

## **ADDENDUM NO. 2**

Drawing and Detail Sheets and Specification Sections issued with this Addendum:

Section 08 36 13 Sectional Metal Doors

### **Specification Revisions:**

- 1.1 Section 06 41 00 Architectural Wood Casework Refer to paragraph 2.2.4.1 Revise to read as follows:
  - .1 Colours: Allow for two colours selected by Departmental Representative from full range of manufacturer's lines.
- 1.2 Section 07 27 10 Air/Vapour Barriers Refer to paragraph 2.2.2.1 Revise to read as follows:
  - .1 Acceptable Products: Bakor Blueskin SA, Carlisle CCW-705, IKO Aquabarrier AVB, Soprema Sopraseal Stick 1100T, W.R. Grace Perm-A-Barrier, W.R. Meadows Air-Shield.
- 1.3 Section 08 36 13 Sectional Metal Doors. Replace with new section included in this addendum, 7 pages dated 2017-08-16

### **Electrical Drawing Revisions**

- 1.4 EP2.1 Main Floor - Power Plan:

Provide new secure telephone in new interview room. New phone shall be Guardian Telecom CIT-40 with Norstar Module ATA2. ATA2 module to be installed in telephone room. Provide rough in for phone outlet complete with 4" x 4" box and conduit to accessible ceiling space. Secure phone shall be wall mounted complete with securely fastened 350mm x 200mm x 19mm G1S prefinished plywood backing with PVC edges. Confirm mounting height and exact location with NCO on site. Mount and install phone as per manufacturer's instructions.

**END OF ADDENDUM**

**Part 1            General**

**1.1                SUMMARY**

- .1    Section Includes:
  - .1        Manually operated insulated sectional steel overhead doors.

**1.2                REFERENCES**

- .1    ASTM International, (ASTM).
  - .1        ASTM A36 /A36M, Standard Specification for Carbon Structural Steel
  - .2        ASTM A653 / A653M, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
  - .3        ASTM A780 / A780M, Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
  - .4        ASTM A123 / A123M, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
  - .5        ASTM A229 / A229M, Standard Specification for Steel Wire, Oil-Tempered for Mechanical Springs.
  - .6        ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Materials
  - .7        ASTM E283, Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
  - .8        ASTM E-547 Water Penetration
- .2    Canadian Standard Association (CSA)
  - .1        CSA Z462, Workplace Electrical Safety Standard

**1.3                SUBMITTALS**

- .1    Provide submittals in accordance with Section 01-00-10 – General Instructions
  - .2    Action Submittals:
    - .1        Product Data:
      - .1            Submit manufacturer's printed product literature, specifications and data sheets.
      - .2            Construction details, material descriptions, dimensions of individual components, profile door sections, and finishes.
      - .3            Rated capacities, operating characteristics, electrical characteristics, and furnished accessories.
    - .2        Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.
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- .1 Include plans, elevations, sections, details, and attachments to other work.
  - .2 Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
  - .3 Samples for Initial Selection: Manufacturer's finish charts showing full range of colours and textures available for units and accessories with factory-applied finishes.
- .3 Informational Submittals:
- .1 Quality Assurance: Test Reports and Certificates.

#### **1.4 CLOSEOUT SUBMITTALS**

- .1 Provide operation and maintenance data for overhead door hardware for incorporation into manual specified in Section 01-00-10 – General Instructions.
- .2 Submit manufacturer's parts lists; include servicing frequencies, instructions for adjustment and operation applicable to each type of component or hardware, and name, address and telephone number of nearest authorized service representative.

#### **1.5 QUALITY ASSURANCE**

- .1 Test Reports: certified test reports showing compliance with specified performance characteristics and physical properties.
- .2 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .3 Source Limitations: Obtain sectional doors, tracks and motors, operators, and controls from single source from single manufacturer.

#### **1.6 WASTE MANAGEMENT AND DISPOSAL**

- .1 Minimize construction waste sent to the landfill, separate and recycle materials as specified in Section 01-00-10 – General Instructions.

#### **1.7 WARRANTY**

- .1 Manufacturer's standard form in which manufacturer agrees to repair or replace components of sectional doors that fail in materials or workmanship within specified warranty period.

Failures include, but are not limited to, the following:

- .1 Structural failures including, but not limited to, excessive deflection.
  - .2 Faulty operation of hardware.
  - .3 Deterioration of metals, metal finishes, and other materials beyond normal weathering and use; rust through.
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- .4 Delamination of exterior or interior facing materials.
- .2 Warranty period: 1 year from date of Final Payment for any defect, 5 years for delamination.
- .2 Finish Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components that show evidence of deterioration of factory-applied finishes within specified warranty period.
  - .1 Warranty period: ten years from date of Final Payment.

## **Part 2 Products**

### **2.1 PERFORMANCE REQUIREMENTS**

- .1 General Performance: Sectional doors shall meet performance requirements specified without failure due to defective manufacture, fabrication, installation, or other defects in construction and without requiring temporary installation of reinforcing components.
- .2 Structural Performance: Exterior sectional doors shall withstand the effects of gravity loads, and following loads and stresses within limits and under conditions indicated according to NBCC.
  - .1 Wind Loads: Uniform pressure (velocity pressure) of 960 Pa acting inward and outward.
    - 1 Basic wind speed 26 m/s Deflection Limits: Design sectional doors to withstand design wind loads without evidencing permanent deformation or disengagement of door components. Deflection of door in horizontal position (open) shall not exceed 1/120 of the door width.
- .3 Water Penetration: No leakage when tested according to ASTM E-547.
- .4 Air Infiltration: Maximum rate not more than indicated when tested according to ASTM E 283 or DASMA 105.
  - .1 Air Infiltration: Maximum rate of 0.46 L/s per sq. m at 24.1 km/h.
- .5 Calculated Door Section Thermal Performance: U-factor not more than 0.22 W/m<sup>2</sup>K (R 17.4) for typical section.
- .6 Operation Cycles: Provide sectional door components and operators capable of operating for not less than 20,000 cycles. One operation cycle is complete when door is opened from closed position to fully open position and returned to closed position.

### **2.2 DOOR SECTIONS**

- .1 General:
    - .1 Metal/insulation/metal sandwich panel construction, with thermally broken weathertight joints, 76 mm thick.
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- .2 Provide sections with continuous thermal-break construction, separating exterior and interior faces.
- .3 Roll horizontal meeting edges of sections to continuous, tongue-in-groove weathertight seal, with reinforcing flange return.
- .4 Baked enamel or powder coat finish exposed metal.
- .2 Section Faces and Frames: Galvanized, cold-rolled, commercial steel (CS) sheet, complying with ASTM A653/A653M, with Z180 coating designation, thickness indicated.
  - .1 Exterior face: 1.29mm (16ga) nominal coated thickness, smooth finish.
  - .2 Interior face: 1.29mm (16ga) nominal coated thickness, smooth finish.
- .3 Stiles:
  - .1 Section Ends: Enclose open ends of sections with channel end stiles formed from hot-dipped galvanized steel sheet not less than 1.63 mm nominal coated thickness and welded to door section.
    - .1 Provide stiles with thermal break.
- .4 Reinforcement:
  - .1 Reinforce bottom section with a continuous channel or angle conforming to bottom-section profile.
  - .2 Reinforce sections with continuous horizontal and diagonal reinforcement, as required to stiffen door, for wind loading.
    - .1 Provide hot-dipped galvanized steel bars, struts, trusses, or strip steel, formed to depth and bolted in place.
    - .2 Ensure reinforcement does not obstruct vision lites.
  - .3 Provide reinforcement for hardware attachment.
- .5 Thermal Insulation: Door manufacturer's standard CFC-free polyurethane insulation:
  - .1 Foamed-in-place to completely fill interior of sections, and pressure bonded to section faces to prevent delamination under wind load.
  - .2 Insulation Flame-spread: Maximum 75, to ASTM E84.
  - .3 Insulation Smoke-developed: Maximum 450, to ASTM E 84.
  - .4 Enclose insulation completely within steel section faces and frames with no exposed insulation.
- .6 Fabricate sections so finished door assembly is rigid and aligned, with tight hairline joints and free of warp, twist, and deformation. Provide thermal break between exterior and interior faces.

## **2.3 TRACKS, SUPPORTS, AND ACCESSORIES**

- .1 Complete track assembly of standard lift configurations, designed for clearances indicated including brackets, bracing, and reinforcement for rigid support of ball-bearing roller guides for required door type and size.
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- .1 Tracks: 2.66 mm galvanized cold-rolled, commercial steel (CS) sheet, complying with ASTM A653/A653M coating designation Z180.
  - .1 Size: 76 mm
  - .2 Slot vertical sections spaced 51 mm apart for door-drop safety device.
  - .3 Design vertical slope sections to ensure tight closure at jambs when door unit is closed.
- .2 Track Reinforcement and Supports: 2.3 mm galvanized steel track reinforcement and support members, complying with ASTM A36/A36M and ASTM A123/A123M.
  - .1 Horizontal Track Assembly: Continuous reinforcing angle attached to track and supported at points from curve in track to end of track by laterally braced attachments to overhead structural members.
  - .3 Track Guards: 5 mm thick formed galvanized sheet steel, 1 500 mm high, complying with ASTM A36/A36M and ASTM A123/A123M.
- .2 Weatherseals:
  - .1 Fitted around entire perimeter of door.
  - .2 Replaceable, adjustable, continuous, compressible weather-stripping gaskets of flexible vinyl, rubber, or neoprene unless otherwise indicated.

## **2.4 HARDWARE**

- .1 General: Provide heavy-duty, hot dipped galvanized steel hardware, with hot dip galvanized, stainless-steel, or other corrosion-resistant fasteners, to suit door type.
- .2 Hinges: Heavy-duty, galvanized steel hinges of not less than 2.01 mm nominal coated thickness at each end stile, at each intermediate stile, and at centre of door sections for high usage operation.
  - .1 Attach hinges to door sections through stiles and rails with bolts and lock nuts or lock washers and nuts.
  - .2 Use rivets or self-tapping fasteners where access to nuts is not possible.
  - .3 Provide double end hinges.
- .3 Rollers: Heavy-duty rollers with steel ball-bearings in case-hardened steel races, mounted with varying projections to suit slope of track.
  - .1 Extend roller shaft through both hinges where double hinges are required.
  - .2 Provide 76 mm diameter roller tires for 76 mm wide track.

## **2.5 LOCKING DEVICES**

- .1 Interior mounted slide lock.

## **2.6 COUNTERBALANCE MECHANISM**

- .1 Torsion Spring: Counterbalance mechanism consisting of adjustable-tension heavy-duty torsion springs fabricated from steel-spring wire complying with ASTM A229/A229M, mounted on solid steel torsion shaft.
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- .1 Provide springs designed for door size and minimum number of operation cycles indicated.
- .2 Cable Drums: Cast-aluminum or gray-iron casting cable drums and grooved to receive door-lifting cables as door is raised.
  - .1 Mount with manufacturer's heavy-duty ball-bearing brackets at each end of torsion shaft.
  - .2 Provide one additional midpoint bracket for shafts up to 4.88 m long and two additional brackets at one-third points to support shafts more than 4.88 m long unless closer spacing is recommended by door manufacturer.
- .3 Cables: galvanized steel lifting cables with cable safety factor of not less than 5 to 1.
- .4 Cable Safety Device: Include spring-loaded steel cam mounted to bottom door roller assembly on each side and designed to automatically stop door if either lifting cable breaks.
- .5 Provide spring bumper at each horizontal track to cushion door at end of opening operation.

## **2.7 CHAIN OPERATOR**

- .1 Design manual mechanism so required force for door operation does not exceed 111 N.

## **2.8 STEEL AND GALVANIZED-STEEL FINISHES**

- .1 Baked-Enamel or Powder-Coat Finish: Manufacturer's standard baked-on finish consisting of prime coat and thermosetting topcoat.
  - .1 Comply with coating manufacturer's written instructions for cleaning, pretreatment, application, and minimum dry film thickness.
  - .2 Colour:
    - .1 Exterior: Custom colour selected by Departmental Representative.
    - .2 Interior: Manufacturer's standard white.

## **Part 3 Execution**

### **3.1 EXAMINATION**

- .1 Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for substrate construction and other conditions affecting performance of the Work.
  - .2 Proceed with installation only after unsatisfactory conditions have been corrected.
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### **3.2 INSTALLATION**

- .1 Install sectional doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.
- .2 Tracks:
  - .1 Secure, reinforce, and support tracks as required for door size and weight to provide strength and rigidity without sag, sway, and vibration during opening and closing of doors.
  - .2 Fasten vertical track assembly to opening jambs and framing.
  - .3 Hang horizontal track assembly from structure with angles or channel hangers attached by bolting.

### **3.3 ADJUSTING**

- .1 Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion.
- .2 Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- .3 Lubricate bearings and sliding parts as recommended by manufacturer.
- .4 Adjust doors and seals to provide weathertight fit around entire perimeter.
- .5 Align and adjust motors, pulleys, belts, sprockets, chains, and controls according to manufacturer's written instructions.
- .6 Touch-up Painting: Immediately after welding galvanized materials, clean welds and abraded galvanized surfaces and repair galvanizing to comply with ASTM A 780.

### **3.4 CLEANING**

- .1 Perform cleaning after installation to remove construction and accumulated environmental dirt.
- .2 Remove traces of primer, caulking; clean doors and frames.

### **3.5 DEMONSTRATION**

- .1 Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain sectional doors.
  - .1 Include two hours on-site one-one-one training with Owner's maintenance personal.

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**END OF SECTION**