



STATE OF NEW YORK
OFFICE OF GENERAL SERVICES
DESIGN AND CONSTRUCTION GROUP
THE GOVERNOR NELSON A. ROCKEFELLER
EMPIRE STATE PLAZA
ALBANY, NY 12242



ADDENDUM NO. 10 TO PROJECT NO. 44124

**CONSTRUCTION WORK
REPLACE WINDOWS
BUILDING NOS. 22 AND 23
BEDFORD HILLS CORRECTIONAL FACILITY
247 HARRIS ROAD
BEDFORD HILLS, NEW YORK 10507**

February 22, 2012

NOTE: This Addendum forms a part of the Contract Documents. Insert it in the Project Manual.
Acknowledge receipt of this Addendum in the space provided on the Bid Form.

CHANGES TO ADDENDUM NO. 7

1. Delete Item No. 1 in its entirety; Drawing No. SK-1 frame details indicating “Tool-Resisting Bar” no longer required. Window type changed to a “Type 2 – Steel Detention Window”.

SPECIFICATIONS

2. SECTION 085663 – STEEL DETENTION WINDOWS: Discard the Section bound in the Project Manual and substitute the attached Section (085663-1 through 085663-7) noted “REVISED 2/22/2012.”

DRAWINGS

3. Drawing No. A-600 – WINDOW SCHEDULE: Column WINDOW TYPE change all reference to “TYPE 1” to read “TYPE 2”

END OF ADDENDUM

James Dirolf, P.E.
Director of Design

SECTION 085663

STEEL DETENTION WINDOWS

PART 1 GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

- A. Joint Sealants: Section 079200.
- B. Glass and Glazing: Section 088100.

1.02 WINDOW TYPES AND DESCRIPTIONS

- A. Acceptable Manufacturer:
 - 1. Hope's Windows, Inc, 84 Hopkins Avenue, P.O. Box 580, Jamestown, New York 14702, phone (716) 665-5124, www.hopeswindows.com.
 - 2. Optimum Window Mfg. Corp., 28 Canal Street, Ellenville, New York 12428, phone (845) 647-1900, www.optimumwindow.com.

1.03 REFERENCES

- A. Except as shown or specified otherwise, the Work of this Section shall meet the requirements of the following:
 - 1. Steel Window Specifications by the Steel Window Institute (SWI).
 - 2. Structural Welding Code - Steel, AWS D1.1 and Structural Welding Code - Sheet Steel, AWS D1.3, as applicable, by the American Welding Society (AWS Codes).

1.04 WINDOW TYPES AND DESCRIPTIONS

- A. Type 2 Detention Windows: Steel moderate security detention windows with horizontal and vertical grid steel tee muntins and bottom pivoted inswing or top hinged outswing ventilators.
- B. Type 4 Detention Windows: Fixed steel moderate security detention windows with horizontal and vertical grid steel tee muntins.

1.05 PERFORMANCE REQUIREMENTS

- A. Air Leakage: ASTM E 283, Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors. Maximum allowable air infiltration and exfiltration 1/2 cfm/lin ft of crack perimeter when subjected to an exterior to interior static test pressure difference of 1.57 psf across window unit.
- B. Water Penetration: ASTM E 331, Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference. No water leakage for 15 minutes when window is subjected to a rate of flow of 5 gal/sq ft/hr with test pressure difference across window unit of 2.86 psf.

1.06 SUBMITTALS

- A. Shop Drawings: Show fabrication details and connections to adjacent construction.
- B. Product Data: Catalog sheets, specifications, and installation instructions.
- C. Samples:
 - 1. One complete window unit of each type, with specified accessories. This sample will be returned and if approved may be used in the Work.
 - 2. Corner sample of frame, ventilator, detention members, and screen showing materials and construction, each type.
 - 3. Hardware: Each item required.
 - 4. Color Samples for Factory Prefinished Windows: Manufacturer's standard colors for specified finish.
- D. Quality Control Submittals:
 - 1. Test Reports:
 - a. Certified air leakage and water penetration test reports for each type of window unit required.
- E. Contract Closeout Submittals:
 - 1. Operation and Maintenance Data: Two copies of owner's manual, including instructions for cleaning windows and touching-up finish.

1.07 QUALITY ASSURANCE

- A. Detention Windows Manufacturer's Qualifications: The manufacturer of custom steel windows shall be regularly engaged in the production of custom steel windows, shall have furnished custom steel windows for 5 similar projects that have been in operation for not less than 3 years, and shall be subject to the approval of the Director Representative.'
- B. Testing Agency:
 - 1. Air infiltration and water penetration tests shall be performed by a qualified independent testing laboratory.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver windows in sturdy, protective crates or containers.
- B. Store and handle windows in a manner that will not cause damage to the finish.

1.09 MAINTENANCE

- A. Extra Materials: For every 20 windows installed (and fraction thereof), furnish detention window manufacturer's factory finish touch-up kit for the factory finish on windows. Store touch-up kits at the site where directed.
 - 1. Label kits to identify locations used.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Guard Frames, Muntins, Ventilators, Ventilator Frames, Ventilator Jambs, and Sill Rails: Hot rolled steel sections; ASTM A 575.
- B. Steel Sheets: ASTM A 569 and ASTM A 568.
- C. Mild Steel Bars and Shapes: Open-hearth (or electric-furnace) mild steel produced especially for detention use.
- D. Galvanized Steel Sheet: ASTM A 653, with A60 hot-dip process zinc coating.
- E. Glazing Beads: Formed steel or extruded aluminum glazing beads, screw-on type.
 - 1. Predrill holes for screws before finishing. Space holes one inch from ends and 6 inches on center.
 - 2. Finish: Match windows.
- F. Hardware:
 - 1. Operating Arms: Solid bronze or steel.
 - 2. Pivots: Steel pivot leafs with brass pins.
 - 3. Friction and Limit Devices (For Types 1 Detention Windows): Steel pivot or butt type hinges for interior bottom pivoted and exterior top hinged ventilators, with steel pivot side arms with bronze friction shoes to limit ventilator opening to 45 degrees.
 - 4. Exposed Hardware: Solid bronze, tumbled and oxidized to match US20 finish, and lacquered.
- G. Weatherstripping: Q-Lon Weather Seal by Schelegel or closed cell sponge neoprene.
- H. Insect Screens:
 - 1. Frame: Electro-galvanized steel, minimum 13 gage, finished to match windows.
 - 2. Screen Cloth: .028 inch diameter 304 stainless steel wire 12 x 12 double crimped mesh.
- I. Accessories:
 - 1. Anchors, Window Weld Plates, Clips, Fittings, and Related Fasteners: Galvanized or cadmium plated steel, unless otherwise approved.
 - 2. Remote Window Operators: Manual controlled surface mounted window operators designed for ventilators indicated.
 - a. Controls: Crank operated rotary control box delivering forward and backward motion to a steel flexible cable traveling through surface mounted steel conduit.
 - b. Crank Handle: Removable.
- J. Fasteners: Galvanized or cadmium plated steel, unless otherwise specified. Unless otherwise indicated, locate fasteners 2 inches from each end of members being fastened and not more than 12 inches on center.
 - 1. Exposed Fasteners: Cadmium plated Torx tamper-resistant truss head for exposed screws and bolts, finished to match windows.

- K. Sealing Mastic: Non-staining sealant material recommended by window manufacturer.
- L. Insulation Adhesive: Type recommended by the rigid insulation manufacturer.
- M. Cold Galvanizing Compound: Single component compound giving 93 percent pure zinc in the dried film, and meeting the requirements of DOD-P-21035A (NAVY).

2.02 FABRICATION

- A. Types 2 Detention Windows:
 - 1. Guard Frame Weight: Not less than 2.3 lbs/lin ft.
 - 2. Muntin Weight: Not less than 1.9 lbs/lin ft.
 - 3. Ventilator and Ventilator Frame Combined Weight: Not less than 3.5 lbs/lin ft.
 - 4. Channel Surrounds: Formed from 10 gage steel, and coped and notched for installation into opening as 4 individual pieces.
 - 5. Vent Retainer: Formed from 12 gage steel.
 - 6. Guard Frame and Muntin Glazing Rebates: Integrally rolled 3/8 inch glazing rabbet.
 - 7. Ventilator Glazing Rebate: Integrally rolled minimum 5/16 inch glazing rabbet.
 - 8. Muntin Sight Line: Maximum 1-1/16 inch wide sight line flanges.
- B. Type 4 Detention Windows:
 - 1. Guard Frame Weight: Not less than 2.3 lbs/lin ft.
 - 2. Muntin Weight: Not less than 1.9 lbs/lin ft.
 - 3. Channel Surrounds: Formed from 10 gage steel, and coped and notched for installation into opening as 4 individual pieces.
 - 4. Guard and Muntin Frame Glazing Rebates: Integrally rolled 3/8 inch glazing rabbet.
- C. Ventilator Sections: Hot rolled steel with integral flanges providing parallel double contact surfaces around perimeter of each ventilator.
 - 1. Fabricate ventilator sections with a continuous integral dovetail groove located on the interior contact surface for the reception of weatherstripping.
- D. Insect Screens: Permanently fastened, designed not to interfere with ventilator operation. Ventilators requiring screens shall be prepared for screens.
 - 1. Provide insect screens at all ventilators unless specifically indicated otherwise.
- E. Corners of frames, ventilators, and insect screens shall be mitered or coped. Exposed and contact surfaces shall be finished smooth and flush with adjacent surfaces.
 - 1. Corner joints of frames and ventilators exposed to the weather shall be continuously welded and ground smooth on the exposed surface and spot welded on the concealed surface.
 - 2. Corner joints of insect screens shall be continuously welded on the concealed surface.

- F. Glazing: Fabricate windows for outside glazing with glazing beads. Size glazing beads to match glazing rebates specified and to suit glass types specified.
- G. Weatherstripping: Continuous weatherstripping inserted in an integral dovetail groove located in the same plane in the interior contact surface of ventilator sections around the entire perimeter of ventilator. Surface applied weatherstripping is not acceptable.
- H. Tolerance for Window Size (height and width) Dimensions: + 1/16 inch.
- I. Mullions: Fabricate to the design and profile shown on the Drawings. Finish mullions and covers to match windows.
- J. Types 2 and 4 Detention Windows: Muntin to muntin intersections shall be mechanically interlocked to obtain maximum strength without bending or distorting the sections. Guard frame and muntin intersections shall have 1/16 inch joints provided across inside and outside faces, which after assembly shall be deep welded solid. Welds may project not more than 1/16 inch, except where ventilators and screens are attached. Space vertical muntins not more than 6-3/8 inches on center and horizontal muntins not more than 9-3/8 inches on center.
- K. Anchor Accessories: Fabricate to shape and size, and furnish in quantity, as required to securely install and connect the Work of this Section to the construction shown.
- L. Hardware: Unless otherwise shown or specified, window manufacturer's standard hardware series produced for use with the particular type of window, location, and screen condition.

2.03 SHOP FINISHING

- A. Galvanizing: Exposed and concealed steel surfaces, except ventilators, shall be cleaned, pickled, fluxed, and hot dipped galvanized in accordance with ASTM A 123
 - 1. Exposed and concealed ventilator surfaces shall be cleaned, pickled and electro-galvanized in accordance with ASTM B 633, Classification Fe/Zn 25.
 - 2. Welded and abraded areas of galvanized surfaces shall be wire brushed and repaired with a coating of cold galvanizing compound.
- B. Shot Blasting: Before any machining or welding is performed, all hot rolled steel sections shall be cleaned by shot blasting to remove any loose or mill scale.
- C. Urethane Finish System:
 - 1. E-COAT Pretreatment and Prime Painting:
 - a. After fabrication, windows, mullions, covers, and trim shall be subjected to an advanced 11 stage pretreatment process to thoroughly clean and prepare the substrates for E-Coat.
 - 1) Caustic soap spray cleaning
 - 2) Caustic soap emersion cleaning
 - 3) Cold water rinse, emersion
 - 4) Acid-etch pickling
 - 5) Cold water rinse, emersion

- 6) Cold water rinse, emersion
- 7) Rinse conditioner/ grain refiner, emersion
- 8) Zinc phosphate application, emersion
- 9) Cold water rinse, emersion
- 10) Non-chrome sealer, emersion
- 11) Reverse osmosis filtered water rinse, emersion
- b. Following pretreatment, windows and accessories are immersed into a cathodic epoxy primer of PPG Powercron®8000 or equivalent for the length of time required to coat all surfaces to a dry film thickness of minimum 0.8-1.2 mils.
- c. All excess paint and runs are then removed by post rinse stages consisting of:
 - 1) Spray rinse of ultra-filtered RO water
 - 2) Immersion in a rinse of ultra-filtered RO water for 3 minutes
 - 3) Spray rinse of ultra-filtered RO water
- d. The material is then oven bake for 20 minutes at 325° (degrees) F metal temperature.
- e. The material is then cooled in preparation for the final finish coat
- 2. Ultrathane Finish Top Coat
 - a. Following the primer coat(s), all windows and accessories are given a spray coat of acrylic polyurethane and oven baked at 225°F for 15 minutes to dry film thickness of 1.5-2.0 mils.
 - b. The combined overall dry film thickness of the coatings shall be 2.3-3.2 mils.
- D. Bonderized and Polyester Powder Coat Finish System:
 - 1. Bonderizing: After shot blasting; all materials to be bonderized or pretreated by a four stage process as a preparation for receiving paint, as follows:
 - a. High pressure wash with degreaser applied at a minimum 150 degrees Fahrenheit.
 - b. Warm water rinse.
 - c. Iron phosphate applied at minimum 130 degrees Fahrenheit.
 - d. Warm water rinse with a non-chrome post treatment solution.
 - 2. Prime Paint: After bonderizing, a coat of zinc rich thermosetting epoxy prime paint shall be applied and oven baked
 - a. Bake at 325 degrees Fahrenheit.
 - b. Dry film thickness of primer to be a minimum of 1.5 mils.
 - 3. Finish Paint: After prime coat, a baked on polyester powder coat finish system shall be applied.
 - a. Bake at 410 degrees Fahrenheit.
 - b. Total dry film thickness to be a minimum of 3.0 mils.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions: Examine surfaces to receive detention windows for defects that will adversely affect the execution and quality of the Work. Do not proceed until unsatisfactory conditions are corrected.
 - 1. Check locations and conditions of required built-in anchors.

3.02 INSTALLATION

- A. Install the Work of this Section in accordance with the manufacturer's printed instructions, except as shown or specified otherwise.
 - 1. Install insect screens at all ventilators unless specifically indicated otherwise.
- B. Anchor window units securely in place, plumb, level, aligned, without warp.
 - 1. Weld window weld plates to windows and built-in anchors with one inch long welds spaced 9 inches on center maximum.
 - 2. Weld channel surrounds to interior side of frames with one inch long welds spaced 9 inches on center maximum.
- C. Seal metal to metal joints, screw heads, and unneeded fastener holes with sealing mastic.
- D. Locate existing remote window operators in locations indicated.

3.03 ADJUSTING

- A. Adjust ventilators and hardware for smooth operation and weathertight closure. Lubricate hardware and other moving parts.
- B. Touch-up welded and abraded surfaces with a coating of cold galvanizing compound and finish to match adjacent areas.

3.04 CLEANING

- A. Clean window units promptly after completion of installation.

END OF SECTION