

**SPECIFICATIONS  
FOR  
TRAFFIC CONTROL SIGNS  
STREET MARKER BLADES  
SIGN POSTS  
MOUNTING BRACKETS  
AND INSTALLATION  
AT  
CUMMINGS RESEARCH PARK**

**I. GENERAL**

A. Cummings Research Park (CRP) Master Plan established in the 1980's included specialty signage to create a high-quality image for the park. Changes over the years have been necessary to adequately maintain the park. The following specifications shall be used for all traffic control signage and posts in the established CRP area.

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)

B. The following color and materials shall be consistently used throughout the park 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 exposed aluminum on front border and back of all traffic control signs shall be dark bronze in color (Sherwin Williams Dark Bronze BRZ4 or equal). Additional specifications regarding traffic control signs follows below.
4. All street marker blades and overhead marker blades shall be made using 3M #33930, HIP Silver/White sheeting overlaid with 3M #1179C E/C Brown film. Additional specifications regarding marker blades follow below.
5. All ground mounted posts and associated hardware shall be dark bronze in color (Sherwin Williams BRZ4 or equal). Additional specifications regarding posts follow below.

## II. TRAFFIC CONTROL SIGNS

A. Aluminum sign panels shall meet minimum requirements as follows:

1. .080" 5052 H38 domestic aluminum alloy, degreased, deburred and etched with alodine 1200E process.
2. All exposed aluminum (front, back and border) shall be baked on enamel, dark bronze in color (Sherwin Williams Dark Bronze BRZ4 or Equal).
3. Traffic control sign panels shall be stamped to present a 1-1/2" border beyond the sign face.
4. Sign faces and finished sign sizes (to include 1-1/2" border on front of sign) shall be manufactured as follows:

<u>SIGN TYPE</u>	<u>SIGN FACE</u>	<u>FINISHED SIGN SIZE</u>
R1-1 Stop	36" Octagon	39" Octagon
R1-2 Yield	36" Triangle	39" Triangle
R2-1 Speed Limit 25	24" x 30"	27" x 33"
R2-1 Speed Limit 35	24" x 30"	27" x 33"
R2-1 Speed Limit 40	24" x 30"	27" x 33"
R2-1 Speed Limit 45	24" x 30"	27" x 33"
R3-1 No Right Turn (symbol)	24" x 24"	27" x 27"
R3-1 No Left Turn (symbol)	24" x 24"	27" x 27"
R3-7 Right Lane Must Turn Right	30" x 30"	33" x 33"
R4-7 Keep Right (symbol)	24" x 30"	27" x 33"
R5-1 Do Not Enter	36" x 36"	39" x 39"
R6-1 One Way Sign	12" x 36"	15" x 39"
S1-1 School Crossing Sign	36" x 36"	39" x 39"

W1-1L Left Turn	36" x 36"	39" x 39"
W1-2L Left Curve	36" x 36"	39" x 39"
W1-2R Right Curve	36" x 36"	39" x 39"
W1-1R Right Turn	36" x 36"	39" x 39"
W1-3L Left Reverse Turn	36" x 36"	39" x 39"
W1-3R Right Reverse Turn	36" x 36"	39" x 39"
W1-4L Left Reverse Curve	36" x 36"	39" x 39"
W1-4R Right Reverse Curve	36" x 36"	39" x 39"
W1-6 Large Arrow	48 x 24"	51" x 27"
W1-7 Double Large Arrow	48" x 24"	51" x 27"
W1-8 Chevron Alignment Sign	18" x 24"	21" x 27"
W3-1a Stop Ahead Sign	36" x 36"	39" x 39"
W3-2a Yield Ahead Sign	36" x 36"	39" x 39"
W3-3 Signal Ahead Sign	36" x 36"	39" x 39"
W4-2 Lane Reduction/Transition Signs	36" x 36"	39" x 39"
W8-1 BUMP Sign	36" x 36"	39" x 39"
W8-2 DIP Sign	36" x 36"	39" x 39"
W9-1 Lane Reduction/Transition Signs	36" x 36"	39" x 39"
W9-2 Lane Reduction/Transition Signs	36" x 36"	39" x 39"
W11A-2 Pedestrian Crossing Sign	36" x 36"	39" x 39"
W16-7P School/Ped Suppl. Arrow	12" x 24"	15" x 27"
W16-9P AHEAD Suppl. Plate	12" x 24"	15" x 27"
W13-1 Advisory Speed 10	18" x 18"	21" x 21"
W13-1 Advisory Speed 15	18" x 18"	21" x 21"
W13-1 Advisory Speed 20	18" x 18"	21" x 21"
W13-1 Advisory Speed 25	18" x 18"	21" x 21"
W13-1 Advisory Speed 30	24" x 24"	27" x 27"
W13-1 Advisory Speed 35	24" x 24"	27" x 27"
W14-2 No Outlet	36" x 36"	39" x 39"
OM-3L Type 3 Object Marker (Hash)	12" x 36"	15" x 39"
OM-3R Type 3 Object Marker (Hash)	12" x 36"	15" x 39"

5. Any other signs proposed for use in CRP shall be submitted for approval to City of Huntsville Traffic Engineering.

### III. 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. See example of finished marker blade for CRP at end of this document. 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 HIP reflective sheeting.
- b. Foreground shall be 8" by appropriate length brown (blue for private streets) E/C film, 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. 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

#### IV. SIGN POSTS AND MOUNTING HARDWARE

Only 2" x 2" square tube posts shall be used for new installations and maintenance in CRP. The following are minimum standards that tube posts and hardware must meet. Current approved vendor is Allied Tubing. All requests for use of another vendor for materials must be submitted for approval.

##### A. Material

1. Steel posts shall conform to the standard specifications for Hot-Rolled Carbon Sheet Steel, structural quality ASTM designation A570, Grade 50.
2. 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.
3. The length of the post shall be available in both 12 foot and 14 foot lengths, with an allowable tolerance of + or = 1/4".

4. 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.
5. Signposts and associated hardware are to be powder coated with a dark bronze (Sherwin Williams BRZ4 color or Equal), Lead and Cadmium Free F-Nr. 57680.
6. Signposts shall have die-cut knockouts for mounting of signs. (Qwik Punch)
7. 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 and 14' long
  - b. Powder Coated; Extruded Street Name Bracket; Cap
  - c. Powder Coated; Extruded Street Name Bracket; Tee
  - d. Powder Coated; Post Cap
  - e. Omni Directional Anchor Base
  - f. Medium Corner Bolt and Nut
8. 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

V. **INSTALLATION OF TUBE POSTS, BRACKETS, STREET MARKERS AND TRAFFIC CONTROL SIGNS**

A. **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 cap on each post.

3. Each extruded street name tee cap shall be drilled through the post and through the tee using a 3/8" drill bit.
4. Each extruded street name tee cap shall be bolted on using a 5/16" x 3" 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.

#### B. Marker Blade Installation

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 and caps 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 1-1/4" stainless steel hex bolts with a 5/16" brass locking nut with 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 2-1/2" stainless steel hex bolt with a 5/16" brass nut with nylon nut.

#### C. 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

