SPECIAL SPECIFICATION
4383
Laying Continuous Welded Rail

1. Description.
   A. Summary. Furnish and install new 136# RE, Continuous Weld Rail (CWR) used for the construction of the project per the American Railway Engineering and Maintenance of Way Association (AREMA) and the plans and specifications.

   B. Reference Standards. Any items not covered specifically in this specification are to be in accordance with AREMA standards and recommended practices subject to the approval of the Engineer. Use the AREMA Manual for Railway Engineering, 136# RE Rail Section for standard carbon rail on tangent sections. Use AREMA Manual for Railway Engineering 136# RE Rail “Heat Treated” (Head Hardened) for curves, regardless of curvature.

   A. Submittals.

      1. Materials Tests and Manufacturer’s Certifications. Submit materials tests and manufacturer’s certifications for Contractor supplied materials, for approval by the Engineer.

      2. Rail Inventory. Provide an inventory of the rail brands, product certifications to match, and other criteria before placing any rail.

         Submit a plan to inventory and mark Head Hardened (HH) Rail separate from Standard Rail at all times.

      3. Rail Laying Plan. Submit a rail laying plan before the rail arrives on site and passes review of the Engineer, and that indicates: lay down areas, lengths, relationship to crossings, switches, bridges, how to minimize field welding, and the distressing procedure.

      4. Weld Plan. The plan to weld joints of rail at the site (electric mobile plant) may be considered but only through submittal of a CWR welding plan and distribution indicating the work plan and process to ensure a quality project and that is subject to review and modification by the Engineer. A plan to weld utilizing only field weld kits will be denied. This project is to maximize the use of an electric weld application either from the plant or field arrangement.
3. **Construction.**

   A. **Equipment.** Provide rollers, or an approved alternate approved method, to be placed in line with each rail, for the length of one string. Ensure rollers are supported at a maximum of 40 ft. apart for rail under 136# and 50 ft. apart for rail 136# and over. Ensure the top of the rollers is a minimum of 3 in. above rail seat.

   Make available a wide-axle machine (WAM) with a boom for lifting rail to make connections and to remove the rollers to straddle the ties, moving away from the rail train while pulling two rails, or an approved equivalent method so as not to disturb the track or grade, or damage the rail being laid, or impact adjacent operations.

   When the rail train is moved to the end of the existing track, place a ramp car at the end of the rail train to provide a transition from the rail train to the track structure, as is practical.

   B. **Work Method.**

   1. **Rail Handling.** Do not lay any track, and do not place any track materials on the roadbed until the subgrade is finished and the sub-ballast placed and compacted.

   2. **Rail Lengths.** Specify the length of the strings of CWR to be laid and the number, length, and location of each string. The plans will limit the number of field welds to be made. Submit the string length as required for approval by the Engineer.

   3. **Temperature.** Before laying CWR, determine and record the maximum and minimum rail temperatures in the area.

      Establish the desired laying temperature and record the temperature of each rail laid. When it is not possible to lay rail at the desired laying temperature, make the necessary adjustment at a later date as per the current AREMA, Temperature Expansion for Laying Rails.

   4. **Laying Rail.** When laying CWR in new track construction, lay the rail ends without an expansion gap.

      Do not end CWR on the deck of an open-deck bridge nor end it less than a minimum distance specified by the railroad from the face of the back wall on the at-grade side, nor within 20 ft. of edge of a grade crossing.

   5. **Anchoring.** Apply the rail anchors immediately after laying the CWR. Anchor the rail in accordance with the current AREMA recommendations.

   6. **Ballast Installation.** Unload the ballast and fill the cribs as soon as the rail anchors have been applied.

   7. **Field Welding.** Record field welding on the flange of the rail near the weld as follows: Date, air and rail temperature, and welder’s name.

   8. **Line and Surfacing.** Line and surface the track as soon as possible after laying the CWR.
4. **Measurement and Payment.** The work performed, materials furnished, equipment, labor, tools, and incidentals will not be measured or paid for directly, but are subsidiary to or are included under payment for the bid Items “New Track Construction” and “Special Trackwork” as applicable, and no additional compensation will be allowed under this section.