

## SECTION 09 77 53

### 3 PART MasterFormat Document

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#### **PART 1 GENERAL**

##### **1.1 SECTION INCLUDES**

- Living Wall Systems

##### **1.2 RELATED SECTIONS**

##### **1.3 REFERENCES**

##### **1.4 SUBMITTALS**

- **A. Administrative Requirements:** Submit all documentation as specified.
- **B. Product Information:**
  - Provide manufacturer's data sheets for each product.
  - Include manufacturer certifications.
  - Detail preparation instructions and recommendations.
  - Specify storage and handling requirements.
  - Outline typical installation methods.
- **C. Verification Samples:** Supply a single cassette pot as a verification sample.
- **D. Shop Drawings:** Provide detailed drawings showing materials, construction, and finish, including the relationship with adjacent construction.
- **E. Sustainable Compliance:** Submit all relevant information regarding sustainability categories, points, and documentation.

##### **1.5 QUALITY ASSURANCE**

- **A. Manufacturer Qualifications:** The manufacturer must have at least five years of documented experience in producing the specified products.
- **B. Installer Qualifications:** The installer must have at least two years of documented experience with projects of similar scope and complexity.

- **C. Source Consistency:** Ensure uniformity by sourcing each type of product from a single manufacturer.
- **D. Plant Selection and Design Layout Guide:** Provide a guide for plant selection and design layout for the Architect's review, ensuring it does not delay construction progress. Locate the guide as acceptable to the Architect and provide temporary foundations and support.
  - The guide demonstrates the visual appearance.
  - If the guide is not acceptable, revise it until satisfactory results are achieved.
  - Retain the guide during construction as a standard for comparison with completed work.
  - Do not alter or remove the guide until work is completed or removal is authorized.

## 1.6 PRE-INSTALLATION CONFERENCE

- Convene a conference approximately two weeks before the scheduled start of the work. Attendees shall include the Architect, Contractor, and involved trades. The agenda shall cover the schedule, responsibilities, critical path items, and approvals.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- **A. Verify Materials:** Contractor shall check the materials upon delivery to ensure the correct materials have been received.
- **B. Storage and Handling:** Store and handle materials in strict compliance with the manufacturer's written instructions and recommendations.
- **C. Protection:** Protect materials from damage due to weather, excessive temperature, and construction operations.
  - Do not use damaged materials in the project.
- **D. Quality Control:** Ensure exposed edges of modules and additional materials are free of defects and imperfections.

## 1.8 PROJECT CONDITIONS

- **A. Environmental Conditions:** Ensure the environment and lighting are suitable for the plant types. Water source and electrical connections should be no more than 10 feet away for hookup.

## 1.9 WARRANTY

- Provide the manufacturer's standard limited warranty unless otherwise indicated.
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## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- **A. Approved Manufacturer:** UpScapers.
- **B. Substitution:** Not permitted.
- **C. Substitution Requests:** Will be considered in accordance with Product Requirements.

### 2.2 LIVING WALL SYSTEMS

- **A. Performance and Design Requirements:**
  - Use soil-based plants for a truly organic solution.
  - Follow the drawings for included work.
  - Wall Preparation: Leave a ½ inch space between the edge of the living wall substrate and the wall edge if installed in a pocket or if the living wall needs to be flush with an edge.
  - Frame not provided can be coordinated with others.
  - Living Wall Systems: Designed to be installed and remain in place.
  - Reinforcement Design:
    - Apply cassette system to pre-supplied treated plywood backer with wood screws into substrate already covered with self-sealing moisture barrier.
  - **Basis of Design:** Living Walls manufactured by UpScapers. Plants are grown in soil and inserted with a water wick, creating a hybrid hydroponic system that reduces maintenance compared to full hydroponic systems.
  - **Weight:**
    - Average weight is under 11 lbs / sq ft.
  - **Watering Options:**

- Simple irrigation system designed to feed water to the top of each row of pots, allowing water to drip down through each pot into the one below.
- Water dripping from the bottom pot can be caught in catch tanks and pumped back to the top of the wall or allowed to run off into a drain or flower bed below.
- **Types of Plants:**
  - Various plant types suitable for indoor or outdoor use.
- **Plant Containers:**
  - 4" nursery pots that hold the plants in soil.
  - An 8" irrigation wick is to be inserted into the bottom of each pot.
- **System Sizes:**
  - The system comes in the following sizes, so the wall will need to retract or expand slightly to match system options:
  - **4 Pot:** Width: 590 mm, Height: 154 mm, Depth: 66 mm, Depth to cup: 137 mm, Weight: 648 g
  - **2 Pot:** Width: 295 mm, Height: 154 mm, Depth: 66 mm, Depth to cup: 137 mm, Weight: 315 g, Cost per sqft:
  - **1 Pot:** Width: 147.5 mm, Height: 154 mm, Depth: 66 mm, Depth to cup: 137 mm, Weight: 168 g, Cost per sqft:
  - **Bottom of last pot:** Depth: 16 mm, Weight: 0.63 g
  - Water required per plant: 200 ml (6.76 oz)
  - There are 4 pot, 2 pot, and 1 pot cassettes, and one irrigation system supplied per wall. Irrigation kits are available in home, small, pro, pro tall, and custom options.
  - The wall does not come with a catch tank unless specified.

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## PART 3 EXECUTION

### 3.1 EXAMINATION

- **A. Substrate Preparation:** Do not begin installation until substrates have been properly aligned and prepared.
- **B. Notification:** If substrate wall preparation is the responsibility of another installer, notify the Architect in writing of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- **A. Surface Cleaning:** Clean surfaces thoroughly prior to installation.
- **B. Surface Preparation:** 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. Installation Guidelines:** Install in accordance with UpScapers instructions, approved submittals, and proper relationship with adjacent construction.
- **B. Compliance:** Failure to comply can cause installation issues which can result in additional charges for airfare, lodging, and time.
- **C. Lighting Consideration:** If not specified by the Architect, consider the placement of supplemental track lighting.
- **D. Shipping Details:** Provide address and details of where UpScapers should ship the living wall system.
- **E. Electrical Outlet:** Ensure an electrical outlet is available if the living wall includes a backlit sign and for irrigation.
- **F. Installation Timing:** Schedule installation of the living wall after painting is finished. Dusty conditions are harmful to the plants and are time-consuming and expensive to clean if the living wall is installed too early. Additional charges may apply if cleaning is required after installation.
- **G. Shipment Coordination:** Coordinate shipment of the living wall at least three weeks in advance of the actual installation. A climate-controlled storage area is required. Installation crews are deployed regionally based on project location. Read the pre-deployment checklist before scheduling deployment to avoid extra travel charges, including airfare and lodging if needed.
- **H. Field Measurements:** Confirm field measurements back to UpScapers if the living wall system is to be installed in an alcove or recess. Final measurements

should be taken when the final wall covering is installed or when the drywall is installed in the case of paint/wallpaper.

- **I. Project Support:** UpScapers is committed to assisting in ensuring a successful project.

### **3.4 FIELD QUALITY CONTROL**

- **A. Field Inspection:**
- **B. UpScapers Services:**

### **3.5 CLEANING AND PROTECTION**

- **A. Cleaning:** Clean product in accordance with UpScapers recommendations.
  - **B. Touch-Up:** UpScapers will touch-up, repair, or replace damaged products before Substantial Completion.
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