

SECTION 07 55 00
ROOF REPLACEMENT

PART 1 – GENERAL

1.01 SCOPE OF WORK

A. Provide all labor, equipment, and miscellaneous materials to install District purchased and furnished roofing materials over the properly prepared substrate

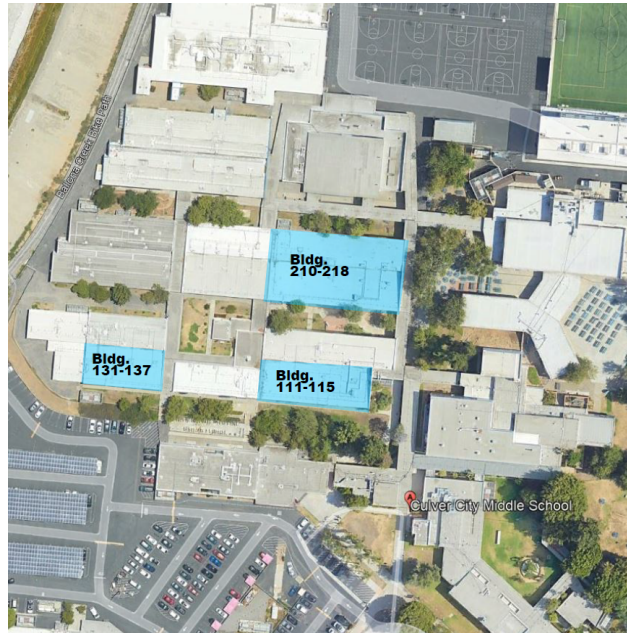
1. All products listed in the bid form will be furnished by the District. All products in the bid form to be furnished by the Contractor. All listed in the bid form will be manufactured by The Garland Company and purchased by Culver City USD (CCUSD) using its authority under the CMAS Schedule.

Contract #: 4-20-56-0006B

GSA Contract #: GS-07F-0130K (THE GARLAND COMPANY, INC.)

B. Roof Replacement: Culver City MS (Blue Highlighted Sections)

- Bldg. 111-115, Bldg. 131-137, Bldg. 210-218



1. Bldg. 201-218:

- a. Remove the existing roof system to the structural deck. Replace any damaged decking. Repair any damaged decking as required. Contractor to include 7% deck replacement in the base bid. If the amount of deck replacement exceeds 7%, the contractor is to

receive a change order equal to the unit price for deck replacement per sq ft multiplied by the sq ft in excess of the base bid amount. If the amount of deck replacement is less than 7%, the contractor is to provide a credit to the District equal to the unit price of deck replacement per sq ft multiplied by the sq ft less than the base bid amount.

- b. Install polyiso crickets as required in the corners and on the high side of equipment to ensure better water flow.
- c. Mechanically fasten ½” Densdeckprime coverboard. Note: Polyiso insulation eliminated due to 2022 Building Energy Efficiency Standard, Subchapter 6, 141.0, 2, B, ii, Exception 2.

Bldg. 111-115, Bldg. 131-137:

- a. Bldg. 111-115 Only: Remove the existing roof system around the southeast drain. 10’x20’ area prior to insulation adhesive application. Replace damaged decking.
 - b. Apply Insul Lock HR adhesive over the existing roof system. Allow insulation adhesive to cure for 6-10 hrs. Apply in ribbon format per application guidelines.
 - c. Set polyiso crickets as required in the corners and on the high side of equipment to ensure better water flow.
 - d. Set ½” Densdeckprime coverboard in the Insul Lock HR. Note: Polyiso insulation eliminated due to 2022 Building Energy Efficiency Standard, Subchapter 6, 141.0, 2, B, ii, Exception 2.
- 2. Apply SBS-modified self-adhering base sheet– SA Base IV.
 - 3. Torch apply SBS-modified torch cap sheet, 135 mil – Stressply IV Plus Mineral
 - 4. Apply SBS-modified flashing base ply in all flashing areas—SA Base IV -- extending 6” onto the roof field. Torch apply SBS-modified flashing cap ply in all flashing areas – Stressply IV Plus Mineral -- extending 9” onto the roof field.
 - 5. No pitch pockets on roof. Lead flash all penetrations. Roofing contractor to supply and install all lead flashings. Lead flashing to have an umbrella cover.
 - 6. Sheet Metal:
 - a. All sheet metal to be ANSI SPRI ES-1 compliant.
 - b. Flashing Terminations: Terminate flashing plies with a termination bar set in butyl tape and fastened every 6" o.c. Caulk above the termination bar.
 - c. Parapet Walls:
 - 1. Flashing plies to be terminated with a surface mounted counterflashing at 12” height. Plies to be terminated with a termination bar set in butyl tape and fastened every 6” o.c. Caulk above.
 - 2. Surface mount counterflashing to be fastened every 2” o.c. Caulk above the metal.

3. Install new 22 gauge, kyanr coping cap metal to the parapet walls. Install wood nailer as required. Color of kyanr to be selected by the District.
4. Coat the exposed walls with Cool Sil at a rate of 2.5 gal per sq. Apply in coats of 1 gal per sq. to avoid runoff.
- d. Edge Metal: Install new 22 gauge, kyanr edge metal where currently existing. Metal to have a 4" face. District to determine color.
- e. Counterflashing: Where existing, install new 22 gauge counterflashing metal and at all equipment flashings install new 22 gauge, galvanized skirt metal.
- f. Existing Gutters: Where existing, install new, 24 gauge, kyanr, seamless gutters.
7. Surfacing: Following a 14 day cure time, apply Title 24 compliant, white – Pyramic Plus LO – at a rate of 2 gal per sq. Apply cross directionally at 1 gal per sq.
8. Place all conduit on rubber blocks. Re-used existing rubber blocks in good condition.
9. Remove all non-functioning equipment. District to mark.
10. Metal Pans / Ductwork / Vents: Coat at 2 gal per sq. – Cool Sil. Tape all seams prior to the coating with structural tape.
11. Install new drain rings and drain covers at all internal drains. Sump insulation to drain.
12. All vertical penetrations to be sealed with liquid flashing.
13. All lights and vertical conduit to be attached to the vertical face of the coping cap.
14. Contractor to be responsible for any ponding water. Contractor to ensure positive drainage.

C. Roof Replacement: Farragut ES (Blue Highlighted Section)

- Bldg. 7-10



1. Remove the existing roof system to the structural deck. Replace any damaged decking. Repair any damaged decking as required. Contractor to include 7% deck replacement in the base bid. If the amount of deck replacement exceeds 7%, the contractor is to receive a change order equal to the unit price for deck replacement per sq ft multiplied by the sq ft in excess of the base bid amount. If the amount of deck replacement is less than 7%, the contractor is to provide a credit to the District equal to the unit price of deck replacement per sq ft multiplied by the sq ft less than the base bid amount.
2. Mechanically fasten ½” Densdeckprime coverboard. Note: Polyiso insulation eliminated due to 2022 Building Energy Efficiency Standard, Subchapter 6, 141.0, 2, B, ii, Exception 2.
3. Apply SBS-modified self-adhering base sheet– SA Base IV.
4. Torch apply SBS-modified torch cap sheet, 135 mil – Stressply IV Plus Mineral
5. Apply SBS-modified flashing base ply in all flashing areas—SA Base IV -- extending 6” onto the roof field. Torch apply SBS-modified flashing cap ply in all flashing areas – Stressply IV Plus Mineral -- extending 9” onto the roof field.
6. No pitch pockets on roof. Lead flash all penetrations. Roofing contractor to supply and install all lead flashings. Lead flashing to have an umbrella cover.
7. Sheet Metal:
 - a. All sheet metal to be ANSI SPRI ES-1 compliant.
 - b. Flashing Terminations: Terminate flashing plies with a termination bar set in butyl tape and fastened every 6" o.c. Caulk above the termination bar.
 - c. Parapet Walls:
 1. Install wood nailer on the parapet wall. Flashing plies to extend up and over the wall, continuing 2” on the exterior side. Install new 22 gauge, kyanr coping cap metal to the parapet walls. Install wood nailer as required. Color of kynar to be selected by the District.
 2. Install vertical termination bar for the flashing plies at the end of the parapet wall. Set in butyl tape.
 - d. Edge Metal: Install new 22 gauge, kynar edge metal where currently existing. Metal to have a 4” face. District to determine color.
 - e. Counterflashing: Where existing, install new 22 gauge counterflashing metal and at all equipment flashings install new 22 gauge, galvanized skirt metal.
 - f. Existing Gutters: Where existing, install new, 24 gauge, kynar, seamless gutters.
8. Surfacing: Following a 14 day cure time, apply Title 24 compliant, white – Pyramic Plus LO – at a rate of 2 gal per sq. Apply cross directionally at 1 gal per sq.
9. Place all conduit on rubber blocks. Re-used existing rubber blocks in good condition.

10. Remove all non-functioning equipment. District to mark.
11. Metal Pans / Ductwork / Vents: Coat at 2 gal per sq. – Cool Sil. Tape all seams prior to the coating with structural tape.
12. All lights and vertical conduit to be attached to the vertical face of the coping cap.
13. Contractor to be responsible for any ponding water. Contractor to ensure positive drainage.

D. Roof Replacement: La Ballona ES (Purple Highlighted Section)

- Bldg. 21-26

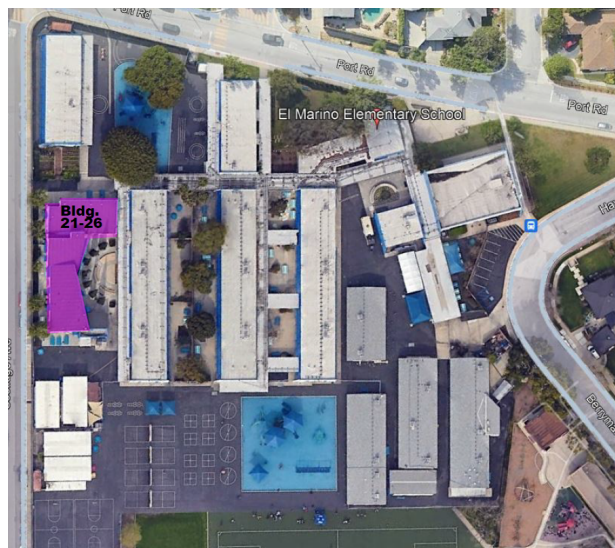


1. Remove the existing roof system to the structural deck. Replace any damaged decking. Repair any damaged decking as required. Contractor to include 7% deck replacement in the base bid. If the amount of deck replacement exceeds 7%, the contractor is to receive a change order equal to the unit price for deck replacement per sq ft multiplied by the sq ft in excess of the base bid amount. If the amount of deck replacement is less than 7%, the contractor is to provide a credit to the District equal to the unit price of deck replacement per sq ft multiplied by the sq ft less than the base bid amount.
2. Apply SA Primer at .5 gal per sq. to the deck. Allow 6 hrs. to cure.
3. Apply SBS-modified self-adhering base sheet– SA Base IV.
4. Torch apply SBS-modified torch cap sheet, 135 mil – Stressply IV Plus Mineral
5. Apply SBS-modified flashing base ply in all flashing areas—SA Base IV -- extending 6” onto the roof field. Torch apply SBS-modified flashing cap ply in all flashing areas – Stressply IV Plus Mineral -- extending 9” onto the roof field.
6. No pitch pockets on roof. Lead flash all penetrations. Roofing contractor to supply and install all lead flashings. Lead flashing to have an umbrella cover.

7. Sheet Metal:
 - a. All sheet metal to be ANSI SPRI ES-1 compliant.
 - b. Flashing Terminations: Terminate flashing plies with a termination bar set in butyl tape and fastened every 6" o.c. Caulk above the termination bar.
 - c. Edge Metal: Install new 22 gauge, kynar edge metal where currently existing. Metal to have a 4" face. District to determine color.
 - d. Counterflashing: Where existing, install new 22 gauge counterflashing metal and at all equipment flashings install new 22 gauge, galvanized skirt metal.
 - e. Existing Gutters: Where existing, install new, 24 gauge, kynar, seamless gutters.
8. Surfacing: Following a 14 day cure time, apply Title 24 compliant, white – Pyramic Plus LO – at a rate of 2 gal per sq. Apply cross directionally at 1 gal per sq.
9. Place all conduit on rubber blocks. Re-used existing rubber blocks in good condition.
10. Remove all non-functioning equipment. District to mark.
11. Metal Pans / Ductwork / Vents: Coat at 2 gal per sq. – Cool Sil. Tape all seams prior to the coating with structural tape.
12. CMU Wall Interior Side: Apply Seal a Pore at a rate of 1.5 gal per sq.
13. All lights and vertical conduit to be attached to the vertical face of the coping cap.
14. Contractor to be responsible for any ponding water. Contractor to ensure positive drainage.

E. Roof Replacement: El Marino ES (Purple Highlighted Section)

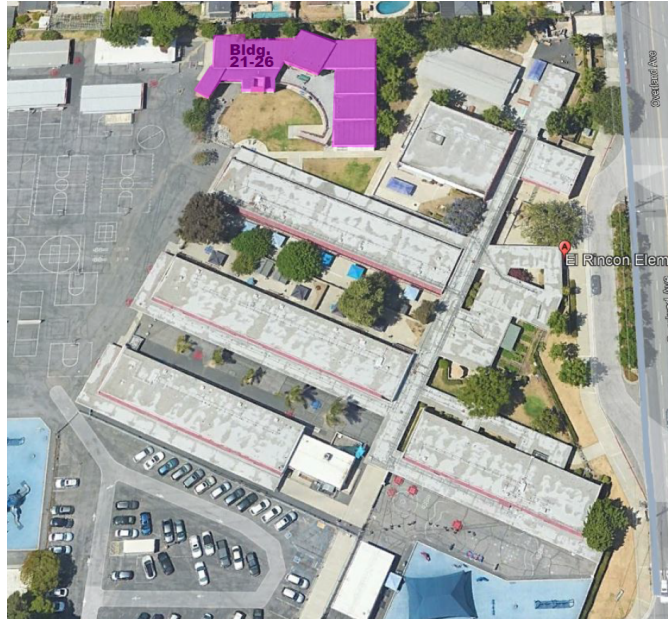
- Bldg. 21-26



1. Remove the existing roof system to the structural deck. Replace any damaged decking. Repair any damaged decking as required. Contractor to include 7% deck replacement in the base bid. If the amount of deck replacement exceeds 7%, the contractor is to receive a change order equal to the unit price for deck replacement per sq ft multiplied by the sq ft in excess of the base bid amount. If the amount of deck replacement is less than 7%, the contractor is to provide a credit to the District equal to the unit price of deck replacement per sq ft multiplied by the sq ft less than the base bid amount.
2. Apply SA Primer at .5 gal per sq. to the deck. Allow 6 hrs. to cure.
3. Apply SBS-modified self-adhering base sheet– SA Base IV.
4. Torch apply SBS-modified torch cap sheet, 135 mil – Stressply IV Plus Mineral
5. Apply SBS-modified flashing base ply in all flashing areas—SA Base IV -- extending 6” onto the roof field. Torch apply SBS-modified flashing cap ply in all flashing areas – Stressply IV Plus Mineral -- extending 9” onto the roof field.
6. No pitch pockets on roof. Lead flash all penetrations. Roofing contractor to supply and install all lead flashings. Lead flashing to have an umbrella cover.
7. Sheet Metal:
 - f. All sheet metal to be ANSI SPRI ES-1 compliant.
 - g. Flashing Terminations: Terminate flashing plies with a termination bar set in butyl tape and fastened every 6" o.c. Caulk above the termination bar.
 - h. Edge Metal: Install new 22 gauge, kynar edge metal where currently existing. Metal to have a 4” face. District to determine color.
 - i. Counterflashing: Where existing, install new 22 gauge counterflashing metal and at all equipment flashings install new 22 gauge, galvanized skirt metal.
 - j. Existing Gutters: Where existing, install new, 24 gauge, kynar, seamless gutters.
8. Surfacing: Following a 14 day cure time, apply Title 24 compliant, white – Pyramic Plus LO – at a rate of 2 gal per sq. Apply cross directionally at 1 gal per sq.
9. Place all conduit on rubber blocks. Re-used existing rubber blocks in good condition.
10. Remove all non-functioning equipment. District to mark.
11. Metal Pans / Ductwork / Vents: Coat at 2 gal per sq. – Cool Sil. Tape all seams prior to the coating with structural tape.
12. CMU Wall Interior Side: Apply Seal a Pore at a rate of 1.5 gal per sq.
13. All lights and vertical conduit to be attached to the vertical face of the coping cap.
14. Contractor to be responsible for any ponding water. Contractor to ensure positive drainage.

F. Roof Replacement: El Rincon ES (Purple Highlighted Section)

- Bldg. 21-26



1. Remove the existing roof system to the structural deck. Replace any damaged decking. Repair any damaged decking as required. Contractor to include 7% deck replacement in the base bid. If the amount of deck replacement exceeds 7%, the contractor is to receive a change order equal to the unit price for deck replacement per sq ft multiplied by the sq ft in excess of the base bid amount. If the amount of deck replacement is less than 7%, the contractor is to provide a credit to the District equal to the unit price of deck replacement per sq ft multiplied by the sq ft less than the base bid amount.
2. Apply SA Primer at .5 gal per sq. to the deck. Allow 6 hrs. to cure.
3. Apply SBS-modified self-adhering base sheet– SA Base IV.
4. Torch apply SBS-modified torch cap sheet, 135 mil – Stressply IV Plus Mineral
5. Apply SBS-modified flashing base ply in all flashing areas—SA Base IV -- extending 6” onto the roof field. Torch apply SBS-modified flashing cap ply in all flashing areas – Stressply IV Plus Mineral -- extending 9” onto the roof field.
6. No pitch pockets on roof. Lead flash all penetrations. Roofing contractor to supply and install all lead flashings. Lead flashing to have an umbrella cover.
7. Sheet Metal:
 - k. All sheet metal to be ANSI SPRI ES-1 compliant.
 1. Flashing Terminations: Terminate flashing plies with a termination bar set in butyl tape and fastened every 6" o.c. Caulk above the termination bar.

- m. Edge Metal: Install new 22 gauge, kynar edge metal where currently existing. Metal to have a 4" face. District to determine color.
 - n. Counterflashing: Where existing, install new 22 gauge counterflashing metal and at all equipment flashings install new 22 gauge, galvanized skirt metal.
 - o. Existing Gutters: Where existing, install new, 24 gauge, kynar, seamless gutters.
8. Surfacing: Following a 14 day cure time, apply Title 24 compliant, white – Pyramic Plus LO – at a rate of 2 gal per sq. Apply cross directionally at 1 gal per sq.
 9. Place all conduit on rubber blocks. Re-used existing rubber blocks in good condition.
 10. Remove all non-functioning equipment. District to mark.
 11. Metal Pans / Ductwork / Vents: Coat at 2 gal per sq. – Cool Sil. Tape all seams prior to the coating with structural tape.
 12. CMU Wall Interior Side: Apply Seal a Pore at a rate of 1.5 gal per sq.
 13. All lights and vertical conduit to be attached to the vertical face of the coping cap.
 14. Contractor to be responsible for any ponding water. Contractor to ensure positive drainage.

1.02 REFERENCES

- A. American Society of Civil Engineers (ASCE):
 1. ASCE 7-010, Minimum Design Loads for Buildings and Other Structures.
- B. American Society for Testing and Materials (ASTM):
 1. ASTM 0451 Standard Test Method for Sieve Analysis of Granular Mineral Surfacing for Asphalt Roofing Products.
 2. ASTM D 1079 Standard Terminology Relating, to Roofing, Waterproofing and Bituminous Materials.
 3. ASTM D1863 Standard Specification for Mineral Aggregate Used as a Protective Coating for Roofing.
 4. ASTM D4S86 Standard Specification for Asphalt Roof Cement.
 5. ASTM D5147 Standard Test Method for Sampling and Testing Modified Bituminous Sheet Materials.
 6. ASTM D6162 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements.
 7. ASTM D6163 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.
 8. ASTM E108 Standard Test Methods for Fire Test of Roof Coverings.

- C. Factory Mutual Research (FM):
 - 1. Roof Assembly Classifications.
- D. National Roofing Contractors Association (NRCA):
 - 1. Roofing and Waterproofing Manual.
- E. Underwriters Laboratories, Inc. (UL):
 - 1. Fire Hazard Classifications.
- F. Warnock Hersey (WH):
 - 1. Fire Hazard Classifications.
- G. American National Standards Institute and Single Ply Roofing Institute (ANSI/SPRI)
 - 1. ANSI/SPRI ES-1 Testing and Certification Listing of Shop Fabricated Edge Metal and/or Coping – only required for fabricated item procedures.

1.03 SUBMITTALS

- A. Contractor shall submit all required documents such as, but not limited to Installer's Qualifications, Shop Drawings, and warranties.
- B. Product Data:
 - 1. Except Owner Furnished Contractor Installed (OFICI) materials, contractor shall submit manufacturer product data for all products necessary for completion of roofing system and as specified including manufacturer's technical product data, installation instructions and recommendations for each type of roofing product required. Include data substantiating that materials comply with minimum specified requirements.
- C. Test Data and Certifications:
 - 1. Submit independent test data that indicates the cap sheet complies with CRCC and title 24 requirements.
- D. Installer Qualifications:
 - 1. Submit installer qualifications; Refer to Quality Assurance article below.
- E. Warranty:
 - 1. Submit unexecuted Manufacturer's Thirty Year warranty.
 - 2. Contractor shall provide five (5) years labor warranty to Garland Company and the District.

1.04 QUALITY ASSURANCE

- B. To be determined a responsive bidder, the bid must provide the following documentation:
 - 1. Proof the installer (Roofer), who can be the general contractor or his / her roofing subcontractor, has been specializing in modified bituminous roof application with minimum 10 years' experience.
 - 2. Installer shall provide proof of certification to install Garland Company's roofing system within the past three (3) years. Roofing Contractor to submit minimum at time of awarding the contract a letter from Garland Company stating the Installer is a certified installer in good standing and approved to install the roofing system.

The issuance date of the above addressed letter shall be maximum 1 month prior to this project's bid date. This letter shall be provided to the District prior to award of the contract.

3. Installer's Field Supervision: Require Installer to maintain a full-time Supervisor/Foreman on job site during all phases of bituminous sheet roofing work and at any time roofing work is in progress, proper supervision of workmen shall be maintained. A copy of the specification shall be in the possession of the Supervisor/Foremen and on the roof at all times.
- C. It shall be the General Contractor / Roofing subcontractor's responsibility to protect all exposed buildings (affected by roofing activities) from any possible weather damages, until completion of this scope of work. Disqualification of Bidders: A bidder can be disqualified by CCUSD for any of the following reasons, but not limited to:
1. Lack of proficiency as shown by past work or incomplete work under other contracts which, in the judgment of CCUSD might hinder or prevent the prompt completion of additional work if so awarded or any involvement in any legal actions which relate to past or present performance. This includes, but is not limited to lawsuits, court appointed actions, and/or ongoing litigation.
 2. Not providing proof of all required qualifications by the time of award of the contract.
- D. Roofing Pre-installation Meeting: Before scheduled commencement of modified bitumen roof system installation and associated work meet at project site with installer of each component of associated work, installers of deck or substrate construction to receive roofing work, installers of rooftop units and other work in the around roofing must precede or follow roofing work (including mechanical work if any), CCUSD, Garland Company's representative, and other representatives directly concerned with performance of the Work, including (where applicable), test agencies and governing authorities.
1. Objectives to include:
 - a. Review foreseeable methods and procedures related to roofing work.
 - b. Tour representative areas of roofing substrates (decks), inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work performed by other trades.
 - c. Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
 - d. Review roofing system requirements (drawings, specifications and other contract documents).
 - e. Review required submittals both completed and yet to be completed.
 - f. Review and finalize construction schedule related to roofing work and verify availability of material is, Installer's personnel, equipment and facilities needed to make progress and avoid delays.
 - g. Review required inspection, testing, certifying and material usage accounting procedures.
 - h. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not mandatory requirement).

- i. Record (contractor) discussion of the meeting including decisions and agreements (or disagreements) reached and furnish copy of record to each party attending. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.
- j. Review notification procedures for weather or non-working days.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Contractor responsible to coordinate OFCI material delivery by Garland Company and CCUSD.
- B. Receive OFCI material to site with seals and labels intact, in manufacturer's original containers, dry and undamaged. Any damaged material to be noted at delivery and reported immediately to the District and Garland Company.
- C. Contractor responsible for materials upon delivery. Any lost or stolen material must be replenished by the General Contractor / Installer. District is absolved of any liability in regards to material delivery or material storage.
- D. Store and handle roofing sheets in a dry, well-ventilated, weather-tight place to ensure no possibility of significant moisture exposure. Store rolls of felt and other sheet materials on pallets or other raised surface. Stand all roll materials on end. Cover roll goods with a canvas tarpaulin or other breathable material (not polyethylene).
- E. Do not leave unused materials on the roof overnight or when roofing work is not in progress unless protected from weather and other moisture sources.
- F. It is the responsibility of the Contractor to secure all material and equipment on the job site. If any material or equipment is stored on the roof, the Contractor must make sure that the integrity of the deck is not compromised at any time. Damage to the deck caused by the Contractor will be the sole responsibility of the Contractor and will be repaired or replaced at his expense.
- G. District has the right to have the Contractor receive all materials and store materials on non-District property at no expense to the District.

1.06 INSPECTION AND COORDINATIONS

- A. Contractor shall comply with all Roofing Inspector's requirements provided by Garland Company. Roofing scope of work shall be signed off by the Roofing Inspector. Therefore, it is the contractor's responsibility to keep the Roofing Inspector, Project Inspector, and CCUSD informed regarding all issues and concerns.

1.07 PROJECT CONDITIONS

- A. Weather Condition Limitations: Do not apply roofing membrane during inclement weather or when a 40% change of precipitation is expected.
- B. Do not apply roofing insulation or membrane to damp deck surface.
- C. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.
- D. 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.

- E. All slopes greater than 2: 12 require back-nailing to prevent slippage of the ply sheets. Use ring or spiral-shank one (1) inch cap nails, or screws and plates at a rate of one (1) fastener per ply (including the membrane) at each insulation stop. When slope exceeds 2:12, install all plies parallel to the slope (strapping) to facilitate back nailing. Install four (4) additional fasteners at the upper edge of the membrane when strapping the plies.

1.08 SEQUENCING AND SCHEDULING

- A. Contractor is responsible to coordinate material ordering and delivery with the Manufacturer and the District (for OFCI materials) within the project schedule.
- B. Sequence installation of modified bituminous sheet roofing with related units of work specified in other sections to ensure that roof assemblies including roof accessories, flashing, trim and joint sealers are protected against damage from effects of weather, corrosion and adjacent construction activity.
- C. All work must be fully completed on each day. Phased construction will not be acceptable. Phased construction to be defined as the cap sheet not being applied over the installed base sheet within the same 12 hour workday.

1.09 WARRANTY

- A. Upon completion of the project, contractor shall provide the following:
 - 1. Provide minimum five (5) year labor warranty to District and Garland Company at no charge.
 - 2. Re-Roof Sections: Thirty Year No Dollar Limit (NDL) Warranty

PART 2 – PRODUCTS

2.01 GENERAL

- A. The design is based upon roofing systems engineered and manufactured by The Garland Company:
 - The Garland Company
 - 3800 East 91st Street
 - Cleveland, Ohio 44105
 - Miles Taylor
 - 310.367.7655
- B. Roofing Contractor to be responsible for all Garland materials in excess of District purchased and furnished amount. District to provide material quantities matching the specified amount below. Any additional Garland material required to complete the project is the responsibility of the roofing contractor. Roofing Contractor responsible for purchasing additional materials required, including all freight and tax charges.
- C. Roofing contractor to be at delivery of District purchased roof materials. The District has no responsibility to provide any equipment for handling and / or loading the materials to the Contractor's trucks. Upon signature of delivery, the roofing contractor assumes full responsibility for all District purchased roof materials. Any materials lost or stolen are the responsibility of the roofing contractor to replace. Roofing Contractor responsible for freight and tax on the replaced materials.

D. Maximum quantity of the OFCI materials:

CCMS Bldg. 111-115:

Material	Amount	Unit
SA Base IV	75	Roll
Stressply IV Plus Mineral	100	Roll
Pyramic Plus LO	29	5 Gal
Insul Lock HR	14	Case
Garla Prime VOC	2	5 Gal
Unibond ST 4" Tape	1	Roll
Cool Sil	2	5 Gal
Flashing Bond	3	5 Gal
Tuff Stuff Natural White	20	Tube
Butyl Sealing Tape	1	Case

CCMS Bldg. 131-137:

Material	Amount	Unit
SA Base IV	53	Roll
Stressply IV Plus Mineral	71	Roll
Pyramic Plus LO	21	5 Gal
Insul Lock HR	10	Case
Garla Prime VOC	2	5 Gal
Unibond ST 4" Tape	1	Roll
Cool Sil	2	5 Gal
Flashing Bond	3	5 Gal
Tuff Stuff Natural White	20	Tube
Butyl Sealing Tape	1	Case

CCMS Bldg. 210-218:

Material	Amount	Unit
SA Base IV	112	Roll
Stressply IV Plus Mineral	149	Roll
Pyramic Plus LO	44	5 Gal
Garla Prime VOC	2	5 Gal
Unibond ST 4" Tape	1	Roll
Cool Sil	2	5 Gal
Flashing Bond	3	5 Gal
Tuff Stuff Natural White	20	Tube
Butyl Sealing Tape	1	Case

El Marino ES Bldg. 21-26:

Material	Amount	Unit
SA Base IV	78	Roll
Stressply IV Plus Mineral	104	Roll
Pyramic Plus LO	30	5 Gal
SA Primer	8	5 Gal
Unibond ST 4" Tape	1	Roll
Seal-A-Pore HP	2	5 Gal
Flashing Bond	3	5 Gal
Tuff Stuff Natural White	20	Tube
Butyl Sealing Tape	1	Case

El Rincon ES Bldg. 21-26

Material	Amount	Unit
SA Base IV	85	Roll
Stressply IV Plus Mineral	113	Roll
Pyramic Plus LO	33	5 Gal
SA Primer	9	5 Gal
Unibond ST 4" Tape	1	Roll
Flashing Bond	5	5 Gal
Tuff Stuff Natural White	20	Tube
Butyl Sealing Tape	1	Case

Farragut ES Bldg. 7-10

Material	Amount	Unit
SA Base IV	70	Roll
Stressply IV Plus Mineral	93	Roll
Pyramic Plus LO	27	5 Gal
Unibond ST 4" Tape	1	Roll
Cool Sil	1	5 Gal
Flashing Bond	3	5 Gal
Tuff Stuff Natural White	20	Tube
Butyl Sealing Tape	1	Case

La Ballona ES Bldg. 21-26

Material	Amount	Unit
SA Base IV	42	Roll
Stressply IV Plus Mineral	56	Roll
Pyramic Plus LO	17	5 Gal
SA Primer	5	5 Gal
Unibond ST 4" Tape	1	Roll
Seal-A-Pore HP	2	5 Gal
Flashing Bond	3	5 Gal
Tuff Stuff Natural White	20	Tube
Butyl Sealing Tape	1	Case

2.02 RELATED MATERIALS

- A. Nails and Fasteners: Non-ferrous metal or galvanized steel, except that hard copper nails shall be used with copper; aluminum or stainless steel nails shall be used with aluminum; and stainless steel nails shall be used with stainless steel, in addition plates should be used. Fasteners shall be self-clinching type or penetrating type as recommended by the manufacturer of the deck material. Nails and fasteners shall be flush-driven through flat metal discs of not less than one (1) inch diameter. Omit metal discs when one-piece composite nails or fasteners with heads not less than one (1) inch diameter are used.
- B. Walkway Pads: As recommended and furnished by the membrane manufacturer set in approved adhesive to control foot traffic on rooftop surface and give a durable system compliant non-slip walkway.
- C. Walkway Pad Adhesive: Adhesive used to adhere approved walk way pads as recommended and furnished by the membrane manufacturer.
- D. All Sheet Metal: 22 gauge, galvanized, Kynar coated all sheet metal. Install by breaking kynar flat sheets for coping cap. Flat stock to be 22 gauge, galvanized, Kynar coated.
- E. Butyl Tape: 100% solids, asbestos free and compressive tape designed to seal as recommended and furnished by the membrane manufacturer. Butyl tape is required at all terminations.
- F. Mastic: Roofing Cement
- G. Sealant: Moisture curing, single component polymer sealant.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine substrate surfaces to receive modified bitumen sheet roofing system and associated work and conditions under which roofing will be installed. Do not proceed

with roofing until unsatisfactory conditions have been corrected in a manner acceptable to Garland Company's representative, Installer and Project Inspector.

3.02 GENERAL INSTALLATION REQUIREMENTS

- A. Cooperate with Garland Company's representative, inspection and test agencies engaged or required to perform services in connection with installing the roof system.
- B. Insurance/Code Compliance: Where required, install and test the roofing system to comply with governing regulation and specified insurance requirements.
- C. Protect other work from spillage of roofing materials and prevent materials from entering or clogging drains and conductors. Replace or restore other work damaged by installations of the modified bituminous roofing system work.
- D. Coordinate installing roofing system components so that insulation and roofing plies are not exposed to precipitation or left exposed overnight. Provide cut-offs at end of each day's work to cover exposed ply sheets and insulation with two (2) plies of #15 organic roofing felt with joints and edges sealed with roofing cement and other jointly agreed upon tie-in detail. Remove cut-offs immediately before resuming work.
- E. Substrate Joint Penetrations: Prevent bitumen from penetrating substrate joints, entering building, or damaging roofing system components.
- F. Apply roofing materials as specified herein unless recommended otherwise by manufacturer's instructions. Keep roofing materials dry before and during application. Do not permit phased construction. Complete application of roofing plies, modified sheet and flashing in a continuous operation. Begin and apply only as much roofing in one day as can be completed that same day.
- G. Cut-Offs: At end of each day's roofing installation, protect exposed edge of incomplete work, including ply sheets and insulation. Provide temporary covering of two (2) plies of #15 organic roofing felt set in full moppings of bitumen with joints and edges sealed or other jointly agreed upon tie-in detail.
- H. Keep an ABC rated fire extinguisher in a location per OSHA requirements where all workers are aware of its location how to operate it properly.

3.03 APPLICATION PROCEDURE FOR TORCHING APPLICATIONS

- A. Base Ply Installation:
 - 1. Install one (1) ply of SA Base IV shingled uniformly over the entire prepared substrate. Shingle in direction of slope of roof to shed water on each area of roof.
 - 2. Lap ply sheet ends eight (8) inches. Stagger end laps twelve (12) inches minimum.
 - 3. Extend ply two (2) inches beyond top edges of cants at wall and roof projections and equipment bases.
 - 4. Install base flashing ply to all perimeter and projection details.

B. Modified Membrane Installation

1. The modified membrane shall then be solidly adhered to the base layers.
2. Starting at the low point, unroll the Stressply IV Plus Mineral in the desired position.
3. Install subsequent rolls of modified membrane across the roof as above with a minimum of four (4) inch side laps and eight (8) inch end laps. Stagger the end laps. Apply the modified membrane in the same direction as the previous layers but stagger the laps so they do not coincide with the laps of the base layers.
4. Extend membrane two (2) inches beyond top edge of all cants as shown on the drawings.

C. Flashing Membrane Application

1. Seal all curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
2. Use the modified membrane as the flashing membrane and will be adhered to an underlying base flashing. Nail off at a minimum of eight (8) inches o.c. from the finished roof at all vertical surfaces.
3. Ensure all flashings are terminated with a termination bar set in butyl tape.
4. Solidly adhere the entire sheet of flashing membrane to the substrate. Tops of all flashings that are not run up and over curb shall be secured through termination bar 6" and sealed at top.
5. Seal all vertical laps of flashing membrane with a three-course application of trowel-grade mastic and fiberglass mesh.
6. Details
7. Follow all Manufacturer's installation details.

3.04 INSTALLATION EDGE TREATMENT AND ROOF PENETRATION FLASHING

A. Fabricated Flashings: Fabricated flashings and trim as needed per scope of work.

1. Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the Copper Development Association "Copper in Architecture - Handbook" as applicable.

2. Manufactured Roof Specialties: Manufactured copings, facia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are provided as specified in Section
 - a. Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the National Roofing Contractor's Association "Roofing and Waterproofing Manual" as applicable.

B. Surface Mounted Counterflashing:

1. Minimum flashing height is 8 inches (203 mm) above finished roof height. Maximum flashing height is 24 inches (609 mm). Prime vertical wall at a rate of 100 square feet per gallon and allow to dry.
2. Set cant. Run all field plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering wall 6 inches (152 mm) on to field of the roof.
4. Install a second ply of modified flashing ply over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
5. Apply butyl tape to wall behind flashing. Secure termination bar through flashing, butyl tape and into wall. Alternatively use caulk to replace the butyl tape.
6. Secure counterflashing set on butyl tape above flashing at 8 inches (203 mm) o.c. and caulk top of counterflashing.

C. Expansion Joint:

1. Minimum curb height is 8 inches (203 mm) above finished roof height. Chamfer top of curb. Prime vertical curb at a rate of 100 square feet per gallon and allow to dry.
2. Mechanically attach wood cant to expansion joint nailers. Run all field plies over cant a minimum of 2 inches (50 mm).
3. Install compressible insulation in neoprene cradle.
4. Install base flashing ply covering curb n with 6 inches (152 mm) on to field of the roof.
5. Install a second ply of modified flashing ply over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Attach top of membrane to top of curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.

6. Install pre-manufactured expansion joint cover. Fasten sides at 12 inches (609 mm) o.c. with fasteners and neoprene washers. Furnish all joint cover laps with butyl tape between metal covers.

D. Curb Detail/Air Handling Station:

1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
2. Set cant. Run all field plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering curb set with 6 inches (152 mm) on to field of the roof.
4. Install a second ply of modified flashing ply over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
5. Install pre-manufactured counterflashing with fasteners and neoprene washers or per manufacturer's recommendations.
6. Set equipment on neoprene pad and fasten as required by equipment manufacturer.

E. Exhaust Fan:

1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
2. Set cant. Run all plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering curb with 6 inches (152 mm) on to field of the roof.
4. Install a second ply of modified flashing ply installed over the base flashing ply, 9 inches (228 mm) on to field of the roof. Attach top of membrane to top of wood curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
5. Install metal exhaust fan over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendation.

F. Passive Vent/Air Intake:

1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
2. Set cant. Run all plies over cant a minimum of 2 inches (50 mm).

3. Install base flashing ply covering curb with 6 inches (152mm) on to the field of the roof.
4. Install a second ply of modified flashing ply installed over the base flashing ply, 9 inches (228 mm) on to field of the roof. Attach top of membrane to top of wood curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
5. Install passive vent/air intake over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendations.

G. Roof Drain:

1. Plug drain to prevent debris from entering plumbing.
2. Taper insulation to drain minimum of 24 inches (609 mm) from center of drain.
3. Run roof system plies over drain. Cut out plies inside drain bowl.
4. Set lead/copper flashing (30 inch square minimum) in 1/4 inch bed of mastic. Run lead/copper into drain a minimum of 2 inches (50 mm). Prime lead/copper at a rate of 100 square feet per gallon and allow to dry.
5. Install base flashing ply (40 inch square minimum).
6. Install modified membrane (48 inch square minimum).
7. Install clamping ring and assure that all plies are under the clamping ring.
8. Remove drain plug and install strainer.

H. Plumbing Stack:

1. Minimum stack height is 12 inches (609 mm).
2. Run roof system over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
3. Prime flange of new sleeve. Install properly sized sleeves set in 1/4 inch (6 mm) bed of roof cement.
4. Install base flashing ply.
5. Install membrane.
6. Caulk the intersection of the membrane with elastomeric sealant.
7. Turn sleeve a minimum of 1 inch (25 mm) down inside of stack.

I. Heat Stack:

1. Minimum stack height is 12 inches (609 mm).
2. Run roof system over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
3. Prime flange of new sleeve. Install properly sized sleeves set in 1/4 inch (6 mm) bed of roof cement.
4. Install base flashing ply.
5. Install modified membrane.
6. Caulk the intersection of the membrane with elastomeric sealant.
7. Install new collar over cape. Weld collar or install stainless steel draw brand.

J. Liquid Flashing:

1. Mask target area on roof membrane with tape.
2. Clean all non-porous areas with isopropyl alcohol.
3. Apply 32 wet mil base coat of liquid flashing over masked area.
4. Embed polyester reinforcement fabric into the base coat of the liquid flashing.
5. Apply 48-64 wet mil top coat of the liquid flashing material over the fabric extending 2 inches (51 mm) past the scrim in all directions.
6. Apply minerals immediately or allow the liquid flashing material to cure 15-30 days and then install reflective coating.

3.05 CLEANING

- A. Remove drippage of bitumen from all walls, windows, floors, ladders and finished surfaces.
- B. In areas where finished surfaces are soiled by asphalt or any other sources of soiling caused by work of this section, consult manufacturer of surfaces for cleaning advice and conform to their instructions.

3.06 FINAL INSPECTION

- A. At completion of roofing installation and associated work, meet with Installer, installer of associated work, CCUSD, Garland Company's representative, and other representatives directly concerned with performance of roofing system.

- B. Inspect roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party attending.
- C. CCUSD reserves the right to request a thermographic scan of the roof during final inspection to determine if any damp or wet materials have been installed. If any defect be discovered, contractor shall correct and fix defected areas at no charge to the District.
- D. If core cuts verify the presence of damp or wet materials, the Contractor shall be required to replace the damaged areas at his own expense.
- E. Repair or replace (as required) deteriorated or defective work found at time above inspection to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- F. The Contractor is to notify CCUSD upon completion of corrections.
- G. Following the final inspection, acceptance will be made in writing by Garland Company. The Contractor shall place all needed coordination for providing such approval.

END OF SECTION 07 52 16

Garland Approved Roofing Contractors

System Type: Modified BUR & Coating

Contractor	Contact	Phone	Email
Best Contracting	Matt Adab	310-380-6060	madab@bestcontracting.com
Commercial Roofing Services	Glenn Hiller / Jay Hiller	626-359-5354	jayhiller@comroofsys.com
Letner Roofing	Stu Hein	714-633-0030	shein@letner.com
ChapmanCoast	Rogie Cabral	714-738-6611	rogie@chapmancoastroof.com
Western States	Preston Reeves	818-773-9471	preston@westernstatesroofing.com
CIS	Art Jones	714-864-9694	ajones@ciservicesinc.com
Exbon Development	Hee Yang	714-539-2222	hee.yang@exbon.com
San Marino Roofing	James Simmons	714-397-9249	jsimmons@sanmarinorooof.com
Roof Construction	Sunny Harrington	760-703-3526	sunny@roofconstruction.com
Courtney	Rick Santos	949-222-2050	rick@courtneyinc.com
Eberhard	Wesley Smith	818-782-4604	wsmith@eberhardco.com
California Constructors	Duke Le	951-377-0893	dle@californiaconstructors.com
AME	Rick Delaloza	714-719-4225	rick.delaloza@amebuilders.net