

**INDEX OF SHEETS**

- 1 - General Plan & Elevation
- 2 - General Data
- 3 - Stage Construction Details
- 4 - Temporary Concrete Barrier For Stage Construction
- 5 - Concrete Wearing Surface Elevations
- 6 - Top of N. Approach Slab Elevations
- 7 - Top of S. Approach Slab Elevations
- 8 - Superstructure
- 9 - 10 - Superstructure Details
- 11 - 12 - Bridge Approach Slab Details
- 13 - Bicycle Railing
- 14 - Bicycle Railing Details
- 15 - 21x36 PPC Deck Beam (Spans 1 & 3)
- 16 - 21x36 PPC Deck Beam Details (Spans 1 & 3)
- 17 - 21x36 PPC Deck Beam (Span 2)
- 18 - 21x36 PPC Deck Beam Details (Span 2)
- 19 - North Abutment
- 20 - South Abutment
- 21 - Pier 1
- 22 - Pier 2
- 23 - Permanent Sheet Pile Retaining Wall
- 24 - HP Pile Details
- 25 - Bar Splicer Assembly Details
- 26 - 28 - Boring Logs

**GENERAL NOTES**

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
3. The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
4. The Contractor is advised that the existing PPC Deck beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.
5. If the Contractor's procedures for existing beam removal involves placement of heavy equipment on the existing deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations sealed by an Illinois Licensed Structural Engineer, verifying the structural adequacy of the beams for the proposed loads. Cost included with Removal of Existing Structures.
6. The concrete for bridge decks finished according to Article 503.16(a) of the Standard Specifications shall be placed and compacted parallel to the skew in uniform increments along the centerline of bridge. The machine used for finishing shall be set parallel to the skew for striking off and screeding the concrete.
7. The Precast Prestressed Concrete Deck Beams shall not be released from the fabricator until they have attained 60 days of age or older.
8. Test Piles shall be driven to 110% of the Nominal Required Bearing, in a production location prior to ordering the remainder of the piles.
9. This project has been authorized for construction under IDNR Permit # DS2012021.
10. Slip forming of the parapets is not allowed.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		115	115
Concrete Structures	Cu. Yd.		481.7	481.7
Concrete Superstructure	Cu. Yd.	294.3		294.3
Cofferdam Excavation	Cu. Yd.		306	306
Bridge Deck Grooving	Sq. Yd.	1188		1188
Concrete Encasement	Cu. Yd.		9.8	9.8
Protective Coat	Sq. Yd.	1633		1633
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	9307		9307
Concrete Wearing Surface, 5"	Sq. Yd.	1037		1037
Reinforcement Bars, Epoxy Coated	Pound	88240	39280	127520
Bar Splicers	Each	263	176	439
Bicycle Railing	Foot	369		369
Parapet Railing	Foot	344		344
Furnishing Steel Piles HP 12 x 63	Foot		3726	3726
Driving Piles	Foot		3726	3726
Test Pile Steel HP 12 x 63	Each		4	4
Temporary Sheet Piling	Sq. Ft.		372	372
Name Plates	Each	1		1
Temporary Soil Retention System	Sq. Ft.		365	365
Cofferdam (Type 1), Location 1	Each		1	1
Cofferdam (Type 1), Location 2	Each		1	1
Permanent Steel Sheet Piling	Sq. Ft.		1846	1846

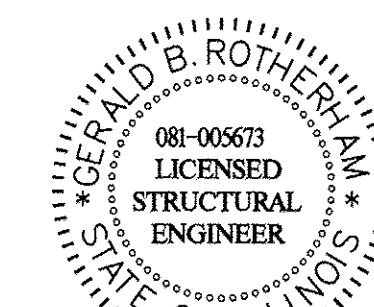
**WATERWAY INFORMATION**

Flood	Freq. Yr.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.		
		Exist.	Prop.		Exist.	Prop.	Exist.	Prop.	
	10	1290	185	394	573.8	0.7	-0.1	574.5	573.7
Design	30	1712	215	482	574.9	0.6	-0.1	575.5	574.8
Base	100	2220	215/188	563	575.8	0.6	0	576.4	575.8
Overtop Existing									
Overtop Proposed									
Max. Calc.	500	2900	215/398	611	577.0	0.5	0.2	577.3	577.2

**DESIGN SCOUR ELEVATION TABLE**

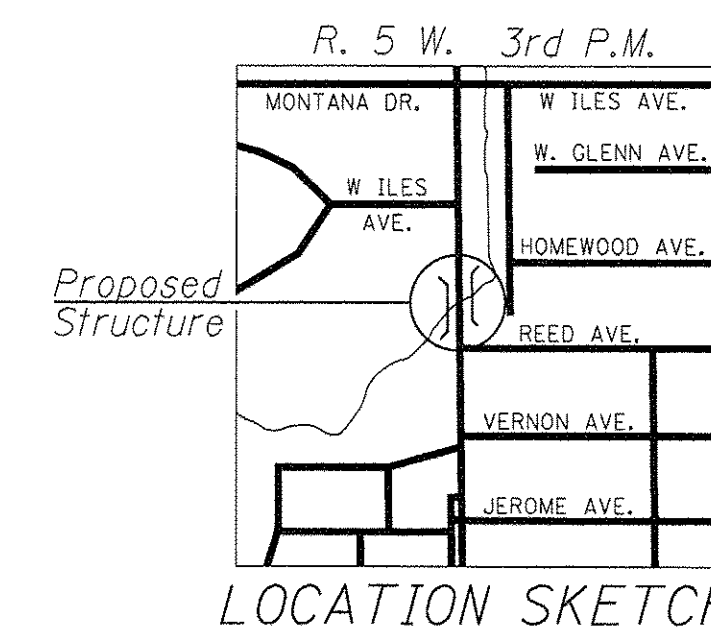
Design Scour Elevation (ft.)	N. Abut.	Pier 1	Pier 2	S. Abut.
	571.41	561.0	561.0	570.70

I certify that to the best of my 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 "A.A.S.H.T.O. LRFD Bridge Design Specifications".



*Gerald B. Rotherham* 3/5/2013  
Expiration 11/30/2014

JACKSONVILLE BRANCH  
BUILT 20 BY  
CITY OF SPRINGFIELD  
F.A.U. RTE. 8006 SECTION 10-00470-00-BR  
STATION 208+24.00  
STR. NO. 084-6019  
LOADING HL-93  
**NAME PLATE**  
See Std. 515001



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

**DESIGN SPECIFICATIONS**  
2010 AASHTO LRFD Bridge Design Specifications, 5th Edition, with 2010 Interims

**DESIGN STRESSES**  
**FIELD UNITS**  
f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)

**PRECAST PRESTRESSED UNITS**  
f'c = 6,000 psi  
f'ci = 5,000 psi  
fpu = 270,000 psi (1/2" low lax strands)  
fpbt = 201,960 psi (1/2" low lax strands)

**SEISMIC DATA**  
Seismic Performance Zone (SPZ) = 2  
Design Spectral Acceleration at 1.0 sec. (S<sub>D1</sub>) = 0.168 g  
Design Spectral Acceleration at 0.2 sec. (S<sub>D5</sub>) = 0.288 g  
Soil Site Class = D

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

**Allen Henderson & Associates, Inc.**  
Civil and Structural Engineers Springfield, IL  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

GENERAL DATA	
<b>STRUCTURE NO. 084-6019</b>	
SHEET NO. 2 OF 28 SHEETS	

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
8006	10-00470-00-BR	SANGAMON	90	42
CONTRACT NO. 93600				
ILLINOIS FED. AID PROJECT				