I. DESIGN CRITERIA

A. GENERAL BUILDING CODE


B. WIND LOADS

1. Wind pressures are based on the provisions of the American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures, ASCE 7-10 and the following criteria:
   a. Ultimate design wind speed (Vult): 139 MPH (3 second gust)
   b. Building risk category: II
   c. Wind exposure category: B
   d. Internal pressure coefficient (GCip): +0.18/-0.18

2. Wind pressures used for the design of components and cladding are shown in the following table:

<table>
<thead>
<tr>
<th>CLADDING TYPE</th>
<th>LOCATION OR ZONE</th>
<th>EFFECTIVE WIDTH (FT)</th>
<th>WIND LOAD (PSF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall</td>
<td>Interior</td>
<td>+37.4/-40.5</td>
<td></td>
</tr>
<tr>
<td>Wall</td>
<td>Edge</td>
<td>+37.4/-49.9</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- Component and cladding pressures act normal to the surface. Positive pressures act towards the surface and negative pressures act away from the surface.
- Design pressure for components and cladding shall not be less than 16 PSF in acting either direction normal to the surface.
- The effective wind area is the span length multiplied by an effective width that need not be less than one-third the span length. For cladding fasteners, the effective wind area shall not be greater than the area that is tributary to an individual fastener.
- The design pressures listed above are calculated using a value of k1 of 1.0. The values can be reduced by 15% if load combinations specified in ASCE 7-10 are used in design.

II. SELECTIVE DEMOLITION

A. RESPONSIBILITY OF THE CONTRACTOR FOR STABILITY OF THE STRUCTURE DURING DECONSTRUCTION / DEMOLITION

1. It is the responsibility of the Contractor to provide all required bracing during demolition to maintain the stability and safety of all structural elements during the demolition process. Contractor shall engage a professional engineer to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.

B. DEFINITIONS

1. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstated.
2. Remove and Salvage: Detach items from existing construction and deliver them to Owner ready for reuse. Owner to identify items to be reused or salvaged.
3. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstated.

C. MATERIAL OWNERSHIP

1. Except for items or materials indicated to be reused, salvaged, or otherwise indicated to remain Owner’s property, demolished materials shall become Contractor’s property and shall be removed from Project site. The materials removed shall be disposed in a proper and legal manner per federal/state or local ordinances.

D. QUALITY ASSURANCE

1. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
2. Professional Qualifications of Engineer Engaged by Contractor: Current registration in the State where the project is located.
4. Photo documentation of existing conditions of the building and adjoining properties shall be performed by Contractor prior to demolition. Photos shall be submitted to Owner and Engineer of Record.
5. Pre-demolition Conference: Conduct conference at Project site to address the following:
   a. Inspect and discuss condition of construction to be selectively demolished.
   b. Review structural load limitations of existing structure as appropriate for the proposed means and methods.
   c. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.

E. PROJECT CONDITIONS

1. Conduct selective demolition so Owner’s operations will not be disrupted. Provide not less than 72-hour notice to Owner of activities that will affect Owner’s operations.
2. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from authorities having jurisdiction.
3. Owner assumes no responsibility for condition of areas to be selectively demolished.
   a. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
   b. Before selective demolition, Owner will remove items within space as needed.
4. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Engineer and Owner. These materials shall be removed as disposed as approved by governing agency.
5. Storage or sale of removed items or materials on-site will not be permitted.
6. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations. Maintain fire protection facilities in service during selective demolition operations.
7. Protect adjacent paving (asphalt or cement roadways, sewers, etc.), and drainage ditches as needed.
8. All areas outside of demolition scope to be protected from damage by contractor. Restore areas subject to incidental damage to their pre-demolition condition.

F. UTILITY SERVICES

1. Refer to Division 01 sections regarding requirements for maintaining existing utilities in service and for interruptions of existing utilities.

G. PREPARATION

1. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
   a. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of adjacent facilities.
   b. Contractor to provide all necessary traffic control and pedestrian control measures as required.
III. SUBMITTALS

A. SUBMITTAL LIST AND SCHEDULE

1. The Contractor shall prepare a detailed list and schedule of all submittal items to be sent to the Structural Engineer prior to the start of construction. This list shall be updated and revised and kept current as the job progresses. The submittal list shall be organized as shown below:

   a. Shop Drawings
   b. Manufacturer’s literature for Products, Assemblies, and Hardware
   c. Product Data, Certificates, Reports, and Other Literature
   d. Product and Contractor Warranties

B. SHOP DRAWINGS

1. The General Contractor shall submit for Engineer review shop drawings for the following items:

   a. Self-Adhering Sheet Waterproofing
   b. Stucco Accessories
   c. Elastomeric Coatings
   d. Aluminum Break Metal

   All shop drawings must be reviewed and electronically stamped by the Contractor prior to submittal.

C. MANUFACTURER’S LITERATURE

1. Submit manufacturer’s product data sheets for all materials and products used in construction on the project. Where appropriate, also submit manufacturer’s installation instructions and Safety Data Sheets for all products used in construction on the project.

D. SUBMITTAL REQUIREMENTS:

1. All shop drawings must be reviewed and electronically stamped by the Contractor prior to submittal.

2. Contractor shall provide the submittal in electronic portable document format (PDF) per the Specifications.

E. REPRODUCTION

1. The use of electronic files or reproductions of these contract documents by any contractor, subcontractor, erector, fabricator, or material supplier in lieu of preparation of shop drawings signifies their acceptance of all information shown herein as correct, and obligates themselves to any job expense, real or implied, arising due to any errors that may occur herein.

IV. MISCELLANEOUS

A. CONTRACT DOCUMENTS

1. It is the responsibility of the Contractor to obtain all Contract Documents and latest addenda and submit such documents to all subcontractors and material suppliers prior to the submittal of shop drawings, fabrication of any structural members, and erection in the field.

2. The contract drawings and specifications represent the finished structure, and, except where specifically shown, do not indicate the method or means of construction. The Contractor shall supervise and direct the work and shall be solely responsible for all construction means, methods, procedures, techniques, and sequence.

3. If certain features are not fully shown or specified on the drawings or in the specifications, their construction shall be of the same character as shown or specified in similar conditions.

B. CONFLICTS IN REQUIREMENTS

1. Where conflict exists among the various parts of the contract documents, drawings, general notes, and specifications, the strictest requirements, as indicated by the Engineer, shall govern.

C. EXISTING CONDITIONS

1. The Contractor shall verify all dimensions and conditions of the existing building at the job site and report any discrepancies from assumed conditions shown on the drawings to Engineer prior to the fabrication and erection of any members. Existing dimensions shown on the drawings are for general reference only and should not be used for final construction or detailing.

2. Existing construction shown on the drawings was obtained from existing construction documents and limited site observation. These drawings of existing construction are available for contractor use and shall be referenced for familiarization with existing conditions. However, the available drawings of existing construction are not necessarily complete. The Contractor shall field verify all pertinent information.

3. Demolition, cutting, drilling, etc. of existing work shall be performed with great care so as not to jeopardize the structural integrity of the existing building. If any architectural, structural, or MEP members not designated for removal are located or affected, the Contractor shall fully coordinate and incorporate the necessary design work, required construction methods, and allow the necessary work to be executed in a safe and legal manner.
interfere with the new work, the Owner shall be notified immediately and approval obtained prior to removal of those members.

4. The contractor shall verify the location of existing utilities prior to the start of construction and take care to protect utilities that are to remain in service.

5. The contractor shall provide dust, odor, and noise protection, and safety measures as necessary for the duration of construction. Provide all measures necessary to protect the existing structure, building interior, vehicles, facility patrons, and other persons during construction.

6. The contractor shall repair all damage caused during construction with similar materials and workmanship to restore conditions to levels acceptable to the Owner.

D. STUCCO WALL SYSTEM MANUFACTURER REPRESENTATION

1. The Contractor shall engage representatives of the stucco wall system manufacturer to be on-site during the early stages of work. Stucco wall system manufacturer's representatives shall be present at the pre-construction meeting, during tear-off of the existing stucco wall system, and at other phases of the project.

E. RESPONSIBILITY OF THE CONTRACTOR FOR STABILITY OF THE STRUCTURE DURING CONSTRUCTION

1. It is the responsibility of the Contractor to maintain the stability and safety of all structural elements adjacent to repair areas.

F. CONTRACTOR SUBSTITUTIONS

1. Any materials or products submitted for approval that are different from the material or products specified in the structural contract documents will be considered for approval only if the following criteria are satisfied:
   a. A cost savings to the Owner is documented and submitted with the request.
   b. The material or product has been approved by the International Code Council (ICC) and the ICC report is submitted with the request.
      1) The ICC ESR that is submitted must reference the building code under which the project is permitted.
      2) ICC reports that have been discontinued at the time of product installation will not be accepted.
   2. Submittals not satisfying the above criteria will not be considered.

G. THE ENGINEER'S ROLE DURING CONSTRUCTION

1. The Engineer shall not have control nor charge of, and shall not be responsible for, construction means, methods, techniques, sequences, or procedures, for safety precautions and programs in connection with the work, for the acts or omission of the Contractor, Subcontractor, or any other persons performing any of the work, or for the failure of any of them to carry out the work in accordance with the contract documents.

2. Periodic site observation by field representatives of Walter P. Moore and Associates is solely for the purpose of becoming generally familiar with the progress and quality of the Work completed and determining, in general, if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the contract documents. This limited site observation should not be construed as exhaustive or continuous to check the quality or quantity of the work, but rather periodic in an effort to keep the Owner reasonably informed about the process and quality of the portion of the structure completed.

H. MAINTENANCE STATEMENT

1. All structures require periodic maintenance to extend lifespan and to ensure structural integrity from exposure to the environment. A planned program of maintenance shall be established by the building owner.

V. DRAWING INTERPRETATION

A. DRAWING VIEWS LABELED AS "TYPICAL"

1. Partial plans, elevations, sections, details, or schedules labeled with "Typical" at the beginning of their title shall apply to all situations occurring on the project that are the same or similar to those specifically shown. The applicability of the content of these views to locations on the plan can be determined from the title of the views. Such views shall apply whether or not they are keyed in at each location. Decisions regarding applicability of these "Typical" views shall be determined by the Engineer.
NOTE: 1. PEDESTRIAN OR VEHICULAR TRAFFIC IN THIS AREA MAY BE AFFECTED BY THE WORK FROM THIS PROJECT.
EXISTING STUCCO WALL ASSEMBLY TO BE REMOVED AND REPLACED WITH NEW STUCCO WALL ASSEMBLY. REVEALS TO BE REUSED OR REPLACED TO MATCH EXISTING.

EXISTING STUCCO WALL ASSEMBLY TO BE REMOVED AND REPLACED WITH NEW STUCCO WALL ASSEMBLY. REVEALS TO BE REUSED OR REPLACED TO MATCH EXISTING.

SEAL ALL PENETRATIONS, TYP. REF. 1/S3.3

SALVAGE ALL SIGNS FOR RE-USE, TYP

SALVAGE SIGN LETTERS FOR RE-USE, TYP

1 WEST ELEVATION
NO SCALE

2 WEST ELEVATION
NO SCALE
1. NORTH ELEVATION
   NO SCALE

2. PARTIAL NORTH ELEVATION
   NO SCALE

INSTALL NEW ELASTOMERIC COATING AND NEW COVE SEALANT AT WALL TO SLAB TRANSITION. SEE DETAIL 1/S3.2.

NEW ELASTOMERIC COATING. SEE DETAIL 1/S3.2.

TYP. STUCCO PANEL HEIGHT 2'-5" FV

1/30/2018       ISSUED FOR CONSTRUCTION

PROJECT NAME

UTHSC-UTPB FACADE STORM MITIGATION

SYMBOL SET

1/30/2018
EXISTING STUCCO WALL ASSEMBLY TO BE REMOVED AND REPLACED WITH NEW STUCCO WALL ASSEMBLY. REVEALS TO BE REUSED OR REPLACED TO MATCH EXISTING.

NEW ELASTOMERIC COATING. SEE DETAIL 1/S3.2

PARTIAL NORTH ELEVATION
NO SCALE

PARTIAL WEST ELEVATION
NO SCALE

REFER TO DETAIL 1/S3.3 FOR SIMILAR WATERPROOFING DETAILING AT PENETRATION

REFER TO DETAIL 1/S3.3 FOR SIMILAR WATERPROOFING DETAILING AT PENETRATION
1. **Typical Top of Wall Detail**
   - No Scale
   - Self-adhered WRB. Clean and prime surface and install to greatest extent possible under existing flashing.
   - Existing flashing to remain.
   - New batt insulation.
   - New plywood sheathing to match thickness of existing.
   - Two layers building paper, lath, and stucco.

2. **Typical Base of Wall Detail**
   - No Scale
   - Interior sheathing do not disturb.
   - Self-adhered WRB extend onto concrete slab.
   - Weep screed.
   - S.S. flashing bed in sealant.
   - Lap WRB over flashing & mechanical fasteners.
   - Cove sealant.
   - Existing conc.

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**Sequences and Details**

**S3.0**
1. TYPICAL CORNER DETAIL
   NO SCALE

2. BRAKE METAL REPLACEMENT SECTION
   NO SCALE
NOTES:
1. REMOVE EXISTING JOINT SEALANT AND BACKER ROD MATERIAL IF PRESENT.
2. CLEAN ALL SURFACES WITHIN JOINT BEFORE FILLING WITH SEALANT SUCH THAT THERE ARE NO OLD RESIDUAL MATERIALS, DUST, OR CONTAMINANTS ON THE INSIDE SURFACES OF THE JOINT.
3. INSTALL BOND BREAKER AND/OR BACKER ROD TO A UNIFORM DEPTH. INSTALLATION OF WAVY OR NON-UNIFORM BON BREAKER/BACKER ROD WILL NOT BE ACCEPTABLE.
4. DO NOT OVERFILL THE JOINT.
5. REFER TO SPECIFICATIONS FOR SEALANT TYPE AND OTHER REQUIREMENTS.
6. TOOL JOINT CONCAVE.
**NOTES:**

1. ALL EXISTING PENETRATIONS TO BE PROTECTED DURING DEMOLITION AND REPLACEMENT OF STUCCO.
2. SALVAGE ALL EXTERIOR FIXTURES AND FACEPLATES FOR REINSTALLATION.
3. COORDINATION TEMPORARY SUSPENSION OF SERVICE, IF APPLICABLE, WITH OWNER.
4. DEFER TO SHEET WATERPROOFING MANUFACTURER'S TYPICAL DETAILS AND PRODUCTS FOR PENETRATION WATERPROOFING.
5. PRIMARY SEALANT TO BE INSTALLED AROUND PENETRATION DIRECTLY TO WATERPROOFING MEMBRANE.
6. INSTALL STUCCO ASSEMBLY TO WITHIN 1/2-INCH OF ALL PENETRATIONS, LEAVING GAP TO BE FILLED WITH SEALANT AND BACKER ROD OR OTHER APPROPRIATE BOND BREAKER.
7. REINSTALL FACEPLATES AS APPROPRIATE.
TECHNICAL SPECIFICATIONS AND DRAWINGS

FOR

UTHSC
UTPB (FAÇADE) STORM MITIGATION
HOUSTON, TEXAS

WALTER P. MOORE AND ASSOCIATES, INC.

1301 McKinney, Suite 1100
Houston, Texas 77010
713-630-7300

M03.17062.01
PROJECT: UTHSC
UTHSC
UTPB (façade) STORM MITIGATION
6414 Fannin St
HOUSTON, TEXAS

PROJECT NUMBER: Walter P Moore Project No. M03.17062.01

1301 McKinney, Suite 1100
Houston, Texas 77010
Phone: 713-630-7300
Fax: 713-630-7396

Project Manager
Rick Miles, PE
Walter P. Moore and Associates, Inc.
Phone: 713-630-7414

END OF SECTION 00 01 05
I HEREBY CERTIFY THAT THESE PLANS AND TECHNICAL SPECIFICATIONS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF TEXAS.

______________________________
Rick Miles, P.E. TXPE 100235
Walter P. Moore and Associate, Inc
TBRE Firm No. 1856

END OF SECTION 00 01 07
SECTION 00 01 10 – TABLE OF CONTENTS

SPECIFICATIONS

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS
   Section 00 01 05 – Title/Certification Page
   Section 00 01 07 – Seals Page
   Section 00 01 10 – Table of Contents

DIVISION 01 - GENERAL REQUIREMENTS
   Section 01 10 00 – Task Items

DIVISION 05 – STEEL
   Section 05 01 10 – Steel Field Re-Coating

DIVISION 07 – THERMAL AND MOISTURE PROTECTION
   Section 07 13 10 – Self-Adhering Sheet Waterproofing

DIVISION 09 – FINISHES
   Section 09 24 23 – Cement Stucco
   Section 09 96 30 – Elastomeric Coatings

END OF SECTION 00 01 10
SECTION 00 10 15 - TASK ITEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General Conditions and Division-1 Specification sections, apply to work of this section.

1.2 TASK ITEM (T.I.) DESCRIPTION

T.I. 1.1 PROJECT MOBILIZATION

A. Scope of Work

1. Work consists of coordinating, scheduling, obtaining and assembling at construction site all equipment, materials, permits, supplies, manpower and other essentials and incidentals necessary to perform Work defined in this Contract.

T.I. 1.2 STUCCO WALL REPAIR

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, staging, bracing, and incidentals necessary to remove existing exterior sheathing, waterproofing, lath and stucco finishes and repair/replace cold formed metal framing, install unfaced batt insulation, install new exterior sheathing, waterproofing, lath and stucco finishes. Refer to Detail Sheets S3.0, S3.1 and S3.3 for specific requirements. Refer to Plan and Elevation Sheets for location of work.

2. THE INTENT OF THIS SCOPE OF WORK IS TO MATCH THE EXISTING APPEARANCE TO THE FULLEST EXTENT POSSIBLE. STUCCO TEXTURE, PANEL DIMENSIONS AND SPACING, ALL SIGNAGE AND PENETRATIONS SHALL BE SALVAGED AND REINSTALLED AT EXISTING LOCATION UNLESS OTHERWISE COORDINATED WITH OWNER. REVEAL SCREEDS TO BE REUSED OR REPLACED TO MATCH EXISTING AS REQUIRED.

3. Locate potential electrical service systems behind exterior sheathing by surveying interior areas prior to commencement of work. Use extreme caution to protect these systems during demolition and coordinate all access and demolition with owner.

B. Materials

1. Materials for repairs shall be as specified in Sections “Cement Stucco”, “Self-Adhering Sheet Waterproofing.”, and “Steel Field Recoating”.

C. Execution
1. Contractor shall locate and mark all work areas before starting the work. Contractor shall survey interior side to identify components that may be located within the wall assembly.

2. Contractor shall remove break metal trim attached to garage screen and salvage the break metal trim for possible reuse. Contractor shall remove the existing signage on the wall for reuse.

3. Demolish existing exterior stucco plaster.

4. Contractor shall demolish exterior sheathing to the extent that new insulation and new exterior sheathing can be installed on the same day.

5. Clean existing cold formed metal framing and apply corrosion protection to existing cold formed metal framing by stiff-bristle brush or broom at 80 ft²/gal. (20 mils). Take special care to properly coat the underside of the totally exposed steel. Allow coating to dry 2-3 hours at 73°F, then apply a second coat at the same coverage.

6. Install new batt insulation between cold formed steel framing.

7. Install new exterior fire rated plywood sheathing per Section “Cement Stucco”.

8. Install self-adhering weather resistive barrier per Section “Self-Adhering Sheet Waterproofing”.

9. Engineer to field review installation of weather resistive barrier prior to installing building paper, lath and stucco finishes.

10. Contractor shall install base trim, weep screed, building paper, stucco reveals, lath, and plaster in conformance with manufacturer’s requirement. Contractor shall install 2 part stucco to match the texture and color of existing stucco finishes.

T.I. 1.3 ELASTOMERIC COATING APPLICATION

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, staging, bracing, and incidentals necessary to locate work area of applying new elastomeric coating and new cove sealant. Refer to Detail Sheet 3.2 for specific requirements. Refer to Plan and Elevation Sheets for location of work.

B. Materials

1. Materials for repairs shall be as specified in Section “Elastomeric Coating.” Color shall be selected to generally match existing stucco. Provide mockup panel for owner’s acceptance.

C. Execution

1. Contractor shall locate the area to receive elastomeric coating as specified in Plan and Elevation Sheets.
2. Surface of stucco to receive elastomeric coating shall be cleaned as directed by manufacturer.

3. Remove existing cove sealants at the base of wall at the work areas.

4. Install new elastomeric coating in conformance with the requirement specified in Section “Elastomeric Coating” and per manufacturer’s requirement.

5. Install new cove sealant per the requirements specified in Detail Sheet 3.2.

END OF SECTION 00 10 15
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. Furnish all labor, materials, services, equipment and appliances required in conjunction with or related to the remedial coating of cold formed steel stud framing.

1.3 QUALITY ASSURANCE

The Contractor is responsible for quality control, including workmanship and materials furnished by his subcontractors and suppliers.

A. Codes and Standards: Comply with provisions of following, except as otherwise indicated. Certain sections in this specification contain requirements that are more restrictive and/or different than contained in the standards listed. In such cases, the requirements of this specification shall control.


1.4 SUBMITTALS

A. Product Data: Submit producer's or manufacturer's specifications and installation instructions for following products; include laboratory test reports and other data to show compliance with specifications (including the specified standards):

1. Structural steel protective paint system, including primer, intermediate, and finish products.

B. Qualification Data:

1. Submit qualification data for firms and persons specified in Article 1.04 “Qualifications” to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of engineers and owners, and other information specified.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to site at such intervals to ensure uninterrupted progress of work.
B. Furnish all fuel, maintenance, and equipment required for hoisting and placement of materials under this contract.

PART 2 - PRODUCTS

2.1 PRODUCTS, MANUFACTURERS, AND SUBSTITUTIONS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products specified.
2. Products: Subject to compliance with requirements, provide one of the products specified.

B. Substitutions: Where specific products or services are specified, Contractor may request a substitution to be reviewed and approved or rejected by Owner and Engineer, following the procedures outlined in Section “Product Substitution Procedures”.

2.2 MATERIALS

A. Cold formed steel framing

1. Approved Products:
   a. ICI Devoe Coatings, www.devoecoatings.com
      Primer Coat: Pre-Prime 167
      Primer Coat: Macropoxy 920 Pre-Prime
   c. Tnemec, www.tnemec.com
      Primer Coat: Series 27 F. C. Typoxy Polyamide Epoxy

2.3 SURFACE PREPARATION

A. Specification: Surface preparation, paint, and painting practices shall conform to the "Steel Structures Painting Manual", Volumes 1 and 2, as published by the Society for Protective Coatings (formerly the Steel Structures Painting Council (SSPC)).

B. Surface Preparation and Coating Coordination:
1. Surface Preparation: To the minimum standards as recommended by primer manufacturer. Remove all loose rust scale.

2. Obtain engineers field review of severely corroded framing. Select locations may require replacement with metal studs to match existing.

PART 3 - EXECUTION

3.1 APPLICATION

A. Steel Field Re-coating:

1. Steel surfaces to be coated shall be clean, i.e. devoid of grease, oil, mill scale, oxidation, loosely adherent rust, paint, etc.

2. Clean steel surfaces as specified above.

3. Mix different coatings per manufacturer’s directions.

4. Use air spray, 1/4-inch synthetic woven nap rollers, or high quality natural bristle brushes to apply coatings.

5. Prepare surfaces and apply specified primer paint. Apply coating by brush or spray at sufficient wet film thickness to achieve a minimum dry film build as given above, using manufacturer’s recoat time directions.

B. Clean Up: Clean up all debris caused by the Work of this Section, keeping the premises neat and clean at all times.

END OF SECTION 05 01 10
SECTION 07 13 10 - SELF-ADHERING SHEET WATERPROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. Rubberized-asphalt sheet waterproofing.

1.3 PERFORMANCE REQUIREMENTS

A. Provide waterproofing that prevents the passage of water.

1.4 SUBMITTALS

A. Product Data: Include manufacturer's written instructions for evaluating, preparing, and treating substrate, technical data, and tested physical and performance properties of waterproofing.

B. Shop Drawings: Show locations and extent of waterproofing. Include details for substrate joints and cracks, sheet flashings, penetrations, inside and outside corners, tie-ins with adjoining waterproofing, and other termination conditions.
   1. Include Setting Drawings showing layout, sizes, sections, profiles, and joint details of concrete pavers with paver support assemblies.

C. Samples: For the following products:
   1. 12-by-12-inch square of waterproofing and flashing sheet.

D. Installer Certificates: Signed by manufacturers certifying that installers comply with requirements.

E. Product Test Reports: From a qualified independent testing agency indicating and interpreting test results of waterproofing for compliance with requirements, based on comprehensive testing of current waterproofing formulations.

F. Sample Warranty: Copy of special waterproofing manufacturer's and installer's warranty stating obligations, remedies, limitations, and exclusions before starting waterproofing.
1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who is acceptable to waterproofing manufacturer to install manufacturer's products.

B. Source Limitations: Obtain waterproofing materials through one source from a single manufacturer.

C. Mockups: Apply waterproofing to 100 sq. ft. of wall to demonstrate surface preparation, crack and joint treatment, corner treatment, and execution quality.

1. If Engineer determines mockups do not comply with requirements, reapply waterproofing until mockups are approved.
2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

D. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination." Review requirements for waterproofing, including surface preparation specified under other Sections, substrate condition and pretreatment, minimum curing period, forecasted weather conditions, special details and sheet flashings, installation procedures, testing and inspection procedures, and protection and repairs.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver liquid materials to Project site in original packages with seals unbroken, labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged packages in a clean, dry, protected location and within temperature range required by waterproofing manufacturer.

C. Remove and replace liquid materials that cannot be applied within their stated shelf life.

D. Store rolls according to manufacturer's written instructions.

E. Protect stored materials from direct sunlight.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Apply waterproofing within the range of ambient and substrate temperatures recommended by waterproofing manufacturer. Do not apply waterproofing to a damp or wet substrate.

1. Do not apply waterproofing in snow, rain, fog, or mist.

B. Maintain adequate ventilation during preparation and application of waterproofing materials.
1.8 WARRANTY

A. Special Manufacturer's Warranty: Written warranty, signed by waterproofing manufacturer agreeing to replace waterproofing material that does not comply with requirements or that does not remain watertight during specified warranty period.

1. WARRANTY does not include failure of waterproofing due to failure of substrate prepared and treated according to requirements or formation of new joints and cracks in substrate exceeding 1/16 inch in width.

2. Warranty Period: Three years after date of Substantial Completion.

B. Special Installer's Warranty: Written waterproofing Installer's warranty signed by Installer, covering Work of this Section, for warranty period of two years.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

1. Rubberized-Asphalt Sheet Waterproofing:
   b. American Permaquik Inc.; PQ 7100.
   c. Carlisle Corporation, Carlisle Coatings & Waterproofing Div.; CCW 701.
   d. Cetco; Envirosheet.
   e. W. R. Grace & Co.; Bituthene.
   g. T. C. Miradri; Miradri.
   h. Monsey Bakor; Elasto-Seal 2000.
   i. Pecora Corporation; Duramem 700-SM.
   j. Polyguard Products, Inc.; Polyguard 650.
   k. Progress Unlimited, Inc.; Plastiwrap 60.
   l. Tamko Roofing Products, Inc.; TW-60.

2.2 RUBBERIZED-ASPHALT SHEET WATERPROOFING

A. Rubberized-Asphalt Sheet: 60-mil thick, self-adhering sheet consisting of 56 mils of rubberized asphalt laminated to a 4-mil thick, polyethylene film with release liner on adhesive side and formulated for application with primer or surface conditioner that complies with VOC limits of authorities having jurisdiction.

1. Physical Properties: As follows, measured per standard test methods referenced:
   a. Tensile Strength: 250 psi minimum; ASTM D 412, Die C, modified.
b. Ultimate Elongation: 300 percent minimum; ASTM D 412, Die C, modified.
d. Crack Cycling: Unaffected after 100 cycles of 1/8-inch movement; ASTM C 836.
e. Puncture Resistance: 40 lbf minimum; ASTM E 154.
f. Hydrostatic-Head Resistance: 150 feet minimum; ASTM D 5385.
g. Water Absorption: 0.15 percent weight-gain maximum after 48-hour immersion at 70 deg F; ASTM D 570.
h. Vapor Permeance: 0.05 perms; ASTM E 96, Water Method.

2.3 AUXILIARY MATERIALS

A. General: Furnish auxiliary materials recommended by waterproofing manufacturer for intended use and compatible with sheet waterproofing.

1. Furnish liquid-type auxiliary materials that comply with VOC limits of authorities having jurisdiction.

B. Primer: Liquid solvent-borne primer recommended for substrate by manufacturer of sheet waterproofing material.

C. Surface Conditioner: Liquid, waterborne surface conditioner recommended for substrate by manufacturer of sheet waterproofing material.

D. Sheet Strips: Self-adhering, rubberized-asphalt composite sheet strips of same material and thickness as sheet waterproofing.

E. Liquid Membrane: Elastomeric, two-component liquid, cold fluid applied, trowel grade or low viscosity.

F. Substrate Patching Membrane: Low-viscosity, two-component, asphalt-modified coating.

G. Mastic, Adhesives, and Tape: Liquid mastic and adhesives, and adhesive tapes recommended by waterproofing manufacturer.

H. Metal Termination Bars: Aluminum bars, approximately 1 by 1/8 inch thick, predrilled at 9-inch centers.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance.

1. Verify that concrete is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
2. Verify that compacted subgrade is dry, smooth, and sound; ready to receive HDPE sheet.
3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SURFACE PREPARATION

A. Clean, prepare, and treat substrates according to manufacturer's written instructions. Provide clean, dust-free, and dry substrates for waterproofing application.

B. Mask off adjoining surfaces not receiving waterproofing to prevent spillage and overspray affecting other construction.

C. Remove grease, oil, bitumen, form-release agents, paints, curing compounds, and other penetrating contaminants or film-forming coatings from concrete.

D. Remove fins, ridges, mortar, and other projections and fill honeycomb, aggregate pockets, holes, and other voids.

E. Prepare, fill, prime, and treat joints and cracks in substrates. Remove dust and dirt from joints and cracks according to ASTM D 4258.

1. Install sheet strips and center over treated construction and contraction joints and cracks exceeding a width of 1/16 inch.

F. Corners: Prepare, prime, and treat inside and outside corners according to ASTM D 6135.

1. Install membrane strips centered over vertical inside corners. Install 3/4-inch fillets of liquid membrane on horizontal inside corners and as follows:

   a. At footing-to-wall intersections, extend liquid membrane each direction from corner or install membrane strip centered over corner.
   b. At plaza deck-to-wall intersections, extend liquid membrane or sheet strips onto deck waterproofing and to finished height of sheet flashing.

G. Prepare, treat, and seal vertical and horizontal surfaces at terminations and penetrations through waterproofing and at drains and protrusions according to ASTM D 6135.

3.3 RUBBERIZED-ASPHALT SHEET APPLICATION

A. Install self-adhering sheets according to waterproofing manufacturer's written instructions and recommendations in ASTM D 6135.

B. Apply primer to substrates at required rate and allow to dry. Limit priming to areas that will be covered by sheet waterproofing in same day. Reprime areas exposed for more than 24 hours.
C. Apply and firmly adhere sheets over area to receive waterproofing. Accurately align sheets and maintain uniform 2-1/2-inch minimum lap widths and end laps. Overlap and seal seams and stagger end laps to ensure watertight installation.

1. When ambient and substrate temperatures range between 25 and 40 deg F, install self-adhering, rubberized-asphalt sheets produced for low-temperature application. Do not use low-temperature sheets if ambient or substrate temperature is higher than 60 deg F.

D. Apply continuous sheets over sheet strips bridging substrate cracks, construction, and contraction joints.

E. Seal exposed edges of sheets at terminations not concealed by metal counterflashings or ending in reglets with mastic or sealant.

F. Install sheet waterproofing and auxiliary materials to tie into adjacent waterproofing.

G. Repair tears, voids, and lapped seams in waterproofing not complying with requirements. Slit and flatten fishmouths and blisters. Patch with sheets extending 6 inches beyond repaired areas in all directions.

H. Correct deficiencies in or remove sheet waterproofing that does not comply with requirements, repair substrates, reapply waterproofing, and repair sheet flashings.

3.4 PROTECTION AND CLEANING

A. Protect waterproofing from damage and wear during remainder of construction period.

B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 07 13 10
SECTION 09 24 23 – CEMENT STUCCO

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

A. This Section includes all the equipment, materials and labor necessary to complete a stucco system, as indicated in the project documents.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.
   1. Product literature and Mixes.
   2. Shop Drawings: Show locations and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other work.
   3. Samples for Initial Selection: For each type of factory-prepared finish coat.
   4. Samples for Verification: For each type of colored and textured finish coat indicated; 36 by 36 and prepared on rigid backing, for owner approval.

1.4 QUALITY ASSURANCE

A. Preinstallation meeting shall be held prior to start of any stucco work. This meeting shall be attended by the general contractor, stucco contractor, owner's representative and the engineer/consultant.

B. The stucco contractor shall have qualified and properly trained workmen to perform the work of the project and who specialize in this type of work. He shall be in good financial standing and capable of meeting the financial obligations associated with the extent and scope of the work. The contractor shall have the manpower and resources available to meet the schedule requirements set a time of the bid. The contractor shall be licensed, bonded and insured.

C. Mockups: Before plastering, install mockups of at least 100 sq. ft. (9 sq. m) in surface area to demonstrate aesthetic effects and set quality standards for materials and execution.
   1. Install mockups for each type of finish indicated.
2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

D. DELIVERY, STORAGE, AND HANDLING

1. Store materials inside in a dry location, under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes.

2. Stack plaster bags on planks or platforms away from damp floors and walls.

3. Protect casing beads, metal corner beads and trim from being bent and damaged. No damaged accessory shall be incorporated in the work.

4. All materials used on the job shall remain in their original wrappings or containers until used.

5. The stucco contractor shall provide a suitable site for delivery, storage and handling of materials. There will be no interior storage provided by or made available by the facility.

1.5 PROJECT CONDITIONS

A. Comply with ASTM C 926 requirements.

B. Exterior Plasterwork:

1. Apply and cure plaster to prevent plaster drying out during curing period. Use procedures required by climatic conditions, including moist curing, providing coverings, and providing barriers to deflect sunlight and wind.

2. Apply plaster when ambient temperature is greater than 40 deg F (4.4 deg C).

3. Do not apply cement plaster to any frozen surfaces or surfaces containing frost.

4. Protect plaster coats from freezing for not less than 48 hours after set of plaster coat has occurred.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.

2.2 NONSTRUCTURAL STEEL FRAMING MEMBERS, GENERAL

A. Available Manufacturers:
1. Manufacturers:
   a. Clark Steel Framing Systems.
   b. Consolidated Systems, Inc.
   c. Dale/Incor.
   d. Marino/Ware; Division of Ware Industries, Inc.
   e. Phillips Manufacturing Co.
   f. SCAFCO Corporation.


3. Cold-Rolled Channels 1-1/2”:
   Base metal thickness of 0.0538 inch (1.37 mm) with
   ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized zinc coating.

4. Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, not less than 0.0475-
   inch (1.21-mm) diameter, unless otherwise indicated.

2.3 FASTENERS

A. General

1. All fasteners shall be corrosion-resistant and new

2. Steel Drill Screws: For metal-to-metal fastening, ASTM C 1002 or ASTM C 954, as
   required by thickness of metal being fastened; with pan head that is suitable for
   application; in lengths required to achieve penetration through joined materials of not
   fewer than three exposed threads.

3. Fasteners for Attaching Metal Lath to Substrates: Complying with ASTM C 1063.


5. Power driven fasteners – per building code approval

2.4 SHEATHING

A. General

1. Acceptable substrates are Plywood complying with US DOC PS 1-95.

2. All plywood materials proposed as exterior sheathing shall be fire-retardant-treated
   material in accordance with Section IBC 2012 603.1.

3. The applicator shall verify that the proposed substrate is acceptable prior to the Stucco
   System installation.
2.5  METAL LATH


1.  Manufacturers:

   a.  Alabama Metal Industries Corporation (AMICO).

   b.  California Expanded Metal Products Company (CEMCO).

   c.  Dale/Incor.

   d.  Marino/Ware; Division of Ware Industries, Inc.

   e.  Phillips Manufacturing Co.

   f.  Unimast, Inc.

   g.  Diamond-Mesh Lath Self-furring

2.  Weight:  3.4 lb/sq. yd.

3.  Paper Backing:  FS UU-B-790, Type I Grade B, Style 1a vapor-retardant

2.6  ACCESSORIES

A.  General:  Comply with ASTM C 1063 and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.

1.  Zinc and Zinc-Coated (Galvanized) Accessories:

   a.  Manufacturers:

   b.  Alabama Metal Industries Corporation (AMICO).

   c.  California Expanded Metal Products Company (CEMCO).

   d.  Dale/Incor.

   e.  Dietrich Industries, Inc.

   f.  Phillips Manufacturing Co.

   g.  Unimast, Inc.

2.  A secondary weather barrier must be installed over sheathed substrates and wrapped into rough openings prior to stucco installation.  Suitable barriers include minimum grade D building paper complying with federal specifications UU-B-790a or asphalt-saturated rag felt complying with UP standard number 55-A.  One layer of Grade D 60 minute paper with one layer of EPS or extruded polystyrene with tongue and groove edges or two layers of Grade E 60 minute paper are required by UBC for wood-based sheathings.

7. Small nose corner bead with expanded flanges reinforced by perforated stiffening rib; use finishing masonry corners.
8. Casing Beads: Fabricated from zinc-coated (galvanized) steel; square-edged style; with expanded flanges.
9. Control Joints: Fabricated from zinc-coated (galvanized) steel; two-piece-type, folded pair of unperforated screeds in a slip configuration; with perforated flanges and removable protective tape on plaster face of control joint.
10. Two-Piece Expansion Joints: Fabricated from zinc-coated (galvanized) steel; formed to produce slip-joint and square-edged reveal that is adjustable from 1/4-to-5/8-inch wide; with perforated flanges.

2.7 MISCELLANEOUS MATERIALS

A. General:
1. Water for Mixing: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.
2. Fiber for Base Coat: Alkaline-resistant glass or polypropylene fibers, 1/2 inch (13 mm) long, free of contaminants, manufactured for use in Portland cement plaster.

2.8 PLASTER MATERIALS

A. General:
1. Portland Cement: ASTM C 150, Type I
2. Color for Finish Coats: chosen by owner to match existing
3. Masonry Cement: ASTM C 91, Type N.
4. Color for Finish Coats: To Be Determined, as approved by owner, ASTM C979.
5. Colorants for Job-Mixed Finish-Coats: Colorfast mineral pigments that produce finish plaster color Lime: ASTM C 206, Type S; or ASTM C 207, Type S.
6. Sand Aggregate: ASTM C35; ASTM C 897, Natural, freshwater washed and free from deleterious materials
7. Water: Potable, clean, free from impurities.
8. Admixtures: No household type detergents or chlorides will be permitted. Use of admixtures must be approved by the engineer/consultant. Only admixtures manufactured specifically for exterior stucco will be considered. Fibers may be used in the basecoat only. Use only types manufactured especially for stucco basecoats – polypropylene, nylon or alkali resistant glass, 1/2 inch long meeting ASTM C1116.
10. Products:
   b. ChemRex; Thoro Stucco.
c. Florida Stucco Corp.;

d. Highland Stucco & Lime Products, Inc.;


11. Color:

a. Acrylic-Based Finish Coatings: Factory-mixed acrylic-emulsion coating systems, formulated with colorfast mineral pigments and fine aggregates; for use over Portland cement plaster base coats. Include manufacturer's recommended primers and sealing topcoats for acrylic-based finishes.

1) Products:
   a) Bonsal, W. R. Co
   b) ChemRex, SonoWall Stucco Systems;
   c) Dryvit Systems, Inc.;
   d) Parex Incorporated;
   e) Pleko Products, Inc.;
   f) Senergy, Inc.;
   g) Sto Corp.;

2) Color: approved by owner

2.9 PLASTER MIXES

A. General: Comply with ASTM C 926 for applications indicated.

B. Fiber Content: Add fiber to base-coat mixes after ingredients have mixed at least two minutes. Comply with fiber manufacturer's written instructions for fiber quantities in mixes, but do not exceed 1 lb of fiber/cu. ft. (16 kg of fiber/cu. m) of cementitious materials. Reduce aggregate quantities accordingly to maintain workability.

C. Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork as follows:

D. Portland Cement Mixes:
   1. Scratch Coat: For cementitious material, mix 1 part Portland cement and 1/4 to 1/2 parts lime. Use 2-1/2 to 4 parts aggregate per part of cementitious material (sum of separate volumes of each component material).
   2. Brown Coat: For cementitious material, mix 1 part Portland cement and ¼ to 1/2 parts lime. Use 3 to 5 parts aggregate per part of cementitious material (sum of separate volumes of each component material).

E. Portland and Masonry Cement Mixes:
   1. Scratch Coat: For cementitious material, mix 1 part Portland cement and 1 part masonry cement. Use 3-1/2 to 4-1/2 parts aggregate per part of cementitious material (sum of separate volumes of each component material).
   2. Brown Coat: For cementitious material, mix 1 part Portland cement and 1 part masonry cement. Use 3 to 5 parts aggregate per part of cementitious material (sum of separate volumes of each component material).

F. Job-Mixed Finish-Coat Mixes:
1. Portland Cement Mix: For cementitious materials, mix 1 part Portland cement and 1 to 1-1/2 parts lime. Use 1-1/2 to 3 parts aggregate per part of cementitious material (sum of separate volumes of each component material).

2. Portland and Masonry Cement Mix: For cementitious materials, mix 1 part Portland cement and 1 part masonry cement. Use 1-1/2 to 3 parts aggregate per part of cementitious material (sum of separate volumes of each component material).

G. Factory-Prepared Finish-Coat Mixes: For ready-mixed finish-coat plasters, comply with manufacturer’s written instructions.

**PART 3 - EXECUTION**

3.1 EXAMINATION

A. Examine areas and substrates for compliance with requirements and other conditions affecting performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Verify flashing is present at all openings and is installed correctly before beginning installation.

B. Protect adjacent work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.

C. Prepare solid-plaster bases that are smooth or that do not have the suction capability required to bond with plaster according to ASTM C 926.

3.3 INSTALLATION, GENERAL

A. INSTALLING SHEATHING

1. Exterior sheathing boards to be installed per the manufacturer’s recommendations and building code requirements.

2. Sheathing boards shall have a firm and continuous contact with the framing members (no gaps).

3. Exterior grade plywood shall be installed with a minimum of 1/8 inch gap along all panel edges and ends.

4. Stucco is classified as a brittle exterior cladding, meaning it is not flexible. The substrate must be rigid and provide a deflection of less than L/360.

B. INSTALLING BARRIER

1. Install self-adhered membrane waterproofing

2. Install two layers of water-resistant barrier as part of the stucco assembly.

3. All flashing and water-resistant barriers shall be installed in such a manner as to prevent moisture from entering at all edges.
4. Do not damage, in any way, the water-resistant barrier during installation. If damage, occurs, repair before starting the trim and lathing work and/or completely replace the barrier.

5. The barrier shall be installed in “shingle-fashion” so that natural direction of water flow would be over and onto the next sheet. Install long dimension horizontal to framing. Barrier sheets shall have horizontal laps of 3 inches minimum. Vertical laps shall be 12 inches minimum.

C. INSTALLING METAL LATH
   1. Expanded-Metal Lath: Install according to ASTM C 1063.
   2. Attach lath to substrate with long dimension of the sheets or rolls horizontal (perpendicular) to framing members. Apply lath taut.
   3. Bend lath and continue around corners to next framing member and/or corner reinforcement.
   4. Fasteners shall be placed in the crotch of the trim accessory flange and and/or the crotch of the lath.
   5. The same fasteners can be used as a combination attachment for trim accessories and lath.
   6. Attachment of lath should be at furring points.
   7. All fasteners shall penetrate into steel framing members.
   8. Fasteners to be centered on flange (ends) or framing member. Install fastener a minimum of 3/8 inch from edge.

D. INSTALLING ACCESSORIES
   1. Install according to ASTM C 1063 and at locations indicated on Drawings.
   2. It is recommended that trim accessory joints be weather-sealed by embedment in caulk or at intersections when placed end-to-end and at terminations.
   3. Install vertical joints continuously and to abut horizontal joints to vertical ensuring that water-resistant barrier runs continuously behind joints.
   4. Install longest possible lengths. No termination of a section within 24 inches of an intersection, with the exception of pre-manufactured trim accessory joint intersections.
   5. Install expansion joints by breaking the lath and lapping it over on top of each flange. Joints shall be installed at framing member locations.
   6. Reinforcement for External Corners:
      a. Install lath-type external-corner reinforcement at exterior locations.
      b. Install cornerbead at exterior locations.
      c. Control Joints: Install control joints as required to delineate plasterwork into areas (panels) as shown on elevations and following these maximum sizes:
         1) Vertical Surfaces: 144 sq. ft.
         2) Horizontal and other Non-vertical Surfaces: 100 sq. ft.
         3) At distances between control joints of not greater than 9 feet o.c.
         4) As required to delineate plasterwork into areas (panels) with length-to-width ratios of not greater than 2-1/2:1.
         5) Where control joints occur in surface of construction directly behind plaster.
         6) Where plasterwork areas change dimensions, to delineate rectangular-shaped areas (panels) and to relieve the stress that occurs at the corner formed by the dimension change.
3.4 PLASTER APPLICATION

A. General: Comply with ASTM C 926. Do not deviate more than plus or minus 1/4 inch in 10 feet (6.4 mm in 3 m) from a true plane in finished plaster surfaces, as measured by a 10-foot (3-m) straightedge placed on surface.

B. Each plaster coat shall be applied to an entire wall without interruption to avoid cold joints and abrupt changes in the uniform appearance of succeeding coats. Wet plaster shall abut set plaster at naturally occurring interruptions in the plane of the plaster, such as corner angles, rustications, openings and control joints where this is possible. Joinings, where necessary, shall be cut square and straight and not less than 6 inches away from a joining or preceding coat.

C. The first or scratch coat shall be applied with sufficient material and pressure to form full keys through, and to embed the metal base and with sufficient thickness of material over the metal to allow for scoring the surface. As soon as the scratch coat becomes firm, the entire surface shall be scored in one direction only. The vertical surfaces shall be scored horizontally. The minimum depth of the scratch coat shall be 5/8”.

D. The second or brown coat shall be applied after scratch coat has set to a firm hard surface, a minimum of 48 hours after installation unless manufacturer’s recommendations differ. The brown coat shall be applied with sufficient material and pressure to ensure tight contact with the first coat and to bring the combined thickness of the base coat to within 1/8” of the final thickness. The surface of the brown coat shall be brought to a true, even plane with a rod or straightedge, filling surface defects in plane with plaster. Dry rodding the surface of the brown coat shall be permitted. The surface shall be floated uniformly to promote densification of the coat and to provide a surface receptive to bonding of the finish coat.

E. The third or finish coat shall be applied with sufficient material and pressure to ensure tight contact with, and complete coverage of the base coat and to the nominal thickness of 1/8”. Water spray the basecoat to provide a uniformly damp surface. Remove loose and projecting particles from the basecoat, then apply a thin coat of finish plaster well ground into the base coat and completely covering it. Double back and apply to a uniform thickness.

F. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground, unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, cut base coat free from metal frame before plaster sets and groove finish coat at junctures with metal.

G. Finish plaster shall be a "light sand float finish”.

3.5 CUTTING AND PATCHING

A. Cut, patch, replace, and repair plaster as necessary to accommodate other work and to restore cracks, dents, and imperfections. Repair or replace work to eliminate blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.

3.6 CLEANING AND PROTECTION
A. Remove temporary protection and enclosure of other work. Promptly remove plaster from doorframes, windows, and other surfaces not indicated to be plastered. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering installation.

END OF SECTION 09 24 23
SECTION 09 96 30

ELASTOMERIC COATINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY
A. This Section includes surface preparation and application of elastomeric coatings to exterior surfaces.

1.3 DEFINITIONS
A. General: Standard coating terms defined in ASTM D 16 apply to this Section.
B. Stucco: A portland cement-based plaster used on exterior surfaces.

1.4 PERFORMANCE REQUIREMENTS
A. Provide elastomeric coatings that comply with performance requirements specified in MPI 113.

1.5 SUBMITTALS
A. Product Data: For each elastomeric coating system specified. Include crack fillers, block fillers, and primers.
   1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference the specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
   2. Manufacturer's Information: Technical information including label analysis and instructions for handling, storing, and applying each coating material.
   3. Certification by elastomeric coating manufacturer that products supplied comply with local VOC regulations.
B. Samples for Initial Selection: For each type of finish-coat material indicated.
   1. After color selection, Owner will furnish color chips indicating colors selected.
C. Qualification Data: For Applicator.

D. Material Certificates: For each elastomeric coating material, signed by manufacturers.

E. Product Test Reports: Based on evaluation of comprehensive tests by a qualified testing agency for each elastomeric coating material indicating compliance of elastomeric coatings with requirements based on comprehensive testing within the last two years of current product formulations.

1.6 QUALITY ASSURANCE

A. Applicator Qualifications: A firm or individual experienced in applying elastomeric coating systems similar in material and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.

B. Source Limitations: Obtain crack fillers, block fillers, primers and other undercoat materials from same manufacturer as finish coats.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and the following information:

1. Product name or title of material.
2. Manufacturer's stock number and date of manufacture.
3. Contents by volume, for pigment and vehicle constituents.
4. Thinning instructions (if permitted).
5. Application instructions.
6. Color name and number.
7. Handling instructions and precautions.
8. VOC content.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F. Maintain storage containers in a clean condition, free of foreign materials and residue.

1. Protect elastomeric coating materials from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily.

1.8 PROJECT CONDITIONS
Apply coatings only when temperature of surfaces to be coated and surrounding air temperatures are between 50 and 90 deg F, unless otherwise permitted by manufacturer's written instructions.

Do not apply coatings in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

1. Allow wet surfaces to dry thoroughly and attain temperature and conditions specified before starting or continuing coating operation.

1.9 WARRANTY

A. Elastomeric Coating Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace elastomeric coatings that fail within specified warranty period. Failures include, but are not limited to, water penetration through the coating.

B. Warranty Period for Elastomeric Coatings: Five years from date of Substantial Completion.

1.10 EXTRA MATERIALS

A. Furnish extra elastomeric coating materials from same production run as materials applied and in quantities described below. Package materials in unopened, factory-sealed containers for storage and identify with labels describing contents. Deliver extra materials to Owner.

1. Quantity: Furnish Owner with an additional 35 percent, but not less than 1 gal. or 1 case, as appropriate, of each color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.

B. Manufacturers Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:

1. Benjamin Moore & Co. (Benjamin Moore).

2. ICI Dulux Paint Centers, Inc. (ICI Dulux Paint).
4. PPG Industries, Inc.; Pittsburgh Paints (Pittsburgh Paints).
5. Sonneborn, Div. of ChemRex, Inc. (Sonneborn).
6. Sto Concrete Restoration; Sto Finish Systems Division (Sto).
7. Tamms Industries, Inc. (Tamms).
8. Tnemec Company, Inc. (Tnemec).

2.2 ELASTOMERIC COATING MATERIALS, GENERAL

A. Material Compatibility: Provide crack fillers, block fillers, primers, elastomeric finish-coat materials, and related materials that are compatible with one another and substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Material Quality: Provide manufacturer's best-quality elastomeric coating materials that are factory formulated, comply with requirements in FS TT-C-555, and are recommended by manufacturer for the application indicated. Material containers not displaying manufacturer's product identification are not acceptable.

1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturer's material data and certificates of performance of proposed substitutions.

2.3 CRACK FILLERS

A. Crack Fillers: Factory-formulated acrylic emulsion crack fillers compatible with substrate and finish-coat materials indicated.

1. Crack Filler for Cracks up to 1/16 Inch:
   a. ICI Dulux Paint; Decra-Flex Smooth Brush Grade Elastomeric Patching Compound.
   b. Modac; Aera Lastic Brush Grade 115-004.
   c. Pittsburgh Paints; Buttering Grade Vinyl Sealant 236-2414.
   d. Sonneborn; Hydrocide 750 Brush Grade or Knife Grade Patching Compound.
   e. Sto; Flexible Crack Filler.

2. Crack Filler for Cracks More Than 1/16 Inch:
2.4 PRIMERS

A. Stucco Primer: Factory-formulated stucco primer.
   1. Benjamin Moore; Moore's Acrylic Masonry Sealer #066: Applied at a dry film thickness of not less than 0.7 mil.
   2. ICI Dulux Paint; Aquacrylic GRIPPER 3210 Acrylic Primer: Applied at a dry film thickness of not less than 1.3 mils.
   3. Modac; Acrylic Latex Surface Conditioner 019-156: Applied at a dry film thickness of not less than 4.0 mils.
   4. Sonneborn; primer not required.
   5. Sto; Flexible Coating CR212 Thinned 1:5 with 1 Gal. of Water per Each 5 Gal. of CR212: Applied at a dry film thickness of not less than 10 mils.
   6. Tamms; H/P Primer: Applied at a dry film thickness of not less than 1.3 mils.
   7. Tnemec; Elasto-Grip Series 151: Applied at a dry film thickness of not less than 3.5 mils.

2.5 ELASTOMERIC FINISH-COAT MATERIALS

A. Smooth Elastomeric Finish: Smooth, factory-formulated, 100 percent acrylic elastomeric coating.
   1. Benjamin Moore; Moorlastic Elastomeric Waterproof Coating #055: Applied at a dry film thickness of not less than 10 mils (0.254 mm).
   2. ICI Dulux Paint; Decra-Flex 2260-XXXX Smooth Elastomeric Coating System: Applied at a dry film thickness of not less than 6.0 mils (0.15 mm).
3. Modac; Elastomeric Acrylic Coating--Smooth Texture 019-146: Applied at a dry film thickness of not less than 7.0 mils (0.18 mm).

4. Pittsburgh Paints; Pitt-Flex Exterior Masonry Coating 100 Percent Acrylic Elastomeric 4-110: Applied at a dry film thickness of not less than 5.5 mils (0.140 mm).

5. Sonneborn; Sonocoat Colorflex Waterproof Elastomeric Coating: Applied at a dry film thickness of not less than 8.0 mils (0.020 mm).

6. Sto; Flexible Coating CR212: Applied at a dry film thickness of not less than 10 mils (0.254 mm).

7. Tamms; Tammolastic Smooth Elastomeric Decorative and Protective Coating: Applied at a dry film thickness of not less than 10 mils (0.254 mm).

8. Tnemec; Enviro-Crete Series 156 Smooth: Applied at a dry film thickness of not less than 8.0 mils (0.021 mm).

B. Textured Elastomeric Finish: Textured, factory-formulated, 100 percent acrylic elastomeric coating.

1. ICI Dulux Paint; Decra-Flex 2270-XXXX Fine Finish Elastomeric Coating System: Applied at a dry film thickness of not less than 7.0 mils (0.18 mm).

2. Modac; Elastomeric Acrylic Coating--Medium Texture 019-027: Applied at a dry film thickness of not less than 7.0 mils (0.18 mm).

3. Pittsburgh Paints; Speedhide Texture Coatings 100 Percent Acrylic 4-50: Applied at a dry film thickness of not less than 6.1 mils (0.155 mm).

4. Sonneborn; Sonocoat Flextex Textured Elastomeric Coating: Applied at a dry film thickness of not less than 8.0 mils (0.020 mm).

5. Sto; Flexible Coating CR235: Applied at a dry film thickness of not less than 10 mils (0.254 mm).

6. Tamms; Tammolastic Textured Elastomeric Decorative and Protective Coating: Applied at a dry film thickness of not less than 10 mils (0.254 mm).

7. Tnemec; Enviro-Crete Series 157, Textured: Applied at a dry film thickness of not less than 9.0 mils (0.23 mm).

PART 3 - EXECUTION
3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for coating application. Comply with procedures specified in PDCA P4.

1. Proceed with coating application only after unsatisfactory conditions have been corrected and surfaces are thoroughly dry.

2. Start of coating application will be construed as Applicator's acceptance of surface conditions.

B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

1. Notify Engineer about anticipated problems when using coatings specified over substrates primed by others.

3.2 PREPARATION

A. General: Remove hardware and hardware accessories, plates, machined surfaces, light fixtures, and similar items already installed that are not to be coated. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and coating.

1. After completing coating operations, reinstall items removed, using workers skilled in trades involved.

B. Cleaning: Before applying coatings or other surface treatments, clean substrates of substances that could impair bond of coating systems. Remove oil and grease before cleaning.

1. Schedule cleaning and coating application so dust and other contaminants from cleaning process will not fall on wet, newly coated surfaces.

C. Surface Preparation: Clean and prepare surfaces to be coated according to manufacturer's written instructions for particular substrate conditions and as specified.

1. Provide barrier coats over incompatible primers or remove and reprime.

2. Cementitious Surfaces: Prepare brick, concrete, concrete unit masonry, stucco, and similar surfaces to receive elastomeric coatings. Remove efflorescence, chalk, dust, dirt, release agents, grease, oils, and similar impediments to good adhesion by water blasting followed by a clear water rinse.

a. Remove mildew and neutralize surfaces according to manufacturer's written instructions before patching materials are applied.
b. Roughen as required to remove glaze. Use abrasive blast-cleaning methods if recommended by coating manufacturer.

c. If hardeners or sealers have been used to improve concrete curing, use mechanical methods for surface preparation.

d. Determine alkalinity and moisture content of surfaces to be coated by performing appropriate tests. If surfaces are sufficiently alkaline to cause finish paint to blister and burn, correct this condition before application. Do not apply coatings over surfaces where moisture content exceeds that permitted in manufacturer's written instructions.

3. Crack Repair: Fill cracks according to manufacturer's written instructions before coating surfaces.

4. Deep Hairline Cracks: Remove dust and dirt from around cracks. Remove mildew by sterilizing before filling. Apply manufacturer's recommended primer to cracks before patching. If shrinkage occurs after applying crack filler, apply additional filler material to cracks before initial application of elastomeric coatings.

   a. Cracks up to 1/16 Inch (1.5 mm): Clean surface around cracks. Apply crack filler primer penetrating cracks as deeply as possible, overflowing crack 2 inches (50 mm) on each side. When crack filler primer is dry, apply manufacturer's recommended sealant, forced well into cracks using a brush, putty knife, or trowel. Smooth edges of primed area around cracks. Allow for sealant shrinkage when applying.

   b. Cracks up to 3/8 Inch (9.5 mm): Open cracks to 1/4 to 3/8 inch (6 to 9.5 mm) wide and 1/8 inch (3 mm) deep. Clean cracks and surrounding area removing dust, dirt, and other impurities. Apply crack filler primer recommended by manufacturer with a brush to obtain uniform coverage and spread approximately 2 inches (50 mm) on each side of cracks. Fill cracks with manufacturer's recommended crack filler applied with a putty knife or trowel, and allow for shrinkage. If excessive shrinkage occurs, reapply crack filler.

D. Material Preparation: Mix and prepare materials according to coating manufacturer's written instructions.

   1. Maintain containers used in mixing and applying elastomeric coatings in a clean condition, free of foreign materials and residue.

   2. Stir materials before application to produce a mixture of uniform density. Stir as required during application. If surface film forms, do not stir film into material. If necessary, remove film and strain coating material before using.

   3. If manufacturer permits thinning, use only thinners recommended by manufacturer, and only within recommended limits.

E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match color of finish
coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

A. General: Apply elastomeric coatings according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

1. Colors, surface treatments, and finishes are indicated in coating schedule.

2. Do not paint over conditions detrimental to formation of a durable coating film, such as dirt, rust, scale, grease, moisture, and scuffed surfaces.

3. Provide finish coats compatible with primers used.

B. Labels: Do not paint over UL, FMG, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

C. Scheduling Coating: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

1. Number of coats and film thickness required are same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer.

2. If undercoats or other conditions show through final coat, apply additional coats until coating film is of uniform finish, color, and appearance. Ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners, receive a dry film thickness equivalent to that of flat surfaces.

3. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until coating has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat does not cause undercoat to lift or lose adhesion.

D. Application Procedures: Apply elastomeric coatings by brush, roller, or spray according to manufacturer's written instructions.

1. Brushes: Use brushes best suited for material being applied.

2. Rollers: Use professional-quality quick-release rollers of carpet, velvet back, or high-pile sheep's wool covers with a 1- to 1-1/4-inch (25.4- to 31.8-mm) nap as recommended by manufacturer for material and texture required.
3. Spray Equipment: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.

E. Minimum Coating Thickness: Apply each material no thinner than manufacturer's recommended spreading rate to achieve dry film thickness indicated. Provide total dry film thickness as recommended by manufacturer.

1. Wherever spray application is used, apply each coat to provide equivalent hiding of brush-applied coats. Do not double back with spray equipment, building up film thickness of two coats in one pass.

F. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.

G. Prime Coats: If recommended by manufacturer, apply a primer to material being coated before applying finish coats.

H. Brush Application: Brush out and work brush coats into surfaces in an even film. Eliminate cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections. Neatly draw glass lines and color breaks.

I. Roller Application: Keep cover wet at all times; do not dry roll. Work in sections. Lay on required amount of material, working material into grooves and rough areas; then level material, working it into surface.

J. Spray Application: Use spray equipment for application only when permitted by manufacturer's written instructions and authorities having jurisdiction.

K. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or recoat work not complying with specified requirements.

3.4 CLEANING

A. Cleanup: At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

1. After completing coating work, clean glass and spattered surfaces. Remove spattered coatings by washing, scraping, or other methods, being careful not to scratch or damage adjacent finished surfaces.

3.5 PROTECTION

A. Protect work of other trades from damage whether being coated or not. Correct damage by cleaning, repairing, replacing, and recoating as approved by Engineer. Leave in an undamaged condition.

B. Provide "Wet Paint" signs to protect newly coated finishes. Remove temporary protective wrappings provided by others to protect their work after completing coating operations.
1. After construction activities of other trades are complete, touch up and restore damaged or defaced coated surfaces. Comply with procedures specified in PDCA P1.

END OF SECTION 09 96 30