

CityScapes®

ARCHITECTURAL INNOVATIONS

SECTION 10 82 13

ROOFTOP EQUIPMENT SCREENS

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**** NOTE TO SPECIFIER **** CityScapes Inc.; Rooftop Equipment Screens; Envisor®.

This section is based on the products of CityScapes International, Inc., which is located at:
4200 Lyman Ct.
Hilliard, OH 43026
Toll Free: 877-SCREENS
Phone: 614-850-2549
Email: Contact@cityscapesinc.com
Web: <https://cityscapesinc.com/>

CityScapes® has been an industry leader in architectural innovations since 2004. We began with our flagship product, Envisor®, a patented HVAC Screening system that meets municipal code line-of-sight requirements with no roof membrane disruption. CityScapes® has expanded its scope to add new product lines that combine screening, security, and aesthetics. Our offerings include:

- Envisor® Unit Attached Rooftop Screens
- Envisor® Z-Fin and post-mounted screening,
- Covrit® Ground Screening and Roofed Enclosures
- ToughGate™ and MegaGate™
- Marquee Canopies and Awnings
- NatureScreen Trellises® and Planters
- Custom fabrication solutions

All CityScapes® products are Build America, Buy America Act (BABAA) certified and constructed at our 180,000 square foot manufacturing facility in central Ohio. Design, engineering, manufacturing, and installation - our team handles it all.

PART 1 GENERAL

1.1 SECTION INCLUDES

**** NOTE TO SPECIFIER **** Delete items below not required for project.

- A. Rooftop equipment screens for enclosing roof top mechanical equipment.
 - 1. ABS
 - 2. Aluminum
- B. Aluminum Support Framing: For direct attachment of screening panels to mechanical equipment; no base or curb required unless shown otherwise on drawings.

- C. Sliding Panels: For access to mechanical equipment for servicing.
- D. Not Included in This Specification:
 - 1. Touch-up painting required for scratches and screw heads.
 - 2. Field painting of prime painted screens.

1.2 RELATED SECTIONS

**** NOTE TO SPECIFIER ** Delete any sections below not relevant to this project; add others as required.**

- A. Section 01 23 00 - Alternates. For direction regarding bidding of screens as alternates.

1.3 REFERENCES

**** NOTE TO SPECIFIER ** Delete references from the list below that are not actually required by the text of the edited section.**

- A. American Society for Testing and Materials (ASTM): ASTM B 221 - Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire Profiles, and Tubes.
- B. The Aluminum Association, Inc. (AA): AA ADM-1516166 - Aluminum Design Manual
- C. American Society of Civil Engineers (ASCE): ASCE 7-18 - Minimum Design Loads for Buildings and Other Structures

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data:
 - 1. Manufacturer's data sheets on each product to be used.
 - 2. Preparation instructions and recommendations.
 - 3. Storage and handling requirements and recommendations.
 - 4. Typical installation methods.
 - 5. Sufficient data and detail to indicate compliance with these specifications.

**** NOTE TO SPECIFIER ** Delete if not applicable to product type.**

- C. Verification Samples: Two representative units of each panel type.
 - 1. Color Selection: Submit paint chart with full range of colors available for Architect's selection. Custom color samples available upon purchase.
- D. Shop Drawings: Indicate layout heights, component connection details, and details of interface with adjacent construction.
 - 1. Roof top mechanical equipment to be enclosed.
- E. Certification: Manufacturer's Certificate of Compliance certifying that panels supplied meet or exceed requirements specified.

**** NOTE TO SPECIFIER ** Stamped drawings are available for an additional fee. Delete if not required.**

- 1. Professional Engineer stamped drawings.
- F. Closeout Submittals: Warranty documents, issued and executed by manufacturer, countersigned by Contractor.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum of one year documented experience.
- B. Installer Qualifications: Company specializing in performing Work of this section with

minimum two years documented experience with projects of similar scope and complexity.

- C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

**** NOTE TO SPECIFIER **** Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

- D. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
 - 1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
 - 2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
 - 3. Retain mock-up during construction as a standard for comparison with completed work.
 - 4. Do not alter or remove mock-up until work is completed or removal is authorized.

1.6 PRE-INSTALLATION CONFERENCE

- A. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items, and approvals.
 - 1. Notify Architect four (4) calendar days in advance of scheduled meeting date.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly indicating manufacturer and material.
- B. Storage and Handling: Protect materials and finishes during handling and installation to prevent damage.
- C. Protect from damage due to weather, excessive temperature, and construction operations.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
- B. Field Measurements: Take measurements of supporting paving, footings, or piers. Indicate measurements on shop drawings fully documenting any field condition that may interfere with the screen system installation.

1.9 COORDINATION

- A. Installer for work under this Section shall be responsible for coordination of panel and framing sizes and required options with the Contractor's requirements.
 - 1. Request information on sizes and options required from the Contractor.
- B. Submit shop drawings to the Contractor and obtain written approval of shop drawing from the Contractor prior to fabrication.

1.10 WARRANTY

- A. Warranty: Provide manufacturer's standard limited 3 year warranty, starting from the date of substantial completion of the project.

- B. This warranty does not cover failure of your rooftop equipment screen if the Owner damages it, or if the failure is caused by improper installation. In no event shall the Warrantor be liable for incidental or consequential damages.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: CityScapes International Inc., which is located at: 4200 Lyman Ct., Hilliard, OH 43026; Toll Free: 877-SCREENS; Phone: 614-850-2549; Email: Contact@cityscapesinc.com; Web: <https://cityscapesinc.com/>

**** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.**

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with the provisions of Section 01 60 00.

2.2 PERFORMANCE AND DESIGN REQUIREMENTS

- A. Regulatory Requirements: Comply with requirements of building authorities having jurisdiction in Project location.
- B. Design Criteria:
 - 1. Rooftop Equipment Screens:
 - a. The manufacturer is responsible for the structural design of all materials, assembly, and attachments to resist snow, wind, suction, and uplift loading at any point without damage or permanent set.
 - b. Framing shall be designed in accordance with the Aluminum Design Manual to resist the following loading:
 - 1) ASCE 7-18 - Minimum Design Loads for Buildings and Other Structures; American Society of Civil Engineers.
 - c. Default Clear Space Between Equipment and Screen: 36 inch (914 mm) nominal.
 - d. Standard Truss Sizes: 36 and 48 inch (914 and 1219 mm).
 - e. Screen Heights: 35, 52, and 70 inches (889, 1321, 1778 mm) and may be stacked as needed.
 - f. Corners may have one panel mounted at 45 degrees.
 - g. Screens may partially surround units.
 - h. Trusses: Should be spaced no further than 96 inches (2438 mm) along cabinet perimeter.
 - i. Screens Mounted to Steel Posts: Posts must be set no further than 96 inches (2438 mm) on center.
 - 2. Design Requirements to be Supplied to Manufacturer:
 - a. Obstructions above unit base rail elevation and within 72 inches (1829 mm) of unit must be identified.
 - b. Access panels, access doors, vent hoods, power disconnects, etc. must be accounted for in design; clearly noted on unit cut sheets or roof plans provided to Manufacturer.
 - c. Equipment Obstruction Details Provided to Cityscapes: Such as door swings, horizontal ducting, or piping may be made to run between top and bottom rails. Contact Manufacturer for custom solutions.
 - d. Post Mounting Systems: By others. Must have all steel sizing provided.
 - 3. Limitations:
 - a. Screens may be designed 22 to 60 inches (559 to 1524 mm) clear, as decided necessary by Manufacturer.

- 1) Requests for special clearances should be noted.
- b. Screen Heights:
 - 1) Cannot exceed 8 inches (203 mm) more than cabinet height.
 - 2) Units may have varying screen heights if needed to clear obstructions such as parapet walls.
- c. Top Trim: May be added to cover as much of the unit above attachment points.
- d. Screen Supports: To be attached below any drip edges.
- e. Spans Between Supports Larger than 100 inches (2540 mm): May require a post mount support.

**** NOTE TO SPECIFIER ** Delete post mount support not required. The freestanding support from the Manufacturer is not possible where isolation/vibration curbs are used.**

- 1) Steel HSS by others.
- 2) Free-standing support posts provided by Manufacturer.
- f. Unit-Attached Envisor Screens in Florida:
 - 1) Must be fully enclosed 4-sided.
 - 2) Post mounted systems in Florida do not need to be fully connected 4-sided.
 - 3) Systems located in Florida may use either a Vertical Rib ABS panel style or a metal panel style.
- g. Removable Screen Sections:
 - 1) May be used for large maintenance clearances under special conditions:
 - 2) Removable Sections:
 - a) Fit between two trusses.
 - b) Are not adjacent to one another; two trusses either side of section.
 - c) Are not placed on the ends of partially sided systems.
- h. Units May be Nested Together If:
 - 1) Cabinets are suitable for screen attachment.
 - 2) Cabinets are no further than 96 inches (2438 mm) apart.
 - 3) Units have similar cabinet and curb heights.
 - 4) Units are not on isolation/vibration curbs.
- i. If nested look is desired but not possible for one of the reasons above, independent screens can be sized to fit together with small gaps.

2.3 MATERIALS

- A. Thermoformed Plastic Panels: Fabricated from rigid medium impact thermo-formed ABS (Acrylic Butylene Styrene) sheets.
 - 1. Minimum thickness: 3/16 inch (5 mm).
- B. Powder Coated or Painted Metal Panels: Fabricated from rigid aluminum panels in multiple thicknesses.
 - 1. Minimum Thickness: 0.050 inches (1.27 mm).
- C. Perforated Metal Panels: Fabricated from rigid aluminum panels in multiple thicknesses.
 - 1. Minimum Thickness: 0.063 inches (1.60 mm).
- D. Framing: Aluminum Plate, Shapes and Bar: ASTM B 221, alloy 6061-T5 or 6063-T5.
- E. Threaded Fasteners: Screws, bolts, nut, and washers to be Stainless steel.
 - 1. Corner Assembly Fasteners: No. 12-14 x 1-1/4 inches (32 mm) stainless steel self-drilling screws.
 - a. Length: As required to develop full holding capacity of screw when fastened to Mechanical Equipment.
 - 2. Provide lock washer or other locking device at all bolted connections.

2.4 FABRICATION

- A. Provide factory-formed panel systems with continuous interlocking panel connections and indicated or necessary components: Form all components true to shape, accurate in size, square and free from distortion or defects. Cut panels to precise lengths indicated on approved shop drawings.
- B. Fabricate all panels to slide horizontally to allow access to unit access panels behind.
- C. Design, and Trim:

**** NOTE TO SPECIFIER ** Make selections below from manufacturer's full available options. Panel styles and design can also be custom fabricated to customer's preferences. Consult manufacturer for design options and finishes available.**

1. Panel Design: AcryliCap. 7.2 Rib.
2. Panel Design: AcryliCap. Horizontal Rib.
3. Panel Design: AcryliCap. Vertical Rib.
4. Panel Design: AcryliCap. Louver.
5. Panel Design: AcryliCap. Pan.
6. Panel Design: AcryliCap. Brick.
7. Panel Design: AcryliCap. Custom.
8. Panel Design: Metal Series. 7.2 Rib Horizontal.
9. Panel Design: Metal Series. 7.2 Rib Horizontal Perforated.
10. Panel Design: Metal Series. 7.2 Rib Vertical.
11. Panel Design: Metal Series. 7.2 Rib Vertical Perforated.
12. Panel Design: Metal Series. 4.0 Rib Horizontal.
13. Panel Design: Metal Series. 4.0 Rib Vertical.
14. Panel Design: Metal Series. Pan.
15. Panel Design: Metal Series. Vented Louver.
16. Panel Design: Metal Series. Pan Perforated.
17. Panel Design: Metal Series. Custom.
18. Decorative Top Trim Profile: Band.
19. Decorative Top Trim Profile: Step 2.
20. Decorative Top Trim Profile: Step 3.
21. Decorative Top Trim Profile: Cove.
22. Decorative Top Trim Profile: Alamo.

- D. Trim and Closures: Material: Aluminum. Thickness: 0.050 to 0.25 inches (1.27 to 6.35 mm),
 1. Finish: Manufacturers standard coating system, unless shown otherwise on drawings.
- E. Framing: Fabricate and assemble components in largest practical sizes, for delivery to Project site.
 1. Corner Assemblies: Construct to required shape with joints tightly fitted.
 2. Components Required Framing Anchorage: Fabricate anchors and related components of material and finish as required, or as specifically noted.

2.5 FINISHES

- A. Aluminum Framing: Mill finish.
- B. Panel Coating: Manufacturer's standard powder coating system, factory applied.

**** NOTE TO SPECIFIER ** Delete color option not required. Contact manufacturer for minimum order sizes for custom colors.**

1. Color: Selected from full range of manufacturer's standard colors.
2. Color: Custom color paint or powder coat as selected and approved by Architect. Finish type is determined by project size.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Installer's Examination: Examine conditions under which construction activities of this section are to be performed.
 - 1. Submit written notification to Architect and Screen manufacturer if such conditions are unacceptable.
 - 2. Beginning erection constitutes installer's acceptance of conditions.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install screen systems in accordance with the manufacturer's instructions and approved shop drawings. Keep perimeter lines straight, plumb, and level. Provide brackets, anchors, and accessories necessary for a complete installation.
- B. Fasten structural supports to HVAC units without damaging the operation of the unit.
 - 1. Provide corner and mid-span assemblies as required by approved shop drawings so that the panels are supported uniformly.
 - 2. Fastening bottom rail using bolts to permit ease of access to HVAC units.
- C. Insert panels into structural supports, except where fixed attachment points are indicated. Butt panels to adjacent panels for uniform fit. Fasten fixed panels in accordance with the shop drawings.
- D. Metal Separation: Where aluminum materials would contact dissimilar materials, insert rubber grommets at attachment points, thus eliminating where dissimilar metals would otherwise be in contact.
- E. Do not cut or abrade finishes which cannot be restored unless instructed. Return items with such finishes to shop for required alterations.

3.4 ERECTION TOLERANCES

- A. Maximum misalignment from true position: 1/4 inch (6 mm).

3.5 CLEANING AND PROTECTION

- A. Remove all protective masking from material immediately after installation.
- B. Protection:
 - 1. Ensure that the finishes and structure of installed systems are not damaged by subsequent construction activities.
 - 2. If minor damage to finishes occurs, repair damage in accordance with manufacturer's recommendations; provide replacement components if repaired finishes are unacceptable to Architect.
- C. Prior to Substantial Completion: Remove dust or other foreign matter from component surfaces; clean finishes in accordance with manufacturer's instructions.
 - 1. Clean units in accordance with the manufacturer's instructions.

END OF SECTION