

PERRIS UNION HIGH SCHOOL DISTRICT – HHS & PVHS SITES

SECTION 07563 - FLUID APPLIED ROOFING RESTORATION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Roof repair, patching, and installing of Title 24 Cool Roof Coating on a Smooth Surface Foam Roof System.
- B. PUHSD has pre-purchased Garland roofing material through the CMAS (California Multiple Award Schedule) purchasing program provided by the State of California. The installer shall be financially responsible for the materials that are not supplied by the District to install the Garland roofing material. Section 4.1 on the final page of this specification provides the contractor with the list of District Supplied Materials

1.2 SCOPES OF WORK

1. Perform overall general roof maintenance, leak repairs, and install Title 24 Cool Roof Coating at (HHS) Heritage High School and (PVHS) Paloma Valley High School.
2. BASE BID: Heritage High School: Lincoln Bldg & Paloma Valley High School Building R. Install White Knight Plus WC coating at (2.5) gallons a square in a one coat process over entire roof and wall surface.
3. Pressure wash the entire roof area including walls with water and GAF UCC cleaner to remove all dirt and debris, do not damage existing foam roof system in cleaning process.
4. Rinse with fresh water to remove cleaning solution. In bird bath areas be sure to rinse at least twice to make sure all cleaning solution is rinsed clean. Cleaning residue will act as a bond breaker if not properly rinsed. Allow roof to dry before continuing.
5. Repair all large splits or blisters with two part, sprayed in-place polyurethane foam and three course with White Knight Plus WC restoration system and polyester.
6. Repair all small splits, blisters, and bare spots with a three course with White Knight Plus WC restoration system and polyester.
7. Install White Knight Plus WC and Polyester in a 3 course method at all drainage and waterway locations. Minimum of (1) square per drainage area.
8. Before application of White Knight Plus WC contact your manufactures representative to inspect surface receiving work.
9. After field repairs have been complete and allowed to dry, apply White Knight Plus WC Urethane Restoration System at 2.0 gallons per square on entire roof.

10. All Pipes need to be sealed with Tuff Stuff caulking and White Knight Plus WC.
11. All metal coping joints need to be cleaned and sealed with Tuff Stuff caulking.
12. Install CI Traffic Walk Pads at all roof hatch locations and at all door way thresholds set in Tuff Stuff caulking on both the WA and Lincoln Bldgs.
13. Seal all pitch pans and pipe flashing's on top of curbs with White Knight.
14. Paloma Valley HS Bldg R. Scarify all locations identified at the Job Walk and marked with paint. Install new foam (3LB) Density to create the same height and slope in these areas. Seal new repairs with a three course with White Knight Plus WC and polyester
15. Paloma Valley HS Bldg R. Repair all open and / or failing past repairs. Remove damaged roofing and install new foam (3LB) Density to create the same height and slope in these areas. Seal new repairs with a three course with White Knight Plus WC and polyester.

1.3 REFERENCES

- A. SRI - Solar Reflectance Index calculated according to ASTM E 1980.
- B. SMACNA Architectural Sheet Metal Manual.
- C. ANSI/SPRI ES-1 - Testing and Certification Listing of Shop Fabricated Edge Metal
- D. National Roofing Contractors Association (NRCA) - Roofing and Waterproofing Manual.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300 AIA Forms.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Installation methods.
- C. Verification Samples: For each product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, and color.
- D. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- E. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer. Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual.
- B. Manufacturer Qualifications: Manufacturer: Company specializing in manufacturing products specified in this section with documented ISO 9001 certification and minimum twelve years and experience.
- C. Installer Qualifications: Company specializing in performing Work of this section with minimum three years documented experience and a certified Pre-Approved Garland Contractor.
- D. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress.
- E. Product Certification: Provide manufacturer's certification that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- F. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

1.6 PRE-INSTALLATION CONFERENCE

- A. Convene a pre-roofing conference approximately two weeks before scheduled commencement of roofing system installation and associated work.
- B. Require attendance of installers of deck or substrate construction to receive roofing, installers of rooftop units and other work in and around roofing which must precede or follow roofing work including mechanical work, Architect, Owner, roofing system manufacturer's representative.
- C. Objectives include:
 - 1. Review foreseeable methods and procedures related to roofing work, including set up and mobilization areas for stored material and work area.
 - 2. Tour representative areas of roofing substrates, inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work.
 - 3. Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
 - 4. Review roofing system requirements, Specifications and other Contract Documents.
 - 5. Review and finalize schedule related to roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
 - 6. Review required inspection, testing, certifying procedures.

7. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing.
8. Record conference including decisions and agreements reached. Furnish a copy of records to each party attending.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.
- C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface. No wet or damaged materials will be used in the application.
- D. Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50 degree F (10 degree C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.
- E. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Architect/Engineer.
- F. Adhesive storage shall be between the range of above 50 degree F (10 degree C) and below 80 degree F (27 degree C). Area of storage shall be constructed for flammable storage.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Weather Condition Limitations: Do not apply roofing system during inclement weather or when a 40 percent chance of precipitation or greater is expected.
- C. Proceed with roofing work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.
- D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.
- E. When applying materials with spray equipment, take precautions to prevent over spray and/or solvents from damaging or defacing surrounding walls, building surfaces, vehicles or other property. Care should be taken to do the following:
 1. Close air intakes into the building.

2. Have a dry chemical fire extinguisher available at the jobsite.
 3. Post and enforce "No Smoking" signs.
- F. Avoid inhaling spray mist; take precautions to ensure adequate ventilation.
- G. Protect completed roof sections from foot traffic for a period of at least 48 hours at 75 degrees F (24 degrees C) and 50 percent relative humidity or until fully cured.
- H. Take precautions to ensure that materials do not freeze.
- I. Minimum temperature for application is 40 degrees F (4 degrees C) and rising for solvent based materials and 50 degrees F (10 degrees C) and rising for water based.

1.9 WARRANTY

- A. Upon completion of installation, and acceptance by the Owner the Manufacturer will supply to the Owner the appropriate warranty.
- B. Installer is to guarantee all work against defects in materials and workmanship for a period indicated following final acceptance of the Work.
1. Warranty Period:
 - a. 2 years from date of acceptance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: The Garland Company: 3800 E. 91st St.; Cleveland, OH 44105; 800-321-9336; Web:www.garlandco.com or equal. Local Rep. Jason Busanovitch 951-300-8377

2.2 ROOF RESTORATION SYSTEMS

- A. White-Knight Plus WC:
1. Primer: None
 2. Coating: White-Knight Plus WC:
 3. Flashings: Repair or replace as needed.
 4. Surfacing: None.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 INSTALLATION

- A. General Installation Requirements:
 - 1. Install in accordance with manufacturer's instructions. Apply to minimum coating thickness required by the manufacturer.
 - 2. Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing the roof system.
 - 3. Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.
 - 4. Protect work from spillage of roofing materials and prevent materials from entering or clogging drains and conductors. Replace or restore work damaged by installation of the roofing system.
 - 5. All primers must be top coated within 24 hours of application. Re-prime If more time passes after priming.
 - 6. Keep roofing materials dry during application. Phased construction can be allowed as long as no, more than 7 days pass between coats excluding primers.
 - 7. Coordinate counter flashing, cap flashings, expansion joints and similar work with work specified in other Sections under Related Work.
 - 8. Coordinate roof accessories and miscellaneous sheet metal accessory items, including piping vents and other devices with work specified in other Sections under Related Work.

3.3 CLEANING

- A. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.
- B. Paint over markings or material runs from finished surfaces.
- C. Repair or replace defaced or disfigured finishes caused by Work of this section.

3.4 PROTECTION

- A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.
- B. Protect exposed surfaces of finished walls with tarps to prevent damage.
- C. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.
- D. In addition to the plywood listed above, an underlayment of minimum 1/2 inch (13 mm) recover board is required on new roofing.
- E. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

3.5 FIELD QUALITY CONTROL

- A. When the Project is in progress, a full-time employee of the roofing system manufacturer must provide the following at least 3 days per week.
 - 1. Report progress and quality of the work as observed. Progress reports must be published to an online system.
 - 2. Provide 3 days per week roofing installation inspections: Inspections must include; photographic documentation of work in-progress and written statements of compliance with details/shop drawings.
 - 3. Report to the owner in writing any failure or refusal of the contractor to correct unacceptable practices called to the contractor's attention.
 - 4. Confirm after project completion that the manufacturer has observed no application procedures in conflict with the specifications other than those that may have been previously reported and corrected.

3.6 FINAL INSPECTION

- A. At completion of roofing installation and associated work, meet with Contractor, Architect, installer, installer of associated work, roofing system manufacturer's representative and others directly concerned with performance of roofing system.
- B. Walk roof surface areas, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. Identify all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. If core cuts verify the presence of damp or wet materials, the installer shall be required to replace the damaged areas at his own expense.
- D. Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation that is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- E. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.

3.7 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

3.8 RESTORATION COATING MATERIAL

- A. Coating:
 - 1. Coating: White-Knight Plus WC: highly reflective multi- purpose, single-component aliphatic urethane, liquid waterproofing membrane. VOC & AQMD compliant.
 - a. Tensile Strength: ASTM D 412, 2100 psi
 - b. Tear Resistance: ASTM D 624, 160 lbs./in

- c. Elongation: ASTM D 412, 320%
- d. Flash Point: ASTM D 93, 110 degrees F min. (43 degrees C)
- e. Non-Volatile: ASTM D 75, Typical 83%
- f. Viscosity @ 77 degrees F (25 degrees C); Brookfield RVT, #4 Spindle 10 rpm 9200 cP
- g. Wet Film Thickness @ 2 gal./100 sq. ft. (0.82 l/m²)
- h. VOC: 50 g/l
- i. Reflectance: 0.87
- j. Emittance: 0.89
- k. SRI: 110

PART 4 DISTRICT SUPPLIED MATERIALS

4.1 MATERIAL LIST OF CMAS MATERIALS

A. BASE BID: HHS Lincoln Building & PVHS Building R. material list:

Material	Coverage	Quantity Supplied
White Knight Plus WC	2.5 gal/ sq	<u>30</u> 55 gal drums
Tuff Stuff Caulking	24 per case	<u>3</u> Case
Polyester Soft	10 sq roll	<u>5</u> Rolls

** If additional material is required it will be the financial responsibility of the Contractor to Purchase and Supply. Contact Local Garland Representative for information (951) 300-8377

END OF SECTION