# CITY OF LINCOLN, NEBRASKA, STANDARD SPECIFICATIONS

## CHAPTER 14

### TRAFFIC SIGNS

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CHAPTER 14
TRAFFIC SIGNS

14.00 GENERAL

All tubular markers, signs, posts and associated hardware will be purchased and installed by the City of Lincoln unless otherwise directed by the City project manager or as noted in project specific plans and specifications.

This Work shall consist of all materials and labor necessary to provide, fabricate, and install traffic signs at the locations shown on the project plan set.


It shall be the Contractor’s responsibility to utilize the “One-Call” system when required.

14.01 TUBULAR MARKERS

A. MATERIAL SPECIFICATIONS

Tubular markers shall be 4’ in length, have a 2 1/4” outside diameter, with two, 3” (or greater) High Intensity reflective material sheets located 1” down from top and spaced 4” apart. The yellow tubular markers shall have yellow High Intensity reflective material sheets; the white tubular markers shall have silver. The base shall have a square to round adaptor. The markers shall be Shur-Tite, or equivalent.

B. INSTALLATION METHODS

Tubular markers shall be installed into square tubular marker anchors per LSP.

C. BASIS OF PAYMENT

Tubular Markers installed in conformance with the project plan set and Standard Specifications shall be paid for at the contract unit price bid per each TUBULAR MARKER. Such payment shall be full compensation for furnishing and installing materials, and for all labor, equipment, tools materials, and incidentals necessary to complete the Work.
14.02 SQUARE TUBULAR MARKER ANCHORS

A. MATERIAL SPECIFICATIONS

Anchors shall be 2" OD, 12-gauge, galvanized steel tubing with 7/16" pre-punched holes on 1" centers on all four sides, 36" in length. Anchors shall be FHWA approved and compliant with AASHTO specifications.

B. INSTALLATION METHODS

Anchors shall be installed per LSP.

C. BASIS OF PAYMENT

Square Tubular Markers installed in conformance with the project plan sets and Standard Specifications shall be paid for at the contract unit price per each TUBULAR MARKER ANCHOR, SQUARE. Such payment shall be full compensation for furnishing and installing materials, and for all labor, equipment, tools materials, and incidentals necessary to complete the Work.

14.03 SIGNS

A. MATERIAL SPECIFICATIONS

All blanks shall be new aluminum, meeting ASTM Specifications B209, Alloy 5052-H38 of the sizes as shown in the Standard Highway Signs and the MUTCD. The gauges shall be as follows:
- Signs less than 4 square feet shall be 0.063 inches thick
- 4 square feet to less than 9 square feet shall be 0.08 inches thick
- 9 square feet or greater shall be 0.10 inches thick.

Overhead signs 18" in height or greater shall be 0.125 inches thick, with 2 1/2" radius corners.

All signs shall be smooth and free of burrs. Both sides of the blank shall be treated with an Alodine 1200 process or approved equivalent.

Reflective sheeting shall be applied without visible seams or joints. Reflective sheeting shall be mechanically applied as per manufacturer’s recommended procedures and equipment.

Reflective background sheeting shall meet the MUTCD requirements of ASTM D4956 and the following additional minimum requirements:
- Post-mounted signs: ASTM Type IV prismatic sheeting
- Overhead signs and pedestrian/school crossing (fluorescent yellow green) post-mounted signs: ASTM Type IX

Sheeting shall be applied to sign blanks using Class 1 adhesive.

The message shall be either directly applied, screened, or digitally printed on the sign face, in the colors, size, and layout specified in the plan set and in conformance with Standard Highway Signs.
B. INSTALLATION AND REMOVAL METHODS

Signs installed on square tubing will be mounted in such a way that none of the post protrudes above the sign. If using a utility pole, approval must be received from the appropriate pole owner to install a sign.

All signs that are installed shall display the year (YYYY) the sign was installed on the back of the sign. These numbers shall be black and shall have a minimum height of 3/4". These numbers shall be applied in paint, using a stencil or by other methods approved by the City’s Project Manager.

All signs that are installed shall have a fabrication date of no more than 6 months prior to the installation date and shall not have been used previous to this installation.

If more than one sign is installed on the same mounting device, the signs shall be installed so that the widest sign is on top and the narrowest sign is on the bottom.

The removal of the existing signs shall be coordinated with the City of Lincoln, Traffic Engineering Division to assure required signs are in place during all construction phases. These traffic signs, posts and fastening hardware shall be returned to 901 W. Bond Street, Door Y. All material damaged during removal, relocation, storage or reinstallation shall be repaired or replaced by the Contractor at their expense. The Contractor is responsible to prove if any material was damaged prior to removal.

C. INSPECTION AND WARRANTY

Each sign installation will be inspected by the City of Lincoln. If a sign does not meet the standards and specifications in this document, MUTCD, or LSP, it shall be replaced and/or relocated at the Contractor’s expense.

All Street Name sign layouts shall be reviewed and approved by City of Lincoln, Traffic Engineering Division prior to fabrication.

D. BASIS OF PAYMENT

Signs shall be paid for at the contract unit price bid based on size as listed in Appendix A, Standard Item Description. These bid amounts shall be full compensation for installation of the new sign, hardware, and all labor, equipment, tools, materials, and incidentals necessary to complete the work.

Removal of signs shall be paid for at the contract unit price bid, REMOVE TRAFFIC SIGN ONLY or REMOVE TRAFFIC SIGN AND POST based on unit price for each assembly. Multiple signs on a single post shall be considered one assembly. This bid amount shall be full compensation for removing existing signs, posts, connecting and mounting hardware, and for all labor, equipment, tools, materials, and incidentals necessary to complete the work in accordance with the plans and these Standard Specifications.

Signs relocated during construction shall be subsidiary to the project. Any temporary signs needed throughout the project shall be the responsibility of the Contractor. All signs shall be reinstalled in the same location where they existed prior to removal unless plans show otherwise.
14.04 SQUARE SIGN POSTS

A. MATERIAL SPECIFICATIONS

Posts shall be 2" OD, 14-gauge, galvanized steel tubing with 7/16" pre-punched holes on 1" centers on all four sides. Posts shall be FHWA approved and compliant with AASHTO specifications. Post lengths shall be determined by the size of the sign that is to be placed on the post in order to achieve MUTCD height requirements.

B. INSTALLATION METHODS

Posts shall be installed per LSP.

C. BASIS OF PAYMENT

Sign posts installed in conformance with the project plan set and Standard Specifications shall be paid for at the contract unit price per each SIGN POST, 2" SQUARE. Such payment shall be full compensation for furnishing and installing materials, and for all labor, equipment, tools materials, and incidentals necessary to complete the Work.

14.05 SQUARE SIGN POST ANCHORS

A. MATERIAL SPECIFICATIONS

Post anchors shall be 2 1/4" OD, 12-gauge, galvanized steel tubing that is 36" length with 7/16" pre-punched holes on 1" centers on all four sides. Post anchors shall be FHWA approved and compliant with AASHTO specifications.

B. INSTALLATION METHODS

Post anchors shall be installed per LSP.

C. BASIS OF PAYMENT

Sign post anchors installed in conformance with the project plan set and Standard Specifications shall be paid for at the contract unit price per each SIGN POST ANCHOR, 2 1/4" SQUARE. Such payment shall be full compensation for furnishing and installing materials, and for all labor, equipment, tools materials, and incidentals necessary to complete the Work.
14.06 SQUARE SIGN POST ANCHOR REINFORCEMENT SLEEVE

A. MATERIAL SPECIFICATIONS

Sign post anchor reinforcement sleeves shall be 2 1/2" OD, 12-gauge, galvanized steel tubing that is 18" length with 7/16" pre-punched holes on 1" centers on all four sides. Post anchors shall be FHWA approved and compliant with AASHTO specifications.

B. INSTALLATION METHODS

A reinforcement sleeve shall be attached to the upper portion of the sign post anchor as per LSP.

C. BASIS OF PAYMENT

Sign post anchor reinforcement sleeves shall be subsidiary to sign post anchors and shall not be paid for separately.
14.07 MOUNTING AND HARDWARE

A. 2" SQUARE TUBE SIGN POSTS

The Contractor shall use 5/16" stainless steel bolts and hardware. A nylon washer shall be placed between the stainless-steel washer and the sign face.

B. STREET NAME SIGN ASSEMBLY

The Contractor shall refer to the LSP to install the Street Name assembly.

If there is not a “Stop” or “Yield” sign below the assembly, the top sign shall be the North/South street. If there is a “Stop” or “Yield” sign below the assembly, the bottom sign should align with the “Stop” or “Yield” sign. When installing three signs, the signs shall alternate, with each sign being perpendicular to the next.

C. WOOD POLES

Signs shall not be installed on poles with climbing pegs.

Identification (tag) on pole shall not be covered by the sign or mounting hardware.

The Contractor shall use 2" by 5/16" stainless-steel lag bolts and stainless-steel washers. A nylon washer shall be installed between the lag bolt and the sign face. A street name bracket, as shown in the LSP, shall use a 5 inch by 3/8-inch cadmium plated lag bolt.

D. OTHER POLES

The Contractor shall use stainless steel Band-It banding, 3/4" by 0.03 inch, Part No. C206, or approved equivalent. Stainless steel Band-It Buckles, Part No. C256, or approved equivalent shall also be used. The sign shall be secured to the banding with stainless steel Band-It Flared Leg Brack-It, Part No. D021, and its supplied stainless-steel bolt or approved equivalent. Only stainless-steel material shall be allowed.

E. BASIS OF PAYMENT

All mounting materials used are subsidiary to installing the sign and shall not be paid for separately.