PART I – GENERAL

1.01 SUMMARY
A. This document is to be used in preparing specifications for projects utilizing the Master Wall Inc.® Soffit System.
   Related Master Wall Inc.® documents:
   1. Master Wall Inc.® Soffit System Data Sheet
   2. Master Wall Inc.® Soffit System Application Instructions
   3. Master Wall Inc.® Soffit System Installation Details
   4. Master Wall product data sheets
B. Related Sections
   1. Unit Masonry – Section 04200
   2. Concrete – Sections 03300 and 03400
   3. Light Gauge Cold Formed Steel Framing – Section 05400
   4. Wood Framing – Section 06100
   5. Sealant – Section 07900
   6. Flashing – Section 07600

1.02 SUBMITTALS
A. Manufacturer's specifications, details, installation instructions and product data
B. Manufacturer's standard warranty
C. Applicator's industry training credentials
D. Samples for approval as directed by architect or owner
E. Sealant manufacturer's certificate of compliance with ASTM C 1382
F. Prepare and submit project-specific details (when required by contract documents)

1.03 REFERENCES
A. ASTM Standards:
   ASTM C150 Standard Specification for Portland Cement
   ASTM C297 Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions
   ASTM C578 Specification for Preformed Cellular Polystyrene Thermal Insulation
   ASTM C1177 Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
   ASTM C1396 (formerly C 79) Standard Specification for Gypsum Board
1.04 SYSTEM DESCRIPTION

A. General: Master Wall Inc.® Soffit System consisting base coat, reinforcing mesh and finish.

B. Methods of Installation

1. Field Applied: The Soffit System is applied to the substrate system in place.
2. Panelized: The Soffit System is shop-applied to the prefabricated wall panels.

C. Design Requirements

1. Substrates
   a. The maximum deflection under full flexural design loads of the substrate system shall not exceed L/360.
   b. Acceptable substrates for the Soffit System shall be designed for their intended use by the design professional.
   c. Since the surface of the substrate cannot be rasped smooth, the flatness and finished appearance of the Soffit System application will depend on the structural members that support the sheathing.
   d. The project architect or engineer shall engineer the framing and substrate with regard to the required structural performance.

2. The substrate shall be flat within 6.4 mm (1/4 in) in a 3.05 m (10 ft) radius.

3. Expansion Joints
   a. Design and location of expansion joints in the Soffit System is the responsibility of the project designer and shall be noted on the project drawings. As a minimum, expansion joints shall be placed at the following locations:
      1) Where expansion joints occur in the substrate system.
      2) Where building expansion joints occur.
      3) At floor lines in wood frame construction (Reference Technical Bulletin #140).
      4) At floor lines of non-wood framed buildings where significant movement is expected.
      5) Where the Soffit System abuts dissimilar materials.
      6) Where the substrate type changes
      7) Where prefabricated panels abut one another.
8) Where significant structural movement occurs such as changes in roofline, building shape or structural system.

4. Control Joints
   a. Control joints are required and located by the designer in the soffit system at the following locations: (Reference construction documents for specific locations).
      1) Shall not exceed 20 lineal feet in any direction.
      2) 160 square feet equals maximum overall area.
      3) One dimension shall not exceed 2 ½ times the other dimension.
      4) At all dissimilar substrate transitions.
   b. Double studs may be required to accommodate control joints or where it is needed to provide a fastening base for sheathing board joints.

5. Sealants
   1) Shall be manufactured and supplied by others.
   2) Shall be compatible with Soffit System materials. Refer to current Master Wall Inc.® Technical Bulletin #131 for listing of sealants approved by sealant manufacturer for use with stucco systems.
   3) The sealant backer rod shall be of closed cell.

6. Vapor Retarders and barriers – The use and location of vapor retarders and/or barriers within a wall assembly is the responsibility of the project designer and shall comply with local building code requirements.

1.05 PERFORMANCE REQUIREMENTS
   A. Soffit System shall have been tested as follows:

<table>
<thead>
<tr>
<th>TEST</th>
<th>METHOD</th>
<th>CRITERIA</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Accelerated Weathering</td>
<td>ASTM G153 (Formerly ASTM G23)</td>
<td>No deleterious effects at 2000 hours when viewed under 5x magnification</td>
<td>Pass</td>
</tr>
<tr>
<td>2. Accelerated Weathering</td>
<td>ASTM G154 (Formerly ASTM G53)</td>
<td>No deleterious effects at 2000 hours</td>
<td>Pass</td>
</tr>
<tr>
<td>3. Freeze/Thaw Resistance</td>
<td>ASTM E2485</td>
<td>No deleterious effects at 10 cycles when viewed under 5x magnification</td>
<td>Pass</td>
</tr>
<tr>
<td>4. Water Penetration</td>
<td>ASTM E331 (modified per ICC-ES AC 235)</td>
<td>No water penetration beyond the plane of the base coat/insulation board interface after 15 minutes at 6.24 psf (299 Pa) or 20% of design wind pressure, whichever is greater</td>
<td>Pass at 2.86 psf (137 Pa), 6.24 psf (299 Pa), and 12.0 psf (575 Pa) consecutively</td>
</tr>
<tr>
<td>5. Water Resistance</td>
<td>ASTM D2247</td>
<td>No deleterious effects at 14 day exposure</td>
<td>Pass @ 28 days</td>
</tr>
<tr>
<td>6. Salt Spray</td>
<td>ASTM B117</td>
<td>No deleterious effects* at 300 hours</td>
<td>Pass @ 300 hrs</td>
</tr>
<tr>
<td>7. Abrasion Resistance</td>
<td>ASTM D968</td>
<td>No cracking or loss of film integrity at 528 quarts (500 L) of sand</td>
<td>Pass</td>
</tr>
<tr>
<td>8. Mildew Resistance</td>
<td>ASTM D3273</td>
<td>No growth supported during 28 day exposure period</td>
<td>Pass</td>
</tr>
</tbody>
</table>
Fire Performance

<table>
<thead>
<tr>
<th>TEST</th>
<th>METHOD</th>
<th>CRITERIA</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Surface Burning</td>
<td>ASTM E84</td>
<td>Individual components shall each have a flame spread of 25 or less, and smoke developed of 450 or less</td>
<td>Flame Spread: 0</td>
</tr>
<tr>
<td>(individual components)</td>
<td></td>
<td></td>
<td>Smoke Developed: 0</td>
</tr>
</tbody>
</table>

Component Performance

<table>
<thead>
<tr>
<th>TEST</th>
<th>METHOD</th>
<th>CRITERIA</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Alkali Resistance of Reinforcing Mesh</td>
<td>ASTM E2098 (formerly EIMA 105.01)</td>
<td>Greater than 120 pli (21 dN/cm) retained tensile strength</td>
<td>Pass</td>
</tr>
<tr>
<td>2. Requirements for Rigid PVC Accessories</td>
<td>ASTM D1784</td>
<td>Meets cell classification 13244C</td>
<td>Pass</td>
</tr>
</tbody>
</table>

1.06 QUALITY ASSURANCE

A. Qualifications
   1. System Manufacturer: Shall be Master Wall Inc.®. All materials shall be manufactured or sold by Master Wall Inc.® and shall be purchased from Master Wall Inc.® or its authorized distributors.
   2. Contractor: Shall be knowledgeable in the proper installation of the Master Wall Inc.® Soffit System. Additionally, the contractor shall possess a current Master Wall Inc.® applicator certificate issued by Master Wall Inc.®

B. Mock-Up
   1. The contractor shall, before the project commences, provide the owner/architect with a mock-up for approval.
   2. The mock-up shall be of suitable size as required to accurately represent the products being installed, as well as each color and texture to be utilized on the project.
   3. The mock-up shall be prepared with the same products, tools, equipment and techniques required for the actual application. The finish used shall be from the same batch that is being used on the project.
   4. The approved mock-up shall be available and maintained at the job site.
   5. For panelized construction, the mock-up shall be available and maintained at the panel fabrication location.

1.07 DELIVERY, STORAGE AND HANDLING

A. All Master Wall Inc.® materials shall be delivered to the job site in the original, unopened packages with labels intact.
B. Upon arrival, materials shall be inspected for physical damage, freezing, or overheating. Questionable materials shall not be used.
C. Deliver all materials in original unopened packages with labels intact. Verify all quantities, colors, and textures against bill of lading.
D. Store all materials protected from direct exposure to weather conditions and at temperatures not less than 40°F (4°C) or greater than 110°F (43°C).
E. Stack insulation board flat, fully supported off the ground and protected from direct exposure to the sun.
F. Material Safety Data Sheets (MSDS) or Safety Data Sheets (SDS) shall be supplied for the components of the system and be available at the job site.
1.08 PROJECT CONDITIONS
A. Ambient air temperatures shall be 40°F (4°C) or greater and rising at the time of installation of the Master Wall Inc.® products and shall remain at 40°F (4°C) or greater for at least 24 hours after application.
B. Provide supplemental heat and protection as required when the temperature and conditions are not in accordance with installation requirements. Sufficient ventilation and time shall be provided to ensure that materials have sufficiently dried prior to removing supplemental heat.
C. Adequate protection shall be provided to prevent weather conditions (humidity, temperature, and precipitation) from having an affect on the curing or drying time of Master Wall Inc.® materials.
D. Adjacent materials and the Soffit System shall be protected during installation and while curing from weather and shall be protected from site damage.
E. Coordinate installation of the Soffit System with related work specified in other sections to ensure that the wall assembly is protected to prevent water from getting behind the system.
F. All sealant work shall be installed in a timely manner. Protect open joints from water intrusion during construction with backer rod, or temporary covering, until permanently sealed.
G. Sufficient manpower and equipment shall be employed to ensure a continuous operation, free of cold joints, scaffolding lines, and texture variations, etc.
H. Existing Conditions - The contractor shall have access to electric power, clean water, and a clean work area at the location where the Master Wall Inc.® materials are to be applied.

1.09 SEQUENCING AND SCHEDULING
A. Installation of the Soffit System shall be coordinated with other construction trades.
B. Sufficient manpower and equipment shall be employed to ensure a continuous operation, free of cold joints, scaffolding lines, texture variations, etc.

1.10 LIMITED MATERIALS WARRANTY
A. Provide a manufacturer’s warranty against defective material upon request.

1.11 MAINTENANCE
A. Maintenance and repair shall follow the procedures noted in Master Wall Inc.® Technical Bulletins #112 and #129.

PART II – PRODUCTS

2.01 MANUFACTURER
A. All components of the Soffit System shall be supplied or obtained from Master Wall Inc.® or its authorized distributors. Substitutions or additions of materials other than specified will void the warranty.

2.02 MATERIALS
A. Portland Cement: Shall be Type I or II, meeting ASTM C 150, white or gray in color, fresh and free of lumps.
B. Water: Shall be potable, clean and free of foreign matter.
C. Metal Flashing Components: Complying with SMACNA Recommendations. Reference Section 07620.
E. Window & Door Systems: Detailed by the designer and suitable for the regional application. Reference Section 08000.

2.03 COMPONENTS
(Typical Application/Optional Component)
A. Casing Beads and Control Joints
   1. Plastic Components Product PL093 Control Joint or similar products manufactured by Amico, Vinyl Corp. or approved equal.
   2. Plastic Components CB DEFS Casing Bead/Starter Trac, Surface Mounted “L” Bead or Angled Termination Bead Joint or similar products manufactured by Amico, Vinyl Corp. or approved equal.
   3. Soffit Vents, Plastic Components or similar.

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B. Mechanical Fasteners
   1. A rust resistant fastener approved by the substrate manufacturer shall be used to properly fasten the substrate. The appropriate fastener shall be used to meet the requirements of the specific project, local building code and the anticipated wind loads. Wind-Lock Highly Coated Screws or approved equal.

C. Approved Substrates
   1. Exterior gypsum soffit board, ASTM C-1177 Glass Fiber Sheathing (Dens Glass Gold or approved equal), Cement Board panels meeting ASTM C-1325 (National Gypsum PermaBase, USG Durock), James Hardie Hardiepanel Smooth (5/16") or approved equal.

D. Reinforcing Mesh
      1. Detail Mesh
      2. Standard Mesh

E. Base Coats
   1. Master Wall Inc.® Foam & Mesh (F&M) Adhesive: An acrylic-based product mixed one-to-one by weight with Portland cement for use with reinforcing mesh as the base coating over the approved substrate.
   2. Master Wall Bagged Base Coat (MBB): A polymer based cementitious product mixed with 5 to 6 quarts of water for use with reinforcing mesh as the base coating over the approved substrate.
   3. F&M Plus: An acrylic-based high build product mixed one-to-one by weight with Portland cement designed for use with reinforcing mesh as the base coating over the approved substrate. (This product shall be used where indicated on the construction drawings when a leveling base coat is required.)
   4. Expanded Polystyrene Base (EPSB): a 100% pure acrylic polymer based noncementitious base coat.

F. Water Resistant Adhesive & Base Coat
   1. Guardian – An acrylic-based product mixed one-to-one by weight with Portland cement for use as the base coat with reinforcing mesh over the approved substrate. (This product should be used as designated on the construction drawings where additional resistance to moisture is needed.)

H. Primer – Especially useful under dark colors
   1. Primecoat Primer - Acrylic-based tintable primer
   2. Sanded Primecoat Primer - Acrylic-based tintable primer with sand

I. Superior Finishes: Master Wall Inc.® Superior Finishes are acrylic-based wall coatings available in a variety of colors and textures. The following textures are available:
   1. Perfect2.0 (Perfect) - riled texture
   2. Fine Sand 1.0 (Spray) – sand type texture
   3. Medium Sand 1.5 (Desert Sand) – coarse sand texture
   5. Versatex 0.5 (Refinish) – Fine texture used to create numerous finishes

J. Finish Enhancements
   1. Silicone Coat - Factory added silicone enhancement for better water resistance and to keep buildings cleaner.
   2. Excel Mildew Enhancement - Factory added mildew booster exceeding ASTM D3273 requirements.
   3. Elastomeric Plus - Increases flexibility and bridges minor hairline cracks.

K. Specialty Finishes
   1. Superior Stone
   2. Aggrestone
   3. Lumia
   4. Plaster Flex
   5. Metallic Cote
   6. Savannah
   7. Marbleflex
   8. Travetine
   9. Eco Glass
   10 Aggrelime
   11. Brick Finish System
L. Accents & Coatings
   1. Roller-flex architectural coating
   2. Elasto-flex elastomeric architectural coating
   3. Clearshield clear protective coating
   4. Vintique antiquing accent

PART III – EXECUTION

3.01 EXAMINATION
   A. Prior to installation of the Soffit System, the contractor shall verify that the substrate:
      1. Is of a type listed in the specifications.
      2. Is flat within 6.4 mm (1/4 in) in a 3 m (10 ft) radius.
      3. Is sound, dry, connections are tight, has no surface voids, projections or other conditions that may interfere
         with the Soffit System installation or performance.
   B. Prior to the installation of the Soffit System, the architect or general contractor shall insure that all needed
      flashings, roofing and other waterproofing details have been completed, if such completion is required prior to
      the Soffit System application. Additionally, the Contractor shall ensure that:
      1. Metal roof flashing has been installed in accordance with Asphalt Roofing Manufacturers Association
         (ARMA) Standards.
      2. Openings are flashed in accordance with the Soffit System Installation Details or as otherwise necessary to
         prevent water penetration.
   C. Prior to the installation of the Soffit System, the contractor shall notify the general contractor, and/or architect,
      and/or owner of all discrepancies.

3.02 PREPARATION
   A. Soffit System materials shall be protected by permanent or temporary means from inclement weather and other
      sources of damage prior to, during, and following application until completely dry.
   B. Protect adjoining work and property during Soffit System installation.
   C. The substrate shall be prepared as to be free of foreign materials, such as, oil, dust, dirt, form release agents,
      efflorescence, paint, wax, water repellents, moisture, frost and any other condition that inhibit adhesion.

3.03 GENERAL GUIDELINES
   A. The system shall be installed in accordance with the current Master Wall Inc.® Soffit System Application
      Instructions.
   B. The overall minimum base coat thickness shall be sufficient to fully embed the mesh.
   C. Sealant shall not be applied directly to textured finishes.
   D. When installing the Soffit System, adhere according to Master Wall Inc.® and local requirements.

3.04 SOFFIT SYSTEM INSTALLATION
   A. Design Considerations
      1. It is the responsibility of the architect and the purchaser to determine if a product is suitable for their
         intended use. The architect or designer of the project shall be responsible for all decisions pertaining to the
         design, details, structural capability, attachment details, shop drawings and the like. Master Wall Inc.® has
         prepared specifications, details and data sheets to assist as guidelines for the use and installation of the
         products. Master Wall Inc.® is not responsible for the design, details, structural capability, attachment
         details and shop drawings whether it is based on Master Wall Inc.® information or not.
      2. Expansion joints in the system are required at building expansion joints, at prefabricated panel joints, where
         substrates change, at floor lines in wood framed construction, and where structural movement is
         anticipated. Reference construction documents for exact locations.
      3. Aesthetic Reveals and Control Joints may be installed to provide sufficient break points in the System to
         prevent cold joints from occurring in the finish coat. Aesthetic reveals or control joints shall not be used in
         lieu of a building expansion joint.
B. Mixing
   1. Mix the products following the instructions on the product data sheets.
   2. Additives shall not be added to Master Wall Inc.® materials unless written approval has been received from Master Wall Inc.®

C. Preparation
   1. Protect contiguous work from damage during application of the Soffit System. Temporary covering may be required to prevent over spray or splattering of exterior finish coatings on other work.
   2. Protect substrate from inclement weather during installation. Prevent infiltration of moisture behind the system that may affect the substrate.
   3. Adhesive, Base Coats and Finishes shall not be installed when ambient air temperature is below 40ºF (4ºC). The temperature shall remain at or above 40ºF (4ºC) during mixing, application and until materials have cured.
   4. Sufficient scaffolding, manpower and tools shall be provided to prevent cold joints.
   5. Flashings or other protection shall be installed as required by construction documents and Master Wall Inc.® details in a manner to prevent the intrusion of water behind the ceiling system. All flashing materials should direct the water to the exterior face of the finished system.

D. Installation, General
   1. Reference architectural details for full wall system requirements.
   2. Comply with the manufacturers’ current published instructions, (specifications, details, data sheets and technical bulletins) for the installation of the Soffit System.
   3. Comply with local building codes.
   4. Verify that all flashings and other items are in place.

3.05 FIELD QUALITY CONTROL
   A. The contractor shall be responsible for the proper application of the Soffit System materials.
   B. Master Wall Inc.® assumes no responsibility for on-site inspections or application of its products.
   C. If required, the contractor shall certify in writing the quality of work performed relative to the substrate system, details, installation procedures, workmanship and as to the specific products used.
   D. If required, the sealant contractor shall certify in writing that the sealant application is in accordance with the sealant manufacturer’s and Master Wall Inc.® recommendations.
   E. Master Wall Inc.’s current published details, specifications, data sheets, technical bulletins and other literature/information are minimum standards and guidelines that shall be followed when designing and detailing a project with the Soffit System.
   F. Details shall conform to Master Wall Inc.’s details and shall be consistent with the project requirements.
   G. Master Wall Inc. must approve deviations from the standard published details in writing.
   H. The architect, engineer or the designer of the project should determine where the dew point would occur in relationship to the wall assembly and the project location during summer and winter conditions.
   I. Drip details shall be specified in accordance with Master Wall Inc.’s published details.
   J. At all locations the reinforced base coat, trim accessories or the substrate shall encapsulate the substrate and insulation board.

3.06 INSTALLATION OF SOFFIT SYSTEM TRACK/CASING
   A. Soffit System track must be installed at all terminations of the system and may need to be coordinated with the sheathing installation. Alternatively, the substrate may be sealed with reinforcing mesh and base coat for gypsum substrates or base coat for cement board substrates.
      1. Strike a level line on the framing to correspond with the top of the nailing flange of Soffit System track.
      2. Fasten Soffit System track with corrosion resistant fasteners of sufficient length to penetrate the wood studs at least 1” (25 mm), and the steel studs 3/8” (9.5 mm). Fasten at 6” (152 mm) on center.
3.07 CONTROL JOINTS
A. Mechanically attach the control joints in accordance with construction documents, the recommendations of the manufacturer of the control joint, and Master Wall Inc.’s specifications and details.
B. Fasten control joint with corrosion resistant fasteners of sufficient length to penetrate the wood studs at least 1” (25 mm), and the steel studs 3/8” (9.5 mm). Fasten at 6” (152 mm) on center.

3.08 BASE COAT APPLICATION
A. Base Coat Application
1. Apply the base coat to the entire surface of the substrate to the thickness required for the specified reinforcing mesh to be applied in a given area.
   a. Standard, Detail and Hi-Tech Mesh require a nominal 1/16” (1.6 mm).
2. Immediately embed Master Wall Inc.® reinforcing mesh into wet base coat with a trowel, working from the center toward the edges, until the mesh is fully covered and a smooth surface is achieved. The color of the mesh shall not be visible but a slight mesh pattern may be visible.
3. Lap mesh 2 ½” (64 mm) minimum on all sides.
4. Reinforcing Mesh shall be continuous through all interior and exterior corners extending beyond the corner a minimum of 12” from both directions creating a minimum of two layers of standard reinforcing mesh on all interior and exterior corners.
5. EPS shapes shall have reinforcing mesh embedded into the base coat.
6. Allow the base coat to cure a minimum of 12 hours prior to additional base coat or finish coat applications.

3.09 FINISH COAT APPLICATION
A. Superior Finish Coat Application
1. Surface irregularities in the base coat, such as trowel marks, substrate board lines and reinforcing mesh laps shall be corrected prior to the finish application.
2. Apply the Master Wall Inc.® Superior Finish in the color and texture as approved by the project owner or the project architect with sufficient manpower and equipment to insure a continuous operation without cold joints, scaffolding lines etc. Texture finish shall match approved jobsite samples. Thickness and coverage will vary depending on the specified final appearance.
3. Trowel Application – (Perfect 2.0, Fine Sand 1.0, Medium Sand 1.5, Versatex 0.5)
   a. Apply the Superior Finish to the clean, dry and cured base coat with a stainless steel trowel.
   b. Level the surface to a uniform thickness of 3/32” to 1/8” (2.4-3.2 mm).
   c. Float the Finish with a plastic float in a uniform motion to achieve the desired texture. (Versatex 0.5 cannot be floated easily. A second application of the Versatex 0.5 may be applied to create the desired texture.)
4. Spray Application – (Perfect 2.0, Fine Sand 1.0, Medium Sand 1.5, Versatex 0.5)
   a. Prime surface with Master Wall Inc.® Primecoat or Sanded Primecoat tinted to match the selected finish color. Allow Primecoat or Roller-Flex to cure a minimum of 12 hours prior to finish coat application.
   b. Using a conventional plaster hopper gun or a proven pump, spray finish over the primed base coat to achieve desired texture using a circular overlapping pattern keeping the spray gun at a 90º angle to the surface and maintaining the same distance to the wall at all times.
   c. Be cautious of flooding an area with too much finish because it may appear shinier when it dries.
5. Specialty Finishes: Follow individual product data sheet application instructions.
3.10 JOB SITE CLEANUP
A. Clean work area in accordance with contract documents removing all excess materials, droppings and debris. Clean adjacent surfaces.
B. Other trades may now install their work – Sheet Metal (Section 07620), Sealants (Section 07900), Mechanical (Section 15000), Electrical (Section 16000).

3.11 PROTECTION
A. Soffit System shall be protected from inclement weather and other sources of damage until dry and permanent protection in the form of flashings, sealants, etc. are installed.

Disclaimer
This Specification is published for general informational purposes only and is not intended to imply that these are the only materials, procedures, or methods, which are available or suitable. Materials, procedures, or methods may vary according to the particular circumstances, local building code requirements, design conditions, or statutory and regulatory requirements. While the information in this specification is believed to be accurate and reliable, it is presented without guarantee or responsibility on the part of Master Wall Inc.®