

SPECIFICATIONS
FOR
TRAFFIC CONTROL SIGNS
STREET MARKER BLADES
SIGN POSTS
MOUNTING BRACKETS
AND INSTALLATION

I. GENERAL

A. The following specifications shall be used for all traffic control signage and posts in Huntsville City Limits.

B. All Traffic Control Signage shall conform to the latest edition adopted by the State of Alabama of the Manual on Uniform Traffic Control Devices. (MUTCD)

C. The following color and materials shall be consistently used with exceptions only allowed with written consent of City of Huntsville.

1. All reflective sheeting shall be made of High Intensity Prismatic (HIP) sheeting. Any "Or Equal" vendor materials must be approved by City of Huntsville prior to any manufacturing or installations. Currently approved materials are:

- 3M #3930, HIP Silver/White
- 3M #3931, HIP Yellow
- 3M #3932 HIP Red
- 3M #4083 HIP Yellow Green

2. All ElectroCut (E/C) Film shall use the following approved materials. Any "Or Equal" vendor materials must be approved by City of Huntsville prior to use.

- 3M #1177C E/C Green
- 3M #1179C E/C Brown
- 3M #1172C E/C Red
- 3M #1178C E/C Black
- 3M #1175C E/C Blue

3. All street marker blades and overhead marker blades shall be made using 3M #33930, HIP Silver/White sheeting overlaid with 3M

#1177C E/C Green film or 3M #1175C E/C Blue film for Private Drives. Additional specifications regarding marker blades follow below.

II. STREET MARKER BLADES

A. Traffic Signs (guide): All guide signs must meet the requirements of the latest edition of the Manual on Uniform Traffic Control Devices. The City of Huntsville has adopted the following criteria for street name signs:

1. Street Name Signs

The purpose of these specifications is to describe two-sided street name signs manufactured to the latest edition of the Manual of Uniform Traffic control Devices requirements. All materials are to meet Alabama Department of Transportation Standard Specifications for sign face materials.

2. Extruded Street Marker Blades

- a. Blades must be a domestic aluminum alloy, Type 6061-T6 with a 0.250 edge and a 0.091 web and be treated by Alodine 1200E process.
- b. Blades must be available in 9" height (outside edge to outside edge).
- c. Blades must be available in lengths from 24" to 48" using standard increments.
- d. Ribs must be 0.250" \pm 0.05" in thickness and wider than 1", the bottom of the rib must be rounded and the slope from the blade to the rib must be gradual enough to allow sheeting to be applied with ease.

3. Street Name Face

- a. Background shall be 9" by appropriate length, i.e., length of blank, white Type III high-intensity prismatic reflective sheeting.
- b. Foreground shall be 8" by appropriate length GREEN, BROWN, OR BLUE (for private streets) Electronic Cuttable, Acrylic film, for Type III applications, with the prefix, street name, suffix, and block, numbers cutout as follows:
 - Prefix shall be 2" 'C' Series, Highway Gothic
 - Street name shall be 5" 'B' Series, Highway Gothic
 - Suffix shall be 2" 'C' Series, Highway Gothic
 - Block numbers shall be 2" 'C' Series, Highway Gothic. (If a block number is not provided, adequate space must be provided for future installation.)

4. Street Name Sign

- a. Each sign shall be identically faced on each side of aluminum blank.
- b. In cases such as 1ST AVE, the sign shall be manufactured so that the "ST" is as follows: "1ST". The "ST" shall be made with 5" 'B' Series lettering.
- c. Aluminum blank length for each sign shall be determined by the number of letters in the street name (Item B-3) as follows:
 - 1-4 letters = 24" aluminum blank
 - 5-6 letters = 30" aluminum blank
 - 7-8 letters = 36" aluminum blank
 - 9-10 letters = 42" aluminum blank
 - 11-12 letters = 48" aluminum blank
 - For 13 or more letters, letter size and/or kerning should be adjusted to allow for name to fit on a 48" blank
 - All street names shall be made exactly as provided
 - Abbreviations shall remain as abbreviations.
- d. Typical layout of legend shall include:
 - Shall have 8" background centered on 9" extruded aluminum blank with 3/8" margin at the extreme left and right side
 - Shall have prefix centered vertically prior to street name
 - Shall have street name centered vertically following prefix
 - Shall have suffix abbreviation following street name with bottom above horizontal center and top level with street name
 - Shall have block number centered below suffix with bottom level with bottom of street name and top below horizontal center.
 - Private streets shall have the suffix or suffix abbreviation following street name in 5" 'B' Series, Highway Gothic
 - Private streets shall have "Private Drive" with Private above Drive and centered from top to bottom where block number and suffix are on typical standard signs.

5. Foreground colors and designs shall be determined as follows:

- a. Green Electronic Cuttable, Acrylic file, for Type III applications shall be considered standard and used for all streets, except as noted above.
- b. Blue Electronic Cuttable, Acrylic film, for Type III applications is approved and shall be used for all privately maintained streets.

c. Brown Electronic Cuttable, Acrylic film, for Type III applications shall be used only when pre-approved by City of Huntsville. Brown sign material is approved for use at these locations as follows:

6. PREFIX AND SUFFIX

a. Historical Twickenham District in downtown areas as designated by City of Huntsville and will include a tree design at the leftmost side of the face of the sign centered from top to bottom. Design shall replace the prefix.

b. Ditto Landing areas as designated by City of Huntsville and will include a boat design at the leftmost side of the face of the sign centered from top to bottom. Design shall replace the prefix.

c. See separate specifications for signage in Cummings Research Park.

d. Suffixes shall be abbreviated as follows:

FULL SUFFIX	ABBREVIATED SUFFIX
Alley	ALY
Avenue	AVE
Boulevard	BLV
Box	BOX
Broadway	BDY
Circle	CIR
Court	CT
Cove	CV
Drive	DR
East	E
Fort	FT
Garden	GDN
Heights	HTS
Highway	HWY
Lake	LK
Lane	LN
Mount	MT
Mountain	MTN
North	N
Parkway	PKY
Path	PTH
Pike	PKE
Place	PL
Plaza	PLZ
Point	PT
Port	PRT

Road	RD
Route	RT
Row	ROW
Run	RUN
South	S
Square	SQ
Street	ST
Terrace	TER
Trace	TRC
Trail	TRL
Turnpike	TPK
Way	WAY
West	W

III. SIGN POSTS AND MOUNTING HARDWARE

A. U-Channel Post

The following are considered minimum specifications for U- Channel posts utilized in sign installation.

1. General

All U-Channel posts shall have standard:

- a. Full length punching.
 - 3/8" diameter
 - 1" on center starting 1" from top of post
- b. Three (3) pound per foot weight.
- c. Minimum twelve (12) feet in length.

2. Material Specifications - U-Channel Posts:

Posts shall consist of re-rolled rail steel or an equivalent steel. They shall conform to the mechanical requirements of ASTM Specification A-499-81, Grade 60 (Hot-Rolled Carbon Steel Bars and Shapes Re-Rolled from Rail Steel), and to the chemical requirements of ASTM Specification A-1-76 (Carbon Steel Tee Rails) for rails having nominal weights of 91 pounds or heavier per yard. These chemical requirements include the following limitations:

- Carbon 0.67 – 0.89 percent

- Manganese 0.70 – 1.00 percent
- Silicon 0.10 -0.25 percent

3. Finish:

All posts are to be hot dipped zinc galvanized.

B. Extruded Aluminum Sign Blade Mounting Bracket (Street Markers)

The purpose of these specifications is to describe a bracket utilized in the mounting of Extruded Aluminum Sign Blades at a 90-degree angle to each other atop a U-Channel Post.

1. All street marker blade holders must meet the requirements of the latest edition of the Manual on Uniform Traffic Control Devices. Die cast high strength aluminum brackets. P.S.I. tumbled and degreased for smoothness and ease of handling. Currently approved by City of Huntsville for use is Type Vulcan SUPR-LOK U-Channel Caps for Extruded Blades 5-1/2" Blade Holder or EQUAL

Sign Blade Holders further described:

- a. 180 Degree Brackets shall be Part #91UX-NU180 CAP or equal
- b. 90 Degree Brackets shall be Part #91UX-OL90 CAP or equal
- c. X Brackets shall be Part #990-X Cross Sign Blade Holder or equal

All extended aluminum sign blade mounting brackets shall have as standard construction the following:

- Number 380 alloy with tensile strength of 49,000 psi.
- Two angled ribs on each side.
- Sets shall be tapped and drilled for minimum of 10-5/16" zinc plated Allen-type set screws.
- Set shall consist of one (1) post to sign bracket, one (1) sign to sign bracket, and necessary set screws.

C. Square Tube Posts

Only 2" x 2" square tube posts shall be used for Cummings Research Park. See separate specification for CRP. Additionally, 2" x 2" square tube posts are

approved for use at Ditto Landing, along Eastern Bypass and Providence Subdivision.

Use of posts at any location other than a U-Channel posts must be approved by City of Huntsville.

Where square tube posts are permitted, the following are minimum standards that tube posts must meet. Current approved vendor is Allied Tubing. All requests for use of another vendor must be submitted for approval.

1. Material

- a. Steel posts shall conform to the standard specifications for Hot-Rolled Carbon Sheet Steel, structural quality ASTM designation A570, Grade 50.
- b. The cross section of the post shall be a square tube formed of 14 or 12-gauge steel, carefully rolled to size and welded in the corner.
- c. The length of the post shall be available in both 12 or 14 feet lengths, with an allowable tolerance of + or = 1/4".
- d. The furnished members shall be straight and shall have a smooth uniform finish. It shall be possible to telescope consecutive sizes of tubes freely with a minimum amount of play.
- e. Signposts and associated hardware are to either be galvanized or powder coated with a dark bronze (Sherwin Williams BRZ4 color or Equal), Lead and Cadmium Free F-Nr. 57680.
- f. Signposts shall have die-cut knockouts for mounting of signs. (Qwik Punch)

2. Approved standard materials to be used are the Allied Tube products listed below or Equal.

- a. Powder Coated; Qwik Punch; Tubular Post 2"x2"; 14 gauge; 12' long
- b. Powder Coated; Qwik Punch; Tubular Post 2"x2"; 14 gauge; 14' long
- c. Powder Coated Pedestal Base
- d. Powder Coated; Extruded Street Name Bracket; Cap
- e. Powder Coated; Extruded Street Name Bracket; Tee
- f. Powder Coated; Post Cap
- g. Slip Base Assembly for 2" post
- h. Tubular Post; 2" x 2"; 14 gauge; 12' long
- i. Tubular Post; 2" x 2"; 14 gauge, 14' long
- j. Tubular Post 2-1/2" x 2-1/2"; 12 gauge; 14' long
- k. Pedestal Base

- l. Concrete Barrier Mount
- m. Guardrail Clip
- n. T-Fitting
- o. L-Fitting
- p. Straight Fitting
- q. 90 Degree Fitting
- r. 45 Degree Fitting
- s. Extruded Street Name Bracket; Cap
- t. Extruded Street Name Bracket; Tee
- u. Omni-Directional Anchor 2-1/4" x 2-1/4" x 3' w/welded soil stabilizer vanes
- v. Slip Base Assembly for 2-1/2" post
- w. Slip Base Assembly for 2" post
- x. Universal Post Clamps for 2-1/2" posts
- y. Drive Rivets
- z. Corner Bolts with jam nuts

3. Approved standard hardware materials to be used to mount the traffic signs to the posts are:

- a. 5/16" x 2-1/2" Stainless steel hex bolt
- b. 5/16" Stainless steel washer
- c. 5/16" Nylon washer
- d. 5/16" Brass locking nut with nylon insert

IV. INSTALLATION OF U-CHANNEL POSTS AND BRACKETS, TUBE POSTS AND BRACKETS, STREET MARKERS AND TRAFFIC CONTROL SIGNS

A. U-Channel Post Installation

1. For standard size signs up to 30", signs shall be installed on 12' U-Channel post. The U-Channel post shall be installed 30" in the ground with the U-Channel facing traffic.
2. For over-sized signs 36" and up, signs shall be installed on a 14' U-Channel post. The U-Channel post shall be installed 36" in the ground with the U-Channel facing traffic.

B. Street Name Sign and Bracket Installation on U-Channel Posts

1. The part of the bracket that attaches to the sign should be drilled out using a 3/8" drill bit.
2. The bracket shall then be used to mark the holes to be drilled on the street name signs.

3. The street name sign shall be drilled out using a 3/8" drill bit.
4. The bracket should then be fastened to the street name sign using 5/16" x 1" stainless steel bolts with brass nuts with nylon inserts.
5. The bottom bracket can now be attached to the U-Channel post using 5/16" x 1" stainless steel bolts with brass nuts with nylon inserts.
6. **The set screws that come with the brackets shall not be used.**

B. Tube Posts and Mounting Brackets

1. Each 2" x 2" square tube post shall be installed using an Omni Directional Anchor Base.
2. All bases shall be installed so that only 3" of the base are above ground level.
3. Each tube post shall be topped with either a powder coated post cap or extruded street name bracket (tee) on each post.
4. Each extruded street name tee cap shall be drilled through the post and through the tee cap using a 3/8" drill bit.
5. Each extruded street name tee cap shall be bolted on using a 5/16" x 3-1/4" stainless steel hex bolt, 5/16" stainless steel flat washer and 5/16" brass nut with nylon insert.
6. Signs W1-6 and W1-7 will require two 12' posts.

C. Marker Blade Installation on U-Channel Posts

The bottom street marker blade shall be bolted to the U-Channel post using two each of 5/16" x 1" stainless steel bolts with brass locking nuts used inside the U-Channel to prevent theft.

D. Marker Blade Installation on Tube Posts

1. Street marker blades shall have the shorter length marker blade mounted above the larger length marker blade, unless larger length of blade will obstruct flow of traffic.

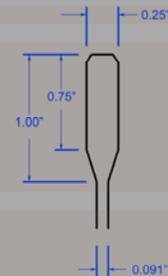
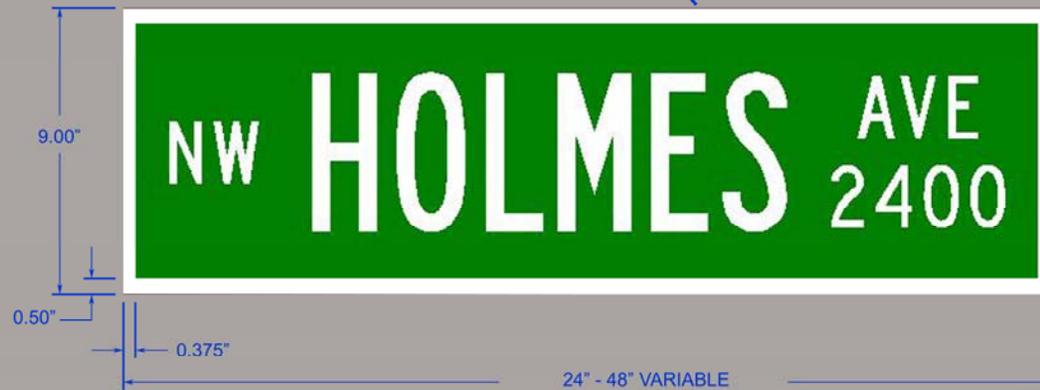
2. The set screws that are provided with the street marker brackets above shall be removed and the holes drilled out using a 3/8" drill bit.
3. The street name blade should then be drilled using a 3/8" drill bit.
4. Use 5/16" x 1" stainless steel hex bolts with a 5/16" brass locking nut w/nylon insert to attach the bracket to the street name blade.
5. After the street marker blades have been assembled, the assembled marker blades shall be installed on top of the 2" x 2" post using a 5/16" x 3-1/4" stainless steel hex bolt with a 5/16" brass nut with nylon nut.

E. Traffic Control Signs Installation

All traffic control signs shall be installed at a minimum height of seven feet to the bottom of the sign from ground level. Supplemental signs may be mounted one foot below minimum (six feet) with bottom of the sign from ground level.

ALODIZED ALUMINUM
6063-T6

SEE DETAIL BELOW



ALODIZED ALUMINUM 6063-T6

SEE DETAIL BELOW

