

TRAFFIC SIGNS AND POSTS**PART 1 - GENERAL****1.01 SECTION INCLUDES**

- A. Traffic Signs
- B. Traffic Posts
- C. Removal of Signs and Posts

1.02 DESCRIPTION OF WORK

This part of the specifications includes materials, equipment, and procedures for furnishing, erecting, and removing traffic signs. Comply with the current edition of the MUTCD as adopted by the Iowa DOT.

1.03 SUBMITTALS

Comply with Division 1 - General Provisions and Covenants, as well as submitting shop drawings showing the dimensions of each sign and type of post provided for in the contract documents for review prior to installation.

1.04 SUBSTITUTIONS

Comply with Division 1 - General Provisions and Covenants.

1.05 DELIVERY, STORAGE, HANDLING, AND SALVAGING

Comply with Division 1 - General Provisions and Covenants.

1.06 SCHEDULING AND CONFLICTS

Comply with Division 1 - General Provisions and Covenants.

1.07 SPECIAL REQUIREMENTS

- A. When bid items for traffic signs and posts are included on the proposal form, comply with this section for measurement and payment, materials, and execution.
- B. When the proposal form does not include a bid item for traffic signs and posts, the Contracting Authority will be responsible for furnishing and installing traffic signs and posts.

1.08 MEASUREMENT AND PAYMENT**A. Traffic Signs by Each:**

1. **Measurement:** Each type and size of sign as designated in the contract documents will be counted.
2. **Payment:** Payment will be at the unit price for each type and size of sign.
3. **Includes:** Unit price includes, but is not limited to, the sign blank, application of reflective sheeting, application of screened message, all mounting hardware, and erecting the sign according to the traffic control technician's direction.

B. Traffic Signs by Area:

1. **Measurement:** Measurement will be in square feet of sign area, which will be determined based on the nominal dimensions of each sign. Cutouts for rounded corners will not be deducted.
2. **Payment:** Payment will be at the unit price per square foot of sign.
3. **Includes:** Unit price includes, but is not limited to, the sign blank, application of reflective sheeting, application of screened message, all mounting hardware, and erecting the sign according to the traffic control technician's direction.

C. Wood Posts:

1. **Measurement:** Measurement will be in linear feet for each 4 inch by 4 inch post measured to the nearest foot.
2. **Payment:** Payment will be made at the unit price per linear foot of wood post.
3. **Includes:** Unit price includes, but is not limited to, furnishing and erecting the post, including treatment and other details necessary to provide a complete installation.

D. Perforated Square Steel Tube Posts:

1. **Measurement:** Measurement will be in linear feet for each perforated square steel tube post measured to the nearest foot.
2. **Payment:** Payment will be made at the unit price per linear foot of perforated square steel tube post.
3. **Includes:** Unit price includes, but is not limited to, fabricating, furnishing, and erecting the post and other details required to provide a complete installation.

E. U-Shaped Rail Steel Posts:

1. **Measurement:** Measurement will be in linear feet for each U-shaped rail steel post measured to the nearest foot.
2. **Payment:** Payment will be made at the unit price per linear foot of U-shaped rail steel post.
3. **Includes:** Unit price includes, but is not limited to, fabricating, furnishing, and erecting the post and other details required to provide a complete installation.

1.08 MEASUREMENT AND PAYMENT (Continued)**F. Round Steel Posts:**

1. **Measurement:** Measurement will be in linear feet for each round steel post measured to the nearest foot.
2. **Payment:** Payment will be made at the unit price per linear foot of round steel post.
3. **Includes:** Unit price includes, but is not limited to, fabricating, furnishing, and erecting the post and other details required to provide a complete installation.

G. Perforated Square Steel Tube Post Anchors:

1. **Measurement:** Each type and size of anchor will be counted.
2. **Payment:** Payment will be made at the unit price for each type and size of anchor.
3. **Includes:** Unit price includes, but is not limited to, furnishing and installing the anchor, coring pavement and filling with concrete, if required, slip base hardware, and other details necessary to provide a complete installation.

H. Round Steel Post Anchors:

1. **Measurement:** Each type and size of anchor will be counted.
2. **Payment:** Payment will be made at the unit price for each type and size of anchor.
3. **Includes:** Unit price includes, but is not limited to, furnishing and installing the anchor, coring pavement and filling with concrete, if required, slip base hardware, and other details necessary to provide a complete installation.

I. Remove and Reinstall Traffic Signs:

1. **Measurement:** Each sign removed and reinstalled will be counted.
2. **Payment:** Payment will be at the unit price for each sign removed and reinstalled.
3. **Includes:** Unit price includes, but is not limited to, removing the sign and post, filling the post hole, storing and maintaining the sign and post in good condition, and reinstalling the sign and post. Replacing signs and posts designated for reinstallation that have been damaged is the Contractor's responsibility.

J. Remove and Salvage Traffic Sign Assembly:

1. **Measurement:** Count each sign assembly removed and salvaged.
2. **Payment:** Payment will be at the unit price for each sign assembly removed and salvaged.
3. **Includes:** Unit price includes, but is not limited to, removing the sign assembly, removing the post and anchor hardware, filling the post hole, and delivering the traffic sign and post to the site designated by the Contracting Authority. Replacing signs and posts designated for salvage that have been damaged is the Contractor's responsibility.

PART 2 - PRODUCTS**2.01 GENERAL**

Use products and materials complying with the MUTCD and the current edition and approved supplements of the Standard Highway Signs manual as developed by the FHWA.

2.02 SIGNS

A. Blank Material: Sheet aluminum or galvanized steel complying with [Iowa DOT Article 4186.02](#).

B. Size and Type:

1. **Regulatory Signs:** As indicated in the contract documents or complying with Chapter 2B and Table 2B-1 of the MUTCD.
2. **Warning Signs:** Comply with Table 8040.01. For object markers, see Figure 5C-1 of the MUTCD.

Table 8040.01: Warning Signs

Speed Limit (mph)	Minimum Sign Size	Minimum Uppercase Letter Size	Minimum Plaque Size
< 25	30" x 30"	4"	18" x 18"
25 - 35	36" x 36"	5"	18" x 24"
>35	48" x 48"	7"	24" x 30"

3. **Guide Signs:** As indicated in the contract documents or complying with Chapter 2D and Table 2D-1 of the MUTCD.
 4. **Bicycle Signs:** As indicated in the contract documents or complying with Chapter 9B and Table 9B-1 of the MUTCD.
- C. Retroreflective Sheeting:** Comply with [Iowa DOT Article 4186.03](#). Supply Type XI - diamond grade, unless Type IV - high intensity is specified in the contract documents.
- D. Fabrication:** Comply with [Iowa DOT Article 4186.06](#).

2.03 POSTS

- A. Wood Posts:** Comply with [Iowa DOT Section 4164.04](#) for treated 4 inch by 4 inch posts.
- B. U-Shaped Rail Steel Posts:** 3.0 pounds per foot, conforming with ASTM A 499, Grade 60. Punch or drill 3/8 inch diameter holes on the centerline, spaced 1 inch on center, starting 1 inch from the top and extending to the bottom of the post.
- C. Perforated Square Steel Tube Posts and Anchors:** Minimum 2 inch square perforated steel tubing complying with [Iowa DOT Article 4186.10](#).
- D. Round Steel Posts and Anchors:** Minimum 2 3/8 inch diameter round 16 gauge galvanized steel with 0.06 inch minimum wall thickness. Furnish anchors 2 3/8 inch diameter 12 gauge galvanized steel with 0.10 wall thickness.

2.04 FASTENING ACCESSORIES

Comply with [Iowa DOT Article 4186.09](#).

PART 3 - EXECUTION**3.01 INSTALLATION**

- A. General:** Accurately install all signs to comply with the dimensions and location details included in the contract documents.
- B. Sign Posts:** Comply with [Iowa DOT Article 2524.03, B.](#)

3.02 QUALITY CONTROL

- A. Traffic Control Technician:** Maintain a traffic control technician on staff who has attended and passed the exam in one of the following classes:
 - 1. ATSSA Traffic Control Technician
 - 2. IMSA Work Zone Traffic Control
 - 3. Minnesota DOT Traffic Control Supervisor
 - 4. Texas Engineering Extension Service Work Zone Traffic Control
- B. Staking:** Traffic Control Technician is to stake each sign location to ensure installation complies with MUTCD and the contract documents.

END OF SECTION