

<b>Bid Opportunity 839-2012</b>	<b>BRRMF L&amp;YW AND PILOT BIOSOLIDS COMPOSTING</b>	<b>Page 1 of 4</b>
<b>REVISION 0</b>	<b>SECTION 08110 STEEL DOORS AND FRAMES</b>	

**PART 1. GENERAL**

1.01 SUMMARY

- A. Comply with Division 1, General Requirements.
- B. Door Hardware: As specified in Section 08710, Door Hardware.
- C. Painting: As specified in Section 09900, Painting.

1.02 REFERENCES

- A. Comply with the latest edition of the following statutes codes and standards and all amendments thereto.
  - 1. Specifications for Commercial Steel Doors and Frames published by the Canadian Steel Door and Frame Manufacturers Association (CSDMA)
  - 2. ASTM A167 Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip
  - 3. ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
  - 4. ASTM A924/A924M Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process
  - 5. CAN/CGSB 1.181 Ready-Mixed Organic Zinc-Rich Coating
  - 6. CAN/CSA G164 Hot Dip Galvanizing of Irregularly Shaped Articles

1.03 SUBMITTALS

- A. Submit shop drawings showing type of door, type of frame, material being supplied, thickness of materials, cutouts and reinforcements, anchors and location of fastenings, door hand, location of hardware and door edge detail.
- B. Submit information on standard shop drawing sheets approved by the Canadian Steel Door and Frame Manufacturers Association.

1.04 WARRANTY

- A. Submit a one-year warranty for Work of this Section against defects in materials and workmanship.

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## **PART 2. PRODUCTS**

### 2.01 MANUFACTURERS

- A. S.W. Fleming Ltd.
- B. Baron Metal Industries Inc.
- C. Metal Door Ltd.
- D. Ambico Ltd.

### 2.02 MATERIALS

- A. Steel sheet: ASTM A653, CS, Type B, Coating Designation ZF75 (A25) minimum.
- B. Galvanized steel: CSA G164 unless otherwise specified hot-dip zinc coating.
- C. Stainless steel: ASTM A167 Type 316 stainless steel.
- D. Primer: CGSB 1.181, zinc rich primer.

### 2.03 FABRICATION - GENERAL

- A. Fabricate units to comply with CSDMA Specifications and additional requirements specified, welded construction.
- B. Thickness of members:
  - 1. Door facings, rails and stiles: 1.6 mm thick steel sheet.
  - 2. Vertical steel stiffeners: 0.9 mm thick, steel sheet.
  - 3. Frame members: 1.6 mm thick steel sheet.
  - 4. Hinge reinforcements: 3.4 mm thick galvanized steel high frequency reinforcement.
  - 5. Other reinforcements: 2.7 mm thick galvanized steel.
  - 6. Frame anchors: Galvanized steel.
    - a. Anchors for frame in concrete wall or at structural steel member: Countersunk head, galvanized screws of size to effect sufficient embedment in jamb 1.6 mm thick.
  - 7. Guard boxes: 0.8 mm thick minimum.
  - 8. Jamb spreaders: 1.2 mm thick minimum.

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- C. Form profiles accurately to details indicated.
- D. Weld hinge reinforcement in place, with not less than 8 welds per reinforcement
- E. Sand welded joints to smooth uniform finish and touch-up with primer.
- F. Blank, reinforce, drill and tap units to receive hardware.
- G. Protect strike reinforcements and guard box welded to frames.
- H. Perform welding to CSA W59.
- I. Factory apply primer to areas where zinc coating has been damaged during fabrication.

#### 2.04 FABRICATION - DOOR

- A. Doors: Hollow, welded stiffener construction. Laminated or honeycomb core construction is not acceptable.
- B. Assemble components of door by means of spot welding with vertical stiffeners spaced 150 mm maximum o.c. and welded at 150 mm o.c.
- C. Continuously weld door edge seams, body fill, and grind smooth. Face seams in finished product are not acceptable.
- D. Fabricate steel flush closed ends on edges, top and bottom of doors.
- E. Door thickness: 45 mm

#### 2.05 FABRICATION - FRAMES

- A. Mitre frame accurately and weld continuously on inside of frame profile.
- B. Prepare frame for rubber silencers. Use three silencers per standard height door. For doors higher than 2250 mm add one silencer for every additional 750 mm of height or part thereof.
- C. Use a minimum of two welded channel or angle spreaders per frame to ensure alignment.
- D. Terminate frame at top of concrete slab. Weld floor plates to frame for anchorage to slab. Verify depth of extension of finished floor to concrete slab.
- E. For frames up to 2250 mm in height secure on each jamb with 3 pre-drilled holes with

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shallow dimples and with welded spacers behind for concrete wall and structural steel member. Fabricate frames with sidelights/transoms as indicated.

- F. Fabricate frames scheduled for installation in cast-in-place concrete walls with spacers and recessed anchors.

**PART 3. EXECUTION (NOT USED)**

**END OF SECTION**

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## **PART 1. GENERAL**

### **1.01 SUMMARY**

- A. Comply with Division 1, General Requirements and Section 16050, Basic Electrical Materials.
- B. Supply of power and local disconnect switch: Division 16.

### **1.02 DESIGN REQUIREMENTS**

- A. Design members and their connections to withstand within acceptable deflection limitations their own weight, the weight loads imposed by the motion of operable elements and the minimum design loads, and combinations of loads, due to the pressure and suction of wind as calculated in accordance with the National Building Code of Canada for the locality.
- B. Design Work of this Section, which will support other items or will be required to support structural loads of any nature, by a professional engineer licensed in the Province of Manitoba. Affix professional seal and signature to shop drawings for such items.
- C. Operating speed (open/close):
  - 1. 2400 mm/sec for Door D102.
  - 2. 1200 mm/sec for Door D103.

### **1.03 SUBMITTALS**

- A. Shop drawings: Submit shop drawings with the following:
  - 1. Include large-scale details of members and materials, anchorage devices where required, dimensions, thicknesses, description of materials, metal finishing specifications and other pertinent information.
  - 2. Include interior view of doorframe.
  - 3. Include control schematics, wiring diagrams, control panel layout and construction details.
  - 4. Electrical Bill of Material.
- B. Manufacturer's operating and maintenance instructions: Submit as per Section 01430.

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## **PART 2. PRODUCTS**

### 2.01 MANUFACTURED UNITS

- A. Description: Complete, exterior face-mounted weather sealed, remote activated overhead rolling traffic door assemblies.
- B. Rolling Traffic Door:
  - 1. Manufacturers and Products:
    - a. Dynaco High Performance Door, Model All Weather M2.
  - 2. Curtain: Reinforced PVC, 916 g/m<sup>2</sup>.
  - 3. Side Guides: 79.375 x 41.275 x 3.175 mm galvanized steel channel.
  - 4. Inner Side Guide: 22.225 x 14.288 mm polyethylene, with galvanized side covers
  - 5. Brackets, Gears, and Barrel: Manufacturer's standard items.
  - 6. Operation: Gear driven, push-pull movement.
  - 7. Safety Detectors:
    - a. Infrared photo cells in side guides and bottom edge detector to detect presence of a pedestrian or vehicle, automatically opening door until obstacle is removed.
    - b. Edge photocell mounted 300 mm above floor.
  - 8. Size:
    - a. Door D102: 4900 mm wide x 4000 mm high, exterior mounted.
    - b. Door D103: 4000 mm wide x 4200 mm high, exterior mounted.
- C. Electrically Operated Doors:
  - 1. Power: 575 volts, three-phase, 16A circuit breaker.
  - 2. Motor: Four pole, 2 HP, without brake, variable speed drive.
  - 3. Power: 2 HP. and endless chain or crankshaft for emergency operation. Motor Controls: Reversing starter, 120 V controls, control transformer as required, auxiliary relays and interlocks as required, in accordance with Division 16.
- D. Door Operations:
  - 1. Door D102: Remote radar operation with manual push button operator control back-up.
  - 2. Door D103: Manual push-button operator control.
- E. Operator Control: Pushbutton type, OPEN-CLOSE-STOP functions, momentary contacts, interior surface mounted adjacent to each door.
- F. Field Conduit & Wiring: Comply with Division 16. Provide all wiring and conduit between door operator motor(s), door safety and operational devices, door motor control panel, operator pushbuttons and local disconnect switch (load side terminals).

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**PART 3. EXECUTION**

3.01 EXAMINATION

- A. Examine surfaces to which Work is to be anchored or connected and job conditions.
- B. Report unsatisfactory conditions likely to prevent or prejudice proper installation of Work.
- C. Commence Work after unsatisfactory conditions are corrected.

3.02 INSTALLATION

- A. Install door in accordance with manufacturer's instructions and under supervision of manufacturer's representative.
- B. Install conduits and wiring. Make required connections.

3.03 ADJUSTMENT AND DEMONSTRATION

- A. On completion, adjust and lubricate doors, check and adjust controls, verify that equipment and mechanisms are operating smoothly. When directed demonstrate the operation, control and safety features on each door.

3.04 CLEANING

- A. Clean and make good surfaces soiled or otherwise damaged in connection with the Work of this Section.

**END OF SECTION**

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**PART 1. GENERAL**

1.01 SUMMARY

- A. Comply with Division 1, General Requirements.

1.02 SUBMITTALS

- A. Shop Drawings
  - 1. Hardware schedule: Submit schedule indicating hardware and each manufacturer. Include catalogue cuts of each item of hardware.
- B. Manufacturer's installation and maintenance instructions: Submit as per Section 01430 for each item of hardware.
- C. Submit templates and template information drawings when requested.

1.03 WARRANTY

- A. Submit manufacturer's written warranty for closer 5 years, panic sets 3 years.

**PART 2. PRODUCTS**

2.01 GENERAL

- A. Manufacturers' catalogue numbers specified, denote quality, style and function of items required.
- B. Hardware finish: BMHA symbols as specified. Finish of fastenings: Complementary to related hardware.
- C. Package each item of hardware complete with trim, fastenings and accessories, marked as to contents and appropriate use.
- D. Package items of hardware subject to handling when installed, with easily removable protective covering.

2.02 FASTENERS

- A. Stainless steel.



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2.03 BUTT HINGES

- A. Quantity per Door Leaf (Minimum):

Door Height	Hinges
Over 1500 mm to 2310 mm	1-1/2 pair

- B. Hinge Height (Minimum):

Door Width	Hinge Height
Over 900 mm to 1200 mm	125 mm

- C. Width: Minimum for clearance of trim and 180-degree swing.  
D. Joint Tolerance: 0.03 mm maximum, gauged in closed position.  
E. Finish: Satin stainless steel No. 630.  
F. For Exterior and Lockable Outswinging Doors: Non-removable pin (NRP).  
G. Types and Manufacturers:

No.	Type Description	Stanley	McKinney
H1	Regular weight, two ball-races, full mortise, stainless steel	FBB191-32D	TA2314-32D

2.04 EXIT DEVICES

- A. Trim: Levers: Sargent ETJ; Von Duprin 03.  
B. Finish: Satin chromium-plated No. 626.  
C. Types and Manufacturers:

No.	Type Description	VonDuprin	Sargent	Yale
X1	Rim type, Lever always active	Lever: 992L-BE	Lever: 8815 ETJ	

2.05 CLOSERS

- A. Size closers in accordance with manufacturer's standards. Mount parallel arm closers on push side of doors.  
B. Finish: Painted finish selected by Contract Administrator.  
C. Types and Manufacturers:

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No.	Type Description	LCN	Sargent	Norton
C6	Parallel arm with integral stop and hold-open	4110H Cush-N-Stop Series	350-PSH Series	CLP-7500T

- D. Size closer for one standard size larger than actual door size in accordance with manufacturer's recommended standard.

2.06 DOOR BOTTOM SWEEP

- A. Door bottom sweep: W-13S heavy duty surface mounted anodized extruded aluminum with black solid neoprene seal for each leaf by K.N. Crowder Mfg. Inc. Finish: to match door finish.

2.07 KICKPLATES

- A. Solid metal, not plated. Bevel four edges.  
 B. Width of door leaf less 37 mm at single leaf.  
 C. Finish: Satin stainless steel No. 630.  
 D. Types and Manufacturers: Builders Brass Works, Baldwin, or Cipco as follows:  
 1. K1 250 mm high by 1.27 mm thick.

2.08 THRESHOLD

- A. Thresholds: One-piece full width of opening.  
 B. Provide with stainless steel self tapping screws in threaded expansion anchors.  
 C. Finish: mill finish aluminum, unless indicated otherwise.  
 D. Types and Manufacturers:

No.	Type Description	Pemko	Reese	K.N. Crowder
T1	Saddle (smooth, 125 mm x 12 mm)	175A	S104A	CT-10

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2.09 WEATHERSTRIPPING

- A. Finish: Clear anodized aluminum, unless indicated otherwise.
- B. Seal Types and Manufacturers:

No.	Type Description	Pemko	Reese	
W6	Rubber or vinyl bulb at jambs and head, and at meeting stiles of pairs	S88D	797B	

2.10 SILENCERS

- A. Ives, Glynn-Johnson.
- B. At metal frame of each hinged door that does not have seals scheduled.
- C. Three at single leaves.

2.11 TEMPLATES

- A. Fabricate to template hardware applied to metal doors and frames.
- B. Ensure that required templates are furnished to the various manufacturers for fabrication purposes.
- C. Templates: Make available not more than 10 days after receipt of approved Hardware Schedule.

2.12 DOOR AND HARDWARE SCHEDULE

- A. The Door and Hardware requirements are indicated on the Drawings.
- B. Provide finish hardware as indicated. Sizes omitted shall be as recommended by the manufacturer. Provide drop plates, spacers and other fittings as required for hardware installation.

**PART 3. EXECUTION (NOT USED)**

**END OF SECTION**