GENERAL NOTES:

1. All construction, workmanship and materials shall be in accordance with the Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, dated January 1, 2012, and the 2011 American Railway Engineering and Maintenance-of-way Association (AREMA) manual for Railway Engineering. In the event of conflicts between specifications, the more restrictive will apply.

2. The proposed superstructure and substructure are designed in accordance with the 2011 AREMA Manual, Chapter 8 - Concrete Structures and Foundations, and Chapter 15, Steel Structures.

3. The proposed superstructure and substructure have been designed for Cooper E80 Live Loading plus Impact and 30 inches total depth of ballast, (or Alternate Live Load where applicable).

4. All information shown on these plans regarding location of the existing track and existing ground elevations are based on information provided by survey including preliminary general arrangement.

DIVISION OF RESPONSIBILITY:

A. Railroad

1. Remove rail and other track material as required, and perform cut-overs for proposed track and Temporary Shoo-fly track.

2. Provide and install bridge marker signs at each end of bridge.

B. Contractor

1. Coordinate all construction activities with the railroad.

2. Provide and install new ballast, ties, rail and OTM for proposed track and Temporary Shoo-fly track.

3. Before ordering any material, the contractor shall make a detailed field inspection of the site, verifying all pertinent dimensions and elevations. Any variations in dimensions or elevations from those shown on the plans shall be reported immediately to the Engineer.

4. Verify the location, relocation, abandonment, and/or temporary support of all utilities affected by the construction of the structure and embankment and coordinate these activities with the appropriate utility companies, agencies and/or authorities. For information on, and relocation of, fiber optic cable, call 1-800-336-9193.

5. Apply for and obtain all construction permits necessary to perform the work.

6. Provide the railroad with a detailed construction plan defining the activity, schedule and procedure for each aspect of the work. Construction shall not begin until the construction plan has been approved by the railroad.

7. Supply all material and perform all work not supplied or performed by the railroad.

8. Provide all temporary shoring and/or bracing required to support and protect the existing embankments and track affected by the work. Provide the railroad with details, design and procedure for all temporary shoring and/or bracing. All temporary shoring and bracing shall be designed, signed and sealed by a Structural Engineer licensed in the State of Illinois. All temporary shoring and bracing must be submitted to and approved by the UPRR AVP Design and Construction Design prior to beginning construction. The provisions of UPRR Guidelines for Temporary Shoring shall be met.

9. Construction submittals to be designed per UPRR and AREMA requirements and reviewed by the Engineer and UPRR.

10. Accomplish activities within the schedule specified in the approved construction plan.

CAST-IN-PLACE CONCRETE NOTES:

1. All concrete material, placement and workmanship shall be in accordance with Chapter 8 of the 2011 edition of AREMA.

2. Minimum compressive strength - 4000 lb. per square inch at 28 days.

3. Exposed surfaces shall be formed in a manner that will produce a smooth and uniform appearance without rubbing or plastering. Exposed edges of 90 degrees or less are to be chamfered $\frac{3}{4}$" x $\frac{3}{4}$". Top surface to have a smooth finish, free of all float or trowel marks with the exception that a broom finish be used on all walkway surfaces.

4. Concrete shall be proportioned such that the water-cementitious material ratio (by weight) does not exceed the values in AREMA Table 8-1-9. Cast-in-place concrete must contain a minimum of 565 pounds of cementitious material per cubic yard of concrete. If fly ash is used with cement it shall be limited to 15% of cementitious material.

5. Cement shall be Type I, II or III Portland Cement per ASTM C150.

6. Course aggregate shall be Size No. 67.

7. Fine aggregate shall be natural sand.

8. Aggregates shall be graded in accordance with ASTM C33.

9. Air content shall be between 5% and 7% (by volume).

10. Admixtures, other than air entrainment, shall not be used without approval by the Engineer.

11. Membrane curing compound shall conform to ASTM C309 Type 2.

12. Apply Thoroc Epoxy Adhesive 24LPL or approved alternate before placing new concrete against hardened surfaces.

13. Construction joints are permitted only where shown on the drawings.

14. Concrete for permanent bridge shall have an architectural treatment as shown on the plans.

15. The Contractor shall use self-consolidating concrete (SCC) for all bent encasement concrete. The self-consolidating concrete shall conform to all requirements as specified in the Special Provisions. Cost of SCC shall be included with the cost of Concrete Structures (Special).

16. The Contractor shall provide adequate forms to contain the increased hydraulic pressure of the self-consolidating concrete.

REINFORCING STEEL

1. Reinforcing steel for abutment, bents and wingwalls for the permanent bridge shall be epoxy-coated, deformed, new billet bars per current ASTM A615 specifications and meet the requirements of AREMA Section 1.6. Reinforcement bars designated (E) shall be epoxy coated.

2. Reinforcing steel for the temporary bridge shall be plain (black), deformed, new billet bars per current ASTM A615 specifications and meet the requirements of AREMA Section 1.6.

3. Reinforcing steel requiring field welding or bending shall conform to ASTM A706 Specifications, Grade 60. Fabrication of reinforcing steel shall be per Chapter 7 of the CRSI Manual of Standard Practice. Dimensions of bending details shall be out to out of bars.

4. Reinforcing steel is to be blocked to proper location and securely wired against displacement. Tack welding of reinforcing is prohibited. Minimum concrete cover not otherwise noted shall meet 2011 AREMA requirements.

PRECAST CONCRETE NOTES:

1. All concrete material, placement and workmanship shall be in accordance with Chapter 8 of the 2011 edition of AREMA.

2. Minimum compressive strength - 5,000 lb. per square inch at 28 days.

3. Exposed surfaces shall be formed in a manner that will produce a smooth and uniform appearance without rubbing or plastering. Exposed edges of 90 degrees or less are to be chamfered $\frac{3}{4}$" x $\frac{3}{4}$". Top surface to have a smooth finish, free of all float or trowel marks.

4. Concrete shall be proportioned such that the water-cementitious material ratio (by weight) does not exceed the values in AREMA Table 8-1-9. Precast concrete must contain a minimum of 610 pounds of cementitious material per cubic yard of concrete.

5. Cement shall be either Type I or Type III Portland Cement.

6. Aggregates shall be graded in accordance with ASTM C33.

7. Coarse aggregate shall be Size No. 67.

8. Fine aggregate shall be natural sand.

9. Air content shall be between 5% and 7% (by volume).

10. Admixtures shall not be used without approval by the Engineer.

11. Curing shall be accomplished by wet curing or the application of a Type 2 Membrane.

12. For precast elements, the fabricator shall stencil the fabricator's name, date of fabrication, the bridge number, lifting weight and piece mark on each component.

13. The production facility must be pre-certified. Production procedures for the manufacture of precast members shall be in accordance with AREMA and the current edition of the Precast Concrete Institute's Manual MNL 116 for quality control.

14. Dimensional tolerances governing the manufacture of precast members shall conform to Division VI, Section 6.4.6 of the Precast Concrete Institute's Manual MNL 116 for quality control. Tolerance for location of lifting devices shall be ±1/2".

15. The Fabricator will be responsible for the design of the lifting loops or lift anchors for the erection of the precast members. Required details to be coordinated with the Contractor and approved by the Engineer. The area around all lifting loops shall be recessed so that the loops can be removed to a depth of $\frac{3}{4}$" and grouted. Properly designed lift anchors are acceptable in lieu of lifting loops.

16. The fabricator will be responsible for the loading and properly securing the precast concrete members for shipment. All concrete components shall be made available, at the railroad's discretion, for inspection by the Engineer of Record and the railroad at the fabricator's plant prior to shipment.

17. For notes regarding Precast/Prestressed Fascia Beam, see Sheet UP-31.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

M.P. 37.71 BELVIDERE SUBDIVISION – STRUCTURE NO. 045–3168
CONSTRUCTION NOTES (1 OF 2)
SHEET NO. UP-2 OF UP-52 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
361	06-00214-18-RP	KANE	451	282
		CONTRACT NO. 63598		
	ILLINOIS FED. AID PROJECT			