SECTION 11 14 00 – pedestrian control devices

1. General
   1. GENERAL REQUIREMENTS
      1. General Conditions, Supplementary Conditions and Division 01 apply to this Section.
      2. Related Requirements:
         1. Section 05 50 00 – Metal Fabrications.
         2. Section 06 20 00 – Finish Carpentry.
         3. Section 09 29 00 – Gypsum Board.
         4. Section 09 65 00 – Resilient Flooring.
         5. Section 09 91 00 – Painting.
   2. submittals
      1. Submit submittals in accordance with Section 01 33 00 – Submittal Procedures.
      2. Shop Drawings:
         1. Submit shop drawings showing and describing in detail, elevations, plans, sections, materials, finishes, dimensions, details of connections and fastenings, metal gauges, hardware, and any other pertinent information.
      3. Samples:
         1. Submit minimum 305 mm (12 inch) long samples of railings, posts and fittings showing general fabrication and fitting connections for the approval of the Consultant.
      4. Submit necessary templates and instructions where supports or anchors have to be built-in by others.
      5. Operating and Maintenance Instructions:
         1. Submit three (3) copies of operating and maintenance instructions for inclusion in operating and maintenance manual as specified in Section 01 33 00 – Submittal Procedures.
   3. QUALITY ASSURANCE
      1. Contractor executing work of this Section shall have a minimum five (5) years continuous Canadian experience in successful manufacture and installation of work of type and quality shown and specified. Submit proof of experience upon Consultant's request.
   4. DELIVERY, STORAGE AND HANDLING
      1. Coordinate deliveries to comply with construction schedule and arrange ahead for off the ground, under cover storage location. Do not load any area beyond the design limits.
      2. Materials shall be carefully checked, unloaded, stored, and handled to prevent damage. Protect materials with suitable non-staining waterproof coverings.
      3. Store materials in original, undamaged containers or wrappings with manufacturer's seals and labels intact.
      4. Unsatisfactory materials shall be removed from the site.
      5. Adequately protect the structure and work of other Sections during delivery, storage, handling, and execution of the Work of this Section.
      6. Provide tools, plant and other equipment required for the proper execution of the Work of this Section.
2. Products
   1. APPROVED PRODUCTS AND MANUFACTURERS
      1. Posts, Railings and Fittings:
         1. 2" diameter polished stainless steel tube double rail type posts and railings, 36" high complete with chrome plated fittings and steel liner pipe set in epoxy cement grout as indicated on Drawings and specified herein, 'Alvarado Railings' by Alvarado Manufacturing Company, Chino, California, Tel. (714) 591-8431, or approved equal by Classic Brass Works Inc., Ft. Lauderdale, Florida, Tel. (305) 566-2551. No substitutions allowed.
         2. Provide ends, centres, 90 corners, 135 corners, tee junctions and base type chrome finished brass fittings as required.
      2. Swing Gates:
         1. 1-1/2" diameter, 16 gauge polished stainless steel tube self-closing type swing gates, 36" wide, equipped with special hydraulic door closers and adjustable sleeve latching mechanisms as indicated on Drawings and specified herein, 'Model CADR' by Alvarado Manufacturing Company, Chino, California, Tel. (714) 591-8431, or approved equal by Classic Brass Works Inc., Ft. Lauderdale, Florida, Tel. (305) 566-2551. No substitutions allowed.
      3. Turnstiles:
         1. 53-1/2" wide, polished stainless steel 3-arm tandem type turnstiles mounted on polished stainless steel centre posts for double entry or entry and exit control as selected later by Consultant, as indicated on Drawings and specified herein, 'Model WJ Tandem Manual' by Alvarado Manufacturing Company, Chino, California, Tel. (714) 591-8431, or approved equal by Classic Brass Works Inc., Ft. Lauderdale, Florida, Tel. (305) 566-2551. No substitutions allowed.
   2. MATERIALS
      1. Steel Plate:
         1. Conforms to CAN/CSA -G40.20/G40.21, Grade 300W.
      2. Hollow Structural Steel Sections:
         1. Conforms to CAN/CGA-G40.20/G40.21, Grade 350W, Class H.
      3. Stainless Steel Tube:
         1. Diameters as indicated, AISI type 304 alloy stainless steel conforming to ASTM A 312/A 312M-91b.
      4. Stainless Steel Plate and Sheet:
         1. AISI type 304 alloy stainless steel conforming to ASTM A240-91a.
      5. Welding Materials:
         1. Conforms to CSA W59.
         2. Electrodes for welding stainless steel shall be of the same properties and compatible with stainless steel.
      6. Galvanizing:
         1. All uncoated steel specified to be galvanized shall be galvanized after fabrication by the hot dip process according to CAN/CSA-G164-M with minimum coating of 2 oz./sq.ft. Galvanize after all welding is complete. Welding of galvanized material will not be permitted.
      7. Bituminous Paint:
         1. Conforms to CAN/CGSB-1.108-M, Type 2.
      8. Building Paper:
         1. Conforms to CAN/CGSB-51.32-M.
      9. Butyl Tape:
         1. Extruded, high grade, macro-polyisobutylene tape of thickness, width and shore hardness to suit conditions.
      10. Fasteners:
          1. Bolts and Nuts: Regular hexagon head type, conforming ASTM A 307-83 (1988), Grade A.
          2. Machine Screws: Cadmium plated steel type, conforming to Federal Specification FF-S-92.
          3. Plain Washers: Round carbon steel type, conforming to Federal Specification FF-W-92.
          4. Lock Washers: Helical spring, carbon steel type, conforming to Federal Specification FF-W-84.
          5. Lag Bolts: Square head type, conforming to Federal Specification FF-B-561.
          6. Expansion Shields: Galvanized steel type, conforming to Federal Specification FF-S-325.
      11. Epoxy Cement Grout:
          1. Non-shrink, 100% solids type epoxy cement grout, "Por-Roc" or "Rocite."
   3. FABRICATION
      1. Fit and assemble work in shop.
      2. Workmanship shall be best grade of modern shop practice known to recognized manufacturers specializing in this work. Joints and intersecting members shall be accurately fitted, made in true planes with adequate fastening. Wherever possible fastenings shall be concealed. Grind welds smooth and polish to match adjacent finish.
      3. Hot-dip galvanize steel liner pipes after fabrication.
      4. Isolate where necessary to prevent electrolysis between dissimilar metal to metal or metal to masonry or concrete contact. Apply two (2) coats of bituminous paint or butyl tape or building paper or other approved means.
      5. Fabricate and erect work square, plumb, straight, true, and accurately fitted. Provide adequate reinforcing and anchorage.
      6. Drilling shall be reamed and exposed edges left clean and smooth, without burrs or sharp edges.
      7. Include anchors and fastenings necessary to anchor Work of this Section.
3. Execution
   1. condition of surface
      1. Inspect surfaces over which the Work of this Section is dependent for any irregularities detrimental to the application and performance of the work. Notify Consultant in writing of all conditions which are at variance with those in the contract documents and/or detrimental to the proper and timely installation of the Work of this Section. The decision regarding corrective measures shall be obtained from the Consultant prior to proceeding with the affected work.
      2. Commencement of Work of this Section implies acceptance of surfaces and conditions.
   2. INSTALLATION
      1. Make thorough examination of Drawings and details, determine the intent, extent, materials, conditions of interfacing with other work and be fully cognizant of requirements.
      2. Work under this Section shall include complete installation of items specified herein. Installation shall be in strict accordance with manufacturer's printed instructions.
      3. Securely fasten pedestrian control devices, level and plumb in the locations shown on the Drawings and specified herein. All fastenings shall be concealed. Set steel liner tubes in drilled holes in concrete using non-shrink epoxy cement grout. Space posts at maximum 5'-0" o.c.
      4. Install posts and railings, swing gates and turnstiles as indicated on Drawings.
      5. Co-ordinate the Work of this Section with the work of other Sections to provide the necessary recesses, edge conditions for the devices as required.
      6. Do all drilling of steel, masonry and concrete necessary for the anchorage of the Work of this Section.
   3. CLEANING AND ADJUSTING
      1. Upon completion of the Work of this Section, or when directed by Consultant, remove all protective coatings and coverings. Clean and polish exposed surfaces.
      2. Check mechanisms, hinges, locks and latches, adjust and lubricate to ensure that pedestrian control devices are in perfect working order.

END OF SECTION