

SECTION 02891

TRAFFIC SIGNS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Materials and procedures for installing traffic signs.

1.2 RELATED SECTIONS

- A. Section 02317: Structural Excavation
- B. Section 03055: Portland Cement Concrete
- C. Section 03211: Reinforcing Steel and Welded Wire
- D. Section 05120: Structural Steel
- E. Section 06055: Timber and Timber Treatment

1.3 REFERENCES

- A. ASTM A 153: Zinc Coating (Hot-Dip) on Iron and Steel Hardware
- B. ASTM A 314: Stainless Steel Billets and Bars for Forging
- C. ASTM A 500: Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
- D. ASTM A 513: Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing
- E. ASTM A 653: Steel, Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by Hot-Dip Process
- F. ASTM A 1011: Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability
- G. ASTM B 209: Aluminum and Aluminum-Alloy Sheet and Plate

- H. APA: American Plywood Association Product Standard
- I. Military Specification MIL-M 4371B

1.4 TRAFFIC SIGN COMPONENTS

- A. Substrate: The base material, usually plywood or aluminum, upon which the background sheeting is attached.
- B. Panel: Assembly of substrate and attached sheeting. Several panels may be necessary to complete one sign. Panel types are:
 - 1. Type
 - a. A: Reflective sheeting on sheet aluminum.
 - b. PW: Reflective sheeting on plywood.
 - 2. Legend:
 - a. 1 With non-reflective legend, symbols, and borders.
 - b. 2 With reflective legend, symbols, and borders.
- C. Sheeting: The reflective or non-reflective material that comprises the background legend, border, and symbols.
- D. Sign: A complete assembly comprised of post, frame, and panel.
- E. Auxiliary Sign: A sign including frame, if required, attached and supplemental to a complete sign assembly.
- F. Panel replacement: Removing the existing panel and attaching a new panel to the frame.
- G. Panel Overlay: Attaching new panels to all or part of an existing panel.
- H. Size: Horizontal x vertical

1.5 SIGN CODES

- A. New Sign: N
- B. Auxiliary Sign: Aux
- C. Relocation: R
- D. Removal: X

- E. Panel Replacement: PR
- F. Panel Overlay: PO

1.6 SUBMITTALS

- A. Submit three sets of drawings for overhead structures for prefabrication approval. Allow 14 calendar days for approval.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Fabricate sign and posts as specified per SN series Standard Drawings.
- B. Substrate: 0.080 inch thick. ASTM B 209 alloy 6061-T6, or 5052-H38.
- C. Plywood as specified below and which meets the American Plywood Association product standard 1 PSI-83, Group 1, 5/8 inch thick.
 - 1. 90/90, high density BB exterior (Douglas Fir) B Grade.
 - 2. Plugged-core (Douglas Fir) with 1/2 inch maximum gaps.
 - 3. Use acrylic laminate that is compatible with the reflective sheeting adhesive, and that does not require the removal of the release agents before applying the sheeting.
- D. Posts:
 - 1. Timber Sign Post (P1)
 - a. Follow Section 06055
 - 2. Tubular Steel Sign Post (P2)
 - a. Post: ASTM A 513
 - b. Finish: Galvanize ASTM A 653
 - c. Shape: As shown, wall thickness 0.080
 - d. Color: Powder coated as required
 - 3. Square Steel Sign Post (P3)
 - a. Post: ASTM A 1011 Grade 50
 - b. Finish: Galvanize ASTM A 653
 - c. Shape: 12 gauge or 10 gauge steel
 - d. Color: Powder coated as required
 - 4. Slip Base Tubular Steel Sign Post (P4)
 - a. Post ASTM A 500 Grade C; 46,000 psi minimum yield
 - b. Finish: Galvanize ASTM A 153
 - c. Shape: As shown; schedule 80
 - d. Color: Powder coated as required

- 5. Steel Sign Post (P5)
 - a. Follow Section 05120
- E. Reflective Sheeting:
 - 1. Encapsulated lens sheeting or encapsulated lens (flexible) as specified.
 - 2. Meet Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects FP-92, Type III.
- F. Nonreflective Sheeting: As specified. Meet Military Specification MIL-M 4371B, Type I, Class I.
- G. Fasteners: As specified. Meet ASTM A 314, Class 304, 18-8, Stainless Steel.
- H. Foundation
 - 1. Concrete: Class A (AE). Refer to Section 03055.
 - 2. Reinforcing steel: Refer to Section 03211.
 - 3. Anchor bolts: Refer to Section 05120.
- I. Structural Steel: Structural Steel frame. Refer to Section 05120.
- J. Temporary covering: Opaque material.

PART 3 EXECUTION

3.1 PREPARATION

- A. Coordinate utility location.
- B. Excavate following Section 02317 requirements.
- C. Install traffic control devices before work activities begin.

3.2 INSTALLATION - GENERAL

- A. Furnish a daily record of the number and location of all traffic control devices in use.
- B. Do not reverse screen sign larger than 7 square feet per color.
- C. Do not remove a sign that is being replaced until the new sign is placed and uncovered.
- D. Compact backfill to a density equal to surrounding materials.

- E. Establish proper elevation and orientation of all signs, structures, and determine proper sign post lengths as dictated by construction slopes.
- F. Cover signs that require temporary covering with an opaque material. Secure at the rear of the sign so that the sign is not damaged. Maintain covering until removed.
- G. Construct signpost foundations with concrete conforming to indicated dimensions.

3.3 RELOCATING EXISTING SIGN

- A. Retrofit as required to meet current standards.
- B. Provide new posts and accessories as required.
- C. Remove foundations to a minimum of 6 inches below the ground line, and backfill.

3.4 REMOVING EXISTING SIGN

- A. Remove foundations to a minimum of 6 inches below the ground line and backfill.

END OF SECTION