

Section 01554**STREET SIGNS****1.0 GENERAL****1.01 SECTION INCLUDES**

- A Materials, hardware and installation of Traffic Signs.
- B References to Technical Specifications:
 - 1. Section 01350 – Submittals
 - 2. Section 01140 – Contractor’s Use of Premises
- C Referenced Standards:
 - 1. Texas Manual on Uniform Traffic Control Devices (Texas MUTCD)

1.02 MEASUREMENT AND PAYMENT

- A Signs installed or replaced will be measured by the each sign. Signs refurbished will be measured by each sign.
- B Payment for installation of traffic signs will be on the basis of each sign installed.
- C The price is full compensation for furnishing and installing new signs and hardware. Cost of associated posts, footings, and miscellaneous mounting hardware will not be paid for directly but is to be included in the unit price bid for installation of each traffic sign.
- D Non-standard signs installed or replaced will be measured by the square foot of the sign face. Non-standard signs shall not be installed without prior approval from the City

1.03 SUBMITTALS

- A Make Submittals required by this Section under the provisions of Section 01350 – Submittals.
- B Contractor shall submit a list of intended suppliers and products to be used for all signs, posts, and associated hardware. City reserves the right to request actual product samples prior to approval.

2.0 PRODUCTS**2.01 MATERIALS**

- A Comply with Texas MUTCD regulations.

- B The following ASTM Standards and documents, of the issue in effect on the date of Invitation for Bid, form a part of this specification to the extent herein.
1. ASTM B 209 Specification for Aluminum and Aluminum Alloy Sheet and Plate.
 2. ASTM D 523 Standard Method for Test for Specular Gloss
 3. ASTM D 4956 Standard Specification for Retroreflective Sheeting for Traffic Control.
 4. ASTM E 284 Standard Definition of Terms Relating to Appearance of Materials.
 5. ASTM E 308 Computing the Colors of Objects by Using the CIE System
 6. ASTM E 810 Standard Test Method for Coefficient of Retroreflection of Retroreflective Sheeting.
 7. ASTM E 1164 Standard Practice for Obtaining Spectrophotometric Data for Object-Color Evaluation.
- C Substrate (Sign Blanks) – This shall be aluminum alloy 5052-R38. The thickness of sign shall be 0.125 inch with 3/4” radius corner.
1. Metal working – The aluminum shall be free of burrs and pits on both sides, including edges and holes, and shall be made ready for applications of sheeting.
 2. Surface preparation – The aluminum shall be thoroughly cleaned and degreased with solvent and alkaline emulsions cleaner by immersion, spray, or vapor degreasing and dried prior to application of the gold chromate sheeting coat. The aluminum shall be new and corrosion-free with holes drilled or punched, corners round to radii 3/4” and all edges smoothed prior to application of sheeting. The heavy or medium chromate coating shall conform in color and corrosion resistance to that imparted by the Alodine 1200F treatment.
 3. Size – The dimension of substrate application for regulatory, warning, and guide signs shall be as specified by the Engineer and as shown on the plans.
- D Sign Face (Background, Legends, Symbols, and Colors) – These shall be in accordance with the Standard Highway Signs Designs (SHSD) for Texas and with the Texas Manual of Uniform Traffic Control Devices (TMUTCD)
1. Street Name shall be constructed from Avery Dennison OL – 2007 Green Electronic Cuttable Film, using Highway B Series Font, 6” Upper/ Lower case, 3” Suffix for St., Dr., Ave. designations. Signs shall have a 1/2” White Border.
 - a. Tolerance for Horizontal Alignment - Letters, numerals and symbols shall be horizontally aligned to a tolerance of 1/16 inch.
 - b. Tolerance for Vertical Alignment – Letters, numerals, and symbols shall be vertically aligned to a tolerance of 1/16 inch on each letter in each line.
 2. All sign blanks shall be covered with Avery Dennison T – 7500 White Vinyl reflective sheeting.
 3. Signs requiring “No Outlet” or “Dead End” designations shall be constructed from Avery Dennison Black PC – 500 – 190 – O Vinyl, 2 1/4”

upper case lettering. Arrow shall be 1 ¼" x 4 ¼" Long, overlaid with Avery Dennison OL – 2001 Yellow electronic Cutable Film 5 ½" x 8".

- E Street Name Sign shall have a ¾" x ¾" City of Pearland dating sticker indicating the month and year of manufacture of each sign. Dating sticker shall be applied to the White Reflective Vinyl, covered by the Green EC film in the manufacturing process.
- F Avery Dennison is the approved manufacturer of vinyls for the City of Pearland. Any substitutions will require submission of sample materials and specifications sheets to the City Of Pearland Traffic Operations manager prior to use. Any and all components are to be match components. Uses of non-matching components are prohibited.
- G Sign Posts - Steel post shall conform to the standard specification for hot rolled carbon sheet steel, structural quality, ASTM designation A570, Grade 50. Average minimum yield strength after cold forming is 60,000 psi.
1. The location, height, size and the foundation of the sign post shall conform to the City's standard detail.
 2. The signs shall be installed using RPB412F – 12" Round Post Cap and RPB412F – 12" Cross Piece Brackets. Posts caps shall be attached to sign post using 5/16" Carriage Bolts and 5/16" Tuff Nuts. Signs are to be attached to brackets using same.
- H Warranty - The Contractor shall warrant the materials and workmanship of each sign in accordance with the maximum limits of material warranties extended by manufacturers of raw materials, subject to the conditions they specify. The retro-reflective sheeting will be considered unsatisfactory if it has deteriorated due to natural causes to the extent that: (1) the sign is ineffective for its intended purpose when viewed from a moving vehicle under normal day and night driving conditions; or (2) the coefficient of retro-reflection is less than the minimum specified for that sheeting. When sign failure occurs prior to the minimum years indicated and an inspection demonstrates that the failure is caused by materials warranted to contractor to endure at least that long, the sign will be replaced or repaired free of materials charges. When failure occurs and inspection demonstrates that such failure is due to poor workmanship, the sign will be replaced or repaired at Contractor's expense, including shipping charges.

3.0 EXECUTION

3.01 EQUIPMENT

The contractor shall provide machinery, tools, and equipment necessary for proper execution of the work.

3.02 CONSTRUCTION

- A Construction shall be high quality with no visible defects in the finished product. Fabrication shall be in accordance with these specifications. Street name signs

shall always be supplied and installed at each project intersection whether signs previously existed at the location or not.

- B The removal of existing signs shall be coordinated with the Traffic Operations Section of the Public Works Department (281-652-1900) and arrangements made for a convenient time to deliver City signs and poles. All salvaged traffic signs shall be delivered to the Traffic Operations Center located at 2559 Hillhouse Road, Pearland. All deliveries to the Traffic Operations Center requires a minimum notice of two (2) working days prior to returning or delivering any sign and/or sign related material.

3.03 RESPONSIBILITIES

- A The contractor is responsible for providing and supplying aluminum traffic signs covered with retro-reflective sheeting, applying standard legends (or special legends if shown in the plans) to the covered sign blanks, galvanized steel sign poles, pole anchors, all hardware for installing the signs and poles, and for installing traffic signs, poles and anchors as shown in the plans or call for in the contract documents, complete and ready for field installations.

3.04 CLEAN-UP AND RESTORATION

- A Perform clean-up and restoration in and around construction zone in accordance with Section 01140 – Contractor’s Use of Premises.
- B Remove equipment and devices when no longer required.
- C Repair damage caused by installation.

END OF SECTION