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DIVISION 07 - THERMAL AND MOISTURE PROTECTION

SECTION 07590

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SECTION 07590

RE-ROOFING PREPARATION AND PROCEDURES

PART 1 GENERAL

Reroofing work on this project involves reroofing a wide range of existing reroofing assembly types. Some buildings have multiple existing roof assemblies' types. Condition of existing roof assemblies having LIC fill is generally worse. These specifications require certain wind uplift classifications to be met with respect to obtaining the classification's intent by installing a fastening system that will resist the various uplift forces from winds associated with the specified wind uplift classification for each buildings reroofing system. The following are requirements for the various roof assemblies:

For existing roofing assemblies containing LIC, where the LIC will remain, and in most cases where it is repaired, the reroofing attachment of the reroofing system to the metal deck through the LIC is required to attain the specified wind uplift classifications listed in Table 1.0, of Section 01019 "Project Description". This attachment shall be via screw fasteners through the LIC and through the existing metal deck. Frequency and size of screw fasteners to be based on screw fastener pull test and the wind uplift resistance requirements at the various roof zones established by ASCE7-05 and the basic wind speed requirements for each specific building as set out in Table 1, of Section 01019, and these specifications.

For other existing roofing and assemblies containing LIC, where the LIC is to be totally removed, the reroofing attachment of the reroofing system to a metal deck or concrete deck is required to attain the specified wind uplift classifications listed in Table 1.0, of Section 01019 "Project Description". For metal decks this attachment shall be via screw fasteners through the existing metal deck. For attachment to metal decks frequency and size of screw fasteners to be based on screw fastener pull test and the wind uplift resistance requirements at the various roof zones established by ASCE7-05 and the basic wind speed requirements for each specific building as set out in Table 1, of Section 01019 and these specifications. For concrete decks attachment shall be determined by the roofing manufacturer to meet the specification's uplift requirements.

Fastener pull test submittals are to be submitted per Section 07513 "Reroofing - Built-up Reroofing" for the screw fasteners to metal deck.

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASME INTERNATIONAL (ASME)

ASME A112.21.2M

(1983) Roof Drains

ASTM INTERNATIONAL (ASTM)

ANSI/SPRI
 FX-1-201 American National Standard
 Institute Standard Field Test Procedure
 For Determining Withdrawal Resistance Of
 Roofing Fasteners

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 61
 National Emission Standards for Hazardous
 Air Pollutants

1.2 RELATED SECTIONS

Section 02410 - DEMOLITION

Section 07513 - ROOFING - BUILT UP REROOFING - CONCRETE DECK OR LIGHTWEIGHT
 INSULATING CONCRETE (LIC)

Section 06100 - ROUGH CARPENTRY Work: (For Roofing)

Section 07223 - REROOFING INSULATION-METAL DECK

Section 07600 - FLASHING AND SHEETMETAL: Retirements for sheet metal
 components.

1.3 SUBMITTALS

Submit the following in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Material, Equipment, and Fixture Lists for the following in
 accordance with the paragraph entitled, "Material, Equipment, and
 Fixture Lists," of this section.

Coverboard fasteners
 Roofing Asphalt
 Sequence of Demolition and Reroofing installation
 Stairway Scaffolding

SD-02 Shop Drawings

Shop drawings shall be submitted for the following items in
 accordance with the paragraph entitled, "Shop Drawings," of this
 section.

Manufacturer reviewed and approved shop drawings to the
 Contracting Officer.

Temporary tie off detail where new roofing system abuts the
 existing assembly or structure.

Shop drawings shall be submitted for the following items in
 accordance with the paragraph entitled, "Reroofing System," of
 this section.

Cross Section Detail
 Flashing Details

Insulation Pattern
Cants
Curbs
Roof Drains
Expansion Joints
Weatherproofing and Tie-ins

SD-03 Product Data

Manufacturer's product information, including manufacturer's literature and Material Safety Data Sheets, for each of the following products indicated:

Coverboard Materials
Fastening Materials
Roofing Asphalt
Hanger types and load bearing capacity

SD-04 Samples

Samples shall be submitted for each of the following items in accordance with the paragraph entitled, "Samples," of this section

Coverboard: full thickness samples
Six coverboard fasteners of each type
One quart container of roofing asphalt

SD-06 Test Reports

Provide manufacturer's written report for fastener pullout testing in each roof area or each type of roof deck in accordance with ANSI/SPRI - Standard Pullout Test Procedure. Perform pull tests in accordance with applicable standards using certified equipment and personnel.

Schedule and conduct fastener pullout testing before Pre-Installation Conference and before selecting fasteners, and fastening patterns.

SD-07 Certificates

Product Certificates shall be submitted for each of the following items in accordance with the paragraph entitled, "Certificates," of this section.

Coverboard
Coverboard Fasteners
Roofing Asphalt
Manufacturer's Certification Reroofing Workmanship
Manufacturer's Certification that Reroofing Installation to date is per specs and drawings

SD-08 Manufacturer's Instructions

Manufacturer's Instructions shall be submitted for the following in accordance with the section entitled, "Manufacturer's Instructions," of this section.

Coverboard

Roofing asphalt
Fasteners
Insulation

1.4 MATERIAL, EQUIPMENT, AND FIXTURE LIST

Material, Equipment, and Fixture List shall be submitted for each type of roof insulation specified including coverboard, fasteners, roof felt, and each type of adhesive specified including the manufacturer's style or catalog numbers, specification and drawing reference numbers, warranty information, and fabrication site for each item.

1.5 SHOP DRAWINGS

The following shall be submitted:

Submit shop drawings to the membrane manufacturer for review. Submit only manufacturer reviewed and approved shop drawings to the Contracting Officer.

Minimum Scale for Roof Plan: 1/8 inch = 1 foot - 0 inches

Minimum Scale for Details: 1 inch = 1 foot - 0 inches

Temporary tie off detail where new roofing system abuts the existing assembly or structure

Sequence of Demolition and Reroofing Installation - part of Demolition Plan.

Protection of Building

1.6 SAMPLES

Submit three samples, 12 inch by 12 inch square of each: coverboard at full thickness, roof felts,

Six coverboard fasteners of each type

One quart container of roofing asphalt

1.7 CERTIFICATES

1.7.1 Manufacturer's Work Progress Certification

Provide manufacturer's certification based on weekly re-roofing field inspections as follows; (1) Reroofing Workmanship to date meets manufacturer requirement (2) and Reroofing Installation to date is per specifications and drawings.

1.8 MANUFACTURER'S INSTRUCTIONS

Submit the Manufacturer's Maintenance Data for roofing system to include in maintenance manuals.

1.9 REROOFING SYSTEM

Shop drawings shall be submitted showing, but not limited to, the following:

Cross Section Detail of reroofing system and including all insulation, means of attachment, indicating material, roofing ply, and deck type.

Flashing Details

Insulation Pattern

Cants

Curbs

Roof Drains

Expansion Joints

Weatherproofing and Tie-ins

1.10 DELIVERY, HANDLING, AND STORAGE

Roofing materials are to be on the project site before work is begun.

Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storage.

Original packaging must not be disturbed until materials are to be applied.

Only approved roofing materials may be brought to or stored at the site.

Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources while they are transported, stored, and installed.

Keep all materials dry while they are transported, stored, and installed. Do not allow materials to be exposed to any moisture anywhere, at any time, during transportation, storage, handling and installation. Reject and remove from the site any new materials, which exhibit evidence of moisture during application, or have been exposed to moisture. Reject and remove from the site any material, which has moisture content more than 10-percent greater than the Equilibrium Moisture Content (EMC) at 90-percent relative humidity.

Do not expose to sunlight, except to extent necessary for period of installation and concealment.

Store and protect roofing materials from contact with soil, rain, or snow. Store all materials on raise platforms with weather protective coating. The manufacturer's standard packaging is not considered adequate weather protection. Tarpaulins are preferred for protection of all roof materials. If visqueen coverings are used, venting of each package is required. Material storage procedures will be monitored and enforced.

Weight and Load Management Plan per below and Section 02410 DEMOLITION.

Not more than a 1-day supply of coverboard or roll goods is to be stored on the roof at any time. This 1-day supply is to be stored on raise platforms with weather protective coating whenever work is interrupted or when there is precipitation of any kind. Plastic sheeting is to be securely fastened to the pallets so as to be completely weather tight. Materials not so protected must not be used and are to be permanently removed from the site.

Approval by Contracting Officer is required prior to placement of any materials or equipment on roof request for approval shall be submitted with data showing example of location on roof, weight and size (height x width) of the load. Intent is to avoid overload or structure. Advance planning with the Contracting Officer concerning loads is required. This submittal data shall be submitted as part of the demolition plan in Section 02410 DEMOLITION, and specifically indicated as "Weight and Load Management Plan".

Protect existing building construction and all work in place from damage resulting from the storage, preparation, handling, and application of insulation materials. Do not store materials at any locations where new roofing insulation or roofing membrane materials have been installed.

Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of the roof deck. Distribute materials temporarily stored on the roof to stay within the indicated live-load limits of the roof construction as set by Contracting Officer based on load calculations by Government, from data submitted by Contractor. Provide ample bases under equipment to distribute the weight to conform to these live-load limits.

1.11 PROJECT CONDITIONS

1.11.1 Field Verification

Field verify all dimension and existing details prior to bidding and acquisition or installation of materials.

Notify the Contracting Officer of any existing condition found to be different than that indicated in the contract documents. The conditions will be reviewed by the Contracting Officer and required modifications will be made, if any.

1.11.2 Field Conditions

1.11.2.1 Wood

Demolition and Replacement of Damaged or Deteriorated Wood Blocking and wood or metal curbs shall meet requirements of Section 06100 ROUGH CARPENTRY. Includes demolition and disposal of existing blocking materials; installation of new treated wood blocking-appropriately sized, cut and site treated anchors, fastener, and accessories. Minimum thickness of curbs is 3 inches. Also includes wood or metal curbs and support items as indicated and required for re-installation of existing roof mounted equipment.

1.11.2.2 Roof Drains

The Contractor to inspect existing roof drains and notify Contracting Officer if drain is damaged or deteriorated to point where drain cannot perform its intended function.

Demolition and replacement of damaged or deteriorated roof drains shall meet paragraph entitled, Roof Drain Replacement of this section. When required by Contracting Officer, drain demolition and replacement includes complete removal and disposal of existing roof drain and installation of a matching new roof drain. Roof drain replacement to be approved by Contracting Officer.

1.11.2.3 Roof Drain Replacement

Roof drains shall conform to ASME A112.21.2M, with dome and integral flange, and shall have a device for making a watertight connection between roofing and flashing. The whole assembly shall be galvanized heavy pattern cast iron. Roof drains shall be complete with underdeck clamp, sump receiver, and an extension for the insulation thickness where applicable. A clamping device for attaching flashing or waterproofing membrane to the seepage pan without damaging the flashing or membrane shall be provided when required to suit the building construction. Strainer openings shall have a combined area equal to twice that of the drain outlet. An expansion joint of proper size to receive the conductor pipe shall be provided. The expansion joint shall consist of a heavy cast-iron housing, brass or bronze sleeve, brass or bronze fastening bolts and nuts, and gaskets or packing. The sleeve shall have a nominal thickness of not less than 0.134 inch. Gaskets and packing shall be close-cell neoprene, O-ring packing shall be close-cell neoprene of 70 durometer. Packing shall be held in place by a packing gland secured with bolts. Roof drain replacement shall also involve asbestos abatement by the Contractor, in order to accomplish a drain replacement.

1.11.2.4 Measurement and Payment

Submit shop drawing for each area of work where a roof drain is replaced. Show location on roof plan, drain to be removed and replaced, data, photos, and unique number for each drain to be replaced, submit to Contracting Officer prior to work for approval of each drain replacement.

1.12 PROJECT SAFETY

Comply with safety requirements as specified in Section 01410 CONTRACTOR SAFETY AND HEALTH PROGRAM.

PART 2 PRODUCTS

2.1 WEATHERPROOFING AND TEMPORARY TIE-IN MATERIALS

Weatherproofing roof materials shall be proposed by roofing manufacturer. Weatherproofing roof materials shall be compatible with the primary roofing system and shall not diminish the wind uplift classification of the reroofing system.

PART 3 EXECUTION

3.1 PRE-INSTALLATION CONFERENCE

Convene two weeks prior to commencing work of reroofing work, under provisions of Preliminary Reroofing Conference: Conduct conference at Project site to comply with requirements in Division 1. Review methods and procedures related to roofing system including, but not limited to, the following:

Meet with Owner, testing and inspecting agency representative, roofing system manufacturer's representative, roofing installer, including project manager, superintendent, and foreman, and installers whose work interfaces with or affects reroofing including installers of roof accessories and roof-mounted equipment.

Review Demolition Plan.

Review Weight and Load Management Plan.

Review Protection Plan.

Review methods and procedures related to reroofing preparation, including membrane roofing manufacturer's written instructions.

Review temporary weatherproofing and tie-in and protection requirements for existing roofing system that is to remain; during and after installation.

Review roof drainage during each stage of reroofing and review roof drain plugging and plug removal procedure.

Review and finalize construction schedule, and verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.

Review procedures to determine condition and acceptance of existing lightweight concrete deck, metal roof deck for reuse.

Review structural loading limitations of deck during reroofing.

Review weatherproofing roof, water cutoffs, tie-ins, weather protection, demolition, base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that will affect reroofing.

Review HVAC shutdown and sealing of air intakes, removal and replacement of lightning protection, decommissioning and recommissioning of air cooled condensers.

Review procedures for asbestos removal or unexpected discovery of asbestos-containing materials.

3.2 COORDINATION AND PROTECTION

The Contractor shall plan and implement protection and control measures that shall include but is not limited to the following minimum requirement:

Each of the paragraphs in this paragraph titled, Coordination and Protection shall be fully described in the Contractor's Demolition Plan, and submitted for approval per Section 02410 DEMOLITION.

3.2.1 Asbestos Containing Materials Controls and Protection

See Section 01220 SPECIAL REQUIREMENTS, paragraph entitled, EXISTING ASBESTOS CONTROL for additional requirements. The Contractor to include requirements in this paragraph into the Asbestos Design and Work Plan.

Include in the demolition plan installation of protection and controls relative to controlling the risk of asbestos containing materials release in to work spaces in work areas below the demolition and reroofing work and operations.

This may include measures such as isolating the HVAC return air plenum, by temporarily extending the plenum return duct to a point below the present ceiling line to return air through the ducted supply system to occupant

work spaces. Further isolation of the HVAC return air system may be accomplished by blocking the slots in light fixtures that allow return air back into the Return air plenum. Negative air with HEPA filtering in the isolated return air plenum for the entire floor may then be installed and maintained continually until reroofing operations are completed and it is approved by the Contracting Officer that the original configuration of the building return air system can be returned by the Contractor to its original state. Delta pressures for the isolated return air plenum are to be maintained to pressures as if it were a space where asbestos abatement operations were in progress. The Contractor to coordinate locations of the negative air machines with the facility managers so impact to occupant operations are minimized. Exhaust of Negative air machines shall be to exterior of building and to be so maintained to prohibit water infiltration into the building. The number of negative machines shall be contractor determined to meet requirements. Submit Contractor's Control and Protection Measures in Section 02410 DEMOLITION, paragraph entitled, Coordination and Protection for Asbestos Containing Materials.

The Contractor shall propose in its demolition plans the details of its ACM Controls and Protection Plan.

The Contractor shall propose in its Demolition Plan the cleaning of the return air Plenum space that has been isolated. Such plan shall include but is not limited to the following minimum requirements:

HEPA Vacuum the entire plenum space, and follow by wet wiping all surfaces that do not have spray applied fireproofing

Replace damaged ceiling tile

Remove temporary plenum air isolation measures such as the negative air, and temporary return air duct extension

Obtain JSC occupational health clearances of the plenum space prior to removing the isolation measures, and after the HEPA and wet wipe task are completed.

The Contractor shall inspect each work space below demolition areas and clean up any spills using approved procedures for cleanup of asbestos containing materials and obtain clearances from the JSC Occupational Health Office prior to permitting building occupants into an occupant area.

Due to the presence of asbestos-containing Spray Applied Insulation (SAI) underlying the roof decking, all roof penetrations and associated activities around roof penetrations must be performed using wet methods, and spot removals must be performed in areas of each penetration. See JPR 1700.1J, Chapter 12 regarding spot removals. The cumulative number of spot removals (e.g., installation of fasteners) should be provided with the demolition plan, in order to ascertain the applicability of notification requirements, per 40 CFR 61 and counterpoint state (TSDHS) regulations.

3.2.2 New Support for Building Systems and Equipment

Protection measures shall include inspection by the Contractor to locate and install new hangers to structure members where hangers for building systems and equipment are attached to the metal deck or into the lightweight insulating concrete above the deck. This protection is to be installed prior to demolition of the roofing above these hangers. Where access to these hangers involves access through an occupant work area,

requirement concerning work times in Section 01220 SPECIAL REQUIREMENTS, paragraph entitled Working Hours applies. The Contractor to submit hanger types and load bearing capacity with description of amount of load to be transferred thru the hanger to a structural member in such format so a structural review can be accomplished.

3.2.3 Monitoring and Maintaining Safe Work Space for Building Occupants

The Contractor to plan and implement controls related to monitoring and maintaining safe work space for building occupants.

3.2.4 Weight and Load Management

See also Section 02410 DEMOLITION, for additional requirements.

The Contractor shall coordinate with the Contracting Officer's representative relative to Loads placed on the roof such as but not limited to personnel, materials, and equipment. Coordination to include management of debris and demolition rubble as it is being removed such that overloads of the roof structures are avoided. The Contractor shall include in its demolition plan and schedules this activity, and not proceed with work or deviating from the approved plan without approval by the Contracting Officer. Data is to be provided to Contracting Officer and continually reviewed by the Contractor's Structural Engineer and Quality Control Staff to prohibit overload of structure. The Contractor shall submit structural analysis for basis of its weight and load management plan. Updates to plan and structural analysis shall be provided for any change in the weight or load distribution.

3.2.5 Fencing, Barricades, and Signage

Provide, erect, and maintain temporary barriers and security devices. Temporary fencing is to be erected to secure the entire work, storage, and staging areas. The fencing shall consist of supported chain link fencing, minimum of 6 feet high, with metal posts installed every 8 feet on center. Conspicuously post signs at all entrances notifying building occupants and visitor of specific potential hazards. All barricades around the work site at ground level shall be chain link type, and installed and maintained throughout the duration of the project.

3.2.6 Stairway Scaffolding

Provide, install, and maintain stairway scaffolding for access and egress at roofs that are over 16 feet vertical distance to the ground. Submit details, diagrams and stairway scaffolding manufacturers installation details, and components. Identify in submittal tie off method.

3.2.7 Entrance Egress Protective Enclosures

Provide a scaffolding enclosure at all building access points affected by the construction project to protect occupants and pedestrians during the construction process. This protection shall be built by personnel trained and certified in erection of scaffolding. The open sides of the entrance protection system should have chain link fencing designating the safety area for traffic flow. The scaffold system should be nominal height of 10 feet, should cover the entire width of the sidewalk and extend a minimum of 20 feet from the building access points. Install protection blocking on top of the scaffold deck to protect pedestrians from falling materials.

3.2.8 Miscellaneous Requirements

Do not close or obstruct roadways or sidewalks without permits. Provide protection of building and its content and occupants at all times.

Provide provisions for the protection of all vehicles and outbuildings in the reroof vicinity.

Conduct demolition to minimize interference with adjacent roofing and siding, roof mounted equipment, and roof deck and structure to remain.

When building exceeds one-story or fifteen feet in height, or when debris must be discharged adjacent to windows, pedestrian or vehicular traffic, or where other conditions dictate extra precautions, provide enclosed chute from roof top to trash containers.

Conduct operations with minimum interference to thoroughfares. Maintain required egress (exit way) and access at all times.

Schedule and coordinate all mechanical and electrical service interruptions with Owner's Representative and designate on-site personnel.

Verify that rooftop utilities and service piping have been shut off before commencing Work.

Coordinate with Owner to shut down air intake equipment in the vicinity of the Work. Cover air intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.

Locate and use flame-heated equipment so it will not endanger the structure, other materials on the site, or adjacent property. Provide fire extinguishers of an appropriate and approved type. Do not place flame-heated equipment on the roof of any structure.

Protect the paving, sidewalk, landscaping, and the building walls adjacent to the hoist and kettles before the start of work. Maintain this protection for the duration of work.

3.2.9 Fume Control

Continuously use bitumen fume control system at all bitumen heating and distribution locations during the heating and transfer of hot bitumen and while bitumen at distribution sources is molten and releasing fumes/odors. Use fume control system as recommended by the equipment manufacturer. Do not locate operating tar kettles inside of or on the roof of any building. Operate kettles in a controlled area identified by the use of traffic cones, barriers, or other suitable means. An operating kettle is to be attended by a minimum of one employee who is knowledgeable of the operations and hazards. The employee must be within 25 feet of the kettle and remain within sight of the kettle while the kettle is in operation. Provide and maintain two approved, 20 pound B:C fire extinguishers within 25 feet of the operating kettle. Roofing kettles must not block exits, means of egress, gates, roadways, or entrances. Kettles must not be placed closer than 10 feet from exits or other means of egress.

3.2.10 Weather Protection Preparedness

Coordinate installation of roofing system so components of the system are

not permanently exposed, not subjected to precipitation or left uncovered at the end of the workday or when work is suspended due to rainfall or other causes. During removal operations, have sufficient and suitable materials on site to facilitate rapid installation of temporary protection in the event of unexpected rain as noted in the paragraph entitled, "Examination And Preparation," of this Section. Temporary protection shall be followed up by requirements for weatherproofing and tie-in.

3.2.11 Roof Drain Inspections

Roof Drains: Verify and ensure that all roof drain lines are unblocked and flowing freely before starting work. Report any drain blockages to the Contracting Officer verbally and in writing prior to the start of work.

Maintain roof drains in functioning condition to ensure roof drainage at the end of each workday. Prevent debris or roofing materials from entering or blocking roof drains, and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday.

If roof drains will be temporarily blocked or unserviceable due to roofing system removal or partial installation of new membrane roofing system, provide alternative drain gage method to remove water and eliminate ponding. Do not permit water to enter into or under existing membrane roofing system components that are to remain.

3.3 EXAMINATION AND PREPARATION

Verify that areas to be demolished or removed are clear of encumbrances.

Prevent movement, or settlement of adjacent structures and paving. Provide bracing and shoring.

Protect existing landscaping materials, appurtenances, structures, paving, roofing and siding roof mounted equipment, roof deck and structures that are not to be demolished.

Examine existing mechanical and electrical items to determine existing conditions and operability. Notify Owner's Representative in writing of any inoperable items or unsafe conditions.

Commencement of work indicates acceptance of existing conditions, including operability of mechanical and electrical items.

3.4 ROOF DEMOLITION PROCEDURES

See also Section 02410 Demolition for additional requirements and incorporate the following into the Demolition Plan.

Arrange the work sequence to avoid the use of newly constructed roofing for staging, walking surfaces, and equipment movement. Protect surfaces with a minimum 1/2 inch thick runway where access is required, and insure full protection of roofing surface against damage. Move kettles and ground storage areas as work progresses to minimize abuse of the roof system.

Proceed with demolition and installation only when the existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

Do not remove excessive quantity of existing roof membrane ahead of

re-roofing work. Install only as much insulation and roofing as can be completed by the end of each work day.

Demolish or remove roofing and appurtenances in an orderly and careful manner.

Broom clean, using power assisted apparatus, all loose gravel on designated areas and properly dispose of ballast.

Evenly cut edges of existing materials that are to be expanded, replaced, or modified. Completely remove materials from areas to be replaced or repaired each day.

Cease operations and notify Owner immediately if adjacent structures or materials appear to be endangered. Do not resume operation until corrective measures have been taken.

Except when instructed otherwise, immediately remove demolished material from site as work progresses.

Remove materials to be re-installed or retained in a manner to prevent damage. Store and protect under provisions of Division 1.

Remove and properly dispose of contaminated, vermin infested, or dangerous materials encountered.

Do not burn or bury materials on site.

Keep work sprinkled to minimize dust. Provide hoses and water main or hydrant connections for this purpose.

Ensure flutes of metal decking, and other voids are cleaned completely to remove all debris.

Clean up debris on a daily basis. Leave site in clean condition.

3.5 WEATHERPROOFING AND TIE-IN PROCEDURES

3.5.1 Temporary Tie-In

At a minimum, Contractor shall meet the following criteria:

Provide tie-ins at the end of each day's work to cover exposed roofing membrane sheets and insulation with roofing membrane set in roofing cement or hot roofing asphalt with joints and edges sealed. Temporary tie-ins must be used at the end of every day and in the case of an imminent weather event. The temporary tie-in shall prevent water infiltration into the new and existing roofing system and the building. All tie-ins are to be considered temporary in nature and are not intended for long term use. All tie-ins remaining more than one day shall be inspected and repaired on a daily basis. All tie-ins must be completely removed providing a clean surface prior to the installation of the new roof system. Contractor shall secure all perimeters and penetrations, and drains to ensure the weatherproofing and tie-ins will remain intact during weather events.

3.6 MODIFICATION TO EXISTING MECHANICAL & ELECTRICAL ITEMS

Raise roof top appurtenances to achieve minimum recommended heights and

clearances for new roof installation. When required to achieve recommended clearances, minimum curb heights, or other modifications, disconnect, modify, and reconnect mechanical and electrical services using qualified and licensed personnel. Do not disrupt any service unless specifically approved by Contracting Officer and on-site personnel. Restore services and verify proper operational conditions to satisfaction of Contracting Officer.

-- End of Section --