SECTION 10430 – EXTERIOR SIGNS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to all Sections of this Specification.

B. Work Included: Provide signage and related accessories, including all labor, materials, equipment and services necessary to complete the signs as indicated on the drawings and/or specified herein, including but not limited to, the following:

1. Production and application of all necessary typography, symbols and graphic elements relevant to the Exterior Identification signage as well as all materials and parts required to complete each item, including, but not limited to, all bolts, anchors, supports, braces, connections and/or other items.

2. Façade Repair and Removals: Removal of existing masonry and composite panel façade elements and replacement in kind. The scope also includes removal and replacement in kind of interior finishes such as gypsum board and insulation and electrical lines and heat piping. Scope includes restoration of all elements removed to gain access to the building structure for sign installation.

3. Installation and mounting of all signs and support elements, enclosures and structures.

4. Apply for and obtain, at own expense, all required permits (may include installation sign hangers, DOT, DOB) necessary to complete the scope of work as described in Contract Documentation.

5. Comply with all current codes and requirements of all relevant regulatory agencies. Where so required, tests shall be made and certificates shall be secured at the expense of the Contractor.

6. All constructional, engineering and anchoring details indicated on Consultant’s drawings are for design intent only. The Contractor shall take full responsibility for the correct and safe engineering of all sign components and shall submit in the shop drawings any alternative details which are necessary to result in a satisfactory and safe product. The Contractor is responsible for survey and provision of final shop drawings stamped by a New York state licensed engineer.

1.02 RELATED SECTIONS

A. Refer to the Contract Documents for related specifications Sections which interface with, and are affected by the Work of this Section, provide all required coordination to
ensure completion of the Work of this Section and the Work of other Sections affected by this work.
1. 05120 Structural Steel Framing
2. 16500 lighting

1.03 QUALITY ASSURANCE

A. Fabricator: The firm manufacturing and installing the signs shall have been engaged in producing signs equivalent in scope and fabrication method to those specified for the Work, for a minimum of five (5) years. Manufacturer to produce recommendations of record of successful in-service performance, to include three (3) projects of similar size and ten (10) client references. The firm shall also have sufficient production capability to produce the quantity of sign units required without causing delay in the Work. Materials, method of fabrication, fitting, assembly, fastening and installation shall be in the highest quality practices of the industry, using new and clean materials as specified, having structural properties sufficient to safely sustain and withstand stresses and strains to which materials and assembled work will be subjected.

1.04 PERFORMANCE REQUIREMENTS


B. Designs to resist wind loads to 110 MPH and allow for expansion/contraction for a minimum material temperature range of 56 degrees C (100 degrees F) without causing buckling, excessive opening of joints or over stressing of adhesives and fasteners.

C. The Work in the section is subject to requirements of applicable portions of the following standards:

1. ANSI – American National Standard Institute
2. ASTM – American Society for Testing and Materials
3. ADA – Americans with Disabilities Act
4. Generally, comply with applicable laws, bylaws, code, fire regulations, health and safety regulations of government having jurisdiction or requirements of this specification, whichever are more stringent.

1.05 SITE CONDITIONS

A. Field Measurements: Check actual locations of construction to which metal fabrication must fit, by accurate field measurements before fabrication; show recorded measurements on final shop drawings including existing floor levels.

B. Confer with Consultant regarding all critical items before shop drawings are started, and advise Consultant of any significant discrepancies in field measurements or operational difficulties prior to fabrication. Obtain the Consultant’s written approval for any resulting deviations from the specifications and/or drawings that may become necessary.
1.06 SUBMITTALS

A. Within ten (10) days of signing CUNY contract, Contractor to submit a detailed production and installation schedule for all sign types, including dates for submission and approval of all required samples and shop drawings.

B. Product Data: Submit manufacturer's product data, test reports, specification and installation instructions for all materials and for each type of electrical or mechanical equipment incorporated into the Work.

C. Graphic Requirements: All graphic components will be accurately reproduced from provided Adobe Illustrator CS3, AI digital artwork. Contractor may not modify intended graphic appearance, if adjustments are required for performance or construction needs, Contractor to provide Consultant with report indicating reasoning and adjustment recommendation. Typesetting shall have proper letter, word and line spacing and characters shall be sharp, with smooth, flat faces, sharp corners and precisely formed lines and profiles, accurately aligned on their baseline. Any nicked, cut, ragged edges, edge build-ups, pits, bubbles, warpages or distortion, bleeding or any other distortions will not be accepted.

D. Shop Drawings: In plans, elevations, and sections, show proposed fabrication and mounting details for each sign type and copy specified. Include sign designs, dimensions, copy/type style and heights, mounting applications, large-scale documentation of all joinery, anchorages and accessory items. Documentation shall be specifically identified as such on the shop drawings and equal or surpass the originally specified items with regard to appearance, finish, material qualities, size, etc.

1. Submit half scale art, for all components, including lettering spacing, for final text layout approval prior to installation. Once approved, provide master templates for all sign locations for structural connections alignment coordination.

2. Submit three (3) full samples of twelve (12) inch “G”. Each “G”, front face and dimensional returns, will be finished in a different color, Matthews Paint, MP 08937- Flexi Flyer Red, MP 14833- Black Princess Ruby and MP 15394- Red Ferrari, all in satin finish. CUNY to finalize final color selection following sample review. All samples are to be kept as record and not to be installed as final product.

3. Submit color and material samples for all finishes indicated.

4. Provide setting drawings, templates and directions for structural installation for review.

5. Manufacturer name, trade name/mark shall not appear on any visible surface of the Work.
1.07 CONSTRUCTION

A. Work shall be performed by competent workmen and shall be of the best quality, free from defects impairing strength, durability and appearance. All items shall be made of new or appropriate post-consumer recycled materials. All work to be uniform in detail design and finish.

B. All work shall be constructed as complete systems, including all stiffeners, fasteners, welding, sealants, jointing, miscellaneous pieces and material thickness required to enable the work to function properly. Preassemble items in shop to the best of ability to minimize field assembly and splicing. Disassemble units only as needed for shipping and handling limitations. Use connections that maintain structural value of joined elements. Clearly mark units for reassembly and coordinated installation.

C. Connections, angles, shapes and details are suggested and are to be sized, reinforced and detailed as required for their particular application. Drilled holes for bolt, screw fasteners, pin mounts shall have clean, true lines and surfaces. Details not shown to be at least equal in quality to those detailed. Assembled joints to be tight and practically unnoticeable, without use of filling compound.

D. All details of construction are to be engineered with appropriate strength materials and finished to withstand the potential rigors of their installed locations. Increase metal thickness or reinforce with concealed stiffeners or backing materials as required to produce clean surfaces without distortion, buckles, warpages or other deformations.

1.08 WARRANTY

A. The warranty specified shall not deprive CUNY of other rights provided to him within the other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

B. Submit a written warranty, signed by Manufacturer, Installer, and Contractor, for materials and workmanship for all work, agreeing to repair or replace assemblies that fail during the specified warranty period of five (5) years. Failures to include, but not limited to, coating degradation and structural issues. Replacements must fulfill completion of the outstanding warranty period.

PART 2 - PRODUCTS

2.01 ACRYLIC SHEET, INDIVIDUAL LETTERS

A. Individually cut characters shall be accurately cut from an acrylic sheet of specified thickness, notched at ¾ inch thick. All edges shall be smooth and free from any saw marks, chips, cracks or other blemishes and shall be square to the face. Characters shall be mounted with the face surface of all characters flush, regardless of irregularities of mounting surface.
2.02 ADHESIVES

A. Adhesives required in fabrication and installation shall be compatible with the materials to be laminated or adhered.

B. Surfaces on which adhesives are to be applied shall be smooth, clean and free of dust, dirt, grease, fingerprints or other foreign matter.

C. Adhesives shall be guaranteed not to deteriorate, discolor, delaminate or fail in adhesion for any reason, including exposure to heat, sunlight, weathering or other environmental conditions. Adhesives shall not change the color of, or in any way deteriorate the materials to which they are being applied.

2.03 ADJUSTABLE GAS SPRINGS

A. Provide and install Gas Springs of exterior grade. Gas spring shall be adjustable and fabricated of stainless steel as provided by Enidine or approved equal (Series 1165/1750) 1(800) 852-8508. Gas spring shall be sized accordingly to provide necessary force for sign panel minimum 90 degree rotation/lift and hold in horizontal position and installed as per manufacturer’s recommendations. Gas Springs shall be installed with necessary bracket hardware for mounting within “sign box.” Gas spring shall be installed at each end of sign box/panel so as to not be located behind acrylic letter forms, be seen thru letter form nor interrupt consistent illumination of letter forms.

2.04 ANTI-BIRD TAPE

A. Provide and install electrical anti-bird tape as indicated on construction drawings. Anti-bird tape shall be KABA Tape Bird Shock System as manufactured by KABA Corporation or approved equal. Anti-bird tape shall be UL listed/approved and have width of 1 3/4” or less so that it fits within profile/returns of letter forms, have a thickness of less than 1/8” and adhesive tape shall be clear. See electrical drawings for electrical connection details and install as per manufacturer’s recommended installation.

2.05 ALUMINUM

A. Provide alloy and temper recommended by aluminum producer or finisher for type of use and finish indicated, and with not less than the strength and durability properties of the alloy and temper designated below for each aluminum form required.

   a. Sheet and plate shall be of best architectural quality, stretched leveled, smooth, without oil canning and visually flat. Individually cut characters shall be accurately cut from a sheet of specified thickness. All edges shall be smooth and free from any saw marks, chips, cracks or other blemishes and shall be square to the face. Characters shall be mounted with the face
surface of all characters flush, regardless of irregularities of mounting surface.

b. Pan signs shall be fabricated of Aluminum sheet of sufficient thickness and with any necessary internal reinforcement, to provide a sign surface which is stable and flat, free of oil canning, ripples or imperfections. All corners, edge joints shall be welded, unless otherwise specified and shall be mechanically sanded after welding to ensure a smooth exterior surface.


2.06 FABRICATION, GENERAL

A. Form metal fabrications of size, thickness, and shapes indicated, as needed to comply with performance requirements. Work to dimensions on shop drawings, using proven details of fabrication and support.

B. For all illuminated components, provide an operable service panel, light baffles and appropriate sealant to prevent light leaks and ensure that the light is evening spread on the character surface to mitigate hot spots, shadows, scallops, halos or reflections. Provide sufficient number, wattage and color to effectively illuminate the sign surface in the intended location and for the intended function. Provide adequate insulation and means of ventilation for all LEDs or other electrical equipment incorporated into sign components to prevent the possibility of fire or the deformation or defacing of any materials due to overheating. Ventilation to not allow light leaks or light spilling on to adjacent surfaces. Provide protection for LEDs or other electrical equipment from debris and weather elements that can cause either damage to sign or create a fire hazard.

2.07 FASTENERS AND MISCELLANEOUS MATERIALS

A. General: Provide stainless steel, countersunk or concealed, fasteners where exposed to moisture. Select fasteners for the type, grade, and class required. All hardware and fasteners to be treated so not to rust or cause stains on any surfaces due to weather or contact with other materials.

2.08 FERROUS METALS

A. Metal surfaces, General: For exposed metal work, use materials selected for their flatness, smoothness, and freedom from blemishes.

1. Finish welds on exposed surfaces shall be of the correct type to eliminate distortions of flat surfaces and to be imperceptible in the finished Work. At exposed connections, all flux, oxides, slag and discolorations shall be removed so that these areas match the finish of adjacent areas. Any damage by welding must be repaired by grinding, polishing or buffing.

B. Stainless-Steel Bars and Shapes: ASTM A 276, Type 304.
2.09 PAINT

A. Paint required in fabrication, including paint for screened copy and graphics shall be compatible with the materials to which it is applied and shall be guaranteed not to cause discoloration, deterioration or delaminating for any reason, including exposure to heat, sunlight, weathering or other environmental conditions.

B. Prime coats or other surface pre- and post treatment, where needed, shall be included in the Work.
   1. Zinc Chromate Primer, complying with performance requirements of FS TT-P-645.
   2. Galvanizing Repair Paint,
   3. Acid Wash Prime Coat
   4. Aliphatic Polyurethane Enamel, with ultraviolet inhibitors, lightfast, weather, abrasion and wear resistant additives, Matthews Paint Acrylic Polyurethane, two (2) coats, with a minimum dry film thickness of 2.0 mil.
   5. Clear Top Coat, VOC alternative acrylic polyurethane

C. All paints and pre-treatments are to be identified within the shop drawings and on all samples.

D. All colors shall be exactly reproduced as specified and shall match submitted samples.
   1. To be either one of: Matthews Paint, MP 08937- Flexi Flyer Red, MP 14833-Black Princess Ruby and MP 15394- Red Ferrari, all in satin finish. Selection to occur in sample process.
   2. Matthews Paint MP 07024, satin finish & matte finish
   3. Matthews Paint MP 30132 Jet Black, satin finish

E. All coatings, paint to be applied using a high pressure spray in dust free conditions and shall be allowed to dry/cure properly before being moved.

F. All opaque painted and finished surfaces shall have a smooth, even finish of uniform color and opacity coverage, free of imperfections, marks, scratches, embedded dirt, wave patterns or other irregularities.

2.010 VINYL SELF ADHESIVE FILM

A. Vinyl self-adhesive film to be fabricated from premium grade adhesive vinyl film of between .003 and .005 inch thickness such as manufactured by 3M or approved equal.
   1. 3M™ Scotchcal™ translucent graphic film, Red 3630-33
   2. 3M™ Dual-Color Film, Black 3635-222
   3. 3M™ Diffuser Film White (60% light transmission) 3635-70

B. Film to be dimensionally stable, with character shrinkage no more than 1/100 of an inch from any edge after installation. Film to withstand exposure to weather conditions and illumination heat with no appreciable deterioration such as cracking, blistering, delamination or loss of adhesion.
PART 3 - EXECUTION

3.01 DELIVERY, STORAGE AND HANDLING

A. Clearly label contents of all packages.

B. Deliver, store and handle all packages so as to protect them from any kind of damage. Inspect all components for evidence of damage at site before installation. Damaged materials shall not be incorporated into the Work and shall be removed from the site immediately.

C. The Contractor shall replace at his own expense all work judged damaged or defective before Completion.

3.02 INSPECTION

A. Examine surfaces to receive sign components for defects that will adversely effect the execution and quality of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.03 INSTALLATION

A. Inform Consultant, at least two (2) weeks in advance, of any intended installation and arrange at the Consultant’s convenience to have signs ready for installation and approval by the Consultant on site prior to installation.

B. Install the Work in a well-organized and timely manner. Whenever possible, the Work shall be installed as one continuous activity. The installation process shall be coordinated to accommodate the needs of CUNY and Consultant.

C. Protect all adjacent areas from damage during installation. Restore or replace any damaged or missing surfaces to original condition and appearance. Caulk and seal all gaps in the façade provided for the structural supports.

D. Install all signs at the locations and heights specified in the Contract Documents with surfaces free from distortion or defects in appearance. All signs shall be installed level and plumb, with no gaps, seams, air bubbles, scratches, bleeding and/or other surface imperfections.

E. Exposed surfaces of all Work shall be left clean and free of glue, fingerprints, dirt, grease, dust or any other imperfections upon completion of installation.

F. Contractor is responsible for recording the date in which each sign was installed, which constitutes the start of field performance obligation.

G. Remove all packing and construction materials from the site.
3.04 MAINTENANCE

A. Before Completion, provide Consultant with one (1) copy, CUNY with two (2) copies of clearly written instructions for proper maintenance of all work. Instructions shall address periodic cleaning, painting, color specifications, replacement procedures, etc.

B. Contractor to provide CUNY with a kit, including supplies necessary for general periodic maintenance of signs, including touch-up paint, cleaning solvents, etc.

END OF SECTION