



## SECTION \_\_\_\_\_

### 81R™ FACTORY PREFABRICATED SOLID GLASS BULLET AND CAST IRON PANEL

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION OF WORK

- A. Extent of the Glass Paver and Cast Iron Panels as indicated on the drawings.
- B. Principal Work in this section includes:
  - 1. 81R™ Cast Iron Framed Glass Bullet Panels
  - 2. Reinforcement, anchors, fasteners and similar items
  - 3. Glazing materials and sealant for panels

##### 1.2 DESCRIPTION OF PANELS

- A. Panels shall be factory prefabricated and glazed 81R™ Panels manufactured by Light Penetrating Systems, LLC dba Circle Redmont®, 1213 Medina Rd, Medina OH 44256 (800-358-3888 / 321-259-7374). Panels shall be of overall sizes as detailed on the drawings. Cast Iron framework shall be produced to meet or exceed the specified structural performance. Solid Glass bullet units shall be Circle Redmont® standard, traffic bearing, replaceable type, glass units. Glass units shall be initially factory installed in respective cell openings using Circle Redmont® standard waterproof sealant and bedding material.

##### 1.3 QUALITY ASSURANCE

- A. Structural: Design, engineer and fabricate the panels to provide live load capacity as required. The completed panel shall be capable of supporting a live load of not less than one hundred (100) pounds (*amend as required*) per square foot supported on four sides.
- B. Thermal Movement: Design the framing system to provide for such expansion and contraction of component materials as will be caused by the outside temperature range of -10 degrees F to 120 degrees F, without causing excessive buckling stress on glass pavers, failure of joint seals, undue stress on structural elements, damaging loads on fasteners, reduction in performance, or other detrimental effects.
- C. Water Penetration: Water penetration is defined as the appearance of or damage from water, other than condensation, on the underside of the panels. The panels shall be totally watertight.
- D. Manufacturer of Panels: The manufacturer of the prefabricated panels shall be a firm with not less than ten (10) years of successful experience in supplying the same type of panels as required for this project.
- E. Design Criteria: The drawings and specifications are based on a specific type of panel by a single manufacturer. Equivalent type panels by another manufacturer may be acceptable only if deviations in dimension, profile, appearance and performance history are minor and do not materially detract from the design concept or intended performances, as judged solely by the Architect.

In addition, if a substitute is being offered as an "Or Equal" to the specified products, in order to be considered, the Contractor will notify the Architect within five (5) business days of award of contract of such intent of substitution and upon notification by the Architect the Contractor will have three business days to provide adequate proof of equivalency, i.e.; documentation that the "Or Equal" meets the

minimum characteristics of the ordering description or specification. Submission of proof of equivalency and samples shall be at the bidder's expense and no compensation shall be offered by Architect or Owner.

Failure to provide this documentation which must include Substitute's Manufacturer History, Technical Specifications, Specifications, Brochures, Samples, Catalogs, Etc., will render the substitution nonresponsive and ineligible for award.

- F. Warranty: Submit written warranties signed by the manufacturer, installer, and contractor, agreeing to repair or replace defective materials and workmanship during the warranty period. Manufacturer must be able to document its warranty based upon at least fifty (50) projects with at least five (5) years of successful field performance.

Defective materials and workmanship in manufacture include abnormal deterioration, aging or weathering of work, leakage of water (except at panel joints and perimeter), structural failure, deterioration of finishes in excess of normal weathering and aging.

The manufacturer shall warrant the panels to be free from manufacturing defects in either materials or workmanship for a period of one (1) year from the date of shipment. The manufacturer's warranty does not include glass breakage, damage caused by improper handling or use, improper installation, vandalism, abuse or natural conditions exceeding standard performance requirements.

Where the manufacturer is contacted and upon inspection finds that performance failure is due to defective materials of fabrication of the factory prefabricated **81R™ Glass Bullet & Cast Iron Panels**, all materials necessary to repair will be provided by the manufacturer at no extra cost to the customer. Freight and related charges not included.

The manufacturer's liability is limited to materials in the factory prefabricated panels only and the manufacturer shall not be liable for damage caused by handling by contractor and installer, installation procedures, and consequential damages or expenses.

The contractor and installer shall furnish a written warranty covering defects in handling, installation procedures, materials and workmanship and field applied perimeter sealant work for a period of one (1) year from the date of installation. The contractor and installer's liability shall be limited to the prompt repair or replacement of panels, materials and/or perimeter sealant work.

#### 1.4 SUBMITTALS:

- A. Shop Drawings: Submit shop and erection drawings at large scale clearly showing sections of panels with all connections, joinery techniques, provisions for expansion/contraction, cast iron panel thickness and profiles. Identify all materials including metal alloys and fasteners. Locate and identify shop and field sealants on drawings. Show adjacent structural elements. G.C. shall provide accurate field dimensions to Light Penetrating Systems, LLC dba Circle Redmont® and coordinate all efforts with Light Penetrating Systems, LLC dba Circle Redmont® to insure Architect's design intent.
- B. Samples: Submit a full-size sample of the Glass Bullet units, which are to be factory installed in the cast iron frame.
- C. Structural Calculations: Submit structural calculations for live and dead loads confirming the panels' capacity to withstand the specified load requirements.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Panels shall be factory fabricated Circle Redmont® **81R™ Solid Glass Bullet and Cast-Iron Panels** as manufactured by Light Penetrating Systems, LLC dba Circle Redmont®, 1213 Medina Rd, Medina OH 44256

(800-358-3888 / 321-259-7374). Panels by other manufacturers will be considered only if the manufacturer and the panels comply fully with these specifications and the drawings.

- B. The factory prefabricated panels shall consist of the following:
  - 1. Panels shall be factory cast and glazed, of overall sizes as detailed on the shop drawings. Cast iron materials and formwork shall be manufacturer's standard and shall be produced to meet or exceed the specified structural performance.
  - 2. Cast Iron shall be ASTM A48, Cast Grade 30, Gray
  - 3. Solid Glass Bullets shall be traffic bearing, replaceable type glass. Factory sandblasted of the top surfaces of glass bullets is recommended for walking surfaces. Glass Bullets properly spaced according to manufacturer's standard on center dimensions. Glass units shall be initially factory installed in respective cell openings; weather sealed using Circle Redmont® standard waterproof sealant material and bedding material.

## **2.2 FABRICATION AND WORKMANSHIP**

- A. Maintain the visual design concept including member sizes, profiles and alignment components. Coordinate this work with that of other trades.
- B. Factory assemble each panel at the manufacturing facility employing qualified personnel solely engaged in prefabricated panel production.

## **PART 3 - EXECUTION**

### **3.1 STORAGE AND HANDLING**

- A. G.C. shall coordinate and cooperate with Light Penetrating Systems, LLC dba Circle Redmont® to ensure handling of panels in a manner that will prevent undue stress on component parts, sealants, and structural members. Do not rack, torque, or cause load forces in an inappropriate manner. Lift panels from top only unless specifically instructed by the manufacturer to prevent damage to finished surfaces.
- B. Store panels in a dry place, off the ground. Bear fully along all supported edges on level and true structural supports.
- C. Handle materials to prevent damage to finished surfaces. Do not install components which have been damaged or stained.
- D. Upon completion of installation, G.C. shall protect panels from damage caused by ensuing work of other trades.

### **3.2 PANEL INSTALLATION**

- A. Contractor shall coordinate all efforts with Light Penetrating Systems, LLC dba Circle Redmont® and ensure that panels are set into prepared openings and shall bear fully along all supported edges on structural supports. Top of panels shall finish flush with adjoining surfaces unless shown otherwise on drawings. Where necessary, build up support ledges and beams as required with materials similar to support members, prior to placement of panels. Panels shall be set to proper pitch and cross falls to ensure proper drainage of surface water and avoid ponding. Then fastened as indicated on shop drawings.
- B. Allow 1/4" nom. spacing between panels and adjacent surfaces and between adjoining panels to permit installation of backer rod and sealant. All joints which are exposed to the weather and to surface traffic shall be sealed with sealant manufacturer's recommended sealant.

- C. Protect installed panels from damage during ensuing construction operations. Prior to the date of substantial completion replace any cracked, broken or otherwise damaged glazing units.

### **3.3 FIELD TESTING**

- A. After panel installations are completed, they shall be field tested for leakage. Tests shall be conducted by flooding the surface of panels with a sprinkler hose for a period of 15 minutes while observations are made of the undersides. Correct any deficiencies which are found in a manner to make panels completely watertight. Conduct testing in the presence of the Architect or the Architect's designated representative.

### **3.4 PAINTING**

- A. Cast Iron shall receive initial factory applied Circle Redmont® standard black patina finish.

### **3.5 CLEANING**

- A. Maintain installed panels, including glazing, in reasonably clean condition during construction operations. Remove any stains or materials which may have an adverse effect on panel materials and finishes. Remove any excess glazing compound and sealants.
- B. Immediately prior to the date of substantial completion clean glazing units to remove any accumulations of dirt, paint stains, etc. Glazing shall be cleaned on both inside and outside surfaces.

### **3.6 REPLACEMENT INSTRUCTION**

- A. G.C. shall furnish the Owner with a copy of the panel manufacturer's complete printed instructions for replacement of any damaged glazing units.

### **END OF SECTION**

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