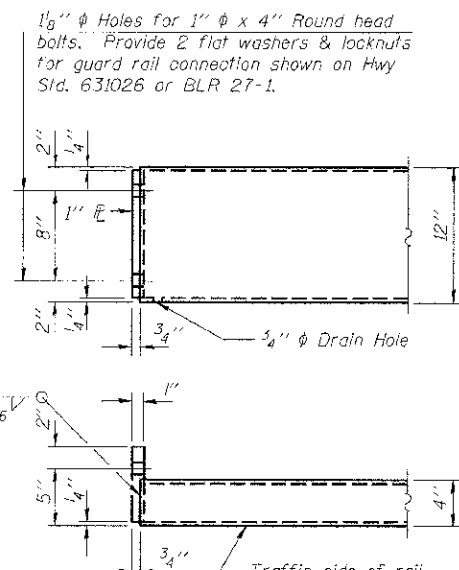
SECTIONS AT RAIL SPLICING



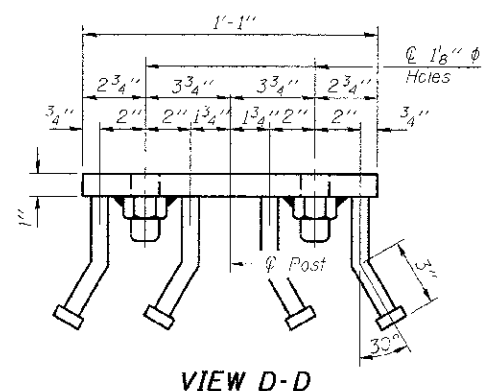
**RAIL SPLICE CONNECTION
AT EXPANSION JT.**



**PLAN-BOTT. SPLICE
TYPICAL**



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	97

** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2\".

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4\" x 6\" x 1'-2\" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

PRINTED DATE: 6/11/2012
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 USER: jeh
 PLOT DATE: 6/11/2012

R-23A 7-1-10 (10'-9\" Maximum Post Spacing)

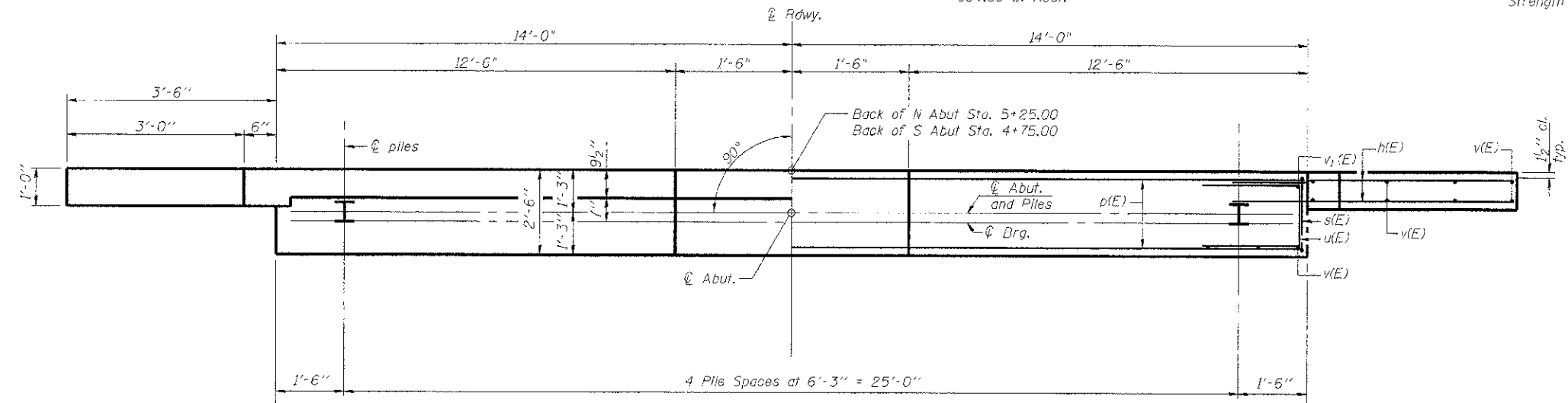
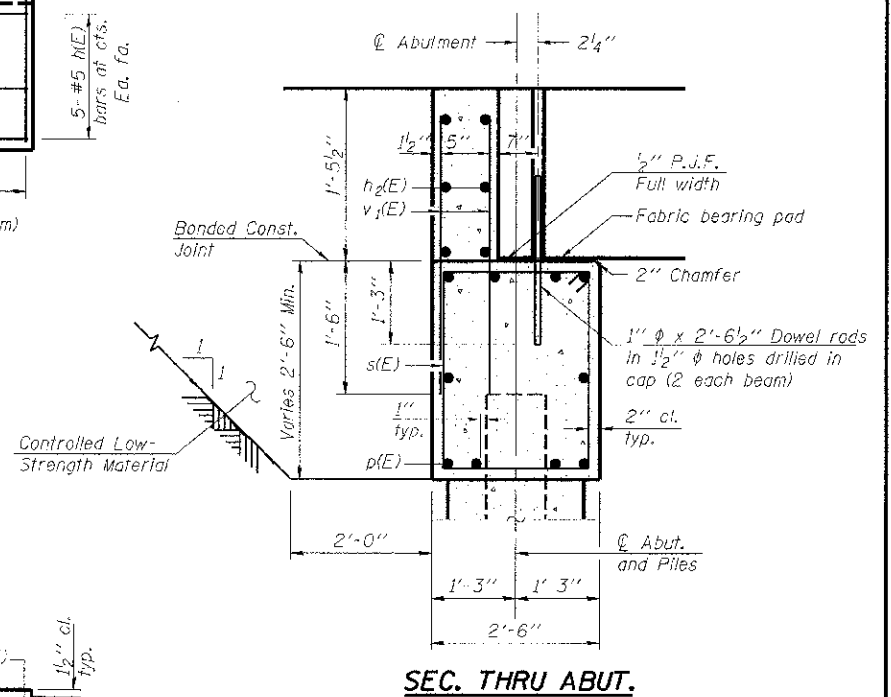
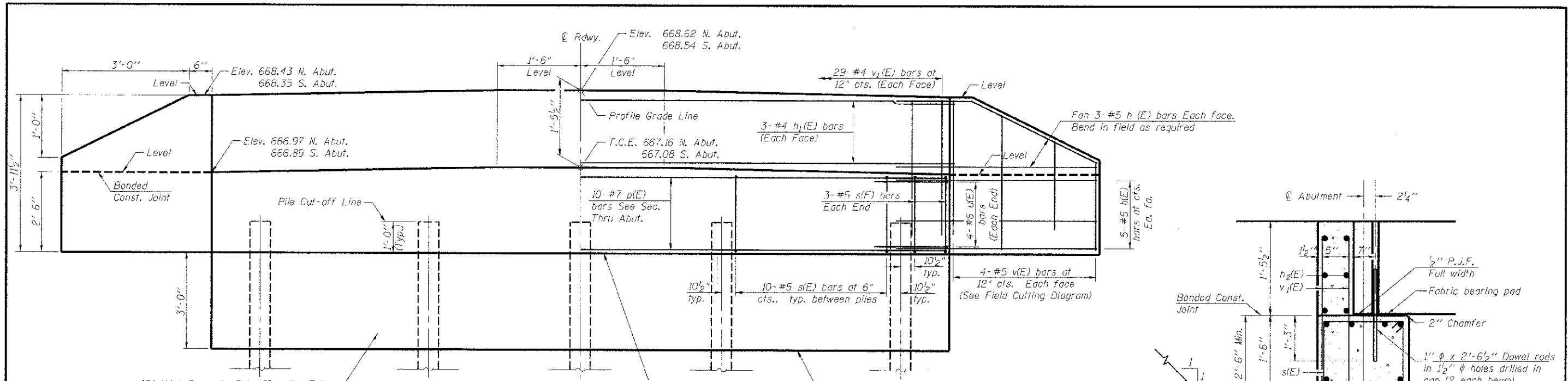


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	DRAWN	REVISIONS
	JEH, ADG	REVISIONS
	CHECKED	REVISIONS
	DF	REVISIONS

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

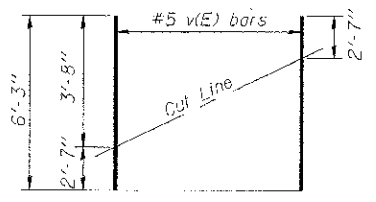
**STEEL RAILING, TYPE S-1
STRUCTURE NO. 092-3508
SHEET NO 4 OF 7 SHEETS**

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
92	05-09118-00-BR	VERMILION	15	09
				CONTRACT NO. 91463
ILLINOIS FED. AID PROJECT				



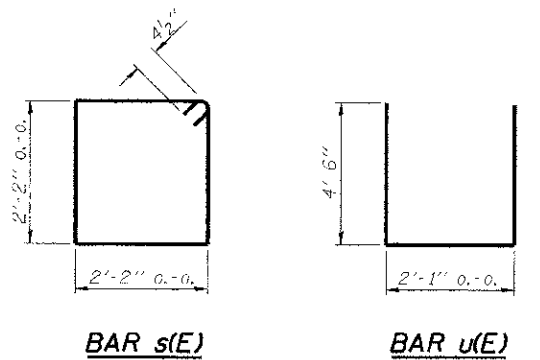
PILE DATA (2-ABUTS.)

Type	STEEL HP 10x42
Nominal Required Bearing	335 kips
Factored Resistance Available	184 kips
Estimated Pile Length	37 Feet North Abut. and 38 Feet South Abut.
Number of Production Piles	8
Number of Test Piles	2



FIELD CUTTING DIAGRAM

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



Notes

The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
Space reinforcement in cap to miss anchor bolts.

BILL OF MATERIAL TWO ABUTMENTS

Bar	No.	Size	Length	Shape
h ₁ (E)	64	#5	6'-6"	—
h ₂ (E)	12	#5	27'-8"	—
p(E)	20	#7	27'-8"	—
s(E)	92	#5	9'-5"	□
u(E)	16	#6	1'-1"	—
v(E)	16	#5	6'-3"	—
v ₁ (E)	116	#5	2'-10"	—
Structure Excavation		Cu. Yd.	64.8	
Concrete Structures		Cu. Yd.	17.7	
Reinforcement Bars, Epoxy Coated		Pound	3530	
Furnishing Steel Piles HP 10x42		Foot	300	
Driving Piles		Foot	300	
Concrete Cut-off Wall		Cu. Yd.	6.2	
Controlled Low-Strength Material		Cu. Yd.	36.3	
Test Piles Steel HP 10x42		Each	2	
Pile Shoes		Each	10	

PRINTED DATE: 6/11/2012
FILE NAME: m:\projects\vermillion\county\0911-426\1-92 - e\rdw\enr\sheet\0911-426\0911-426.dwg



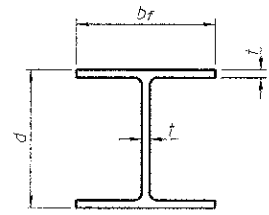
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS
STRUCTURE NO 092-3508

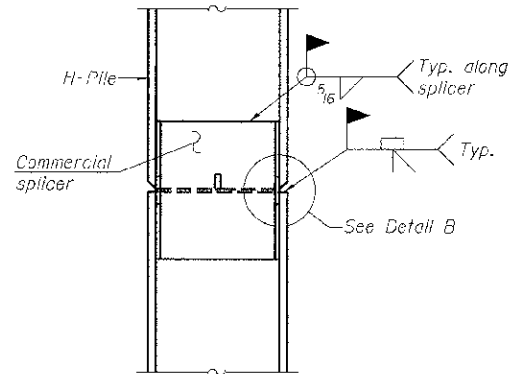
SHEET NO 5 OF 7 SHEETS

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
92	05-09118-00-BR	VERMILION	15	10
			CONTRACT NO. 91463	
ILLINOIS FED. AID PROJECT				

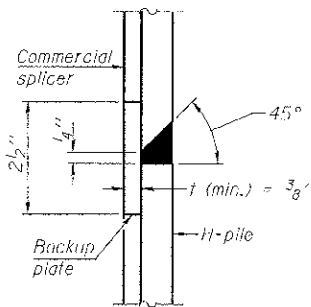


STEEL PILE TABLE

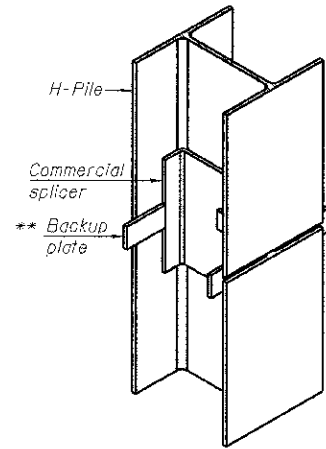
Designation	Depth d	Flange width b _f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 1/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/2"	12 1/2"	5/8"	24"
x63	12"	12 3/8"	1/2"	24"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



ELEVATION

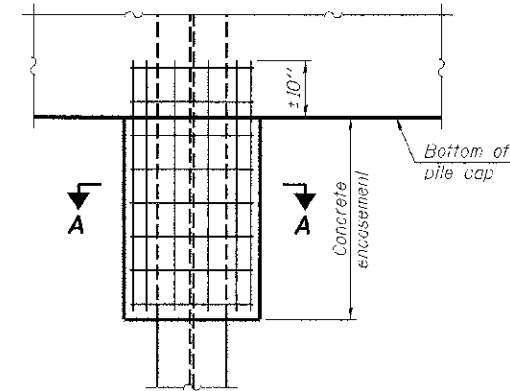


DETAIL "B"



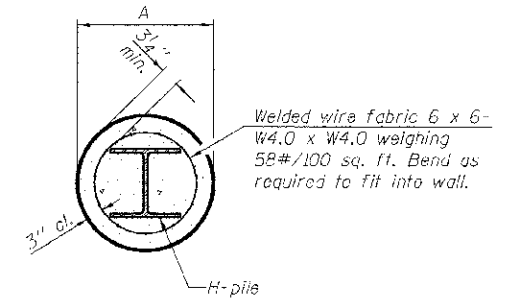
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



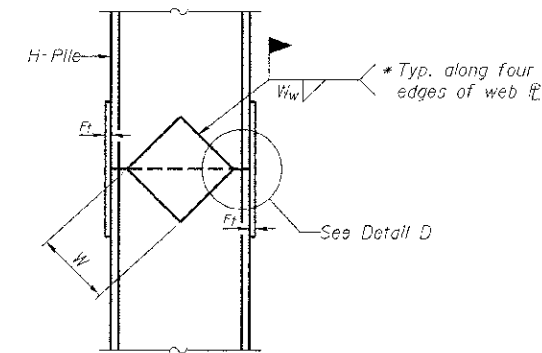
ELEVATION

PILE ENCASEMENT

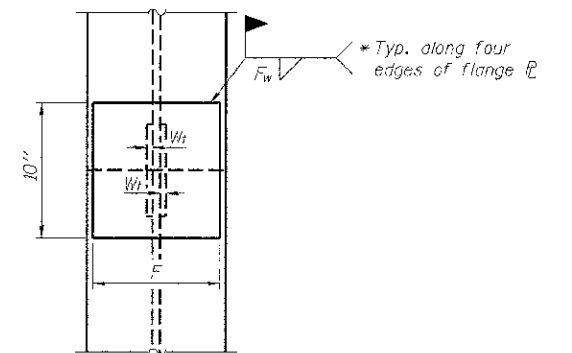


SECTION A-A

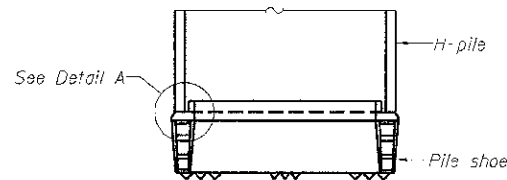
Note:
Forms for encasement may be omitted when soil conditions permit.



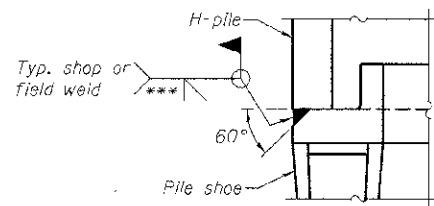
ELEVATION



END VIEW

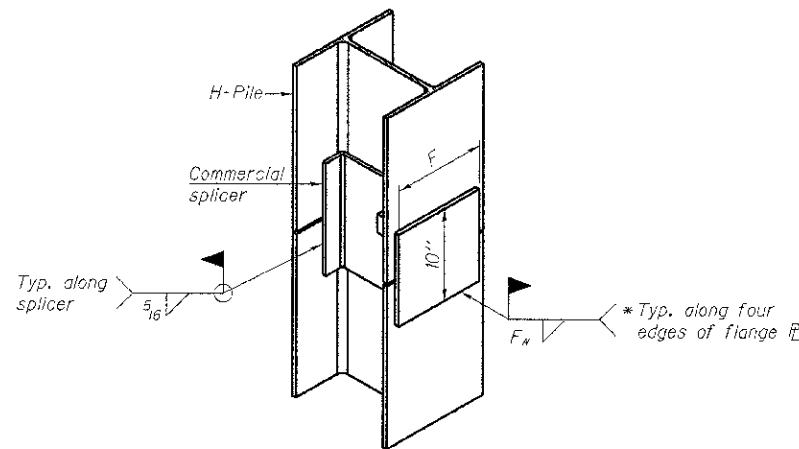


ELEVATION



DETAIL A

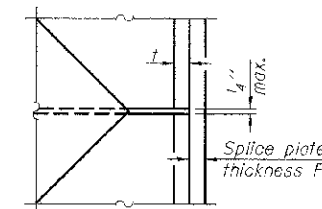
H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

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



DETAIL D

WELDED PLATE FIELD SPLICE

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

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

PLOT DATE: 6/11/2012
 FILE NAME: m:\p\02\091118\00-br\hp\hp-02-03.dwg
 USER: jordan.cra\nad\02-03.dwg
 PLOT DATE: 6/11/2012

F-HP

1-27-12



USER NAME	*USER#	DESIGNED	DF	REVISED	
		CHECKED		REVISED	
		DRAWN	JEH, ADG	REVISED	
		CHECKED	DF	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 092-3508

SHEET NO 6 OF 7 SHEETS

TWP. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
92	05-09118-00-BR	VERMILION	15	11
CONTRACT NO. 91463			ILLINOIS FED. AID PROJECT	

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax

Bridge Foundation Boring Log

Project: H-12089 Bridge IR 92 over Jordan Creek Date: 5/8/2012
Section: 05-09118-00-BR Station: _____ Bored by: B. Schwartz
Structure: _____ Checked By: J. Holcomb
County: Vermilion

Boring No. 1	Elevation	N	Qu	tsf	Surface Water Elev.	Elevation	N	Qu	tsf	w	%
Ground Surface	99.2	0									
3' Topsoil											
Gray Silty CLAY (A-6)		7	1.85	19		25	5.15	11			
	95.2					33	6.95	9			
Gray Mottled Brown Silty CLAY (A-6)		9	2.85	23		33	6.95	9			
	92.7					33	7.85	9			
Brown Mottled Gray Sandy CLAY (A-6) to Clayey SAND (A-2-4)		3	0.48	16		33	7.85	9			
		8	1.85	15							
	65.2					22	2.95	18			
Gray Weathered SHALE		6	1.25	27							
	85.2										
Gray Clayey SILT (A-4)		13	1.38	24							
		13	2.45	18							
		9	2.15	24							
	77.7					55.2					
Gray Sandy CLAY (A-6) (Till)		23	3.59	12							
End of Boring @ -44.0'											

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu - Unconfined Compressive Strength in tons/sq.ft.
w - Water Content - percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

HOLCOMB FOUNDATION ENGINEERING INC.
P.O. Box 88 618-529-5262
Carbondale, Il. 62903 618-457-8991 fax

Bridge Foundation Boring Log

Project: H-12089 Bridge IR 92 over Jordan Creek Date: 5/8/2012
Section: 05-09118-00-BR Station: _____ Bored by: B. Schwartz
Structure: _____ Checked By: J. Holcomb
County: Vermilion

Boring No. 2	Elevation	N	Qu	tsf	Surface Water Elev.	Elevation	N	Qu	tsf	w	%
Ground Surface	99.4	0									
3' Topsoil											
Gray Mottled Brown Silty CLAY (A-6)		10	5.35	17		27	5.35	10			
		5	2.35	22		30	6.55	10			
	92.9					25	5.05	10			
Gray Clayey SAND (A-2-4)		2	0.65	23							
	90.4					8	1.95	15			
Gray Mottled Brown Silty CLAY (A-6) with sand		8	1.95	15							
	87.9					25	3.25	17			
Gray Clayey SILT (A-4)		12	1.75	25							
		7		26							
	65.4					25	3.25	17			
Gray Silty CLAY (A-6)											
						100					
	60.9					75					
Gray SHALE											
	82.9										
Gray Sandy CLAY (A-6) with pebbles		8	2.15	13							
		8	2.15	13							
		12	1.95	12							
	55.4										
End of Boring @ -44.0'											

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
Qu - Unconfined Compressive Strength in tons/sq.ft.
w - Water Content - percentage of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

PRINTED ON 15 JUN 2012 10:51 AM
FILE NAME: c:\projects\vermilion\county\p1\11-1801_02_02_Borings.dwg
PLOT DATE: 6/11/2012



USER NAME = 605L219	DESIGNED - DF	REVISED -
PLOT SCALE = 0.0033' / IN	CHECKED -	REVISED -
PLOT DATE = 6/11/2012	DRAWN - JEH, ADG	REVISED -
	CHECKED - DF	REVISED -

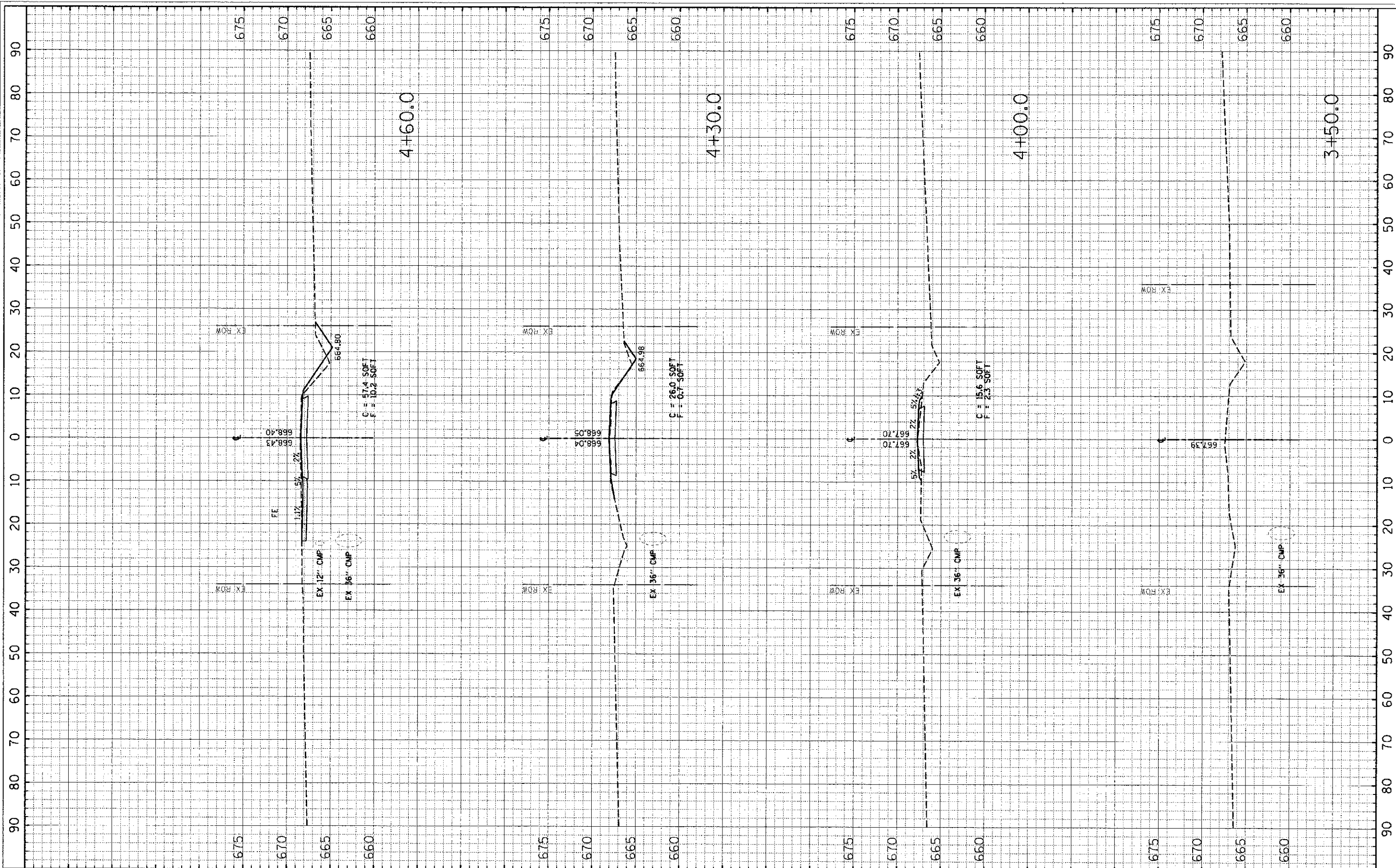
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 092-3508

SHEET NO 7 OF 7 SHEETS

TWP. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
92	05-09118-00-BR	VERMILION	15	12
CONTRACT NO. 91463				
ILLINOIS FED. AID PROJECT				

PROJECT DATE: 05/17/2012
 DRAWN BY: ADG
 CHECKED BY: ADG
 DATE: 05-17-2012



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VERMILION COUNTY
 2732 Barestown Road
 Oakwood, IL 61858
 (217) 431-0682 Ext. 101

NO.	DATE	DESCRIPTION OF REVISIONS	NO.	DATE	DESCRIPTION OF REVISIONS

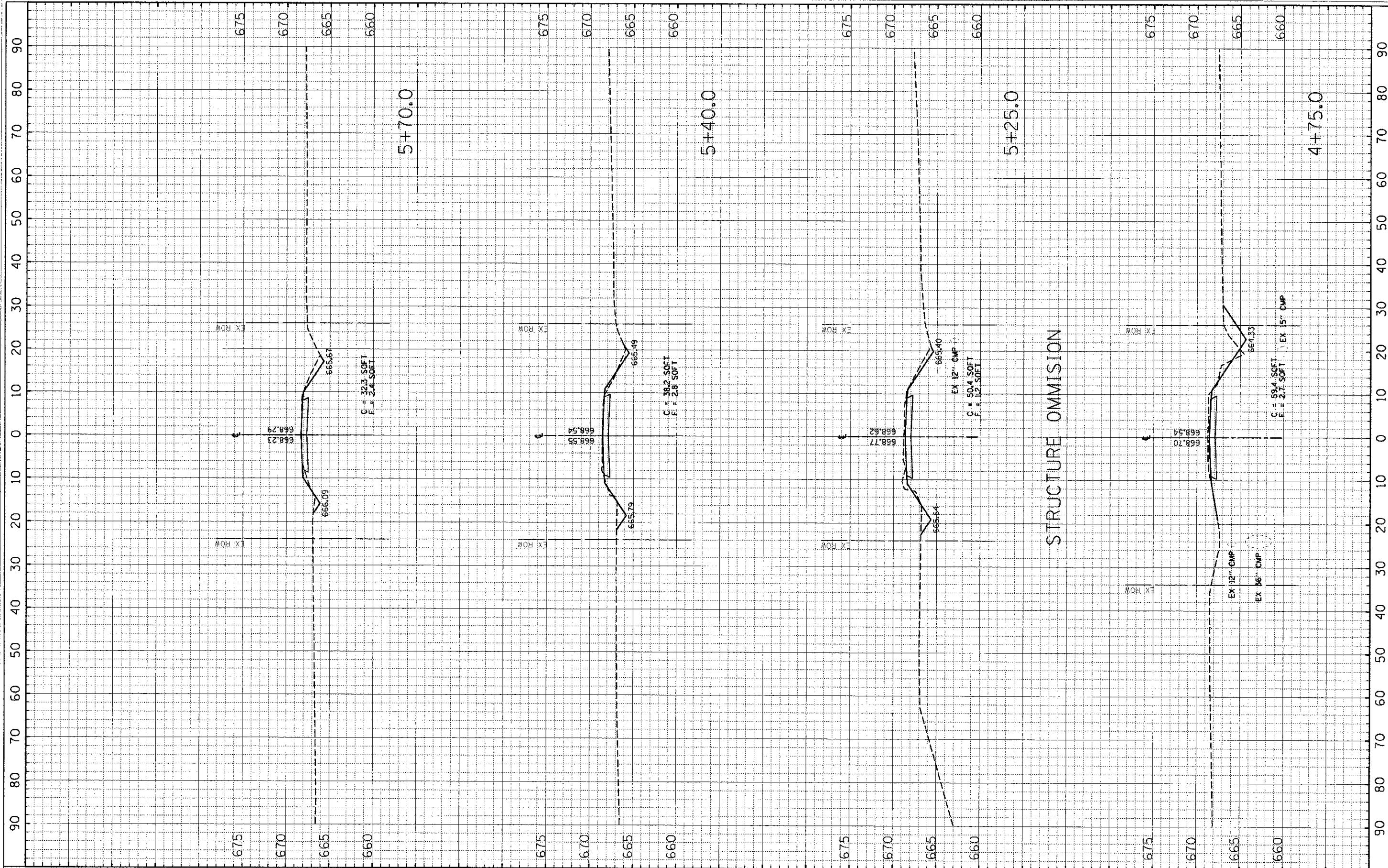
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 FILE: 13.TR 92.XS
 DATE: 05-17-2012
 ENGR: ADG
 DRAWN BY: ADG
 QCQA:

TR 92 OVER JORDAN CREEK
05-09118-00-BR
JAMAICA TOWNSHIP - VERMILION COUNTY

CROSS SECTIONS
 STA 3+50.0 TO STA 4+60.0
 SHEET 1 OF 3

13
 OF 15

PRINTED DATE: 07/11/2012
 C:\Users\adg\Documents\Projects\TR 92.XS.dwg



STRUCTURE OMMISION

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VERMILION COUNTY
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 (217) 431-8882 Ext. 101

NO	DATE	DESCRIPTION OF REVISIONS	NO	DATE	DESCRIPTION OF REVISIONS

ESI PROJECT NO: 11-405
 FILE: 13_TR 92.XS
 DATE: 05-17-2012

ENGR: ADG
 DRAWN BY: ADG
 QC/QA:

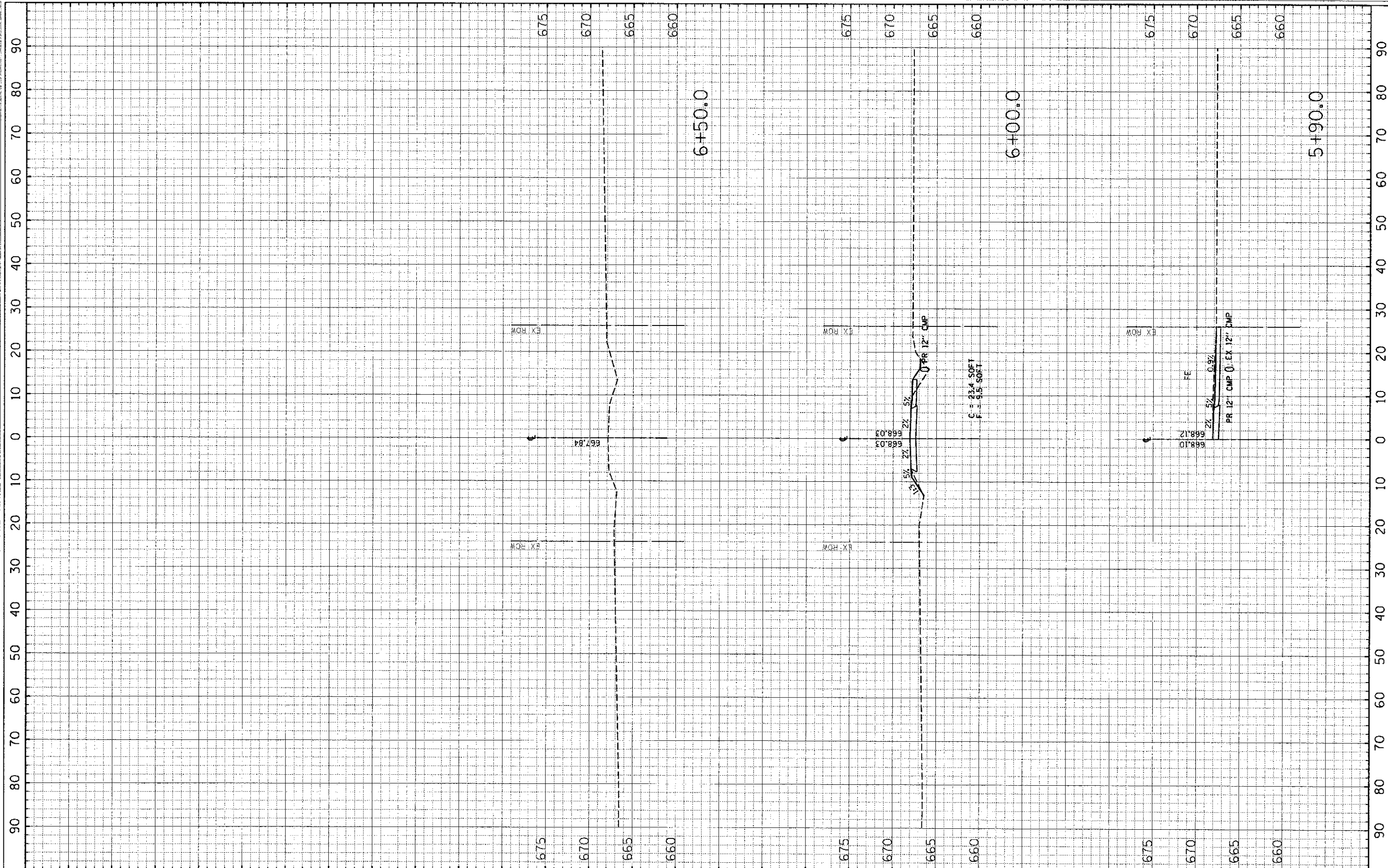
TR 92 OVER JORDAN CREEK
05-09118-00-BR
JAMAICA TOWNSHIP - VERMILION COUNTY

STA 4+75.0 TO STA 5+70.0

CROSS SECTIONS

SHEET NUMBER
14
 OF 15
 SHEET 2 OF 3

PRINTED DATE: 6/17/2016
 FILE: 13-TR 92-XS
 PROJECT: TR 92 OVER JORDAN CREEK
 COUNTY: VERMILION COUNTY, ILL.



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 OAKWOOD, IL 61858
 (217) 431-8582 EXT. 101

NO.	DATE	DESCRIPTION OF REVISIONS	NO.	DATE	DESCRIPTION OF REVISIONS

ESI PROJECT NO. 11-405
 FILE: 13-TR 92-XS
 DATE: 05-17-2012
 ENGR: ADG
 DRAWN BY: ADG
 QCQA:

TR 92 OVER JORDAN CREEK
05-09118-00-BR
JAMAICA TOWNSHIP - VERMILION COUNTY

CROSS SECTIONS
 STA 5+90.0 TO STA 6+50.0
 SHEET 3 OF 3

SHEET NUMBER
15
 OF 15