PROJECT MANUAL
WALL AND WINDOW REPAIRS

FOR
UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER
SCHOOL OF NURSING
6901 BERTNER
HOUSTON, TEXAS

UTHealth
The University of Texas Health Science Center at Houston

PREPARED BY
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TEXAS REGISTERED ENGINEERING FIRM NO. F-3814

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SECTION 01 00 00

GENERAL REQUIREMENTS

PART ONE - GENERAL

This Section governs the entire Work. Refer to Construction Documents for additional scope of work.

1.01 MATERIALS AND WORKMANSHIP:
   A. Use materials that are:
      1. New and of high quality suited to the use intended.
      2. Suitable for the function intended.
      3. Corresponding in quality to related materials in the absence of a complete Specification.
      4. Of good appearance where exposed to view.
      5. Of one manufacturer or source for the same specific purpose, with uniform appearance and physical properties.
      6. Plainly marked, and delivered to the site in their original unopened containers when the nature of the materials is suitable for containers.
   B. Follow supplier's instructions for the uses, limitations, and installation of his products. When full instructions do not accompany the products, request them before proceeding.
   C. Perform high quality professional workmanship. Join materials to uniform, accurate fit so they meet with straight lines, free of smears or overlaps.
   D. Install materials appropriately level, plumb, and at accurate right angles or flush with adjoining materials. Attach materials that will not fail until materials joined are broken or permanently deformed.

1.02 MISCELLANEOUS DUTIES:
   A. Layout: Establish and maintain bench marks, and all other grades, lines, and levels necessary for the Work. Report errors or inconsistencies before commencing work. Confirm proper placement of the construction on the Site after all lines are staked out.
   B. Verify existing conditions and their compatibility to the Construction Documents. Variations must be brought to the attention of Engineer before proceeding.
   C. Not-in-Contract Work: Arrange to accommodate. When information is inadequate, request further instructions before proceeding.
   D. Access Facilities: Provide safe, reasonably convenient access facilities to the Work for the Owner and authorized inspectors and observers.
1.03 REPLACEMENT MATERIAL:
   A. For Owner’s Future Use: If any specific amounts are called for in the individual sections, provide the specified amounts. If none are specified and a surplus is left, request instructions from Owner before discarding surplus.
   B. The testing laboratory shall be approved by owner and paid for by Contractor for testing requirements as noted in individual specification sections.

END OF SECTION 01 00 00
PART ONE - GENERAL

1.01 SECTION INCLUDES:
   A. Definitions for construction terminology not otherwise defined in Contract Documents.
   B. Definitions for special terminology used for this Project.

1.02 ABANDONED - (NO LONGER NECESSARY OR IN USE):
   A. "Remove" items so noted, or later defined, as an all inclusive responsibility within this contract. Pay for all work in connection with removal of these items, including municipal, disposal, utility, and service charges. Dispose of all "Excess".

1.03 ADDITION - (TO ADD TO AND BE INCORPORATED) ALSO TO "ADD":
   A. Work supplementary to that indicated to accomplish that which is required by the Contract Documents. To bring to a new condition; to extend, fasten, patch, and match to that which is existing.

1.04 DEFECTIVE - (NOT ACCEPTABLE):
   A. Refer to Conditions of the Contract, that which does not conform to the Contract Documents. As it applies to "Salvage", in addition to the above, shall mean "unsuitable".

1.05 EXCESS - (NOT REQUIRED):
   A. More quantity than required to conform to the Contract Documents and not desired by the Owner. Debris shall be considered "Excess" and not be used as fill or be buried on this site. Remove "Excess" from the site and legally dispose of. "Excess" "Suitable" "Salvage" shall be property of Contractor unless otherwise specified.

1.06 EXISTING - (PRESENTLY THERE):
   A. Also may be noted "original". Present conditions and assumed locations, if known, as of the Date of Contract Documents.

1.07 NEW - (TO BE INCORPORATED) NOT EXISTING:
   A. Refer to various specification sections for requirements of Work to be incorporated.

1.08 REINSTALL - (TO INCORPORATE AS WAS ONCE DONE):
   A. "Remove" and "salvage" existing from its location, if it does exist. "Restore", "Renovate", or "Remodel" and "Reinstall" in its existing location. Reincorporate and "re-work" the original work to the extent required by the Contract Documents.
   B. If the "Existing" item, so indicated, is missing, defective, or unsuitable as "Existing", then "Reconstruct" only that portion with "New" products and incorporate as was original. Syn. Replace.
1.09 **RELOCATE - ("REINSTALL" IN A NEW LOCATION):**
   A. "Reinstall" in a new location as indicated on Drawings.

1.10 **REMAIN - (TO LEAVE WHERE IT IS EXISTING):**
   A. The final location of an item in its "existing" position, however, this shall not mandate
   the fact that this item will not move during this contract, specifically in order to
   "Preserve" or "Rework".

1.11 **REMOVE - (TO TAKE FROM EXISTING LOCATION):**
   A. Work required to extract a portion or whole by one or a combination of methods and
   moved to a new location.
   1. "Abandoned": Remove items by dismantling, excavation, extraction, or
demolition, if acceptable.
   2. Salvage: Remove by disassembly. "Relocate".
   3. Products: Where a specific portion of component of an assembly or whole is to
   be removed, take all precautions to prevent damage, defacement, and
   displacement to the "existing" to remain (i.e., mortar, bricks, and finishes).

1.12 **RENOVATE - (TO REPAIR AND MAKE NEW):**
   A. The process required to bring an item to a present new standard of condition
   required by the Contract Documents (e.g., to "rework" "existing" "suitable" "salvage"
   "products" and perform "new" work and "additions" required). (Syn. rehabilitate,
   recondition, repair.)

1.13 **REPLACE - (TO TAKE THE PLACE OF):**
   A. "Remove" "existing" unserviceable product and provide "new" product in place of
   unserviceable product.

1.14 **REUSE - (TO USE AS ONCE WAS):**
   A. The use of "suitable" "salvage" for incorporation or re-incorporation in the Work.
   "Remove", "Relocate", and "Reinstall" as required for "Reuse".

1.15 **SALVAGE - (TO BECOME ABANDONED):**
   A. "Remove", protect, "preserve" incomplete material condition as found "existing". Also
   to "Save". Determine suitability for incorporation in this Contract. Store at a location
   mutually agreed upon. Dispose of all "Excess".

1.16 **UNKNOWN - (NOT SHOWN ON DRAWINGS):**
   A. Products beneath surfaces indicated by drawings and encountered during the Work.
   Immediately support, shore, and protect. Immediately notify the Consultant and
   authority having jurisdiction. Allow free access for inspection. "Preserve" in proper
   condition until the Consultant determines definition and interpretation of Work. Take
   such measures as required for protection, reinforcement, or adjustment.
PART TWO - PRODUCTS

Not Used.

PART THREE - EXECUTION

Not Used.

END OF SECTION 01 07 50
PART ONE - GENERAL

1.01 SECTION INCLUDES:
   A. Base Bid: Performing miscellaneous repairs and restoration work on exterior walls to include, but not limited to, the following:
      1. Replace/install sealant and backer rod in joints between sub-frame of operable windows and curtain wall frames.
      2. Trim outer edge of existing self-adhering membrane back from sealant joints at perimeter of windows; seal outer edge of self-adhering membrane.
      3. Install sheet metal trim at missing locations between windows and metal wall panels.
      4. Replace sealant and backer rod in joints at perimeters of windows, doors, and metal wall panels.
      5. Install/replace sealant at joints in metal wall panel sheet metal trim.
      7. Install additional plastic retainers at curtain wall frames and install loose or dislodged cover caps.
      8. Apply sealant between glazing and window frames (wet seal) at exterior of storefront and curtain wall frames.
      9. Clean and seal interior glazing gasket corner butt joints of storefront and curtain wall windows.
     10. Replace/repair sill flashing beneath windows to provide positive slope to exterior.
     11. Remove wood siding panels; replace/repair self-adhering membrane behind wood wall siding; reinstall existing wood furring/nailers; install sheet metal strips behind wood trim at areas where self-adhering membrane may be exposed prior to reinstalling siding; reinstall existing wood siding.
     12. Repair/install sheet metal trim/flashing at perimeter of metal panels and at joints/gaps between adjacent wood siding where air barrier is exposed.

1.02 WEATHER PROTECTION:
   A. Upon beginning work on the existing roofs, Contractor shall patch and protect existing building as required to prevent leaks.
   B. Contractor shall have at the work site, a sufficient amount of moisture proof coverings to provide quick temporary protection to exposed walls or open building in the event of a rapid change in the weather.
1.03 CONTRACTOR’S USE OF PREMISES:
   A. Contractor to procure and post all permits required by the City of Texas City for scope of work being performed if required.
   B. Confine operations at site to areas permitted by law, ordinances, permits and to limits of Contract as shown on Contract Documents.
   C. Do not unreasonably encumber site with materials or equipment.
   D. Assume full responsibility for protection and safekeeping of products stored on premises.
   E. Move stored products which interfere with operations of Owner.
   F. Obtain and pay for use of additional storage or work areas needed for operations.
   G. Coordinate use of premises under direction of Owner's Representative.
   H. Use of Site for Work and Storage:
      1. Restrict Work to areas indicated on Drawings.
      2. Store materials off site except for minor amounts of material which may be stored at designated staging area as approved by Owner.
      3. Access site in areas approved by Owner.
      4. Restrict parking to specific areas as approved by Owner.
      5. Restrict debris removal to Owner-approved area of building site.
      6. Do not allow construction traffic on existing roof membrane except as absolutely necessary to perform new work. Provide protection over existing roof membrane at traffic and work areas.
   I. Maintenance of Access and Operations:
      1. Do not perform operations that would interrupt or delay Owner's daily operations.
      2. Maintain access to existing building, facilities, parking, streets, and walkways; especially fire lanes.
      3. Schedule demolition and renovation operations with Owner in such a manner as to allow Owner operations to continue with minimum interruption.
      4. During period of construction, do not obstruct exit ways of Owner-occupied areas in any manner.
   J. Maintenance of Existing Services:
      1. Do not disrupt existing utility services to existing building.
      2. Maintain environmental control in existing building, especially temperature, humidity, and dust control.
   K. Building Access:
      1. Access to construction areas shall be by way of scaffolding or man-lift on the face of the building or as designated by Owner.
      2. Contractor will not have access to building interior except as pre-arranged with Owner.

1.04 OWNER OCCUPANCY:
   A. Tenants will occupy premises and units during entire period of construction. Cooperate with Owner's Representative in all construction operations to minimize conflict and to facilitate Owner usage. Access to interior of units will be provided upon prior scheduled notice.
B. Contractor shall conduct his operations so as to ensure least inconvenience to Owner's operations.
C. Contractor shall take precautions to avoid excessive noise or vibration that would disturb Owner's operations. When directed by Owner, Contractor shall perform certain operations at designated time in order to minimize disturbance to Owner's operations.
D. Contractor shall take all necessary precautions to assure a watertight condition in the operation portion of the building during construction.
E. Refer to Section 01 35 16 for provisions on security, special sequence of Work, maintenance of access and operations, maintenance of existing utilities and services, and building access restrictions.

PART TWO - PRODUCTS

Not Used.

PART THREE - EXECUTION

Not Used.

END OF SECTION 01 11 00
SECTION 01 31 19

PROJECT MEETINGS

PART ONE - GENERAL

1.01 PRE-CONSTRUCTION MEETING:
   A. A Pre-construction Meeting will be held at the site at a time to be designated by Owner.
   B. Representatives of Contractor, including project superintendent, foreman, and any subcontractors, shall meet with Owner or his appointed representative.

1.02 AGENDA FOR PRE-CONSTRUCTION MEETING
   A. Meet with Owner and Engineer at project site or other designated locations at such intervals as directed by Owner to maintain an optimum degree of communications between all interested parties, including selected subcontractors and suppliers, at such times as their interests may be involved.
   B. Attendance:
      1. Owner’s Representative.
      2. Consultants/Engineer’s Representative.
      3. Contractor.
      4. Subcontractors.
   C. Sign-in list for attendees including names, contact information, and company name.
   D. Contract Review: Project communications and problem resolution.
   E. Job Site Conditions and Requirements:
      1. Services (temporary):
         a. Water.
         b. Power.
         c. Sanitary facilities.
         d. Parking areas.
      2. Site Access and Restrictions:
         a. Set-up areas, material storage, and handling.
         b. Protection of buildings, grounds, and building interior.
      3. Working Area and Preparation:
         a. Review work flow and schedule.
         b. Preparation work.
         c. Protection of existing building.
   F. Technical Sections:
      1. Function of project personnel.
      3. Coordination of work.
      4. System review.
      5. Manufacturer inspections.
   G. Safety and Security - Review Contractor responsibilities, and establish Owner monitoring procedures.
1.03 AGENDA FOR PROJECT MEETING

A. Attendance:
   1. Owner (Representative, if desired by Owner).
   2. Consultant/Engineer's Representative.
   3. Contractor.
   4. Subcontractors.

B. Sign-in list for attendees, including names, contact information, and company name.

C. Project Review:
   1. Problem resolution.
   2. Project communication.
   3. Review projected work flow and schedule.
   4. Progress payment processing.

D. Job Site Conditions:
   1. Review set-up area, material storage, and handling.
   2. Review work to date against schedule.
   3. Review quality of work to-date.

PART TWO - PRODUCTS

Not Used.

PART THREE - EXECUTION

Not Used.

END OF SECTION 01 31 19
SECTION 01 33 00

SUBMITTAL PROCEDURES

PART ONE - GENERAL

1.01 SECTION INCLUDES:
A. Submittals required by Specification Sections and as listed in attached List of Submittals.

1.02 REQUIRED SUBMITTALS:
A. Applicator's License Certificate: Copy of the material manufacturer's agreement/contract indicating date application was approved and expiration date.
B. Copy of the Contractor's executed insurance certificate.
C. Material manufacturer's written approval/acceptance of specified roof system including roof system components, general installation requirements, performance criteria of proposed systems, and warranty to be issued for project.
D. Copy of the Contractor's executed payment and performance bonds.
E. Shop drawings of details.
F. Manufacturer’s product data sheets and Material Safety Data Sheets (MSDS) on each material proposed for usage.
G. Sample of warranties that are to be issued upon project completion.
H. Submit list of subcontractors.
I. Detailed project schedule showing work phasing and proposed daily progress schedule.
J. Permits, notices, and approvals of governing bodies or agencies.

1.03 SHOP DRAWINGS:
A. Prepare shop drawings for those details that are proposed for the project. Indicate on a plan/elevation, the proposed location of detail presented on shop drawing.
B. Indicate joints, types, and locations of fasteners, shapes, sizes, expansion joints, special conditions, and installation procedures for each flashing condition. Note critical dimensions, gauge, and finish of sheet metal for each flashing condition.
C. Submit shop drawings showing layout, joining, profiles, and anchorages of fabricated work, including flashings and trim.

1.04 PRODUCT DATA:
A. Submit manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations, and other standard descriptive data for each material proposed for use in construction of roof assembly and related flashings and components.
   1. Clearly mark each copy to identify pertinent materials, products, or models.
   2. Show dimensions and clearances required.
   3. Show performance characteristics and capacities.
   4. Indicate the Specification Section that applies to each submittal.
1.05 SAMPLES:
A. Physical examples to illustrate materials, equipment, and workmanship; and to establish standards by which completed Work is judged, if requested.

1.06 CONTRACTOR RESPONSIBILITIES:
A. Review shop drawings, product data, and samples prior to submission. Initial, sign, or stamp, certifying the Contractor's review of the submittal.
B. Verify:
   1. Field measurements.
   2. Field construction criteria.
   3. Catalog numbers and similar data.
C. Coordinate each submittal with requirements of Work and of Contract Documents.
D. Contractor's responsibility for errors and omissions in submittals is not relieved by Consultant review of submittals.
E. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by the Consultant/Engineer's review of submittals, unless Consultant gives written acceptance of specific deviations.
F. Notify Consultant, in writing at time of submission, of deviations in submittals from requirements of Contract Documents.
G. Do not begin work which requires submittals until return of submittals with Consultant/Engineer's stamp and initials or signature indicating review and indication to proceed as noted. Work performed prior to submission and approval of submittals may be subject for rejection.

1.07 SUBMISSION REQUIREMENTS:
A. Schedule submissions to the Consultant after Contract award.
B. Submit data electronically.
C. Submit three of each sample requested.
D. Accompany submittals with transmittal letter containing:
   1. Date.
   2. Project title and number.
   3. Contractor's name and address.
   4. The number of each submittal.
E. Provide each set of submittals bound together with a Cover and Table of Contents.

1.08 RE-SUBMISSION REQUIREMENTS:
A. Product Data and Samples: Submit new data and samples as required for initial submittal.
B. Shop Drawings:
   1. Revise initial drawings as required and re-submit as specified for initial submittal.
   2. Indicate on drawings any changes which have been made other than those requested by Owner.
1.09 DISTRIBUTION OF SUBMITTALS AFTER REVIEW:
   A. Consultant will retain one copy of approved submittals.
   B. Consultant will forward one copy of approved submittals to Owner.
   C. Consultant will return remaining copies to Contractor.
   D. Contractor shall distribute remaining copies of submittals which carry Consultant/Engineer’s stamp as required for construction, including Contractor's file, jobsite file, subcontractors, suppliers, and fabricators.

1.10 LIST OF SUBMITTALS:

SECTION 01 33 00 - SUBMITTAL PROCEDURES
   • Submittals - 5 samples, all other electronic submittals.

SECTION 01 70 00 - EXECUTION AND CLOSEOUT REQUIREMENTS
   • Warranties and Bonds.
   • Evidence of Payment and Release of Liens.

SECTION 02 07 20 - MINOR DEMOLITION AND RENOVATION WORK
   • Product Data and MSDS.
   • Samples of all fasteners proposed for use.
   • Sample of curtain wall plastic clips.

SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM
   • Product Data and MSDS.
   • Shop Drawings, where applicable.
   • Mock-up Sample of sill flashing and miscellaneous trim.
   • Color Chart and Color Samples.
   • Sample Warranty.

SECTION 07 92 00 - JOINT SEALANTS
   • Product Data.
   • Samples, if requested.
   • Color Chart.
   • Sample Warranty.

PART TWO - PRODUCTS

Not Used.

PART THREE - EXECUTION

Not Used.

END OF SECTION 01 33 00
SECTION 01 35 16
ALTERATION PROJECT PROCEDURES

PART ONE - GENERAL

1.01 DESCRIPTION:
   A. Summary: The procedures and administrative requirements of this Section apply to all of the following Sections of the Specification which are involved in alterations to the existing building.
   B. Extent Notes: Cut into or partially remove portions of the existing building as necessary to make way for new construction. Include such work as:
      1. Cutting, moving, or removal of items shown to be cut, moved, or removed.
      2. Cutting, moving, or removal of items not shown to be cut, moved, or removed, but which must be cut, moved, or removed to allow new work to proceed. Work or items which are to remain in the finished work shall be patched or reinstalled after their cutting, moving, or removal, and their joints and finishes made to match adjacent or similar work.
      3. Removal of existing surface finishes as needed to install new work and finishes.
      4. Removal of abandoned items and removal of items serving no useful purpose, such as abandoned piping.
      5. Repair or removal of dangerous or unsanitary conditions resulting from alterations work.

1.02 SCHEDULING AND ACCESS:
   A. Work Sequence: Contractor shall submit detailed project plan with work sequence and phasing schedule.
   B. Security:
      1. Be solely responsible for job site security.
      2. Protect completed work and stored items from vandalism and theft.
      3. Contact Owner for access to all security areas.
   C. Maintenance of Access and Operations:
      1. During period of construction, Owner will continue to occupy the building and perform normal activities in existing building. Maintain proper and safe access to Owner-occupied areas at all times.
      2. Schedule demolition and remodeling operations with Owner in such a manner as to allow Owner operations to continue with minimum interruption.
      3. During period of construction, do not obstruct existing exit ways of Owner-occupied areas in any manner.
   D. Maintenance of Existing Services:
      1. Maintain environmental control in existing building, especially temperature, humidity, and dust control.
      2. Provide temporary lines and connections as required to maintain existing mechanical and electrical services in building.
3. Equipment handling shall be limited to Owner-approved hours.
4. Notify Owner a minimum of forty-eight hours prior to each required interruption of mechanical or electrical service in building. Such interruptions shall be only at such times and for lengths of time as approved by Owner. In no event shall interruption occur without prior approval of Owner.

E. Temporary Barricades:
1. Provide and erect barricades as necessary to protect ground personnel, employees, passersby, etc., from hazards resulting from the Work during construction operation.
2. Prevent public access to construction activities, equipment, and storage areas.

F. Building Access:
1. Contractor will limit access to building interior except:
   a. To install temporary enclosures, protections, and equipment.
   b. During roof vent handling operations.
   c. For designated work at interior locations.
   d. For project or medical emergency.
2. Access to roof construction areas shall be by way of contractor-provided exterior ladder or interior access way as pre-approved by Owner for construction personnel.

1.03 ALTERATIONS, CUTTING, AND PROTECTION:

A. Extent:
1. Perform cutting and removal of work so as not to cut or remove more than is necessary and so as not to damage adjacent work.
2. Conduct work in such a manner as to minimize noise and to minimize accumulation and spread of dirt and dust.
3. Perform cutting for openings with carborundum saw with approved dust arrestor.

B. Securement of Openings: Protect all openings made in existing building with barricades to prevent accidents to Owner's and Contractor's personnel. If required by Owner, provide a workman at ground level inside the building at all times during the tear-off operations and when the work is being performed. It will be the responsibility of this individual to alert personnel in the area of the work being performed overhead, to watch for falling debris, and to broom clean the area each day of any dirt that may result from the work operations.

C. Responsibility and Assignment of Trades:
1. Contractor shall assign the work of moving, removal, cutting, patching, and repair to trades under his supervision so as to cause the least damage to each type of work encountered, and so as to return the building as much as possible to the appearance of new work.
2. Patching of finish materials shall be assigned to mechanics skilled in the work of the finish trade involved.

D. Protection:
1. Protect remaining finishes, equipment, and adjacent work from damage caused by cutting, moving, removal, and patching operations. Protect surfaces which will remain a part of the finished work.
2. Cover existing walls and floors where necessary to prevent damage from construction operations.
3. During demolition, cutting, and construction, provide positive dust control by wetting dusty debris and by completely sealing openings to Owner-occupied areas with temporary seals so as to prevent spread of dust and dirt to interior areas.
4. After materials are installed, properly protect Work until final acceptance.
5. Repair any damage resulting from construction operations without cost to Owner.
6. Provide continuous security at openings cut into existing exterior walls and roofs during non-working hours. Prevent unauthorized entry into the existing facility through areas demolished or accessed as part of the Work.

E. Debris:
1. Remove debris from the site daily. Removed material becomes property of the Contractor. Load removed material directly on trucks for removal from site. Dispose of removed material legally. Do not allow debris to enter sewers.
2. Do not allow material accumulations to endanger structure.
3. Cover and secure material accumulations as necessary to prevent the material from spreading over the rooftop or becoming airborne.
4. Submit material storage and disposal plan for review prior to job start.

1.04 PATCHING, EXTENDING, AND MATCHING:
A. Patch and extend existing work using skilled mechanics who are capable of matching the existing quality of workmanship. The quality of patched or extended work shall not be less than that which exists.
B. In areas where any portion of an existing finished surface is damaged, lifted, stained, or otherwise made or found to be imperfect, patch or replace the imperfect portion of the surface with matching material.
C. Provide adequate support or substrate for patching of finishes.
D. Quality:
1. In the Sections of the product and execution of Specifications which follow these General Requirements, no concerted attempt has been made to describe each of the various existing products that must be used to patch, match, extend, or replace existing work. Obtain all such products in time to complete the Work on schedule. Such products shall be provided in quality which is in no way inferior to the existing products.
2. The quality of the products that exist in the building, as apparent during pre-bid site visits, shall serve as the Specification requirement for strength, appearance, and other characteristics.
E. Transitions:
1. Where new work abuts or finishes flush with existing work, make the transition as smooth and workmanlike as possible. Patched work shall match existing adjacent work in texture and appearance so as to make the patch or transition invisible to the eye at a distance of no closer than 3 feet (1m).
2. Where masonry or other finished surface is cut in such a way that a smooth transition with new work is not possible, terminate the existing surface in a neat fashion along a straight line at a natural line of division and provide trim appropriate to the finished surface.

F. Restore existing work that is damaged during construction to a condition equal to its condition at the time of the start of the Work, and to satisfaction of Owner.

1.05 REPAIR:
   A. Replace work damaged in the course of alterations, except at areas approved by Owner for repair.
   B. Where full removal of extensive amounts of almost-suitable work would be needed to replace damaged portions, then filling, straightening, and similar repair techniques, followed by finishing, will be permitted.
   C. If the repaired work is not brought up to the standard for new work, Owner will direct that it be cut out and replaced with new work.

PART TWO - PRODUCTS
Not Used.

PART THREE - EXECUTION
Not Used.

END OF SECTION 01 35 16
SECTION 01 43 00
QUALITY REQUIREMENTS

PART ONE - GENERAL

1.01 SECTION INCLUDES:
   A. General Quality Control.
   B. Manufacturers’ Field Services.

1.02 QUALITY CONTROL, GENERAL:
   A. Maintain quality control over suppliers, manufacturers, products, services, site
      conditions, and workmanship to produce work of specified quality.
   B. Contractor shall be approved by manufacturer to perform the work for the specified
      guarantee period. Contractor shall have completed previous projects utilizing same
      materials and provide same warranty as specified herein.
   C. Examine each phase of Work and have defective conditions corrected before
      starting subsequent operations which would cover, or are dependent upon, work in
      question.
   D. Where visual examination is not sufficient, use instruments with qualified operators
      to examine work.
   E. Utilize Owner’s testing laboratory when services are necessary to assist Contractor
      in evaluating quality.

1.03 WORKMANSHIP:
   A. Comply with industry standards, except when more restrictive tolerances or specified
      requirements indicate more rigid standards or more precise workmanship.
   B. Utilize qualified personnel who have experience with the specified materials to
      produce workmanship of specified quality.
   C. Secure products in place with positive anchorage devices designed and sized to
      withstand stresses, vibration, and racking.
   D. Provide finishes to match accepted samples.

1.04 MANUFACTURER’S FIELD SERVICES:
   A. When specified in respective Specification Section, require manufacturer to provide
      qualified personnel to observe field conditions, conditions of surfaces and
      installation, quality of workmanship, and to make appropriate recommendations.
   B. Notify manufacturer's representative a minimum of two weeks prior to date of final
      inspection. Manufacturer's representative shall conduct an inspection of the
      completed roof before the final inspection, or shall attend the final inspection.

PART TWO - PRODUCTS

Not Used.
PART THREE - EXECUTION

Not Used.

END OF SECTION 01 43 00
SECTION 01 43 39

MOCK-UPS

PART ONE - GENERAL

1.01 DESCRIPTION:
   A. Preparation of mock-ups representing proposed finished work for review and approval.

1.02 QUALITY ASSURANCE:
   A. Contractor to prepare mock-ups utilizing materials proposed for the finished product and to simulate the desired appearance of the finished product.
   B. Construct mock-ups at locations on the building for review.
   C. Mock-ups shall be of appropriate size to depict finishes and connections.
   D. Materials, finishes, thickness, attachments, dimensions, and profiles shall be as specified herein and as shown within the project.
   E. Owner or Owner’s Representative reserves the right to require any modifications deemed necessary. No requests for extra costs will be entertained unless an upgrade of the original design is involved.
   F. Mock-ups shall constitute standard of acceptance for remaining work.

1.03 SCHEDULE OF MOCK-UPS:
   A. Typical sheet metal trim and flashing; size 5-feet minimum.
   B. Typical sealant replacement; size 5-feet minimum.

PART TWO - PRODUCTS

Not Used.

PART THREE - EXECUTION

Not Used.

END OF SECTION 01 43 39
SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART ONE - GENERAL

1.01 SANITARY FACILITIES:
   A. Provide adequate temporary chemical toilets at time Work is commenced.
   B. Maintain facilities in compliance with applicable health laws and regulations. Keep clean and unobtrusive.
   C. Upon completion of Work, remove these facilities and all traces thereof.

1.02 STORAGE OF MATERIALS:
   A. Provide suitable non-combustible, watertight coverings for storage of materials subject to damage by weather. Covering shall be of sufficient size to hold materials required on site at one time. Pallets shall be raised at least 6-inches (150mm) above ground, on heavy joists or sleepers.
   B. If temporary storage sheds are used, locate storage areas where directed, maintain in good condition, and remove storage sheds when so directed. Locate storage areas of combustible construction a minimum of 30 feet (10m) from existing building.
   C. Store materials off site as necessary due to space limitations on the subject site.
   D. Cover and protect materials subject to damage by weather, including during transit.
   E. Do not use building as storage facility.
   F. Provide additional storage at no cost to Owner in the event that additional storage area is required beyond that provided at project site.
   G. Stored materials shall be available for inspection by Owner at all times.
   H. Store flammable and volatile liquids in sealed containers located a minimum of 20 feet from existing buildings.
   I. Transport flammable or volatile liquids in, and use from, U.L. listed safety cans.
   J. Deliver material and equipment in manufacturer's original packaging with all tags and labels intact and legible. Handle and store material and equipment in such a manner as to avoid damage. Liquid products shall be delivered sealed, in original containers. Store roll goods in an upright position.
   K. Proper storage of materials is the sole responsibility of Contractor. Protect all materials susceptible to moisture including, but not limited to, all roll goods, insulation, cant strip, wood, and plywood in dry, above ground, watertight storage. Keep all labels intact and legible, clearly showing the product, manufacturer, and other pertinent information.
   L. Reject any materials becoming wet or damaged and remove from the jobsite immediately. Any insulation found to be improperly stored at the jobsite shall be considered wet at the discretion of Owner's Representative and removed from the jobsite.
   M. Maintain products liable to degrade as a result of being frozen above 40 degrees Fahrenheit (4 degrees Celsius) in heated storage.
N. Random samples of all materials susceptible to moisture will be taken at various stages of the installation to ensure no significant variations in moisture.
O. Remove from site and/or secure material during times of inclement weather.

1.03 TEMPORARY WATER:
A. Contractor will arrange service and pay for all water service required for building purpose.
B. Provide hoses for conveyance. Provide all necessary temporary piping and fixtures.

1.04 TEMPORARY ELECTRICAL ENERGY:
A. Contractor will arrange and pay for all electricity required for building purposes.
B. Provide all necessary temporary wiring (in conduit if requested by Owner), extensions, and temporary lighting devices.

1.05 TEMPORARY LADDERS, SCAFFOLDS, HOISTS:
A. Furnish and maintain temporary ladders, scaffolds, material conveyance, or equipment as required for proper execution of Work.
B. Such apparatus, equipment, and construction shall meet requirements of applicable federal, state, and local safety and labor laws.

1.06 GUARDRAILS, BARRICADES, AND TEMPORARY COVERINGS:
A. Provide barricades as required to protect natural resources, site improvements, existing property, adjacent property, and passers-by.
B. Where pedestrian traffic is through or adjacent to work areas, provide necessary guardrails and barricades to protect pedestrians and to prevent pedestrian access to Work areas.
C. Provide overhead protection for all building entrances and exits when work is performed above or adjacent to the subject exit/entrance.
D. Provide suitable temporary watertight coverings over windows and roof openings as required to protect interior equipment from inclement weather.
E. Provide suitable protection for stairs, elevator, and/or walls and floors in areas used for contractor roof access.

1.07 PROTECTION:
A. Maintain bench marks, monuments, and other reference points. If disturbed or destroyed, replace as directed.
B. Protect existing adjacent streets, sidewalks, curbs, buildings, and property including trees, lawns, and plants.
C. Refer to Section 01 35 16 for protection requirements of existing building.

1.08 TEMPORARY FIRE PROTECTION:
A. During construction, Contractor and his subcontractors and sub-subcontractors and their agents and employees shall comply with fire safety practices as outlined in NFPA Pamphlet 241 and local fire protection codes, and in addition shall:
1. Provide following stored pressure extinguishers during entire construction period:
   a. One U.L. rating 4A-60B:C dry chemical fire extinguisher.
   b. One U.L. rating 2A 2-1/2 gallon water fire extinguisher.
   c. One U.L. rating 10B:C carbon dioxide fire extinguisher with horn and hose assembly.
2. Provide fire extinguishers together in each of following areas:
   a. Each 3000 square feet of work area or fraction thereof.
   b. Each temporary structure including construction office and storage and tool and workshop sheds.
3. Contractor's superintendent or other assistant superintendents shall be appointed as project fire warden for entire construction period.
4. Train workmen in proper use of each type fire extinguisher.
5. Post telephone number of fire department, specific information regarding location of on-site fire fighting equipment, and procedures to be followed in event of fire.
6. Maintain free access at all times to fire extinguisher equipment, street fire hydrants, and outside connections for standpipe hose systems.
7. Maintain all exit facilities and access thereto, free of material and other obstructions.

1.09 EMPLOYEE CONTROL:
A. Do not allow construction employees to enter Owner-occupied areas. Maintain construction traffic in designated access routes.
B. Smoking on site only allowed at areas designated by Owner.

1.10 PARKING FACILITIES:
A. On-site parking is limited and may not be available for contractor’s use.

1.11 CLEANING DURING CONSTRUCTION:
A. Oversee cleaning and ensure that building and grounds are maintained free from accumulations of waste materials and rubbish.
B. Sprinkle dusty debris with very fine water mist to control accumulation of dust. Do not use water in quantity so as to puddle.
C. At not less than every day during progress of work, clean up work areas and access areas and dispose of waste materials, rubbish, and debris.
D. At Contractor's option, on-site dump containers may be used for collection of waste materials, rubbish, and debris. Locate containers a minimum of 30 feet (10m) away from building entrances at a location acceptable to Owner. If used, remove containers when filled.
E. Do not allow waste materials, rubbish, and debris to accumulate and become an unsightly or dangerous condition.
F. Remove waste materials, rubbish, and debris from site and legally dispose of at public or private dumping areas off Owner's property.
G. Keep streets and access to site free of rubbish and debris.
H. Lower waste materials in a controlled manner with as few handlings as possible. Do not drop or throw materials from heights.
1.12 PERMITS:
A. Obtain and pay for all required local and state permits, licenses, and registrations. Work may be subject to ordinances, laws, codes, and regulations.
B. Prior to bidding, notify Owner and Consultant of any violation, omission, or questions of compliance. Required corrections to Specifications will be made via Addenda prior to receipt of Bids.
C. Be responsible for full compliance and bear cost of additional work not specified that may be required by authorities having jurisdiction.

1.13 REGULATORY REQUIREMENTS:
A. International Building Code (IBC), latest edition; as amended by the City of Texas City.
B. Occupation Safety and Health Administration (OSHA) requirements, as applicable.
C. United States Environmental Protection Agency (EPA) requirements, as applicable.
D. Adhere to all limitations, cautions, and regulatory standards referenced by the manufacturer of each material provided.

PART TWO - PRODUCTS
Not Used.

PART THREE - EXECUTION
Not Used.

END OF SECTION 01 50 00
SECTION 01 60 00

PRODUCT REQUIREMENTS

PART ONE - GENERAL

1.01 SECTION INCLUDES:
   A. Material and Equipment Incorporated Into Work:
      1. Conform to applicable specifications and standards.
      2. Comply with size, make, type, and quality specified, or as specifically approved in writing by Owner.
      3. Manufactured and Fabricated Products:
         a. Design, fabricate and assemble in accordance with recognized industry standards.
         b. Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.
         c. Two or more items of same kind shall be identical, by same manufacturer.
         d. Products suitable for service conditions.
         e. Adhere to equipment capacities, sizes, and dimensions shown or specified unless variations are specifically approved in writing.
   B. Do not use material or equipment for purposes other than that for which it is designed or is specified.

1.02 REUSE OF EXISTING MATERIAL:
   A. Except as specifically indicated or specified, materials and equipment removed from existing structure shall not be used in completed Work.
   B. For material and equipment specifically indicated or specified to be reused in Work:
      1. Use special care in removal, handling, storage, and reinstallation to assure proper function in completed Work.
      2. Arrange for transportation, storage, and handling of products which require off-site storage, restoration, or renovation. Pay costs for such work.

1.03 MANUFACTURER'S INSTRUCTIONS:
   A. When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, obtain and distribute copies of such instructions to parties involved in installation, including two copies to Consultant.
      1. Maintain one set of complete instructions at jobsite during installation and until completion.
      2. Submit copy to Consultant with appropriate Product Data submittal.
      3. Consultant will forward one copy to Owner.
   B. Handle, install, connect, clean, condition, and adjust products in strict accordance with such instructions and in conformity with specified requirements.
      1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with Consultant for further instructions.
      2. Do not proceed with work without clear instructions.
C. Perform Work in accordance with manufacturer's instructions. Do not omit preparatory steps or installation procedures unless specifically modified or exempted by Contract Documents.

1.04 TRANSPORTATION AND HANDLING:
A. Arrange deliveries of products in accordance with construction schedules. Coordinate to avoid conflict with work and conditions at site.
1. Deliver products in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
2. Immediately on delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.
B. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

1.05 SUBSTITUTIONS AND PRODUCT OPTIONS:
A. Contractor's Options:
1. For products specified only by reference standard, select any product meeting that standard, by any manufacturer.
2. For products specified by naming several products or manufacturers, select any product and manufacturer named.
3. Products specified by naming only one product and manufacturer shall be interpreted as mandatory work requirement. For products other than the named product, substitution will be considered only as per conditions of contract.
B. Contractor's Representation: Request for substitution constitutes a representation that Contractor:
1. Has investigated proposed product and determined that it is equal to or superior in all respects to that specified.
2. Will provide same warranties for substitution as for product specified.
3. Will coordinate installation of accepted substitution into Work and make such other changes as may be required for Work to be complete in all respects.
4. Waives all claims for additional costs, under his responsibility, related to substitution which subsequently becomes apparent.
C. Substitutions will be not be considered if:
1. They are indicated or implied on Product Data submittals without formal request submitted in accordance with this Section.
2. They are submitted after time limit specified above.
3. Acceptance will require substantial revision of Contract Documents.
D. Owner's decision shall be final.

PART TWO - PRODUCTS

Not Used.
PART THREE - EXECUTION

Not Used.

END OF SECTION 01 60 00
SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART ONE - GENERAL

1.01 GENERAL:
A. Comply with requirements stated in Conditions of the Contract and in Specifications for administrative procedures in closing out the Work.

1.02 SUBSTANTIAL COMPLETION:
A. Contractor: Shall notify Consultant / Engineer that Project is substantially complete and schedule time for inspection.
B. Consultant / Engineer will make an inspection after notification.
C. Should Consultant / Engineer consider Work not complete:
   1. He will immediately notify Contractor, in writing, stating reasons.
   2. Contractor shall complete Work and send second written notice to Consultant / Engineer certifying Project is substantially complete.
   3. Consultant / Engineer will re-inspect Work.

1.03 FINAL INSPECTION:
A. Contractor shall submit written certification that:
   1. Contract Documents have been reviewed.
   2. Project has been inspected for compliance with Contract Documents.
   3. Work has been completed in accordance with Contract Documents.
   4. Equipment and systems have been tested in presence of Owner's Representative and are operational.
   5. Project is complete and ready for final inspection.
B. Consultant / Engineer will make final inspection after notification from Contractor.
C. Should Consultant / Engineer consider Work complete in accordance with requirements of Contract Documents, he will request Contractor to make Project Closeout submittals.
D. Should Consultant / Engineer consider Work not complete:
   1. He will notify Contractor in writing, issuing inspection list to Contractor with noted items requiring further consideration.
   2. Contractor shall take immediate steps to remedy the stated deficiencies and submit initialed inspection list to Consultant / Engineer certifying Work is complete.
   3. Consultant / Engineer will re-inspect Work.

1.04 REINSPECTING COSTS:
A. Should Consultant / Engineer be required to perform subsequent inspections of the Work due to the failure of the Contractor to correct deficient work, Owner will compensate Consultant / Engineer for additional services and deduct amount paid to Consultant / Engineer from the final payment to Contractor.
1.05 CLOSE-OUT SUBMITTALS:
   A. Evidence of compliance with requirements of governing authorities.
   B. Warranties and Bonds: Refer to requirements of this Section.
   C. Evidence of Payment and Release of Liens: Refer to requirements of General and Supplementary Conditions.
   D. Consent of Surety.
   E. As-built Drawings.

1.06 WARRANTY/GUARANTEE:
   A. Submit original and duplicate copies of both Contractor's Warranty and Manufacturer's Guarantee to Consultant / Engineer for review. After review, Consultant / Engineer will forward Warranty and Guarantee to Owner. Consultant / Engineer shall approve final pay application (retainage) upon receipt of both Contractor's Warranty and Manufacturer's Guarantee.

1.07 EVIDENCE OF PAYMENTS AND RELEASE OF LIENS:
   A. Final Release and Waiver of Liens:
      1. Contractor's Waiver of Liens.
      2. Separate waivers of liens for subcontractors, suppliers, and others with lien rights against property of Owner, together with complete list of those parties.
   B. All submittals shall be notarized and sealed before delivery to Consultant / Engineer.

1.08 FINAL ADJUSTMENT OF ACCOUNTS:
   A. Submit final statement of accounting to Consultant / Engineer.
   B. Statement shall reflect all adjustments.
      1. Original Contract Sum.
      2. Additions and Deductions resulting from:
         a. Previous Change Orders.
         b. Deductions for uncorrected Work.
         c. Deductions for Reinspection Payments.
      3. Total Contract Sum, as adjusted.
      4. Previous payments.
      5. Sum remaining due.
   C. Consultant / Engineer will prepare final Change Order, reflecting approved adjustments to Contract Sum not previously made by Change Orders.

1.09 FINAL APPLICATION FOR PAYMENT:
   A. Submit final application in accordance with requirements of General Conditions.
   B. Owner and Consultant / Engineer shall review all data supplied for conformance with Contract Documents. When approved, Owner will accept the Work, release Contractor (except as to conditions of the Performance Bond, any legal rights of Owner, required guarantees, and correction of Faulty Work after final Payment), and make final payment to Contractor.
   C. Final payment will not be approved or released until receipt of proper close-out documents.
PART TWO - PRODUCTS

2.01 OWNER’S MANUAL:
   A. Provide Owner’s Manuals at time of substantial completion, bound and identified with lettering imprinted on cover, “Owner’s Manual”, which shall consist of the following: maintenance and care instructions for finished products, warranties, and manufacturer contact names and information.
   B. Owner’s Manual shall be approved by the Consultant / Engineer for content and format prior to final preparation.
   C. Complete all cleaning operations required by Section 01 74 00 – Cleaning and Waste Management, and other Sections of the Technical Specifications.
   D. Provide the following prior to project closeout:
      1. Consent of Surety.
      2. Contractor’s Affidavit of Release of Liens.
      3. Contractor’s Affidavit of Payments of Debts and Claims.
      5. Certificate of Substantial Completion.

PART THREE - EXECUTION

3.01 FINAL INSPECTION:
   A. Immediately prior to expiration of the warranty period, Contractor shall make an inspection of the Work in the company of Consultant / Engineer and Owner. Consultant / Engineer and Owner shall be given not less than five days notice prior to anticipated date of final inspection.
   B. Where any portion of the Work has proven to be defective and requires replacement, repair, or adjustment, Contractor shall immediately provide materials and labor necessary to remedy such defective Work and shall execute such Work without delay until completed to the satisfaction of Consultant / Engineer and Owner, even though the date of completion of the corrective work may extend beyond the expiration date of the guarantee period. Maintenance during warranty period is to be done by Contractor at his expense.

END OF SECTION 01 70 00
SECTION 01 74 00
CLEANING AND WASTE MANAGEMENT

PART ONE - GENERAL

1.01 GENERAL:
   A. Maintain premises free from accumulations of waste, debris, and rubbish caused by construction operations.
   B. At completion of Work, remove waste materials, rubbish, tools, equipment, machinery, and surplus materials. Clean all sight-exposed surfaces. Leave project clean and ready for occupancy.

1.02 REQUIREMENTS OF REGULATORY AGENCIES:
   A. Codes and Standards: Applicable federal, state, and local codes and regulations relative to environmental safety regulations.
   B. Hazards Controls: Store volatile waste in covered metal containers and remove from premises daily. Prevent accumulation of wastes which create hazardous conditions.
   C. Pollution Control: Conduct clean-up and disposal operations to comply with local ordinances and anti-pollution laws.
      1. Burning or burying of rubbish and waste materials on the project site is prohibited.
      2. Disposal of volatile fluid wastes (such as mineral spirits, oil, or paint thinner) in storm or sanitary sewer systems or into streams or waterways is prohibited.

PART TWO - PRODUCTS

2.01 CLEANING MATERIALS:
   A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
   B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART THREE - EXECUTION

3.01 DURING CONSTRUCTION:
   A. Keep work area and all occupied property in neat and orderly condition at all times. Overseer cleaning and ensure that building and grounds are maintained free from accumulations of waste materials and rubbish. Sprinkle dusty debris with very fine water mist to control accumulation of dust. Do not use water in quantity so as to puddle. Do not allow waste and other materials such as rubbish, debris, wrappers, etc., to accumulate and become unsightly or hazardous. Promptly remove equipment and excess materials as they become no longer needed for the progress of the work. At not less than every day during progress of work, clean up work and access areas and dispose of waste materials, rubbish, and debris. Legally dispose of waste materials, rubbish, and debris at public or private dumping areas off
Owner’s property. At the completion of work, restore work area to its original condition. Lower waste materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights. Keep street and access to site free of rubbish and debris.

B. Contractor shall be responsible for damage to or destruction of property of any sort resulting from the work or caused by defective work, or the use of unsatisfactory materials or workmanship.

C. Contractor shall be responsible for the preservation of all private property, trees, fences, etc., along the adjacent street, right-of-way, etc., and shall use every precaution necessary to prevent damage or injury thereto. Use suitable precautions to prevent damage to pipes, conduits, and other structures.

D. If damage to any structures, utilities, or other improvement occurs by reason of Contractor's operations even though special precautions have been employed, Contractor shall be entirely responsible for such damage and shall make all repairs as required to the satisfaction of Owner.

E. Do not injure, destroy, or trim landscaping without authorization by Owner. Landscaping damage will be replaced by Contractor with new stock or with other stock satisfactory to Owner at the expense of Contractor.

3.02 FINAL CLEANING:

A. Employ skilled workmen for final cleaning.

B. Remove grease, mastics, adhesives, dust, dirt, stains, labels, fingerprints, and other foreign materials from sight-exposed interior and exterior surfaces.

C. Repair, patch, and touch-up marred surfaces to match adjacent finishes.

D. Broom clean paved surfaces; rake clean other surfaces of grounds.

E. Clean stairwell, elevators, and loading dock areas utilized for Work.

F. Prior to final completion or Owner occupancy, conduct an inspection of sight-exposed interior and exterior surfaces and all work areas to verify that entire Work area is clean.

G. Restore building finishes, pavements, walks, landscaping, or other components and/or materials at the site to its original condition prior to start of Work.

END OF SECTION 01 74 00
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SECTION 02 07 20

MINOR DEMOLITION AND RENOVATION WORK

PART ONE - GENERAL

1.01 SECTION INCLUDES:
   A. Removing existing sealants.
   B. Performing other miscellaneous and incidental work required to complete exterior
      wall repairs as specified and to obtain specified manufacturer's warranty.

1.02 RELATED SECTIONS:
   A. 07 62 00 - Sheet Metal Flashing and Trim.
   B. 07 92 00 - Joint Sealants.

1.03 REFERENCES:
   B. Corps of Engineers (CRD).

1.04 PROJECT CONDITIONS:
   A. Environmental Requirements:
      1. Do not remove sealants or weather barrier materials in inclement weather or
         when rain is predicted with 30 percent possibility or greater.
      2. When ambient temperature is below 60 degrees Fahrenheit (15 degrees
         Celsius), expose only enough temperature sensitive materials required within
         four hour period.
      3. Do not expose materials to constant temperature in excess of 180 degrees
         Fahrenheit (82 degrees Celsius).
   B. Emergency Equipment: Maintain on-site adequate materials necessary to apply
      emergency temporary weather protection of incomplete work area in event of sudden
      storms or inclement weather.
   C. Smoking is prohibited on roof areas, in existing building, and Owner's property
      except at designated locations.

1.05 SEQUENCING AND SCHEDULING:
   A. Sequence demolition and renovation with sequence of new work to maintain facility
      in dry, watertight condition on daily basis.
   B. Coordinate work so that no more existing items are removed in one day than can be
      replaced with new materials in same day.
   C. Coordinate work with Owner's operational requirements.
   D. Coordinate demolition work and removal with roofing work to maintain facility in dry,
      watertight condition on a daily basis.

1.06 WARRANTY:
   A. Provide Contractor's warranty covering defects in installed materials and
      workmanship for period of two years from date of final acceptance.
PART TWO - PRODUCTS

2.01 MATERIALS:

A. Wood Members, Nailers, and Blocking Lumber: Noncombustible Standard Grade Fir or No. 2 Southern Yellow Pine bearing UL label, Kiln-dried after treatment, complying with American Lumber Standards of manufacturer’s association under whose rules lumber is produced, minimum size 2-inches (50mm) by 6-inches (150mm), nominal.

B. Treatment for Wood Members: Pressure-preservative treated in accordance with AWPA C2, C9 standards, Above Ground Contact Alkaline Copper Quat Type C (ACQ-C) or Copper Azole Type A (CBA-A) at 0.25 pounds per cubic foot for (ACQ-C) or 0.20 pcf for (CBA-A) wood.

C. Curtain Wall Plastic Retainers: Oldcastle “ICW-12” plastic isolators.

D. Self-adhering Membrane:
   1. Self-adhering membrane such as “Blue-Skin SA” by Henry Company
   2. Self-adhering membrane through wall flashing such as “Blue-Skin TWF” by Henry Company
   3. Primers and sealant recommended by self-adhering membrane manufacturer.

E. Fasteners:
   1. Wood Substrate:
      a. Securement of metal flanged items such as flashing pans, metal edge/fascia, cleats, etc., shall be nails, No. 11 gauge, double hot-dipped galvanized, ASTM A153, steel or stainless steel wire with 3/8-inch (9mm) diameter head and ring shank fasteners for anchoring flanges of sheet metal fabrications shall be of sufficient length to achieve a minimum 1-1/4-inch embedment into solid wood substrate such as "R-103-A Stormguard Asphalt and Fiberglass Shingle Nail" by Maze Nails (800/435-5949).
      b. Securement of wood to wood shall be nails, No. 11 gauge, double hot-dipped galvanized steel or stainless steel wire nail with ring shank and 9/32-inch (7mm) diameter head such as "Stormguard PTL Anchor-Down Nail" by Maze Nails (800/435-5949); 10d or length required to provide 1-inch (25mm) penetration minimum into substrate.
      c. Securement of exposed items to wood substrate shall be No. 14 stainless steel screw with stainless steel washer and integral rubber seal; length required to provide 1-inch (25mm) penetration minimum into substrate.
   2. Concrete Substrate:
      a. Fasteners for securing sheet metal items such as surface-mounted counterflashings, termination/compression bars, etc., to concrete substrate shall be a pre-assembled drive anchor with a coated steel or steel alloy drive screw, a lead/zinc alloy expansion anchor body (1/4-inch (6mm) diameter, 1-1/2-inch [38mm] length) and a stainless steel washer with integral rubber seal (1-1/8-inch diameter) such as "Zamac Hammer-Screw" as manufactured by Powers Fasteners, Inc., or “Coated Drive Pin Fastener” by Firestone Specialty Products.
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3. Masonry Substrate:
   a. Fasteners for securing wood to solid masonry shall be stainless steel expansion anchor, 3/8-inch (9mm) diameter (minimum), with 3/4-inch diameter steel washer such as "Countsink Kwik Bolt II" by Hilti. Fasteners for securing wood to solid masonry for miscellaneous applications shall be 1/4-inch diameter, 2-3/4-inch long coated screw with hex head such as "Tapcon" by ITW Buildex.
   b. Fasteners for securing wood to hollow base masonry shall be 3/8-inch (9mm) diameter (minimum), stainless steel threaded rod, with 3/4-inch diameter stainless steel washer, nut, and screen tube such as "HIT C-20 Adhesive Anchor" by Hilti.
   c. Fasteners for securing sheet metal items to concrete substrate shall be a pre-assembled drive anchor with a coated steel or steel alloy drive screw, a lead/zinc alloy expansion anchor body (1/4-inch (6mm) diameter, 1-1/2-inch [38mm] length) and a stainless steel washer with integral rubber seal (1-1/8-inch diameter) such as "Zamac Hammer-Screw" as manufactured by Powers Fasteners, Inc., or "Coated Drive Pin Fastener" by Firestone Specialty Products.

4. Steel Substrate:
   a. Fasteners for securing plywood to steel substrate shall be self-drilling, 1-1/2-inch long coated No. 10 screw with wafer head such as "Traxx Wood to Metal Fastener" by ITW Buildex. Fasteners for securing wood nailers/blocking to steel substrate shall be self-drilling coated heavy duty screw, 1/4-inch (6mm) diameter (minimum), with 5/8-inch (16mm) diameter washer such as "No. 14 Heavy Duty Screw" by OMG Roof Products.
   b. Fasteners for securing steel to steel substrate shall be self-tapping No. 14, 1-1/2-inch long stainless steel screw with stainless steel washer and bonded integral rubber seal.

Part Three - Execution

3.01 Examination:
   A. Examine existing building to determine existing physical conditions that affect removal of existing roofing and installation of new roofing.
   B. Verify that required barricades and other protective measures are in place.

3.02 Preparation:
   A. Take measures to maintain watertight conditions during term of Contract.
   B. Protect adjacent surfaces.

3.03 Minor Demolition Operations:
   A. Execute demolition in careful and orderly manner with least possible disturbance or damage to adjoining surfaces and structure.
   B. Avoid excessive vibrations in demolition procedures that would be transmitted through existing structure and finish materials.
C. Wood Siding Removal:
   1. Remove and salvage wood siding.
   2. Remove existing 2X wood furring/nailer.
D. Curtain Wall Cap Removal:
   1. Remove and salvage existing curtain wall caps.
   2. Remove damaged plastic isolators.
E. Trim Back Existing Self-adhering Membrane:
   1. Trim back existing self-adhering membrane at perimeters of curtain wall and storefront windows ½-inch behind perimeter sealant.
   2. Replace damaged self-adhering membrane as necessary.

3.04 MINOR RENOVATION WORK:
A. Prepare substrates in accordance with manufacturer's recommendations.
B. Wood Siding Repairs:
   1. Prime substrates and install new self-adhering membrane at damaged areas and at holes in existing self-adhering membrane.
   2. Install existing 2X wood furring/nailers, replacing damage furring/nailers and trimming lengths of furring/nailers as necessary.
   3. Install sheet metal flashing at perimeter edges and at locations of wood siding joints/gaps between adjacent boards.
   4. Re-install existing wood siding.
C. Curtain Wall Cap Repairs:
   1. Install new plastic isolators at minimum 12-inches on center and within 6-inches from each end.
   2. Install existing curtain wall caps, fully engaging cap to plastic isolators, as per curtain wall manufacturer's installation instructions.
D. Self-adhering Membrane Edge Treatment: Apply bead of sealant Type “C” along edge and laps of self-adhering membrane to window frames

3.05 CLEANING:
A. Materials, equipment, and debris resulting from demolition operations shall become property of Contractor. Remove and dispose of demolition debris in accordance with applicable city, state, and federal laws at authorized disposal site.
B. Leave substrate clean and dry, ready to receive roofing system.

END OF SECTION 02 07 20
SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART ONE - GENERAL

1.01 SECTION INCLUDES:
   A. Shop or field-formed sheet metal work for moisture protection.
   B. Types of work specified in this Section include:
      1. Through-wall flashing.
      2. Sheet metal trim.

1.02 RELATED SECTIONS:
   A. 02 07 20 - Minor Demolition and Renovation Work.
   B. 07 92 00 - Joint Sealants.

1.03 REFERENCES:
   B. Federal Specifications (FS).

1.04 WARRANTY:
   A. Contractor's Warranty: Provide Owner a written warranty which shall warrant sheet metal work to be free of leaks and defects in materials and workmanship for two years after date of final acceptance by Owner.
   B. For pre-finished metal, provide manufacturer's twenty-year guarantee covering deterioration or failure of the fluoropolymer finish.

PART TWO - PRODUCTS

2.01 MANUFACTURERS:
   A. Acceptable Pre-finished Sheet Metal Manufacturers:
      2. Peterson Aluminum Corporation (PAC CLAD).
      5. Firestone Metal Co (Una-Clad).
      6. Or approved equal.
2.02 SHEET METAL MATERIAL:
A. Pre-finished Metal: "Kynar 500" or "Hylar 5000" fluoropolymer pre-finished G90 galvanized/galvalume sheet metal, minimum 24 gauge. "Kynar 500" or "Hylar 5000" finish shall consist of a two coat Polyvinyladine flouride, minimum 70 percent by weight in coatings, dry film thickness 1 mil, factory applied by metal manufacturer or supplier. Color selected to match existing metal wall panels and windows. Color behind wood siding to be matte black.
B. Zinc-coated (Galvanized) Sheet Metal: Commercial quality with 0.20 percent copper, in accordance with ASTM A 526 except ASTM A 527 for lock forming; coating designation G90 hot-dip galvanized, and mill phosphatized for painting in accordance with ASTM A 525 (paint-grip type), 24 gauge minimum.
C. Stainless Steel Sheet Metal: ASTM A240, Type 304, ASTM A480, No. 2B/2D Mill Finish, gauge as scheduled.

2.03 FASTENERS:
A. Fasteners shall be same metal as flashing and sheet metal being joined.
B. Exposed fasteners shall be self-sealing or gasketed for watertight installation.
C. Heads of fasteners, including but not limited to, rivets, screws, and bolts, that are exposed or visible shall have same manufactured finishes as item being secured; color to match when applicable.
D. Mechanical Fasteners:
   1. Refer to Section 02 07 20 – Minor Demolition and Renovation Work.
   2. Washers: Steel washers with bonded rubber sealing gasket.
   4. Rivets: Stainless steel material for the head and stem, closed end, color to match sheet metal items being adjoined.

2.04 RELATED MATERIALS:
A. Solder:
   1. ASTM B 32, alloy grade 58, 50 percent tin, 50 percent lead.
   2. For Use with Stainless Steel: 60-40 tin/lead solder, ASTM B 32.
B. Flux:
   1. Phosphoric acid type, manufacturer's standard.
   2. For Use with Steel or Copper: Rosin flux.
   3. For Use with Stainless Steel: Acid-chloride type flux, except use rosin flux over tinned surfaces.
C. Adhesives: Type recommended by flashing sheet manufacturer for waterproof and weather resistant seaming and adhesive application of flashing sheet.
D. Metal Accessories: Sheet metal clips, straps, anchoring devices, and similar accessory units as required for installation of work, matching or compatible with material being installed, noncorrosive, size and gauge required for performance.
E. Sealant:
   1. Type A: One component polyurethane sealant such as "Sikaflex 1a" by Sika Corp. or "Sonolastic NP1" by BASF, color to match finish of metal.
2. Type B: Medium/low modulus silicone sealant for sealing metal-to-metal surface (i.e. metal edge, cover plates) such as “Sikasil WS-290” or “Sikasil WS-295” by Sika Corp., “795 Silicone Building Sealant” or “790 Silicone Building Sealant” by Dow Corning, or “GE Silpruf 2000” by Momentive; color to match finish of metal.

3. Type C: One-part gun grade polyether sealant such as “925 BES Sealant” by Henry.

F. Flexible Flashing Membrane: Self-adhering rubberized asphalt sheet suitable for high temperature application such as “Blueskin SA” by Henry Company or "Vycor Plus Self-adhering Flashing” by Grace Construction Products.

2.05 FABRICATION - GENERAL:

A. Fabricate work in accordance with SMACNA Architectural Sheet Metal Manual and other recognized industry practices and reviewed shop drawings.

B. Comply with material manufacturer's instructions and recommendations for forming material.

C. Shop fabricate work to greatest extent possible. Fabricate inside and outside corners for metal edges, counterflashing, and coping caps. Fabricate corners with equal length legs, minimum 2 feet (1.2m).

D. Fabricate for waterproof and weather resistant performance with expansion provisions for running work sufficient to permanently prevent leakage, damage, or deterioration of work. Form work to fit substrates.

E. Make angle bends and folds for interlocking metal with full regard for expansion and contraction to avoid buckling or fullness in metal after installation.

F. Form materials with straight lines, sharp angles, smooth curves, and true levels. Avoid tool marks, buckling, and oil canning.

G. Fold back edges on concealed side of exposed edge to form hem.

H. Lap joints 1-inch (25mm) minimum. Rivet and solder joints on parts that are to be permanently and rigidly assembled for copper, stainless, aluminum, and galvanized steel sheet metal. Install rivets, spaced 1-inch (25mm) on-center and apply solder to secure and seal exposed edge of sheet metal in a uniform continuous bead with smooth top finish. Clean residue upon completion of soldering process. Fabricate sheet metal assemblies so that adjoining sections are nested to achieve continuous metal-to-metal contact.

I. Seams:

1. Fabricate non-moving seams in sheet metal with flat-lock seams.

2. Pre-finished Galvanized Steel: Seal pre-finished metal seams with rivets, spaced 1-inch (25mm) on-center, and silicone sealant, color to match metal finish.

3. Metal Other than Aluminum: Tin edges to be seamed, form seams, and solder.

J. Expansion Provisions: Where lapped or bayonet type expansion provisions in work cannot be used or would not be sufficiently waterproof or weatherproof, form expansion joints of intermeshing hooked flanges, not less than 1-inch deep, filled with mastic sealant concealed within joints.

K. Sealant Joints: Where movable, non-expansion type joints are indicated or required for proper performance of work, form metal to provide for proper installation of elastomeric sealant in compliance with SMACNA standards.
2.06 FABRICATED ITEMS:
A. Through Wall Flashing: Minimum 24 gauge stainless steel with 4-inch vertical flange face stripped into air barrier and ½-inch drip on outer edge.
B. Metal Wall Panel Trim: Minimum 24 gauge pre-finished sheet metal with configuration to match existing trim.
C. Window Sill Flashing: Minimum 24 gauge pre-finished sheet metal with configuration to match existing flashing.

PART THREE - EXECUTION

3.01 EXAMINATION:
A. Verify that substrates are smooth and clean to extent needed for sheet metal work.
B. Verify that reglets, nails, cants, and blocking to receive sheet metal are installed and free of concrete and soil.
C. Do not start sheet metal work until conditions are satisfactory.

3.02 INSTALLATION:
A. Install sheet metal with lines, arises, and angles sharp and true, and plane surfaces free from objectionable wave, warp, or buckle. Exposed edges of sheet metal shall be folded back to form 1/4-inch (6mm) hem on concealed side from view. Finished work shall be free from water retention and leakage under all weather conditions. Install prefabricated corners or transitions at changes in direction, elevation or plane, and at intersections. Locate field joints not less than 12-inches (300mm), nor more than 3 feet (1m) from actual corner. Laps for all metals, except for prefinished metal, shall be 1-inch (25mm) wide, fastened with rivets spaced 1-inch (25mm) on-center and soldered.
B. Anchor units of work securely in place to prevent damage or distortion from wind or buckling. Provide for thermal expansion of metal units; conceal fasteners where possible; and set units true to line and level as indicated. Install work with laps, joints, and seams permanently watertight and weatherproof.
C. Install fabricated sheet metal items in accordance with SMACNA Architectural Sheet Metal Manual recommendations.
D. Separations: Provide for separation of metal from non-compatible metal or corrosive substrates by coating concealed surfaces with zinc chromate, self-adhering sheet, or other permanent separation at locations of contact as recommended by manufacturer or fabricator. Do not use materials incompatible with roofing system.
E. Remove and replace metal wall panels as necessary to install sheet metal trim.
F. Remove existing storefront windows as necessary to install new sill flashing.

3.03 CLEANING:
A. Remove flux and residual acid immediately by neutralizing with baking soda and washing with clean water. Leave work clean and free of stains, scrap, and debris.
B. Clean exposed metal surfaces, removing substances which might cause corrosion of metal or deterioration/damage of finishes. Paint (color to match) areas of prefinished metal where finish is damaged. Replace sheet metal items when damaged finish can not be repaired to an acceptable condition.
C. Prime soldered area of phosphatized metal after cleaning to prevent rusting.
D. Paint with aluminized paint, metal flashings that have been soiled with bitumen. Use medium nap roller to apply paint to surfaces to achieve monolithic finished color.

END OF SECTION 07 62 00
SECTION 07 92 00

JOINT SEALANTS

PART ONE - GENERAL

1.01 SECTION INCLUDES:
   A. Sealant application to perimeter of windows, window gaskets, through wall flashing, sill flashing and additional sealant application as required to provide complete watertight system.

1.02 RELATED SECTIONS:
   A. 02 07 20 - Minor Demolition and Renovation Work.
   B. 07 62 00 - Sheet Metal Flashing and Trim.

1.03 REFERENCES:
   B. Federal Specifications (FS).

1.04 SUBMITTALS:
   A. Product Data: Submit manufacturer's product data, joint preparation and installation instructions, and color charts for each product required.
   B. Submit manufacturer's certification that products meet specified requirements and are appropriate for project applications.
   C. Samples for Initial Selection Purposes: Submit manufacturer's standard bead samples consisting of strips of actual products showing full range of colors available for each product exposed to view.

1.05 QUALITY ASSURANCE:
   A. Product Labels: Include manufacturer's name, type of sealant, and color on labels of containers.
   B. Single Source Responsibility for Joint Sealer Materials:
      1. Obtain joint sealer materials from single manufacturer for each different product required.
      2. Provide primers, joint sealers, joint fillers, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by testing and field experience as supplied and warranted by one manufacturer.
      3. Provide joint sealers that have been produced and installed to establish and maintain watertight and airtight continuous seals.
   C. Installer Qualifications: Installer having not less than five years successful experience in comparable projects and employing personnel skilled in operations required for project.
D. Field Sample: Upon directions of Owner, prepare 12-inch (300mm) samples in presence of Owner demonstrating removal and cleaning process and application of sealant.

E. Use test methods standard with manufacturer to determine if priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealers to joint substrates under environmental conditions that will exist during actual installation.

F. Installer to perform field adhesion in peel testing using hand pull method. Perform a minimum of one test on every type of substrate and joint condition.
   1. Test Method: Test joint sealers by hand pull method described below:
      a. Install joint sealants in 4 feet joint lengths using same materials and methods for joint preparation and joint sealant installation required for complete work. Allow sealants to cure fully before testing.
      b. Make knife cuts as follows: A horizontal cut from one side of joint to the other followed by two vertical cuts approximately 2-inches (50mm) long at side of joint and meeting horizontal cut at top of 2-inch (50mm) cuts. Place a mark 1-inch (25mm) from top of 2-inch (50mm) piece.
      c. Use fingers to grasp 2-inch (50mm) piece of sealant just above 1-inch (25mm) mark; pull firmly down at a 90 degree angle or more while holding a ruler along side of sealant. Pull sealant out of joint to the distance recommended by sealant manufacturer for testing adhesive capability, but not less than that equaling specified maximum movement capability in extension; hold this position for ten seconds.
   2. Report whether or not sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of substrate and joint substrate.
   3. Evaluation of Field Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of non-compliance with requirements, will be considered satisfactory. Do not use sealants which fail to adhere to joint substrate during testing.
   4. Repair test cut areas immediately after completion of testing work.
   5. Notify in advance and conduct adhesion testing in presence of Consultant.

1.06 DELIVERY, STORAGE, AND HANDLING:
   A. Deliver materials in original containers with seals unbroken and labels intact.
   B. Store materials in a single lockable area of project site.
   C. Protect materials from extreme temperatures and exposure. Store in accordance with manufacturer's recommendations.

1.07 PROJECT CONDITIONS:
   A. Environment: Comply with sealant manufacturer's recommended minimum and maximum installation temperatures and other weather protection.
1.08 SEQUENCING AND SCHEDULING:
   A. Do not remove more sealant than can be replaced in same day.

1.09 WARRANTY:
   A. Manufacturer's Warranty: Provide manufacturer's standard warranty for type of
      sealant specified.
   B. Contractor's Warranty: Provide written warranty against leakage and defects in
      workmanship for a period of two years from date of final acceptance by Owner.

PART TWO - PRODUCTS

2.01 SEALANT:
   A. Sealant:
      1. Type A: One component polyurethane sealant such as "Sikaflex 1a" by Sika
         Corp. or "Sonolastic NP1" by BASF, color to match finish of metal.
      2. Type B: Medium/Low modulus silicone sealant such as “Sikasil WS-290” or
         “Sikasil WS-295” by Sika Corp., “795 Silicone Building Sealant” or “790 Silicone
         Building Sealant” by Dow Corning, or “GE Silpruf 2000” by Momentive; color to
         match finish of metal.
      3. Type C: One-part gun grade polyether sealant such as “925 BES Sealant” by
         Henry.

2.02 RELATED MATERIALS:
   A. Cleaner: Noncorrosive, nonstaining type, compatible with joint forming materials as
      recommended by sealant manufacturer.
   B. Backer Rod:
      1. Closed cell non-gassing polyethylene foam rod, over-sized 30 to 50 percent for
         joint size, compatible with sealant, sized and shaped to provide proper
         compression upon insertion in accordance with manufacturer's
         recommendations.
      2. Acceptable Products:
         a. “Sonolastic Soft Backer-Rod" by BASF.
         b. “SofRod” by Namaco.
         c. Or approved equal products.
   C. Bond Breaker Tape: Pressure sensitive adhesive polyethylene strip recommended
      by sealant manufacturer to suit application.
   D. Primer: Nonstaining type as recommended by sealant manufacturer to suit
      application.
   E. Masking Tape: Nonstaining, nonabsorbent type compatible with sealant and
      surfaces adjacent to joints.

2.03 MIXING:
   A. Mix multi-component products as directed by manufacturer.
PART THREE - EXECUTION

3.01 PREPARATION:
   A. Removing Existing Sealants:
      1. Cut out and remove existing sealants, backer rods, bond breaker tapes, and other loose materials to depth as required by sealant manufacturer or to 1/2-inch (13mm) minimum.
      2. Remove foreign matter from joint substrates which could interfere with adhesion of joint sealant. Remove dust, oil, grease, waterproofing, water repellent, surface dirt, and paints, except for permanent protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer.
      3. Remove debris from jobsite.
   B. Cleaning:
      1. Clean joints receiving sealant and adjacent surfaces in manner not to damage existing materials. Perform cleaning of joints the same day sealant is to be installed in cleaned joint.
      2. Remove dust and debris by blowing clean with high pressure air.
      3. Wipe nonporous surfaces clean with toluene or xylene and clean cloths.
   C. Priming:
      1. Prime joint substrates where indicated or where recommended by sealant manufacturer based upon preconstruction sealant substrate tests or prior experience.
      2. Apply primer to comply with joint sealer manufacturer's recommendations. Apply primer to surfaces the same day sealant is to be installed onto primed surfaces.
      3. Confine primers to area of joint sealer bond. Do not allow spillage or migration onto adjoining surfaces.
   D. Masking: Mask areas adjacent to joints to prevent sealant contact with surfaces which would be permanently stained or damaged by sealant or by cleaning methods required to remove excess sealant.

3.02 APPLICATION:
   A. Joint Backing:
      1. To achieve required joint depths, restrict depth of joints by use of joint backer rod.
      2. Size backer rod to allow for 30 percent minimum compression of the backer rod when installed.
      3. Where installation of proper size backer rod is not feasible due to insufficient clearance or depth, install bond breaker tape in joint.
      4. Three-sided adhesion of sealant is not permitted.
   B. Sealant:
      1. Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates.
      2. Apply sealant in uniform continuous bead without gaps or air pockets, following manufacturer's instructions for each specific type of sealant.
      3. Provide uniform cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability.
C. Tooling:
   1. Tool joints to required configuration in accordance with manufacturer's recommendations.
   2. Sealant Tape:
      a. Provide continuous uniform bed of sealant tape on horizontal bearing surfaces. Butt adjacent sections end-to-end.
      b. Prior to mating surfaces, remove backing paper from the installed tape.
      c. Firmly press or clamp assembly upon removal of backing paper.
   3. Tooling Non-sag Sealants:
      a. Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration required.
      b. Eliminate air pockets and ensure contact and adhesion of sealant with sides of joint.
      c. Remove excess sealant from surfaces adjacent to joint.
      d. Do not use tooling agents which discolor sealants or adjacent surfaces or are not approved by manufacturer.
D. Remove masking immediately after tooling without disturbing joint sealant.

3.03 ADJUSTING:
   A. If damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and reseal joints with new materials to produce joint sealer installations with repaired areas indistinguishable from original work.

3.04 CLEANING:
   A. Remove excess sealant from adjacent surfaces immediately after contact with xylene or toluene.
   B. Remove debris and containers from jobsite.

3.05 PROTECTION:
   A. Protect joint sealants during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion.

3.06 SCHEDULE:
   A. Sealant Type A:
      1. Sealant work in conjunction with concealed locations.
   B. Sealant Type B:
      1. Metal-to-metal joints (flashing lap joints, etc.).
      2. Window perimeter.
      3. All other exterior sealant joints.
   C. Sealant Type C:
      1. Edges and termination of rubberized asphalt self-adhering membranes.

END OF SECTION 07 92 00
UT HEALTH
THE UNIVERSITY OF TEXAS
HEALTH SCIENCE CENTER OF HOUSTON

EXTERIOR WALL REPAIR
for
SCHOOL OF NURSING
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R5.02 DETAILS
GENERAL NOTES:

BASE BID:
PERFORMING MISCELLANEOUS REPAIRS AND RESTORATION WORK ON EXTERIOR WALLS TO INCLUDE, BUT NOT LIMITED TO, THE FOLLOWING:

1. REPLACE/INSTALL SEALANT AND BACKER ROD IN JOINTS BETWEEN SUB-FRAME OF OPERABLE WINDOWS AND CURTAIN WALL FRAMES.
2. TIMBRE OUTER EDGE OF EXISTING SELF-ADHERING MEMBRANE BACK FROM SEALANT JOINTS AT PERIMETER OF WINDOWS, SEAL OUTER EDGE OF SELF-ADHERING MEMBRANE.
3. INSTALL SHEET METAL TRIM AT MISSING LOCATIONS BETWEEN WINDOWS AND METAL WALL PANELS.
4. REPLACE SEALANT AND BACKER ROD IN JOINTS AT PERIMETERS OF WINDOWS, DOORS, AND METAL WALL PANELS.
5. INSTALL/REPLACE SEALANT AT JOINTS IN METAL WALL PANEL SHEET METAL TRIM.
6. SECURE FRONT PORTION OF STOREFRONT HORIZONTAL MILLIONS TO VERTICAL MILLIONS.
7. INSTALL ADDITIONAL PLASTIC RETAINERS AT CURTAIN WALL FRAMES AND INSTALL LOOSE OR DISLODGED COVER CAPS.
8. APPLY SEALANT BETWEEN GLAZING AND WINDOW FRAMES (MET SEAL) AT EXTERIOR OF STOREFRONT FRAMES.
9. CLEAN AND SEAL INTERIOR GLAZING GASKET CORNER BUTTS JOINTS OF STOREFRONT AND CURTAIN WALL WINDOWS.
10. REPLACE/REPAIR SILL FLASHING BELOW WINDOWS TO PROVIDE POSITIVE SLOPE TO EXTERIOR.
11. REPLACE/REPAIR SELF-ADHERING MEMBRANE BEHIND WOOD WALL SIDING; REINSTALL EXISTING WOOD FLASHING/NAILED; INSTALL SHEET METAL STRIPS BEHIND WOOD TRIM AT AREAS WHERE SELF-ADHERING MEMBRANE MAY BE EXPOSED PRIOR TO REINSTALLING SIDING; REINSTALL EXISTING WOOD SIDING.
12. PROVIDE SPECIFIED MANUFACTURER'S AND CONTRACTOR WARRANTIES.
13. THESE DRAWINGS ACCOMPANY SPECIFICATIONS AND DOCUMENTS THAT COMPOSE A PROJECT MANUAL.
14. ALL DIMENSIONS, QUANTITIES, AND LOCATIONS PRESENTED IN THESE DRAWINGS SHALL BE FIELD VERIFIED.
15. PROJECT BUILDING EXTERIOR AND GROUNDS INCLUDING SURFACES, GRASS, PLANTS, TREES, SHRUBS, AND OTHER LANDSCAPING, AND RETURN THE SITE AND ANY DAMAGED ITEMS TO ORIGINAL OR BETTER CONDITION. ANY SURFACES STAINED, MARRED, OR OTHERWISE DAMAGED BY THE WORK SHALL BE RETURNED TO ORIGINAL OR BETTER CONDITION AND MATCH ADJACENT SURFACES.