



INVITATION TO BID (ITB) & RESPONDENT'S ACKNOWLEDGEMENT

ITB TITLE:

**Emerald Coast Convention Center-
Exterior Restoration**

ITB NUMBER:

ITB TDD 14-19

ISSUE DATE:

December 17, 2018 8:00 A.M. CST

PRE-BID MANADATORY MEETING

January 7, 2019 8:00 A.M. CST

LAST DAY FOR QUESTIONS:

January 14, 2019 3:00 P.M. CST

ITB OPENING DATE & TIME:

January 23, 2019 3:00 P.M. CST

NOTE: BIDS RECEIVED AFTER THE BID OPENING DATE & TIME WILL NOT BE CONSIDERED.

Okaloosa County, Florida solicits your company to submit a bid on the above referenced goods or services. All terms, specifications and conditions set forth in this ITB are incorporated into your response. A bid will not be accepted unless all conditions have been met. All bids must have an authorized signature in the space provided below. All envelopes containing sealed bids must reference the "ITB Title", "ITB Number" and the "ITB Opening Date & Time". Okaloosa County is not responsible for lost or late delivery of bids by the U.S. Postal Service or other delivery services used by the respondent. Neither faxed nor electronically submitted bids will be accepted. Bids may not be withdrawn for a period of sixty (60) days after the bid opening unless otherwise specified.

RESPONDENT ACKNOWLEDGEMENT FORM BELOW MUST BE COMPLETED, SIGNED, AND RETURNED AS PART OF YOUR BID. BIDS WILL NOT BE ACCEPTED WITHOUT THIS FORM, SIGNED BY AN AUTHORIZED AGENT OF THE RESPONDENT.

COMPANY NAME _____

MAILING ADDRESS _____

CITY, STATE, ZIP _____

FEDERAL EMPLOYER'S IDENTIFICATION NUMBER (FEIN): _____

TELEPHONE NUMBER: _____ EXT: _____ FAX: _____

EMAIL: _____

I CERTIFY THAT THIS BID IS MADE WITHOUT PRIOR UNDERSTANDING, AGREEMENT, OR CONNECTION WITH ANY OTHER RESPONDENT SUBMITTING A BID FOR THE SAME MATERIALS, SUPPLIES, EQUIPMENT OR SERVICES, AND IS IN ALL RESPECTS FAIR AND WITHOUT COLLUSION OR FRAUD. I AGREE TO ABIDE BY ALL TERMS AND CONDITIONS OF THIS BID AND CERTIFY THAT I AM AUTHORIZED TO SIGN THIS BID FOR THE RESPONDENT.

AUTHORIZED SIGNATURE: _____ TYPED OR PRINTED NAME _____

TITLE: _____ DATE _____

ITB TDD 14-19

Notice is hereby given that the Board of County Commissioners of Okaloosa County will receive sealed bids until January 23, 2019 at 3:00 pm (CST) for **the Emerald Coast Convention Center Exterior Restoration.**

Interested respondents desiring consideration shall provide one (1) original and two (2) copies of their Invitation to Bids (ITB) response with the respondent's areas of expertise identified. Submissions shall be portrait orientation, unbound, and 8 ½" x 11" where practical.

All originals must have original signatures in blue ink. Bid documents are available for download by accessing the Okaloosa County website at <http://www.myokaloosa.com/purchasing/home> then accessing the link "View Current Solicitations" or by accessing the Florida Purchasing Group website at <http://www.floridabidsystem.com/Bids/ViewOpenSolicitations.asp>

At January 23, 2019 at 3:00 pm (CST), all bids will be opened and read aloud. All bids must be in sealed envelopes reflecting on the outside thereof the Respondent's name and "Emerald Coast Convention Center Exterior Restoration". The Board of County Commissioners will consider all bids properly submitted at its scheduled bid opening in the Conference & Training Room #305 (old First National Bank Bldg.) located at 302 N. Wilson St, Crestview, FL 32536. Bids may be submitted prior to bid opening by being delivered in person or by mail to the Okaloosa County Purchasing Department at 5479A Old Bethel Road, Crestview, FL 32536. **NOTE: Crestview, FL is not a next day guaranteed delivery location by most delivery services. Respondents using mail or delivery services assume all risks of late or non-delivery.**

A mandatory Pre-Bid Conference will be conducted at the Emerald Coast Convention Center, 1250 Miracle Strip Parkway SE, Fort Walton Beach, FL 32548, at January 7, 2019 at 8:00 am (CST).

The County reserves the right to award the bid to the lowest responsive respondent and to waive any irregularity or technicality in bids received. Okaloosa County shall be the sole judge of the bid and the resulting Agreement that is in its best interest and its decision shall be final. The County reserves the right to award to multiple vendors if it is in the best interest of the County.

Any Respondent failing to mark outside of the envelope as set forth herein may not be entitled to have their bid considered. **All originals must have original signatures in blue pen ink**

All bids should be addressed as follows:

Emerald Coast Convention Center Exterior Restoration

Okaloosa Purchasing Department
5479A Old Bethel Road
Crestview, FL 32536

//Signed//

Jeff Hyde
Purchasing Manager

Date

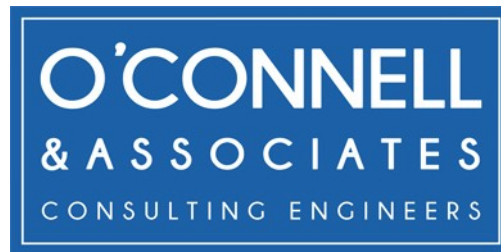
BOARD OF COUNTY COMMISSIONERS
OKALOOSA COUNTY, FL
Graham W. Fountain
Chairman

for
**EMERALD COAST CONVENTION CENTER – EXTERIOR
RESTORATION PROJECT**

Prepared for:
OKALOOSA COUNTY TOURISM DEVELOPMENT DEPARTMENT



Prepared by:



Betsy Smith,
P.E. Project
Engineer

1394 County Highway 283 South, Building
#3 Santa Rosa Beach, Florida 32459

TEL: (850) 403-4555
FAX: (850) 213-3199
Email:

betsy@oconnellengineers.com

August 2018

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**SECTION 00 2113
INSTRUCTIONS TO BIDDERS**

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1.02 RELATED DOCUMENTS

- A. Document 01 1000 - Summary.
- B. Document 00 4100 - Bid Form.
- C. Document 00 4325 - Substitution Request Form - During Procurement

INVITATION

2.01 BID SUBMISSION

- A. Bids signed and under seal, executed, and dated will be received at the Okaloosa Purchasing Department at 5479A Old Bethel Road, Crestview, FL before bid opening, and on opening day at 302 N. Wilson St, Crestview, FL 32536 Room #305 by 3:00 p.m. local standard time on the 23 day of January.
- B. Offers submitted after the above time shall be returned to the bidder unopened.
- C. Amendments to the submitted offer will be permitted if received in writing prior to bid closing and if endorsed by the same party or parties who signed and sealed the offer.

2.02 INTENT

- A. The intent of this Bid request is to obtain an offer to perform work to complete an Exterior Restoration Project located at the Emerald Coast Convention Center for a Stipulated Sum contract, in accordance with the Contract Documents.

2.03 WORK IDENTIFIED IN THE CONTRACT DOCUMENTS

- A. Work of this proposed Contract comprises building construction, renovation, and repairs, including general construction and structural Work.
- B. Location: Emerald Coast Convention Center located at 1250 Miracle Strip Parkway SE, Fort Walton Beach, FL 32548.

2.04 CONTRACT TIME

- A. Identify Contract Time in the Bid Form. The completion date in the Agreement shall be the Contract Time added to the commencement date.
- B. Owner requires that work of this contract be completed as quickly as possible and consideration will be given to time of completion when reviewing the submitted bids.

BID DOCUMENTS AND CONTRACT DOCUMENTS

3.01 DEFINITIONS

- A. Bid Documents: Contract Documents supplemented with Instructions to Bidders, and Bid Form identified.
- B. Bid, Offer, or Bidding: Act of submitting an offer under seal.
- C. Bid Amount: Monetary sum identified by the Bidder in the Bid Form.

3.02 CONTRACT DOCUMENTS IDENTIFICATION

- A. The Contract Documents are identified as Project Number 17254, as prepared by Engineer who is located at 1394 Hwy. 283 S., Building 3, Santa Rosa Beach, Florida, 32459, and with contents as identified in the Table of Contents.

3.03 AVAILABILITY

- A. Bid Documents maybe obtained online by accessing the Okaloosa County website at <http://www.co.okaloosa.fl.us/purchasing/home> then accessing the link "View Current Solicitations" or by accessing the Florida Purchasing Group website at <http://www.floridabidsystem.com/Bids/ViewOpenSolicitations.asp>.
- B. Bid Documents are made available only for the purpose of obtaining offers for this project. Their use does not grant a license for other purposes.

3.04 EXAMINATION

- A. Upon receipt of Bid Documents verify that documents are complete. Notify the County should the documents be incomplete.
- B. Immediately notify County upon finding discrepancies or omissions in the Bid Documents.

3.05 INQUIRIES/ADDENDA

- A. Direct questions to Victoria Taravella, email; vtaravella@myokaloosa.com.
- B. Addenda may be issued during the bidding period. All Addenda become part of the Contract Documents. Include resultant costs in the Bid Amount.
- C. Verbal answers are not binding on any party.
- D. Clarifications requested by bidders must be in writing not less than 7 days before date set for receipt of bids. The reply will be in the form of an Addendum, a copy of which will be forwarded to known recipients.

3.06 PRODUCT/ASSEMBLY/SYSTEM SUBSTITUTIONS

- A. Where the Bid Documents stipulate a particular product, substitutions will be considered up to 7 days before receipt of bids.
- B. Submit substitution requests by completing the form in Section 00 4325 - Substitution Request Form - During Procurement; see this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.
- C. When a request to substitute a product is made, Engineer may approve the substitution and will issue an Addendum.
- D. The submission shall provide sufficient information to determine acceptability of such products.

- E. Provide complete information on required revisions to other work to accommodate each proposed substitution.
- F. Provide products as specified unless substitutions are submitted in this manner and accepted.
- G. See Section 01 6000 - Product Requirements for additional requirements.

SITE ASSESSMENT

4.01 SITE EXAMINATION

- A. Examine the project site before submitting a bid.

4.02 PREBID CONFERENCE

- A. A mandatory bidders conference has been scheduled for 8:00 a.m. on the 7th day of January at the Emerald Coast Convention Center located at 1250 Miracle Strip Parkway SE, Fort Walton Beach, FL 32548.
- B. All general contract bidders and suppliers are invited.
- C. Representatives of Engineer will be in attendance.
- D. Summarized minutes of this meeting will BE taken. These minutes will not form part of the Contract Documents.
- E. Information relevant to the Bid Documents will be recorded in an Addendum.

QUALIFICATIONS

5.01 EVIDENCE OF QUALIFICATIONS

- A. To demonstrate qualification for performing the Work of this Contract, bidders may be requested to submit written evidence of financial position, license to perform work in the State.

5.02 SUBCONTRACTORS/SUPPLIERS/OTHERS

- A. Owner reserves the right to reject a proposed subcontractor for reasonable cause.

BID SUBMISSION

6.01 SUBMISSION PROCEDURE

- A. Bidders shall be solely responsible for the delivery of their bids in the manner and time prescribed.
- B. Submit one (1) original and one (1) copy of the executed offer on the Bid Forms provided, signed and sealed in a closed opaque envelope, clearly identified with bidder's name, project name, Bid number, and Owner's name on the outside.
- C. Improperly completed information, or irregularities may be cause not to open the Bid Form envelope and declare the bid invalid or informal.

BID ENCLOSURES/REQUIREMENTS

7.01 PERFORMANCE ASSURANCE

- A. A Bid Bond is required with the Respondent's submittal for 5% of the Bid price, in the form of a cashier's check, certified check or bond. A performance and payment bond will be required in the amount of 100% of the estimated contract value. The performance bond and payment bond can be a total of 100% combined.

7.02 INSURANCE

- A. Provide an executed "Undertaking of Insurance" on a standard form provided by the insurance company stating their intention to provide insurance to the bidder in accordance with the insurance requirements of the Contract Documents.
- B. If the contractor already has the required insurance, provide a copy of the current insurance policy with the bid.

7.03 BID FORM REQUIREMENTS

- A. Complete all requested information in the Bid Form and Scope of Work.

7.04 BID FORM SIGNATURE

- A. The Bid Form shall be signed by the bidder, as follows:
 - 1. Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature. Affix seal.
 - 2. Partnership: Signature of all partners in the presence of a witness who will also sign. Insert the word "Partner" under each signature. Affix seal to each signature.
 - 3. Corporation: Signature of a duly authorized signing officer(s) in their normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix the corporate seal. If the bid is signed by officials other than the president and secretary of the company, or the president/secretary/treasurer of the company, a copy of the by-law resolution of their board of directors authorizing them to do so, must also be submitted with the Bid Form in the bid envelope.
 - 4. Joint Venture: Each party of the joint venture shall execute the Bid Form under their respective seals in a manner appropriate to such party as described above, similar to the requirements of a Partnership.

7.05 ADDITIONAL BID INFORMATION

- A. Submit the following Supplements concurrent with bid submission:
 - 1. Document 00 4336 - Proposed Subcontractors Form: Include the names of all Subcontractors and the portions of the Work they will perform.
 - 2. Document 00 4325 - Substitution Request Form - During Procurement.

OFFER ACCEPTANCE/REJECTION

8.01 DURATION OF OFFER

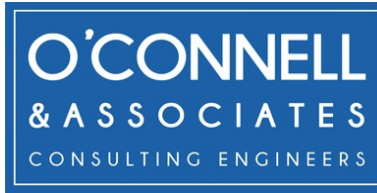
- A. Bids shall remain open to acceptance and shall be irrevocable for a period of sixty(60) days after the bid closing date.

8.02 ACCEPTANCE OF OFFER

- A. County reserves the right to accept or reject any or all offers.

- B. After acceptance by Owner, Engineer on behalf of Owner, will issue to the successful bidder, a written Bid Acceptance.

END OF SECTION



SECTION 00 4000 - SCOPE OF WORK

The work covered in this specification includes the furnishing of all materials, equipment, labor, supervision, and performing all operations necessary for the completion of the Exterior Restoration project at Emerald Coast Convention Center in Okaloosa County, Florida as shown on the project drawings and described in the contract documents. The Contractor shall provide and furnish all tools, equipment, scaffolding, materials, supervision, labor, subsistence, rentals, subcontractors, permitting, profit, overhead and any other costs related to demolition, disposal and replacement of the irreparable exterior building components which may include, but shall not be limited to, deck coatings, disbonded or delaminated concrete, sealants, wall coatings, ceiling paint and other waterproofing systems associated with the exterior cladding, walkways, and exterior stairways. The work includes all that is necessary to provide the Owner with a complete project.

Contractors are to submit separate prices for work items in accordance with the Bid Form. The Contract work includes, but is not limited to:

1. SCOPE OF WORK

1.1 MOBILIZATION/DEMOBILIZATION

This item includes, but is not limited to, the mobilization and demobilization of all material, equipment, and manpower to the project site at Emerald Coast Convention Center in Okaloosa County, Florida.

1.2 DEMOLITION

Contractor shall be responsible for the removal and disposal of all sealants and coating materials on the walls, columns, ceilings, and concrete decks down to clean bare concrete or stucco texture. These items include, but are not limited to, sealants, deck coatings, disbonded or delaminated concrete, delaminated or disbonded stucco, and other accessories. The contractor shall also remove any delaminated or disbonded concrete on the ceilings or decks. In the areas where disbonded or delaminated concrete is removed, contractor shall clean and prepare the concrete and any reinforcing steel as described in Section 03 0100 of the Technical Specifications and in the drawing details. All demolition shall be performed in accordance with Section 02 4100 of the specifications as well as all of the contract documents.

1.3 CONCRETE REPAIRS

The contractor shall be responsible for sounding all concrete surfaces to identify any disbonded or spalled concrete. Where disbonded or spalled concrete is detected, the contractor shall be responsible for removing all loose and deteriorated concrete as described in the Demolition section of the scope of work. The contractor shall also clean up all reinforcing steel by removing all loose rust and scale on the steel. Where the steel cannot be cleaned due to severe deterioration, or it has section loss greater than 25%, it shall be replaced with new steel of the same size and tied to the existing steel. Assume 100 LF of removal and replacement of amount of reinforcing steel. New reinforcing steel installed where it was removed shall be a minimum # 4 bar. Once the reinforcing steel has been cleaned or replaced and the existing concrete has been properly prepared, install new concrete repair mortar in the

repair area. Assume 100 SF of overhead concrete repairs in accordance with the project drawings, technical specifications, ICRI guidelines, and 2017 Florida Building Code requirements. The contractor shall assume 50 SF of vertical concrete repairs and 100 SF of partial depth repairs. All concrete repairs shall be performed in accordance with the project drawings, technical specifications, and 2017 Florida Building Code requirements.

Once the concrete repairs have been completed and allowed to cure, the contractor shall be responsible for installing new texture over the repair area to match the existing texture in the surrounding areas.

1.4 BALCONY, WALKWAY, AND STAIR WATERPROOFING

This item includes, but is not limited to, the installation of a new liquid applied waterproofing membrane over all elevated walkway, and stairway surfaces. Prior to the installation of the new waterproofing system, all cracks in the concrete slab greater than 1/16" shall be routed out to a minimum of 1/4" by 1/4" and sealed. Assume 1500 LF of cracks to be routed and sealed. The joint shall then be pre-stripped in accordance with the manufacturer's recommendations prior to the installation of the liquid applied waterproof deck coating. The contractor shall be responsible for installing a new bond breaker and sealant joint at all floor-to-wall locations, all door sill-to-floor locations, around the perimeter of all railing baseplates, and over all railing baseplate fasteners. The new liquid applied waterproofing system shall include a primer, a base coat, an intermediate coat with aggregate broadcast to refusal, and a final top coat. All waterproofing work shall be completed in accordance with the project drawings, technical specifications, and 2017 Florida Building Code requirements.

1.5 CLADDING

Once all of the existing coatings on the walls, columns, and ceilings have been removed as described in the Demolition section of this scope of work, the contractor shall be responsible for sealing all cracks on the vertical walls. For all cracks greater than 1/16", rout out the crack to a size of 1/4"x 1/4" and install a bond breaker and sealant in the crack. Assume 1500 LF of cracks to be routed and sealed. For all cracks less than 1/16", pre-stripe each crack with a minimum of 6 DFM of elastomeric coating, prior to installing the wall coatings.

The contractor shall be responsible for removing and replacing all existing sealants on the exterior walls, and exterior stairways on the building. The sealants to be replaced include, but are not limited to, sealants at all joints and dissimilar materials, the perimeter of all windows and doors, the perimeter of all wall penetrations, beneath the drip edge of the coping cap, at the floor-to-wall and ceiling-to-wall, and any other sealants associated with the cladding or waterproofing systems of the building. At the joints between the stucco panels, the contractor shall install a new sealant joint in accordance with the project drawings. All sealants shall be installed in accordance with ASTM standards, the project drawings, technical specifications, and 2017 Florida Building Code requirements.

The contractor shall also be responsible for sounding and identifying any disbonded or damaged stucco cladding. Once the disbonded and damaged cladding has been removed the contractor shall be responsible for installing new stucco repair material to match the existing. Assume 500 square feet of new weather barrier, lath, accessories and three coat stucco system to be installed. The contractor shall also assume 250 SF of direct applied stucco repairs. All weather barrier, lath, stucco, and accessories shall be installed in accordance with ASTM

standards, the project drawings, technical specifications, and 2017 Florida Building Code requirements.

1.6 COPING CAP

On the perimeter of each roof parapet wall, the contractor shall be responsible for installing a new Kynar coated aluminum coping cap over the top of the existing wall. The new coping cap shall have a concealed clip and shall be sealed on both sides. Install the new coping cap in accordance with the manufacturer's installation instruction, the project drawings, technical specifications, and 2017 Florida Building Code requirements.

At the vertical walls of the ramps, border walls, and railing walls, the contractor shall be responsible for installing a new sloped EIFS band on the top of each wall to provide drainage. The new EIFS band shall be installed in accordance with the manufacturer's installation instructions, the project drawings, the technical specifications, and the 2017 Florida Building Code requirements.

1.7 PAINTING

On the vertical walls, the contractor shall be responsible for installing new primer and elastomeric coatings in accordance with the specifications. The elastomeric coating shall be installed at a minimum thickness of 16 DFM at all locations in accordance with project drawings and Section 09 9600 of the technical specifications.

On the ceilings, slab edges, interior face of the stairway walls, interior face of the ramp walls, and interior face of columns, the contractor shall install a primer and 2 coats of a new acrylic coating in accordance with project drawings and Section 09 9000 of the technical specifications.

1.8 REMAINING WORK

Includes all work associated with completing the project that is not described in Items 1.1 through 1.7, but which Contractor feels is required by the Contract Documents.

2. UNIT COSTS

2.1 REINFORCING STEEL REPLACEMENT

The contractor shall be responsible for removing and replacing 1 LF of minimum #4 reinforcing steel within the concrete.

2.2 OVERHEAD CONCRETE REPAIRS

The contractor shall be responsible for removing and replacing 1 SF of an overhead concrete repair, not to exceed 3" in depth.

2.3 VERTICAL CONCRETE REPAIRS

The contractor shall be responsible for removing and replacing 1 SF of a vertical concrete repair.

2.4 PARTIAL DEPTH CONCRETE REPAIRS

The contractor shall be responsible for removing and replacing 1 SF of a partial depth concrete repair.

2.5 ROUT AND SEAL CRACKS IN SLAB

The contractor shall be responsible for routing and sealing 1 LF of crack in the slab.

2.6 ROUT AND SEAL CRACKS IN WALL

The contractor shall be responsible for routing and sealing 1 LF of crack in a vertical wall.

2.7 STUCCO REPAIRS

The contractor shall be responsible for repairing 1 SF of weather barrier, new metal lath, accessories and 3 coat stucco system.

2.8 STUCCO FINISH REPAIRS

The contractor shall be responsible for repairing 1 SF of stucco finish.

3. CONDITIONS ON SITE

3.1 Contractors are to familiarize themselves with the location and conditions under which the work will be performed and/or any conditions that will affect the work. No additional allowance will be granted due to lack of knowledge of such conditions.

3.2 The Contractor is to field verify all dimensions and identify any and all discrepancies and/or interferences prior to installing any anchor bolts. Any additional costs incurred as a direct result of an unidentified discrepancy and/or undetected interference will be the contractor's responsibility.

3.3 During the actual construction period, Contractor will make every effort to maintain the work site in a clean and safe condition. At the completion of all construction activity, Contractor shall restore all work areas to, at least, the condition that existed prior to any construction activity. Final cleanup and site restoration will be subject to inspection and acceptance by the Emerald Coast Convention Center.

4. CONTRACT DRAWINGS

4.1 The Contract Drawings which detail the work identified in this Scope of Work are listed in the index of the drawing package.

5. OWNER'S ACCESS TO THE SITE

5.1 The Emerald Coast Convention Center shall be operational and/or functional at all times, and its designated representatives shall have access to the facility at all times.

6. MATERIALS FURNISHED BY THE CONTRACTOR

6.1 The Contractor shall be responsible for furnishing all materials necessary to complete the work included in this bid package.

7. WORK HOURS

7.1 The Contractor will have access to the site in accordance with Emerald Coast Convention Center regulations and may work the hours deemed necessary during this period to meet the construction schedule as proposed by the Contractor on the enclosed Bid Form. No work shall be performed without first notifying and receiving authorization from the Emerald Coast Convention Center.

8. CONSTRUCTION REPORTS

8.1 Contractor will be responsible for submitting daily construction reports to O'Connell & Associates. The report shall give a brief description of progress made during the day as well as problems which have arisen which may have caused delays in the project schedule. Failure to submit these reports may cause a delay in processing of invoices and subsequent delay in payment.

9. DRUG PROGRAM

9.1 Each Contractor shall submit with the bid a detailed description of the policy and program that is maintained on a company wide basis to detect, prevent and minimize substance abuse.

10. SPARE PARTS

10.1 The Contractor is not responsible for providing any spare parts for this project.

11. SCHEDULE

11.1 Contractor must furnish Owner with a detailed bar chart showing manpower requirements sequencing, and duration of all activities.

11.2 Any deviations in the schedule submitted must be detailed in the daily report submitted by the Contractor's construction superintendent as outlined in Section 8 of this specification.

11.3 Contractor shall be responsible for scheduling and coordinating all construction activities with the Emerald Coast Convention Center.

12. QUALITY ASSURANCE PLAN

12.1 The Contractor should be aware that all materials and equipment supplied by the Contractor will be thoroughly inspected. The Contractor should retain and make available to the Owner or representative all MSDS Certificates, or other records supplied with Contractor furnished materials or equipment.

END OF SECTION 00 4000

**SECTION 00 4100
BID FORM**

THE PROJECT AND THE PARTIES

1.01 TO:

- A. Okaloosa Purchasing Department
5479A Old Bethel Road
Crestview, Florida 32536

1.02 FOR:

- A. Project: Emerald Coast Convention Center
- B. Owner's Project Number: 17236
1250 Miracle Strip Parkway SE
Fort Walton Beach, Florida 32548

1.03 DATE: _____ (BIDDER TO ENTER DATE)

1.04 SUBMITTED BY: (BIDDER TO ENTER NAME AND ADDRESS)

- A. Bidder's Full Name _____
 - 1. Address _____
 - 2. City, State, Zip _____

1.05 OFFER

- A. Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by O'Connell & Associates Consulting Engineers, LLC. for the above mentioned project, we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Sum of:
- B. Unit costs:
 - 1. Reinforcing Steel Replacement _____ dollars (\$ _____),
 - 2. Overhead Concrete Repairs _____ dollars (\$ _____),
 - 3. Vertical Concrete Repairs _____ dollars (\$ _____),
 - 4. Partial Depth Concrete Repairs _____ dollars (\$ _____),
 - 5. Rout and Seal Cracks in Slab _____ dollars (\$ _____),
 - 6. Rout and Seal Cracks in Wall _____ dollars (\$ _____),
 - 7. Stucco Repairs _____ dollars (\$ _____),
 - 8. Stucco Finish Repairs _____ dollars (\$ _____),
 - 9. **Total for Unit Costs** _____ dollars (\$ _____),
- C. **Total for Scope of Work** _____ dollars (\$ _____)
- D. **Total for Project** _____ **dollars** (\$ _____), in lawful money of the United States of America.
- E. We have included the required performance assurance bonds as required by the Instructions to Bidders.
 - 1. The cost of the required performance assurance bonds is _____ percent of the total contract sum.
- F. All applicable federal taxes are included and State of Florida taxes are included in the Bid Sum.

1.06 ACCEPTANCE

- A. This offer shall be open to acceptance and is irrevocable for sixty (60) days from the bid closing date.
- B. If this bid is accepted by Owner within the time period stated above, we will:
 - 1. Execute the Agreement within fifteen (15) days of receipt of Notice of Award.
 - 2. Commence work within fifteen (15) days after written Notice to Proceed of this bid.

1.07 CONTRACT TIME

- A. If this Bid is accepted, we will:
- B. Complete the Scope of Work in _____ calendar days from date of commencement.

1.08 CHANGES TO THE WORK

- A. When Engineer establishes that the method of valuation for Changes in the Work will be net cost plus a percentage fee in accordance with General Conditions, our percentage fee will be:
 - 1. _____ percent overhead and profit on the net cost of our own Work;
 - 2. _____ percent on the cost of work done by any Subcontractor.

1.09 ADDENDA

- A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.
 - 1. Addendum # _____ Dated _____.
 - 2. Addendum # _____ Dated _____.

1.10 BID FORM SUPPLEMENTS

- A. The following Supplements are attached to this Bid Form and are considered an integral part of this Bid Form:
 - 1. Document 00 4336 - Proposed Subcontractors Form: Include the names of all Subcontractors and the portions of the Work they will perform.

1.11 BID FORM SIGNATURE(S)

- A. The Corporate Seal of
- B. _____
- C. (Bidder - print the full name of your firm)
- D. was hereunto affixed in the presence of:
- E. _____
- F. (Authorized signing officer, Title)
- G. (Seal)
- H. _____
- I. (Authorized signing officer, Title)

1.12 IF THE BID IS A JOINT VENTURE OR PARTNERSHIP, ADD ADDITIONAL FORMS OF EXECUTION FOR EACH MEMBER OF THE JOINT VENTURE IN THE APPROPRIATE FORM OR FORMS AS ABOVE.

END OF SECTION

SUBSTITUTION REQUEST FORM - DURING PROCUREMENT

PARTICULARS

1.01 (BIDDER) _____

1.02 TO (OWNER): OKALOOSA COUNTY

1.03 DATED _____ **AND WHICH IS AN INTEGRAL PART OF THE BID FORM.**

1.04 CONTRACTOR TO SUBMIT ALL PRODUCT DATA WITH SUBSTITUTION REQUEST FORM

1.05 SUBSTITUTIONS:

A. SECTION: _____

1. SPECIFIED PRODUCT:

2. PROPOSED SUBSTITUTON:

3. REASON FOR SUBSTITUTION:

B. SECTION: _____

1. SPECIFIED PRODUCT:

2. PROPOSED SUBSTITUTON:

3. REASON FOR SUBSTITUTION:

C. SECTION: _____

1. SPECIFIED PRODUCT:

2. PROPOSED SUBSTITUTON:

3. REASON FOR SUBSTITUTION:

D. SECTION: _____

1. SPECIFIED PRODUCT:

2. PROPOSED SUBSTITUTON:

3. REASON FOR SUBSTITUTION:

E. SECTION: _____

1. SPECIFIED PRODUCT:

2. PROPOSED SUBSTITUTON:

3. REASON FOR SUBSTITUTION:

END OF SECTION

**SECTION 00 4336
PROPOSED SUBCONTRACTORS FORM**

PARTICULARS

1.01 HEREWITH IS THE LIST OF SUBCONTRACTORS REFERENCED IN THE BID SUBMITTED BY:

1.02 (BIDDER) _____

1.03 TO (OWNER): OKALOOSA COUNTY

1.04 DATED _____ AND WHICH IS AN INTEGRAL PART OF THE BID FORM.

1.05 THE FOLLOWING WORK WILL BE PERFORMED (OR PROVIDED) BY SUBCONTRACTORS AND COORDINATED BY US:

LIST OF SUBCONTRACTORS

WORK SUBJECT/ SUBCONTRACTOR NAME/ SUBCONTRACTOR CONTACT INFORMATION

- A. _____

- B. _____

- C. _____

- D. _____

END OF SECTION

SECTION 00 5000
CONTRACTING FORMS AND SUPPLEMENTS

PART 1 GENERAL

1.01 CONTRACTOR IS RESPONSIBLE FOR OBTAINING A VALID LICENSE TO USE ALL COPYRIGHTED DOCUMENTS SPECIFIED BUT NOT INCLUDED IN THE PROJECT MANUAL.

1.02 AGREEMENT AND CONDITIONS OF THE CONTRACT

- A. The General Conditions are based on EJCDC C-700.
- B. The Agreement is based on a form of agreement written by the County's legal counsel.

1.03 FORMS

- A. Use the following forms for the specified purposes unless otherwise indicated elsewhere in the Contract Documents.
- B. Post-Award Certificates and Other Forms:
 - 1. Schedule of Values Form: EJCDC C-620.
 - 2. Application for Payment Form: EJCDC C-620.
- C. Clarification and Modification Forms:
 - 1. Field Order Form: EJCDC C-942.
 - 2. Work Change Directive Form: EJCDC C-940.
 - 3. Change Order Form: EJCDC C-941.
- D. Closeout Forms:
 - 1. Certificate of Substantial Completion Form: EJCDC C-625.

1.04 REFERENCE STANDARDS

- A. EJCDC C-620 - Contractor's Application for Payment; 2013.
- B. EJCDC C-625 - Certificate of Substantial Completion; 2013.
- C. EJCDC C-700 - Standard General Conditions of the Construction Contract; 2013.
- D. EJCDC C-940 - Work Change Directive; 2013.
- E. EJCDC C-941 - Change Order; 2013.
- F. EJCDC C-942 - Field Order; 2013.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

**SECTION 00 6325
SUBSTITUTION REQUEST FORM - DURING CONSTRUCTION**

PARTICULARS

1.01 (BIDDER) _____

1.02 TO (OWNER): OKALOOSA COUNTY PURCHASING

1.03 DATED _____ **AND WHICH IS AN INTEGRAL PART OF THE CONTRACT DOCUMENTS.**

1.04 CONTRACTOR TO SUBMIT ALL PRODUCT DATA WITH SUBSTITUTION REQUEST FORM

1.05 SUBSTITUTIONS:

A. SECTION: _____

1. SPECIFIED PRODUCT: _____

2. PROPOSED SUBSTITUTON: _____

3. REASON FOR SUBSTITUTION: _____

B. SECTION: _____

1. SPECIFIED PRODUCT: _____

2. PROPOSED SUBSTITUTON: _____

3. REASON FOR SUBSTITUTION: _____

C. SECTION: _____

1. SPECIFIED PRODUCT: _____

2. PROPOSED SUBSTITUTON: _____

3. REASON FOR SUBSTITUTION: _____

D. SECTION: _____

1. SPECIFIED PRODUCT: _____

2. PROPOSED SUBSTITUTON: _____

3. REASON FOR SUBSTITUTION: _____

E. SECTION: _____

1. SPECIFIED PRODUCT: _____

2. PROPOSED SUBSTITUTON: _____

3. REASON FOR SUBSTITUTION: _____

END OF SECTION

SECTION 01 1000
SUMMARY

PART 1 GENERAL

1.01 PROJECT

- A. Project Name: Emerald Coast Convention Center
- B. Owner's Name: Okaloosa County
- C. Engineer's Name: O'Connell & Associates Consulting Engineers, LLC.
- D. The Project consists of the restoration of the exterior of the building.

1.02 CONTRACT DESCRIPTION

- A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 00 5200 - Agreement Form.

1.03 DESCRIPTION OF ALTERATIONS WORK

- A. Scope of demolition and removal work is indicated on drawings and specified in Section 02 4100.
- B. Scope of alterations work is indicated on drawings.
- C. Owner will remove the following items before start of work:
 - 1. All balcony furniture and other personal items on the balconies included in the project.

1.04 OWNER OCCUPANCY

- A. Owner intends to continue to occupy the building during the entire construction period.
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner occupancy and events.

1.05 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas noted on Drawings.
- B. Arrange use of site and premises to allow:
 - 1. Owner occupancy.
 - 2. Use of site and premises by the public.
- C. Provide access to and from site as required by law and by Owner:
 - 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 - 2. Do not obstruct roadways, sidewalks, or other public ways without permit.
- D. Existing building spaces may not be used for storage.
- E. Time Restrictions:
 - 1. Limit conduct of especially noisy exterior work to the hours of 6:00 am to 6:00 pm.
 - 2. Limit conduct of work to the hours of 6:00 am to 10:00 pm
- F. Utility Outages and Shutdown:
 - 1. Limit disruption of utility services to hours the building is unoccupied.
 - 2. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days written notice to Owner and authorities having jurisdiction.
 - 3. Prevent accidental disruption of utility services to other facilities.

1.06 WORK SEQUENCE

- A. Coordinate construction schedule and operations with Engineer.

PART 2 PRODUCTS - NOT USED
PART 3 EXECUTION - NOT USED

END OF SECTION

**SECTION 01 2000
PRICE AND PAYMENT PROCEDURES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedures for preparation and submittal of applications for progress payments.
- B. Documentation of changes in Contract Sum and Contract Time.
- C. Change procedures.
- D. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS

- A. Section 00 5000 - Contracting Forms and Supplements: Forms to be used.

1.03 SCHEDULE OF VALUES

- A. Use Schedule of Values Form: EJCDC C-620, edition stipulated in the Agreement.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Engineer for approval.
- C. Forms filled out by hand will not be accepted.
- D. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.
- E. Include in each line item, the amount of Allowances specified in this section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.
- F. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Payment Period: Submit at intervals stipulated in the Agreement.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Engineer for approval.
- C. Forms filled out by hand will not be accepted.
- D. For each item, provide a column for listing each of the following:
 - 1. Item Number.
 - 2. Description of work.
 - 3. Scheduled Values.
 - 4. Previous Applications.
 - 5. Work in Place and Stored Materials under this Application.
 - 6. Authorized Change Orders.
 - 7. Total Completed and Stored to Date of Application.
 - 8. Percentage of Completion.
 - 9. Balance to Finish.
 - 10. Retainage.
- E. Execute certification by signature of authorized officer.
- F. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.
- G. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.
- H. Submit one electronic and three hard-copies of each Application for Payment.
- I. Include the following with the application:
 - 1. Transmittal letter as specified for submittals in Section 01 3000.
 - 2. Construction progress schedule, revised and current as specified in Section 01 3000.

3. Current construction photographs specified in Section 01 3000.
 4. Partial release of liens from ALL Subcontractors and vendors.
 5. Breakdown of all quantities used and included.
 6. Partial As-Built drawings depicting locations of quantities used.
- J. When Engineer requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 MODIFICATION PROCEDURES

- A. Submit name of the individual authorized to receive change documents and who will be responsible for informing others in Contractor's employ or subcontractors of changes to the Contract Documents.
- B. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Engineer will issue instructions directly to Contractor.
- C. For other required changes, Engineer will issue a document signed by Owner instructing Contractor to proceed with the change, for subsequent inclusion in a Change Order.
 1. The document will describe the required changes and will designate method of determining any change in Contract Sum or Contract Time.
 2. Promptly execute the change.
- D. For changes for which advance pricing is desired, Engineer will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change with a stipulation of any overtime work required and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 7 days.
- E. Contractor may propose a change by submitting a request for change to Engineer, describing the proposed change and its full effect on the work, with a statement describing the reason for the change, and the effect on the Contract Sum and Contract Time with full documentation. Document any requested substitutions in accordance with Section 01 6000.
- F. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.
 1. For change requested by Engineer for work falling under a fixed price contract, the amount will be based on Contractor's price quotation.
 2. For change requested by Contractor, the amount will be based on the Contractor's request for a Change Order as approved by Engineer.
 3. For pre-determined unit prices and quantities, the amount will be based on the fixed unit prices.
 4. For change ordered by Engineer without a quotation from Contractor, the amount will be determined by Engineer based on the Contractor's substantiation of costs as specified for Time and Material work.
- G. Substantiation of Costs: Provide full information required for evaluation.
 1. On request, provide the following data:
 - a. Quantities of products, labor, and equipment.
 - b. Taxes, insurance, and bonds.
 - c. Overhead and profit.
 - d. Justification for any change in Contract Time.
 - e. Credit for deletions from Contract, similarly documented.
 2. Support each claim for additional costs with additional information:
 - a. Origin and date of claim.
 - b. Dates and times work was performed, and by whom.
 - c. Time records and wage rates paid.
 - d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
 - e. Location and quantity of all additional work performed.

3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
- H. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- I. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
- J. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
- K. Promptly enter changes in Project Record Documents.

1.06 APPLICATION FOR FINAL PAYMENT

- A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- B. Application for Final Payment will not be considered until the following have been accomplished:
 1. All closeout procedures specified in Section 01 7000.
 2. As-Built drawings showing location of all unit cost work performed.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 2500
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

- A. Section 00 2113 - Instructions to Bidders: Restrictions on timing of substitution requests.
- B. Section 00 4325 - Substitution Request Form - During Procurement: Required form for substitution requests made before end of Bidding/Negotiation Phase (During Procurement).
- C. Section 00 6325 - Substitution Request Form - During Construction: Required form for substitution requests made after the Bidding/Negotiation Phase (During Construction).
- D. Section 01 3000 - Administrative Requirements: Submittal procedures, coordination.
- E. Section 01 6000 - Product Requirements: Fundamental product requirements, product options, delivery, storage, and handling.

1.03 DEFINITIONS

- A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
 - 1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
 - a. Unavailability.
 - b. Regulatory changes.
 - 2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
 - a. Substitution requests offering advantages solely to the Contractor will not be considered.

1.04 REFERENCE STANDARDS

- A. CSI/CSC Form 1.5C - Substitution Request (During the Bidding/Negotiating Stage); Current Edition.
- B. CSI/CSC Form 13.1A - Substitution Request (After the Bidding/Negotiating Phase); Current Edition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

- A. A Substitution Request for products and materials constitutes a representation that the submitter:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
 - 2. Agrees to provide the same warranty for the substitution as for the specified product.
 - 3. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
- B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
 - 1. Note explicitly any non-compliant characteristics.
- C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.

1. Contractor must use specified forms. Contractor's Substitution Request documentation must include the following:
 - a. Project Information:
 - 1) Official project name and number, and any additional required identifiers established in Contract Documents.
 - 2) Owner's, Engineer's, and Contractor's names.
 - b. Substitution Request Information:
 - 1) Discrete and consecutive Substitution Request number, and descriptive subject/title.
 - 2) Indication of whether the substitution is for cause or convenience.
 - 3) Issue date.
 - 4) Reference to particular Contract Document(s) specification section number, title, and article/paragraph(s).
 - 5) Description of Substitution.
 - 6) Reason why the specified item cannot be provided.
 - 7) Differences between proposed substitution and specified item.
 - 8) Description of how proposed substitution affects other parts of work.
 - c. Attached Comparative Data: Provide point-by-point, side-by-side comparison addressing essential attributes specified, as appropriate and relevant for the item:
 - 1) Physical characteristics.
 - 2) In-service performance.
 - 3) Expected durability.
 - 4) Visual effect.
 - 5) Warranties.
 - 6) Other salient features and requirements.
 - 7) Include, as appropriate or requested, the following types of documentation:
 - (a) Product Data:
 - (b) Samples.
 - (c) Certificates, test, reports or similar qualification data.
 - (d) Drawings, when required to show impact on adjacent construction elements.
 - d. Impact of Substitution:
 - 1) Savings to Owner for accepting substitution.
 - 2) Change to Contract Time due to accepting substitution.
- D. Limit each request to a single proposed substitution item.
 1. Submit an electronic document, combining the request form with supporting data into single document.

3.02 SUBSTITUTION PROCEDURES DURING BIDDING PHASE

- A. Instructions to Bidders specifies time restrictions for submitting requests for substitutions during the bidding period, and the documents required as specified in Section 02113-3.06.

3.03 SUBSTITUTION PROCEDURES AFTER BIDDING PHASE

- A. Engineer will consider requests for substitutions only within 30 days after date of Agreement.
- B. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Engineer, in order to stay on approved project schedule.
- C. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Engineer, in order to stay on approved project schedule.
 1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.

2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
 3. Bear the costs engendered by proposed substitution of:
 - a. Owner's compensation to the Engineer for any required redesign, timespent processing and evaluating the request.
- D. Substitutions will not be considered under one or more of the following circumstances:
1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
 2. Without a separate written request.
 3. When acceptance will require revisions to the Contract Documents.

3.04 RESOLUTION

- A. Engineer may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.
- B. Engineer will notify Contractor in writing of decision to accept or reject request.
 1. Engineer's decision following review of proposed substitution will be noted on the submitted form.

3.05 ACCEPTANCE

- A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.06 CLOSEOUT ACTIVITIES

- A. See Section 01 7800 - Closeout Submittals, for closeout submittals.
- B. Include completed Substitution Request Forms as part of the Project record. Include both approved and rejected Requests.

END OF SECTION

SECTION 01 3000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General administrative requirements.
- B. Preconstruction meeting.
- C. Site mobilization meeting.
- D. Progress meetings.
- E. Construction progress schedule.
- F. Contractor's daily reports.
- G. Progress photographs.
- H. Coordination drawings.
- I. Submittals for review, information, and project closeout.
- J. Number of copies of submittals.
- K. Requests for Interpretation (RFI) procedures.
- L. Submittal procedures.

1.02 RELATED REQUIREMENTS

- A. Section 01 3216 - Construction Progress Schedule: Form, content, and administration of schedules.
- B. Section 01 6000 - Product Requirements: General product requirements.
- C. Section 01 7000 - Execution and Closeout Requirements: Additional coordination requirements.
- D. Section 01 7800 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

- A. Conform to requirements of Section 01 7000 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.
- B. Make the following types of submittals to Engineer:
 - 1. Requests for Interpretation (RFI).
 - 2. Requests for substitution.
 - 3. Shop drawings, product data, and samples.
 - 4. Test and inspection reports.
 - 5. Design data.
 - 6. Manufacturer's instructions and field reports.
 - 7. Applications for payment and change order requests.
 - 8. Progress schedules.
 - 9. Coordination drawings.
 - 10. Correction Punch List and Final Correction Punch List for Substantial Completion.
 - 11. Closeout submittals.

1.04 PROJECT COORDINATOR

- A. Project Coordinator: Construction Manager.
- B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for building access, traffic, and parking facilities.
- C. During construction, coordinate use of site and facilities through the Project Coordinator.

- D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
- E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities. Responsibility for providing temporary utilities and construction facilities is identified in Section 01 1000 - Summary.
- F. Coordinate field engineering and layout work under instructions of the Project Coordinator.
- G. Make the following types of submittals to Engineer through the Project Coordinator:
 - 1. Requests for Interpretation.
 - 2. Requests for substitution.
 - 3. Shop drawings, product data, and samples.
 - 4. Test and inspection reports.
 - 5. Design data.
 - 6. Manufacturer's instructions and field reports.
 - 7. Applications for payment and change order requests.
 - 8. Progress schedules.
 - 9. Coordination drawings.
 - 10. Correction Punch List and Final Correction Punch List for Substantial Completion.
 - 11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

- A. Engineer will schedule a meeting after Okaloosa County BOCC Approves Contract.
- B. Attendance Required:
 - 1. Owner.
 - 2. Engineer.
 - 3. Contractor.
- C. Agenda:
 - 1. Submission of list of subcontractors, list of products, schedule of values, and progress schedule.
 - 2. Designation of personnel representing the parties to Contract, Owner, Contractor, and Engineer.
 - 3. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 4. Scheduling.
- D. Engineer to record minutes and distribute copies within two (2) days after meeting to participants, with two (2) copies to Engineer, Owner, participants, and those affected by decisions made.

3.02 SITE MOBILIZATION MEETING

- A. Engineer will schedule meeting at the Project site prior to Contractor occupancy.
- B. Attendance Required:
 - 1. Contractor.
 - 2. Owner.
 - 3. Engineer.
 - 4. Contractor's superintendent.
 - 5. Major subcontractors.
- C. Agenda:

1. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
 2. Designation of personnel representing the parties to Contract, Owner, Contractor, and Engineer.
 3. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 4. Scheduling.
 5. Use of premises by Owner and Contractor.
 6. Owner's requirements and occupancy prior to completion.
 7. Construction facilities and controls provided by Owner.
 8. Temporary utilities provided by Owner.
 9. Survey and building layout.
 10. Security and housekeeping procedures.
 11. Schedules.
 12. Application for payment procedures.
 13. Procedures for testing.
 14. Procedures for maintaining record documents.
 15. Requirements for start-up of equipment.
 16. Inspection and acceptance of equipment put into service during construction period.
- D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer, Owner, participants, and those affected by decisions made.

3.03 PROGRESS MEETINGS

- A. Engineer shall schedule and administer meetings throughout progress of the Work at bi-weekly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required:
1. Contractor.
 2. Owner.
 3. Engineer.
 4. Contractor's superintendent.
 5. Major subcontractors.
- D. Agenda:
1. Review minutes of previous meetings.
 2. Review of work progress.
 3. Field observations, problems, and decisions.
 4. Identification of problems that impede, or will impede, planned progress.
 5. Review of submittals schedule and status of submittals.
 6. Review of RFIs log and status of responses.
 7. Maintenance of progress schedule.
 8. Corrective measures to regain projected schedules.
 9. Planned progress during succeeding work period.
 10. Coordination of projected progress.
 11. Maintenance of quality and work standards.
 12. Effect of proposed changes on progress schedule and coordination.
 13. Other business relating to work.
- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer, Owner, participants, and those affected by decisions made.

3.04 CONSTRUCTION PROGRESS SCHEDULE

- A. Within 10 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of work, with a general outline for remainder of work.
- B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
 - 1. Include written certification that major contractors have reviewed and accepted proposed schedule.
- D. Within 10 days after joint review, submit complete schedule.
- E. Submit updated schedule with each Application for Payment.

3.05 DAILY CONSTRUCTION REPORTS

- A. Include only factual information. Do not include personal remarks or opinions regarding operations and/or personnel.
- B. Prepare a daily construction report recording the following information concerning events at Project site and project progress:
 - 1. Date.
 - 2. High and low temperatures, and general weather conditions.
 - 3. List of subcontractors at Project site.
 - 4. Approximate count of personnel at Project site.
 - a. Include a breakdown for supervisors, laborers, journeymen, equipment operators, and helpers.
 - 5. Major equipment at Project site.
 - 6. Material deliveries.
 - 7. Safety, environmental, or industrial relations incidents.
 - 8. Meetings and significant decisions.
 - 9. Unusual events (submit a separate special report).
 - 10. Stoppages, delays, shortages, and losses. Include comparison between scheduled work activities (in Contractor's most recently updated and published schedule) and actual activities. Explain differences, if any. Note days or periods when no work was in progress and explain the reasons why.
 - 11. Directives and requests of Authority(s) Having Jurisdiction (AHJ).
 - 12. Change Orders received and implemented.
 - 13. Testing and/or inspections performed.
 - 14. List of verbal instruction given by Owner and/or Engineer.
 - 15. Signature of Contractor's authorized representative.

3.06 COORDINATION DRAWINGS

- A. Provide information required by Project Coordinator for preparation of coordination drawings.
- B. Review drawings prior to submission to Engineer.

3.07 REQUESTS FOR INTERPRETATION (RFI)

- A. Definition: A request seeking one of the following:
 - 1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in the Contract Documents.
 - 2. A resolution to an issue which has arisen due to field conditions and affects design intent.
- B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.
- C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of the Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.

1. Prepare a separate RFI for each specific item.
 - a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
 - b. Do not forward requests which solely require internal coordination between subcontractors.
 2. Prepare in a format and with content acceptable to Owner.
 3. Combine RFI and its attachments into a single electronic file. PDF format is preferred.
- D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
1. Include in each request Contractor's signature attesting to good faith effort to determine from the Contract Documents information requiring interpretation.
 2. Unacceptable Uses for RFIs: Do not use RFIs to request the following:
 - a. Approval of submittals (use procedures specified elsewhere in this section).
 - b. Approval of substitutions (see Section - 01 6000 - Product Requirements)
 - c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
 - d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
 3. Improper RFIs: Requests not prepared in conformance to requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
 4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, the Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.

- a. The Owner reserves the right to assess the Contractor for the costs (on time-and-materials basis) incurred by the Engineer, and any of its consultants, due to processing of such RFIs.
- E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
 - 1. Official Project name and number, and any additional required identifiers established in Contract Documents.
 - 2. Owner's, Engineer's, and Contractor's names.
 - 3. Discrete and consecutive RFI number, and descriptive subject/title.
 - 4. Issue date, and requested reply date.
 - 5. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
 - 6. Annotations: Field dimensions and/or description of conditions which have engendered the request.
 - 7. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.
- F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.
- G. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
 - 1. Indicate current status of every RFI. Update log promptly and on a regular basis.
 - 2. Note dates of when each request is made, and when a response is received.
 - 3. Highlight items requiring priority or expedited response.
 - 4. Highlight items for which a timely response has not been received to date.
 - 5. Identify and include improper or frivolous RFIs.
- H. Review Time: Engineer will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 12:00 noon will be considered as having been received on the following regular working day.
 - 1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.
- I. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.
 - 1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
 - 2. Do not extend applicability of a response to specific item to encompass others similar conditions, unless specifically so noted in the response.
 - 3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
 - 4. Notify Engineer within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.08 SUBMITTAL SCHEDULE

- A. Submit to Engineer for review a schedule for submittals in tabular format.
 - 1. Submit at the same time as the preliminary schedule specified in Section - 01 3216- Construction Progress Schedule.
 - 2. Coordinate with Contractor's construction schedule and schedule of values.

3. Format schedule to allow tracking of status of submittals throughout duration of construction.
4. Arrange information to include scheduled date for initial submittal, specification number and title, submittal category (for review or for information), description of item of work covered, and role and name of subcontractor.
5. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.

3.10 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 1. Product data.
 2. Shop drawings.
 3. Samples for selection.
 4. Samples for verification.
 5. List of subcontractors to be used on the project.
- B. Submit to Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
- C. Samples will be reviewed for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 7800 - Closeout Submittals.

3.11 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 1. Design data.
 2. Certificates.
 3. Test reports.
 4. Inspection reports.
 5. Manufacturer's instructions.
 6. Manufacturer's field reports.
 7. Other types indicated.
- B. Submit for Engineer's knowledge as contract administrator or for Owner.

3.12 SUBMITTALS FOR PROJECT CLOSEOUT

- A. Submit Correction Punch List for Substantial Completion.
- B. Submit Final Correction Punch List for Substantial Completion.
- C. Submit Final As-Built Drawings showing location of all unit price work performed.
- D. When the following are specified in individual sections, submit them at project closeout in conformance to requirements of Section 01 7800 - Closeout Submittals:
 1. Project record documents.
 2. Operation and maintenance data.
 3. Warranties.
 4. Bonds.
 5. Other types as indicated.
- E. Submit for Owner's benefit during and after project completion.

3.13 NUMBER OF COPIES OF SUBMITTALS

- A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.
- B. Documents for Review:
 1. Small Size Sheets, Not Larger Than 8-1/2 by 11 inches: Submit the number of copies that Contractor requires, plus two copies that will be retained by Engineer.
- C. Documents for Information: Submit two copies.

- D. Samples: Submit the number specified in individual specification sections; one of which will be retained by Engineer.
 - 1. After review, produce duplicates.
 - 2. Retained samples will not be returned to Contractor unless specifically so stated.

3.14 SUBMITTAL PROCEDURES

- A. General Requirements:
 - 1. Use a single transmittal for related items.
 - 2. Transmit using approved form.
 - a. Use Contractor's form, subject to prior approval by Engineer.
 - 3. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
 - 4. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.
 - 5. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
 - a. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.
 - 6. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties, and is of the benefit to the project.
 - a. Deliver submittals to Engineer at business address.
 - 7. Schedule submittals to expedite the Project, and coordinate submission of related items.
 - a. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
 - b. For sequential reviews involving Engineer's consultants, Owner, or another affected party, allow an additional 7 days.
 - 8. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
 - 9. Provide space for Contractor and Engineer review stamps.
 - 10. When revised for resubmission, identify all changes made since previous submission.
 - 11. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
 - 12. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.
 - 13. Submittals not requested will not be recognized or processed.
- B. Product Data Procedures:
 - 1. Submit only information required by individual specification sections.
 - 2. Collect required information into a single submittal.
 - 3. Submit concurrently with related shop drawing submittal.
 - 4. Do not submit (Material) Safety Data Sheets for materials or products.
 - 5. Submit sustainable design reporting submittals under separate cover.
- C. Shop Drawing Procedures:
 - 1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related work.
 - 2. Do not reproduce the Contract Documents to create shop drawings.
 - 3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.
- D. Samples Procedures:
 - 1. Transmit related items together as single package.
 - 2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.

3. Include with transmittal high-resolution image files of samples to facilitate electronic review and approval. Provide separate submittal page for each item image.
- E. Shop Drawing Procedures:
 1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
 2. Do not reproduce the Contract Documents to create shop drawings.
 3. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.
 - F. Transmit each submittal with a copy of approved submittal form.
 - G. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
 - H. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
 - I. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
 - J. Deliver submittals to Engineer at business address.
 - K. Schedule submittals to expedite the Project, and coordinate submission of related items.
 - L. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
 - M. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
 - N. Provide space for Contractor and Engineer review stamps.
 - O. When revised for resubmission, identify all changes made since previous submission.
 - P. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
 - Q. Submittals not requested will not be recognized or processed.

3.15 SUBMITTAL REVIEW

- A. Submittals for Review: Engineer will review each submittal, and approve, or take other appropriate action.
- B. Submittals for Information: Engineer will acknowledge receipt and review. See below for actions to be taken.
- C. Engineer's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
 1. Notations may be made directly on submitted items and/or listed on appended Submittal Review cover sheet.
- D. Engineer's and his consultants' actions on items submitted for review:
 1. Authorizing purchasing, fabrication, delivery, and installation:
 - a. "Approved", or language with same legal meaning.
 - b. "Approved as Noted, Resubmission not required", or language with same legal meaning.
 - 1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
 - c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
 - 1) Resubmit corrected item, with review notations acknowledged and incorporated. Resubmit separately, or as part of project record documents.
 2. Not Authorizing fabrication, delivery, and installation:
 - a. "Revise and Resubmit".
 - 1) Resubmit revised item, with review notations acknowledged and incorporated.
 - b. "Rejected".

- 1) Submit item complying with requirements of Contract Documents.
- E. Engineer's and his consultants' actions on items submitted for information:
1. Items for which no action was taken:
 - a. "Received" - to notify the Contractor that the submittal has been received for record only.
 2. Items for which action was taken:
 - a. "Reviewed" - no further action is required from Contractor.

END OF SECTION

SECTION 01 3216
CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preliminary schedule.
- B. Construction progress schedule, bar chart type.

1.02 RELATED SECTIONS

- A. Section 01 1000 - Summary: Work sequence.

1.03 REFERENCE STANDARDS

- A. AGC (CPSM) - Construction Planning and Scheduling Manual; 2004.
- B. M-H (CPM) - CPM in Construction Management - Project Management with CPM; O'Brien; 2006.

1.04 SUBMITTALS

- A. Within 10 days after date of Agreement, submit preliminary schedule.
- B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
 - 1. Include written certification that major contractors have reviewed and accepted proposed schedule.
- D. Within 10 days after joint review, submit complete schedule.
- E. Submit updated schedule with each Application for Payment.
- F. Submit the number of opaque reproductions that Contractor requires, plus two copies that will be retained by Engineer.

1.05 QUALITY ASSURANCE

- A. Scheduler: Contractor's personnel or specialist Consultant specializing in CPM scheduling with one year minimum experience in scheduling construction work of a complexity comparable to this Project, and having use of computer facilities capable of delivering a detailed graphic printout within 48 hours of request.

1.06 SCHEDULE FORMAT

- A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRELIMINARY SCHEDULE

- A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.02 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Identify work of separate stages and other logically grouped activities.
- D. Provide sub-schedules to define critical portions of the entire schedule.
- E. Include conferences and meetings in schedule.
- F. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.

- G. Provide separate schedule of submittal dates for shop drawings, product data, and samples, owner-furnished products, products identified under Allowances, and dates reviewed submittals will be required from Engineer. Indicate decision dates for selection of finishes.
- H. Coordinate content with schedule of values specified in Section 01 2000 - Price and Payment Procedures.
- I. Provide legend for symbols and abbreviations used.

3.03 BAR CHARTS

- A. Include a separate bar for each major portion of Work or operation.
- B. Identify the first work day of each week.

3.04 NETWORK ANALYSIS

- A. Prepare network analysis diagrams and supporting mathematical analyses using the Critical Path Method.
- B. Illustrate order and interdependence of activities and sequence of work; how start of a given activity depends on completion of preceding activities, and how completion of the activity may restrain start of subsequent activities.
- C. Mathematical Analysis: Tabulate each activity of detailed network diagrams, using calendar dates, and identify for each activity:
 - 1. Preceding and following event numbers.
 - 2. Activity description.
 - 3. Estimated duration of activity, in maximum 15 day intervals.
 - 4. Earliest start date.
 - 5. Earliest finish date.
 - 6. Actual start date.
 - 7. Actual finish date.
 - 8. Latest start date.
 - 9. Latest finish date.
 - 10. Total and free float; float time shall accrue to Owner and to Owner's benefit.
 - 11. Monetary value of activity, keyed to Schedule of Values.
 - 12. Percentage of activity completed.
 - 13. Responsibility.
- D. Analysis Program: Capable of compiling monetary value of completed and partially completed activities, accepting revised completion dates, and recomputation of all dates and float.
- E. Required Reports: List activities in sorts or groups:
 - 1. By preceding work item or event number from lowest to highest.
 - 2. By amount of float, then in order of early start.
 - 3. Listing of activities on the critical path.

3.05 REVIEW AND EVALUATION OF SCHEDULE

- A. Participate in joint review and evaluation of schedule with Engineer at each submittal.
- B. Evaluate project status to determine work behind schedule and work ahead of schedule.
- C. After review, revise as necessary as result of review, and resubmit within 10 days.

3.06 UPDATING SCHEDULE

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Annotate diagrams to graphically depict current status of Work.
- D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- E. Indicate changes required to maintain Date of Substantial Completion.

- F. Submit reports required to support recommended changes.
- G. Provide narrative report to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken or proposed and its effect including the effects of changes on schedules of separate contractors.

3.07 DISTRIBUTION OF SCHEDULE

- A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Engineer, Owner, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.

END OF SECTION

SECTION 01 4000
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Submittals.
- B. References and standards.

- C. Testing and inspection agencies and services.
- D. Control of installation.
- E. Mock-ups.
- F. Tolerances.
- G. Manufacturers' field services.
- H. Defect Assessment.

1.02 RELATED REQUIREMENTS

- A. Section 01 3000 - Administrative Requirements: Submittal procedures.
- B. Section 01 6000 - Product Requirements: Requirements for material and product quality.

1.03 REFERENCE STANDARDS

- A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 2008 (Reapproved 2014).
- B. ASTM C1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation; 2014.
- C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry; 2013.
- D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2012a.
- E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection and/or Testing; 2014a.
- F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2013.
- G. IAS AC89 - Accreditation Criteria for Testing Laboratories; 2010.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Design Data: Submit for Engineer's knowledge as contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents, or for Owner's information.
- C. Test Reports: After each test/inspection, promptly submit two copies of report to Engineer and to Contractor.
 - 1. Include:
 - a. Date issued.
 - b. Project title and number.
 - c. Name of inspector.
 - d. Date and time of sampling or inspection.
 - e. Identification of product and specifications section.
 - f. Location in the Project.
 - g. Type of test/inspection.
 - h. Date of test/inspection.
 - i. Results of test/inspection.
 - j. Conformance with Contract Documents.

- k. When requested by Engineer, provide interpretation of results.
- 2. Test report submittals are for Engineer's knowledge as contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents, or for Owner's information.
- D. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Engineer, in quantities specified for Product Data.
 - 1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
 - 2. Certificates may be recent or previous test results on material or product, but must be acceptable to Engineer.
- E. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
- F. Manufacturer's Field Reports: Submit reports for Engineer's benefit as contract administrator or for Owner.
 - 1. Submit report in duplicate within 30 days of observation to Engineer for information.
 - 2. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.05 REFERENCES AND STANDARDS

- A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- C. Obtain copies of standards where required by product specification sections.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Engineer before proceeding.
- F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Engineer shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.06 TESTING AND INSPECTION AGENCIES AND SERVICES

- A. Contractor shall employ and pay for services of an independent testing agency to perform specified testing.
- B. As indicated in individual specification sections, Owner or Contractor shall employ and pay for services of an independent testing agency to perform other specified testing.
- C. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- D. Contractor Employed Agency:
 - 1. Testing agency: Comply with requirements of ASTM E329, ASTM E543, ASTM C1021, ASTM C1077, ASTM C1093, and ASTM D3740.
 - 2. Inspection agency: Comply with requirements of ASTM D3740 and ASTM E329.
 - 3. Laboratory Qualifications: Accredited by IAS according to IAS AC89.
 - 4. Laboratory: Authorized to operate in Florida.
 - 5. Laboratory Staff: Maintain a full time registered Engineer on staff to review services.

6. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Have Work performed by persons qualified to produce required and specified quality. The Owner has the right to request the removal of any subcontractor from the job if the required and specified quality is not met in a timely manner.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.
- H. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- I. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- J. Examine and verify specific conditions described in individual specification sections.
- K. Examine existing conditions prior to commencing work. After uncovering existing work, assess conditions affecting performance of work. Any unsatisfactory condition shall be reported to the Engineer in writing immediately. Beginning of cutting or patching means acceptance of existing conditions.

3.02 MOCK-UPS

- A. Before installing portions of the Work where mock-ups are required, construct mock-ups in location and size indicated for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work. The purpose of mock-up is to demonstrate the proposed range of aesthetic effects and workmanship.
- B. Accepted mock-ups establish the standard of quality the Engineer will use to judge the Work.
- C. Integrated Exterior Mock-ups: construct integrated exterior mock-up as indicated on Drawings. Coordinate installation of exterior envelope materials and products as required in individual Specification Sections. Provide adequate supporting structure for mock-up materials as necessary.
- D. Notify Engineer Five (5) working days in advance of dates and times when mock-ups will be constructed.
- E. Provide supervisory personnel who will oversee mock-up construction. Provide workers that will be employed during the construction at Project.
- F. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.
- G. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.

- H. Obtain Engineer's approval of mock-ups before starting work, fabrication, or construction.
 1. Engineer will issue written comments within seven (7) working days of initial review and each subsequent follow up review of each mock-up.
 2. Make corrections as necessary until Architect's approval is issued.
- I. Accepted mock-ups shall be a comparison standard for the remaining Work.
- J. Where mock-up has been accepted by Engineer and is specified in product specification sections to be remain in place, protect mock-up throughout construction.

3.03 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Engineer before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

3.04 TESTING AND INSPECTION

- A. Testing Agency Duties:
 1. Provide qualified personnel at site. Cooperate with Engineer and Contractor in performance of services.
 2. Perform specified sampling and testing of products in accordance with specified standards.
 3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 4. Promptly notify Engineer and Contractor of observed irregularities or non-conformance of Work or products.
 5. Perform additional tests and inspections required by Engineer.
 6. Submit reports of all tests/inspections specified.
- B. Limits on Testing/Inspection Agency Authority:
 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 2. Agency may not approve or accept any portion of the Work.
 3. Agency may not assume any duties of Contractor.
 4. Agency has no authority to stop the Work.
- C. Contractor Responsibilities:
 1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
 2. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
 3. Provide incidental labor and facilities:
 - a. To provide access to Work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
 - c. To facilitate tests/inspections.
 - d. To provide storage and curing of test samples.
 4. Notify Engineer and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
 5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
 6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
- D. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Engineer.
- E. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.

3.05 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, as applicable, and to initiate instructions when necessary.
- B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.06 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not conforming to specified requirements.
- B. If, in the opinion of Engineer, it is not practical to remove and replace the Work, Engineer will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 01 5000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary utilities.
- B. Temporary sanitary facilities.
- C. Temporary Controls: Barriers, enclosures, and fencing.
- D. Security requirements.
- E. Vehicular access and parking.
- F. Waste removal facilities and services.

1.02 TEMPORARY UTILITIES

- A. Owner will provide the following:
 - 1. Electrical power and metering, consisting of connection to existing facilities.
 - 2. Water supply, consisting of connection to existing facilities.
- B. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.03 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Maintain daily in clean and sanitary condition.

1.04 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
- C. Provide protection for plants designated to remain. Replace damaged plants.
- D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.05 FENCING

- A. Contractor shall provide fencing to ensure the safety of the worksite and public at all times.

1.06 INTERIOR ENCLOSURES

- A. Provide temporary partitions and ceilings as indicated to separate work areas from Owner-occupied areas, to prevent penetration of dust and moisture into Owner-occupied areas, and to prevent damage to existing materials and equipment.
- B. Construction: Framing and reinforced polyethylene sheet materials with closed joints and sealed edges at intersections with existing surfaces.

1.07 VEHICULAR ACCESS AND PARKING

- A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
- B. Coordinate access and haul routes with governing authorities and Owner.
- C. Provide and maintain access to fire hydrants, free of obstructions.

- D. Owner shall provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.

1.08 WASTE REMOVAL

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Provide containers with lids. Remove trash from site as required.
- C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.
- D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

**SECTION 01 6000
PRODUCT REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General product requirements.
- B. Re-use of existing products.
- C. Transportation, handling, storage and protection.
- D. Product option requirements.
- E. Substitution limitations.
- F. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

- A. Document 00 4325 - Substitution Request Form - During Procurement.
- B. Document 00 6325 - Substitution Request Form - During Construction.
- C. Document 00 2113 - Instructions to Bidders: Product options and substitution procedures prior to bid date.
- D. Section 01 1000 - Summary: Lists of products to be removed from existing building.
- E. Section 01 2500 - Substitution Procedures: Substitutions made during and after the Bidding/Negotiation Phase.
- F. Section 01 4000 - Quality Requirements: product quality monitoring.

1.03 REFERENCE STANDARDS

- A. 16 CFR 260.13 - Guides for the Use of Environmental Marketing Claims; Federal Trade Commission; Recycled Content; Current Edition.
- B. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 SUBMITTALS

- A. Proposed Products List: Submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
 - 1. Submit within 15 days after date of Agreement.
 - 2. For products specified only by reference standards, list applicable reference standards.
- B. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- C. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- D. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

- A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.
- B. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

2.02 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by the Contract Documents.
- B. DO NOT USE products having any of the following characteristics:
 - 1. Made outside the United States, its territories, Canada, or Mexico.
 - 2. Made of wood from newly cut old growth timber.
 - 3. Containing lead, cadmium, asbestos.

2.03 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- B. Provide maintenance requirements and recommendations for all materials used during the project with Closeout submittals.
- C. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

- A. See Section 01 2500 - Substitution Procedures.
- B. Instructions to Bidders specifies time restrictions for submitting requests for substitutions during the bidding period and the documents required. Comply with requirements specified in Section 00 2113.
- C. Submit substitution requests by completing the form in Section 00 4325; see this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.
- D. Substitutions will be considered when a product, through no fault of the Contractor, becomes unavailable or unsuitable due to regulatory change.
 - 1. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Engineer.
- E. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- F. A request for substitution constitutes a representation that the submitter:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
 - 2. Agrees to provide the same warranty for the substitution as for the specified product.
 - 3. Agrees to coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
- G. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- H. Substitution Submittal Procedure (after contract award):

1. Submit substitution requests by completing the form in Section 00 6325; see this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.
2. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.
3. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
4. Engineer will notify Contractor in writing of decision to accept or reject request.

3.02 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- G. Comply with manufacturer's warranty conditions, if any.
- H. Do not store products directly on the ground.
- I. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- J. Prevent contact with material that may cause corrosion, discoloration, or staining.
- K. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- L. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 7000
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Requirements for alterations work, including selective demolition.
- C. Pre-installation meetings.
- D. Cutting and patching.
- E. Cleaning and protection.
- F. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- G. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

- A. Section 01 1000 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.
- B. Section 01 3000 - Administrative Requirements: Submittals procedures, Electronic document submittal service.
- C. Section 01 4000 - Quality Requirements: Testing and inspection procedures.
- D. Section 01 5000 - Temporary Facilities and Controls: Temporary interior partitions.
- E. Section 01 5100 - Temporary Utilities: Temporary heating, cooling, and ventilating facilities.
- F. Section 01 7419 - Construction Waste Management and Disposal: Additional procedures for trash/waste removal, recycling, salvage, and reuse.
- G. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties .
- H. Section 02 4100 - Demolition: Demolition of whole structures and parts thereof; site utility demolition.

1.03 REFERENCE STANDARDS

- A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
 - 1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences. Include design drawings and calculations for bracing and shoring.
 - 2. Identify demolition firm and submit qualifications.
 - 3. Include a summary of safety procedures.
- C. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Include in request:
 - a. Identification of Project.
 - b. Location and description of affected work.
 - c. Necessity for cutting or alteration.

- d. Description of proposed work and products to be used.
 - e. Effect on work of Owner or separate Contractor.
 - f. Written permission of affected separate Contractor.
 - g. Date and time work will be executed.
- D. List of Subcontractors to be used on the project. The owner reserves the right to reject any subcontractor for the work.
 - E. Project Record Documents: Accurately record actual locations of all repairs, and unit cost work performed.

1.05 QUALIFICATIONS

- A. For demolition work, employ a firm specializing in the type of work required.
 - 1. Minimum of 3 years of documented experience.
- B. For design of temporary shoring and bracing, employ a Professional Engineer experienced in design of this type of work and licensed in Florida.

1.06 PROJECT CONDITIONS

- A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- B. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.
 - 1. Provide dust-proof enclosures to prevent entry of dust generated outdoors.
 - 2. Provide dust-proof barriers between construction areas and areas continuing to be occupied by Owner.
- C. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
 - 1. Outdoors: Limit conduct of especially noisy exterior work to the hours of 8 am to 5 pm.

1.07 COORDINATION

- A. See Section 01 1000 for occupancy-related requirements.
- B. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- C. Notify affected utility companies and comply with their requirements.
- D. Coordinate completion and clean-up of work of separate sections.
- E. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Report any unacceptable conditions or substrates to the Engineer in writing immediately. Start of work means acceptance of existing conditions.

- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 PREINSTALLATION MEETINGS

- A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific section.
- C. Notify Engineer four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 1. Review conditions of examination, preparation and installation procedures.
 2. Review coordination with related work.
- E. Contractor to record minutes and distribute copies within two days after meeting to participants, with two copies to Engineer, Owner, participants, and those affected by decisions made.

3.04 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install windows plumb, level, and square, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 ALTERATIONS

- A. Drawings showing existing construction are based on casual field observation and existing record documents only.
 1. Verify that construction is as shown.
 2. Report discrepancies to Engineer before disturbing existing installation.
 3. Beginning of alterations work constitutes acceptance of existing conditions.
- B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
 1. Provide, erect, and maintain temporary dustproof partitions of construction as required to keep dust and debris out of unit interiors.
- C. Maintain weatherproof exterior building enclosure including during interruptions required for replacement or modifications; take care to prevent water and humidity damage.

1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
 2. Contractor is responsible for maintaining a watertight condition throughout each stage of the construction.
- D. Remove existing work as indicated and as required to accomplish new work.
1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
 2. Remove items indicated on drawings.
 3. Where newsurface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
 4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
 2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
- F. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 3. Repair adjacent construction and finishes damaged during removal work.
- G. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Engineer.
 2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
 3. Where a change of plane of 1/4 inch or more occurs in existing work, submit recommendation for providing a smooth transition for Engineer review and request instructions.
- H. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
- I. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
 2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.
- J. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
- K. Do not begin new construction in alterations areas before demolition is complete.
- L. Comply with all other applicable requirements of this section.

3.06 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. See Alterations article above for additional requirements.

- C. Perform whatever cutting and patching is necessary to:
 - 1. Complete the work.
 - 2. Fit products together to integrate with other work.
 - 3. Provide openings for penetration of mechanical, electrical, and other services.
 - 4. Match work that has been cut to adjacent work.
 - 5. Repair areas adjacent to cuts to required condition.
 - 6. Repair new work damaged by subsequent work.
 - 7. Remove samples of installed work for testing when requested.
 - 8. Remove and replace defective and non-conforming work.
- D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- E. Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- G. Restore work with new products in accordance with requirements of Contract Documents.
- H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material, to full thickness of the penetrated element.
- J. Patching:
 - 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 - 2. Match color, texture, and appearance.
 - 3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.07 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site daily and dispose off-site; do not burn or bury.

3.08 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, elevators, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Protect work from spilled liquids. If work is exposed to spilled liquids, immediately remove protective coverings, dry out work, and replace protective coverings.

- G. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- H. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.09 FINAL CLEANING

- A. Execute final cleaning prior to Substantial Completion.
 - 1. Clean areas to be occupied by Owner prior to final completion before Owner occupancy.
- B. Use cleaning materials that are nonhazardous.
- C. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces,
- D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- F. Clean debris from scuppers, area drains, and drainage systems.
- G. Clean site; sweep paved areas, rake clean landscaped surfaces.
- H. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.10 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
 - 1. Provide copies to Engineer and Owner.
- B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.
- C. Notify Engineer when work is considered ready for Engineer's Substantial Completion inspection.
- D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Engineer's Substantial Completion inspection.
- E. Owner will occupy all of the building as specified in Section 01 1000.
- F. Conduct Substantial Completion inspection and create Final Correction Punch List containing Engineer's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Engineer.
- G. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.
- H. Notify Engineer when work is considered finally complete and ready for Engineer's Substantial Completion final inspection.
- I. Complete items of work determined by Engineer listed in executed Certificate of Substantial Completion.

3.11 MAINTENANCE

- A. Provide manufacturer's maintenance data and recommendations for each system or material installed.

END OF SECTION

**SECTION 01 7800
CLOSEOUT SUBMITTALS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

- A. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- B. Section 01 7000 - Execution and Closeout Requirements: Contract closeout procedures.
- C. Individual Product Sections: Specific requirements for operation and maintenance data.
- D. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

- A. Project Record Documents: Submit documents to Engineer with claim for final Application for Payment.
 - 1. As-Built drawings: Submit drawings documenting all repair areas and unit cost quantity locations.
- B. Operation and Maintenance Data:
 - 1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Engineer will review draft and return one copy with comments.
 - 2. For each product installed, submit manufacturer's data and recommendations for inspections and maintenance.
 - 3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Engineer comments. Revise content of all document sets as required prior to final submission.
 - 4. Submit two sets of revised final documents in final form within 10 days after final inspection.
- C. Warranties and Bonds:
 - 1. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - 2. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.
 - 3. Contractor to provide a minimum two (2) year warranty for all work performed.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed shop drawings, product data, and samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.

- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Field changes of dimension and detail.
 - 2. Details not on original Contract drawings.
 - 3. Location and size of each repair made.

3.02 OPERATION AND MAINTENANCE DATA

- A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For Each Product, Applied Material, and Finish:
 - 1. Product data, with catalog number, size, composition, and color and texture designations.
 - 2. Information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- C. Moisture protection and weather-exposed products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional information as specified in individual product specification sections.
- E. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

3.04 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

- A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.
- B. Where systems involve more than one specification section, provide separate tabbed divider for each system.
- C. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
- E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Engineer, Consultants, Contractor and subcontractors, with names of responsible parties.
- F. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

- G. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
- H. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.
- I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- J. Arrangement of Contents: Organize each volume in parts as follows:
 - 1. Project Directory.
 - 2. Table of Contents, of all volumes, and of this volume.
 - 3. Operation and Maintenance Data: Arranged by system, then by product category.
 - a. Source data.
 - b. Operation and maintenance data.
 - c. Field quality control data.
 - d. Photocopies of warranties and bonds.
 - 4. Design Data: To allow for addition of design data furnished by Engineer or others, provide a tab labeled "Design Data" and provide a binder large enough to allow for insertion of at least 20 pages of typed text.

3.05 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.
- E. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.

END OF SECTION

**SECTION 02 4100
DEMOLITION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Selective demolition of building elements for alteration purposes.

1.02 RELATED REQUIREMENTS

- A. Section 01 1000 - Summary: Limitations on Contractor's use of site and premises.
- B. Section 01 1000 - Summary: Sequencing and staging requirements.
- C. Section 01 5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- D. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

1.03 REFERENCE STANDARDS

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.
- B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Site Plan: Showing:
 - 1. Vegetation to be protected.
 - 2. Areas for temporary construction and field offices.
 - 3. Areas for temporary and permanent placement of removed materials.
- C. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
 - 1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences.
 - 2. Identify demolition firm and submit qualifications.
 - 3. Include a summary of safety procedures.
- D. Project Record Documents: Accurately reflect all assumed quantity and unit cost work on building floor plans and elevations.

1.05 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: Company specializing in the type of work required.
 - 1. Minimum of 3 years of documented experience.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION

3.01 SCOPE

- A. Remove all balcony, walkway, and stair coverings (tile, coatings, underlayments).
- B. Remove all delaminated, disbonded, or damaged EIFS, stucco, and concrete.
- C. Remove all existing sealants associated with the exterior cladding and waterproofing systems.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with other requirements specified in Section 01 7000.
- B. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Comply with applicable requirements of NFPA 241.

3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 4. Provide, erect, and maintain temporary barriers and security devices.
 5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
 6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 7. Do not close or obstruct roadways or sidewalks without permit.
 8. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
 9. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- C. Do not begin removal until receipt of notification to proceed from Owner.
- D. Do not begin removal until vegetation to be relocated has been removed and specified measures have been taken to protect vegetation to remain.
- E. Protect existing structures and other elements that are not to be removed.
1. Provide bracing and shoring.
 2. Prevent movement or settlement of adjacent structures.
 3. Stop work immediately if adjacent structures appear to be in danger.
- F. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.

3.03 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
1. Verify that construction and utility arrangements are as indicated.
 2. Report discrepancies to Engineer before disturbing existing installation.
 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Separate areas in which demolition is being conducted from other areas that are still occupied.
1. Provide, erect, and maintain temporary dustproof partitions of construction as required to prevent dust and debris within the units .
- C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage. The contractor shall ensure a weathertight building condition at the end of each work day. Any damage caused to the interior due to excess humidity or water damage caused by the building not being made watertight at the end of the work day shall be the responsibility of the contractor.
- D. Remove existing work as indicated and as required to accomplish new work.
1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
 2. Remove items indicated on drawings.
 3. Verify that existing conditions and substrate surfaces are acceptable for subsequent work. Report any unacceptable conditions or substrates to the Engineer in writing immediately. Start of work means acceptance of existing conditions.
- E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
 2. See Section 01 1000 for other limitations on outages and required notifications.
 3. Verify that abandoned services serve only abandoned facilities before removal.

4. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.
- F. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 3. Repair adjacent construction and finishes damaged during removal work.
 4. Patch as specified for patching new work.

3.04 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

**SECTION 03 0100
MAINTENANCE OF CONCRETE**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Cleaning of existing concrete surfaces.
- B. Repair of exposed structural, shrinkage, and settlement cracks.
- C. Resurfacing of concrete surfaces having spalled areas and other damage.
- D. Repair of deteriorated concrete.
- E. Repair of internal concrete reinforcement.

1.02 PRICE AND PAYMENT PROCEDURES

- A. Repair Surface: By the square foot. Includes surface preparation, repair, finishing.

1.03 REFERENCE STANDARDS

- A. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon Steel Bars for Concrete Reinforcement; 2015.
- B. ASTM A767/A767M - Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement; 2009.
- C. ASTM A775/A775M - Standard Specification for Epoxy-Coated Steel Reinforcing Bars; 2007b (Reapproved 2014).
- D. ASTM A996/A996M - Standard Specification for Rail-Steel and Axle-Steel Deformed Bars for Concrete Reinforcement; 2014.
- E. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2015.
- F. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2013.
- G. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2015a.
- H. ASTM C109/C109M - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or (50-mm) Cube Specimens); 2013.
- I. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.
- J. ASTM C348 - Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars; 2014.
- K. ASTM C404 - Standard Specification for Aggregates for Masonry Grout; 2011.
- L. ASTM C881/C881M - Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete; 2014.
- M. ASTM C928/C928M - Standard Specification for Packaged, Dry, Rapid-Hardening Cementitious Material for Concrete Repairs; 2013.
- N. ASTM C1059/C1059M - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete; 2013.
- O. AWS D1.4/D1.4M - Structural Welding Code - Reinforcing Steel; 2011.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Scheduling: Perform blast cleaning only between the hours of 9 am to 5 pm.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Indicate product standards, physical and chemical characteristics, technical specifications, limitations, maintenance instructions, and general recommendations regarding each material.

- C. Qualification Statements.
- D. Project Record Documents: Accurately record actual locations of structural reinforcement repairs and type of repair.

1.06 QUALITY ASSURANCE

- A. Designer Qualifications: Design reinforcement splices under direct supervision of a Professional Structural Engineer experienced in design of this type of work and licensed in Florida.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.
- C. Cleaner Qualifications: Company specializing in, and with minimum of 3 years of experience in, the type of cleaning specified.
- D. Installer Qualifications: Company specializing in performing work of the type specified and with minimum of 3 years of documented experience.

1.07 MOCK-UP(S)

- A. Test each type of maintenance procedure required on each type of existing construction, to determine the most appropriate procedures to use and as a record of expected results.
- B. Horizontal Surface Repair: Total of 1 foot square area, demonstrating each type of repair.
- C. Vertical Surface Repair: Total of 1 foot square area, demonstrating each type of repair.
- D. Overhead Surface Repair: Total of 1 foot square area, demonstrating each type of repair.
- E. Crack Repair: Total of 3 linear foot area, demonstrating each type of repair.
- F. Where color or texture matching is required, first prepare a small size sample on cementitious board.
- G. Locate mock-up(s) where directed.
- H. Re-work mock-up(s) until satisfactory to Engineer.
- I. Satisfactory mock-up(s) may remain as part of the work.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Comply with manufacturers' instructions for storage, shelf life limitations, and handling of products.

1.09 WARRANTY

- A. See Section 01 7800 - Closeout Submittals for additional warranty information.
- B. Contractor's Warranty: Correct defective work within a two year period after date of Substantial Completion.
- C. Manufacturer's Warranty: Standard 3 year material warranty.

PART 2 PRODUCTS

2.01 CEMENTITIOUS PATCHING AND REPAIR MATERIALS

- A. Manufacturers:
 - 1. Sherwin-Williams Company: www.sherwin-williams.com.
 - 2. Simpson Strong-Tie: www.strongtie.com.
 - 3. Substitutions: See Section 01 6000 - Product Requirements.
- B. Steel Reinforcement Primer and Concrete Binding Agents: 2 or 3 components epoxymodified, cementitious product specifically formulated as a bonding agent for cement or epoxy based repair mortars and anti-corrosion coating.
 - 1. Material Properties:
 - a. Compressive Strength (ASTM C 109): >8,000 psi @ 28 days
 - b. Flexural Strength (ASTM C 348): >1,000 psi @ 28 days
 - c. Bond Strength (ASTM C 882): >2,000 psi @ open time of 24 hours

- d. Splitting Tensile Strength (ASTM C 496): >600 psi @ 28 days
- 2. Products: For application on steel reinforcement to protect against corrosion and existing concrete to act as a bonding agent prior to concrete repairs.
 - a. Sherwin-Williams: SherCrete Rebar Coating and Bonding Agent
 - b. Simpson Strong-Tie: FX-752 or FX-792LPL
 - c. Substitutions: See Section 01 6000 - Product Requirements
- C. Vertical and Overhead Surface Repairs: A polymer-modified, early strength gaining, non-sag patching material with corrosion inhibitor for vertical and overhead concrete repairs.
 - 1. Material Properties:
 - a. Compressive Strength (ASTM C 109): > 5,500 @ 7 days; > 6,750 @ 28 days
 - b. Flexural Strength (ASTM C 348): > 1,100 psi @ 28 days
 - c. Bond Strength (ASTM C 882): > 2,200 psi @ 28 days
 - d. Splitting Tensile Strength (ASTM C 496): > 550 psi @ 28 days
 - 2. Products: For application on vertical and overhead surface repairs including chair legs.
 - a. Sherwin-Williams: SherCrete Vertical/Overhead Mortar with Cl.
 - b. Simpson Strong-Tie: FX-263
 - c. Substitutions: See Section 01 6000 - Product Requirements
- D. Partial Depth, Full Depth, and Slab Edge: A structural, flowable, high early strength gaining, cementitious repair material with corrosion inhibitor for horizontal and formed vertical or slab edge concrete repairs.
 - 1. Material Properties:
 - a. Compressive Strength (ASTM C 109): > 5,500 @ 7 days; > 7,000 @ 28 days
 - b. Bond Strength (ASTM C 882): > 2,500 psi @ 28 days
 - c. Splitting Tensile Strength (ASTM C 496): > 600 psi @ 28 days
 - 2. Products: For application of formed full depth, slab edge, and vertical repairs, as well as partial depth repairs. Limited to applications not less than 1 inch and not greater than 8 inches.
 - a. Sherwin-Williams: SherCrete Deep Pour Mortar with Cl.
 - b. Simpson Strong-Tie: FX-261S.
 - c. Substitutions: See Section 01 6000 - Product Requirements.
- E. Overlayment Repairs: A polymer-modified, cementitious profiling mortar with corrosion inhibitor for leveling and resurfacing of distressed concrete.
 - 1. Material Properties:
 - a. Compressive Strength (ASTM C 109): > 2,500 @ 7 days; > 3,000 @ 28 days .
 - b. Flexural Strength (ASTM C 580): > 700 psi @ 28 days.
 - c. Bond Strength (ASTM C 882-Modified): > 50 psi @ 28 days.
 - 2. Products: For application on horizontal surfaces for the purpose of leveling and resurfacing concrete. Limited to applications not less than 1/4 inch and not greater than 1 inch.
 - a. Sherwin-Williams: SherCrete Thin Coat.
 - b. Simpson Strong-Tie: FX-32GMF.
 - c. Substitutions: See Section 01 6000 - Product Requirements.
- F. Structural Repairs: A cementitious, shrinkage compensated repair mortar with corrosion inhibitor for vertical and overhead repairs to structural components.
 - 1. Material Properties:
 - a. Compressive Strength (ASTM C 109): >5,500 @ 7 days; > 7,000 @ 28 days.
 - b. Flexural Strength (ASTM C 293): > 1,100 psi @ 28 days
 - c. Bond Strength (ASTM C 882): > 2,500 psi @ 28 days
 - d. Splitting Tensile Strength (ASTM C 496): > 600 psi @ 28 days
 - 2. Products: For application at any support columns or beams. Limited to handtrowel applications not to exceed 4 inches.
 - a. Sherwin-Williams: Deep Pour Mortar with Cl
 - b. Simpson Strong-Tie: FX-263.

c. Substitutions: See Section 01 6000 - Product Requirements

G. Cementitious Repair Mortar, Trowel Grade: One- or two-component, factory-mixed, polymer-modified cementitious mortar.

2.02 ACCESSORIES

A. Reinforcing Steel: Deformed bars, ASTM A996/A996M Grade 40 (280), Type A.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are ready to receive work.
- B. Inspect exposed concrete surfaces, including exterior building cladding, panel joint edges, and similar surfaces, for cracks, spalled areas, honeycombs, exposed reinforcing steel and other deficiencies prior to beginning repair work. Conspicuously mark each anomaly for examination by Engineer, prior to excavation as required for correction of work.
- C. Examine surfaces to receive cementitious coating and verify the following:
 - 1. Surfaces are free from ice, dust, frost, dirt, grease, oil, curing compounds, form release agents, paints, impregnations, all loose material, and foreign matter likely to affect the bond or performance of the repair materials.
 - 2. Expansion and control joint provisions are in accordance with the contract documents.
 - 3. Concrete is structurally sound and all cracks have been repaired.
 - 4. Manufacturer's requirements and recommendations have been met for each material to be used.
- D. Examine exposed metal surfaces that are rusting and require repair to verify that all bolts, fasteners, and/or welds will not be compromised by the removal of the rusted section.
- E. Beginning of installation means acceptance of substrate.

3.02 CLEANING EXISTING CONCRETE

- A. Provide enclosures, barricades, and other temporary construction as required to protect adjacent work from damage.
- B. Clean concrete surfaces of dirt or other contamination using the gentlest method that is effective.
 - 1. Try the gentlest method first, then, if not clean enough, use a less gentle method taking care to watch for impending damage.
 - 2. Clean out cracks and voids using same methods.
- C. The following are acceptable cleaning methods, in order from gentlest to less gentle:
 - 1. Water washing using low-pressure, maximum of 100 psi, and, if necessary, brushes with natural or synthetic bristles.
 - 2. Increasing the water washing pressure to maximum of 400 psi.
 - 3. Adding detergent to washing water; with final water rinse to remove residual detergent.
 - 4. Steam-generated low-pressure hot-water washing.

3.03 PREPARATION

- A. Removal of Deteriorated Concrete
 - 1. Perform all preparation work in general accordance with the ICRI Guidelines.
 - 2. Remove all concrete that is cracked, spalled, or otherwise showing evidence of disintegration.
 - 3. Undercut edges of repair/patch areas to eliminate feather edges and provide a keyed area for the patch.
 - 4. Where only partial depth patching is required, take additional precautions to avoid breaking through or fracturing the concrete below the partial depth repair area.
 - 5. Use special care when removing unsound concrete from around reinforcing steel and embedded anchorages, to prevent loss of bond in the remaining sound concrete.
- B. Reinforcing Steel

1. Sandblast, chisel and hammer, or wire brush to remove loose concrete and rust on reinforcing steel bars. Remove loose, scaly rust; thin tightly bonded rust will not require removal.
2. Where corrosion has occurred due to the presence of chlorides, the steel shall be high pressure washed after mechanical cleaning.
3. At exposed reinforcing steel, remove concrete from around exposed bars for a minimum of 3/4" around the reinforcing to permit the proper placement of the repair mortar.
4. If the reinforcing steel has lost more than 25% of its cross section (or 20% if two or more adjacent bars are affected), then the contractor shall notify the Engineer and request, in writing, how to proceed with repairing the reinforcing steel.

3.04 MIXING

- A. Mix and apply materials in strict accordance with the manufacturer's instructions and recommendations pertaining to proportions, methods, admixture, etc.
- B. Do not re-temper mixes that have begun to set-up. Do not add other materials to mix except as recommended by the manufacturer. Do not stir mix constantly; stir just enough to mix batch.

3.05 APPLICATION

- A. Installation of concrete
 1. Do not proceed with application until preparation of exposed reinforcing steel and concrete have been approved.
 2. Immediately after repairing and/or cleaning reinforcing steel, apply anti-corrosion reinforcing coating to all exposed reinforcing steel. 30-45 minutes after application of the first coat of corrosion inhibitor and bonding agent, apply a second coat to the steel. Do not leave coated reinforcing steel exposed for longer than instructed by the manufacturer.
 3. At the time of the installation of the mortar, the existing concrete surfaces shall be saturated surface-dry without any standing water.
 4. If concrete surfaces are frozen or frost-covered at time of application, frost must be removed by heating with a blowtorch before making the application.
 5. To accelerate the mortar's setting time during cool weather, keep the material warm and use lukewarm water for mixing.
 6. To increase the length of mortar's setting time during hot weather, keep the materials in a cool place, cool the surface to which the material is to be applied with clean, cool water, and mix the materials in small batches.
 7. Apply a scrubbed in bond coat of the repair material into the area of the repair with a stiff bristle brush or broom, filling all voids and pores. Do not allow the scrub coat to dry prior to the installation of the repair mortar.
 8. Apply fresh mortar to the bond coat by forcing the repair materials against the edge of the repair, working towards the center of the area.
 9. Do not exceed the manufacturer's recommended application thickness. If the depth of the repair exceeds the recommended application thickness, apply repair mortar in two or more separate lifts. Avoid featheredging. For optimum mechanical bond on successive lifts, thoroughly score each lift and allow each to reach initial set before the next layer is applied.
 10. Upon filling the repair area, consolidate the repair material, then screed.
 11. Allow repair materials to set to appropriate stiffness, then finish to match the texture of the existing concrete. The completed repair surfaces should be straight, true, and match the existing profiles. Do not over work the surface.
 12. Do not permit the patch to get hot in place. Sprinkle with cold water after placing by fog spraying from a hose or dashing with water from a brush.
 13. Where rapid surface evaporation is unavoidable, apply evaporation retarder as specified by the manufacturer.

3.06 FIELD QUALITY CONTROL

- A. Contractor shall inspect completed work to ensure all holes, cracks, and voids have been filled, and all joints and cracks have been properly treated.

- B. Any improperly applied repair materials must be removed and surfaces properly prepared and patched with cementitious materials.

3.07 CLEANING

- A. Remove and properly discard all used material, packages, containers and debris from the project site resulting from the Work.
- B. Remove spills, overflow, or excess materials while they are still wet. Do not allow spills, overflows, or excess materials to harden before removing. Any damages to adjacent areas shall be repaired by the Contractor to the satisfaction of the Owner.

3.08 PROTECTION

- A. Environmental
 - 1. Precautions should be taken to protect the freshly placed patch or coating material from rain and runoff. Placement operations should be stopped if rain starts and any damaged material should be replaced. Protect all freshly placed concrete repair materials from freezing.
 - 2. Contractor shall be responsible for protecting all adjacent construction from damage. Existing structures or installation which are destroyed or damaged by operations connected to the Work, including landscaping, shall be replaced or repaired by the Contractor to the satisfaction of the Owner at no additional expense.

3.09 CONCRETE STRUCTURAL MEMBER REPAIR

- A. Remove broken and soft concrete at least 1/4 inch deep.
- B. Mechanically cut away damaged portions of reinforcement.
- C. Remove corrosion from steel and clean mechanically.
- D. Blast clean remaining exposed reinforcement surfaces.
- E. Follow repair product manufacturer's written installation instructions.

3.10 CONCRETE SURFACE REPAIR USING CEMENTITIOUS MATERIALS

- A. Clean concrete surfaces, cracks, and joints of dirt, laitance, corrosion, and other contamination using method(s) specified above and allow to dry.
- B. Follow bonding agent and repair mortar manufacturer's written installation instructions.
- C. Apply coating of bonding agent to entire concrete surface to be repaired.
- D. Fill voids with cementitious mortar flush with surface.
- E. Apply repair mortar by steel trowel to a minimum thickness of 1/4 inch over entire surface, terminating at a vertical change in plane on all sides.
- F. Trowel finish to match adjacent concrete surfaces.

END OF SECTION

SECTION 07 1800
TRAFFIC COATINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Coating for all waterproofing and traffic surface

1.02 REFERENCE STANDARDS

- A. ASTM D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers--Tension; 2006a (Reapproved 2013).
- B. ASTM D903 - Standard Test Method for Peel or Stripping Strength of Adhesive Bonds; 1998 (Reapproved 2010).

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Include product characteristics and limitations. Identify dissolving solvents, fuels, and potential destructive compounds.
- C. Samples: Submit two _____ samples of cured membrane, 3 x 3 inch in size, illustrating color, surface texture, and variations.
- D. Manufacturer's Installation Instructions: Include special field conditions required to install traffic membrane and potential incompatibilities with adjacent materials.
- E. Maintenance Data: Include procedures for stain removal, repairing surface, and cleaning.
- F. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with not less than three years of documented experience.
- B. Applicator Qualifications: Company specializing in performing installation of traffic membrane, with minimum 3 years documented experience and approved by manufacturer.

1.05 MOCK-UP

- A. Provide one mock-up, 10 feet long by 10 feet wide, with membrane system applied to representative substrate.
- B. Locate where directed.
- C. Mock-up may remain as part of the Work.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Maintain storage area at minimum ambient temperature of 55 degrees F.
- B. Keep away from fire or open flame.

1.07 FIELD CONDITIONS

- A. Do not install materials when temperature is below 50 degrees F or above 90 degrees F.
- B. Maintain this temperature range, 24 hours before, during and 72 hours after application.
- C. Restrict traffic from area where materials are being installed or are curing.

1.08 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a two (2) year period after Date of Substantial Completion.
- C. Provide 5 year manufacturer warranty for materials and labor.
 - 1. Include coverage for delamination of system from substrate and degradation of waterproofing ability.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Polyurethane Traffic Coating:
 - 1. Neogard Division of Jones-Blair Company; Neogard: www.neogard.com.
 - 2. Pecora Corporation; Pecora Deck: www.pecora.com.
 - 3. Substitutions: See Section 01 6000 - Product Requirements.
- B. Acrylic Traffic Coating (For all on grade surfaces only):
 - 1. Sherwin Williams - ArmourSeal Rextthane.

2.02 TRAFFIC COATINGS

- A. Pedestrian Coating: Fluid-applied polyurethane with slip-reducing aggregate surface.
 - 1. Finished Coating Thickness: 50 mils, 0.050 inch, minimum.
 - 2. Manufacturers:
 - a. Neogard Division of Jones-Blair Company; ____: www.neogard.com.
 - b. Pecora Corporation; ____: www.pecora.com.
 - c. Substitutions: See Section 01 6000 - Product Requirements.

2.03 MATERIALS

- A. Membrane: Fluid applied polyurethane; waterproof; color as selected; conforming to the following:
 - 1. Tensile Strength (ASTM D412): 1200 psi - Base Coat.
 - 2. Adhesive Bond Peel Strength (ASTM D903): 30 lb/in width maximum.
 - 3. Elongation (ASTM D412): 400% - Base Coat
- B. Topping: Polyurethane compound, conforming to the following:
- C. Surfacing: Aggregate as specified by manufacturer.
- D. Filler and Primer: As recommended by membrane manufacturer.
- E. Sealant, Polyurethane type: As recommended by membrane manufacturer, and compatible with system and adjacent materials.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate is ready to receive work, surface is clean, dry and free of substances that could adversely affect bond.
- B. Do not begin work until concrete substrate has cured at least 28 days and moisture content is 16 percent or less.
- C. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Report any unacceptable conditions or substrates to the Engineer in writing immediately. Start of work means acceptance of existing conditions.

3.02 PREPARATION

- A. Clean substrate surface free of foreign matter.
- B. Patch concrete substrate with filler to produce surface conducive to bond.
- C. Install bond breaker and cant bead at all deck-to-wall or deck-to-door locations.
- D. Protect adjacent surfaces.

3.03 INSTALLATION

- A. Apply system materials in accordance with manufacturer's instructions.
- B. Apply primer to prepared substrate to a dry film thickness as required by the manufacturer.
- C. When primer is tack free, apply one base coat of membrane to a total minimum dryfilm thickness of 23 mils (0.023 inch).

- D. After applying the base coat and allowing it to tack, apply an intermediate coat of membrane to a total minimum dry film thickness of 15 mils. Immediately broadcast aggregate into wet intermediate coat to refusal.
- E. After the intermediate coat and aggregate have dried overnight, remove all loose aggregate and apply one coat of top coating to a minimum dry film thickness of 15 mils.
- F. Extend primer, base and top coats up intersecting and perimeter vertical surfaces to the top of the deck-to-wall sealant joint, Terminate top edge in a straight line.
- G. Apply sealant to junction of horizontal and intersecting surfaces to achieve watertight seal.

3.04 PROTECTION

- A. Do not permit traffic over unprotected surfaces.

END OF SECTION

SECTION 07 6200
SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fabricated sheet metal items, including flashings.
- B. Sealants for joints within sheet metal fabrications.

1.02 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry: Wood nailers for sheet metal work.
- B. Section 07 9200 - Joint Sealants: Sealing non-lap joints between sheet metal fabrications and adjacent construction.

1.03 REFERENCE STANDARDS

- A. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels; 2013.
- B. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.
- C. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.
- D. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate [Metric]; 2014.
- E. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014.
- F. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2012).
- G. SMACNA (ASMM) - Architectural Sheet Metal Manual; 2012.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.
- C. Samples: Submit two samples 6 by 6 inch in size illustrating metal finish and color.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA (ASMM) and CDA A4050 requirements and standard details, except as otherwise indicated.
- B. Maintain one copy of each document on site.
- C. Fabricator and Installer Qualifications: Company specializing in sheet metal work with 3 years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials that could cause discoloration or staining.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

- A. Pre-Finished Aluminum: ASTM B209 (ASTM B209M); 0.032 inch thick; plain finish shop pre-coated with fluoropolymer coating.
 - 1. Fluoropolymer Coating: Superior Performance Organic Finish, AAMA 2604; multiple coat, thermally cured 70% fluoropolymer finish system.
 - 2. Color: To match the existing.

- B. Stainless Steel: ASTM A666, Type 304 alloy, soft temper, 28 gage, (0.0156 inch) thick; smooth No. 4 - Brushed finish.

2.02 ACCESSORIES

- A. Fasteners: Stainless steel, with soft neoprene washers.
- B. Primer: Zinc chromate type.
- C. Sealant to be Concealed in Completed Work: Non-curing butyl sealant.
- D. Sealant to be Exposed in Completed Work: ASTM C920; elastomeric sealant, with minimum movement capability of plus/minus 50 percent and recommended by manufacturer for substrates to be sealed.
- E. Plastic Cement: ASTM D4586/D4586M, Type I.

2.03 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Form pieces in longest possible lengths.
- C. Hem exposed edges on underside 1/2 inch; miter and seam corners.
- D. Form material with flat lock seams, except where otherwise indicated; at moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify size and condition of all rough openings.
- B. Beginning of installation means acceptance of substrate.

3.02 PREPARATION

- A. Back paint concealed metal surfaces with protective backing paint to a minimum dryfilm thickness of 15 mil.

3.03 INSTALLATION

- A. Secure flashings in place using concealed fasteners, and use exposed fasteners only where permitted.
- B. Fit flashings tight in place; make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- C. Seal metal joints watertight.
- D. Slope sill pans towards exterior of building.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for field inspection requirements.
- B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

END OF SECTION

SECTION 07 9200
JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Nonsag gunnable joint sealants.
- B. Self-leveling pourable joint sealants.
- C. Joint backings and accessories.

1.02 REFERENCE STANDARDS

- A. ASTM C661 - Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer; 2006 (Reapproved 2011).
- B. ASTM C834 - Standard Specification for Latex Sealants; 2014.
- C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014.
- D. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.
- E. ASTM C1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants; 2008 (Reapproved 2012).
- F. ASTM C1521 - Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints; 2013.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
 - 1. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
 - 2. List of backing materials approved for use with the specific product.
 - 3. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
 - 4. Substrates the product should not be used on.
 - 5. Substrates for which use of primer is required.
 - 6. Substrates for which laboratory adhesion and/or compatibility testing is required.
 - 7. Installation instructions, including precautions, limitations, and recommended backing materials and tools.
 - 8. Sample product warranty.
 - 9. Certification by manufacturer indicating that product complies with specification requirements.
- C. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.
- D. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.
- E. Samples for Verification: Where custom sealant color is specified, obtain directions from Engineer and submit at least two physical samples for verification of color of each required sealant.
- F. Preinstallation Field Adhesion Test Reports: Submit filled out Preinstallation Field Adhesion Test Reports log within 10 days after completion of tests; include bagged test samples and photographic records.
- G. Installation Log: Submit filled out log for each length or instance of sealant installed.

- H. Field Quality Control Log: Submit filled out log for each length or instance of sealant installed, within 10 days after completion of inspections/tests; include bagged test samples and photographic records, if any.

1.04 QUALITY ASSURANCE

- A. Maintain one copy of each referenced document covering installation requirements on site.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- C. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.
- D. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.
- E. Field Quality Control Plan:
 - 1. Visual inspection of entire length of sealant joints.
 - 2. Non-destructive field adhesion testing of sealant joints, except interior acrylic latex sealants.
 - a. For each different sealant and substrate combination, allow for one test every 12 inches in the first 10 linear feet of joint and one test every 24 inches thereafter.
 - b. If any failures occur in the first 10 linear feet, continue testing at 12 inch intervals at no extra cost to Owner.
 - 3. Destructive field adhesion testing of sealant joints, except interior acrylic latex sealant.
 - a. For each different sealant and substrate combination, allow for one test every 100 feet in the first 1000 linear feet, and one test per 1000 linear feet thereafter, or once per floor on each elevation.
 - b. If any failures occur in the first 1000 linear feet, continue testing at frequency of one test per 500 linear feet at no extra cost to Owner.
 - 4. Field testing agency's qualifications.
 - 5. Field Quality Control Log Form: Show same data fields as on Preinstallation Field Adhesion Test Log, with known information filled out and lines for multiple tests per sealant/substrate combinations; include visual inspection and specified field testing; allow for possibility that more tests than minimum specified may be necessary.
- F. Field Adhesion Test Procedures:
 - 1. Allow sealants to fully cure as recommended by manufacturer before testing.
 - 2. Have a copy of the test method document available during tests.
 - 3. Take photographs or make video records of each test, with joint identification provided in the photos/videos; for example, provide small erasable whiteboard positioned next to joint.
 - 4. Record the type of failure that occurred, other information required by test method, and the information required on the Field Quality Control Log.
 - 5. When performing destructive tests, also inspect the opened joint for proper installation characteristics recommended by manufacturer, and report any deficiencies.
 - 6. Deliver the samples removed during destructive tests in separate sealed plastic bags, identified with project, location, test date, and test results, to Owner.
 - 7. If any combination of sealant type and substrate does not show evidence of minimum adhesion or shows cohesion failure before minimum adhesion, report results to Engineer.
- G. Non-Destructive Field Adhesion Test: Test for adhesion in accordance with ASTM C1521, using Nondestructive Spot Method.
 - 1. Record results on Field Quality Control Log.
 - 2. Repair failed portions of joints.
- H. Destructive Field Adhesion Test: Test for adhesion in accordance with ASTM C1521, using Destructive Tail Procedure.
 - 1. Sample: At least 18 inch long.
 - 2. Minimum Elongation Without Adhesive Failure: Consider the tail at rest, not under any elongation stress; multiply the stated movement capability of the sealant in percent by two;

then multiply 1 inch by that percentage; if adhesion failure occurs before the "1 inch mark" is that distance from the substrate, the test has failed.

3. If either adhesive or cohesive failure occurs prior to minimum elongation, take necessary measures to correct conditions and re-test; record each modification to products or installation procedures.
 4. Record results on Field Quality Control Log.
 5. Repair failed portions of joints.
- I. Field Adhesion Tests of Joints: Test for adhesion using most appropriate method in accordance with ASTM C1521, or other applicable method as recommended by manufacturer.

1.05 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Contractor's Warranty: Correct defective work within a two year period after date of Substantial Completion.
- C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal, exhibit loss of adhesion or cohesion, or do not cure.
- D. Manufacturer's Warranty: 10 year material and labor warranty

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Non-Sag Sealants: Permits application in joints on vertical surfaces without sagging or slumping.
 1. Pecora Corporation; _____ www.pecora.com.
 2. Sherwin-Williams Company; _____: www.sherwin-williams.com/#sle.
 3. Substitutions: See Section 01 6000 - Product Requirements.
- B. Self-Leveling Sealants: Pourable or self-leveling sealant that has sufficient flow to form a smooth, level surface when applied in a horizontal joint.
 1. Pecora Corporation: www.pecora.com..
 2. Sherwin-Williams; www.sherwinwilliams.com.
 3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 JOINT SEALANT APPLICATIONS

- A. Scope:
 1. Exterior Joints: Seal open joints, whether or not the joint is indicated on the drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.
 - a. Wall expansion and control joints.
 - b. Joints between door, window, and other frames and adjacent construction.
 - c. Joints between different exposed materials.
 - d. Other joints indicated below.
- B. Type S - Exterior Joints: Use non-sag silyl-terminated polyether/polyurethane sealant, unless otherwise indicated.
 1. Control and Expansion Joints in Concrete: Self-leveling polyurethane "traffic-grade" sealant; Type S.

2.03 JOINT SEALANTS - GENERAL

2.04 NONSAG JOINT SEALANTS

- A. Type S - Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
 1. Movement Capability: Plus and minus 50 percent, minimum.
 2. Non-Staining To Porous Stone: Non-staining to light-colored natural stone when tested in accordance with ASTM C1248.
 3. Dirt Pick-Up: Reduced dirt pick-up compared to other silicone sealants.

4. Color: Match adjacent finished surfaces.
 5. Manufacturers:
 - a. Dow Corning Corporation; 795 Silicone Building Sealant: www.dowcorning.com/construction/#sle.
- B. Type S - Silyl-Terminated Polyether (STPE) and Silyl-Terminated Polyurethane (STPU) Sealant: ASTM C920, Grade NS, Uses M and A; single component; not expected to withstand continuous water immersion or traffic.
1. Movement Capability: Plus and minus 50 percent, minimum.
 2. Hardness Range: 20 to 40, Shore A, when tested in accordance with ASTM C661.
 3. Color: Match adjacent finished surfaces.
 4. Service Temperature Range: Minus 40 to 180 degrees F.
 5. Manufacturers:
 - a. Pecora; Dynatrol 1-XL Tru-White: www.pecora.com.
 - b. Sherwin-Williams: Loxon H1: www.sherwinwilliams.com.

2.05 SELF-LEVELING SEALANTS

- A. Type S - Self-Leveling Polyurethane Sealant: ASTM C920, Grade P, Uses M and A; single or multi-component; explicitly approved by manufacturer for traffic exposure; not expected to withstand continuous water immersion .
1. Movement Capability: Plus and minus 25 percent, minimum.
 2. Color: To be selected by Owner from manufacturer's standard range.
 3. Manufacturers:
 - a. Pecora Corporation; Pecora; NR-200 Self-Leveling Traffic Grade Polyurethane Sealant: www.pecora.com.
 - b. Sherwin-Williams: Loxon SL1: www.sherwinwilliams.com.

2.06 ACCESSORIES

- A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
1. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.
- B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.
- C. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.
- D. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.
- E. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.
- C. Verify that backer rods are of the correct size.
- D. Beginning of installation means acceptance of substrate.
- E. Preinstallation Adhesion Testing: Install a sample for each test location indicated in the test plan.
 1. Test each sample as specified in PART 1 under QUALITY ASSURANCE article.
 2. Notify Engineer of date and time that tests will be performed, at least 7 days in advance.
 3. Arrange for sealant manufacturer's technical representative to be present during tests.
 4. Record each test on Preinstallation Adhesion Test Log as indicated.

5. If any sample fails, review products and installation procedures, consult manufacturer, or take whatever other measures are necessary to ensure adhesion; re-test in a different location; if unable to obtain satisfactory adhesion, report to Engineer.
6. After completion of tests, remove remaining sample material and prepare joint for new sealant installation.

3.02 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Measure joint dimensions and size joint backers to achieve the following, unless otherwise indicated:
 1. Width/depth ratio of 2:1.
 2. Neck dimension no greater than 1/3 of the joint width.
 3. Surface bond area on each side not less than 75 percent of joint width.
- D. Install bond breaker backing tape where backer rod cannot be used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- F. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.
- G. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

3.04 FIELD QUALITY CONTROL

- A. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.
- B. Non-Destructive Adhesion Testing: If there are any failures in first 100 linear feet, notify Engineer immediately.
- C. Destructive Adhesion Testing: If there are any failures in first 1000 linear feet, notify Engineer immediately.
- D. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.
- E. Repair destructive test location damage immediately after evaluation and recording of results.

END OF SECTION

**SECTION 09 2400
PORTLAND CEMENT PLASTERING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Portland cement plaster for installation over metal lath, concrete, and solid surfaces.

1.02 RELATED REQUIREMENTS

- A. Section 09 2236.23 - Metal Lath: Metal furring and lathing for plaster.

1.03 REFERENCE STANDARDS

- A. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.
- B. ASTM C926 - Standard Specification for Application of Portland Cement-Based Plaster; 2015b.
- C. PCA EB049 - Portland Cement Plaster/Stucco Manual; 2003.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittals procedures.
- B. Product Data: Provide data on plaster materials, characteristics and limitations of products specified.
- C. Samples: Submit two samples, 6 by 6 inch in size illustrating finish color and texture.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing the work of this section with minimum three years documented experience.
- B. Copies of Documents at Project Site: Maintain at the project site a copy of each referenced document that prescribes execution requirements.

1.06 MOCK-UP

- A. Construct mock-up of exterior wall, 10 feet long by 10 feet wide, illustrating surface finish.
- B. Locate where directed.
- C. Mock-up may remain as part of the Work.

1.07 FIELD CONDITIONS

- A. Do not apply plaster when substrate or ambient air temperature is under 50 degrees F or over 80 degrees F.
- B. Maintain minimum ambient temperature of 50 degrees F during installation of plaster and until cured.

1.08 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Contractor Warranty: Correct defective work within a two year period after date of Substantial Completion.
- C. Manufacturer's Warranty: Material and Labor warranty for a period of five years after date of Substantial Completion.

PART 2 PRODUCTS

2.01 PORTLAND CEMENT PLASTER ASSEMBLIES

- A. Exterior Stucco: Portland cement plaster system, made of finish, brown, and scratch coat and reinforcing mesh.
 - 1. Provide weather resistive barrier and air barrier as part of the system, by the same manufacturer.
 - 2. Manufacturers:
 - a. BASF; Senergy Wall System: www.wallsystems.basf.com.
 - b. Total Wall; Total One DS Stucco System: www.totalwall.com.

- c. Sto Corp; StoPowerwall: www.stocorp.com.
- d. Substitutions: See Section 01 6000 - Product Requirements.

2.02 PLASTER MATERIALS

- A. Portland Cement, Aggregates, and Other Materials: In accordance with ASTM C926.
- B. Premixed Base Coat: Mixture of cement, aggregate, and proprietary admixtures for scratch and brown coats, installed in accordance with ASTM C926.
 - 1. Manufacturers:
 - a. BASF; Senergy Base Coat.
 - b. Total Wall; T-2000 Plus Base Coat.
 - c. Sto Corp; StoPowerwall Stucco.
 - d. Substitutions: See Section 01 6000 - Product Requirements.
- C. Premixed Textured Coating: Polymer modified acrylic coating, integrally colored, trowel applied to substrates prepared in accordance with manufacturer's recommendations.
 - 1. Color: To match existing stucco color.
 - 2. Manufacturers:
 - a. BASF; Senergy Finish Coat.
 - b. Total Wall; Total Journeyman Finish Coat.
 - c. Sto Corp; StoPowerflex.
 - d. Substitutions: See Section 01 6000 - Product Requirements.
- D. Water: Clean, fresh, potable and free of mineral or organic matter that could adversely affect plaster.

2.03 METAL LATH

- A. Metal Lath and Accessories: As specified in Section 09 2236.23.
- B. Beads, Screeds, and Joint Accessories: As specified in Section 09 2236.23.

2.04 PLASTER MIXES

- A. Over Solid Bases: Three-coat application, mixed and proportioned in accordance with ASTM C926.
- B. Over Metal Lath: Three-coat application, mixed and proportioned in accordance with ASTM C926.
- C. Premixed Plaster Materials: Mix in accordance with manufacturer's instructions.
- D. Mix only as much plaster as can be used prior to initial set.
- E. Mix materials dry, to uniform color and consistency, before adding water.
- F. Protect mixtures from freezing, frost, contamination, and excessive evaporation.
- G. Do not retemper mixes after initial set has occurred.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify the suitability of existing conditions before starting work.
- B. Concrete: Verify surfaces are flat, honeycomb are filled flush, and surfaces are ready to receive work of this section. Verify no bituminous, water repellent, or form release agents exist on concrete surface that are detrimental to plaster bond.
- C. Metal Lath and Accessories: Verify lath is flat, secured to substrate, and joint and surface perimeter accessories are in place.

3.02 PREPARATION

- A. Dampen masonry surfaces to reduce excessive suction.
- B. Clean concrete surfaces of foreign matter. Clean surfaces using acid solutions, solvents, or detergents. Wash surfaces with clean water.

- C. Roughen smooth concrete surfaces and apply bonding agent in accordance with manufacturer's instructions.

3.03 PLASTERING

- A. Apply plaster in accordance with ASTM C926.
- B. Three-Coat Application Over Metal Lath:
 - 1. Apply first coat to a nominal thickness of 3/8 inch.
 - 2. Apply second coat to a nominal thickness of 3/8 inch.
 - 3. Apply finish coat to a nominal thickness of 1/8 inch.
- C. Three-Coat Application Over Solid Bases:
 - 1. Apply first coat to a nominal thickness of 1/4 inch.
 - 2. Apply second coat to a nominal thickness of 1/4 inch.
 - 3. Apply finish coat to a nominal thickness of 1/8 inch.
- D. Moist cure base coats.
- E. Apply second coat immediately following initial set of first coat.
- F. After curing, dampen previous coat prior to applying finish coat.
- G. Finish Texture: Provide a consistent appearance; use the following finishes in the locations indicated:
- H. Avoid excessive working of surface. Delay troweling as long as possible to avoid drawing excess fines to surface.
- I. Moist cure finish coat for minimum period of 48 hours.

3.04 TOLERANCES

- A. Maximum Variation from True Flatness: 1/8 inch in 10 feet.

END OF SECTION

**SECTION 09 9000
PAINTING AND COATING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints and other coatings.
- C. Scope: Finish all interior and exterior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
 - 1. Prime surfaces to receive wall coverings.
- D. Do Not Paint or Finish the Following Items:
 - 1. Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished.
 - 2. Items indicated to receive other finishes.
 - 3. Items indicated to remain unfinished.
 - 4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
 - 5. Floors, unless specifically so indicated.
 - 6. Glass.
 - 7. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

- A. Section 09 9600 - High-Performance Coatings.

1.03 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this section.

1.04 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.
- B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2014.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide complete list of all products to be used, with the following information for each:
 - 1. Manufacturer's name, product name and/or catalog number, and general product category.
 - 2. Cross-reference to specified paint system(s) product is to be used in; included description of each system.
 - 3. Manufacturer's installation instructions.
 - 4. If proposal of substitutions is allowed under submittal procedures, explanation of all substitutions proposed.
- C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
 - 1. Where sheen is specified, submit samples in only that sheen.
 - 2. Where sheen is not specified, submit each color in each sheen available.
- D. Manufacturer's Instructions: Indicate special surface preparation procedures.
- E. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and coated surfaces, and color samples of each color and finish used.

- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 6000 - Product Requirements, for additional provisions.
 - 2. Extra Paint and Coatings: 5 gallons of each color; store where directed.
 - 3. Label each container with color in addition to the manufacturer's label.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.
- B. Applicator Qualifications: Company specializing in performing the type of work specified with minimum 3 years' experience.

1.07 MOCK-UP

- A. See Section 01 4000 - Quality Requirements, for general requirements for mock-up.
- B. Provide panel, 10 feet long by 10 feet wide, illustrating special coating color, texture, and finish.
- C. Locate where directed.
- D. Mock-up may remain as part of the work.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.09 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the paint product manufacturer.

1.10 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Contractor's Warranty: Correct defective work within a two (2) year period after date of Substantial Completion.
- C. Manufacturer's Warranty: Five (5) year material and labor warranty for acrylic coatings after date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.
- B. Paints:
 - 1. Sherwin Williams; www.sherwin-williams.com.
 - 2. PPG Paints; www.ppgpaints.com.
- C. Primer Sealers: Same manufacturer as top coats.
- D. Block Fillers: Same manufacturer as top coats.
- E. Substitutions: See Section 01 6000 - Product Requirements.

2.02 PAINTS AND COATINGS - GENERAL

- A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.

1. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 2. Provide materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
 3. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
 4. Supply each coating material in quantity required to complete entire project's work from a single production run.
 5. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
- B. Primers: As recommended by the Manufacturer.
- C. Colors: As indicated on drawings
1. Allow for minimum of three colors for each system, unless otherwise indicated, without additional cost to Owner.
 2. Extend colors to surface edges; colors may change at any edge as directed by Engineer.

2.03 PAINT SYSTEMS - EXTERIOR

- A. All Exterior Surfaces Indicated to be Painted with Acrylic Coating, Unless Otherwise Indicated: Including concrete and concrete masonry ceilings, slab edges, interior of stairway walls, and columns.
1. Preparation as specified by manufacturer.
 2. Two top coats or one top coat and one coat primer recommended by manufacturer.
 3. Product:
 - a. Sherwin Williams: A 100: www.sherwin-williams.com.
 4. Primer(s): As recommended by manufacturer of coatings.

2.04 ACCESSORY MATERIALS

- A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin application of coatings until substrates have been properly prepared.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- D. If substrate preparation is the responsibility of another installer, notify Engineer of unsatisfactory preparation before proceeding.
- E. Test shop-applied primer for compatibility with subsequent cover materials.
- F. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 1. Plaster and Stucco: 12 percent.
 2. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to coating application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

- D. Seal surfaces that might cause bleed through or staining of topcoat.
- E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- F. Concrete and Unit Masonry Surfaces to be Painted: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.
- G. Plaster Surfaces to be Painted: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.

3.03 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- C. Apply each coat to uniform appearance.
- D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- E. Apply coating colors in areas as specified by the Owner.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection.

3.05 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.06 PROTECTION

- A. Protect finished coatings until completion of project.
- B. Touch-up damaged coatings after Substantial Completion.

END OF SECTION

SECTION 09 9600
HIGH-PERFORMANCE COATINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. High performance coatings.
- B. Surface preparation.

1.02 REFERENCE STANDARDS

- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- B. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating; 2005 (Reapproved 2012).
- C. ASTM D4259 - Standard Practice for Abrading Concrete; 1988 (Reapproved 2012).
- D. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association; current edition, www.paintinfo.com.
- E. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition, www.paintinfo.com.
- F. SSPC V1 (PM1) - Good Painting Practice: Painting Manual, Volume 1; Fourth Edition.
- G. SSPC-PA 2 - Procedure For Determining Conformance To Dry Coating Thickness Requirements; 2015.
- H. SSPC-SP 1 - Solvent Cleaning; 2015.
- I. SSPC-SP 2 - Hand Tool Cleaning; 1982 (Ed. 2004).
- J. SSPC-SP 3 - Power Tool Cleaning; 1982 (Ed. 2004).
- K. SSPC-SP 13 - Surface Preparation of Concrete; (Reaffirmed 2015); 2003.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide complete list of all products to be used, with the following information for each:
 - 1. Manufacturer's name, product name and/or catalog number, and general product category.
 - 2. Cross-reference to specified coating system(s) product is to be used in; include description of each system.
 - 3. Manufacturer's installation instructions.
- C. Samples: Submit two samples 8 by 8 inch in size illustrating colors available for selection.
- D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- E. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.
- F. Warranty: Manufacturer's sample warranty.
- G. Maintenance Data: Include cleaning procedures and repair and patching techniques.
- H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 6000 - Product Requirements, for additional provisions.
 - 2. Extra Coating Materials: 5 gallons of each type and color.
 - 3. Label each container with manufacturer's name, product number, color number, and room names and numbers where used.

1.04 QUALITY ASSURANCE

- A. Maintain one copy of each referenced document that applies to application on site.

- B. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.
- C. Applicator Qualifications: Company specializing in performing the work of this section with minimum 3 years documented experience.

1.05 MOCK-UP

- A. See Section 01 4000 - Quality Requirements, for general requirements for mock-up.
- B. Provide mock-up , 10 feet long by 10 feet wide, illustrating coating, for each specified coating.
- C. Locate where directed.
- D. Mock-up may remain as part of the work.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of coating, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Coating Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.07 FIELD CONDITIONS

- A. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- B. Do not apply exterior coatings during rain or snow, or when relative humidity is outside the humidity ranges required by the coating product manufacturer.
- C. Do not install materials when temperature is below 55 degrees F or above 90 degrees F.
- D. Maintain this temperature range, 24 hours before, during, and 72 hours after installation of coating.
- E. Restrict traffic from area where coating is being applied or is curing.

1.08 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Contractor's Warranty: Correct defective work within a two (2) year period after date of Substantial Completion.
- C. Manufacturer's Warranty: Ten (10) year material and labor warranty for elastomeric coating after date of Substantial Completion.
- D. Warranty: Include coverage for bond to substrate.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Provide high performance coating products from the same manufacturer .
- B. High-Performance Coatings:
 1. PPG Paints: www.ppgpaints.com/sle.
 2. Sherwin-Williams Company; _____: www.protective.sherwin-williams.com/industries.
 3. Substitutions: Section 01 6000 - Product Requirements.

2.02 HIGH-PERFORMANCE COATINGS

2.03 TOP COAT MATERIALS

- A. Coatings - General: Provide complete multi-coat systems formulated and recommended by manufacturer for the applications indicated, in the thicknesses indicated; number of coats specified does not include primer or filler coat.
- B. Elastomeric Coating for vertical wall and column surfaces:
 1. Number of Coats: As required to achieve a minimum of 16 DFM.

2. Top Coat(s): Exterior Pigmented Elastomeric, Water Based.
 - a. Products:
 - 1) PPG Paints Perm-Crete Pitt-Flex Elastomeric Coating, 4-110 Series: www.ppgpaints.com/sle.
 - 2) Sherwin Williams Company; Loxon XP: www.sherwin-williams.com.
 3. Primer: As recommended by coating manufacturer for specific substrate.
- C. Fluoropolymer Coating for metal railings:
 1. Number of Coats: Two.
 2. Top Coat(s): Air Dry Fluoropolymer, Two Component;_____ .
 - a. Products:
 - 1) PPG Paints; Corafon ADS: www.ppgpaints.com/sle.
 3. Primer: As recommended by coating manufacturer for specific substrate.

2.04 ACCESSORY MATERIALS

- A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of coated surfaces.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Do not begin application of coatings until substrates have been properly prepared.
- C. Verify that substrate surfaces are ready to receive work as instructed by the coating manufacturer. Obtain and follow manufacturer's instructions for examination and testing of substrates.
- D. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 1. Cementitious Substrates: Do not begin application until substrate has cured 28 days minimum and measured moisture content is not greater than 12 percent.
 2. Plaster and Stucco: 12 percent.
 3. Masonry, Concrete, and Concrete Unit Masonry: 12 percent.
- F. Proceed with coating application only after unacceptable conditions have been corrected.
 1. Commencing coating application constitutes Contractor's acceptance of substrates and conditions.

3.02 PREPARATION

- A. Clean surfaces of loose foreign matter. Before applying paint or other surface treatments, clean substrates of substances that could impair bond of various coatings. Remove oil and grease before cleaning.
- B. Remove substances that would bleed through finished coatings. If unremovable, seal surface with shellac.
- C. Remove finish hardware, fixture covers, and accessories and store.
- D. Existing Painted and Sealed Surfaces:
 1. Remove loose, flaking, and peeling paint. Feather edge and sand smooth edges of chipped paint.
- E. Concrete:
 1. Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
 2. Clean surfaces with pressurized water. Use pressure range of 1500 to 4000 psi at 6 to 12 inches. Allow to dry.

3. Prepare surface as recommended by coating manufacturer and according to SSPC-SP 13.
- F. Masonry:
1. Remove efflorescence and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions. Allow to dry.
 2. Prepare surface as recommended by coating manufacturer.
 3. Clean surfaces with pressurized water. Use pressure range of 600 to 1500 psi at 6 to 12 inches. Allow to dry.
- G. Protect adjacent surfaces and materials not receiving coating from spatter and overspray; mask if necessary to provide adequate protection. Repair damage.
- H. Schedule cleaning and painting so dust and other contaminants from cleaning process will not foul surrounding areas and surfaces.
- I. Material Preparation: Carefully mix and prepare coating materials according to manufacturer's installation instructions.
1. Maintain containers used in mixing and applying coatings in a clean condition, free of foreign materials and residue.
 2. Stir materials before applying to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain coating material before using.
 3. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of the same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.03 PRIMING

- A. Apply primer to all surfaces, unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.

3.04 COATING APPLICATION

- A. Apply coatings in accordance with manufacturer's written instructions, to thicknesses specified and recommendations in "MPI Architectural Painting and Specification Manual".
1. Use applicators and techniques best suited for the material being applied.
 2. Do not apply masonry coatings over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to forming a durable coating film.
- B. Apply in uniform thickness coats, without runs, drips, pinholes, brush marks, or variations in color, texture, or finish. Finish edges, crevices, corners, and other changes in dimension with full coating thickness.

3.05 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for general requirements for field inspection.
- B. Dry Film Thickness Testing: Owner will engage the services of a qualified testing and inspecting agency to inspect and test coatings for dry film thickness.
1. Touch up and restore coated surfaces damaged by testing.
 2. If test results show that dry film thickness of applied coating does not comply with coating manufacturer's written recommendations, and specified thickness, Contractor shall pay for retesting and apply additional coats as needed to provide dry film thickness that complies with coating manufacturer's written recommendations, and specified thickness.

3.06 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.
- B. Clean surfaces immediately of overspray, splatter, and excess material.

- C. After coating has cured, clean and replace finish hardware, fixtures, and fittings previously removed.

3.07 PROTECTION

- A. Protect finished work from damage.

END OF SECTION