1. See Rail standard for projection from finished grade or top of slab.
2. Place additional # longitudinal bar. Bar embedment in slab must be provided in the calculation, included as part of casting reinforcement. Bar shown is required to control alignment of rail anchor steel. Bar shown may be placed outside of slab at the contractor's option and removed after slab has cured.
3. Length shown for 6" Min bar embedment with no overlay or raised sidewalk. Adjust as required.
4. See Rail standard for Bar size.

CONSTRUCTION NOTES:
Rail anchorage bars may be field bent as required to clear rail reinforcing or to provide clearance needed shown on standard rail detail sheets.

MATERIAL NOTES:
Galvanize all steel components of steel rail system.
Provide Grade 60 reinforcing.
Concrete in place anchor system for T631LS and T631 Rail must be 8" Dia.
ASTM F436 or F436 or Aw36 bolts (or ASTM A393 Gr B7 or F1554 Gr B76 Treated rod with one bar worked heavy bar not matched with one hardened steel washer (ASTM F436) and one regular lock washer placed under each heavy hex nut. Nuts must conform to ASTM A393 requirements. Epoxy coat or galvanize reinforcing steel shown on this standard if rail

GENERAL NOTES:
Designed in accordance with AASHTO LRFD Bridge Design Specifications.
The rail anchorage details shown on this standard are only applicable for 8" deep overhangs with the following overhangs within 1'-0"; 1'-1" and 1'-2".
This standard only applies to rails at the outside edge of the bridge, and not in conditions where interior rails and median barriers are used.
This standard does not support the use of Type T66, T80HT, T80SS, C412, C48, C50, C52, and C53 Rail on US Steel bridges.
See Rail standard sheets for approved speed restrictions, notes and details not shown.
Cover dimensions are clear dimensions, unless noted otherwise.
Reinforcing bar dimensions shown are cut-to-end of bar.

CONCRETE SLAB & GIRDER RAIL ANCHORAGE DETAILS

SHEET 1 OF 2
1. See rail standard for projection from finished grade.
2. Place additional #4 longitudinal bar. Bar embedded in slab must be provided by the contractor, included as part of railing reinforcement. Bar shown is required to control alignment of rail anchorage.
3. Bar shown may be placed outside of slab at the contractor's option and removed after slab has cured. See "Cast-In-Place & Formed Hole Anchor Bolt Options".
4. Length shown for 4" Min bar embedment with no overlay or raised sidewalk. Adjust as required.
5. Length shown for 1'-0" Min bar embedment with no overlay or raised sidewalk. Adjust as required.
6. After rails have been set and bolts tightened, bolt projection above slab of more than 1" must be cut off and painted with two coats zinc-rich paint conforming to Item 445, "Galvanizing".
7. See "See "Cast-In-Place & Formed Hole Anchor Bolt Options".
8. Use ASTM A193 Gr B7 or F1554 Gr 105 fully threaded rods with one hardened steel washer (ASTM F436) and one regular lock washer placed under heavy hex nut (ASTM A563). See "Material Revisions" for installation.

**CAST-IN-PLACE & FORMED HOLE ANCHOR BOLT OPTIONS**

Applies to T631LS and T631 Traffic Rails.