SECTION 08 34 50 – GLAZED GATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes Glazed Metal Swing Gate assembly (**GG-01**).

B. Related Requirements:

1. Division Section 055000 "Metal Fabrications" for steel framing and supports for glazed gate assembly.
2. Section 087100 "Door Hardware" for door hardware cylinders for swing gates.
3. Section 088000 "Glazing" for glazing installed with glazed decorative metal railings.

1.2 COORDINATION AND SCHEDULING

A. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver items to Project site in time for installation.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components metal railing and gate profiles assembled from standard components and finishes.
2. Include material descriptions, dimensions of individual components and profiles, and finishes for each type of product indicated. Provide manufacturer's, fabricator's, and finisher's specifications, instructions, and installation instructions for each item or component part, and for the completed fabricated decorative metal railings.
    a. Glass products.
    b. Sealant and accessories for structural glass railings.
    c. Fasteners.
    d. Metal finishes.
3. Include rated capacities, operating characteristics, and furnished specialties and accessories.

B. Shop Drawings:

1. Show fabrication and installation of glazed metal railings and gates. Indicate metal thickness of all metal components, glass thicknesses, metal finishes, and all other information necessary or requested by the Architect to indicate compliance with the Contract Documents. Details of field connections and anchorage and their relationship to the work of others shall be clearly indicated for the coordination of work by other building trades.
    a. Include plans, elevations, sections, and mounting and attachment details.

b. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
c. Detail fabrication and assembly of Glazed Gate and adjacent construction for which it fits to.

C. Samples for Verification: For each type of exposed finish, in manufacturer's standard sizes.

D. Delegated Design Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For professional engineer.

B. Product Test Reports: For tests performed by a qualified testing agency, in accordance with ASTM E894, ASTM E935, ASTM E2353, and ASTM E2358.

C. Evaluation Reports: From ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.

D. For post-installed anchors.

E. Sample Warranty: For manufacturer's special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For Glazed Gate to include in operation and maintenance manuals.

1.7 QUALITY ASSURANCE

Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.8 FIELD CONDITIONS

A. Field Measurements: Verify actual locations of walls and other construction contiguous with railings by field measurements before fabrication and indicate measurements on Shop Drawings.

1.9 WARRANTY

A. Manufacturer's Special Warranty for Tempered Glass: Glazed metal gate assembly: Manufacturer agrees to replace laminated-glass units that deteriorate within specified warranty period. Deterioration of laminated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.

1. Warranty Period: Five year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design glazed gate assembly including attachment to building construction.

B. General: In engineering rail components and gates to withstand structural loads indicated, determine allowable design working stresses of railing materials based on the following:

1. Steel: The lesser of minimum yield strength divided by 1.65, or minimum ultimate tensile strength divided by 1.95.

2. Glass: 25 percent of mean modulus of rupture (50 percent probability of breakage), as listed in "Mechanical Properties" in AAMA CW-12, "Structural Properties of Glass."

C. Structural Performance: Metal Railing and gate framing, including attachment to building construction, are to withstand the effects of gravity loads and the following loads and stresses required by the ICC International Building Code, 2018 Edition, within limits and under conditions indicated:

1. Top Rails of Gate Assembly:

a. Uniform load of 50 lbf/ft. applied in any direction.
b. Concentrated load of 200 lbf applied in any direction.
c. Uniform and concentrated loads need not be assumed to act concurrently.

2. Glass-Infill Panels:

a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft.
b. Infill load and other loads need not be assumed to act concurrently.

2.4 GLAZED GATE ASSEMBLY (GG-01)

A. Basis-of-Design Product: Subject to compliance with requirements, provide CRL HRS Platinum Series Gate System with Type 2 Formed Stainless Steel Frame with Stainless Steel Cladding components or comparable product.

1. Size: Nominally 5’-0” high glazed panels and glazed gate assembly. Refer to Drawings for dimensions and configuration.

B. Stainless Steel Formed Metal Gate Framing: 16 gage.

C. Stainless Steel Surfaces:

1. General: Use metal materials, with smooth, flat surfaces unless otherwise indicated. Use metal materials without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes or other imperfections on finished units.

2. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.
a. Directional Satin Finish, (Brushed): No. 4.

2.5 GLASS AND GLAZING PRODUCTS, GENERAL

A. Glazing Publications: Comply with written instructions of glass product manufacturers and organizations below unless more stringent requirements are indicated. See these publications for glazing terms not otherwise defined in this Section or in referenced standards.

1. NGA/GANA Publications: "GANA Laminated Glazing Reference Manual" and "GANA Glazing Manual."

B. Safety Glazing: Glazing is to comply with 16 CFR 1201, Category II.

C. Safety Glazing Labeling: Permanently mark glass with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction. Label is to indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.

D. Fully Tempered Float Glass: ASTM C1048, Kind FT (fully tempered), Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear), Class 1 and low-iron clear, or Class 2 (tinted) as indicated, Quality-Q3. General: Refer to Glass requirements in Section 088000 "Glazing."

E. Glazing Gaskets for Glass-Infill Panels: Glazing gaskets and related accessories as recommended or supplied by railing manufacturer for installing glass-infill panels in post-supported railings.

2.6 HARDWARE AND COMPONENTS

A. Provide the following items with Gate Assembly:

1. CRL BPE1PSC Barrier End Post Kit With Cladding:

   a. Provide Cladding with Directional Satin Finish, (Brushed): No. 4 finish.

2. CRL BPEST30 Barrier Post Surface Mount Stanchion Welded To Mounting Base.

3. Hinges: CRL TCHD 1BL Heavy Duty Self Closing Adjustable Hinges – Black.

4. Custom Strike Plate.
5. 6 1/2" square x 3/8" thick. base plate, mounted to floor w/ (4) tamper-proof fasteners.
6. Preparation for: Locks.
7. Locks: CRL S95LV02A Jackson Locking Flat Lever Outside Trim – Aluminum.

2.7 FABRICATION

A. Fabricate rails and gates to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.

B. Assemble railings and gates in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.

C. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

D. Form work true to line and level with accurate angles and surfaces.

E. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate. Locate weep holes in inconspicuous locations.

F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.

G. Mechanical Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.

H. Fabricate splice joints for field connection using an epoxy structural adhesive if this is manufacturer's standard splicing method.

I. Form changes in direction as follows:
   1. As detailed.
   2. By bending to smallest radius that will not result in distortion of railing member.

J. Bend members in jigs to produce uniform curvature for each configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

K. Close exposed ends of hollow railing members with prefabricated end fittings.

L. Flanges, Fittings, and Anchors: Provide flanges, miscellaneous fittings, and anchors to interconnect railing members to other work where indicated.

M. Provide inserts and other anchorage devices for connecting railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by railings. Coordinate anchorage devices with supporting structure.

2.8 FABRICATION OF GLASS PANELS

A. Fabricate glass to sizes and shapes required; provide for proper edge clearance and bite on glazing panels.

B. Glass-Infill Panels: Provide laminated, tempered glass-infill panels.
   1. Edge Finish: Flat-grind edges to produce smooth, square edges with polished finished flat edge with ease arise corners.
   2. Laminated glass panels shall be rectified by polishing the edges prior to tempering to produce flush exposed laminated glass edges.
   3. Refer to Section 088000 "Glazing" for additional requirements.

2.9 GENERAL METAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Complete mechanical finishes of flat sheet metal surfaces before fabrication where possible. After fabrication, finish all joints, bends, abrasions, and other surface blemishes to match sheet finish.

C. To greatest extent possible, finish products after assembly.

D. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

E. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.

F. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Comply with Drawings and manufacturer's written instructions for installing glazed metal gate assembly, accessories, and components.

B. Perform cutting, drilling, and fitting required for installing metal portions of gate assembly.

1. Fit exposed connections together to form tight, hairline joints.
2. Install rails and posts level, plumb, square, true to line; without distortion, warp, or rack.
3. Set rails accurately in location, alignment, and elevation; measured from established lines and levels.
4. Do not weld, cut, or abrade surfaces of metal rail components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
5. Set posts plumb within a tolerance of 1/16 inch in 3 feet.
6. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet.

C. Adjust rails before anchoring to ensure matching alignment at abutting joints.

D. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing rails and for properly transferring loads to in-place construction.

3.3 ADJUSTING

A. Adjust hardware and moving parts to function smoothly and lubricate as recommended by manufacturer.

3.4 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain units.

END OF SECTION