

PROJECT MANUAL

For the Construction of:

Steeple repair

Brentwood, Taylor Crossing, Westhill & Meetinghouse
Idaho Falls Idaho West Stake
Idaho Falls, Idaho

THE CHURCH OF
JESUS CHRIST
OF LATTER-DAY SAINTS

September 2018

Set No.

INTRODUCTORY INFORMATION

Project Manual

for

Steeple Repair of:

**Brentwood, Taylor Crossing, Westhill & Meetinghouse
Idaho Falls Idaho West Stake
Idaho Falls, Idaho**

Church Property #510-3371
Architect Project #17047

September 2018

Architect

NBW Architects P.A.
990 John Adams Parkway
P.O. Box 2212
Idaho Falls, ID 83403-2212
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PROCUREMENT REQUIREMENTS

INVITATION TO BID (U.S.)

1. CONTRACTORS INVITED TO BID THE PROJECT:

TBD

2. PROJECT:

Steeple Repair
Brentwood, Taylor Crossing, Westhill & Meetinghouse
Idaho Falls Idaho West Stake
Idaho Falls, Idaho

3. LOCATION:

2040 Brentwood Dr.
Idaho Falls, Idaho 83402

4. OWNER:

Corporation of the Presiding Bishop of
The Church of Jesus Christ of Latter-day Saints, a Utah corporation sole
c/o
Idaho Falls Idaho FM Group
750 West Elva Street
P.O. Box 50799
Idaho Falls, Idaho 83405-0799

5. CONSULTANT:

NBW Architects, P.A.
990 John Adams Parkway
P.O. Box 2212
Idaho Falls, Idaho 83403

6. DESCRIPTION OF PROJECT:

- A. Remove existing loose brick faces from steeple, install new EIFS and PC roofing on steeple.
- B. Products or systems may be provided under a Value Managed Relationship (VMR) the Owner has negotiated with the supplier. VMR products and systems are indicated as such in the Specifications.

7. TYPE OF BID: Bids will be on a lump-sum basis. Segregated bids will not be accepted.

8. TIME OF SUBSTANTIAL COMPLETION: The time limit for substantial completion of this work will be 45 calendar days and will be as noted in the Agreement.

9. BID OPENING: Sealed bids will be received at a time and place to be announced. Bids will be publicly opened at a time and place to be announced.

10. BIDDING DOCUMENTS:

- A. Bidding Documents may be examined at the following plan room locations:
 - 1) McGraw Hill Construction
Website: construction.com/dodge
 - 2) Mountainlands Area Plan Room

583 W 3560 S, Suite 4
Salt Lake City, UT 84115
Phone: (801)288-9136
Fax: (801)288-1184
www.MAPRonline.com

- B. Bidding Documents are available to invited Contractors with a deposit of \$50.00 per set. Deposit will be refunded if documents are returned complete and in good condition within five days of bid opening.

11. BIDDER'S QUALIFICATIONS: Bidding by the Contractors will be by invitation only.

12. OWNER'S RIGHT TO REJECT BIDS: Owner reserves the right to reject any or all bids and to waive any irregularity therein.

END OF DOCUMENT

INSTRUCTIONS TO BIDDERS (U.S.)

1. DOCUMENTS:

- A. Bidding Documents include Bidding Requirements and proposed Contract Documents. Proposed Contract Documents consist of:
 - 1) Agreement Between Owner and Contractor for Small Project (U.S.)
 - 2) Other documents included by reference
 - 3) Addenda.
- B. Bidding Requirements are those documents identified as such in proposed Project Manual.
- C. Addenda are written or graphic documents issued prior to execution of the Contract which modify or interpret the Bidding Documents. They become part of the Contract Documents as noted in the Agreement Between Owner and Contractor for Small Project (U.S.) upon execution of the Agreement by Owner.

2. BIDDER'S REPRESENTATIONS:

- A. By submitting a bid proposal, bidder represents that
 - 1) Bidder has carefully studied and compared Bidding Documents with each other. Bidder understands the Bidding Documents and the bid is fully in accordance with the requirements of those documents,
 - 2) Bidder has thoroughly examined the site and any building located thereon, has become familiar with local conditions which might directly or indirectly affect contract work, and has correlated its personal observations with requirements of proposed Contract Documents, and
 - 3) Bid is based on materials, equipment, and systems required by Bidding Documents without exception.

3. BIDDING DOCUMENTS:

- A. Copies
 - 1) Owner will provide the Bidding Documents as set forth in the Invitation to Bid.
 - 2) Partial sets of Bidding Documents will not be issued.
- B. Interpretation or Correction of Bidding Documents
 - 1) Bidders will request interpretation or correction of any apparent errors, discrepancies, and omissions in the Bidding Documents.
 - 2) Corrections or changes to Bidding Documents will be made by written Addenda.
- C. Substitutions and Equal Products
 - 1) Equal products may be approved upon compliance with Contract Document requirements.
 - 2) Base bid only on materials, equipment, systems, suppliers or performance qualities specified in the Bidding documents.
 - 3) Where a specified product is identified as a "quality standard", products of other manufacturers that meet the performance, properties, and characteristics of the specified "quality standard" may be used without specific approval as a substitute.
- D. Addenda. Addenda will be sent to bidders and to locations where Bidding Documents are on file no later than one week prior to bid opening or by fax no later than 48 hours prior to bid opening.

4. BIDDING PROCEDURES:

- A. Form and Style of Bids

- 1) Use Owner's Bid Form.
 - 2) Bid will be complete and executed by authorized representative of Bidder.
 - 3) Do not delete from or add to the information requested on bid form.
- B. Submission of Bids
- 1) Submit bid in sealed opaque envelope containing only bid form.
 - 2) It is bidder's sole responsibility to see that its bid is received at or before the specified time. Bids received after specified bid opening time may be returned to bidders unopened.
 - 3) No oral, facsimile transmitted, telegraphic, or telephonic bids, modifications, or cancellations will be considered.
- C. Modification or Withdrawal of Bid
- 1) Bidder guarantees there will be no revisions or withdrawal of bid amount for 45 days after bid opening.
 - 2) Prior to bid opening, bidders may withdraw bid by written request or by reclaiming bid envelope.
 - 3) Prior to bid opening, bidder may mark and sign on the sealed envelope that bidder acknowledges any or all Addenda.

5. CONSIDERATION OF BIDS:

- A. Opening Of Bids - See Invitation to Bid.
- B. Acceptance Of Bid
- 1) No bidder will consider itself under contract after opening and reading of bids until Owner accepts Contractor's Bid Proposal by executing same.
 - 2) Bidder's past performance, organization, subcontractor selection, equipment, and ability to perform and complete its contract in manner and within time specified, together with amount of bid, will be elements considered in award of contract.

6. FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR:

- A. Agreement form will be "Agreement Between Owner and Contractor for Small Project (U.S.)" provided by Owner.

7. MISCELLANEOUS:

- A. Pre-Bid Conference. A pre-bid conference may be held at a time and place to be announced.
- B. Examination Schedule for Existing Building and Site
- 1) Building and site may be examined at the pre-bid conference.

END OF DOCUMENT

BID FORM

FOR GENERAL CONTRACT WORK (U.S.)

PROJECT IDENTIFICATION:

Steeple Repair
Brentwood, Taylor Crossing, Westhill & Meetinghouse
Idaho Falls Idaho West Stake
Idaho Falls, Idaho

OWNER:

Corporation of the Presiding Bishop of the Church of Jesus Christ of Latter-day Saints, a Utah corporation
sole ("Owner").

CONSULTANT:

NBW Architects, P.A.
990 John Adams Parkway
P.O. Box 2212
Idaho Falls, Idaho 83403

BID

1. In submitting this Bid, Bidder represents that:
 - a. If this Bid is accepted, Bidder will enter into an agreement with Owner to perform and furnish the Work described in the Bidding Documents for the Bid Price and within the Time of Substantial Completion indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
 - b. Bidder has carefully examined the Bidding Documents consisting of the Project Manual containing the Bidding Requirements, the Conditions of the Contract, and the Specifications, entitled _____, the Drawings entitled _____ and dated _____, and including sheets numbered _____, and addenda numbers _____.
 - c. Bidder has examined the site of the work, existing conditions, and all other conditions affecting the work on the above-named Project.
 - d. Bidder has carefully correlated the information known to Bidder and information and observations obtained from visits to the site with the Bidding Documents.
 - e. Bidder is familiar with federal, State, and local laws and regulations applicable to Project.
 - f. Bidder guarantees there will be no revisions or withdrawal of bid amount for forty-five (45) days after the bid opening.
2. BASE BID: Bidder hereby proposes to furnish all materials, labor, equipment, tools, transportations, services, licenses, fees, permits, etc., required by said documents to complete the Work described by the Contract Documents for the lump-sum of: _____ Dollars (\$ _____).
3. Bidder agrees to achieve substantial completion of the Work within the number of days indicated in the Invitation to Bid.

RESPECTFULLY SUBMITTED:

Signature

Printed name

Title

Company name

Business Address

Date

City, State, and Zip Code

License No.

Telephone

Fax

Contact Email Address

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CONSTRUCTION MATERIAL ASBESTOS STATEMENT (U.S.)

**PROJECTS FOR:
CORPORATION OF THE PRESIDING BISHOP OF
THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS**

Building Name: _____

Building Plan Type: _____

Building Address: _____

Building Owner: Corporation of the Presiding Bishop of The Church of Jesus Christ of Latter-day Saints, a Utah corporation sole.

Project Number: _____

Completion Date: _____

As PROJECT CONSULTANT and principal in charge; based on my best knowledge, information, inspection, and belief; I certify that on the above referenced Project, no asbestos-containing building materials were specified in the construction documents or given approval in shop drawings or submittals.

Project Consultant and Principal in Charge (signature)

Date

Company Name

As GENERAL CONTRACTOR in charge of construction; based on my best knowledge, information, inspection, and belief; I affirm that on the above-referenced Project, no asbestos-containing building materials were used in the construction.

General Contractor (signature)

Date

Company Name

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CONTRACTING REQUIREMENTS

SMALL PROJECT AGREEMENT BETWEEN OWNER AND CONTRACTOR (U.S.)

Corporation of the Presiding Bishop of The Church of Jesus Christ of Latter-day Saints, a Utah corporation sole, ("Owner") and _____ ("Contractor") enter into this *Small Project Agreement Between Owner and Contractor (U.S.)* ("Agreement") and agree as follows:

1. **Property/Project.**

Property/Project Number: _____
Property Address ("Project Site"): _____
Project Type: _____
Project Name ("Project"): _____
Stake Name: _____

2. **Scope of Work.** Contractor will furnish all labor, materials, tools, and equipment necessary to complete the Work in accordance with the Contract Documents. The Work is all labor, materials, tools, equipment, construction, and services required by the Contract Documents (the "Work").

3. **Contract Documents.** Contract Documents consist of:

- a. This Agreement;
- b. Supplementary Conditions for Small Project Agreement Between Owner and Contractor (U.S.);
- c. The Specifications (Division 01 and Divisions _____);
- d. Drawings entitled and dated _____;
- e. Addendum No. with date(s) _____;
- f. All written Field Changes, written Construction Change Directives and written Change Orders when prepared and signed by Owner and Contractor.

4. **Compensation.** Owner will pay Contractor for performance of Contractor's obligations under the Contract Documents the sum of _____ Dollars (\$_____) (the "Contract Sum"). This Contract Sum includes all labor, materials, equipment, tools, costs, expenses, work and services of Contractor and its subcontractors necessary to perform the Work in accordance with the terms of this Agreement, including without limitation travel, communications, and copying costs.

5. **Payment.**

- a. If the Contract Sum is over \$100,000 or if otherwise requested by Owner, Contractor will submit to Owner a schedule of values which allocates the Contractor's Bid Proposal Amount to various portions of the Work. This schedule, when accepted by Owner will be used as a basis for reviewing Contractor's payment requests.
- b. Not more than once each month, Contractor will submit a payment request to Owner. Owner will pay Contractor for work completed within thirty (30) days after Owner receives:
 - 1) Contractor's payment request for work to date;
 - 2) a certification by Contractor that Contractor has paid for all labor, materials, and equipment relating to the Work covered by prior payment requests and that Contractor will pay for all labor, materials, and equipment relating to the Work covered by the current payment request; and
 - 3) releases of all mechanics' liens and claims of subcontractors, laborers, or material suppliers who supplied labor and/or materials for the Work covered by the payment request.
 - 4) updated Construction Schedule.
- c. Owner may modify or reject the payment request if, in Owner's opinion, the Work for which payment is requested is not acceptable or is less complete than represented on the payment request.
- d. Contractor will timely pay subcontractors their portion of fees and expenses that Owner has paid to Contractor.

6. **Extras and Change Orders.** Owner may order changes in the Work by altering, adding to, or deducting from the Work. In the event of such a change, the Contract Sum and/or the time of completion will be adjusted to reflect the change by means of a written Change Order signed by Contractor and Owner. Contractor will not

commence work on any change until either: (a) Contractor and Owner have executed a Change Order; or (b) Owner has issued a written order for the change acknowledging that there is a dispute regarding the compensation adjustment relating to the change. If Contractor proceeds with a change in the Work without complying with the preceding sentence, Contractor agrees that it will not be entitled to any additional compensation for such change.

7. **Warranty and Correction of Work.** For all Work, services, labor, materials, products, and equipment provided under the Contract Documents, Contractor provides and extends to Owner all statutory, common law, and standard industry warranties as well as those warranties set forth in Owner's Contract Documents. Unless a longer period is specified by Owner's Contract Documents or otherwise, Contractor, at a minimum and in addition to all other warranties, warrants all Work under the Contract Documents for at least one year. Specifically, and without limitation, Contractor will promptly correct at its own expense:
 - a. any portion of the Work which
 - 1) fails to conform to the requirements of the Contract Documents, or
 - 2) is rejected by the Owner as defective or because it is damaged or rendered unsuitable during installation or resulting from failure to exercise proper protection.
 - b. any defects due to faulty materials, equipment, or workmanship which appear within a period of one year from the date of completion of the Work or within such longer period of time as may be prescribed by law or the terms of any applicable special warranty required by the Contract Documents.
8. **Time of Completion.** Contractor will complete the Work and have it ready for Owner's inspection within _____ (_____) calendar days from Notice to Proceed issued by Owner. Time is of the essence. If Contractor is delayed at any time in the progress of the Work by any act or neglect of Owner, or by changes in the Work, or by strikes, lockouts, unusual delay in transportation, unavoidable casualties, or acts of nature beyond Contractor's control, then the time for completion will be extended by the time that completion of the Work is delayed. However, Contractor expressly waives any damages for any such delays.
9. **Owner Provided Items.** Owner may provide furnishings, equipment, and/or other items for the Project. Contractor will install items furnished by Owner and/or receive, store, and protect such items on site until the date Owner accepts the Project.
10. **Product Requirements.** Contractor will provide products that comply with Contract Documents, are undamaged, and, unless otherwise indicated, are new and unused at time of installation. Contractor will provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for complete installation and for intended use and effect.
11. **Permits, Surveys, and Taxes.** Contractor will obtain and pay for all permits and licenses, and also pay any applicable taxes. Contractor will also obtain and pay for any surveys it needs to perform the Work.
12. **Independent Contractor Relationship.** Contractor is not an agent or employee of Owner but is an independent contractor.
13. **Comply with Laws.** Contractor will comply, and ensure that all subcontractors comply, with all applicable laws, ordinances, rules, regulations, covenants, and restrictions.
14. **Indemnity and Hold Harmless.**
 - a. Contractor will indemnify and hold harmless Owner and Owner's representatives, employees, agents, architects, and consultants from and against any and all claims, liens, damages, liability, demands, costs, judgments, awards, settlements, causes of action, losses and expenses (collectively "Claims" or "Claim"), including but not limited to attorney fees, consultant fees, expert fees, copy costs, and other expenses, arising out of or resulting from performance of or failure to perform the Work, attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of real or personal property, including loss of use resulting therefrom, except to the extent that such liability arises out of the negligence of Owner, its representatives, agents, and employees. This indemnity includes, without limitation, indemnification of Owner from all losses or injury to Owner's property, except to the extent that such loss or injury arises out of the negligence of Owner, its representatives, agents, and employees. This indemnity applies, without limitation, to include Claims occurring both during performance of the Work and/or subsequent to

completion of the Work. In the event that any Claim is caused in part by a party indemnified hereunder, that party will bear the cost of such Claim to the extent it was the cause thereof. In the event that a claimant asserts a Claim for recovery against any party indemnified hereunder, the party indemnified hereunder may tender the defense of such Claim to Contractor. If Contractor rejects such tender of defense and it is later determined that the negligence of the party indemnified hereunder did not cause all of the Claim, Contractor will reimburse the party indemnified hereunder for all costs and expenses incurred by that party in defending against the Claim. Contractor will not be liable hereunder to indemnify any party for damages resulting from the sole negligence of that party.

- b. In addition to the foregoing, Contractor will be liable to defend Owner in any lawsuit filed by any Subcontractor relating to the Project. Where liens have been filed against Owner's property, Contractor (and/or its bonding company which has issued bonds for the Project) will obtain lien releases and record them in the appropriate county and/or local jurisdiction and provide Owner with a title free and clear from any liens of Subcontractors. In the event that Contractor and/or its bonding company are unable to obtain a lien release, Owner in its absolute discretion may require Contractor to provide a bond around the lien or a bond to discharge the lien, at Contractor's sole expense.
- c. In addition to the foregoing, Contractor will indemnify and hold Owner harmless from any claim of any other contractor resulting from the performance, nonperformance or delay in performance of the Work by Contractor.
- d. The indemnification obligation herein will not be limited by a limitation on the amount or type of damages, compensation or benefits payable by or for Contractor or a Subcontractor under workers compensation acts, disability benefit acts, or other employee benefit acts.

15. **Work Restrictions.** Contractor will ensure that Contractor, its agents, employees, and subcontractors:

- a. Do not use or consume alcohol or cannabis, or illegally use drugs, on the Project Site or enter on or perform any Work on the Project Site while under their influence.
- b. Do not smoke or vape anything on the Project Site. Do not use tobacco in any form on the Project Site.
- c. Do not perform Work on the Project Site on Sundays except for emergency work.
- d. Refrain from using profanity or being discourteous or uncivil to others on the Project Site or while performing Work under this Agreement.
- e. Do not view or allow pornographic or other indecent materials on the Project Site.
- f. Do not play obnoxious and/or loud music on the Project Site. Do not play any music within existing facilities.
- g. Refrain from wearing immodest, offensive, or obnoxious clothing, while on the Project Site.
- h. Do not bring weapons on the Project Site.

16. **Safety Hazards.** Contractor will ensure that no work or services will be performed that may pose an undue safety hazard to Contractor, Contractor's employees, or any other person.

17. **Contractor's Insurance.** Prior to performing any work, Contractor will obtain and maintain during the term of this Agreement the following insurance:

- a. Workers Compensation Insurance or evidence of exemption.
- b. Employers Liability Insurance with minimum limits of the greater of \$500,000 E.L. each accident, \$500,000 E. L. disease-each employee, \$500,000 E.L. disease-policy limit or as required by the law of the state in which the Project is located.
- c. Commercial General Liability Insurance – ISO Form CG 00 01 (12/07) or equivalent Occurrence policy which will provide primary coverage to the additional insureds (the Owner and the Architect) in the event of any Occurrence, Claim, or Suit with:
 - 1) Limits of the greater of: Contractor's actual coverage amounts or the following:
 - a) \$2,000,000 General Aggregate;
 - b) \$2,000,000 Products - Comp/Ops Aggregate;
 - c) \$1,000,000 Personal and Advertising Liability;
 - d) \$1,000,000 Each Occurrence; and
 - e) \$50,000 Fire Damage to Rented Premises (Each Occurrence)
 - 2) Endorsements attached to the General Liability policy including the following or their equivalent:
 - a) ISO Form CG-25-03 (05/09), Amendment of Limits of Insurance (Designated Project or Premises) describing the Agreement and specifying limits as shown above.
 - b) ISO Form CG 20 10 (07/04), Additional Insured – Owners, Lessees, Or Contractors (Form B),

naming Owner and Architect as additional insureds.

d. Automobile Liability Insurance, with:

- 1) Combined Single Limit each accident in the amount of no less than \$500,000; and
- 2) Coverage applying to "Any Auto" or its equivalent.

Contractor will provide evidence of these insurance coverages to Owner by providing an ACORD 25 (2010/05) Form or its equivalent: (1) listing Owner as the Certificate Holder and Additional Insured on the general liability and any excess liability policies, (2) listing the insurance companies providing coverage (all companies listed must be rated in A.M. Best Company Key Rating Guide-Property-Casualty and each company must have a rating of B+ Class VII or higher), (3) attaching the endorsements set forth above for the Certificate of Liability Insurance, and (4) bearing the name, address and telephone number of the producer and signed by an authorized representative of the producer. (The signature may be original, stamped, or electronic.) Notwithstanding the foregoing, Owner may, in writing and at its sole discretion, modify these insurance requirements.

18. **Resolution of Disputes.** In the event there is any dispute arising under the Contract Documents which cannot be resolved by agreement between the parties, either party may submit the dispute with all documentation upon which it relies to Director of Architecture, Engineering, and Construction, 50 East North Temple, Salt Lake City, Utah 84150, who will convene a dispute resolution conference within thirty (30) days. The dispute resolution conference will constitute settlement negotiations and any settlement proposal made pursuant to the conference will not be admissible as evidence of liability. In the event that the parties do not resolve their dispute pursuant to the dispute resolution conference, either party may commence legal action to resolve the dispute. Any such action must be commenced within six (6) months from the first day of the dispute resolution conference or be time barred. Submission of the dispute to the Director as outlined above is a condition precedent to the right to commence legal action to resolve any dispute. In the event that either party commences legal action to adjudicate any dispute without first submitting the dispute to the Director, the other party will be entitled to obtain an order dismissing the litigation without prejudice and awarding such other party any costs and attorney fees incurred by that party in obtaining the dismissal, including without limitation copy costs, and expert and consultant fees and expenses. Pending final resolution of a dispute hereunder, Contractor will proceed diligently with the performance of its obligations pursuant to this Agreement.
19. **Termination by Contractor.** In the event Owner materially breaches any term of the Contract Documents, Contractor will promptly give Written Notice of the breach to Owner. If Owner fails to cure the breach within ten (10) days of the Written Notice, Contractor may terminate this Agreement by giving Written Notice to Owner and recover from Owner the percentage of the Contract Sum represented by the Work completed on the Project site as of the date of termination together with any out of pocket loss Contractor has sustained with respect to materials and equipment as a result of the termination prior to completion of the Work, less any offsets. Contractor will not be entitled to unearned profits or any other compensation or damages as a result of the termination and hereby waives any claim therefor. Contractor will provide to Owner all warranty, as built, inspection, and other close out documents as well as materials that Contractor has in its possession or control at the time of termination. Without limitation, Contractor's indemnities and obligations as well as all warranties relative to Work provided through the date of termination survive a termination hereunder.
20. **Termination by Owner for Cause.** Should Contractor fail to timely provide Owner with the certificates of insurance, make a general assignment for the benefit of its creditors, fail to apply enough properly skilled workmen or specified materials to properly prosecute the Work in accordance with Contractor's schedule, or otherwise materially breach any provision of the Contract Documents, then Owner may, without any prejudice to any other right or remedy, give Contractor Written Notice thereof. If Contractor fails to cure its default within ten (10) days, Owner may terminate this Agreement by giving Written Notice to Contractor. In such case, Owner may, in Owner's sole discretion, take legal assignment of subcontracts and other contractual rights of Contractor and/or take possession of the premises and all materials, tools, equipment, and appliances thereon, and finish the Work by whatever method Owner deems expedient. Contractor will not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Sum exceeds the expense of finishing the Work, including compensation for additional administrative, architectural, consultant, and legal services (including without limitation attorney fees, expert fees, copy costs, and other expenses), such excess will be paid to Contractor, less any offsets. If such expense exceeds the unpaid

balance, Contractor will pay the difference to Owner. Contractor will provide to Owner all warranty, as built, inspection, and other close out documents as well as materials that Contractor has in its possession or control at the time of termination. Without limitation, Contractor's indemnities and obligations as well as all warranties relative to Work provided through the date of termination survive a termination hereunder.

21. **Termination by Owner for Convenience.** Notwithstanding any other provision contained in the Contract Documents, Owner may, without cause and in its absolute discretion, terminate this Agreement at any time. In the event of such termination, Contractor will be entitled to recover from Owner the percentage of the Contract Sum equal to the percentage of the Work which Owner and/or its architect determines has been completed on the Project site as of the date of termination together with any out of pocket loss Contractor has sustained with respect to materials and equipment as a result of the termination prior to completion of the Work, less any offsets. Contractor will not be entitled to unearned profits or any other compensation as a result of the termination and hereby waives any claim therefor. Contractor will provide to Owner all warranty, as built, inspection, and other close out documents as well as materials that Contractor has in its possession or control at the time of termination. Owner may, in Owner's sole discretion, take legal assignment of subcontracts and other contractual rights of Contractor. Without limitation, Contractor's indemnities and obligations as well as all warranties relative to Work provided through the date of termination survive a termination hereunder.
22. **Enforcement.** In the event either party commences legal action to enforce or rescind any term of this Agreement, the prevailing party will be entitled to recover its attorney fees, costs and legal expenses, including without limitation all copy costs and expert and consultant fees and expenses, incurred in that action and on all appeals, from the other party.
23. **Ownership of Materials, Products, and Intellectual Property Rights.** Owner will retain ownership and intellectual property rights in all plans, designs, drawings, documents, concepts, and materials provided by or on behalf of Owner to Contractor and to all work products of Contractor and its subcontractors for products, services, and Work provided under this Agreement, such products, services, and Work of Contractor and its subcontractors constituting works made for hire. Neither Contractor nor its subcontractors will reuse any portion of such items provided by Owner or work products developed by Contractor or its subcontractors for Owner pursuant to this Agreement or disclose any such items to any third party without the prior written consent of Owner. Owner may withhold its consent in its absolute discretion. Contractor shall obtain the written agreement of each of its subcontractors to the terms of this section prior to permitting the subcontractor to perform any services contemplated by this Agreement.
24. **Comply with Intellectual Property Rights of Others.** Contractor represents and warrants that no Work or services (with its means, methods, goods, and services attendant thereto), provided to Owner will infringe or violate any right of any third party and that Owner may use and exploit such Work, means, methods, goods, and services without liability or obligation to any person or entity (specifically and without limitation, such Work, means, methods, goods, and services will not violate rights under any patent, copyright, trademark, or other intellectual property right or application for the same).
25. **Ownership and Use of Renderings and Photographs.** Renderings, photographs, and/or other images of or representing the services, Work, or any improvement on or relative to the Project Site, whether created before, during, or at completion of construction (and whether created by Owner, Contractor, or Contractor's subcontractors), are the property of the Owner. Contractor hereby transfers and assigns to Owner all ownership and intellectual property rights that Contractor and/or its subcontractors may have in and to all such renderings, photographs, and other images. The Owner reserves all rights including copyrights and other intellectual property rights to such renderings, photographs, and other images. No such renderings, photographs, or other images shall be used or distributed without written consent of the Owner.
26. **Public Statements.** Contractor will not make any statements or provide any information to the media about the Project or Work without the prior written consent of Owner. If Contractor receives any requests for information from media, Contractor will refer such requests to Owner.
27. **Confidentiality.** Contractor shall ensure that Contractor and its subcontractors, and the employees, agents and representatives of Contractor and its subcontractors, maintain in strict confidence, and shall use and

disclose only as authorized by Owner all Confidential Information of Owner that Contractor receives in connection with the performance of this Agreement. Notwithstanding the foregoing, Contractor may use and disclose any information to the extent required by an order of any court or governmental authority, but only after it has notified Owner and Owner has had an opportunity to obtain reasonable protection for such information in connection with such disclosure. For purposes of this Agreement, "Confidential Information" means:

- a. The name or address of any affiliate, customer or contractor of Owner or any information concerning the transactions of any such person with Owner;
- b. Any contracts, agreements, business plans, budgets or other financial information, renderings, photographs, and materials provided by Owner, relating to the Work or any improvement on the Project Site to the extent such has not been made available to the public by the Owner;
- c. Any other information that is marked or noted as confidential at the time of its disclosure.

28. **No Commercial Use of Transaction or Relationship.** Without the prior written consent of Owner, which Owner may grant or withhold in its sole discretion, neither Contractor nor Contractor's affiliates, officers, directors, agents, representatives, shareholders, members, Subcontractors, or employees shall make any private commercial use of their relationship to Owner or the Project, including, without limitation:

- a. By referring to the Owner or Project verbally or in any sales, marketing or other literature, letters, client lists, press releases, brochures or other written materials except as may be necessary for Contractor to perform Contractor's obligations under the terms of this Agreement;
- b. By using or allowing the use of any photographs of the Work or Project or any part thereof, or of any service marks, trademarks or trade names or other intellectual property now or which may hereafter be associated with, owned by or licensed by Owner, in connection with any work, service or product; or
- c. By contracting with or receiving money or anything of value from any person or commercial entity to facilitate such person or entity obtaining any type of commercial identification, advertising or visibility in connection with the Owner or Project.

Notwithstanding the foregoing, Contractor may include a reference to Owner or the Project in a professional résumé or other similar listing of Contractor's references without seeking Owner's written consent in each instance, provided that such reference to Owner or the Project is included with at least several other similar references to projects of different owners and is given no more prominence than such other references.

29. **Entire Agreement.** This Agreement contains the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral, relating to the Project. This Agreement may be amended only by a writing signed by both parties. This Agreement will not be construed to create a contractual relationship of any kind between any persons or entities other than Owner and Contractor.

30. **Assignment.** Contractor will not assign any right or obligation hereunder without the prior written consent of the Owner, which consent may be granted or withheld in Owner's absolute discretion.

31. **Governing Law.** The parties acknowledge that the Contract Documents have substantial connections to the State of Utah. The Contract Documents will be deemed to have been made, executed, and delivered in Salt Lake City, Utah. To the maximum extent permitted by law, (i) the Contract Documents and all matters related to their creation and performance will be governed by and enforced in accordance with the laws of the State of Utah, excluding conflicts of law rules, and (ii) all disputes arising from or related to the Contract Documents will be decided only in a state or federal court located in Salt Lake City, Utah and not in any other court or state. Toward that end, the parties hereby consent to the jurisdiction of the state and federal courts located in Salt Lake City, Utah and waive any other venue to which they might be entitled by virtue of domicile, habitual residence, place of business, or otherwise.

32. **Effective Date.** The effective date of this Agreement is the date indicated by Owner's signature.

OWNER:

Corporation of the Presiding Bishop of
The Church of Jesus Christ of Latter-day Saints,
a Utah corporation sole.

CONTRACTOR:

(company)

Signature:

Signature:

Print Name:

Print Name:

Title:

Title:

Address:

Address:

Telephone No:

Telephone No:

Facsimile No:

Facsimile No:

Email:

Email:

Effective Date:

Fed. I.D. or SSN:

License No:

Reviewed By:

Date Signed:

SUPPLEMENTARY CONDITIONS

FOR SMALL PROJECT AGREEMENT BETWEEN OWNER AND CONTRACTOR (U.S.)

ITEM 1 - GENERAL

1. Conditions of the Small Project Agreement Between Owner and Contractor (U.S.) apply to each Division of the Specifications.
2. Provisions contained in Division 01 apply to all Divisions of the Specifications.

END OF DOCUMENT

SPECIFICATIONS

DIVISION 01: GENERAL REQUIREMENTS

01 1000 SUMMARY

- 01 1100 SUMMARY OF WORK
- 01 1200 MULTIPLE CONTRACT SUMMARY
- 01 1400 WORK RESTRICTIONS

01 3000 ADMINISTRATIVE REQUIREMENTS

- 01 3100 PROJECT MANAGEMENT AND COORDINATION
- 01 3300 SUBMITTAL PROCEDURES
- 01 3500 SPECIAL PROCEDURES

01 4000 QUALITY REQUIREMENTS

- 01 4000 QUALITY REQUIREMENTS
- 01 4301 QUALITY ASSURANCE - QUALIFICATIONS
- 01 4523 TESTING AND INSPECTION SERVICES

01 5000 TEMPORARY FACILITIES AND CONTROLS

- 01 5000 TEMPORARY FACILITIES AND CONTROLS

01 6000 PRODUCT REQUIREMENTS

- 01 6100 COMMON PRODUCT REQUIREMENTS
- 01 6200 PRODUCT OPTIONS
- 01 6400 OWNER-FURNISHED PRODUCTS
- 01 6600 PRODUCT DELIVERY, STORAGE, AND HANDLING REQUIREMENTS

01 7000 EXECUTION AND CLOSEOUT REQUIREMENTS

- 01 7400 CLEANING AND WASTE MANAGEMENT
- 01 7700 CLOSEOUT PROCEDURES
- 01 7800 CLOSEOUT SUBMITTALS

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DIVISION 01

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01 3000 ADMINISTRATIVE REQUIREMENTS

01 3100 PROJECT MANAGEMENT AND COORDINATION

01 3300 SUBMITTAL PROCEDURES

01 3500 SPECIAL PROCEDURES

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01 4301 QUALITY ASSURANCE – QUALIFICATIONS

01 4523 TESTING AND INSPECTING SERVICES

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01 7800 CLOSEOUT SUBMITTALS

SECTION 01 1000 SUMMARY

A. Work Covered By Contract Documents:

1. Provisions contained in Division 01 apply to all other sections and divisions of Specifications. All instructions contained in Specifications are directed to Contractor. Unless specifically provided otherwise, all obligations set forth in Specifications are obligations of Contractor.
2. Comply with applicable laws and regulations.

SECTION 01 1400 WORK RESTRICTIONS

A. Project Conditions:

1. During construction period, Contractor will have use of premises for construction operations. Contractor will ensure that Contractor, its employees, subcontractors, and employees comply with following requirements:
 - a. Confine operations to areas within Contract limits shown on Drawings. Do not disturb portions of site beyond Contract limits.
 - b. Do not allow alcoholic beverages, illegal drugs, or persons under their influence on Project Site.
 - c. Do not allow use of tobacco in any form on Project Site.
 - d. Do not allow pornographic or other indecent materials on site.
 - e. Do not allow work on Project Site on Sundays except for emergency work.
 - f. Refrain from using profanity or being discourteous or uncivil to others on Project Site or while performing The Work.
 - g. Wear shirts with sleeves, wear shoes, and refrain from wearing immodest, offensive, or obnoxious clothing, while on Project Site.
 - h. Do not allow playing of obnoxious and loud music on Project Site. Do not allow playing of any music within existing facilities.
 - i. Do not build fires on Project Site.
 - j. Do not allow weapons on Project Site, except those carried by law enforcement officers and/or other uniformed security personnel who have been retained by Owner or Contractor to provide security services.
2. Existing Facilities:
 - a. If Owner will occupy existing building, reasonably accommodate use of existing facilities by Owner.

SECTION 01 3000 ADMINISTRATIVE REQUIREMENTS**A. Administrative Requirements:****1. Coordination:**

- a. Coordinate construction activities to ensure efficient and orderly installation of each part of the Work.
- b. Coordinate construction operations that are dependent upon each other for proper installation, connection, and operation.
- c. Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.

SECTION 01 3100 PROJECT MANAGEMENT AND COORDINATION**A. Multiple Contract Coordination:**

1. Contractor shall be responsible for coordination of Temporary Facilities and Controls, Construction Waste Management and Disposal services, and Final Cleaning for entire Project unless directed otherwise by Owner's Representative for those who perform work on Project from Notice to Proceed to date of Substantial Completion.

B. Project Meetings And Conferences:

1. Attend preconstruction conference and organizational meeting scheduled by Architect or Owner Representative at Project site or other convenient location.
2. Be prepared to discuss items of significance that could affect progress, including such topics as:
 - a. Construction schedule, equipment deliveries, general inspection of tests, preparation of record documents and O&M manuals, project cleanup, security, shop drawings, samples, use of premises, work restrictions, and working hours.
2. Pre-Installation Conferences.
 - a. Attend pre-installation conferences specified in Contract Document.

SECTION 01 3300 SUBMITTAL PROCEDURES**A. Submittal Procedure:**

1. Coordination: Coordination preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently before performance of related construction activities to avoid delay.
2. Process Time: Allow sufficient review time so installation will not be delayed by time required to process submittals.
3. Identification: Place permanent label or title block on each submittal for identification. Include name of entity that prepared each submittal on label or title block.
4. Transmittal: Package each submittal appropriately for transmittal and handling.

B. Action Submittals:

1. Product Data: Submit product data, as required by individual Sections of Specifications.
2. Shop Drawings: Submit shop drawings for review and designate (stamp) approval of shop drawings.
3. Samples: Samples used for comparison with actual component to be installed. Samples when accepted will be used for quality comparisons throughout course of construction.

C. Informational Submittals:

1. Informational submittals are design data, test reports, certificates, manufacturer's instructions, manufacturer's field reports, and other documentary data affirming quality of products and installations.
 - a. Return copies or PDF files marked with action taken and with corrections or modifications required.

D. Closeout Submittals:

1. Submittals that occur during project closeout.

SECTION 01 3500 SPECIAL PROCEDURES**A. Quality Assurance:**

1. Hot Work Permit (Available from Owner's Representative):
 - a. Required for doing hot work involving open flames or producing heat or sparks such as:

- 1) Brazing.
- 2) Cutting.
- 3) Grinding.
- 4) Soldering.
- 5) Thawing pipe.
- 6) Torch applied roofing.
- 7) Welding.

SECTION 01 4000 QUALITY REQUIREMENTS

A. Administrative Requirements:

1. Conflicting Requirements:
 - a. If compliance with two or more standards is specified and standards establish different or conflicting requirements for minimum quantities or quality levels, comply with most stringent requirement.
2. Minimum Quantity or Quality Levels:
 - a. Quantity or quality level shown or specified shall be the minimum provided or performed. Actual installation may comply exactly with minimum quantity or quality specified, or it may exceed minimum within reasonable limits.
3. Submit to Owner permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence, and records establishing compliance with standards and regulations bearing upon performance of the Work.

B. Quality Assurance:

1. Testing and inspecting services are used to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with Contract Document requirements.
2. Quality Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to verify compliance and guard against defects and deficiencies and substantiate that proposed construction will comply with requirements. Owner or Owner's designated representative(s) will perform quality assurance to verify compliance with Contract Documents.
3. Notify Owner immediately if asbestos-containing materials or other hazardous materials are encountered while performing the Work.

C. Quality Control:

1. Quality Control Services:
 - a. Quality Control will be sole responsibility of Contractor.
 - 1) Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements performed by Contractor.
 - a) They do not include inspections, tests or related actions performed by Architect or Owner Representative, governing authorities or independent agencies hired by Owner or Architect.
 - b) Quality assurance performed by Owner will be used to validate Quality Control performed by Contractor.
 - 2) Where services are indicated as Contractor's responsibility, engage qualified Testing Agency to perform these quality control services:
 - a) Contractor will not employ same testing entity engaged by Owner, without Owner's written approval.

D. Repair And Protection:

1. On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
2. Protect construction exposed by or for Quality Assurance and Quality Control activities.
3. Repair and protection are Contractor's responsibility, regardless of assignment of responsibility for Quality Assurance and Quality Control Services.

SECTION 01 4301 QUALITY ASSURANCE - QUALIFICATIONS

- A. Qualifications: Qualifications in this Section establish minimum qualification levels required; individual Specification Sections specify additional requirements:
1. Fabricator / Supplier / Installer Qualifications:
 - a. Firm experienced in producing products similar to those indicated for this Project and with record of successful in-service performance, as well as sufficient production capacity to produce required units:
 - 1) Where heading '*VMR (Value Managed Relationship) Suppliers / Installers*' is used to identify list of specified suppliers or installers, Owner has established relationships that extend beyond requirements of this Project. No other suppliers / installers will be acceptable. Follow specified procedures to preserve relationships between Owner and specified suppliers / installers and advantages that accrue to Owner from those relationships.
 - 2) Where heading '*Acceptable or Approved Suppliers / Installers / Fabricators*' is used to identify list of specified suppliers / installers / fabricators, use only one of listed suppliers / installers / fabricators. No others will be acceptable.
 2. Factory-Authorized Service Representative Qualifications:
 - a. Authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
 3. Installer Qualifications:
 - a. Firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with record of successful in-service performance.
 4. Manufacturer Qualifications:
 - a. Firm experienced in manufacturing products or systems similar to those indicated for this Project and with record of successful in-service performance, as well as sufficient production capacity to produce required units.
 5. Manufacturer's Field Services Qualifications:
 - a. Experienced authorized representative of manufacturer to inspect field-assembled components and equipment installation, including service connections.
 6. Professional Engineer Qualifications:
 - a. Professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of kind indicated:
 - 1) Engineering services are defined as those performed for installations of system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.
 7. Specialists:
 - a. Certain sections of Specifications require that specific construction activities will be performed by entities who are recognized experts in those operations:
 - 1) Specialists will satisfy qualification requirements indicated and will be engaged for activities indicated.
 - 2) Requirement for special will not supersede building codes and regulations governing the Work.
 8. Testing Agency Qualifications:
 - a. Independent Testing Agency with experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E329; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.
 - b. Testing Laboratory:
 - 1) AASHTO Materials Reference Laboratory (AMRL) Accreditation Program.
 - 2) Cement and Concrete Reference Laboratory (CCRL).
 - 3) Nationally Recognized Testing Laboratory (NRTL): Nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 4) National Voluntary Laboratory (NVLAP): Testing Agency accredited according to National Institute of Standards and Technology (NIST) Technology Administration, U. S. Department of Commerce Accreditation Program.

SECTION 01 4523 TESTING AND INSPECTION SERVICES

- A. Submittals:
1. Certificates: Testing Agency will submit certified written report of each inspection, test, or similar service.
 2. Tests and Evaluation Reports:

- a. Testing Agency or Agencies will prepare logs, test reports, and certificates applicable to specific tests and inspections and deliver copies to Owner's Representative and to each of following if involved on project: Architect, Consulting Engineers (Engineer of Record), General Contractor, Authorities Having Jurisdiction (if required).
 3. Testing Agency:
 - a. Qualifications of Testing Agency management, personnel, inspector and technicians designated to project.
 - b. Provide procedures for non-destructive testing, equipment calibration records, personnel training records, welding inspection, bolting inspection, shear connector stud inspection, and seismic connection inspections.
- B. Quality Assurance:
1. Owner or Owner's designated representative(s) will perform quality assurance. Owner's quality assurance procedures may include observations, inspections, testing, verification, monitoring and any other procedures deemed necessary by Owner to verify compliance with Contract Documents.
 2. Owner will employ independent Testing Agencies to perform certain specified testing, as Owner deems necessary.
 3. Certification:
 - a. Product producers and associations, which have instituted approved systems of quality control and which have been approved by document approval agencies, are not required to have further testing.
 - b. Concrete mixing plants, plants producing fabricated concrete and wood or plywood products certified by agency, lumber, plywood grade marked by approved associates, and materials or equipment bearing underwriters' laboratory labels require no further testing and inspection.
 4. Written Practice for Quality Assurance:
 - a. Testing Agency will maintain written practice for selection and administration of inspection personnel, describing training, experience, and examination requirements for qualification and certification of inspection personnel.
 - b. Written practice will describe testing agency procedures for determining acceptability of structure in accordance with applicable codes, standards, and specifications.
 - c. Written practice will describe Testing Agency inspection procedures, including general inspection, material controls, visual welding inspection, and bolting inspection.
- C. Quality Control:
1. Quality Control will be sole responsibility of Contractor. Contractor will be responsible for testing, coordination, start-up, operational checkout, and commissioning of all items of the Work included in Project. All costs for these services will be included in Contractor's cost of the Work.
 2. Notify results of all Testing and Inspection performed by Contractor's independent Testing Agencies to Architect and/or Owner's Representative within 24 hours of test or inspection having been performed:
 - a. Testing and Inspection Reports will be distributed as follows:
 - 1) 1 copy to Owner's Representative.
 - 2) 1 copy to Architect.
 - 3) 1 copy to Consulting Engineer(s) (Engineer of Record).
 - 4) 1 copy to Authorities Having Jurisdiction (if required).
 3. Contractor's Responsibility:
 - a. Owner's employment of an independent Testing Agency does not relieve Contractor of Contractor's obligation to perform the Work in strict accordance with requirements of Contract Documents.
 - b. Tests and inspections that are not explicitly assigned to Owner are responsibility of Contractor.
 - c. Cooperate with Testing Agency(s) performing required inspections, tests, and similar services and provide reasonable auxiliary services as requested. Notify Testing Agency before operations to allow assignment of personnel. Auxiliary services required include but are not limited to:
 - 1) Providing access to the Work and furnishing incidental labor, equipment, and facilities deemed necessary by Testing Agency to facilitate inspections and tests at no additional cost to Owner.
 - 2) Taking adequate quantities of representative samples of materials that require testing or helping Testing Agency in taking samples.
 - 3) Providing facilities for storage and curing of test samples, and delivery of samples to testing laboratories.
 - 4) Providing Testing Agency with preliminary design mix proposed for use for materials mixes that require control by Testing Agency.
 - d. For any requested inspection, Contractor will complete prior inspections to ensure that items are ready for inspection.

- e. All Work is subject to testing and inspection and verification of correct operation.
 - f. Comply:
 - 1) Upon completion of Testing Agency's inspection, testing, sample-taking, and similar services, repair damaged construction and restore substrates and finishes to eliminate deficiencies, including deficiencies in visual qualities of exposed finishes.
 - 2) Comply with Contract Documents in making such repairs.
 - g. Data:
 - 1) Furnish records, drawings, certificates, and similar data as may be required by testing and inspection personnel to assure compliance with Contract Documents.
 - h. Defective Work (Non-Conforming Work): Non-conforming Work as covered in General Conditions applies, but is not limited to following requirements Protection:
 - 1) Where results of inspections, tests, or similar services show that the Work does not comply with Contract Document requirements, correct deficiencies in the Work promptly to avoid work delays.
 - 2) Where testing personnel take cores or cut-outs to verify compliance, repair prior to acceptance.
 - 3) Contractor will be responsible for any and all costs incurred resulting from inspection that was scheduled prematurely or retesting due to failed tests.
 - 4) Remove and replace any Work found defective or not complying with contract document requirements at no additional cost to Owner.
 - 5) Should test return unacceptable results, Contractor will bear all costs of retesting and re-inspection as well as cost of all material consumed by testing, and replacement of unsatisfactory material and/or workmanship.
 - i. Protection:
 - 1) Protect construction exposed by or for quality assurance and quality control service activities, and protect repaired construction.
 - j. Scheduling: Contractor is responsible for scheduling times for inspections, tests, taking samples, and similar activities:
 - 1) Schedule testing and inspections in advance so as not to delay the Work and to eliminate any need to uncover the Work for testing or inspection.
 - 2) Notify Testing Agency and Architect or Owner as noted in Sections in Division 01 thru Division 50 prior to any time required for such services.
 - 3) Incorporate adequate time for performance of all inspections and correction of noted deficiencies.
 - 4) Schedule sequence of activities to accommodate required services with minimum of delay.
 - 5) Schedule sequence of activities to avoid necessity of removing and replacing construction to accommodate testing and inspections.
 - k. Test and Inspection Log:
 - 1) Provide system of tracking all field reports, describing items noted, and resolution of each item. Prepare record of tests and inspections. Include following requirements:
 - (a) Date test or inspection was conducted.
 - (b) Description of the Work tested or inspected.
 - (c) Date test or inspection results were transmitted to Architect or Owner Representative.
 - (d) Identification of Testing Agency or inspector conducting test or inspection.
 - 2) Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Architect's or Owner's reference during normal working hours.
- D. Tests And Inspections - General:
- 1. Testing specifically identified to be conducted by Owner, will be performed by an independent entity and will be arranged and paid for by Owner.
 - 2. Individual Sections in Division 01 through Division 50 indicate if Owner will provide testing and inspection of the Work of that Section.
 - 3. Tests include but not limited to those described in detail in 'Field Quality Control' in Part 3 of Individual Sections in Divisions 01 through Division 50.
 - 4. Taking Specimens:
 - a. Only testing laboratory shall secure, handle, transport, or store any samples and specimens for testing.
 - 5. Scheduling Testing Agency:
 - a. Contractor will coordinate the Work and facilitate timeliness of such testing and inspecting services so as not to delay the Work.

- b. Contractor will notify Testing Agency and Architect or Owner Representative to schedule tests and / or inspections.

E. Testing Agency Services And Responsibility:

1. Testing Agency, including independent testing laboratories, will be licensed and authorized to operate in jurisdiction in which Project is located:
 - a. Approved Testing Agency Qualifications: Requirements of Section 01 4301 apply.
2. Testing and Inspection Services:
 - a. Testing Agency will not release, revoke, alter, or increase Contract Document requirements or approve or accept any portion of the Work.
 - b. Testing Agency will not give direction or instruction to Contractor.
 - c. Testing Agency will have full authority to see that the Work is performed in strict accordance with requirements of Contract Documents and directions of Owner's Representative and/or Architect.
 - d. Testing Agency will not provide additional testing and inspection services beyond scope of the Work without prior approval of Owner's Representative and/or Architect.
3. Testing Agency Duties:
 - a. Independent Testing Agency engaged to perform inspections, sampling, and testing of materials and construction specified in individual specification Sections will cooperate with Architect or Owner Representative and Contractor in performance of its duties and will provide qualified personnel to perform required inspections and tests.
 - b. Testing Agency will test or obtain certificates of tests of materials and methods of construction, as described herein or elsewhere in technical specification.
 - c. Testing Agency will provide management, personnel, equipment, and services necessary to perform testing functions as outlined in this section.
 - d. Testing Agency must have experience and capability to conduct testing and inspecting indicated by ASTM standards and that specializes in types of tests and inspections to be performed.
 - e. Testing Agency will comply with requirements of ASTM E329, ASTM E543, ASTM C1021, ASTM C1077, ASTM C1093, ASTM D3666, ASTM D3740, and other relevant ASTM standards.
 - f. Testing Agency must calibrate all testing equipment at reasonable intervals (minimum yearly) with accuracy traceable to either National Bureau of Standards or accepted values of natural physical constants.
 - g. Welding Procedure Review: Testing Agency will provide review and approval or rejection of all welding procedures to be used and verify compliance with all reference standard requirements.
4. Testing and Inspection Reports:
 - a. Conduct and interpret tests and inspections and state in each report whether tested and inspected Work complies with or deviates from requirements.
 - b. Laboratory Reports: Testing Agency will furnish reports of materials and construction as required, including:
 - 1) Description of method of test.
 - 2) Identification of sample and portion of the Work tested:
 - (a) Description of location in the Work of sample.
 - (b) Time and date when sample was obtained.
 - (c) Weather and climatic conditions at time when sample was obtained.
 - 3) Evaluation of results of tests including recommendations for action.
 - c. Inspection Reports:
 - 1) Testing Agency will furnish "Inspection at Site" reports for each site visit documenting activities, observations, and inspections.
 - 2) Include notation of weather and climatic conditions, time and date conditions and status of the Work, actions taken, and recommendations or evaluation of the Work.
 - d. Reporting Testing and Inspection (Conforming Work):
 - 1) Submit testing and inspection reports as required within twenty four (24) hours of test or inspection having been performed.
 - e. Reporting Testing and Inspection Defective Work (Non-Conforming Work):
 - 1) Testing Agency, upon determination of irregularities, deficiencies observed or test failure(s) observed in the Work during performance of its services of test or inspection having been performed, will:
 - (a) Verbally notify results to Architect, Contractor, and Owner's Representative within one hour of test or inspection having been performed (if Defective Work (Non-Conforming Work) is incorporated into project).

- (b) Submit written inspection report and test results as required within twenty four (24) hours of test or inspection having been performed.
 - f. Final Report:
 - 1) Submit final report of tests and inspections at Substantial Completion, which identify unresolved deficiencies.
- F. Architect's Responsibility:
- 1. Architect Duties:
 - a. Notify Owner's Representative before each test and/or inspection:
- G. Field Quality Control:
- 1. Field Tests And Inspections:
 - a. Field Test and Inspection requirements are described in detail in 'Field Quality Control' in Part 3 Execution' of individual Sections in Division 01 thru Division 49.

SECTION 01 5000 TEMPORARY FACILITIES AND CONTROLS

- A. Administrative Requirements:
- 1. Contractor is responsible for security of materials, tools, and equipment. Do not permit others to use building keys provided by Owner. Safeguard building and contents while the Work is being performed and secure building when the Work is finished for day.
 - 2. Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and reduce possibility that air, waterways, and subsoil might be contaminated or polluted, or that other undesirable effects might result:
 - a. Avoid use of tools and equipment that produce harmful noise.
 - b. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near site.
 - c. Protect the Work, materials, apparatus, and fixtures from injury due to weather, theft, and vandalism.
 - 3. Existing restroom facilities may be used by Contractor. Clean restrooms and portions of existing building used in accessing restrooms daily. If existing facilities are not usable, provide and maintain temporary sanitary toilet.
- B. Temporary Barriers And Enclosures:
- 1. Protect existing trees and plants. Remove and replace vegetation that dies or is damaged beyond repair due to construction activities.
 - 2. Erect adequate barricades, warning signs, and lights necessary to protect persons from injury or harm.
 - 3. Provide temporary enclosures at exterior building openings for security and protection from weather, theft, and vandalism. Erect and maintain dust-proof partitions and enclosures as required to prevent spread of dust and fumes to occupied portions of building.
 - 4. Proprietary Camera Services: In its absolute discretion, and with or without notice to Contractor, Owner may provide from time to time, but is not obligated to provide, one or more cameras on or about Project site and/or signage or notices of the same:
 - a. If provided by Owner, such camera(s) and/or signage and notices are solely for Owner's benefit and convenience and shall not be for benefit of Contractor, Subcontractor(s) or for any third person.
 - b. Owner shall have no liability, obligation, or responsibility to Contractor, Subcontractors, or any third person relative to such camera(s), signage, or notices, or absence of camera(s), signage, or notices, including without limitation, installation, maintenance, operation, repair, testing, functionality, capacity, recording, monitoring, posting, etc., of the same (hereafter 'Proprietary Camera Services').
 - c. Contractor, with Owner's prior consent (which shall not be unreasonably withheld), may relocate such camera(s), signage, or notices as necessary to not unreasonably, materially and physically interfere with work at Project Site.
 - d. Contractor's obligations under Contract Documents, including but not limited to, Contractor's obligation for security of Project Site, are not modified by Owner's opportunity to provide, actually providing, or not providing Proprietary Camera Services and/or signage or notices regarding the same.
 - e. This Specification Section does not preclude Contractor from providing its own camera(s), signage, or notices pursuant to terms and conditions of this Agreement. Neither does this Section reduce, expand or modify any other right or obligation of Owner pursuant to terms of this Agreement.
- C. Utilities:

1. Electrical Power: Owner will provide electric power for construction activities within limits available at existing facility.
2. Fire Protection: Exercise caution to avoid fire damage: Do not build fires on site.
3. Water Service: Contractor will use existing water supply for construction purposes to extent of existing facilities.

SECTION 01 6100 COMMON PRODUCT REQUIREMENTS

A. Administrative Requirements:

1. Provide products that comply with Contract Documents, are undamaged, and, unless otherwise indicated, are new and unused at time of installation. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for complete installation and for intended use and effect.

SECTION 01 6200 PRODUCT OPTIONS

A. Product selection is governed by Contract Documents and governing regulations, not by previous Project experience. Procedures governing product selection include:

1. Substitutions And Equal Products:
 - a. Generally speaking, substitutions for specified products and systems, as defined in Uniform Commercial Code, are not acceptable. However, equal products may be approved upon compliance with Contract Document requirements.
 - b. Approved Products / Manufacturers / Suppliers / Installers:
 - 1) Category One:
 - (a) Owner has established 'Value Managed Relationships' that extend beyond requirements of this Project. No substitutions or equal products will be allowed on this Project.
 - (b) Follow specified procedures to preserve relationships between Owner and specified manufacturers / suppliers and advantages that accrue to Owner from those relationships.
 - 2) Category Two:
 - (a) Owner has established National Contracts that contain provisions extending beyond requirements of this Project. No substitutions or equal products will be allowed on this Project.
 - (b) Follow specified procedures to preserve relationships between Owner and specified manufacturers / suppliers and advantages that accrue to Owner from those relationships.
 - 3) Category Three:
 - (a) Specified products are provided to Church Projects under a National Account Program. Use these products to preserve advantages that accrue to Owner from those programs. No substitutions or equal products will be allowed on this Project.
 - 4) Category Four:
 - (a) Provide only specified products available from manufacturers listed. No substitutions, private-labeled, or equal products, or mixing of manufacturers' products is allowed on this Project.
 - (b) In Sections where lists recapitulating Manufacturers previously mentioned in Section are included under heading '*Manufacturers*' or '*Approved Manufacturers*', this is intended as convenience to Contractor as listing of contact information only. It is not intended that all manufacturers in list may provide products where specific products and manufacturers are listed elsewhere in Section.
 - c. Acceptable Products / Manufacturers / Suppliers / Installers:
 - 1) Type One: Use specified products / manufacturers unless approval to use other products / manufacturers has been obtained from Architect or Owner Representative by Addendum.
 - 2) Type Two: Use specified products / manufacturers unless approval to use other products and manufacturers has been obtained from Architect or Owner Representative in writing before installing or applying unlisted or private-labeled products.
 - 3) Use 'Equal Product Approval Request Form' to request approval of equal products, manufacturers, or suppliers before bidding or before installation, as noted in individual Sections.
 - d. Quality / Performance Standard Products / Manufacturers:
 - 1) Class One: Use specified product / manufacturer or equal product from specified manufacturers only.
 - 2) Class Two: Use specified product / manufacturer or equal product from any manufacturer.
 - 3) Products / manufacturers used will conform to Contract Document requirements.

SECTION 01 6600 DELIVERY, STORAGE, AND HANDLING REQUIREMENTS

- A. Administrative Requirements:
 - 1. Deliver, store, and handle products according to manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.
- B. Delivery, Storage, and Handling:
 - 1. Delivery and Acceptable Requirements:
 - a. Deliver, store, and handle products according to manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.
 - b. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - c. Deliver products to site in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - d. Inspect products upon delivery to ensure compliance with Contract Documents, and to ensure that products are undamaged and properly protected.
 - 2. Storage and Handling Requirements:
 - a. Store products at site in manner that will simplify inspection and measurement of quantity or counting of units.
 - b. Store heavy materials away from Project structure so supporting construction will not be endangered.
 - c. Store products subject to damage by elements above ground, under cover in weather tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

SECTION 01 7000 EXECUTION REQUIREMENTS

- A. Administrative Requirements:
 - 1. Require installer of each major component to inspect both substrate and conditions under which the Work is to be done:
 - a. Notify Owner in writing of unsatisfactory conditions.
 - b. Do not proceed until unsatisfactory conditions have been corrected.
- B. Common Installation Provisions:
 - 1. Provide attachment and connection devices and methods necessary for securing the Work:
 - a. Secure the Work true to line and level.
 - b. Allow for expansion and building movement.
 - 2. Recheck measurements and dimensions before starting each installation.
 - 3. Design, furnish, and install all shoring, bracing, and sheathing as required for safety and for proper execution of the Work and, unless otherwise required, remove same when the Work is completed.
 - 4. Where mounting heights are not shown, install individual components at standard mounting heights recognized within industry or local codes for that application. Refer questionable mounting height decisions to Owner for final decision.
- C. Protection:
 - 1. Cover and protect furniture, equipment, and fixtures from soiling and damage when demolition the Work is performed in rooms and areas from which such items have not been removed.
- D. Completion Inspection:
 - 1. Upon 100 percent completion of Project, Contractor will request Substantial Completion Inspection.
 - 2. Owner will conduct Substantial Completion Inspection in presence of Contractor and furnish list of items to be corrected.
 - 3. Contractor will notify Owner in writing when items have been corrected.

SECTION 01 7400 CLEANING AND WASTE MANAGEMENT

- A. Disposal Of Waste:

1. Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in landfill or incinerator acceptable to authorities having jurisdiction:
 - a. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - b. Remove and transport debris in manner that will prevent spillage on adjacent surfaces and areas.
 2. Burning: Do not burn waste materials.
 3. Disposal: Transport waste materials off Owner's property and legally dispose of them.
- B. Progress Cleaning:
1. Keep premises broom-clean during progress of the Work.
 2. During handling and installation, protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from soiling, damage, or deterioration until Substantial Completion.
 3. Clean and maintain completed construction as frequently as necessary throughout construction period.
 4. Remove waste materials and rubbish caused by employees, subcontractors, and contractors under separate contract with Owner and dispose of legally.
- C. Final Cleaning:
1. Clean each surface or unit to condition expected in normal, commercial-building cleaning and maintenance program. Comply with manufacturer's instructions. Remove all rubbish from under and about building and leave building clean and habitable.
 2. In addition to general cleaning noted above, perform cleaning for all trades at completion of the Work in areas where construction activities have occurred.
 3. If Contractor fails to clean up, Owner may do so and charge cost to Contractor.

SECTION 01 7700 CLOSEOUT PROCEDURES

- A. General:
1. Closeout process consists of three specific project closeout inspections. Contractor shall plan sufficient time in construction schedule to allow for required inspections before expiration of Contract Time.
 2. Contractor shall conduct his own inspections of The Work and shall not request closeout inspections until The Work of the contract is reasonably complete and correction of obvious defects or omissions are complete or imminent.
 3. Date of Substantial Completion shall not occur until completion of construction work, unless agreed to by Architect / Owner's Representative and included on Certificate of Substantial Completion.
- B. Preliminary Closeout Review:
1. When Architect, Owner and Contractor agree that project is ready for closeout, Pre-Substantial Inspection shall be scheduled. Preparation of floor substrate to receive carpeting and any work which could conceivably damage or stain carpet must be completed, as carpet installation will be scheduled immediately following this inspection.
 2. Prior to this inspection, completed test and evaluation reports for HVAC system and font, where one occurs, are to be provided to Project Manager, Architect, and applicable consultants.
 3. Architect, Owner and Contractor review completion of punch list items. When Owner and Architect confirm that Contractor has achieved Substantial Completion of The Work, Owner, Architect and Contractor will execute Certificate of Substantial Completion that contains:
 - a. Punch list of items requiring completion and correction will be created.
 - b. Time frame for completion of punch list items will be established, and date for Substantial Completion Inspection shall be set.
- C. Substantial Completion Inspection:
1. When Architect, Owner and Contractor agree that project is ready for Substantial Completion, an inspection is held. Punch list created at Pre-Substantial Inspection is to be substantially complete.
 2. Prior to this inspection, Contractor shall discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups and similar elements.
 3. Architect, Owner and Contractor review completion of punch list items. When Owner and Architect confirm that Contractor has achieved Substantial Completion of The Work, Owner, Architect and Contractor will execute Certificate of Substantial Completion that contains:
 - a. Date of Substantial Completion.

- b. Punch List Work not yet completed, including seasonal and long lead items.
 - c. Amount to be withheld for completion of Punch List Work.
 - d. Time period for completion of Punch List Work.
 - e. Amount of liquidated damages set forth in Supplementary Conditions to be assessed if Contractor fails to complete Punch List Work within time set forth in Certificate.
4. Contractor shall present Closeout Submittals to Architect and place tools, spare parts, extra stock, and similar items required by Contract Documents in locations as directed by Facilities Manager.
- D. Final Acceptance Meeting:
- 1. When punch list items except for any seasonal items or long lead items which will not prohibit occupancy are completed, Final Acceptance Meeting is held.
 - 2. Owner, Architect and Contractor execute Owner's Project Closeout - Final Acceptance form, and verify:
 - a. All seasonal and long lead items not prohibiting occupancy, if any, are identified, with committed to completion date and amount to be withheld until completion.
 - b. Owner's maintenance personnel have been instructed on all system operation and maintenance as required by the Contract Documents.
 - c. Final cleaning requirements have been completed.
 - 3. If applicable, once any seasonal and long lead items are completed, Closeout Inspection is held where Owner and Architect verify that The Work has been satisfactorily completed, and Owner, Architect and Contractor execute Closeout portion of the Project Closeout - Final Acceptance form.
 - 4. When Owner and Architect confirm that The Work is satisfactorily completed, Architect will authorize final payment.

SECTION 01 7800 CLOSEOUT SUBMITTALS

- A. Administrative Requirements:
- 1. Project Record Documents:
 - a. Do not use record documents for construction purposes:
 - 1) Protect from deterioration and loss in secure, fire-resistive location.
 - 2) Provide access to record documents for reference during normal Working hours.
 - b. Maintain clean, undamaged set of Drawings. Mark set to show actual installation where installation varies from the Work as originally shown. Give particular attention to concealed elements that would be difficult to measure and record at later date:
 - 1) Mark record sets with red erasable pencil. Use other colors to distinguish between variations in separate categories of the Work.
 - 2) Mark new information that is important to Owner, but was not shown on Contract Drawings.
 - 3) Note related Change Order numbers where applicable.
 - 2. As Built Record Drawings:
 - a. Provide two full-size sets of prints and PDF file of As Built Record Drawings to Facilities Management Office, printed from the updated AutoCAD drawing files or updated Revit model files, as specified by Owner, that have been modified to show actual dimensions and location of equipment, material, utility lines, and other work as actually constructed, based upon information provided by Contractor. Architect will submit updated As Built Record Drawings in PDF (ISO32000 format) to Owner. In addition, Architect will submit to Owner updated AutoCAD as built record drawing files with associated plot style tables or the Revit as built record model files, as specified by Owner.
- B. Warranties:
- 1. When written guarantees beyond one (1) year after substantial completion are required by Contract Documents, secure such guarantees and warranties properly addressed and signed in favor of Owner. Include these documents in Operations & Maintenance Manual(s) specified above.
 - 2. Delivery of guarantees and warranties will not relieve Contractor from obligations assumed under other provisions of Contract Documents.

END OF SECTION

DIVISION 06: WOOD, PLASTICS, AND COMPOSITES

06 0000 WOOD, PLASTICS, AND COMPOSITES

06 0573 PRESERVATIVE WOOD TREATMENT

06 1000 ROUGH CARPENTRY

06 1100 WOOD FRAMING

END OF TABLE OF CONTENTS

SECTION 06 0573**PRESERVATIVE WOOD TREATMENT****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
 - 1. Quality of wood preservative treatment where specified.
- B. Related Requirements:
 - 1. Section 06 1100:
 - a. Characteristics of wood to be pressure-treated.
 - b. Furnishing and installing of pressure-treated wood.

1.2 REFERENCES

- A. Definitions:
 - 1. Preservative-Treated Wood: Wood exposed to high levels of moisture or heat susceptible to decay by fungus and other organisms, and to insect attack. The damage caused by decay or insects can jeopardize the performance of the wood members so as to reduce the performance below that required. Preservative treatment requires pressure-treatment process to achieve depth of penetration of preservative into wood to verify that the wood will be resistant to decay and insects over time.
- B. Reference Standards:
 - 1. American Wood Protection Association:
 - a. AWPA U1-12, 'Use Category System: User Specification For Treated Wood'.
 - 2. International Building Code (IBC) (2015 or latest approved edition by AHJ):
 - a. Chapter 23, 'Wood':
 - 1) Section 2300, 'Minimum Standards and Quality':
 - a) 2303.1, 'General':
 - (1) 2303.1.8, 'Preservative-Treated Wood'.

1.3 SUBMITTALS

- A. Informational Submittals:
 - 1. Certificate: Certificate of pressure treatment showing compliance with specification requirements and including information required under IBC Section 2303.1.8.1, 'Identification'.

PART 2 - PRODUCTS**2.1 SYSTEMS**

- A. Manufacturers:
 - 1. Type One Acceptable Manufacturers:
 - a. Arch Wood Protection Inc, Atlanta, GA www.wolmanizedwood.com.
 - b. Hoover Treated Wood Products, Thomson, GA www.frtw.com.
 - c. Osmose Inc, Griffin, GA www.osmose.com.
 - d. U S Borax Inc, Valencia, CA www.borax.com/wood.
 - e. Viance LLC, Charlotte, NC www.treatedwood.com.

f. Equal as approved by Architect before bidding. See Section 01 6200.

B. Performance:

1. Framing lumber grade and species shall be as specified in Section 06 1100 for particular use.
2. Exterior Wood Continuously Exposed To Weather:
 - a. Preservatives: Waterborne preservatives meeting requirements of AWPA U1 with retention levels as required by AWPA U1 for specific application.
 - b. Lumber: Treat in accordance with AWPA U1.

PART 3 - EXECUTION: Not Used

END OF SECTION

SECTION 06 1100**WOOD FRAMING****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
 - 1. Furnish and install wood framing and blocking as described in Contract Documents.
- B. Related Requirements:
 - 1. Section 06 0573: 'Preservative Wood Treatment' for quality of preservative wood treatment.

1.2 REFERENCES

- A. Association Publications:
 - 1. American Lumber Standard Committee (ALSC) (Maintains NIST standard):
 - a. Voluntary Product Standard:
 - 1) PS 20-15, 'American Softwood Lumber Standard'.
 - 2. National Institute of Standards and Technology (NIST), U. S. Department of Commerce:
 - a. Voluntary Product Standard DOC PS 20-15, 'American Softwood Lumber Standard'.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Delivery And Acceptance Requirements:
 - 1. Protect lumber and sheathing and keep under cover in transit and at job site.
 - 2. Do not deliver material unduly long before it is required.
- B. Storage And Handling Requirements:
 - 1. Store lumber and sheathing on level racks and keep free of ground to avoid warping.
 - 2. Stack to insure proper ventilation and drainage.

PART 2 - PRODUCTS**2.1 MATERIALS**

- A. Dimension Lumber:
 - 1. Design Criteria:
 - a. Meet requirements of PS 20 and National Grading Rules for softwood dimension lumber.
 - b. Bear grade stamp of WWPA, SPIB, or other association recognized by American Lumber Standards Committee identifying species of lumber by grade mark or by Certificate of Inspection.
 - c. Lumber **2 inches (50 mm)** or less in nominal thickness shall not exceed 19 percent in moisture content at time of fabrication and installation and be stamped 'S-DRY', 'K-D', or 'MC15'.
 - d. Preservative Treated Nailers:
 - 1) **2x4 (38 mm by 64 mm)**: Standard and better Douglas Fir, Southern Pine, or HemFir, or StrandGuard by iLevel by Weyerhaeuser Boise, ID www.ilevel.com. (LSL 1.3 E)

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General:
 - 1. Use preservative treated wood.

END OF SECTION

DIVISION 07: THERMAL AND MOISTURE PROTECTION

07 1000 DAMPPROOFING AND WATERPROOFING

07 1900 WATER REPELLENTS

07 2000 THERMAL PROTECTION

07 2416 POLYMER MODIFIED EIFS

07 5000 MEMBRANE ROOFING

07 5419 POLYVINYL-CHLORIDE ROOFING: PVC

END OF TABLE OF CONTENTS

SECTION 07 1900**WATER REPELLENTS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
 - 1. Furnish and apply water repellent system to exposed exterior brick masonry as described in Contract Documents.

1.2 SUBMITTALS

- A. Action Submittals:
 - 1. Product Data: Manufacturer's product data including data substantiating that specified materials are recommended by Manufacturer for applications shown.
- B. Informational Submittals:
 - 1. Manufacturer Instructions: Printed application instructions.

1.3 QUALITY ASSURANCE

- A. Regulatory Agency Sustainability Approvals:
 - 1. Comply with applicable VOC standards and other local requirements.
- B. Qualifications:
 - 1. Installer:
 - a. Installer shall be acceptable to Manufacturer as applicator of its product.
 - b. Minimum five (5) satisfactorily completed installations of comparable quality, scope, similar size, and complexity in past two (2) years before bidding.
- C. Preconstruction Testing:
 - 1. Test substrate for moisture content. Do not apply if moisture contents of wall not within limits acceptable to Manufacturer.
 - 2. Apply 10 foot (3 meter) square test application for review of substrate preparation procedures and application methods.

1.4 FIELD CONDITIONS

- A. Ambient Conditions:
 - 1. Temperatures at time of application:
 - a. Silane: Between 40 and 75 deg F (4 and 24 deg C).
 - b. Siloxane: Between 40 and 100 deg F (4 and 38 deg C).
 - 2. No precipitation shall have occurred within 24 hours of application or be expected for 48 hours minimum after completion of application.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Type One Acceptable Products:

1. Silane:
 - a. Hydrozo Enviroseal 20 by Hydrozo, Shalopee, MN www.buildingsystems.basf.com.
 - b. Rainstopper 120 by TexCote - Textured Coatings of America, Panama City, FL www.texcote.com.
 - c. Weather Worker S-20 (J-28) by Dayton Superior Specialty Chemicals, Kansas City, KS www.daytonsuperiorchemical.com.
2. Siloxane:
 - a. Prime A Pell 200 by Chemprobe, Div Tnemec, North Kansas City, MO www.tnemec.com.
 - b. Rainstopper 600 by TexCote - Textured Coatings of America, Panama City, FL www.texcote.com.
 - c. Sure Klean Weather Seal Siloxane WB Concentrate by ProSoCo, Lawrence, KS www.prosoco.com.
 - d. Weather Worker WB (J-26-WB) by Dayton Superior Specialty Chemicals, Kansas City, KS www.daytonsuperiorchemical.com.
3. Equals as approved by Architect before bidding. See Section 01 6200.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Do not apply water repellent until after installation of sealants in areas to receive water repellants and adjoining areas.
- B. Clean substrate of substances that will interfere with penetration and adhesion of water repellent.
- C. Protect adjoining work from spillage or blow-over as recommended by Manufacturer.

3.2 APPLICATION

- A. Apply two heavy saturation spray coats beginning at bottom of walls and following Manufacturer's written application instructions.

3.3 CLEANING

- A. Immediately clean adjoining surfaces of spillage and overspray as recommended by Manufacturer.

END OF SECTION

SECTION 07 2416**POLYMER MODIFIED EIFS****PART 1 - GENERAL****1.1 SUMMARY**

- A. Includes But Not Limited To:
 - 1. Furnish and install polymer modified EIFS system as described in Contract Documents including sealants.
- B. Related Requirements:
 - 1. Sections under 07 6000 heading: 'Flashing And Sheet Metal' for furnishing and installation of flashing.

1.2 REFERENCES

- A. Definitions:
 - 1. Base Coat: Any or all layers of plaster in place prior to application of finish coat.
 - 2. EIFS (Exterior Insulation And Finish System: Nonstructural, nonload-bearing, exterior wall cladding systems that consist of an insulation board attached either adhesively or mechanically, or both, to the substrate; an integrally reinforced base coat; and a textured protective finish coat.
 - 3. Finish: Final layer of plaster applied over basecoat.
 - 4. Insulation: Extruded polystyrene insulation (XPS), which is affixed to the substrate. Known for long-term reliability and superior resistance to the elemental forces of nature: time, water, cold, heat, and pressure.
 - 5. Reinforcing Mesh: Used to reinforce the base coat and to provide impact resistance.
- B. Reference Standards:
 - 1. American National Standards Institute / Factory Mutual Resource Corporation:
 - a. ANSI FM 4880:2010, 'Class 1 Fire Rating of Insulated Wall and Roof/Ceiling Panels, Interior Finish Materials or Coatings And Exterior Finish Systems'.
 - 2. ASTM International:
 - a. ASTM C150/C150M-17, 'Standard Specification for Portland Cement'.
 - b. ASTM C578-17, 'Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation'.
 - c. ASTM C1382-15, 'Test Method for Determining Tensile Adhesion Properties of Sealants When Used in Exterior Insulation and Finish Systems (EIFS) Joints'.

1.3 SUBMITTALS

- A. Action Submittals:
 - 1. Product Data:
 - a. Provide Manufacturer's product data sheets describing products to be used.
 - b. Provide Manufacturer's storage and handling, preparation, and installation requirements.
 - c. Color selection.
 - 2. Shop Drawings:
 - a. Provide Manufacturer's details and recommended sealant application and details for flashing of drainage EIFS assembly.
 - b. Show wall layout, connections, details, expansion joints and installation sequence.
 - 3. Samples:
 - a. Field created sample of each color and texture to be used. Make sample with same tools and techniques to be used on Project.
 - 1) Acceptable sample panel to be stand alone panel and not part of Work.

- 2) Sample to be comprised of all wall assembly components including substrate, insulation, Base Coat, Reinforcing Mesh, Finish Coat, and typical sealant/flashing conditions.
- B. Informational Submittals:
1. Certificate:
 - a. Sealant Manufacturer's certificate of compliance with ASTM C1382.
 2. Test And Evaluation Reports:
 - a. Provide Manufacture's applicable code compliance report.
 3. Qualification Statements:
 - a. Letter from EIFS Manufacturer certifying level of training and experience of Installer.
 - b. EIFS Manufacturer's approval of Installer.
- C. Closeout Submittals:
1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
 - a. Operations and Maintenance Data:
 - 1) Maintenance, cleaning, and repair instructions.
 - b. Warranty Documentation:
 - 1) Final, executed copy of Warranty.
 - c. Record Documentation:
 - 1) Manufacturers documentation:
 - a) Manufacturer's literature.
 - b) Color selection.
 - c) Shop Drawings.

1.4 QUALITY ASSURANCE

- A. Regulatory Agency Sustainability Approvals:
1. System shall be recognized for intended use by applicable building codes.
- B. Qualifications:
1. Installers:
 - a. Installer shall be experienced and competent in installation EIFS systems and have performed at least ten (10) installations of similar size, scope, and complexity in each of the past five (5) years and be approved and listed applicator by EIFS Manufacturer.
- C. Single Source Responsibility: All EIFS materials shall be from a single manufacturing source, or listed as an approved source.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery And Acceptance Requirements:
1. Materials shall be delivered in original, unopened packages with labels intact. Protect during transportation to avoid physical damage.
 2. Upon arrival, materials shall be inspected for physical damage, freezing, or overheating. Questionable materials shall not be used.
- B. Storage And Handling Requirements:
1. Store in cool, dry location, out of direct sunlight and weather, and at temperatures above 40 deg F (4.4 deg C) or greater than 110 deg F (43 deg C) and remain so for twenty four (24) hours thereafter.
 2. Stack insulation board flat, fully supported off the ground and protected from direct exposure to the sun.

1.6 FIELD CONDITIONS

- A. Ambient Conditions:
 - 1. Ambient air temperature shall be 40 deg F (4.4 deg C) minimum and rising at time of installation and remain at 40 deg F (4.4 deg C) or above for twenty four (24) hours minimum after application.
 - 2. Ambient air temperature shall not exceed 120 deg F (49 deg C) within twenty four (24) hours of application.
 - 3. Do not install system during inclement weather conditions, excessive wind or rain.

PART 2 - PRODUCTS

2.1 SYSTEMS

- A. Manufacturers:
 - 1. EIFS:
 - a. Category Four Approved Manufacturers. See Section 01 6200 for definitions of Categories:
 - 1) Dryvit, West Warwick, RI www.dryvit.com.
 - 2) Finestone, Div BASF, Jacksonville, FL www.finstone.com.
 - 3) Master Wall Inc, Midland, GA www.masterwall.com.
 - 4) Parex Corp., Anaheim, CA www.parex.com.
 - 5) Senergy, Div BASF, South Jacksonville, FL www.senergy.com.
 - 6) STO Finish Systems Div, Atlanta, GA www.stocorp.com.
 - 7) Teifs Wall Systems, San Antonio, TX www.teifs.com.
 - 2. Insulation:
 - a. Category Four Approved Manufacturers. See Section 01 6200 for definitions of Categories:
 - 1) Pactiv Building Products, Atlanta, GA www.greenguard.pactiv.com.
 - 2) Owens Corning, Toledo, OH www.insulation.owenscorning.com.
 - 3) Dow Chemical, Midland, MI.
- B. Description:
 - 1. Style / pattern / color as selected by Architect.
- C. Materials:
 - 1. Insulation:
 - a. Extruded Polystyrene Insulation (XPS) conforming to ASTM C578, Type IV, 25 psi.
 - b. Category Four Approved Products:
 - 1) XPS Insulation Board by Pactiv.
 - 2) Foamular 250 Rigid Extruded Polystyrene (XPS) Foam Insulation by Owens Corning.
 - 3) Styrofoam by Dow.
 - 2. Base And Finish Coats:
 - a. Base Coat:
 - 1) Portland Cement: Meet requirements of ASTM C150/C150M, Type I or II, and be product of single manufacturer.
 - 2) Silica Sand: As recommended by Manufacturer for approved finish.
 - 3) Reinforcing: Chopped fiberglass as supplied by EIFS Manufacturer.
 - 4) Liquid: Acrylic or other polymer as supplied by EIFS Manufacturer.
 - 5) Water: Clean, drinkable.
 - b. Finish Coat:
 - 1) One hundred (100) percent Acrylic elastomeric, flexible finish.
 - 2) Aggregate, if used, shall be silica.

2.2 ACCESSORIES

- A. Flashing:
 - 1. Flashing shall be continuous and watertight.
 - 2. Flashing shall be designed and installed to prevent water infiltration behind the EIFS.

- B. Mechanical Fasteners:
 - 1. Masonry:
 - a. Type M expansion fastener with 1-1/2 inch (38 mm) diameter washer and one inch (25 mm) minimum penetration into masonry.
- C. Reinforcing Mesh:
 - 1. Standard Mesh: Balanced, open weave treated glass fiber mesh by EIFS Manufacturer, 4 oz per sq yd (135 g per sq m) minimum weight.
- D. Sealants:
 - 1. Quality Standard. See Section 01 6200:
 - a. Silicone by Dow or GE as acceptable to EIFS Manufacturer.
- E. Trim Accessories:
 - 1. Corner beads, base screeds, expansion joints, control joints, or other channel shapes shall be 26 ga (0.0217 in) (0.5512 mm) galvanized minimum or 0.0221 inch (0.55 mm) zinc alloy minimum.
 - 2. Casing beads shall be 24 ga (0.0276 in) (0.7010 mm) galvanized minimum or 0.027 inch (0.69 mm) zinc alloy minimum.

PART 3 - EXECUTION

3.1 EXMINATION

- A. Verification Of Conditions:
 - 1. Before application, inspect substrate and flashing for compliance with Contract Documents and with EIFS Manufacturer's printed requirements.
 - 2. Verify that step flashing and roof diverters have been installed properly for 'roof to wall' conditions.
 - 3. Notify Architect of unsuitable conditions in writing.
 - a. Do not install material over unsuitable conditions.
 - 4. Commencement of Work by installer is considered acceptance of substrate.

3.2 PROTECTION

- A. Protect adjacent surfaces from damage caused by installation of work of this Section.
- B. Clean surfaces thoroughly prior to installation.
- C. Prepare substrate to be free of foreign materials, such as oil, dust, dirt, form-release agents, efflorescence, paint, wax, water repellants, moisture, frost, and any other condition that may inhibit adhesion using methods recommended by the Manufacturer for achieving best results.
- D. Application of wet materials shall not take place during inclement weather unless appropriate protection is provided. Protect materials from inclement weather until they are completely dry.

3.3 INSTALLATION

- A. General:
 - 1. Employ sufficient manpower to ensure continuous operation, free of cold joints, scaffold lines, texture variations, etc.
 - 2. Roof To Wall:
 - a. Provide 2 inch (50 mm) minimum spacing above roofing.
- B. Place insulation horizontally with joints staggered and tightly butted and corners interlocked. Mechanically attach to degree specified by EIFS Manufacturer.

1. Make 'V' grooves at control joint locations if recommended by EIFS Manufacturer.
 2. Mechanically fasten reinforcing mesh, as recommended by EIFS Manufacturer, to firmly attach mesh and complete mechanical attachment of insulation boards.
 3. Follow EIFS Manufacturer's instructions and approved shop drawings for detail work not described in Contract Documents.
- C. Install expansion joints at:
1. Expansion joints installed in substrate.
 2. Where finish system abuts other materials.
 3. At floor lines of wood framed construction.
 4. Where substrate changes.
 5. Changes in rooflines, building shape, or structural system.
- D. Install control joints at:
1. Locations to limit monolithic wall areas to **144 sq ft (13.4 sq m)**.
 2. Dimensions between either horizontal or vertical joints shall not exceed **12 feet (3.6 m)**.
 3. High-stress areas such as corners of openings and penetrations such as windows, doors, grilles, etc.
- E. Minor Openings: Where openings are minor and control joints impracticable, reinforce corners with mesh strips at 45 degree angle to corners.
- F. Base Coat: Apply coating tightly to insulation board surface over reinforcing mesh by hand trowel or spray. Apply additional base coat to achieve uniform thickness required by EIFS Manufacturer. Application of base coat shall be such that surface is acceptable for application of finish coat.
- G. Finish Coat:
1. Allow base coat to dry twenty-four (24) hours minimum before application of finish coat.
 2. Before applying finish coat, correct surface irregularities, such as trowel marks and board lines.
 3. During application, maintain wet edge. Same type of equipment and techniques shall be used by all applicators.
- H. Apply sealants as required by EIFS Manufacturer.

3.4 FIELD QUALITY CONTROL

- A. Non-Conforming Work: Non-conforming work as covered in the General Conditions applies, but is not limited to the following:
1. Roof To Wall:
 - a. Non-conforming work includes required **2 inch (50 mm)** minimum spacing above roofing.
 2. Correct any work found defective or not complying with contract document requirements at no additional cost to the Owner.

3.5 CLEANING

- A. Remove debris resulting from work of this Section and clean adjacent surfaces.

3.6 PROTECTION

- A. Protect from inclement weather and other sources of damage until dry and permanent protection in the form of flashings, sealants, etc. are installed.

END OF SECTION

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SECTION 07 5419

POLYVINYL-CHLORIDE ROOFING: PVC

PART 1 - GENERAL

1.1 SUMMARY

- A. Includes But Not Limited To:
 - 1. Furnish and install roofing membrane with flashings and other components to comprise total roofing system as described in Contract Documents including:
 - a. Single-ply membrane.
- B. Related Requirements:
 - 1. Section 06 0573.13: 'Preservative Wood Treatment' for roof related blocking and roof nailers.

1.2 REFERENCES

- A. Association Publications:
 - 1. American National Standards Institute / Single Ply Roofing Industry:
 - a. ANSI/SPRI/FM 4435/ES-1 2003, 'Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems'.
 - b. ANSI/SPRI WD-1 'Wind Design Standard for Roofing Assemblies'.
 - 2. FM Global Resource Catalogue by FM Global, Norwood, MA www.fmglobal.com.
 - a. Approval Guide:
 - 1) Factory Mutual Standard 4470 - Approval Standard for Class 1 Roof Covers.
 - b. Property Loss Prevention Data Sheet 1-28, 'Wind Design' (latest edition).
 - c. Property Loss Prevention Data Sheet 1-29, 'Roof Deck Securement and Above-Deck Components' (latest edition).
 - d. Property Loss Prevention Data Sheet 1-49, 'Perimeter Flashing' (latest edition).
- B. Definitions:
 - 1. Flame Spread Classification: Categories as per ASTM E84/UL 723 or CAN/ULC-S102:
 - a. Class A: Highest fire-resistance rating for roofing as per ASTM E108. Indicated roofing is able to withstand severe exposure to fire exposure to fire originating from sources outside building.
 - b. Class B: Fire-resistance rating indicating roofing materials are able to withstand moderate exposure to fire originating from sources outside of building.
 - c. Class C: Fire-resistance rating indicating roofing materials are able to withstand light exposure to fire originating from sources outside of building.
- C. Reference Standards:
 - 1. ASTM International:
 - a. ASTM D4434/D4434M-15, 'Standard Specification for Polyvinyl Chloride Sheet Roofing'.
 - b. ASTM E84-16, 'Standard Test Method for Surface Burning Characteristics of Building Materials'.
 - c. ASTM E108-17, 'Standard Test Methods for Fire Tests of Roof Coverings'.
 - d. '.
 - 2. International Building Code (IBC) (2015 edition or latest edition adopted by AHJ):
 - a. Chapter 15, 'Roof Assemblies And Rooftop Structures':
 - 1) Section 1507, 'Requirements for Roof Coverings':
 - a) 1507.13, 'Thermoplastic single-ply Roofing'.
 - 3. National Fire Protection Association:
 - a. NFPA 101: 'Life Safety Code' (2015 Edition).
 - 4. Underwriters Laboratories (UL):
 - a. UL 580: 'Tests for Uplift Resistance of Roof Assemblies' (5th Edition).

- b. UL 723, 'Tests for Safety Test for Surface Burning Characteristics of Building Materials' (10th Edition).
- c. UL 790, 'Standard Test Methods for Fire Tests of Roof Coverings' (8th Edition).
- d. UL 997, 'Wind Resistance of Prepared Roof Covering Materials' (5th Edition).
- e. UL 2218, 'Standard for Impact Resistance of Prepared Roof Coverings Materials' (2nd Edition).

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Pre-Installation Conferences:
 - 1. Participate in MANDATORY pre-installation conference.
 - a. Roofing Installer's Foreman and those responsible for installation of roofing to be in attendance. Include Roofing Manufacturer's Representative if available.
 - 2. Schedule pre-installation conference at project site after installation of roof deck including pipe and flue penetrations, but before application of any roofing system component.
 - 3. In addition to agenda items specified in Section 01 3100, review following:
 - a. Review Manufacturer's written instructions.
 - b. Review delivery, storage, and handling requirements.
 - c. Review ambient conditions requirements.
 - d. Review roofing installation requirements including flashing and penetrations.
 - e. Review roofing drainage requirements.
 - f. Review temporary protections for roofing system.
 - g. Review cleaning and disposal requirements.
 - h. Review safety issues.
 - i. Review field inspections and non-conforming work requirements.
 - j. Review protection of membrane by other trades after installation of membrane.

1.4 QUALITY ASSURANCE

- A. Regulatory Agency Sustainability Requirements:
 - 1. Roof system will meet requirements of all federal, state, and local codes having jurisdiction (AHJ).
 - 2. Fire Characteristics Performance Requirement:
 - a. Roof system will achieve UL Class A rating when tested in accordance with ASTM E108 or UL-790:
 - 1) Materials shall be identified with appropriate markings of applicable testing agency.
- B. Qualifications:
 - 1. Requirements of Section 01 4301 applies but not limited to the following:
 - a. Installers Qualifications:
 - 1) Provide documentation if requested by Architect:
 - a) Roofing Installer shall be approved and authorized by Roofing System Manufacturer to install Manufacturer's product and eligible to receive Manufacturer's special warranty before bid.
 - b) Roofing Installer shall be able to document roofing membrane installation for five (5) year minimum.
 - c) Roofing Installer must have current license for the city, county, and state where project is located.
 - d) Roofing Installer must have license for specific type of roofing work to be preformed.
 - e) Roofing Installer's foreman shall be skilled in his trade and qualified to lay out and supervise the Work.
 - f) Membrane and flashing installation shall be performed by personnel trained and authorized by Roofing Manufacturer.
 - g) Welding equipment shall be provided by or approved by Roofing Manufacturer. Mechanics intending to use equipment shall have successfully completed training course provided by Manufacturer's Technical Representative before welding.
 - b. Manufacturer Qualifications:
 - 1) Manufacturer shall manufacture membrane material for five (5) consecutive years.

- a) No product with documented failure will be allowed.
- 2) Manufacturer that is UL listed for membrane roofing system used for this Project.
- 3) Source Limitations:
 - a) Provide roof components including roof insulation and fasteners for roofing system from same Manufacturer as membrane roofing or approved by Roofing Membrane Manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Delivery And Acceptance Requirements:

- 1. Make no deliveries to Project until installation is about to commence, or until approved storage area is provided.
- 2. Deliver products job site in original unopened containers or wrappings bearing all seals and approvals.
- 3. Deliver materials in sufficient quantities to allow continuity of work.
- 4. Remove any material not approved from job site.

B. Storage And Handling Requirements:

- 1. General:
 - a. Follow Manufacturer's instructions and precautions for storage of materials.
 - b. Handle and store roofing materials and place equipment in manner to avoid permanent deflection of roof decking.
 - c. Material Safety Data Sheets (MSDS) must be on location always during transportation, storage and application of materials.
- 2. Storage Requirements:
 - a. Protection:
 - 1) Protect roof materials from physical damage, moisture, soiling, and other sources in a clean, dry, protected location and with temperature range required by Manufacturer. Protect from direct sunlight.
 - 2) Provide continuous protection of materials against moisture absorption (Manufacturer's/Supplier's shrink wrap is not accepted waterproofing).
 - 3) Store membrane rolls lying down on pallets fully protected from weather with clean canvas tarpaulins.
 - b. Safety:
 - 1) Store flammable materials in cool, dry area away from sparks, open flames, or excessive heat. Follow precautions outlined on containers or supplied by material manufacturer/supplier.
 - 2) Liquid materials such as solvents and adhesives shall be stored off site and installed away from open flames, sparks, and excessive heat.
 - 3) Site storage is acceptable if liquid materials are placed in a locked, sealed storage container.
 - 4) Situate equipment and materials so as to preclude danger, disturbance, or interference to public safety and traffic, and to not constitute fire hazard.
 - c. Temperature:
 - 1) Store adhesives at temperatures above 40 deg F (4 deg C).and below 180 deg F (82 deg C).
 - d. Unacceptable Material:
 - 1) Remove from job site materials that are determined to be damaged by Architect or by Roofing Manufacturer and replace at no additional cost to Owner.
 - 2) Remove all wet and damaged materials from site.
 - 3) Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- 3. Handling Requirements:
 - a. Select and Handle operating equipment so as not to damage existing construction or new roofing system, or to overload structural system.
 - b. Handle rolled goods so as to prevent damage to edge or ends.

1.6 FIELD CONDITIONS

A. Ambient Conditions:

1. Temperature ranges shall be within tolerances allowed for material being used.
 - a. Roof surface shall be free of ponding water, ice, and snow.
 - b. Cold temperature:
 - 1) Follow Manufacturer's written instructions for cold temperature requirements before applying membrane adhesive:
 - a) Follow specified precautions.
 - b) Expose only enough adhesive to be used as directed by membrane manufacturer.
 - c) Low VOC restrictions (if required by local AHJ): Temperatures to be 40 deg F (4 deg C) and rising before applying.
 - c. Hot temperature:
 - 1) Do not expose membrane and accessories to constant temperature in excess of 180 deg F (82 deg C).
2. Proceed with roofing work when existing and forecasted weather conditions permit.

1.7 WARRANTY

A. Roof Installer Workmanship Warranty:

1. Written five (5) year guarantee covering workmanship and repairs or replacement of work without cost to Owner, counter-signed by Installer and General Contractor from date of installation:

PART 2 - PRODUCTS

2.1 SYSTEM

A. Manufacturer:

1. Category One VMR Approved Manufacturers. See Section 01 6200 for definitions of Categories:
 - a. Carlisle SynTec Incorporated, Carlisle PA www.carlisle-syntec.com. (717) 245-7000:
 - 1) Contact Information (USA, Canada and Global):
 - a) Primary Contact: Greg Petschke, Manager Strategic Accounts: office (800) 479-6832 cell (717) 215-2681 greg.petschke@carlislesyntec.com.
 - b) Secondary Contact: Michelle Varner, phone (717) 245-7385 michelle.varner@carlislesyntec.com.
 - c) Secondary Contact: Horner & Associates (Utah, Idaho, Wyoming, and Montana): Tom (801) 842-8305 tom@hornerassocd7.com or Gary (801) 712-0326 gary@hornerassocd7.com.
 - b. Sika Sarnafil, Canton, MA (800) 576-2358 or (781) 828-5400. www.sikacorp.com.
 - 1) Contact Information (USA, Canada and Global):
 - a) Primary Contact: Steve Moosman, District Manager, office (801) 575-8648 x101 cell (801) 201-6269 moosman.steve@us.sika.com.
 - b) Secondary Contact: Jim Greenwell, Mountain Region Manager: office (801) 575-8648 x108 cell (801) 455-3838 greenwell.jim@us.sika.com.
 - c. Versico Roofing Systems (Carlisle Construction Materials, Inc., Carlisle PA www.versico.com (800) 992-7663:
 - 1) Contact Information (USA, Canada and Global):
 - a) Primary Contact: Chris Shermach, Corporate Accounts Manager: phone (815) 341-3770 shermach@versico.com.
 - b) Secondary Contact: Misty Fritz, phone (717) 245-7290 misty.fritz@versico.com.
 - c) Secondary Contact (Utah only): Dan Barker, phone (801) 668-4960 division7specialties@msn.com.

B. Design Criteria:

1. General:

- a. Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction.
 - b. Membrane roofing and base flashings shall remain watertight.
 - 2. Drainage Requirement:
 - a. Roof system to provide positive drainage where all standing water dissipates within forty-eight (48) hours after precipitation ends.
 - 3. Material Compatibility:
 - a. Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane Roofing Membrane Manufacturer based on testing and field experience.
 - 4. Metal details, fabrication practices, and installation methods shall conform to applicable requirements of following:
 - a. Factory Mutual Loss Prevention Data Sheet 1-49, 'Perimeter Flashing' (latest issue).
 - b. Sheet Metal and Air Conditioning Contractors National Association Inc, 5th edition.
- C. Components:
 - 1. Membrane:
 - a. Description:
 - 1) Adhered:
 - a) Meet requirements of ASTM D4434/D4434M, Type III.
 - b) Category One VMR Approved Products. See Section 01 6200 for definitions of Categories:
 - (1) Carlisle SynTec:
 - (a) Sure-Flex PVC FRS fiberglass reinforced membrane.
 - (2) Sika Sarnafil:
 - (a) G410 fiberglass reinforced membrane with lacquer coating.
 - b. Thickness:
 - 1) Field membrane: Thickness: 80 mil (2.03 mm) by optimum width and length determined by job conditions.
 - 2) Flashing membrane: Thickness: 0.60 mil (1.52 mm) by optimum width and length determined by job conditions.
 - c. Surface Color:
 - 1) White.
 - 2. Roof System Cover Board (Recovery/Hard Board):
 - a. Non-Fire Rated:
 - 1) 'Adhered' application:
 - a) Minimum thickness to be determined by roofing system Manufacturer based upon Warranty term and Wind Warranty requirements.
 - b) Category One VMR Approved Products. See Section 01 6200 for definitions of Categories:
 - (1) 1/2 inch (12.7 mm) thick minimum Dens-Deck Prime Roof Board by G-P Gypsum.
 - (2) 1/2 inch 1/2 inch (12.7 mm) thick minimum Securock by USG.

2.2 ACCESSORIES

- A. Adhesives, Sealants and Sealer:
 - 1. General:
 - a. Supplied by Roofing Membrane Manufacture Meet uplift and VOC requirements required for Project for specific application method and in compliance with all local codes and restrictions provided by Roofing Membrane Manufacture.
 - 2. Membrane:
 - a. Category One VMR Approved Products. See Section 01 6200 for definitions of Categories:
 - 1) Carlisle SynTec:
 - a) Carlisle Sure Flex PVC: Solvent based membrane adhesive.
 - 2) Sika Sarnafil:
 - a) Sarnacol 2170: Solvent based membrane adhesive.

- B. Coated Metal:
 - 1. Colors:
 - a. Not Seen From Ground: Color to match selected roof membrane.
 - b. Seen From Ground: Manufacturer's standard color as selected by Architect to match membrane surface color chosen for project.
 - 2. Category One VMR Approved Products. See Section 01 6200 for definitions of Categories:
 - a. Carlisle SynTec:
 - 1) Sure Flex coated metal **24 ga (0.6 mm)** G90 galvanized sheet metal laminated with **0.035 inch (0.9 mm)** thick PVC membrane:
 - 2) Membrane cover strips:
 - a) **0.060 inch (1.5 mm)** thick.
 - b) Color to match selected Sure Flex.
 - b. Sika Sarnafil:
 - 1) **25 ga (0.56 mm)** G90 galvanized sheet metal laminated with **0.020 inch (0.55 mm)** thick membrane:
 - 2) Sarnclad membrane cover strips:
 - a) **0.060 inch (1.5 mm)** thick.
 - b) Color to match selected Sarnaclad.
- C. Counterflashing:
 - 1. Formed to meet design requirements and match existing metals and aesthetics, furnished by Membrane Manufacturer.
- D. Mechanical Attachment Accessories:
 - 1. Fasteners:
 - a. Category One VMR Approved Products. See Section 01 6200 for definitions of Categories:
 - 1) Carlisle SynTec:
 - a) Carlisle Fasteners or engineered fasteners designed to anchor membrane and flashing into substrates that include steel, concrete, gypsum, and light weight concrete roof decks.
 - 2) Sika Sarnafil:
 - a) Sarnafasteners or engineered fasteners designed to anchor membrane and flashing into substrates that include steel, concrete, gypsum, and light weight concrete roof decks.
 - 2. Bars And Plates:
 - a. Category One VMR Approved Products. See Section 01 6200 for definitions of Categories:
 - 1) Carlisle SynTec:
 - a) Bars and plates engineered as companion assembly with Carlisle Fasteners. Used to secure membrane and/or flashing as required by Membrane Manufacturer.
 - 2) Sika Sarnafil:
 - a) Bars and plates engineered as companion assembly with Sarnafasteners. Used to secure membrane and/or flashing as required by Membrane Manufacturer.
- E. Miscellaneous Fasteners and Anchors:
 - 1. Fasteners, anchors, nails, straps, bars, etc. shall be of post-galvanized zinc or cadmium-plated steel, aluminum, or stainless steel. Mixing metal types and methods of contact shall be in such manner as to avoid galvanic corrosion.
 - 2. Compatible with substrates and flashings to be anchored:
 - a. Fasteners for attachment of metal to masonry shall be expansion type fasteners with stainless steel pins.
 - b. Concrete fasteners and anchors shall have minimum embedment of **1-1/4 inch (32 mm)** and shall be approved for such use by Fastener Manufacturer.
 - c. Wood fasteners and anchors shall have embedment of **one inch (25 mm)** minimum and be approved for such use by Fastener Manufacturer.
- F. Wood Nailers:
 - 1. Treat wood nailers as per Section 06 0573.13 for preservative wood treatment. Creosote or asphaltic-treated wood is not acceptable.
 - 2. Wood nailers shall conform to Factory Mutual's Loss Prevention Data Sheet 1-49.
 - 3. Wood shall have maximum moisture content of 19 percent by weight on dry weight basis.

PART 3 - EXECUTION

3.1 INSTALLERS

- A. Category One VMR Manufacturer's Approved Roofing Installers: See Section 01 4301:
1. Carlisle SynTec:
 - a. <Insert Approved Installer>.
 - b. <Insert Approved Installer>.
 - c. <Insert Approved Installer>.
 2. Sika Sarnafil:
 - a. <Insert Approved Installer>.
 - b. <Insert Approved Installer>.
 - c. <Insert Approved Installer>.
 3. Versico:
 - a. <Insert Approved Installer>.
 - b. <Insert Approved Installer>.
 - c. <Insert Approved
 4. Examine substrate and conditions. Verify substrate is suitable for installation of roofing system membrane before starting work of this Section.
 5. Inspect for defects such as excessive surface roughness, contamination, structural inadequacy, or any other condition that will adversely affect quality of work.
 6. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and nailers match thicknesses of insulation to be installed.
 7. Remove existing roofing, base flashing, deteriorated wood blocking and metal flashing:
 - a. Remove only that amount of existing roofing and flashing that can be made watertight with new materials during a one-day period or onset of inclement weather.
 8. Notify Architect of unsuitable conditions in writing:
 - a. Commencement of Work by installer is considered acceptance of substrate.
 - b. Stop work immediately if any unusual or concealed condition is discovered and immediately notify Architect in writing, with letter copy to Roofing Manufacturer.
 - c. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. General Requirements:
1. Remove existing roofing, base flashing, deteriorated wood blocking and metal flashings. Recycle materials that can be recycled.
 2. Remove only that amount of existing roofing and flashing that can be made watertight with new materials during a one-day period or onset of inclement weather.
 3. Inspect for defects such as excessive surface roughness, contamination, structural inadequacy, or any other condition that will adversely affect quality of work.
 - 1) Ensure decking is sound and able to provide support and attachment of new roofing assembly.
 - 2) Deteriorated or unsound decking that can not comply with this requirement shall be brought to attention of Project Manager.
 - 3) As directed by Project Manager, remove and replace sections of decking with like materials and in compliance with local code requirements.
 4. Nailers:
 - a. Install continuous treated wood nailers at perimeter of entire roof and around roof projections and penetrations as described on Project Drawings. Replace existing wood nailers shown to remain, if they contain rot or are otherwise damaged.
 - 1) Anchor nailers to resist minimum force of **300 lbs (136 kg)** per lineal **foot (300 mm)** in any direction:
 - a) Provide **1/2 inch (13 mm)** space between nailer lengths.
 - b) Individual nailer lengths shall not be less than **36 inches (900 mm)** long.
 - c) Nailer fastener spacing shall be at **12 inches (300 mm)** on center, or **16 inches (400 mm)** if necessary to match structural framing.

- d) Stagger fasteners 1/3 nailer width and install within **6 inches (150 mm)** of each end.
 - e) Meet requirements current Factory Mutual Loss Prevention Data Sheet 1-49.
 - 2) Thickness shall match substrate or insulation/hardboard height.
 - 3) Anchor existing woodwork that is to remain so as to resist minimum force of **300 lbs (136 kg)** per lineal **foot (300 mm)** in any direction. Reuse only woodwork designated to be reused in detail drawings.
- 5. Prevent interior leakage, materials falling into interior, and other such Occurrences.
- 6. Install temporary roof membrane (Sarnavap SA as called out in Part 2 of this specification section) to prevent interior leakage and soiling/staining of new roof membrane. Temporary roofing can remain exposed for maximum of 90 days.
- 7. Install temporary water cut-offs at completion of each day's work and completely remove upon resumption of work.
 - a. Waterstops shall not emit dangerous or unsafe fumes and shall not remain in contact with finished roof as installation progresses.
 - b. Replace contaminated membrane at no additional cost to Owner.
- 8. Provide temporary walkways and work platforms as necessary to complete work under this section with no damage to existing surfaces, surfaces exposed during work, and to new materials applied.
- 9. Coordinate application of membrane to provide protection of underlying materials from wetting or other damage by the elements on a continuous basis.
- 10. Sheet metal sleeves, caps, and enclosures shall be completely installed on a daily basis.

B. Surface Preparation:

- 1. Surfaces to receive new materials shall be clean, smooth, dry (free of moisture), free of flaws, sharp edges, loose and foreign material, dirt, oil and grease.
 - a. Mechanically scrape exposed surfaces, if necessary to remove projections.
 - b. Roofing shall not start until defects have been corrected.
- 2. Verify that surfaces receiving new materials have no defects or errors which would result in poor application or cause latent defects in workmanship.
- 3. Inspect anchoring of wood members for conformance to specified requirements. Upgrade nonconforming fasteners to meet specified requirements.
- 4. Reset or replace fasteners that are loose, deformed, damaged, or corroded.
- 5. Fit joints of insulation tightly together.
- 6. Prevent interior leakage, materials falling into interior, and other such Occurrences.
- 7. Install temporary water cut-offs at completion of each day's work and completely remove upon resumption of work.
 - a. Waterstops shall not emit dangerous or unsafe fumes and shall not remain in contact with finished roof as installation progresses.
 - b. Replace contaminated membrane at no additional cost to Owner.
- 8. Provide temporary walkways and work platforms as necessary to complete work under this section with no damage to existing surfaces exposed during work, and to new materials applied.
- 9. Coordinate application of membrane to provide protection of underlying materials from wetting or other damage by the elements on a continuous basis.
- 10. Sheet metal sleeves, caps, and enclosures shall be completely installed on a daily basis.
- 11. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- 12. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast.
- 13. Remove and discard temporary seals before beginning work on adjoining roofing.

3.3 INSTALLATION

A. Interface With Other Work:

- 1. Coordinate with Installers whose work penetrates roof deck or requires men and equipment to traverse roof deck.

B. General:

1. Installation shall be in conformance with latest edition of manufacturer's specification except where Contract Documents are more restrictive.
 2. Roof surfaces shall be free of water, ice and snow. Surfaces to receive new insulation, membrane, or flashings shall be dry. Should surface moisture occur, provide equipment necessary to dry surface before application.
 3. Secure new and temporary construction, including equipment and accessories, so as to preclude wind blow-off and subsequent roof or equipment damage.
 4. Install only as much roofing as can be made weathertight each day, including flashing and detail work. Clean seams and heat-weld before leaving jobsite.
 5. Schedule and execute work without exposing interior building areas to effects of inclement weather. Protect existing building and its contents against all risks.
 6. Install uninterrupted waterstops at end of each day's work and completely remove before proceeding with next day's work:
 - a. Waterstops shall not emit dangerous or unsafe fumes and shall not remain in contact with finished roof as installation progresses.
 - b. Replace contaminated membrane at no additional cost to Owner.
 7. Avoid use of newly constructed roofing as walking surface or for equipment movement and storage:
 - a. Where such access is required, provide necessary protection and barriers to segregate work area and to prevent damage to adjacent areas.
 - b. Provide protection layer consisting of roof sheathing over insulation board and roofing membrane for new and existing roof areas which receive rooftop traffic during construction.
 8. Before and during application, remove dirt, debris, and dust from surfaces either by vacuuming, sweeping, blowing with compressed air, or similar methods.
 9. Report rooftop contamination that is anticipated or that is occurring to Roofing Manufacturer to determine corrective steps to be taken.
- C. Roof System Cover Board:
1. Offset roof system cover board joints **24 inches (600 mm)** minimum from joints in underlying substrate.
 2. Wood Roof Decks:
 - a. Non-visible installation:
 - 1) Secure roof system cover board using insulation plates and fasteners spaced as required by Membrane Manufacturer's warranty requirements.
 - b. Visible (from ground/surrounding buildings) installation.
 - 1) Secure roof system cover board using low profile attachment plates and fasteners spaced as required by Membrane Manufacturer's warranty requirements.
- D. Membrane:
1. Inspection:
 - a. Inspect surface of insulation or substrate before installation of roof membrane.
 - b. Substrate shall be clean, dry and smooth with no excessive surface roughness, contaminated surfaces or unsound surfaces such as broken, delaminated, or damaged insulation boards.
 - c. All sharp projections shall be removed by sweeping, blowing or vacuum cleaning.
 2. Adhesive:
 - a. Follow ambient conditions as specified in Part 1 of this specification.
 - b. Follow Manufacturer's written application instructions including adhesive coverage rate requirements. Apply no adhesive in seam areas.
 - 1) Installer Option A):
 - a) Apply adhesive using solvent-resistant nap paint rollers.
 - 2) Installer Option B):
 - a) Apply adhesive using wet lay-in adhesive application.
 3. Hot-Air Welding Of Lap Areas:
 - a. General:
 - 1) Seams shall be hot air welded. Seam overlaps shall be **3 inches (75 mm)** wide minimum when automatic machine welding, and **4 inches (100 mm)** wide when hand welding.
 - 2) Membrane to be welded shall be clean and dry. No adhesive shall be in seam.
 - 3) Hand Welding:

- a) Hand welded seams shall be completed in three stages. Allow hot-air welding equipment to warm up for one (1) minute minimum before welding.
 - 4) Seam shall be tack-welded every 36 inches (900 mm) to hold membrane in place.
 - 5) Weld back edge of seam with narrow but continuous weld to prevent loss of hot air during final welding.
 - 6) Insert nozzle into seam at 45 degree angle. Once proper welding temperature has been reached and membrane begins to 'flow', position hand roller perpendicular to nozzle and press lightly. For straight seams, use 1-1/2 inch (38 mm) wide nozzle. Use 3/4 inch (19 mm) wide nozzle for corners and compound connections..
 - b. Quality Control of Welded Seams:
 - 1) Check welded seams for continuity using rounded screwdriver. Make on-site evaluation of welded seams daily at locations directed by Owner's Representative or representative of Roofing Manufacturer.
 - 2) Take one inch (25 mm) wide cross-section samples of welded seams at least three times a day. Patch each test cut at no additional cost to Owner.
- E. Flashings:
 - 1. General:
 - a. Install flashings concurrently with roof membrane. No temporary flashings will be allowed without prior written approval of Owner's Representative and Roofing Manufacturer. Approval shall only be for specific locations on specific dates.
 - b. If water is allowed to enter under newly completed roofing, remove and replace affected area no additional cost to Owner.
 - c. Adhere flashings to compatible, dry, smooth, and solvent-resistant surfaces.
 - 2. Membrane Flashings:
 - a. Adhesive Application for Flashings:
 - 1) Adhere flashing membranes to solvent resistant substrates. Cut interior and exterior corners and miters and hot-air weld into place. No bitumen shall be in contact with membrane.
 - 2) Apply adhesive using solvent-resistant 3/4 inch (19 mm) nap paint rollers. Apply adhesive in smooth, even coatings with no holidays, globs, or similar irregularities. Coat only area that can be completely covered in same day's operations. Allow surface with adhesive coating to dry completely prior to installing flashing membrane.
 - 3) When surface is dry, cut flashing membrane to workable length and evenly coat underside with adhesive apply at Manufacturer's adhesive coverage rate requirements.
 - 4) When adhesive has dried sufficiently to produce strings when touched with a dry finger, roll coated membrane onto previously coated substrate being careful to avoid wrinkles. Do not allow adhesive on underside of membrane to completely dry. Overlap adjacent sheets 3 inches (75 mm). Flashings shall extend 4 inches (100 mm) onto roofing membrane. Press bonded sheet firmly in place with hand roller.
 - 5) Apply no adhesive in seam areas that are to be welded.
 - b. Install fasteners and membrane fastenings plates at 12 inches (300 mm) on center with acceptable fasteners into structural deck at the base of parapets, walls, and curbs. Also install Sarnastop at the base of tapered edge strips and at transitions, peaks, and valleys according to Roofing Manufacturer's details:
 - 1) Hurricane Bar:
 - a) Provide inside four foot perimeter peel stop (Hurricane Bar) required by Owner for all projects in all wind speed coverage areas.
 - c. Extend flashings 8 inches (200 mm) minimum above roofing level unless otherwise accepted in writing by Owner's representative and Roofing Manufacturer.
 - d. Terminate flashings according to Roofing Manufacturer's recommended details.
 - e. Adhere flashing membranes to solvent resistant substrates. Cut interior and exterior corners and miters and hot-air weld into place. No bitumen shall be in contact with membrane.
 - 3. Metal Flashings:
 - a. Complete metal work in conjunction with roofing and flashings so that watertight condition exists daily.
 - b. Install metal to provide adequate resistance to bending and allow for normal thermal expansion and contraction.
 - c. Metal joints shall be watertight.

- d. Securely fasten metal flashings into solid wood blocking. Fasteners shall penetrate wood nailer **one inch (25 mm)** minimum.
 - e. Airtight and continuous metal hook strips are required behind metal fascias. Fasten hook strips **12 inches (300 mm)** on center into wood nailer or masonry wall.
 - f. Counterflashings shall overlap base flashings **4 inches (100 mm)** minimum.
 - g. Metal Base Flashings:
 - 1) Space adjacent sheets **1/4 inch (6 mm)** apart.
 - 2) Fasten ends of metal **6 inches (150 mm)** on center.
 - 3) Cover joint with **2 inch (50 mm)** wide aluminum tape.
 - 4) Hot-air weld **4 inch (100 mm)** wide strip of flashing membrane over joint.
 - h. Metal Edge Flashing:
 - 1) Install as per requirements of ANSI/SPRI/FM 4435/ES-1, 'Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems'.
 - 2) Fasten metal edge flashings with two rows of post-galvanized flat head annular ring nails, **4 inches (100 mm)** on center staggered.
 - 3) Space adjacent sheets of metal **1/4 inch (6 mm)** apart.
 - 4) Cover joint with **2 inch (50 mm)** wide aluminum tape.
 - 5) Carlisle Sure Flex PVC coated metal:
 - a) Hot air weld **6 inch (150 mm)** wide strip of non - reinforced PVC flashing over coated metal joint.
 - 6) Sika Sarnafil Sarnaclad:
 - a) Hot-air weld **4 inch (100 mm)** wide strip of flashing membrane over joint.
- F. Temporary Cut-Off:
- 1. Construct temporary waterstops to provide one hundred (100) percent watertight seal:
 - a. Make stagger of insulation joints even by installing partial panels of insulation.
 - b. Carry new membrane into waterstop.
 - c. Seal waterstop to deck or substrate so water will not travel under new or existing roofing.
 - d. Seal edge of membrane in continuous heavy application of sealant as described above.
 - e. When work resumes, cut-out contaminated membrane and dispose of off-site.
 - 2. If inclement weather occurs while temporary waterstop is in place, provide labor necessary to monitor situation to maintain watertight condition.
 - 3. If water is allowed to enter under newly completed roofing, remove affected area and replace at no additional cost to Owner.

3.4 FIELD QUALITY CONTROL

- A. Field Inspection:
 - 1. Before Manufacturer's inspection for warranty, Installer must perform pre-inspection to review work and to verify flashing has been completed as well as application of caulking.
- B. Non-Conforming Work:
 - 1. Correct all work not in compliance to Contract Documents at no additional cost to Owner.
 - a. Repair or remove and replace components of membrane roofing system where inspections indicate that they do not comply with specified requirements.
 - b. Replace contaminated membrane.
 - 2. Additional inspections will be performed to determine compliance of replaced or additional work with specified requirements at no additional cost to Owner.
 - 3. Repair landscaped areas damaged by construction activities at no additional cost to Owner.

3.5 CLEANING

- A. Waste Management:
 - 1. Perform daily clean-up to collect wrappings, empty container, paper, and other roofing waste debris from project site.
 - 2. Upon completion, roofing waste materials must be disposed from site to dumping area legally authorized to receive such materials.

3. Complete site cleanup, including both interior and exterior building areas that have been affected by construction, to Owner's satisfaction.

3.6 PROTECTION

- A. General Contractor Responsibility:
 1. Protection of roofing membrane from damage and wear from other trades from damage after completion of roof membrane.
 2. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by Manufacturer of affected construction.

END OF SECTION